Appendix A

Sediment Sampling Memo

Sochacki Park Water Quality Improvement Project Feasibility Study

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BARR

Technical Memorandum

To: Three Rivers Park District
From: Barr Engineering Co.
Subject: Sochacki Ponds Sediment Characterization
Date: September 7, 2023
Project: 23/27-2003

Introduction

This memorandum summarizes sediment characterization for sediment samples collected in ponds within Sochacki Park, Minneapolis in 2023. Sediment samples were collected by Barr Engineering Co. (Barr) on June 26, 2023 on behalf of the Three Rivers Park District.

The purpose of sediment characterization is to determine whether the sediment in the ponds, when excavated, could potentially be reused as fill, or if other management methods such as landfill disposal would be required. The use and/or disposal of excavated or dredged material is determined based on concentrations of potential contaminants in the sediments, including metals and polycyclic aromatic hydrocarbons (PAHs). Excavated sediment and soils may be considered Unregulated Fill if they do not exhibit field screening impacts (e.g. petroleum sheen); do not exceed the Minnesota Pollution Control Agency's (MPCA) Soil Reference Values (SRV) or applicable Screening Soil Leaching Values (SLVs); and do not have concentrations of Total Petroleum Hydrocarbons (TPH) above 100 mg/kg, as described in the MPCA document *Best Management Practices for the Off-Site Reuse of Unregulated Fill* (MPCA, 2012). Sediment or soil excavated from stormwater ponds with constituents that exceed SRVs, applicable Screening SLVs, or the Unregulated Fill threshold for TPH are often disposed at a solid waste landfill, but other options involving reuse on specific land uses (e.g. non-residential) could be explored.

Sediment Sample Collection

Sediment sampling was conducted in accordance with the MPCA's *Managing Stormwater Sediment, Best Management Practice Guidance* (MPCA, 2017). That document provides technical guidance for characterizing sediment in stormwater ponds, including the number of samples that should be collected and potential contaminants to be analyzed. The MPCA guidance recommends that for ponds 2 acres in size or less, a total of two cores/samples are collected and analyzed.

Two sediment cores/samples were collected from Pond GR-6, as shown on Figure 1. Two sediment cores/samples were collected from Pond SR-4, as shown on Figure 2. Barr staff used clean, 3-inch diameter aluminum tube for collecting sediment cores, pushed into soft sediment by hand. Core tubes were capped and brought to shore where they were extruded into a tray, photographed, and logged. A portion of each sediment core was mixed in a clean stainless steel bowl, and transferred to jars provided

by the laboratory. A GPS unit was used to record the sampling locations. Samples sent to Pace Analytical laboratory in Minneapolis for analyses of potential contaminants.

The MPCA guidance for stormwater pond sediment management lists the baseline parameters that should be analyzed in order to determine whether excavated sediment is contaminated or could be considered Unregulated Fill (MPCA, 2015). The baseline parameters listed in the MPCA guidance are arsenic, copper, and polycyclic aromatic hydrocarbons (PAHs). PAHs are organic compounds that are formed by the incomplete combustion of organic materials, such as wood, oil, and coal. They are also naturally occurring in crude oil and coal. The MPCA determined that coal tar-based sealants are the largest source of PAHs to stormwater ponds, and a state-wide ban of coal tar-based sealants took effect January 1, 2014. In addition to the baseline parameters, the following analyses were included: diesel range organics (DRO); gasoline range organic (GRO); benzene, toluene, ethylene, and xylene (BTEX); and additional metals (Ba, Cd, Cr, Pb, Hg, Se, and Ag).

Laboratory Methodologies and Determination of BaP Equivalents

The parameters analyzed and their laboratory analytical methods are listed below:

- Metals: (method EPA 6010D; method EPA 7471B)
- Diesel range organics (method modified WI DRO with silica gel cleanup)
- Gasoline range organics (GRO) (method modified WI GRO)
- Benzene, toluene, ethylene, xylene (BTEX) (method EPA 8260D)
- Polycyclic aromatic hydrocarbons (PAHs) (method EPA 8270E by SIM)

The PAHs that were analyzed can be grouped into two categories: carcinogenic (i.e. cancer causing) and non-carcinogenic. In order to assess the contamination level of the carcinogenic PAHs in stormwater pond sediment, the MPCA requires the calculation of a "BaP equivalents value". The BaP equivalents value is a single value representing the combined potency of 17 individual carcinogenic PAH compounds with BaP (benzo[a]pyrene) acting as the reference compound. The list of compounds and their respective potency equivalents factors used to calculate the BaP equivalents value can be found in the MPCA guidance document, along with methods for addressing constituents at concentrations below the detection limit (MPCA 2017).

Laboratory analytical results for the sediment samples are summarized in Table 1. The detailed laboratory report from Pace Analytical is included in Attachment A.

Results of Sediment Characterization

Results of laboratory analytical testing on the sediment samples were compared to the MPCA's current SRVs and Screening SLVs in Table 1. Concentrations of PAHs (as measured by BaP equivalents) exceeded the Residential SRV of 2 mg/kg in 3 of the 4 sediment samples; BaP equivalents ranged from 1.7 to 5.1 mg/kg. The lead concentration in sample SR-4-SED2 (290 mg/kg) exceeded the Residential SRV of 200 mg/kg, and the cadmium concentration (2.2 mg/kg) exceeded the Residential SRV of 1.6 mg/kg.

In addition to exceeding the Residential SRV, the lead concentration in sample SR-4-SED2 was elevated above the level at which landfills require a leachate test for lead. The Toxicity Characteristic Leachate Procedure (TCLP) lead test was added for sample SR-4-SED2. The result of the TCLP lead test was 0.12 mg/L, well below the 5 mg/L threshold that would indicate the sediment is "hazardous waste"; therefore, the sediment can still be disposed at most municipal landfills and does not require special hazardous waste disposal.

Sediment disposal

It is Barr's recommendation that sediment from both Pond GR-6 and Pond SR-4 be disposed in a landfill, if excavated, due to elevated concentrations of PAHs, as indicated by BaP equivalents, and elevated concentrations of lead in Pond SR-4. Although concentrations of PAHs and other contaminants were below the MPCA's Industrial/Commercial SRVs, it is likely not cost effective to find a suitable commercial/industrial site for reuse of the sediment given the sediment volume.

References

Minnesota Pollution Control Agency (MPCA), 2012. Best Management Practices for the Off-Site Reuse of Unregulated Fill. February 2012.

MPCA, 2017. Managing Stormwater Sediment, Best Management Practice Guidance, document wq-strm4-16, May 2017.

Tables

Figures

Attachments

Table 1
Sochacki Ponds Sediment Testing Results Summary

						Location	**GR-6-SED1**	**GR-6-SED2**	**SR-4-SED1**	**SR-4-SED2**
						Date	**6/26/2023**	**6/26/2023**	**6/26/2023**	**6/26/2023**
Parameter	Units	MPCA Screening Soil Leaching Values	MPCA Residential/ Recreational Acute Soil Reference Values	MPCA Residential/ Recreational Chronic Soil Reference Values	MPCA Industrial/ Commercial Chronic Soil Reference Values	Criteria for Unregulated Fill				
Effective Date		06/01/2013	03/01/2023	03/01/2023	03/01/2023	02/2012				
Exceedance Key		**Bold**	No Exceed	Underline	No Exceed					
General Parameters										
Moisture	%						32.7	33.3	71.6	49.1
Metals										
Arsenic	mg/kg	5.8	9 BTV(a)	9 BTV(a)	9 BTV	5.8	2.6	3.3	5.0	5.7
Barium	mg/kg	1700	260	3100	41000	260	47.5	67.6	111	106
Cadmium	mg/kg	8.8	9.1	1.6	23	*1.6*	0.26	0.25	1.1	***2.2***
Chromium	mg/kg	1000000000 CR3		23000 CR3	100000 CR3	23000	9.2	11.8	35.6	44.0
Copper	mg/kg	700	120	2200	33000	120	15.0	13.0	70.3	69.3
Lead	mg/kg	2700		200	460	*200*	19.9	11.0	79.2	***290***
Mercury	mg/kg	3.3 MC		2.7	3.1	2.7	0.019 J	0.027 J	0.15	0.21
Selenium	mg/kg	2.6		78	1200	2.6	< 0.47 U	< 0.47 U	1.2 J	0.86 J
Silver	mg/kg	7.9		78	1200	7.9	< 0.050 U	< 0.050 U	< 0.12 U	< 0.064 U
PAHs, Carcinogenic										
3-Methylcholanthrene	mg/kg	T		T	T		< 0.0034 U	< 0.0034 U	< 0.0081 U	0.0111 J
5-Methylchrysene	mg/kg	T		T	T		0.134 J-	0.0935	0.0547	0.0762 J
7,12-Dimethylbenz(a)anthracene	mg/kg	T		T	T		< 0.00070 U	< 0.00071 U	< 0.0017 U	< 0.00093 J
7h-Dibenzo(c,g)carbazole	mg/kg	T		T	T		< 0.0060 U	0.0270	< 0.0145 U	< 0.0080 J
Benz(a)anthracene	mg/kg	T		T	T		1.06 J	0.866	0.225	0.473 J
Benzo(a)pyrene	mg/kg	T		T	T		1.04 J	0.813	0.294	0.747 J
Benzofluoranthenes	mg/kg	T		T	T		1.87 J	1.42	0.586	1.38 J
Chrysene	mg/kg	T		T	T		1.06 J	0.717	0.328	0.685 J
Dibenz(a,h)acridine	mg/kg	T		T	T		0.0520	0.0424	0.0205 J	0.0424 J
Dibenz(a,h)anthracene	mg/kg	T		T	T		0.18	0.142	0.0564	0.146 J
Dibenzo(a,e)pyrene	mg/kg	T		T	T		0.369 J	0.275	0.14	0.305 J
Dibenzo(a,h)pyrene	mg/kg	T		T	T		0.204	0.123	0.0669	0.135 J
Dibenzo(a,i)pyrene	mg/kg	T		T	T		0.0821	0.0568	0.0328 J	0.0758 J
Dibenzo(a,l)pyrene	mg/kg	T		T	T		0.0166	0.0148	< 0.0050 U	0.0152 J
Indeno(1,2,3-cd)pyrene	mg/kg	T		T	T		0.862 J	0.692	0.303	0.74 J
B(a)P Equivalent, Kaplan-Meier [Barr Calculation]	mg/kg	**1.4 T**		2 BTV T	23 T	*1.4*	***5.1 a***	***3.6***	***1.7 a***	***3.8 a***
PAHs, General										
2-Methylnaphthalene	mg/kg			39	580	39	0.0161	0.0402	0.0169 J	0.0187 J
Acenaphthene	mg/kg	81		460	6800	81	0.0890 J	0.0419	0.0330 J	0.0305 J
Acenaphthylene	mg/kg	NA					0.163 J	0.238	0.0506	0.0388 J
Anthracene	mg/kg	1300		2800	42000	1300	0.277 J	0.222	0.0594	0.0908 J
Benzo(g,h,i)perylene	mg/kg	NA					0.684 J	0.539	0.29	0.629 J
Fluoranthene	mg/kg	670		210	2700	210	3.44	2.12	0.573	1.11 J
Fluorene	mg/kg	110		390	5800	110	0.188 J	0.0959	0.0404	0.0336 J
Naphthalene	mg/kg	4.5		81	280	4.5	0.0241	0.0336	0.0298 J	0.0264 J
Phenanthrene	mg/kg	NA					1.45 J	0.723	0.248	0.4 J
Pyrene	mg/kg	440		220	3200	220	2.22	1.38	0.465	0.916 J

Table 1
Sochacki Ponds Sediment Testing Results Summary

						Location	**GR-6-SED1**	**GR-6-SED2**	**SR-4-SED1**	**SR-4-SED2**
						Date	**6/26/2023**	**6/26/2023**	**6/26/2023**	**6/26/2023**
Parameter	Units	MPCA Screening Soil Leaching Values	MPCA Residential/ Recreational Acute Soil Reference Values	MPCA Residential/ Recreational Chronic Soil Reference Values	MPCA Industrial/ Commercial Chronic Soil Reference Values	Criteria for Unregulated Fill				
Effective Date		06/01/2013	03/01/2023	03/01/2023	03/01/2023	02/2012				
Exceedance Key		**Bold**	No Exceed	Underline	No Exceed					
Volatile Organic Compounds										
Benzene	mg/kg	0.017		9.5	42	0.017	< 0.0117 U	< 0.0106 U	< 0.0334 U	< 0.0167 U
Ethyl benzene	mg/kg	1.0		190	480	1.0	< 0.0166 U	< 0.0150 U	< 0.0474 U	< 0.0237 U
Toluene	mg/kg	2.5		820	820	2.5	< 0.0364 U	< 0.0330 U	0.139 J	< 0.0522 U
Xylene, total	mg/kg	5.4 M		260 XYL	260 XYL	5.4	< 0.0364 U	< 0.0330 U	< 0.104 U	< 0.0522 U
Total Petroleum Hydrocarbons										
Gasoline Range Organics, C6-C10	mg/kg					100	< 0.83 U	< 0.88 U	< 2.7 U	< 1.3 U
Total Petroleum Hydrocarbons C10-C28, silica gel	mg/kg					100	57.2	25.6	66.8	40.7

Data Footnotes and Qualifiers

Barr Standard Footnotes and Qualifiers

a	Estimated value, calculated using some or all values that are estimates.
J	Estimated detected value. Either certain QC criteria were not met or the concentration is between the laboratory's detection and quantitation limits.
J-	The result is an estimated quantity and may be biased low.
U	The analyte was analyzed for, but was not detected.

MPCA Screening Soil Leaching Values

CR3	Based on the value for chromium, trivalent.
M	Value represents the criteria for mixed Xylenes.
MC	Mercury as Mercuric Chloride.
NA	Criterion value is not available for this analyte.
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P

MPCA Residential/Recreational Acute Soil Reference Values

BTV(a)	Background Threshold Values (BTVs). Not calculated health based SRVs. The calculated SRVs were determined to be below background values. Please refer to the "Background Threshold Value Evaluation" document for additional information. It is not appropriate to include BTVs in additivity calculations. Arsenic acute SRV is set to BTV.
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P

MPCA Residential/Recreational Chronic Soil Reference Values

BTV	Background Threshold Values (BTVs). Not calculated health based SRVs. The calculated SRVs were determined to be below background values. Please refer to the "Background Threshold Value Evaluation" document for additional information. It is not appropriate to include BTVs in additivity calculations.
BTV(a)	Background Threshold Values (BTVs). Not calculated health based SRVs. The calculated SRVs were determined to be below background values. Please refer to the "Background Threshold Value Evaluation" document for additional information. It is not appropriate to include BTVs in additivity calculations. Arsenic acute SRV is set to BTV.
CR3	Based on the value for chromium, trivalent
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P
XYL	Value represents the criteria for xylenes (mixed isomers).

MPCA Industrial/Commercial Chronic Soil Reference Values

BTV	Background Threshold Values (BTVs). Not calculated health based SRVs. The calculated SRVs were determined to be below background values. Please refer to the "Background Threshold Value Evaluation" document for additional information. It is not appropriate to include BTVs in additivity calculations.
CR3	Based on the value for chromium, trivalent
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P
XYL	Value represents the criteria for xylenes (mixed isomers).

Table 2
TCLP Lead Test Results

			Location	SR-4-SED2
			Date	6/26/2023
Parameter	Units	EPA TCLP Limit		
Effective Date				
Exceedance Key		No Exceed		
TCLP Metals				
Lead	mg/L	5		0.12

Pond GR-6 Sediment Sampling Locations 6/26/2023
SOCHACKI PARK
Three Rivers Park District

FIGURE 1

BARR

Pond SR-4 Sediment Sampling Locations
6/26/2023
SOCHACKI PARK
Three Rivers Park District

FIGURE 2

BARR

Barr Footer: ArcGISPro, 09/07/23 2:27 PM File: I:\Projects\23\27\2003\Maps\Reports\Sediment Sampling.aprx Layout: Figure 2-Sediment Sampling Location User: EMA

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

July 27, 2023

Kevin Menken
Barr Engineering
4300 MarketPointe Drive
Suite 200
Minneapolis, MN 55435

RE: Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Dear Kevin Menken:

Enclosed are the analytical results for sample(s) received by the laboratory on June 26, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

This report was revised on July 27, 2023, to include results for 6010D TCLP lead on Pace sample 10659240-004.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Martha Hansen
martha.hansen@pacelabs.com
(612)607-6451
Project Manager

Enclosures

cc: Barr DM, Barr Engineering
Terri Olson, Barr Engineering Company
Accounts Payable, Barr Engineering

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
GMP+ Certification #: GMP050884
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification (A2LA) #: R-036
North Dakota Certification (MN) #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10659240001	**GR-6-SED1**	Solid	06/26/23 12:15	06/26/23 16:30
10659240002	**GR-6-SED2**	Solid	06/26/23 12:45	06/26/23 16:30
10659240003	**SR-4-SED1**	Solid	06/26/23 14:00	06/26/23 16:30
10659240004	**SR-4-SED2**	Solid	06/26/23 14:30	06/26/23 16:30
10659240005	**Trip Blank**	Solid	06/26/23 00:00	06/26/23 16:30

Pace Analytical Services, LLC
1700 Elm Street
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SAMPLE ANALYTE COUNT

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10659240001	**GR-6-SED1**	WI MOD DRO	TT2	2	PASI-M
		WI MOD GRO	ALE	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	JLR, KJ3	27	PASI-M
		EPA 8260D	SB2	7	PASI-M
10659240002	**GR-6-SED2**	WI MOD DRO	TT2	2	PASI-M
		WI MOD GRO	ALE	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	JLR, KJ3	27	PASI-M
		EPA 8260D	SB2	7	PASI-M
10659240003	**SR-4-SED1**	WI MOD DRO	TT2	2	PASI-M
		WI MOD GRO	ALE	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	KJ3	27	PASI-M
		EPA 8260D	SB2	7	PASI-M
10659240004	**SR-4-SED2**	WI MOD DRO	TT2	2	PASI-M
		WI MOD GRO	ALE	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270E by SIM	KJ3	27	PASI-M
		EPA 8260D	SB2	7	PASI-M
10659240005	**Trip Blank**	WI MOD GRO	ALE	2	PASI-M
		EPA 8260D	SB2	7	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: GR-6-SED1 **Lab ID: 10659240001** Collected: 06/26/23 12:15 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**57.2**	mg/kg	9.8	3.7	1	06/28/23 16:43	06/29/23 17:47		T6
Surrogates									
n-Triacontane (S)	64	%.	30-150		1	06/28/23 16:43	06/29/23 17:47		
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: EPA 5030 Medium Soil Pace Analytical Services - Minneapolis								
Gasoline Range Organics	**<0.83**	mg/kg	19.1	0.83	1	07/06/23 12:12	07/07/23 05:46		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	80-200		1	07/06/23 12:12	07/07/23 05:46	98-08-8	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	**2.6**	mg/kg	1.4	0.27	1	07/07/23 08:23	07/10/23 15:59	7440-38-2	
Barium	**47.5**	mg/kg	0.71	0.24	1	07/07/23 08:23	07/10/23 15:59	7440-39-3	
Cadmium	**0.26**	mg/kg	0.21	0.049	1	07/07/23 08:23	07/10/23 15:59	7440-43-9	
Chromium	**9.2**	mg/kg	0.71	0.16	1	07/07/23 08:23	07/10/23 15:59	7440-47-3	
Copper	**15.0**	mg/kg	0.71	0.12	1	07/07/23 08:23	07/10/23 15:59	7440-50-8	
Lead	**19.9**	mg/kg	0.71	0.21	1	07/07/23 08:23	07/10/23 15:59	7439-92-1	
Selenium	**<0.47**	mg/kg	1.4	0.47	1	07/07/23 08:23	07/10/23 15:59	7782-49-2	
Silver	**<0.050**	mg/kg	0.71	0.050	1	07/07/23 08:23	07/10/23 15:59	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis								
Mercury	**0.019J**	mg/kg	0.026	0.011	1	07/07/23 13:40	07/07/23 17:49	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**32.7**	%	0.10	0.10	1		07/11/23 10:47		N2
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	**89.0**	ug/kg	14.6	2.0	1	06/30/23 07:57	07/13/23 00:48	83-32-9	M1,R1
Acenaphthylene	**163**	ug/kg	14.6	1.7	1	06/30/23 07:57	07/13/23 00:48	208-96-8	M1,R1
Anthracene	**277**	ug/kg	14.6	1.6	1	06/30/23 07:57	07/13/23 00:48	120-12-7	M1,R1
Benzo(a)anthracene	**1060**	ug/kg	14.6	4.0	1	06/30/23 07:57	07/13/23 00:48	56-55-3	M1,P6,R1
Benzo(a)pyrene	**1040**	ug/kg	14.6	1.9	1	06/30/23 07:57	07/13/23 00:48	50-32-8	M1,P6,R1
Benzo(g,h,i)perylene	**684**	ug/kg	14.6	3.1	1	06/30/23 07:57	07/13/23 00:48	191-24-2	M1,R1
Benzofluoranthenes (Total)	**1870**	ug/kg	43.8	9.0	1	06/30/23 07:57	07/13/23 00:48		M1,N2,R1
Chrysene	**1060**	ug/kg	14.6	2.6	1	06/30/23 07:57	07/13/23 00:48	218-01-9	M1,P6,R1
Dibenz(a,h)acridine	**52.0**	ug/kg	14.6	1.6	1	06/30/23 07:57	07/13/23 00:48	226-36-8	
Dibenz(a,h)anthracene	**180**	ug/kg	14.6	1.2	1	06/30/23 07:57	07/13/23 00:48	53-70-3	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: GR-6-SED1 **Lab ID: 10659240001** Collected: 06/26/23 12:15 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Dibenzo(a,e)pyrene	**369**	ug/kg	14.6	1.7	1	06/30/23 07:57	07/13/23 00:48	192-65-4	M1,R1
Dibenzo(a,h)pyrene	**204**	ug/kg	14.6	3.0	1	06/30/23 07:57	07/13/23 00:48	189-64-0	M1
Dibenzo(a,i)pyrene	**82.1**	ug/kg	14.6	1.4	1	06/30/23 07:57	07/13/23 00:48	189-55-9	
Dibenzo(a,l)pyrene	**16.6**	ug/kg	14.6	2.1	1	06/30/23 07:57	07/13/23 00:48	191-30-0	
7H-Dibenzo(c,g)carbazole	**<6.0**	ug/kg	14.6	6.0	1	06/30/23 07:57	07/13/23 00:48	194-59-2	
7,12-Dimethylbenz(a)anthracene	**<0.70**	ug/kg	14.6	0.70	1	06/30/23 07:57	07/13/23 00:48	57-97-6	
Fluoranthene	**3440**	ug/kg	73.1	17.6	5	06/30/23 07:57	07/14/23 12:23	206-44-0	P6,R1
Fluorene	**188**	ug/kg	14.6	2.0	1	06/30/23 07:57	07/13/23 00:48	86-73-7	M1,R1
Indeno(1,2,3-cd)pyrene	**862**	ug/kg	14.6	1.4	1	06/30/23 07:57	07/13/23 00:48	193-39-5	M1,P6,R1
3-Methylcholanthrene	**<3.4**	ug/kg	14.6	3.4	1	06/30/23 07:57	07/13/23 00:48	56-49-5	
5-Methylchrysene	**134**	ug/kg	14.6	1.9	1	06/30/23 07:57	07/13/23 00:48	3697-24-3	M1
2-Methylnaphthalene	**16.1**	ug/kg	14.6	2.6	1	06/30/23 07:57	07/13/23 00:48	91-57-6	R1
Naphthalene	**24.1**	ug/kg	14.6	2.8	1	06/30/23 07:57	07/13/23 00:48	91-20-3	M1
Phenanthrene	**1450**	ug/kg	14.6	2.5	1	06/30/23 07:57	07/13/23 00:48	85-01-8	M1,P6,R1
Pyrene	**2220**	ug/kg	29.2	6.7	2	06/30/23 07:57	07/13/23 12:37	129-00-0	P6,R1
Surrogates									
2-Fluorobiphenyl (S)	78	%.	35-125		1	06/30/23 07:57	07/13/23 00:48	321-60-8	
p-Terphenyl-d14 (S)	83	%.	66-125		1	06/30/23 07:57	07/13/23 00:48	1718-51-0	
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**<11.7**	ug/kg	38.5	11.7	1	07/05/23 09:53	07/06/23 11:58	71-43-2	
Ethylbenzene	**<16.6**	ug/kg	96.2	16.6	1	07/05/23 09:53	07/06/23 11:58	100-41-4	
Toluene	**<36.4**	ug/kg	96.2	36.4	1	07/05/23 09:53	07/06/23 11:58	108-88-3	
Xylene (Total)	**<36.4**	ug/kg	289	36.4	1	07/05/23 09:53	07/06/23 11:58	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%.	75-125		1	07/05/23 09:53	07/06/23 11:58	460-00-4	
Toluene-d8 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 11:58	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 11:58	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: GR-6-SED2 **Lab ID: 10659240002** Collected: 06/26/23 12:45 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**25.6**	mg/kg	10.1	3.8	1	06/28/23 16:43	06/29/23 18:08		T6
Surrogates									
n-Triacontane (S)	66	%.	30-150		1	06/28/23 16:43	06/29/23 18:08		
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: EPA 5030 Medium Soil Pace Analytical Services - Minneapolis								
Gasoline Range Organics	**<0.88**	mg/kg	20.4	0.88	1	07/06/23 12:12	07/07/23 06:05		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	80-200		1	07/06/23 12:12	07/07/23 06:05	98-08-8	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	**3.3**	mg/kg	1.4	0.27	1	07/07/23 08:23	07/10/23 16:07	7440-38-2	
Barium	**67.6**	mg/kg	0.71	0.24	1	07/07/23 08:23	07/10/23 16:07	7440-39-3	
Cadmium	**0.25**	mg/kg	0.21	0.048	1	07/07/23 08:23	07/10/23 16:07	7440-43-9	
Chromium	**11.8**	mg/kg	0.71	0.16	1	07/07/23 08:23	07/10/23 16:07	7440-47-3	
Copper	**13.0**	mg/kg	0.71	0.11	1	07/07/23 08:23	07/10/23 16:07	7440-50-8	
Lead	**11.0**	mg/kg	0.71	0.21	1	07/07/23 08:23	07/10/23 16:07	7439-92-1	
Selenium	**<0.47**	mg/kg	1.4	0.47	1	07/07/23 08:23	07/10/23 16:07	7782-49-2	
Silver	**<0.050**	mg/kg	0.71	0.050	1	07/07/23 08:23	07/10/23 16:07	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis								
Mercury	**0.027J**	mg/kg	0.029	0.013	1	07/07/23 13:40	07/07/23 17:54	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**33.3**	%	0.10	0.10	1		07/11/23 10:48		N2
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	**41.9**	ug/kg	14.8	2.0	1	06/30/23 07:57	07/13/23 02:20	83-32-9	
Acenaphthylene	**238**	ug/kg	14.8	1.7	1	06/30/23 07:57	07/13/23 02:20	208-96-8	
Anthracene	**222**	ug/kg	14.8	1.6	1	06/30/23 07:57	07/13/23 02:20	120-12-7	
Benzo(a)anthracene	**866**	ug/kg	14.8	4.1	1	06/30/23 07:57	07/13/23 02:20	56-55-3	
Benzo(a)pyrene	**813**	ug/kg	14.8	1.9	1	06/30/23 07:57	07/13/23 02:20	50-32-8	
Benzo(g,h,i)perylene	**539**	ug/kg	14.8	3.1	1	06/30/23 07:57	07/13/23 02:20	191-24-2	
Benzofluoranthenes (Total)	**1420**	ug/kg	44.5	9.1	1	06/30/23 07:57	07/13/23 02:20		N2
Chrysene	**717**	ug/kg	14.8	2.7	1	06/30/23 07:57	07/13/23 02:20	218-01-9	
Dibenz(a,h)acridine	**42.4**	ug/kg	14.8	1.7	1	06/30/23 07:57	07/13/23 02:20	226-36-8	
Dibenz(a,h)anthracene	**142**	ug/kg	14.8	1.2	1	06/30/23 07:57	07/13/23 02:20	53-70-3	
Dibenzo(a,e)pyrene	**275**	ug/kg	14.8	1.7	1	06/30/23 07:57	07/13/23 02:20	192-65-4	
Dibenzo(a,h)pyrene	**123**	ug/kg	14.8	3.0	1	06/30/23 07:57	07/13/23 02:20	189-64-0	
Dibenzo(a,i)pyrene	**56.8**	ug/kg	14.8	1.4	1	06/30/23 07:57	07/13/23 02:20	189-55-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: GR-6-SED2 **Lab ID: 10659240002** Collected: 06/26/23 12:45 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Dibenzo(a,l)pyrene	**14.8J**	ug/kg	14.8	2.1	1	06/30/23 07:57	07/13/23 02:20	191-30-0	
7H-Dibenzo(c,g)carbazole	**27.0**	ug/kg	14.8	6.1	1	06/30/23 07:57	07/13/23 02:20	194-59-2	
7,12-Dimethylbenz(a)anthracene	**<0.71**	ug/kg	14.8	0.71	1	06/30/23 07:57	07/13/23 02:20	57-97-6	
Fluoranthene	**2120**	ug/kg	29.6	7.1	2	06/30/23 07:57	07/13/23 13:08	206-44-0	
Fluorene	**95.9**	ug/kg	14.8	2.0	1	06/30/23 07:57	07/13/23 02:20	86-73-7	
Indeno(1,2,3-cd)pyrene	**692**	ug/kg	14.8	1.4	1	06/30/23 07:57	07/13/23 02:20	193-39-5	
3-Methylcholanthrene	**<3.4**	ug/kg	14.8	3.4	1	06/30/23 07:57	07/13/23 02:20	56-49-5	
5-Methylchrysene	**93.5**	ug/kg	14.8	1.9	1	06/30/23 07:57	07/13/23 02:20	3697-24-3	
2-Methylnaphthalene	**40.2**	ug/kg	14.8	2.7	1	06/30/23 07:57	07/13/23 02:20	91-57-6	
Naphthalene	**33.6**	ug/kg	14.8	2.8	1	06/30/23 07:57	07/13/23 02:20	91-20-3	
Phenanthrene	**723**	ug/kg	14.8	2.5	1	06/30/23 07:57	07/13/23 02:20	85-01-8	
Pyrene	**1380**	ug/kg	14.8	3.4	1	06/30/23 07:57	07/13/23 02:20	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%.	35-125		1	06/30/23 07:57	07/13/23 02:20	321-60-8	
p-Terphenyl-d14 (S)	70	%.	66-125		1	06/30/23 07:57	07/13/23 02:20	1718-51-0	
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**<10.6**	ug/kg	34.9	10.6	1	07/05/23 09:53	07/06/23 11:41	71-43-2	
Ethylbenzene	**<15.0**	ug/kg	87.3	15.0	1	07/05/23 09:53	07/06/23 11:41	100-41-4	
Toluene	**<33.0**	ug/kg	87.3	33.0	1	07/05/23 09:53	07/06/23 11:41	108-88-3	
Xylene (Total)	**<33.0**	ug/kg	262	33.0	1	07/05/23 09:53	07/06/23 11:41	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%.	75-125		1	07/05/23 09:53	07/06/23 11:41	460-00-4	
Toluene-d8 (S)	101	%.	75-125		1	07/05/23 09:53	07/06/23 11:41	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 11:41	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: SR-4-SED1 **Lab ID: 10659240003** Collected: 06/26/23 14:00 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**66.8**	mg/kg	24.3	9.1	1	06/28/23 16:43	06/29/23 18:01		T6
Surrogates									
n-Triacontane (S)	57	%.	30-150		1	06/28/23 16:43	06/29/23 18:01		
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: EPA 5030 Medium Soil Pace Analytical Services - Minneapolis								
Gasoline Range Organics	**<2.7**	mg/kg	61.3	2.7	1	07/06/23 12:12	07/07/23 06:24		
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%.	80-200		1	07/06/23 12:12	07/07/23 06:24	98-08-8	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	**5.0**	mg/kg	3.4	0.65	1	07/07/23 08:23	07/10/23 16:09	7440-38-2	
Barium	**111**	mg/kg	1.7	0.58	1	07/07/23 08:23	07/10/23 16:09	7440-39-3	
Cadmium	**1.1**	mg/kg	0.51	0.12	1	07/07/23 08:23	07/10/23 16:09	7440-43-9	
Chromium	**35.6**	mg/kg	1.7	0.38	1	07/07/23 08:23	07/10/23 16:09	7440-47-3	
Copper	**70.3**	mg/kg	1.7	0.28	1	07/07/23 08:23	07/10/23 16:09	7440-50-8	
Lead	**79.2**	mg/kg	1.7	0.50	1	07/07/23 08:23	07/10/23 16:09	7439-92-1	
Selenium	**1.2J**	mg/kg	3.4	1.1	1	07/07/23 08:23	07/10/23 16:09	7782-49-2	
Silver	**<0.12**	mg/kg	1.7	0.12	1	07/07/23 08:23	07/10/23 16:09	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis								
Mercury	**0.15**	mg/kg	0.070	0.030	1	07/07/23 13:40	07/07/23 17:55	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**71.6**	%	0.10	0.10	1		07/11/23 10:48		N2
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	**33.0J**	ug/kg	35.1	4.7	1	06/30/23 07:57	07/13/23 02:51	83-32-9	
Acenaphthylene	**50.6**	ug/kg	35.1	4.0	1	06/30/23 07:57	07/13/23 02:51	208-96-8	
Anthracene	**59.4**	ug/kg	35.1	3.8	1	06/30/23 07:57	07/13/23 02:51	120-12-7	
Benzo(a)anthracene	**225**	ug/kg	35.1	9.6	1	06/30/23 07:57	07/13/23 02:51	56-55-3	
Benzo(a)pyrene	**294**	ug/kg	35.1	4.5	1	06/30/23 07:57	07/13/23 02:51	50-32-8	
Benzo(g,h,i)perylene	**290**	ug/kg	35.1	7.4	1	06/30/23 07:57	07/13/23 02:51	191-24-2	
Benzofluoranthenes (Total)	**586**	ug/kg	105	21.6	1	06/30/23 07:57	07/13/23 02:51		N2
Chrysene	**328**	ug/kg	35.1	6.4	1	06/30/23 07:57	07/13/23 02:51	218-01-9	
Dibenz(a,h)acridine	**20.5J**	ug/kg	35.1	3.9	1	06/30/23 07:57	07/13/23 02:51	226-36-8	
Dibenz(a,h)anthracene	**56.4**	ug/kg	35.1	2.8	1	06/30/23 07:57	07/13/23 02:51	53-70-3	
Dibenzo(a,e)pyrene	**140**	ug/kg	35.1	4.0	1	06/30/23 07:57	07/13/23 02:51	192-65-4	
Dibenzo(a,h)pyrene	**66.9**	ug/kg	35.1	7.1	1	06/30/23 07:57	07/13/23 02:51	189-64-0	
Dibenzo(a,i)pyrene	**32.8J**	ug/kg	35.1	3.4	1	06/30/23 07:57	07/13/23 02:51	189-55-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: SR-4-SED1 **Lab ID: 10659240003** Collected: 06/26/23 14:00 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Dibenzo(a,l)pyrene	**<5.0**	ug/kg	35.1	5.0	1	06/30/23 07:57	07/13/23 02:51	191-30-0	
7H-Dibenzo(c,g)carbazole	**<14.5**	ug/kg	35.1	14.5	1	06/30/23 07:57	07/13/23 02:51	194-59-2	
7,12-Dimethylbenz(a)anthracene	**<1.7**	ug/kg	35.1	1.7	1	06/30/23 07:57	07/13/23 02:51	57-97-6	
Fluoranthene	**573**	ug/kg	35.1	8.5	1	06/30/23 07:57	07/13/23 02:51	206-44-0	
Fluorene	**40.4**	ug/kg	35.1	4.7	1	06/30/23 07:57	07/13/23 02:51	86-73-7	
Indeno(1,2,3-cd)pyrene	**303**	ug/kg	35.1	3.4	1	06/30/23 07:57	07/13/23 02:51	193-39-5	
3-Methylcholanthrene	**<8.1**	ug/kg	35.1	8.1	1	06/30/23 07:57	07/13/23 02:51	56-49-5	
5-Methylchrysene	**54.7**	ug/kg	35.1	4.5	1	06/30/23 07:57	07/13/23 02:51	3697-24-3	
2-Methylnaphthalene	**16.9J**	ug/kg	35.1	6.4	1	06/30/23 07:57	07/13/23 02:51	91-57-6	
Naphthalene	**29.8J**	ug/kg	35.1	6.7	1	06/30/23 07:57	07/13/23 02:51	91-20-3	
Phenanthrene	**248**	ug/kg	35.1	6.0	1	06/30/23 07:57	07/13/23 02:51	85-01-8	
Pyrene	**465**	ug/kg	35.1	8.0	1	06/30/23 07:57	07/13/23 02:51	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%.	35-125		1	06/30/23 07:57	07/13/23 02:51	321-60-8	
p-Terphenyl-d14 (S)	75	%.	66-125		1	06/30/23 07:57	07/13/23 02:51	1718-51-0	
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**<33.4**	ug/kg	110	33.4	1	07/05/23 09:53	07/06/23 12:14	71-43-2	
Ethylbenzene	**<47.4**	ug/kg	275	47.4	1	07/05/23 09:53	07/06/23 12:14	100-41-4	
Toluene	**139J**	ug/kg	275	104	1	07/05/23 09:53	07/06/23 12:14	108-88-3	
Xylene (Total)	**<104**	ug/kg	826	104	1	07/05/23 09:53	07/06/23 12:14	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	95	%.	75-125		1	07/05/23 09:53	07/06/23 12:14	460-00-4	
Toluene-d8 (S)	99	%.	75-125		1	07/05/23 09:53	07/06/23 12:14	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	99	%.	75-125		1	07/05/23 09:53	07/06/23 12:14	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: SR-4-SED2 **Lab ID: 10659240004** Collected: 06/26/23 14:30 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO Pace Analytical Services - Minneapolis								
WDRO C10-C28	**40.7**	mg/kg	12.9	4.8	1	06/28/23 16:43	06/29/23 17:54		T6
Surrogates									
n-Triacontane (S)	57	%.	30-150		1	06/28/23 16:43	06/29/23 17:54		
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: EPA 5030 Medium Soil Pace Analytical Services - Minneapolis								
Gasoline Range Organics	**<1.3**	mg/kg	29.1	1.3	1	07/06/23 12:12	07/07/23 06:43		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	80-200		1	07/06/23 12:12	07/07/23 06:43	98-08-8	
6010D MET ICP, TCLP MICRO	Analytical Method: EPA 6010D Preparation Method: EPA 3015A Leachate Method/Date: EPA 1311; 07/19/23 14:51 Pace Analytical Services - Minneapolis								
Lead	**0.12**	mg/L	0.10	0.010	1	07/20/23 10:36	07/25/23 15:25	7439-92-1	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B Pace Analytical Services - Minneapolis								
Arsenic	**5.7**	mg/kg	1.8	0.35	1	07/07/23 08:23	07/10/23 16:10	7440-38-2	
Barium	**106**	mg/kg	0.92	0.31	1	07/07/23 08:23	07/10/23 16:10	7440-39-3	
Cadmium	**2.2**	mg/kg	0.27	0.063	1	07/07/23 08:23	07/10/23 16:10	7440-43-9	
Chromium	**44.0**	mg/kg	0.92	0.21	1	07/07/23 08:23	07/10/23 16:10	7440-47-3	
Copper	**69.3**	mg/kg	0.92	0.15	1	07/07/23 08:23	07/10/23 16:10	7440-50-8	
Lead	**290**	mg/kg	0.92	0.27	1	07/07/23 08:23	07/10/23 16:10	7439-92-1	
Selenium	**0.86J**	mg/kg	1.8	0.60	1	07/07/23 08:23	07/10/23 16:10	7782-49-2	
Silver	**<0.064**	mg/kg	0.92	0.064	1	07/07/23 08:23	07/10/23 16:10	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B Pace Analytical Services - Minneapolis								
Mercury	**0.21**	mg/kg	0.037	0.016	1	07/07/23 13:40	07/07/23 17:57	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**49.1**	%	0.10	0.10	1		07/11/23 10:48		N2
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Acenaphthene	**30.5**	ug/kg	19.4	2.6	1	06/30/23 07:57	07/13/23 03:21	83-32-9	
Acenaphthylene	**38.8**	ug/kg	19.4	2.2	1	06/30/23 07:57	07/13/23 03:21	208-96-8	
Anthracene	**90.8**	ug/kg	19.4	2.1	1	06/30/23 07:57	07/13/23 03:21	120-12-7	
Benzo(a)anthracene	**473**	ug/kg	19.4	5.3	1	06/30/23 07:57	07/13/23 03:21	56-55-3	
Benzo(a)pyrene	**747**	ug/kg	19.4	2.5	1	06/30/23 07:57	07/13/23 03:21	50-32-8	
Benzo(g,h,i)perylene	**629**	ug/kg	19.4	4.1	1	06/30/23 07:57	07/13/23 03:21	191-24-2	
Benzofluoranthenes (Total)	**1380**	ug/kg	58.3	12.0	1	06/30/23 07:57	07/13/23 03:21		N2
Chrysene	**685**	ug/kg	19.4	3.5	1	06/30/23 07:57	07/13/23 03:21	218-01-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: SR-4-SED2 **Lab ID: 10659240004** Collected: 06/26/23 14:30 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270E MSSV CPAH by SIM	Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3546 Pace Analytical Services - Minneapolis								
Dibenz(a,h)acridine	**42.4**	ug/kg	19.4	2.2	1	06/30/23 07:57	07/13/23 03:21	226-36-8	
Dibenz(a,h)anthracene	**146**	ug/kg	19.4	1.5	1	06/30/23 07:57	07/13/23 03:21	53-70-3	
Dibenzo(a,e)pyrene	**305**	ug/kg	19.4	2.2	1	06/30/23 07:57	07/13/23 03:21	192-65-4	
Dibenzo(a,h)pyrene	**135**	ug/kg	19.4	3.9	1	06/30/23 07:57	07/13/23 03:21	189-64-0	
Dibenzo(a,i)pyrene	**75.8**	ug/kg	19.4	1.9	1	06/30/23 07:57	07/13/23 03:21	189-55-9	
Dibenzo(a,l)pyrene	**15.2J**	ug/kg	19.4	2.8	1	06/30/23 07:57	07/13/23 03:21	191-30-0	
7H-Dibenzo(c,g)carbazole	**<8.0**	ug/kg	19.4	8.0	1	06/30/23 07:57	07/13/23 03:21	194-59-2	
7,12-Dimethylbenz(a)anthracene	**<0.93**	ug/kg	19.4	0.93	1	06/30/23 07:57	07/13/23 03:21	57-97-6	
Fluoranthene	**1110**	ug/kg	19.4	4.7	1	06/30/23 07:57	07/13/23 03:21	206-44-0	
Fluorene	**33.6**	ug/kg	19.4	2.6	1	06/30/23 07:57	07/13/23 03:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**740**	ug/kg	19.4	1.9	1	06/30/23 07:57	07/13/23 03:21	193-39-5	
3-Methylcholanthrene	**11.1J**	ug/kg	19.4	4.5	1	06/30/23 07:57	07/13/23 03:21	56-49-5	
5-Methylchrysene	**76.2**	ug/kg	19.4	2.5	1	06/30/23 07:57	07/13/23 03:21	3697-24-3	
2-Methylnaphthalene	**18.7J**	ug/kg	19.4	3.5	1	06/30/23 07:57	07/13/23 03:21	91-57-6	
Naphthalene	**26.4**	ug/kg	19.4	3.7	1	06/30/23 07:57	07/13/23 03:21	91-20-3	
Phenanthrene	**400**	ug/kg	19.4	3.3	1	06/30/23 07:57	07/13/23 03:21	85-01-8	
Pyrene	**916**	ug/kg	19.4	4.5	1	06/30/23 07:57	07/13/23 03:21	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%.	35-125		1	06/30/23 07:57	07/13/23 03:21	321-60-8	
p-Terphenyl-d14 (S)	53	%.	66-125		1	06/30/23 07:57	07/13/23 03:21	1718-51-0	1M,S0
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**<16.7**	ug/kg	55.2	16.7	1	07/05/23 09:53	07/06/23 11:25	71-43-2	
Ethylbenzene	**<23.7**	ug/kg	138	23.7	1	07/05/23 09:53	07/06/23 11:25	100-41-4	
Toluene	**<52.2**	ug/kg	138	52.2	1	07/05/23 09:53	07/06/23 11:25	108-88-3	
Xylene (Total)	**<52.2**	ug/kg	414	52.2	1	07/05/23 09:53	07/06/23 11:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%.	75-125		1	07/05/23 09:53	07/06/23 11:25	460-00-4	
Toluene-d8 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 11:25	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 11:25	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Sample: Trip Blank **Lab ID: 10659240005** Collected: 06/26/23 00:00 Received: 06/26/23 16:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: EPA 5030 Medium Soil Pace Analytical Services - Minneapolis								
Gasoline Range Organics	**<0.43**	mg/kg	10.0	0.43	1	07/06/23 12:12	07/07/23 03:52		
Surrogates									
a,a,a-Trifluorotoluene (S)	96	%.	80-200		1	07/06/23 12:12	07/07/23 03:52	98-08-8	
8260D MSV UST	Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B Pace Analytical Services - Minneapolis								
Benzene	**<6.1**	ug/kg	20.0	6.1	1	07/05/23 09:53	07/06/23 10:52	71-43-2	
Ethylbenzene	**<8.6**	ug/kg	50.0	8.6	1	07/05/23 09:53	07/06/23 10:52	100-41-4	
Toluene	**<18.9**	ug/kg	50.0	18.9	1	07/05/23 09:53	07/06/23 10:52	108-88-3	
Xylene (Total)	**<18.9**	ug/kg	150	18.9	1	07/05/23 09:53	07/06/23 10:52	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	96	%.	75-125		1	07/05/23 09:53	07/06/23 10:52	460-00-4	
Toluene-d8 (S)	102	%.	75-125		1	07/05/23 09:53	07/06/23 10:52	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%.	75-125		1	07/05/23 09:53	07/06/23 10:52	2199-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 892078
QC Batch Method: EPA 5030 Medium Soil
Analysis Method: WI MOD GRO
Analysis Description: WIGRO Solid GCV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004, 10659240005

METHOD BLANK: 4700309 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004, 10659240005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	<0.43	10.0	0.43	07/07/23 02:35	
a,a,a-Trifluorotoluene (S)	%.	96	80-200		07/07/23 02:35	

LABORATORY CONTROL SAMPLE & LCSD: 4700310 4700311

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	mg/kg	50	43.4	43.5	87	87	80-120	0	20	
a,a,a-Trifluorotoluene (S)	%.				105	105	80-200			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 891500 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

METHOD BLANK: 4697967 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/kg	<0.0086	0.020	0.0086	07/07/23 17:46	

LABORATORY CONTROL SAMPLE: 4697968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.45	0.49	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4697969 4697970

Parameter	Units	10659240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.019J	0.65	0.64	0.71	0.69	105	105	80-120	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 894923
QC Batch Method: EPA 3015A
Analysis Method: EPA 6010D
Analysis Description: 6010D MET ICP, TCLP MICRO
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240004

METHOD BLANK: 4715431 Matrix: Water
Associated Lab Samples: 10659240004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	mg/L	<0.010	0.10	0.010	07/25/23 15:22	

LABORATORY CONTROL SAMPLE: 4715432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/L	5	4.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4715433 4715434

Parameter	Units	10661520001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/L	ND	5	5	4.9	4.8	98	96	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 891389
QC Batch Method: EPA 3050B
Analysis Method: EPA 6010D
Analysis Description: 6010D Solids
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

METHOD BLANK: 4697516 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	<0.17	0.91	0.17	07/10/23 15:55	
Barium	mg/kg	<0.16	0.46	0.16	07/10/23 15:55	
Cadmium	mg/kg	<0.031	0.14	0.031	07/10/23 15:55	
Chromium	mg/kg	<0.10	0.46	0.10	07/10/23 15:55	
Copper	mg/kg	<0.074	0.46	0.074	07/10/23 15:55	
Lead	mg/kg	<0.13	0.46	0.13	07/10/23 15:55	
Selenium	mg/kg	<0.30	0.91	0.30	07/10/23 15:55	
Silver	mg/kg	<0.032	0.46	0.032	07/10/23 15:55	

LABORATORY CONTROL SAMPLE: 4697517

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	46	41.4	90	80-120	
Barium	mg/kg	46	46.2	100	80-120	
Cadmium	mg/kg	46	45.4	99	80-120	
Chromium	mg/kg	46	45.2	98	80-120	
Copper	mg/kg	46	45.3	98	80-120	
Lead	mg/kg	46	44.9	98	80-120	
Selenium	mg/kg	46	40.3	88	80-120	
Silver	mg/kg	23	21.8	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4697518 4697519

Parameter	Units	10659240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	2.6	74.2	72.5	67.3	62.5	87	83	75-125	7	20	
Barium	mg/kg	47.5	74.2	72.5	118	123	95	105	75-125	4	20	
Cadmium	mg/kg	0.26	74.2	72.5	66.9	63.3	90	87	75-125	6	20	
Chromium	mg/kg	9.2	74.2	72.5	80.5	78.6	96	96	75-125	2	20	
Copper	mg/kg	15.0	74.2	72.5	89.5	84.4	101	96	75-125	6	20	
Lead	mg/kg	19.9	74.2	72.5	85.6	76.5	89	78	75-125	11	20	
Selenium	mg/kg	<0.47	74.2	72.5	63.3	59.0	85	81	75-125	7	20	
Silver	mg/kg	<0.050	37	36.3	33.7	32.8	91	90	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 892491
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

SAMPLE DUPLICATE: 4702887

Parameter	Units	10659249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.5	10.3	2	30	N2

SAMPLE DUPLICATE: 4703806

Parameter	Units	10659638005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.0	7.8	3	30	N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 891720
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260D
Analysis Description: 8260D MSV UST
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004, 10659240005

METHOD BLANK: 4698680 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004, 10659240005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/kg	<6.1	20.0	6.1	07/06/23 10:19	
Ethylbenzene	ug/kg	<8.6	50.0	8.6	07/06/23 10:19	
Toluene	ug/kg	<18.9	50.0	18.9	07/06/23 10:19	
Xylene (Total)	ug/kg	<18.9	150	18.9	07/06/23 10:19	
1,2-Dichlorobenzene-d4 (S)	%.	101	75-125		07/06/23 10:19	
4-Bromofluorobenzene (S)	%.	97	75-125		07/06/23 10:19	
Toluene-d8 (S)	%.	99	75-125		07/06/23 10:19	

LABORATORY CONTROL SAMPLE & LCSD: 4698681 4698682

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	1000	1010	935	101	94	72-125	8	20	
Ethylbenzene	ug/kg	1000	970	920	97	92	75-130	5	20	
Toluene	ug/kg	1000	1010	977	101	98	75-125	4	20	
Xylene (Total)	ug/kg	3000	3040	2940	101	98	75-126	3	20	
1,2-Dichlorobenzene-d4 (S)	%.				99	100	75-125			
4-Bromofluorobenzene (S)	%.				95	98	75-125			
Toluene-d8 (S)	%.				101	101	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 891058
QC Batch Method: EPA 3546
Analysis Method: EPA 8270E by SIM
Analysis Description: 8270E CPAH Solid
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

METHOD BLANK: 4695364 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylnaphthalene	ug/kg	<1.8	10.0	1.8	07/11/23 18:38	
3-Methylcholanthrene	ug/kg	<2.3	10.0	2.3	07/11/23 18:38	
5-Methylchrysene	ug/kg	<1.3	10.0	1.3	07/11/23 18:38	
7,12-Dimethylbenz(a)anthracene	ug/kg	<0.48	10.0	0.48	07/11/23 18:38	
7H-Dibenzo(c,g)carbazole	ug/kg	<4.1	10.0	4.1	07/11/23 18:38	
Acenaphthene	ug/kg	<1.3	10.0	1.3	07/11/23 18:38	
Acenaphthylene	ug/kg	<1.2	10.0	1.2	07/11/23 18:38	
Anthracene	ug/kg	<1.1	10.0	1.1	07/11/23 18:38	
Benzo(a)anthracene	ug/kg	<2.7	10.0	2.7	07/11/23 18:38	
Benzo(a)pyrene	ug/kg	<1.3	10.0	1.3	07/11/23 18:38	
Benzo(g,h,i)perylene	ug/kg	<2.1	10.0	2.1	07/11/23 18:38	
Benzofluoranthenes (Total)	ug/kg	<6.2	30.0	6.2	07/11/23 18:38	N2
Chrysene	ug/kg	<1.8	10.0	1.8	07/11/23 18:38	
Dibenz(a,h)acridine	ug/kg	<1.1	10.0	1.1	07/11/23 18:38	
Dibenz(a,h)anthracene	ug/kg	<0.79	10.0	0.79	07/11/23 18:38	
Dibenzo(a,e)pyrene	ug/kg	<1.1	10.0	1.1	07/11/23 18:38	
Dibenzo(a,h)pyrene	ug/kg	<2.0	10.0	2.0	07/11/23 18:38	
Dibenzo(a,i)pyrene	ug/kg	<0.97	10.0	0.97	07/11/23 18:38	
Dibenzo(a,l)pyrene	ug/kg	<1.4	10.0	1.4	07/11/23 18:38	
Fluoranthene	ug/kg	<2.4	10.0	2.4	07/11/23 18:38	
Fluorene	ug/kg	<1.3	10.0	1.3	07/11/23 18:38	
Indeno(1,2,3-cd)pyrene	ug/kg	<0.97	10.0	0.97	07/11/23 18:38	
Naphthalene	ug/kg	<1.9	10.0	1.9	07/11/23 18:38	
Phenanthrene	ug/kg	<1.7	10.0	1.7	07/11/23 18:38	
Pyrene	ug/kg	<2.3	10.0	2.3	07/11/23 18:38	
2-Fluorobiphenyl (S)	%.	57	35-125		07/11/23 18:38	
p-Terphenyl-d14 (S)	%.	84	66-125		07/11/23 18:38	

LABORATORY CONTROL SAMPLE: 4695365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/kg	300	219	73	48-125	
3-Methylcholanthrene	ug/kg	300	293	98	30-130	
5-Methylchrysene	ug/kg	300	267	89	75-125	
7,12-Dimethylbenz(a)anthracene	ug/kg	300	222	74	69-128	
7H-Dibenzo(c,g)carbazole	ug/kg	300	278	93	71-125	
Acenaphthene	ug/kg	300	221	74	52-125	
Acenaphthylene	ug/kg	300	219	73	51-125	
Anthracene	ug/kg	300	262	87	62-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

LABORATORY CONTROL SAMPLE: 4695365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)anthracene	ug/kg	300	254	85	63-125	
Benzo(a)pyrene	ug/kg	300	276	92	61-125	
Benzo(g,h,i)perylene	ug/kg	300	281	94	61-125	
Benzofluoranthenes (Total)	ug/kg	900	854	95	75-125	N2
Chrysene	ug/kg	300	275	92	66-125	
Dibenz(a,h)acridine	ug/kg	300	274	91	75-125	
Dibenz(a,h)anthracene	ug/kg	300	306	102	57-125	
Dibenzo(a,e)pyrene	ug/kg	300	259	86	75-125	
Dibenzo(a,h)pyrene	ug/kg	300	263	88	72-125	
Dibenzo(a,i)pyrene	ug/kg	300	265	88	52-125	
Dibenzo(a,l)pyrene	ug/kg	300	213	71	30-133	
Fluoranthene	ug/kg	300	265	88	67-125	
Fluorene	ug/kg	300	236	79	62-125	
Indeno(1,2,3-cd)pyrene	ug/kg	300	290	97	58-125	
Naphthalene	ug/kg	300	213	71	48-125	
Phenanthrene	ug/kg	300	255	85	61-125	
Pyrene	ug/kg	300	266	89	67-125	
2-Fluorobiphenyl (S)	%.			75	35-125	
p-Terphenyl-d14 (S)	%.			91	66-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4695366 4695367

Parameter	Units	10659240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	ug/kg	16.1	435	440	346	488	76	107	70-130	34	30	R1
3-Methylcholanthrene	ug/kg	<3.4	435	440	422	434	97	99	70-130	3	30	
5-Methylchrysene	ug/kg	134	435	440	429	381	68	56	70-130	12	30	M1
7,12-Dimethylbenz(a)anthracene	ug/kg	<0.70	435	440	340	405	78	92	70-130	17	30	
7H-Dibenzo(c,g)carbazole	ug/kg	<6.0	435	440	464	516	107	117	70-130	11	30	
Acenaphthene	ug/kg	89.0	435	440	427	736	77	147	70-130	53	30	M1,R1
Acenaphthylene	ug/kg	163	435	440	653	1110	113	214	70-130	52	30	M1,R1
Anthracene	ug/kg	277	435	440	812	1660	123	313	70-130	68	30	E,M1,R1
Benzo(a)anthracene	ug/kg	1060	435	440	1950	3040	204	450	70-130	44	30	E,M1,R1
Benzo(a)pyrene	ug/kg	1040	435	440	1860	3230	189	498	70-130	54	30	E,M1,R1
Benzo(g,h,i)perylene	ug/kg	684	435	440	1320	2180	146	339	70-130	49	30	E,M1,R1
Benzofluoranthenes (Total)	ug/kg	1870	1310	1320	3680	6030	138	314	70-130	48	30	E,M1,N2,R1
Chrysene	ug/kg	1060	435	440	1800	2990	168	436	70-130	50	30	E,M1,R1
Dibenz(a,h)acridine	ug/kg	52.0	435	440	454	533	92	109	70-130	16	30	
Dibenz(a,h)anthracene	ug/kg	180	435	440	675	909	114	166	70-130	30	30	M1
Dibenzo(a,e)pyrene	ug/kg	369	435	440	648	1140	64	174	70-130	55	30	M1,R1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4695366 4695367

Parameter	Units	10659240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibenzo(a,h)pyrene	ug/kg	204	435	440	693	830	112	142	70-130	18	30	M1
Dibenzo(a,i)pyrene	ug/kg	82.1	435	440	532	589	103	115	70-130	10	30	
Dibenzo(a,l)pyrene	ug/kg	16.6	435	440	346	369	76	80	70-130	7	30	
Fluoranthene	ug/kg	3440	435	440	3970	7590	121	942	70-130	63	30	E,P6, R1
Fluorene	ug/kg	188	435	440	573	1550	88	310	70-130	92	30	E,M1, R1
Indeno(1,2,3-cd)pyrene	ug/kg	862	435	440	1630	2820	177	445	70-130	53	30	E,M1, R1
Naphthalene	ug/kg	24.1	435	440	322	370	68	79	70-130	14	30	M1
Phenanthrene	ug/kg	1450	435	440	2270	6830	189	1220	70-130	100	30	E,M1, R1
Pyrene	ug/kg	2220	435	440	2970	5820	172	818	70-130	65	30	E,P6, R1
2-Fluorobiphenyl (S)	%.						74	79	35-125			
p-Terphenyl-d14 (S)	%.						78	80	66-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

QC Batch: 890729
QC Batch Method: WI MOD DRO
Analysis Method: WI MOD DRO
Analysis Description: WIDRO Solid GCV
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

METHOD BLANK: 4693355 Matrix: Solid
Associated Lab Samples: 10659240001, 10659240002, 10659240003, 10659240004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
WDRO C10-C28	mg/kg	<3.7	10.0	3.7	06/29/23 17:33	
n-Triacontane (S)	%.	71	30-150		06/29/23 17:33	

LABORATORY CONTROL SAMPLE & LCSD: 4693356 4693357

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO C10-C28	mg/kg	80	68.1	80.5	85	101	59-125	17	20	
n-Triacontane (S)	%.				70	86	30-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: 890792

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 892021

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 892161

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M	Results by reanalysis conducted outside of the method specified holding time did not confirm the original results.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
T6	High boiling point hydrocarbons are present in the sample.

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(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 23272003.00 001 021 Sochacki P-Revised Report
Pace Project No.: 10659240

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10659240001	**GR-6-SED1**	WI MOD DRO	890729	WI MOD DRO	890792
10659240002	**GR-6-SED2**	WI MOD DRO	890729	WI MOD DRO	890792
10659240003	**SR-4-SED1**	WI MOD DRO	890729	WI MOD DRO	890792
10659240004	**SR-4-SED2**	WI MOD DRO	890729	WI MOD DRO	890792
10659240001	**GR-6-SED1**	EPA 5030 Medium Soil	892078	WI MOD GRO	892161
10659240002	**GR-6-SED2**	EPA 5030 Medium Soil	892078	WI MOD GRO	892161
10659240003	**SR-4-SED1**	EPA 5030 Medium Soil	892078	WI MOD GRO	892161
10659240004	**SR-4-SED2**	EPA 5030 Medium Soil	892078	WI MOD GRO	892161
10659240005	**Trip Blank**	EPA 5030 Medium Soil	892078	WI MOD GRO	892161
10659240004	**SR-4-SED2**	EPA 3015A	894923	EPA 6010D	895078
10659240001	**GR-6-SED1**	EPA 3050B	891389	EPA 6010D	892435
10659240002	**GR-6-SED2**	EPA 3050B	891389	EPA 6010D	892435
10659240003	**SR-4-SED1**	EPA 3050B	891389	EPA 6010D	892435
10659240004	**SR-4-SED2**	EPA 3050B	891389	EPA 6010D	892435
10659240001	**GR-6-SED1**	EPA 7471B	891500	EPA 7471B	892345
10659240002	**GR-6-SED2**	EPA 7471B	891500	EPA 7471B	892345
10659240003	**SR-4-SED1**	EPA 7471B	891500	EPA 7471B	892345
10659240004	**SR-4-SED2**	EPA 7471B	891500	EPA 7471B	892345
10659240001	**GR-6-SED1**	ASTM D2974	892491		
10659240002	**GR-6-SED2**	ASTM D2974	892491		
10659240003	**SR-4-SED1**	ASTM D2974	892491		
10659240004	**SR-4-SED2**	ASTM D2974	892491		
10659240001	**GR-6-SED1**	EPA 3546	891058	EPA 8270E by SIM	892250
10659240002	**GR-6-SED2**	EPA 3546	891058	EPA 8270E by SIM	892250
10659240003	**SR-4-SED1**	EPA 3546	891058	EPA 8270E by SIM	892250
10659240004	**SR-4-SED2**	EPA 3546	891058	EPA 8270E by SIM	892250
10659240001	**GR-6-SED1**	EPA 5035/5030B	891720	EPA 8260D	892021
10659240002	**GR-6-SED2**	EPA 5035/5030B	891720	EPA 8260D	892021
10659240003	**SR-4-SED1**	EPA 5035/5030B	891720	EPA 8260D	892021
10659240004	**SR-4-SED2**	EPA 5035/5030B	891720	EPA 8260D	892021
10659240005	**Trip Blank**	EPA 5035/5030B	891720	EPA 8260D	892021

Barr Engineering Co. Chain of Custody

Sample Origination State
☐ CO ☐ MI ☐ MN ☐ MO ☐ ND ☐ NV ☐ TX ☐ UT ☐ WI ☐ WY ☐ Other: _____

COC Number: № 593836
COC 1 of 1

REPORT TO	INVOICE TO
Company: Barr Eng	Company: Barr Eng
Address:	Address:
Address:	Address:
Name: Kevin Menken	Name: Kevin Menken
email: kmenken@barr.com	email:
Copy to: BarrDM@barr.com	P.O.
Project Name: Sochacki Ponds	Barr Project No: 23272003.00 001 021

Location	Sample Depth Start	Stop	Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested: Water / Soil — GRO / BTEX (F)	WI DRO w silica gel clean (A)	RSK-A w/ CH4 & ethane/ethene (A)	cPAHs (stormwater QAPP) (A)	% Solids (A)	Preservative Code	Field Filtered Y/N
1. GR-6-SED 1				6/26/23	12:15	SD		9	X	X	X	X	X		001
2. GR-6-SED 2				6/26/23	12:45	SD		9	X	X	X	X	X		002
3. SR-4-SED 1				6/26/23	14:00	SD		9	X	X	X	X	X		003
4. SR-4-SED 2				6/26/23	14:30	SD		9	X	X	X	X	X		004
5.															
6.															
7.															
8.															
9.															
10.															

