LEVEL 2 WETLAND DELINEATION

October 28, 2019

1775 Fox Street Orono, MN

ISG Project No. 19-23535



REPORT FOR: Rick Hendel Owner Hendel Homes 15250 Wayzata Boulevard Wayzata, MN 55391 952.404.7204 rick@hendelhomes.com

PREPARED BY: Travis Fristed **Environmental Services Manager ISG** 7900 International Drive, Suite 550 Minneapolis, MN 55425 952.426.0699 travis.fristed@isginc.com



TABLE OF CONTENTS

Executive Summary
Project Description
Definitions + Methodology
Findings 5
Recommendations
Data Sources + Literature Cited
TABLES
Table 1. Delineated Wetland Summary
Table 2. Vegetation Indicator Status Delineated Wetland Summary
APPENDICES + FIGURES
Appendix A: Figure 1. Project Location
Figure 2. DNR Public Waters Inventory and National Wetlands Inventory
Figure 3. Hennepin County Soil Survey
Figure 4. LiDAR Elevations & Hillshade
Figure 5. Aerial Photograph
Appendix B: Figure 6. Wetland Delineation Map
Wetland Delineation Data Forms
Appendix C: Antecedent Precipitation Data
Photo Log
Appendix D: Joint Application Form for Activities Affecting Water Resources in Minnesota
MCWD Water Resource Permit Application



Certification

1775 FOX STREET - ORONO, MN

LEVEL 2 WETLAND DELINEATION

ISG PROJECT NO. 19-23535

I hereby certify the above-described routine on-site Level 2 wetland delineation was performed on October 8, 2019. The wetland delineation meets standards and criteria specified in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region.

Jeremy Groskreutz, MN WDIT (#5314)

of Mourate

Environmental Scientist

I hereby certify the quality assurance review of this wetland delineation report was completed by me or under my direct supervision, and that I am a Certified Wetland Delineator in the State of Minnesota.

Travis Fristed, PWS (#2360), MN WDC (#1169)

Senior Environmental Scientist/Environmental Services Group Manager

Executive Summary

ISG completed a wetland investigation within a 5.49 acre project area in Orono, MN on October 8, 2019 (as shown on the attached Figures).

This wetland investigation was performed in accordance with the 1987 US Army Corps of Engineers Wetland Delineation Manual and the 2010 Midwest Regional Supplement, and all applicable supporting documents for areas meeting wetland criteria for a routine wetland delineation in accordance to the MN Wetland Conservation Act and the US Army Corps of Engineers Section 404 Program.

Vegetation, soil and hydrology sampling have been completed on all potential wetland areas within the project area. Wetland determinations were based on the three required technical criteria: occurrence of hydric soil, predominance of hydrophytic vegetation, and the presence of one primary and/or two secondary indicators of wetland hydrology. Potential wetland areas (mapped hydric soils, NWI signatures, and low depressional areas) were investigated on-site and delineated as upland. Farmed wetlands that lacked a natural plant community were determined based on the presence of one primary and/or two secondary indicators of wetland hydrology (in accordance with the 87' Corps Manual Section F- Atypical Situations and Regional Supplement Chapter 5- Problematic Hydrophytic Vegetation). Potential wetland areas (mapped hydric soils, NWI signatures, and low depressional areas) were investigated on-site and delineated as upland.

Table 1. Delineated Wetland Summary

Wetland No.			Wetland Type(s) Community		Soil Classification (Hydric Rating)	Mapped NWI	DNR Protected Waters Inventory
Α	Type 3	PEM1C	Shallow Marsh	3.35 Acres (145,954 Sq. Ft)	L16A (Hydric)/L36A (Partially Hydric)	PEM1C	27085900

Project Description

PROJECT PURPOSE

ISG was retained to identify and delineate all wetland areas that exist within the project boundaries. The wetland investigation boundary (or project area) encompasses approximately 5.49 acres near the intersection of Fox St. and CSAH 146 in Orono, Minnesota.

The purpose of the wetland investigation is to accurately identify wetland areas onsite so that they can be incorporated into plans for any future development of the property.



This report is intended to facilitate any regulatory discussions of Wetland Conservation Act and Clean Water Act Section 10/404 permitting for this project.

PROJECT LOCATION

The project area is located east of the intersection of Fox St. and CSAH 146 in Section 3, T117N, R23W, in the city of Orono, Minnesota (See Figure 1, Appendix A for a location map). The site is located within the Mississippi River – Twin Cities major watershed (20), and the Long Creek minor watershed (20092). The topography of the site slopes east towards an unnamed DNR public waters wetland. Site elevation ranges from approximately 930' to 952' above msl. At the time of this delineation, the investigation area was composed of grassland, forested upland, and wetland.

SURROUNDING PROPERTIES

The project site is located in the outskirts of Orono next to large spaced out lots. Some lots are heavily wooded and others partially wooded. Due to its location moderately spaced single family residences surround the project area.

Definitions + Methodology

This investigation was performed in accordance with the US Army Corps of Engineers 1987 Wetland Delineation Manual and the 2010 Midwest Regional Supplement, and all applicable supporting documents for areas meeting wetland criteria for a routine wetland delineation in accordance to the Minnesota Wetland Conservation Act and the US Army Corps of Engineers Section 404 Program. The following definitions, diagnostic environmental characteristics, and the methodology used is based on the mandatory technical criteria for the identification and delineation of wetlands.

WETLANDS DEFINITION

As defined in 33 CFR Part 328, Section 3, the term wetlands is defined as: Those 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. The frequency and duration of saturation may vary by geographical region, and is largely dependent upon climatic conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands have the following general diagnostic environmental characteristics:

Hydrophytic Vegetation

The wetland vegetation criterion is satisfied when the prevalent vegetation consists of plant species adapted to inundation or substrates periodically deficient in oxygen as a result of prolonged saturation. Specifically, this includes plant communities that under normal circumstances have more than 50% of the composition of the dominant species from all strata ranked with an indicator status as obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC) species.

The indicator status for individual plants as defined by the updated 2016 Minnesota National Wetland Plant List are identified and described in the following table:

Table 2. Vegetation Indicator Categories

Indicator Category	Occurrence in Wetlands
Obligate (OBL)	Almost always
Facultative Wetland (FACW)	Usually
Facultative (FAC)	Equally likely to occur in uplands
Facultative Upland (FACU)	Rarely
Upland (UPL)	Almost never

Hydric Soil

A hydric soil is a soil formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. Examples of hydric soil indicators include: the accumulation of organic matter, low-chroma soil matrices, gleying, redox concentrations, redox depletions, and hydrogen sulfide odor.

Wetland Hydrology

According to the 1987 manual, wetland hydrology is present when the area is inundated either permanently or periodically at mean water depths less than or equal to 6.6 feet, or the soil is saturated to the surface at some time during the growing season. The Midwest Regional Supplement requires fourteen (14) or more consecutive days of flooding or ponding, or a water table of twelve (12) inches (30 cm) or less below the soil surface, during the growing season at a minimum frequency of five (5) years in ten (10) (50% or higher probability) to satisfy wetland hydrology.

The wetland hydrology criterion can be satisfied with observation of one (1) primary hydrology indicator or two (2) secondary hydrology indicators. Potential primary indicators of wetland hydrology may include, but are not limited to: inundation, saturation, water marks, drift lines, sediment deposits, and a thin muck surface. Potential secondary indicators of wetland hydrology may include, but are not limited to: surface soil cracks, drainage patters, saturation visible on aerial imagery, and the FAC-neutral test.



