

MEMORANDUM

TO: Brian Corcoran, VLAWMO

FROM: Rebecca Beduhn, SEH (CWD 1243, PWS 2758)

DATE: September 15th, 2020

Vadnais/Sucker Park Wetland Assessment RF:

SEH No. VADLA 154641 14.00

INTRODUCTION

The purpose of this memorandum is to provide results of a wetland assessment completed within the boundary of the Vadnais/Snail Park in Vadnais Heights, Minnesota. The Vadnais Lake Area Water Management Organization (VLAWMO) gathering information to gain a better understanding of the quantity and quality on the wetlands in the park. As part of this documentation, function assessments of existing wetland habitat were quantified utilizing the Minnesota Routine Assessment Methodology (MnRAM) Version 3.4.

This memo summarizes the findings of the investigation, including the MnRAM Scores for each wetland basin within the park boundary.

SITE DESCRIPTION

The project site is located in portions of sections19, 29, 30, 31 and 32 of Township 30 North, Range 22 West in Vadnais Heights, Ramsey County, Minnesota as shown on **Figure 1**.

The 1,200-acre site is located in the existing Vadnais-Sucker Lake Regional Park in major watershed; Mississippi River - Twin Cities #20, and Bank Service Area (BSA); #7. The project site consists of a variety of upland and wetland plant communities.

The wetland and upland communities onsite are described in more detail in the following sections.

METHODOLGY

The project site was examined on June 15-17th for areas meeting the technical wetland criteria in accordance with the U.S. Army Corps of Engineers *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: *Northcentral and Northeast Region* (USACE 2012).

The delineation procedures in the Corps *Manual* (*i.e.*, the Routine Onsite Determination Method), in combination with wetland indicators and guidance provided in the *Regional Supplement* were applied for this delineation. Where differences in the two documents occur, the *Regional Supplement* takes precedence over the Corps *Manual* for applications in the *Northcentral and Northeast Region* (USACE 2012).

Field notes, samples, and photographs were taken at representative locations in each wetland basin. The respective wetland and upland plots for each wetland were documented on Wetland Determination Data Forms (**Appendix C**). Relevant photographs of the site are included below as part of the wetland descriptions; all other photographs will be retained on file at SEH.

Invasive Phragmites Addendum (inserted into the report on 11/4/2020 by D. Tanner)

Invasive European Phragmites (*Phramites australis* subsp. *australis*) was reported by SEH in Wetland 5, Shallow Marsh. This location was checked in Oct. 2020, a sample was collected, and the location sampled was verified by SEH. Currently, no invasive Phragmites is present at the site. UMN experts (J. Bohnen) identified the samples collected at the site as native.

Continuing to watch this and other locations in the watershed are important in working to eradicate this invasive species and protect wetland functions for water quality.

This map shows the location of Wetland 5

The appearance of the ligule is used to definitively distinguish between native and invasive Phragmites. Phragmites currently present in Wetland 5 is native.







Invasive Yellow iris Addendum (inserted into the report on 6/10/2021 by D. Tanner)

Invasive Yellow iris (*Iris pseudacorus*) was reported by SEH in Wetland 22, Shallow Marsh/Seasonally flooded basin. This location was checked on June 9, 2021. Currently, no invasive Yellow iris is present at the site.

Continuing to watch this and other locations in the watershed are important in working to eradicate this invasive species and protect wetland functions for water quality.

Photos below show large stands of native Blue-flag iris that are present in the wetland and could have been misidentified as Yellow iris due to their abundance.





RESULTS

The field delineation was conducted under precipitation conditions that were considered normal as compared to the historical average for the region according to Minnesota Climatology Working Group (Appendix D). Most of the vegetation was identifiable, including all dominant species.

Forty one (41) wetland basins were identified, delineated, and classified (Figures 2, 3 and 4). The Wetland Determination Data Forms (Appendix C) indicate the dominant species of vegetation and the soil and hydrologic characteristics at representative locations around each basin. Table 1 is a summary of the size and classification of each wetland basin. A summary description of each delineated wetland basin is included in Appendix A.

Table 1 - Wetland and Aquatic Resource Characteristics

Wetland ID	Size (acres) ¹	Eggers & Reed Classification	MnRAM Score
1	1.244	Shallow Marsh, Seasonally Flooded Basin	Manage 1
2	1.2611	Shallow Open Water, Fresh (wet) Meadow	Manage 1
3	35.4112	Seasonally Flooded Basin, Shallow Marsh, Shrub Carr	Manage 1, Preserve
4	0.1841	Fresh (wet) Meadow, Shallow Open Water	Manage 2
5	92.687	Shallow Marsh, Shrub Carr	Manage 1, Preserve
6	0.0457	Shallow Open Water	Manage 1
7	0.5313	Shallow Marsh, Seasonally Flooded Basin	Manage 1
8	0.0459	Seasonally Flooded Basin	Manage 2
9	0.031	Fresh (wet) Meadow	Manage 2
10	0.276	Shallow Open Water, Shallow Marsh	Manage 1
11	0.0306	Seasonally Flooded Basin	Manage 2
12	2.996	Seasonally Flooded Basin, Shallow Marsh	Manage 1
13	0.0632	Fresh (wet) Meadow	Manage 1
14	0.3297	Seasonally Flooded Basin	Manage 3
15	0.1967	Seasonally Flooded Basin	Preserve
16	0.0307	Seasonally Flooded Basin	Preserve
17	0.2023	Seasonally Flooded Basin	Preserve
18	7.2825	Seasonally Flooded Basin, Shallow Marsh, Shrub Carr	Preserve
19	0.2131	Seasonally Flooded Basin	Manage 1
20	0.575	Shallow Marsh	Manage 1
21	1.1543	Seasonally Flooded Basin, Fresh (wet) Meadow	Manage 1
22	1.7549	Seasonally Flooded Basin, Shallow Marsh	Preserve
23	0.6381	Fresh (wet) Meadow	Manage 2
24	13.1333	Shallow Marsh, Shrub Carr	Preserve
25	0.0643	Seasonally Flooded Basin	Preserve
26	0.1215	Seasonally Flooded Basin	Preserve
27	0.0471	Seasonally Flooded Basin	Preserve
28	0.4804	Seasonally Flooded Basin, Shallow Marsh	Manage 1
29	0.2998	Shallow Marsh, Shallow Open Water	Manage 1
30	0.4538	Sedge Meadow	Preserve
31	0.2554	Shallow Open Water	Preserve
32	0.3836	Fresh (wet) Meadow	Preserve
33	0.4097	Fresh (wet) Meadow	Preserve
34	0.2984	Fresh (wet) Meadow	Manage 2
35	1.8227	Seasonally Flooded Basin	Manage 1
36	0.0528	Seasonally Flooded Basin	Manage 1
37	0.0143	Shallow Marsh	Manage 1
38	0.604	Fresh (wet) Meadow	Preserve
39	0.2362	Fresh (wet) Meadow	Manage 2
40	0.0481	Shallow Marsh	Manage 2
41	0.1031	Seasonally Flooded Basin	Manage 2

Size includes areas of wetland within the area of investigation only.

Areas of open water or lake habitat have been excluded.

Wetlands may extend beyond the limits of the area investigated and actual wetland size may be larger than that indicated.

Functions and Values Assessment

A primary purpose of the site evaluation was an assessment and classification of the wetland habitat within the park boundary. To determine the quality of wetlands onsite, the MnRAM (3.4) was utilized to provide a basis of wetland management recommendations.

MnRAM uses a numeric model to rank each wetland function via an Access database. It was developed by wetland professionals to complete wetland inventories and determine wetland management classifications. Its primary use is to make wetland management decisions based on existing wetland functions.

The MnRAM database classifies a wetland into one of four categories, listed in order of higher quality to lower quality: Preserve, Manage 1, Manage 2, or Manage 3. Definitions of the MnRAM classifications as provided by "The MnRAM Wetland Management Classification Guidance" document (BWSR, 2018), are provided below:

- The Preserve category is for exceptional and highest-functioning wetlands or those sensitive wetlands receiving conveyed storm water runoff that have yet retained a medium level of vegetative diversity/integrity. These wetlands are those that should be preserved in (or improved to) their most pristine or highest functional capacity with wide, natural buffers, in perpetuity.
- In the Manage 1 category are high-quality wetlands that should be protected from development and other pressures of increased use, including indirect effects. Maintaining natural buffers will help to retain the significant function these wetlands provide. In the event that impacts to these wetlands cannot be avoided, replacement ratios for mitigation should exceed the state-required minimums.
- Manage 2 wetlands provide medium functional levels and the wetland extent should be maintained. These wetlands often provide optimal restoration opportunity.
- Manage 3 wetlands have been substantially disturbed; replacement considerations can be minimized after proper sequencing.

In order to determine the quality of the wetlands, a functional assessment was completed on all 41 wetlands within the project area. Some wetlands (Wetlands 3, 4, 5, 18, 24) are very large and it was determined that a single MnRAM score would not provide sufficient data for management decisions. In these cases, wetland communities were grouped together to create several MnRAM scores in each wetland. A total of 49 MnRAM workbooks were completed. MnRAM scores are included in **Table 1** (above), and explained in greater detail as part of wetland descriptions in **Appendix A**. MnRAM Classification Reports are included in **Appendix B**.

Wetland Community Ecological Survey

While the MnRAM scores provide a measureable assessment of overall wetland health and quality, using the MnRAM output as the sole means to compare wetlands when making wetland permitting/impact decisions is discouraged by many wetland regulation agencies. To aid project proposers in making a long term management and restoration plan, a wetland vegetation survey was completed to evaluate the restoration potential of wetland habitats throughout the project area. During the on-site investigation, scientists compiled a plant list for each wetland community, making note of any invasive or noxious weeds as well as any rare or endangered species present.

Vegetation assessments provide a detailed perspective to aid sponsors in making informed decisions on planning efforts for restoration priorities, to identify candidate high quality wetlands for preservation, and provide baseline data for long-term monitoring efforts.

Each wetland's specific recommendations are included as part of wetland descriptions in Appendix A.

SUMMARY

Overall, the site conditions are considered good. Of the 49 MnRAM scores calculated onsite, 22 were rated "Preserve", 16 were rated "Manage 1", 10 were rated "Manage 2" and only 1 was rated "Manage 3". The recommended wetland management standards table, per the "The MnRAM Wetland Management Classification Guidance" document, outlines management strategies in each management class.

Vegetation quality ratings were on average, medium. A total of 58 individual vegetation communities were rated in the park, and 31 received a "medium" value score. Generally, Medium or Low Value communities contained some invasive or non-native species including narrow-leaf cat-tail (*Typha angustifolia*), reed canary grass (*Phalaris arundinacea*), European/ common buckthorn (*Rhamnus cathartica*) and occasional common reed grass (*Phragmites australis subsp. australis*). Management of these target species may result in a large improvement of the score of the wetland.

While no rare or endangered species were observed in the project limits, several high quality vegetation ratings were observed within the park property. These communities are associated with portions Wetlands 3, 5, 28 and 30 and are illustrated on **Figure 5**.

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ATTACHMENTS

Figures

Figure 1 – Site Location

Figure 2 – Wetland Delineation Results

Figure 3 – Wetland Community Types

Figure 4 – MnRAM Assessment Scores

Figure 4 – Vegetation Quality Index

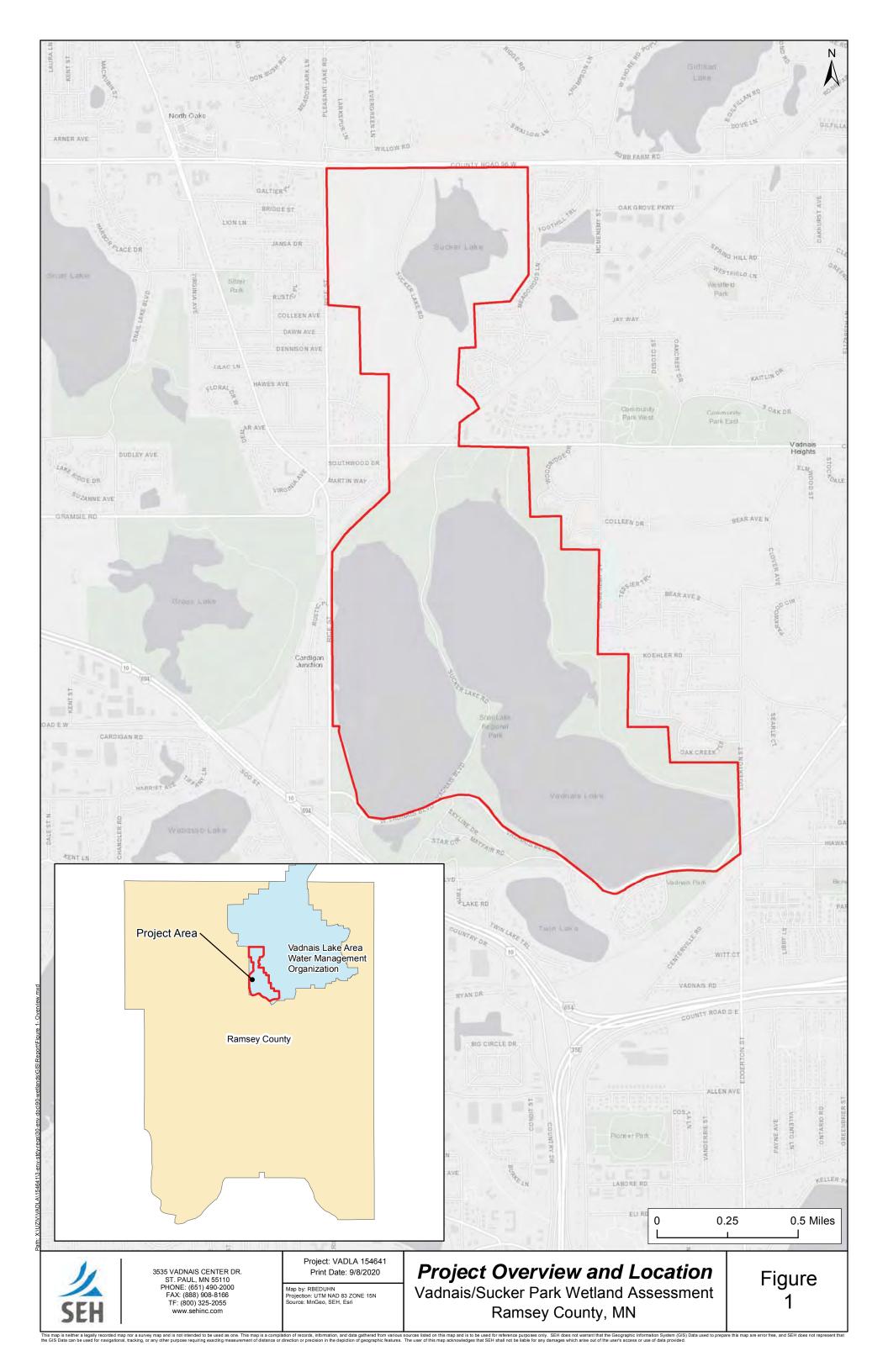
Appendices

Appendix A - Wetland Descriptions

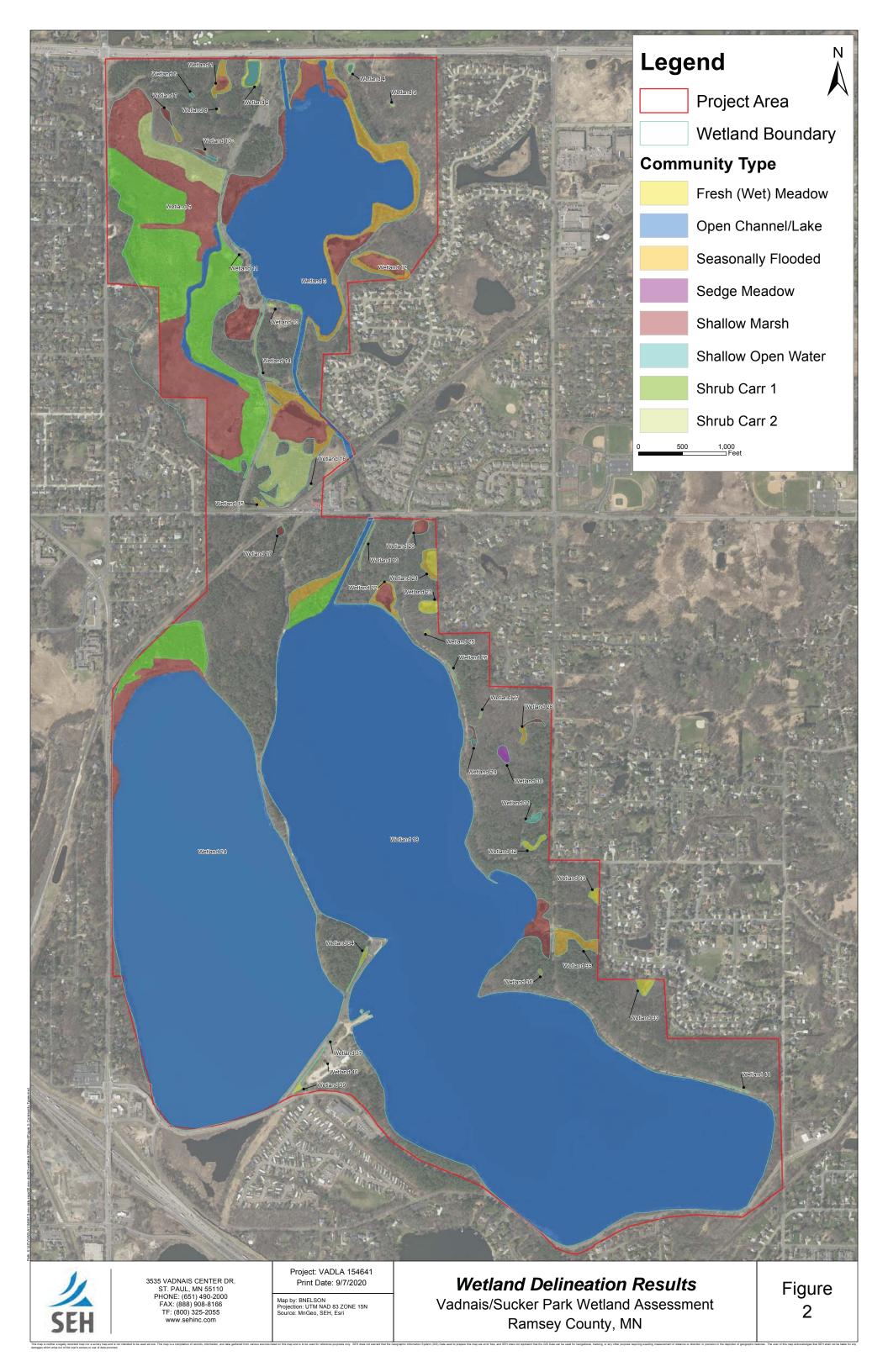
Appendix B - MnRAM Assessment

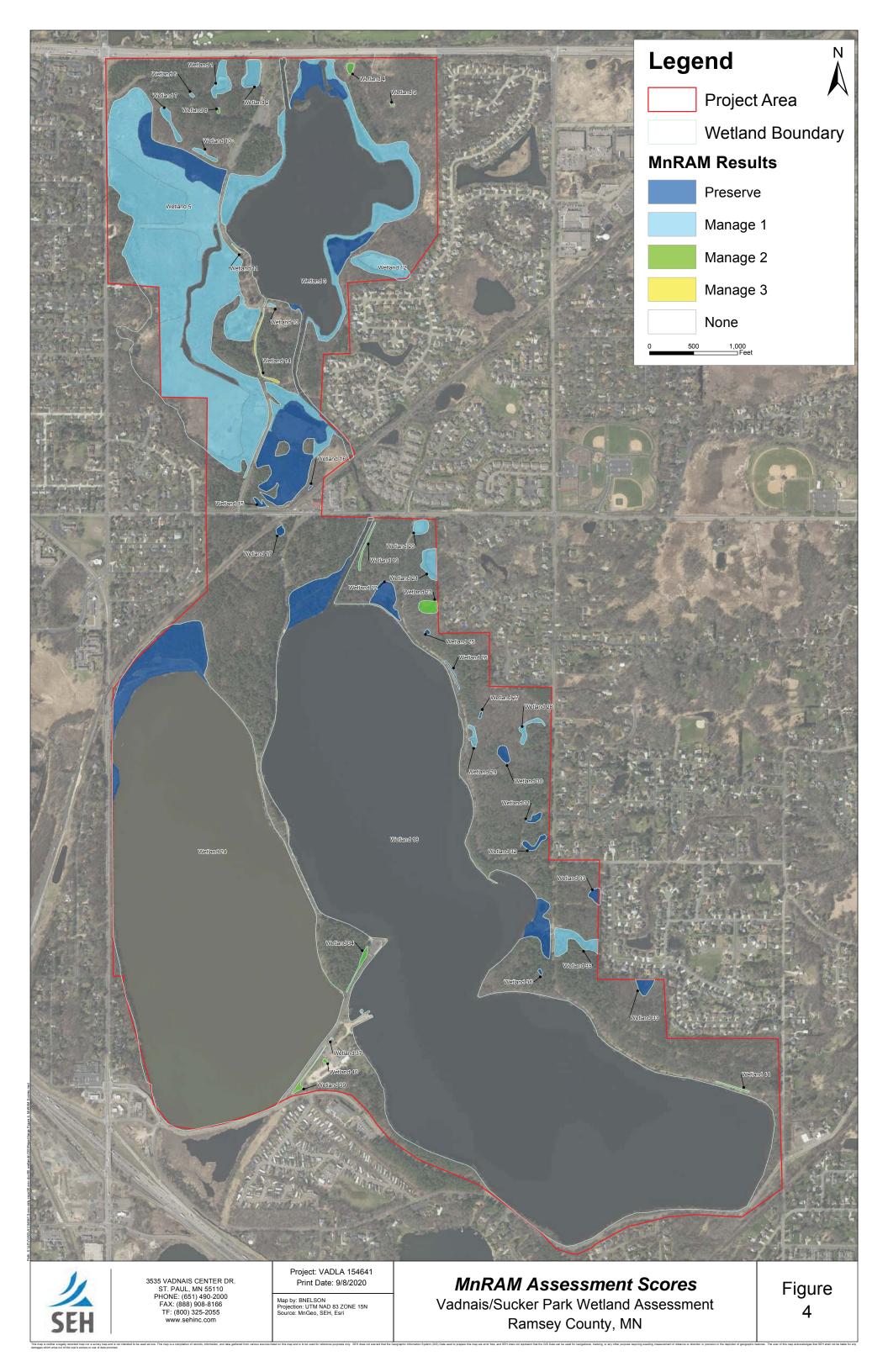
Appendix C - Wetland Determination Data Forms

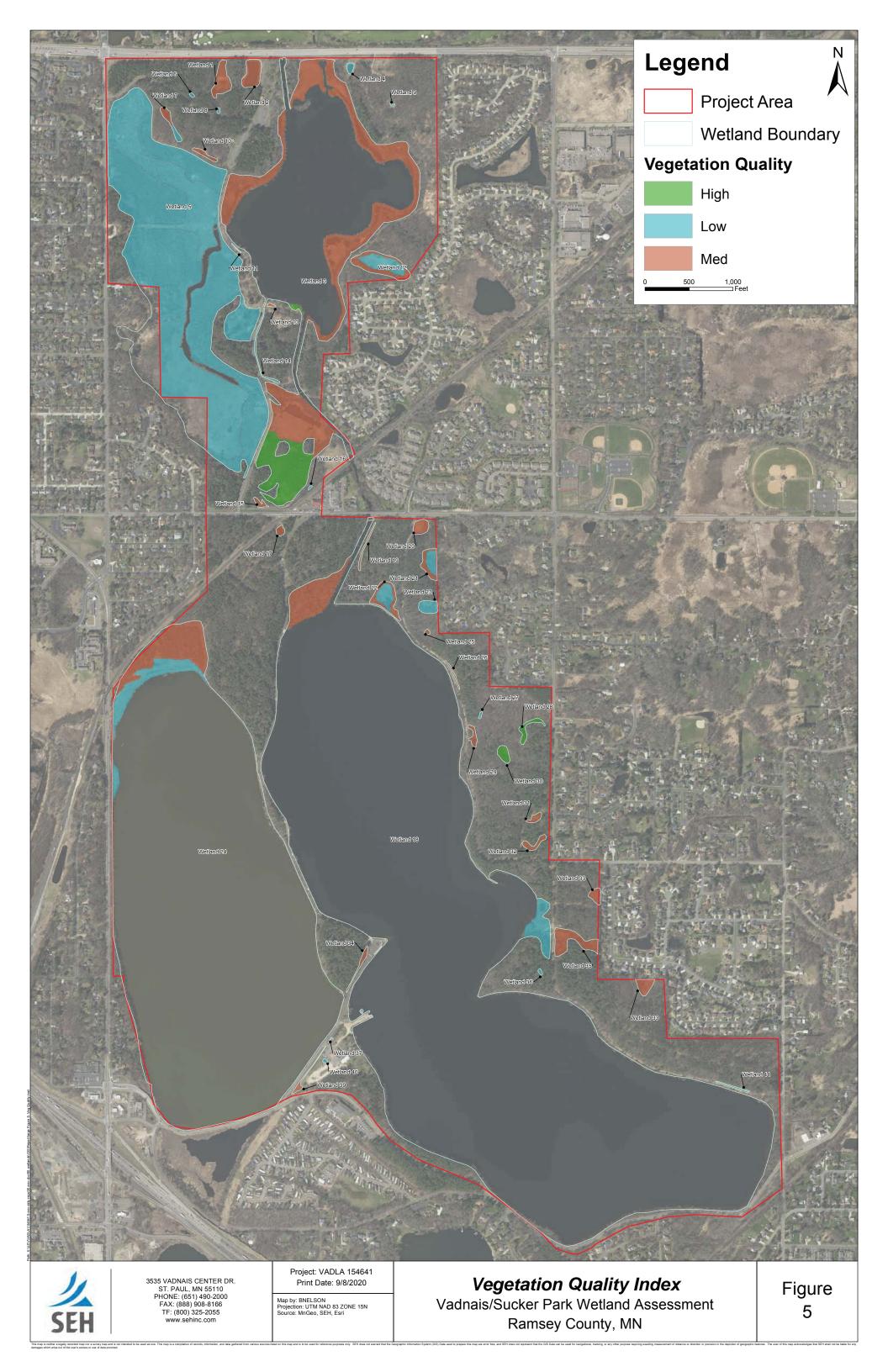
Appendix D – Climate Worksheet











Appendix A – Wetland Descriptions



Wetland Type: Seasonally Flooded Basin/ Shallow Marsh

Sample Point ID: 1-1W

This wetland is located near the northern boundary of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

Non-native or invasive species (cattails, reed canary grass) frequently occurred within community but other species are still common throughout the habitat.

Shrub stratum is dominated by buckthorn (European and glossy). The ground layer is overall reduced in coverage, likely due to shading from the shrub canopy, but native species are still present. Dame's rocket present in the herbaceous stratum but not abundant overall.



Wetland Type: Shallow Open Water/ Fresh (wet) Meadow

Sample Point ID: 2-1W

This wetland is located near the northern boundary of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

Primary component duckweed (Lemna spp.) with a narrow fringe of cattails.

Dominance of native species including a mix of sedges and forbs, some reed canary grass and fringe of cattails present along the open water perimeter.



Wetland Type: Seasonally Flooded Basin/ Shallow Marsh/ Shrub-carr

Sample Point ID: 3-1W, 3-2W, 3-3W, 3-4W

This wetland is associated with Sucker Lake. Because this wetland complex is so large, it was broken into community types for a total of 4 MnRAM assessments.

<u>Seasonally Flooded Basin:</u> <u>MnRAM Score: Manage 1</u>

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: Medium

Seasonally flooded communities occur along the fringe of Sucker Lake. Flood tolerant species, willow shrubs, green ash, ash-leaf maple, etc. are present throughout the habitat. Non-native invasive species occurrence is variable, with reed canary grass, narrow-leaf cat-tail, and buckthorn (European and glossy) present, although typically intermixed with native plants.

Shallow Marsh:

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: Medium

The shallow marsh habitat is variable, but typically a mix of native sedges and forbs with cat-tails (multiple species) was observed along the shore of Sucker Lake. Most often, the cat-tails were growing with native species and not as dense monocultures. Buckthorn (European and glossy) was often observed along the fringe of the habitat.

Shrub-Carr:

There were two distinct shrub-carr communities present in Wetland 3. Shrub-carr 1 is dominated by red osier and sandbar willow with non-natives dominating the herbaceous laver.

Shrub-carr 2 is dominated by speckled alder with native ferns in the herbaceous layer.

Because of the large variation in communities, 2 separate assessments were completed.

Shrub-carr 1

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: High

This community within wetland 3 is a small area on the southern extent of Sucker Lake. The area is dominated by native species, with red osier and sandbar willow dominate in the shrub stratum, and a variety of forbs with low aerial coverage in the herbaceous stratum. Non-native invasive species observed include garden birds'-foot-trefoil and European buckthorn, but in very low amounts.

Shrub-carr 2

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: High

The habitat identified as shrub carr 2 likely has the highest species richness and diversity within the basin. European buckthorn is common along the perimeter and glossy buckthorn is present throughout, however speckled alder is also dominant, with scattered willows. The herbaceous stratum is primarily native ferns, forbs, and sedges, with some sporadic cat-tails.



Wetland Type: Fresh (wet) Meadow/ Shallow Open Water

Sample Point ID: 4-1W

This wetland is located near the northern boundary of the project limits.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Vegetative Diversity".

Vegetation Quality Rating: Low

Fresh (wet) meadow encompasses the fringe of the shallow open water. Reed canary grass is the prevalent species, with some narrow-leaf cat-tail and native forbs intermixed.

The shallow open water is primarily un-vegetated, with duck weed in the deeper portions and narrow-leaf cat-tail along the edges. There are few species present within the habitat.



Wetland Type: <u>Shallow Marsh/ Shrub-carr</u> Sample Point ID: <u>5-1W</u>, <u>5-2W</u>, <u>5-3W</u>

This is a large wetland complex located throughout the northern half of the project limits. Because this wetland complex is so large, it was broken into community types for a total of 3 MnRAM assessments.

Shallow Marsh:

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Low

Most of the shallow marsh habitat of Wetland 5 is dominated by cat-tails, likely narrow-leaf and/or hybrid, in some areas forming a monoculture. Native plants are present, as scattered individual plants at low areal coverage, and appear impacted by the current dense cat-tail growth and remnant vegetation from prior years. The fringe of the habitat appears to have greater species richness and diversity, and the deeper portions of the basin less. Dead/drying trees and shrubs were observed throughout, mostly

present as snags (i.e., standing dead wood). There are inclusions of higher quality vegetation and greater species richness/diversity, but the habitat as a whole contains low quality vegetation, low species diversity, and low species richness. The far northern extent of the shallow marsh of Wetland 5 contains a small infestation of European Phragmites (*Phragmites australis* subsp. *australis*). The species was observed intermixed with other plants over an approximately 0.2 acre area. It is not the dominant species in the area currently. Glossy buckthorn is also common in the habitat, in some areas dead or dying, in some areas alive.

Shrub-Carr:

There were two distinct shrub-carr communities present in Wetland 5.

Shrub-carr 1 is dominated by red osier and sandbar willow with non-natives dominating the herbaceous layer.

Shrub-carr 2 is dominated by speckled alder with native ferns in the herbaceous layer.

Because of the large variation in communities, 2 separate assessments were completed.

Shrub-carr 1

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Low

Similar to the shallow marsh habitat, the area identified as shrub carr 1 is dominated by cat-tails, narrow-leaf and/or hybrid, in some areas forming a monoculture. Native herbaceous species are present but are typically clustered around the perimeter or present at low areal coverage. The most prevalent shrubs are glossy and European buckthorn, however dogwoods (*Cornus* spp.), sporadic speckled alder, and willows (*Salix* spp.) are scattered throughout. Some trees, primarily green ash and red maple but several tamarack as well, are present throughout the habitat but many are dead/dying. Younger saplings are more common along the western perimeter of the basin near the transition to upland.

Shrub-carr 2

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Water Quality and Vegetative Diversity".

Vegetation Quality Rating: High

The habitat identified as shrub carr 2 likely has the highest species richness and diversity within the basin. Glossy buckthorn is the dominant shrub throughout the habitat, with scattered speckled alder and red osier dogwood. Dead/dying shrubs were observed, likely remnant speckled alder and/or European buckthorn. Tamarack trees are dispersed throughout, although do not have high areal coverage. The herbaceous stratum however, has numerous native graminoid and forbs species throughout. The habitat resembles the Northern Rich Alder Swamp Alder - (Maple - Loosestrife) Swamp (FPn73a) Native Plant Community, although typical dominate shrubs like speckled alder, appear to have been replaced by glossy buckthorn. The shade tolerant herbaceous species have persisted, as glossy buckthorn provides a similar canopy to speckled alder. Other NON-NATIVE INVASIVE species observed are sporadic but include reed canary grass, narrow-leaf cat-tails, and giant chickweed.



Wetland Type: Shallow Open Water

Sample Point ID: 6-1W

This wetland is located northern part of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Low

The fringe of Wetland 6 is densely covered by European buckthorn, reducing the prevalence of native herbaceous and shrub species. Herbaceous plants are still present but at lesser areal coverage. Within the open water, duck weed is the primary component.



Wetland Type: <u>Seasonally Flooded Basin/ Shallow Marsh</u>
Sample Point ID: 7-1W

This wetland is located northern part of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium and Low

The shallow marsh habitat is dominated by native species, primarily sedges (lakebank and uptight) with some sporadic forbs and duck weed. A narrow fringe of buckthorn (European and glossy) is present within the habitat, but overall the presence of non-native invasive within the habitat is relatively low.

Primarily un-vegetated within the open water and surrounding floodplain. Buckthorn (European and glossy) is common along the perimeter, reduces herbaceous growth.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 8-1W

This wetland is located northern part of the project limits.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

The most prevalent species within Wetland 8 was buckthorn. The shrub canopy appears to shade much of the ground, likely inhibiting overall growth and occurrence of herbaceous species. Other non-native invasives observed within the basins included reed canary grass and Canada thistle.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 9-1W

This wetland is located northern part of the project limits.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

Vegetation within this basin primarily includes disturbance adapted and/or non-native invasive species, such as reed canary grass, stinging nettle, and lesser burdock. It appears to be within an area subjected to past disturbance, resulting in the low quality vegetation.



Wetland Type: Shallow Open Water/ Shallow Marsh

Sample Point ID: 10-1W

This wetland is located northern part of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

The open water is relatively un-vegetated, with duck weed dispersed throughout, and emergent vegetation present along the waters edge. Buckthorn (European and glossy) is common along the fringe of the basin.

The shallow marsh habitat contained a mix of species, with primary coverage of lakebank sedge and cattails. Non-native invasive species included cattails reed canary grass in the herbaceous stratum, although both species are intermixed with other plants, and two species of buckthorn in the shrub stratum. Buckthorn (European and glossy) forms a dense canopy along the perimeter of the wetland.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 11-1W

This wetland is located near the north-central portion of the project limits.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

Wetland 11 is a linear wet ditch with buckthorn as the primary species in both the shrub and herbaceous strata. There are other herbaceous species present, but are shaded by a dense shrub canopy.



Wetland Type: Seasonally Flooded Basin/ Shallow Marsh

Sample Point ID: 12-1W

This wetland is located near the eastern boundary of the project limits in the northern half.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium and Low

Seasonally flooded habitat surrounds the shallow marsh, with cattails, reed canary grass, and a mix of forbs within the herbaceous stratum. The primary shrubs included sandbar willow, European buckthorn, and speckled alder. The buckthorn is present but less frequent.

The shallow marsh is primarily a cattail monoculture with few pockets of shallow open water, and sporadic green ash trees and willow shrubs. The pockets typically included duck weed with, with few other species present in the habitat.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 13-1W

This wetland is located in the northern half of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Hydrologic Regime and Vegetative Diversity".