Matrix Code: GW = Groundwater, SW = Surface Water, DW = Drinking Water, PW = Pore Water, WW = Waste Water, WQ = TB, FB, EB, etc., W = Unspecified, S = Soil/Solid, SD = Sediment, SQ = MeOH blank, OTH = Other (Oil, etc.)

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, I = Ascorbic Acid, J = Zn Acetate, K = Other

WO#: 10659240

10659240

BARR USE ONLY								
Sampled by: Kevin Menken	Relinquished by: Kevin Menken	On Ice? (Y) N	Date 6/26/23	Time 15:15	Received by: Chuck Pace	Date 6/26/23	Time 15:45
Barr Proj. Manager: Kevin Menken	Relinquished by: Chuck Pace	On Ice? (Y) N	Date 6/26/23	Time 1643	Received by: Pace	Date 6/26/23	Time 1545 (1630)
Barr DQ Manager: Terri Olson	Samples Shipped VIA: ☐ Ground Courier ☐ Air Carrier ☐ Sampler ☐ Other: _____				Air Bill Number:		
Lab Name: Pace						Requested Due Date: HO 6/27/23	
Lab Location: Mpls	Lab WO:	Temperature on Receipt (°C): 3.2	Custody Seal Intact? ☐ Y ☐ N ☐ None			☒ Standard Turn Around Time ☐ Rush _____ (mm/dd/yyyy)	

Distribution - White-Original: Accompanies Shipment to Laboratory; Yellow Copy: Include in Field Documents; Scan and email: a copy to BarrDM@barr.com for tracking and filing procedures

H:\RLG\STDFORMS\Chain of Custody Form 2015 RLG Rev. 01/30/2020

Sample Condition Upon Receipt

Client Name: Barr

Project #: **WO#: 10659240**

PM: MKH **Due Date: 07/11/23**
CLIENT: BARR

Courier: ☐ FedEx ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: _____

☑ See Exceptions ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Temp Blank? ☑ Yes ☐ No

Thermometer: ☐ T1 (0461) ☐ T2 (0436) ☐ T3 (0459) ☐ T4 (0402) ☐ T5 (0178) ☐ T6 (0235) ☑ T7 (0042) ☐ T8 (0775) ☐ T9(0727) ☐ 01339252/1710

Type of Ice: ☑ Wet ☐ Blue ☐ Dry ☐ None ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☑ No

Were All Container Temps Taken? ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6 °C

Cooler temp Read w/Temp Blank: 3.3 °C

Correction Factor: -.1

Cooler Temp Corrected w/temp blank: 3.2 °C

Average Corrected Temp (no temp blank only): _____ °C

☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☑ N/A, water sample/other: Solid)

Date/Initials of Person Examining Contents: 6/27/23 MS

Did samples originate in a quarantine zone within the United States: AL, AR, AZ CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MIN4-0154) and include with SCUR/COC paperwork.

Location (Check one): ☐ Duluth ☑ Minneapolis ☐ Virginia

				COMMENTS
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4. If fecal: ☐ <8 hrs ☐ >8 hr, <24 ☐ No
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E.coli ☐ BOD/cBOD ☐ Hex Chrom ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Sample Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	8.
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☑ Yes	☐ No		11. **If no, write ID/Date/Time of container below:** ☐ See Exceptions ENV-FRM-MIN4-0142
Matrix: ☐ Water ☐ Soil ☐ Oil ☑ Other Solid				
All containers needing acid/base preservation have been checked?	☐ Yes	☑ No	☑ N/A	12. Sample # 627723MS
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO3, H2SO4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO3 ☐ H2SO4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxins/PFAS (*If adding preservative to a container, it must be added to associated field and equipment blanks--verify with PM first.)	☐ Yes	☐ No	☑ N/A	Positive for Residual Chlorine? ☐ Yes ☐ No ☐ See Exceptions ENV-FRM-MIN4-0142
				pH Paper Lot #
				Residual Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐ Yes	☐ No	☑ N/A	13.
Extra labels present on soil VOA or WIDRO containers?	☑ Yes	☐ No	☐ N/A	14. ☐ See Exceptions ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
3 Trip Blanks Present?	☑ Yes	☐ No	☐ N/A	15. 4 total
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 040323-3

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: _____ **Date:** 6/27/23

NOTE: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled By: ML5 **Line:** 1

Pace ANALYTICAL SERVICES	**DC#_Title: ENV-FRM-MIN4-0142 v02_Sample Condition Upon Receipt (SCUR) Exception Form**
	Effective Date: 09/22/2022

Workorder #: _____

No Temp Blank		
Read Temp	**Corrected Temp**	**Average temp**

PM Notified of Out of Temp Cooler? ☐ Yes ☐ No

If yes, indicate who was contacted, date and time.
If no, indicate reason why.

_____

Multiple Cooler Project? ☐ Yes ☐ No

If anything is OVER 6.0° C, you MUST document containers in this section HERE

Tracking Number	Temperature
	4.5
	5.8
	6.0
	5.6
	5.9
	5.9

Out of Temp Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type Of Preserve	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance After Addition?		Initials
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	
								☐ Yes	☐ No	

Comments:

_____

_____

_____

Qualtrax ID: 52763

Appendix B

Tree Survey

Sochacki Park Water Quality Improvement Project Feasibility Study

Barr Footer: I:\Projects\23\27\2003\User\BHD\Tree_Survey_working.mxd

Sochacki Park Tree Survey
07/07/2023
Three Rivers Park
Golden Valley, MN

FIGURE 1

BARR

Barr Footer: I:\Projects\23\27\2003\User\BHD\Figure 2_GR6 Tree Survey Area.mxd

Sochacki Park Tree Survey
GR6 Survey Area
07/07/2023
Three Rivers Park
Golden Valley, MN

FIGURE 2

BARR

Barr Footer: I:\Projects\23\27\2003\User\BHD\Figure 3_NR1 Tree Survey Area.mxd

Park Boundary

Tree Survey Limit (Approx.)

Tree Species

- Ash/Green
- Birch/Paper
- Box Elder
- Buckthorn
- Cherry/Black
- Cottonwood
- Elm/American
- Maple/Silver
- Poplar
- Willow/Black

N

0 10 20

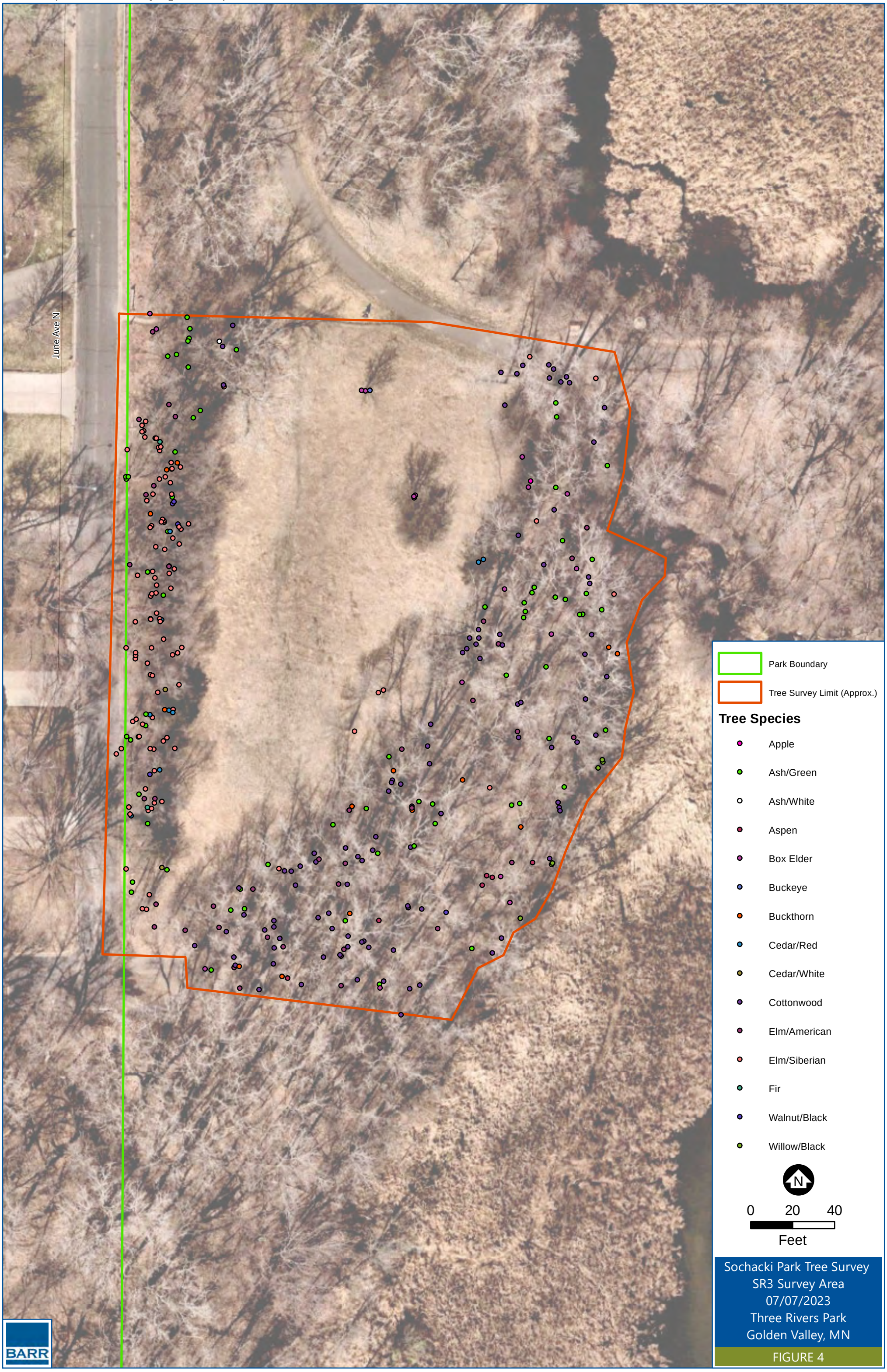
Feet

Sochacki Park Tree Survey
NR1 Survey Area
07/07/2023
Three Rivers Park
Golden Valley, MN

FIGURE 3

BARR

Barr Footer: I:\Projects\23\27\2003\User\BHD\Figure 3_NR1 Tree Survey Area.mxd



Sochacki Park Tree Survey
SR3 Survey Area
07/07/2023
Three Rivers Park
Golden Valley, MN

FIGURE 4

BARR

Barr Footer: I:\Projects\23\27\2003\User\BHD\Figure 4_SR3 Tree Survey Area.mxd

Park Boundary

Tree Survey Limit (Approx.)

Tree Species

- Apple
- Ash/Black
- Ash/Green
- Aspen
- Box Elder
- Buckeye
- Buckthorn
- Cedar/Red
- Cottonwood
- Elm/American
- Elm/Siberian
- Hackberry
- Maple/Silver
- Mulberry
- Oak/Swamp White
- Walnut/Black

N

0 20 40

Feet

Sochacki Park Tree Survey
SR4 Survey Area
07/07/2023
Three Rivers Park
Golden Valley, MN

FIGURE 5

BARR

Appendix C

Phase I Environmental Site Assessment Report

Sochacki Park Water Quality Improvement Project Feasibility Study

Phase I Environmental Site Assessment

3101 Halifax Ave N – South Halifax Park,
3500 June Avenue N – Sochacki Park
Robbinsdale, Minnesota

Prepared for
Three Rivers Park District

July 2023

4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
952.832.2600
www.barr.com

Phase I Environmental Site Assessment

3101 Halifax Ave N, 3500 June Ave N
Robbinsdale, Minnesota
July 2023

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Executive Summary

Three Rivers Park District retained Barr Engineering Co. (Barr) to perform a Phase I Environmental Site Assessment (ESA) of Sochacki Park, located at 3101 Halifax Avenue North and 3500 June Avenue North, Robbinsdale, Hennepin County, Minnesota. 3101 Halifax Avenue North is referred to as the East Subject Property and 3500 June Avenue North is referred to as the West Subject Property. The Subject Property refers to the combined parcels or when the area as a whole is being discussed. Barr performed this assessment in accordance with the requirements of 40 C.F.R. Part 312 (*Standards and Practices for All Appropriate Inquiries*) and the American Society for Testing and Materials International Method E1527-21 (*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*). This assessment has revealed the following information about the Subject Property.

Subject Property Use

The Subject Property is currently owned and occupied by the City of Robbinsdale.

The East Subject Property comprises South Halifax Park. It includes walking trails, a sandbox and playground, a basketball court, and a pond/wetland (Grimes Pond) (Ref. 4a). The East Subject Property has been a public park since the late 1970s (Ref. 1a). Historically the East Subject Property was created using approximately 30,000 cubic yards of unregulated fill material during the 1960s and 1970s (Ref. 3d). Before the 1960s, the East Subject Property generally appeared as undeveloped wetlands though agricultural use may have occurred (Ref. 1a).

The West Subject Property comprises Sochacki Park. It includes walking paths, an off-leash dog park, ponds/wetlands (South Rice Pond and North Rice Pond), and an extension of June Avenue North which provides vehicle access to the West Subject Property (Ref. 4a). The West Subject Property has been used as a public park since the 1980s (Ref. 4c). The West Subject Property was originally a construction debris landfill in the 1960s and 1970s (Ref. 4c). Before the 1960s, the West Subject Property was primary undeveloped wetlands though agricultural use may have occurred (Ref. 1a).

Physical Setting

The Subject Property is approximately 837 to 920 feet above sea level (Ref. 3a).

The East Subject Property can be separated into three distinct topographic zones: 1) usable park space where the elevation is comparable to the surrounding residential developments and is relatively flat; 2) Grimes Pond, which is two to three feet lower than the rest of the East Subject Property but likely changes seasonally; and 3) the southeast corner of the East Subject Property, which has an approximate 60-foot increase in elevation over 250 feet (Ref. 1e, 4a)

The West Subject Property has an approximate 50-foot decrease in elevation from south to north. The southern half of the West Subject Property is relatively flat except for the areas that are not surface water bodies. As surface water bodies ranged from three to eight feet below the surrounding areas. Additionally, the elevation of the railroad that separates the East and West Subject Properties increases from at-grade

to approximately 10 feet above the surrounding areas. As observed during the site visit, much of the topographical changes were likely indicative of significant levels of fill being placed on the Subject Property (Ref. 1a, 1e, 4a).

Based on boring logs located on the West Subject Property, the initial layer of soil is clay sand fill that ranges from 0 to 7 feet below the ground surface (bgs). The fill overlays the native sapric and hemic peat soils that extend to 24 feet bgs. The peat is followed by a range of clays (Ref. 2e). Three bedrock formations are present beneath different portions of the Subject Property. These are the St. Peter Sandstone, Shakopee Formation, and the Oneota Dolomite. The depth to bedrock ranges from approximately 50 to 150 feet bgs (Ref. 2b).

The nearest surface water to the Subject Property is Bassett Creek, which is approximately 750 to 2,500 feet to the south of the West and East Subject Property, respectively (Ref. 1a). Grimes Pond, is located within the East Subject Property, and North and South Rice Pond located in the West Subject Property.

Based on a previous investigation conducted at the East Subject Property, local groundwater flow direction was generally south towards Bassett Creek (Ref. 3e). The depth to groundwater ranged between 5 and 15 feet bgs (Ref. 3e). Well and Boring Reports from the Minnesota Department of Health indicated that groundwater depth in the West Subject Property ranged from 3 to 12 feet bgs (Ref. 2e). Regional groundwater flow was generally shown to be flowing south-southeast toward Bassett Creek and the Mississippi River. However, 350 feet east of the Subject Properties, there is an area where the groundwater table is around 60 feet higher than the Subject Property (the ground elevation is also 60 feet higher than the Subject Properties in this area) causing groundwater to flow west towards the Subject Properties before it flows back to the south towards Bassett Creek; (Ref. 1e, 2a).

Environmental Site Assessment Results

Barr identified the following findings, recognized environmental conditions (RECs), and significant data gaps in connection with the Subject Property:

Finding ID #	Description of Finding	Opinion with Respect to Finding	REC ID #
1	**Historical Usage as a Construction Debris Landfill:** Based on review of historical aerial photographs, a portion of the West Subject Property operated as a construction demolition debris landfill in the 1960s and 1970s (Ref. 1a). This is believed to be Minnesota Pollution Control Agency (MPCA) Site #SA0007643 (Kiefers, Robbinsdale Dump #2), and the location of the dump was observed by the MPCA (Ref. 3d). During the site reconnaissance, concrete and bituminous asphalt debris was observed along the northern and eastern edges of South Rice Lake and on the southern and western edges of North Rice Lake (Ref. 4a).	Based on the presence and unknown source of historically placed construction demolition debris fill material observed during the site visit, the historical construction debris landfill activities is a REC.	REC 1

Finding ID #	Description of Finding	Opinion with Respect to Finding	REC ID #
2	**Historical Placement of Unregulated Fill and Remediation:** In the 1960s and 1970s, the East Subject Property received an estimated 30,000 cubic yards (CY) of unregulated fill that contained concrete and bituminous asphalt debris, ash, cloth, and asbestos containing waste material (Ref. 3e). Based on the findings from Phase I and Phase II ESAs conducted in 2004 and 2005, the East Subject Property was entered into the MPCA Voluntary Investigation and Cleanup (VIC) program (Ref. 3d, 3e). Remediation efforts performed in 2006 included removing approximately 3,500 CY of impacted fill soil and approximately 10 tons of asbestos containing debris, and installing a clean soil cover (Ref. 3b). A Limited No Further Action Determination (LNFA) was issued for the East Subject Property by the MPCA on 4/16/2008. The LNFA was contingent upon implementing an institutional control. A restrictive environmental covenant exists for the East Subject Property that requires annual inspections, maintenance of the clean cover, and prohibition of drinking water resource development.	Based on the presence of unregulated impacted fill requiring the implementation of a restrictive environmental covenant, the historical placement of unregulated fill is a CREC.	CREC 1

The presence of surface water bodies—Grimes Pond, North Rice Lake, and South Rice Lake—are considered a significant data gap since they prevented observing the ground surface during the site visit. Since debris fill has been used at the Subject Property, the ground surface within the water bodies could not be observed to assess whether materials that had been dumped in these areas.

Definitions of terms used to describe the findings and conclusions of this report are included in Appendix A.

Report Viability Dates

The table below identifies the dates of report elements that establish the continued viability of this report. Per Section 4.6 of E1527-21, an environmental site assessment meeting or exceeding this practice and for which the information was collected or updated within one year prior to the date of acquisition of the subject property (or, for transactions not involving an acquisition such as a lease or refinance, the date of the intended transaction) may be used provided that the following components of the inquiries were updated within 180 days prior to the date of purchase or the date of the intended transaction. An environmental site assessment conducted less than 180 days prior to the date of acquisition or other transaction involving the Subject Property is presumed to be valid.

Report Element	Date Information Collected
Interviews with owners, operators, and occupants	May 30, 2023
Searches for recorded environmental cleanup liens	This is a User responsibility, information not collected by Barr.
Reviews of federal, tribal, state, and local government records	May 31, 2023
Visual inspections of the Subject Property and adjoining	June 1, 2023
Declaration of the environmental professional	July 13, 2023

1 Introduction and Scope of Work

Three Rivers Park District (User) retained Barr Engineering Co. (Barr) to perform a Phase I Environmental Site Assessment (ESA) of a property located at 3500 June Avenue N, Robbinsdale, Hennepin County, Minnesota (Subject Property). The parcels include Hennepin County Parcel Identification (PID) numbers 07-029-24-41-0063 and 07-029-24-41-0064. The Subject Property location is shown on Figure 1.

This report includes detailed descriptions of the Subject Property setting, utility information, land-use history, regulatory history, and current Subject Property conditions and features, and summarizes the findings, opinions, and conclusions of the ESA. Informational resources are described in Section 5 of this report and are assigned unique reference numbers, which are used throughout the report.

Barr performed this ESA in conformance with American Society for Testing and Materials International (ASTM) E1527-21, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (Practice). No deviations from the Practice were made in performing this ESA except as described in Section 1.4. In following the Practice, this ESA also complies with the U.S. Environmental Protection Agency (EPA) 40 C.F.R. Part 312, *Standards and Practices for All Appropriate Inquiries; Final Rule*.

1.1 Purpose

The purpose of this ESA is to identify recognized environmental conditions (RECs), historical recognized environmental conditions (HRECs), controlled recognized environmental conditions (CRECs), de minimis conditions, and significant data gaps in connection with the Subject Property as defined by the Practice prior to application for Capital Improvement Program Funding, and to satisfy one of the requirements for the User to qualify for a landowner liability protection defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, including the rules promulgated thereunder.

1.2 Scope of Services

Barr's scope of services is identified in Proposal for Consulting Services Sochacki Park Feasibility Study, accepted May 10, 2023. The ESA included completing file and/or records review, site reconnaissance, interviews, and reporting as described in Section 7 of the Practice. A detailed list of tasks completed during the ESA is presented below.

Physical Setting Records Review

- Reviewed United State Geological Survey (USGS) topographic maps to determine physical setting information.
- Reviewed discretionary physical setting sources including Minnesota Department of Health well and boring records for wells in the Subject Property vicinity and (a) published geological report(s) to determine physical setting information.

Historical Records Review

- Reviewed historical aerial photographs; historical fire insurance maps; local street directories; tax records; historical Subject Property titles; and historical topographic maps for the Subject Property and adjoining properties.

Regulatory and Other Environmental Records Review

- Obtained a regulatory database report and reviewed federal, state, and readily available tribal records databases.
- Reviewed the Minnesota Pollution Control Agency's (MPCA) and the Minnesota Department of Agriculture (MDA) What's in My Neighborhood (WIMN) websites to supplement regulatory data.
- Reviewed regulatory files and files provided by the City of Robbinsdale since the MPCA WIMN Map identified the programs on and surrounding the Subject Property.
- Reviewed two previous investigation reports relevant to the Subject Property.

Site Reconnaissance

- Visually inspected the exterior features on the Subject Property. Documented current conditions with respect to land use; chemical and waste storage, use, and disposal; facility operations and equipment; utilities; and evidence of potential releases of petroleum products or hazardous substances, if observed. Documented evidence of historical uses or conditions, if encountered. Also documented current land-use and occupants of neighboring properties.
- Inspected the Subject Property for evidence of use, production, or disposal of controlled substances (as defined by 21 CFR Part 802) or associated materials.

Interviews

- Interviewed Richard McCoy, City Engineer and Public Works Director, with the City of Robbinsdale.
- Interviewed Scott Welle, Park Supervisor, with the City of Robbinsdale.

Interview details are referenced throughout this report, and individuals interviewed are listed in Section 8.

Evaluation and Report Preparation

- Prepared this report to document the resources used during completion of the ESA and to describe the findings, opinions, and conclusions of the ESA.

1.3 Significant Assumptions

The following significant assumptions were made to complete the ESA:

- The detailed history of ownership and land-use to satisfy the requirements and purpose of the ESA was determined from the activities listed in Section 1.2, Scope of Services.

- Groundwater flow direction was determined based on a previous investigation.

1.4 Deviations / Limitations / Non-scope Items

The following deviations from the Practice and limiting conditions associated with the ESA are listed below. Opinions on the significance of the limitations are included in the report sections where the limitations apply.

- The User Questionnaire was not submitted by the User as Three Rivers Park District (User) is not the owner but a body that oversees aspects of park operations and maintenance for the area in which the Subject Property resides, under a Joint Powers Agreement.
- The ability to observe the ground surface was partially limited by bodies of water.
- The ESA only involved review and opinions regarding contaminants that are hazardous substances or petroleum products as defined in the scope of the Standard. The ESA did not include per- and polyfluoroalkyl substances (PFAS) or other emerging contaminants that are not listed as hazardous substances at the time of this ESA.

These limitations did not affect Barr's ability to make a determination regarding the presence of RECs on the Subject Property.

1.5 Special Terms and Conditions

Barr conducted the ESA pursuant to an Agreement between Barr and Three Rivers Park District as per contracted in *Proposal for Consulting Services Sochacki Park Feasibility Study* signed on May 10th, 2023.

The ESA includes only those items and services expressly and specifically identified in the ESA. Except as otherwise expressly and specifically set forth in the ESA, the scope of the ESA did not involve sampling, analysis, activities or items that are not included in the Practice, including but not limited to, the collection and analysis of any type of sample, completion of any surveys or the offering of any opinions or advice with respect to structural engineering matters, asbestos-containing materials, radon, lead-based paint, lead in drinking water, wetlands, compliance with environmental regulations, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, mold, or other conditions that are beyond the scope of the Practice.

Barr has performed its work in a manner consistent with the care and skill ordinarily exercised by members of the environmental profession under similar budget and time constraints. Within this context, Barr assumes responsibility for its own observations, along with its interpretation of the information gathered. No warranty is made or intended.

Because Barr was not retained to verify information, Barr assumes no responsibility for the accuracy of information that it obtained from other sources including, without limitation, regulatory and government agencies, persons interviewed about the Subject Property, and vendors of public data. Notwithstanding the foregoing, Barr did not identify information provided by others that appeared to be incomplete or

inaccurate. Performance of the Practice is intended to reduce, but not eliminate, uncertainty regarding the presence of recognized environmental conditions on the Subject Property. To the extent that Barr does not identify recognized environmental conditions on the Subject Property, Barr's opinions in the report are not representations that the Subject Property is free of such conditions. Under no circumstances can Barr represent or warrant that releases of hazardous substances or petroleum products do not exist on the Subject Property.

1.6 User Reliance

The ESA has been prepared for the exclusive use of Three Rivers Park District, herein referred to as the "User." Barr acknowledges that the User may rely upon the contents and conclusions presented in this ESA. No others may rely on the ESA without obtaining a formal authorization in the form of a reliance letter from Barr. Barr will provide reliance letters for additional parties only if authorized by the User.

If a future user is identified within the shelf life of this ESA that party may, subject to the reliance restrictions stated above and the User responsibilities in Section 3, use the ESA to help satisfy one of the requirements for such a user to qualify for a landowner liability protection defense to liability under CERCLA .

2 Site Description and Setting

2.1 General Subject Property Information

The East Subject Property is a 6.6-acre parcel located at 3101 Halifax Avenue North in Robbinsdale, Hennepin County, Minnesota. The East Subject Property comprises Hennepin County PID number 0702924410064. The West Subject Property is a 37.4-acre parcel located at 3500 June Avenue North in Robbinsdale, Hennepin County, Minnesota. The West Subject Property comprises Hennepin County PID number 0702924410063. The East and West Subject Property location is shown on Figure 1.

2.2 Subject Property Use and Features

The East and West Subject Properties are owned by the City of Robbinsdale and used as public parks. The East Subject Property is occupied by South Halifax Park, which includes walking trails, a sandbox and playground, a basketball court, and Grimes Pond, a pond/wetland (Ref. 4a). The main areas used in the East Subject Property are the northern edge, which is where the sandbox and playground, basketball court, and walking trail are located. Grimes Pond occupies the majority of the East Subject Property. The southeastern edge of the East Subject Property is wooded and hilly terrain.

The West Subject Property is occupied by Sochacki Park, and includes walking paths, an off-leash dog park, South and North Rice Ponds, ponds/wetlands, and an extension of June Avenue North, which services as vehicle access to the West Subject Property (Ref. 4a). The off-leash dog park is in the northern portion of the West Subject Property. North Rice Pond is in the east central portion of the West Subject Property, and South Rice Pond is in the southwest corner. Walking trails connect Bonnie Lane south of the West Subject Property to the extension of June Avenue North in the north of the West Subject Property. A small gazebo is located near the northwest corner of North Rice Pond. The gazebo has no utilities, electrical or otherwise (Ref. 4a).

East and West Subject Property layouts with existing features is shown on Figure 2.

2.3 Surrounding Area and Adjoining Property Uses

The Subject Property is in the southwestern corner of the City of Robbinsdale. The East Subject Property is adjoined by residential development to the north and the east. The northeast boundary of the East Subject Property is created by Halifax Avenue North, beyond which is residential development. Approximately 2,000 feet northeast of the East Subject Property are areas of commercial development and apartment complexes along Bottineau Boulevard. The area adjoining the southern boundary of the East Subject Property is heavily wooded and hilly terrain, beyond which is residential development and an extension of Grimes Pond that is located within adjoining residential lots. The western boundary of the East Subject Property adjoins BSNF railroad and parallel-trending electrical utility lines.

The West Subject Property adjoins BSNF railroad along its eastern border. To the southeast and northeast are residential properties, except for an Xcel Energy electrical substation in the northeast. Approximately 1,100 feet east of the northern portion of the West Subject Property is a commercial shopping center and

apartment complexes located along Bottineau Boulevard. Adjoining the southwest border of the West Subject Property is an extension of Sochacki Park that includes Bassett Creek (Ref. 1e), owned by the City of Golden Valley. Adjoining the southeast border of the West Subject Property is a residential area. Adjoining the western border of the West Subject Property is wooded marshy area, extending approximately 60 to 80 feet, which transitions to a residential neighborhood (Ref. 4a).

The current use of adjoining properties of the East Subject Property includes the following:

- **North –** Residential
- **East –** Residential
- **South –** Residential
- **West –** Railroad and electrical utility lines

The current use of adjoining properties of the West Subject Property includes the following:

- **North –** Residential
- **East –** Railroad and electrical utility lines
- **South –** Residential
- **West –** Residential

2.4 Physical Setting

Surface elevation: The East and West Subject Property are 837 to 920 feet above sea level (Ref. 3a).

Topographic conditions of the Subject Property:

The East Subject Property can be separated in to three distinct topographic zones:

- The first zone is the usable park space; this includes the playground, basketball court, and walking trails. The elevation of this area is comparable to the surrounding residential developments, is relatively flat, and has been built up using fill to create separation from Grimes Pond.
- The second zone is Grimes Pond. It is around two to three feet lower than the rest of the East Subject Property; the difference in elevation is subject to seasonal changes and can be affected by recent rainfall events.
- The third zone is the southeast corner of the East Subject Property. It consists of a 60-foot plus increase in elevation over 250 lineal feet (Refs. 1e, 4a).

The West Subject Property experience greater topographic change in its northern half where an approximate 50-foot decrease in elevation occurs to the south over 2,400 lineal feet. The southern half of the West Subject Property is relatively flat except for the areas that are not surface water bodies. As

surface water bodies ranged anywhere from three to eight feet below the surrounding areas. Additionally, the elevation of the railroad that separates the East and West Subject Properties increases from at-grade to approximately 10 feet above the surrounding areas. It should be noted that during the site visit, much of the topographical changes observed were indicative of significant levels of fill being placed on the Subject Properties (Ref. 1a, 1e, 4a).

Stratigraphy: Based on boring logs located on the West Subject Property, the initial layer of soil is clay and sand fill that ranges from 0 to 7 feet. The fill overlays native sapric and hemic peat that extends to 24 feet below the ground surface (bgs). The peat is followed by range of clays from organic clay to lean clay to clayey sand and sandy lean clay (Ref. 2e). Three bedrock formations are present beneath different portions of the Subject Property. These are the St. Peter Sandstone, Shakopee Formation, and the Oneota Dolomite. The depth to bedrock ranges from approximately 50 to 150 feet bgs (Ref. 2b).

Nearest surface water body: The nearest surface water to the Subject Property is Bassett Creek, which is approximately 750 to 2,500 feet to the south of the West and East Subject Property, respectively (Ref. 1a). Grimes Pond, is located within the East Subject Property, and North and South Rice Pond located in the West Subject Property. (Ref. 1a)

Anticipated groundwater depth/flow direction: Based on a previous investigation on the East Subject Property, local groundwater flow direction was generally south towards Bassett Creek (Ref. 3e). The depth to groundwater was determined to range between 5 and 15 feet bgs (Ref. 3e). Well and Boring Reports from the Minnesota Department of Health indicated that groundwater depth in the West Subject Property ranged from 3 to 12 feet bgs (Ref. 2e). Regional groundwater flow was generally shown to be flowing south-southeast toward Bassett Creek and the Mississippi River. However, 350 feet east of the Subject Property, there is an area where the groundwater table is around 60 feet higher than the Subject Property (the ground elevation is also 60 feet higher than the Subject Property) in this area causing groundwater to flow west towards the Subject Property before it flows back to the south towards Bassett Creek; (Ref. 1e, 2a).

3 User-Provided Information

As detailed in Section 6 of the Practice, the User has responsibilities associated with identifying possible RECs in connection with the Subject Property. Barr provided a User Questionnaire to facilitate gathering information required by the Practice.

A User Questionnaire was not completed by Three Rivers Park District (User). They are not the owner but a Joint Powers entity that oversees aspects of park operations and maintenance for the area in which the Subject Property resides. The User did not feel that they were the appropriate entity to respond to the User Questionnaire since they are not the Owner (City of Robbinsdale) and the Owner agreed with the decision of the User.

This Phase I is being used to determine historical impacts to the Subject Property prior to development and implementation of stormwater best management practices, therefore, the lack of a completed User Questionnaire is not a significant data gap.

4 Environmental Records Review

This section summarizes the results of regulatory database and file and records review for the Subject Property, adjoining properties, and surrounding properties. The regulatory database report is provided in Appendix C. Barr reviewed only information generated through searches of standard environmental record sources/databases within the approximate minimum search distances required by ASTM E1527-21. Pertinent portions of regulatory files and other reports and records reviewed are included in Appendix D. Tribal sites and orphan sites, if identified, are also discussed.

4.1 Subject Property and Adjoining Property Regulatory Status

Table 4-1 provides a summary of database listings identified on the Subject Property and adjoining properties (i.e., adjoining properties are those that are physically contiguous to the Subject Property) and provides justification for why a file review was not conducted, as applicable. If a file review was conducted,

Table 4-2 in Section 4.2 contains a general summary of each file or report reviewed. Properties that are in the vicinity of the Property, but not immediately contiguous to the Property, are addressed in Sections 4.3 and 4.4.

Table 4-1 Subject Property and Adjoining Property Regulatory Status

Regulatory Listing	Name / Address	Listing Status	Potential or Documented Release to Environment	Records / File Review Conducted?
Subject Property Listings				
MPCA BROWNFIELDS, SHWS, VIC – MN, MPCA SITE ASSESSMENT, WIMN, TRIBAL BROWNFIELD, BROWNFIELDS-ACRES, FED BROWNFIEDS, WIMN	South Halifax Park / 3101 Halifax Avenue North	Closed	The East Subject Property received an estimated 30,000 cubic yards (CY) of fill soil; the origin of the fill soil is unknown. A subsurface investigation was conducted in 2004 and early 2005, and debris materials found within the fill soil consisted of concrete and bituminous pieces, wood, plastic, ash, and cloth. Antimony, arsenic, iron, selenium, silver, and polyaromatic hydrocarbons (PAHs) were detected in fill soil samples at concentrations above MPCA Tier 1 Residential Soil Reference Values (SRVs) and/or Soil Leaching Values (SLVs). Methane gas, cyanide, and asbestos-containing waste material were also detected. In groundwater, benzene, 1,4-dichlorobenze, antimony, arsenic, iron, manganese, and PAH concentrations were at or above Health Risk Limits (HRLs) established by the Minnesota Department of Health (MDH). Polychlorinated biphenyls (PCBs) were not detected in the analytical samples.	Yes
MPCA SITE ASSESSMENT, MPCA UNPERM LF, HIST UNPERM LF, WIMN, SHWS	Kiefers, Robbinsdale Dump #2 / Near June Ave & Culver Rd	Closed	On the West Subject Property, there was an historic construction debris landfill. However, no further detail was provided in the regulatory database listing.	Yes

Regulatory Database Definitions:
BROWNFIELDS ACRES – EPA Brownfields Assessment, Cleanup and Redevelopment Exchange System
BROWNFIELDS MN – State Designated Brownfield
FEDS BROWNFIELDS – Federally Recognized Brownfield
HIST UNPERM LF MN – Historical Unpermitted Landfill
MPCA BROWNFIELD – Minnesota Pollution Control Agency Designated Brownfield
MPCA SITE ASSESSMENT – Minnesota Pollution Control Agency Site Assessment Performed
MPCA UNPERM LF – Minnesota Pollution Control Agency Unpermitted Landfill
SHWS MN – Hazardous Waste Resource Conservation and Recovery Act and Integrated Remediation Project
TRIBAL BROWNFIELD – Designated Tribal Brownfield
VIC MN – State Voluntary Investigation and Cleanup Program
WIMN – What's in My Neighborhood

4.2 Subject Property and Adjoining Property Regulatory File and Records Review

This section contains a summary of the records reviewed for the Subject Property and/or the adjoining/contiguous properties listed in Table 4-1. Relevant portions of the regulatory files and other records or reports reviewed for the Subject Property and adjoining properties are reproduced in Appendix D.

Table 4-2 Subject Property and Adjoining Property Regulatory File and Records Review Summary

Name / Address	File / Record Name and Review Summary	Potential Impacts to Subject Property?
Subject Property Listings		
South Halifax Park 3101 Halifax Avenue North	***Phase I Investigation*, Prepared by STS Consultants LTD, September 14, 2004 / *Phase II Investigation*, Prepared by STS Consultants LTD, March 22, 2005** In the 1960s and 1970s, the East Subject Property received an estimated 30,000 CY of unregulated fill of unknown origin that contained concrete and bituminous asphalt debris, ash, cloth, and asbestos containing waste material. A subsurface investigation that included geotechnical borings, test pits, and temporary ground water wells was performed in 2004/2005. Soil analysis detected antimony, arsenic, iron, selenium, silver, and PAHs at concentrations above their respective MPCA Tier 1 residential SRVs and/or SLVs, and asbestos-containing waste material was also identified in test pit excavations. In groundwater samples, benzene, 1,4-dichlorobenzene, antimony, arsenic, iron, manganese, and PAHs were detected above their respective HRLs. PAHs and manganese were detected in the sediment at levels above the MPCA level I Sediment Quality Target. PCBs were not detected in native soil, sediment, groundwater, and fill materials submitted for analysis. ***Limited No Action Determination Letter*, Issued by the Minnesota Pollution Control Agency, April 16, 2008** The East Subject Property was entered into the MPCA voluntary investigation and cleanup (VIC) program. Remediation efforts in 2006 included the removing 3,500 CY of impacted fill soil and approximately 10 tons of asbestos containing debris, and placing clean soil cover. The MPCA issued a Limited No Further Action (LNFA) Determination letter for South Halifax Park on April 16, 2008. ***Environmental Covenant and Easement*, Issued by the Minnesota Pollution Control Agency, April 4, 2008** An Environmental Covenant and Easement was prepared for the park portion of South Halifax Park on the East Subject Property as a condition of the LNFA Determination. The park is limited to recreational use, there are no disturbances of the soil allowed, and water is not allowed to be extracted. Annual inspections of the park are required at a minimum and inspection reports must be submitted to the MPCA. Cover requirements include 0.5 feet of surface cover in flood plain areas and 2 feet of surface cover in playground areas, and if documented to be lacking, the City of Robbinsdale must fix it (Ref. 3b).	Yes – Though a remediation project has been completed, the Subject Property has been historically impacted by the placement of unregulated fill material. Based on review of the Environmental Covenant and Easement, these materials are still present in quantity and quality significant enough to warrant property use restrictions.

Name / Address	File / Record Name and Review Summary	Potential Impacts to Subject Property?
Kiefers, Robbinsdale Dump #2 Near June Ave & Culver Rd	***Phase I Investigation*, Prepared by STS Consultants LTD, September 14, 2004** Documents were not directly provided by the MPCA but were obtained through a previous Phase I report (Ref. 3d). In the late 1990s, the MPCA observed the former unpermitted construction debris landfill near Culver Road and June Avenue North. Documentation indicated that the site visit only explored the area directly next to Culver Road and June Avenue North and that there was no indication of dumping at that location. Additionally, the MPCA interviewed Marcia Glick with the City of Robbinsdale, and that she had no knowledge of there being a dump in that location.	Yes – as a historically unpermitted construction debris landfill, it is likely that this usage has impacted the Subject Property. Additionally, based on information obtained during the site visit, the presence of dumping was discovered further to the south than was observed by the MPCA (Ref. 4a).

4.3 Surrounding Area Regulatory Status

Table 4-3 provides a summary of those database listings for properties in the vicinity of the Subject Property but not contiguous to the Subject Property that Barr has identified as potentially upgradient. Discussion regarding whether a potential impact to the Subject Property exists in relation to these database listings is provided in Table 4-4. Downgradient and/or side gradient listings are also included if Barr has determined that the nature of the listing (e.g., Superfund site, chlorinated solvent release, landfill, etc.) should be evaluated for their potential to impact the Subject Property.

Table 4-3 Surrounding Area Regulatory Status

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Kiefers, Robbinsdale Dump #1	SHWS – MN, MCPA SITE ASSESSMENT, HIST UNPERM LF, MPAC UNPERM LF, WIMN	N 878 ft / Upgradient	The site was subjected to an MPCA site assessment. No additional information or action was noted, and the site was marked as closed on 8/31/1999.	No – due to no remediation actions being performed and the site being marked as closed; the Subject Property is likely not impacted.
Windsor Court Apartments 3737 Hubbard Ave N	LUST, WIMN	N 1,754 ft / Upgradient	A leak of fuel oil #1 and #2 from an UST was discovered on 7/7/1994. Approximately 23 cubic yards of soil were excavated and thermally treated. The site received a closure letter from the MPCA on 11/2/1994.	No – due to the distance from the site and the limited contamination. The Subject Property is not likely impacted by this site.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Crystal Lake Good Samaritan Center 3815 W Broadway	MPCA BROWNFIELD, VIC - MN, MCPA SITE ASSESSMENT, WIMN	N 2,195 ft / Upgradient	A site investigation found that groundwater samples had contamination of benzene at 0.57 parts per billion (ppb), toluene at 1.1 ppb, ethyl benzene at 0.57 ppb, and xylene at 0.33 ppb. The levels of contamination were below the MDH Recommended Allowable Limits for drinking water and below MPCA action levels. A determination of No Action was made by MCPA staff dated 1/20/1994,	No – due to the distance from the site and the limited contamination. The Subject Property is not likely impacted by this site.
Wahl Properties 3833 & 3837 W Broadway	LUST, WIMN	N 2,342 ft / Upgradient	An UST leaking fuel oil #1 and #2 was discovered on 11/6/1997. Contaminated soil was excavated, the amount of impacted soil excavated was not identified. The site received a closure status on 8/24/1998.	No – due to the distance from the site, the direction of groundwater flow, the contaminants involved, and the remediation actions taken. The Subject Property is not likely impacted by this site.
LONGO Oil – GERDIN DALE 3883 W Broadway Ave	LUST, WIMN	N 2,593 ft / Upgradient	A leak of unleaded gasoline from an UST was discovered on 11/1/1995. Approximately 44 CY of soil were excavated and thermally treated. The site received a closure letter from the MPCA on 10/21/1996.	No – due to the distance from the site, the direction of groundwater flow, the contaminants involved, and the remediation actions taken. The Subject Property is not likely impacted by this site.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Robin Center Shopping Center 4058 Lakeland Ave	MPCA Superfund, PLP - MN, WIMN	N 3,894 ft / Upgradient	The site has been developed since the 1950s and is occupied by multiple structures which included dry cleaners. An investigation in the 1990s detected low levels of tetrachloroethene (PCE), 1,1,1-trichloroethane, and cis-1,2-dichloroethene (DCE). Excavation of impacted soil was recommended. However, excavation did not occur. Additional sampling occurred in the spring 2019 and PCE was detected. A Phase II investigation occurred in April 2020. cis-1,2-DCE and vinyl chloride were detected in the soil samples collected from boring GP-9 at concentrations exceeding the SLVs but below the SRVs. Several RCRA metals were detected; the concentration of arsenic at borings GP-6 and GP-9 exceeds the SLV but was below the SRV. The concentration of DCE and vinyl chloride detected in groundwater samples collected at boring GP-8 and the DCE, PCE, trichloroethene (TCE) and vinyl chloride detected at boring GP-9 exceed their corresponding HRLs. The concentrations of PCE at locations SV-5, SV-6, SV-8, SV-9 and SV-10 and naphthalene at location SV-10, exceed the Intrusion Screening Value (ISV) but are below the 33x ISV. However, the concentration of PCE at location SV-7 (Car X) exceeds 33x the ISV. Continued investigation and remediation efforts are ongoing.	No – Due to distance from site. The Subject Property is not likely impacted by this site.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Robbinsdale Development Site 41st Ave & Broadway	DEL PLP – MN, MPCA Superfund, WIMN	NNW 4,112 ft / Upgradient	The site was listed on CERCLIS/SEMS listing from 5/17/1998 to 11/08/2008. The site was placed on the Minnesota state Superfund list on 10/30/1984. The first remedial assessment proposal was from 10/23/1987 and it included 15 soil borings to sample for VOCs and install monitoring wells to sample for benzene, toluene, xylenes, and total hydrocarbons. The site was listed on the Permanent list of Priorities on 12/30/1988. Four USTs were removed in January 1988. Soil that was impacted by petroleum was excavated and treated via thin spreading. An additional fuel release occurred 11/6/1990. The impacted soil was excavated and thermally treated. Monitoring and additional treatments occurred throughout the 1990s. The site was delisted from the PLP on 9/27/2000. A vapor reassessment took place by the MPCA between 2017 and 2019. The reassessment was marked as complete on 6/5/2019.	No – Due to distance from site and the remediation work that occurred on the site. The Subject Property is not likely impacted by this site.
BROWNFIELD - MN, WIMN	35th Ave N & Halifax Ave N Reconstruction / Indiana Ave N & 36th Ave N	E 100 ft / Cross-gradient	During a reconstruction project, petroleum impacted soil was detected. The source of contamination was not identified. The MPCA required the impacted soil to be removed and imported fill to be screened for DRO and GRO. The site was closed on 2/1/2016.	No, see file review discussion in Table 4-4

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
American Dry Cleaners – Robbinsdale Dry Cleaners 3559 France Ave N	MPCA BROWNFIELD – MN, VIC – MN, MCPA SITE ASSESSMENT, WIMN	NNE 1,155 ft / Cross Gradient	Two investigations and remediation projects occurred as this site. The first investigation and remediation occurred between 2004 and 2006. During a redevelopment project of the site in 2004, perchloroethylene (PCE) contamination was identified. The remedial actions taken included screening and sampling of materials during excavation, disposal of contaminated materials, and the installation of a vapor barrier and passive vapor system beneath the planned building. In 2014, additional redevelopment of the site was taking place. PCE was detected in the soil gas exceeding 10x the interim intrusion screen values for residential land use. In January 2015, temporary groundwater monitoring wells were installed, and the groundwater was sampled for VOCs. PCE was detected in the groundwater at a concentration above the HRL. The remediation actions included a vapor mitigation system that included a sub-slab depressurization system, vapor barrier, and post construction air monitoring.	No - Due to the distance from the site and the remediation projects that have taken place at the site. There is not a potential to impact the Subject Property.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Hy-Vee Fast and Fresh (HY-VEE Robbinsdale) – Allina Health Everyday Clinic 3505 Bottineau Blvd	BROWNFIELD – MN, VIC – MN, WIMN	NNE 1,290 ft / Cross Gradient	Hy-Vee purchased the property in 2016 for use as a grocery store, convenience store, and filling station. Potential petroleum contamination was identified during the Phase I and was confirmed during a Phase II investigation. The abandoned UST was removed as part of remediation. Petroleum impacted soil was removed to the extents needed for the construction. Additional petroleum impacted soil was identified outside of the building extents. Due to low levels of the contamination, only contaminated soil that was identified during necessary excavation was removed, and this was approved by the MPCA. The site was closed by the MPCA on 5/6/2021.	No – due to the contaminants, the direction of groundwater flow and contamination plume direction, and remediation actions taken. This site does not pose a risk to the Subject Property.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Terrace Theater 3508 France Ave N	LUST, BROWNFIELD – MN, MPCA BROWNFIELD, WIMN	NNE 1,210 ft / Cross Gradient	An UST was identified to be leaking fuel oil #1 and #2 on 9/9/1992. The UST was abandoned in place. Organic vapors, as measured with a photoionization detector, ranged from 6.0 to 29 parts per million (ppm). Soil samples from beneath the tank were sampled for benzene, toluene, ethylbenzene, xylenes (BTEX) and total petroleum hydrocarbons (TPH). Concentrations were below detection limits. Four soil borings were drilled in the area of expected contamination. Organic vapor detections ranged from non-detect to 471 ppm. Soil samples were collected from area of elevated organic vapors and tested for BETX and TPH. The maximum concentration of TPH was 4 ppm and 0.07 ppm for BETX. Water samples were also taken and were non-detect for diesel range organics and BETX. No further action was required by the MPCA and the site was closed on 2/4/1993. In 2016, a Phase I and Phase II was completed as part of a redevelopment program. The abandoned UST was removed and the MPCA issued a notice of no further action required.	No – due to the contaminants in question and the remediation actions taken. This site does not pose a risk to the Subject Property.

Name / Address	Regulatory Listing	Distance / Gradient from Subject Property	Potential or Documented Release to Environment	Potential Impacts to the Subject Property?
Parker Station Flats (Robbinsdale Apartment) 3600 France	BROWNFIELD – MN, MPCA BROWNFIELD, VIC - MN, MCPA SITE ASSESSMENT, WIMN	NNE 1,390 ft / Cross Gradient	Subsurface investigations conducted in 2017 and 2019. Soil samples identified the presence of PAHs and petroleum related VOCs. Groundwater samples detected petroleum compounds. Soil vapor samples detected vinyl chloride and benzene. The remediation actions included excavation of 9,990 tons of contaminated soil intermixed with debris and the creation of vertical buffers to meet residential risk-based criteria in greenspace areas, and below the building and pavement. The site was listed as closed by the MPCA on 1/3/2022.	No – due to the contaminants, the direction of the groundwater flow and contamination plume direction, and the remediation actions taken. This site does not pose a risk to the Subject Property.
North Memorial Health Hospital 3300 Oakdale Ave N	RCRA TSDF, LUST, WIMN	NE 2,048 ft / Cross Gradient	A leak of fuel oil #1 and #2 from an UST was discovered on 10/28/1993. As a remediation effort, at least 4 CY of soil were excavated and thermally treated on 11/24/1993. No report was identified with the site through the database report. The site received a closure letter from the MPCA on 3/10/1997.	No – due to the distance from the site and the limited contamination; the Subject Property is not likely impacted by this site.
Montgomery Wards – Former Montgomery Wards Building (Robbinsdale Mall North Radiation Therapy Center) 3535 W Broadway Ave	LUST, WIMN, VIC - MN	NE 2,123 ft / Cross Gradient	Multiple leaks of motor oil, waste oil, hydraulic fluid, and fuel oils #1 and #2 from USTs have occurred. Each leak was treated by excavation of impacted soil and thermal treatment of the soil and/or thin spreading treatment.	No – due to contaminants involved, the distance from the site, the direction of groundwater flow, and the remediation of the sites. The Subject Property is not likely impacted by this site.

Regulatory Database Definitions:
BROWNFIELDS ACRES – EPA Brownfields Assessment, Cleanup and Redevelopment Exchange System
BROWNFIELDS MN – State Designated Brownfield
DEL PLP MN – State and Tribal Equivalent Delisted National Priorities Site
HIST UNPERM LF MN – Historical Unpermitted Landfill
LUST – Leaking Underground Storage Tank
MPCA BROWNFIELD – Minnesota Pollution Control Agency Designated Brownfield
MPCA Superfund – Minnesota Pollution Control Agency Superfund Site

MPCA UNPERM LF – Minnesota Pollution Control Agency Unpermitted Landfill
NPL – National Priorities List
PLP MN – State Equivalent National Priorities Listing
RCRA – Resource Conservation and Recovery Act (Large Quantity Generator, Small Quantity Generator, Conditionally Exempt Small Quantity Generator, Non-generator, Corrective Action)
RCRA TSDF – Resource Conservation and Recovery Act: Treatment Storage and Disposal Facilities
SHWS MN – Hazardous Waste Resource Conservation and Recovery Act and Integrated Remediation Project
TRIBAL BROWNFIELD – Designated Tribal Brownfield
VIC MN – State Voluntary Investigation and Cleanup Program
WIMN – What's in My Neighborhood

4.4 Surrounding Area Regulatory File and Records Review

This section presents a summary of those properties in the surrounding area or vicinity of the Subject Property that warrant a file review. Relevant portions of the regulatory file and/or other records reviewed for the surrounding area properties are reproduced in Appendix D. The following table gives a general summary from each file or record reviewed.

Table 4-4 Surrounding Area File and Records Review Summary

Name / Address	File / Record Name and Review Summary	Potential Impacts to Subject Property?
35th Ave N & Halifax Ave N Reconstruction Indiana Ave N & 36th Ave N	Impacted fill was identified on Indiana Avenue North in the vicinity of its intersection with 35th Avenue North during a geotechnical exploration and engineering review for planned street reconstruction. Seven borings were advanced, and in two borings, a strong petroleum odor was detected. The borings with the odor were located near the intersection of 35th Avenue North and Indiana Avenue North. Two additional soil borings were advanced and soil samples were taken and sampled for RCRA metals, PAHs, GRO, DRO, and VOCs. Lab results detected elevated levels of arsenic above Tier 1 residential SRV. DRO and GRO were detected at concentrations of 2,240 milligrams per kilogram (mg/kg) and 28.3 mg/kg. The other samples were below the regulatory action limits. As remedial actions, soil was screened and if the PID read above 10 ppm, the soil was landfilled off the site. It is important to note that the only soil excavated was in areas required for reconstruction and impacted soil likely remains. Prior to backfilling, six-mil polyethylene sheeting was used to line the sidewalls and/or base of the excavation in areas where the organic vapor monitoring showed levels exceeded 10 ppm.	The Subject Property is not likely impacted for two reasons. First, the area of contamination is around 100 feet east of the Subject Property border. Second, the impacted material is fill material. The amount of fill decreases to the west towards the railroad as the grading transitions to meet natural topography. Meaning that the closer the Subject Property, the less fill material was placed which indicates a lower risk to the Subject Property.

4.5 Tribal Sites

As part of the HIG Report, locations of Native American reservations equal to or greater than 640 acres in size within the search area are reported. No reservations meeting this size criterion were identified within one mile of the Subject Property (Ref. 3a).

4.6 Orphan Site Summary

No orphan sites were identified.

5 Historical Use Information

Historical sources were reviewed to develop a history of the previous uses of the Subject Property, adjoining properties, and surrounding area and to help identify the likelihood of past uses having led to RECs in connection with the Subject Property. The obvious uses of the Subject Property were identified from the present, back to the Subject Property's first documented developed use or to 1940, whichever is earlier. The term "developed use" includes agricultural uses, placement of fill, and other uses that may not involve structures. In accordance with Sections 8.3.9 and 8.3.10 of ASTM E1527-21, obvious uses of the adjoining properties were identified back to the earliest dates in the historical sources reviewed, and uses of the surrounding area properties was identified only to the extent that this information was revealed in the course of researching the Subject Property.

5.1 Land Use History Summary

According to historical sources reviewed, the East and West Subject Property were historically wetland, and later developed into public park space in the late 1970s/early 1980s (Ref. 1a, 4c). In the 1960s and 1970s, fill was placed on the Subject Property, as identified on the aerial images, confirmed during an interview with Richard McCoy (City Engineer for the City of Robbinsdale), and identified in building records obtained from the City of Robbinsdale that indicate that fill was placed on the West Subject Property (Ref. 1a, 1g, 4c).

Historically, the adjoining and surrounding properties were developed into residential properties by the 1960s. The only adjoining property that is nonresidential is the southwest adjoining property to the West Subject Property as it is an extension of South Rice Pond (Ref. 1a). The following sections provide details from the historical sources reviewed for the Subject Property, adjoining properties, and surrounding area.

5.1.1 Aerial Photographs

Historical aerial photographs showing the Subject Property and surrounding area are located in Appendix E and a summary is provided in Table 5-1 below. Aerial photographs were provided by HIG for the following 21 years: 1937, 1940, 1947, 1953, 1957, 1964, 1966, 1969, 1974, 1978, 1984, 1987, 1991, 1994, 1997, 2000, 2003, 2008, 2013, 2017, and 2021 (Ref. 1a).

Table 5-1 Historical Aerial Photo Summary

Photo Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1937, 1940	The Subject Property appears to be mainly undeveloped wetlands. A railroad follows the eastern border of the West Subject Property and creates a physical divide between the two Subject Properties. A building is present on the West Subject Property near the southwest corner. Only South Rice Pond is present in the southwest corner of the West Subject Property.	North Adjoining: The properties appear to be residential. South Adjoining: The properties appear to be undeveloped wetlands. East Adjoining: The majority of the properties appear to be residential. However, there are portions that are undeveloped around the East Subject Property's southeastern border, and the southeastern adjoining properties appear to be in the process of being developed. West Adjoining: The northwestern adjoining properties appear to be residential. The western adjoining properties appear to be undeveloped. The southwestern adjoining properties appear to be agricultural/undeveloped with a few scattered houses and outbuildings.
1947	The Subject Property appears similar to the 1937 and 1940 images, except for ponds are now present on the East Subject Property, and the north portion of the West Subject Property is a pond. There appears to be a dirt road running through the West Subject Property	North Adjoining: The properties appear to remain residential. South Adjoining: The properties appear to remain undeveloped wetlands. East Adjoining: The properties appear to remain residential. West Adjoining: The properties adjoining are residential or residential lots in the process of being constructed. The southwestern adjoining properties appear to be agricultural/ undeveloped with a few scattered houses and outbuildings.

Photo Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1953, 1957	The Subject Property appears similar to the 1947 image, except that the pond in the northern portion of the West Subject Property appears to have been filled in as water is no long present.	North Adjoining: The properties appear to remain residential. South Adjoining: The properties appear to remain undeveloped wetlands. East Adjoining: The majority of the properties appear to be residential. However, there are portions that are undeveloped around the southeastern border of the East Subject Property. West Adjoining: The properties adjoining appear to be residential. The southwestern adjoining properties appear to be a mix of agricultural and residential.
1964, 1966, 1969	The Subject Property appears similar to the 1953 and 1957 images, except that on the northeast corner of the East Subject Property there is filling and grading work occurring. This work appears to be the development of Halifax Avenue North. The north portion of the West Subject Property remains unchanged since 1953 - 1957. There are noticeable amounts of filling/dumping from the northern portion of South Rice Pond to the central part of the West Subject Property.	North Adjoining: The properties appear to remain residential. South Adjoining: The southwestern adjoining properties appear to remain undeveloped wetlands but beyond the wetlands is residential development. The southeastern adjoining properties appear to be residential. East Adjoining: The adjoining properties appear to remain residential. West Adjoining: The properties adjoining appear to be residential.
1974	The Subject Property appears similar to the 1964-1969 images, except that on the northern portion of the East Subject Property there has been significant amounts of fill being placed that appears as a circular peninsula. The area to south of the fill appears as a surface water body (Grimes Pond). On the West Subject Property, there has been grading work done along the west border and the surface water body North Rice Pond is present.	North Adjoining: The properties appear to remain residential. South Adjoining: The southwestern adjoining properties appear to remain undeveloped wetlands but beyond the wetlands is residential development. The southeastern adjoining properties appear to be residential. East Adjoining: The adjoining properties appear to remain residential. West Adjoining: The properties adjoining appear to remain residential.

Photo Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1978, 1984, 1987, 1991, 1994, 1997, 2000, 2003, 2008, 2013, 2017, 2021	The Subject Property appears similar to the 1974 images, except that the peninsula portion of the East Subject Property appears to have been re-shaped and there are no bridges connecting different portions of the area. Surrounding the peninsula is standing water. On the West Subject Property, the current trail infrastructure was developed and has been maintained since.	North Adjoining: The properties appear to remain residential. South Adjoining: The southwestern adjoining properties appear to remain undeveloped wetlands but beyond the wetlands is residential development. The southeastern adjoining properties appear to be residential. East Adjoining: The adjoining properties appear to remain residential. West Adjoining: The properties adjoining appear to remain residential.

Potential Impacts to the Subject Property – Historical Aerial Photographs

The placement of fill material is a potential impact to the Subject Property as there is no indication of where the fill came from or if the fill material was identified as clean prior to its placement on the Subject Property.

5.1.2 Fire Insurance Maps

Fire insurance maps were unavailable for the Subject Property, adjoining properties, or surrounding area.

5.1.3 Topographic Maps

Historical topographic maps showing the Subject Property, adjoining properties, and surrounding area are located in Appendix E, and a summary is provided in Table 5-2 below. Historical topographic maps were provided by HIG for the following 10 years: 1902, 1952, 1955, 1967, 1972, 1980, 1993, 2013, 2016, and 2019. (Ref. 1e).

Table 5-2 Topographic Map Summary

Topographic Map Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1902	The Subject Property appears to be undeveloped wetlands except for a railroad that creates the border between the East Subject Property and West Subject Property.	North/Northwest Adjoining: The properties adjoining appear to be residential. A railroad and an electric streetcar route are present. Northeast Adjoining: The railroad and electric street adjoin the Subject Property, beyond which is Crystal Lake. South Adjoining: The properties adjoining appear to be undeveloped. A river is approximately 1,300 feet south of the Subject Property. East Adjoining: The adjoining properties appear to be mainly undeveloped up to the border with the City of Minneapolis. The railroad that intersects with the Subject Property runs along the eastern border of the Subject Property. A small residential development is present beyond the railroad on the east side of the northern half of the Subject Property. West Adjoining: The adjoining properties mostly appear to be undeveloped wetlands. However, there appears to be three (possibly residential) buildings approximately 1,300 feet from the Subject Property.

Topographic Map Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1952, 1955	The Subject Property appears to be undeveloped wetlands except for a railroad that creates the border between the East Subject Property and West Subject Property. One building is present on the West Subject Property, located along the western border in the lower third of the West Subject Property.	North Adjoining: The properties appear to be mainly residential. A school is located approximately 900 feet north-northwest of the Subject Property. South Adjoining: The properties appear to be undeveloped with wetlands and Bassett Creek being approximately 670 feet south of the Subject Property. East Adjoining: Beyond the railroad that runs along the eastern border of the Subject Property, the properties appear to be residential. Four buildings are shown by the eastern jut out of the East Subject Property. The use of the buildings is not identified. The Victory Hospital (North Memorial Hospital) is approximately 2,200 feet east of the eastern jut out of the Subject Property. A non-residential use area is located approximately 1,100 feet east of the northern portion of the Subject Property. West Adjoining: The northern two-thirds of the adjoining properties appear residential. There are buildings shown on the adjoining one-third of the Subject Property, but the use of the buildings is not identified. A non-residential use area is identified approximately 1,300 feet west of the northern portion of the Subject Property.