OFF-SITE METHODOLOGY

Map Review

Prior to fieldwork, several mapping sources were consulted to identify potential wetland habitats. The sources consulted include the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), formerly Soil Conservation Service (SCS) Soil Survey, Minnesota Department of Natural Resources (DNR) Public Waters Inventory (PWI), and United States Geological Survey (USGS) Topographic maps. Areas indicating evidence of potential wetland conditions were evaluated in greater detail through fieldwork.

Precipitation Data Analysis

Precipitation data from the Minnesota Climatology Working Group and Natural Resources Conservation Service WETS Tables were used in conjunction with the NRCS Method for Evaluating Antecedent Moisture Conditions to determine precipitation conditions under which the investigation was conducted.

ON-SITE METHODOLOGY

Field Sampling Procedures

Sample transects were established in representative transition zones between wetland and upland for each observed plant community. For potential wetland areas greater than five acres in size, a minimum of three transects were established along the baseline wetland boundary for lengths of up to one mile, three to five transects for one to two miles, five to eight transects for two to four miles, and eight or more transects for wetland baseline boundaries that exceed four miles in length. Transect intervals do not exceed 0.5 mile apart from each other.

Transects are comprised of two sample points, one sample in upland and one sample point in wetland. A field data sheet was completed describing the dominant soil characteristics (to a minimum of 24 inches below the soil surface), plant communities, and hydrology indicators at the sample point. The presence of water was observed after time (depending on soil characteristics) was allowed for movement of water through the soil substrate. Absolute percent areal cover was recorded for the species that were observed (which may exceed 100% total area due to overlap) and dominance was determined by using the 50/20 rule. Vegetation was sampled within each stratum present at a sample point using the following circular plot sizes:

- Trees 30 ft radius
- Saplings and Shrubs 15 ft radius

- Herbaceous 5 ft radius
- Woody Vines 30 ft radius

The sample points were marked with 4-foot lathe, photographed, and flagged with surveyor's tape (if not within an agricultural land use). Other samples were taken at unmarked locations to provide verification of the wetland edge, as needed.

Wetland Boundary Delineation

The wetland boundaries were determined using changes in topography, dominance of hydrophytic/non-hydrophytic vegetation, hydric soil indicators, and/or hydrology characteristics. Wetland edges were marked with pink "wetland delineation" flags. The wetland edge is considered to be the highest extent of the wetland basin. Areas below the flagged edge satisfy the three required wetland criteria while areas above were lacking in one or more of these criteria.

US Army Corps of Engineers Regulatory Guidance Letter 90-6 requires documentation sufficient to allow a reasonably accurate replication of the delineation at a future date. Reasonably accurate is defined as within 0-2 meters accuracy. Precise positions of sample points and the wetland edge have been located by a sub-meter GPS unit and have been included in the wetland delineation drawing or map for this property.

Wetland Type Classification

Wetlands were classified using Wetland Plants and Plant Communities of Minnesota and Wisconsin (Eggers & Reed 2007), Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al, 1979) and Wetlands of the United States (Fish and Wildlife Service Circular 39, Shaw and Fredine 1971).

Findings

MAP REVIEW

The NWI map lists one NWI signature which encompasses a majority of the project area. This NWI signature is listed as a Palustrine Emergent Persistent Seasonally Flooded (PEM1C) wetland. The basin is shown in Figure 2, Appendix A.

There is one DNR Public Waters basin located within the investigation area. This basin is an unnamed Public Waters Wetland (27085900). The basin is shown in Figure 2, Appendix A.

Soils within the investigation boundary have been mapped by the NRCS along with their hydric classification. The location of each soil unit occurring within the investigation boundary is shown on the Hennepin County Soil Survey map (Figure 3, Appendix A).



The LiDAR map (Figure 4, Appendix B) illustrates the highest elevations near the western half of the site. Elevations vary within the project boundary, ranging from 952 feet above msl to 930 feet above msl where the public waters wetland.

ANTECEDENT PRECIPITATION DATA ANALYSIS

The precipitation received in the project area during the previous three months was above the normal range (30-70th percentile) for this area. Prior to the sample date of October 8, 2019, there was above normal precipitation in September, August, and July. Therefore the field work was completed under above normal conditions according to the precipitation worksheet for wetland delineations (Appendix C).

FIELD DELINEATION RESULTS

Based on the data reviewed and fieldwork conducted, one (1) area was examined for wetland characteristics within the project area. One (1) wetland was ultimately delineated and is further described within this report. The delineated wetland is identified as Wetland A, which includes sample points 1 & 2. One transect was taken along Wetland A's boundary.

Field data forms for each sample point are located in Appendix B. Refer to Figure 6 (Appendix B) for a map of the project boundary, wetland basin, sampling transect, and area. Photos of the wetland basin within the project boundary are included in Appendix C.

OTHER AQUATIC RESOURCES

The only prominent aquatic resource within the project boundaries is the aforementioned DNR Public Waters and NWI wetland (delineated as Wetland A) that is mapped in the eastern portion of the project area (Figure 2, Appendix A). Wetland A appears to extend off-site to the north, east, and south. Wetland A outlets into Tanger Lake .12 miles southeast of the project area.

WETLAND SUMMARY

Wetland A

Wetland A is a Type 3 Shallow Marsh wetland dominated primarily by cattail. Wetland A is located within the eastern half of the project area at the bottom of a steep hillslope. Wetland A was flagged and GPS'd primarily based off of topography, which was placed at the toe of the hillslope along the forested upland and several feet above the hillslope based off a change in dominant vegetation along the cleared upland area.



Recommendations

Activities impacting or potentially impacting the wetlands identified are regulated through several levels of government in Minnesota:

- Federal: US Army Corps of Engineers: Permit Programs under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act
- Federal: USDA NRCS: Wetland Conservation Provisions of the 1996 Farm Bill
- State of Minnesota: Minnesota Department of Natural Resources: Public Waters Work Permit Program
- Local: Local Units of Government (LGU) administer the Minnesota Wetland Conservation Act (WCA) of 1991.

Please note that grading, excavating, or filling is not allowed until all necessary permits have been obtained. If wetland impacts are proposed, ISG can assist in the proper steps to acquire the appropriate permit or exemption. By initiating the permit process as soon as possible, potential costly delays to the project may be avoided.



Data Sources + Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and R.T. LA Roe. 1979. Classification of wetlands and deep water habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31.

Eggers, S.D., and Reed, D.M. 1997. Wetland Plants and Plant Communities of Minnesota and Wisconsin. U.S. Army Corps of Engineers, St. Paul District. 1997.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Wetlands Research Program Technical Report Y-87-1, US Army Engineers Waterways Experiment Station.

Environmental Laboratory. August 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. ERDC/EL TR-10-16. U.S. Army Corps of Engineers.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 Wetland Ratings. Phytoneuron 2016-30: 1-17

Minnesota Climatology Working Group. State Climatology Office – DNR Waters, Extension Climatology Office – MES and Academic Climatology – U of Minnesota. http://climate.umn.edu/wetland/

Minnesota Department of Natural Resources Protected Waters Inventory Map, Hennepin County.