Vegetation Quality Rating: Medium

Wetland 13 contains a mix of wetland, non-native invasive and upland species. The primary species are reed canary grass, late goldenrod, and woolly sedge in the herbaceous stratum, with sandbar willow and green ash in the sapling/shrub stratum. European buckthorn is present but not prevalent.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 14-1W

This wetland is a linear feature located along the trail in the norther half of the project limits.

MnRAM Score: Manage 3

The critical function that caused this wetland rank was "Vegetative Diversity".

Vegetation Quality Rating: Low

Wetland 14 is a linear wet ditch with buckthorn as the primary species in both the shrub and herbaceous strata.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 15-1W

This wetland is located in the northern half of the project limits, near the center point, along County Road F.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Medium

The shrub stratum is primarily European buckthorn, but the herbaceous layer contains a mix of native species throughout the basin, with royal fern, jewelweed, and water horsetail commonly observed.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 16-1W

This wetland is located in the northern half of the project limits, near the center point, along County Road F.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

The herbaceous layer is sporadic and primarily European buckthorn, with few native species mixed. The shrub stratum contains mixed green ash and buckthorn. There are few other species present other than green ash as trees.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 17-1W

This wetland is located near the center of the of the project limits, south of County Road F.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Medium

Primarily reed canary grass but mixed in with native species, including lakebank sedge, arrowleaf tearthumb, and northern water plantain.



Wetland Type: Seasonally Flooded Basin/ Shallow Marsh/ Shrub-carr

Sample Point ID: <u>18-1W</u>, <u>18-2W</u>, <u>18-3W</u>

This is a large wetland complex associated with East Vadnais Lake, located throughout the southern half of the project limits. Because this wetland complex is so large, it was broken into community types for a total of 3 MnRAM assessments.

Seasonally Flooded Basin: MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Medium

Flood tolerant native species were the primary herbaceous vegetation present, however at low aerial coverage. Much of the habitat present ad unvegetated mud flat during sampling. European buckthorn present along the perimeter.

Shallow Marsh:

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

Reed canary grass and narrow-leaf cat-tail most common species, native species intermixed with greater abundance along perimeter. European buckthorn shrubs present along the fringe low aerial coverage overall.

Shrub-carr 1

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: Medium

The shrub carr habitat is variable, with dense areas of reed canary grass and areas with primarily native herbaceous species. Buckthorn (glossy and European) are common throughout the habitat, but do not produce a canopy so dense that native species are completely absent.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 19-1W

This wetland is located near the center of the project area, south of County Road F.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

The herbaceous stratum is primarily native species, with white grass and Canadian wood-nettle common throughout the habitat. Non-native invasive species include European buckthorn in the sapling and herbaceous strata. Buckthorn is common throughout the habitat, however although other species are still prevalent.



Wetland Type: Shallow Marsh Sample Point ID: 20-1W

This wetland is located near the northern boundary of the project limits.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

The basin is dominated by duck weed with sporadic areas of emergent vegetation, primarily sedges, cattails, and reed canary grass. The wetland is fringed by native tree and shrub species, including green ash, black willow, and Missouri willow.



Wetland Type: Seasonally Flooded Basin/ Fresh (wet) Meadow

Sample Point ID: 21-1W

This wetland is located along the eastern project boundary, near County Road F.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Water Quality and Vegetative Diversity".

Vegetation Quality Rating: Medium and Low

The herbaceous stratum is relatively diverse with a mix of native graminoids and forbs, with some European buckthorn into the shrub stratum. Some reed canary grass is present but as few scattered plants.

The habitat is dominated by reed canary grass, with European buckthorn dominant in the shrub stratum.



Wetland Type: Shallow Marsh/ Seasonally Flooded Basin Sample Point ID: <u>22-1W</u>

This wetland is located near in the south central part of the project limits, separated from Vadnais Lake by a berm.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium and Loa

The seasonally flooded portion of the complex includes shallow pools of water dominated by duck weed, with unvegetated mud flats. European buckthorn is common in the shrub stratum, with seedlings mixed with NON-NATIVE INVASIVE and native species in the herbaceous stratum. Non-native invasive species include European buckthorn, and pale-yellow iris.

habitat, with a fringe of European buckt	horn.	

The shallow marsh is comprised of a cattail monoculture and duck weed in the deeper portions of the



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 23-1W

This wetland is located along the eastern boundary of the project limits, in the southern half.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

The habitat is dominated by reed canary grass, with European buckthorn dominant in the shrub stratum.



Wetland Type: Shallow Marsh/ Shrub-carr

Sample Point ID: 24-1W, 24-2W

This is a large wetland complex associated with West Vadnais Lake, located throughout the southern half of the project limits. Because this wetland complex is so large, it was broken into community types for a total of 2 MnRAM assessments.

Shallow Marsh:

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: Low

The shallow marsh occurs as fringe of Vadnais Lake, with cat-tails (narrow-leaf and/or hybrid) as the dominant species. Cat-tails form a monoculture along the open water. The perimeter is encompassed by shrubs, including European buckthorn and red osier dogwood.

Shrub-carr 1

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Shoreline Protection".

Vegetation Quality Rating: Medium

The shrub carr habitat has a dense canopy with little light penetration. The primary shrubs include glossy and European buckthorn, green ash, willows, and red osier dogwood. Cattails (narrow-leaf and/or hybrid) and reed canary grass are predominate near the transition to shallow marsh, with shade tolerant sedges and grasses present within the shrub canopy.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: <u>25-1W</u>

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

Non-native invasive species are intermixed with native plants throughout the basin. European buckthorn seedlings and shrubs are prevalent, however the herbaceous stratum is present and contains primarily native species. Canadian wood-nettle, multiple species of sedges, and European buckthorn are the most common herbaceous species.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 26-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Medium

Wetland 26 is a linear wet ditch with flood tolerant species. The herbaceous stratum is dominant by natives, with few European buckthorn seedlings. Buckthorn is present in the shrub stratum as well, but mixed with an equal amount of green ash.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: <u>27-1W</u>

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Low

European buckthorn most common species, present as seedlings and shrubs. Few other plants in the herbaceous stratum with low areal coverage. Buckthorn shrub canopy likely reduces herbaceous growth.



Wetland Type: Seasonally Flooded Basin/ Shallow Marsh

Sample Point ID: 28-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: High

The habitat is comprised of primarily native species, with flood tolerant graminoids and forbs, such as rice cut grass and Canadian wood-nettle, common throughout. Reed canary grass is present but not abundant overall, with European buckthorn along the fringe. Neither species appears to hinder growth of native plants.

The shallow marsh is dominated by a mix of sedges, rice cut grass, and broad-leaf pondweed in the deepest portion of the community. Reed canary grass is present along the fringe but not a dominate species. European buckthorn shrubs are common along the perimeter but are mixed with native species.



Wetland Type: Shallow Open Water

Sample Point ID: 29-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

Primary component lakebank sedge with native forbs intermixed. Some reed canary grass growing with the sedges, overall low in areal coverage, and a fringe of European buckthorn shrubs. Native species comprise most of the habitat.

There is a small pool of shallow open water with primarily northern water plantain and duck weed. No Non-native invasive species were observed within this habitat.



Wetland Type: <u>Sedge Meadow</u> Sample Point ID: <u>30-1W</u>

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: High

Wetland 30 is dominated by native graminoids and forbs. Uptight, woolly-fruit, and lakebank sedge are the most prevalent species, with an array of native forbs intermixed. Reed canary grass was the only non-native invasive species observed within the wetland, but occurred as scattered clusters or individual plants growing within the native species.



Wetland Type: Shallow Open Water

Sample Point ID: 31-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

Clusters of reed canary grass occur along the shallow areas of the habitat, with some forming small dense monocultures. European buckthorn shrubs were observed along the perimeter, but not dense enough to shade or inhibit growth of native forbs. Flood tolerant species, such as cinnamon fern and Canadian wood-nettle, are common along the wetland to upland transition. Duck weed was the most prevalent species in the open water.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 32-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

Graminoids species are most common in this wetland, with reed canary grass and sedges the most abundant. Reed canary grass is relatively common, although it is growing mixed with other species. European buckthorn encompasses the perimeter with scattered shrubs throughout the basin. Seasonal ponding producing mud flats was observed in the habitat.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 33-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

A majority of the wetlands dominated by native species, lakebank sedge and Canadian wood-nettle, with native forbs occurring throughout. Non-native invasive species encompass the perimeter, including Canada thistle, garlic mustard, and European buckthorn seedlings and shrubs. The garlic mustard and thistle are present as scattered individual plants.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 34-1W

This wetland is a small basin located in the far southern portion of the project limits, located between East and West Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

A majority of the wetlands dominated by native species, lakebank sedge and Canadian wood-nettle, with native forbs occurring throughout. Non-native invasive species encompass the perimeter, including Canada thistle, garlic mustard, and European buckthorn seedlings and shrubs. The garlic mustard and thistle are present as scattered individual plants.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 35-1W

This wetland is located east of Vadnais Lake and connects to the lake via several culverts under the trial.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Medium

The habitat is dominated by flood tolerant species, such as green ash, harlequin blueflag (iris), and sedges. Reed canary grass is prevalent throughout the basin but typically is mixed with other species. Mud flats due to seasonal ponding were observed with reed canary and European buckthorn clustered along the fringe.



Wetland Type: Seasonally Flooded Basin

Sample Point ID: 36-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Wetland Sensitivity to Stormwater and Urban Development and Vegetative Diversity".

Vegetation Quality Rating: Low

There are few species present within this habitat, primarily European buckthorn in the herbaceous and shrub strata, and ash-leaf maple in the tree stratum.



Wetland Type: Shallow Marsh Sample Point ID: 37-1W

This wetland is a small basin located in the far southern portion of the project limits, located between East and West Vadnais Lake.

MnRAM Score: Manage 1

The critical function that caused this wetland rank was "Maintenance of Characteristic Amphibian Habitat".

Vegetation Quality Rating: Low

Wetland 37 is a linear wet ditch. Narrow-leaf cat-tail as the predominant species.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 38-1W

This wetland is a small basin located in the southern half of the project limits, east of Vadnais Lake.

MnRAM Score: Preserve

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

Reed canary grass is a prevalent species within the basin, however native species are intermixed. Lakebank sedge and ferns are common within the shadier areas of the wetland. Other non-native invasive observed include giant chickweed.



Wetland Type: Fresh (wet) Meadow

Sample Point ID: 39-1W

This wetland is a small basin located in the far southern portion of the project limits, located between East and West Vadnais Lake.

MnRAM Score: Manage 2

The critical function that caused this wetland rank was "Maintenance of Characteristic Wildlife Habitat Structure".

Vegetation Quality Rating: Medium

Wetland 39 is a linear wet ditch dominated by blunt spike-rush, with scattered narrow-leaf cat-tail and dark-green bulrush.

Appendix B – MnRAM Summary Pages

Management Classification Report for Wetland 1

ID: 43

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo based on MnRAM data		Self-defined classification value ettings for this management level
Low	Vegetative Diversity/Integrity	High
Low	Habitat Structure (wildlife)	High
Moderate	Amphibian Habitat	Moderate
Moderate	Fish Habitat	High
Not Applicable	Shoreline Protection	Moderate
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	ty High / Moderate
Moderate	Wetland Water Quality and Vegetative Diversity	High / Moderate
Moderate	Characteristic Hydrology and Vegetative Diversity	High / Moderate
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commericial use*	High
High	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

This report was printed on: Monday, August 31, 2020

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary							ce Flood/ c Stormwater/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	phology				Regime		Quality	Quality	Protection	
Wetland 1	Depressional/Flo	ow-through (apparent in	nlet and outlet), Depress	ional/Flow-through ((apparent	0.55	0.52	0.79	0.60	0.00	
						Moderate	Moderate	High	Moderate	Not Applicable	
								Ac	dditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerci	ial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwate and Urban Development	r Stormwater Treatment	
Wetland 1	0.28	0.54	0.52	2.00	0.00)	Combination Discharge, Recharge	0.00	0.10	0.60	
	Low	Moderate	Moderate	Exceptional	Not Appl	icable		Not Applicable	Moderate	Moderate	

Wetland Community Summary

, colaita Colloi	nunny Summary				Vegetative Diversi	ty/Integrity			
			Con	mmunity		Individual	Highest	Anaraaa	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 1	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	70	0.1	0.10	0.10	0.07
					·		Low	Low	Low
					70		0.10	0.10	0.07

☑ Denotes incomplete calculation data.

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Management Classification Report for Wetland 2

ID: 5

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo		Self-defined classification value settings for this management level			
Moderate	Vegetative Diversity/Integrity		High		
Moderate	Habitat Structure (wildlife)		High		
Moderate	Amphibian Habitat		Moderate		
Moderate	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversi	ty High /	Moderate		
Moderate	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
Moderate	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	0.1	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	1	Amphib & reptile overwintering habitat

This report was printed on: Monday, August 31, 2020

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	anctional As Hydrogeomorp		lummary			Maintenand of Hydrologid Regime	Flood/	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 2	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)						0.53	0.61	0.61	0.00
						Moderate	Moderate	Moderate	Moderate	Not Applicable
								Ac	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerci	al Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	
Wetland 2	0.50	0.56	0.52	2.00	0.00	0	Combination Discharge, Recharge	0.00	0.50	0.61
	Moderate	Moderate	Moderate	Exceptional	Not Appl	licable		Not Applicable	Moderate	Moderate

Wetland Community Summary

venuna comm			Vegetative Diversity/Integrity										
Wetland Name	Location	Cowardin Classification	Circula	mmunity r Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating				
Wetland 2	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	20	0.1	0.50	0.30	0.42				
					-		Moderate	Low	Moderate				
		PUBH	Type 5	Shallow, Open Water Communities	80	0.5	0.50	0.30	0.42				
							Moderate	Low	Moderate				
					100		0.50	0.30	0.42				

[☑] Denotes incomplete calculation data.

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Management Classification Report for Wetland 3 Shrub Carr 1

ID: 59

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wet based on MnRAM data		Self-defined classif ettings for this mana	
Moderate	Vegetative Diversity/Integrity		Exceptional
Moderate	Habitat Structure (wildlife)		Exceptional
Not Applicable	Amphibian Habitat		High
Not Applicable	Fish Habitat		Exceptional
High	Shoreline Protection		High
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High
High	Stormwater/Urban Sensitivity and Vegetative Diversit	y Exceptional /	Moderate
High	Wetland Water Quality and Vegetative Diversity	High /	High
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High
Moderate	Flood/Stormwater Attenuation*		-
Not Applicable	Commericial use*		-
High	Downstream Water Quality*		-

The critical function that caused this wetland to rank as **Preserve** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection

(Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	1	Shoreline rooted vegetation (%cover)
31	1	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

This report was printed on: Monday, August 31, 2020

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fun		Maintena of Hydrolog	Flood/ gic Stormwater/		Water	Shoreline				
Wetland Name	Hydrogeomorp	pnotogy			Regim	e Attenuation	Quality	Quality	Protection	
Wetland 3 Shrub Carr 1	Lacustrine Fring	e (edge of deepwater a	areas)/Shoreland		0.40	0.50	0.68	0.70	0.80	
					Modera	te Moderate	High	High	High	
							A	dditional Inform	nation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivi to Stormwater and Urban Development	ty Additional Stormwater Treatment Needs	
Wetland 3 Shrub Carr 1	0.43	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.70	
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	High	High	

Wetland Community Summary

venuna Commi	inity Summary	Vegetative Diversity/Integrity								
		Community			Individual	III als and	Augrass	Weighted		
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating	
Wetland 3 Shrub Carr 1	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	0.5	0.50	0.50	0.50	
							Moderate	Moderate	Moderate	
					100		0.50	0.50	0.50	

☑ Denotes incomplete calculation data.

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Management Classification Report for Wetland 3 Shrub Carr 2

ID: 60

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this web based on MnRAM data		Self-defined classification value settings for this management leve			
High	Vegetative Diversity/Integrity		Exceptional		
High	Habitat Structure (wildlife)		Exceptional		
Low	Amphibian Habitat		High		
Not Applicable	Fish Habitat		Exceptional		
Not Applicable	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
High	Stormwater/Urban Sensitivity and Vegetative Diversit	ty Exceptional/	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
High	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Maintenance of Wetland Water Quality & Vegetative Diversity**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity Question Value Description

48 1 Unique/rare educ./cultural/rec.opportunity

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.73	Adjacent area Management
25	0.73	Adjacent area diversity

^{*} The classification value settings for these functions are not adjustable

Management Classification Report for Wetland 3 Shrub Carr 2

cker Park Wetland Assessment

ID: 60

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.1	Detritus
3e	1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	0.1	Wildlife barriers

This report was printed on: Monday, August 31, 2020

^{*} The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrol Regii	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 3 Shrub Carr 2	Depressional/Iso	olated (no discernable i	nlets or outlets)	0.75	0.64	0.88	0.92	0.00	
					High	n Moderate	High	High	Not Applicable
							Additional Information		
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment
Wetland 3 Shrub Carr 2	0.67	0.00	0.22	2.00	0.00	Combination Discharge, Recharge	0.00	1.00	0.92
	High	Not Applicable	Low	Exceptional	Not Applicable		Not Applicable	High	High

Wetland Community Summary

venana Commi	inity Summary	Vegetative Diversity/Integrity								
			Co	mmunity		Individual	Highest	Average	Weighted	
Wetland Name	Location	Cowardin Classification	Circular 39	· Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Average Wetland Rating	Average Wetland Rating	
Wetland 3 Shrub Carr 2	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	1	1.00	1.00	1.00	
							High	High	High	
					100		1.00	1.00	1.00	

[☑] Denotes incomplete calculation data.

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Management Classification Report for Wetland 3 Seasonally Flooded B cker Park Wetland Assessment

ID: 54

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level			
Low	Vegetative Diversity/Integrity		High		
Moderate	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Moderate	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversit	:y High/	Moderate		
Moderate	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection (Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	0.5	Shoreline rooted vegetation (%cover)
31	0.5	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

This report was printed on: Monday, August 31, 2020

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary						ance Flood/ oic Stormwater/	Downstream Water	Maintenance of Wetland Water	cı r
Wetland Name	Hydrogeomorp	phology			Hydrolo Regin	8.0		Quality	Shoreline Protection
Wetland 3 Seasonally Floo	ode Lacustrine Fring	e (edge of deepwater a	areas)/Shoreland	0.52	0.42	0.72	0.66	0.60	
					Modera	te Moderate	High	Moderate	Moderate
							Ac	dditional Inform	nation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivi to Stormwater and Urban Development	ty Additional Stormwater Treatment Needs
Wetland 3 Seasonally F	0.33	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.66

Exceptional

Wetland Community Summary

Moderate

Not Applicable

Not Applicable

	my Summary		Vegetative Diversity/Integrity								
		Community			Individual	III al and	Anongo	Weighted			
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating		
Wetland 3 Seasonally Floode	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10		
							Low	Low	Low		
					100		0.10	0.10	0.10		

Not Applicable

Not Applicable

Exceptional

Moderate

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[☑] Denotes incomplete calculation data.

Management Classification Report for Wetland 3 Shallow Marsh

ID: 53

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level			
Moderate	Vegetative Diversity/Integrity		Exceptional		
Moderate	Habitat Structure (wildlife)		Exceptional		
Low	Amphibian Habitat		High		
High	Fish Habitat		Exceptional		
High	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	ty Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection (Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	0.5	Shoreline rooted vegetation (%cover)
31	1	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fun	ctional As	sessment S	ummary	Maintena of	Flood/	Downstream Water	Maintenance of Wetland		
Wetland Name	Hydrogeomorp	phology			Hydrolog Regim			Water Quality	Shoreline Protection
Wetland 3 Shallow Marsh Lacustrine Fringe (edge of deepwater areas)/Shoreland					0.52	0.42	0.72	0.77	0.70
					Moderat	e Moderate	High	High	High
							A	dditional Inform	ation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivit to Stormwater and Urban Development	y Additional Stormwater Treatment Needs
Wetland 3 Shallow Mar	0.44	0.80	0.05	2.00	0.00	Discharge	0.00	0.50	0.77
	Moderate	High	Low	Exceptional	Not Applicable		Not Applicable	Moderate	High

venana Commu	ituly Sullillian y	Vegetative Diversity/Integrity									
			Co	mmunity			7121	TT' - 1	4	Weighted	
Wetland Name	Location	Cowardin Classification	Circular 39	· Plant Community	j	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating	
Wetland 3 Shallow Marsh	62-030-22-19-002	PEMC	Type 3	Shallow Marsh		100	0.5	0.50	0.50	0.50	
								Moderate	Moderate	Moderate	
						100		0.50	0.50	0.50	

☑ Denotes incomplete calculation data.

ID: 48

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this wetland based on MnRAM data Functional Category Self-defined classification value settings for this management level

Low	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Low	Amphibian Habitat	Low
Moderate	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/-
Moderate	Wetland Water Quality and Vegetative Diversity	-/-
Moderate	Characteristic Hydrology and Vegetative Diversity	-/-
High	Flood/Stormwater Attenuation*	-
Not Applicable	Commericial use*	-
High	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Vegetative Diversity**

Details of the formula for this action are shown below:

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	nctional As	Mainten of Hydrol Regi.	Flood/ logic Stormwate		Maintenance of Wetland Water Quality	Shoreline Protection			
Wetland 4	Depressional/Iso	olated (no discernable i	inlets or outlets)		0.43	3 0.69	0.75	0.56	0.00
					Moder	rate High	High	Moderate	Not Applicable
							Ac	lditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 4	0.45	0.60	0.30	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.56
	Moderate	Moderate	Low	Exceptional	Not Applicable		Not Applicable	Moderate	Moderate

, citaria Contin		Vegetative Diversity/Integrity									
Wetland Name	Location	Cowardin Classification	Circular	mmunity Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating		
Wetland 4	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	30	0.5	0.50	0.30	0.22		
							Moderate	Low	Low		
		PUBH	Type 5	Shallow, Open Water Communities	70	0.1	0.50	0.30	0.22		
							Moderate	Low	Low		
					100		0.50	0.30	0.22		

[☑] Denotes incomplete calculation data.

Management Classification Report for Wetland 5 Shrub Carr 1

ID: 63

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wetl based on MnRAM data		Self-defined classificatio settings for this manageme		
Moderate	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Not Applicable	Amphibian Habitat		Moderate	
Not Applicable	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
High	Stormwater/Urban Sensitivity and Vegetative Diversi	ty High /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Details of the formula for this action are shown below:

Wetland Sensitivity to Stormwater and Urban Dev NA

Question Value Description

NA NA NA

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary							e Flood/ Stormwater/	Downstream Water	Maintenance of Wetland Water	a. r
Wetland Name	Hydrogeomorp	phology				Hydrologic Regime	Attenuation	Quality	Quality	Shoreline Protection
Vetland 5 Shrub Carr 1	Depressional/Flo	ow-through (apparent i	nlet and outlet), Depress	sional/Flow-through	(apparent	0.40	0.50	0.68	0.70	0.00
						Moderate	Moderate	High	High	Not Applicable
								A	dditional Info	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercia	al Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 5 Shrub Carr 1	0.43	0.00	0.00	2.00	0.00		Combination Discharge, Recharge	0.00	0.50	0.70
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Appli	cable		Not Applicable	High	High

venuna Commi	ording Startandary				Vegetative Diversi	ty/Integrity			
			Cor	mmunity		Individual	High oat	Augraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 5 Shrub Carr 1	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	0.5	0.50	0.50	0.50
					,		Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

☑ Denotes incomplete calculation data.

Management Classification Report for Wetland 5 Shrub Carr 2

ID: 61

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wetl based on MnRAM data		Self-defined classification va settings for this management le		
High	Vegetative Diversity/Integrity		Exceptional	
Moderate	Habitat Structure (wildlife)		Exceptional	
Low	Amphibian Habitat		High	
Not Applicable	Fish Habitat		Exceptional	
Not Applicable	Shoreline Protection		High	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High	
High	Stormwater/Urban Sensitivity and Vegetative Divers	ity Exceptional /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	High	
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		-	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Preserve** was **Maintenance of Wetland Water Quality & Vegetative Diversity**

Details of the formula for this action are shown below:

Maintenance of Wetland Water Quality (C

(Q3e * 2+Q14+Q20R +(Q23+Q24+Q26)/3+Q18+Q28)/7

Question	Value	Description
14	0.1	Upland land use
18	1	Sediment delivery
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.91	Adjacent area Management
26	1	Adjacent area slope
28	1	Nutrient loading
3e	1	<no description="" found=""></no>

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Management Classification Report for Wetland 5 Shrub Carr 2

ID: 61

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Vegetative Diversity

NA

Question

Value

Description

NA

NA

NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Tetland Functional Assessment Summary							e Flood/ Stormwater/	Downstream Water	Maintenance of Wetland Water	cı r
Wetland Name	Hydrogeomorp	phology				Hydrologic Regime	Attenuation	Quality	Quality	Shoreline Protection
Wetland 5 Shrub Carr 2	Depressional/Flo	ow-through (apparent in	nlet and outlet), Depress	sional/Flow-through ((apparent	0.52	0.46	0.76	0.92	0.00
						Moderate	Moderate	High	High	Not Applicable
								Ac	dditional Info	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercia	ıl Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 5 Shrub Carr 2	0.57	0.00	0.22	2.00	0.00		Combination Discharge, Recharge	0.00	1.00	0.92
	Moderate	Not Applicable	Low	Exceptional	Not Applic	cable		Not Applicable	High	High

Tenana Commi	iniiy Summary		Vegetative Diversity/Integrity								
	Location	Community			Individual	Highest	Avaraga	Weighted Average			
Wetland Name		Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Wetland Rating	Average Wetland Rating	Wetland Rating		
Wetland 5 Shrub Carr 2	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	1	1.00	1.00	1.00		
							High	High	High		
					100		1.00	1.00	1.00		

☑ Denotes incomplete calculation data.

Management Classification Report for Wetland 5 Shallow Marsh

ID: 38

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level			
Not Applicable	Vegetative Diversity/Integrity		High		
Moderate	Habitat Structure (wildlife)		High		
Moderate	Amphibian Habitat		Moderate		
Moderate	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	ty High /	Moderate		
Moderate	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	0.5	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Tetland Functional Assessment Summary							ce Flood/ c Stormwater/	Downstream Water	Maintenance of Wetland Water	ar r
Wetland Name	Hydrogeomorp	phology				Hydrologi Regime	•	Quality	Quality	Shoreline Protection
Vetland 5 Shallow Marsh	Depressional/Flo	ow-through (apparent in	nlet and outlet), Depress	ional/Flow-through	(apparent	0.52	0.55	0.68	0.49	0.00
						Moderate	Moderate	High	Moderate	Not Applicable
								Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerc	cial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment
Wetland 5 Shallow Mar	0.47	0.65	0.50	2.00	0.0	00	Combination Discharge, Recharge	0.00	0.50	0.49
	Moderate	Moderate	Moderate	Exceptional	Not App	olicable		Not Applicable	Moderate	Moderate

Weitana Commu	muy Summary	Vegetative Diversity/Integrity									
			Co	mmunity		-	711	TT' - I d	A	Weighted	
Wetland Name	Location	Cowardin Classification	Circular 39	· Plant Community		Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating	
Wetland 5 Shallow Marsh	62-030-22-19-002	PEMC	Type 3	Shallow Marsh		0	0.5	0.50	0.50	0.00	
						<u>, </u>		Moderate	Moderate	Not Applicable	
								0.50	0.50	0.00	

☑ Denotes incomplete calculation data.

ID: 49

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level		
Moderate	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
Moderate	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	ty High /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		_	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As Hydrogeomorp		lummary		Mainten of Hydrold Regin	Flood/ ogic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 6	Depressional/Iso	olated (no discernable	inlets or outlets)		0.75	0.60	0.89	0.78	0.00
					High	Moderate	High	High	Not Applicable
							Ac	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 6	0.51	0.60	0.45	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.78
	Moderate	Moderate	Moderate	Exceptional	Not Applicable		Not Applicable	Moderate	High

			Vegetative Diversity/Integrity									
			Co	mmunity					Weighted			
		Cowardin	Circular	· Plant	Wetland	Individual Community	Highest Wetland	Average Wetland	Average Wetland			
Wetland Name	Location	Classification		Community	Proportion		Rating	Rating	Rating			
Wetland 6	62-030-22-19-002	PUBH	Type 3	Shallow, Open Water Communities	100	0.5	0.50	0.50	0.50			
							Moderate	Moderate	Moderate			
					100		0.50	0.50	0.50			

[☑] Denotes incomplete calculation data.

ID: 50

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo based on MnRAM data		Self-defined classification value settings for this management leve		
Low	Vegetative Diversity/Integrity	High		
Moderate	Habitat Structure (wildlife)	High		
Moderate	Amphibian Habitat	Moderate		
High	Fish Habitat	High		
Not Applicable	Shoreline Protection	Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	y High / Moderate		
High	Wetland Water Quality and Vegetative Diversity	High / Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate		
Moderate	Flood/Stormwater Attenuation*	-		
Not Applicable	Commericial use*	High		
High	Downstream Water Quality*	-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrold Regin	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 7	Depressional/Iso	olated (no discernable	nlets or outlets)		0.88	0.56	0.84	0.80	0.00
					High	Moderate	High	High	Not Applicable
							Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	r Stormwater Treatment
Wetland 7	0.48	0.70	0.53	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.80
	Moderate	High	Moderate	Exceptional	Not Applicable	· ·	Not Applicable	Moderate	High

vettaria Contin			Vegetative Diversity/Integrity								
W. J. I.V.			Circular	2	Wetland	Individual Community		Average Wetland	Weighted Average Wetland		
Wetland Name	Location	Classification 39	39	Community	Proportion	Rating	Rating	Rating	Rating		
Wetland 7	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	50	0.1	0.50	0.30	0.30		
							Moderate	Low	Low		
		PEMC	Type 3	Shallow Marsh	50	0.5	0.50	0.30	0.30		
							Moderate	Low	Low		
					100		0.50	0.30	0.30		

[☑] Denotes incomplete calculation data.

ID: 22

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data	etialiu	Self-defined classification value settings for this management level		
Low	Vegetative Diversity/Integrity		Moderate	
Moderate	Habitat Structure (wildlife)		Moderate	
Not Applicable	Amphibian Habitat		Low	
Not Applicable	Fish Habitat		Moderate	
Not Applicable	Shoreline Protection		Low	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low	
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-	
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-	
Moderate	Characteristic Hydrology and Vegetative Diversity	-/	-	
High	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		-	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.82	Adjacent area Management
25	0.42	Adjacent area diversity
39	0.5	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 22

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 1 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary						Ince Flood/	Downstream	Maintenance of Wetland	
Wetland Name	Hydrogeomorp	phology			Hydrolo Regim		Water Quality	Water Quality	Shoreline Protection
Wetland 8	Depressional/Iso	olated (no discernable i	nlets or outlets)		0.52	0.69	0.88	0.53	0.00
					Modera	te High	High	Moderate	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	-
Wetland 8	0.55 Moderate	0.00 Not Applicable	0.00 Not Applicable	2.00 Exceptional	0.00 Not Applicable	Recharge	0.00 Not Applicable	0.10 Exceptional	0.53 Moderate

	nunny Summary	Vegetative Diversity/Integrity									
			Con	mmunity		Individual	High out	Augraga	Weighted		
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating		
Wetland 8	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10		
							Low	Low	Low		
					100		0.10	0.10	0.10		

☑ Denotes incomplete calculation data.

ID: 21

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this web	uanu	Self-defined classification value settings for this management leve			
Low	Vegetative Diversity/Integrity		Moderate		
Moderate	Habitat Structure (wildlife)		Moderate		
Not Applicable	Amphibian Habitat		Low		
Not Applicable	Fish Habitat		Moderate		
Not Applicable	Shoreline Protection		Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-		
High	Wetland Water Quality and Vegetative Diversity	-/	-		
High	Characteristic Hydrology and Vegetative Diversity	-/	-		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		_		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 21

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 1 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrolo Regin	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 9		olated (no discernable	inlets or outlets)		0.88		0.86	0.73	0.00
rrodana o		(,		High		High	High	Not Applicable
							Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	r Stormwater Treatment
Wetland 9	0.64	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.73
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable	Ü	Not Applicable	Moderate	High

venuna Comi		Vegetative Diversity/Integrity							
			Co	mmunity		Individual	Highest	Average	Weighted Average
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community	Wetland Rating	Wetland Rating	Wetland Rating
Wetland 9	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

ID: 55

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo based on MnRAM data		Self-defined classification value settings for this management leve		
Low	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
High	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	ty High /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary							nce Flood/ pic Stormwater/	Downstream Water	Maintenance of Wetland	ar r
Wetland Name	Hydrogeomorp	phology				Hydrolog Regim	,,,,		Water Quality	Shoreline Protection
Wetland 10	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)						0.47	0.73	0.80	0.00
						High	Moderate	High	High	Not Applicable
								A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerc	cial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 10	0.43	0.70	0.53	2.00	0.0	00	Combination Discharge, Recharge	0.00	0.50	0.80
	Moderate	High	Moderate	Exceptional	Not App	olicable		Not Applicable	Moderate	High

venana Comm	Vegetative Diversity/Integrity									
Wetland Name	Location	Cowardin Classification	Circular	mmunity Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating	
Wetland 10	62-030-22-19-002	PUBH	Type 5	Shallow, Open Water	50	0.1	0.50	0.30	0.30	
				Communities			Moderate	Low	Low	
		PEMC	Type 3	Shallow Marsh	50	0.5	0.50	0.30	0.30	
							Moderate	Low	Low	
					100		0.50	0.30	0.30	

[☑] Denotes incomplete calculation data.

ID: 23

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data	etialiu	Self-defined classification value settings for this management leve		
Low	Vegetative Diversity/Integrity		Moderate	
Moderate	Habitat Structure (wildlife)		Moderate	
Not Applicable	Amphibian Habitat		Low	
Not Applicable	Fish Habitat		Moderate	
Not Applicable	Shoreline Protection		Low	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low	
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-	
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-	
Moderate	Characteristic Hydrology and Vegetative Diversity	-/	-	
High	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		-	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.45	Adjacent area Management
25	0.3	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 23

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 0.5 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary							Flood/	Downstream	Maintenance of Wetland		
Wetland Name	Hydrogeomorp	phology			•	rologic egime	Stormwater/ Attenuation	Water Quality	Water Quality	Shoreline Protection	
Wetland 11	Depressional/Iso	olated (no discernable i	(0.43	0.74	0.79	0.44	0.00			
					Мо	derate	High	High	Moderate	Not Applicable	
								Ac	lditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Use		Ground- Water nteraction	Wetland Restoration Potential	Wetland Sensitiv to Stormwate and Urban Development	r Stormwater Treatment	
Wetland 11	0.41 Moderate	0.00 Not Applicable	0.00 Not Applicable	2.00 Exceptional	0.00 Not Applicable	i	Recharge	0.00 Not Applicable	0.10 Exceptional	0.44 Moderate	

			Vegetative Diversity/Integrity									
			Coi	mmunity		Individual	Highest	Average	Weighted Average			
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating			
Wetland 11	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10			
					·		Low	Low	Low			
					100		0.10	0.10	0.10			

☑ Denotes incomplete calculation data.