Topographic Map Year(s)	Subject Property	Adjoining Properties/Surrounding Area
1967, 1972, 1980, 1993	The Subject Property appears similar to the 1952 and 1955 maps, except in the southeast portion of the West Subject Property, there has been changes to the topography that indicate that fill was placed and that the area had been raised.	North Adjoining: The properties appear to be mainly residential. A school is located approximately 900 feet north-northwest of the Subject Property. South Adjoining: The southwestern properties appear undeveloped wetlands up to Bassett Creek which is approximately 670 feet south of the Subject Property. The southeastern properties appear residential and a golf course. East Adjoining: Beyond the railroad that runs along the eastern border of the Subject Property, the properties appear residential. Four buildings are shown by the eastern jut out of the Subject Property. The use of the buildings is not identified. The North Memorial Hospital (Victory Hospital) is approximately 2,200 feet east of the eastern jut out of the Subject Property. A non-residential use area is approximately 1,100 feet east of the northern portion of the Subject Property. West Adjoining: The adjoining properties appear to be residential. Noble Avenue School is located 1,300 feet to the west of the southern edge of the Subject Property. A non-residential use area is approximately 1,100 feet to the west of the northern portion of the Subject Property.
2013, 2016, 2019	The Subject Property appears similar to the 1967-1993 maps.	North Adjoining: Only streets, schools, fire stations, and hospitals are shown along with the topographic lines. No changes from 1993 are observed. South Adjoining: The adjoining properties to the south are shown as wetlands up to Bassett Creek. East Adjoining: Only streets, schools, fire stations, and hospitals are shown along with the topographic lines. No changes from 1993 are observed. West Adjoining: Only streets, schools, fire stations, and hospitals are shown along with the topographic lines. No changes from 1993 are observed.

Potential Impacts to the Subject Property – Topographic Maps

No historical land uses with the potential to impact the Subject Property were identified in the topographic maps, except for elevation changes suggesting fill material import between 1967 and 1993.

5.1.4 Local Street Directories

Local street directories for the Subject Property, adjoining properties, and surrounding areas, if available, are located in Appendix E. Notable uses in the surrounding area that were identified from other historical sources (e.g. aerial photographs, fire insurance maps, and/or topographic maps) and confirmed by the street directories are discussed in Sections 5.1.1, 2, and 3 above. Notable uses in the surrounding area identified only in the street directories are discussed in Table 5-3 below. Local street directories were provided by HIG for the following 14 years: 1948, 1956, 1962, 1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002, 2007, 2013, and 2018 (Ref. 1f).

Surrounding Area Street Directories Summary

Table 5-3 Surrounding Area Street Directories Summary

Year(s)	Surrounding Area Properties		
	Address	Occupant / Use	Distance / Direction
2018	3130 Grimes Avenue North Minneapolis, MN 55422	Genesis Healthcare / Nursing Home	800 feet upgradient
2007, 2013,	3130 Grimes Avenue North Minneapolis, MN 55422	Robbinsdale Rehab & Care Center / Nursing Home	800 feet upgradient

Potential Impacts to the Subject Property – Street Directories

No historical land uses with the potential to impact the Subject Property were identified in the street directories.

5.1.5 Interviews

Historical use information obtained through interviews of the current owner, key site manager, local government contacts, or other sources is included in Table 5-4 below.

Table 5-4 Historical Information from Interviews

Year / Date	Interviewee	Description
5/30/2023	Richard McCoy – City of Robbinsdale Public Works Director	Richard McCoy was contacted about the Subject Property. He stated that the Subject Property has been undeveloped and was originally used as a construction debris landfill. He was not aware of any chemical spills or release, but that "undesirable material" had been identified during a previous Phase I and Phase II investigation. He then offered to provide copies of the previous Phase I and Phase II reports. As per existing utilities located on the Subject Property, there are storm sewers that help direct water to various receiving waters, and that there are no water or sanitary services. He was not aware of any gas pipelines that ran through the Subject Property. He also described the majority of the surrounding and adjoining properties as residential with the exception of the BSNF railroad which bisects the Subject Property.
6/7/2023	Scott Welle – City of Robbinsdale Parks Supervisor (Site Occupant)	The City of Robbinsdale Recreation Services was contacted about the Subject Property. Scott Welle, who is the Parks Supervisor, responded. No additional information was identified from this interviewed that was not already identified in the interview with Richard McCoy.

Potential Impacts to the Subject Property – Interviews

Two potential impacts to the Subject Property were identified. The first was the used of the West Subject Property as a construction debris landfill. The second potential impact identified is that a Phase I and Phase II investigation were conducted on the East Subject Property. Summaries of the previous investigations are provided in Table 4-2.

5.1.6 Title/Property Tax/Property Sales/Other Historical Records Sources

Property title, property transfer, property tax records and property sales records are included in Appendix E, and a summary is provided below.

Table 5-5 Property Title/Property Transfer/Property Sales Records Summary

Year / Date	Record	Description
7/20/1950	Property Sale	Deed 3/Parcel No. 07-029-24-41-0063 sold to James H. Bartlett and Blanche O. Bartlett by the State of Minnesota.
9/3/1957	Property Sale	Deed 2/Parcel No. 07-029-24-41-0063 sold to Richard Linn and Barbara Ann Linn by James H. Bartlett and Blanche O. Bartlett.
10/10/1963	Property Sale	Deed 17/Parcel No. 07-029-24-41-0064 sold to Skyline Builders Inc. by JWK Investments Inc.
11/30/1963	Property Sale	Deed 10/Parcel No. 07-029-24-41-0064 sold to Lakeview Realty, Inc. by JWK Investments Inc.

Year / Date	Record	Description
12/23/1964	Property Sale	Deed 21/Parcel No. 07-029-24-41-0064 sold to Garfield, Inc. by the City of Robbinsdale.
12/24/1964	Property Sale	Deed 20/Parcel No. 07-029-24-41-0064 sold to Lakeview Realty Inc. by Garfield, Inc.
5/28/1965	Conveyance of Forfeited Lands	The State of Minnesota transferred "Lots 1 thru 15 inclusive, Block 19, Crystal Lake heights – 48440. And…Lots 1 thru 4, and 15 thru26 inclusive, Bock 1, Manitoba Park – 48840." To the city
9/27/1966	Property Sale	Deed 19/Parcel NO. 07-029-24-41-0064 to Lakeview Realty Inc, by Roger H Scherer and Irene H. Scherer.
10/1/1966	Property Sale	Deed 16 and 18/Parcel No. 07-029-24-41-0064 sold to Skyline Builders Inc. by Lakeview Realty Inc.
8/29/1967	Property Sale	Deed 15/Parcel No. 07-029-24-41-0064 sold the City of Robbinsdale by Skyline Builders, Inc.
12/30/1968	Property Sale	Deed 14/Parcel No. 07-029-24-41-0064 sold to Skyline Builders, Inc. by Garfield, Inc.
11/1/1971	Property Sale	Deed 11/Parcel No. 07-029-24-41-0064 by Lakeview Realty, Inc. by Skyline Builders Inc.
11/1/1971	Property Sale	Deed 12/Parcel No. 07-029-24-41-0064 sold to City of Robbinsdale by Skyline Builders Inc.
11/10/1971	Property Sale	Deed 13/Parcel No. 07-029-24-41-0064 sold to City of Robbinsdale by Skyline Builders Inc.
10/10/1972	Property Sale	Deed 9/Parcel No. 07-09-24-41-0064 sold to Skyline Builders, Inc. by Lakeview Realty, Inc.
10/18/1972	Property Sale	Deed 8/Parcel No. 07-09-24-41-0064 sold to Skyline Builders, Inc. by Lakeview Realty, Inc.
9/9/1977	Property Sale	Deed 3/Parcel No. 07-029-24-41-0064 sold to Ssof Investment Company by Skyline Builders, Inc.
9/9/1977	Property Sale	Deed 6/Parcel No. 07-029-24-41-0064 sold to Ssof Investment Company by Skyline Builders, Inc.
4/18/1980	Property Sale	Deed 7/Parcel No. 07-029-24-41-0064 sold to City of Robbinsdale by the State of Minnesota.
7/27/1981	Warranty Deed, Individual to Corporation.	Deed 1, 2, 4, 5/Parcel No. 07-029-24-41-0064 sold to City of Robbinsdale by Ssof Investment Company.
2022,2023	Property Tax Record	Property Tax record for both parcels of the Subject Property.

Year / Date	Record	Description
1970	Building Department Records	There is a letter containing information from the City of Robbinsdale to the developer Skyline Builders regarding requirements for a fill permit and the reinstatement of their fill permit. Requirements include the cleaning of drainage culverts, limitations on the area of fill, dust control requirements, and the type of fill allowed to be used.

Potential Impacts to the Subject Property – Other Records

A potential impact to the Subject Property was identified in the use as the document says "Solid Wastes – Filling with solid waste will not be permitted." However, it was agreed that a two-day grace period will be allowed for implementation of this provision, this material must not exceed 5% of the loads during the "grace" period. This means that potentially there is solid waste buried on the Subject Property.

5.1.7 Data Gaps

Barr evaluated data failures in the historical information which resulted in data gaps to determine if they are significant enough to affect the environmental professional's ability to identify RECs for the Subject Property, as summarized in the paragraphs below. See Appendix A for definitions of data gap and data failure.

No data failures were encountered in the historical research conducted for the Subject Property.

6 Site Reconnaissance

A site visit and interview(s) with key site personnel identified below were conducted to obtain information indicating the likelihood of identifying RECs in connection with the Subject Property. Existing Subject Property features are shown in the Subject Property Layout on Figure 2. Photographs obtained during the Subject Property inspection are in Appendix F.

Date of inspection:

6/1/2023

Name of individual conducting site visit:

Brian Todey

Weather information:

Upper 80s and sunny

The following areas were inaccessible during the site visit and constitute data gaps:

Surface water bodies Grimes Pond, North Rice Pond, and South Rice Pond had algae cover and limited the ability to see the historical ground surface where fill materials were placed. This is considered a data gap due to the size of the surface water bodies and the inability to identify possible impacts to the Subject Property in the water bodies.

The following key site manager was interviewed:

Scott Welle

6.1 Exterior Observations

Significant exterior features of the Subject Property are labeled on Figure 2 and discussed below.

Methodology used to observe the Subject Property:

The Subject Property was walked.

Access to the Subject Property (vehicular access and restrictions to public access):

There was a small parking lot in the West Subject Property, and street parking available by the East Subject Property.

Periphery of the Subject Property (roads, streets, and parking facilities, etc.):

The East Subject Property is bordered by Halifax Avenue North to the northeast and residential to the north and the east. Street parking is available on Halifax Avenue North and Grimes Avenue North. An extension of June Avenue North extends into the West Subject Property from the north. There is a small parking lot on the West Subject Property.

Table 6-1 Subject Property Exterior Observations

Subject Property Exterior	
Ground surface cover	Ground surface cover included bituminous asphalt trails, gravel trails, prairie grass, wooded areas, and wetlands. Except for the areas where concrete and bituminous asphalt fill were observed and prevented ground surface cover from developing.
Visible evidence of vegetative stress	None observed.
Stained soil or pavement	None observed.
Visible evidence of filling, excavation, solid waste disposal, or burned areas	Significant areas of bituminous asphalt and concrete fill were observed in the West Subject Property. The fill was exposed on the north and east edges of South Rice Pond and the western edges of North Rice Pond. Additionally, household items including electronics and furniture were found to be dumped on the southeast corner of the East Subject Property by the south end of Grimes Avenue North.
Wastewater, stormwater, and other liquid discharge points into a pipe, drain, pond, ditch, underground injection system, or stream on or adjoining the Subject Property	A stormwater discharge point was identified at the northeast corner of Grimes Pond on the East Subject Property. Grimes Pond was connected to North Rice Pond via culverts and North Rice Pond was connected to South Rice Pond via culverts.
Pits, ponds, lagoons	None observed.
Odors	No strong, pungent or noxious odors were noted.
Potable/process water supply	None observed.
Non-potable/process wells	None observed.
Sanitary service	None observed.
Stormwater drains, storm sewers, ponds or drainage ditches	Grimes Pond, North Rice Pond, and South Rice Pond are connected via a culvert system and these ponds are used as regional stormwater basins. A stormwater discharge point was identified in the northeast corner of Grimes Pond.
Pipelines across or into Subject Property	None observed.
Rail lines	A rail line creates a physical divide between the East and the West Subject Property.
Transformers/PCB containing equipment	None observed.
Chemical or Waste Storage Areas/Drums	None observed.
USTs/ASTs	None observed.

Subject Property Exterior	
Observations or information indicating past uses of the Subject Property that are likely to have involved the use, treatment, storage, disposal or generation of hazardous substances or petroleum products	None observed.
Observations or information indicating past uses of the adjoining and surrounding area properties likely to have involved the use, treatment, storage, disposal or generation of hazardous substances or petroleum products	None observed.
Evidence of Use, Production, or Disposal of Controlled Substances (as defined by 21 CFR Part 802)	None observed.

7 Findings, Opinions, and Conclusions

This section summarizes the results of the ESA and provides Barr's opinion as to whether or not RECs have been identified for the Subject Property. A REC is defined by the Practice as "(1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment." Additional discussion and definitions of finding, REC, controlled REC (CREC), historical REC (HREC), de minimis condition, and business environmental risk (BER) are included in Appendix A.

7.1 Findings and Opinions

Barr has identified the following findings and developed the following opinions regarding these findings, as summarized in the following table.

Table 7-1 Findings and Opinions

Finding ID #	Description of Finding	Opinion with Respect to Finding	REC ID #
1	**Historical Usage as a Construction Debris Landfill:** A portion of the West Subject Property has been a construction debris landfill that operated in the 1960s and 1970s. In aerial images from the 1960s and 1970s, the placement of material is visible (Ref. 1a). This is believed to be Kiefers, Robbinsdale Dump #2, and the dump location was observed by the MPCA; although their observation was limited (Ref. 3d). During the site reconnaissance, extensive concrete and bituminous asphalt debris was identified on the West Subject Property along the northern and eastern edges of South Rice Lake as well as the southern and western edges of North Rice Lake (Ref. 4a).	Based on the West Subject Property's usage as a construction debris landfill and the unknown source of the debris that was observed during the site visit, this finding is a REC.	REC 1
2	**Historical Placement of Unregulated Fill and Remediation:** In the 1960s and 1970s, the East Subject Property received an estimated 30,000 CY of unregulated fill that contained concrete and bituminous asphalt debris, ash, cloth, and asbestos containing waste material (Ref. 3e). After a Phase I and Phase II ESA in 2004/2005, the East Subject Property was entered into the MPCA VIC program (Ref. 3d, 3e). Remediation efforts included removing 3,500 CY of impacted fill soil and approximately 10 tons of asbestos containing debris, and installing a clean cover (Ref. 3b). The East Subject Property received a letter of Limited No Further Action Determination on 4/16/2008. The site has an environmental covenant that requires annual inspections, maintenance of a clean cover, and does not allow for the extraction of water.	Based on the placement of unregulated fill that was later identified as impacted, the remediation efforts, and the presence of an environmental covenant, this finding is a CREC.	CREC 1

7.2 Significant Data Gaps

Significant data gaps that were determined to affect the environmental professional's ability to identify RECs for the Subject Property are summarized below.

- The presence of surface water bodies—Grimes Pond, North Rice Lake, and South Rice Lake—prevented the observation of the ground surface during the site visit. This is considered a significant data gap because it was not possible to identify the condition of the ground surface or if there had been materials that had been dumped in the water bodies.

7.3 Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-21 of 3101 Halifax Ave N. and 3500 June Ave N, the Subject Property. Exceptions to, or deletions from, this Practice are described in Section 1.4 of this report. This ESA has revealed the following recognized environmental conditions, controlled environmental conditions, and/or significant data gaps in connection with the Subject Property:

- REC 1: Historical usage as a construction debris landfill
- CREC 1: Historical placement of unregulated fill and remediation
- Significant data gap: surface water bodies prevented the inspection of the ground.

See the Findings and Opinions section for additional details.

8 References

Ref. #	Source	Years Covered or Item Date
Standard Historical Sources		
1a	Aerial Photographs	1937, 1940, 1947, 1953, 1957, 1964, 1966, 1969, 1974, 1978, 1984, 1987, 1991, 1994, 1997, 2000, 2003, 2008, 2013, 2017, 2021
1c	Property Tax Files	2022, 2023
1d	Recorded Land Title Records	1965, 1971, 1981,
1e	USGS Topographic Maps	1902, 1952, 1955, 1967, 1972, 1980, 1993, 2013, 2016, 2019
1f	Local Street Directories	1948, 1956, 1962, 1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002, 2007, 2013, 2018
1g	Building Department Records	1969, 1970, 1977
Discretionary and Non-Standard Physical Setting Sources		
2a	Published Geologic Report – Groundwater Maps: James A. Berg. 2021. *Groundwater Atlas of Hennepin County, Minnesota*. Minnesota Department of Natural Resources.	2021
2b	Published Geologic Report – Bedrock Geology Maps: Andrew J. Retzler. 2018. *County Atlas Series, Atlas C-45, Hennepin County Bedrock Geology*. Minnesota Geological Survey.	2018
2c	Published Geologic Report – Surficial Geology Maps: Angela J. Bethold. 2018. *Surficial Geology of Hennepin County*. Minnesota Geological Survey	20182
2d	Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/	Accessed 6/3/2023
2e	Minnesota Department of Health Minnesota Well Index	Accessed 6/2/2023
Environmental Record Sources		
3a	Regulatory Database Report (Appendix C)	5/12/2023
3b	Files provided by MPCA for Brownfields Voluntary Investigation and Cleanup site 20230.	2004-2008
3c	Files provided by MPCA for Petroleum Brownfield site 4244.	2012, 2013
3d	Previous Phase I Report: STS Consultants, LTD. 9/14/2004. *Phase I EAS – South Halifax Park, Robbinsdale, Hennepin County, Minnesota*	9/14/2004

Ref. #	Source	Years Covered or Item Date
3e	Previous Investigation Report: STS Consultants, LTD. 3/22/2005. *Phase II Environmental Site Assessment, South Halifax Park, Robbinsdale, Minnesota*	3/22/3005
3f	What's in My Neighborhood? Minnesota Pollution Control Agency. http://www.pca.state.mn.us/index.php/data/wimn-whats-in-my-neighborhood/whats-in-my-neighborhood.html	Accessed 05/30/2023
3g	What's in My Neighborhood? – Agricultural. Minnesota Department of Agriculture. https://app.gisdata.mn.gov/mda-agchem/	Accessed 5/30/2023
Site Visit / Interviews		
4a	Site Visit Brian Todey, Environmental Engineer, (515) 231-7012	6/1/2023
4b	Subject Property Owner/Key Site Manager: Scott Welle, Parks Supervisor, (763) 531-1204	6/7/2023
4c	Public Works/City Engineering: Richard McCoy, Public Works Director / City Engineer, (763) 531-1260	5/20/2023

9 Signature and Qualifications of Environmental Professional

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

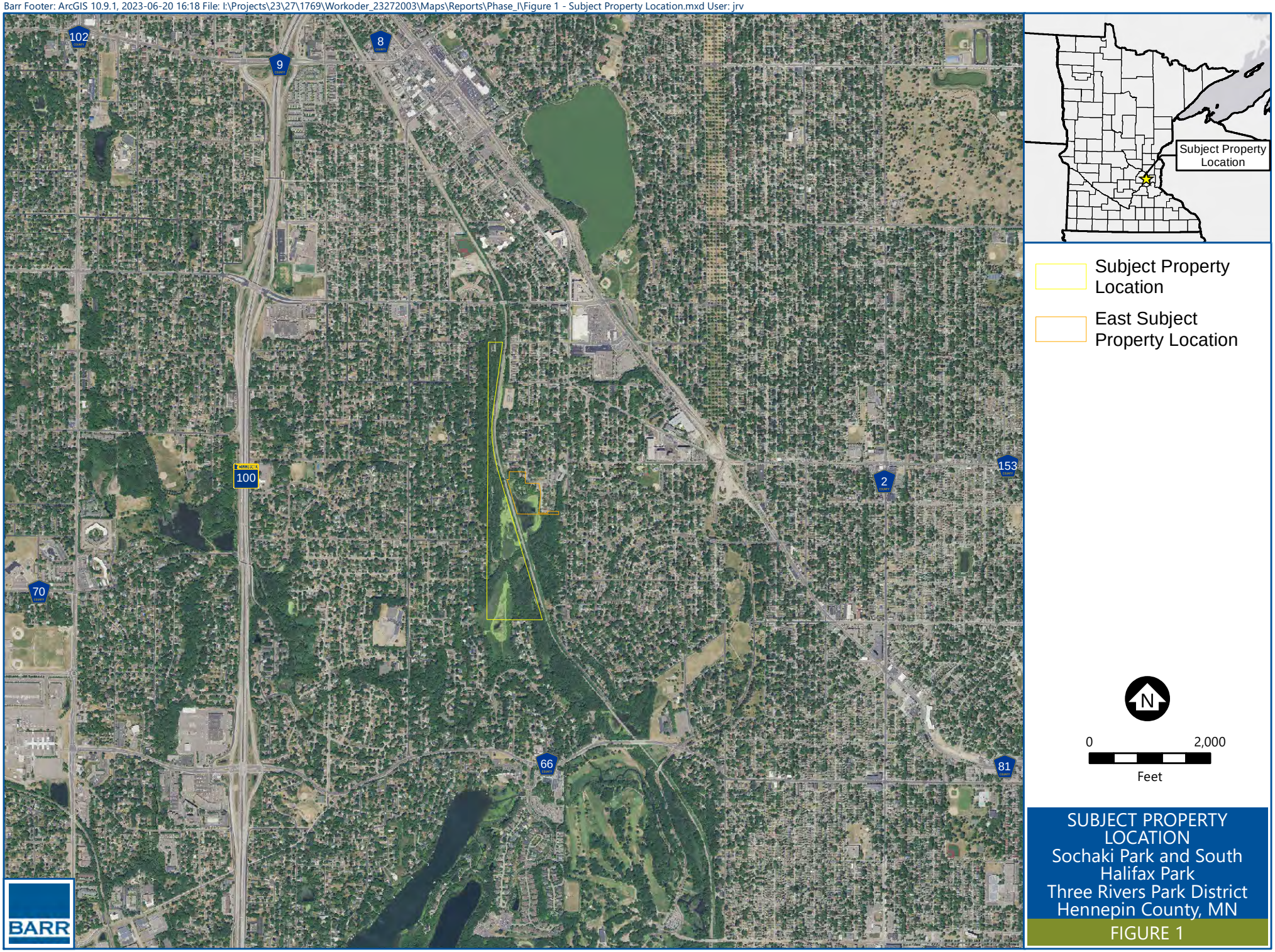
Barr performed this Environmental Site Assessment in conformance with the ASTM International (ASTM) Practice E1527-21. Special terms, conditions, limitations, and exceptions that apply to the ESA are described throughout this Report and in the Appendices.

Erik Nimlos, Environmental Professional	July 13, 2023 (Date)
Brian Todey, Environmental Support Staff	July 13, 2023 (Date)

Qualifications of the Environmental Professional are summarized in Appendix G.

Figures

Barr Footer: ArcGIS 10.9.1, 2023-06-20 16:18 File: I:\Projects\23\27\1769\Workoder_23272003\Maps\Reports\Phase_I\Figure 1 - Subject Property Location.mxd User: jrv



BARR

SUBJECT PROPERTY LOCATION
Sochaki Park and South Halifax Park
Three Rivers Park District
Hennepin County, MN

FIGURE 1

Barr Footer: ArcGIS 10.9.1, 2023-06-21 10:45 File: I:\Projects\23\27\1769\Workoder_23272003\Maps\Reports\Phase_I\Figure 2 - Subject Property Layout.mxd User: jrv

Gazebo

Pad Mounted Emergency Generator

Sanitary Sewer Lift Station

Stormwater Culvert

Approximate Areas of Observed Concrete and Bituminous Asphalt Debris

West Subject Property Location

East Subject Property Location

SUBJECT PROPERTY LAYOUT
Sochaki Park
Three Rivers Park District
Hennepin County, MN

FIGURE 2

Appendices

Appendix A

Definitions

Definitions

Data Gap – A lack of or inability to obtain information required by the Practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in the activities required by the Practice, including, but not limited to the site reconnaissance and interviews.

Data Failure – A failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

Finding – For the purpose of this ESA, a finding is an observation regarding the presence or likely presence of hazardous substances or petroleum products on the Subject Property. Some findings, but not necessarily all findings, may be considered a recognized environmental condition, controlled recognized environmental condition, historical recognized environmental condition, or de minimis condition.

Recognized environmental condition (REC) – A REC is defined by the Practice as "(1) the presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the Subject Property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the Subject Property under conditions that pose a material threat of a future release to the environment." For ESAs performed as part of an EPA Brownfields Assessment and Characterization Grant awarded under CERCLA 42 U.S.C.§9604(k)(2)(B), pollutants and contaminants as defined in CERCLA 42 U.S.C. §9601 101(33) and controlled substances as defined in the Controlled Substances Act (21 U.S.C. §802) are included in the scope of the assessment to the extent directed in the terms and conditions of the specific grant or cooperative agreement.

Historical recognized environmental condition (HREC) – An HREC is defined by the Practice as "a previous release of hazardous substances or petroleum products affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities without subjecting the Subject Property to any controls (for example, activity and use limitations or other property use limitations). A historical recognized environmental condition is not a recognized environmental condition."

Controlled recognized environmental condition (CREC) – A CREC is defined by the Practice as "a recognized environmental condition affecting the Subject Property that has been addressed to the satisfaction of the applicable regulatory authority or authorities with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (for example, activity and use limitations or other property use limitations)."

Property use limitation – limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority or authorities that allows

hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria.

De minimis conditions – As defined by the Practice, conditions determined to be "de minimis" generally do not present a threat to human health or the environment and generally would not be subject of an enforcement action if brought to the attention of appropriate governmental agencies. De minimis conditions are not considered RECs or CRECs.

Business environmental risk (BER) – A BER is defined by the Practice as "a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of the [the Subject Property]." BERs are not considered RECs.

Appendix B

User Questionnaire (not provided)

Appendix C

Regulatory Database Report

Available upon request

Appendix D

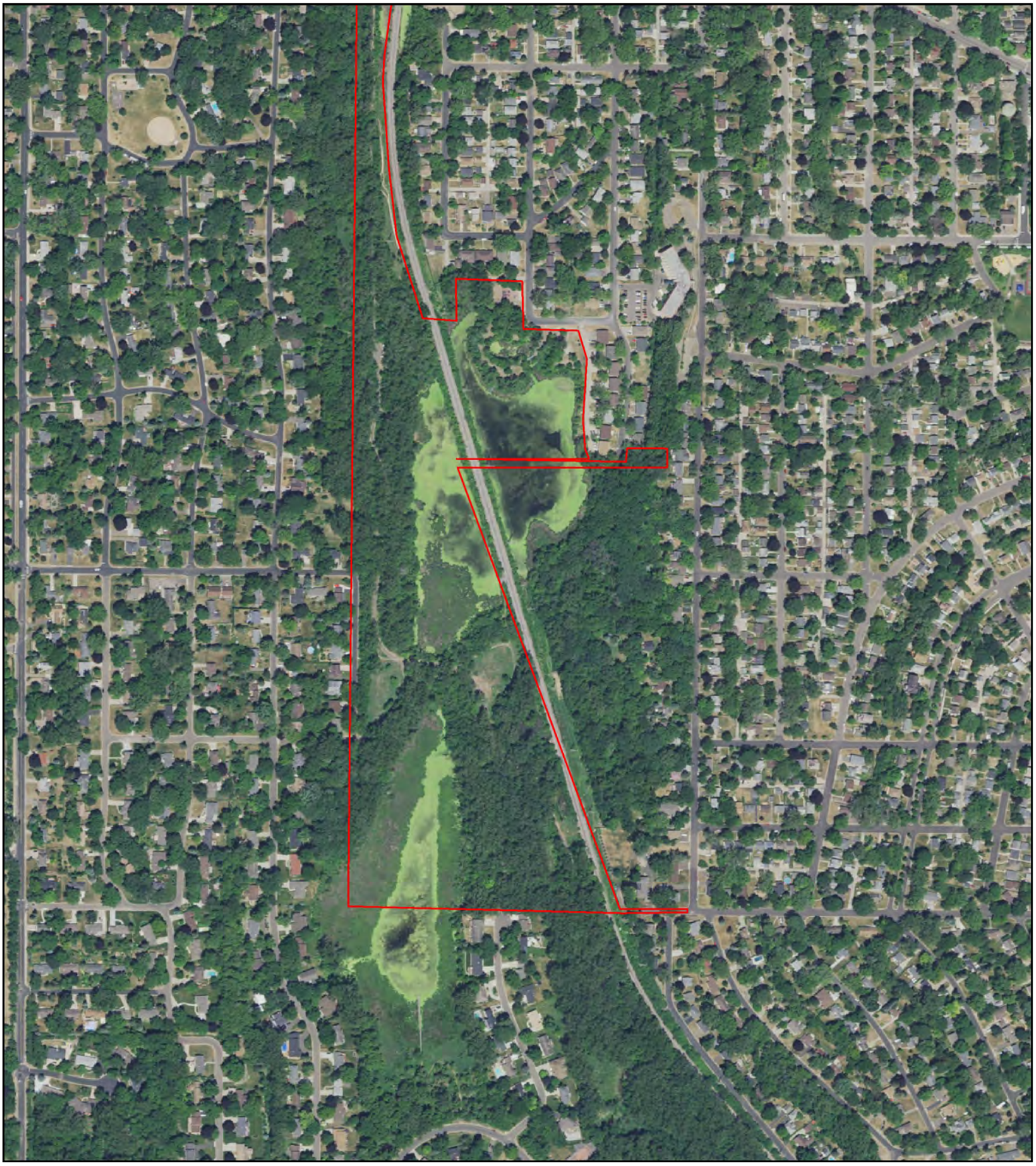
Regulatory Agency Files

Available upon request

Appendix E

Historical Documentation

Aerial Photographs



Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

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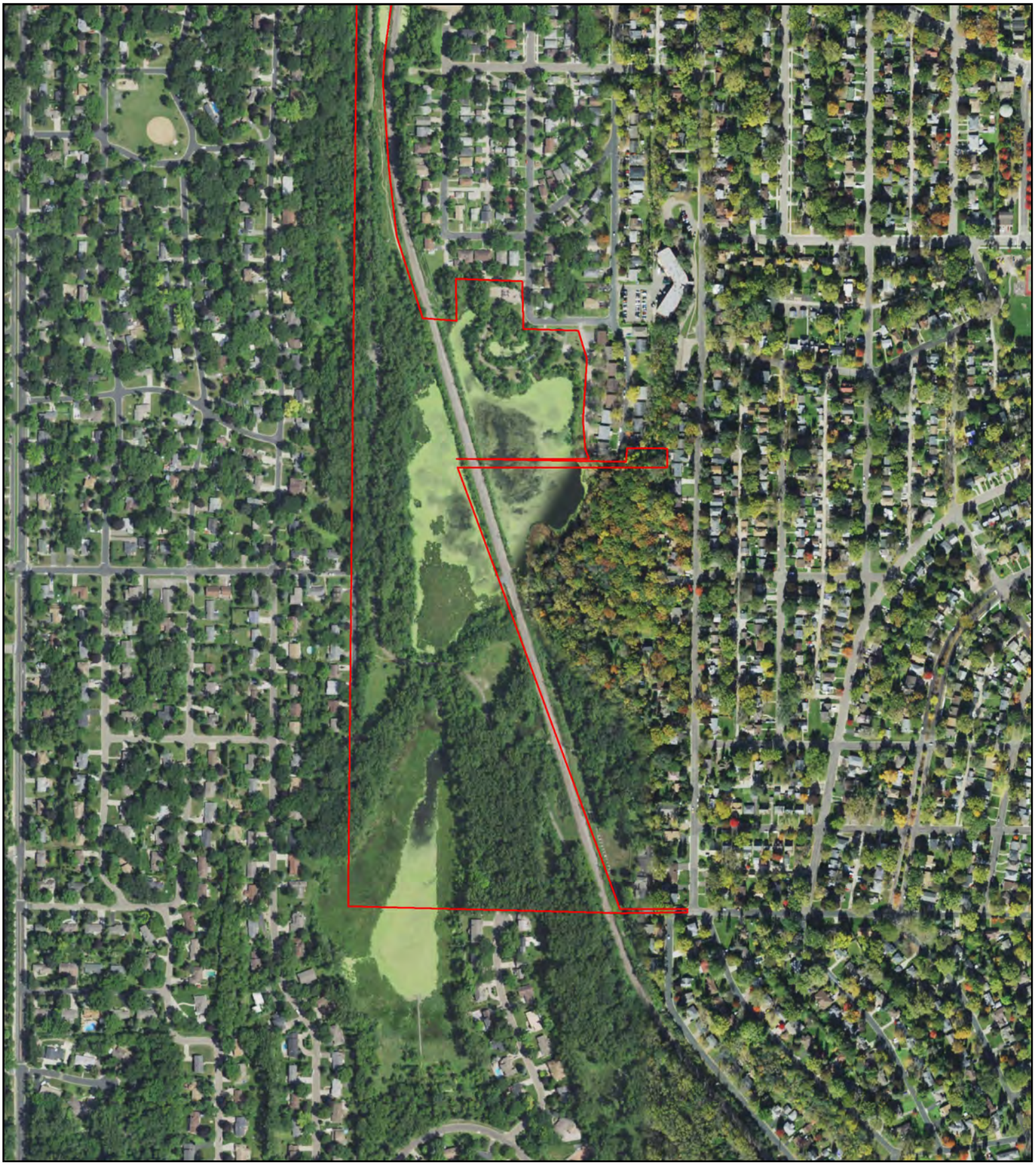
www.historicalinfo.com

HIG



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3500 June Ave N
Robbinsdale, MN

N

2017

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www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2013

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www.historicalinfo.com

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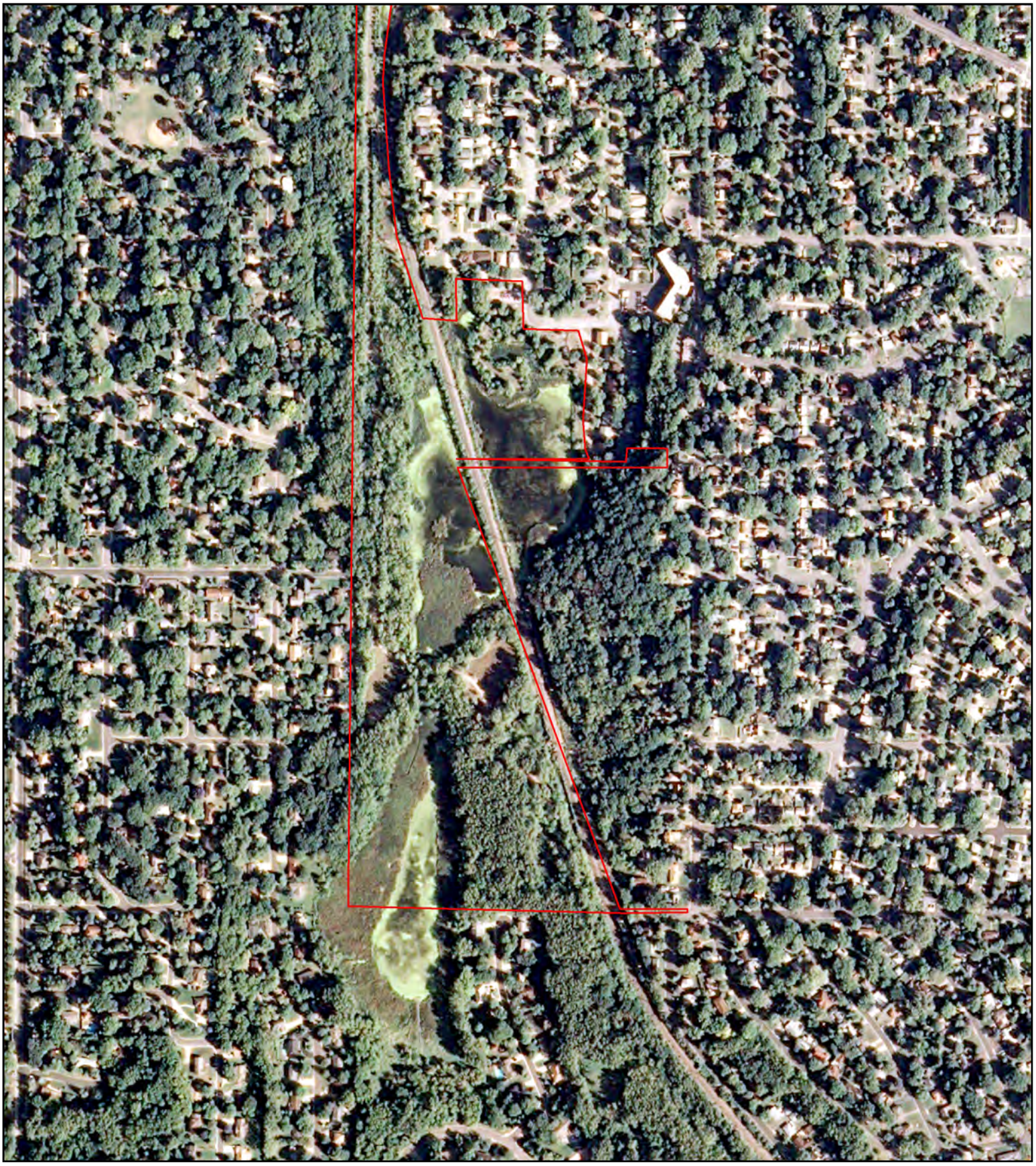

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2008

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www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2003

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www.historicalinfo.com

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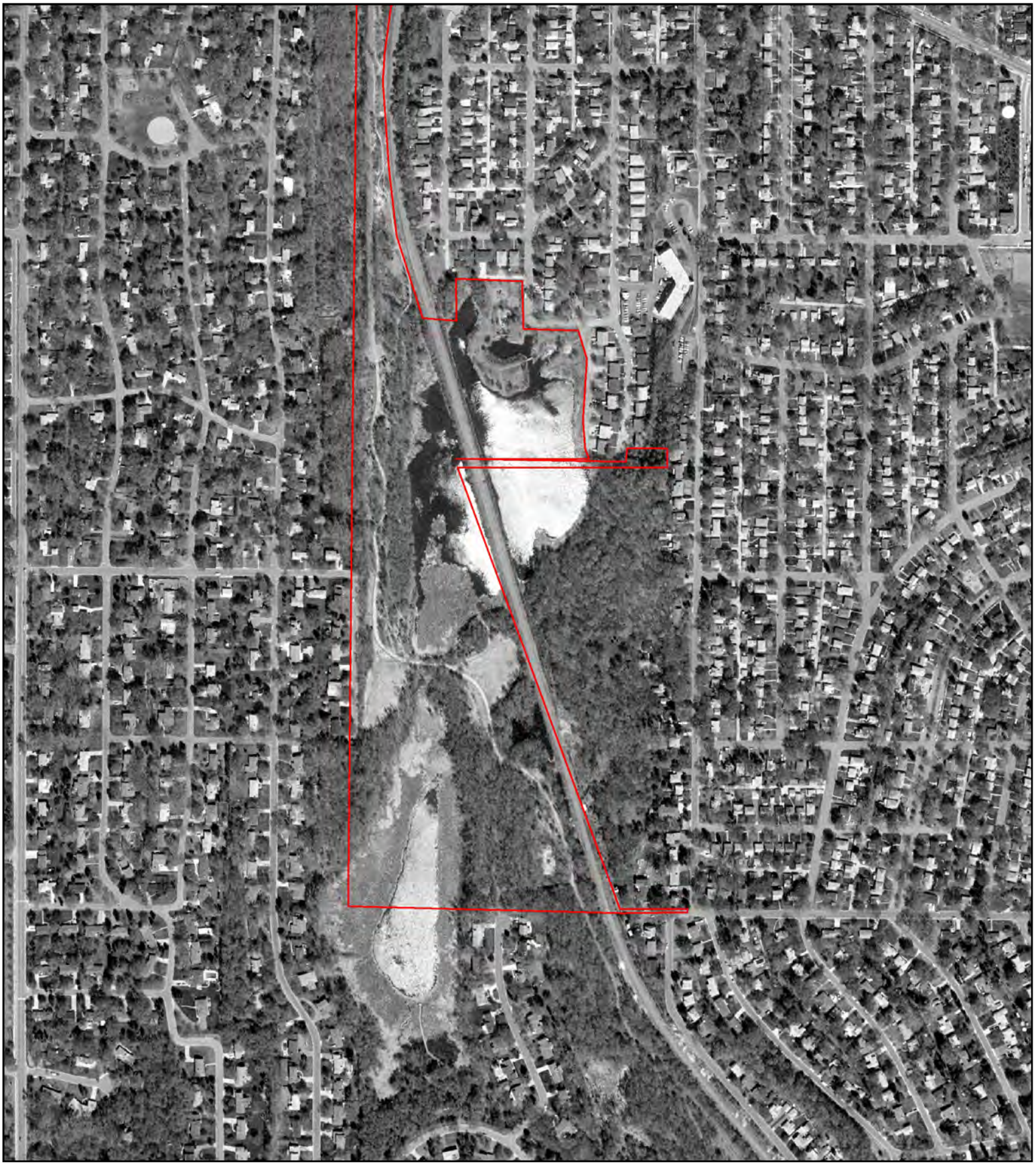

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2000

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Client Project # 23272003.00 001
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www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1997

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1994

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Client Project # 23272003.00 001
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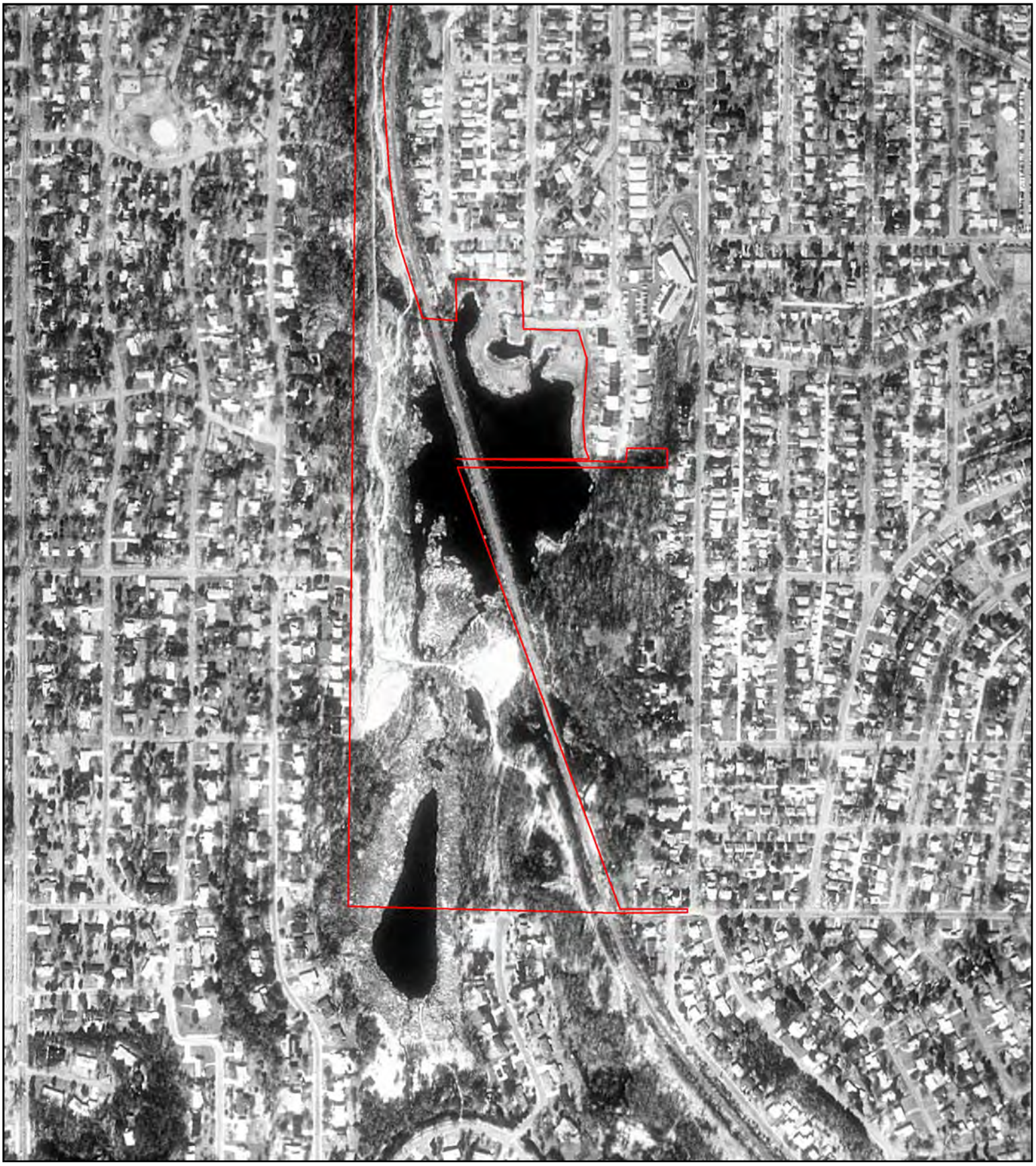
www.historicalinfo.com

HIG



Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1991

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www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1987

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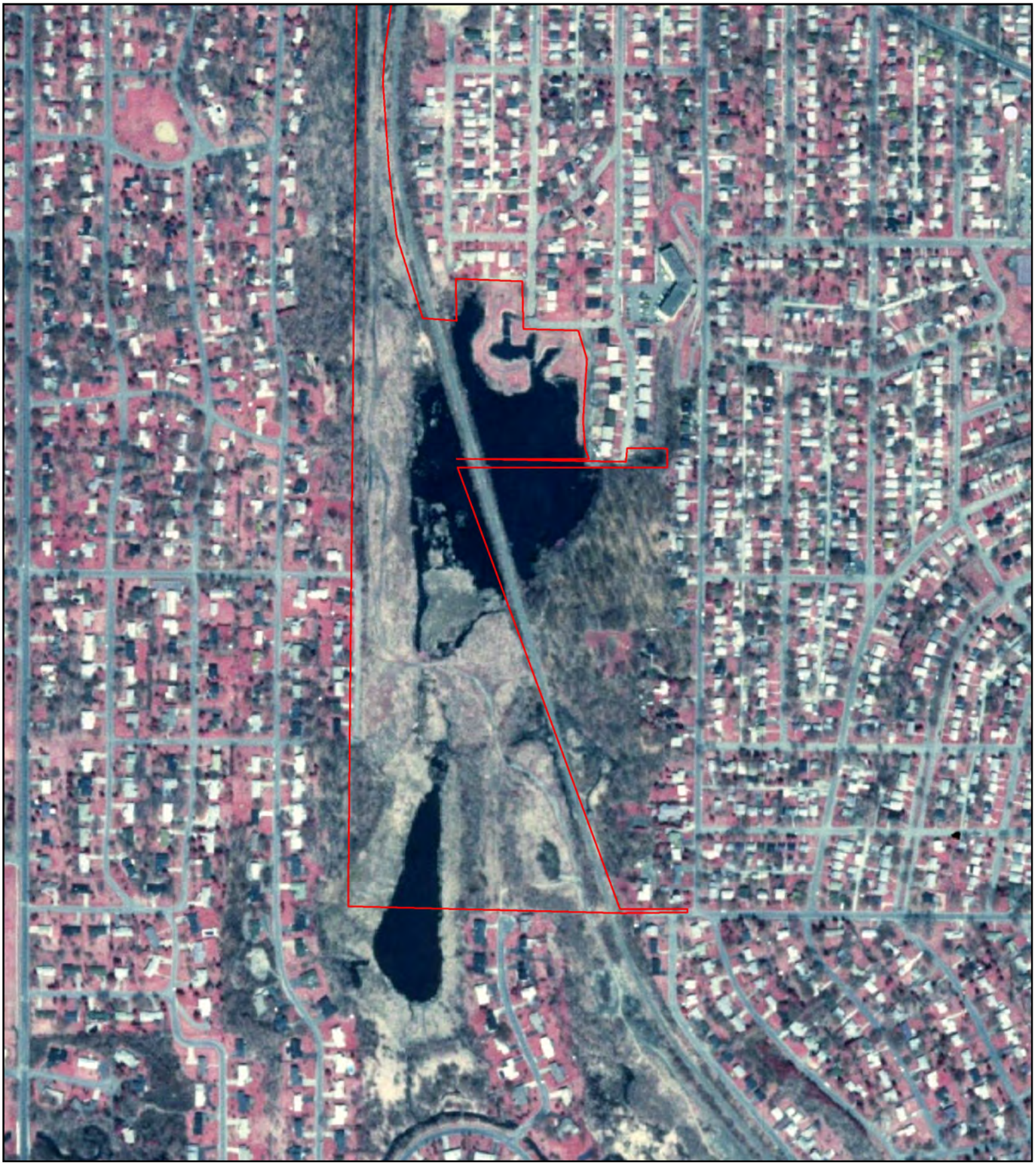
www.historicalinfo.com



Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1984

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Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1978

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1974

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1969

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1966

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1964

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1957

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1953

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1947

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1940

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

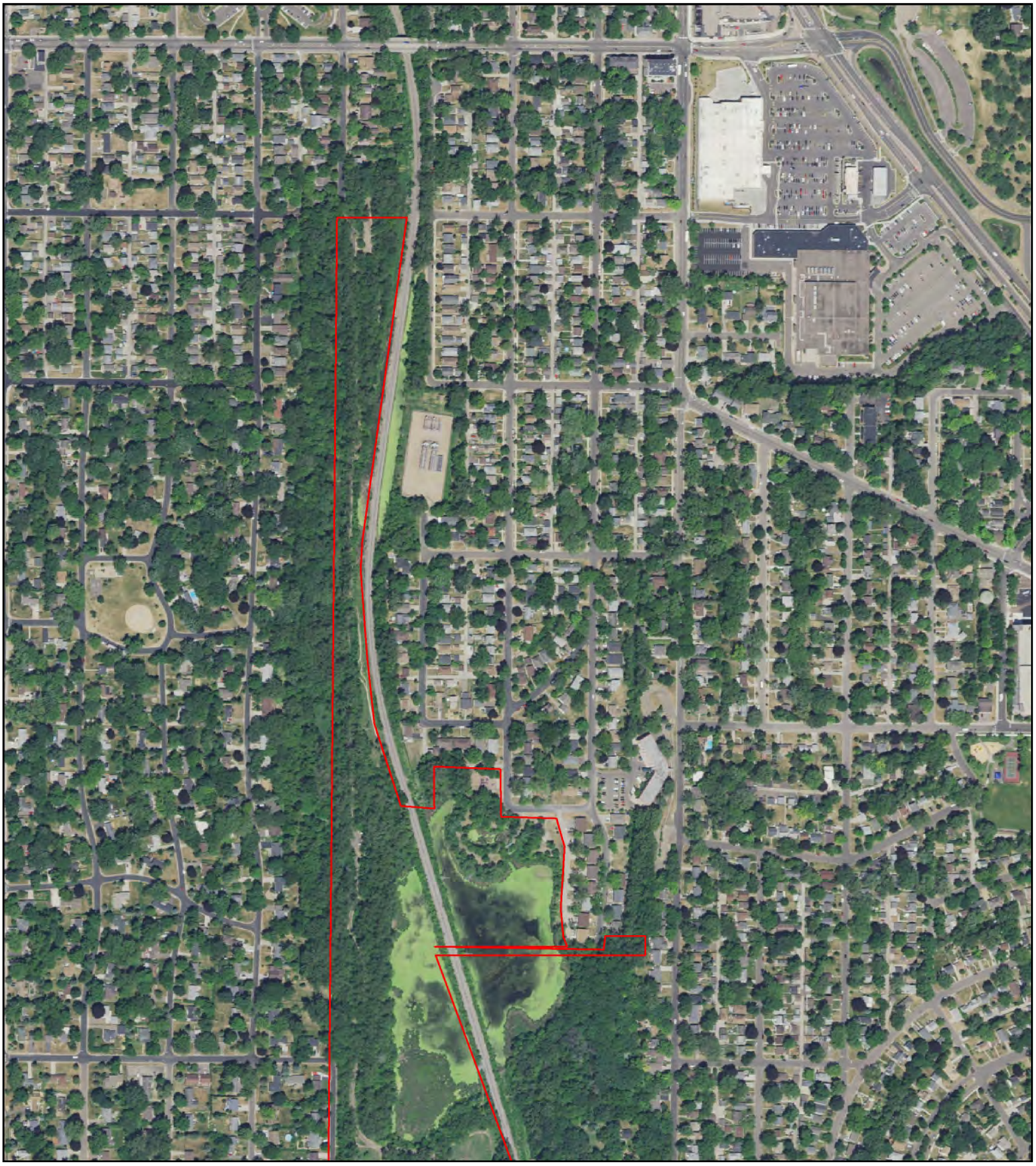
HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1937

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com



Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2021

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2017

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2013

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2008

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2003

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

2000

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

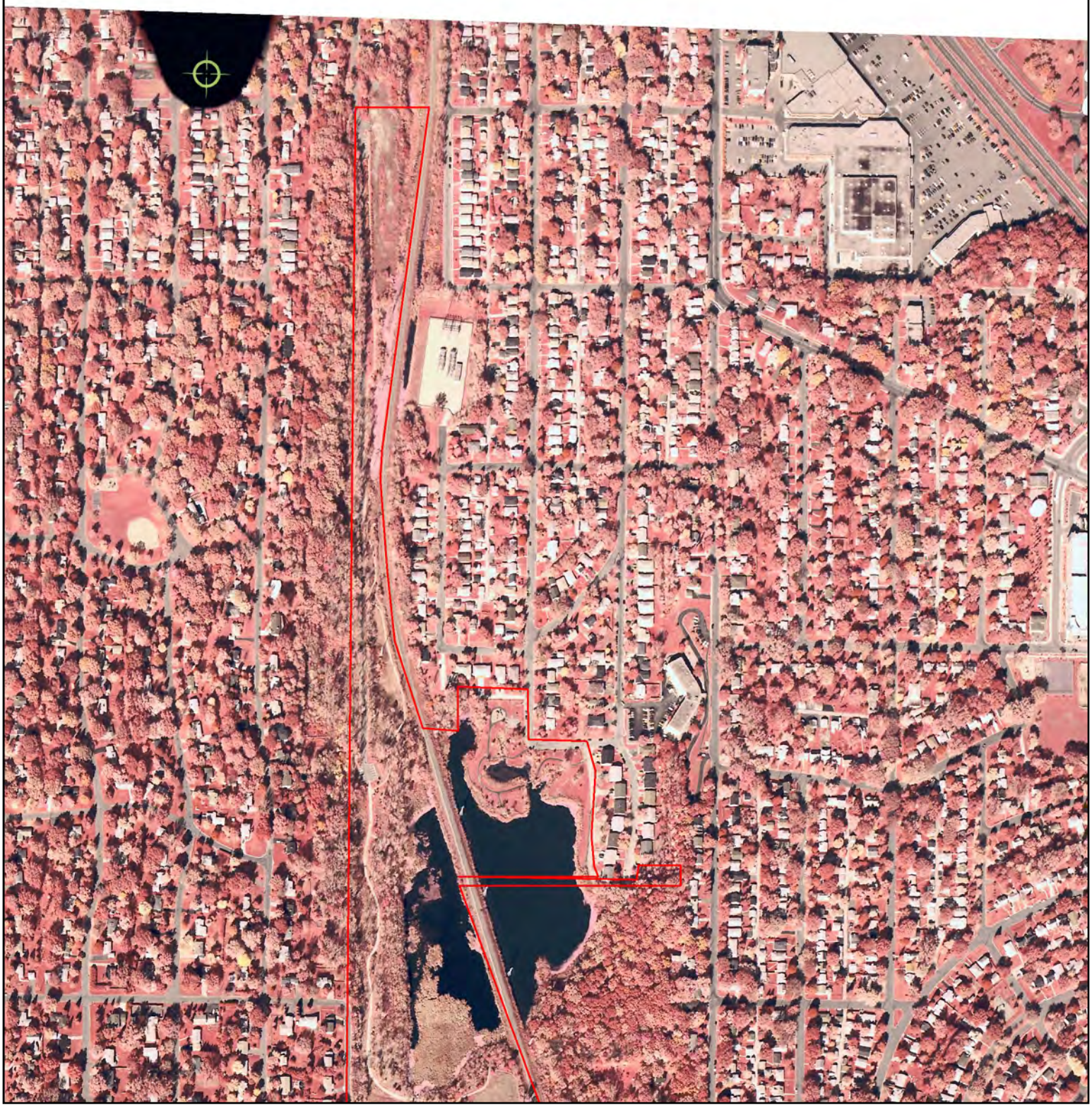
Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1997

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG



Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1994

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1991

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1987

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1984

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1978

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1974

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1969

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1966

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1964

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1957

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1953

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1947

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

N

1940

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

HIG

Sochacki Park
3500 June Ave N
Robbinsdale, MN

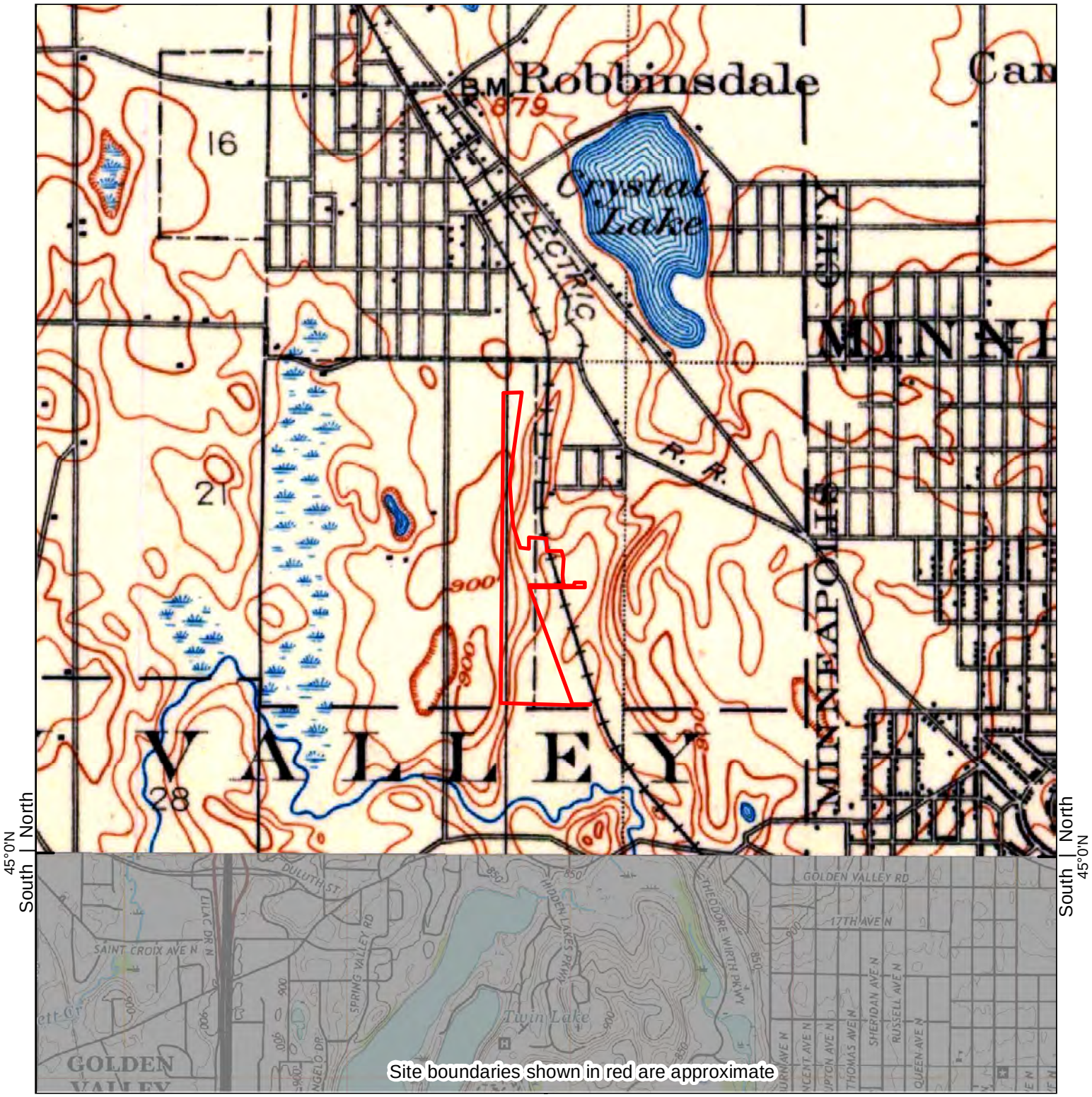
N

1937

HIG Project # 2074408
Client Project # 23272003.00 001
Approximate Scale 1: 6,000 (1"=500')
www.historicalinfo.com