Shaw, S.P., and C.G. Fredine. 1956. Wetlands of the United States. U.S. Fish and Wildlife Service, Circular 39. 67pp.

State of Minnesota Interagency Cooperative Agreement for Implementation of the Federal Wetland Delineation Memorandum of Agreement. Minnesota Wetland Mapping Conventions for 1985 Food Security Act (FSA) as Amended and Section 404 Clean Water Act (CWA), August 1994.

United States Army Corps of Engineers- St. Paul District and Minnesota Board of Water & Soil Resources. March 4, 2015. Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota.

United States Department of Agriculture. Natural Resources Conservation Service. Climate Analysis for Wetlands. http://www.wcc.nrcs.usda.gov/ftpref/support/climate/wetlands/

United States Department of Agriculture. Natural Resources Conservation Service. Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/

United States Fish and Wildlife Service National Wetland Inventory Map. May 2015 Update (April 30, 2015 metadata), Minnesota Department of Natural Resources

United States Geological Survey. 7.5 minute, 1:24,000 scale Topographic Quadrangle Map.

APPENDIX A:

Figure 1. Project Location
Figure 2. DNR Public Waters Inventory and National
Wetland Inventory
Figure 3. Hennepin County Soil Survey
Figure 4. LiDAR Elevations and Hillshade
Figure 5. Aerial Photograph







Figure I
Project Location Map
1775 Fox Street

Source(s): Municipalities (MN DOT, 6/24/2016) Lakes (MN DNR, July, 2008) Counties (MN DNR, July 2013) PLSS (MnGeo/USGS)









Figure 2
DNR Public Waters Inventory
and National Wetlands Inventory
1775 Fox Street

Orono, Hennepin County, Minnesota

Source(s): Orthophoto (Hennepin County, 2018) NWI (MN DNR, 2019) PWI (MN DNR, 2008)



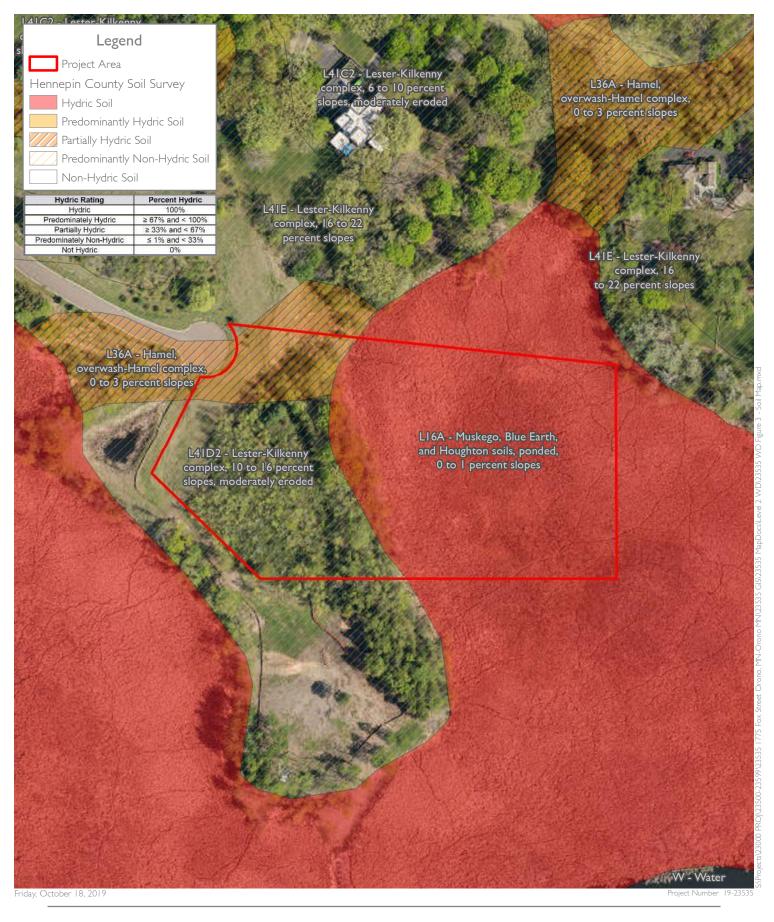






Figure 3
Hennepin County Soil Survey
1775 Fox Street

<u>Source(s):</u> Orthophoto (Hennepin County, 2018) Soil Survey (USDA NRCS, 2003)



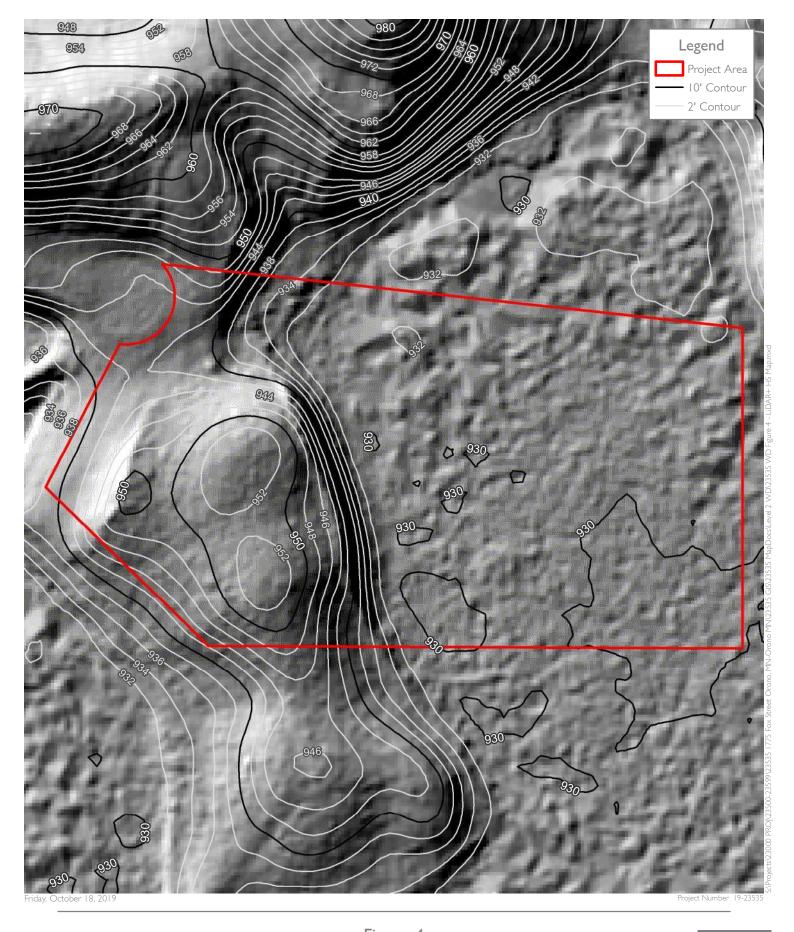






Figure 4
LiDAR Elevations and Hillshade
1775 Fox Street
Orono, Hennepin County, Minnesota

<u>Source(s):</u> Contours/Hillshade (MnLiDAR, 2012)