ID: 42

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level		
Low	Vegetative Diversity/Integrity		High	
Low	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
High	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	ty High/	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary							re Flood/ Stormwater/	Downstream Water	Maintenance of Wetland Water	Shoreline
Wetland Name	Hydrogeomorp	phology				Hydrologie Regime	Attenuation	Quality	Quality	Protection
Vetland 12	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)						0.52	0.79	0.66	0.00
						Moderate	Moderate	High	High	Not Applicable
								Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerci	al Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 12	0.32	0.67	0.52	2.00	0.00)	Combination Discharge, Recharge	0.00	0.50	0.66
	Low	High	Moderate	Exceptional	Not Appli	icable		Not Applicable	Moderate	High

vettaria Contin		Vegetative Diversity/Integrity									
		Cowardin	Circular	mmunity Plant	Wetland	Individual Community		Average Wetland	Weighted Average Wetland		
Wetland Name	Location	Classification	39	Community	Proportion	Rating	Rating	Rating	Rating		
Wetland 12	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	50	0.5	0.50	0.30	0.30		
					<u>, </u>		Moderate	Low	Low		
		PEMA	Type 1	Seasonally Flooded Basin	50	0.1	0.50	0.30	0.30		
					<u>.</u>		Moderate	Low	Low		
					100		0.50	0.30	0.30		

☑ Denotes incomplete calculation data.

ID: 7

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wetl based on MnRAM data	and Functional Category	Self-defined classification value settings for this management level		
	Vegetative Diversity/Integrity		High	
	Habitat Structure (wildlife)		High	
Not Applicable	Amphibian Habitat		Moderate	
Not Applicable	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Divers	sity High /	Moderate	
	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Hydrologic Regime & Vegetative Diversity**

Details of the formula for this action are shown below:

	Maintenan	ce of Hydrol	(Q13+Q14+Q15+Q20R)/4	
	Question	Value	Description	
	13	1	Outlet: hydrologic regime	
	14	0.1	Upland land use	
	15	0.5	Soil condition (wetland)	
	20	1	Stormwater runoff	
Vegetative Diversity				NA
	Question	Value	Description	
	NA	NA	NA	

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Netland Functional Assessment Summary					Mainten of Hydrol	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline
Wetland Name	Hydrogeomorp	phology			Regin		Quality	Quality	Protection
Wetland 13	Depressional/Is	olated (no discernable	inlets or outlets)		0.88	8 0.63	0.84	16.54	0.00
					High	h Moderate	High		Not Applicable
							Ac	dditional Inforn	nation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivit to Stormwater and Urban Development	ty Additional Stormwater Treatment Needs
Wetland 13	14.46	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	16.54
		Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Moderate	

venana Comi	nanny Sammary								
			Co	mmunity		Individual	Highest	Average	Weighted Average
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community	Wetland Rating	Wetland Rating	Wetland Rating
Wetland 13	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	11100	0.5	0.50	0.50	55.50
							Moderate	Moderate	
					11100		0.50	0.50	55.50

☑ Denotes incomplete calculation data.

ID: 24

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 3

Functional rank of this wetland based on MnRAM data Functional Category Self-defined classification value settings for this management level

Low	Vegetative Diversity/Integrity	Low
Low	Habitat Structure (wildlife)	Low
Not Applicable	Amphibian Habitat	NA
Not Applicable	Fish Habitat	Low
Not Applicable	Shoreline Protection	NA
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Low/ Low
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	-/-
Moderate	Wetland Water Quality and Vegetative Diversity	Low/ Low
Low	Characteristic Hydrology and Vegetative Diversity	Low/ Low
Moderate	Flood/Stormwater Attenuation*	High
Not Applicable	Commericial use*	-
Moderate	Downstream Water Quality*	High

The critical function that caused this wetland to rank as **Manage 3** was **Vegetative Diversity**

Details of the formula for this action are shown below:

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary						Maintena of Hydrolog	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	phology				Regim		Quality	Quality	Protection	
Vetland 14	Depressional/Flo	ow-through (apparent i	nlet and outlet), Depress	sional/Flow-through	0.20	0.52	0.65	0.46	0.00		
						Low	Moderate	Moderate	Moderate	Not Applicable	
								Ac	lditional Infor	rmation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commer	cial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment	
Wetland 14	0.30	0.00	0.00	2.00	0.	00	Combination Discharge, Recharge	0.00	0.10	0.46	
	Low	Not Applicable	Not Applicable	Exceptional	Not Ap	plicable		Not Applicable	Exceptional	Moderate	

venuna Comi	nanny Sammary	Vegetative Diversity/Integrity							
			Con	mmunity		Individual	Highest	Anaraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 14	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
					•		Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

ID: 25

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wetle based on MnRAM data		Self-defined classification value settings for this management leve			
Moderate	Vegetative Diversity/Integrity		Exceptional		
High	Habitat Structure (wildlife)		Exceptional		
Not Applicable	Amphibian Habitat		High		
Not Applicable	Fish Habitat		Exceptional		
Not Applicable	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversit	ty Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
High	Characteristic Hydrology and Vegetative Diversity	High /	High		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Adjacent area Management

Adjacent area diversity

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description 48 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+ Q20)/8 Question Value Description 13 Outlet: hydrologic regime 20 0.5 Stormwater runoff 23 0.5 Buffer width

24

25

0.91

0.46

^{*} The classification value settings for these functions are not adjustable

ID: 25

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	1	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary						enance f Flo ologic Storm		Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomor	phology			•	0	uation Quality	Quality	Protection	
Wetland 15	Depressional/Iso	olated (no discernable	inlets or outlets)		0.	75 0.6	9 0.82	0.71	0.00	
					Hi	gh Hiç	gh High	High	Not Applicable	
							A	Additional Info	rmation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment	
Wetland 15	0.77	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.71	
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High	

venana Comi	nunny Summary			Veget	ative Diversit	ty/Integrity			
			Cor	mmunity		In divide at	III als agt	Augraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 15	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.5	0.50	0.50	0.50
					·		Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

[☑] Denotes incomplete calculation data.

ID: 26

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wetl based on MnRAM data	· · · · · · · ·	Self-defined classification value settings for this management level				
Low	Vegetative Diversity/Integrity		High			
High	Habitat Structure (wildlife)		High			
Not Applicable	Amphibian Habitat		Moderate			
Not Applicable	Fish Habitat		High			
Not Applicable	Shoreline Protection		Moderate			
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High ,	['] Moderate			
Exceptional	Stormwater/Urban Sensitivity and Vegetative Divers	ity High,	[/] Moderate			
High	Wetland Water Quality and Vegetative Diversity	High ,	[/] Moderate			
High	Characteristic Hydrology and Vegetative Diversity	High ,	/ Moderate			
Moderate	Flood/Stormwater Attenuation*		-			
Not Applicable	Commericial use*		High			
High	Downstream Water Quality*		-			

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description 48 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+ Q20)/8 Question Value Description 13 Outlet: hydrologic regime 20 0.1 Stormwater runoff 23 1 Buffer width 24 0.91 Adjacent area Management

Adjacent area diversity

25

0.46

^{*} The classification value settings for these functions are not adjustable

ID: 26

cker Park Wetland Assessment
RAMSEY County

Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu	inctional As	Mainten of	Flood/	Downstream	Maintenance of Wetland				
Wetland Name	Hydrogeomor	phology			Hydrolo Regin		Water Quality	Water Quality	Shoreline Protection
Wetland 16	Depressional/Iso	olated (no discernable i	nlets or outlets)		1.00	0.61	0.83	0.73	0.00
					High	n Moderate	High	High	Not Applicable
							A	dditional Inforn	nation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	-
Wetland 16	0.67	0.00	0.00	2.00	0.00	Recharge	0.00	0.10	0.73
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High

	nunny Summary			Veget	ative Diversi	ty/Integrity			
			Con	mmunity		Individual	Highest	Anaraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 16	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

☑ Denotes incomplete calculation data.

ID: 51

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wetl	•	Self-defined classification value settings for this management level				
based on MnRAM data	Functional Category	ectings for this management level				
Moderate	Vegetative Diversity/Integrity	Exceptional				
Moderate	Habitat Structure (wildlife)	Exceptional				
Not Applicable	Amphibian Habitat	High				
Not Applicable	Fish Habitat	Exceptional				
Not Applicable	Shoreline Protection	High				
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional / High				
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ty Exceptional / Moderate				
High	Wetland Water Quality and Vegetative Diversity	High / High				
High	Characteristic Hydrology and Vegetative Diversity	High / High				
Moderate	Flood/Stormwater Attenuation*	-				
Not Applicable	Commericial use*	-				
High	Downstream Water Quality*	-				

The critical function that caused this wetland to rank as **Preserve** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Details of the formula for this action are shown below:

Wetland Sensitivity to Stormwater and Urban Dev NA

Question Value Description

NA NA NA

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As Hydrogeomor	Mainten of Hydrol Regii	Flood/ ogic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection			
Wetland 17	Depressional/Iso	olated (no discernable	inlets or outlets)		0.88	3 0.56	0.83	0.85	0.00
					Higl	n Moderate	High	High	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 17	0.61	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.85
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable	_	Not Applicable	Exceptional	High

venana Comi	nunny Summary			Veget	tative Diversit	ty/Integrity			
			Cor	mmunity		T., 4:: 41	III als and	4	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 17	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

☑ Denotes incomplete calculation data.

Management Classification Report for Wetland 18 Shrub Carr

ID: 62

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Preserve

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management leve				
Moderate	Vegetative Diversity/Integrity		Exceptional			
Moderate	Habitat Structure (wildlife)		Exceptional			
Low	Amphibian Habitat		High			
Not Applicable	Fish Habitat		Exceptional			
High	Shoreline Protection		High			
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High			
High	Stormwater/Urban Sensitivity and Vegetative Diversit	ty Exceptional /	Moderate			
High	Wetland Water Quality and Vegetative Diversity	High /	High			
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High			
Moderate	Flood/Stormwater Attenuation*		-			
Not Applicable	Commericial use*		-			
High	Downstream Water Quality*		-			

The critical function that caused this wetland to rank as **Preserve** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection (Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	1	Shoreline rooted vegetation (%cover)
31	1	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fun	ectional Ass	Maintena of Hydrolog	Flood/ gic Stormwater/		Maintenance of Wetland Water Quality	Shoreline			
	, , ,				Regim			~ .	Protection
Wetland 18 Shrub Carr	Lacustrine Fring	e (edge of deepwater a	areas)/Shoreland		0.40	0.50	0.68	0.71	0.80
					Modera	te Moderate	High	High	High
							A	dditional Inforn	ıation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivi to Stormwater and Urban Development	ty Additional Stormwater Treatment Needs
Wetland 18 Shrub Carr	0.45	0.00	0.04	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.71
	Moderate	Not Applicable	Low	Exceptional	Not Applicable		Not Applicable	High	High

renana Commi	iniy Sammary				Vegetative Diversit	ty/Integrity			
			Con	mmunity		Individual	Highest	Ayawaaa	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 18 Shrub Carr	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

[☑] Denotes incomplete calculation data.

ID: 27

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Preserve

Functional rank of this wetl based on MnRAM data		Self-defined classification value settings for this management leve				
Moderate	Vegetative Diversity/Integrity		Exceptional			
High	Habitat Structure (wildlife)		Exceptional			
Not Applicable	Amphibian Habitat		High			
Not Applicable	Fish Habitat		Exceptional			
Not Applicable	Shoreline Protection		High			
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High			
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ty Exceptional /	Moderate			
High	Wetland Water Quality and Vegetative Diversity	High /	High			
High	Characteristic Hydrology and Vegetative Diversity	High /	High			
Moderate	Flood/Stormwater Attenuation*		-			
Not Applicable	Commericial use*		-			
High	Downstream Water Quality*		-			

The critical function that caused this wetland to rank as **Preserve** was Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity

Adjacent area Management

Adjacent area diversity

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description 48 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+ Q20)/8 Question Value Description 13 0.1 Outlet: hydrologic regime 20 0.1 Stormwater runoff 23 Buffer width

1

1

0.5

24

25

^{*} The classification value settings for these functions are not adjustable

ID: 27

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	1	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu	inctional As	Maintei of Hydroi	Flood/	Downstream / Water	Maintenance of Wetland Water	Shoreline			
Wetland Name	Vetland Name Hydrogeomorphology					me Attenuatio		Quality	Protection
Wetland 18 SFB	Lacustrine Fring	e (edge of deepwater a	areas)/Shoreland		0.7	7 0.43	0.73	0.86	0.00
					Hig	h Moderate	High	High	Not Applicable
							Ac	lditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 18 SFB	0.72	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.86
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High

venuna Comm	Vegetative Diversity/Integrity								
			Con	mmunity		Individual	Highest	Anaraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	· Plant Community	Wetland Proportion	Community	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 18 SFB	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

[☑] Denotes incomplete calculation data.

Management Classification Report for Wetland 18 Shallow marsh

ID: 44

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Salf defined electification value

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this w		Self-defined classification value			
based on MnRAM data	Functional Category	settings for this management leve			
Moderate	Vegetative Diversity/Integrity	High			
High	Habitat Structure (wildlife)	High			
Low	Amphibian Habitat	Moderate			
High	Fish Habitat	High			
Not Applicable	Shoreline Protection	Moderate			
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High / Moderate			
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversi	ity High / Moderate			
High	Wetland Water Quality and Vegetative Diversity	High / Moderate			
High	Characteristic Hydrology and Vegetative Diversity	High / Moderate			
Moderate	Flood/Stormwater Attenuation*	-			
Not Applicable	Commericial use*	High			
High	Downstream Water Quality*	-			

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description Unique/rare educ./cultural/rec.opportunity 48 Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q37+Q40+Q41+(Q23+Q24+Q25)/3+ Q13+Q20)/9 Question Value Description 13 Outlet: hydrologic regime 20 0.5 Stormwater runoff 23 0.5 Buffer width

Adjacent area Management

Adjacent area diversity

24

25

0.91

0.46

^{*} The classification value settings for these functions are not adjustable

Management Classification Report for Wetland 18 Shallow marsh

cker Park Wetland Assessment

ID: 44

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

;	37	1	Vegetation cover interspersion
;	39	0.5	Detritus
,	3e	0.5	<no description="" found=""></no>
4	40	1	Wetland interspersion/landscape
4	41	0.5	Wildlife barriers

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fun	ctional Ass	Mainten of Hydrole	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline			
Wetland Name	Hydrogeomorp	phology			Regin	ne Attenuation	Quality	Quality	Protection
Wetland 18 Shallow marsh	Lacustrine Fring	e (edge of deepwater a	areas)/Shoreland		0.88	0.61	0.87	0.78	0.00
					High	Moderate	High	High	Not Applicable
							Ac	lditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 18 Shallow ma	0.68	0.73	0.06	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.78

Exceptional

Low

Moderate

Not Applicable

High

Wetland Community Summary

High

High

	Vegetative Diversity/Integrity								
			Co	mmunity		7111	TT's Is and	4	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 18 Shallow marsh	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

Not Applicable

☑ Denotes incomplete calculation data.

ID: 28

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data	• • • • • • • • • • • • • • • • • • • •	Self-defined classification value ettings for this management leve			
Low	Vegetative Diversity/Integrity		Moderate		
Moderate	Habitat Structure (wildlife)		Moderate		
Not Applicable	Amphibian Habitat		Low		
Not Applicable	Fish Habitat		Moderate		
Not Applicable	Shoreline Protection		Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-		
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-		
Moderate	Characteristic Hydrology and Vegetative Diversity	-/	-		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.73	Adjacent area Management
25	0.38	Adjacent area diversity
39	1	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 28

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 0.5 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary						nance Flood/	Downstream	3	
Wetland Name	Hydrogeomorp	phology			Hydrol Regi			Water Quality	Shoreline Protection
Wetland 19	Depressional/Iso	olated (no discernable i	nlets or outlets)		0.52	2 0.69	0.75	0.53	0.00
					Moder	rate High	High	Moderate	Not Applicable
							A	dditional Infori	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	-
Wetland 19	0.59 Moderate	0.00 Not Applicable	0.00 Not Applicable	2.00 Exceptional	0.00 Not Applicable	Recharge	0.00 Not Applicable	0.10	0.53 Moderate

			Vegetative Diversity/Integrity							
			Coi	mmunity		Individual	Highest	Average	Weighted Average	
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating	
Wetland 19	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10	
					·		Low	Low	Low	
					100		0.10	0.10	0.10	

☑ Denotes incomplete calculation data.

ID: 56

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level		
Moderate	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
Moderate	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	ty High /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		_	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary						Maintenance of Hydrologic	Flood/	Downstream Water	Maintenance of Wetland Water	Ch
Wetland Name	Hydrogeomorp	phology				Regime	Attenuation	Quality	Quality	Shoreline Protection
Wetland 20	Depressional/Flo	ow-through (apparent in	nlet and outlet), Depress	ional/Flow-through ((apparent	0.55	0.52	0.79	0.68	0.00
						Moderate	Moderate	High	High	Not Applicable
								Ac	dditional Info	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercia	ul Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment
Wetland 20	0.33	0.54	0.52	2.00	0.00		Combination Discharge, Recharge	0.00	0.50	0.68
	Moderate	Moderate	Moderate	Exceptional	Not Applic	cable		Not Applicable	Moderate	High

venuna Comi	nanny Sammary	Vegetative Diversity/Integrity							
			Co	mmunity		Individual	Highest	Average	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 20	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	70	0.5	0.50	0.50	0.35
							Moderate	Moderate	Moderate
					70		0.50	0.50	0.35

☑ Denotes incomplete calculation data.

ID: 29

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wetl based on MnRAM data	*** ***	Self-defined classification value settings for this management level			
Low	Vegetative Diversity/Integrity		High		
Moderate	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversi	ity High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Wetland Water Quality & Vegetative Diversity**

Details of the formula for this action are shown below:

Maintenance of Wetland Water Quality

(Q3e * 2+Q14+Q20R +(Q23+Q24+Q26)/3+Q18+Q28)/7

Ougation	Value	Description
Question	vaiue	Description
14	0.5	Upland land use
18	1	Sediment delivery
20	1	Stormwater runoff
23	1	Buffer width
24	0.91	Adjacent area Management
26	1	Adjacent area slope
28	1	Nutrient loading
3e	0.22	<no description="" found=""></no>

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 29

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Vegetative Diversity

NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainter of Hydroi Regi	Flood/ logic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 21	Depressional/Iso	plated (no discernable i	inlets or outlets)		0.8	8 0.69	0.76	0.70	0.00
					Hig	h High	High	High	Not Applicable
							A	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment
Wetland 21	0.53	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.70
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable	· ·	Not Applicable	Moderate	High

venana comm	Vegetative Diversity/Integrity								
		Cowardin	Circular	mmunity Plant	Wetland	Individual Community	Highest Wetland	Average Wetland	Weighted Average Wetland
Wetland Name	Location	Classification 3	39	Community	Proportion	Rating	Rating	Rating	Rating
Wetland 21	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	70	0.1	0.50	0.30	0.22
							Moderate	Low	Low
		PEM1B	Type 2	Fresh (Wet) Meadow	30	0.5	0.50	0.30	0.22
							Moderate	Low	Low
					100		0.50	0.30	0.22

☑ Denotes incomplete calculation data.

ID: 52

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wetle based on MnRAM data	*** ***	Self-defined classification value settings for this management leve			
Low	Vegetative Diversity/Integrity		Exceptional		
Moderate	Habitat Structure (wildlife)		Exceptional		
High	Amphibian Habitat		High		
High	Fish Habitat		Exceptional		
Not Applicable	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversi	ity Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
High	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu	inctional As	Maintend of	Flood/	Downstream Water	Maintenance of Wetland				
Wetland Name	Hydrogeomor	phology			Hydrolo Regin			Water Quality	Shoreline Protection
Wetland 22	Depressional/Iso	olated (no discernable i	inlets or outlets)		0.88	0.56	0.84	0.74	0.00
					High	Moderate	High	High	Not Applicable
							A	dditional Inforn	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	
Wetland 22	0.50	0.70	0.77	2.00	0.00	Discharge	0.00	0.10	0.74
	Moderate	High	High	Exceptional	Not Applicable		Not Applicable	Moderate	High

			Vegetative Diversity/Integrity									
Wetland Name	Location	Cowardin Classification	Circular	mmunity Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating			
Wetland 22	62-030-22-19-002	PUBH	Type 5	Shallow, Open Water	70	0.1	0.10	0.10	0.10			
				Communities			Low	Low	Low			
		PEMA	Type 1	Seasonally Flooded Basin	30	0.1	0.10	0.10	0.10			
							Low	Low	Low			
					100		0.10	0.10	0.10			

[☑] Denotes incomplete calculation data.

ID: 9

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data	tialiu	Self-defined classification value settings for this management leve			
Low	Vegetative Diversity/Integrity		Moderate		
Moderate	Habitat Structure (wildlife)		Moderate		
Not Applicable	Amphibian Habitat		Low		
Not Applicable	Fish Habitat		Moderate		
Not Applicable	Shoreline Protection		Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-		
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-		
Moderate	Characteristic Hydrology and Vegetative Diversity	-/	-		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		_		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.5	Stormwater runoff
23	0.5	Buffer width
24	0.91	Adjacent area Management
25	0.46	Adjacent area diversity
39	0.5	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 9

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 1 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu	inctional As	sessment S	Summary	Mainten of Hydrole	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	ohology			Regin	ne Attenuation	Quality	Quality	Protection
Wetland 23	Depressional/Is	olated (no discernable	inlets or outlets)		0.63	0.64	0.82	0.52	0.00
					Moder	ate Moderate	High	Moderate	Not Applicable
							Ac	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	-
Wetland 23	0.60	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.52
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable	· ·	Not Applicable	Moderate	Moderate

Wetland Community Summary

weiiana Comi	Vegetative Diversity/Integrity								
			Со	mmunity		Individual	Highest	Average	Weighted Average
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community	Wetland Rating	Wetland Rating	Wetland Rating
Wetland 23	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

Management Classification Report for Wetland 24 Shrub Carr 1

ID: 65

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this wet based on MnRAM data		Self-defined classification value settings for this management level			
Moderate	Vegetative Diversity/Integrity		Exceptional		
Moderate	Habitat Structure (wildlife)		Exceptional		
Not Applicable	Amphibian Habitat		High		
Not Applicable	Fish Habitat		Exceptional		
High	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
High	Stormwater/Urban Sensitivity and Vegetative Diversit	y Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection (Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	1	Shoreline rooted vegetation (%cover)
31	0.5	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fun Wetland Name	ctional As		Summary	Mainten of Hydrold Regin	Flood/ ogic Stormwater/	Downstream Water Quality	Maintenance of Wetland Water Quality	Shoreline Protection		
Wetland 24 Shrub Carr 1	Lacustrine Fring	ge (edge of deepwater	areas)/Shoreland		0.40	0.40 0.50		0.70	0.70	
					Modera	ate Moderate	High	High	High	
							A	dditional Inform	nation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivit to Stormwater and Urban Development	y Additional Stormwater Treatment Needs	
Wetland 24 Shrub Carr	0.43	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.70	
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	High	High	

Wetland Community Summary

Tettana Community Summary		Vegetative Diversity/Integrity							
			Co	ommunity		Individual	Uigh ast	Ananaga	Weighted
Wetland Name	Location	Cowardin Classification	Circula 39	r Plant Community	Wetland Proportion	Community	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 24 Shrub Carr 1	62-030-22-19-002	PSS1C	Type 6	Shrub Carr	100	0.5	0.50	0.50	0.50
					<u>'</u>		Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

☑ Denotes incomplete calculation data.

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Management Classification Report for Wetland 24 Shallow Marsh

ID: 64

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management level			
Moderate	Vegetative Diversity/Integrity		Exceptional		
Moderate	Habitat Structure (wildlife)		Exceptional		
Low	Amphibian Habitat		High		
High	Fish Habitat		Exceptional		
High	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	ty Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Shoreline Protection**

Details of the formula for this action are shown below:

Shoreline Protection

(Q30+Q31+Q32+Q33+Q34)/5

Question	Value	Description
30	1	Shoreline rooted vegetation (%cover)
31	1	Shoreline wetland in-water width
32	1	Shoreline emergent veg/erosion resistance
33	0.5	Shoreline erosion potential
34	0.5	Shoreline upslope veg/bank protection

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fund	ctional As	sessment S	Summary	Maintena of	Flood/	Downstream	J			
Wetland Name	Hydrogeomorp	phology			Hydrolo Regim		Water Quality	Water Quality	Shoreline Protection	
Wetland 24 Shallow Marsh	Lacustrine Fring	ge (edge of deepwater a	areas)/Shoreland		0.52	0.46	0.76	0.78	0.80	
					Modera	te Moderate	High	High	High	
							A	dditional Inform	ation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitivit to Stormwater and Urban Development	y Additional Stormwater Treatment Needs	
Wetland 24 Shallow Ma	0.45	0.88	0.05	2.00	0.00	Discharge	0.00	0.50	0.78	
	Moderate	High	Low	Exceptional	Not Applicable		Not Applicable	Moderate	High	

Tellana Commu	ittiy Summary	Vegetative Diversity/Integrity								
			Co	mmunity			Individual	Highest	Average	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	1	Wetland Proportion	Community Rating	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 24 Shallow Marsh	62-030-22-19-002	PEMC	Type 3	Shallow Marsh		100	0.5	0.50	0.50	0.50
					·			Moderate	Moderate	Moderate
						100		0.50	0.50	0.50

☑ Denotes incomplete calculation data.

ID: 30

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Salf defined electification value

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this w		Self-defined classification value			
based on MnRAM data	Functional Category	settings for this management leve			
Low	Vegetative Diversity/Integrity		High		
High	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ity High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description 48 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+ Q20)/8 Question Value Description 13 Outlet: hydrologic regime 20 0.1 Stormwater runoff 23 1 Buffer width

Adjacent area Management

Adjacent area diversity

24

25

1

0.5

^{*} The classification value settings for these functions are not adjustable

ID: 30

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu	enctional As	Mainte o	f Fl		stream ater	Maintenance of Wetland	ar v			
Wetland Name	Hydrogeomorp	phology		Hydro Reg	iogic	nuation Qua		Water Quality	Shoreline Protection	
Wetland 25	Depressional/Iso	olated (no discernable i	nlets or outlets)	3.0	38 0	.69 0.7	0.76	0.67	0.00	
					Hiç	jh H	igh Hiç	gh	High	Not Applicable
								Ad	ditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetlan Restoran Potenti	nd tion	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 25	0.67	0.00	0.00	2.00	0.00	Combination Discharge, Recharge			0.10	0.67
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable	· ·	Not Appli	cable	Exceptional	High

, comme Comm	nunny Summary		Vegetative Diversity/Integrity									
			Con	mmunity		Individual	Uich est	Anaraaa	Weighted			
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating			
Wetland 25	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10			
							Low	Low	Low			
					100		0.10	0.10	0.10			

☑ Denotes incomplete calculation data.

ID: 31

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this we			f-defined classification value			
based on MnRAM data	Functional Category S	ettings for this management leve				
Moderate	Vegetative Diversity/Integrity	E	exceptional			
Moderate	Habitat Structure (wildlife)	E	exceptional			
Not Applicable	Amphibian Habitat	H	ligh			
Not Applicable	Fish Habitat	E	xceptional			
Not Applicable	Shoreline Protection	H	ligh			
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional / F	ligh			
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversit	y Exceptional / N	∕loderate			
High	Wetland Water Quality and Vegetative Diversity	High / H	ligh			
High	Characteristic Hydrology and Vegetative Diversity	High / H	ligh			
Moderate	Flood/Stormwater Attenuation*	-				
Not Applicable	Commericial use*	-				
High	Downstream Water Quality*	-				

The critical function that caused this wetland to rank as **Preserve** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Details of the formula for this action are shown below:

Wetland Sensitivity to Stormwater and Urban Dev NA

Question Value Description

NA NA NA

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As Hydrogeomor	Mainten of Hydrold Regin	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection				
Wetland 26	Depressional/Is	olated (no discernable	inlets or outlets)		0.75	0.60	0.88	0.77	0.00	
					High	Moderate	High	High	Not Applicable	
							Ac	lditional Infor	rmation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	er Stormwater Treatment	
Wetland 26	0.63	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.77	
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High	

, comme Comm	nunny Summary		Vegetative Diversity/Integrity									
			Cor	mmunity		T-, 1:: 1-, -1	III all and	4	Weighted			
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating			
Wetland 26	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.5	0.50	0.50	0.50			
							Moderate	Moderate	Moderate			
					100		0.50	0.50	0.50			

☑ Denotes incomplete calculation data.

ID: 32

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Salf defined electification value

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this w		Self-defined classification value			
based on MnRAM data	Functional Category	settings for this mana	gement level		
Low	Vegetative Diversity/Integrity		High		
High	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ity High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural **Exceptional for unique or rare opportunity** Question Value Description 48 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+ Q20)/8 Question Value Description 13 Outlet: hydrologic regime 20 0.1 Stormwater runoff 23 1 Buffer width 24 1 Adjacent area Management

Adjacent area diversity

25

0.5

^{*} The classification value settings for these functions are not adjustable

ID: 32

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrol Regi	Flood/ ogic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 27	Depressional/Iso	olated (no discernable	inlets or outlets)		0.88	3 0.69	0.76	0.67	0.00
					Hig	h High	High	High	Not Applicable
							A	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 27	0.67	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.67
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable	-	Not Applicable	Exceptional	High

, citaria Conti	nunny Summary		Vegetative Diversity/Integrity								
			Community			Individual	High oat	Augraga	Weighted		
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating		
Wetland 27	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10		
							Low	Low	Low		
					100		0.10	0.10	0.10		

☑ Denotes incomplete calculation data.

ID: 22

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management leve		
Moderate	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
Moderate	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	y High /	Moderate	
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
High	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary						Maintena of Hydrolo	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline
Wetland Name	Hydrogeomorphology						e Attenuation		Quality	Protection
Wetland 28			nlets or outlets), Depres n upstream subwatershe		let but no	0.75	0.67	0.93	0.79	0.00
						High	High	High	High	Not Applicable
								Ac	dditional Info	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerc	cial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 28	0.66	0.62	0.60	2.00	0.0	00	Combination Discharge, Recharge	0.00	0.50	0.79
	Moderate	Moderate	Moderate	Exceptional	Not App	olicable		Not Applicable	Moderate	High

renana Comm		Vegetative Diversity/Integrity									
Wetland Name	Location	Cowardin Classification	Circular	mmunity Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating		
Wetland 28	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	40	0.5	0.50	0.50	0.50		
			1				Moderate	Moderate	Moderate		
		PEMC	Type 1	Seasonally Flooded Basin	60	0.5	0.50	0.50	0.50		
				,			Moderate	Moderate	Moderate		
					100		0.50	0.50	0.50		

ID: 45

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo based on MnRAM data		Self-defined classification value settings for this management leve		
Low	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
Moderate	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	ty High /	Moderate	
Moderate	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
High	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Functional Assessment Summary					Mainter of Hydrol	Flood/ ogic Stormwater		Water	Shoreline
Wetland Name Hydrogeomorphology					Regi	me Attenuatio	n Quality	Quality	Protection
Wetland 29	Depressional/Iso	olated (no discernable	inlets or outlets)		0.7	7 0.74	0.96	0.61	0.00
					Hig	h High	High	Moderate	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 29	0.42	0.54	0.53	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.61
	Moderate	Moderate	Moderate	Exceptional	Not Applicable		Not Applicable	Moderate	Moderate

veitaria Comm		Vegetative Diversity/Integrity								
Wetland Name	Location	Community Cowardin Circular Plant Classification 39 Community		Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating		
Wetland 29	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	80	0.1	0.10	0.10	0.10	
							Low	Low	Low	
		PUBH	Type 5	Shallow, Open Water Communities	20	0.1	0.10	0.10	0.10	
							Low	Low	Low	
					100		0.10	0.10	0.10	

[☑] Denotes incomplete calculation data.

ID: 36

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Preserve

Functional rank of this wet based on MnRAM data		Self-defined classification value settings for this management leve			
Not Applicable	Vegetative Diversity/Integrity		Exceptional		
High	Habitat Structure (wildlife)		Exceptional		
Not Applicable	Amphibian Habitat		High		
Not Applicable	Fish Habitat		Exceptional		
Not Applicable	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional/	High		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversit	ty Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
High	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity Question Value Description 48 1 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str Q20)/8 (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity

^{*} The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

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RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As Hydrogeomor		Summary		Mainten of Hydrol Regii	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 30	Depressional/Iso	olated (no discernable	1.00	0.65	0.83	0.71	0.00		
					High	n Moderate	High	High	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 30	0.67	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	1.00	0.71
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High

renana Comm	nanay Sammary	Vegetative Diversity/Integrity								
			Co	mmunity		7151	III all and	4	Weighted	
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating	
Wetland 30	62-030-22-19-002	PEMB	Type 2	Sedge Meadow	0	1	1.00	1.00	0.00	
					·		High	High	Not Applicable	
							1.00	1.00	0.00	

☑ Denotes incomplete calculation data.

ID: 10

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as

Preserve

Functional rank of this we based on MnRAM data		Self-defined classification value settings for this management leve			
Moderate	Vegetative Diversity/Integrity	E	xceptional		
Moderate	Habitat Structure (wildlife)	E	exceptional		
High	Amphibian Habitat	F	ligh		
High	Fish Habitat	E	exceptional		
Not Applicable	Shoreline Protection	H	ligh		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional / F	ligh		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	ty Exceptional / N	∕loderate		
High	Wetland Water Quality and Vegetative Diversity	High / F	ligh		
High	Characteristic Hydrology and Vegetative Diversity	High / F	ligh		
High	Flood/Stormwater Attenuation*	-			
Not Applicable	Commericial use*	-			
High	Downstream Water Quality*	-			

The critical function that caused this wetland to rank as **Preserve** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	0.5	Upland land use
20	1	Stormwater runoff
23	1	Buffer width
41	1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.5	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrol Regi	Flood/ ogic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection	
								~ .		
Wetland 31	Depressional/Is	olated (no discernable	inlets or outlets)		0.8	3 0.69	0.76	0.79	0.00	
					Hig	h High	High	High	Not Applicable	
							Ac	dditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwate and Urban Development	r Stormwater Treatment	
Wetland 31	0.64	0.70	0.67	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.79	
	Moderate	High	High	Exceptional	Not Applicable		Not Applicable	Moderate	High	

Wetland Community Summary

	nanny Sammary	Vegetative Diversity/Integrity									
Wetland Name	Location	Cowardin Classification	Circula	ommunity r Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating		
Wetland 31	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	60	0.5	0.50	0.50	0.50		
					"		Moderate	Moderate	Moderate		
		PUBH	Type 5	Shallow, Open Water Communities	40	0.5	0.50	0.50	0.50		
							Moderate	Moderate	Moderate		
					100		0.50	0.50	0.50		

☑ Denotes incomplete calculation data.

ID: 11

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wetl based on MnRAM data	**************************************	Self-defined classification value settings for this management leve			
Moderate	Vegetative Diversity/Integrity		High		
High	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Divers	ity High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity

Question	Value	Description
48	1	Unique/rare educ./cultural/rec.opportunity

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q38+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/9

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	0.82	Adjacent area Management
25	0.42	Adjacent area diversity

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

ID: 11

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

38	1	Community interspersion
39	0.5	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrol Regii	Flood/ ogic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 32	Depressional/Is	olated (no discernable	inlets or outlets)		0.8	8 0.69	0.76	0.78	0.00
					Hig	h High	High	High	Not Applicable
							Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitive to Stormwate and Urban Development	Stormwater Treatment
Wetland 32	0.79	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.78
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable	3	Not Applicable	Moderate	High

venuna Comi	nanny Sammary	Vegetative Diversity/Integrity									
Wetland Name	<i>Location</i> 62-030-22-19-002	Community Cowardin Circular Plant Classification 39 Community			Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Weighted Average Wetland Rating		
Wetland 32		PEMB	Type 2	Fresh (Wet) Meadow	50	0.5	0.50	0.50	50 0.50		
							Moderate	Moderate	Moderate		
		PFO1A	Type 1	Seasonally Flooded Basin	50	0.5	0.50	0.50	0.50		
							Moderate	Moderate	Moderate		
					100		0.50	0.50	0.50		

☑ Denotes incomplete calculation data.