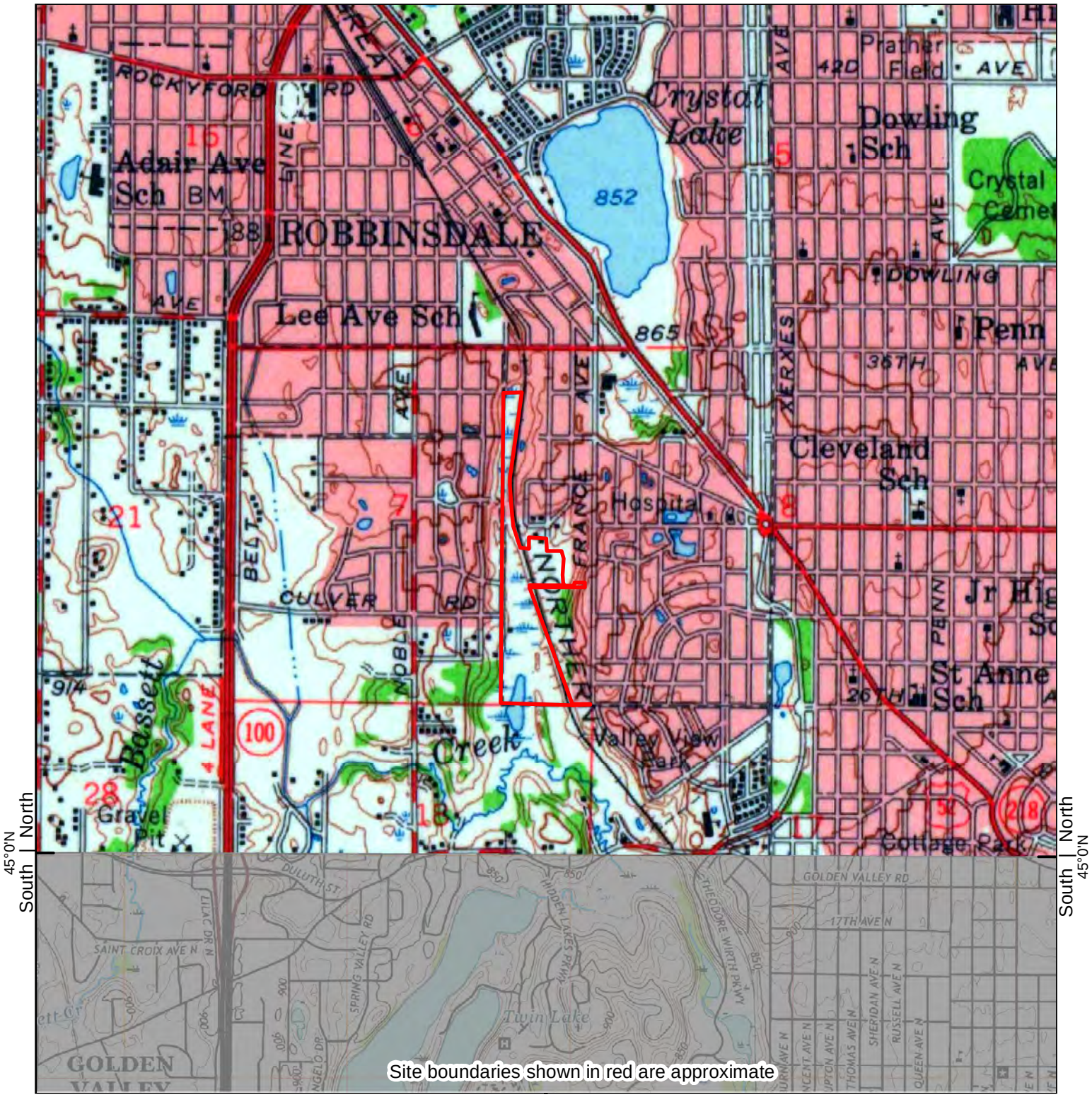
HIG

Topographic Maps



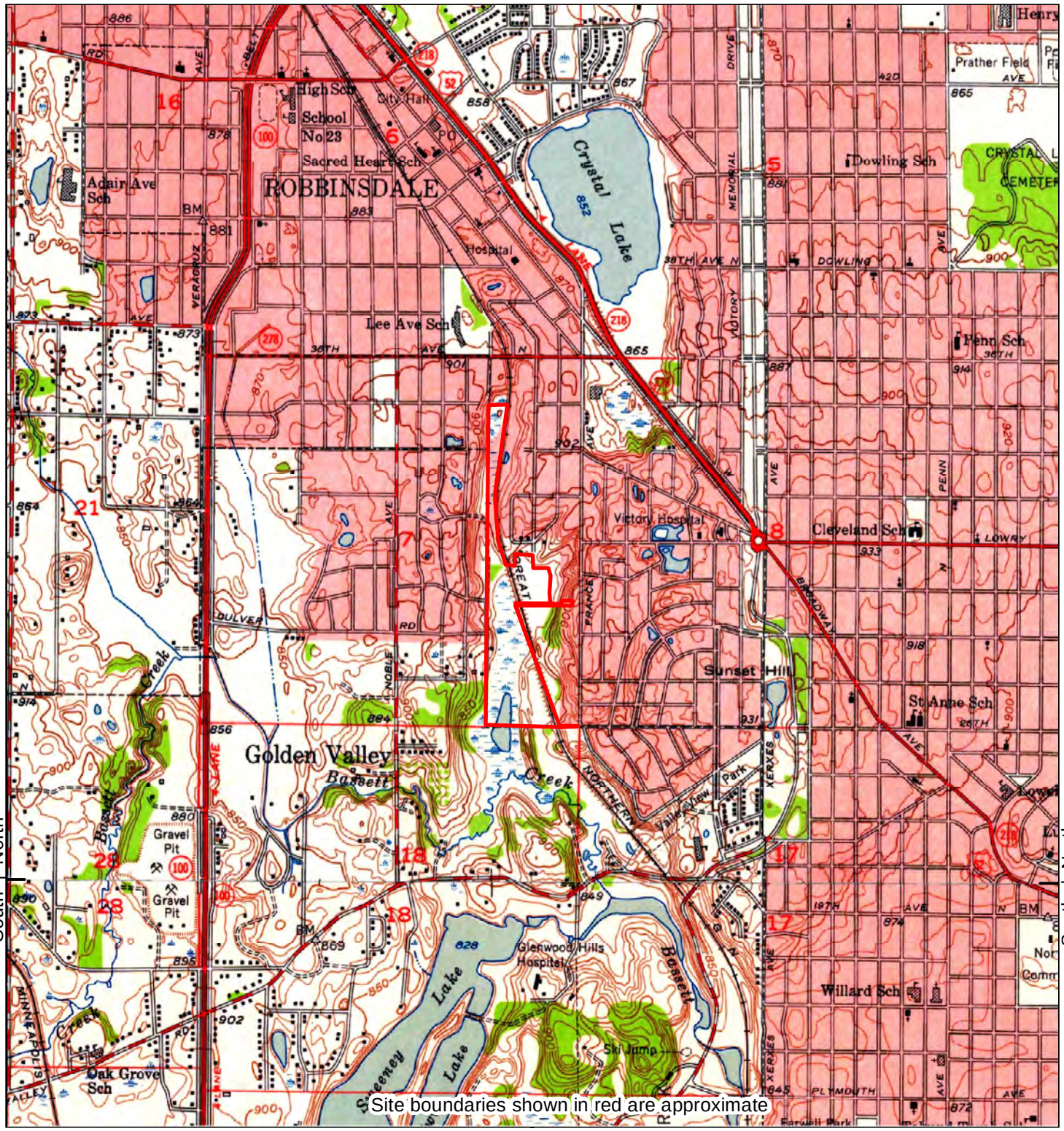
1902	0 Distance in Miles 1 1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N	Site information: Sochacki Park 3500 June Ave N Robbinsdale, MN 55422
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.	Barr Engineering project #23272003.00 001 022 HIG #232074408 completed: 05/16/2023 12:15	

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates Photo Year	Inspected	Revised
North	Anoka, MN	USGS	15' x 15'	1902	--	--	--



1955	0 Distance in Miles 1 1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N	Site information: Sochacki Park 3500 June Ave N Robbinsdale, MN 55422
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.	Barr Engineering project #23272003.00 001 022 HIG #232074408 completed: 05/16/2023 12:15	

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates Photo Year	Inspected	Revised
North	Anoka, MN	USGS	15' x 15'	1955	1947	--	--



1952

0 Distance in Miles 1

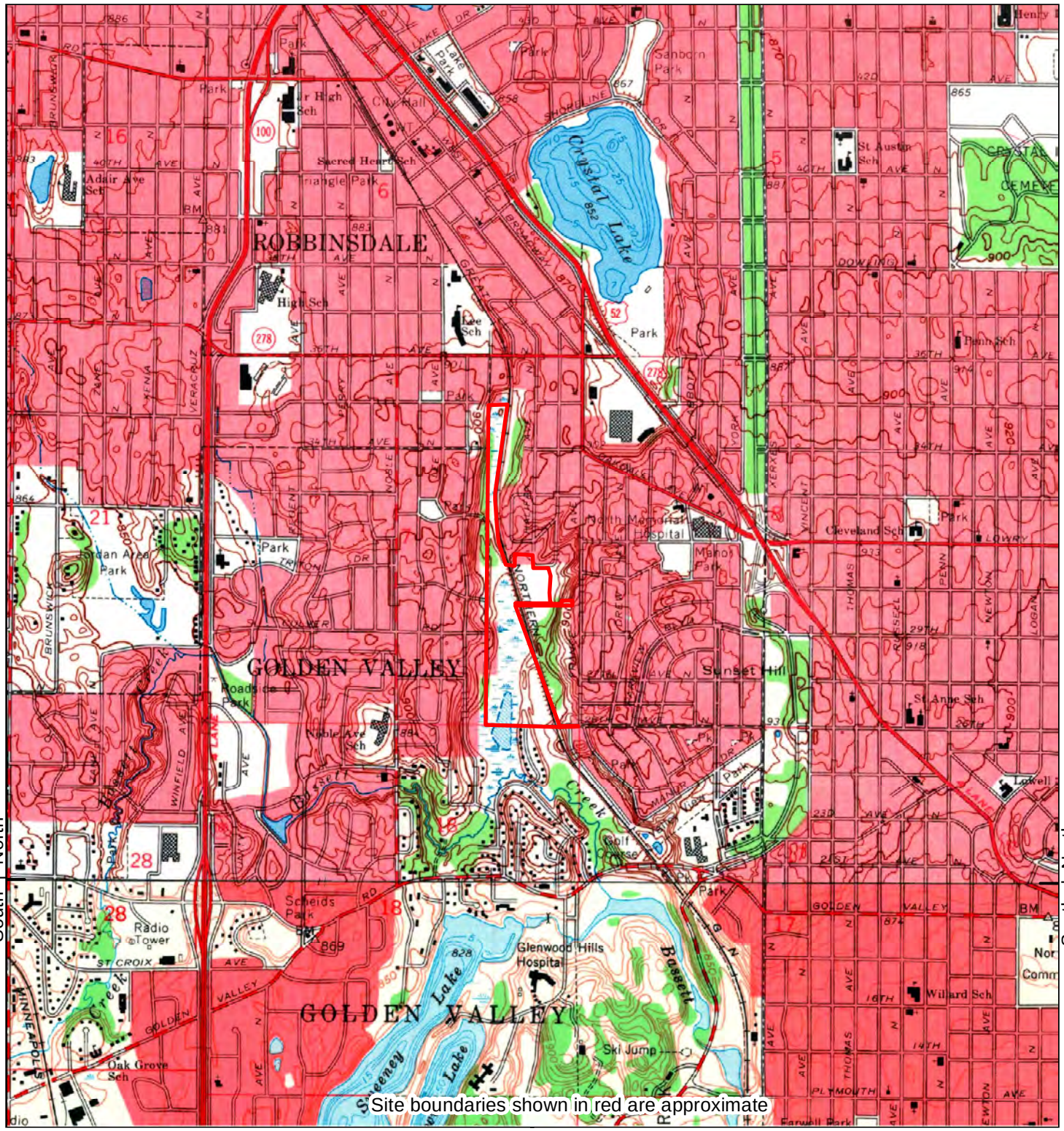
1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:
Sochacki Park
3500 June Ave N
Robbinsdale, MN 55422

Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

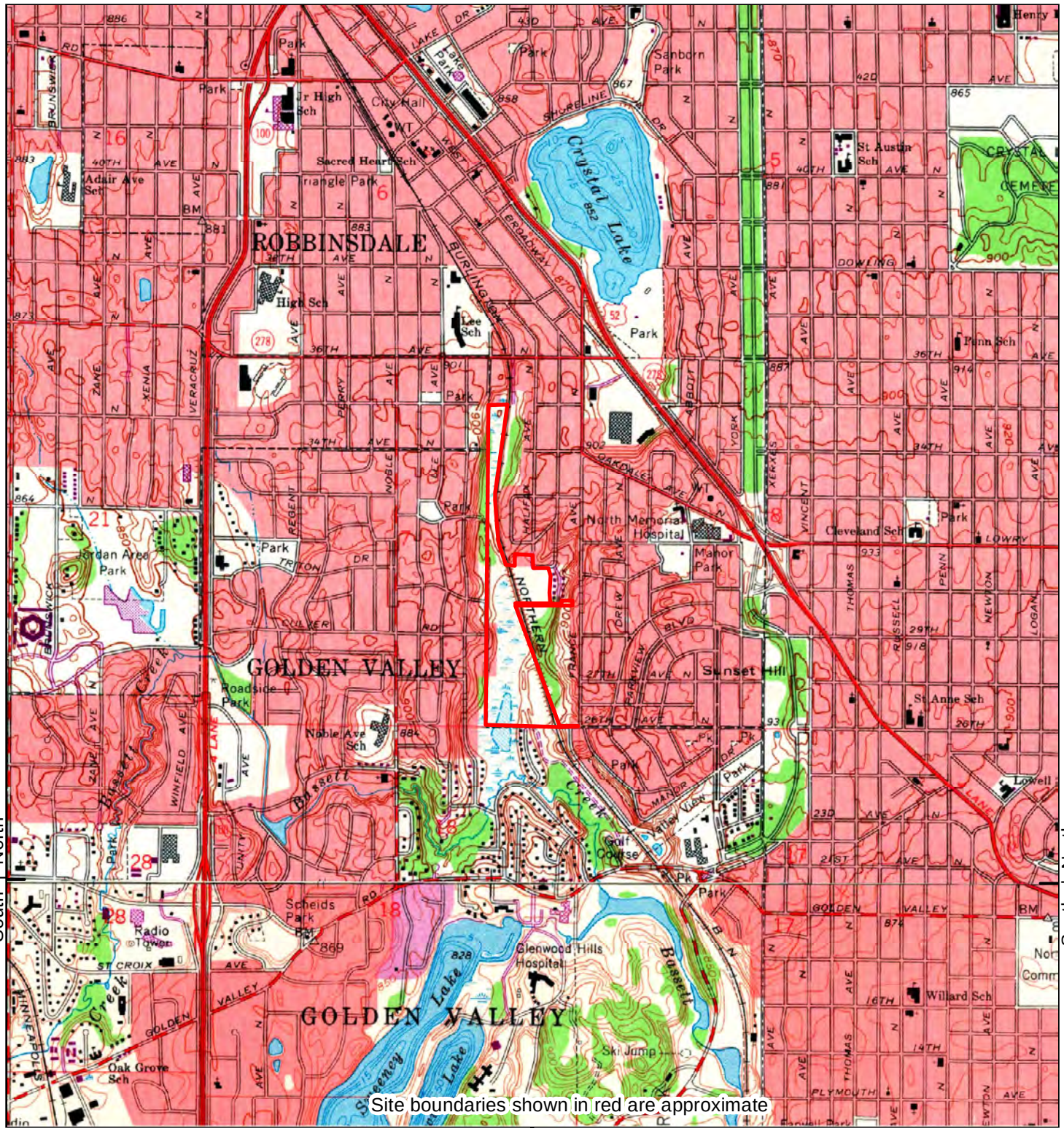
Barr Engineering project #23272003.00 001 022
HIG #232074408 completed: 05/16/2023 12:15

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates: Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	1952	1947	--	--
South	Minneapolis South, MN	USGS	7½' x 7½'	1952	1947	--	--



1967	0 Distance in Miles 1 1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N	Site information: Sochacki Park 3500 June Ave N Robbinsdale, MN 55422
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.	Barr Engineering project #23272003.00 001 022 HIG #232074408 completed: 05/16/2023 12:15	

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	1967	1947	--	--
South	Minneapolis South, MN	USGS	7½' x 7½'	1967	1947	--	--



1972

0 Distance in Miles 1

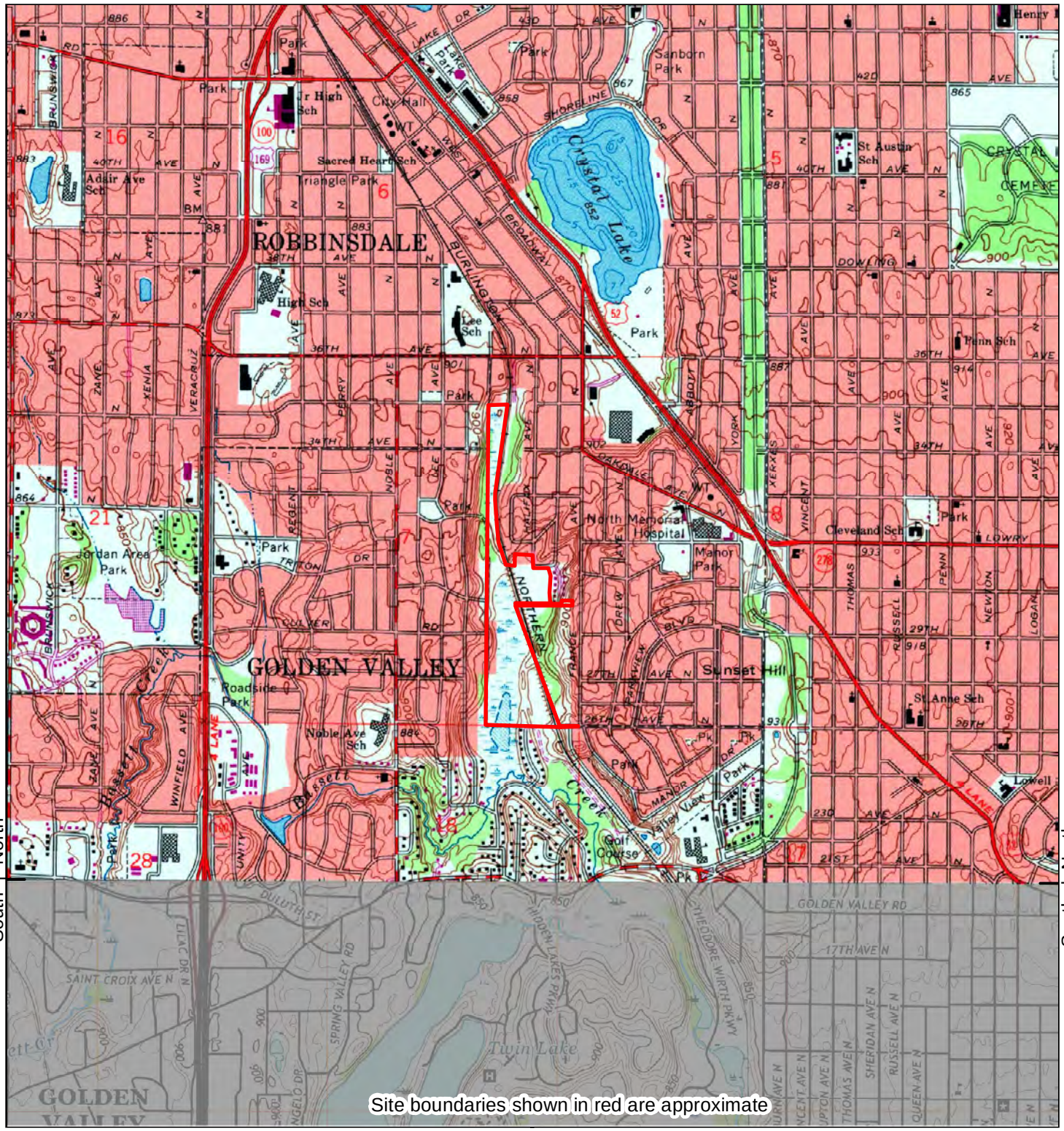
1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:
Sochacki Park
3500 June Ave N
Robbinsdale, MN 55422

Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

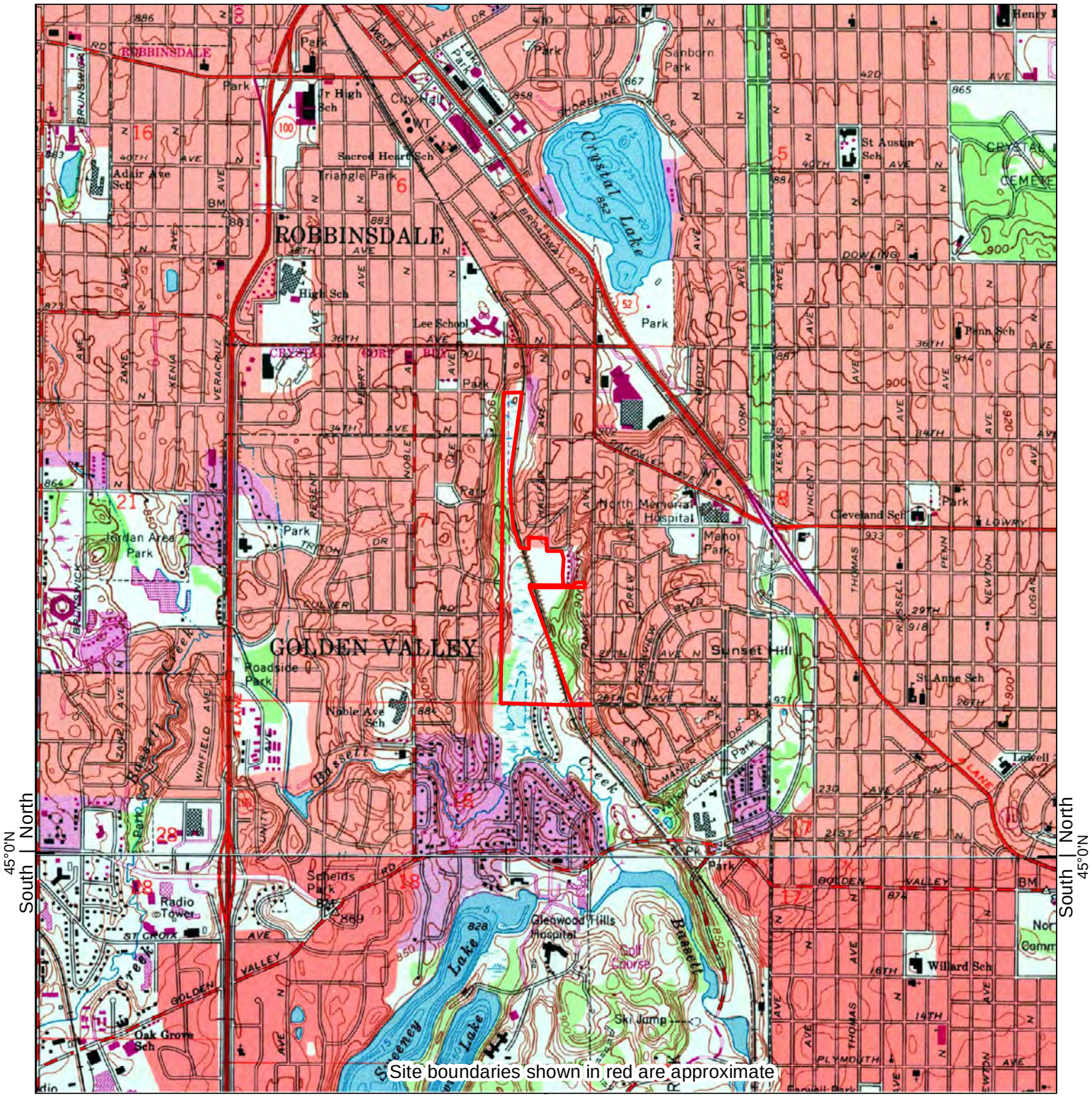
Barr Engineering project #23272003.00 001 022
HIG #232074408 completed: 05/16/2023 12:15

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates: Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	1967	1972	--	1972
South	Minneapolis South, MN	USGS	7½' x 7½'	1967	1972	--	1972



1980	0 Distance in Miles 1 1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N	Site information: Sochacki Park 3500 June Ave N Robbinsdale, MN 55422
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.	Barr Engineering project #23272003.00 001 022 HIG #232074408 completed: 05/16/2023 12:15	

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	1967	1977	--	1980



1993

0 Distance in Miles 1

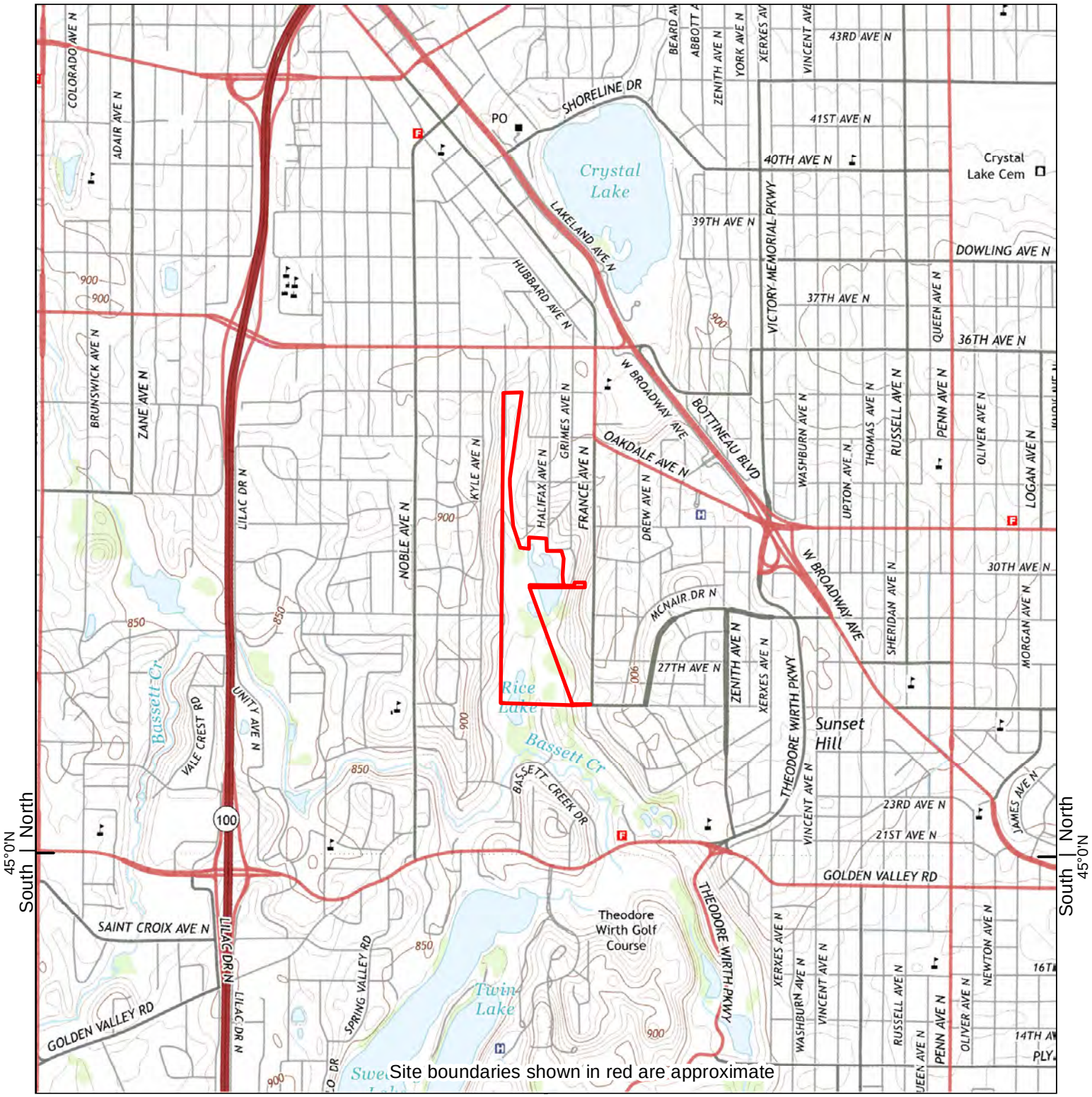
1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:
Sochacki Park
3500 June Ave N
Robbinsdale, MN 55422

Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

Barr Engineering project #23272003.00 001 022
HIG #232074408 completed: 05/16/2023 12:15

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates: Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	1967	1991	--	1993
South	Minneapolis South, MN	USGS	7½' x 7½'	1967	1991	--	1993



2013

0 Distance in Miles 1

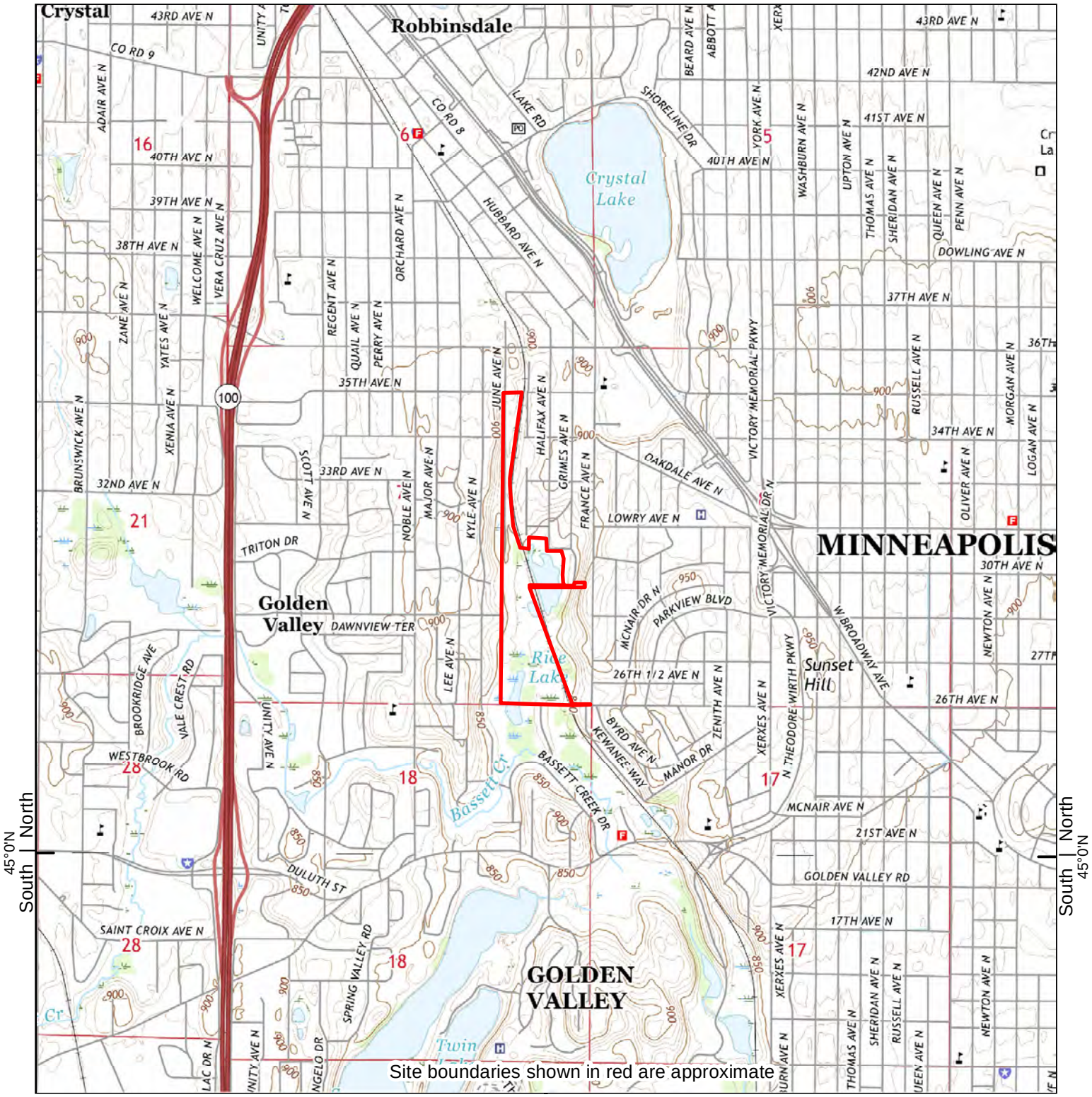
1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:
Sochacki Park
3500 June Ave N
Robbinsdale, MN 55422

Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

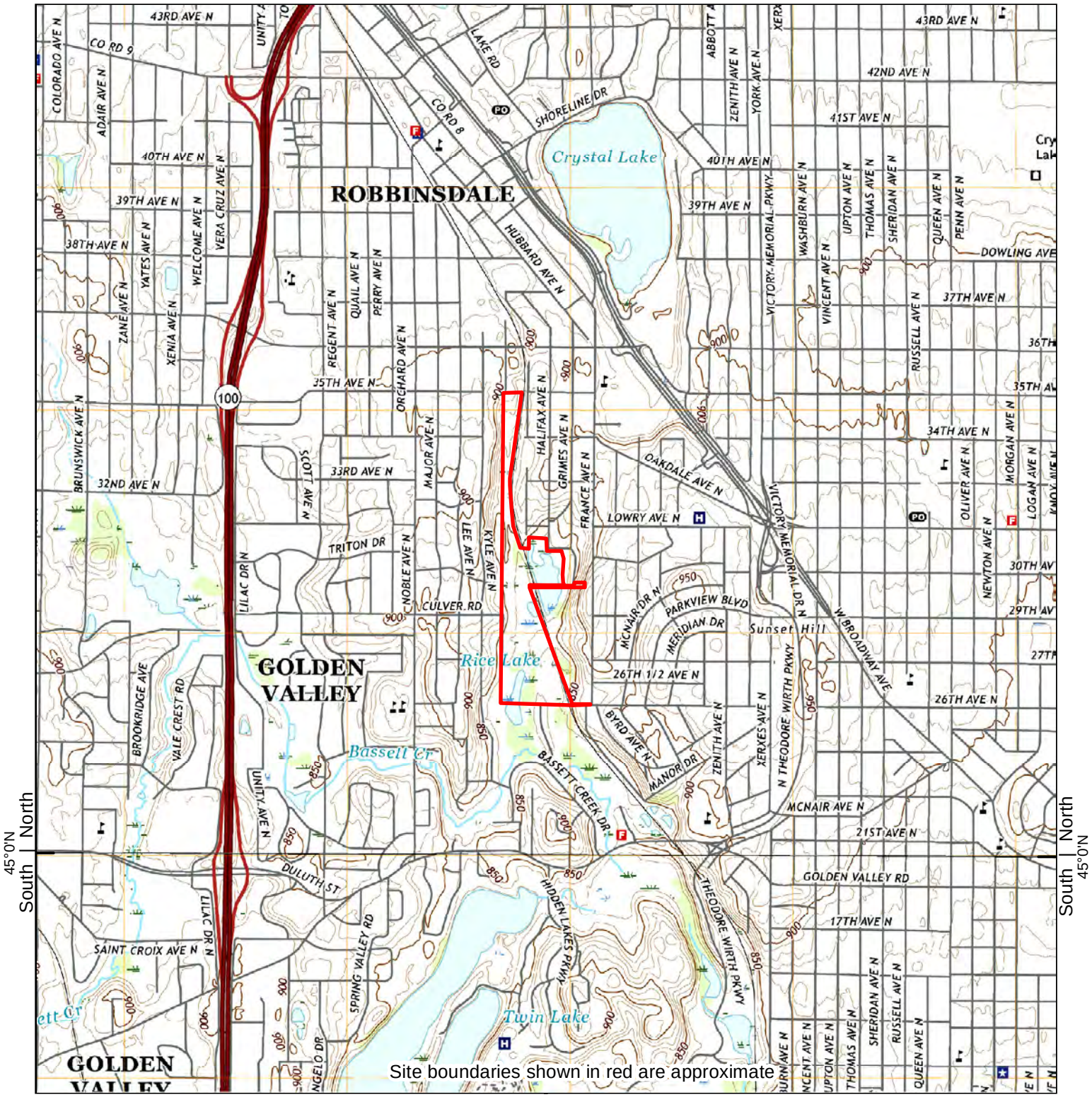
Barr Engineering project #23272003.00 001 022
HIG #232074408 completed: 05/16/2023 12:15

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates: Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	2013	--	--	--
South	Minneapolis South, MN	USGS	7½' x 7½'	2013	--	--	--



2016	0 Distance in Miles 1 1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N	Site information: Sochacki Park 3500 June Ave N Robbinsdale, MN 55422
Unified maps show subdued modern topo features where corresponding maps of the same year were not published.	Barr Engineering project #23272003.00 001 022 HIG #232074408 completed: 05/16/2023 12:15	

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates: Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	2016	--	--	--
South	Minneapolis South, MN	USGS	7½' x 7½'	2016	--	--	--



Site boundaries shown in red are approximate

2019

0 Distance in Miles 1

1: 24,000 (1"=2,000') NAD 1983 UTM Zone 15N

Site information:
Sochacki Park
3500 June Ave N
Robbinsdale, MN 55422

Unified maps show subdued modern topo features where corresponding maps of the same year were not published.

Barr Engineering project #23272003.00 001 022
HIG #232074408 completed: 05/16/2023 12:15

Zone	Topographic Map Name	Publisher	Map Size	Base Map	Aerial Photo Topo Updates Photo Year	Inspected	Revised
North	Minneapolis North, MN	USGS	7½' x 7½'	2019	--	--	--
South	Minneapolis South, MN	USGS	7½' x 7½'	2019	--	--	--

Property Tax Records

Parcel Data for Taxes Payable 2023

Property ID number
07-029-24-41-0063
Address:
3500 JUNE AVE N
unici ality:
ROBBINSDALE
School district
281
Watershed:
7
Sewer district:
Construction year
Owner name:
CITY OF ROBBINSDALE
Taxpayer name & address:
CITY OF ROBBINSDALE
100 LAKEVIEW AVE N
ROBBINSDALE MN 55422

Sales information

Sales rices are reported as listed on the Certificate of Real Estate Value and are not warranted to re resent arms-length transactions.
NO SALE INFOR ATION ON FILE FOR THIS PROPERTY.

Tax parcel description

The following is the County Auditor's descri tion of this tax parcel. It may not be the legal description on the most recent conveyance document recording ownership. Please refer to the legal description of this property on the public record when pre aring legal documents for recording

Addition name:
UNPLATTED 07 029 24
Lot:
Block
Approximate parcel size:
IRREGULAR
etes & Bounds: Common abbreviations
LOTS 1 TO 15 INCL BLK 19 CRYSTAL LAKE HEIGHTS AND LOTS 15 TO 26 INCL BLK 1 ANITOBA PARK ALSO THAT PART OF S 1/2 OF SE 1/4 OF NE 1/4 LYING WLY OF RR R/W AND THAT PART OF E 1/2 OF SE 1/4 LYING WLY OF RR R/W ALSO S 20 FT OF THAT PART OF SE 1/4 OF SE 1/ LYING ELY OF RR R/W INCL ADJ 1/2 OF VAC ROADS AND ADJ VAC ALLEY
Abstract or Torrens:

BOTH

Value and tax summary for taxes payable 2023

Values established by assessor as of January 2, 2022

Estimated market value:
Taxable market value:
Total improvement amount:
Total net tax:
Total special assessments:
Solid waste fee:
Total Tax:

Property information detail for taxes payable 2023

Values established by assessor as of January 2, 2022

Values:
1
2
Land market:
Building market:
Machinery market:
Total market:
Qualifying improvements:
Veterans exclusion:
Homestead market value exclusion:

Classifications:
1
2
Property type:
VACANT LAND - RESIDENTIAL
VACANT LAND - RESIDENTIAL
Homestead status:
NON-HOMESTEAD
NON-HOMESTEAD
Relative homestead:
Agricultural
Exempt status:

Parcel Data for Taxes Payable 2022

Property ID number:
07-029-24-41-0063
Address:
3500 JUNE AVE N
Municipality:
ROBBINSDALE
School district:
281
Watershed:
7
Sewer district:
Construction year:
Owner name:
CITY OF ROBBINSDALE
Taxpayer name & address:
CITY OF ROBBINSDALE
4100 LAKEVIEW AVE N
ROBBINSDALE MN 55422

Sales information

Sales prices are reported as listed on the Certificate of Real Estate Value and are not warranted to represent arms-length transactions.
NO SALE INFORMATION ON FILE FOR THIS PROPERTY.

Tax parcel description

The following is the County Auditor's description of this tax parcel. It may not be the legal description on the most recent conveyance document recording ownership. Please refer to the legal description of this property on the public record when preparing legal documents for recording

Addition name:
UNPLATTED 07 029 24
Lot:
Block:
Approximate parcel size:
IRREGULAR
Metes & Bounds: Common abbreviations
LOTS 1 TO 15 INCL BLK 19 CRYSTAL LAKE HEIGHTS AND LOTS 15 TO 26 INCL BLK 1 MANITOBA PARK ALSO THAT PART OF S 1/2 OF SE 1/4 OF NE 1/4 LYING WLY OF RR R/W AND THAT PART OF E 1/2 OF SE 1/4 LYING WLY OF RR R/W ALSO S 20 FT OF THAT PART OF SE 1/4 OF SE 1/4 LYING ELY OF RR R/W INCL ADJ 1/2 OF VAC ROADS AND ADJ VAC ALLEY
Abstract or Torrens:

BOTH

Value and tax summary for taxes payable 2022

Values established by assessor as of January 2, 2021

Estimated market value:
Taxable market value:
Total improvement amount:
Total net tax:
Total special assessments:
Solid waste fee:
Total Tax:

Property information detail for taxes payable 2022

Values established by assessor as of January 2, 2021

Values:
1
2
Land market:
Building market:
Machinery market:
Total market:
Qualifying improvements:
Veterans exclusion:
Homestead market value exclusion:

Classifications:
1
2
Property type:
VACANT LAND - RESIDENTIAL
VACANT LAND - RESIDENTIAL
Homestead status:
NON-HOMESTEAD
NON-HOMESTEAD
Relative homestead:
Agricultural
Exempt status:

Parcel Data for Taxes Payable 2023

Property ID number:
07-029-24-41-0064
Address:
3101 HALIFAX AVE N
Municipality:
ROBBINSDALE
School district:
281
Watershed:
7
Sewer district:
Construction year:
Owner name:
CITY OF ROBBINSDALE
Taxpayer name & address:
CITY OF ROBBINSDALE
4100 LAKEVIEW AVE N
ROBBINSDALE MN 55422

Sales information

Sales prices are reported as listed on the Certificate of Real Estate Value and are not warranted to represent arms-length transactions.
NO SALE INFORMATION ON FILE FOR THIS PROPERTY.

Tax parcel description

The following is the County Auditor's description of this tax parcel. It may not be the legal description on the most recent conveyance document recording ownership. Please refer to the legal description of this property on the public record when preparing legal documents for recording

Addition name:
UNPLATTED 07 029 24
Lot:
Block:
Approximate parcel size:
IRREGULAR
Metes & Bounds: Common abbreviations
THAT PART OF S 3/4 OF NE 1/4 OF SE
1/4 DESC AS COM AT NE COR THOF TH ON
AN ASSUMED BEARING OF S 89 DEG 57
MIN W ALONG N LINE THOF 461.5 FT TO
ACTUAL PT OF BEG TH S 9 DEG 07 MIN
56 SEC E 192.05 FT TH S 4 DEG 09 MIN
26 MIN W 270.71 FT TH W 5.33 FT TH S
6 DEG W 62.29 FT TH E 144.23 FT TH N
6 DEG E 32.22 FT TH E PAR WITH N
LINE OF SAID S 3/4 TO W LINE OF E

128 FT THOF TH S ALONG SAID W LINE
52 FT TH W PAR WITH N LINE OF SAID S
3/4 TO ELY LINE OF RR R/W TH NLY
ALONG SAID ELY LINE TO N LINE OF S
3/4 OF NE 1/4 OF SE 1/4 TH E TO BEG
ALSO LOT 6 AND N 65 FT OF LOT 7 BLK
5 OPPORTUNITY TERRACE ROBBINSDALE
INCL ADJ 1/2 OF VAC ROAD EX ROAD
Abstract or Torrens:
BOTH

Value and tax summary for taxes payable 2023

Values established by assessor as of January 2, 2022

Estimated market value:
Taxable market value:
Total improvement amount:
Total net tax:
Total special assessments:
Solid waste fee:
Total Tax:

Property information detail for taxes payable 2023

Values established by assessor as of January 2, 2022

Values:
1
2
Land market:
Building market:
Machinery market:
Total market:
Qualifying improvements:
Veterans exclusion:
Homestead market value exclusion:

Classifications:
1
2
Property type:
VACANT LAND - RESIDENTIAL
VACANT LAND - RESIDENTIAL
Homestead status:
NON-HOMESTEAD
NON-HOMESTEAD
Relative homestead:
Agricultural
Exempt status:

Parcel Data for Taxes Payable 2022

Property ID number:
07-029-24-41-0064
Address:
3101 HALIFAX AVE N
Municipality:
ROBBINSDALE
School district:
281
Watershed:
7
Sewer district:
Construction year:
Owner name:
CITY OF ROBBINSDALE
Taxpayer name & address:
CITY OF ROBBINSDALE
4100 LAKEVIEW AVE N
ROBBINSDALE MN 55422

Sales information

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NO SALE INFORMATION ON FILE FOR THIS PROPERTY.

Tax parcel description

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UNPLATTED 07 029 24
Lot:
Block:
Approximate parcel size:
IRREGULAR
Metes & Bounds: Common abbreviations
THAT PART OF S 3/4 OF NE 1/4 OF SE
1/4 DESC AS COM AT NE COR THOF TH ON
AN ASSUMED BEARING OF S 89 DEG 57
MIN W ALONG N LINE THOF 461.5 FT TO
ACTUAL PT OF BEG TH S 9 DEG 07 MIN
56 SEC E 192.05 FT TH S 4 DEG 09 MIN
26 MIN W 270.71 FT TH W 5.33 FT TH S
6 DEG W 62.29 FT TH E 144.23 FT TH N
6 DEG E 32.22 FT TH E PAR WITH N
LINE OF SAID S 3/4 TO W LINE OF E

128 FT THOF TH S ALONG SAID W LINE
52 FT TH W PAR WITH N LINE OF SAID S
3/4 TO ELY LINE OF RR R/W TH NLY
ALONG SAID ELY LINE TO N LINE OF S
3/4 OF NE 1/4 OF SE 1/4 TH E TO BEG
ALSO LOT 6 AND N 65 FT OF LOT 7 BLK
5 OPPORTUNITY TERRACE ROBBINSDALE
INCL ADJ 1/2 OF VAC ROAD EX ROAD
Abstract or Torrens:
BOTH

Value and tax summary for taxes payable 2022

Values established by assessor as of January 2, 2021

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Taxable market value:
Total improvement amount:
Total net tax:
Total special assessments:
Solid waste fee:
Total Tax:

Property information detail for taxes payable 2022

Values established by assessor as of January 2, 2021

Values:
1
2
Land market:
Building market:
Machinery market:
Total market:
Qualifying improvements:
Veterans exclusion:
Homestead market value exclusion:

Classifications:
1
2
Property type:
VACANT LAND - RESIDENTIAL
VACANT LAND - RESIDENTIAL
Homestead status:
NON-HOMESTEAD
NON-HOMESTEAD
Relative homestead:
Agricultural
Exempt status:

Chain of Title and Environmental Lien/Activity and Use Limitations Search Results

Chain of Title and Environmental Lien/Activity and Use Limitations Search Results

Prepared for: **Historical Information Gatherers, Inc.**
HIG Project No. 2074408

Prepared by: **The Fox Group, LLC**
TFG File No. T8332

Subject Property: **PARK**
3500 JUNE AVENUE NORTH
3101 HALIFAX AVENUE
NORTH ROBBINSDALE,
MINNESOTA

Public records on the subject real property identified above revealed the following information effective to May 10, 2023:

Subject Property Description

Location: **Hennepin County**

Land/Description: Parcel of Land
Parcel No.07-029-24-41-0064

Deed1/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Ssof Investment Company**

Conveys: Parcel of Land

Date Executed: July 27, 1981
Date Recorded: August 20, 1981
Document Number: 4665830

Note: Copy attached as Exhibit "A".

Deed 2/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Ssof Investment Company**

Conveys: Parcel of Land

Date Executed: July 27, 1981
Date Recorded: August 13, 1981
Document Number: 4664102

Deed 3/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Ssof Investment Company**

Grantor(s): (Seller) **Skyline Builders, Inc.**

Conveys: Parcel of Land

Date Executed: September 9, 1977
Date Recorded: August 13, 1981
Document Number: 4664101

Deed 4/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Ssof Investment Company**

Conveys: Parcel of Land

Date Executed: July 27, 1981
Date Recorded: August 13, 1981
Document Number: 4664097

Deed 5/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Ssof Investment Company**

Conveys: Parcel of Land

Date Executed: July 27, 1981
Date Recorded: August 13, 1981
Document Number: 4664096

Deed 6/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Ssof Investment Company**

Grantor(s): (Seller) **Skyline Builders, Inc.**

Conveys: Parcel of Land

Date Executed: September 9, 1977
Date Recorded: August 13, 1981
Document Number: 4664095

Deed 7/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **State of Minnesota**

Conveys: Parcel of Land

Date Executed: April 18, 1980
Date Recorded: May 27, 1980
Document Number: 4564706

Deed 8/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders, Inc.**

Grantor(s): (Seller) **Lakeview Realty, Inc.**

Conveys: Parcel of Land

Date Executed: October 18, 1972
Date Recorded: October 30, 1972
Document Number: 3979947

Deed 9/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders, Inc.**

Grantor(s): (Seller) **Lakeview Realty, Inc.**

Conveys: Parcel of Land

Date Executed: October 10, 1972
Date Recorded: October 27, 1972
Document Number: 3979945

Deed 10/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Lakeview Realty, Inc.**

Grantor(s): (Seller) **JWK Investments Inc.**

Conveys: Parcel of Land

Date Executed: November 30, 1963
Date Recorded: October 30, 1972
Document Number: 3979944

Deed 11/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Lakeview Realty, Inc.**

Grantor(s): (Seller) **Skyline Builders Inc.**

Conveys: Parcel of Land

Date Executed: November 1, 1971
Date Recorded: November 19, 1971
Document Number: 3918040

Deed 12/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Skyline Builders Inc.**

Conveys: Parcel of Land

Date Executed: November 1, 1971
Date Recorded: November 19, 1971
Document Number: 3918039

Deed 13/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Skyline Builders Inc.**

Conveys: Parcel of Land

Date Executed: November 10, 1971
Date Recorded: November 11, 1971
Document Number: 3916600

Deed 14/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders, Inc.**

Grantor(s): (Seller) **Garfield, Inc.**

Conveys: Parcel of Land

Date Executed: December 30, 1968
Date Recorded: January 5, 1970
Document Number: 3814138

Deed 15/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **Skyline Builders, Inc.**

Conveys: Parcel of Land

Date Executed: August 29, 1967
Date Recorded: October 31, 1967
DBV/PG: 2609/598

Deed 16/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders Inc.**

Grantor(s): (Seller) **Lakeview Realty Inc.**

Conveys: Parcel of Land

Date Executed: October 1, 1966
Date Recorded: June 1 1967
DBV/PG: 2588/596

Deed 17/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders Inc.**

Grantor(s): (Seller) **J W K Investments Inc.**

Conveys: Parcel of Land

Date Executed: October 10, 1963
Date Recorded: June 1, 1967
DBV/PG: 2588/593

Deed 18/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Skyline Builders Inc.**

Grantor(s): (Seller) **Lakeview Realty Inc.**

Conveys: Parcel of Land

Date Executed: October 1, 1966
Date Recorded: June 1, 1967
DBV/PG: 2588/590

Deed 19/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Lakeview Realty Inc.**

Grantor(s): (Seller) **Roger H Scherer and Irene H. Scherer**

Conveys: Parcel of Land

Date Executed: September 27, 1966
Date Recorded: September 28, 1966
DBV/PG: 2561/505

Deed 20/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Lakeview Realty Inc.**

Grantor(s): (Seller) **Garfield, Inc.**

Conveys: Parcel of Land

Date Executed: December 24, 1964
Date Recorded: December 30, 1965
DBV/PG: 2530/94

Deed 21/Parcel No. 07-029-24-41-0064

Grantee(s): (Buyer) **Garfield, Inc.**

Grantor(s): (Seller) **City of Robbinsdale**

Conveys: Parcel of Land

Date Executed: December 23, 1964
Date Recorded: July 7, 1965
DBV/PG: 2500/208

Public records on the subject real property identified above revealed the following information effective to May 10, 2023:

Subject Property Description

Location: **Hennepin County**

Land/Description: Parcel of Land
Parcel No.07-029-24-41-0063

Deed1/Parcel No. 07-029-24-41-0063

Grantee(s): (Buyer) **City of Robbinsdale**

Grantor(s): (Seller) **State of Minnesota**

Conveys: Parcel of Land

Date Executed: May 28, 1965
Date Recorded: September 22, 1971
Document Number: 3907660

Note: Copy attached as Exhibit "B".

Deed2/Parcel No. 07-029-24-41-0063

Grantee(s): (Buyer) **Richard Linn and Barbara Ann Linn**

Grantor(s): (Seller) **James H. Bartlett and Blanche O. Bartlett**

Conveys: Parcel of Land

Date Executed: September 3, 1957
Date Recorded: September 18, 1957
DBV/PG: 376/115

Deed3/Parcel No. 07-029-24-41-0063

Grantee(s): (Buyer) **James H. Bartlett and Blanche O Bartlett**

Grantor(s): (Seller) **State of Minnesota**

Conveys: Parcel of Land

Date Executed:	July 20, 1950
Date Recorded:	July 20, 1950
DBV/PG:	1857/48

Historical Information Gatherers

Examiner's Note

Public Records of Hennepin County, Minnesota were searched from January 1, 1940 to May 10, 2023. No other deeds vesting title in the subject property were found of record during the period searched.

Environmental Liens

Public Records of Hennepin County, Minnesota were searched from January 1, 1940 to May 10, 2023. No environmental liens on the subject property were found of record during the period searched.

Activity or Use Limitations

Public Records of Hennepin County, Minnesota were searched from January 1, 1940 to May 10, 2023. No activity or use limitations on the subject property were found of record during the period searched.

Easements

Public Records of Hennepin County, Minnesota were searched from January 1, 1940 to May 10. 2023. No easements on the subject property were found of record during the period searched.

Legal Description

Legal description included on Exhibit "A".

DISCLAIMER

EXHIBIT A

2008—Warranty Deed.
Individual to Corporation.

4665830

Form No. 3

Walter S. Booth & Son, Minneapolis
Minnesota Uniform Conveyancing Blanks

This Indenture, *Made this* 27th *day of* July, *19* 81,
between Ssof Investment Company, a Minnesota Limited Partnership

of the County of Hennepin *and State of* Minnesota,
part y *of the first part, and* City of Robbinsdale, a municipal
corporation *under the laws of the State of* Minnesota, *party of the second part,*

Witnesseth, *That the said part* y *of the first part, in consideration of the sum of* ($1.00) One Dollar and other good and valuable consideration *DOLLARS,*
to it *in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, do* es *hereby Grant, Bargain, Sell, and Convey unto the said party of the second part, its successors and assigns, Forever, all the tract* *or parcel* *of land lying and being in the County of* Hennepin *and State of Minnesota, described as follows, to-wit:*

That part of the Southeast 1/4 of the Southeast 1/4 of the Section 7, Township 29, Range 24, described as follows: Beginning at a point on the South line of said Southeast 1/4 of the Southeast 1/4, distant 552.85 feet West from the Westerly right-of-way line of the Great Northern Railroad Company, as measured along said South line, thence North 3°52' East 385 feet, thence North 3°08' West 550 feet, thence North 77°22'02" East 100.41 feet; thence North 21°20' West 45 feet thence on a tangential curve to the right concave to the Southwest, having a radius of feet 50 for a distance of 225.55 feet, thence North 68°40' East 100.12 feet to the said Westerly right-of-way line of the Great Northern Railroad Company, thence Northwesterly along said Westerly right-of-way line to the North line of said Southeast 1/4 of Southeast 1/4, thence West along the North line thereof to the East line of the West 250 feet of said Southeast 1/4 of Southeast 1/4, thence South along said last described line to the South line of said Southeast 1/4 of the Southeast 1/4, thence East along said South line to the point of beginning.

(For the purpose of this description the South line of the Southeast 1/4 of the Southeast 1/4 is deemed to have a bearing of South 89°21' East;)

To Have and to Hold the Same. *Together with all the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, to the said party of the second part, its successors and assigns, Forever. And the said* Ssof Investment Company
part y *of the first part, for* itself, its *heirs, executors and administrators, do* es *covenant with the said party of the second part, its successors and assigns, that* it is *well seized in fee of the lands and premises aforesaid, and ha* s *good right to sell and convey the same in manner and form aforesaid, and that the same are free from all incumbrances,*

And the above bargained and granted lands and premises, in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against all persons lawfully claiming or to claim the whole or any part thereof, subject to incumbrances, if any, hereinbefore mentioned, the said part of the first part will Warrant and Defend.

In Testimony Whereof, *The said part* y *of the first part ha* s *hereunto set* its *hand the day and year first above written.*

Ssof Investment Company by
and through Ssof, Inc., its
general partner

By _____
Its

By _____
Its

NO CORP. SEAL

4 665 830

AUG. 20, 1981

$31.00-44-44-CC

EXHIBIT B

STATE DEED NUMBER 125933.

Department of Taxation - Form No. 966 (Public Use) **3907660**

STATE OF MINNESOTA

DEPARTMENT OF TAXATION

CONVEYANCE OF FORFEITED LANDS

(Issued pursuant to Minnesota Statutes, Section 282.01, Subdivision 1)

THIS INDENTURE, made this 28th day of May 1965, between the State of Minnesota, as party of the first part, and City of Robbinsdale, a Municipal Corporation, as party of the second part, WITNESSETH:

WHEREAS, the land hereinafter described was duly forfeited to the State of Minnesota for the non-payment of taxes, and,

WHEREAS, pursuant to Minnesota Statutes Section 282.01, Subdivision 1, the party of the second part has applied to the Commissioner of Taxation for the conveyance of lands hereinafter described to be used by it exclusively for Storm Drainage and Park and Recreational Purposes, and,

WHEREAS, the Board of County Commissioners of the County of Hennepin, State of Minnesota, has recommended to the Commissioner of Taxation by resolution adopted on the 18th day of May 1965, that such conveyance be made,

NOW, THEREFORE, The State of Minnesota, pursuant to said laws and in consideration of the premises, does hereby grant, bargain, sell and convey unto the party of the second part, forever, all the tracts or parcels of land lying and being in the County of HENNEPIN, State of Minnesota, described as follows, to-wit:

Lots 1 thru 15 inclusive, Block 19, Crystal Lake Heights - 48440. And. . . Lots 1 thru 4, and 15 thru 26 inclusive, Block 1, Manitoba Park - 48840.

TO HAVE AND TO HOLD THE SAME, together with all the hereditaments and appurtenances thereunto belonging or in anywise appertaining, to the said party of the second part so long as it shall continue to use said land for the purposes aforesaid, and upon condition that if such use shall cease said land shall revert to the party of the first part as provided by law. No deed tax will be payable on this conveyance.

IN TESTIMONY WHEREOF, the State of Minnesota, party of the first part, has caused this deed to be executed in its name in the City of St. Paul, Ramsey County, Minnesota, the day and year first above written.

In presence of:

Kathleen Sundquist

Richard Ruegen

STATE OF MINNESOTA

ROLLAND F. HATFIELD
Commissioner of Taxation

By Arthur C. Roemer

STATE OF MINNESOTA }
County of Ramsey } ss.

On this 28th day of May, 1965, before me personally appeared ARTHUR C. ROEMER, acting for the Commissioner of Taxation of the State of Minnesota, under delegation of authority duly filed with the Secretary of State, to me known to be the person who executed the foregoing conveyance in behalf of the State of Minnesota, and acknowledged that he executed the same as the free act and deed of said state pursuant to the statutes in such case made and provided.

Alice E. Anderson

ALICE E. ANDERSON,
Notary Public, Ramsey County, Minn.
My Commission Expires Jan. 6, 1966

June 1 Ave - Golf Course

3907660

No. 125933

STATE DEED

Under Minnesota Statutes, Section 282.01, Subdivision 1.

STATE OF MINNESOTA

SEP 22-71 7660 TO $ 002.00 A

C/

Lots 1 through 15 inclusive, Block 19, Crystal Lake Hgts. 48840. And Lots 1 through 4 and 15 through 26 inclusive, Block 1, Manitoba Park, 48840.

TAXES CANCELLED AS PER CHAP. 278 & 385, '35 LAWS AND TRANSFER ENTERED.
SEP 22 1971
DEPT. OF FINANCE
HENNEPIN COUNTY MINN.
BY

OFFICE OF REGISTER OF DEEDS

STATE OF MINNESOTA, County of HENNEPIN } ss.

I hereby certify that the within Deed was filed in this office for record on the 22 day of SEP, A. D. 1971, at 10 o'clock A M., and was duly recorded in Book 71 of Deeds, on page 3907660

HENNEPIN CO. RECORDS

Register of Deeds.

By Deputy.

THIS INSTRUMENT PREPARED BY
PETER J. RUFFENACH, ATTY.
3770 West Broadway
Minneapolis, Minn. 55422
Phone: 588-0554

Box 256

THIS INSTRUMENT PREPARED BY
PETER J. RUFFENACH, ATTY.
3770 West Broadway
Minneapolis, Minn. 55422
Phone: 588-0554

Box 256

Building Records

EXCAVATION PERMIT APPLICATION

DATE JULY 14, 1969

ORDINANCE

1. Name of applicant Universal Sales, Inc. (3 - 602)
2. Location of work to be done 26th Ave. and Dresden Lane (3 - 602)

   Purpose of work to be done Residential developement (3 - 602)

   Area of work to be done 1000 ft. x 500 ft. plus or minus (3 - 602)

   Depth & grade of work to be done to railroad elevation (3 - 602)

   Estimated quantity of materials to be removed or filled _____ (3 - 602)

   Route of travel through Golden Valley (3 - 602)

   Time that work will begin Immediately (3 - 602)

   Time of completion ~~One year~~ ~~XXXX~~ five years (3 - 602)
3. General description of grading or excavating to be covered by permit

   Filling all the stable and buildable land abutting the Great Northern railroad tracks north of 26th Ave. (3 - 602)
4. Surety bond or cash deposit with the City to pay the city for any extraordinary expense None (3 - 604)
5. The City Councils' prerequisites and conditions _____ (3 - 603)
6. Permit fee $2.00 Paid 7/14/69 (3 - 602)
7. ~~XXXX~~ signed W. Keeper Ass't (paid) Wm H Cavanaugh (Inspector)
8. Date of City Council's approval July 14, 1969

CITY OF ROBBINSDALE
4145 HUBBARD AVENUE
ROBBINSDALE, MINNESOTA 55422

No. 1835

2 Fill Permits	4.00
1 Rezoning Permit	40.00
JUL 14-69 PAID Cofr 01 021 ****44.00	
	44.00

NAME: Universal Sales

ADDRESS:

BY

RECEIPT

5M GP

UNIVERSAL SALES, INC.

Phone 781-4108

3647 McKinley Street N. E.
MINNEAPOLIS, MINNESOTA 55418

July 1, 1970

Mr. Robert Cook, Engineer
City of Robbinsdale
4145 Hubbard Avenue
Robbinsdale, Minnesota 55422

Dear Sir:

Thank you for your letter of June 29, 1970. I feel our meeting of June 30th illuminates the revocation and we agree to comply with your suggestions:

1. Don't expand the Milrock site any larger with fill.
2. Clean out the culvert for proper drainage on the Milrock addition.
3. Continue all future fill along June towards 35th Avenue North per zoning plan est. 200 ft East from center line of June.
4. Use only good fill from construction and road rebuilding sites.

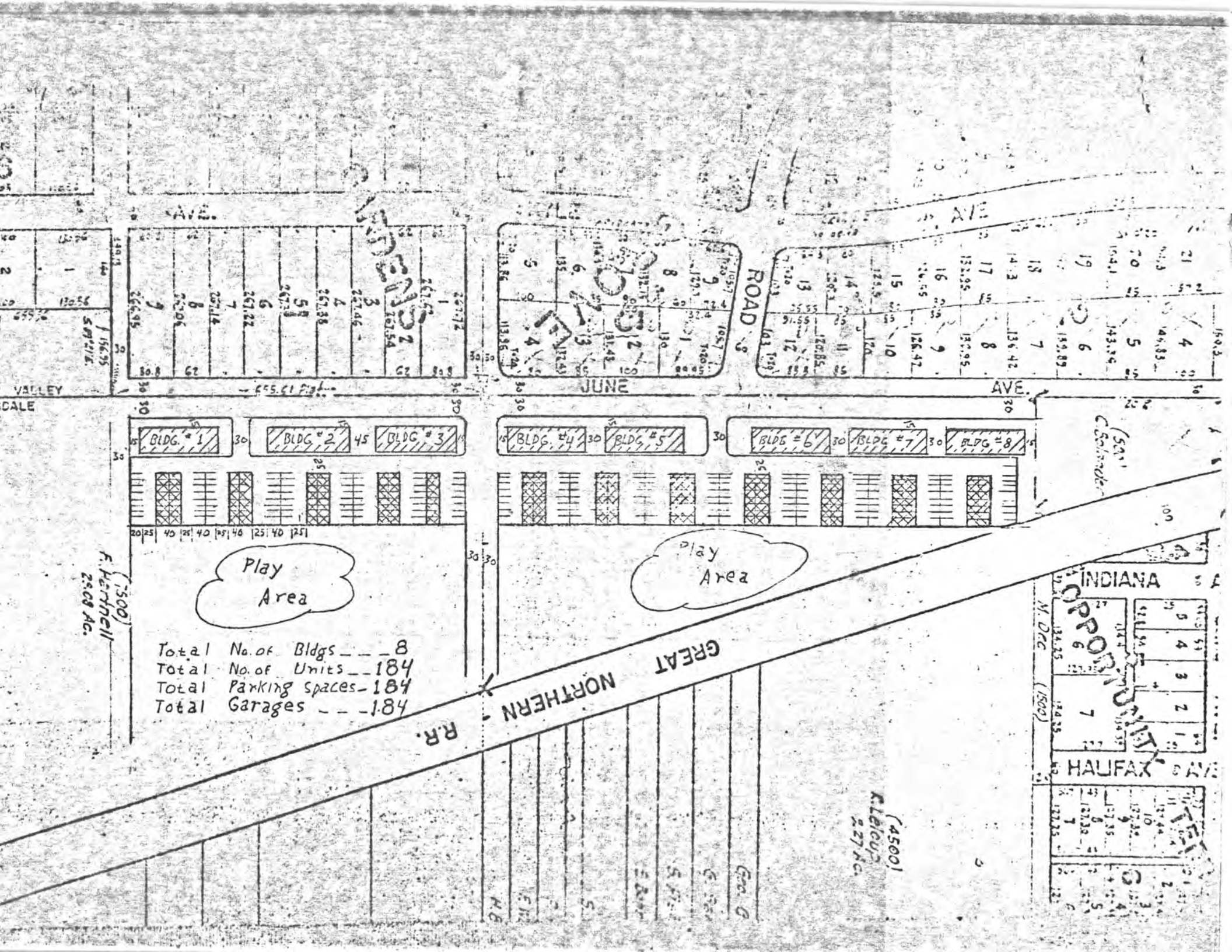
I feel a periodic check and review of our operations can be handled by phone and as soon as our fill operation is far enough along we will furnish you with a topog and proposed plan for the whole site so we can work out something that will be satisfactory to every one concerned.