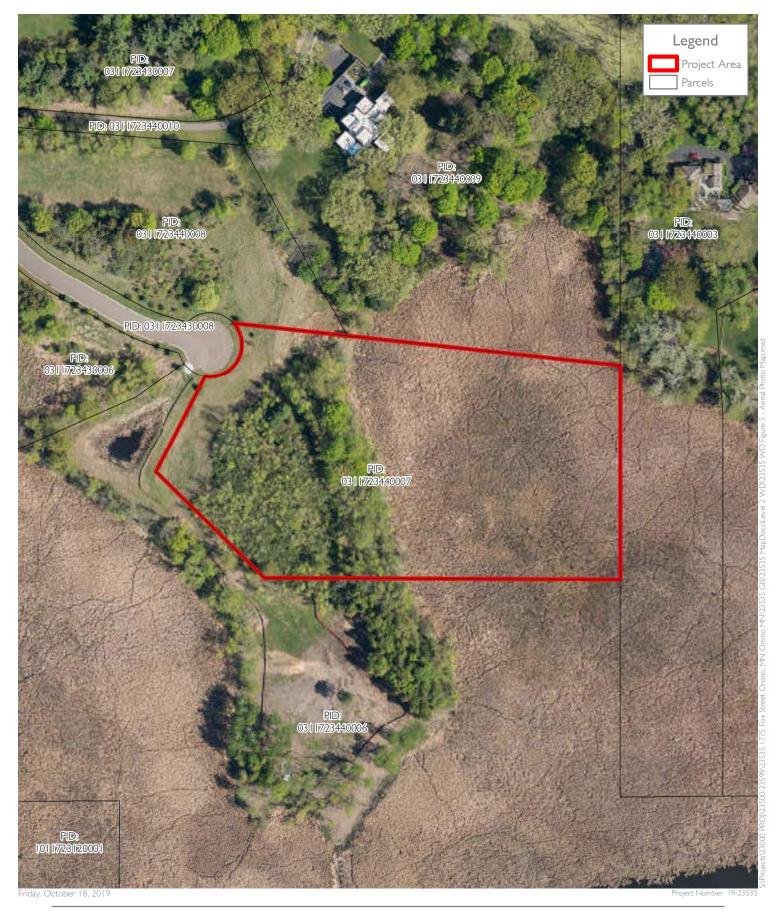






Figure 5
Aerial Photo Map
1775 Fox Street
Orono, Hennepin County, Minnesota

Source(s): Orthophoto (Hennepin County, 2018) Parcels (Hennepin County, 2019)



APPENDIX B: Figure 6. Wetland Delineation Map Wetland Determination Data Forms

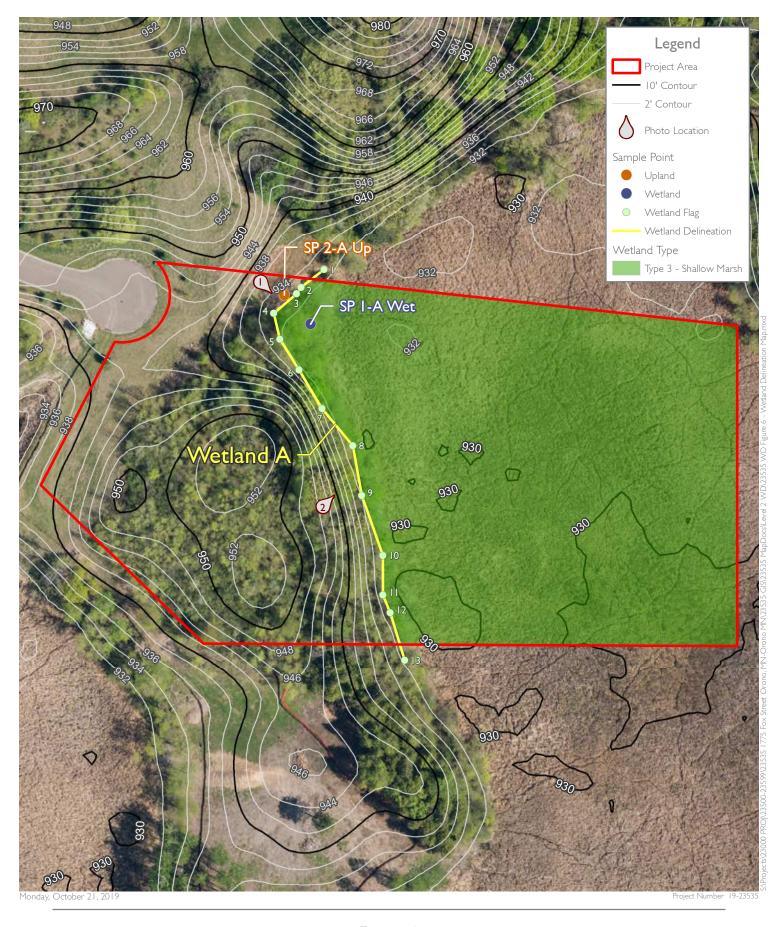






Figure 6
Wetland Delineation Map
1775 Fox Street
Orono, Hennepin County, Minnesota

Source(s): Orthophoto (Hennepin County, 2018) Wetland Delineation (ISG, 2019) Contours (MnLiDAR, 2012)



WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 1775 Fox Street		City/Cour	nty: Hennepi	in	Sampling Date:	10/08/19
Applicant/Owner: Hendel Homes				State: MN	Sampling Point:	SP 1-A Wet
Investigator(s): Jeremy Groskreutz		Section, T	ownship, Raı	nge: S3, T117N, R23W		
Landform (hillside, terrace, etc.): Toeslope		<u>[</u>	Local relief (c	oncave, convex, none):	Concave	
Slope (%):1 Lat: _44.965676		Long:	93.567241		Datum: NAD 1983	
Soil Map Unit Name: L36A - Hamel, overwash-Hamel c	omplex, 0 to	3 percent slo	pes	NWI classifi	cation: None	
Are climatic / hydrologic conditions on the site typical fo	r this time o	of year?	Yes	No X (If no, expl	ain in Remarks.)	
Are Vegetation, Soil, or Hydrologysi	ignificantly (disturbed? A	Are "Normal C	ircumstances" present?	Yes X_ No	
Are Vegetation, Soil, or Hydrologyn.				plain any answers in Ren		
SUMMARY OF FINDINGS – Attach site ma			g point lo	cations, transects,	important feat	ures, etc.
Hydrophytic Vegetation Present? Yes		ı	Sampled Ar		No	
Remarks: Above normal precip received.						
VEGETATION – Use scientific names of plan	nts.					
<u>Tree Stratum</u> (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worl	vehoot:	
1. Rhamnus cathartica	30	Yes	FAC	Number of Dominant S		
2.				Are OBL, FACW, or FA	•	B (A)
3.				Total Number of Domi		·
4.				Across All Strata:	3	B(B)
5				Percent of Dominant S	•	
Combined Chartering (Diet sizes 45) Dedius	30	=Total Cover		Are OBL, FACW, or FA	AC: 100.	.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15' Radius) 1. Rhamnus cathartica	5	Yes	FAC .	Prevalence Index wo	rkehoot:	
2.		163		Total % Cover of:		ην·
3.				OBL species 25		
4.				FACW species 75		
5.				FAC species 35)5
	5 :	=Total Cover		FACU species 5	x 4 = 2	0
Herb Stratum (Plot size: 5' Radius)				UPL species 0	x 5 = 0)
1. Phalaris arundinacea	70	Yes	FACW	Column Totals: 140	(A) 30	00 (B)
2. Carex atherodes	20	No	OBL	Prevalence Index =	B/A = 2.14	
3. Solidago canadensis	5	No	FACU			
4. Typha latifolia	5	No	OBL	Hydrophytic Vegetati		
5. <u>Urtica dioica</u>	5	No	FACW		Hydrophytic Vegeta	tion
6.				X 2 - Dominance Tes		
7.				X 3 - Prevalence Ind	ex is ≤3.0˚ Adaptations¹ (Provid	- ausporting
8. 9.			[Adaptations (Provid	0
10.					phytic Vegetation ¹ (′
10	105 :	=Total Cover		<u> </u>	. , , ,	` ' /
Woody Vine Stratum (Plot size: 30' Radius)		-10101 0010.		¹ Indicators of hydric so be present, unless dist		
1.				•	ancoa o. p	<u>. </u>
2.				Hydrophytic Vegetation		
		=Total Cover		Present? Yes_	No	
Remarks: (Include photo numbers here or on a separa	ate sheet.)					