ID: 18

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this w based on MnRAM data		Self-defined classification value settings for this management level			
Moderate	Vegetative Diversity/Integrity		High		
High	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversi	ty High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity Question Value Description 48 1 Unique/rare educ./cultural/rec.opportunity

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	0.77	Adjacent area Management
25	0.38	Adjacent area diversity

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

ID: 18

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As		Summary	Mainter of Hydrol Regi	Flood/ logic Stormwater		Maintenance of Wetland Water Quality	Shoreline Protection	
Wetland 33		olated (no discernable	inlets or outlets)		0.8		0.75	0.77	0.00
Welland 55	Воргосоюналю	olatea (no albaemable	militaria di dallata)		Hig		High	High	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwate and Urban Development	r Stormwater Treatment
Wetland 33	0.76	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.77
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable	· ·	Not Applicable	Moderate	High

venuna Comi	nanny Sammary			Ve	getative Diversit				
			Со	mmunity		Individual	Highest	Average	Weighted Average
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating
Wetland 33	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

[☑] Denotes incomplete calculation data.

ID: 14

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this wetland based on MnRAM data Functional Category Self-defined classification value settings for this management level

Moderate	Vegetative Diversity/Integrity	Moderate
Moderate	Habitat Structure (wildlife)	Moderate
Not Applicable	Amphibian Habitat	Low
Not Applicable	Fish Habitat	Moderate
Not Applicable	Shoreline Protection	Low
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/-
Moderate	Wetland Water Quality and Vegetative Diversity	-/-
Low	Characteristic Hydrology and Vegetative Diversity	-/-
Moderate	Flood/Stormwater Attenuation*	-
Not Applicable	Commericial use*	-
High	Downstream Water Quality*	-

The critical function that caused this wetland to rank as **Manage 2** was **Vegetative Diversity**

Details of the formula for this action are shown below:

Vegetative Diversity NA

Question Value Description

NA NA NA

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary						Maintenan of Hydrologi	Flood/ ic Stormwater/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	phology				Regime	Attenuation	Quality	Quality	Protection	
Wetland 34	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)						0.60	0.71	0.58	0.00	
						Low	Moderate	High	Moderate	Not Applicable	
								Ac	lditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerc	ial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development		
Wetland 34	0.57	0.00	0.00	2.00	0.0	00	Combination Discharge, Recharge	0.00	0.50	0.58	
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Apr	olicable		Not Applicable	Moderate	Moderate	

venana comi	nunuy Summary	Vegetative Diversity/Integrity									
			Co	ommunity		Individual	Highest	Average	Weighted Average		
Wetland Name	Location	Cowardin Classification	Circula 39	r Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating		
Wetland 34	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.5	0.50	0.50	0.50		
							Moderate	Moderate	Moderate		
					100		0.50	0.50	0.50		

[☑] Denotes incomplete calculation data.

ID: 33

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wo based on MnRAM data		Self-defined classification value settings for this management level		
Low	Vegetative Diversity/Integrity		High	
Moderate	Habitat Structure (wildlife)		High	
Moderate	Amphibian Habitat		Moderate	
High	Fish Habitat		High	
Not Applicable	Shoreline Protection		Moderate	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate	
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ty High/	Moderate	
Moderate	Wetland Water Quality and Vegetative Diversity	High /	Moderate	
Moderate	Characteristic Hydrology and Vegetative Diversity	High /	Moderate	
Moderate	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		High	
High	Downstream Water Quality*		_	

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	0.5	Upland land use
20	0.5	Stormwater runoff
23	0.5	Buffer width
41	0.5	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Netland Functional Assessment Summary							e Flood/ Stormwater/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	ohology				Regime	Attenuation	Quality	Quality	Protection	
Wetland 35	Depressional/Flow-through (apparent inlet and outlet), Depressional/Flow-through (apparent inlet and outlet)						0.50	0.69	0.60	0.00	
						Moderate	Moderate	High	Moderate	Not Applicable	
								Ac	dditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commerci	al Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment	
Wetland 35	0.43	0.73	0.43	2.00	0.00		Combination Discharge, Recharge	0.00	0.10	0.60	
	Moderate	High	Moderate	Exceptional	Not Appli	cable		Not Applicable	Exceptional	Moderate	

veitaria Comm	nanay Sammary			Veget	ative Diversit	ty/Integrity			
			Con	mmunity		Individual	Uich est	Ayaraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 35	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

ID: 34

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Preserve

Functional rank of this wetl based on MnRAM data		Self-defined classification value settings for this management leve			
Moderate	Vegetative Diversity/Integrity		Exceptional		
High	Habitat Structure (wildlife)		Exceptional		
Not Applicable	Amphibian Habitat		High		
Not Applicable	Fish Habitat		Exceptional		
Not Applicable	Shoreline Protection		High		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Exceptional /	High		
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversi	ty Exceptional /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	High		
High	Characteristic Hydrology and Vegetative Diversity	High /	High		
Moderate	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Preserve** was **Wetland Sensitivity to Stormwater and Urban Development & Vegetative Diversity**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity

Question Value Description48 1 Unique/rare educ./cultural/rec.opportunity

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity

^{*} The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

ID: 34

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Wetland Functional Assessment Summary Wetland Name Hydrogeomorphology					Mainten of Hydrol Regii	Flood/ ogic Stormwater/		Maintenance of Wetland Water Quality	Shoreline Protection
Wetland 36	Depressional/Iso	olated (no discernable	inlets or outlets)		0.88	0.65	0.76	0.79	0.00
					High	Moderate	High	High	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	r Stormwater Treatment
Wetland 36	0.77	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.79
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	High

viciuna Comi	nanny Sammary	Vegetative Diversity/Integrity							
			Con	mmunity		7 11 11	TT: 1 .		Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Individual Community Rating	Highest Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 36	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.5	0.50	0.50	0.50
							Moderate	Moderate	Moderate
					100		0.50	0.50	0.50

[☑] Denotes incomplete calculation data.

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cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this wetl based on MnRAM data	· · · · · · · ·	Self-defined classification value ttings for this management leve		
Low	Vegetative Diversity/Integrity	Moderate		
Low	Habitat Structure (wildlife)	Moderate		
Low	Amphibian Habitat	Low		
Moderate	Fish Habitat	Moderate		
Not Applicable	Shoreline Protection	Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate / Low		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	-/ -		
Moderate	Wetland Water Quality and Vegetative Diversity	-/-		
Low	Characteristic Hydrology and Vegetative Diversity	-/-		
Moderate	Flood/Stormwater Attenuation*	-		
Not Applicable	Commericial use*	-		
Moderate	Downstream Water Quality*	-		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Amphibian Habitat**

Details of the formula for this action are shown below:

Maintenance of Characteristic Amphibian Habitat (Q43) * [(Q44 + 2*Q23wildlife + Q14 +Q 41 + Q20 reversed)/6]

Question	Value	Description
14	0.1	Upland land use
20	0.1	Stormwater runoff
23	0.1	Buffer width
41	0.1	Wildlife barriers
43	1	Amphib breeding potentialfish presence
44	0.1	Amphib & reptile overwintering habitat

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Netland Functional Assessment Summary						Maintenar of Hydrolog	Flood/	Downstream Water	Maintenance of Wetland Water	Shoreline	
Wetland Name	Hydrogeomorp	phology				Regim			Quality	Protection Protection	
Wetland 37	Depressional/Flo	ow-through (apparent i	nlet and outlet), Depress	sional/Flow-through ((apparent	0.10	0.56	0.65	0.43	0.00	
						Low	Moderate	Moderate	Moderate	Not Applicable	
								Ac	lditional Infor	rmation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commer	cial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	r Stormwater Treatment	
Wetland 37	0.33	0.43	0.23	2.00	0.	00	Combination Discharge, Recharge	0.00	0.10	0.43	
	Low	Moderate	Low	Exceptional	Not Ap	plicable		Not Applicable	Moderate	Moderate	

venana comi	nanny Sammary				Vegetative Diversit	ty/Integrity			
			Con	mmunity		Individual	Highest	Average	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community	Wetland Rating	Wetland Rating	Average Wetland Rating
Wetland 37	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

ID: 19

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 1

Functional rank of this wet based on MnRAM data		Self-defined classification value settings for this management leve			
Moderate	Vegetative Diversity/Integrity		High		
High	Habitat Structure (wildlife)		High		
Not Applicable	Amphibian Habitat		Moderate		
Not Applicable	Fish Habitat		High		
Not Applicable	Shoreline Protection		Moderate		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	High /	Moderate		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversit	y High /	Moderate		
High	Wetland Water Quality and Vegetative Diversity	High /	Moderate		
High	Characteristic Hydrology and Vegetative Diversity	High /	Moderate		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		High		
High	Downstream Water Quality*		_		

The critical function that caused this wetland to rank as **Manage 1** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Aesthetics/Recreation/Education/Cultural Exceptional for unique or rare opportunity Question Value Description 48 1 Unique/rare educ./cultural/rec.opportunity Maintenance of Characteristic Wildlife Habitat Str Q20)/8 Question Value Description

Question	Value	Description
13	1	Outlet: hydrologic regime
20	0.1	Stormwater runoff
23	1	Buffer width
24	1	Adjacent area Management
25	0.5	Adjacent area diversity

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

ID: 19

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

39	0.5	Detritus
3e	0.5	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	1	Wildlife barriers

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

Wetland Fu	inctional As	sessment S		Mainter of	Flood/	Downstream r/ Water	Maintenance of Wetland		
Wetland Name	Hydrogeomorp	phology			Hydroi Regi	0810		Water Quality	Shoreline Protection
Wetland 38	Depressional/Is	olated (no discernable	inlets or outlets)		0.8	8 0.69	0.75	0.77	0.00
					Hig	h High	High	High	Not Applicable
							Ac	dditional Infor	rmation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	r Stormwater Treatment
Wetland 38	0.77	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.50	0.77
	High	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Moderate	High

venuna Comi	nanny Sammary	Vegetative Diversity/Integrity									
			Со	mmunity		Individual	Highest	Average	Weighted Average		
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating		
Wetland 38	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.5	0.50	0.50	0.50		
							Moderate	Moderate	Moderate		
					100		0.50	0.50	0.50		

[☑] Denotes incomplete calculation data.

ID: 20

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data	etianu	Self-defined classification value settings for this management leve			
Low	Vegetative Diversity/Integrity		Moderate		
Moderate	Habitat Structure (wildlife)		Moderate		
Not Applicable	Amphibian Habitat		Low		
Not Applicable	Fish Habitat		Moderate		
Not Applicable	Shoreline Protection		Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-		
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-		
Low	Characteristic Hydrology and Vegetative Diversity	-/	-		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.34	Adjacent area Management
25	0.34	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 20

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 0.1 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu	Tetland Functional Assessment Summary						Flood/ Stormwater/	Downstream Water	Maintenance of Wetland Water	a	
Wetland Name	Wetland Name Hydrogeomorphology				•	drologic Stormwater Regime Attenuation		Quality	Quality	Shoreline Protection	
Wetland 39	Depressional/Is	olated (no discernable	inlets or outlets)		0.3	0.33 0.67		0.75 0.43		0.00	
					Lo	W	High	High	Moderate	Not Applicable	
								Ad	lditional Infor	mation	
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Grou Wai Intera	ter	Wetland Restoration Potential	Wetland Sensitiv to Stormwater and Urban Development	r Stormwater Treatment	
Wetland 39	0.34	0.00	0.00	2.00	0.00	Combir Discha Rech	arge,	0.00	0.10	0.43	
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable		-	Not Applicable	Moderate	Moderate	

venuna Comi	nanny Sammary	Vegetative Diversity/Integrity								
			Community			Individual	Highest	Average	Weighted Average	
Wetland Name	Location	Cowardin Classification	Circular 39	r Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating	
Wetland 39	62-030-22-19-002	PEMB	Type 2	Fresh (Wet) Meadow	100	0.1	0.10	0.10	0.10	
							Low	Low	Low	
					100		0.10	0.10	0.10	

☑ Denotes incomplete calculation data.

ID: 47

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this we based on MnRAM data		Self-defined classification value ettings for this management leve			
Low	Vegetative Diversity/Integrity		Moderate		
Moderate	Habitat Structure (wildlife)		Moderate		
Low	Amphibian Habitat		Low		
Moderate	Fish Habitat		Moderate		
Not Applicable	Shoreline Protection		Low		
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low		
Moderate	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-		
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-		
Low	Characteristic Hydrology and Vegetative Diversity	-/	-		
High	Flood/Stormwater Attenuation*		-		
Not Applicable	Commericial use*		-		
High	Downstream Water Quality*		-		

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q37+Q38+Q40+Q41+(Q23+Q24+Q2 5)/3+Q13+Q20)/10

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.3	Adjacent area Management
25	0.3	Adjacent area diversity
37	0.5	Vegetation cover interspersion
38	0.1	Community interspersion
39	0.1	Detritus

^{*} The classification value settings for these functions are not adjustable

cker Park Wetland Assessment

ID: 47

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape
41	0.1	Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

	inctional As		Mainten of Hydrol	Flood/ logic Stormwater		Water	Shoreline		
Wetland Name	Hydrogeomor	phology			Regi	me Attenuation	n Quality	Quality	Protection
Netland 40 Depressional/Isolated (no discernable inlets or outlets)					0.33	3 0.74	0.78	0.43	0.00
					Lov	v High	High	Moderate	Not Applicable
							\boldsymbol{A}	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensiti to Stormwate and Urban Development	Stormwater Treatment
Wetland 40	0.33	0.43	0.10	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.43
	Moderate	Moderate	Low	Exceptional	Not Applicable		Not Applicable	Moderate	Moderate

venuna Comm	nunuy Summary				Vegetative Diversit	ty/Integrity			
		Community			Individual	Highest	Average	Weighted Average	
Wetland Name	Location	Cowardin Classification	Circular 39	Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Wetland Rating	Wetland Rating
Wetland 40	62-030-22-19-002	PEMC	Type 3	Shallow Marsh	100	0.1	0.10	0.10	0.10
							Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

ID: 35

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

Based on the MnRAM data input from field and office review and using the classification settings as shown below, this wetland is classified as Manage 2

Functional rank of this wetland based on MnRAM data Functional Category		Self-defined classification value settings for this management level		
Low	Vegetative Diversity/Integrity		Moderate	
Moderate	Habitat Structure (wildlife)		Moderate	
Not Applicable	Amphibian Habitat		Low	
Not Applicable	Fish Habitat		Moderate	
Not Applicable	Shoreline Protection		Low	
Exceptional	Aesthetic/Cultural/Rec/Ed and Habitat	Moderate /	Low	
Exceptional	Stormwater/Urban Sensitivity and Vegetative Diversity	-/	-	
Moderate	Wetland Water Quality and Vegetative Diversity	-/	-	
Moderate	Characteristic Hydrology and Vegetative Diversity	-/	-	
High	Flood/Stormwater Attenuation*		-	
Not Applicable	Commericial use*		-	
High	Downstream Water Quality*		-	

The critical function that caused this wetland to rank as **Manage 2** was **Maintenance of Characteristic Wildlife Habitat Structure**

Details of the formula for this action are shown below:

Maintenance of Characteristic Wildlife Habitat Str (Q3e*2+Q39+Q40+Q41+(Q23+Q24+Q25)/3+Q13+Q20)/8

Question	Value	Description
13	1	Outlet: hydrologic regime
20	1	Stormwater runoff
23	0.1	Buffer width
24	0.45	Adjacent area Management
25	0.3	Adjacent area diversity
39	0.1	Detritus
3e	0.1	<no description="" found=""></no>
40	1	Wetland interspersion/landscape

 $[\]ensuremath{^{*}}$ The classification value settings for these functions are not adjustable

ID: 35

cker Park Wetland Assessment

RAMSEY County Mississippi (Metro) Watershed, #20 Corps Bank Service Area 7

41 0.5 Wildlife barriers

^{*} The classification value settings for these functions are not adjustable

Vetland Fu Wetland Name	unctional As		Summary		Mainten of Hydrol Regii	Flood/ ogic Stormwater		Maintenance of Wetland Water Ouality	Shoreline
wenana Name					8		~ ,	~ .	Protection
Wetland 41	Depressional/Iso	olated (no discernable	inlets or outlets)		0.43	0.74	0.81	0.46	0.00
					Moder	ate High	High	Moderate	Not Applicable
							A	dditional Infor	mation
Wetland Name	Maintenance of Characteristic Wildlife Habitat Structure	Maintenance of Characteristic Fish Habitat	Maintenance of Characteristic Amphibian Habitat	Aesthetics/ Recreation/ Education/ Cultural	Commercial Uses	Ground- Water Interaction	Wetland Restoration Potential	Wetland Sensitiv to Stormwate and Urban Development	Stormwater Treatment
Wetland 41	0.41	0.00	0.00	2.00	0.00	Combination Discharge, Recharge	0.00	0.10	0.46
	Moderate	Not Applicable	Not Applicable	Exceptional	Not Applicable		Not Applicable	Exceptional	Moderate

Wetland Community Summary

venana Com	nanny Sammary			Veget	ative Diversit	ty/Integrity			
			Con	mmunity		Individual	Highest	Avaraga	Weighted
Wetland Name	Location	Cowardin Classification	Circular 39	· Plant Community	Wetland Proportion	Community Rating	Wetland Rating	Average Wetland Rating	Average Wetland Rating
Wetland 41	62-030-22-19-002	PEMA	Type 1	Seasonally Flooded Basin	100	0.1	0.10	0.10	0.10
					•		Low	Low	Low
					100		0.10	0.10	0.10

[☑] Denotes incomplete calculation data.

Monday, August 31, 2020 Page 1 of 1

Appendix C – Wetland Determination Data Forms

nd Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/15/2020
ter Management Organization	State: MN Sampling Point: 1-1w
ow, Bailey Nelson	Section, Township, Range: T30 R22 S19
pe Loc	cal relief (concave, convex, none): Concave
28 Long.: -93.10166266	Datum: UTM NAD 83 ZONE 15N
nd	NWI Classification: None
	Yes (If no, explain in remarks)
	y disturbed? Are "normal
r hydrologynaturally pr	roblematic? circumstances" present? Yes
	
∨ Is the sampler	d area within a wetland?
	alea within a wetiana:
y If was optional	wetland site ID: Wetland 1
ii yes, optionar	welland site idwelland i
e or in a separate report.)	
o or in a coparate . e.g,	
	Secondary Indicators (minimum of two
ed; check all that apply)	required)
Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
Aquatic Fauna (B13)	Drainage Patterns (B10)
Marl Deposits (B15)	Moss Trim Lines (B16)
Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Oxidized Rhizospheres on Liv	
Roots (C3)	Saturation Visible on Aerial Imagery
Presence of Reduced Iron (C	
Recent Iron Reduction in Tille	ed Stunted or Stressed Plants (D1)
Soils (C6)	X Geomorphic Position (D2)
Thin Muck Surface (C7)	Shallow Aquitard (D3)
Other (Explain in Remarks)	X FAC-Neutral Test (D5)
	Microtopographic Relief (D4)
No X Depth (inches):	
No Depth (inches):	
<u> </u>	present? Y
toring well, aerial photos, previous	s inspections), if available:
toring well, aerial photos, previous	s inspections), if available:
toring well, aerial photos, previous	s inspections), if available:
toring well, aerial photos, previous	s inspections), if available:
toring well, aerial photos, previous	s inspections), if available:
toring well, aerial photos, previous	s inspections), if available:
it continued to the continue of the continue o	ter Management Organization by, Bailey Nelson be

VEGETATION - Use scientific names of plants				Sampling Point: 1-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 8 20
1 Quercus rubra Northern Red Oak	20	Y	FACU	Sapling/Shrub Stratum 8 20
2 Quercus ellipsoidalis Northern Pin Oak	20	Y	FACU	Herb Stratum 14 35
3				Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:4(A)
9				Total Number of Dominant
10				Species Across all Strata: 6 (B)
	40	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub Plot Size (15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>66.67%</u> (A/B)
Stratum Flot Size (15 Radius)	% Cover	Species	Status	
1 Rhamnus cathartica European Buckthorn	40	Y	FAC	Prevalence Index Worksheet
2				Total % Cover of:
3				OBL species30 x 1 =30
4				FACW species 10 x 2 = 20
5		· <u> </u>		FAC species 60 x 3 = 180
6		·		FACU species 50 x 4 = 200
7			-	UPL species $0 \times 5 = 0$
8				Column totals 150 (A) 430 (B)
9				Prevalence Index = $B/A = 2.87$
10				
	40	Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
	% Cover	Species	Status	X Dominance test is >50%
1 Bidens cernua Nodding Burr-Marigold	15	<u>Y</u> Y	OBL	X Prevalence index is ≤3.0*
2 Athyrium angustum Northern Lady Fern	10		FAC	Morphological adaptations* (provide
3 Osmunda spectabilis Royal Fern	10	<u>Y</u>	OBL	supporting data in Remarks or on a
4 Hesperis matronalis Mother-of-the-Evening	5	<u>N</u>	FACU	separate sheet)
5 Onoclea sensibilis Sensitive Fern 6 Parthenocissus inserta Thicket-Creeper	<u>5</u>	N	FACW FACU	Problematic hydrophytic vegetation*
6 Parthenocissus inserta Thicket-Creeper 7 Phalaris arundinacea Reed Canary Grass	5	N	FACW	(explain)
8 Carex lacustris Lakebank Sedge	5	N	OBL	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9 Viola sororia Hooded Blue Violet	5	N	FAC	process, and a constant of process.
10 Maianthemum stellatum Starry FALSE Solomon's-Sea	5	N	FAC	Definitions of Vegetation Strata:
11			17.0	John Marie of Togotation Grands
12				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
13				at breast height (DBH), regardless of height.
14				Sapling/shrub - Woody plants less than 3 in. DBH and
15		· <u> </u>		greater than 3.28 ft (1 m) tall.
	70	Total Cover		
	_			Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
Demantics (Include whate numbers have been as a second start)				
Remarks: (Include photo numbers here or on a separate sheet)				
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland Plan	nt List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 1-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Muck 10-14 10YR 2/1 100 Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetla	and Assessment	City/County:	Vadnais Hei	ights/Ramsey	Sampling Date: 06/15/2	:020
Applicant/Owner: Vadnais Lake Area W	ater Managemer	nt Organization	State: N	MN	Sampling Point:	2-1w
Investigator(s): Rebecca Beduhn, Erin Bud			Section,	Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslo	ре	Loc	cal relief (c	concave, co	onvex, none): Concav	e
Slope (%): 3 Lat.: 45.07835		.: -93.10040302	Datu	m: <u>UTM N</u>	IAD 83 ZONE 15N	
Soil Map Unit Name: Blomford loamy fine s				NWI C	lassification: PEM1C	
Are climatic/hydrologic conditions of the site			Yes		explain in remarks)	
	or hydrology	significantly			Are "normal	
Are vegetation , soil ,	or hydrology	naturally pr	roblematic?	?	circumstances" present	? Yes
(If needed, explain any answers in remarks)	1					
SUMMARY OF FINDINGS						
SUMMANT OF FINDINGS						
Hydrophytic vegetation present?	Υ	Is the sampled	d area wit	hin a wetl	and? Y	
Hydric soil present?	<u> </u>					•
Indicators of wetland hydrology present?	<u> </u>	If yes, optional	wetland sit	te ID:	Wetland 2	
Therefore of Worlding Tryanology process.		11 900, 00101	Wolland C.		Wolland 2	-
Remarks: (Explain alternative procedures he	ere or in a separa	ate report.)				
Tromanto. (Explain alternation processes	310 01 111 G COP	ato roporti,				
HYDROLOGY						
				Second	dary Indicators (minimum	of two
Primary Indicators (minimum of one is requi	ired: check all th	at annly)		require		OI LWO
Surface Water (A1)	•	at apply) ained Leaves (B9)		•	rface Soil Cracks (B6)	
High Water Table (A2)		auna (B13)			ainage Patterns (B10)	
X Saturation (A3)	Marl Depo				oss Trim Lines (B16)	
Water Marks (B1)		Sulfide Odor (C1)			y-Season Water Table (C2)	١
Sediment Deposits (B2)					y-Season Water Table (C2) ayfish Burrows (C8)	'
Drift Deposits (B3)	Roots (C3	Rhizospheres on Liv	Virig		, ,	agon.
· · · · · · · · ·		of Reduced Iron (C	`A)		turation Visible on Aerial Im ດາ	lagery
Algal Mat or Crust (B4)		•	,	— (C9		14)
Iron Deposits (B5)		on Reduction in Tille	ed		unted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)				eomorphic Position (D2)	
Imagery (B7)		k Surface (C7)			allow Aquitard (D3)	ļ
Sparsely Vegetated Concave	Other (Exp	plain in Remarks)			.C-Neutral Test (D5)	
Surface (B8)				Mic	crotopographic Relief (D4)	
Field Observations:				$\overline{}$		
Surface water present? Yes	No X	Depth (inches):	١٠		Indicators of	
		Depth (inches):		—	wetland	
· · · · · · · · · · · · · · · · · · ·	NoX No	Depth (inches): Depth (inches):		—		
	NO	Deptil (illicites).		—	hydrology	
(includes capillary fringe)					present? Y	•
Describe recorded data (atream gauge, mai	nitaring well gori	al abotos, provious	- inconcitio	rac) if avai	lahla.	
Describe recorded data (stream gauge, mor	litoring well, acid	al priotos, previous	s inspection	ns), II avaii	iable.	
D						
Remarks:						

GETATION - Use scientific na	ames of plants				Sampling Point: 2-1w
		A In a planta	D		50/20 Thresholds
Tree Stratum Plot Size (30	0' Radius)	Absolute % Cover	Dominant Species	Indicator Status	20% 50% Tree Stratum 0 0
		/0 OOVCI	ореско	Glalus	Sapling/Shrub Stratum 7 18
					Herb Stratum 19 48
			-	-	Woody Vine Stratum 0 0
					Troody this older
					Dominance Test Worksheet
				-	Number of Dominant
-					Species that are OBL,
					FACW, or FAC: 8 (A)
					Total Number of Dominant
					Species Across all Strata: 8 (B)
		0 =	= Total Cover		Percent of Dominant
					Species that are OBL,
pling/Shrub	"	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B
Stratum Plot Size (15	5' Radius)	% Cover	Species	Status	
Salix interior	Sandbar Willow	20	Y	FACW	Prevalence Index Worksheet
Fraxinus pennsylvanica	Green Ash	10	<u> </u>	FACW	Total % Cover of:
Rhamnus cathartica	European Buckthorn	5	N	FAC	OBL species 35 x 1 = 35
Kriairinus catriartica	· · · · · · · · · · · · · · · · · · ·		IN	<u> </u>	
	_ 				· — — — — — — — — — — — — — — — — — — —
					FAC species 15 x 3 = 45
					FACU species 0 x 4 = 0
					UPL species0 x 5 =0
					Column totals <u>130</u> (A) <u>240</u> (B)
					Prevalence Index = B/A = 1.85
					
		35=	= Total Cover		Halanda Ca Vanda Carla Parta
		Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
erb Stratum Plot Size (5	ö' Radius)	% Cover	Species	Status	X Dominance test is >50%
Phalaris arundinacea	Reed Canary Grass	20	Y	FACW	X Prevalence index is ≤3.0*
Typha angustifolia	Narrow-Leaf Cat-Tail	10	<u> </u>	OBL	Morphological adaptations* (provide
Onoclea sensibilis	Sensitive Fern	10	<u> </u>	FACW	supporting data in Remarks or on a
Persicaria sagittata	Arrow-Leaf Tearthumb	10	<u> </u>	OBL	separate sheet)
Fraxinus pennsylvanica	Green Ash	10	<u> </u>	FACW	Problematic hydrophytic vegetation*
Carex lacustris	Lakebank Sedge	10	<u> </u>	OBL	(explain)
Impatiens capensis	Spotted Touch-Me-Not	5	N	FACW	*Indicators of hydric soil and wetland hydrology musi
Equisetum arvense	Field Horsetail	5	N	FAC	present, unless disturbed or problematic
Typha latifolia	Broad-Leaf Cat-Tail	5	N	FAC	
Bidens frondosa	Devil's-Pitchfork	5	N	FACW	Definitions of Vegetation Strata:
Eutrochium maculatum	Spotted Trumpetweed		N	OBL	Dominions of Vogetation Strata.
					Tree - Woody plants 3 in. (7.6 cm) or more in diamet
					at breast height (DBH), regardless of height.
				-	
					Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall.
		95 =	= Total Cover		greater triair 3.20 ft (1 m) tail.
					Herb - All herbaceous (non-woody) plants, regardles
oody Vine	Ol Doding	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30	J' Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
	-	0 =	= Total Cover		present? Y
			- Total Cover		present:
arks: (Include photo numbers her	e or on a separate sheet)				
weed present in the open water por					
р. сести по срем пометри					

SOIL Sampling Point: 2-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Muck 10-14 10YR 2/1 100 Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City	/County: Vadnais Heigh	nts/Ramsey Sampli	ing Date: 06/15/20	20
Applicant/Owner: Vadnais Lake Area Wate	r Management Orga			mpling Point:	3-1w
Investigator(s): Rebecca Beduhn, Erin Budrov	v, Bailey Nelson	Section, T	ownship, Range:	T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope		Local relief (co	ncave, convex, n	one): Concave	;
Slope (%): 5 Lat.: 45.07478583	3 Long.: <u>-93.</u>	10113862 Datum	n: <u>UTM NAD 83 Z</u>		
Soil Map Unit Name: Seelyeville muck			NWI Classificat	tion: PEM1C	
Are climatic/hydrologic conditions of the site type			(If no, explain ir	,	_
Are vegetation, soil, or		significantly disturbed?			
	hydrology	naturally problematic?	circum	stances" present?	Yes
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
Hydrophytic vegetation present?	Y Is th	ne sampled area withi	in a wetland?	Y	
Hydric soil present? Indicators of wetland hydrology present?	Y If ye	es, optional wetland site	e ID:	Wetland 3	_
Remarks: (Explain alternative procedures here	or in a separate repo	ort.)			
HYDROLOGY					
			Secondary Indi	cators (minimum o	of two
Primary Indicators (minimum of one is required	r check all that apply	Λ	required)	catoro (m	// (110
X Surface Water (A1)	Water-Stained Le			il Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B	` ,		atterns (B10)	
X Saturation (A3)	Marl Deposits (B1		Moss Trim I		
Water Marks (B1)	Hydrogen Sulfide			Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizosp		Crayfish Bu		
Drift Deposits (B3)	Roots (C3)			/isible on Aerial Ima	agerv
Algal Mat or Crust (B4)	Presence of Redu	uced Iron (C4)	(C9)		.90.)
Iron Deposits (B5)	Recent Iron Redu	uction in Tilled		Stressed Plants (D1	1)
Inundation Visible on Aerial	Soils (C6)		X Geomorphic		,
Imagery (B7)	Thin Muck Surfac	ce (C7)	Shallow Aqu		
Sparsely Vegetated Concave	Other (Explain in		X FAC-Neutra		
Surface (B8)		•		raphic Relief (D4)	
Field Observations:					
Surface water present? Yes X		th (inches): 1	_	ators of	
Water table present? Yes X		th (inches): 0		tland	
Saturation present? Yes X	NoDep	th (inches): 0		rology	
(includes capillary fringe)			pres	sent? Y	
Describeration of the control of the	district posici shot	· · · · · · · · · · · · · · · · · · ·	· \ 'f = :=ileble:		
Describe recorded data (stream gauge, monito	ring well, aerial priod	os, previous inspection	s), it available:		
Remarks:					
Nemarks.					