Thank you.

Sincerely,

W. C. Keefer, President
Universal Sales, Inc.

WCK:lp


BLDG. #1
BLDG. #2
BLDG. #3
BLDG. #4
BLDG. #5
BLDG. #6
BLDG. #7
BLDG. #8
Play Area
Play Area
Total No. of Bldgs ___ 8
Total No. of Units __ 184
Total Parking Spaces - 184
Total Garages ___ 184
GREAT NORTHERN R.R.
JUNE AVE.
INDIANA
HALIFAX
VALLEY

The City of Robbinsdale

4145 HUBBARD AVENUE • ROBBINSDALE, MINNESOTA 55422 • 537-4534

July 1, 1970

Mr. William Keefer
Skyline Builders
3647 McKinley St. N. E.
Minneapolis, Minnesota 55418

Subject: Filling Operations

Dear Mr. Keefer:

1. Reference: Meeting 30 June 1970 between Mr. Keefer and Mr. Cook, Robbinsdale City Engineer.

2. To avoid a misunderstanding I am listing herein the points discussed in referenced meeting and the tentative agreements reached.

   a. Drainage - All culverts will be excavated to allow uninterrupted flow. The culvert opposite 27th Avenue will be opened at both ends with a backhoe and the ponding area eliminated. Pending completion of proposed connection of the south and north ponding areas east of the Burlington Railroad tracks by the City of Robbinsdale. The present culvert will be retained. Should this plan not be completed you will be directed to provide a full size culvert across your fill area.

   b. Encroachment on Ponding Area - No further filling operations will be conducted on the south fill site which extend the area of the fill. The conditions of the fill permit have been complied with and no further extension in area will be permitted. It is understood that some clean dirt fill will be added to improve the appearance of the edge of the fill. We have been unable to support your contention that an agreement was made with the Robbinsdale City Council to allow filling along June Avenue out to the remnants of the fence, a distance of approximately 200' from the City limits. Until the existence of such an agreement can be proved, you are instructed not to extend this fill farther to the east.

   c. Solid Wastes - Filling with solid waste will not be permitted. However, it was agreed that a two day grace period will be allowed for implementation of this provision, this material must not exceed 5% of the loads during the "grace" period.

   d. Dust - The haul road will be adequately oiled to provide dust control.

3. Please note that any decision to reinstate your fill permit must be made by the Robbinsdale City Council.

CITY OF ROBBINSDALE
Zoning Ordinance Application

Date July 14, 1969

Street Location of Property Dresden Lane north of 26th Ave. extended

Legal Description of Property Part of parcel 7500

OWNER: Universal Sales, Inc. (name) 3647 McKinley (address) Mpls. St. 1-3184 (phone)

APPLICANT: Same (name) (address) (phone)

Type of Request: X Rezoning ____ Special Use Permit ____ Other ____
Variance ____ Subdivision Approval

Description of Request: Rezone from Residential R-2 to Multible residential R-3

(Special use permits if required to be taken out at a later date)

Reason for Request: To make fill operation economical

NOTE - Sketch of proposed property and structure to be drawn on back of this form or attached.

(applicant)

Fee: $ 40.00 - Rl. #1835

(owner)

Please draw or attach a sketch of the proposed structure showing the following:

1. Indicate North
2. Location on Lot
3. Adjacent Street Names
4. Location set-backs and use of adjacent existing building
5. Distances between any proposed structures and structures on adjacent property
6. Dimensions of Proposed Structure
7. Proposed set-back
8. State Zoning in force in area concerned

(To be filled in by Planning Commission)

PLANNING COMMISSION RECOMMENDATIONS

On the ____ day of ____, 19____, the action requested in the foregoing petition was ( ) approved ( ) disapproved subject to the following conditions:

Chairman ____

Approved ____ Denied ____ by the City Council this ____ day of ____, 19____
Approved with following amendment ____

CITY OF ROBBINSDALE
4145 HUBBARD AVENUE
ROBBINSDALE, MINNESOTA 55422

№ 1835

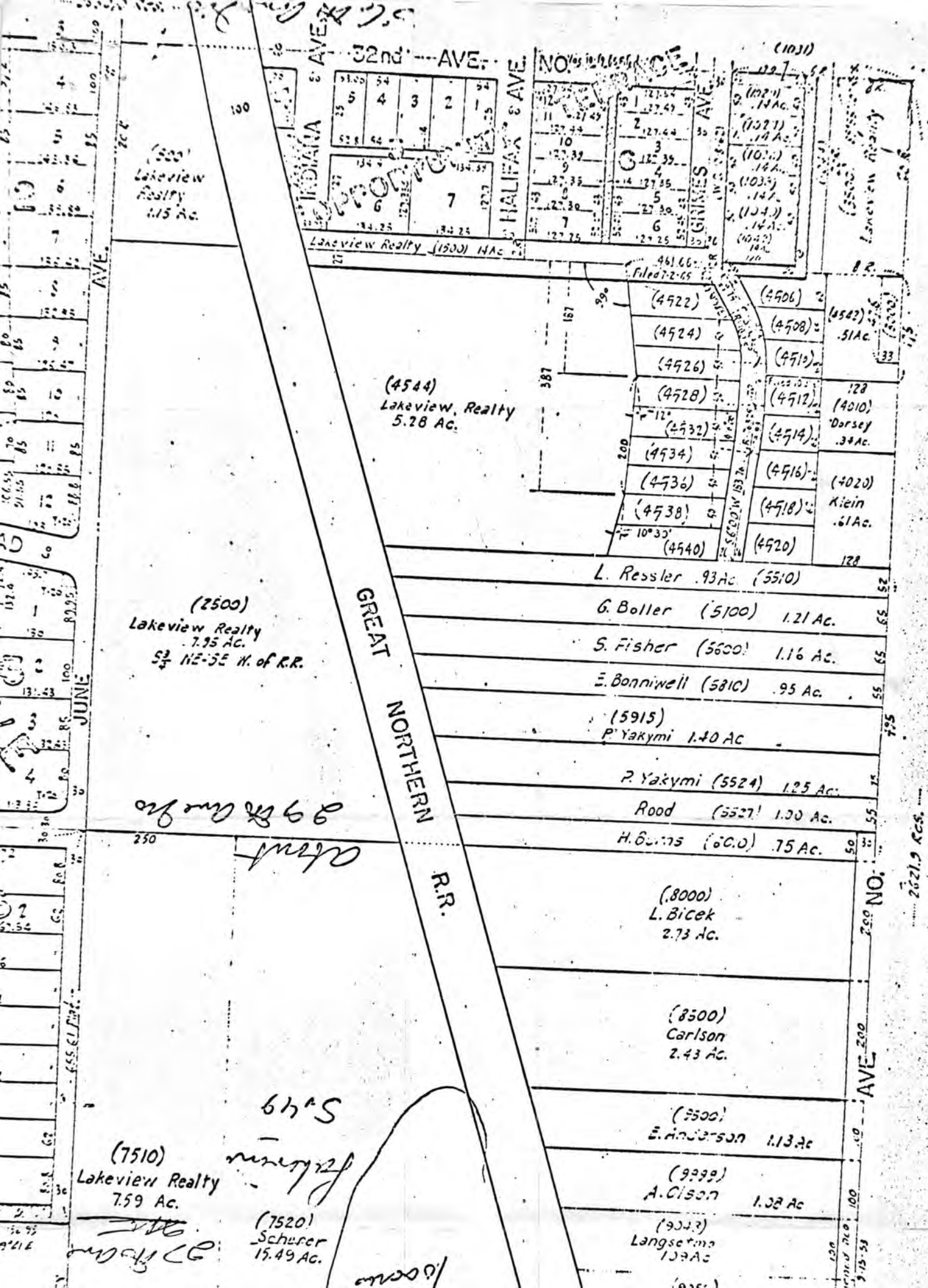
2 Fill Permits	4.00
1 Rezoning Permit	40.00
JUL 14-69 PAID CITY 01 021 5****44.00	
	44.00

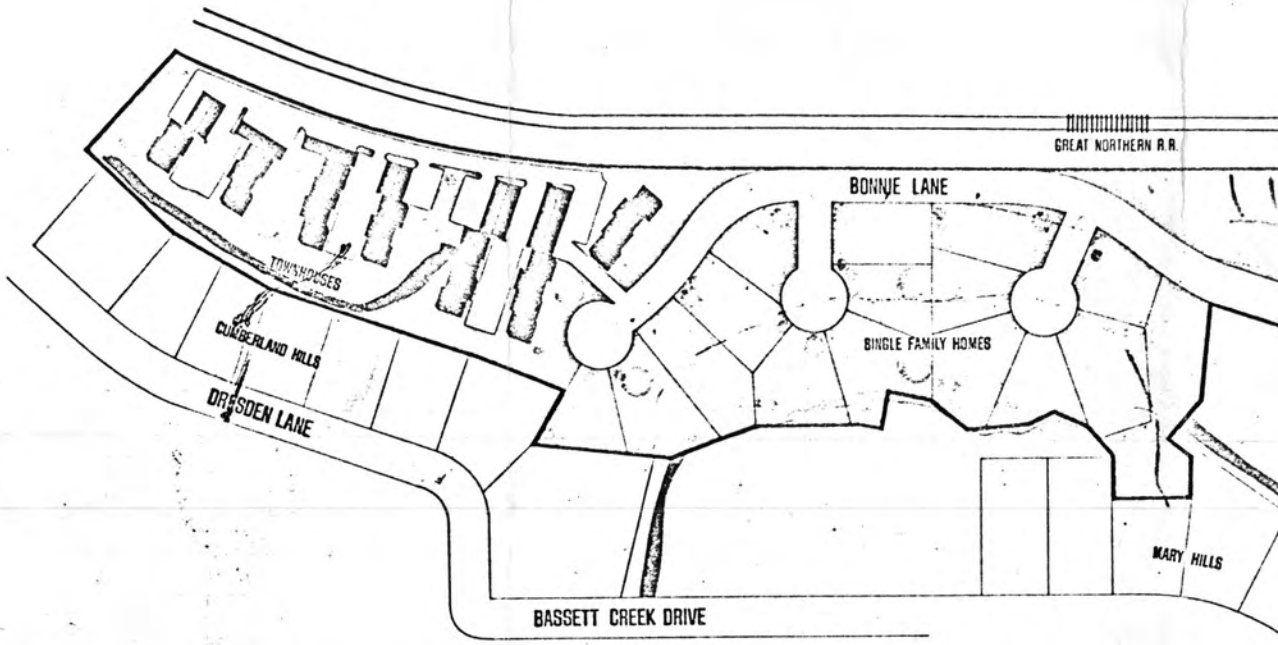
NAME	Universal Sales
ADDRESS	

BY

RECEIPT

5M GP


32nd AVE.
INDIANA AVE NO.
HALIFAX AVE NO.
GINKGO AVE
Lakeview Realty (1500) 1 Ac.
461.66
Filed 7-2-65
(4522)
(4524)
(4526)
(4528)
(4532)
(4534)
(4536)
(4538)
(4540)
(4506)
(4508)
(4510)
(4512)
(4514)
(4516)
(4518)
(4520)
(4542) .51Ac.
(4010) Dorsey .34Ac.
(4020) Klein .61Ac.
(4544) Lakeview Realty 5.28 Ac.
(500) Lakeview Realty 1.15 Ac.
(2500) Lakeview Realty 7.95 Ac. S½ NE-SE W. of R.R.
GREAT NORTHERN R.R.
JUNE AVE.
L. Ressler .93Ac. (5510)
G. Boller (5100) 1.21 Ac.
S. Fisher (5600) 1.16 Ac.
E. Bonniwell (5810) .95 Ac.
(5915) P. Yakymi 1.40 Ac
P. Yakymi (5524) 1.25 Ac.
Rood (5527) 1.00 Ac.
H. Burns (6000) .75 Ac.
(8000) L. Bicek 2.73 Ac.
(8500) Carlson 2.43 Ac.
(9500) E. Anderson 1.13 Ac
(9999) A. Olson 1.38 Ac
(9993) Langseth 1.33 Ac
(7510) Lakeview Realty 7.59 Ac.
(7520) Scherer 15.49 Ac.
SEC. 8; T. 29, R. 24


GREAT NORTHERN R.R.
BONNIE LANE
TOWNHOUSES
CUMBERLAND HILLS
DRESDEN LANE
SINGLE FAMILY HOMES
MARY HILLS
BASSETT CREEK DRIVE

NUMBER _____

EXCAVATION PERMIT APPLICATION

DATE ~~June~~ JULY 14, 1969

1. Name of applicant Universal Sales, Inc. ORDINANCE (3 - 602)
2. Location of work to be done 35th & Indiana Ave. No. (3 - 602)

Purpose of work to be done Residential developement (3 - 602)

Area of work to be done 260 ft. x 150 ft. + or - (3 - 602)

Depth & grade of work to be done 10 to 15 feet to railroad elevation (3 - 602)

Estimated quantity of materials to be removed or filled _____ (3 - 602)

Route of travel France to 35th to Indiana (3 - 602)

Time that work will begin Immediatly (3 - 602)

Time of completion October (3 - 602)

3. General description of grading or excavating to be covered by permit

Fill in the Vicinity of 35th and Indiana and north 260 feet. (3 - 602)

4. Surety bond or cash deposit with the City to pay the City for any extraordinary expense None (3 - 604)
5. The City Councils' prerequisites and conditions Cannot fill south of 34th Ave (3 - 603)
6. Permit fee $2.00 Paid 7/14/69 (paid) (3 - 602)
7. ~~XXXX~~ Signed _____ (Inspector)
8. Date of City Council's approval October 27, 1969.

George E. DeLay
(see attached)

Hold to see if NSP is acting on these stations here.

CITY OF ROBBINSDALE
4145 HUBBARD AVENUE
ROBBINSDALE, MINNESOTA 55422

No 1835

2 Fill Permits	4.00
1 Rezoning Permit	40.00
JUL 14-69 PAID CoFR 01 021 ****44.00	
	44.00

NAME: Universal Sales

ADDRESS:

BY

RECEIPT

5M GP

Memorandum

To: Planning Commission
From: Douglas R. Wiegand, Planning Coordinator
Date: December 7, 1977
Subject: Review and Discussion of Sketch Plan of Property Located South of 34th Avenue and Abutting June Avenue

Over the past several months staff has discussed development prospects and problems with the owner of property located south of 34th Avenue and abutting June Avenue. This particular property has a considerable history in recent years due to the various development problems associated with it, e.g. marginal soils, access, flood plain, utilities, etc. Most recently the owner of a major portion of the property, Skyline Builders, has been in contact with City staff to pursue development options. With the approval of the City Manager, the owner's representative intends to appear before the Planning Commission to present a preliminary, sketch plan for review and discussion. It should be specifically noted that this item is not a public hearing item nor shall it constitute in any form approval or recommendation of the sketch plan by the Commission.

At this time staff has not been provided with a copy of the sketch plan intended to be presented, so that consequently it is impossible to provide specific comments. However, as an aid to orienting yourself to the property--which is completely inaccessible for inspection at this time of year--I have attached maps and offer the following information:

Property Location: South of 34th Avenue located between June Avenue and the Burlington Northern Railroad tracks.

Property Ownership and Acreage:

City of Robbinsdale	9.49 acres
Skyline Builders	9.80 acres
Lakeview Realtors	11.74 acres
JWK Investment	2.45 acres
Total	33.48 acres

Existing Zoning: R-3, Medium Density Residential District and R-2, Single and Two Family Residential District.

Comprehensive Plan Recommendations: Low to medium density residential land use. Rezoning of R-3 to R-2, with potential development in the form of townhouses.

Development Considerations:

1. Accessibility. Only one access point through Robbinsdale (June Avenue). Other access must be provided through Golden Valley.

2. Utilities. Water and sewer must be extended considerable distance to service the area. Sanitary sewer facilities will require a lift station.

3. Flood Plain. Approximately 37.5% (12.58 acres) are contained in officially designated flood plain.

4. Adjacent development. Low density to medium density (single family) in both Golden Valley and Robbinsdale.

5. Multiple Ownership.

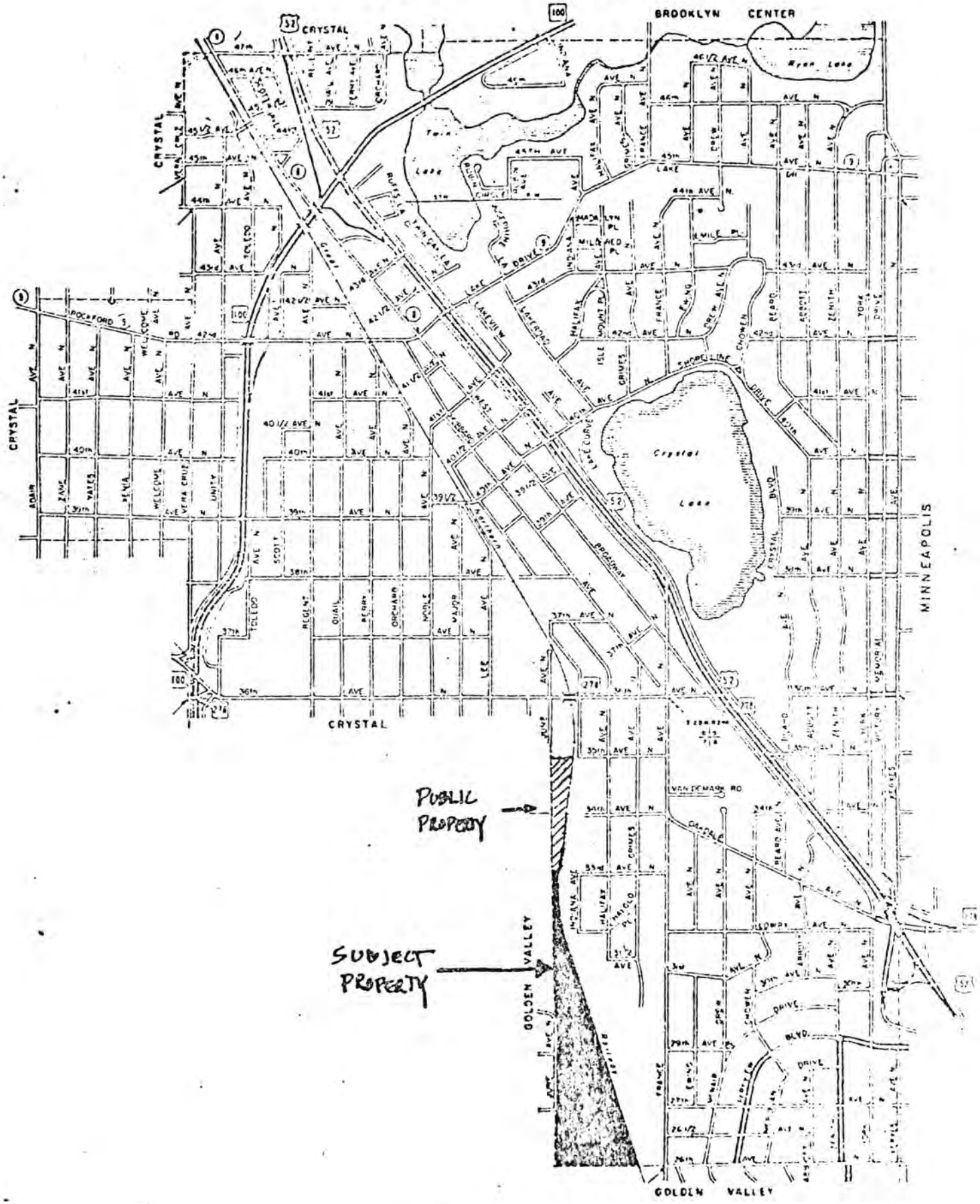
It should be noted that the following agencies or authorities will of necessity be involved with the formal review and approval of any development on the subject property: City of Robbinsdale, City of Golden Valley, Bassett Creek Flood Control Commission, and Minnesota Department of Natural Resources. It is also possible that environmental impact statements will need to be prepared and reviewed prior to any formal consideration of development in the area.

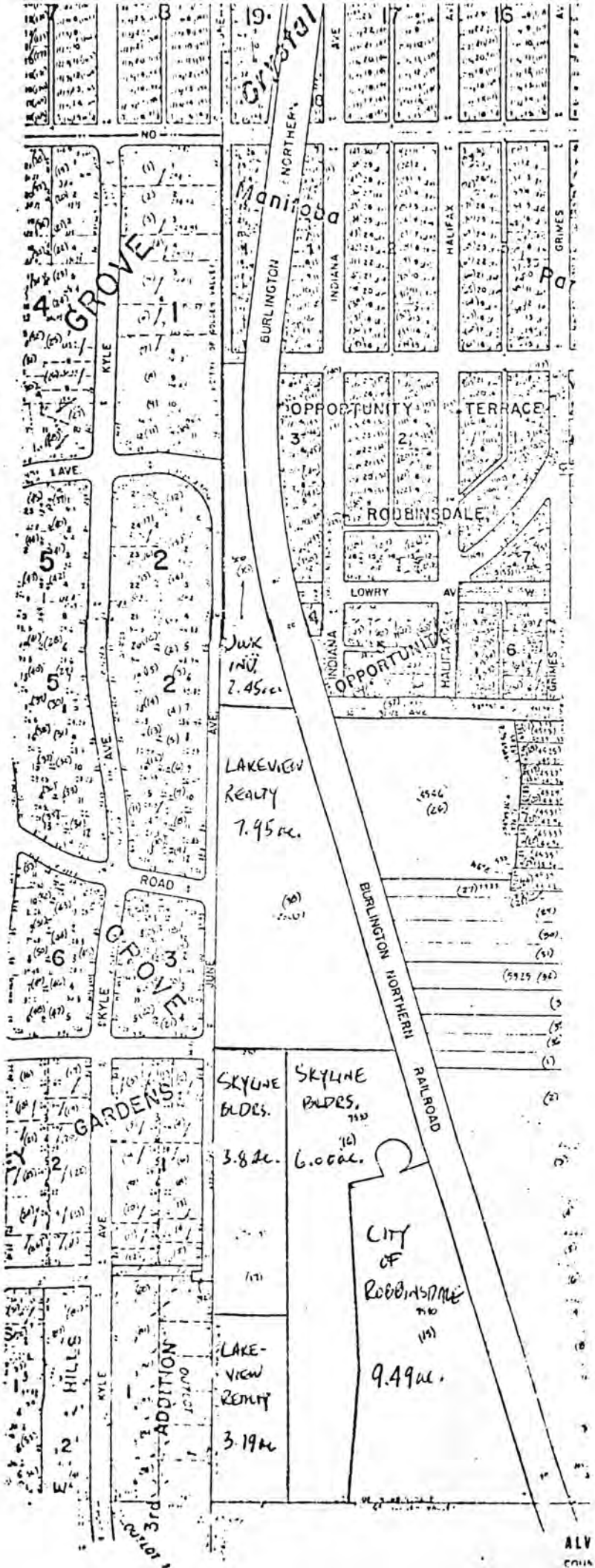
Quite succinctly, the subject property possesses considerable development problems which may either severely constrain or eliminate completely development possibilities. At this time sufficient detailed studies have not been undertaken to ascertain the exact degree of these problems. In terms of the discussion scheduled for December 15, it is not intended by staff that the Commission commit itself to any particular development plan or approach. The intention is only to allow an honest dialogue to occur between the Commission and owner regarding the general prospects and problems of development on the property. Because of the current and past considerations of acquisition of the subject property for park purposes by both the Cities of Robbinsdale and Golden Valley, as well as expressed sentiments by area residents regarding development of the property, staff offers the opinion that the applicant has a legitimate concern for ascertaining the probability of park development on the property prior to the expenditure of considerable sums in preparing development plans. For this reason, staff suggests orienting the discussion along lines of park use versus private development (including combined park and private development) rather than along lines of alternative private development patterns.

dr

CC: John Fischbach, City Manager
Skyline Builders

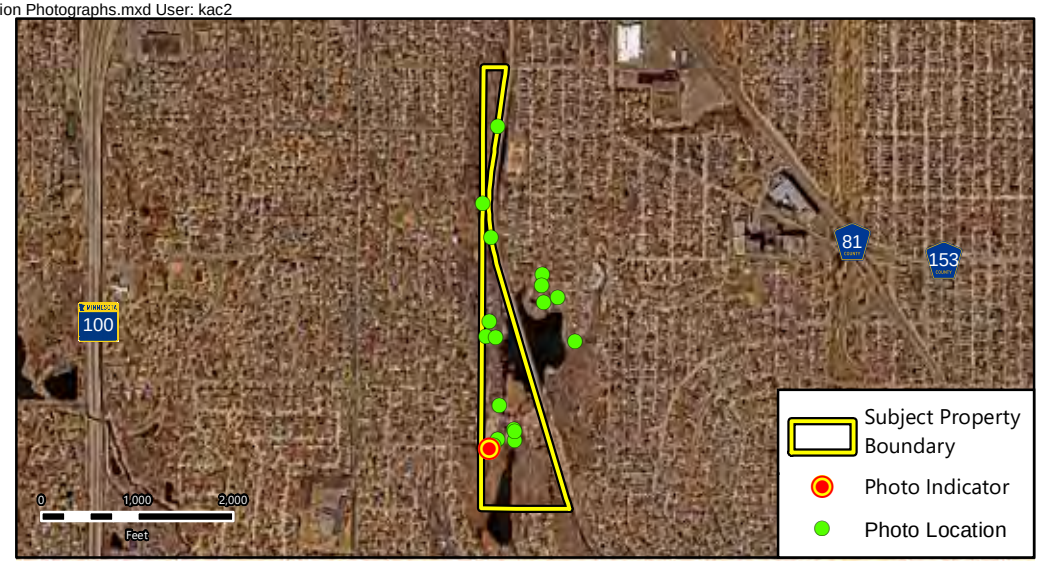
MUNICIPALITY OF
ROBBINSDALE

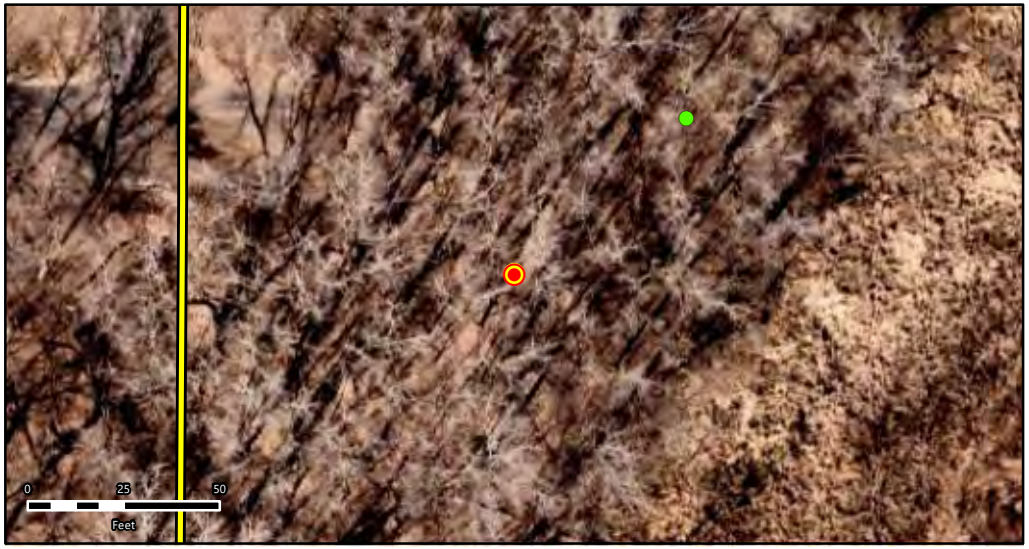



GROVE
KYLE
AVE.
ROAD
GROVE
KYLE
AVE
GARDENS
KYLE
AVE
HILLS
ADDITION
3rd
Manitoba
NORTHERN
BURLINGTON
INDIANA
HALIFAX
GRIMES
OPPORTUNITY
TERRACE
ROBBINSDALE
LOWRY
AVE
W
OPPORTUNITY
AVE
LAKEVIEW
REALTY
7.95 ac.
SKYLINE
BLDRS.
3.82 ac.
SKYLINE
BLDRS.
6.00 ac.
CITY
OF
ROBBINSDALE
9.49 ac.
LAKE-
VIEW
REALTY
3.19 ac.
BURLINGTON NORTHERN RAILROAD

Appendix F

Subject Property Inspection Photographs





Map 1 of 18

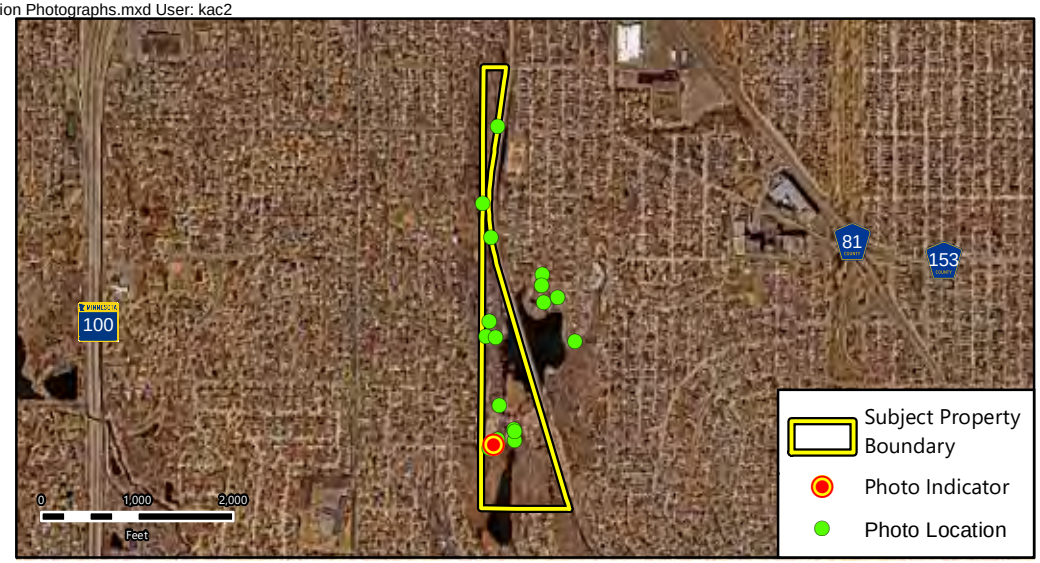
PROPERTY INSPECTION

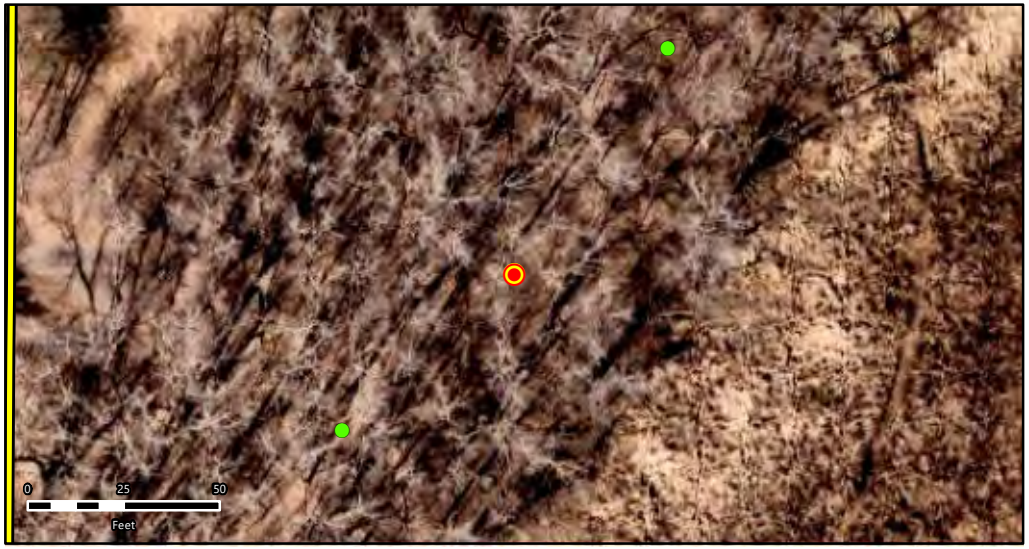
Phase I Environmental Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete & Asphalt Debris (N, E)





Map 2 of 18

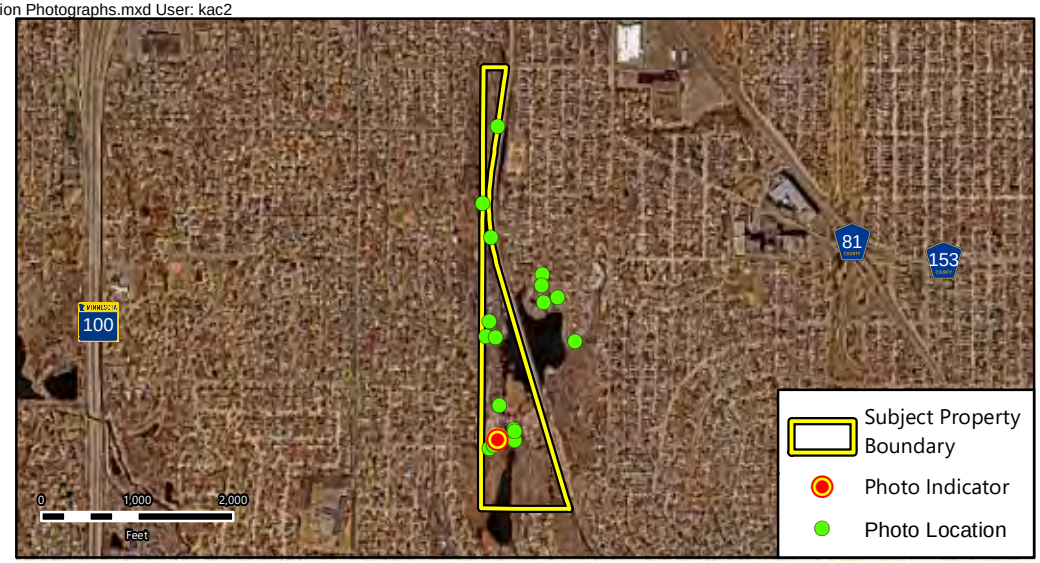
PROPERTY INSPECTION

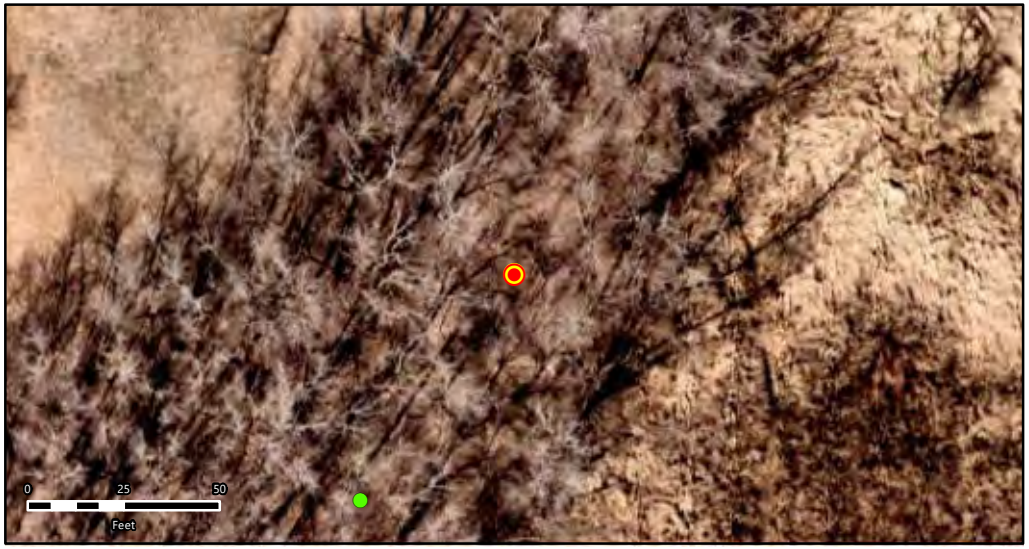
Phase I Environmental Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (N, E)





Map 3 of 18

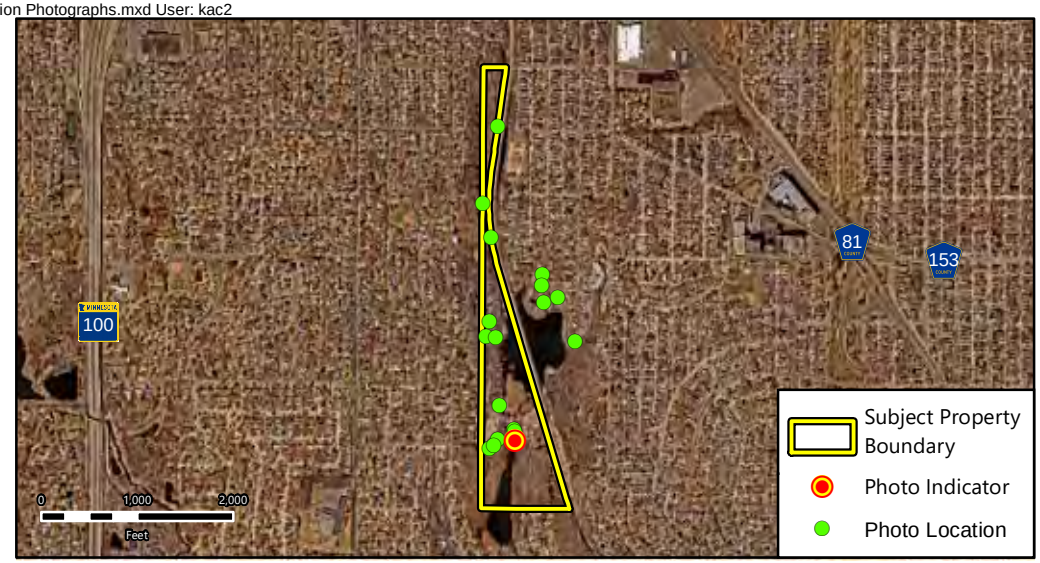
PROPERTY INSPECTION

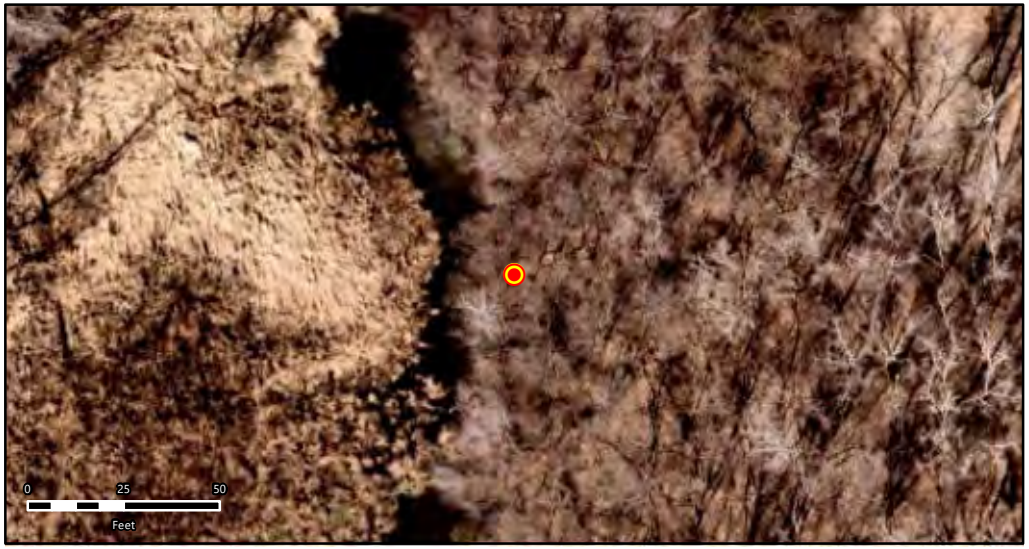
Phase I Environmental Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (E & N)





Map 4 of 18

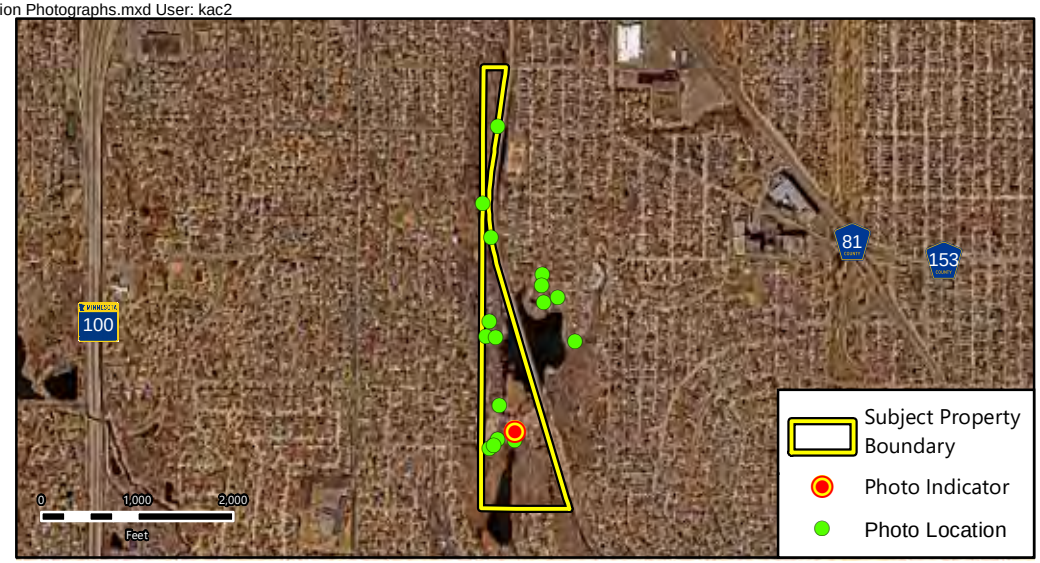
PROPERTY INSPECTION

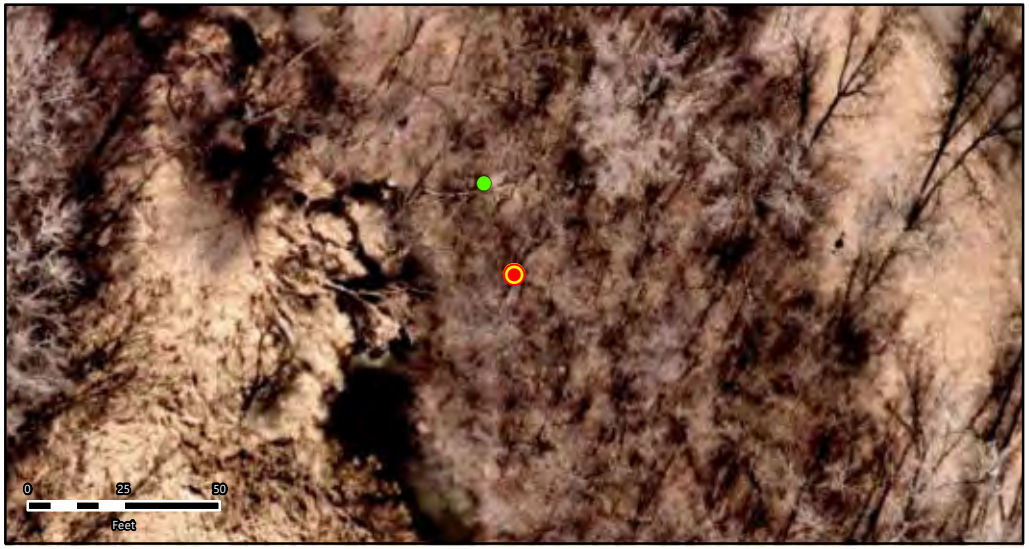
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (S, SW)





Map 5 of 18

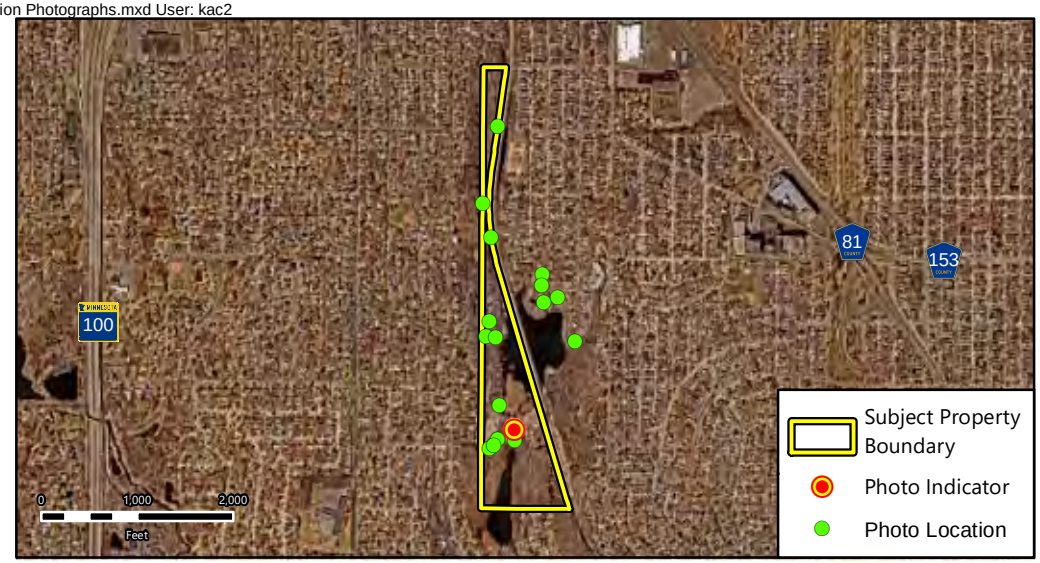
PROPERTY INSPECTION

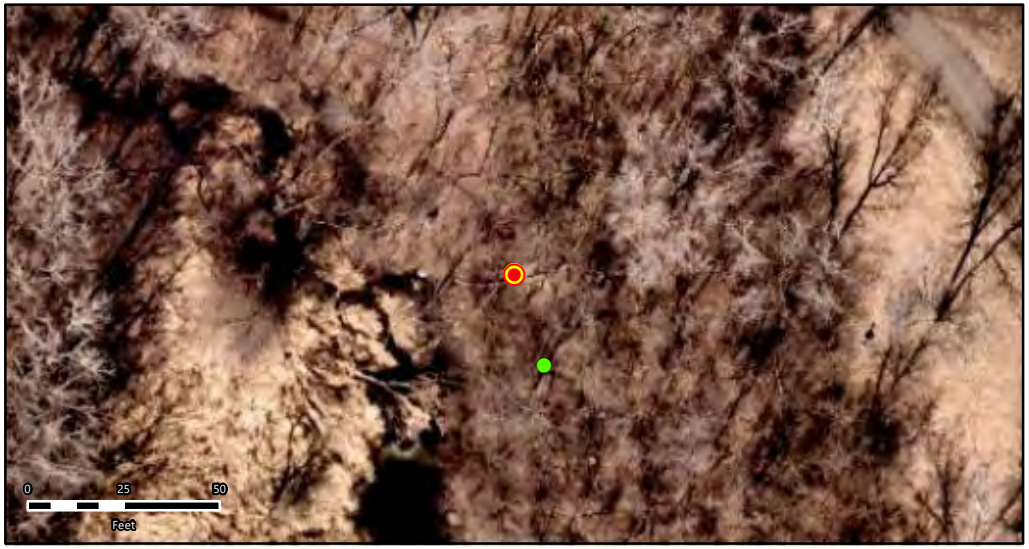
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (S, W)





Map 6 of 18

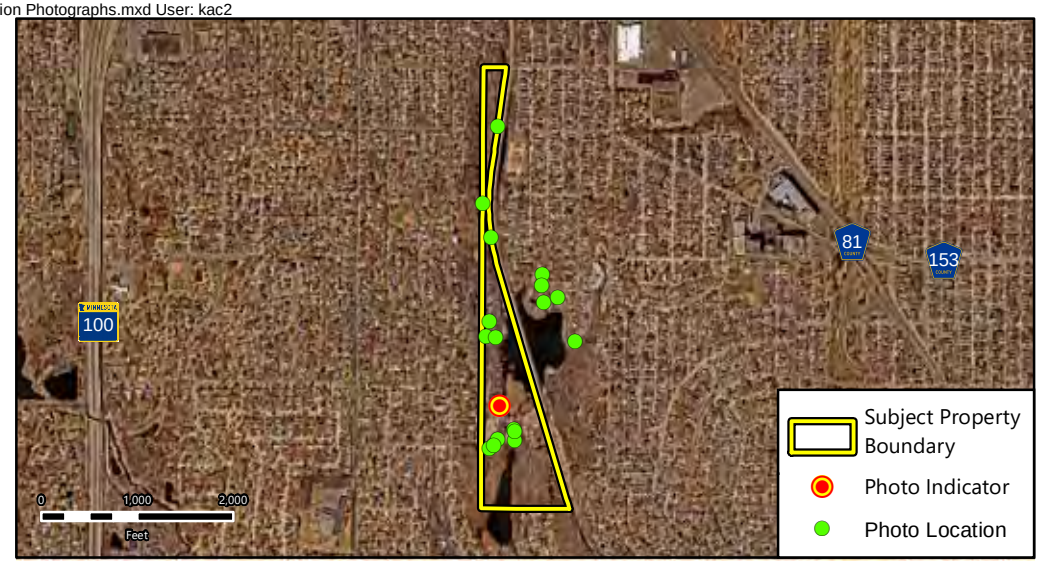
PROPERTY INSPECTION

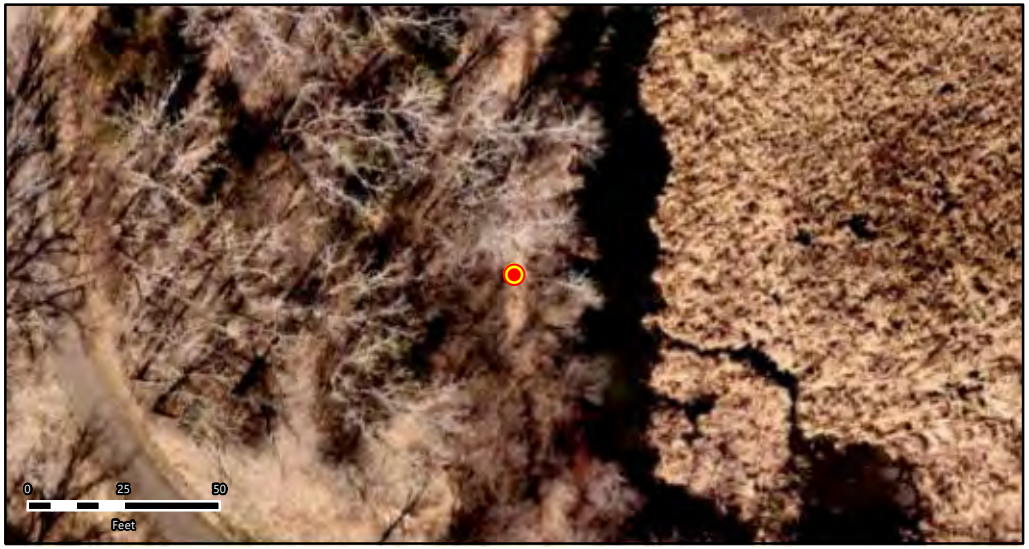
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (NE, SE)





Map 7 of 18

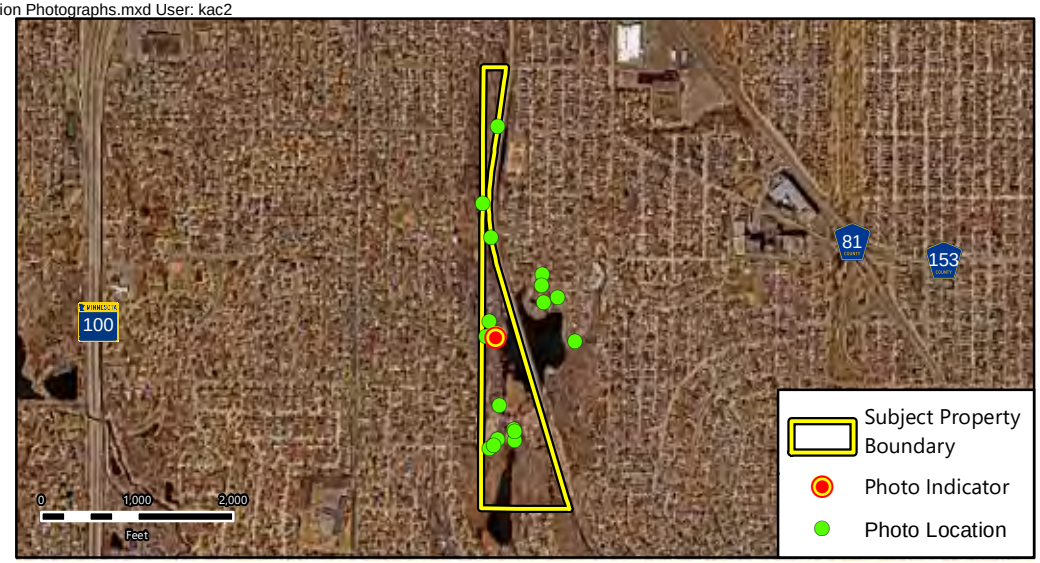
PROPERTY INSPECTION

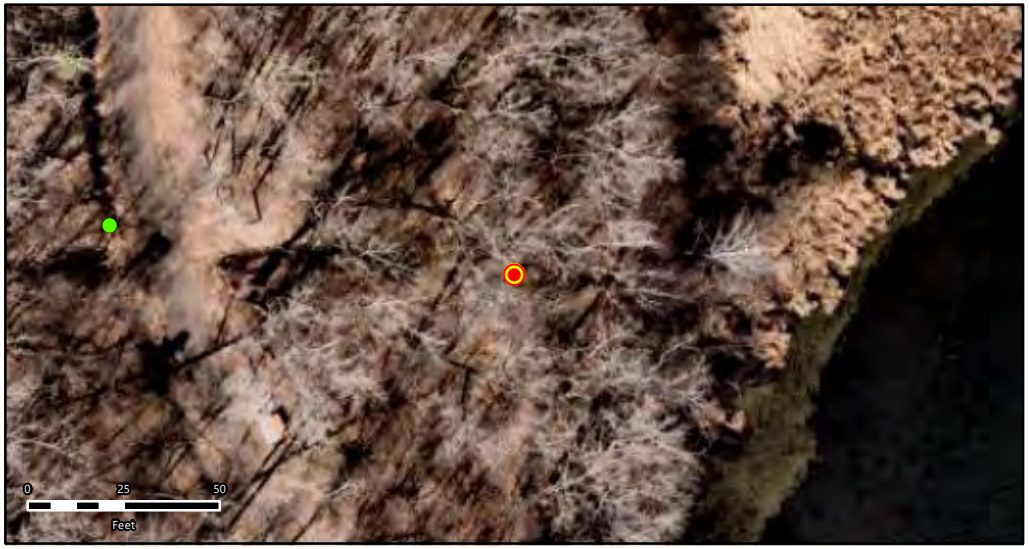
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (S, N)





Map 8 of 18

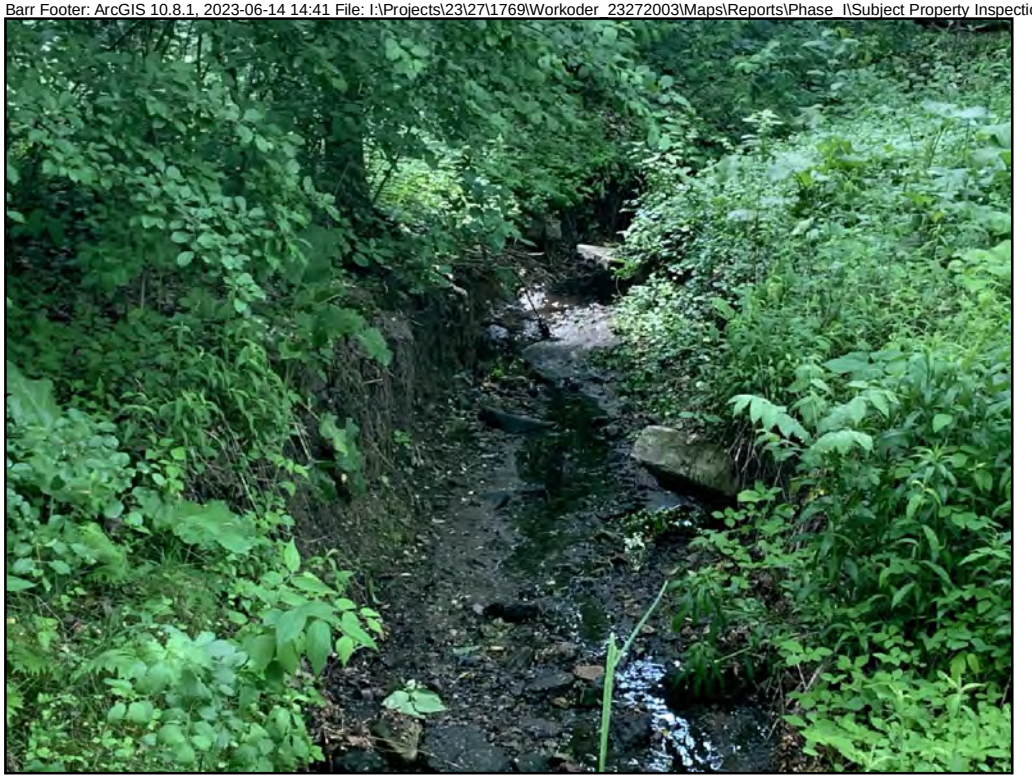
PROPERTY INSPECTION

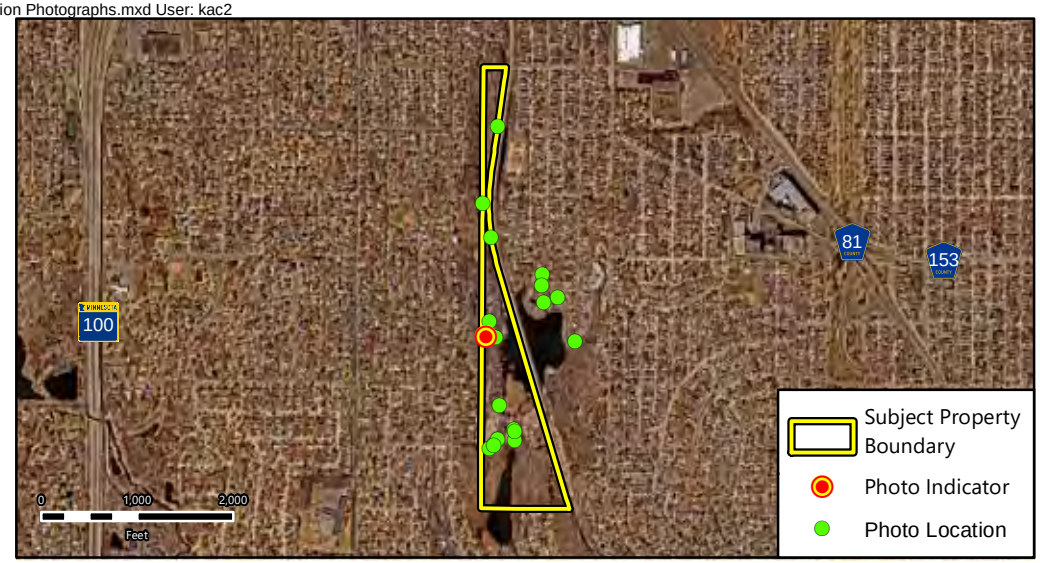
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

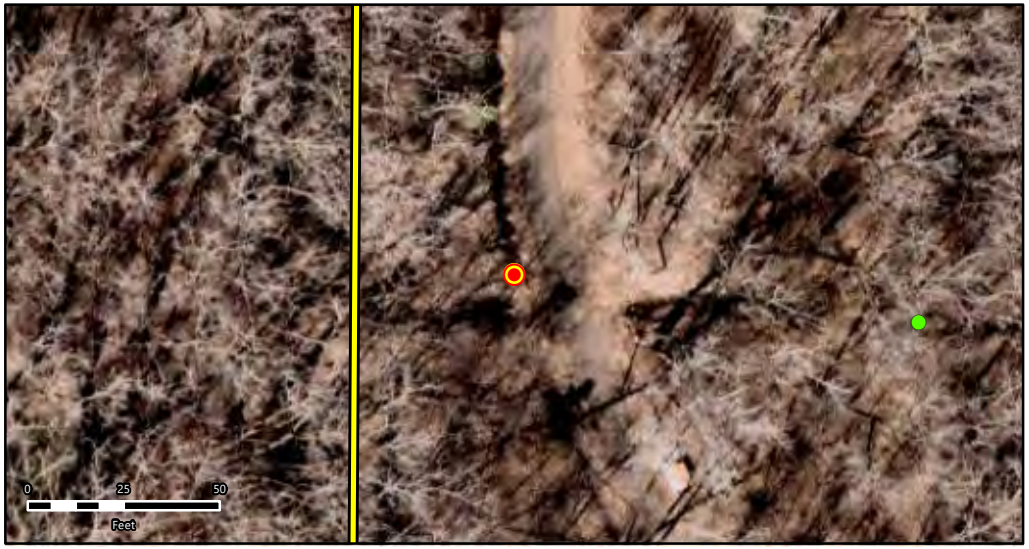
N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and Bituminous Asphalt Debris (N, NW)







Map 9 of 18

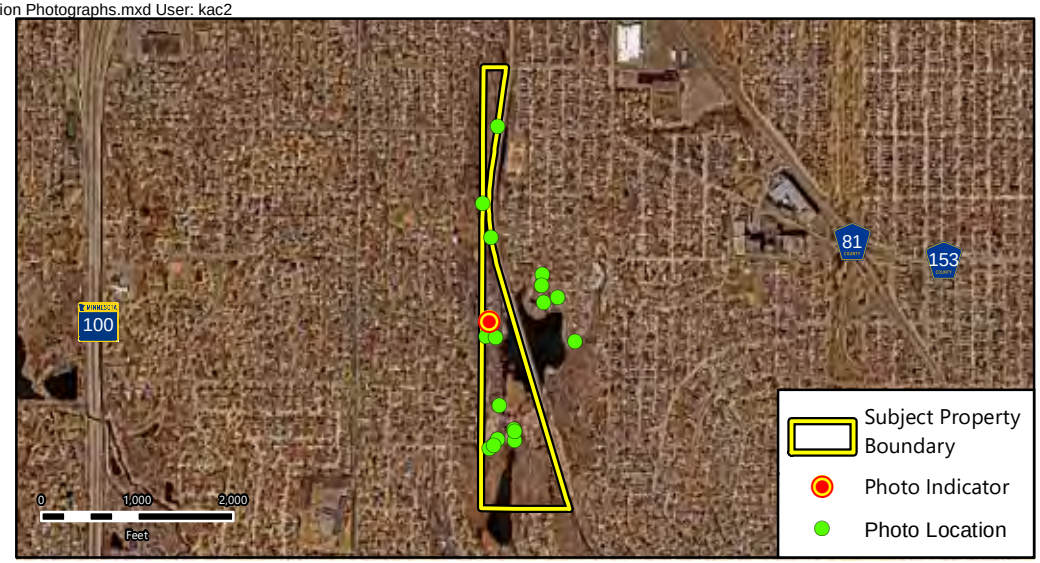
PROPERTY INSPECTION

Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete Debris (N), Walking Trail (S)