US Army Corps of Engineers

SOIL Sampling Point: SP 1-A Wet

epth	Matri			ox Featur		. 0		
nches)	Color (moist)	%	Color (moist)	%_	Type ¹	Loc ²	Texture	Remarks
0-18	10YR 2/1	100					Mucky Loam/Clay	
								-
				- —				
				- —				
ype: C=Co	ncentration, D=[epletion, RM	I=Reduced Matrix,	MS=Mas	ked Sand	Grains.		: PL=Pore Lining, M=Matrix.
	ndicators:							rs for Problematic Hydric Soils ³ :
_ Histosol (Sandy Gle	-	rix (S4)			t Prairie Redox (A16)
_	ipedon (A2)		Sandy Re					Manganese Masses (F12)
_Black His			Stripped N		6)			Parent Material (F21)
	n Sulfide (A4)		Dark Surf	, ,				Shallow Dark Surface (F22)
_	Layers (A5)		X Loamy M	-			Othe	r (Explain in Remarks)
_2 cm Mu	, ,		Loamy GI	-				
	Below Dark Surf	ace (A11)	Depleted				3	
_	rk Surface (A12)		Redox Da		` '			rs of hydrophytic vegetation and
	ucky Mineral (S1		Depleted		` '			and hydrology must be present,
_ 5 cm Mud	cky Peat or Peat	(S3)	Redox De	pression	s (F8)		unles	ss disturbed or problematic.
strictive L	ayer (if observe	d):						
Type: _								
Depth (in	ches):						Hydric Soil Present	? Yes <u>X</u> No
Depth (in	·		_				Hydric Soil Present	t? Yes <u>X</u> No
Depth (in	·						Hydric Soil Present	t? Yes <u>X</u> No
Depth (in emarks:	GY Irology Indicato							
Depth (in permarks: DROLO etland Hycimary Indicinal processing the permanent of the perman	GY Irology Indicato ators (minimum		uired; check all that				<u>Seconda</u>	ry Indicators (minimum of two requ
Depth (in marks: DROLO etland Hyc mary Indic Surface V	GY Irology Indicato ators (minimum Vater (A1)		Water-Sta	ained Lea	` '		Seconda Surfa	ry Indicators (minimum of two requace Soil Cracks (B6)
Depth (in marks: DROLO etland Hyc mary Indic Surface V High Wat	GY Irology Indicato actors (minimum Water (A1) ter Table (A2)		Water-Sta	ained Lea auna (B1	3)		Seconda Surfa Drair	ry Indicators (minimum of two requ ace Soil Cracks (B6) nage Patterns (B10)
Depth (in marks: DROLO etland Hyc mary Indic Surface V High Wat Saturatio	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3)		Water-Sta Aquatic F True Aqua	ained Lea auna (B1 atic Plant	3) s (B14)		Seconda Surfa Drair Dry-S	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2)
Depth (in property) Depth (in property) Depth (in property) Electric depth (in property) Depth (in property) Electric dep	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1)		Water-Sta Aquatic F True Aqua Hydrogen	ained Lea auna (B1 atic Plant Sulfide (3) s (B14) Odor (C1)		Seconda Surfa Drair Dry-5 Cray	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8)
Depth (in property of the prop	GY Irology Indicato ators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)		Water-Sta Aquatic F True Aqua Hydrogen Oxidized	ained Lea auna (B1 atic Plant Sulfide (Rhizosph	3) s (B14) Odor (C1) eres on l	iving Ro	Seconda Surfa Drair Dry-S Cray pots (C3)Satu	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C
Depth (in principle) Principle	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)		Water-Sta Aquatic F True Aqua Hydrogen Oxidized I	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc	3) s (B14) Odor (C1) eres on l ced Iron (iving Ro	Seconda Surfa Drair Dry-s Cray sots (C3) Stun	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C
Depth (in permarks: Depth (in	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		Water-Sta Aquatic F True Aqua Hydrogen Oxidized Presence Recent Ira	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc	3) s (B14) Odor (C1) eres on I ced Iron (iving Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2)
Depth (in permarks: DROLO etland Hyder mary Indice Surface V High Water Mater M	GY Irology Indicato ators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	of one is requ	Water-Sta Aquatic F True Aqua Hydrogen Oxidized Presence Recent Iro Thin Mucl	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface	3) s (B14) Odor (C1) eres on led Iron (ction in Ties (C7)	iving Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C
Depth (in marks: DROLO Etland Hyce mary Indice Surface V High Water Mary Saturatio Water Mary Sediment Drift Depo	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeri	of one is requ al Imagery (B	Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Iro Thin Mucl	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat	3) s (B14) Odor (C1) eres on l ced Iron (tion in Ti c (C7) a (D9)	iving Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2)
Depth (in person of the person	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeri Vegetated Conc	of one is requ al Imagery (B	Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Iro Thin Mucl	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat	3) s (B14) Odor (C1) eres on l ced Iron (tion in Ti c (C7) a (D9)	iving Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2)
Depth (in property of the prop	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aeri Vegetated Conc Vations:	of one is requ al Imagery (B ave Surface (Water-Sta Aquatic F True Aqua Hydrogen Oxidized Presence Recent Ira Thin Mucl Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F	3) s (B14) Ddor (C1) eres on I ced Iron (tion in Ti c (C7) a (D9) temarks)	iving Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2)
Depth (in permarks: Surface Value (in permarks) Sediment (in permarks) Drift Depth (in permarks) Iron Depth (in perma	GY Irology Indicato ators (minimum Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present?	of one is requ al Imagery (B ave Surface (Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Ira Thin Mucl 67) Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti e (C7) a (D9) emarks)	Living Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (Cated or Stressed Plants (D1) morphic Position (D2)
Depth (in emarks: Setland Hyder Marks: Sediment Drift Depth Algal Marks: Iron Depth Inundation Sparsely eld Observation water Table	GY Irology Indicato ators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present?	of one is requal Imagery (Bave Surface (Yes X	Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Ira Thin Mucl 67) Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F	3) s (B14) Odor (C1) eres on I ced Iron (tition in Ti e (C7) a (D9) elemarks) nches): _ nches): _	Living Ro	Secondar	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Depth (in emarks: PROLO Petland Hycrimary Indicates of the control of the contro	GY Irology Indicato ators (minimum Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present? Present?	of one is requ al Imagery (B ave Surface (Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Ira Thin Mucl 67) Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F	3) s (B14) Odor (C1) eres on I ced Iron (tition in Ti e (C7) a (D9) elemarks) nches): _ nches): _	Living Ro	Secondar Surfar Drair Dry-5 Cray Sature Sture S (C6) X Geor	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Depth (in permarks: Surface Valuation Depth (in permarks) Iron	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present? Present? esent?	al Imagery (Bave Surface (Yes X Yes X Yes X	Water-Sta Aquatic F True Aqua Hydrogen Oxidized Presence Recent Iru Thin Mucl Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _	C4) Illed Soils	Seconda Surfa Drair Dry-S Cray Sots (C3) Stun Stun X Geor X FAC-	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Depth (in permarks: Surface Valuation Depth (in permarks) Iron	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present? Present? esent?	al Imagery (Bave Surface (Yes X Yes X Yes X	Water-Sta Aquatic F True Aqua Hydrogen Oxidized I Presence Recent Ira Thin Mucl 67) Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _	C4) Illed Soils	Seconda Surfa Drair Dry-S Cray Sots (C3) Stun Stun X Geor X FAC-	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)
Depth (in property of the prop	GY Irology Indicato ators (minimum Vater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) in Visible on Aeri Vegetated Conc vations: er Present? Present? esent?	al Imagery (Bave Surface (Yes X Yes X Yes X	Water-Sta Aquatic F True Aqua Hydrogen Oxidized Presence Recent Iru Thin Mucl Gauge or (B8) Other (Ex	ained Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc k Surface Well Dat plain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _	C4) Illed Soils	Seconda Surfa Drair Dry-S Cray Sots (C3) Stun Stun X Geor X FAC-	ry Indicators (minimum of two requace Soil Cracks (B6) nage Patterns (B10) Season Water Table (C2) fish Burrows (C8) ration Visible on Aerial Imagery (C ted or Stressed Plants (D1) morphic Position (D2) -Neutral Test (D5)