EGETATION - Use scientific names of plants				Sampling Point: 3-1w
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	50/20 Thresholds 20% 50%
Tiec ottatum Tiet eize (50 radius)	% Cover	Species	Status	Tree Stratum 0 0 Sapling/Shrub Stratum 17 43
				Herb Stratum 18 46
				Woody Vine Stratum 0 0
				,
				Dominance Test Worksheet
				Number of Dominant
⁷				Species that are OBL,
3				FACW, or FAC:4 (A)
				Total Number of Dominant
)	0	= Total Cover		Species Across all Strata: 4 (B)
		- Total Covel		Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 100.00% (A/E
Stratum Plot Size (15' Radius)	% Cover	Species	Status	
Alnus incana Speckled Alder	40	<u> </u>	FACW	Prevalence Index Worksheet
Cornus alba Red Osier	15	Y	FACW	Total % Cover of:
Salix petiolaris Meadow Willow	10	<u>N</u>	FACW	OBL species 25 x 1 = 25
Rhamnus cathartica European Buckthorn	10	<u>N</u>	FAC	FACW species 120 x 2 = 240
Salix interior Sandbar Willow	5	N	FACW	FAC species 17 x 3 = 51
S Salix discolor Pussy Willow	5	<u>N</u>	FACW	FACU species 15 x 4 = 60
<u></u>				UPL species $0 \times 5 = 0$
3				Column totals 177 (A) 376 (B)
) 				Prevalence Index = B/A = 2.12
'	85	= Total Cover		
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
·	% Cover	Species	Status	X Dominance test is >50%
1 Carex scoparia Pointed Broom Sedge 2 Eleocharis obtusa Blunt Spike-Rush	30 25	<u> </u>	FACW OBL	X Prevalence index is ≤3.0* Morphological adaptations* (provide
Bidens frondosa Devil's-Pitchfork	15	<u>.</u>	FACW	supporting data in Remarks or on a
Parthenocissus inserta Thicket-Creeper	10	N	FACU	separate sheet)
Fragaria virginiana Virginia Strawberry	5	N	FACU	Problematic hydrophytic vegetation*
Rhamnus cathartica European Buckthorn	5 2	N 	FAC FAC	(explain)
Toxicodendron rydbergii Western Poison Ivy		IN	FAC	*Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic
)				be present, unless distarbed or problematic
)				Definitions of Vegetation Strata:
				3
				Tree - Woody plants 3 in. (7.6 cm) or more in diam
3				at breast height (DBH), regardless of height.
				Sapling/shrub - Woody plants less than 3 in. DBH
5	92	= Total Cover		and greater than 3.28 ft (1 m) tall.
				Herb - All herbaceous (non-woody) plants, regardle
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	of size, and woody plants less than 3.28 ft tall.
Stratum Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft
				height.
2				
5 <u></u> 4				Hudronby 4! -
	_			Hydrophytic vegetation
		T 0		present?
	0 :	Total Cover		
	0	= Total Cover		
emarks: (Include photo numbers here or on a separate sheet)	0	= Total Cover		
	0	= Total Cover		
emarks: (Include photo numbers here or on a separate sheet)		= Total Cover		

SOIL Sampling Point: 3-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Sampling D	ate: 06/15/2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Samplir	ng Point: 3-2w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section, Township, Range: T30	R22 S19
Landform (hillslope, terrace, etc.): toeslope	e Lor	al relief (concave, convex, none):	: Concave
Slope (%): 2 Lat.: 45.0676409	Description	Datum: UTM NAD 83 ZONE	∃ 15N
Soil Map Unit Name: Seelyeville muck		NWI Classification:	PEM1Cd
Are climatic/hydrologic conditions of the site ty	pical for this time of the year?	Yes (If no, explain in rem	narks)
	hydrologysignificantly	disturbed? Are "normal	
	hydrology naturally pro		ces" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
SUMMARY OF FINDINGS	<u> </u>		
Hydrophytic vegetation present?	Y Is the sampled	area within a wetland?	Υ
Hydric soil present?	<u>Y</u>		<u> </u>
Indicators of wetland hydrology present?	Y If yes, optional v	vetland site ID: Wetl	and 3
mulcators of wettand rigarology present.		retiding site ib.	and 5
Remarks: (Explain alternative procedures here	e or in a separate report.)		
Tromaino. (Explain altornativo proceda. co	y or in a doparate roperty		
HYDROLOGY			
		Secondary Indicator	co /minimum of two
Driman, Indicators (minimum of ano is require	d shook all that apply)	Secondary Indicator	S (Milliminum or two
Primary Indicators (minimum of one is required		required)	-l (DC)
X Surface Water (A1) X High Water Table (A2)	Water-Stained Leaves (B9)	Surface Soil Cra	
	Aquatic Fauna (B13)	Drainage Pattern	
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines	` '
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Wat	· · ·
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		` '
Drift Deposits (B3)	Roots (C3)		e on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	<u> </u>	
Iron Deposits (B5)	Recent Iron Reduction in Tille	·	
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Pos	
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard	` '
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Tes	
Surface (B8)		Microtopographic	Relief (D4)
Field Observations:			
Surface water present? Yes X	No Depth (inches):	1 Indicators	of
Water table present? Yes X	No Depth (inches):	0 wetland	-
Saturation present? Yes X	No Depth (inches):	0 hydrolog	
(includes capillary fringe)	Deptil (illelles).	Ilydrolog present	=
(Includes capillary minge)		present	· <u> </u>
Describe recorded data (stream gauge, monito	oring well parial photos previous	incrections) if available:	_
Describe recorded data (stream gauge, monito	Jilly Well, aeliai pilotos, pievious	IIISpections), ii available.	
D ₀			
Remarks:			

Tree Statum	EGETATION - Use scientific nam	ies of plants				Sampling Point: 3-2w
True Stratum						50/20 Thresholds
Tree Stratum			Absolute	Dominant	Indicator	
1	Tree Stratum Plot Size (30' F	Radius)				
Heft Stratum	1		70 OOVCI	Орсско	Otatus	
Woody Vine Stratum O O						
Dominance Test Worksheet Number of Dominant Spacies that are OBL, FACW, or FAC: 3 Total Number of Dominant Spacies that are OBL, FACW, or FAC: 3 Total Number of Dominant Spacies that are OBL, FACW, or FAC: 3 Total Number of Dominant Spacies that are OBL, FACW, or FAC: 3 Total Number of Dominant Spacies that are OBL, FACW, or FAC: 5 Total Number of Dominant Spacies that are OBL, FACW, or FAC: 100,00% Stratum Pict Size (15 Radius) Absolute Salix peticaris	2					
Dominance Test Worksheet Number of Commant Species Across all Strata:	3					Woody Vine Stratum 0 0
Sapling/Strub Piot Size (15° Radius)	4					
Sapling/Shrub Pick Size (15° Radius) Salix petiolaris — Meadow Willow Salix discolor — Pussy Willow Salix discolor — Salix discolo	5					Dominance Test Worksheet
Sapling/Shrub						
Sapling/Shrub Pict Size (15' Radius) Salix petiolaris — Meadow Williow 40 Y FACW Salix discolor — Pussy Williow 20 Y FACW Corrus atba — Red Osler 10 N FACW Corrus Cor	<u> </u>					
Sapling Strub	/					Species that are OBL,
Sapling/Shrub Plot Size (15 Radius)	3					FACW, or FAC: 3 (A
Sapiling/Shrub Plot Size (15' Radius) Sapiling/Shrub Plot Size (15' Radius) Sapiling/Shrub Plot Size (15' Radius) Salix peticlaris — Meadow Willow 40 Y FACW Salix discotor — Pussy Willow 20 Y FACW Core Salix discotor — Pussy Willow 20 Y FACW Salix						
Absolute Sapling/Shrub Piot Size (15' Radius) Absolute Species Status Species Species Species Status Species Species Species	·					
Sapling/Shrub Plot Size (15' Radius) Salix petiolaris — Meadow Willow 40 Y FACW Salix discolor — Pussy Willow 20 Y FACW Corrus albe — Red Oster 10 N FACW Corrus albe — Red O						Species Across all Strata: 3 (E
Species that are OBL FACW, or FAC Status Satix petiolaris — Meadow Willow 40 Y FACW Satix petiolaris — Meadow Willow 20 Y FACW Corrus alba — Red Osler 10 N FACW FACW species 70 x 2 = 140 FACW species 70 x 2 =			0	= Total Cover		Percent of Dominant
Saping/Shrub Plot Size (15' Radius) Absolute Satist Sa						
Stratum Plot Size (15 Radius) % Cover Species Status Salix discolor — Pussy Willow 20 Y FACW Cornus alba — Red Osier 10 N FACW OBL species 69 x1 = 69 ———————————————————————————————————	Sanling/Shruh		Absolute	Dominant	Indicator	· ·
Salix petiolaris — Meadow Williow 20 Y FACW Corrus alba — Red Osier 10 N FACW OBJECT Total % Cover of: Total Cover o		Radius)				1 ACVV, 01 1 AC. 100.00% (A
Salix discolor	Stratum		% Cover	Species		
Salix discolor	Salix petiolaris	Meadow Willow	40	Υ	FACW	Prevalence Index Worksheet
Cornus alba	·	Pussy Willow		Y		
	Cornus alba	Rea Usier	10	N	FACW	
	<u> </u>	<u></u>				FACW species 70 x 2 = 140
						UPL species 0 x 5 = 0
Prevalence Index = B/A = 1.56						Column totals 144 (A) 224 (F
Total Cover Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation Species Status Species Species Status Species Species Species Status Species Spec						:
Absolute Absolute Absolute Species Rajid test for hydrophytic vegetation Normal (actors: Rapid test for hydrophytic vegetation N						Prevalence index = B/A = 1.56
Absolute Dominant Indicator Species Status Typha latifolia Broad-Leaf Cat-Tail 60 Y OBL Segitatival patrifolia Broad-Leaf Cat-Tail 5 N FAC Sagittaria latifolia Duck-Potato 5 N OBL Sagittaria latifolia Duck-Potato 5 N OBL Sagittaria latifolia Duck-Potato 5 N OBL Schoenopiectus tabernaemontani Soft-Stem Club-Rush 2 N OBL Schoenopiectus tabernaemontani Soft-Stem Club-Rush 2 N OBL Problematic hydrophytic vegetation* (explain) (explain) Segitation* (provide supporting data in Remarks or on a separate sheet) Schoenopiectus tabernaemontani Soft-Stem Club-Rush 2 N OBL Problematic hydrophytic vegetation* (explain) Segitation* (provide supporting data in Remarks or on a separate sheet) Schoenopiectus tabernaemontani Soft-Stem Club-Rush 2 N OBL Segitation* (provide supporting data in Remarks or on a separate sheet) Sapting/shrub-Woody plants and the state of the problematic hydrophytic vegetation* (explain) Sapting/shrub-Woody plants and the state of the problematic hydrophytic vegetation* (explain) Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater than 3.28 ft (1m) tall. Sapting/shrub-Woody plants less than 3 in. Degreater th						
Absolute Dominant Indicator Species Status St			70	= Total Cover		
Sagittaria latifolia — Duck-Potato 5 N OBL Carex vulpinoidea — Common Fox Sedge 2 N OBL Schoenoplectus tabernaemontani — Soft-Stem Club-Rush 2 N OBL Problematic hydrophytic vegetation* ———————————————————————————————————	Typha latifolia	Broad-Leaf Cat-Tail	% Cover 60	Species Y	Status OBL	X Dominance test is >50% X Prevalence index is ≤3.0*
Carex vulpinoidea — Common Fox Sedge 2 N OBL Schoenoplectus tabemaemontani — Soft-Stem Club-Rush 2 N OBL Geptain)						
Schoenoplectus tabemaemontani — Soft-Stem Club-Rush — — — — — — — — — — — — — — — — — — —						
(explain) Indicators of hydric soil and wetland hydrology or present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regansize, and woody vines greater than 3.28 ft tall. Woody Vine Stratum Plot Size (30' Radius) Absolute Dominant Species Status Absolute Species Status Herb - All herbaceous (non-woody) plants, regansize, and woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Hydrophytic vegetation present? Hydrophytic vegetation present? Y Indicators Status Tree - Woody plants as in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regansize, and woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall.						
"Indicators of hydric soil and wetland hydrology in present, unless disturbed or problematic	Schoenoplectus tabernaemontani	Soft-Stem Club-Rush	2	<u>N</u>	OBL	Problematic hydrophytic vegetation*
						(explain)
present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants 1 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regard size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 height. Hydrophytic vegetation present? Y This data sheet has been adapted to use the 2018 National Wetland Plant List:						*Indicators of hydric soil and wetland hydrology mu
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regan size, and woody plants less than 3.28 ft tall. Woody Vine Stratum Plot Size (30' Radius) Absolute % Cover Species Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regan size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 height. Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) exweed present in the open water portion of the wetland.						
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regansize, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 height. Hydrophytic vegetation present? Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland.		-				,
Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants 1 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height. Sapling/shrub - Woody plants 1 in. D. Egreater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regansize, and woody plants less than 3.28 ft tall. Sapling/shrub - Woody plants 1 is start or Status Fer and woody vines - All woody vines greater than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft tall. Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) skweed present in the open water portion of the wetland.		<u></u>				
Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height.		<u></u>				Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height.	<u> </u>	<u></u>				
at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius) Absolute Dominant Species Status						Tree - Woody plants 3 in. (7.6 cm) or more in diam
Sapling/shrub - Woody plants less than 3 in. DE greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius)						at breast height (DBH), regardless of height.
Woody Vine Stratum Plot Size (30' Radius) Saplingshrub - Woody plants less than 3 in. De greater than 3.28 ft (1 m) tall. Absolute Dominant Indicator Species Status					-	
Woody Vine Stratum Plot Size (30' Radius)						Sapling/shrub - Woody plants less than 3 in. DBH
Woody Vine Stratum Plot Size (30' Radius)						greater than 3.28 ft (1 m) tall.
Woody Vine Stratum Plot Size (30' Radius)			74	Total Cover		
Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius)						
Stratum	Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
woody vines - All woody vines greater than 3.26 height.	PIOLSIZET SU F	Radius)				
### Hydrophytic vegetation present? Total Cover	Stratum		/0 COVEI	Species	Status	Woody vines - All woody vines greater than 3.28 ft
Hydrophytic vegetation present? O = Total Cover Y						height.
Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:		<u></u>	_	_	_	
Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:	-	-				
marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:						
o = Total Cover present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. re: This data sheet has been adapted to use the 2018 National Wetland Plant List:		<u></u>				vegetation
marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:			0	= Total Cover		
ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:						<u> </u>
ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland Plant List:						
te: This data sheet has been adapted to use the 2018 National Wetland Plant List:						
	ckweed present in the open water portio	n of the wetland.				
	te: This data sheet has been adapted to	use the 2018 National Wetland	Plant List			
S Army Corps of Engineers 2018, National Wetland Plant List Version 3.4	S. Army Corps of Engineers 2018. National We					

SOIL Sampling Point: 3-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Coast Prairie Redox (A16) (LRR K, L, R) Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker I	Park Wetland Assessment	t City/County:	Vadnais Heights	s/Ramsey Sam	pling Date: <u>06/15/2</u>	<u>2</u> 020
Applicant/Owner: Vadnais Lal	ke Area Water Manageme	nt Organization	State: MN		Sampling Point:	3-3w
Investigator(s): Rebecca Beduhn	ı, Erin Budrow, Bailey Nels	son	Section, To	wnship, Rang	e: T30 R22 S19	
Landform (hillslope, terrace, etc.):	: toeslope	Loc	al relief (con	icave, convex,	none): Concav	re
Slope (%): 2 Lat.:		g.: -93.09963886	Datum:	UTM NAD 83	3 ZONE 15N	
Soil Map Unit Name: Isanti loamy			<u> </u>	NWI Classific	cation: PSS1C	
Are climatic/hydrologic conditions		time of the year?	Yes	(If no, explain	ı in remarks)	
Are vegetation, soil	, or hydrology	significantly			'normal	
Are vegetation , soil	, or hydrology	naturally pro	oblematic?	circu	ımstances" present	? Yes
(If needed, explain any answers in	n remarks)					
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	Υ	Is the sampled	area within	a wetland?	Y	
Hydric soil present?	<u>'</u> Y	io tilo oumpiou	area with	a wellana.		-
Indicators of wetland hydrology pr	resent? Y	If yes, optional v	wetland site I	ID:	Wetland 3	
	<u></u>	<u> </u>				
Remarks: (Explain alternative pro	cedures here or in a separ	rate report.)				
LIVEROL OCV						
HYDROLOGY					,	
					ndicators (minimum	of two
Primary Indicators (minimum of o	-			required)		
Surface Water (A1)		ained Leaves (B9)			Soil Cracks (B6)	
X High Water Table (A2)		Fauna (B13)			Patterns (B10)	
X Saturation (A3)		osits (B15)			m Lines (B16)	
Water Marks (B1)		n Sulfide Odor (C1)			on Water Table (C2))
Sediment Deposits (B2)		Rhizospheres on Livi	ing		Burrows (C8)	
Drift Deposits (B3)	Roots (C3	•			n Visible on Aerial Im	nagery
Algal Mat or Crust (B4)		e of Reduced Iron (C4		(C9)		
Iron Deposits (B5)		on Reduction in Tilled	d		or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)	•			hic Position (D2)	
Imagery (B7)		ck Surface (C7)			Aquitard (D3)	
Sparsely Vegetated Concave	Other (Ex	xplain in Remarks)			itral Test (D5)	
Surface (B8)				Microtopo	ographic Relief (D4)	
Field Observations:					_	
! ·	'es <u> </u>			- 1	cators of	
•	'es X No	Depth (inches):		- 1	vetland	
	'es X No	Depth (inches):	0	- 1	drology	
(includes capillary fringe)				рі	resent? Y	 -
Describe recorded data (stream g	gauge, monitoring well, aer	ial photos, previous	inspections)), if available:		
Remarks:						

VEGETATION - Use scientific names of plants				Sampling Point: 3-3w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 5 12
1 Quercus rubra Northern Red Oak	10	<u> </u>	FACU	Sapling/Shrub Stratum 13 33
2 Pinus resinosa Red Pine	10	Y	FACU	Herb Stratum 23 59
3 Ulmus americana American Elm	2	N	FACW	Woody Vine Stratum 1 3
4 Betula nigra River Birch	2	N	FACW	
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC: 5 (A)
9				Total Number of Dominant
10				Species Across all Strata: 7 (B)
	24	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 71.43% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	17.6vv, 6117.6. <u>171.4070</u> (77.5)
		•		Drovolonoo Indox Workshoot
1 Alnus incana Speckled Alder	35	<u>Y</u>	FACW	Prevalence Index Worksheet
2 Rhamnus cathartica European Buckthorn		<u>Y</u>	FAC	Total % Cover of:
3 Fraxinus pennsylvanica Green Ash	10	N	FACW	OBL species 37 x 1 = 37
4				FACW species 109 x 2 = 218
5				FAC species <u>40</u> x 3 = <u>120</u>
6				FACU species <u>25</u> x 4 = <u>100</u>
7				UPL species 0 x 5 = 0
8				Column totals 211 (A) 475 (B)
9				Prevalence Index = $B/A = 2.25$
10			-	
	65	= Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Tierb otracum Tiot Size (3 Tradius)	% Cover	Species	Status	X Dominance test is >50%
1 Impatiens capensis Spotted Touch-Me-Not	45	Y	FACW	X Prevalence index is ≤3.0*
2 Osmunda spectabilis Royal Fern	20	Y	OBL	Morphological adaptations* (provide
3 Equisetum arvense Field Horsetail	10	N	FAC	supporting data in Remarks or on a
4 Onoclea sensibilis Sensitive Fern	10	<u>N</u>	FACW	separate sheet)
5	<u>10</u> 5	N	OBL	Problematic hydrophytic vegetation*
	<u>5</u> 5	N	FACW FAC	(explain)
7 Osmunda claytoniana Interrupted Fern 8 Carex stricta Uptight Sedge		N	OBL	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9 Parthenocissus inserta Thicket-Creeper		N	FACU	present, unless disturbed of problematic
·				Definitions of Venetation Courts
10 Carex hystericina Porcupine Sedge	2	<u>N</u>	OBL	Definitions of Vegetation Strata:
1112				T West to the Co. (7.0 m)
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
13				at breast neight (BBH), regardless of neight.
				Sapling/shrub - Woody plants less than 3 in. DBH and
15	117	- Total Cover		greater than 3.28 ft (1 m) tall.
	117	= Total Cover		Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	
1 Vitis riparia River-Bank Grape	5	Y	FAC	Woody vines - All woody vines greater than 3.28 ft in
			TAC	height.
2				
-				
4			-	Hydrophytic
5				vegetation
	5	= Total Cover		present? Y
Demonstration (Implicate wheth worshood began as an experience of the C				
Remarks: (Include photo numbers here or on a separate sheet)				
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland	Plant Liet			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4	i idili List.			
, Selps of Engineers 2010. Hadional Fronting Flaint Elot, Volume 0.7				

SOIL Sampling Point: 3-3w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-8 10YR 2/1 100 Loamy Sand 8-20 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment	City/County:	Vadnais Heights/Rams	sey Sampling Date: 06/15/2	2020
Applicant/Owner: Vadnais Lake Area Wate	r Management	- Organization	State: MN	Sampling Point:	3-4w
Investigator(s): Rebecca Beduhn, Erin Budrov	w, Bailey Nelson	l	Section, Townshi	ip, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	;	Loc	cal relief (concave,	, convex, none): Conca	ve
Slope (%): 2 Lat.: 45.0712337	ô Long.:	-93.09809569		NAD 83 ZONE 15N	
Soil Map Unit Name: Udifluvents			NWI	l Classification: None	
Are climatic/hydrologic conditions of the site ty				o, explain in remarks)	
Are vegetation, soil, or			y disturbed?	Are "normal	
	hydrology	naturally pr	oblematic?	circumstances" present	t? Yes
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
Hydrophytic vegetation present?	Y	Is the sampled	d area within a we	etland? Y	_
Hydric soil present?	Y				_
Indicators of wetland hydrology present?	Y	If yes, optional	wetland site ID:	Wetland 3	
-		-	_		
Remarks: (Explain alternative procedures here	or in a separate	e report.)			
HYDROLOGY					
			Seco	ondary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d; check all that	apply)	requi	ired)	
X Surface Water (A1)		ed Leaves (B9)		Surface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Faur	na (B13)	<u>—</u>	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposit	ts (B15)	<u></u> 1	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sı	ulfide Odor (C1)	<u> </u>	Dry-Season Water Table (C2	2)
Sediment Deposits (B2)	Oxidized Rh	izospheres on Liv	ving(Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)			Saturation Visible on Aerial In	nagery
Algal Mat or Crust (B4)	Presence of	Reduced Iron (C	(4)	(C9)	
Iron Deposits (B5)	Recent Iron	Reduction in Tille	ed	Stunted or Stressed Plants (I	D1)
Inundation Visible on Aerial	Soils (C6)			Geomorphic Position (D2)	
Imagery (B7)	Thin Muck S	Surface (C7)	 ;	Shallow Aquitard (D3)	
Sparsely Vegetated Concave		ain in Remarks)		FAC-Neutral Test (D5)	l
Surface (B8)				Microtopographic Relief (D4)	
<u> </u>	<u></u> .	<u></u> .			
Field Observations:					
Surface water present? Yes X	No	Depth (inches):	: 1	Indicators of	
Water table present? Yes X	No	Depth (inches):	: 0	wetland	
Saturation present? Yes X	No	Depth (inches):	: 0	hydrology	
(includes capillary fringe)		-		present? Y	
					_
Describe recorded data (stream gauge, monito	ring well, aerial	photos, previous	s inspections), if a	vailable:	
Remarks:					

					50/20 Thresholds
Tree Stratum Plot Size (30	n' Radius I	Absolute	Dominant	Indicator	20% 50%
The Stratam That Size (Se	radias)	% Cover	Species	Status	Tree Stratum 0 0
					Sapling/Shrub Stratum 16 40
	<u></u>				Herb Stratum 15 38
					Woody Vine Stratum 1 3
					
					Dominance Test Worksheet
					Number of Dominant
					Species that are OBL,
					FACW, or FAC: <u>12</u> (A)
					Total Number of Dominant
	,				Species Across all Strata:16(B)
		0 =	Total Cover		Percent of Dominant
					Species that are OBL,
apling/Shrub Plot Size (15	5' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>75.00%</u> (A/B
Stratum 1 lot Size (18	radius)	% Cover	Species	Status	
Cornus alba	Red Osier	40	Υ	FACW	Prevalence Index Worksheet
Salix interior	Sandbar Willow	30	Y	FACW	Total % Cover of:
Rhamnus cathartica	European Buckthorn	10	N	FAC	OBL species 15 x 1 = 15
Talamad damarad					FACW species 105 x 2 = 210
					· — — — — — — — — — — — — — — — — — — —
					FACU species 20 x 4 = 80
					UPL species0 x 5 =0
					Column totals <u>160</u> (A) <u>365</u> (B)
	<u></u>				Prevalence Index = B/A = 2.28
		80 =	Total Cover		
					Hydrophytic Vegetation Indicators:
lerb Stratum Plot Size (5	'Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
·	<u>.</u>	% Cover	Species	Status	X Dominance test is >50%
Bidens frondosa	Devil's-Pitchfork	10	<u>Y</u> Y	FACW	X Prevalence index is ≤3.0*
Solidago gigantea	Late Goldenrod Eastern Prickly Gooseberry	5	<u>Y</u> Y	FACU FACU	Morphological adaptations* (provide supporting data in Remarks or on a
Ribes cynosbati Rubus idaeus	Common Red Raspberry	5	<u> </u>	FACU	supporting data in Remarks of on a separate sheet)
Lotus corniculatus	Garden Bird's-Foot-Trefoil	5	<u> </u>	FACU	Problematic hydrophytic vegetation*
Prunella vulgaris	Common Selfheal	5	<u> </u>	FAC	(explain)
Carex vulpinoidea	Common Fox Sedge	5	<u> </u>	OBL	*Indicators of hydric soil and wetland hydrology must
Carex scoparia	Pointed Broom Sedge	5	<u> </u>	FACW	present, unless disturbed or problematic
Impatiens capensis	Spotted Touch-Me-Not	5	<u> </u>	FACW	processit, amone alexanded or productional
Glyceria canadensis	Rattlesnake Manna Grass	5	Y	OBL	Definitions of Vegetation Strata:
Eupatorium perfoliatum	Common Boneset	5		FACW	Definitions of Vegetation Strata.
Parthenocissus inserta	Thicket-Creeper	5		FACU	Two Woody plants 2 in (7.6 cm) or more in diamet
Eleocharis obtusa	Blunt Spike-Rush	5	Y	OBL	Tree - Woody plants 3 in. (7.6 cm) or more in diamet at breast height (DBH), regardless of height.
Eleocharis oblusa	Blufft Spike-Rusti			OBL	at 210act 110.g.tt (2211), 10gard.000 of 110.g.tt.
					Sapling/shrub - Woody plants less than 3 in. DBH at
		75 =	Total Cover		greater than 3.28 ft (1 m) tall.
			- Total Cover		Herb - All herbaceous (non-woody) plants, regardless
Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30	0' Radius)	% Cover	Species	Status	
Vitis riparia	River-Bank Grape	5	Y	FAC	Woody vines - All woody vines greater than 3.28 ft in
Vilis riparia	,			FAC	height.
					
					
					Hydrophytic
					vegetation
		5 =	Total Cover		present? Y
narks: (Include photo numbers here	• • •				
kweed present in the open water por	tion of the wetland.				

SOIL Sampling Point: 3-4w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Loamy Sand 10-20 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	J Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/15/2020	
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Sampling Point: 4-1w	_
Investigator(s): Rebecca Beduhn, Erin Budro		Section, Township, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	e Lor	ocal relief (concave, convex, none): Concave	_
Slope (%): 2 Lat.: 45.0788208		Datum: UTM NAD 83 ZONE 15N	_
Soil Map Unit Name: Chetek sandy loam, 12 t		NWI Classification: PUBG	_
Are climatic/hydrologic conditions of the site ty		Yes (If no, explain in remarks)	_
Are vegetation, soil, or		y disturbed? Are "normal	
Are vegetation , soil , or	hydrology naturally pr	roblematic? circumstances" present? Yes	i
(If needed, explain any answers in remarks)			_
SUMMARY OF FINDINGS			
SUMMANT OF THE INC.			\neg
Hydrophytic vegetation present?	Y Is the sampled	d area within a wetland?	
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID: Wetland 4	
		Totalia site is:	
Remarks: (Explain alternative procedures here	or in a separate report.)	-	\exists
,	,		
HYDROLOGY			
		Secondary Indicators (minimum of two	\neg
Primary Indicators (minimum of one is required	d: check all that apply)	required)	-
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)	-
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	-
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)	-
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)	-
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		-
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery	-
Algal Mat or Crust (B4)	Presence of Reduced Iron (C		-
Iron Deposits (B5)	Recent Iron Reduction in Tille		
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)	-
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	-
	Other (Explain in Remarks)	X FAC-Neutral Test (D5)	ļ
Sparsely Vegetated Concave	Other (Explain in Nemarks)		
Surface (B8)		Microtopographic Relief (D4)	
Field Observations:			-
Surface water present? Yes	No X Depth (inches):	: Indicators of	
Water table present? Yes X	No Depth (inches):		-
Saturation present? Yes X	No Depth (inches):		
(includes capillary fringe)	Dopui (monoc).	present? Y	
(Illiciades capillally lillinge)		present:	
Describe recorded data (stream gauge, monito	oring well serial photos previous	e inenections) if available:	_
Describe recorded data (stream gadge, months	Jilly Well, acital priotos, providad	5 Inspections, ii available.	
Damaria			
Remarks:			

VEGETATION - Use scientific names of plants				Sampling Point: 4-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
, , , , , , , , , , , , , , , , , , , ,	% Cover	Species	Status	Tree Stratum 0 0
1				Sapling/Shrub Stratum 2 5
<u></u>				Herb Stratum 18 45
3				Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6	_			Number of Dominant
7				Species that are OBL,
8	_			FACW, or FAC: (A)
9				Total Number of Dominant
		· <u></u>		Species Across all Strata: 2 (B)
	0 :	Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	(, ,
1 Salix petiolaris Meadow Willow	10	Y		Prevalence Index Worksheet
		<u> </u>	TACV	Total % Cover of:
2				
3				OBL species 20 x 1 = 20
4				FACW species 80 x 2 = 160
5				FAC species0x 3 =0
6	_			FACU species0x 4 =0
7				UPL species0 _ x 5 =0_
8		·		Column totals 100 (A) 180 (B)
9				Prevalence Index = $B/A = 1.80$
10				
	10	Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
1 Phalaris arundinacea Reed Canary Grass	50	Y	FACW	X Prevalence index is ≤3.0*
2 Typha angustifolia Narrow-Leaf Cat-Tail	10	N	OBL	Morphological adaptations* (provide
3 Solidago gigantea Late Goldenrod	10	N	FACW	supporting data in Remarks or on a
4 Onoclea sensibilis Sensitive Fern	10	N	FACW	separate sheet)
5 Lemna minor Common Duckweed	10	N	OBL	Problematic hydrophytic vegetation*
6	_			(explain)
7				*Indicators of hydric soil and wetland hydrology must be
8				present, unless disturbed or problematic
9				
10	_			Definitions of Vegetation Strata:
12				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
	_			at breast height (DBH), regardless of height.
14				Sapling/shrub - Woody plants less than 3 in. DBH and
15	_			greater than 3.28 ft (1 m) tall.
	90 :	Total Cover		
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.20 it tall.
Stratum Flot Size (30 Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2	_			
3				
4	_			Hydrophytic
5				vegetation
	0 :	= Total Cover		present? Y
				· ——
Remarks: (Include photo numbers here or on a separate sheet)				
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland F	Plant List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 4-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetlan	d Assessment City/Count	y: Vadnais Heights/Ramsey	Sampling Date: 06/15/2	.020
Applicant/Owner: Vadnais Lake Area Wat	ter Management Organization	n State: MN	Sampling Point:	5-1w
Investigator(s): Rebecca Beduhn, Erin Budro			, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslop	ie	Local relief (concave, c	convex, none): Concav	e
Slope (%): 1 Lat.: 45.0755646	62 Long.: -93.101578	866 Datum: UTM N	NAD 83 ZONE 15N	
Soil Map Unit Name: Anoka loamy fine sand,			Classification: PSS1B	
Are climatic/hydrologic conditions of the site to		ar? Yes (If no,	explain in remarks)	_
Are vegetation, soil, or		cantly disturbed?	Are "normal	
	r hydrologynatural	lly problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				
CUMMARY OF FINDINGS				
SUMMARY OF FINDINGS	 -			
Hydrophytic vegetation present?	V le the ear.	anled area within a wet	land? Y	
Hydrophytic vegetation present? Hydric soil present?	V IS the same	npled area within a wet	ianu :	•
	1 If you onti	watland aita ID:	Wetland E	
Indicators of wetland hydrology present?	Y if yes, option	onal wetland site ID:	Wetland 5	
Remarks: (Explain alternative procedures here	e or in a senarate report)			
Themains. (Explain alternative procedures here	e or in a separate report.			
		_		
HYDROLOGY				
		Secon	dary Indicators (minimum	of two
Primary Indicators (minimum of one is require	ed: check all that apply)	require		
Surface Water (A1)	Water-Stained Leaves (E	•	urface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (ry-Season Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhizospheres of		rayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iro			3 ,
Iron Deposits (B5)	Recent Iron Reduction in		unted or Stressed Plants (D	01)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)	,
Imagery (B7)	Thin Muck Surface (C7)		nallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remark		AC-Neutral Test (D5)	
Surface (B8)		· —	icrotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes	No X Depth (inch		Indicators of	
Water table present? Yes X	No Depth (inch	hes): 6	wetland	
Saturation present? Yes X	No Depth (inch		hydrology	
(includes capillary fringe)	<u> </u>		present? Y	
Describe recorded data (stream gauge, monit	oring well, aerial photos, pre	vious inspections), if ava	ilable:	
Remarks:				

/EGETATION - Use scientific names of plants				Sampling Point: 5-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 6 15
Quercus rubra Northern Red Oak	10	Y	FACU	Sapling/Shrub Stratum 0 0
Acer negundo Ash-Leaf Maple	10	Y	FAC	Herb Stratum 18 45
Fraxinus pennsylvanica Green Ash	10	Y	FACW	Woody Vine Stratum 0 0
<u></u>				
<u>-</u>				Dominance Test Worksheet
<u></u>				Number of Dominant
-				Species that are OBL,
				FACW, or FAC:3(A)
				Total Number of Dominant
				Species Across all Strata: 4 (B)
	30	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 75.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	17.677, 61.17.6. <u>10.0070</u> (70.5)
	70 00101	Орослос	Otatao	Duranda yana da dan Mantala a 4
<u></u>				Prevalence Index Worksheet
<u></u>				Total % Cover of:
<u></u>				OBL species 10 x 1 = 10
<u></u>				FACW species 80 x 2 = 160
				FAC species 20 x 3 = 60
				FACU species 10 x 4 = 40
				UPL species 0 x 5 = 0
				Column totals 120 (A) 270 (B)
				Prevalence Index = $B/A = 2.25$
)				Prevalence muex – B/A – 2.25
		= Total Cover		
		- Total Covel		Hydrophytic Vegetation Indicators:
	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Bidens frondosa Devil's-Pitchfork	50	Y	FACW	X Prevalence index is ≤3.0*
Solidago gigantea Late Goldenrod	10	N	FACW	
Rhamnus cathartica European Buckthorn	10	N	FAC	Morphological adaptations* (provide
Iris versicolor Harlequin Blueflag	5	N	OBL	supporting data in Remarks or on a
				separate sheet)
Impatiens capensis Spotted Touch-Me-Not		N	FACW	Problematic hydrophytic vegetation*
Onoclea sensibilis Sensitive Fern		<u>N</u>	FACW	(explain)
Cicuta maculata Spotted Water-Hemlock	5	N	OBL	*Indicators of hydric soil and wetland hydrology must be
3				present, unless disturbed or problematic
<u></u>			FAC	
<u></u>				Definitions of Vegetation Strata:
<u></u>				
<u></u>				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
3				at breast height (DBH), regardless of height.
- <u>-</u> -				Sapling/shrub - Woody plants less than 3 in. DBH and
				greater than 3.28 ft (1 m) tall.
	90	= Total Cover		
				Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
<u></u>				height.
				
				Hydrophytic
				Hydrophytic vegetation
	0	= Total Cover		<u> </u>
		- Total Covel		present? Y
marks: (Include photo numbers here or on a separate sheet)				
ckweed present in the open water portion of the wetland.				
ionii oo procent in the open water portion of the wetland.				
ote: This data sheet has been adapted to use the 2018 National Wetland	1 Plant List			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4	Idin Liot.			
Sapa of Engineere Earth. Hadional Fredanti Flant List, Fersion 6.4				

SOIL Sampling Point: 5-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-4 10YR 2/2 100 Muck 4-20 10YR 2/2 100 Loam 20-22 10YR 2/2 100 Peat 22-24 10YR 4/4 100 Sandy Loam 24-30 10YR 6/1 100 Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	J Assessment C	Sity/County:	Vadnais Heig	hts/Ramsey	Sampling Date: 06/15/20	J2 <u>0</u>
Applicant/Owner: Vadnais Lake Area Wate	er Management Or	rganization	State: M	1N	Sampling Point:	5-2w
Investigator(s): Rebecca Beduhn, Erin Budrov			Section, T	Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	÷	Loca	al relief (co	oncave, co	onvex, none): Concave	е
Slope (%): 1 Lat.: 45.0775054	3 Long.: -9	93.10450639	Datun	n: <u>UTM N</u>	AD 83 ZONE 15N	
Soil Map Unit Name: Seelyeville muck				NWI CI	lassification: PEM1C	
Are climatic/hydrologic conditions of the site ty	pical for this time of	of the year?	Yes	(If no, e	explain in remarks)	
	hydrology	significantly	disturbed'	?	Are "normal	
	hydrology	naturally pro	oblematic?	1	circumstances" present?	? Yes
(If needed, explain any answers in remarks)	,	_			•	-
SUMMARY OF FINDINGS						
		31			10 V	
Hydrophytic vegetation present?	Y	s the sampled	area with	iin a wetia	and? Y	
Hydric soil present?	<u>Y</u>					
Indicators of wetland hydrology present?	<u>Y</u> If	fyes, optional w	vetland site	e ID:	Wetland 5	
Remarks: (Explain alternative procedures here	or in a separate re	eport.)				
HYDROLOGY						
T DROLOG I				2:::===	· · · · · · · · · · · · · · · · · · ·	• • •
<u>_</u>					lary Indicators (minimum o	of two
Primary Indicators (minimum of one is required	•	,		required	,	
X Surface Water (A1)	Water-Stained	` '			face Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna				ninage Patterns (B10)	
X Saturation (A3)	Marl Deposits (` '			ss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfi				-Season Water Table (C2)	
Sediment Deposits (B2)		ospheres on Livi	ing		ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)				uration Visible on Aerial Ima	agery
Algal Mat or Crust (B4)	Presence of Re	educed Iron (C4	1)	(C9		
Iron Deposits (B5)		eduction in Tilled	d		nted or Stressed Plants (D	1)
Inundation Visible on Aerial	Soils (C6)			X Geo	omorphic Position (D2)	ļ
Imagery (B7)	Thin Muck Sur	rface (C7)		Sha	allow Aquitard (D3)	ļ
Sparsely Vegetated Concave	Other (Explain	in Remarks)		FAC	C-Neutral Test (D5)	
Surface (B8)	_			Mic	rotopographic Relief (D4)	
Field Observations:						
Surface water present? Yes X		Depth (inches):	2	_ 1	Indicators of	
Water table present? Yes X		Depth (inches):	0	_	wetland	
Saturation present? Yes X	No D	Depth (inches):	0	_	hydrology	
(includes capillary fringe)				_	present? Y	
Describe recorded data (stream gauge, monito	oring well, aerial ph	notos, previous	inspection	ns), if avail	able:	
		<u></u> .				
Remarks:						

GETATION - Use scientific names of plants				Sampling Point: 5-2w 50/20 Thresholds
F 01 1 P 10' (001 P 1')	Absolute	Dominant	Indicator	20% 50%
Free Stratum Plot Size (30' Radius)	% Cover	Species	Status	Tree Stratum 0 0
		-		Sapling/Shrub Stratum 6 15
				Herb Stratum 28 70
				Woody Vine Stratum 0 0
				Woody vine Stratum 0 0
				Desire Testant Island
				Dominance Test Worksheet
				Number of Dominant
				Species that are OBL,
				FACW, or FAC: 5 (A)
				Total Number of Dominant
0				Species Across all Strata: 5 (B)
	0 :	= Total Cover		
		- Total Gover		Percent of Dominant
				Species that are OBL,
apling/Shrub Plot Size (15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/
Stratum Fiot Size (15 Radius)	% Cover	Species	Status	
Ulmus americana American Elm	10	Υ	FACW	Prevalence Index Worksheet
Rhamnus cathartica European Buckthorn	10	<u> </u>	FAC	Total % Cover of:
Cornus alba Red Osier	10	Y	FACW	OBL species <u>116</u> x 1 = <u>116</u>
				FACW species 37 x 2 = 74
				FAC species 17 x 3 = 51
				FACU species 0 x 4 = 0
				· — —
				Column totals <u>170</u> (A) <u>241</u> (B)
				Prevalence Index = B/A =1.42
	30 :	Total Cover		
				Hydrophytic Vegetation Indicators:
Lade Objections Dist Object (ELD address)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Typha latifolia Broad-Leaf Cat-Tail	50	Y	OBL	X Prevalence index is ≤3.0*
Typha angustifolia Narrow-Leaf Cat-Tail	20	<u> </u>	OBL	
Eleocharis obtusa Blunt Spike-Rush	15	N	OBL	Morphological adaptations* (provide
·				supporting data in Remarks or on a
Schoenoplectus tabernaemontani Soft-Stem Club-Rush	10	N	OBL	separate sheet)
Phalaris arundinacea Reed Canary Grass	10	<u>N</u>	FACW	Problematic hydrophytic vegetation*
Sagittaria latifolia Duck-Potato	5	N	OBL	(explain)
Leersia oryzoides Rice Cut Grass	5	N	OBL	*Indicators of hydric soil and wetland hydrology m
Eupatorium perfoliatum Common Boneset	5	N	FACW	be present, unless disturbed or problematic
Onoclea sensibilis Sensitive Fern	5	N	FAC	
				Definitions of Verstation Streets:
Scirpus atrovirens Dark-Green Bulrush	5	N	OBL	Definitions of Vegetation Strata:
Carex scoparia Pointed Broom Sedge	2	N	FACW	Tree Woody plants 2 in /7.6 and a record to dis-
Lycopus americanus Cut-Leaf Water-Horehound	2	N	OBL	Tree - Woody plants 3 in. (7.6 cm) or more in dian
Geum aleppicum Yellow Avens	2	N	FAC	at breast height (DBH), regardless of height.
Carex pellita Woolly Sedge	2	N	OBL	Sapling/shrub - Woody plants less than 3 in. DB
Persicaria sagittata Arrow-Leaf Tearthumb	2	N	OBL	and greater than 3.28 ft (1 m) tall.
		= Total Cover		
		10101 00101		Herb - All herbaceous (non-woody) plants, regard
Voody Vine	Absolute	Dominant	Indicator	of size, and woody plants less than 3.28 ft tall.
Piol Size (30 Radius)	% Cover			
Stratum	/0 COVEI	Species	Status	Woody vines - All woody vines greater than 3.28
				height.
<u></u>				
				Hydrophytic
<u></u>				Hydrophytic
		Tatalo		vegetation
	0	= Total Cover		present? Y
narks: (Include photo numbers here or on a separate sheet)				
kweed present in the open water portion of the wetland.				