Map 10 of 18

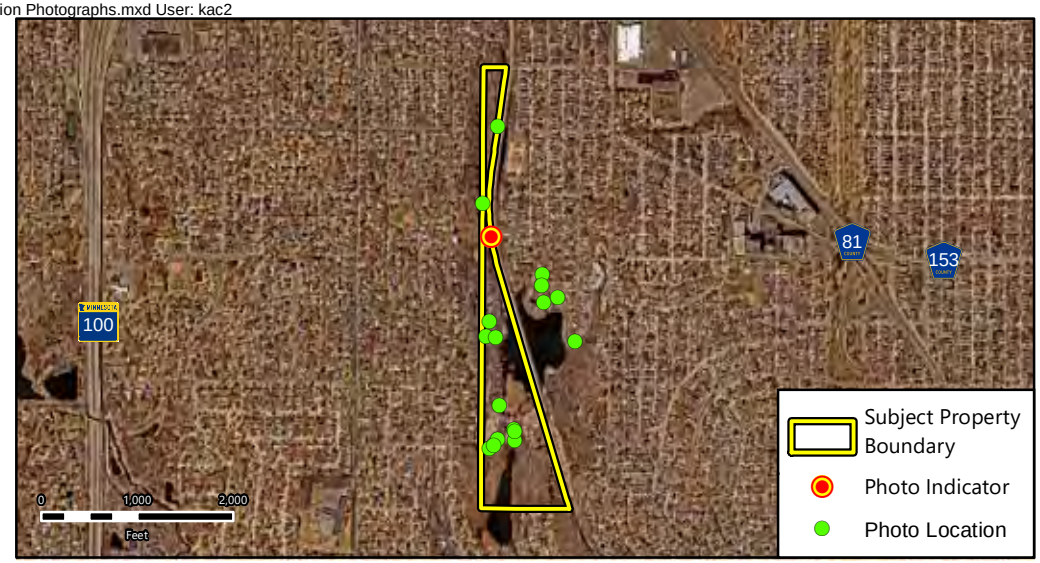
PROPERTY INSPECTION

Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Gazebo (S) & Parking Area (N)



Map 11 of 18

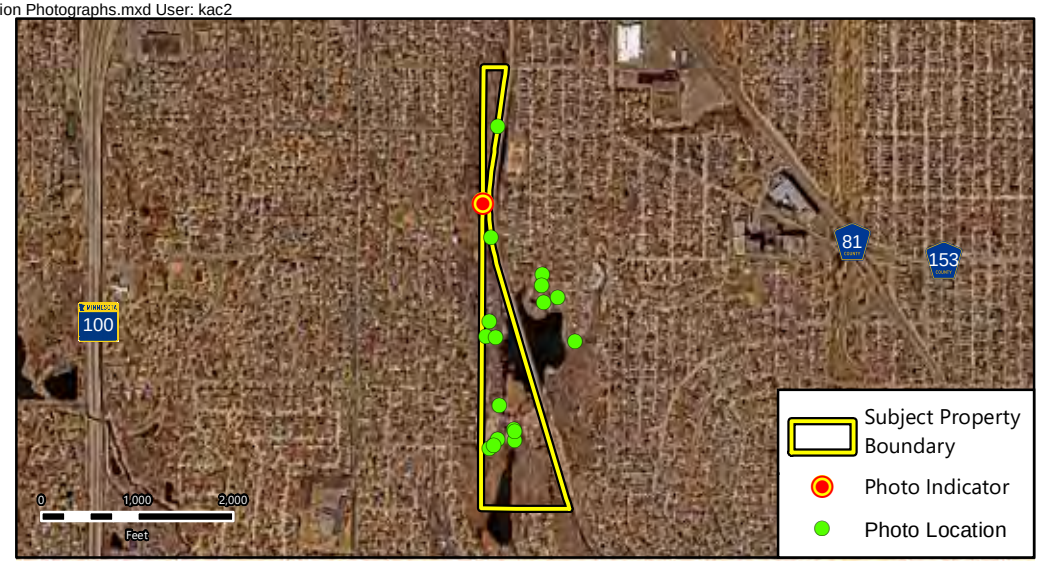
PROPERTY INSPECTION

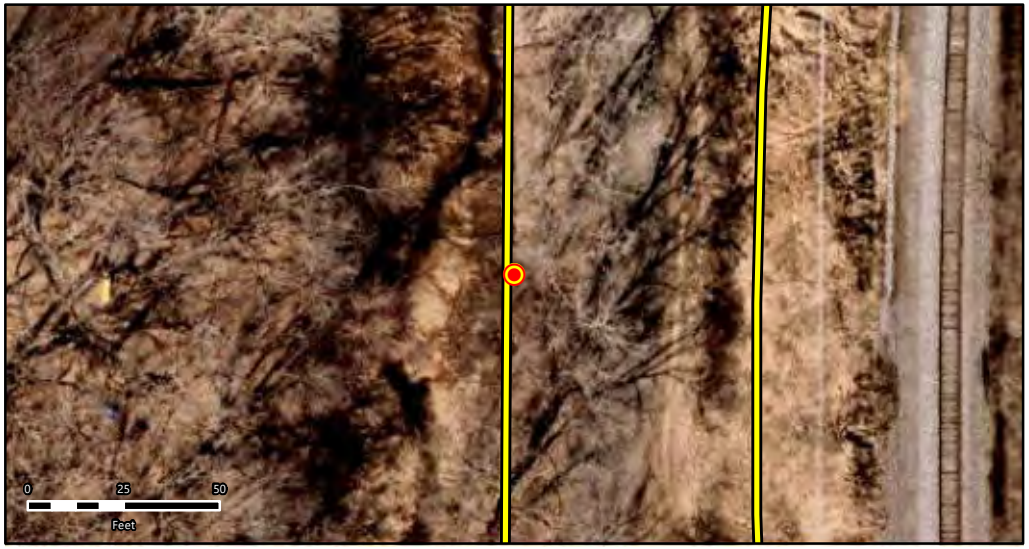
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: New Utility Pole (NE), Subject Property Border (N)





Map 12 of 18

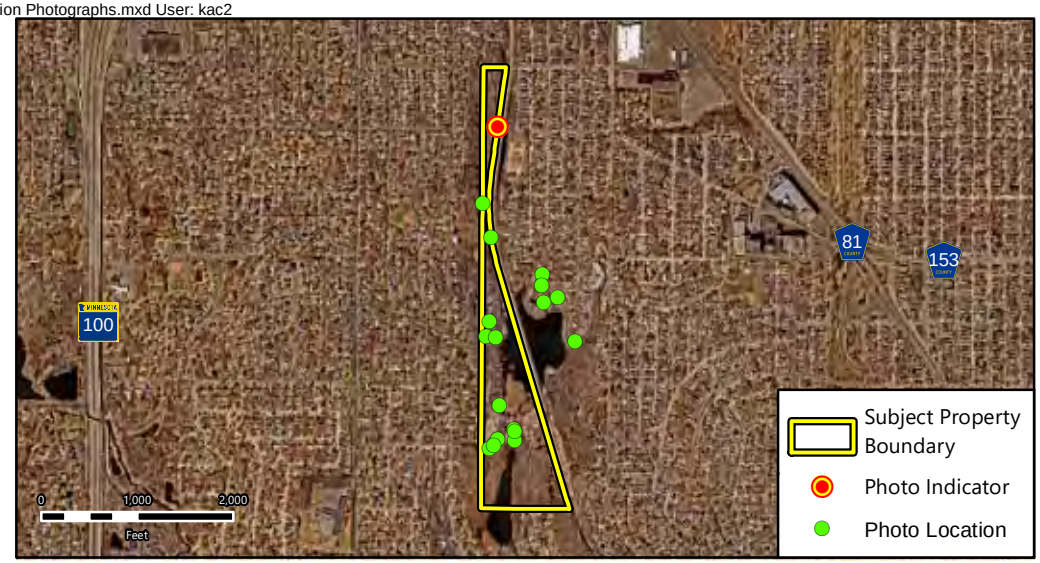
PROPERTY INSPECTION

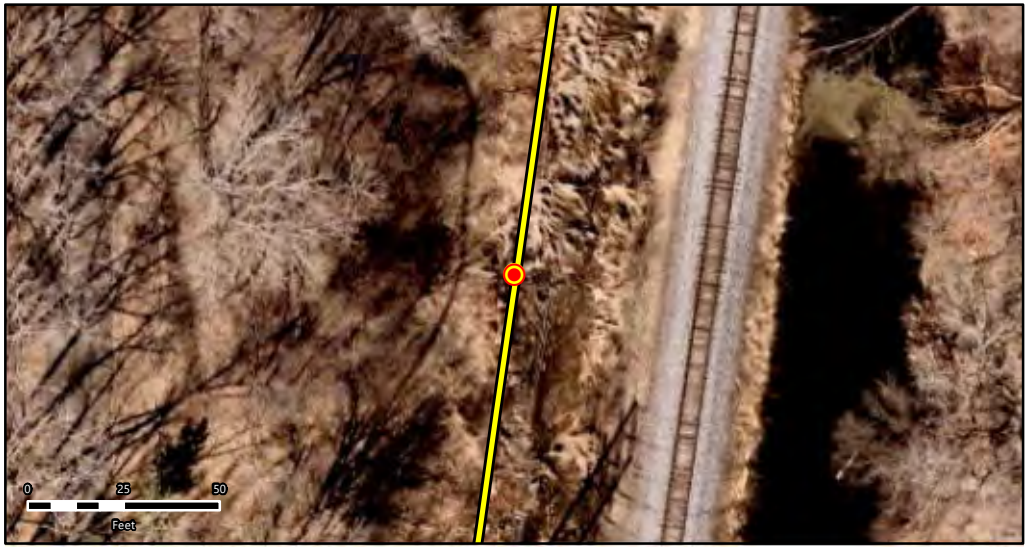
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Concrete and asphalt debris (N &E)





Map 13 of 18

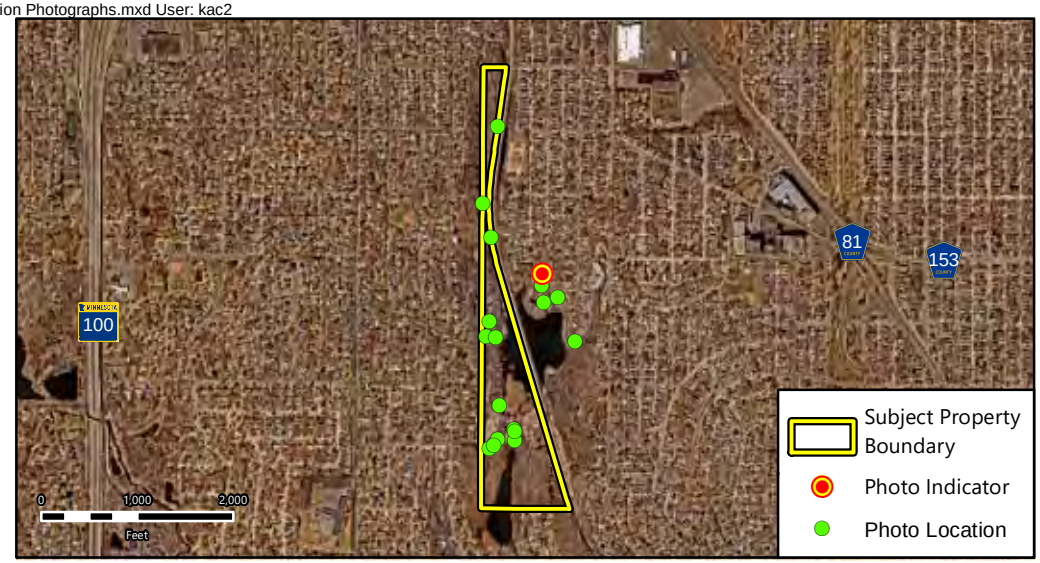
PROPERTY INSPECTION

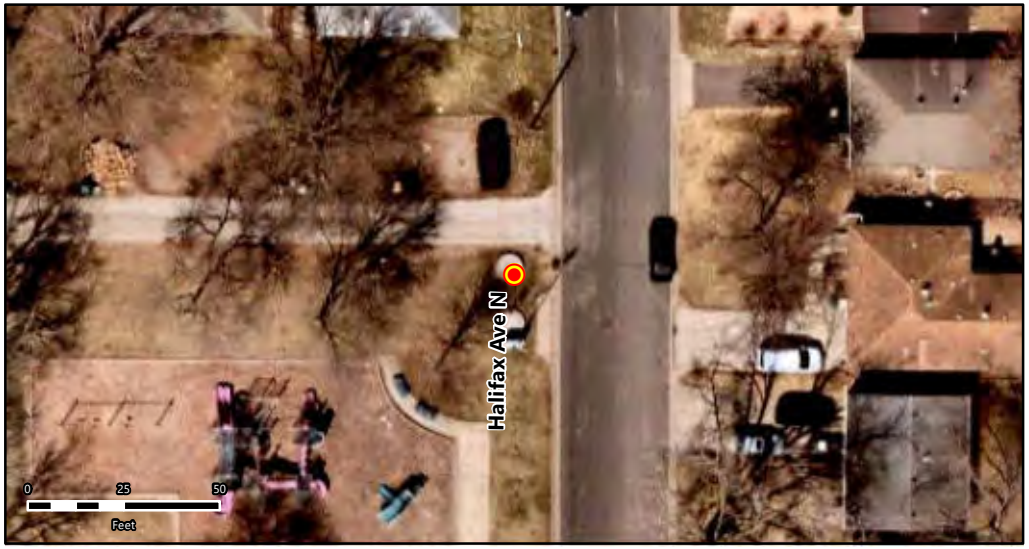
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Neighboring Xcel Substation (E), Subject Property (N)





Map 14 of 18

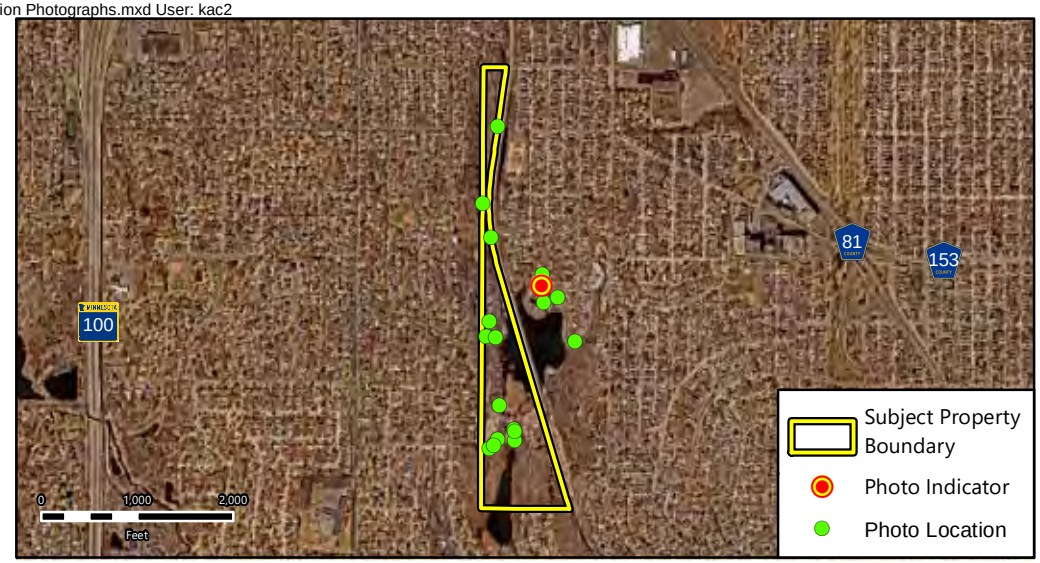
PROPERTY INSPECTION

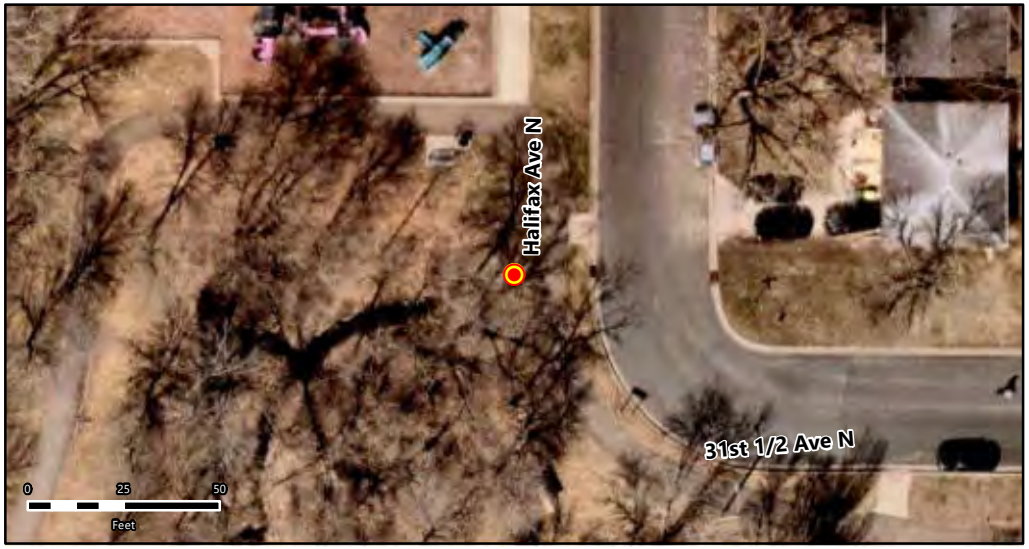
Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Utility Access (SW), Utility Access and Emergency Generator (S)





Map 15 of 18

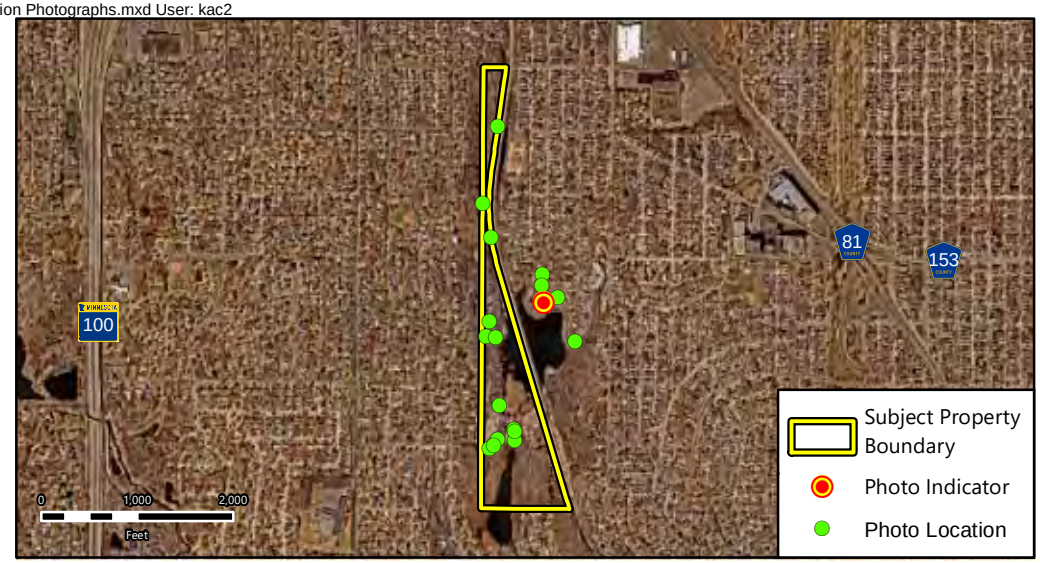
PROPERTY INSPECTION

Phase I Environmental Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Storm Sewer Manholes and Surrounding Area (NE), Storm Sewer Discharge Point (SW)



Map 16 of 18

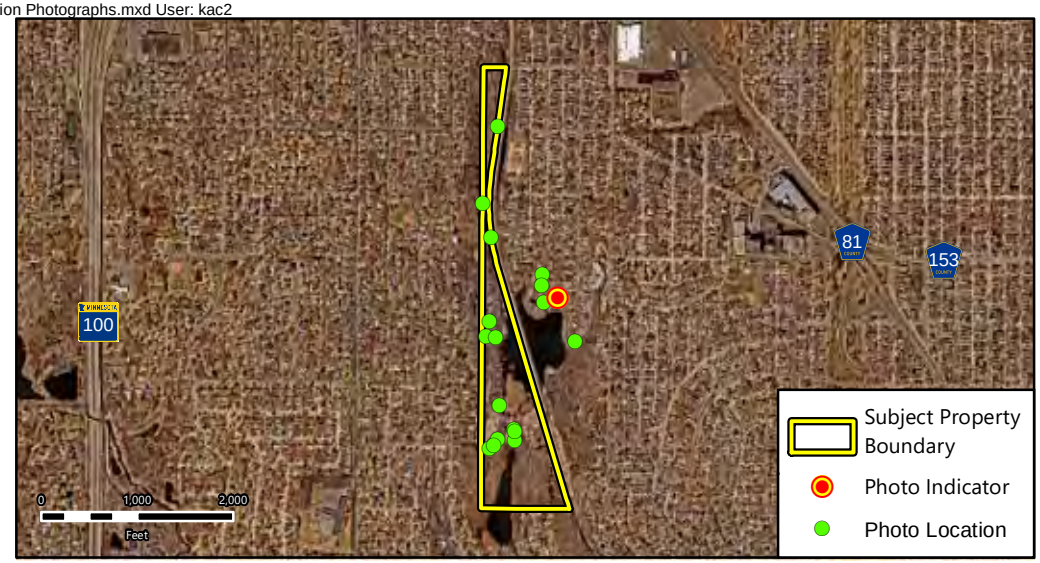
PROPERTY INSPECTION

Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Grimes Pond (N & S)



Map 17 of 18

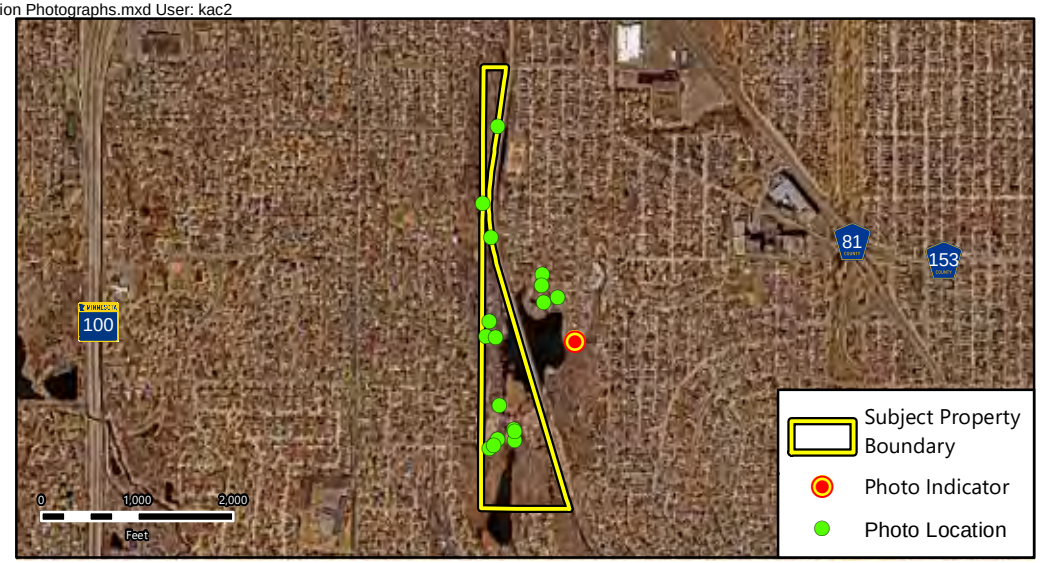
PROPERTY INSPECTION

Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Surrounding Area (NE), Storm Sewer Discharge Point (SW)



Map 18 of 18

PROPERTY INSPECTION

Phase I Environmental
Site Assessment
Sochaki Park
Three Rivers Park District
Hennepin County, MN

N

Imagery: Hennepin County (Summer 2020)

Date: 6/07/2023
Comment: Asphalt and Concrete Debris (NE, SW)

Appendix G

Qualifications

Appendix G
Qualifications

Company Information

Barr provides engineering and environmental consulting services to clients across North America and around the world. We have been employee owned since 1966 and trace our origins to the early 1900s. Our engineers, scientists, and technical specialists work together to help clients develop, manage, process, and restore natural resources.

Headquartered in Minneapolis, we have offices in Duluth and Hibbing, Minnesota; Ann Arbor and Grand Rapids, Michigan; Jefferson City, Missouri; Bismarck, North Dakota; Salt Lake City, Utah; Reno, Nevada; and Denver, Fort Collins, and Wheat Ridge Colorado. In 2010, we launched Barr Engineering and Environmental Science Canada, Ltd. and have Canadian offices in Calgary and Fort McMurray, Alberta and Saskatoon, Saskatchewan.

In addition to our primary offices, we meet the needs of regional and national clients through satellite offices.

More information can be found on our website: http://barr.com/

Qualifications and Experience – Environmental Site Assessments

Barr conducts environmental site assessments for a wide variety of clients involved in property and business transactions. Clients include cities, attorneys, developers, and private and public parties interested in selling, purchasing, or redeveloping property.

Barr has specialized in the investigation and design of remedial actions for contaminated sites since the early 1970s. Our company has completed hundreds of site investigations, feasibility studies, and remedial action designs. This experience includes work on most of the larger contaminated sites in Minnesota as well as numerous smaller sites. Barr has been a primary consultant on about two-thirds of the EPA National Priority List sites in Minnesota and has been involved in either a primary or secondary role on about half of the sites listed by the state of Minnesota. Barr's work on virtually all of these sites has been on behalf of potentially responsible parties. We have worked on contaminated sites in many other states as well.

Many projects are initiated by clients who are buying or selling property or who are required to conduct an environmental site assessment for financing purposes. Other projects are initiated by clients who suspect that contamination may be present on a site. Still other projects are in response to orders from regulatory agencies. Many of these projects involve a state voluntary cleanup program. Barr works for clients in both the public and private sectors, and clients range from major industries to state and federal agencies.

Barr has worked on a variety of properties, including:

- Steel and coke manufacturing
- Wood treating
- Petroleum refining
- Manufacturing (paint waste/spent solvents)
- Coal gasification
- Mining and mineral processing
- Petroleum product storage (above and below ground)
- Metal plating
- Scrapyards
- Landfills
- Fly and bottom ash
- Permitted and nonpermitted waste disposal facilities
- Multiple brownfield redevelopment sites

Barr staff is familiar with a wide range of industrial practices and we provide environmental and waste management consulting to many industries.

Experience

Erik joined Barr in 2023 with nearly 15 years of experience as a geologist working on the assessment, investigation, and remediation of contaminated sites. His experience includes managing Phase I and Phase II environmental site assessments (ESAs), providing regulatory and environmental due diligence assistance, wellhead protection plan and Environmental Assessment Worksheet (EAW) preparation, industrial water-resource evaluations, and remediation oversight. Erik's project work has included:

- Serving as project manager/geologist for a firm in St. Paul, Minnesota. Responsibilities included:
  - Managing numerous site assessment, site remediation, solid waste, and brownfield sites as a state contractor for the Minnesota Pollution Control Agency (MPCA) Multi-Site Contract, including:
    - Developing work plans and assigning field staff to complete field sampling and homeowner interaction on behalf of MPCA.
    - Procuring environmental drilling and sub-slab depressurization system installation services, including bid specification preparation.
    - Directing multiple sampling rounds for soil, groundwater, and soil vapor sampling while coordinating with multiple stakeholders.
    - Directing and designing data deliverables, including GIS packages and end-of-fiscal-year budgetary and investigation reporting.
  - Managing all aspects of Phase I and Phase II ESA investigations, including regulatory-client liaison services, including client-focused recommendations for future actions.
- Serving as project geologist for a firm in Plymouth, Minnesota. Responsibilities included:
  - Performing due diligence practices, including property transaction screenings, Phase I ESAs, limited site investigations (LSIs) for MPCA Petroleum Program leak sites, limited environmental compliance assessments (LECAs) for private-sector clients, MPCA Voluntary Investigation and Cleanup (VIC) and Petroleum Brownfields (PB) program applications and enrollment, RAP creation and implementation, leak site closure requests, and Minnesota Department of Commerce Petrofund reimbursement applications.
  - Conducting water resource practices, including Minnesota Department of Health (MDH) wellhead protection plan preparation (Parts 1 and 2), drinking water supply well installation oversight, long-term water level monitoring, EAW preparation, and exploratory industrial water resource evaluation.
  - Providing project management services, including project scope and budget directing, direct client consulting, oversight and mentoring of junior staff for report writing and field investigations, and QA/QC of project portfolio deliverables.
- Serving as geologist for a firm in White Plains, New York. Responsibilities included:

- Conducting Phase I and Phase II ESAs, including work plan development; preparation of cost estimates; coordination with subcontractors; field collection of soil, groundwater, and soil vapor samples and/or site reconnaissance; and data compilation and report completion.
- Providing remediation oversight including community air monitoring, sub-slab depressurization system/vapor barrier installation, waste characterization, and landfill closure remedial response actions for redevelopment projects in the New York City metropolitan area. Site investigation projects included the USTA Billie Jean King National Tennis Center, NYU Langone Medical Center Expansion, and New York Public Library-Stephen A. Schwarzman Building in Bryant Park.

▪ Serving as a staff professional for a firm in Valhalla, New York. Responsibilities included:

- Conducting remedial field investigations involving groundwater, soil and soil vapor sampling techniques; site condition reconnaissance; and remediation system maintenance for petroleum industry clients.
- Performing extensive contamination delineation and remedial efficacy investigations at the Newtown Creek Superfund site in Brooklyn, New York.

▪ Serving as geologist for a firm in Congers, New York. Responsibilities included:

- Performing ground-penetrating radar and electromagnetic geophysical surveys involving data acquisition, processing using AutoCAD/Geosoft/Surfer, and field mapping.

Education MS, Geological Services, State University of New York at Buffalo, 2009

BS, Geology, Wheaton College, 2006

Registration Professional Geologist: Minnesota

Certification Certified Asbestos Inspector: Minnesota

Affiliations Minnesota Ground Water Association, Member at Large

Urban Land Institute, NEXT Cohort, Member at Large

BRIAN TODEY
Environmental Engineer

Experience

Brian joined Barr in 2023 with a degree in civil engineering from Iowa State University and experience in civil site design and stormwater utility design. His work at Barr involves environmental engineering, including investigation and remediation of contaminated sites. Brian's work experience has included:

- Serving as a graduate civil engineer for a firm in Bloomington, Minnesota. Responsibilities included:
  - Designing stormwater utilities for residential, commercial, and recreational sites.
  - Preparing site plans, specifications, quantity schedules, and technical details for construction documents.
  - Coordinating lot certification assignments to designers and reviewing lot certification designs.
  - Preparing construction specifications for residential, commercial, and recreational projects.
  - Developing conceptual site plans for commercial and industrial applications.
  - Creating estimates for residential, athletic, commercial, and industry projects.
- Serving as civil engineering intern for a firm in Des Moines, Iowa. Responsibilities included:
  - Evaluating site suitability for commercial project applications.
  - Designing the site of a childcare center, including grading, parking, and hydrology.
  - Determining compliance of site as-builts with ADA regulations.
  - Developing cost estimates for commercial site concepts.
- Serving as civil engineering intern for the Iowa Department of Transportation. Responsibilities included:
  - Using GIS data to develop a map and list of state highways that needed updated curve chevron signage.
  - Collecting and analyzing traffic speed data to determine changes in speed limits.
  - Developing signing plans for intersection reconstructions.

Education

BS, Civil Engineering, Iowa State University, 2021

Training

HAZWOPER 40-Hour Training

Certification

Engineer in Training: Minnesota

Stormwater Pollution Prevention Plan Designer

Software

AutoCAD Civil 3D, HydroCAD, AutoCAD Storm and Sanitary Analysis, Microsoft Office

Appendix D

Wetland Delineation Report

Sochacki Park Water Quality Improvement Project Feasibility Study

Aquatic Resources Delineation Report
Sochacki Park

Hennepin County, MN

July 2023

Moore Project No. 22309B

PREPARED FOR

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Senior Water Resources Manager
Three Rivers Park District
3000 Xenium Lane North
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PREPARED BY

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Moore Engineering
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moore engineering, inc.

Executive Summary

- The 67-acre Sochacki Park was field inspected on June 6 and 30, 2023, for the presence and extent of wetlands.
- The National Wetlands Inventory map showed five unique basins including a R2UBH, PABH, PUBH, PSS1C, PFO1A, PEM1A/C/F complex, a PUBH, PABH, PFO1A, PEM1C/F complex, a PEM1F/PFO1A complex, one isolated PSS1A basin, and an isolated PFO1A basin within the site boundaries.
- The Soil Survey (USDA NRCS 2015) showed two hydric soils, suckercreek and muskego mapped within site boundaries.
- The DNR Public Waters Inventory shows two public waters wetlands an unnamed feature (DOW: 27064400, North Rice Pond and Grimes Pond) and Rice Lake (DOW: 27064500, South Rice Pond) within the boundary.
- The National Hydrological Dataset (U.S Geological Survey 2015) shows four total hydrological features within site boundaries three Lake/Pond and one Stream/River.
- Six wetlands were delineated within the site boundary, and they are described in Section 3.2.

Table 1. Wetlands Delineated on the Sochacki Park Site.

Wetland ID	Wetland Type			Dominant Vegetation	Onsite Area (ac)
	Circular 39	Cowardin	Eggers and Reed		
Wetland 1	Type 1/3/5	PEMA/C, PFOA, PUBH	Seasonally flooded basin, Shallow marsh, Deep Marsh	Reed canary grass, buckthorn, green ash	6.224
Wetland 2	Type 1/3/5	PEMA/F, PFOA, PUBH	Seasonally flooded basin, Shallow marsh, Deep Marsh	Reed canary grass, jewelweed, green ash	15.828
Wetland 3	Type 3	PEMF	Shallow marsh	Narrow leaf cattail, sandbar willow	0.644
Wetland 4	Type 3	PEMF	Shallow marsh	Narrow leaf cattail, sandbar willow	1.029
Wetland 5	Type 3/5	PEMC/F, PUBH	Shallow marsh, Deep marsh	Narrow leaf cattail, jewelweed, lakebank sedge	7.48
Wetland 6	Type 1	PFOA	Seasonally flooded basin	Canadian clearweed or no vegetation	0.064

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Tables

1. Introduction

The subject of this aquatic resource investigation is a 67-acre property consisting of numerous parcels located within and surrounding Sochacki Park in Golden Valley, Hennepin County, MN (**Figure 1**). The project area is made up for 4 main parcels owned by the City of Golden Valley and the City of Robbinsdale but operated by Three Rivers Park District through a joint-powers agreement. In addition, numerous private lots were included within the Project Area where the wetland boundary extended into these lots. The site can be accessed from the south off Dresden Lane or from the north off June Ave N. The project area primarily consists of open water wetlands, and forested walking trails. The site slopes towards the center of the project site from all directions.

This report summarizes the methodology used during the investigation, documents the findings of the investigation, and summarizes areas that were found to meet wetland criteria or identified as other aquatic resources.

2. Methods

2.4 Wetland Delineation Overview

Wetlands are defined in the Federal Register (1982) as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

An area must have three elements present in order to be delineated as a wetland:

1) Greater than 50% dominance of hydrophytic plant species.
2) Hydric soil substrate.
3) Wetland hydrology during the growing season.

Moore Engineering reviewed historic aerial photographs, LiDAR topographic data, U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), and Minnesota Department of Natural Resources (DNR) Public Waters Inventory (PWI) for the project area prior to performing the wetland delineation onsite.

2.5 Field Wetland Delineation

Wetlands were delineated on site according to the USACE 1987 Wetland Delineation Manual ('87 Manual) and the USACE 2012 Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region (Version 2.0). Wetlands are classified in this report using the Cowardin and Circular 39 systems. Wetlands and other waters were mapped with a sub-meter accurate handheld GPS unit (Trimble R1 GNSS

receiver and tablet, or similar device).

2.6 Antecedent Precipitation Analysis

Analysis of 90-day antecedent precipitation conditions for each year of imagery was conducted using the USACE Antecedent Precipitation Tool (APT). The APT identifies all weather stations that are located within a 30-mile radius from the point of interest using NOAA's Daily Global Historical Climatology Network (GHCN-Daily), which integrates climate data from over 20 sources. Each weather station is then ranked based on a weighted difference value which incorporates both the distance to the point of interest and the difference in elevation. The weather station with the lowest weighted difference value, as well as a record that is sufficient to develop the 30-year normal period and the antecedent period, is selected by the tool as the Primary Station used to develop the dataset.

The APT determines whether antecedent precipitation is normal by comparing rainfall data from the previous three months to the same three-month period over a rolling 30-year record.

3. Results

Moore reviewed typical desktop resources such as NRCS Soil Survey, National Wetland Inventory (NWI), MN DNR Public Waters Inventory (PWI), and LiDAR topographic data prior to the site visit.

3.4 Desktop General Information Review

National Wetland Inventory (Figure 2)
The NWI identified five unique basins including a R2UBH, PABH, PUBH, PSS1C, PFO1A, PEM1A/C/F complex occupies the entire central portion of the site and extends offsite to the southwest and southeast. One PUBH, PABH, PFO1A, PEM1C/F complex is located in the northeast portion of the site, one PEM1F/PFO1A complex and one isolated PSS1A basin occupy the eastern central border, and an isolated PFO1A basin occupies the northwestern central border of the site.

Public Waters Inventory and National Hydrography Dataset (Figure 3)
The PWI depicts two public waters wetlands. An unnamed feature (DOW: 27064400, North Rice Pond and Grimes Pond) located in the north central portion of the site and Rice Lake (DOW: 27064500, South Rice Pond) located in the center of the site. The NHD shows four total hydrological features within site boundaries three Lake/Ponds located in the central and northeast of the site and one Stream/River running through the southern boundary.

Soil Survey (Figure 4)
The NRCS Web Soil Survey SSURGO soil map unit data was reviewed for relevant soil information. The SSURGO data indicated the site contains two mapped hydric soils. Table 1 below provides a summary of soil map units present in the project area and their respective hydric ratings.

Table 2: Summary of Mapped Soils Within the Project Area

Map Unit Symbol	Mapunit Name	Hydric Rating (%)	Percentage of Project Area	Hydric Category
L28A	Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded	90	4.5%	Hydric
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	100	23.4%	Hydric
L52C	Urban land-Lester complex, 2 to 18 percent slopes	0	3.50%	Non-Hydric
L52E	Urban land-Lester complex, 18 to 35 percent slopes	0	7.40%	Non-Hydric
L54A	Urban land-Dundas complex, 0 to 3 percent slopes	0	7.40%	Non Hydric
U1A	Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes	0	9.30%	Non-Hydric
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	0	24.80%	Non-Hydric
W	Water	0	19.70%	Non-Hydric

Precipitation

According to the APT analysis, the site experienced normal precipitation conditions in the 90 days prior to the June 6, 2023 site visit and drier than normal prior to the June 30, 2023 site visit (**Appendix C**).

3.5 Field Investigation

Six areas meeting wetland criteria were identified during the field investigation. The wetland and non-wetland investigation areas are described narratively below and shown on **Figure 5**. USACE Wetland Determination Field Data Sheets are provided in **Appendix B**. Wetland and non-wetland investigative point evidence are in Section 3.3. Photos are provided in **Appendix D**.

Wetland 1

Wetland 1 is a 6.224-acre PEMA/C, PFOA, PUBH, Type 1/3/5, seasonally flooded basin/ shallow marsh/deep marsh wetland complex that occupies the central northwest portion of the site. The wetland boundary was delineated based on vegetation and field observed topographic shifts. Two wetland transect points were collected during the field visit, one in the northwestern and one on the southeastern portion of wetland 1.

Vegetation

The two wetland transect points varied slightly in plant species but were both dominated by hydrophytic vegetation. Transect W1-Wet1 on the northwestern portion of the project area contained a herb stratum consisting of reed canary grass and narrow leaf cattail, a tree stratum dominated by green ash and sapling buckthorn was also observed near the transect point. Transect point W1-Wet2 is located on the southeastern portion of wetland 1 and contained a herb stratum of reed canary grass and narrowleaf cattail while the sapling layer was dominated by sandbar willow. Both points met the criteria for hydrophytic vegetation.

Both upland transect points contained a mix of indicator plant species. Dominant species included green ash, buckthorn, and Kentucky blue grass. The presence of dominant facultative wet species at both upland transect points met the wetland criteria for hydrophytic vegetation.

Soils
Both wetland transect points contained over 14 inches of loamy mucky mineral soils meeting the hydric sol indicator Loamy Mucky mineral (F1).

Both upland transect points lacked hydric soils.

Hydrology
Precipitation prior to the site visit was within the normal range, and each wetland transect point exhibited both primary and secondary hydrology indicators. Saturation was observed at six inches at W1-Wet1 and four inches at W1-Wet2, meeting the hydrology indicator Saturation (A3) and a High Water Table (A2) was also observed at both points. Secondary indicators of hydrology were also observed and included Geomorphic position (D2) and FAC-Neutral Test (D5).

W1-Up1 met one secondary indicator FAC-Neutral Test (D5), and W1-Up2 lacked wetland hydrology indicators and neither point meets the criteria for wetland hydrology.

Wetland 2

Wetland 2 is a 15.828-acre PEMA/C, PFOA, PUBH, Type 1/3/5, seasonally flooded basin/ shallow marsh/deep marsh wetland complex that occupies the southern portion of the site. The wetland boundary was delineated based on vegetation and field observed topographic shifts. Two wetland transect points were collected during the field visit, one in the southwestern portion and one on the northeastern portion.

Vegetation
The two wetland transect points varied slightly in plant species but were both dominated by hydrophytic vegetation. Transect W2-Wet1 on the southwestern portion of the project area contained a herb stratum consisting of reed canary grass and jewelweed, a tree stratum dominated by green ash and sapling buckthorn was also observed near the transect point. Transect point W2-Wet2 is located on the northeastern portion of wetland 2 and contained a herb stratum of reed canary grass and lesser duckweed while the sapling layer was dominated by sandbar willow. Both

points met the criteria for hydrophytic vegetation.

Both upland transect points contained a mix of indicator plant species. Dominant species included green ash, boxelder, buckthorn, and Kentucky blue grass. The presence of dominant facultative wet species at both upland transect points met the wetland criteria for hydrophytic vegetation.

Soils
Wetland transect point W2-Wet1 met the hydric soil indicator Thick Dark Surface (A12) and transect point W2-Wet2 met the hydric soil indicator Depleted Matrix (F3).

Soils at transect point W2-Up1 did not meet the criteria for hydric soils, while soils at W2-Up2 met the hydric soil indicator Depleted Below Dark Surface (A11).

Hydrology
Precipitation prior to the site visit was within the normal range, and each wetland transect point exhibited both primary and secondary hydrology indicators. Saturation was observed at six inches at 10 inches at both wetland transect points, meeting the hydrology indicator Saturation (A3) and a High Water Table (A2) was also observed at both points. Secondary indicators of hydrology were also observed and included Geomorphic position (D2) and FAC-Neutral Test (D5).

Both upland points did not meet a primary hydrology indicator but met one secondary indicator FAC-Neutral Test (D5). The lack of any primary indicators or additional secondary indicators means both sample points do not meet wetland hydrology criteria.

Wetland 3

Wetland 3 is a 0.644-acre PEMF, Type 3, shallow marsh wetland that occupies the central eastern wooded area of the project site. The wetland boundary was delineated based on vegetation and field observed topographic shifts. One wetland transect point was collected during the field visit.

Vegetation
The wetland transect point contained a herb stratum consisting of narrow leaf cattail and reed canary grass while sandbar willow was the only dominant species in the sapling/shrub stratum. The dominance of facultative and facultative wet species met the Dominance Test for hydrophytic vegetation.

The upland transect point was dominated by mix of indicator plant species including green ash, boxelder, and buckthorn. The upland transect point met the wetland criteria for hydrophytic vegetation.

Soils
The wetland transect point met the hydric soil indicators Depleted Below Dark

Surface (A11) and Sandy Mucky Mineral (S1).

Soils at the upland transect point did not meet a hydric soils indicator.

Hydrology
Precipitation prior to the site visit was within the normal range, and the wetland transect point exhibited both primary and secondary hydrology indicators. Saturation was observed at two inches, meeting the hydrology indicator Saturation (A3) and a water table was observed at four inches meeting the criteria for High Water Table (A2). Secondary indicators of hydrology were also observed and included Geomorphic position (D2) and FAC-Neutral Test (D5).

The upland transect point did not meet a primary hydrology indicator but met one secondary indicator FAC-Neutral Test (D5). The upland point did not meet the criteria for wetland hydrology.

Wetland 4

Wetland 4 is a 1.029-acre PEMF, Type 3, shallow marsh wetland that occupies the central eastern wooded area of the project site. The wetland boundary was delineated based on vegetation and field observed topographic shifts. One wetland transect point was collected during the field visit.

Vegetation
The wetland transect point contained a herb stratum consisting of narrow leaf cattail and reed canary grass while sandbar willow was the only dominant species in the sapling/shrub stratum. The dominance of facultative and facultative wet species met the Dominance Test for hydrophytic vegetation.

The upland transect point was dominated by mix of indicator plant species including green ash, boxelder, and buckthorn. The upland transect point met the wetland criteria for hydrophytic vegetation.

Soils
The wetland transect point met the hydric soil indicators Depleted Below Dark Surface (A11) and Sandy Mucky Mineral (S1).

Soils at the upland transect point did not meet a hydric soils indicator.

Hydrology
Precipitation prior to the site visit was within the normal range, and the wetland transect point exhibited both primary and secondary hydrology indicators. Saturation was observed at two inches, meeting the hydrology indicator Saturation (A3) and a water table was observed at four inches meeting the criteria for High Water Table (A2). Secondary indicators of hydrology were also observed and included Geomorphic position (D2) and FAC-Neutral Test (D5).

The upland transect point did not meet a primary hydrology indicator but met one

secondary indicator FAC-Neutral Test (D5). The upland point did not meet the criteria for wetland hydrology.

Wetland 5

Wetland 1 is a 7.48-acre PEM1C and PUBH Type 3/5, wet shallow marsh/deep marsh wetland complex that occupies the majority of the northeast project area. The wetland boundary was delineated based on vegetation and field observed topographic shifts. Due to its size, two wetland transect points were collected during the field visit, one in the north portion of the wetland and another along the eastern edge.

Vegetation
The two wetland transect points varied in plant species but were both dominated by hydrophytic vegetation. Transect W5-Wet1 on the east side of the wetland contained an herb stratum consisting of lesser duckweed and narrow leaf cattail. Transect W5-Wet2 is located on the north side of the wetland and contained the same dominant species as W5-Wet 1.

Both upland transect points were dominated by facultative upland plant species. The upland areas do not meet the wetland criteria for hydrophytic vegetation.

Soils
Wetland transect points W5-Wet1 and W5-Wet2 met hydric soil indicator F1, loamy mucky mineral.

Soils at both upland transect points did not meet hydric soil indicators.

Hydrology
Precipitation prior to the site visit was within the normal range. At each wetland transect point inundation was observed meeting the hydrology indicator Inundation (A1). Secondary indicators of hydrology were also observed at both wetland transect points, including Geomorphic position (D2) and FAC-neutral Test (D5).

Both upland transect points lacked wetland hydrology indicators.

Wetland 6

Wetland 6 is a 0.064-acre PFOA, Type 1, seasonally flooded basin that occupies the northcentral western wooded area of the project site. The wetland is split into two separate basins by an upland rise that contains an ephemeral drainage running east to west and a drop culvert inlet and culvert outlet. The wetland was highly disturbed and concreate blocks were observed in the drainage separating the basins indicating human manipulation. The wetland boundary was delineated based on vegetation or lack of vegetation and field observed topographic shifts. One wetland transect point was collected during the field visit.

Vegetation

The majority of the basin was unvegetated and covered in leaf litter. Canadian clearweed was the only dominant species observed. The lack of vegetation in the basin met the criteria for sparsely vegetated concave surface, as vegetation was likely drowned out.

The upland transect point was dominated by mix of facultative and facultative upland indicator plant species including boxelder, buckthorn, and creeping Charlie. The upland transect point met the wetland criteria for hydrophytic vegetation.

Soils
The soils at the wetland transect point were disturbed but met the hydric soil indicator Redox Dark Surface (F6).

Soils at the upland transect point did not meet a hydric soils indicator.

Hydrology
Precipitation prior to the site visit for Wetland 6 was drier than normal and the wetland transect point exhibited both primary and secondary hydrology indicators. The basin contained Water Stained Leaves (B9) and was a Sparsely Vegetated Concave Surface (B8). Secondary indicators of hydrology were also observed and included Geomorphic position (D2) and FAC-Neutral Test (D5).

The upland transect point did not meet a hydrology indicator and therefore did not meet the criteria for wetland hydrology.

Bassett Creek

Bassett Creek flowed throw a portion of the project area on the southern end. The centerline of the creek was surveyed while in the field and can be seen in Figure 5. As the project was only interested in existing wetlands onsite, sample points for this creek were not taken. The creek did contain flow during the time of the site visit and ranged in Top of Bank (TOB) width from 20-feet t0 30-feet. Wetland 2 abutted the TOB of Bassett Creek.

3.3 MnRAM

The Minnesota Routine Assessment Method was completed for each wetland within the Project Area. Wetland 3 and Wetland 4 were combined as part of the assessment. The results for each wetland can be seen in Appendix E.

3.4 Conclusion

Six wetlands totaling 31.269 acres of various types and sizes were delineated within the project site. Wetlands may not be filled or drained with authorization from regulatory agencies. The wetland on this site is regulated by the Wetland Conservation Act (WCA), as administered by the City of Golden Valley. The wetland may also by regulated at the federal level by the Clean Water Act, as administered by the United States Army Corps

of Engineers (USACE).

4. References

Cowardin, L. M., Carter, V., Golet, F. C., & LaRoe, E. T. (1979). *Classification of wetlands and deepwater habitats of the United States*. Washington, D.C: U.S. Government Printing Office.

Natural Resource Conservation Service (NRCS) (n.d.). Web soil survey. Retrieved June 5, 2023, from https://websoilsurvey.sc.egov.usda.gov/App/HomePage.html

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U.S. Army Corps of Engineers. (1987). *Corps of Engineers wetlands delineation manual*. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.

U.S. Amy Corps of Engineers Antecedent Precipitation Tool software.

FIGURES

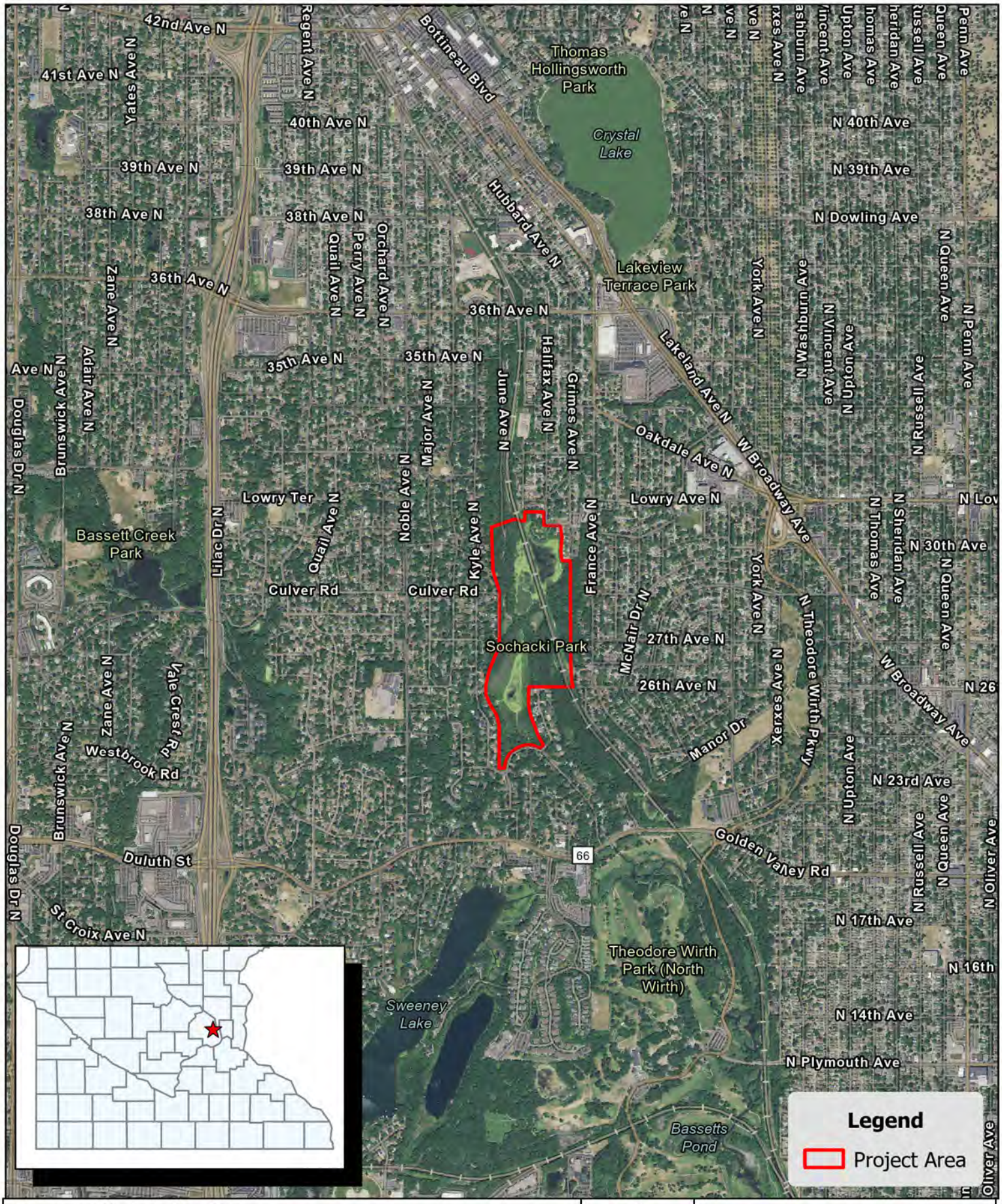

Figure 1- Site Location Map
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

0 1,250 2,500 Feet
1:30,000

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moore engineering, inc.

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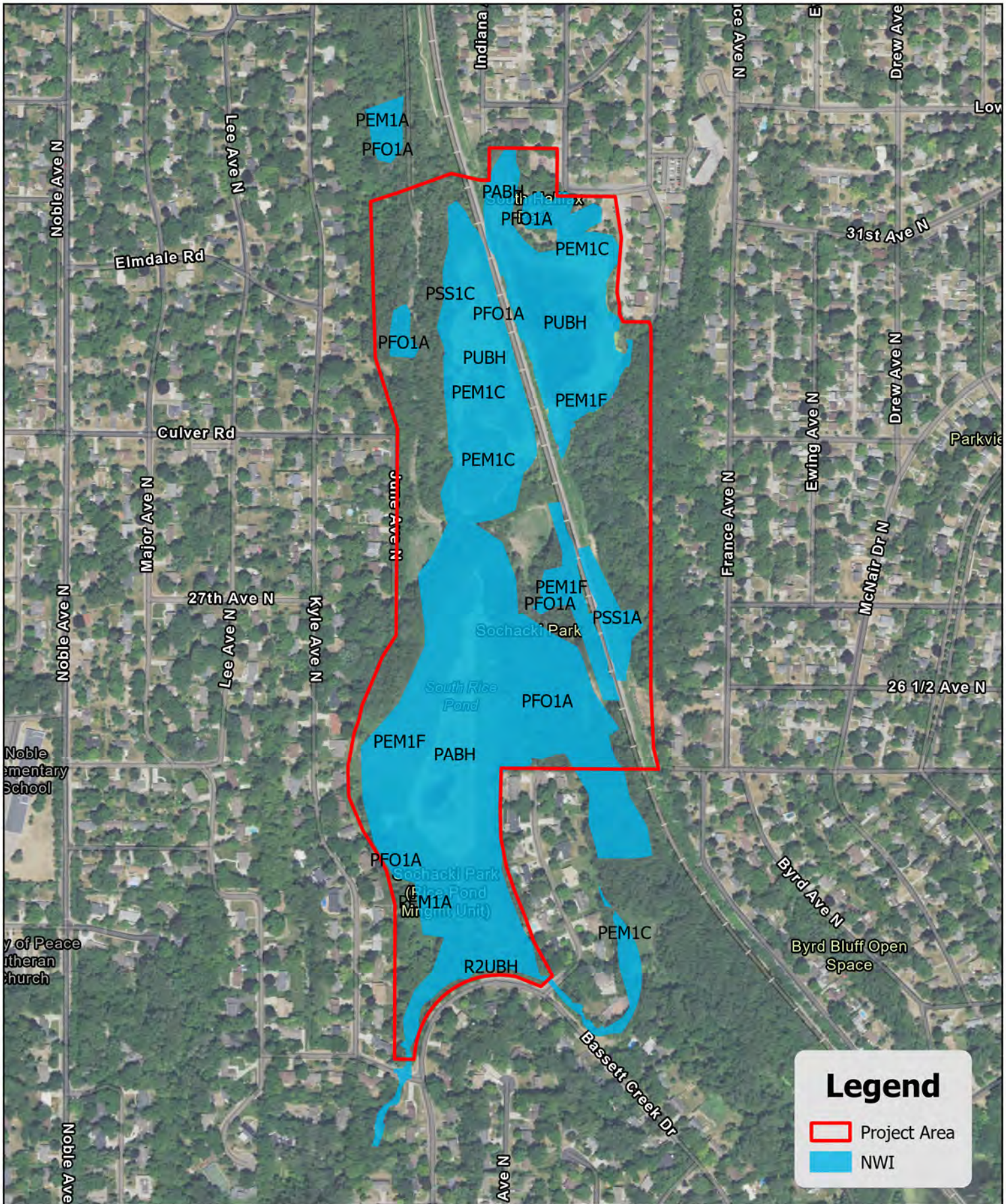

Figure 2- National Wetlands Inventory
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

0 250 500 US Feet
1:6,000

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moore engineering, inc.

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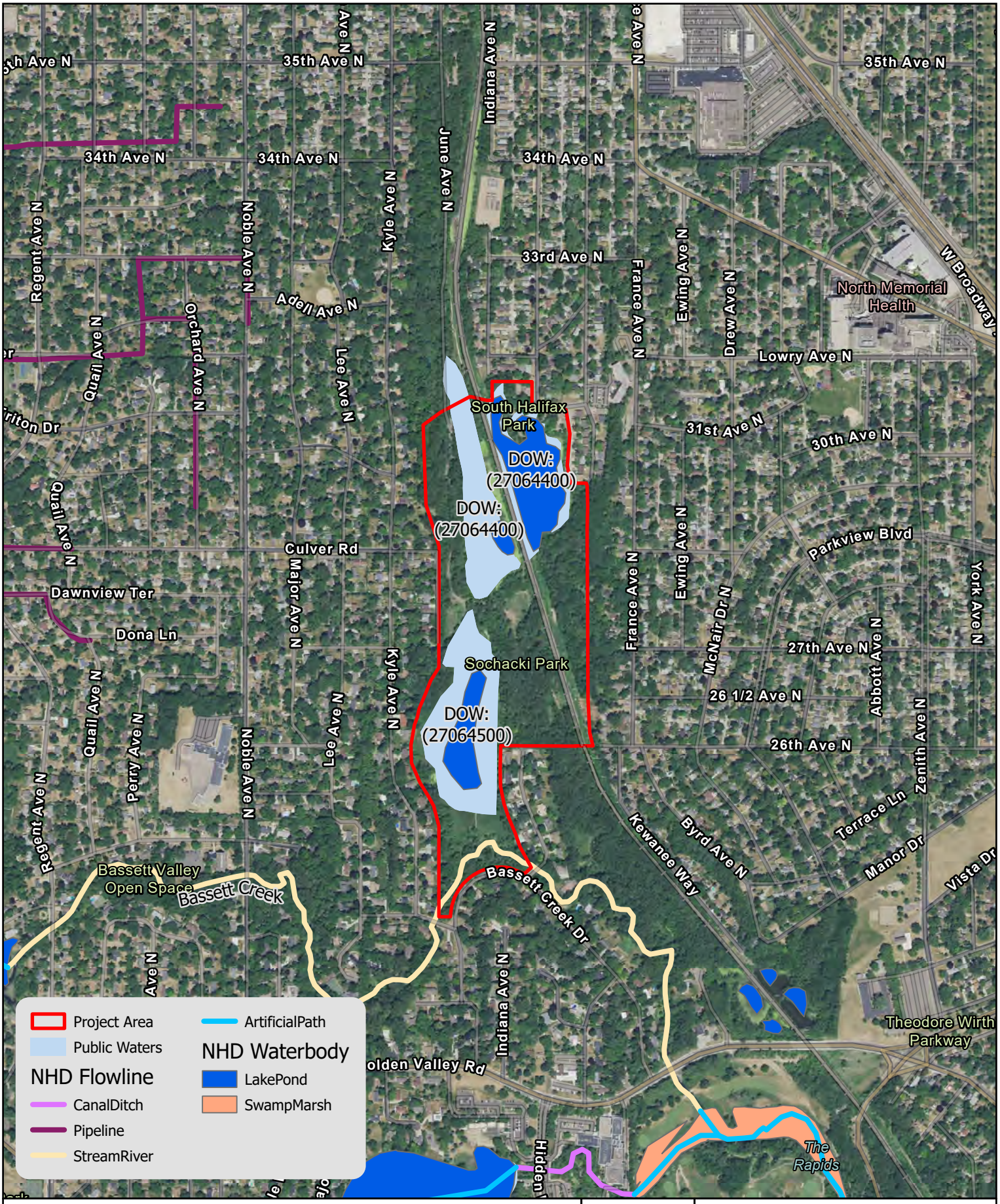

Figure 3- Water Resources
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

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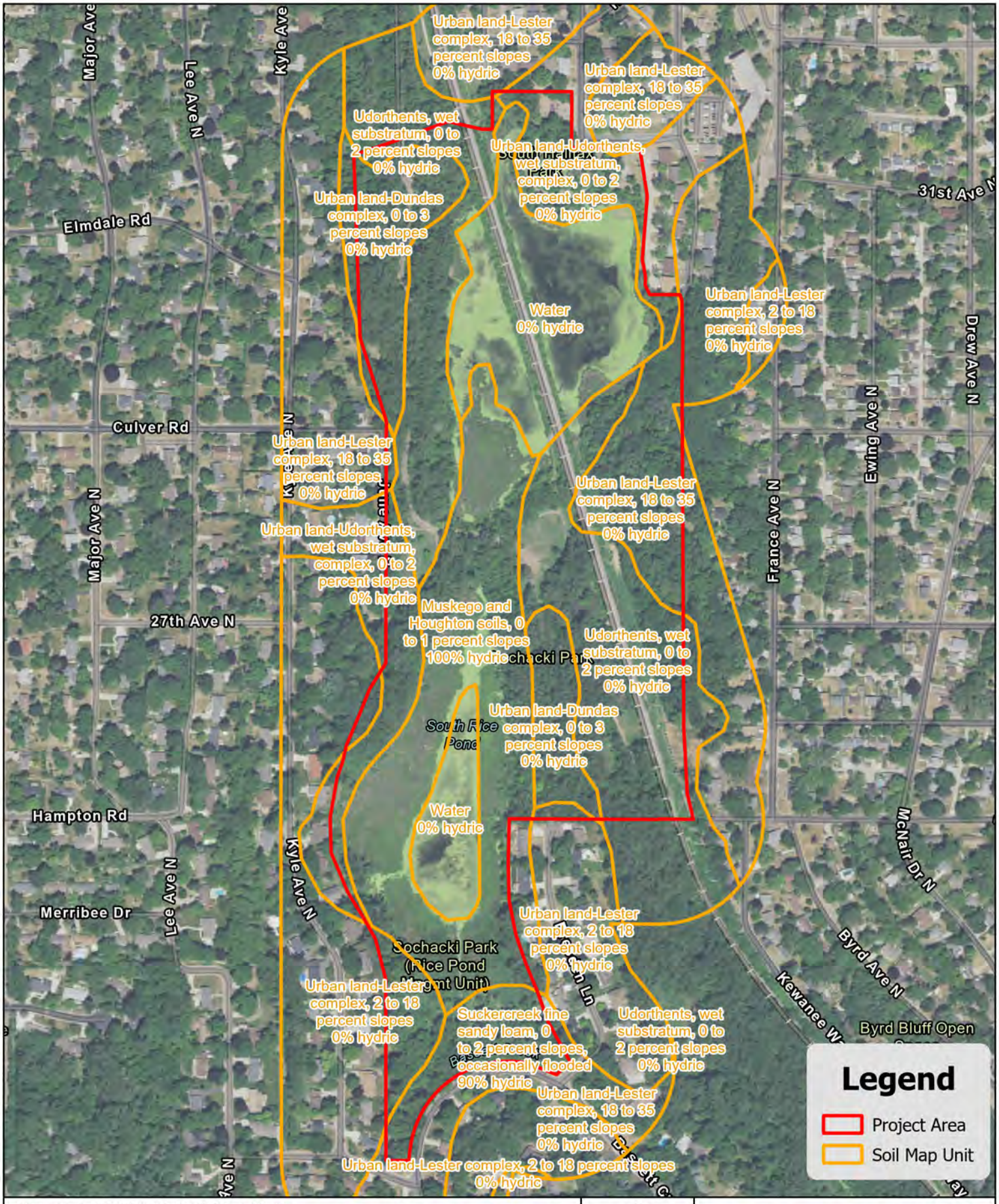

Figure 4- SSURGO Soil Map Units
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

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moore engineering, inc.