US Army Corps of Engineers Midwest Region – Version 2.0

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: 1775 Fox Street		City/Cour	nty: <u>Hennepi</u>	n	Sampling Date:	10/08/19
Applicant/Owner: Hendel Homes				State: MN	Sampling Point:	SP 2-A Up
Investigator(s): Jeremy Groskreutz		Section, T	ownship, Rar	nge: S3, T117N, R23W	1	
Landform (hillside, terrace, etc.): Backslope		l	_ocal relief (co	oncave, convex, none):	Concave	
Slope (%): 3 Lat: 44.965748		Long:	93.567343		Datum: <u>NAD 1983</u>	
Soil Map Unit Name: L36A - Hamel, overwash-Hamel co	omplex, 0 to	3 percent slc	pes	NWI classifi	cation: None	
Are climatic / hydrologic conditions on the site typical for	this time o	of year?	Yes	No X (If no, exp	lain in Remarks.)	
Are Vegetation, Soil, or Hydrologysiç	gnificantly c	disturbed? A	re "Normal C	ircumstances" present?	Yes X_ No	o
Are Vegetation, Soil, or Hydrology na				olain any answers in Rer		
SUMMARY OF FINDINGS – Attach site map			g point lo	cations, transects,	important fea	ıtures, etc.
Hydric Soil Present? Yes No	X X X		Sampled Are		No_X_	
Remarks: Above normal precip received.						
VEGETATION – Use scientific names of plan	ts.					
	Absolute	Dominant Species?	Indicator	Dominance Test wor	lbaak,	
<u>Tree Stratum</u> (Plot size: <u>30' Radius</u>) 1.	% Cover	Species?	Status_	Number of Dominant S		
2.				Are OBL, FACW, or FA		1 (A)
3.				Total Number of Domi		
4				Across All Strata:	·	2 (B)
5		T 1:10 0 2:10 2		Percent of Dominant S	•	(A/D)
- <u>Sapling/Shrub Stratum</u> (Plot size: 15' Radius)	=	=Total Cover		Are OBL, FACW, or F	AC: 50	0.0% (A/B)
1			ŀ	Prevalence Index wo	rksheet:	
2.				Total % Cover of:		/ by:
3.				OBL species 10	x 1 =	10
4				FACW species 45		90
5		Total Cover		FACIL anguing 65		0
- <u>Herb Stratum</u> (Plot size: 5' Radius)		=Total Cover		FACU species 65 UPL species 0		260 0
Solidago canadensis	60	Yes	FACU	Column Totals: 12		360 (B)
Phalaris arundinacea	40	Yes	FACW	Prevalence Index =	`´	
3. Carex atherodes	10	No	OBL			
4. Asclepias syriaca	5	No	FACU	Hydrophytic Vegetati	on Indicators:	
5. Verbena hastata	5	No	FACW	1 - Rapid Test for		tation
6				2 - Dominance Te		
7				3 - Prevalence Ind 4 - Morphological		dele emparting
8			—— [Adaptations (Prov s or on a separate	
10.				Problematic Hydro	•	,
	120 =	=Total Cover		¹ Indicators of hydric so		` ' '
Woody Vine Stratum (Plot size: 30' Radius)				be present, unless dist		
1				Hydrophytic		
2			[Vegetation		
<u> </u>		=Total Cover		Present? Yes _	No_X	_
Remarks: (Include photo numbers here or on a separa	te sheet.)					