SOIL Sampling Point: 5-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-8 10YR 2/1 100 Muck 8-16 10YR 5/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	J Assessment City/Cour	nty: Vadnais Heights/Ramsey	Sampling Date: 06/15/20	020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organizati	tion State: MN	Sampling Point:	5-3w
Investigator(s): Rebecca Beduhn, Erin Budro			, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope		Local relief (concave, o	convex, none): Concave	е
Slope (%): 3 Lat.: 45.073984	Long.: -93.1050	Datum: UTM N	NAD 83 ZONE 15N	
Soil Map Unit Name: Seelyeville muck			Classification: PSS1C	
Are climatic/hydrologic conditions of the site ty			explain in remarks)	
		ficantly disturbed?	Are "normal	
Are vegetation , soil , or	hydrology natur	rally problematic?	circumstances" present?	? Yes
(If needed, explain any answers in remarks)				·
SUMMARY OF FINDINGS				
SUMMART OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sa	ampled area within a wet	land? Y	
Hydric soil present?	<u> </u>	implea area within a	iana: .	•
Indicators of wetland hydrology present?	V If yes or	stional wotland site ID:	Wetland 5	
Indicators of wetland flydrology present:	II yes, op	otional wetland site ID:	W Elianu 5	
Remarks: (Explain alternative procedures here	or in a senarate report)	_	_	
	Of III a separate report.			
HYDROLOGY				
		Secon	dary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d. check all that annly)	require		OI TWO
Surface Water (A1)	Water-Stained Leaves	•	urface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor		ry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres		rayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial Im	ogon/
Algal Mat or Crust (B4)	Presence of Reduced			agery
Iron Deposits (B5)	Recent Iron Reduction	` ′`	unted or Stressed Plants (D	11)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)	')
Imagery (B7)	Thin Muck Surface (C7		nallow Aquitard (D3)	
	Other (Explain in Rema		AC-Neutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)	— Other (Explain in Norma		icrotopographic Relief (D4)	
Surface (Do)		IVII	Crotopographic Reliei (D4)	
Field Observations:	- <u>-</u>			
Surface water present? Yes	No X Depth (in	nches):	Indicators of	
Water table present? Yes X	No Depth (in		wetland	
Saturation present? Yes X	No Depth (in		hydrology	
(includes capillary fringe)		- C	present? Y	
(molades supmary mings)			prosont	•
Describe recorded data (stream gauge, monito	oring well, aerial photos, p	revious inspections), if ava	ailahle:	
	71119 11011, doi.a. p.10101, p.	Tovious mopostastis, it all a	madic.	
Remarks:				
Remarks.				

VEGETATION - Use scientific names of plants				Sampling Point: 5-3w
	^ bookite	Dominant	Indicator	50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute % Cover	Dominant Species	Indicator Status	20% 50% Tree Stratum 4 10
1 Fraxinus pennsylvanica Green Ash	76 COVEI 15	Y	FACW	Sapling/Shrub Stratum 14 35
2 Larix Iaricina American Larch	5	<u>'</u>	FACW	Herb Stratum 20 50
3 American Lateri			TACW	Woody Vine Stratum 0 0
4				vvocay vine chalani
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC: 7 (A)
0				
9				Total Number of Dominant
	20	= Total Cover	•	Species Across all Strata: 7 (B)
		- Total Govel		Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 100.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	FACW, or FAC: <u>100.00%</u> (A/B)
		•		
1 Frangula alnus Glossy FALSE Buckthorn	40	<u>Y</u>	FAC	Prevalence Index Worksheet
2 Salix discolor Pussy Willow	15	<u>Y</u>	FACW	Total % Cover of:
3 Cornus alba Red Osier	10	N	FACW	OBL species
4 Alnus incana Speckled Alder	5	N	FACW_	FACW species 75 x 2 = 150
5				FAC species 40 x 3 = 120
6				FACU species0x 4 =0
7				UPL species0 _ x 5 =0
8				Column totals 190 (A) 345 (B)
9				Prevalence Index = $B/A = 1.82$
	70	Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
	% Cover	Species	Status	X Dominance test is >50%
1 Typha spp Cattails	50 25	<u> </u>	OBL OBL	X Prevalence index is ≤3.0*
2 Carex lacustris Lakebank Sedge				Morphological adaptations* (provide
3 Phalaris arundinacea Reed Canary Grass		<u>Y</u>	FACW	supporting data in Remarks or on a
4 Impatiens capensis Spotted Touch-Me-Not	5	<u>N</u>	FACW	separate sheet)
5				Problematic hydrophytic vegetation*
6				(explain)
8				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
9			•	present, unless disturbed of problematic
			•	Definitions of Vegetation Strata:
11				Definitions of Vegetation Strata:
10				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
10			•	at breast height (DBH), regardless of height.
1314			-	
15				Sapling/shrub - Woody plants less than 3 in. DBH and
10	100	= Total Cover		greater than 3.28 ft (1 m) tall.
		. 510. 5515.		Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1 -				height.
2				
3			•	
4			-	Hydrophytic
5			•	vegetation
	0	= Total Cover		present? Y
Remarks: (Include photo numbers here or on a separate sheet)				•
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland Pla	ant List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 5-3w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-4 10YR 2/2 100 Muck 4-20 10YR 2/2 100 Loam 20-22 10YR 2/2 100 Peat 22-24 10YR 4/4 100 Sandy Loam 24-30 10YR 6/1 100 Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	I Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/15/20	20
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	6-1w
Investigator(s): Rebecca Beduhn, Erin Budrov	w, Bailey Nelson	Section, Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope)	Local relief (concave, co	onvex, none): Concave	;
Slope (%): 1 Lat.: 45.0778303			IAD 83 ZONE 15N	
Soil Map Unit Name: Zimmerman fine sand, 1			Classification: None	
Are climatic/hydrologic conditions of the site ty			explain in remarks)	_
Are vegetation, soil, or		ntly disturbed?	Are "normal	
	hydrologynaturally	problematic?	circumstances" present?	Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Y Is the samp	oled area within a wetl	and? Y	
Hydric soil present? Indicators of wetland hydrology present?	Y If yes, option	nal wetland site ID:	Wetland 6	
indicators of wettand flydrology process.		Idi Welidi id Site ib.	VV Ollai ia O	— I
Remarks: (Explain alternative procedures here	or in a separate report.)			
(=	o			
HYDROLOGY				
		Second	dary Indicators (minimum c	of two
Primary Indicators (minimum of one is required	d; check all that apply)	require		
X Surface Water (A1)	Water-Stained Leaves (B9	· · · · · · · · · · · · · · · · · · ·	rface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)	<i>'</i>	ainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C	1)Dry	y-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on	Living Cra	ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		turation Visible on Aerial Ima	agery
Algal Mat or Crust (B4)	Presence of Reduced Iron	(C9) (C9)	9)	
Iron Deposits (B5)	Recent Iron Reduction in 1	Filled Stu	unted or Stressed Plants (D1	i)
Inundation Visible on Aerial	Soils (C6)	X Ge	eomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks		C-Neutral Test (D5)	
Surface (B8)		Mid	crotopographic Relief (D4)	
Field Observations:	Danilla (in ala	, ,		
Surface water present? Yes X	No Depth (inche		Indicators of	
Water table present? Yes X	No Depth (inche		wetland	
Saturation present? Yes X	No Depth (inche	es):0	hydrology	
(includes capillary fringe)			present? Y	
Describe recorded data (stream gauge, monito	ving well serial photos previ	ous inspections) if avai	ilahla.	
Describe recorded data (stream gadge, memic	Tilly Well, actial priolog, provi	ous mapeonoma, maran	iable.	
Remarks:				

VEGETATION - Use scientific names of plants				Sampling Point: 6-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 4 10
1 Acer rubrum Red Maple	20	<u> </u>	FAC	Sapling/Shrub Stratum 8 20
2				Herb Stratum 16 41
3				Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC: 3 (A)
9				Total Number of Dominant
10				Species Across all Strata: 3 (B)
	20	= Total Cover		·
				Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL,
Stratum Plot Size (15' Radius)	% Cover	Species	Status	FACW, or FAC: <u>100.00%</u> (A/B)
		•		
1 Rhamnus cathartica European Buckthorn	40	Y	FAC	Prevalence Index Worksheet
2				Total % Cover of:
3				OBL species 50 x 1 =50
4				FACW species 5 x 2 = 10
5				FAC species 81 x 3 = 243
6				FACU species 6 x 4 = 24
7				UPL species $0 \times 5 = 0$
8				Column totals <u>142</u> (A) <u>327</u> (B)
9				Prevalence Index = B/A = 2.30
10				
	40	= Total Cover		
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
rielb Stratum Flot Size (5 Radius)	% Cover	Species	Status	X Dominance test is >50%
1 Lemna minor Common Duckweed	50	Y	OBL	X Prevalence index is ≤3.0*
2 Rhamnus cathartica European Buckthorn	10	N	FAC	Morphological adaptations* (provide
3 Viola sororia Hooded Blue Violet	5	N	FAC	supporting data in Remarks or on a
4 Laportea canadensis Canadian Wood-Nettle	5	N	FACW	separate sheet)
5 Ribes cynosbati Eastern Prickly Gooseberry	3	N	FACU	Problematic hydrophytic vegetation*
6 Urtica dioica Stinging Nettle	3	N	FAC	(explain)
7 Parthenocissus inserta Thicket-Creeper	3	N	FACU	*Indicators of hydric soil and wetland hydrology must be
8 Athyrium angustum Northern Lady Fern	3	N	FAC	present, unless disturbed or problematic
9				
10				Definitions of Vegetation Strata:
12				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
13				at breast height (DBH), regardless of height.
14				
15				Sapling/shrub - Woody plants less than 3 in. DBH and
	82	= Total Cover		greater than 3.28 ft (1 m) tall.
	02	- Total Covel		Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	
Stratum	70 COVEI	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
Remarks: (Include photo numbers here or on a separate sheet)				J
Duckweed present in the open water portion of the wetland.				
. ,				
Note: This data sheet has been adapted to use the 2018 National Wetland Pla	nt List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 6-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-3 10YR 2/1 100 Muck 3-8 10YR 2/1 100 Loamy sand 8-14 10YR 5/1 95 10YR 5/8 С 5 Μ Loamy sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment _ City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/15/20)20
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	7-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelson	Section, Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope		ocal relief (concave, co	onvex, none): Concave	•
Slope (%): 0 Lat.: 45.0764401			IAD 83 ZONE 15N	
Soil Map Unit Name: Zimmerman fine sand, 1			lassification: None	
Are climatic/hydrologic conditions of the site ty			explain in remarks)	
Are vegetation, soil, or		ntly disturbed?	Are "normal	
	hydrologynaturally	problematic?	circumstances" present?	Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS		_		
Hydrophytic vegetation present? Hydric soil present?	Y Is the sample	led area within a wetla	and? Y	
Indicators of wetland hydrology present?	Y If yes, optiona	al wetland site ID:	Wetland 7	_
Remarks: (Explain alternative procedures here	l e or in a separate report.)			
(, or ,			
HYDROLOGY				
		Second	dary Indicators (minimum d	of two
Primary Indicators (minimum of one is required	d; check all that apply)	require	d)	
X Surface Water (A1)	Water-Stained Leaves (B9)		rface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		ainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		ss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1	· _ ·	y-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on I		ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		turation Visible on Aerial Ima	agery
Algal Mat or Crust (B4)	Presence of Reduced Iron (` '`		4.
Iron Deposits (B5)	Recent Iron Reduction in Ti		unted or Stressed Plants (Dr	1)
Inundation Visible on Aerial	Soils (C6) This Music Surface (C7)		comorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		C-Neutral Test (D5)	
Surface (B8)			crotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes X	No Depth (inches	s): 2	Indicators of	
Water table present? Yes X	No Depth (inches		wetland	
Saturation present? Yes X	No Depth (inches		hydrology	
(includes capillary fringe)	· ,		present? Y	
Describe recorded data (stream gauge, monito	oring well, aerial photos, previo	ous inspections), if avail	lable:	
Remarks:				

EGETATION - Use scientific names of plants				Sampling Point: 7-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 10 25
Acer saccharum Sugar Maple	20	<u> </u>	FACU	Sapling/Shrub Stratum 6 15
Populus deltoides Eastern Cottonwood	20	Y	FAC	Herb Stratum 2 5
Populus tremuloides Quaking Aspen	10	Υ	FAC	Woody Vine Stratum 0 0
-				Budden Today Island
				Dominance Test Worksheet
 				Number of Dominant
				Species that are OBL,
				FACW, or FAC:5(A)
				Total Number of Dominant
-	50	= Total Cover		Species Across all Strata:6 (B)
		- Total Covel		Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 83.33% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	FACW, or FAC: <u>83.33%</u> (A/B)
		•		B I I. I. W. I. I
Rhamnus cathartica European Buckthorn	30	<u> </u>	<u>FAC</u>	Prevalence Index Worksheet
				Total % Cover of:
				OBL species 5 x 1 = 5
				FACW species 0 x 2 = 0
				FAC species <u>65</u> x 3 = <u>195</u>
<u></u>				FACU species 20 x 4 = 80
				UPL species0x 5 =0
<u></u>				Column totals <u>90</u> (A) <u>280</u> (B)
<u></u>				Prevalence Index = B/A = 3.11
				
	30	= Total Cover		Hudwaybutis Variation Indicators
	Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Osmunda spectabilis Royal Fern	5	Y	OBL	Prevalence index is ≤3.0*
Matteuccia struthiopteris Ostrich Fern	5	Υ	FAC	Morphological adaptations* (provide
				supporting data in Remarks or on a
				separate sheet)
				Problematic hydrophytic vegetation*
				(explain)
				*Indicators of hydric soil and wetland hydrology must be
<u></u>				present, unless disturbed or problematic
<u></u>				
				Definitions of Vegetation Strata:
<u></u>				
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
				Sapling/shrub - Woody plants less than 3 in. DBH and
				greater than 3.28 ft (1 m) tall.
	10	= Total Cover		Herb - All herbaceous (non-woody) plants, regardless o
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	
	70 OOVC1	Орссісз	Otatus	Woody vines - All woody vines greater than 3.28 ft in height.
				neight.
-				
				Hydrophytic
		= Total Cover		vegetation
		= Total Cover		present? Y
marks: (Include photo numbers here or on a separate sheet)				.1
kweed present in the open water portion of the wetland.				
processing and open major person of the metalia.				
te: This data sheet has been adapted to use the 2018 National Wetland	Plant List:			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 7-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-3 10YR 2/1 100 Muck 3-6 10YR 2/1 100 Loamy sand 10YR 5/1 95 10YR 5/8 С 6-12 5 Μ Loamy sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: <u>06/15/20</u>	120
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	8-1w
Investigator(s): Rebecca Beduhn, Erin Budrov			Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	e Lor	cal relief (concave, cor	nvex, none): Concave	;
Slope (%): 6 Lat.: 45.0773026		Datum: UTM NA	AD 83 ZONE 15N	
Soil Map Unit Name: Braham loamy fine sand		NWI Cla	assification: None	
Are climatic/hydrologic conditions of the site ty	· · · · · · · · · · · · · · · · · · ·	Yes (If no, ex	xplain in remarks)	
Are vegetation, soil, or			Are "normal	
Are vegetation, soil, or	hydrology naturally pro	oblematic?	circumstances" present?	Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
OOMINATE OF THE SHOOT				
Hydrophytic vegetation present?	Y Is the sampled	l area within a wetlaı	nd? Y	
Hydric soil present?	<u> </u>			
Indicators of wetland hydrology present?	Y If yes, optional v	wetland site ID:	Wetland 8	
, J	 , , ,			—
Remarks: (Explain alternative procedures here	or in a separate report.)			
` '	,			
HYDROLOGY				
		Seconda	ary Indicators (minimum o	of two
Primary Indicators (minimum of one is required	d; check all that apply)	required		
Surface Water (A1)	Water-Stained Leaves (B9)	• •	ace Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		nage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		s Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		fish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		uration Visible on Aerial Ima	agerv
Algal Mat or Crust (B4)	Presence of Reduced Iron (C			.90.,
Iron Deposits (B5)	Recent Iron Reduction in Tille	<i></i> ` <i></i> ` <i>′</i>	nted or Stressed Plants (D1	1)
Inundation Visible on Aerial	Soils (C6)		morphic Position (D2)	,
Imagery (B7)	Thin Muck Surface (C7)		llow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		C-Neutral Test (D5)	
Surface (B8)			rotopographic Relief (D4)	
ounass (25)			otopog. sp	
Field Observations:				
Surface water present? Yes	No X Depth (inches):		Indicators of	
Water table present? Yes X	No Depth (inches):		wetland	
Saturation present? Yes X	No Depth (inches):		hydrology	
(includes capillary fringe)			present? Y	
(Illiciades capillally fillinge)			present:	
Describe recorded data (stream gauge, monito	oring well aerial photos previous	inspections) if availa	ahle.	
Describe recorded data (stream gaage, memic	Jilly Well, actial priotos, providad	iliopections, il avana	ibie.	
Remarks:				
Remarks.				

Sepling/Shrub Plot Size (15' Radius) Stratum Plot Size (15' Radius) Sepling/Shrub Plot Size (15' Radius Planting/Shrub Plot Size (15'	/EGETATION - Use scientific names of plants				Sampling Point: 8-1w
The Stratum					50/20 Thresholds
Propulse transloides	Tree Stratum Plot Size (30' Padius)	Absolute	Dominant	Indicator	20% 50%
Herb Stratum	Tiee Stratum Flot Size (30 Radius)	% Cover	Species	Status	Tree Stratum 2 5
	1 Populus tremuloides Quaking Aspen	10	Υ	FAC	Sapling/Shrub Stratum 10 25
Woody Vine Stratum Plot Size 30 Radius					Herb Stratum 11 28
Dominance Test Worksheet Number Of Dominant Species that are OBL FACW, CFAC: 9 (A)					
Secretary Secr					
Secretary Secr	 5				Dominance Test Worksheet
7 8 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
Sapling/Strub Stratum Plot Size (15' Radius) Sapling/Strub Find Cover of Column total Size (15' Radius) Sapling/Strub Find Size (15' Radius) Sapling/Strub Find Cover of Column total Size (15' Radius) Sapling/Strub Find Cover of Column total Size (15' Radius) Sapling/Strub Find Cover of Column total Size (15' Radius) Size of Cover of Column total Size (15' Radius) Size of Cover of Column total Size (15' Radius) Size of Cover of Column total Size (15' Radius) Size of Cover of Column total Size (15' Radius) Size of Cover of Co	·				
Sapiling/Shrub					
Sapiling/Shrub	8 <u></u>			-	FACW, or FAC: 9 (A)
Saging/Shrub Plot Size (15' Radius)	9				Total Number of Dominant
Sapling/Shrub Stratum Plot Size (15' Radius) Stratum Plot Size (15' Radius)	0				Species Across all Strata: 11 (B)
Saping/Shrub Plot Size (15' Radius) Secored Dominant Status Salus Status FAC Regional Buckthom S0 Y FAC FAC Secored Status FAC FAC FAC Secored Status FAC		10 :	Total Cover		Percent of Dominant
Saping/Shrub Plot Size (15 Radius) Saping Shrub Stratum Plot Size (15 Radius) Saping Shrub Sa					
Stratum Plot Size (16 readulus) 9, Cover Species Status Rhamnus cathartica	Sapling/Shrub	Absolute	Dominant	Indicator	
Rhamnus cathartica					(715)
Total % Cover of: OBL species 5 x 1 = 5 FACW species 25 x 2 = 50 FACW species 75 x 3 = 225 FACW species 75 x 3 = 26 FACW species 75			•		<u> </u>
OBL species 5 x1 = 5	1 Rhamnus cathartica European Buckthori	<u>n 50</u>	<u> </u>	<u>FAC</u>	
## According to the control of the welfand. ## According to the c	2				Total % Cover of:
FAC species 75 x 3 = 225 FACU species 0 x 5 = 0 OTHIS	3				OBL species $5 \times 1 = 5$
FAC species Total Cover	4				FACW species 25 x 2 = 50
FACU species 10 x 4 = 40 UPL species 0 x 5 = 0 UPL species 0 x 5 =	5				
7 — — — — — — — — — — — — — — — — — — —					· — — — — — — — — — — — — — — — — — — —
8	` <u>-</u>				· — — — — — — — — — — — — — — — — — — —
Prevalence Index = B/A = 2.78 Prevalence Index = B/A = 2.78				-	
Herb Stratum	8				Column totals <u>115</u> (A) <u>320</u> (B)
Herb Stratum Plot Size (5' Radius) Absolute %Cover Species Status Status Status 10 Y FACW Species Status 10 Status 10 Species Status 10 Species Status 10 Species Status 10 Species 10	9				Prevalence Index = B/A = 2.78
Herb Stratum Plot Size (5' Radius)	0				
Herb Stratum Plot Size (5' Radius)		50 :	Total Cover		
Tero Siratum Piol Size (5 Radius) Species Status X Dominance test is >50%; X Prevalence index is ≤3.0°					Hydrophytic Vegetation Indicators:
1 Urtica dioica Stinging Nettle 10 Y FAC Phalaris arundinacea Reed Canary Grass 10 Y FAC Prevalence index is \$3.0^{\circ} Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) uckweed present in the open water portion of the wetland. Vitrica dioica Stinging Nettle 10 Y FAC W FAC W FAC W Separate South of the wetland. Vitrica dioica Stinging Nettle 10 Y FAC W FAC W Separate South of the wetland. Vitrica dioica Reed Canary Grass 10 Y FAC W Separate South of the wetland. Vitrica dioica Reed Canary Grass 10 Y FAC W Separate South of the wetland. Vitrica dioica Reed Canary Grass 10 Y FAC W Supporting data in Remarks or on a separate sheet) Vitrica figure Reed Canary Grass 10 Y FAC W Supporting data in Remarks or on a separate sheet on a separate sheet of the provide supporting data in Remarks or on a separate sheet on a separate sheet or provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a separate sheet or Provide supporting data in Remarks or on a Separate sheet or Provide supporting data in Remarks or on a Separate sheet or Provide supporting data in Remarks or on a Separate sheet) Victoria Networks or Provide State or Provide	Llorb Ctrotum Diet Cine / El Dadius)	Absolute	Dominant	Indicator	
2 Phalaris arundinacea	Herb Stratum Piot Size (5 Radius)	% Cover	Species	Status	X Dominance test is >50%
2 Phalaris arundinacea — Reed Canary Grass 10 Y FACW 3 Impatiens capensis — Spotted Touch-Me-Not 5 Y FACW 4 Parthenocissus inserta — Thicket-Creeper 5 Y FACW 5 Vitis riparia — River-Bank Grape 5 Y FAC 6 Onoclea sensibilis — Sensitive Fern 5 Y FACW 6 Onoclea sensibilis — Sensitive Fern 5 Y FACW 7 Carex scoparia — Pointed Broom Sedge 5 Y FACW 8 Calamagrostis canadensis — Bluejoint 5 Y OBL 9 Cirsium arvense — Canadian Thistie 5 Y FACU 1 Problematic hydrophytic vegetation* (explain) 4 Pack 1 Problematic hydrophytic vegetation* (explain) 4 Problematic hydrophytic hydro	1 Urtica dioica Stinging Nettle	10	Y	FAC	X Prevalence index is ≤3.0*
Impatiens capensis	2 Phalaris arundinacea Reed Canary Grass	s 10	Y	FACW	Morphological adaptations* (provide
4 Parthenocissus inserta — Thicket-Creeper 5 Y FACU 5 Vitis riparia — River-Bank Grape 5 Y FAC 6 Onoclea sensibilis — Sensitive Ferm 5 Y FACW 7 Carex scoparia — Pointed Broom Sedge 5 Y FACW 8 Calamagrostis canadensis — Bluejoint 5 Y OBL 9 Cirsium arvense — Canadian Thistle 5 Y FACU 1			Y	FACW	
Problematic hydrophytic vegetation* Carex scoparia					
6 Onoclea sensibilis — Sensitive Ferm 5 Y FACW Carex scoparia — Pointed Broom Sedge 5 Y OBL 9 Calamagrostis canadensis — Bluejoint 5 Y OBL 9 Cirsium arvense — Canadian Thistle 5 Y FACU 0 FACU 0 — — — — — — — — — — — — — — — — — —					1 — · · · · · · · · · · · · · · · · · ·
Tarex scoparia - Pointed Broom Sedge 5 Y FACW OBL Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic present in disturbed or present in disturbed or present in disturbed or problematic present i					
8 Calamagrostis canadensis — Bluejoint 5 Y OBL 9 Cirsium arvense — Canadian Thistle 5 Y FACU 1 —— —— —— —— —— —— —— —— —— —— —— —— ——			<u> </u>		
9 Cirsium arvense — Canadian Thistle 5 Y FACU 0 — — — — — — — — — — — — — — — — — —			<u> </u>		
Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Absolute % Cover Species Status Mody Vine Stratum Plot Size (30' Radius) The - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present?					present, unless disturbed or problematic
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius)	9 Cirsium arvense Canadian Thistle	5	<u> </u>	FACU	
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Absolute Species Status Plot Size (30' Radius) Secue Species Status Plot Size (30' Radius) Species Status Plot Size (30' Radius	0				Definitions of Vegetation Strata:
at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius)	·				
at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Bominant Stratum Plot Size (30' Radius) Bominant Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Bominant Size (30'	2				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius)	•				at breast height (DBH), regardless of height.
Stratum Plot Size (30' Radius) Woody Vine Stratum Plot Size (30' Radius)					One line with two days and a state in an a line DDI in and
Woody Vine Stratum Plot Size (30' Radius)					
Woody Vine Stratum Plot Size (30' Radius) Absolute % Cover Species Dominant Species Status Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland.	~ 	55 ;	= Total Cover		greater than 5.25 ft (1 m) tan.
Stratum Plot Size (30' Radius)					Herb - All herbaceous (non-woody) plants, regardless of
Stratum Species Status Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation vegetation present? Y Species Status Stratum Stratus S	Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
1					
2 3 Hydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:		70 33131	Оросіос	Otatao	
Hydrophytic vegetation present? emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:	·				neight.
Hydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:					
thydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:	3				
5	4				Hydrophytic
emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:	5				
emarks: (Include photo numbers here or on a separate sheet) uckweed present in the open water portion of the wetland. ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:		0 :	= Total Cover		present? Y
ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:					<u>—</u>
ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:	emarks: (Include photo numbers here or on a separate sheet)				•
ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:					
·					
·					
·	ote: This data sheet has been adapted to use the 2018 National \	Wetland Plant List			
	S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 8-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-6 100 Loamy sand 6-12 10YR 2/2 95 10YR 5/8 С Loamy sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) X Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadn	ais/Sucker Park Wetlar	nd Assessme	nt City/County:	Vadnais H	eights/Ramse	y Sampling Date: <u>06/15/</u>	2020
Applicant/Owner:	Vadnais Lake Area Wa	iter Managem	ent Organization	State:		Sampling Point:	9-1w
Investigator(s): Rebe	ecca Beduhn, Erin Budr	ow, Bailey Ne	lson	Section	, Township	o, Range: T30 R22 S19	
Landform (hillslope, te	errace, etc.): toeslop	oe	Lo	cal relief ((concave, d	convex, none): Conca	ive
Slope (%): 6	Lat.: 45.077509	53 Lon	ng.: -93.09382763	Dat	.um: <u>UTM</u> /	NAD 83 ZONE 15N	
Soil Map Unit Name:					NWI (Classification: None	
Are climatic/hydrologi	c conditions of the site			Yes		explain in remarks)	
Are vegetation		or hydrology	significantly	-		Are "normal	
Are vegetation	, soil , o	or hydrology	naturally pr	roblemation	c?	circumstances" presen	nt? Yes
(If needed, explain any	y answers in remarks)						
SUMMARY OF F	INDINGS						
Hydrophytic vegetatio	in present?		Is the sample	d area w	ithin a wet	tland? Y	
Hydric soil present?	II present:	<u>'</u>	is the sample.	u aita wi	Illiii a wo.	,iaiiu:i	-
Indicators of wetland I	hydrology present?	<u> </u>	If yes, optional	wetland s	site ID:	Wetland 9	
Remarks: (Explain alt	ernative procedures he	re or in a sepa	arate report.)				
	•						
HYDROLOGY			<u></u>				
					Secor	ndary Indicators (minimun	n of two
Primary Indicators (m	inimum of one is require	ed; check all f	that apply)		require		
Surface Water (A1			Stained Leaves (B9)			urface Soil Cracks (B6)	
X High Water Table	,		Fauna (B13)			rainage Patterns (B10)	
X Saturation (A3)	· ,		eposits (B15)			loss Trim Lines (B16)	
Water Marks (B1)			en Sulfide Odor (C1)			ry-Season Water Table (C2	2)
Sediment Deposits	s (B2)		d Rhizospheres on Li			rayfish Burrows (C8)	ĺ
Drift Deposits (B3)		Roots (C	•	5		aturation Visible on Aerial In	magery
Algal Mat or Crust			ce of Reduced Iron (C	C4)		C9)	5. ,
Iron Deposits (B5)			Iron Reduction in Tille			tunted or Stressed Plants (D1)
Inundation Visible		Soils (C		•		eomorphic Position (D2)	,
Imagery (B7)	• • • • • • • • • • • • • • • • • • • •		uck Surface (C7)			hallow Aquitard (D3)	ŀ
Sparsely Vegetated	d Concave		Explain in Remarks)			AC-Neutral Test (D5)	
Surface (B8)	2 00000	`	,			licrotopographic Relief (D4)	,
						, , , , , , , , , , , , , , , , , , ,	′
Field Observations:							
Surface water present	t? Yes	No 2	X Depth (inches)):		Indicators of	
Water table present?	Yes X	_ No	Depth (inches)			wetland	
Saturation present?	Yes X	_ No	Depth (inches)			hydrology	
(includes capillary frin		_ ''`	Берит (шогос)). <u> </u>	—	present? Y	
(Includes capillary init	ge)					present:	_
Describe recorded da	ta (stream gauge, moni	itoring well as	erial nhotos previou	ie inspecti	ione) if av:	ailahla:	
Describe recorded ad	ta (Stream gauge, mon	toring wen, ac	and prioros, previous	is inspect	Olisj, ii ave	illable.	
Demorker							
Remarks:							

EGETATION - Use scientific names of plants				Sampling Point: 9-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
The dilatani	% Cover	Species	Status	Tree Stratum 0 0
1				Sapling/Shrub Stratum 0 0
				Herb Stratum 20 50
				Woody Vine Stratum 0 0
			-	
			•	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)
		= Total Cover		<u></u>
		- Total Covel		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B
Stratum Plot Size (15' Radius)	% Cover	Species	Status	
		·		Prevalence Index Worksheet
				
				Total % Cover of:
				OBL species 0 x 1 =0_
				FACW species 80 x 2 = 160
				FAC species 10 x 3 = 30
				FACU species 10 x 4 = 40
				UPL species $0 \times 5 = 0$
				Column totals 100 (A) 230 (B)
				Prevalence Index = $B/A = 2.30$
				Prevalence index - B/A - 2.30
				
	0	= Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
Phalaris arundinacea Reed Canary	rass 60	Υ	FACW	X Prevalence index is ≤3.0*
Urtica dioica Stinging Nettl	10	N	FAC	Morphological adaptations* (provide
Onoclea sensibilis Sensitive Feri	10	N	FACW	supporting data in Remarks or on a
Solidago gigantea Late Goldenro		N	FACW	separate sheet)
Arctium minus Lesser Burrdo	<u>10</u>	N	FACU	Problematic hydrophytic vegetation*
				(explain)
				*Indicators of hydric soil and wetland hydrology must
				present, unless disturbed or problematic
-			•	
				Definitions of Vegetation Strata:
				Definitions of vegetation strata.
				
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
				One line whether the Wand to allow to be a City DDI and
				Sapling/shrub - Woody plants less than 3 in. DBH an
	100	= Total Cover	-	greater than 3.28 ft (1 m) tall.
	100	- Total Cover		Herb - All herbaceous (non-woody) plants, regardless
Manda Van	A la a a la da	D	La dia atau	size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	5-25, and 1.552, premite 1.552 and 1.552 and 1.552
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
				height.
				