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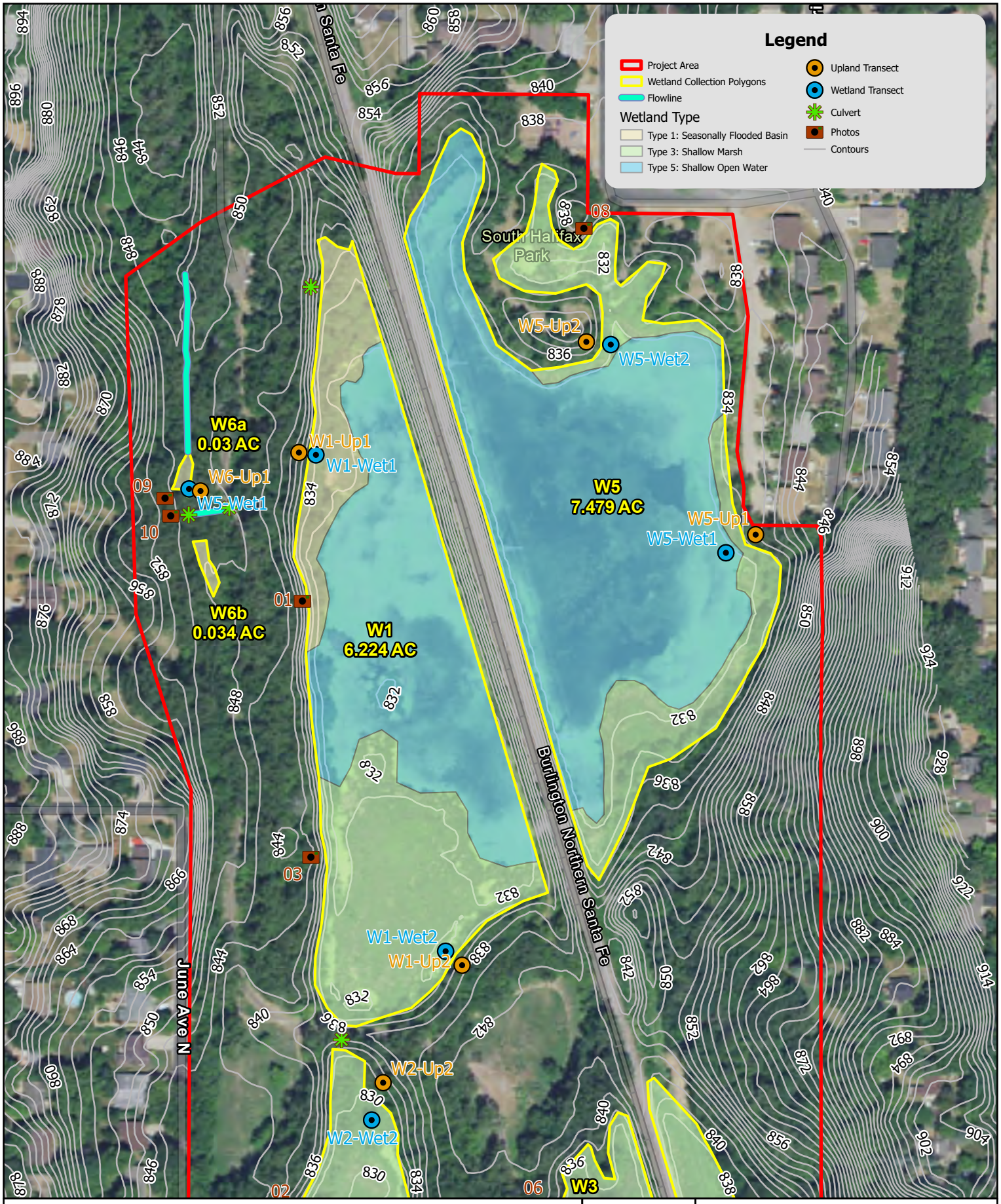

Figure 5a- Delineated Aquatic Features
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

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1:2,400

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Delineated By: Lucas Mueller (Moore Engineering, Inc) Delineated on: 06/XX/23 Aerial Image: 2021 County NAIP SIDS
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moore engineering, inc.

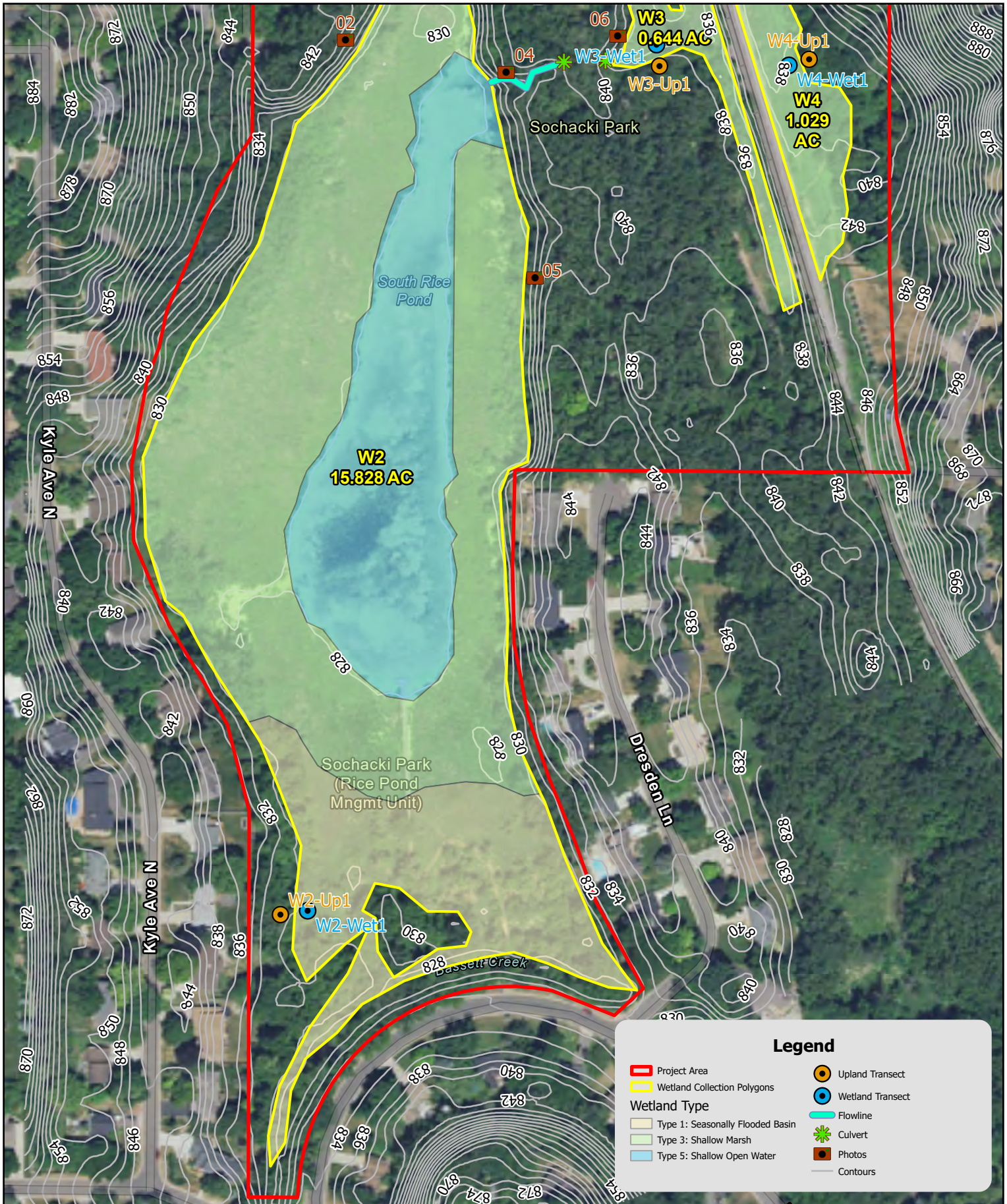

Figure 5b- Delineated Aquatic Features
Three Rivers Park District, Sochacki Park
Hennepin County, Minnesota

0 100 200 US Feet
1:2,400

N W E S

moore engineering, inc.

Created By: KJK Date Created: 06/05/23 Date Saved: 07/05/23 Date Exported: 07/05/23
Delineated By: Lucas Mueller (Moore Engineering, Inc) Delineated on: 06/XX/23 Aerial Image: 2021 County NAIP SIDS
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Appendix A – Joint Application Form

Joint Application Form for Activities Affecting Water Resources in Minnesota

This joint application form is the accepted means for initiating review of proposals that may affect a water resource (wetland, tributary, lake, etc.) in the State of Minnesota under state and federal regulatory programs. Applicants for Minnesota Department of Natural Resources (DNR) Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. Applicants can use the information entered into MPARS to substitute for completing parts of this joint application form (see the paragraph on MPARS at the end of the joint application form instructions for additional information). This form is only applicable to the water resource aspects of proposed projects under state and federal regulatory programs; other local applications and approvals may be required. Depending on the nature of the project and the location and type of water resources impacted, multiple authorizations may be required as different regulatory programs have different types of jurisdiction over different types of resources.

Regulatory Review Structure

Federal

The St. Paul District of the U.S. Army Corps of Engineers (Corps) is the federal agency that regulates discharges of dredged or fill material into waters of the United States (wetlands, tributaries, lakes, etc.) under Section 404 of the Clean Water Act (CWA) and regulates work in navigable waters under Section 10 of the Rivers and Harbors Act. Applications are assigned to Corps project managers who are responsible for implementing the Corps regulatory program within a particular geographic area.

State

There are three state regulatory programs that regulate activities affecting water resources. The Wetland Conservation Act (WCA) regulates most activities affecting wetlands. It is administered by local government units (LGUs) which can be counties, townships, cities, watershed districts, watershed management organizations or state agencies (on state-owned land). The Minnesota DNR Division of Ecological and Water Resources issues permits for work in specially-designated public waters via the Public Waters Work Permit Program (DNR Public Waters Permits). The Minnesota Pollution Control Agency (MPCA) under Section 401 of the Clean Water Act certifies that discharges of dredged or fill material authorized by a federal permit or license comply with state water quality standards. One or more of these regulatory programs may be applicable to any one project.

Required Information

Prior to submitting an application, applicants are **strongly encouraged** to seek input from the Corps Project Manager and LGU staff to identify regulatory issues and required application materials for their proposed project. Project proponents can request a pre-application consultation with the Corps and LGU to discuss their proposed project by providing the information required in Sections 1 through 5 of this joint application form to facilitate a meaningful discussion about their project. Many LGUs provide a venue (such as regularly scheduled technical evaluation panel meetings) for potential applicants to discuss their projects with multiple agencies prior to submitting an application. Contact information is provided below.

The following bullets outline the information generally required for several common types of determinations/authorizations.

- For delineation approvals and/or jurisdictional determinations, submit Parts 1, 2 and 5, and Attachment A.
- For activities involving CWA/WCA exemptions, WCA no-loss determinations, and activities not requiring mitigation, submit Parts 1 through 5, and Attachment B.
- For activities requiring compensatory mitigation/replacement plan, submit Parts 1 thru 5, and Attachments C and D.
- For local road authority activities that qualify for the state's local road wetland replacement program, submit Parts 1 through 5, and Attachments C, D (if applicable), and E to both the Corps and the LGU.

Submission Instructions

Send the completed joint application form and all required attachments to:

U.S Army Corps of Engineers. Applications may be sent directly to the appropriate Corps Office. For a current listing of areas of responsibilities and contact information, visit the St. Paul District's website at: http://www.mvp.usace.army.mil/Missions/Regulatory.aspx and select "Minnesota" from the contact Information box. Alternatively, applications may be sent directly to the St. Paul District Headquarters and the Corps will forward them to the appropriate field office.

Section 401 Water Quality Certification: Applicants do not need to submit the joint application form to the MPCA unless specifically requested. The MPCA will request a copy of the completed joint application form directly from an applicant when they determine an individual 401 water quality certification is required for a proposed project.

Wetland Conservation Act Local Government Unit: Send to the appropriate Local Government Unit. If necessary, contact your county Soil and Water Conservation District (SWCD) office or visit the Board of Water and Soil Resources (BWSR) web site (www.bwsr.state.mn.us) to determine the appropriate LGU.

DNR Public Waters Permitting: In 2014 the DNR will begin using the Minnesota DNR Permitting and Reporting System (MPARS) for submission of Public Waters permit applications (https://webapps11.dnr.state.mn.us/mpars/public/authentication/login). Applicants for Public Waters permits **MUST** use the MPARS online permitting system for submitting applications to the DNR. To avoid duplication and to streamline the application process among the various resource agencies, applicants can use the information entered into MPARS to substitute for completing parts of this joint application form. The MPARS print/save function will provide the applicant with a copy of the Public Waters permit application which, at a minimum, will satisfy Parts one and two of this joint application. For certain types of activities, the MPARS application may also provide all of the necessary information required under Parts three and four of the joint application. However, it is the responsibility of the Applicant to make sure that the joint application contains all of the required information, including identification of all aquatic resources impacted by the project (see Part four of the joint application). After confirming that the MPARS application contains all of the required information in Parts one and two the Applicant may attach a copy to the joint application and fill in any missing information in the remainder of the joint application.

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Brian Vlach – Three Rivers Park District
Mailing Address: 3000 Xenium Lane North Plymouth, MN 55441
Phone: 763-694-7846
E-mail Address: Brian.vlach@threeriverspark.org

Authorized Contact (do not complete if same as above):
Mailing Address:
Phone:
E-mail Address:

Agent Name: Lucas Mueller – Moore Engineering Inc.
Mailing Address:
Phone: 952.913.1384
E-mail Address: Lucas.Mueller@mooreengineeringinc.com

PART TWO: Site Location Information

County: Hennepin **City/Township: Golden Valley / Robbinsdale**
Parcel ID and/or Address: See Figure 1
Legal Description (Section, Township, Range):
Lat/Long (decimal degrees):
Attach a map showing the location of the site in relation to local streets, roads, highways.
Approximate size of site (acres) or if a linear project, length (feet): 65-acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted ***prior to*** this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Please see attached wetland delineation report for details.

Project Name and/or Number:

PART FOUR: Aquatic Resource Impact[1] Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	**Aquatic Resource Type** (wetland, lake, tributary etc.)	**Type of Impact** (fill, excavate, drain, or remove vegetation)	**Duration of Impact** Permanent (P) or Temporary (T)[1]	**Size of Impact**[2]	**Overall Size of Aquatic Resource** [3]	**Existing Plant Community Type(s)** in Impact Area[4]	**County, Major Watershed #, and Bank Service Area #** of Impact Area[5]

[1]If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".
[2]Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).
[3]This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".
[4]Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.
[5]Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

☐ Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature: Brian Vlach *Brian Vlach* Date:

I hereby authorize to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

7/7/2023

[1] The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number:

Attachment A
Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

☒ **Wetland Type Confirmation**

☒ **Delineation Concurrence**. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

☐ **Preliminary Jurisdictional Determination**. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

☐ **Approved Jurisdictional Determination**. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).
http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx

Appendix B – USACE Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W1-Up1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 8-15 Lat: 45.0112376 Long: -93.3330762 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Y	FACW
2.			
3.			
4.			
5.			
	40.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	60	Y	FAC
2.			
3.			
4.			
5.			
	60.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	40.00	x 2 =	80.00
FAC species	60.00	x 3 =	180.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	100.00 (A)		260.00 (B)

Prevalence Index = B/A = 2.6

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100					SL	
14-20	10YR 3/1	90	10YR 4/2	10	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W1-Up2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 3-7 Lat: 45.0090044 Long: -93.3320579 Datum: WGS84

Soil Map Unit Name: Muskego and Houghton soils, 0 to 1 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Y	FACW
2.			
3.			
4.			
5.			
	20.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Lonicera dioica*	20	Y	FACU
3. *Salix interior*	10	N	FACW
4.			
5.			
	60.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	20	Y	FAC
2. *Solidago canadensis*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	30.00	x 2 =	60.00
FAC species	50.00	x 3 =	150.00
FACU species	40.00	x 4 =	160.00
UPL species	0.00	x 5 =	0.00
Column Totals:	120.00 (A)		370.00 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-Up2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	100					SL	
10-22	10YR 3/2	90	10YR 4/1	10	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W1-Wet1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0112293 Long: -93.3329706 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Y	FACW
2. *Acer negundo*	20	Y	FAC
3.			
4.			
5.			
	60.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2.			
3.			
4.			
5.			
	30.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	40	Y	FACW
2. *Typha angustifolia*	25	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	65.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25.00	x 1 =	25.00
FACW species	80.00	x 2 =	160.00
FAC species	50.00	x 3 =	150.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	155.00 (A)		335.00 (B)

Prevalence Index = B/A = 2.16

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					MMI	
14-24	10YR 4/2	90	10YR 5/6	10	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✔ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ✔ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 6

Wetland Hydrology Present? **Yes** ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W1-Wet2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0090843 Long: -93.3321725 Datum: WGS84

Soil Map Unit Name: Muskego and Houghton soils, 0 to 1 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	15	Y	FACW
2.			
3.			
4.			
5.			
	15.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	40	Y	FACW
2. *Typha angustifolia*	25	Y	OBL
3. *Lemna aequinoctialis*	15	N	OBL
4. *Carex lacustris*	10	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50.00	x 1 =	50.00
FACW species	55.00	x 2 =	110.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	105.00 (A)		160.00 (B)

Prevalence Index = B/A = 1.52

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✔ No _____**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-Wet2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					MMI	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ✔ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 4

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W2-Up1

Investigator(s): LEM Section, Township, Range: sec 18 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 8-15 Lat: 45.0041502 Long: -93.3335520 Datum: WGS84

Soil Map Unit Name: Urban land-Lester complex, 2 to 18 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Y	FACW
2. *Acer negundo*	20	Y	FAC
3. *Tilia americana*	10	N	FACU
4.			
5.			
	70.0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	60	Y	FAC
2.			
3.			
4.			
5.			
	60.0	= Total Cover	
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	40.00	x 2 =	80.00
FAC species	80.00	x 3 =	240.00
FACU species	10.00	x 4 =	40.00
UPL species	0.00	x 5 =	0.00
Column Totals:	130.00 (A)		360.00 (B)

Prevalence Index = B/A = 2.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					SL	
8-22	10YR 4/2	90	10YR 5/3	10	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W2-Up2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 3-7 Lat: 45.0084956 Long: -93.3385433 Datum: WGS84

Soil Map Unit Name: Urban land-Lester complex, 2 to 18 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	20	Y	FAC
2. *Fraxinus pennsylvanica*	20	Y	FACW
3.			
4.			
5.			
	40.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Y	FAC
2. *Lonicera dioica*	10	Y	FACU
3. *Salix interior*	10	Y	FACW
4.			
5.			
	30.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	20	Y	FAC
2. *Phalaris arundinacea*	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.71 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	50.00	x 2 =	100.00
FAC species	50.00	x 3 =	150.00
FACU species	10.00	x 4 =	40.00
UPL species	0.00	x 5 =	0.00
Column Totals:	110.00 (A)		290.00 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-Up2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					COSL	
12-22	10YR 4/2	95	10YR 4/6	5	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ___ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W2-Wet1

Investigator(s): LEM Section, Township, Range: sec 18 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0041692 Long: -93.3333726 Datum: WGS84

Soil Map Unit Name: Urban land-Lester complex, 2 to 18 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	20	Y	FAC
2. *Fraxinus pennsylvanica*	20	Y	FACW
3. *Populus deltoides*	15	Y	FAC
4. *Salix nigra*	10	N	OBL
5.			
	65.0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	20	Y	FAC
2.			
3.			
4.			
5.			
	20.0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	40	Y	FACW
2. *Impatiens capensis*	15	Y	FACW
3. *Solidago canadensis*	10	N	FACU
4. *Calamagrostis canadensis*	10	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	75.0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20.00	x 1 =	20.00
FACW species	75.00	x 2 =	150.00
FAC species	55.00	x 3 =	165.00
FACU species	10.00	x 4 =	40.00
UPL species	0.00	x 5 =	0.00
Column Totals:	160.00 (A)		375.00 (B)

Prevalence Index = B/A = 2.34

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					L	
14-24	10YR 5/2	90	10YR 5/6	10	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✔ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 10

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W2-Wet2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0083297 Long: -93.3326137 Datum: WGS84

Soil Map Unit Name: Muskego and Houghton soils, 0 to 1 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	15	Y	FACW
2.			
3.			
4.			
5.			
	15.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	40	Y	FACW
2. *Lemna aequinoctialis*	15	Y	OBL
3. *Impatiens capensis*	15	Y	FACW
4. *Typha angustifolia*	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20.00	x 1 =	20.00
FACW species	70.00	x 2 =	140.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	90.00 (A)		160.00 (B)

Prevalence Index = B/A = 1.78

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✔ No _____**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W2-Wet2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					CL	
12-20	10YR 4/1	90	10YR 4/6		C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 14

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 10

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W3-Up1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 3-7 Lat: 45.0078338 Long: -93.3312445 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	20	Y	FACW
2. *Acer negundo*	20	Y	FAC
3.			
4.			
5.			
	40.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	50	Y	FAC
2. *Salix interior*	5	N	FACW
3.			
4.			
5.			
	55.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	25.00	x 2 =	50.00
FAC species	70.00	x 3 =	210.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	95.00 (A)		260.00 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W3-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/2	100					LS	
15-24	10YR 4/2	95	10YR 5/2	5	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W3-Wet1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0079273 Long: -93.3312687 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	15	Y	FACW
2.			
3.			
4.			
5.			
	15.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Typha angustifolia*	75	Y	OBL
2. *Phalaris arundinacea*	15	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75.00	x 1 =	75.00
FACW species	30.00	x 2 =	60.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	105.00 (A)		135.00 (B)

Prevalence Index = B/A = 1.29

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W3-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					MMI	
10-18	10YR 5/2	80	10YR 5/6	20	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ✔ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W4-Up1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 8-15 Lat: 45.0078796 Long: -93.3303356 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	20	Y	FAC
2. *Fraxinus pennsylvanica*	10	Y	FACW
3.			
4.			
5.			
	30.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	50	Y	FAC
2.			
3.			
4.			
5.			
	50.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	10.00	x 2 =	20.00
FAC species	70.00	x 3 =	210.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	80.00 (A)		230.00 (B)

Prevalence Index = B/A = 2.88

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W4-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	100					L	
10-22	10YR 4/3	95	10YR 4/1	5	D	M	SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W4-Wet1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.0078553 Long: -93.3304571 Datum: WGS84

Soil Map Unit Name: Udorthents, wet substratum, 0 to 2 percent slopes NWI classification: PSS1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	5	Y	FACW
2.			
3.			
4.			
5.			
	5.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Typha angustifolia*	75	Y	OBL
2. *Phalaris arundinacea*	10	N	FACW
3. *Carex lacustris*	10	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85.00	x 1 =	85.00
FACW species	15.00	x 2 =	30.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	100.00 (A)		115.00 (B)

Prevalence Index = B/A = 1.15

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✔ No _____**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W4-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					MMI	
10-18	10YR 5/2	80	10YR 5/6	20	C	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ✔ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ✔ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ✔ No ___ Depth (inches): 4

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 2

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W5-Up1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 3-7 Lat: 45.010786 Long: -93.330306 Datum: WGS84

Soil Map Unit Name: Water NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	15	Y	FACW
2. *Acer negundo*	15	Y	FAC
3.			
4.			
5.			
	30.0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Lonicera dioica*	20	Y	FACU
3.			
4.			
5.			
	50.0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Anemone quinquefolia*	10	Y	FAC
2. *Solidago canadensis*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15.0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	15.00	x 2 =	30.00
FAC species	55.00	x 3 =	165.00
FACU species	25.00	x 4 =	100.00
UPL species	0.00	x 5 =	0.00
Column Totals:	95.00 (A)		295.00 (B)

Prevalence Index = B/A = 3.11

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W5-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					SL	
15-20	10YR 3/2	95	10YR 4/1	5	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W5-Up2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex

Slope (%): 0-2 Lat: 45.011714 Long: -93.331336 Datum: WGS84

Soil Map Unit Name: Urban land-Udorthents, wet substratum, complex, 0 to 2 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	15	Y	FAC
2. *Fraxinus pennsylvanica*	15	Y	FACW
3. *Ulmus Americana*	10	Y	FAC
4.			
5.			
	40.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhus aromatica*	20	Y	UPL
2. *Rhamnus cathartica*	20	Y	FAC
3.			
4.			
5.			
	40.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	20	Y	FAC
2. *Taraxacum officinale*	10	Y	FACU
3. *Anemone quinquefolia*	5	N	FAC
4. *Solidago canadensis*	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	40.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.43 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	15.00	x 2 =	30.00
FAC species	70.00	x 3 =	210.00
FACU species	15.00	x 4 =	60.00
UPL species	20.00	x 5 =	100.00
Column Totals:	120.00 (A)		400.00 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W5-Up2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					SL	
12-24	10YR 4/2	95	10YR 5/1	5	D	M	SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W5-Wet1

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.010625 Long: -93.330393 Datum: WGS84

Soil Map Unit Name: Water NWI classification: PUBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** **Yes ✔ No _____**
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	5	Y	FACW
2.			
3.			
4.			
5.			
	5.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Typha angustifolia*	20	Y	OBL
2. *Lemna aequinoctialis*	20	Y	OBL
3. *Phalaris arundinacea*	10	N	FACW
4. *Carex lacustris*	10	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
	60.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50.00	x 1 =	50.00
FACW species	15.00	x 2 =	30.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	65.00 (A)		80.00 (B)

Prevalence Index = B/A = 1.23

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✔ No _____**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W5-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					MMI	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ✔ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 3

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-15

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W5-Wet2

Investigator(s): LEM Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None

Slope (%): 0-2 Lat: 45.011634 Long: -93.331187 Datum: WGS84

Soil Map Unit Name: Water NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No ____	**Is the Sampled Area within a Wetland?** **Yes ✔ No ____**
Hydric Soil Present?	Yes ✔ No ____	
Wetland Hydrology Present?	Yes ✔ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	10	Y	FAC
2.			
3.			
4.			
5.			
	10.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	5	Y	FACW
2.			
3.			
4.			
5.			
	5.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Lemna aequinoctialis*	50	Y	OBL
2. *Typha angustifolia*	30	Y	OBL
3. *Carex lacustris*	10	N	OBL
4. *Phalaris arundinacea*	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90.00	x 1 =	90.00
FACW species	10.00	x 2 =	20.00
FAC species	10.00	x 3 =	30.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	110.00 (A)		140.00 (B)

Prevalence Index = B/A = 1.27

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ✔ No ____**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W5-Wet2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					MMI	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ✔ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✔ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 1

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-30

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W6-Up1

Investigator(s): NDO Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): Convex

Slope (%): 0-2 Lat: 45.010749 Long: -93.334818 Datum: WGS84

Soil Map Unit Name: Urban land-Lester complex, 18 to 35 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ✔, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ✔ No ____	
Wetland Hydrology Present?	Yes ____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Rhamnus cathartica*	30	Y	FAC
2. *Acer negundo*	10	Y	FAC
3.			
4.			
5.			
	40.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Glechoma hederacea*	70	Y	FACU
2. *Alliaria petiolata*	10	N	FAC
3. *Arctium minus*	10	N	FACU
4. *Solanum dulcamara*	10	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	60.00	x 3 =	180.00
FACU species	80.00	x 4 =	320.00
UPL species	0.00	x 5 =	0.00
Column Totals:	140.00 (A)		500.00 (B)

Prevalence Index = B/A = 3.57

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W6-Up1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	95	10YR 4/6	5	C	M	SIL	Soil's disturbed

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel and rocks

Depth (inches): 12

Hydric Soil Present? Yes ✔ No ___

Remarks:

Soils are disturbed. Gravel and rocky inclusions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Sochacki Park City/County: Hennepin County Sampling Date: 2023-06-30

Applicant/Owner: Three Rivers State: Minnesota Sampling Point: W6-Wet1

Investigator(s): NDO Section, Township, Range: sec 07 T029N R024W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2 Lat: 45.010199 Long: -93.334206 Datum: WGS84

Soil Map Unit Name: Urban land-Lester complex, 18 to 35 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil ✔, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:
Soils are disturbed and heavily sedimented

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Pilea pumila*	20	Y	FACW
2. *Acer negundo*	5	N	FAC
3. *Phalaris arundinacea*	5	N	FACW
4. *Rhamnus cathartica*	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	35.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	25.00	x 2 =	50.00
FAC species	10.00	x 3 =	30.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	35.00 (A)		80.00 (B)

Prevalence Index = B/A = 2.29

Hydrophytic Vegetation Indicators:

✔ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

✔ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks: (Include photo numbers here or on a separate sheet.)
55% bare

SOIL

Sampling Point: W6-Wet1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					SI	Highly organic with decomposi
2-4	10YR 5/4	100					S	
4-16	10YR 2/2	90	10YR 5/6	10	C	M	SIL	Sand inclusions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✔ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Soil's are disturbed. Potential spoil piles or grading activities took place historically.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✔ Sparsely Vegetated Concave Surface (B8)
- ✔ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

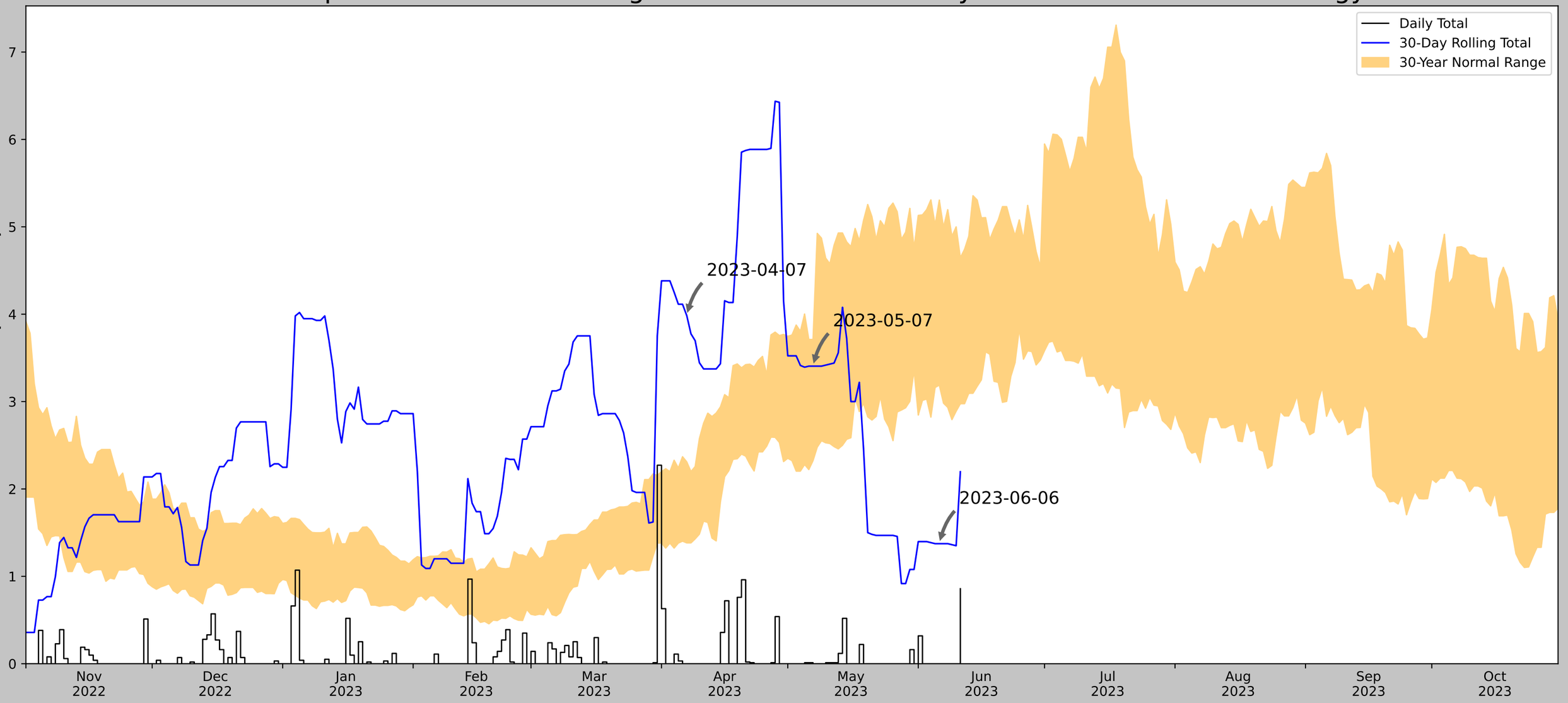
Wetland Hydrology Present? **Yes** ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix C - Site Visit Anticedent Precipitation Data

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	45.007003, -93.332251
Observation Date	2023-06-06
Elevation (ft)	828.351
Drought Index (PDSI)	Mild wetness (2023-05)
WebWIMP H_2O Balance	Dry Season

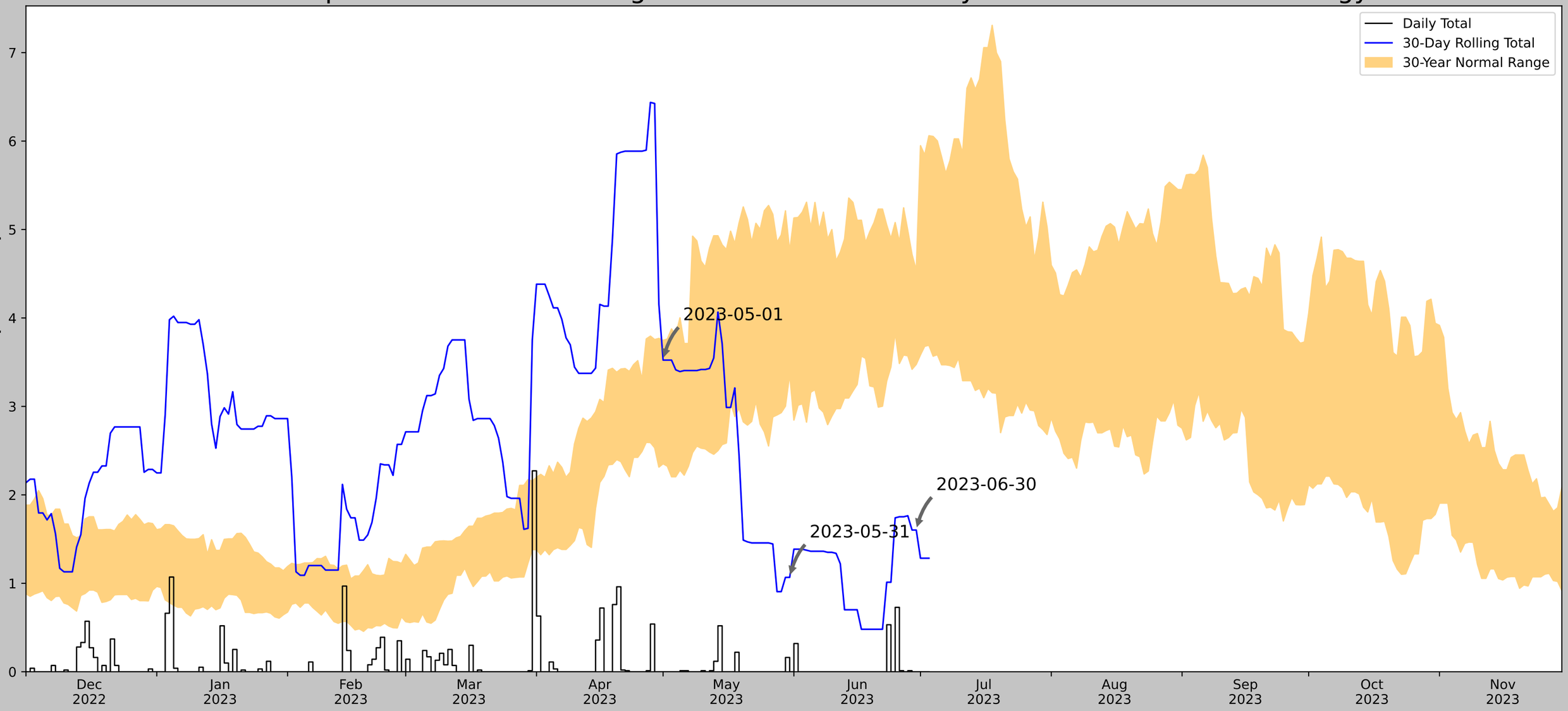
30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-06	3.188976	5.306299	1.374016	Dry	1	3	3
2023-05-07	2.324016	3.711024	3.405512	Normal	2	2	4
2023-04-07	1.382677	2.310236	3.984252	Wet	3	1	3
Result							Normal Conditions - 10

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
NEW HOPE	45.01, -93.3792	910.105	2.303	81.754	1.224	11086	89
PLYMOUTH 2.6 E	45.0162, -93.4096	983.924	1.545	73.819	0.809	0	1
MINNEAPOLIS 3.3 SW	44.9289, -93.3163	913.058	6.392	2.953	2.895	7	0
LOWER ST ANTHONY FALLS	44.9783, -93.2469	753.937	6.825	156.168	4.137	254	0
U OF MN ST PAUL	44.9903, -93.18	970.144	9.827	60.039	5.012	6	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	45.008763, -93.333142
Observation Date	2023-06-30
Elevation (ft)	838.287
Drought Index (PDSI)	Mild wetness (2023-05)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-30	3.475197	4.540158	1.602362	Dry	1	3	3
2023-05-31	3.361811	4.756693	1.066929	Dry	1	2	2
2023-05-01	2.351575	3.746851	3.523622	Normal	2	1	2
Result							Drier than Normal - 7

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
NEW HOPE	45.01, -93.3792	910.105	2.251	71.818	1.175	11086	90
MINNEAPOLIS 3.3 SW	44.9289, -93.3163	913.058	6.392	2.953	2.895	7	0
LOWER ST ANTHONY FALLS	44.9783, -93.2469	753.937	6.825	156.168	4.137	254	0
U OF MN ST PAUL	44.9903, -93.18	970.144	9.827	60.039	5.012	6	0

Appendix D - Site Photos

Photo ID: 01 - Wetland 1 – Type 3/5 portion of wetland complex facing east

Photo ID: 02 - Wetland 1 – Type 3/5 portion of wetland complex facing northeast

Photo ID: 03 - Wetland 2 – Type 3/5 portion of wetland complex facing east

Photo ID: 04 – Waterbody/Flowline – Flowline feature facing west

Photo ID: 05 – Wetland 2 – Type 3/5 portion of wetland complex facing west

Photo ID: 06 – Wetland 3 – Type 3/5 portion of wetland complex facing east

Photo ID: 08 – Wetland 5 – Type 3 portion of wetland complex facing south

Photo ID: 09 – Wetland 6 – Type 1 forested wetland basin facing north

Photo ID: 10 – Culvert and drainage feature separating Wetland 6a from Wetland 6b facing east

Appendix E – Minnesota Routine Assessment Method Results

	Date	Wetland name / ID ___Wetland 1_____	Wetland name / ID _____	Wetland name / ID _____	Wetland name / ID _____
	Special Features (from list, p.2--enter letter/s)	- ____	- ____	- ____	- ____
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B
#2 & #3	~ Describe each community type individually below ~			~ Describe each community type individually below ~	
Plant Community #1	Community Type (wet meadow, marsh)	16B Seasonally Flooded Basin	- -	- -	- -
	Community Proportion (% of total)	10%			
	Dominant Vegetation / Cover Class				
	Invasive/exotic Vegetation / Cover Class				
	Community Quality (E, H, M, L)	L 0.1	0	0	0
Plant Community #2	Community Type (wet meadow, marsh)	9B Shallow, Open Water	- -	- -	- -
	Community Proportion (% of total)	50%			
	Dominant Vegetation / Cover Class				
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia			
	Community Quality (E, H, M, L)	L 0.1	0	0	0
Plant Community #3	Community Type (wet meadow, marsh)	13B Shallow Marsh	- -	- -	- -
	Community Proportion (% of total)	40%			
	Dominant Vegetation / Cover Class				
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia			
	Community Quality (E, H, M, L)	L 0.1	0	0	0
Plant Community #4*	Community Type (wet meadow, marsh)	- -	- -	- -	- -
	Community Proportion (% of total)				
	Dominant Vegetation / Cover Class				
	Invasive/exotic Vegetation / Cover Class				
	Community Quality (E, H, M, L)	- 0	0	0	0
	Circular 39 Types (primary <TAB> others)				
	Cowardin Types				
	Photo ID				
	Highest rated community veg. div./integ:	0.1 Low	0 -	0 -	0 -
	Average vegetative diversity/integrity:	0.10 Low	- -	- -	- -
	Weighted Average veg. diversity/integrity:	0.10 Low	0.00 -	0.00 -	### -
#4	Listed, rare, special plant species?	n Y N	Y N	Y N	Y N
#5	**Rare community or habitat?**	**n Y N**	**Y N**	**Y N**	**Y N**
#6	Pre-European-settlement conditions?	n Y N	Y N	Y N	Y N

Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]

Cover Class	Class Range
1	0 - 3%
2	3 - 10%
3	10 - 25%
4	25 - 50%
5	50 - 75%
6	75 - 100%

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average calculations.

MnRAM 3.2 Digital Worksheet, Side 2

	Question Description	User entry	Rating		
	1 Veg. Table 2, Option 4		0.10		
	TOTAL VEG Rating	0.1	L		
Digital worksheet, section I	4 Listed, rare, special plant species?	n	next		
	5 Rare community or habitat?	n	next		
	6 Pre-European-settlement conditions?	n	next		
	7 hydrogeo & topo	FT	Depress'l/Flow-through		
	8 Water depth (inches)				
	Water depth (% inundation)	50%			
	9 Local watershed/immedita drainage (acres)				
	10 Existing wetland size	6.224			
	SOILS: Up/Wetland (survey classification + site)				
	11				
	12 Outlet characteristics for flood retention	B	0.5		
	13 Outlet characteristics for hydrologic regime	B	0.5		
	14 Dominant upland land use (within 500 ft)	C	0.1	1	
	15 Soil condition (wetland)	B	0.5		
	16 Vegetation (% cover)	40%	M	0.5	
	17 Emerg. veg. flood resistance	B	0.5		
	18 Sediment delivery	B	0.5		
	19 Upland soils (based on soil group)	B	0.5		
	20 Stormwater runoff pretreatment & detention	B	0.5	0.5	
	21 Subwatershed wetland density	A	1		
	22 Channels/sheet flow	A	1		
	23 Adjacent naturalized buffer average width (feet)	50	M	WQ 0.5 M	0.5
	24 Adjacent Area Management: % Full	70%	0.7	3 **0.81**	
	adjacent area mgmt: % Manicured	20%	0.1		
	adjacent area mgmt: % Bare	10%	0.01		
	25 Adjacent Area Diversity & Structure: % Native	50%	0.5	3 **0.67**	
	adjacent area diversity: % Mixed	30%	0.15		
	adjacent area diversity: % Sparse/Inv./Exotic	20%	0.02		
	26 Adjacent Area Slope: % Gentle	60%	0.6	3 **0.76**	
	adjacent area slope: % Moderate	30%	0.15		
	adjacent area slope: % Steep	10%	0.01		
Digital worksheet, section II	27 Downstream sensitivity/WQ protection	B	0.5		
	28 Nutrient loading	C	0.1		
	29 Shoreline wetland?	N	N		
	30 Rooted shoreline vegetation (%cover)		Enter a percentage		
	31 Wetland in-water width (in feet, average)		Enter a percentage		
	32 Emergent vegetation erosion resistance		Enter valid choice		
	33 Shoreline erosion potential		Enter valid cho		
	34 Bank protection/upslope veg.		Enter valid choice		
	35 Rare Wildlife	N	N		
	36 Scarce/Rare/S1/S2 local community	N	N		
	37 Vegetation interspersion cover (see diagram 1)	6	M	0.5	
	38 Community interspersion (see diagram 2)	1	L	0.1	0
	39 Wetland detritus	B	0.5		
	40 Wetland interspersion on landscape	B	0.5	0.5	
	41 Wildlife barriers	A	1		
	42 Amphibian breeding potential-hydroperiod	A	1		
	43 Amphibian breeding potential--fish presence	B	0.5		
	44 Amphibian & reptile overwintering habitat	B	0.5		
	45 Wildlife species (list)				
	46 Fish habitat quality	C	0.1		
	47 Fish species (list)				
	48 Unique/rare educ./cultural/rec.opportunity	N	N		
	49 Wetland visibility	B	0.5		
	50 Proximity to population	Y	1		
	51 Public ownership	A	1		
	52 Public access	A	1		
	53 Human influence on wetland	B	0.5		
	54 Human influence on viewshed	B	0.5		
	55 Spatial buffer	B	0.5		
	56 Recreational activity potential	B	0.5		
	57 Commercial crop--hydrologic impact	N/A	N/A		
Additional questions	58 *GW - Wetland soils*	R	R or D	0.1	
	59 *GW - Subwatershed land use*	R	R or D	0.1	
	60 *GW - Wetland size and soil group*	R	R or D	0.1	
	61 GW - Wetland hydroperiod	D	R or D	1	
	62 GW - Inlet/Outlet configuration	R	R or D	0.1	
	63 GW - Surrounding upland topographic relief	D	R or D	1	
	64 Restoration potential w/o flooding	N	Y or N	2.4	
	65 *Landowners affected by restoration*		*E a b c*	Enter valid choice	
	66A *Existing wetland size (acres) [from #10]*	6.224	acres		
	66B Total wetland restoration size (acres)		acres	0.1	
	66C (Calculated) Potential New Wetland Area [B-A]	-6.224	acres	% effectively drained: ####	
	67 Average width of naturalized upland buffer (potentia	0	feet	0.1 value: ####	
	68 Likelihood of restoration success		a b c	Enter valid choice	
	69 Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling		
	70 Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8		
	71 Wetland sensitivity to stormwater	b	E a b c		
	72 Additional stormwater treatment needs		a b c		

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Highest-rated: 0.1

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations

These are supplemental Lookup Tables and Intermediary formulas:

Hydrogeology and Topography LookUp

I	Depressional/Isolated
FT	Depress'l/Flow-through
Trib	Depress'l/Tributary
R	Riverine
Lac	Lacustrine
Peat	Peatland
Flood	Floodplain
S	Slope
O	Other

Habitat n/a formulator

E49	0.00	"=IF(E49="n/a",1,0)"
E50	0.00	"=IF(E50="n/a",1.5,0)"
E51	0.00	"=IF(E51="n/a",2,0)"
Add	0.00	

Open Water Interspersion LookUp

CC	Rtq	Ltr
1	0.1	L
2	0.1	L
3	0.5	M
4	0.5	M
5	1	H
6	0.5	M
7	1	H
8	0.1	L
N/A	N/A	N/A
-	"Pick an example from the image"	

Community Interspersion LookUp

1	L	0.1
2	M	0.5
3	H	1
4	H	1
N/A	N/A	N/A
-	"Pick an example from the image"	

Vegetative formula
"=C4", the Weighted Average Option 4 from Veg. Worksheet

Characteristic Hydrology formula
"=(E17+E18+E19+F24)/4" F24 is the reverse rating

These are the formulas for the f inal functional ratings shown at the

Flood Attenuation Formula breakout (not linked to D72) (E16 is reverse rated)

n/a		formula is:
none	0.633333	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/5)
flood outlet	0.666667	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/4
F-T	0.7	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/5)
both	0.75	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/4

Water Quality--Wetland
"=(D6*2+E18+F24+(G27+G28+G34)/3+E22+E40)/7"

Shoreline Protection
"=IF(E41="v",((E42+E43+E44+E45+E46)/5),"N/A")"

Habitat formula breakout/lookup (E22 is RR) Special Features Bump is below.

N/A	H38	=	
none	0	0.446	(D6*2+E51+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/10
49	1	0.44	(D6*2+E51+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
50	1.5	0.484444	(D6*2+E51+F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/9
51	2	0.44	(D6*2+ F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
49&50	2.5	0.4825	(D6*2+E51+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&51	3	0.4325	(D6*2+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/8
50&51	3.5	0.4825	(D6*2+ F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&50&51	4.5	0.48	(D6*2+ E52+E53+(I27+G28+G31)/3+E17+F24)/7

Characteristic Fish Habitat formula
"=IF(D41="Y",((E58*2+G28+E22+F24+E40+E43+E42+F45)/9),((E58*2+G28+E22+F24+E40)/6))"

Characteristic Amphibian Habitat formula (see Lookup breakout below)
E112=VLOOKUP(E54,T116:U117,2,FALSE)

Amphibian Habitat Formula Breakout

0	0.00	Amphibian breeding is controlling factor
1	0.26	"=((E55)*(E56+(I27*2)+E53+E18+F24)/6)"

Aesthetics/Rec/Ed/Cultural formula
"IF(E65=".1",(E62+E63+E64+2*E65+E66+E67+E68)/8,(E61+E62+E63+E64+E65+E66+E67+E68)/8)"

"=E69" **Commercial use** reflects just the rating for the question.

Special Features Bump-up reference table

a		Fish Habitat=E
b		Veg=E
c		Aesthetics=E
d	n	AND #5=Y, then Wildlife=E
g		Wildlife/Fish=E
h		Aesthetics=E
i		Veg=E
j	N	AND #35 =Y, Wildlife=E
q	nate G	GW=recharge, GW=E
r	nate G	Y and GW=recharge, GW=E
u		Aesthetics=E

Recharge/Discharge Tendency

R	0.1
D	1
-	Enter "R" or "D"

Functional Rating Summaries

Function Name	Raw score	Final Rating	Rating Category
Vegetative Diversity/Integrity		0.10	L
Hydrology - Characteristic		0.40	Med
Flood Attenuation		0.63	Med
Water Quality--Downstream		0.47	Med
Water Quality--Wetland		0.30	Low
Shoreline Protection		N/A	N/A
Characteristic Wildlife Habitat Structure	0.45	0.45	Med
Maintenance of Characteristic Fish Habitat	0.35	0.35	Med
Maintenance of Characteristic Amphibian Habitat		0.26	Low
Aesthetics/Recreation/Education/Cultural	0.69	0.69	High
Commercial use		N/A	N/A
Special Features listing:		-	

Formula shown to the right.

Groundwater Interaction	indeterminate GW source
Groundwater Functional Index	no special indicators
Restoration Potential (draft formula)	N/A N/A
Stormwater Sensitivity (not active)	

	Date	Wetland name / ID ___Wetland 2_____		Wetland name / ID _____		Wetland name / ID _____		Wetland name / ID _____	
	Special Features (from list, p.2--enter letter/s)	-	____	-	____	-	____	-	____
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	
#2 & #3	~ Describe each community type individually below ~					~ Describe each community type individually below ~			
Plant Community #1	Community Type (wet meadow, marsh)	16B	Seasonally Flooded Basin	-	-	-	-	-	-
	Community Proportion (% of total)	10%							
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #2	Community Type (wet meadow, marsh)	9B	Shallow, Open Water	-	-	-	-	-	-
	Community Proportion (% of total)	30%							
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia							
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #3	Community Type (wet meadow, marsh)	13B	Shallow Marsh	-	-	-	-	-	-
	Community Proportion (% of total)	60%							
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia							
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)	-	0		0		0		0
	Circular 39 Types (primary <TAB> others)								
	Cowardin Types								
	Photo ID								
Highest rated community veg. div./integ:		0.1	Low	0	-	0	-	0	-
Average vegetative diversity/integrity:		0.10	Low	-	-	-	-	-	-
Weighted Average veg. diversity/integrity:		0.10	Low	0.00	-	0.00	-	###	-
#4	Listed, rare, special plant species?	n	Y N		Y N		Y N		Y N
#5	**Rare community or habitat?**	**n**	**Y N**		**Y N**		**Y N**		**Y N**
#6	Pre-European-settlement conditions?	n	Y N		Y N		Y N		Y N

Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]

Cover Class	Class Range
1	0 - 3%
2	3 - 10%
3	10 - 25%
4	25 - 50%
5	50 - 75%
6	75 - 100%

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average calculations.

MnRAM 3.2 Digital Worksheet, Side 2

	Question Description	User entry	Rating	
1	Veg. Table 2, Option 4		0.10	
	TOTAL VEG Rating	0.1	L	
4	Listed, rare, special plant species?	n	next	
5	Rare community or habitat?	n	next	
6	Pre-European-settlement conditions?	n	next	
7	hydrogeo & topo	FT	Depress'l/Flow-through	
8	Water depth (inches)			
	Water depth (% inundation)	50%		
9	Local watershed/immedita drainage (acres)			
10	Existing wetland size	15.828		
	SOILS: Up/Wetland (survey classification + site)			
11				
12	Outlet characteristics for flood retention	B	0.5	
13	Outlet characteristics for hydrologic regime	B	0.5	
14	Dominant upland land use (within 500 ft)	C	0.1	1
15	Soil condition (wetland)	B	0.5	
16	Vegetation (% cover)	70%	M	0.5
17	Emerg. veg. flood resistance	B	0.5	
18	Sediment delivery	B	0.5	
19	Upland soils (based on soil group)	B	0.5	
20	Stormwater runoff pretreatment & detention	B	0.5	0.5
21	Subwatershed wetland density	A	1	
22	Channels/sheet flow	A	1	
23	Adjacent naturalized buffer average width (feet)	50	M	WQ 0.5 M 0.5
24	Adjacent Area Management: % Full	60%	0.6	3 **0.76**
	adjacent area mgmt: % Manicured	30%	0.15	
	adjacent area mgmt: % Bare	10%	0.01	
25	Adjacent Area Diversity & Structure: % Native	30%	0.3	3 **0.49**
	adjacent area diversity: % Mixed	30%	0.15	
	adjacent area diversity: % Sparse/Inv./Exotic	40%	0.04	
26	Adjacent Area Slope: % Gentle	50%	0.5	3 **0.67**
	adjacent area slope: % Moderate	30%	0.15	
	adjacent area slope: % Steep	20%	0.02	
27	Downstream sensitivity/WQ protection	B	0.5	
28	Nutrient loading	C	0.1	
29	Shoreline wetland?	N	N	
30	Rooted shoreline vegetation (%cover)		Enter a percentage	
31	Wetland in-water width (in feet, average)		Enter a percentage	
32	Emergent vegetation erosion resistance		Enter valid choice	
33	Shoreline erosion potential		Enter valid cho	
34	Bank protection/upslope veg.		Enter valid choice	
35	Rare Wildlife	N	N	
36	Scarce/Rare/S1/S2 local community	N	N	
37	Vegetation interspersion cover (see diagram 1)	6	M	0.5
38	Community interspersion (see diagram 2)	1	L	0.1 0
39	Wetland detritus	B	0.5	
40	Wetland interspersion on landscape	B	0.5	0.5
41	Wildlife barriers	A	1	
42	Amphibian breeding potential-hydroperiod	A	1	
43	Amphibian breeding potential--fish presence	C	0.1	
44	Amphibian & reptile overwintering habitat	C	0.1	
45	Wildlife species (list)			
46	Fish habitat quality	B	0.5	
47	Fish species (list)			
48	Unique/rare educ./cultural/rec.opportunity	N	N	
49	Wetland visibility	B	0.5	
50	Proximity to population	Y	1	
51	Public ownership	A	1	
52	Public access	A	1	
53	Human influence on wetland	B	0.5	
54	Human influence on viewshed	B	0.5	
55	Spatial buffer	B	0.5	
56	Recreational activity potential	B	0.5	
57	Commercial crop--hydrologic impact	N/A	N/A	
58	*GW - Wetland soils*	R	R or D	0.1
59	*GW - Subwatershed land use*	R	R or D	0.1
60	*GW - Wetland size and soil group*	R	R or D	0.1
61	GW - Wetland hydroperiod	R	R or D	0.1
62	GW - Inlet/Outlet configuration	R	R or D	0.1
63	GW - Surrounding upland topographic relief	D	R or D	1
64	Restoration potential w/o flooding	N	Y or N	1.5
65	*Landowners affected by restoration*		*E a b c*	Enter valid choice
66A	*Existing wetland size (acres) [from #10]*	15.828	acres	
66B	Total wetland restoration size (acres)		acres	0.1
66C	(Calculated) Potential New Wetland Area [B-A]	-15.83	acres	% effectively drained: ####
67	Average width of naturalized upland buffer (potentia	0	feet	0.1 value: ####
68	Likelihood of restoration success		a b c	Enter valid choice
69	Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling	
70	Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8	
71	Wetland sensitivity to stormwater	b	E a b c	
72	Additional stormwater treatment needs		a b c	

Highest-rated: 0.1

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations

These are supplemental Lookup Tables and Intermediary formulas:

Hydrogeology and Topography LookUp

I	Depressional/Isolated
FT	Depress'l/Flow-through
Trib	Depress'l/Tributary
R	Riverine
Lac	Lacustrine
Peat	Peatland
Flood	Floodplain
S	Slope
O	Other

Habitat n/a formulator

E49	0.00	"=IF(E49="n/a",1,0)"
E50	0.00	"=IF(E50="n/a",1.5,0)"
E51	0.00	"=IF(E51="n/a",2,0)"
Add	0.00	

Open Water Interspersion LookUp

CC	Rtg	Ltr
1	0.1	L
2	0.1	L
3	0.5	M
4	0.5	M
5	1	H
6	0.5	M
7	1	H
8	0.1	L
N/A	N/A	N/A
-	"Pick an example from the image"	

Community Interspersion LookUp

1	L	0.1
2	M	0.5
3	H	1
4	H	1
N/A	N/A	N/A
-	"Pick an example from the image"	

Vegetative formula
"=C4", the Weighted Average Option 4 from Veg. Worksheet

Characteristic Hydrology formula
"=(E17+E18+E19+F24)/4" F24 is the reverse rating

These are the formulas for the f inal functional ratings shown at the

Flood Attenuation Formula breakout (not linked to D72) (E16 is reverse rated)

n/a		formula is:
none	0.633333	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/5)
flood outlet	0.666667	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/4
F-T	0.7	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/5)
both	0.75	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/4

Water Quality--Wetland
"=(D6*2+E18+F24+(G27+G28+G34)/3+E22+E40)/7"

Shoreline Protection
"=IF(E41="v",((E42+E43+E44+E45+E46)/5),"N/A")"

Habitat formula breakout/lookup (E22 is RR) Special Features Bump is below.

N/A	H38	=	
none	0	0.438333	(D6*2+E51+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/10
49	1	0.431481	(D6*2+E51+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
50	1.5	0.475926	(D6*2+E51+F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/9
51	2	0.431481	(D6*2+ F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
49&50	2.5	0.472917	(D6*2+E51+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&51	3	0.422917	(D6*2+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/8
50&51	3.5	0.472917	(D6*2+ F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&50&51	4.5	0.469048	(D6*2+ E52+E53+(I27+G28+G31)/3+E17+F24)/7

Characteristic Fish Habitat formula
"=IF(D41="Y",((E58*2+G28+E22+F24+E40+E43+E42+F45)/9),((E58*2+G28+E22+F24+E40)/6))"

Characteristic Amphibian Habitat formula (see Lookup breakout below)
E112=VLOOKUP(E54,T116:U117,2,FALSE)

Amphibian Habitat Formula Breakout

0	0.00	Amphibian breeding is controlling factor
1	0.05	"=((E55)*(E56+(I27*2)+E53+E18+F24)/6)"

Aesthetics/Rec/Ed/Cultural formula
"IF(E65=".1",(E62+E63+E64+2*E65+E66+E67+E68)/8,(E61+E62+E63+E64+E65+E66+E67+E68)/8)"

"=E69" **Commercial use** reflects just the rating for the question.

Special Features Bump-up reference table

a		Fish Habitat=E
b		Veg=E
c		Aesthetics=E
d	n	AND #5=Y, then Wildlife=E
g		Wildlife/Fish=E
h		Aesthetics=E
i		Veg=E
j	N	AND #35 =Y, Wildlife=E
q		echarg GW=recharge, GW=E
r		echarg Y and GW=recharge, GW=E
u		Aesthetics=E

Recharge/Discharge Tendency

R	0.1
D	1
-	Enter "R" or "D"

Functional Rating Summaries

Function Name	Raw score	Final Rating	Rating Category	Formula shown to the right.
Vegetative Diversity/Integrity		0.10	L	
Hydrology - Characteristic		0.40	Med	
Flood Attenuation		0.63	Med	
Water Quality--Downstream		0.46	Med	
Water Quality--Wetland		0.29	Low	
Shoreline Protection		N/A	N/A	
Characteristic Wildlife Habitat Structure	0.44	0.44	Med	
Maintenance of Characteristic Fish Habitat	0.48	0.48	Med	
Maintenance of Characteristic Amphibian Habitat		0.05	Low	
Aesthetics/Recreation/Education/Cultural	0.69	0.69	High	
Commercial use		N/A	N/A	0
Special Features listing:			-	

Groundwater Interaction	recharge	
Groundwater Functional Index	no special indicators	
Restoration Potential (draft formula)	N/A	N/A
Stormwater Sensitivity (not active)		

	Date	Wetland name / ID ___Wetland 3 & 4_____		Wetland name / ID _____		Wetland name / ID _____		Wetland name / ID _____	
	Special Features (from list, p.2--enter letter/s)	-	____	-	____	-	____	-	____
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	
#2 & #3	~ Describe each community type individually below ~					~ Describe each community type individually below ~			
Plant Community #1	Community Type (wet meadow, marsh)	13B	Shallow Marsh	-	-	-	-	-	-
	Community Proportion (% of total)		100%						
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia							
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #2	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #3	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)	-	0		0		0		0
	Circular 39 Types (primary <TAB> others)								
	Cowardin Types								
	Photo ID								
Highest rated community veg. div./integ:		0.1	Low	0	-	0	-	0	-
Average vegetative diversity/integrity:		0.10	Low	-	-	-	-	-	-
Weighted Average veg. diversity/integrity:		0.10	Low	0.00	-	0.00	-	###	-
#4	Listed, rare, special plant species?	n	Y N		Y N		Y N		Y N
#5	**Rare community or habitat?**	**n**	**Y N**		**Y N**		**Y N**		**Y N**
#6	Pre-European-settlement conditions?	n	Y N		Y N		Y N		Y N

Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]

Cover Class	Class Range
1	0 - 3%
2	3 - 10%
3	10 - 25%
4	25 - 50%
5	50 - 75%
6	75 - 100%

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average calculations.