US Army Corps of Engineers Midwest Region – Version 2.0

SOIL Sampling Point: SP 2-A Up

Depth	Matrix		Redo	X i Catai						
inches)	Color (moist)	<u>%</u>	Color (moist)		Type ¹	Loc ²	Texture		Remarks	
0-23	10YR 2/1	100					Loamy/Clayey			
23-26	10YR 3/1	100					Loamy/Clayey			
								_		
T C-C		lation DM	—Dadwaad Matrix I	40-14			21	tion. DI –Dono I	ining Manager	
lydric Soil I	oncentration, D=Dep	letion, Rivi	=Reduced Matrix, i	vi5=ivias	ked Sand	i Grains.		tion: PL=Pore Lators for Proble		
Histosol			Sandy Gle	ved Mat	riy (S4)			oast Prairie Red	-	Julis .
	ipedon (A2)		Sandy Re	-	IIX (O4)			on-Manganese N		
Black His			Stripped N		3)			ed Parent Mater		
	n Sulfide (A4)		Dark Surfa	`	-,			ery Shallow Darl)
	Layers (A5)		Loamy Mu	` '	eral (F1)			ther (Explain in	,	,
2 cm Mu			Loamy Gl	-				(,	
	Below Dark Surface	e (A11)	Depleted I	-						
	rk Surface (A12)	,	Redox Da	-	•		³ Indic	ators of hydroph	ytic vegetation	and
— Sandy M	ucky Mineral (S1)		Depleted I	Dark Sur	face (F7))	w	etland hydrology	/ must be pres	ent,
5 cm Mu	cky Peat or Peat (S3	3)	Redox De	pression	s (F8)		u	nless disturbed o	or problematic.	
Restrictive L	_ayer (if observed):									
	-ayer (ii observea).									
Type:	zayer (ii oboci vea).									
Depth (in							Hydric Soil Pres	sent?	Yes	No
Depth (in	nches):						Hydric Soil Pres	sent?	Yes	No:
Depth (in Remarks:	oches):						Hydric Soil Pres	ent?	Yes	No
Depth (in Remarks: YDROLO Vetland Hyd	GY drology Indicators:						,			
Depth (in Remarks: YDROLO Vetland Hyderimary Indice	GY drology Indicators:	one is requ			(20)		Secon	ndary Indicators	(minimum of t	
Depth (in lemarks: YDROLO Vetland Hydrimary Indic Surface N	GY drology Indicators: cators (minimum of c	one is requ	Water-Sta	ined Lea	` '		<u>Seco</u> rS	ndary Indicators urface Soil Crac	(minimum of tw	
Primary Indication Surface Value High Wa	GY drology Indicators: cators (minimum of c	one is requ	Water-Sta	ined Lea auna (B1	3)		<u>Seco</u> l	ndary Indicators urface Soil Crac rainage Patterns	(minimum of to ks (B6) s (B10)	
Primary Indicate Surface Value High Wassaturation	drology Indicators: eators (minimum of cowater (A1) ter Table (A2) on (A3)	ne is requ	Water-Sta Aquatic Fa True Aqua	ined Lea auna (B1 itic Plant	3) s (B14)		SecorSD	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate	(minimum of tooks (B6) as (B10) er Table (C2)	
YDROLO Vetland Hydrimary Indic Surface V High Wa Saturatio Water M:	GY drology Indicators: cators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen	ined Lea auna (B1 itic Plant Sulfide (3) s (B14) Odor (C1))	<u>Seco</u> l S D D	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows	(minimum of tooks (B6) s (B10) er Table (C2) (C8)	wo requir
YDROLO Vetland Hydrimary Indic Surface V High Wa Saturatio Water Mi Sedimen	drology Indicators: eators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 itic Plant Sulfide (Rhizosph	3) s (B14) Odor (C1) eres on l) _iving Ro	<u>Secon</u> S D D D C oots (C3) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible	(minimum of to ks (B6) s (B10) er Table (C2) (C8) on Aerial Ima	wo requir
YDROLO Vetland Hydrimary Indic Surface V High Wa Saturatio Water Ma Sedimen Drift Dep	drology Indicators: cators (minimum of cowater (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)	one is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc	3) s (B14) Odor (C1) eres on l ced Iron () _iving Ro (C4)	Secon S D C C S S S S S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress	(minimum of to ks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1)	wo requir
Primary Indic Surface V High Wa Saturatio Water M: Sedimen Drift Dep Algal Ma	drology Indicators: eators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	ne is requ	Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized F	ined Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc	3) s (B14) Odor (C1) eres on I ced Iron () _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	wo requir
YDROLO Vetland Hyd Surface V High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep	drology Indicators: cators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4)		Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck	ined Lea auna (B1 atic Plant Sulfide (Rhizosph of Reduc on Reduc	3) s (B14) Odor (C1) eres on I ced Iron (tion in Ti) _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	wo requir
YDROLO Vetland Hydrimary Indic Surface V High Wa Saturatio Water Mi Sedimen Drift Dep Algal Ma Iron Depi Inundation	drology Indicators: eators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	magery (B	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Odor (C1) eres on l ced Iron (tion in Ti c (C7) a (D9)) _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	wo requir
YDROLO Yetland Hyo Yimary Indic Surface N High Wa Saturatio Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic Sparsely	drology Indicators: cators (minimum of control of contr	magery (B	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Odor (C1) eres on l ced Iron (tion in Ti c (C7) a (D9)) _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	wo requir
YDROLO YDROLO Yetland Hyd Surface N High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Depo Inundatic Sparsely	drology Indicators: cators (minimum of control of contr	magery (B Surface (Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat	3) s (B14) Ddor (C1) eres on I ced Iron (tion in Ti c (C7) a (D9) temarks)) _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	wo requir
Primary Indices Surface Water Manager Inundation Sparsely Field Observious Surface Water Table	drology Indicators: eators (minimum of control (Mater (A1)) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In Vegetated Concave vations: er Present? Ye Present?	magery (B Surface (Water-Sta Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 sulfide (Rhizosph of Reduc in Reduc is Surface Well Dat Depth (i Depth (i	3) s (B14) Odor (C1) eres on I ced Iron (tition in Ti e (C7) a (D9) elemarks) nches): _ nches): _) _iving Ro (C4)	Secon S D D C Oots (C3) S S S (C6) S	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of tooks (B6) s (B10) er Table (C2) (C8) on Aerial Imaged Plants (D1) tion (D2)	vo requir
YDROLO Vetland Hyde Primary Indice Surface Vater Manager Ma	drology Indicators: eators (minimum of control of contr	magery (B Surface (s 	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp	ined Lea auna (B1 stic Plant Sulfide (Rhizosph of Reduc on Reduc Surface Well Dat blain in F	3) s (B14) Odor (C1) eres on I ced Iron (tition in Ti e (C7) a (D9) elemarks) nches): _ nches): _) Living Ro (C4) Illed Soils	Secon	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit	(minimum of the last (B6) s (B10) er Table (C2) (C8) er On Aerial Imaged Plants (D1) tion (D2) er (D5)	vo requir
Primary Indication Depth (in Remarks: YDROLO Vetland Hyde Primary Indication Saturation Water Mail Sedimen Drift Dep Algal Mail Iron Depil Inundation Sparsely Field Observices Surface Water Vater Table Saturation Princludes cap	drology Indicators: eators (minimum of content of the content of t	magery (B Surface (s s X s	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No No	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _) Living Ro (C4) Illed Soils 18	Secon	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit AC-Neutral Test	(minimum of the last (B6) s (B10) er Table (C2) (C8) er On Aerial Imaged Plants (D1) tion (D2) er (D5)	vo requir
Primary Indices Saturation Primary Indices Saturation Primary Indices Saturation Primary Includes capital Primary Include	drology Indicators: eators (minimum of control of contr	magery (B Surface (s s X s	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No No	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _) Living Ro (C4) Illed Soils 18	Secon	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit AC-Neutral Test	(minimum of the last (B6) s (B10) er Table (C2) (C8) er On Aerial Imaged Plants (D1) tion (D2) er (D5)	vo requir
Primary Indices Sediment Drift Dept Inundatices Surface Water Table Saturation Princludes capes Secribe Receivers Secribe Received Secribe Receivers Secribe Receivers Secribe Receivers Secribe Receivers Secribe Receivers	drology Indicators: eators (minimum of content of the content of t	magery (B Surface (s s X s	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No No	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _) Living Ro (C4) Illed Soils 18	Secon	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit AC-Neutral Test	(minimum of the last (B6) s (B10) er Table (C2) (C8) er On Aerial Imaged Plants (D1) tion (D2) er (D5)	wo requir
Depth (in Depth (in Remarks: YDROLO Vetland Hyden Hyden Hyden Manager Manage	drology Indicators: eators (minimum of content of the content of t	magery (B Surface (s s X s	Water-Sta Aquatic Fa Aquatic Fa True Aqua Hydrogen Oxidized Fa Presence Recent Iro Thin Muck 7) Gauge or B8) Other (Exp No X No No	ined Lea auna (B1 sulfide (Rhizosph of Reduc on Reduc Surface Well Dat blain in F Depth (i Depth (i	3) s (B14) Ddor (C1) eres on I ced Iron (tition in Ti c (C7) a (D9) demarks) nches): _nches): _) Living Ro (C4) Illed Soils 18	Secon	ndary Indicators urface Soil Crac rainage Patterns ry-Season Wate rayfish Burrows aturation Visible tunted or Stress eomorphic Posit AC-Neutral Test	(minimum of the last (B6) s (B10) er Table (C2) (C8) er On Aerial Imaged Plants (D1) tion (D2) er (D5)	vo requir