 				Hydrophytic
 				vegetation
 	0	= Total Cover		vegetation
 	0	= Total Cover		
 		= Total Cover		vegetation
marks: (Include photo numbers here or on a separate s		= Total Cover		vegetation
marks: (Include photo numbers here or on a separate s		= Total Cover		vegetation
marks: (Include photo numbers here or on a separate s		= Total Cover		vegetation
 	eet)	= Total Cover		vegetation

SOIL Sampling Point: 9-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetla	nd Assessment	_City/County:	Vadnais He	ights/Ramsey	Sampling Date: 06/15/2	2020
Applicant/Owner: Vadnais Lake Area Wa	ater Management	Organization	State: N	MN	Sampling Point:	10-1w
Investigator(s): Rebecca Beduhn, Erin Budr			Section,	Township,	, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslo	ре	Loc	cal relief (d	concave, c	convex, none): Concav	/e
Slope (%): 3 Lat.: 45.075825	525 Long.:	-93.10177005	Datu	ım: <u>UTM N</u>	NAD 83 ZONE 15N	
Soil Map Unit Name: Anoka loamy fine sand			<u> </u>	NWI C	Classification: None	
Are climatic/hydrologic conditions of the site		ne of the year?	Yes	(If no, e	explain in remarks)	
	or hydrology	significantly			Are "normal	
	or hydrology	naturally pr	oblematic'	?	circumstances" present	? Yes
(If needed, explain any answers in remarks)	=					
SUMMARY OF FINDINGS						
SOMMAN OF FINDINGS						
Hydrophytic vegetation present?	Υ	Is the sampled	d area wit	hin a wetl	land? Y	
Hydric soil present?	Y	-				-
Indicators of wetland hydrology present?	Y	If yes, optional	wetland si	ite ID:	Wetland 10	
		,, -, -, -				
Remarks: (Explain alternative procedures he	re or in a separat	e report.)				
,		- · · · · · · · · · · · · · · · · · · ·				
HYDROLOGY						
				Second	dary Indicators (minimum	of two
Primary Indicators (minimum of one is requir	ed: check all that	annly)		require		OI LIVE
Surface Water (A1)	•	ned Leaves (B9)		•	urface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fau	` ,			rainage Patterns (B10)	
X Saturation (A3)	Marl Deposi				oss Trim Lines (B16)	
Water Marks (B1)		Sulfide Odor (C1)			y-Season Water Table (C2))
Sediment Deposits (B2)		nizospheres on Liv	vina		ayfish Burrows (C8)	<i>'</i>
Drift Deposits (B3)	Roots (C3)	IIZOSPIICICO OII EII	/IIIg		aturation Visible on Aerial Im	nanerv
Algal Mat or Crust (B4)		f Reduced Iron (C	:4)	Sa (C9		layei y
Iron Deposits (B5)		Reduction in Tille	,		unted or Stressed Plants (D	11)
Inundation Visible on Aerial	Soils (C6)	Reduction in Time	;u		eomorphic Position (D2)	, i)
Imagery (B7)		Surface (C7)			nallow Aquitard (D3)	ŀ
					AC-Neutral Test (D5)	ŀ
Sparsely Vegetated Concave	Olliei (Expir	ain in Remarks)			, ,	ŀ
Surface (B8)				IVIIC	crotopographic Relief (D4)	
Field Observations:						
Surface water present? Yes	No X	Depth (inches):			Indicators of	
Water table present? Yes X	NoX_	Depth (inches):		—	wetland	
Saturation present? Yes X	No	_ Depth (inches): Depth (inches):		—	hydrology	
(includes capillary fringe)	_ 140	_ Deptii (iiiciico).		— [l
(includes capillary fringe)					present? Y	-
Describe recorded data (stream gauge, mon	itoring well aerial	nhotoe previous	nenectic	ne) if avai	ilahla:	
Describe recorded data (stream gauge, mon	iloring wen, aenan	priotos, previous	i Irispectio	JNS), II avai	liable.	
D d						
Remarks:						

Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds 20% 50% Tree Stratum 0 0 Sapling/Shrub Stratum 10 25 Herb Stratum 10 25 Woody Vine Stratum 0 0 Dominance Test Worksheet
% Cover	Species		Tree Stratum 0 0 Sapling/Shrub Stratum 10 25 Herb Stratum 10 25 Woody Vine Stratum 0 0
		Status	Sapling/Shrub Stratum 10 25 Herb Stratum 10 25 Woody Vine Stratum 0 0
			Herb Stratum 10 25 Woody Vine Stratum 0 0
			Woody Vine Stratum 0 0
			Woody Vine Stratum 0 0
			,
			Dominance Test Worksheet
			Dominance rest worksheet
			Number of Dominant
			Species that are OBL,
			FACW, or FAC: 8 (A)
			Total Number of Dominant
			Species Across all Strata: 11 (B)
	- Total Cover		<u> </u>
	- Total Covel		Percent of Dominant
			Species that are OBL,
Absolute	Dominant	Indicator	FACW, or FAC: 72.73% (A/B
% Cover	Species	Status	
25	•		Dravalanca Inday Warkshoot
			Prevalence Index Worksheet
<u>rn</u> 25	<u> </u>	<u>FAC</u>	Total % Cover of:
			OBL species 5 x 1 = 5
			FACW species $5 \times 2 = 10$
			<u> </u>
			FACU species15x 4 =60
			UPL species 0 x 5 = 0
		-	Column totals 100 (A) 300 (B)
			Prevalence Index = B/A = 3.00
50=	= Lotal Cover		
			Hydrophytic Vegetation Indicators:
Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
% Cover	Species	Status	X Dominance test is >50%
10	·Y	FAC	X Prevalence index is ≤3.0*
	Y		Morphological adaptations* (provide
	Y		supporting data in Remarks or on a
			separate sheet)
			Problematic hydrophytic vegetation*
			(explain)
	<u> </u>		*Indicators of hydric soil and wetland hydrology must
	Y		present, unless disturbed or problematic
5	<u> </u>	<u>FACU</u>	
			Definitions of Vegetation Strata:
			Tree - Woody plants 3 in. (7.6 cm) or more in diameter
		•	at breast height (DBH), regardless of height.
			at breast height (DBH), regardless of height.
			Sapling/shrub - Woody plants less than 3 in. DBH ar
			greater than 3.28 ft (1 m) tall.
50 =	= Total Cover		
			Herb - All herbaceous (non-woody) plants, regardless
Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
70 COVEI	Opecies	Status	Woody vines - All woody vines greater than 3.28 ft in
			height.
			Ukralnombratio
			Hydrophytic
			vegetation
0 :	= Total Cover		present? Y
0	= Total Cover		present? Y
0 ::	= Total Cover		present? Y
0	= Total Cover		present? Y
0	= Total Cover		present? Y
0	= Total Cover		present? Y
0 :	= Total Cover		present? Y
	Absolute % Cover 25 m 25 Modes Absolute % Cover 10 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 7 5 7	Absolute % Cover Species 25	Absolute % Cover Dominant Species Indicator Status 25 Y FAC m 25 Y FAC 50 = Total Cover Absolute % Cover 10 Dominant Species Status Status FAC 5 Y FAC 5 Y FACU 5 Y FACW 5 Y FAC 5 Y FACU 5 Y <td< td=""></td<>

SOIL Sampling Point: 10-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-6 10YR 2/1 100 Loamy Sand 6-12 10YR 5/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County:	Vadnais Heights/Ramsey	3ampling Date: 06/15/2	.020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	11-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelson	Section, Township, R		
Landform (hillslope, terrace, etc.): toeslope	Lor	cal relief (concave, con	ivex, none): Concav	e
Slope (%): 3 Lat.: 45.0731996		Datum: UTM NAI	D 83 ZONE 15N	
Soil Map Unit Name: <u>Urban land-Zimmerman</u>		NWI Clas	ssification: None	
Are climatic/hydrologic conditions of the site ty		Yes (If no, exp	plain in remarks)	
Are vegetation, soil, or			Are "normal	
Are vegetation, soil, or	hydrology naturally pr	oblematic? c	circumstances" present	? Yes
(If needed, explain any answers in remarks)				_
SUMMARY OF FINDINGS				
SUMMART OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sampled	l area within a wetlan	nd? Y	ļ
Hydric soil present?	<u>Y</u>			'
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID:	Wetland 11	ļ
				
Remarks: (Explain alternative procedures here	or in a separate report.)			
,	,			ļ
				ļ
				ļ
HYDROLOGY				
		Seconda	ry Indicators (minimum	of two
Primary Indicators (minimum of one is required	d: check all that apply)	required)	-	01 10
Surface Water (A1)	Water-Stained Leaves (B9)	. ,	ace Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		nage Patterns (B10)	ļ
X Saturation (A3)	Marl Deposits (B15)		s Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Season Water Table (C2)	,
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		fish Burrows (C8)	,
Drift Deposits (B3)	Roots (C3)		ration Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C		allon visible on Acria, in	agery
Iron Deposits (B5)	Recent Iron Reduction in Tille	<i></i> ` <i></i> ` <i></i>	ted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)		morphic Position (D2)	''
Imagery (B7)	Thin Muck Surface (C7)		ow Aquitard (D3)	ļ
Sparsely Vegetated Concave	Other (Explain in Remarks)		-Neutral Test (D5)	ļ
Surface (B8)	Otrici (Explain in Nomano,		otopographic Relief (D4)	
Surface (Do)		IVIIGIO	Mobodiabilic Velici (D-1)	
Field Observations:				
Surface water present? Yes	No X Depth (inches):		Indicators of	
Water table present? Yes X	No Depth (inches):		wetland	
Saturation present? Yes X	No Depth (inches):		hydrology	
(includes capillary fringe)	Deptil (iliches).			
(includes capillary fringe)			present? Y	•
Describe recorded data (stream gauge, monito	oring well periol photos previous	inchections) if availal	blo	
Describe recorded data (stream gauge, monito	aring well, aerial priolos, previous	inspections), ii avaiiai	Jie.	
D				
Remarks:				

				50/20 Thresholds
Free Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
riot Size (30 Madius)	% Cover	Species	Status	Tree Stratum 0 0
				Sapling/Shrub Stratum 8 20
				Herb Stratum 13 33
				Woody Vine Stratum 0 0
				•
				Dominance Test Worksheet
				Number of Dominant
				Species that are OBL,
				FACW, or FAC: 12 (A)
				, , ,
<u></u>				Total Number of Dominant
				Species Across all Strata: 13 (B)
	0 =	Total Cover		Percent of Dominant
				Species that are OBL,
apling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 92.31% (A/B
Stratum Plot Size (15' Radius)	% Cover	Species	Status	, `
Rhamnus cathartica European Buckthorn	40	Y	FAC	Prevalence Index Worksheet
Kriaminus camanica European Buckmoni	40		FAC	
<u></u>				Total % Cover of:
-				OBL species 20 x 1 = 20
				FACW species 15 x 2 = 30
				FAC species 65 x 3 = 195
				FACU species 5 x 4 = 20
				UPL species 0 x 5 = 0
				Column totals <u>105</u> (A) <u>265</u> (B)
<u></u>				Prevalence Index = B/A =2.52
	40 =	Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
r lot Size (3 radius)	% Cover	Species	Status	X Dominance test is >50%
Rhamnus cathartica European Buckthorn	10	Υ	FAC	X Prevalence index is ≤3.0*
Parthenocissus inserta Thicket-Creeper	5	Y	FACU	Morphological adaptations* (provide
Impatiens capensis Spotted Touch-Me-Not	5	Y	FACW	supporting data in Remarks or on a
Onoclea sensibilis Sensitive Fern	5	Υ	FACW	separate sheet)
Osmunda claytoniana Interrupted Fern	5	Y	FAC	Problematic hydrophytic vegetation*
Osmunda spectabilis Royal Fern	5	Y	OBL	(explain)
Solanum dulcamara Climbing Nightshade	5	Y	FAC	*Indicators of hydric soil and wetland hydrology must
Laportea canadensis Canadian Wood-Nettle	5	Y	FACW	present, unless disturbed or problematic
Potentilla norvegica Norwegian Cinquefoil	5		FAC	
				Definitions of Variation Strate:
Iris versicolor Harlequin Blueflag	5	<u> </u>	OBL	Definitions of Vegetation Strata:
Bidens cernua Nodding Burr-Marigold	5	<u> </u>	OBL	
Carex stricta Uptight Sedge	5	Y	OBL	Tree - Woody plants 3 in. (7.6 cm) or more in diameter
-				at breast height (DBH), regardless of height.
				Sapling/shrub - Woody plants less than 3 in. DBH ar
-				greater than 3.28 ft (1 m) tall.
	65 =	Total Cover		groater triain 0.20 it (1 iii) taiii
				Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	l
Citatani	70 00001	Орсою	Otatao	Woody vines - All woody vines greater than 3.28 ft in
				height.
<u>-</u>				
				Hydrophytic
-				vegetation
	0 =	Total Cover		present? Y
narks: (Include photo numbers here or on a separate sheet)				
kweed present in the open water portion of the wetland.				
rweed present in the open water portion of the wettand.				

SOIL Sampling Point: 11-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Loamy Sand 10-16 10YR 5/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: vadnais/Sucker Park Wetian	u Assessmer	nt City/County:	Vadnais I	Heights/Ramsey	Sampling Date: 06/15/2	:020
Applicant/Owner: Vadnais Lake Area Wat	er Managem	ent Organization	State:	MN	Sampling Point:	12-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Ne	Ison	Section	n, Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	е	Loc	cal relief	(concave, co	onvex, none): Concav	re
Slope (%): 2 Lat.: 45.0727807	'8 Lon	g.: -93.0955324	Da	tum: UTM N	AD 83 ZONE 15N	
Soil Map Unit Name: Mahtomedi loamy sand,				NWIC	lassification: None	
Are climatic/hydrologic conditions of the site ty	pical for this	time of the year?	Ye	s (If no, e	explain in remarks)	
Are vegetation, soil, or	•	significantly	disturb	ed?	Are "normal	
	hydrology	naturally pr			circumstances" present	? Yes
(If needed, explain any answers in remarks)	, ,				·	-
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	Υ	Is the sampled	d area w	ithin a wetla	and? Y	
Hydric soil present?		•				-
Indicators of wetland hydrology present?		If yes, optional	wetland	site ID:	Wetland 12	
indicators of Wolland Hydrology procont.	<u> </u>	ii yoo, optionai	Wolland		Wottana 12	
Remarks: (Explain alternative procedures here	e or in a sepa	arate report.)				
(p p		, ,				
HYDROLOGY						
				Second	dary Indicators (minimum	of two
Primary Indicators (minimum of one is require	d: check all t	hat annly)		require	•	0. 10
X Surface Water (A1)		tained Leaves (B9)		•	face Soil Cracks (B6)	
X High Water Table (A2)		Fauna (B13)			ainage Patterns (B10)	
X Saturation (A3)		oosits (B15)			ss Trim Lines (B16)	
Water Marks (B1)		n Sulfide Odor (C1)			-Season Water Table (C2	`
Sediment Deposits (B2)		Rhizospheres on Liv	ina		ayfish Burrows (C8)	,
Drift Deposits (B3)	Roots (C	•	virig			
Algal Mat or Crust (B4)		e of Reduced Iron (C	·4)	Sai	curation Visible on Aerial Im	lagery
Iron Deposits (B5)					on Inted or Stressed Plants (D	11)
· · · · · · ·		ron Reduction in Tille	ea		•	71)
Inundation Visible on Aerial	Soils (Co				omorphic Position (D2)	
Imagery (B7)		ck Surface (C7)			allow Aquitard (D3)	
Sparsely Vegetated Concave	Other (E	xplain in Remarks)			C-Neutral Test (D5)	
Surface (B8)				IMIC	crotopographic Relief (D4)	
Field Observations:				1		
	No	Donth (inches)	. 2		Indicators of	
	No	Depth (inches):			Indicators of	
Water table present? Yes X	No	Depth (inches):			wetland	
Saturation present? Yes X	No	Depth (inches):	:0		hydrology	
(includes capillary fringe)					present? Y	_
Describe recorded data (atracas acuse monit	مع العديد عادة	rial madada manaria.		tions) if avai	labla	
Describe recorded data (stream gauge, monit	oring well, ae	eriai priotos, previous	sinspeci	tions), ir avai	lable:	
Domarko						
Remarks:						

Absolute	/EGETATION - Use scientific names of plants				Sampling Point: 12-1w
Tree Stratum					50/20 Thresholds
1	Tree Stratum Plot Size (30' Radius)				
Herb Stratum		% CUV€i	Species	Status	
Woody Vine Stratum Plot Size 30 Radius Protections Sapillar Stratum Plot Size 10 Radius Provincing Sapillar Stratum Plot Size Sapillar S				-	p - 5
Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC:					
Absolute Sapling/Shrub Plot Size (15 Radius) Absolute Signatur Species Stratus Species Signatur Species Species Species Signatur Species Species Species Signatur Species Species Species Species Signatur Species Spec					Woody vino ottatam
Absolute Sapling/Shrub Plot Size (15 Radius) Absolute Signatur Species Stratus Species Signatur Species Species Species Signatur Species Species Species Signatur Species Species Species Species Signatur Species Spec					Dominance Test Worksheet
Septises that are OBL, FACW, or FAC: 5 (A)					
	·				
Sapling/Shrub Piot Size (15° Radius)					· ·
Sapling/Shrub Stratum Plot Size (15' Radius) Salix interior - Sandbar Willow Rhammus carbaritica - European Buckthorn Alsoute Alsoute Alinus incens - Speckled Alcier - Sandbar Willow Alinus incens - Speckled Alcier - Sandbar Willow - Speckled Alcier - Speckled A					Total Number of Dominant
Sapling/Shrub Plot Size (15' Radius) Salix interior - Sandbar Willow 10 Y FACW or F					
Saping/Shrub Pick Size (15 Radius)		0	Total Cover		Percent of Dominant
Stratum Flot size 1					Species that are OBL,
Status Species Specie					FACW, or FAC: <u>100.00%</u> (A/B)
Rhamnus cathartica	Stratum	% Cover	Species	Status	
Almus incanae — Speckled Alder — 10 Y FACW — FACW — FACW Species 50 x 2 = 100 — FACW species 50 x 3 = 30 — FACU species 10 x 4 = 40 — FACW Species 10 x 4 = 40 — FACW — FACW Species 10 x 4 = 40 — FACW — FACW Species 10 x 4 = 40 — FACW	Salix interior Sandbar Willow	10		FACW	Prevalence Index Worksheet
FACW species 10 x 3 = 30 FACU species 10 x 3 = 30 UPL species 0 x 5 = 0 Column totals 14 40 (A) 240 (B) Prevalence Index = B/A = 1.71 Herb Stratum Plot Size (5' Radius) Absolute 7 yr ACW Facultification - Read-Leaf Cet-Tail 40 Facultification - Read-Leaf Rea	. Rhamnus cathartica European Bucktho	orn 10	Y	FAC	Total % Cover of:
FAC species 10 x 4 = 40 FAC species 10 x 4 = 40 UPL species 0 x 5 = 0 UPL species 10 x 4 = 40 UPL species 0 x 5 = 0 Column totals 140 (A) 240 (B) Prevalence Index = B/A = 1.71 Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 5 Species 5 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 5 Species 5 Status Facility to Species 6 Species 6 Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 6 Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 7 Status Typhs latifolia - Broad-Leaf Cat-Tail 40 Facility to Species 5 N OBL 50 Facility to Species 7 Species 7 Species 80 Facility to Species 7 Species 80 Facility to Species 7 Species 80 Facility to S	3 Alnus incana Speckled Alder	10	Y	FACW	OBL species70x 1 =70
FACU species 0 x 5 = 0 UPL species 0 x 5 = 0					FACW species 50 x 2 = 100
UPL species D x5 = D Column totals 140 (A) 240 (B)					FAC species 10 x 3 = 30
Column totals 140 (A) 240 (B)					FACU species 10 x 4 = 40
Prevalence Index = B/A = 1.71					UPL species 0 x 5 = 0
Herb Stratum Plot Size (5' Radius)					Column totals 140 (A) 240 (B)
Herb Stratum Plot Size (5' Radius)					
Herb Stratum Plot Size (5' Radius) Typha latifolia — Broad-Leaf Cat-Tail 40 Y FACW Phalaris arundinacea — Reed Canary Grass 20 Y FACW Salix interior — Sandhar Willow 10 N FACW Bidens cermua — Nodding Burr-Marigold 5 N OBL Carex lacustris — Lakebank Sedge 5 N OBL Partitenocissus inserta — Thicket-Creeper 5 N FACU Partitenocissus inserta — Thicket-Creeper 5 N OBL Carex Nystericina — Prozujine Sedge 5 N OBL Carex Nystericina — Virginia Blueflag 5 N OBL Carex Nystericina — Prozujine Sedge 5 N OBL Carex Nystericina — Prozujine Sedge 5 N OBL Carex Nystericina — Virginia Blueflag 5 N OBL Carex Nystericina — Virginia Blueflag 5 N OBL Carex Nystericina — Prozujine Sedge 5 N OBL C					
Absolute Dominant Indicator Status Plot Size (5' Radius)	·	30	= Total Cover	_	
Typha latifolia		^ hookuto	Deminant	lliaatar	
1 Typha latifolia — Broad-Leaf Cat-Tall 40 Y OBL 2 Phalaris arundinacea — Reed Canary Grass 20 Y FACW 3 Salix interior — Sandbar Willow 10 N FACW 4 Bidens cernua — Nodding Burr-Marigold 5 N OBL 5 Asclepias incarnata — Swamp Milkweed 5 N OBL 6 Carex lacustris — Lekebank Sedge 5 N OBL 7 Geranium maculatum — Spotted Crane's-Bill 5 N FACU 8 Persicaria sagifitata — Arrow-Leaf Fearthumb 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Porcupine Sedge 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 2 N OBL 1 Iris virginica — Virginia Blueflag 5 N OBL 2 N OBL 2 N OBL 2 N OBL 2 N OBL 3 N OBL 2 N OBL 3 N OBL 4 N OBL 3 N OBL 4 N OBL 4 N OBL 5 N	Herb Stratum Plot Size (5' Radius)				
Phalaris arundinacea — Reed Canary Grass 20 Y FACW Salix interior — Sandbar Willow 10 N FACW supporting data in Remarks or on a separate sheet) Bidens cemua — Nodding Burr-Marigold 5 N OBL Selection Stratum Plot Size (30' Radius) Woody Vine Stratum Plot Size (30' Radius) Woody Vine Stratum Plot Size (30' Radius) Woody Vine Stratum Plot Size (30' Radius) Temporary Selection Stratus Selection Stratus Selection Stratus Strat	1 Typha latifolia Broad-Leaf Cat-Ta				
Salix interior - Sandbar Willow 10 N FACW Bidens cernual - Nodding Burr-Marigold 5 N OBL Asclepias incarnata - Swamp Milkweed 5 N OBL Carex lacustris - Lakebank Sedge 5 N OBL Problematic hydrophytic vegetation* Geranium maculatum - Spotted Crane's Bill 5 N FACU Parthenocissus inserta - Thicket-Creper 5 N FACU Persicaria sagittata - Arrow-Leaf Tearthumb 5 N OBL Carex hystericina - Porcupine Sedge 5 N OBL Iris virginica - Virginia Blueflag 5 N OBL Iris virginica - Virginia Blueflag 5 N OBL Tree - Woody plants in (7.6 cm) or more in diameter at breast height (DBH), regardless of size, and woody plants less than 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of size, and woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Woody Vine Plot Size (30' Radius) Woody Vine Stratum Plot on umbers here or on a separate sheet)			Y		
Bidens cernua — Nodding Burr-Marigold 5 N OBL Asclepias incarnata — Swamp Milkweed 5 N OBL Geranium maculatum — Spotted Crane's-Bill 5 N FACU (explain) Parthenocissus inserta — Thicket-Creeper 5 N FACU Deprivation of the wetland by the problematic by desirable of the wetland	Salix interior Sandbar Willow	10	N	FACW	
Carex lacustris Lakebank Sedge 5	Bidens cernua Nodding Burr-Mari	igold 5	N	OBL	
Geranium maculatum — Spotted Crane's-Bill 5	Asclepias incarnata Swamp Milkweed	5	N	OBL	Problematic hydrophytic vegetation*
Parthenocissus inserta — Thicket-Creeper 5 N GACU Persicaria sagittata — Arrow-Leaf Tearthumb 5 N OBL Carex hystericina — Porcupine Sedge 5 N OBL Iris virginica — Virginia Blueflag 5 N OBL ———————————————————————————————————			N		(explain)
Persicaria sagittata Arrow-Leaf Tearthumb 5 N OBL Carex hystericina Porcupine Sedge 5 N OBL Iris virginica Virginia Blueflag 5 N OBL					*Indicators of hydric soil and wetland hydrology must be
Carex hystericina — Porcupine Sedge 5 N OBL Iris virginica — Virginia Blueflag 5 N OBL — Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum Plot Size (30' Radius)	·				present, unless disturbed or problematic
Iris virginica — Virginia Blueflag 5 N OBL Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius) Absolute Stratum Plot Size (30' Radius) Species Status Woody vine Stratus Plot Size (30' Radius) Woody vines - All woody vines greater than 3.28 ft in height. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Y Pmarks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland.					
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius) Absolute Dominant Status Plot Size (30' Radius) Cover Species Status Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Y Hydrophytic vegetation present? Y Hydrophytic vegetation present? Y Herb - All herbaceous (non-woody) plants, regardless of size, and woody vines greater than 3.28 ft in height.					Definitions of Vegetation Strata:
at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum Plot Size (30' Radius) Absolute % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland.		5	N	OBL	Total Manda district Office (7.0 cm) and an in district of
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Woody Vine Stratum Plot Size (30' Radius)				•	
Woody Vine Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius)					
Woody Vine Stratum Plot Size (30' Radius)					Sapling/shrub - Woody plants less than 3 in. DBH and
Woody Vine Stratum Plot Size (30' Radius)		110	= Total Cover		greater than 3.26 ft (1 fff) tall.
Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius) Stratum Plot Size (30' Radius) Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation vegetation present? Y Imiticator Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? Y Imiticator Species Status Woody vines - All woody vines greater than 3.28 ft in height.					Herb - All herbaceous (non-woody) plants, regardless of
Stratum		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
height. height. height. height. Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ackweed present in the open water portion of the wetland. height. Hydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) ackweed present in the open water portion of the wetland.	Stratum Plot Size (30 Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
Hydrophytic vegetation present? Y emarks: (Include photo numbers here or on a separate sheet) inckweed present in the open water portion of the wetland. Include the control of the wetland of the wetl					1
Hydrophytic vegetation present? Y marks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. Ite: This data sheet has been adapted to use the 2018 National Wetland Plant List:					
wegetation o = Total Cover remarks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. whee: This data sheet has been adapted to use the 2018 National Wetland Plant List:	3				
remarks: (Include photo numbers here or on a separate sheet) seckweed present in the open water portion of the wetland. This data sheet has been adapted to use the 2018 National Wetland Plant List:	4 <u></u>				Hydrophytic
emarks: (Include photo numbers here or on a separate sheet) ackweed present in the open water portion of the wetland. Atte: This data sheet has been adapted to use the 2018 National Wetland Plant List:	<u></u>			-	
ote: This data sheet has been adapted to use the 2018 National Wetland Plant List:		0 :	Total Cover		present? Y
ckweed present in the open water portion of the wetland. Ite: This data sheet has been adapted to use the 2018 National Wetland Plant List:]
te: This data sheet has been adapted to use the 2018 National Wetland Plant List:)			
·	ickweed present in the open water portion of the wetland.				
·					
·	ote: This data sheet has been adapted to use the 2018 National	Wetland Plant List			
	·				

SOIL Sampling Point: 12-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-6 10YR 2/1 100 Muck Loam 6-12 10YR 5/2 80 10YR 4/6 20 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetlan	nd Assessment City/Count	ty: Vadnais Heights/Ramsey	Sampling Date: 06/15/2	<u>2020</u>
Applicant/Owner: Vadnais Lake Area Wa	ter Management Organizatio	on State: MN	Sampling Point:	13-1w
Investigator(s): Rebecca Beduhn, Erin Budro			, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslop	ie	Local relief (concave, c	convex, none): Concav	/e
Slope (%): 3 Lat.: 45.0712814	42 Long.: -93.09902	374 Datum: <u>UTM N</u>	NAD 83 ZONE 15N	
Soil Map Unit Name: Udifluvents			Classification: None	
Are climatic/hydrologic conditions of the site t	ypical for this time of the year	ar? Yes (If no,	explain in remarks)	
Are vegetation, soil, or	r hydrologysignific	cantly disturbed?	Are "normal	
		ally problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)	, <u></u>	,	•	
SUMMARY OF FINDINGS				
Uvdronhytic vegetation present?	V le the ear	anlad area within a wet	land? Y	
Hydrophytic vegetation present?	is the san	npled area within a wet	land r I	-
Hydric soil present?	<u> </u>			
Indicators of wetland hydrology present?	Y If yes, opti	ional wetland site ID:	Wetland 13	
Demarks: /Evalsia alternative precedures her	ra ar in a concrete report \			
Remarks: (Explain alternative procedures her	e or in a separate report.)			
HYDROLOGY				
		Secon	dary Indicators (minimum	of two
Primary Indicators (minimum of one is require	ad: check all that annly)	require		OI LWO
` .	ed, check all that apply) Water-Stained Leaves (I		,	
Surface Water (A1)			urface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	`
Water Marks (B1)	Hydrogen Sulfide Odor (· · · · · · · · · · · · · · · · · · ·	ry-Season Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhizospheres		ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iro	` ′`		
Iron Deposits (B5)	Recent Iron Reduction in		unted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)	ļ
Imagery (B7)	Thin Muck Surface (C7)		nallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remar	· · · · · · · · · · · · · · · · · · ·	AC-Neutral Test (D5)	ŀ
Surface (B8)		Mi	crotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes	No X Depth (inc	hae).	Indicators of	
Water table present? Yes	No X Depth (inc		wetland	
- · · · · · · · · · · · · · · · · · · ·	No Depth (inc		wetiand hydrology	ļ
Saturation present? Yes X (includes capillary fringe)		nes):	nyarology present? Y	ļ
(Includes capillary fringe)			present:	_
Describe recorded data (stream gauge, monit	toring well aerial photos pre	evious inspections) if ava	ilahle.	
Describe recorded data (stream gauge, morni	Johns Well, derial priotos, pro	vious irispections, ir ava	liable.	
Remarks:				
Tromano.				

GETATION - Use scientific	-				50/20 Thresholds
ree Stratum Plot Size ((30' Radius)	Absolute	Dominant	Indicator	20% 50%
i lot Gizo (30 Radius j	% Cover	Species	Status	Tree Stratum 0 0
				·	Sapling/Shrub Stratum 7 18
					Herb Stratum 20 50
					Woody Vine Stratum 0 0
		-			Daminana Tast Warkshoot
					Dominance Test Worksheet
		-			Number of Dominant
					Species that are OBL, FACW, or FAC: 5 (A)
					• • • • • • • • • • • • • • • • • • • •
		-			Total Number of Dominant
		0 =	= Total Cover		Species Across all Strata: 5 (B)
			· TOTAL OCTO		Percent of Dominant
apling/Shrub		Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 100.00% (A/E
Stratum Plot Size ((15' Radius)	% Cover	Species	Status	FACVV, OI FAC. 100.0070 (7.01)
Salix interior	Sandbar Willow	20	Y	FACW	Prevalence Index Worksheet
	Saridbar Willow Green Ash	10	<u> </u>	FACW	Total % Cover of:
Fraxinus pennsylvanica					
Rhamnus cathartica	European Buckthorn	5	N	<u>FAC</u>	OBL species 25 x 1 = 25
					FACW species 80 x 2 = 160
		-			FAC species 10 x 3 = 30
					FACU species 15 x 4 = 60
					UPL species5x 5 =25
					Column totals <u>135</u> (A) <u>300</u> (B)
					Prevalence Index = B/A = 2.22
					
		35=	Total Cover		Undershield Vagatation Indicators
		Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
erb Stratum Plot Size ((5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Phalaris arundinacea	Reed Canary Grass	30	Y	FACW	X Prevalence index is ≤3.0*
Solidago gigantea	Late Goldenrod	15	Y	FACW	Morphological adaptations* (provide
Carex pellita	Woolly Sedge	10	Y	OBL	supporting data in Remarks or on a
Eleocharis acicularis	Needle Spike-Rush	5	N	OBL	separate sheet)
Eupatorium perfoliatum	Common Boneset	5	N	FACW	Problematic hydrophytic vegetation*
Glyceria canadensis	Rattlesnake Manna Grass	5	N	OBL	(explain)
Phleum pratense	Common Timothy	5	N	FACU	*Indicators of hydric soil and wetland hydrology mus
Medicago sativa	Alfalfa	5	N	UPL	present, unless disturbed or problematic
Medicago lupulina	Black Medick	5	N	FAC	
Lotus corniculatus	Garden Bird's-Foot-Trefoil	5	N	FACU	Definitions of Vegetation Strata:
Fragaria virginiana	Virginia Strawberry	5	N	FACU	
Scirpus atrovirens	Dark-Green Bulrush	5	N	OBL	Tree - Woody plants 3 in. (7.6 cm) or more in diame
					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH
					greater than 3.28 ft (1 m) tall.
	·	100 =	= Total Cover		
					Herb - All herbaceous (non-woody) plants, regardle size, and woody plants less than 3.28 ft tall.
Voody Vine Plot Size ((30' Radius)	Absolute	Dominant	Indicator	Size, and woody plants less than 5.25 it tail.
Stratum		% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft
					height.
					