MnRAM 3.2 Digital Worksheet, Side 2

	Question Description	User entry	Rating			
	1 Veg. Table 2, Option 4		0.10			
	TOTAL VEG Rating	0.1	L			
Digital worksheet, section I	4 Listed, rare, special plant species?	n	next			
	5 Rare community or habitat?	n	next			
	6 Pre-European-settlement conditions?	n	next			
	7 hydrogeo & topo	FT	Depress'l/Flow-through			
	8 Water depth (inches)					
	Water depth (% inundation)	50%				
	9 Local watershed/immedita drainage (acres)					
	10 Existing wetland size	1.673				
	SOILS: Up/Wetland (survey classification + site)					
	11					
	12 Outlet characteristics for flood retention	B	0.5			
	13 Outlet characteristics for hydrologic regime	B	0.5			
	14 Dominant upland land use (within 500 ft)	C	0.1	1		
	15 Soil condition (wetland)	B	0.5			
	16 Vegetation (% cover)	100%	H	1		
	17 Emerg. veg. flood resistance	B	0.5			
	18 Sediment delivery	B	0.5			
	19 Upland soils (based on soil group)	B	0.5			
	20 Stormwater runoff pretreatment & detention	B	0.5	0.5		
	21 Subwatershed wetland density	A	1			
	22 Channels/sheet flow	A	1			
	23 Adjacent naturalized buffer average width (feet)	50	M	WQ	0.5 M	0.5
	24 Adjacent Area Management: % Full	50%	0.5	2	**0.55**	
	adjacent area mgmt: % Manicured	0%	0			
	adjacent area mgmt: % Bare	50%	0.05			
	25 Adjacent Area Diversity & Structure: % Native	20%	0.2	3	**0.4**	
	adjacent area diversity: % Mixed	30%	0.15			
	adjacent area diversity: % Sparse/Inv./Exotic	50%	0.05			
	26 Adjacent Area Slope: % Gentle	50%	0.5	2	**0.55**	
	adjacent area slope: % Moderate	0%	0			
	adjacent area slope: % Steep	50%	0.05			
Digital worksheet, section II	27 Downstream sensitivity/WQ protection	B	0.5			
	28 Nutrient loading	B	0.5			
	29 Shoreline wetland?	N	N			
	30 Rooted shoreline vegetation (%cover)		Enter a percentage			
	31 Wetland in-water width (in feet, average)		Enter a percentage			
	32 Emergent vegetation erosion resistance		Enter valid choice			
	33 Shoreline erosion potential		Enter valid cho			
	34 Bank protection/upslope veg.		Enter valid choice			
	35 Rare Wildlife	N	N			
	36 Scarce/Rare/S1/S2 local community	N	N			
	37 Vegetation interspersion cover (see diagram 1)	1	L	0.1		
	38 Community interspersion (see diagram 2)	N/A	N/A	N/A		0
	39 Wetland detritus	B	0.5			
	40 Wetland interspersion on landscape	B	0.5	0.5		
	41 Wildlife barriers	A	1			
	42 Amphibian breeding potential-hydroperiod	A	1			
	43 Amphibian breeding potential--fish presence	A	1			
	44 Amphibian & reptile overwintering habitat	C	0.1			
	45 Wildlife species (list)					
	46 Fish habitat quality	C	0.1			
	47 Fish species (list)					
	48 Unique/rare educ./cultural/rec.opportunity	N	N			
	49 Wetland visibility	B	0.5			
	50 Proximity to population	Y	1			
	51 Public ownership	A	1			
	Public access	B	0.5			
	53 Human influence on wetland	B	0.5			
	54 Human influence on viewshed	C	0.1			
	55 Spatial buffer	B	0.5			
	56 Recreational activity potential	B	0.5			
	57 Commercial crop--hydrologic impact	N/A	N/A			
Additional questions	58 *GW - Wetland soils*	R	R or D	0.1		
	59 *GW - Subwatershed land use*	R	R or D	0.1		
	60 *GW - Wetland size and soil group*	R	R or D	0.1		
	61 GW - Wetland hydroperiod	R	R or D	0.1		
	62 GW - Inlet/Outlet configuration	R	R or D	0.1		
	63 GW - Surrounding upland topographic relief	D	R or D	1		
	64 Restoration potential w/o flooding	N	Y or N	1.5		
	65 *Landowners affected by restoration*		*E a b c*	Enter valid choice		
	66A *Existing wetland size (acres) [from #10]*	1.673	acres			
	66B Total wetland restoration size (acres)		acres	0.1		
	66C (Calculated) Potential New Wetland Area [B-A]	-1.673	acres	% effectively drained: ####		
	67 Average width of naturalized upland buffer (potentia	0	feet	0.1 value: ####		
	68 Likelihood of restoration success		a b c	Enter valid choice		
	69 Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling			
	70 Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8			
	71 Wetland sensitivity to stormwater	b	E a b c			
	72 Additional stormwater treatment needs		a b c			

Highest-rated: 0.1

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations

These are supplemental Lookup Tables and Intermediary formulas:

Hydrogeology and Topography LookUp

I	Depressional/Isolated
FT	Depress'l/Flow-through
Trib	Depress'l/Tributary
R	Riverine
Lac	Lacustrine
Peat	Peatland
Flood	Floodplain
S	Slope
O	Other

Habitat n/a formulator

E49	0.00	"=IF(E49="n/a",1,0)"
E50	1.50	"=IF(E50="n/a",1.5,0)"
E51	0.00	"=IF(E51="n/a",2,0)"
Add	1.50	

Open Water Interspersion LookUp

CC	Rtq	Ltr
1	0.1	L
2	0.1	L
3	0.5	M
4	0.5	M
5	1	H
6	0.5	M
7	1	H
8	0.1	L
N/A	N/A	N/A
-	"Pick an example from the image"	

Community Interspersion LookUp

1	L	0.1
2	M	0.5
3	H	1
4	H	1
N/A	N/A	N/A
-	"Pick an example from the image"	

Vegetative formula
"=C4", the Weighted Average Option 4 from Veg. Worksheet

Characteristic Hydrology formula
"=(E17+E18+E19+F24)/4" F24 is the reverse rating

These are the formulas for the f inal functional ratings shown at the

Flood Attenuation Formula breakout (not linked to D72) (E16 is reverse rated)

n/a		formula is:
none	0.666667	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/5)
flood outlet	0.708333	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/4
F-T	0.7	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/5)
both	0.75	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/4

Water Quality--Wetland
"=(D6*2+E18+F24+(G27+G28+G34)/3+E22+E40)/7"

Shoreline Protection
"=IF(E41="v",((E42+E43+E44+E45+E46)/5),"N/A")"

Functional Rating Summaries

Function Name	Raw score	Final Rating	Rating Category
Vegetative Diversity/Integrity		0.10	L
Hydrology - Characteristic		0.40	Med
Flood Attenuation		0.67	High
Water Quality--Downstream		0.48	Med
Water Quality--Wetland		0.33	Med
Shoreline Protection		N/A	N/A
Characteristic Wildlife Habitat Structure	0.42	0.42	Med
Maintenance of Characteristic Fish Habitat	0.38	0.38	Med
Maintenance of Characteristic Amphibian Habitat		0.45	Med
Aesthetics/Recreation/Education/Cultural	0.58	0.58	Med
Commercial use		N/A	N/A
Special Features listing:		-	

Formula shown to the right.

Groundwater Interaction	recharge	
Groundwater Functional Index	no special indicators	
Restoration Potential (draft formula)	N/A	N/A
Stormwater Sensitivity (not active)		

N/A	H38	=	**Habitat formula breakout/lookup (E22 is RR) Special Features Bump is below.**
none	0	#VALUE!	(D6*2+E51+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/10
49	1	#VALUE!	(D6*2+E51+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
50	1.5	0.42037	(D6*2+E51+F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/9
51	2	#VALUE!	(D6*2+ F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
49&50	2.5	0.460417	(D6*2+E51+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&51	3	#VALUE!	(D6*2+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/8
50&51	3.5	0.410417	(D6*2+ F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&50&51	4.5	0.454762	(D6*2+ E52+E53+(I27+G28+G31)/3+E17+F24)/7

Characteristic Fish Habitat formula
"=IF(D41="Y",((E58*2+G28+E22+F24+E40+E43+E42+F45)/9),((E58*2+G28+E22+F24+E40)/6))"

Characteristic Amphibian Habitat formula (see Lookup breakout below)
E112=VLOOKUP(E54,T116:U117,2,FALSE)

Amphibian Habitat Formula Breakout

0	0.00	Amphibian breeding is controlling factor
1	0.45	"=((E55)*(E56+(I27*2)+E53+E18+F24)/6)"

Aesthetics/Rec/Ed/Cultural formula
"IF(E65=".1",(E62+E63+E64+2*E65+E66+E67+E68)/8,(E61+E62+E63+E64+E65+E66+E67+E68)/8)"

"=E69" **Commercial use** reflects just the rating for the question.

Special Features Bump-up reference table

a		Fish Habitat=E
b		Veg=E
c		Aesthetics=E
d	n	AND #5=Y, then Wildlife=E
g		Wildlife/Fish=E
h		Aesthetics=E
l		Veg=E
j	N	AND #35 =Y, Wildlife=E
q	echarg	GW=recharge, GW=E
r	echarg	Y and GW=recharge, GW=E
u		Aesthetics=E

Recharge/Discharge Tendency

R	0.1
D	1
-	Enter "R" or "D"

	Date	Wetland name / ID ___Wetland 5_____		Wetland name / ID _____		Wetland name / ID _____		Wetland name / ID _____	
	Special Features (from list, p.2--enter letter/s)	-	____	-	____	-	____	-	____
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	
#2 & #3	~ Describe each community type individually below ~					~ Describe each community type individually below ~			
Plant Community #1	Community Type (wet meadow, marsh)	13B	Shallow Marsh	-	-	-	-	-	-
	Community Proportion (% of total)		20%						
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class	Typha angustifolia							
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #2	Community Type (wet meadow, marsh)	9B	Shallow, Open Water	-	-	-	-	-	-
	Community Proportion (% of total)		80%						
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #3	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)	-	0		0		0		0
	Circular 39 Types (primary <TAB> others)								
	Cowardin Types								
	Photo ID								
Highest rated community veg. div./integ:		0.1	Low	0	-	0	-	0	-
Average vegetative diversity/integrity:		0.10	Low	-	-	-	-	-	-
Weighted Average veg. diversity/integrity:		0.02	Low	0.00	-	0.00	-	###	-
#4	Listed, rare, special plant species?	n	Y N		Y N		Y N		Y N
#5	**Rare community or habitat?**	**n**	**Y N**		**Y N**		**Y N**		**Y N**
#6	Pre-European-settlement conditions?	n	Y N		Y N		Y N		Y N

Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]

Cover Class	Class Range
1	0 - 3%
2	3 - 10%
3	10 - 25%
4	25 - 50%
5	50 - 75%
6	75 - 100%

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average calculations.

MnRAM 3.2 Digital Worksheet, Side 2

	Question Description	User entry	Rating	
1	Veg. Table 2, Option 4		0.02	This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.
	TOTAL VEG Rating	0.02	L	
4	Listed, rare, special plant species?	n	next	
5	Rare community or habitat?	n	next	
6	Pre-European-settlement conditions?	n	next	
7	hydrogeo & topo	FT	Depress'l/Flow-through	
8	Water depth (inches)			
	Water depth (% inundation)	50%		
9	Local watershed/immedita drainage (acres)			
10	Existing wetland size	7.48		Enter data starting here. Yellow boxes are used in calculations.
	SOILS: Up/Wetland (survey classification + site)			
11				
12	Outlet characteristics for flood retention	B	0.5	
13	Outlet characteristics for hydrologic regime	B	0.5	
14	Dominant upland land use (within 500 ft)	C	0.1	1
15	Soil condition (wetland)	B	0.5	
16	Vegetation (% cover)	20%	L	0.1
17	Emerg. veg. flood resistance	B	0.5	
18	Sediment delivery	B	0.5	
19	Upland soils (based on soil group)	B	0.5	
20	Stormwater runoff pretreatment & detention	B	0.5	0.5
21	Subwatershed wetland density	A	1	
22	Channels/sheet flow	A	1	
23	Adjacent naturalized buffer average width (feet)	50	M	WQ 0.5 M 0.5
24	Adjacent Area Management: % Full	60%	0.6	2 **0.64**
	adjacent area mgmt: % Manicured	0%	0	
	adjacent area mgmt: % Bare	40%	0.04	
25	Adjacent Area Diversity & Structure: % Native	20%	0.2	3 **0.44**
	adjacent area diversity: % Mixed	40%	0.2	
	adjacent area diversity: % Sparse/Inv./Exotic	40%	0.04	
26	Adjacent Area Slope: % Gentle	20%	0.2	3 **0.4**
	adjacent area slope: % Moderate	30%	0.15	
	adjacent area slope: % Steep	50%	0.05	
27	Downstream sensitivity/WQ protection	B	0.5	
28	Nutrient loading	C	0.1	
29	Shoreline wetland?	N	N	
30	Rooted shoreline vegetation (%cover)		Enter a percentage	
31	Wetland in-water width (in feet, average)		Enter a percentage	
32	Emergent vegetation erosion resistance		Enter valid choice	
33	Shoreline erosion potential		Enter valid cho	
34	Bank protection/upslope veg.		Enter valid choice	
35	Rare Wildlife	N	N	
36	Scarce/Rare/S1/S2 local community	N	N	
37	Vegetation interspersion cover (see diagram 1)	8	L	0.1
38	Community interspersion (see diagram 2)	1	L	0.1 0
39	Wetland detritus	B	0.5	
40	Wetland interspersion on landscape	B	0.5	0.5
41	Wildlife barriers	A	1	
42	Amphibian breeding potential-hydroperiod	A	1	
43	Amphibian breeding potential--fish presence	A	1	
44	Amphibian & reptile overwintering habitat	B	0.5	
45	Wildlife species (list)			
46	Fish habitat quality	C	0.1	
47	Fish species (list)			
48	Unique/rare educ./cultural/rec.opportunity	N	N	
49	Wetland visibility	B	0.5	
50	Proximity to population	Y	1	
51	Public ownership	A	1	
52	Public access	A	1	
53	Human influence on wetland	B	0.5	
54	Human influence on viewshed	C	0.1	
55	Spatial buffer	B	0.5	
56	Recreational activity potential	B	0.5	
57	Commercial crop--hydrologic impact	N/A	N/A	
58	*GW - Wetland soils*	R	R or D	0.1
59	*GW - Subwatershed land use*	R	R or D	0.1
60	*GW - Wetland size and soil group*	R	R or D	0.1
61	GW - Wetland hydroperiod	R	R or D	0.1
62	GW - Inlet/Outlet configuration	R	R or D	0.1
63	GW - Surrounding upland topographic relief	D	R or D	1
64	Restoration potential w/o flooding	N	Y or N	1.5
65	*Landowners affected by restoration*		*E a b c*	Enter valid choice
66A	*Existing wetland size (acres) [from #10]*	7.48	acres	
66B	Total wetland restoration size (acres)		acres	0.1
66C	(Calculated) Potential New Wetland Area [B-A]	-7.48	acres	% effectively drained: ####
67	Average width of naturalized upland buffer (potentia	0	feet	0.1 value: ####
68	Likelihood of restoration success		a b c	Enter valid choice
69	Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling	
70	Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8	
71	Wetland sensitivity to stormwater	b	E a b c	
72	Additional stormwater treatment needs		a b c	

Digital worksheet, section I

Digital worksheet, section II

Additional questions

Highest-rated: 0.1

Scroll down to answer more questions and see formula calculations

Functional Rating Summaries

Function Name	Raw score	Final Rating	Rating Category
Vegetative Diversity/Integrity		0.02	L
Hydrology - Characteristic		0.40	Med
Flood Attenuation		0.61	Med
Water Quality--Downstream		0.42	Med
Water Quality--Wetland		0.25	Low
Shoreline Protection		N/A	N/A
Characteristic Wildlife Habitat Structure	0.38	0.38	Med
Maintenance of Characteristic Fish Habitat	0.32	0.32	Low
Maintenance of Characteristic Amphibian Habitat		0.52	Med
Aesthetics/Recreation/Education/Cultural	0.64	0.64	Med
Commercial use		N/A	N/A

Formula shown to the right.

Special Features listing: -

Groundwater Interaction	recharge	
Groundwater Functional Index	no special indicators	
Restoration Potential (draft formula)	N/A	N/A
Stormwater Sensitivity (not active)		

These are the formulas for the final functional ratings shown at the

These are supplemental Lookup Tables and Intermediary formulas:

Hydrogeology and Topography LookUp

I	Depressional/Isolated
FT	Depress'l/Flow-through
Trib	Depress'l/Tributary
R	Riverine
Lac	Lacustrine
Peat	Peatland
Flood	Floodplain
S	Slope
O	Other

Habitat n/a formulator

E49	0.00	"=IF(E49="n/a",1,0)"
E50	0.00	"=IF(E50="n/a",1.5,0)"
E51	0.00	"=IF(E51="n/a",2,0)"
Add	0.00	

Open Water Interspersion LookUp

CC	Rtg	Ltr
1	0.1	L
2	0.1	L
3	0.5	M
4	0.5	M
5	1	H
6	0.5	M
7	1	H
8	0.1	L
N/A	N/A	N/A
-	"Pick an example from the image"	

Community Interspersion LookUp

1	L	0.1
2	M	0.5
3	H	1
4	H	1
N/A	N/A	N/A
-	"Pick an example from the image"	

Vegetative formula
"=C4", the Weighted Average Option 4 from Veg. Worksheet

Characteristic Hydrology formula
"=(E17+E18+E19+F24)/4" F24 is the reverse rating

Flood Attenuation Formula breakout (not linked to D72) (E16 is reverse rated)

n/a		formula is:
none	0.606667	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/5)
flood outlet	0.633333	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+(F20+E21+E26)/3)/4
F-T	0.7	((E16+(F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/5)
both	0.75	((F18+E23)/2+(E19+E22)/2+(E24+E25)/2+ E26)/4

Water Quality--Wetland
"=(D6*2+E18+F24+(G27+G28+G34)/3+E22+E40)/7"

Shoreline Protection
"=IF(E41="v",((E42+E43+E44+E45+E46)/5),"N/A")"

			Habitat formula breakout/lookup (E22 is RR) Special Features Bump is below.
N/A	H38	=	
none	0	0.376667	(D6*2+E51+F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/10
49	1	0.407407	(D6*2+E51+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
50	1.5	0.407407	(D6*2+E51+F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/9
51	2	0.362963	(D6*2+ F49+F50+E52+E53+(I27+G28+G31)/3+E17+F24)/9
49&50	2.5	0.445833	(D6*2+E51+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&51	3	0.395833	(D6*2+ F50+E52+E53+(I27+G28+G31)/3+E17+F24)/8
50&51	3.5	0.395833	(D6*2+ F49+ E52+E53+(I27+G28+G31)/3+E17+F24)/8
49&50&51	4.5	0.438095	(D6*2+ E52+E53+(I27+G28+G31)/3+E17+F24)/7

Characteristic Fish Habitat formula
"=IF(D41="Y",((E58*2+G28+E22+F24+E40+E43+E42+F45)/9),((E58*2+G28+E22+F24+E40)/6))"

Characteristic Amphibian Habitat formula (see Lookup breakout below)
E112=VLOOKUP(E54,T116:U117,2,FALSE)

Amphibian Habitat Formula Breakout

0	0.00	Amphibian breeding is controlling factor
1	0.52	"=((E55)*(E56+(I27*2)+E53+E18+F24)/6)"

Aesthetics/Rec/Ed/Cultural formula
"IF(E65=".1",(E62+E63+E64+2*E65+E66+E67+E68)/8,(E61+E62+E63+E64+E65+E66+E67+E68)/8)"

"=E69" **Commercial use** reflects just the rating for the question.

Special Features Bump-up reference table

a		Fish Habitat=E
b		Veg=E
c		Aesthetics=E
d	n	AND #5=Y, then Wildlife=E
g		Wildlife/Fish=E
h		Aesthetics=E
I		Veg=E
j	N	AND #35 =Y, Wildlife=E
q		echarg GW=recharge, GW=E
r		echarg Y and GW=recharge, GW=E
u		Aesthetics=E

Recharge/Discharge Tendency

R	0.1
D	1
-	Enter "R" or "D"

	Date	Wetland name / ID ___Wetland 6a/6b_____		Wetland name / ID _____		Wetland name / ID _____		Wetland name / ID _____	
	Special Features (from list, p.2--enter letter/s)	-	____	-	____	-	____	-	____
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B		3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	
#2 & #3	~ Describe each community type individually below ~					~ Describe each community type individually below ~			
Plant Community #1	Community Type (wet meadow, marsh)	16B	Seasonally Flooded Basin	-	-	-	-	-	-
	Community Proportion (% of total)		100%						
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class	Rhamnus cathartica / 2							
		Phalaris arundinacea / 2							
	Community Quality (E, H, M, L)	L	0.1		0		0		0
Plant Community #2	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #3	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)		0		0		0		0
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-	-	-	-	-
	Community Proportion (% of total)								
	Dominant Vegetation / Cover Class								
	Invasive/exotic Vegetation / Cover Class								
	Community Quality (E, H, M, L)	-	0		0		0		0
	Circular 39 Types (primary <TAB> others)								
	Cowardin Types								
	Photo ID								
Highest rated community veg. div./integ:		0.1	Low	0	-	0	-	0	-
Average vegetative diversity/integrity:		0.10	Low	-	-	-	-	-	-
Weighted Average veg. diversity/integrity:		0.10	Low	0.00	-	0.00	-	###	-
#4	Listed, rare, special plant species?	n	Y N		Y N		Y N		Y N
#5	**Rare community or habitat?**	**n**	**Y N**		**Y N**		**Y N**		**Y N**
#6	Pre-European-settlement conditions?	n	Y N		Y N		Y N		Y N

Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]

Cover Class	Class Range
1	0 - 3%
2	3 - 10%
3	10 - 25%
4	25 - 50%
5	50 - 75%
6	75 - 100%

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automat ic average calculations.

MnRAM 3.2 Digital Worksheet, Side 2

		Question Description	User entry	Rating									
	1	Veg. Table 2, Option 4		0.10									
		TOTAL VEG Rating	0.1	L									
	4	Listed, rare, special plant species?	n	next									
	5	Rare community or habitat?	n	next									
	6	Pre-European-settlement conditions?	n	next									
	7	hydrogeo & topo	FT	Depress'l/Flow-through									
	8	Water depth (inches)											
		Water depth (% inundation)	50%										
	9	Local watershed/immedita drainage (acres)											
	10	Existing wetland size	0.064										
Digital worksheet, section I	11	SOILS: Up/Wetland (survey classification + site)											
	12	Outlet characteristics for flood retention	B	0.5									
	13	Outlet characteristics for hydrologic regime	B	0.5									
	14	Dominant upland land use (within 500 ft)	B	0.5	0.5								
	15	Soil condition (wetland)	B	0.5									
	16	Vegetation (% cover)	45%	M	0.5								
	17	Emerg. veg. flood resistance	C	0.1									
	18	Sediment delivery	B	0.5									
	19	Upland soils (based on soil group)	B	0.5									
	20	Stormwater runoff pretreatment & detention	B	0.5	0.5								
	21	Subwatershed wetland density	A	1									
	22	Channels/sheet flow	B	0.5									
	23	Adjacent naturalized buffer average width (feet)	50	M	WQ	0.5	M		0.5				
	24	Adjacent Area Management: % Full	70%	0.7	3	**0.81**							
		adjacent area mgmt: % Manicured	20%	0.1									
		adjacent area mgmt: % Bare	10%	0.01									
	25	Adjacent Area Diversity & Structure: % Native	20%	0.2	3	**0.44**							
		adjacent area diversity: % Mixed	40%	0.2									
		adjacent area diversity: % Sparse/Inv./Exotic	40%	0.04									
	26	Adjacent Area Slope: % Gentle	80%	0.8	2	**0.9**							
		adjacent area slope: % Moderate	20%	0.1									
		adjacent area slope: % Steep	0%	0									
Digital worksheet, section II	27	Downstream sensitivity/WQ protection	B	0.5									
	28	Nutrient loading	B	0.5									
	29	Shoreline wetland?	N	N									
	30	Rooted shoreline vegetation (%cover)		Enter a percentage									
	31	Wetland in-water width (in feet, average)		Enter a percentage									
	32	Emergent vegetation erosion resistance		Enter valid choice									
	33	Shoreline erosion potential		Enter valid cho									
	34	Bank protection/upslope veg.		Enter valid choice									
	35	Rare Wildlife	N	N									
	36	Scarce/Rare/S1/S2 local community	N	N									
	37	Vegetation interspersion cover (see diagram 1)	N/A	N/A	N/A								
	38	Community interspersion (see diagram 2)	N/A	N/A	N/A					0			
	39	Wetland detritus	A	1									
	40	Wetland interspersion on landscape	B	0.5	0.5								
	41	Wildlife barriers	A	1									
	42	Amphibian breeding potential-hydroperiod	A	1									
	43	Amphibian breeding potential--fish presence	A	1									
	44	Amphibian & reptile overwintering habitat	N/A	0									
	45	Wildlife species (list)											
	46	Fish habitat quality	N/A	N/A									
	47	Fish species (list)											
	48	Unique/rare educ./cultural/rec.opportunity	N	N									
	49	Wetland visibility	C	0.1									
	50	Proximity to population	Y	1									
	51	Public ownership	A	1									
	52	Public access	C	0.1									
	53	Human influence on wetland	B	0.5									
	54	Human influence on viewshed	C	0.1									
	55	Spatial buffer	B	0.5									
	56	Recreational activity potential	C	0.1									
	57	Commercial crop--hydrologic impact	N/A	N/A									

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Highest-rated
0.1

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations

Additional questions

58	*GW - Wetland soils*	R	R or D	0.1	
59	*GW - Subwatershed land use*	R	R or D	0.1	
60	*GW - Wetland size and soil group*	R	R or D	0.1	
61	GW - Wetland hydroperiod	R	R or D	0.1	
62	GW - Inlet/Outlet configuration	R	R or D	0.1	
63	GW - Surrounding upland topographic relief	D	R or D	1	
64	Restoration potential w/o flooding	N	Y or N	1.5	
65	*Landowners affected by restoration*		*E a b c*	Enter valid choice	
66A	*Existing wetland size (acres) [from #10]*	0.064	__ acres		
66B	Total wetland restoration size (acres)		__ acres	0.1	
66C	(Calculated) Potential New Wetland Area [B-A]	-0.064	__ acres	% effectively drained: ####	
67	Average width of naturalized upland buffer (poten	0	__ feet	0.1	value: ####
68	Likelihood of restoration success		a b c	Enter valid choice	
69	Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling		
70	Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8		
71	Wetland sensitivity to stormwater	b	E a b c		
72	Additional stormwater treatment needs		a b c		

Functional Rating Summaries

Function Name	Raw score	Final Rating	Rating Category	Formula shown to the right.
Vegetative Diversity/Integrity		0.10	L	
Hydrology - Characteristic		0.50	Med	
Flood Attenuation		0.52	Med	
Water Quality--Downstream		0.51	Med	
Water Quality--Wetland		0.42	Med	
Shoreline Protection		N/A	N/A	
Characteristic Wildlife Habitat Structure	0.54	0.54	Med	
Maintenance of Characteristic Fish Habitat	######	N/A	N/A	
Maintenance of Characteristic Amphibian Habitat		0.50	Med	
Aesthetics/Recreation/Education/Cultural	0.43	0.43	Med	
Commercial use		N/A	N/A	0
Special Features listing:			-	

Groundwater Interaction	recharge	
Groundwater Functional Index		no special indicators
Restoration Potential (draft formula)	N/A	N/A
Stormwater Sensitivity (not active)		

Appendix E

Threatened and Endangered Species Habitats, Effect Determinations and Attachments

Sochacki Park Water Quality Improvement Project Feasibility Study

Federal Review						
Common Name	**Scientific Name**	**Listing Status**	**Habitat**	**Conclusion**	**Justification**	**Avoidance or Minimization measures**
Bald Eagle	*Haliaeetus leucocephalus*	Protected by BGA and MBTA	Nests in mature trees near bodies of water.	May Affect	The Project area is located within suitable bald eagle nesting habitat.	If work will occur between January 15th and July 31st, an eagle nest survey is recommended not more than two weeks prior to the start of work for a 660-foot buffer around the Project area. If an active nest is observed and construction will need to take place during the time that the nest remains active, consultation with the USFWS will be required to determine next steps.
Migratory Birds	*N/A*	MBTA	Migratory birds nest in a variety of habitats including woody vegetation, on the ground, and on manmade structures.	May Affect	Suitable habitat for nesting birds is located within the Project area.	A visual inspection is recommended for the presence of active migratory bird nests within the Project area, including ground nests prior to the start of work. If active nests will be directly impacted by Project construction, USFWS consultation may be required. Activity-specific guidance may also be implemented to avoid the take of migratory birds.
Northern Long-eared Bat (NLEB)	*Myotis septentrionalis*	Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During late spring and summer roosts and forages in upland forests.	May Affect, Not Likely to Adversely Affect	The project is located in the vicinity of suitable summer habitat. The Project is anticipated to result in noise that is louder than ambient baseline noises during the NLEB active season (April 15 – September 30).. If the Project has federal nexus (i.e., USACE approval), the lead federal agency or designated (in-writing) non-federal representative will need to complete consultation with the USFWS.	Tree clearing activities should occur during the NLEB inactive season from October 1 through April 15. If tree clearing will occur during the NLEB active period consultation with USFWS would be required if the project will require federal approval.
Tricolored Bat	*Perimyotis sublavus*	Proposed Endangered	During winter months this species typically hibernates in caves and does so singly or in small groups. While little is known for certain about their daytime and summer roosts, they have been found roosting in trees and tree foliage. For foraging, tricolored bats prefer habitat such as forest edges and waterways.	May Affect, Not Likely to Adversely Affect	The Project is located in the vicinity of suitable summer habitat; however, tricolored bat is currently not legally protected. Tricolored bat was proposed for listing by the USFWS on 9/14/2022. The USFWS will announce a final decision of listing within 12 months.	Tree clearing activities should occur during the bat inactive season from October 1 through April 15.
Whooping Crane	*Grus americana*	Experimental/MBTA	Open wetlands and lakeshores.	No Effect	Suitable wetland and lakeshore habitat is present in the Project vicinity; however, nesting in this area is unlikely due to proximity to human activity.	A visual inspection is recommended for the presence of active whooping crane nests within the Project area prior to the start of work.
Monarch Butterfly	*Danaus plexippus*	Candidate	This species is found in areas with a high number of flowering plants, which provide sources of nectar. Monarchs rely exclusively on the presence of milkweed (Asclepias spp.) to complete the caterpillar life stage.	No effect	The Project is located within Sochacki Park which may contain flowering plants that could be utilized by monarch butterflies. However, candidate species are not legally protected under the Endangered Species Act. If the species becomes listed prior to construction activities consultation with USFWS would be required.	Limit vegetation removal to the extent practical.
Rusty Patched Bumble Bee	*Bombus affinis*	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.	May Affect	The Project area is located within the USFWS rusty-patched bumble bee designated High Potential Zone; this zone represents areas where rusty-patched bumble bees and suitable habitat are likely to be present.	Consultation with USFWS is required to develop site specific avoidance and minimization measures.

Federal Review						
Common Name	**Scientific Name**	**Listing Status**	**Habitat**	**Conclusion**	**Justification**	**Avoidance or Minimization measures**
State Review						
Least Darter	Etheostoma microperca	Special Concern	Least darters typically use weedy, shallow pools during the spawning season and deeper pools outside of the spawning season.	No Effect	The Project area includes two ponds North Rive Pond and South Rice Pond which would not provide suitable winter habitat for the least darter. The North Rice Pond has a maximum water depth of 5.2 feet and South Rice Pond at a maximum water depth of 3.3 feet. Therefore it is not anticipated that project construction would affect this species. In addition, this species is listed as a special concern species and is not legally protected under state law.	Winter construction is recommended to avoid disturbance to the species. No work should occur within the ponds during the Darters spawning period from March to May.

Attachment A

IPaC Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873

In Reply Refer To:
Project Code: 2023-0090692
Project Name: Sochacki Park

June 07, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species
The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance
Please refer to refer to our Section 7 website for guidance and technical assistance, including step-by-step instructions for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A demonstration video showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of “no effect” or “may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species’ biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a “Not Likely to Adversely Affect” (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a “May Affect” determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for “May Affect” determinations unless otherwise indicated in your output letter.

Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review. If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain Life History Information for Listed and Candidate Species on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

Northern Long-Eared Bats
Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 1 to March 31. During the active season (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No**

Effect determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

If any of the above activities are proposed, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the range-wide northern long-eared bat D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/ Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys helps to determine if prohibited take might occur and, if not, will generate an automated verification letter.

Please note: On November 30, 2022, the Service published a proposal final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. On January 26, 2023, the Service published a 60-day extension for the final reclassification rule in the Federal Register, moving the effective listing date from January 30, 2023, to March 31, 2023. This extension will provide stakeholders and the public time to preview interim guidance and consultation tools before the rule becomes effective. When available, the tools will be available on the Service's northern long-eared bat website (https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis). Once the final rule goes into effect on March 31, 2023, the 4(d) D-key will no longer be available (4(d) rules are not available for federally endangered species) and will be replaced with a new Range-wide NLEB D-key (range-wide d-key). For projects not completed by March 31, 2023, that were previously reviewed under the 4(d) d-key, there may be a need for reinitiation of consultation. For these ongoing projects previously reviewed under the 4(d) d-key that may result in incidental take of the northern long-eared bat, we recommend you review your project using the new range-wide d-key once available. If your project does not comply with the range-wide d-key, it may be eligible for use of the Interim (formal) Consultation framework (framework). The framework is intended to facilitate the transition from the 4(d) rule to typical Section 7 consultation procedures for federally endangered species and will be available only until spring 2024. Again, when available, these tools (new range-wide d-key and framework) will be available on the Service's northern long-eared bat website.

Whooping Crane

Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States."

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the

mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed voluntary guidelines for minimizing impacts.

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to guidelines developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's Wind Energy Guidelines. In addition, please refer to the Service's Eagle Conservation Plan Guidance, which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

State Department of Natural Resources Coordination
While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

Minnesota
Minnesota Department of Natural Resources - Endangered Resources Review Homepage
Email: Review.NHIS@state.mn.us

Wisconsin
Wisconsin Department of Natural Resources - Endangered Resources Review Homepage
Email: DNRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
(952) 858-0793

PROJECT SUMMARY

Project Code: 2023-0090692
Project Name: Sochacki Park
Project Type: Government / Municipal (Non-Military) Construction
Project Description: Recent efforts to better understand the ecological health, and set appropriate goals for, the Sochacki Park
wetlands (South and North Rice Ponds) has identified improvements that are likely necessary to improve
the ecological health of the wetlands, improve aesthetics, and provide recreation and education
opportunities. Many of the goals or metrics for ecological health are directly tied to improved wetland
water quality (through nutrient reductions) and enhancements to vegetative diversity and integrity.
Another goal involves stakeholder engagement throughout the development of the Sochacki Park
subwatershed assessment.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@45.01239605,-93.33329298837555,14z

Counties: Hennepin County, Minnesota

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Whooping Crane *Grus americana* Population: U.S.A. (AL, AR, CO, FL, GA, ID, IL, IN, IA, KY, LA, MI, MN, MS, MO, NC, NM, OH, SC, TN, UT, VA, WI, WV, western half of WY) No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/758	Experimental Population, Non-Essential

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Rusty Patched Bumble Bee *Bombus affinis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9383 General project design guidelines: https://ipac.ecosphere.fws.gov/project/4USZLVB2RNHMZOWTCSTP4T7EEY/documents/generated/5967.pdf	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

NAME	BREEDING SEASON
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Golden-winged Warbler *Vermivora chrysoptera* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745	Breeds May 1 to Jul 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

NAME	BREEDING SEASON
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

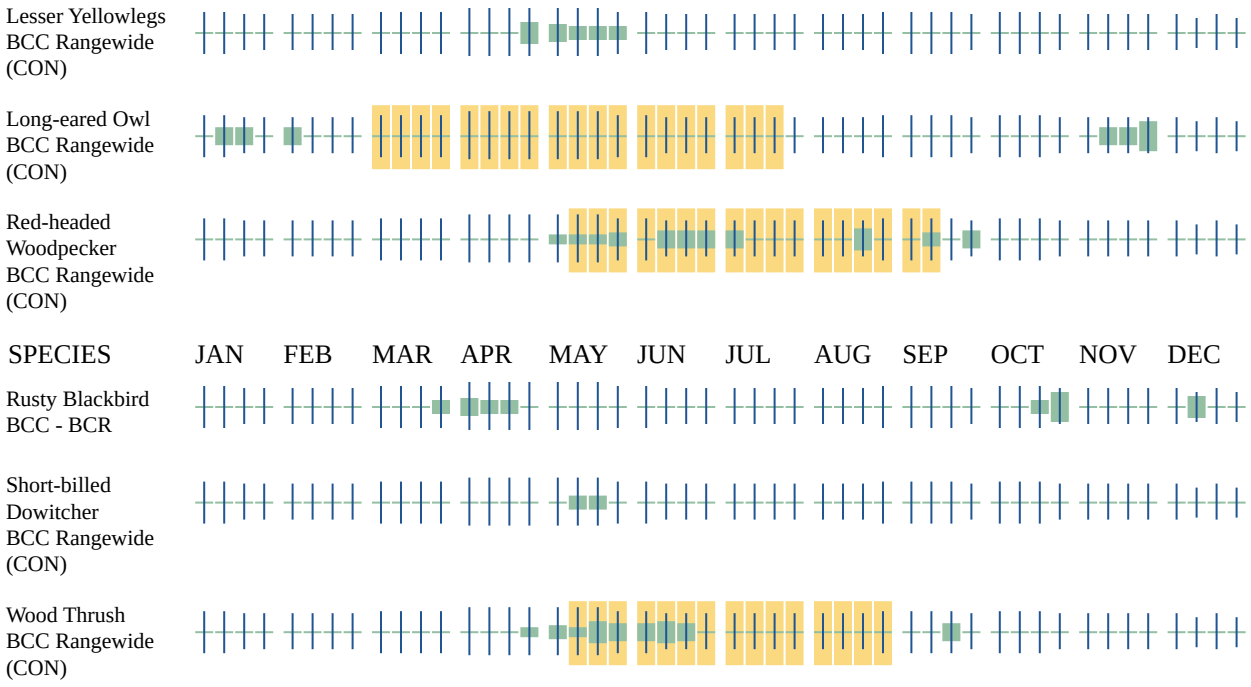
Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- PEM1F
- PEM1C
- PEM1A

FRESHWATER POND

- PABH
- PUBH

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1A
- PSS1C
- PFO1A

IPAC USER CONTACT INFORMATION

Agency: Barr Engineering
Name: Tyler Conley
Address: 4300 MarketPointe Drive Suite 200
City: Minneapolis
State: MN
Zip: 55435
Email tconley@barr.com
Phone: 9528423638

Attachment B

Consistency letter for specified threatened and endangered species that may occur in your proposed project location

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873

In Reply Refer To:
Project code: 2023-0090692
Project Name: Sochacki Park

June 08, 2023

Subject: Consistency letter for 'Sochacki Park' for specified threatened and endangered species that may occur in your proposed project location consistent with the Minnesota-Wisconsin Endangered Species Determination Key (Minnesota-Wisconsin DKey).

Dear Tyler Conley:

The U.S. Fish and Wildlife Service (Service) received on **June 08, 2023** your effect determination(s) for the 'Sochacki Park' (Action) using the Minnesota-Wisconsin DKey within the Information for Planning and Consultation (IPaC) system. You have submitted this key to satisfy requirements under Section 7(a)(2). The Service developed this system in accordance of with the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 et seq.).

Based on your answers and the assistance of the Service's Minnesota-Wisconsin DKey, you made the following effect determination(s) for the proposed Action:

Species	Listing Status	Determination
Monarch Butterfly (*Danaus plexippus*)	Candidate	No effect
Rusty Patched Bumble Bee (*Bombus affinis*)	Endangered	May affect
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	NLAA
Whooping Crane (*Grus americana*)	Experimental Population, Non-Essential	No effect

Determination Information

Coordination with the Service is not complete. Further coordination with the Minnesota-Wisconsin Ecological Services Field Office is recommended for those species with a determination of "May Affect," listed above. Please email our office at TwinCities@fws.gov and attach a copy of this letter, so we can discuss methods to avoid or minimize potential adverse effects to those species.

Additional Information

Sufficient project details: Please provide sufficient project details on your project homepage in IPaC (Define Project, Project Description) to support your conclusions. Failure to disclose important aspects of your project that would influence the outcome of your effects determinations may negate your determinations and invalidate this letter. If you have site-specific information that leads you to believe a different determination is more appropriate for your project than what the Dkey concludes, you can and should proceed based on the best available information.

Future project changes: The Service recommends that you contact the Minnesota-Wisconsin Ecological Services Field Office or re-evaluate the project in IPaC if: 1) the scope or location of the proposed Action is changed; 2) new information reveals that the action may affect listed species or designated critical habitat in a manner or to an extent not previously considered; 3) the Action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project changes are final or resources committed.

For non-Federal representatives: Please note that when a project requires consultation under section 7 of the Act, the Service must consult directly with the Federal action agency unless that agency formally designates a non-Federal representative (50 CFR 402.08). Non-Federal representatives may prepare analyses or conduct informal consultations; however, the ultimate responsibility for section 7 compliance under the Act remains with the Federal agency. Please include the Federal action agency in additional correspondence regarding this project.

Species-specific information

Rusty Patched Bumble Bee: Rustly patched bumble bee may be present in the Action area. Projects have potential to adversely affect rusty patched bumble bee if seed collection occurs more that once every three years in a ≥2 ac area, includes insect trapping, rodent population control, application of insecticide, fungicide, or broadcast herbicide, hydrological changes, ground disturbance on more than >0.25 ac of habitat, vegetation disturbance on ≥2.0 ac during the active season, and/or permanent conversion of ≥2.0 ac of habitat. **Please coordinate with the Minnesota-Wisconsin Ecological Services Field Office to further evaluate effects of the Action on rusty patched bumble bee.**

Bald and Golden Eagles: Bald eagles, golden eagles, and their nests are protected under the Bald and Golden Eagle Protection Act (54 Stat. 250, as amended, 16 U.S.C. 668a-d) (Eagle Act). The Eagle Act prohibits, except when authorized by an Eagle Act permit, the “taking” of bald and golden eagles and defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act’s implementing regulations define disturb as “… to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

If you observe a bald eagle nest in the vicinity of your proposed project, you should follow the National Bald Eagle Management Guidelines (May 2007). For more information on eagles and conducting activities in the vicinity of an eagle nest, please visit our regional eagle website or

contact Margaret at Margaret_Rheude@fws.gov. **If the Action may affect bald or golden eagles, additional coordination with the Service under the Eagle Act may be required.**

The following species and/or critical habitats may also occur in your project area and **are not** covered by this conclusion:

- Northern Long-eared Bat *Myotis septentrionalis* Endangered

Coordination with the Service is not complete if additional coordination is advised above for any species.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Sochacki Park

2. Description

The following description was provided for the project 'Sochacki Park':

> Recent efforts to better understand the ecological health, and set appropriate goals for, the Sochacki Park
> wetlands (South and North Rice Ponds) has identified improvements that are likely necessary to improve
> the ecological health of the wetlands, improve aesthetics, and provide recreation and education
> opportunities. Many of the goals or metrics for ecological health are directly tied to improved wetland
> water quality (through nutrient reductions) and enhancements to vegetative diversity and integrity.
> Another goal involves stakeholder engagement throughout the development of the Sochacki Park
> subwatershed assessment.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@45.01239605,-93.33329298837555,14z

QUALIFICATION INTERVIEW

1. This determination key is intended to assist the user in evaluating the effects of their actions on Federally listed species in Minnesota and Wisconsin. It does not cover other prohibited activities under the Endangered Species Act (e.g., for wildlife: import/export, Interstate or foreign commerce, possession of illegally taken wildlife, etc.; for plants: import/export, reduce to possession, malicious destruction on Federal lands, commercial sale, etc.) or other statutes. Additionally, this key DOES NOT cover wind development, purposeful take (e.g., for research or surveys), communication towers that have guy wires or are over 450 feet in height, aerial or other large-scale application of any chemical (such as insecticide or herbicide), and approval of long-term permits or plans (e.g., FERC licenses, HCP's).

   Click **YES** to acknowledge that you must consider other prohibitions of the ESA or other statutes outside of this determination key.

   Yes
2. Is the action being funded, authorized, or carried out by a Federal agency?

   No
3. Are you the Federal agency or designated non-federal representative?

   No
4. Does the action involve the installation or operation of wind turbines?

   No
5. Does the action involve purposeful take of a listed animal?

   No
6. Does the action involve a new communications tower?

   No
7. Does the activity involve aerial or other large-scale application of ANY chemical, including pesticides (insecticide, herbicide, fungicide, rodenticide, etc)?

   No
8. Does the action occur near a bald eagle nest?

   Note: Contact the Minnesota or Wisconsin Department of Natural Resources for an up-to-date list of known bald eagle nests.

   No
9. Will your action permanently affect local hydrology?

   Yes

10. Does your project have the potential to impact the riparian zone or indirectly impact a stream/river (e.g., cut and fill; horizontal directional drilling; construction; vegetation removal; pesticide or fertilizer application; discharge; runoff of sediment or pollutants; increase in erosion, etc.)?

    Note: Consider all potential effects of the action, including those that may happen later in time and outside and downstream of the immediate area involved in the action.

    Endangered Species Act regulation defines "effects of the action" to include all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (50 CFR 402.02).

    Yes

11. Will your action disturb the ground or existing vegetation?

    Note: This includes any off-road vehicle access, soil compaction (enough to collapse a rodent burrow), digging, seismic survey, directional drilling, heavy equipment, grading, trenching, placement of fill, pesticide application (herbicide, fungicide), vegetation management (including removal or maintenance using equipment or prescribed fire), cultivation, development, etc.

    Yes

12. Will your action include spraying insecticides?

    No

13. Does your action area occur entirely within an already developed area?

    Note: Already developed areas are already paved, covered by existing structures, manicured lawns, industrial sites, or cultivated cropland, AND do not contain trees that could be roosting habitat. Be aware that listed species may occur in areas with natural, or semi-natural, vegetation immediately adjacent to existing utilities (e.g. roadways, railways) or within utility rights-of-way such as overhead transmission line corridors, and can utilize suitable trees, bridges, or culverts for roosting even in urban dominated landscapes (so these are not considered "already developed areas" for the purposes of this question). If unsure, select NO..

    No

14. Does the action include – or is it reasonably certain to result in – construction of one or more new roads or rail lines; the addition of travel lanes that are likely to increase vehicle traffic on one or more existing roads; or other structures or activities that will increase vehicle traffic?

    No

15. Does the action include – or is it reasonably certain to cause – the use of commercial/ managed bees (e.g., the use of honeybees or managed bumble bees to pollinate crops).

    No

16. Is there habitat for nesting, foraging, and/or overwintering for the rusty patched bumble bee in the action area?

    Note: Please refer to the ESA Section 7(a)(2) Voluntary Implementation Guidance for Rusty Patched Bumble Bee at: https://www.fws.gov/media/esa-section-7a2-voluntary-implementation-guidance-rusty-patched-bumble-bee.

    Yes

17. Have survey(s) for rusty patched bumble bees been conducted according to Service-approved protocols?

    Note: Please refer to survey guidelines at: https://www.fws.gov/media/survey-protocols-rusty-patched-bumble-bee

    No

18. Does the action include collection of seed from native species?

    No

19. Does the action include, or will it cause the application of insecticides or fungicides; activities to control native rodent species; or planting or seeding of non-native plant species that are likely to degrade the quality of existing rusty patched bumble bee foraging habitat by decreasing the abundance or diversity of native rusty patched bumble bee forage species?

    No

20. Will the action include or cause herbicide use?

    No

21. Will the action cause ground disturbance that affects more than 0.25 acre (0.1 hectare) of rusty patched bumble bee nesting habitat (upland grasslands, shrublands, and forest and woodland edges that contain native sources of pollen and nectar) in a High Potential Zone during the nesting season?

    Note: Please refer to the ESA Section 7(a)(2) Voluntary Implementation Guidance for Rusty Patched Bumble Bee at: https://www.fws.gov/media/esa-section-7a2-voluntary-implementation-guidance-rusty-patched-bumble-bee.

    Yes

22. [Hidden Semantic] Does the action area intersect the monarch butterfly species list area?

    Automatically answered
    Yes

23. Under the ESA, monarchs remain warranted but precluded by listing actions of higher priority. The monarch is a candidate for listing at this time. The Endangered Species Act does not establish protections or consultation requirements for candidate species. Some Federal and State agencies may have policy requirements to consider candidate species in planning. We encourage implementing measures that will remove or reduce threats to these species and possibly make listing unnecessary.

    If your project will have no effect on monarch butterflies (for example, if your project won't affect their habitat or individuals), then you can make a "no effect" determination for this project.

    Are you making a "no effect" determination for monarch?

    Yes

24. [Hidden semantic] Does the action intersect the Tricolored bat species list area?

    Automatically answered

    Yes

25. The tricolored bat was proposed for listing as endangered on September 13, 2022. During winter, tricolored bats hibernate in caves, abandoned mines, and abandoned tunnels ranging from small to large in size. During spring, summer and fall months, they roost primarily among leaf clusters of live or recently dead deciduous/hardwood trees.

    What effect determination do you want to make for the tricolored bat (Only make a "may affect" determination if you think the project is likely to jeopardize the continued existence of the species)?

    2. “May affect – not likely to adversely affect”

IPAC USER CONTACT INFORMATION

Agency: Barr Engineering
Name: Tyler Conley
Address: 4300 MarketPointe Drive Suite 200
City: Minneapolis
State: MN
Zip: 55435
Email tconley@barr.com
Phone: 9528423638

Attachment C

Consistency Letter for Northern Long Eared Bat

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873

In Reply Refer To: June 08, 2023
Project code: 2023-0090692
Project Name: Sochacki Park

Federal Nexus: yes
Federal Action Agency (if applicable):

Subject: Technical assistance for 'Sochacki Park'

Dear Tyler Conley:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on June 08, 2023, for 'Sochacki Park' (here forward, Project). This project has been assigned Project Code 2023-0090692 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter.

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project is not reasonably certain to cause incidental take of the northern long-eared bat. Unless the Service advises you within 15 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Rusty Patched Bumble Bee *Bombus affinis* Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered
- Whooping Crane *Grus americana* Experimental Population, Non-Essential

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Step

Consultation with the Service is necessary. The project has a federal nexus (e.g., Federal funds, permit, etc.), but you are not the federal action agency or its designated (in writing) non-federal representative. Therefore, the ESA consultation status is incomplete and no project activities should occur until consultation between the Service and the Federal action agency (or designated non-federal representative), is completed.

As the federal agency or designated non-federal representative deems appropriate, they should submit their determination of effects to the Service by doing the following.

1. Log into IPaC using an agency email account and click on My Projects, click "Search by record locator" to find this Project using **140-127484968**. (Alternatively, the originator of the project in IPaC can add the agency representative to the project by using the Add Member button on the project home page.)
2. Review the answers to the Northern Long-eared Bat Range-wide Determination Key to ensure that they are accurate.
3. Click on Review/Finalize to convert the ‘not likely to adversely affect’ consistency letter to a concurrence letter. Download the concurrence letter for your files if needed.

If no changes occur with the Project or there are no updates on listed species, no further consultation/coordination for this project is required for the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place before project implements any changes which are final or commits additional resources.

If you have any questions regarding this letter or need further assistance, please contact the Minnesota-Wisconsin Ecological Services Field Office and reference Project Code 2023-0090692 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Sochacki Park

2. Description

The following description was provided for the project 'Sochacki Park':

> Recent efforts to better understand the ecological health, and set appropriate goals for, the Sochacki Park
> wetlands (South and North Rice Ponds) has identified improvements that are likely necessary to improve
> the ecological health of the wetlands, improve aesthetics, and provide recreation and education
> opportunities. Many of the goals or metrics for ecological health are directly tied to improved wetland
> water quality (through nutrient reductions) and enhancements to vegetative diversity and integrity.
> Another goal involves stakeholder engagement throughout the development of the Sochacki Park
> subwatershed assessment.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@45.01239605,-93.33329298837555,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of "may affect, but not likely to adversely affect" for the Endangered northern long-eared bat (*Myotis septentrionalis*).

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Do you have post-white nose syndrome occurrence data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

   Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed acoustic detections. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

   No

3. Does any component of the action involve construction or operation of wind turbines?

   Note: For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   No

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

9. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the effects of any activities that would not occur but for the proposed action.

   If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

   Note: Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of Effects of the Action can be found here: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

   No

10. Does the action area contain any caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating northern long-eared bats?

    No

11. Does the action area contain or occur within 0.5 miles of (1) talus or (2) anthropogenic or naturally formed rock crevices in rocky outcrops, rock faces or cliffs?

    No

12. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities?
    (If unsure, answer "Yes.")

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats (i.e., live trees and/or snags ≥3 inches (12.7 centimeter) dbh), answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

    Yes

13. Will the action cause effects to a bridge?

    No

14. Will the action result in effects to a culvert or tunnel?

    No

15. Does the action include the intentional exclusion of northern long-eared bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local U.S. Fish and Wildlife Services Ecological Services Field Office to help assess whether northern long-eared bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures

    No

16. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

17. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase average daily traffic on one or more existing roads?

    Note: For federal actions, answer ‘yes’ when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

19. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer ‘yes’ when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

20. Will the proposed action involve the creation of a new water-borne contaminant source (e.g., leachate pond pits containing chemicals that are not NSF/ANSI 60 compliant)?

    No

21. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

22. Will the action include drilling or blasting?

    No

23. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

24. Will the proposed action involve the use of herbicides or pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

25. Will the action include or cause activities that are reasonably certain to cause chronic nighttime noise in suitable summer habitat for the northern long-eared bat? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

    No

26. Does the action include, or is it reasonably certain to cause, the use of artificial lighting within 1000 feet of suitable northern long-eared bat roosting habitat?

    Note: Additional information defining suitable roosting habitat for the northern long-eared bat can be found at: https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions

    No

27. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

28. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area? If unsure, answer "No."

    No

29. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property and has a diameter breast height of six inches or greater.

    No

30. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

    No

31. Will the action result in the use of prescribed fire?

    No

32. Will the action cause noises that are louder than ambient baseline noises within the action area?

    No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

0.1

Will all potential northern long-eared bat (NLEB) roost trees (trees ≥3 inches diameter at breast height, dbh) be cut, knocked, or brought down from any portion of the action area greater than or equal to 0.1 acre? If all NLEB roost trees will be removed from multiple areas, select 'Yes' if the cumulative extent of those areas meets or exceeds 0.1 acre.

No

Enter the extent of the action area (in acres) from which all potential NLEB roost trees will be removed. If all NLEB roost trees will be removed from multiple areas, entire the total extent of those areas. Round up to the nearest tenth of an acre.

0.1

For the area from which all potential northern long-eared bat (NLEB) roost trees will be removed, on how many acres (round to the nearest tenth of an acre) will trees be allowed to regrow? Enter '0' if the entire area from which all potential NLEB roost trees are removed will be developed or otherwise converted to non-forest for the foreseeable future.

0.1

Will any snags (standing dead trees) ≥3 inches dbh be left standing in the area(s) in which all northern long-eared bat roost trees will be cut, knocked down, or otherwise brought down?

Yes

Will all project activities by completed by April 1, 2024?

Yes

IPAC USER CONTACT INFORMATION

Agency: Barr Engineering
Name: Tyler Conley
Address: 4300 MarketPointe Drive Suite 200
City: Minneapolis
State: MN
Zip: 55435
Email tconley@barr.com
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Appendix F

Feasibility Level Cost Estimates

Sochacki Park Water Quality Improvement Project Feasibility Study

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

EXPAND AND DREDGE EXISTING STORMWATER POND

PRELIMINARY ENGINEERS OPINION OF COST 9/13/2023

LOCATION: SR-4, South Rice Pond

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	1	30000.00	30000.00
CONSTRUCTION ENTRANCE	EACH	1	2000.00	2000.00
SILT FENCE	LN FT	800	4.00	3200.00
SILTATION LOG	LN FT	400	5.00	2000.00
EROSION CONTROL BLANKET	SQ YD	5000	4.00	20000.00
TREE REMOVAL	EACH	100	350.00	35000.00
CLEAR AND GRUBBING	AC	1.5	10000.00	15000.00
POND EXCAVATION AND DISPOSAL	CU YD	3000	50.00	150000.00
OUTLET STREAM CHANNEL STABILIZATION	LN FT	140	400.00	56000.00
SITE RESTORATION	AC	1	5500.00	5500.00
			SUB TOTAL =	$ 318,700.00
ENGINEERING AND DESIGN 15%				$ 47,805.00
ENVIRONMENTAL INVESTIGATIONS				$ 25,000.00
CONSTRUCTION MANAGEMENT 15%				$ 47,805.00
LEGAL 5%				$ 15,935.00
PERMITTING 5%				$ 15,935.00
			TOTAL =	$ 471,180.00

PROBABLE RANGE -20% to +40% ($377,000) to ($660,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

PERMEABLE STORMWATER FILTRATION SYSTEM
PRELIMINARY ENGINEERS OPINION OF COST 9/13/2023
LOCATION: GR-6, Grimes Pond

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	1	30000.00	30000.00
CONSTRUCTION ENTRANCE	EACH	1	2000.00	2000.00
SILT FENCE	LN FT	500	4.00	2000.00
SILTATION LOG	LN FT	300	5.00	1500.00
EROSION CONTROL BLANKET	SQ YD	1000	4.00	4000.00
CLEAR AND GRUBBING	AC	0.2	10000.00	2000.00
TREE REMOVAL	EACH	10	350.00	3500.00
EXCAVATION AND DISPOSAL	CU YD	50	50.00	2500.00
51"x31" RCPA OUTLET	LN FT	135	200.00	27000.00
FLARED END SECTION	EACH	1	2000.00	2000.00
RIPRAP CLASS 2	TON	15	74.00	1110.00
FLOW CONTROL WEIR AND MANHOLE	LS	1	20000.00	20000.00
CONSTRUCT TREATMENT COLLECTION SYSTEM	LN FT	150	700.00	105000.00
SITE RESTORATION	AC	0.5	5500.00	2750.00
			SUB TOTAL =	$ 205,360.00
ENGINEERING AND DESIGN 20%				$ 41,072.00
ENVIRONMENTAL INVESTIGATIONS				$ 25,000.00
CONSTRUCTION MANAGEMENT 15%				$ 30,804.00
LEGAL 5%				$ 10,268.00
PERMITTING 10%				$ 20,536.00
			TOTAL =	$ 333,040.00

PROBABLE RANGE -20% to +40% ($266,000) to ($466,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

STORMWATER POND

PRELIMINARY ENGINEERS OPINION OF COST 9/13/2023

LOCATION: NR-1, North Rice Pond

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	1	15000.00	15000.00
CONSTRUCTION ENTRANCE	EACH	1	2000.00	2000.00
SILT FENCE	LN FT	400	4.00	1600.00
SILTATION LOG	LN FT	200	5.00	1000.00
EROSION CONTROL BLANKET	SQ YD	600	4.00	2400.00
CLEAR AND GRUBBING	AC	0.5	10000.00	5000.00
TREE REMOVAL	EACH	70	350.00	24500.00
POND EXCAVATION AND DISPOSAL	CU YD	2100	50.00	105000.00
12" RCP OUTLET	LN FT	50	65.00	3250.00
12" RCP FLARED END SECTION	EACH	1	1000.00	1000.00
RIPRAP CLASS 2	TON	8	74.00	592.00
SITE RESTORATION	AC	0.5	5500.00	2750.00
			SUB TOTAL =	$ 164,092.00
ENGINEERING AND DESIGN 15%				$ 24,613.80
ENVIRONMENTAL INVESTIGATIONS				$ 25,000.00
CONSTRUCTION MANAGEMENT 15%				$ 24,613.80
LEGAL 5%				$ 8,204.60
PERMITTING 5%				$ 8,204.60
			TOTAL =	$ 254,728.80

PROBABLE RANGE -20% to +40% ($204,000) to ($357,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

STORMWATER POND

PRELIMINARY ENGINEERS OPINION OF COST 9/13/2023

LOCATION: SR-3, South Rice Pond

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	1	20000.00	20000.00
CONSTRUCTION ENTRANCE	EACH	1	2000.00	2000.00
SILT FENCE	LN FT	500	4.00	2000.00
SILTATION LOG	LN FT	300	5.00	1500.00
EROSION CONTROL BLANKET	SQ YD	800	4.00	3200.00
CLEAR AND GRUBBING	AC	0.4	10000.00	4000.00
TREE REMOVAL	EACH	60	350.00	21000.00
REMOVE/DISPOSE OF 50'-18" CMP	LS	1	2000.00	2000.00
POND EXCAVATION AND DISPOSAL	CU YD	2000	50.00	100000.00
12" RCP OUTLET	LN FT	25	65.00	1625.00
12" RCP FLARED END SECTION	EACH	1	1000.00	1000.00
RIPRAP CLASS 2	TON	8	74.00	592.00
PROPRIETARY TREATMENT DEVICE	LS	1	40000.00	40000.00
SITE RESTORATION	AC	0.4	5500.00	2200.00
			SUB TOTAL =	$ 201,117.00
ENGINEERING AND DESIGN 15%				$ 30,167.55
ENVIRONMENTAL INVESTIGATIONS				$ 25,000.00
CONSTRUCTION MANAGEMENT 15%				$ 30,167.55
LEGAL 5%				$ 10,055.85
PERMITTING 5%				$ 10,055.85
			TOTAL =	$ 306,563.80

PROBABLE RANGE -20% to +40% ($245,000) to ($429,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

ALUM TREATMENT OF NORTH RICE, SOUTH RICE AND GRIMES PONDS
PRELIMINARY ENGINEERS OPINION OF COST 8/8/2023
LOCATION: Grimes, North and South Rice Ponds

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	3	15000.00	45000.00
ALUM TREATMENT	AC	13	10000.00	130000.00
			SUB TOTAL =	$ 175,000.00
ENGINEERING AND DESIGN 15%				$ 26,250.00
CONSTRUCTION MANAGEMENT 15%				$ 26,250.00
LEGAL 5%				$ 8,750.00
PERMITTING 5%				$ 8,750.00
			TOTAL =	$ 245,000.00

PROBABLE RANGE -20% to +40% ($196,000) to ($343,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION

SOCHACKI PARK SUBWATERSHED ASSESSMENT
Three Rivers Park District
Robbinsdale, Minnesota

DRAWDOWN OF NORTH RICE, SOUTH RICE AND GRIMES PONDS
PRELIMINARY ENGINEERS OPINION OF COST 8/8/2023
LOCATION: Grimes, North and South Rice Ponds

ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL COST
MOBLIZATION	EACH	3	10000.00	30000.00
TEMPORARY PUMPING	LS	1	100000.00	100000.00
			SUB TOTAL =	$ 130,000.00
ENGINEERING AND DESIGN 15%				$ 19,500.00
CONSTRUCTION MANAGEMENT 15%				$ 19,500.00
LEGAL 5%				$ 6,500.00
PERMITTING 5%				$ 6,500.00
			TOTAL =	$ 182,000.00

PROBABLE RANGE -20% to +40% ($146,000) to ($255,000)

DOES NOT INCLUDE EASEMENTS OR WETLAND MITIGATION