US Army Corps of Engineers Midwest Region – Version 2.0



1775 Fox Street

Wetland Delineation

Antecedent Precipitation Data Worksheet



Date: 10/8/2019

Location: Orono, Hennepin County

LONG TERM PRECIP CONDITIONS

1st Month Prior 2nd Month Prior 3rd Month Prior

MONTH	3 YRS IN 10 LESS THAN	AVERAGE	3 YRS IN 10 MORE THAN	PRECIP	CONDITION DRY, WET, NORMAL	CONDITION VALUE	MONTH WEIGHT VALUE	PRODUCT OF PREVIOUS TWO COLUMNS
September	1.97	3.11	3.90	5.13	Wet	3	3	9
August	2.75	3.72	4.46	7.19	Wet	3	2	6
July	2.54	3.87	4.60	6.88	Wet	3	1	3

Precipitation Data Source: http://climateapps.dnr.state.mn.us

SUM = 18

Condition Value: Dry = 1

Normal = 2

Wet = 3

Note - If sum is: 6 - 9 = Dry

10 - 14 = Normal

15 - 18 = Wet



Photo 1 - View of Wetland A facing southeast.



Photo 2 – View of Wetland A facing northeast.

APPENDIX D:

Joint Application Form for Activities Affecting Water Resources in Minnesota MCWD Water Resource Permit Application Project Name and/or Number: 1775 Fox Street, ISG # 19-23535

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: Rick Hendel, Hendel Homes

Mailing Address: 15250 Wayzata Boulevard, Wayzata, MN 55391

Phone: 952.404.7204

E-mail Address: rick@hendelhomes.com

Authorized Contact (do not complete if same as above):

Mailing Address: 230 Tonka Ave, Orono, MN, 55356

Phone: 952-221-2005

E-mail Address: Casey@eandcssnacks.com

Agent Name: Travis Fristed, ISG

Mailing Address: 7900 International Drive, Suite 550, Minneapolis, MN 55425

Phone: 952.426.0699

E-mail Address: travis.fristed@isginc.com

PART TWO: Site Location Information

County: Hennepin City/Township: Orono Parcel ID and/or Address: 1775 Fox Street, Orono, MN 55391, PID: 0311723440007

Legal Description (Section, Township, Range): S3, T117N, R23W

Lat/Long (decimal degrees): 44.965688, -93.567759

Attach a map showing the location of the site in relation to local streets, roads, highways. See attached Figure 1

Approximate size of site (acres) or if a linear project, length (feet): 5.49 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.

A wetland delineation was performed by ISG on October 8, 2019 to determine the location of any possible wetlands within the project area for future planning of development of the site.

Project Name and/or Number: 1775 Fox Street, ISG # 19-23535

PART FOUR: Aquatic Resource Impact¹ 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.)	l drain or	Impact	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

¹If 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)".

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

No impacts have occurred.

PART FIVE: Applicant Signature

	•			nsultation with the polication review if the	Corps and LGU based on the information you have his box is checked.
, -	· ·	est that the infor ne work describe		oplication is comple	te and accurate. I further attest that I possess the
Signature:	Casey Webber	Digitally signed by Casey Webber Date: 2019.10.28 11:45:09 -05'00'	Sydney Anderson	Digitally signed by Sydney Anderson Date: 2019.10.28 11:47:11 -05'00'	Date:

I hereby authorize ISG 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.

²Impacts 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).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use Wetland Plants and Plant Community Types of Minnesota and Wisconsin 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

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: 1775 Fox Street, ISG # 19-23535

Attachment A Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

ER ESOU CE PERMIT APPLICA ION FORM

Use this form to notify/apply to the Minnehaha Creek Watershed District (MCWD) of a proposed project or work which may fall within their jurisdiction. Fill out this form completely and submit with your site plan, maps, etc. to the MCWD at:

15320 Minnetonka Blvd. Minnetonka, MN 55345.

	copy for your records.	
YOU MUST OBTAIN ALL REQUIRED .	**	EGINNING WORK.
1. Name of each property owner: CC Webber, SM An	nderson	
Mailing Address: 230 Tonka Ave		State: MN Zip: 55356
Email Address: casey@eandcssnacks.com	Phone: 952-221-2005	Fax: 952-300-9605
2. Property Owner Representative Information (not	required) (licensed contractor, arc	chitect, engineer, etc)
Business Name: Hendel Homes	Representative Name: Rick He	endel
Business Address: 15250 Wayzata Blvd.	City: <u>Wayzata</u>	State: MN Zip: <u>55391</u>
Email Address: rick@hendelhomes.com	Phone: 952-404-7204	Fax:
3. Project Address: 1775 Fox Street	City: Oı	rono
State: MN Zip: 55391 Qtr Section(s):	Section(s): 3 Township((s): <u>117</u> Range(s): <u>23W</u>
State: MN Zip: 55391 Qtr Section(s): Lot: Block: Subdivision:	PID: <u>0</u>	311723440007
4. Size of project parcel (square feet or acres): <u>5.49</u>	Acres	
Area of disturbance (square feet): 0	Volume of excavation/fill	(cubic yards): 0
Area of existing impervious surface: 0		
Length of shoreline affected (feet): 0 Wat		
5. Type of permit being applied for (Check all that a	apply):	
☐ EROSION CONTROL	☐ WATERBODY CROSS	SINGS/STRUCTURES
☐ FLOODPLAIN ALTERATION	☐ STORMWATER MAN	AGEMENT
☑ WETLAND PROTECTION	☐ APPROPRIATIONS	
□ DREDGING	☐ ILLICIT DISCHARGE	
☐ SHORELINE/STREAMBANK STABILIZATION		
6. Project purpose (Check all that apply):		
☐ SINGLE FAMILY HOME	\square MULTI FAMILY RESI	DENTIAL (apartments)
□ ROAD CONSTRUCTION	☐ COMMERCIAL or INS	
□ UTILITIES	☐ SUBDIVISIONS (inclu	
□ DREDGING	☐ LANDSCAPING (pools	
☐ SHORELINE/STREAMBANK STABILIZATION	☑ OTHER (DESCRIBE):\	Wetland Delineation
7. NPDES/SDS General Stormwater Permit Numbe	r (if applicable): <u>NA</u>	
8. Waterbody receiving runoff from site: Minnetonka		
9. Project Timeline: Start Date: <u>T.B.D.</u>	Completion Date: <u>T.B.D.</u>	
	MN Pollution Control Agency_	\square DNR \square COE \square
Permits have been received: City County	MN Pollution Control Agency_	□ DNR □ COE □
By signing below, I hereby request a permit to authorize the Rules and that the proposed activity will be conducted in contained in this application and, to the best of my knowled understand that proceeding with work before all required at administrative, civil and/or criminal penalties. Sydney Anderson Digitally signed by Sydney Anderson Date: 2019;10.28 11:51:23-05'00' Casey Webb	ompliance with these Rules. I am famil dge and belief, all information is true, outhorizations are obtained may be subj	liar with the information complete and accurate. I ect to federal, state and/or local
Signature of Each Property Owner		Date