		-			
					Hydrophytic
					vegetation
		0 =	= Total Cover		present? Y
Las disabilità silvada nel sala nel mala ana	'				
iarke: /Include anoto numbere	here or on a separate sheet)				
weed present in the open water					

SOIL Sampling Point: 13-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-6 100 Loamy Sand 6-12 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/	County: Vadnais He	ights/Ramsey	Sampling Date: 06/15/20	020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organ	nization State: I	MN	Sampling Point:	14-1w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section,		Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	,	Local relief (d	concave, con	nvex, none): Concave	e
Slope (%): 3 Lat.: 45.0711695	5 Long.: -93.0	9950494 Datu	ım: <u>UTM NA</u>	ND 83 ZONE 15N	
Soil Map Unit Name: Udifluvents			NWI Clas	ssification: PEM1A	
Are climatic/hydrologic conditions of the site ty	pical for this time of th	ne year? Yes	(If no, ex	plain in remarks)	
Are vegetation, soil, or	hydrologys	ignificantly disturbed	d? /	Are "normal	
		naturally problematic		circumstances" present?	? Yes
(If needed, explain any answers in remarks)	,			•	
SUMMARY OF FINDINGS					
OUMINACT OF FREE TRANSPORT					
Hydrophytic vegetation present?	Y Is the	e sampled area wit	hin a wetlar	nd? Y	
Hydric soil present?	Y			<u>-</u>	
Indicators of wetland hydrology present?	Y If yes	s, optional wetland si	ite ID:	Wetland 14	
·		•			_
Remarks: (Explain alternative procedures here	or in a separate repor	rt.)			
HYDROLOGY					
			Seconda	ary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d; check all that apply))	required)		
Surface Water (A1)	Water-Stained Lea	aves (B9)	Surfa	ace Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B1	3)		nage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15			s Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide (,		Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizosph			fish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)			ration Visible on Aerial Ima	agerv
Algal Mat or Crust (B4)	Presence of Reduc	ced Iron (C4)	(C9)		~g,
Iron Deposits (B5)	Recent Iron Reduc	` ,		ted or Stressed Plants (D	1)
Inundation Visible on Aerial	Soils (C6)	MOIT III TIMES		morphic Position (D2)	.,
Imagery (B7)	Thin Muck Surface	- (C7)		low Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in R			-Neutral Test (D5)	
Surface (B8)		terraine,		otopographic Relief (D4)	
- Surface (Bo)				nopograpino renor (2 1)	
Field Observations:					
Surface water present? Yes	No X Depth	h (inches):		Indicators of	
Water table present? Yes X		h (inches): 12	—	wetland	
Saturation present? Yes X		h (inches): 0	—	hydrology	
(includes capillary fringe)	1NODopti	i (IIICiics)		present? Y	
(includes capillary minge)				present:	
Describe recorded data (stream gauge, monito	oring well aerial photo	o previous inspectic	ne) if availa	hlo:	
Describe recorded data (stream gauge, monte	illig well, actial priotos	s, previous irispection	JIIS), II avaliai	ble.	
Remarks:					
Remarks:					

VEGETATION - Use scientific names of plants				Sampling Point: 14-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
Tree Stratum Piot Size (30 Radius)	% Cover	Species	Status	Tree Stratum 0 0
1				Sapling/Shrub Stratum 6 15
2				Herb Stratum 5 13
				Woody Vine Stratum 0 0
4				Trocky time chalant
5			•	Dominance Test Worksheet
·				
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:4 (A)
9				Total Number of Dominant
0				Species Across all Strata: 5 (B)
	0 :	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 80.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	FACVV, 01 FAC. 80.00% (A/B)
		•		
1 Rhamnus cathartica European Buckt	horn 30	Y	FAC	Prevalence Index Worksheet
2				Total % Cover of:
3			·	OBL species 0 x 1 = 0
4				FACW species 10 x 2 = 20
				
× <u></u>				<u> </u>
6				FACU species <u>5</u> x 4 = <u>20</u>
7				UPL species0 _ x 5 =0
8				Column totals 55 (A) 160 (B)
9				Prevalence Index = $B/A = 2.91$
0				
	30	= Total Cover		
Herb Stratum Plot Size (5' Radius) 1 Rhamnus cathartica European Buckt. 2 Parthenocissus inserta Thicket-Creeper 3 Impatiens capensis Spotted Touch-N 4 Onoclea sensibilis Sensitive Fem 5 6 7 8 9 1 2 3 4 5	5 Me-Not 5 5	Species Y Y Y Y	Status FAC FACU FACW FACW	X Dominance test is >50% X Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must b present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
	25:	= Total Cover		
				Herb - All herbaceous (non-woody) plants, regardless
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Flot Size (30 Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
<u> </u>				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
emarks: (Include photo numbers here or on a separate she	et)			-
uckweed present in the open water portion of the wetland.	•			
parameter and the second secon				
oto. This data shoot has been adopted to use the 2010 Nether	and Watland Dlant Lints			_
ote: This data sheet has been adapted to use the 2018 Nation S. Army Corps of Engineers 2018. National Wetland Plant List, version				
.o. Anny Gorps of Engineers 2010. National Welland Flant List, Version	. 3.7			

SOIL Sampling Point: 14-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-6 10YR 2/1 100 Loamy Sand 6-16 10YR 5/1 95 10YR 4/6 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Sam	pling Date: 06/15/2020	
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point: 15-1w	
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelson	Section, Township, Rang		
Landform (hillslope, terrace, etc.): toeslope	e Lor	al relief (concave, convex,	, none): Concave	
Slope (%): 3 Lat.: 45.0652603		Datum: UTM NAD 83	3 ZONE 15N	
Soil Map Unit Name: Zimmerman fine sand, 1		NWI Classifi	ication: None	
Are climatic/hydrologic conditions of the site ty	· ·	Yes (If no, explain	n in remarks)	
Are vegetation, soil, or			"normal	
Are vegetation , soil , or	hydrologynaturally pro	oblematic? circu	umstances" present? Yes	es_
(If needed, explain any answers in remarks)			-	
SUMMARY OF FINDINGS				
SUMMART OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sampled	area within a wetland?	Υ	
Hydric soil present?	<u> </u>	WI CO 17151	<u> </u>	
Indicators of wetland hydrology present?	Y If yes, optional v	wetland site ID:	Wetland 15	
Indicators of welland flydrology present.		veliding site ib.	Welland 15	
Remarks: (Explain alternative procedures here	e or in a separate report.)			-
Tromano. (Explain altornativo procedu. co	, or in a doparate roperty			
				—
HYDROLOGY				
	-	Secondary Ir	ndicators (minimum of two	
Primary Indicators (minimum of one is required	d check all that annly)	required)	idicators (minimum or two	
Surface Water (A1)	Water-Stained Leaves (B9)	• ,	Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		e Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		m Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		son Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		n Visible on Aerial Imagery	
Algal Mat or Crust (B4)	Presence of Reduced Iron (C		II VISIDIE UII AEIIai IIIIagei y	
Iron Deposits (B5)	Recent Iron Reduction in Tille	`` ′	or Stressed Plants (D1)	
	Soils (C6)		ohic Position (D2)	
Inundation Visible on Aerial				
Imagery (B7)	Thin Muck Surface (C7)		Aquitard (D3)	1
Sparsely Vegetated Concave	Other (Explain in Remarks)		utral Test (D5)	
Surface (B8)		IVIICTOLOPO	ographic Relief (D4)	
Field Observations:				_
Surface water present? Yes	No X Depth (inches):	Indi	icators of	
Water table present? Yes X	No Depth (inches):		wetland	
Saturation present? Yes X	No Depth (inches):		/drology	
(includes capillary fringe)	Deptil (iliches).		= =	
(includes capillary iringe)		P	resent? Y	
Describe recorded data (stream gauge, monito	oring well serial photos previous	increations) if available:		
Describe recorded data (stream gauge, monito	Jing well, aeliai pilotos, previous	inspections), ii avaliabie.		
Dd.s.				
Remarks:				

EGETATION - Use scientific names of plants				Sampling Point: 15-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
	% Cover	Species	Status	Tree Stratum 4 10
Populus deltoides Eastern Cottonwood	10	Y	FAC	Sapling/Shrub Stratum 4 10
Pinus resinosa Red Pine	5	Y	FACU	Herb Stratum 6 15
R Quercus rubra Northern Red Oak	5	Y	FACU	Woody Vine Stratum 0 0
-				Dominance Test Worksheet
				Number of Dominant
				Species that are OBL,
				FACW, or FAC:6(A)
				Total Number of Dominant
			·	Species Across all Strata: 9 (B)
	20 =	Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 66.67% (A/B
Stratum Plot Size (15' Radius)	% Cover	Species	Status	
Rhamnus cathartica European Buckthorn	20	Y		Prevalence Index Worksheet
,			1710	Total % Cover of:
				OBL species 10 x 1 = 10
				FACW species 5 x 2 = 10
-				FAC species <u>40</u> x 3 = <u>120</u>
				FACU species 15 x 4 = 60
				UPL species0 x 5 =0
				Column totals(A)(B)
				Prevalence Index = B/A = 2.86
	20 =	Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
	% Cover	Species	Status	X Dominance test is >50%
Persicaria amphibia Water Smartweed		<u> </u>	OBL	X Prevalence index is ≤3.0*
Impatiens capensis Spotted Touch-Me-Not Solanum dulcamara Climbing Nightshade	<u>5</u>	<u> </u>	FACW FAC	Morphological adaptations* (provide supporting data in Remarks or on a
Rhamnus cathartica European Buckthorn		<u> </u>	FAC	supporting data in Nemarks of on a separate sheet)
Cirsium vulgare Bull Thistle		<u>'</u>	FACU	Problematic hydrophytic vegetation*
			17100	(explain)
			•	*Indicators of hydric soil and wetland hydrology must
-				present, unless disturbed or problematic
-				
-				Definitions of Vegetation Strata:
				3
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
-				Ocaliants based was also then 2 in DDII on
				Sapling/shrub - Woody plants less than 3 in. DBH ar greater than 3.28 ft (1 m) tall.
	30 =	= Total Cover	-	greater than 0.20 ft (1 m) tail.
				Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
Stratum Plot Size (30' Radius)				height.
PIOLOMPI SU RADIUS 1				
PIOLSIZE LIGHT SU RADIUS I				
Stratum				
Stratum				Hydronhytic
Stratum				Hydrophytic vegetation
Stratum		= Total Cover		vegetation
Stratum	0 =	= Total Cover		
Stratum		= Total Cover		vegetation
Stratum	0 =	= Total Cover		vegetation
Stratum marks: (Include photo numbers here or on a separate sheet)	0 :	= Total Cover		vegetation
Stratum	0 :	= Total Cover		vegetation

SOIL Sampling Point: 15-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-2 10YR 2/1 100 Muck Loamy Sand 2-10 10YR 2/1 95 10YR 4/6 5 С Μ 10-16 10YR 5/1 90 10YR 5/8 10 С Μ Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) X Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/15/2	2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Sampling Point:	16-1w
Investigator(s): Rebecca Beduhn, Erin Budro		Section, Township, Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	e Lor	cal relief (concave, convex, none): Concav	ve
Slope (%): 1 Lat.: 45.0655726		Datum: UTM NAD 83 ZONE 15N	
Soil Map Unit Name: Braham loamy fine sand		NWI Classification: PSS1C	
Are climatic/hydrologic conditions of the site ty		Yes (If no, explain in remarks)	
Are vegetation, soil, or		disturbed? Are "normal	
Are vegetation, soil, or	hydrology naturally pr	oblematic? circumstances" present	t? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
SUMMANT OF THE INC.			
Hydrophytic vegetation present?	Y Is the sampled	area within a wetland?	
Hydric soil present?	Y		_
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID: Wetland 16	
, , , , , , , , , , , , , , , , , , , ,			
Remarks: (Explain alternative procedures here	e or in a separate report.)		
` '	• • •		
			-
HYDROLOGY			
		Secondary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d: check all that apply)	required)	
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2	2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		,
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial In	nagerv
Algal Mat or Crust (B4)	Presence of Reduced Iron (C		nago. y
Iron Deposits (B5)	Recent Iron Reduction in Tille	· · · · · · · · · · · · · · · · · · ·	D1)
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)	- ',
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	ŀ
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)	
Surface (B8)	Other (Explain in Fernance,	Microtopographic Relief (D4)	
Surface (DO)		Milototopographilo Renet (D-7)	
Field Observations:			
Surface water present? Yes	No X Depth (inches):	Indicators of	
Water table present? Yes X	No Depth (inches):	0 wetland	
Saturation present? Yes X	No Depth (inches):		
(includes capillary fringe)		present? Y	
(Includes capillally fillinge)		present:	_
Describe recorded data (stream gauge, monito	oring well serial photos previous	inspections) if available:	
Describe recorded data (stream gadge, months	Jilly Well, acital priotos, providad	inspections, ii available.	
Damania			
Remarks:			

EGETATION - Use scientific name	es of plants				Sampling Point: 16-1w
					50/20 Thresholds
Tree Stratum Plot Size (30' Ra	adius)	Absolute	Dominant	Indicator	20% 50%
Tiee Stratum Flot Size (30 No	aulus)	% Cover	Species	Status	Tree Stratum 9 23
Fraxinus pennsylvanica	- Green Ash	25	<u> </u>	FACW	Sapling/Shrub Stratum 10 25
	- Eastern Cottonwood	10	Υ	FAC	Herb Stratum 6 15
Quercus rubra	- Northern Red Oak	10	Υ	FACU	Woody Vine Stratum 0 0
	-	_			
5	_				Dominance Test Worksheet
	-				Number of Dominant
·	-	_			Species that are OBL,
	-				FACW, or FAC: 5 (A)
					Total Number of Dominant
)					Species Across all Strata: 6 (B)
´		45	= Total Cover		
			10101 00101		Percent of Dominant
Sapling/Shrub		Absolute	Dominant	Indicator	Species that are OBL,
Saping/Siliub Plot Size (15' Ra	adius)	% Cover	Species	Status	FACW, or FAC: <u>83.33%</u> (A/B
	- Green Ash	30	Y	FACW	Prevalence Index Worksheet
2 Rhamnus cathartica	- European Buckthorn	20	<u> </u>	FAC	Total % Cover of:
	_				OBL species 0 x 1 =0_
		<u> </u>			FACW species 60 x 2 = 120
	_				FAC species 55 x 3 = 165
	_				FACU species 10 x 4 = 40
7					UPL species $0 \times 5 = 0$
					Column totals 125 (A) 325 (B)
					Prevalence Index = B/A = 2.60
·	-		Total Cause		
		50	= Total Cover		Hudrophytic Veretation Indicators
		Abaaluta	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Ra	adius)	Absolute % Cover	Species	Status	X Dominance test is >50%
Rhamnus cathartica	- European Buckthorn	70 COVE	Y	FAC	X Prevalence index is ≤3.0*
	- Norwegian Cinquefoil	5	N	FAC	Morphological adaptations* (provide
	- Spotted Touch-Me-Not	_ <u>5</u>	N	FACW	supporting data in Remarks or on a
	- Western Poison Ivy		N	FAC	separate sheet)
					Problematic hydrophytic vegetation*
	-				(explain)
, 	-	_			*Indicators of hydric soil and wetland hydrology must
	-	_			present, unless disturbed or problematic
	-				
	_				Definitions of Vegetation Strata:
	-	<u> </u>			
	-	<u> </u>			Tree - Woody plants 3 in. (7.6 cm) or more in diamete
		<u> </u>			at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH ar
		30	= Total Cover		greater than 3.28 ft (1 m) tall.
			- Total Covel		Herb - All herbaceous (non-woody) plants, regardless
Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Ra	adius)	% Cover	Species	Status	
	_	70 00101	000000	Otatao	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
	-				vegetation
			T (1 0		nrecent? V
·		0	= Total Cover		present? Y
		0	= Total Cover		present? 1
emarks: (Include photo numbers here or	on a separate sheet)	0	= Total Cover		present? 1
emarks: (Include photo numbers here or	on a separate sheet)	0	= Total Cover		present? 1
	on a separate sheet)	0	= Total Cover		present? 1
emarks: (Include photo numbers here or	on a separate sheet) of the wetland.		= Total Cover		present? 1

SOIL Sampling Point: 16-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-2 10YR 2/1 100 Muck 2-6 10YR 2/1 100 Loamy Sand 10YR 5/2 90 10YR 5/8 С Loamy Sand 6-12 10 Μ *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/16/2	2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	17-1w
Investigator(s): Rebecca Beduhn, Erin Budrov	w, Bailey Nelson		, Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslope		ocal relief (concave, c	convex, none): Concav	ve
Slope (%): 1 Lat.: 45.0642495		Datum: UTM N	NAD 83 ZONE 15N	
Soil Map Unit Name: Zimmerman fine sand, 1			Classification: None	
Are climatic/hydrologic conditions of the site ty		Yes (If no,	explain in remarks)	
Are vegetation, soil, or		ntly disturbed?	Are "normal	
Are vegetation , soil , or	hydrology naturally p	problematic?	circumstances" present	t? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
SUMMART OF THE INC.				
Hydrophytic vegetation present?	Y Is the sample	ed area within a wet	tland? Y	
Hydric soil present?	<u>Y</u>			-
Indicators of wetland hydrology present?	Y If yes, option:	al wetland site ID:	Wetland 17	
indicators of frontains fry at stagy prosess.			***************************************	
Remarks: (Explain alternative procedures here	or in a separate report.)			
(<u> </u>	o			
HYDROLOGY				
		Secon	ndary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d: check all that apply)	require		0
X Surface Water (A1)	Water-Stained Leaves (B9)	•	urface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1		ry-Season Water Table (C2	ή.
Sediment Deposits (B2)	Oxidized Rhizospheres on I	· —	rayfish Burrows (C8)	<i>'</i>
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (29)	lagel y
Iron Deposits (B5)	Recent Iron Reduction in Ti	` ′`	tunted or Stressed Plants (D) 1)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)	, , , , , , , , , , , , , , , , , , ,
Imagery (B7)	Thin Muck Surface (C7)		hallow Aquitard (D3)	ŀ
	Other (Explain in Remarks)		AC-Neutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)	Other (Explain in Remarks)		icrotopographic Relief (D4)	
Surface (BO)			Cititopograpino ixener (D7)	
Field Observations:				
Surface water present? Yes X	No Depth (inches	s): 2	Indicators of	
Water table present? Yes X	No Depth (inches		wetland	ŀ
Saturation present? Yes X	No Depth (inches		hydrology	
(includes capillary fringe)	Dopui (monoc	···	present? Y	
(Includes capillary filinge)			hieseiit:	-
Describe recorded data (stream gauge, monito	oring well aerial photos previo	us inspections) if ava	ailahle.	
Describe recorded data (stream gaage, memo	Tilly Well, actial priotos, profis	us mapeodono,, n are	madic.	
Remarks:				
Remarks.				

		Sampling Point: 17-1w
		50/20 Thresholds
Dominant	Indicator	20% 50%
Species	Status	Tree Stratum 0 0
0,000.00	Cidido	Sapling/Shrub Stratum 0 0
		Herb Stratum 20 50
		Woody Vine Stratum 0 0
		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)
otal Cover		
otal Covel		Percent of Dominant
		Species that are OBL,
Dominant	Indicator	FACW, or FAC: 100.00% (A/B)
Species	Status	,
•		Duranda ya a daga Mandada a 4
		Prevalence Index Worksheet
		Total % Cover of:
		OBL species 35 x 1 = 35
		FACW species 65 x 2 = 130
		
		FAC species0x 3 =0
		FACU species 0 x 4 = 0
		UPL species 0 x 5 = 0
		Column totals 100 (A) 165 (B)
		Prevalence Index = B/A =1.65
otal Cover		
Dominant Species Y	Indicator Status FACW	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0*
N	OBL	Morphological adaptations* (provide
N	OBL	supporting data in Remarks or on a
N	OBL	separate sheet)
		Problematic hydrophytic vegetation*
		(explain)
		*Indicators of hydric soil and wetland hydrology must I present, unless disturbed or problematic
		present, unless disturbed of problematic
		Definitions of Vegetation Strata:
	•	Tree - Woody plants 3 in. (7.6 cm) or more in diamete
		at breast height (DBH), regardless of height.
		Sapling/shrub - Woody plants less than 3 in. DBH an
		greater than 3.28 ft (1 m) tall.
otal Cover		
		Herb - All herbaceous (non-woody) plants, regardless
Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Species	Status	
0,000.00	Cidido	Woody vines - All woody vines greater than 3.28 ft in
		height.
		Hydrophytic
		Hydrophytic
		vegetation
Total Cover		present? Y

SOIL Sampling Point: 17-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Muck *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wet	land Assessme	nt City/County:	Vadnais He	eights/Ramsey	y_Sampling Date: <u>06/16</u>	5/2020
Applicant/Owner: Vadnais Lake Area V	Vater Managem	ent Organization	State:	MN	Sampling Point:	18-1w
Investigator(s): Rebecca Beduhn, Erin Bu	drow, Bailey Ne	elson	Section,	Township	, Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toes	lope	Lo	cal relief (concave, c	convex, none): Conc	ave
Slope (%): 3 Lat.: 45.0626		ng.: <u>-93.097255</u> 5	Datı		NAD 83 ZONE 15N	
Soil Map Unit Name: Zimmerman fine sand					Classification: PFO1A	
Are climatic/hydrologic conditions of the sit		-	Yes		explain in remarks)	
	, or hydrology	significantl	-		Are "normal	
	, or hydrology	naturally p	roblematic	?	circumstances" prese	nt? Yes
(If needed, explain any answers in remarks	;)					
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	Y	Is the sample	d area wit	thin a wet	iland? Y	
Hydric soil present?	<u> </u>					
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional	wetland s	ite ID:	Wetland 18	
Remarks: (Explain alternative procedures h	nere or in a sepa	arate report.)				
HYDROLOGY						
HIDROLOGI				2	1 1. di - Cana (minimu	
	نالم علم مطح علاد الا	O			ndary Indicators (minimu	m of two
Primary Indicators (minimum of one is requ				require	,	
Surface Water (A1)		Stained Leaves (B9)			urface Soil Cracks (B6)	
High Water Table (A2)		Fauna (B13)			rainage Patterns (B10)	
X Saturation (A3) Water Marks (B1)		posits (B15)			oss Trim Lines (B16)	201
Sediment Deposits (B2)		en Sulfide Odor (C1) d Rhizospheres on Li			ry-Season Water Table (C rayfish Burrows (C8)	· ∠)
Drift Deposits (B3)	Roots (•	Ming		aturation Visible on Aerial	Imagon/
Algal Mat or Crust (B4)		ce of Reduced Iron (C	C4)		30 Aeriai 39)	IIIIayeiy
Iron Deposits (B5)		Iron Reduction in Tille		`	tunted or Stressed Plants	(D1)
Inundation Visible on Aerial	Soils (C		.eu		eomorphic Position (D2)	(0.)
Imagery (B7)		ick Surface (C7)			hallow Aquitard (D3)	
Sparsely Vegetated Concave		Explain in Remarks)			AC-Neutral Test (D5)	
Surface (B8)					icrotopographic Relief (D4	1)
Garrage (20)					orotopograpino rtonor (B i	• /
Field Observations:						
Surface water present? Yes	No 2	X Depth (inches)):		Indicators of	
Water table present? Yes		X Depth (inches)		_	wetland	
Saturation present? Yes X		Depth (inches)		_	hydrology	
(includes capillary fringe)			·		present? Y	
(_
Describe recorded data (stream gauge, mo	nitoring well, a	erial photos, previou	is inspection	ons), if ava	ailable:	
		•				
Remarks:						

VEGETATION - Use scientific names of p	olants				Sampling Point:	18-1w
					50/20 Thresholds	
Tree Stratum Plot Size (30' Radius	1	Absolute	Dominant	Indicator	20%	
	•	% Cover	Species	Status	Tree Stratum 1	-
1 Quercus macrocarpa Burr	<u>Oak</u>	5	<u> </u>	FACU	Sapling/Shrub Stratum 4	
2					Herb Stratum 2 Woody Vine Stratum 0	
3					Woody Vine Stratum 0	0
5					Dominance Test Worksheet	
6						
7					Number of Dominant Species that are OBL,	
8					- ·	5 (A)
9					Total Number of Dominant	<u> </u>
0						6 (B)
<u> </u>		5 =	= Total Cover		Percent of Dominant	(5)
	-			ļ	Species that are OBL,	
Sapling/Shrub		Absolute	Dominant	Indicator	•	.33% (A/B)
Stratum Plot Size (15' Radius	1	% Cover	Species	Status		<u></u> (= = ,
	pean Buckthorn		Υ		Prevalence Index Worksheet	
	pean buokinom		<u> </u>		Total % Cover of:	
2					OBL species 4 x 1 =	4
4					FACW species $\frac{4}{7}$ x 2 =	14
					FAC species 7 x 2 = _ FAC species 20 x 3 =	60
·						
6			-		· — –	20
7			-		UPL species 0 x 5 =	0 08 (D)
8					Column totals 36 (A)	98 (B)
9					Prevalence Index = B/A = 2	2.72
0		20 =	= Total Cover			
	-		= TOLAI COVEI	ļ	Hydrophytic Vegetation Indica	itore:
		Absolute	Dominant	Indicator	Rapid test for hydrophytic ve	
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%	gotatio
1 Impatiens capensis Spot	ted Touch-Me-Not	5	Y	FACW	X Prevalence index is ≤3.0*	
2 Carex hystericina Porce	upine Sedge	2	Y	OBL	Morphological adaptations* (provide
3 <u>Iris versicolor</u> Harle	equin Blueflag	2	<u> </u>	OBL	supporting data in Remarks of	
4 Laportea canadensis Cana	adian Wood-Nettle	2	Υ	FACW	separate sheet)	
5					Problematic hydrophytic vego	etation*
6					(explain)	
7					*Indicators of hydric soil and wetland hy	
8 <u></u>					present, unless disturbed or problemation	С
9						
0					Definitions of Vegetation Strate	a:
1 <u></u> 2						
					Tree - Woody plants 3 in. (7.6 cm) or m at breast height (DBH), regardless of he	iore in diametei Piaht
3 <u></u> 4						
5					Sapling/shrub - Woody plants less than	n 3 in. DBH and
		11 =	= Total Cover		greater than 3.28 ft (1 m) tall.	
	-		10101 00101		Herb - All herbaceous (non-woody) plar	nts, regardless o
Woody Vine	`	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft	t tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	Woody vines - All woody vines greater	than 3 28 ft in
1					height.	WWW. 0.25
2						
3						
4					Hydrophytic	
5					vegetation	
		0 =	= Total Cover		present? Y	
emarks: (Include photo numbers here or on a se	*					
uckweed present in the open water portion of the	wetland.					
This data shouther have adouted to see the	0040 National Watter & Diagram	1.1-4.				
ote: This data sheet has been adapted to use the S. Army Corps of Engineers 2018. National Wetland Plan		LIST:				
.s. Anny Corps of Engineers 2010. National Wetland Fran	It List, Version 5.4					

SOIL Sampling Point: 18-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/2 100 Loamy Sand 10-20 10YR 4/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	nd Assessment C	City/County:	Vadnais Heights	s/Ramsey S	Sampling Date: 06/16/2	:020
Applicant/Owner: Vadnais Lake Area Wa	ater Management O	rganization	State: MN		Sampling Point:	18-2w
Investigator(s): Rebecca Beduhn, Erin Budr			Section, To	wnship, R	Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslop			al relief (con	cave, con	ivex, none): Concav	re
Slope (%): 3 Lat.: 45.062781	33 Long.: -	93.0962878	Datum:	UTM NA	D 83 ZONE 15N	
Soil Map Unit Name: Seelyeville muck				NWI Clas	ssification: PFO1A	
Are climatic/hydrologic conditions of the site				(If no, ex	plain in remarks)	
	or hydrology	significantly		F	Are "normal	
Are vegetation , soil , o	or hydrology	naturally pro	oblematic?	C	circumstances" present	? Yes
(If needed, explain any answers in remarks)		_				 _
SUMMARY OF FINDINGS						
SUMMART OF FINDINGS						
Hydrophytic vegetation present?	Y Is	s the sampled	area within	ı a wetlar	nd? Y	
Hydric soil present?	<u>Y</u>					•
Indicators of wetland hydrology present?	Y	f yes, optional v	wetland site I	ID.	Wetland 18	
middlero or welland fry arelegy present.	 "	yco, optiona	Voticina one .		TT CUALIG TO	
Remarks: (Explain alternative procedures he	re or in a separate r	enort.)				
Torridition (Explain alternative processing)	O Oi iii a copa.a.c.	ороли,				
HYDROLOGY						
				Seconda	ry Indicators (minimum	of two
Primary Indicators (minimum of one is requir	ed: check all that ar	only)		required)	-	OI LVVO
Surface Water (A1)	Water-Stained	,		. ,	ace Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna	` ,			nage Patterns (B10)	
X Saturation (A3)	Marl Deposits				s Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfi	` ,			Season Water Table (C2)	,
Sediment Deposits (B2)		ospheres on Livi	ina		fish Burrows (C8)	<i>'</i>
Drift Deposits (B3)	Roots (C3)	ospileres on Livi	ing		ration Visible on Aerial Im	acconv
Algal Mat or Crust (B4)		Reduced Iron (C4	4)	(C9)	ation visible on Aenai im	lagery
` ` ` ` ` ` ` ` '		,	•		tad ar Stragged Plants (D	14)
Iron Deposits (B5)		eduction in Tilled	a		ted or Stressed Plants (D	^{/1)}
Inundation Visible on Aerial	Soils (C6)				norphic Position (D2)	
Imagery (B7)	Thin Muck Sur				ow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain	in Remarks)			-Neutral Test (D5)	
Surface (B8)				Micro	otopographic Relief (D4)	
Field Observations:				<u> </u>		
Surface water present? Yes	No X D	Depth (inches):			Indicators of	
Water table present? Yes X		Depth (inches):	0	-	wetland	
Saturation present? Yes X		Depth (inches):	0	-	hydrology	
(includes capillary fringe)	_ NU	Jepui (iliciies).		-		l
(includes capillary fringe)					present? Y	-
Describe recorded data (stream gauge, mon	itoring well aerial n	hotos previous	inenections'	if availal	hlo:	
Describe recorded data (stream gauge, mon	toring wen, aenai pi	10los, previous	Inspections,), II dvallal	ble:	
D d						
Remarks:						

					50/20 Thresholds
ree Stratum Plot Size (30' Radi	ine /	Absolute	Dominant	Indicator	20% 50%
ce ottatum i iot o (us ,	% Cover	Species	Status	Tree Stratum 0 0
					Sapling/Shrub Stratum 13 34
					Herb Stratum 19 48
					Woody Vine Stratum 0 0
					Device Test Westshoot
<u></u>					Dominance Test Worksheet
					Number of Dominant
					Species that are OBL,
				-	FACW, or FAC: 5 (A
					Total Number of Dominant
			T (-1 0-1		Species Across all Strata:5 (B
		=	= Total Cover		Percent of Dominant
					Species that are OBL,
apling/Shrub Plot Size (15' Radi	ine)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A.
Stratum Flot Size (13 Radi	us ,	% Cover	Species	Status	
Frangula alnus (Glossy FALSE Buckthorn	30	Y	FAC	Prevalence Index Worksheet
	European Buckthorn	30	Y	FAC	Total % Cover of:
	Green Ash	5	N	FACW	OBL species 60 x 1 = 60
	Northern Red Oak	2	N	FACU	FACW species 20 x 2 = 40
· · · · · · · · · · · · · · · · · · ·	VOILIIEIII NEU Oan			FAUU	FAC species 80 x 3 = 240
					
					FACU species 2 x 4 = 8
					UPL species $0 \times 5 = 0$
					Column totals <u>162</u> (A) <u>348</u> (B
			<u> </u>		Prevalence Index = B/A = 2.15
	<u> </u>	67 =	= Total Cover		
					Hydrophytic Vegetation Indicators:
erb Stratum Plot Size (5' Radiu	us)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,		% Cover	Species	Status	X Dominance test is >50%
	Uptight Sedge	20	<u> </u>	OBL	X Prevalence index is ≤3.0*
	Broad-Leaf Cat-Tail Climbing Nightshade	15 15	<u>Y</u> Y	OBL FAC	Morphological adaptations* (provide supporting data in Remarks or on a
	Cilmbing Nightshade Bluejoint	15	N	OBL	supporting data in Remarks or on a separate sheet)
	Sensitive Fern	10	N	FACW	Problematic hydrophytic vegetation*
	Water Smartweed	5	N	OBL	(explain)
 	Stalk-Grain Sedge	5	N	OBL	*Indicators of hydric soil and wetland hydrology mu
	Reed Canary Grass	5	N	FACW	present, unless disturbed or problematic
	Nodding Burr-Marigold	5	N	OBL	process, among and a
	Field Horsetail	5	N	FAC	Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diam
					at breast height (DBH), regardless of height.
					Carling/about Moody plants loss than 3 in DRI
					Sapling/shrub - Woody plants less than 3 in. DBH greater than 3.28 ft (1 m) tall.
		95 =	= Total Cover		greater than 0.20 ft (1 m) tail.
					Herb - All herbaceous (non-woody) plants, regardle
Voody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radi	us)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 f
		_	_		height.
					Ludronhutio
					Hydrophytic vegetation
		0 =	= Total Cover		present?
			, Total Octol		present:
narks: (Include photo numbers here or on	a separate sheet)				
kweed present in the open water portion of					
AWOOG PICCOLLE	010 1100.00				

SOIL Sampling Point: 18-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-8 100 Loamy Sand 18-15 10YR 5/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	I Assessment	_City/County:	Vadnais Hei	ghts/Ramsey	_Sampling Date: <u>06/16/2</u>	2020	
Applicant/Owner: Vadnais Lake Area Wate	er Management	- Organization	State: N	ЛN	Sampling Point:	18-3w	
Investigator(s): Rebecca Beduhn, Erin Budrov			Section,	Township,	Range: T30 R22 S30		
Landform (hillslope, terrace, etc.): toeslope			cal relief (c	oncave, co	onvex, none): Concav	ve	
Slope (%): 2 Lat.: 45.0515743		-93.08692954	Datur	m: <u>UTM N</u>	IAD 83 ZONE 15N		
Soil Map Unit Name: Dundas fine sandy loam				NWI C	lassification: PEM1C		
Are climatic/hydrologic conditions of the site ty			Yes		explain in remarks)		
Are vegetation, soil, or		significantly			Are "normal		
Are vegetation, soil, or	hydrology	naturally pr	oblematic?	?	circumstances" present	t? Yes	
(If needed, explain any answers in remarks)	_						
CLIMANA DV OE EINDINGS							
SUMMARY OF FINDINGS							
Hydrophytic vegetation present?	Y	Is the sampled	l area with	hin a wetl:	and? Y		
Hydric soil present?	'	is the sample.	1 6106 111	IIII a wou		-	
Indicators of wetland hydrology present?	'	If yes ontional	watland eit	to ID:	Wetland 18		
Indicators of wetland flydrology present:	<u> </u>	If yes, optional	Welland Sit	.е ю	W Elianu 10	<u> </u>	
Remarks: (Explain alternative procedures here	or in a senarate	e renort)					
	Of it a separate	s report.					
HYDROLOGY							
				Second	dary Indicators (minimum	of two	
Primary Indicators (minimum of one is required	d check all that	annly)		require		. Or two	
Surface Water (A1)	-	apply) led Leaves (B9)		•	rface Soil Cracks (B6)		
X High Water Table (A2)	Aquatic Faur	` ,			ainage Patterns (B10)		
X Saturation (A3)	Marl Deposit				ss Trim Lines (B16)		
Water Marks (B1)		ulfide Odor (C1)			/-Season Water Table (C2	Δ	
Sediment Deposits (B2)		nizospheres on Liv	/ina		ayfish Burrows (C8)	,	
Drift Deposits (B3)	Roots (C3)	IIZOSPITETES ON LIV	/IIIg		turation Visible on Aerial Im	nogon/	
Algal Mat or Crust (B4)		Reduced Iron (C	4)	Sai		lagery	
Iron Deposits (B5)		Reduction in Tille	,		on Inted or Stressed Plants (D	11 1	
Inundation Visible on Aerial	Soils (C6)	Reduction in Time	:u		omorphic Position (D2)	<i>)</i> 1 <i>)</i>	
	Thin Muck S	Surface (C7)			allow Aquitard (D3)		
Imagery (B7)		ain in Remarks)		X FAC-Neutral Test (D5)			
Sparsely Vegetated Concave	Other (Expla						
Surface (B8)				IVIIC	crotopographic Relief (D4)		
Field Observations:							
Surface water present? Yes	No X	Depth (inches):			Indicators of		
Water table present? Yes X	No X	Depth (inches):		-	wetland		
Saturation present? Yes X	No	Depth (inches):		-	hydrology		
(includes capillary fringe)		_ Deptir (incinco).		-	present? Y	l	
(Includes capillary Inflige)					hieseiit:	_	
Describe recorded data (stream gauge, monito	oring well aerial	nhotos previous	inspection	ns) if avai	lahle.		
Describe recorded data (otream gaage, meme	Allig Well, derica	priotos, previous	, inapoona.	110), 11 ava	abic.		
Remarks:							
Remains.							

/EGETATION - Use scientific names of plants				Sampling Point: 18-3w
	_			50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 0 0
1				Sapling/Shrub Stratum 1 4
2				Herb Stratum 19 48
3				Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:5(A)
9				Total Number of Dominant
0				Species Across all Strata: 5 (B)
	0	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	(
1 Rhamnus cathartica European Buckthorn	5	Y	FAC	Prevalence Index Worksheet
·	2	<u> </u>	FACW	
		<u> </u>	FACW	Total % Cover of:
3				OBL species <u>65</u> x 1 = <u>65</u>
4				FACW species 32 x 2 = 64
5				FAC species <u>5</u> x 3 = <u>15</u>
6				FACU species0x 4 =0
				UPL species 0 x 5 = 0
8				Column totals 102 (A) 144 (B)
9				Prevalence Index = B/A = 1.41
<u></u>				Trevalence mack Birt
·	7	= Total Cover		
				Hydrophytic Vegetation Indicators:
N 1 0 1 (5 D 1)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
1 Phalaris arundinacea Reed Canary Grass	25	·Y	FACW	X Prevalence index is ≤3.0*
2 Typha angustifolia Narrow-Leaf Cat-Tail	20	Y	OBL	Morphological adaptations* (provide
3 Calamagrostis canadensis Bluejoint	15	Y	OBL	supporting data in Remarks or on a
4 Iris virginica Virginia Blueflag	10	N	OBL	separate sheet)
5 Glyceria grandis American Manna Grass	10	N	OBL	Problematic hydrophytic vegetation*
6 Carex lacustris Lakebank Sedge	5	N	OBL	(explain)
7 Bidens frondosa Devil's-Pitchfork	5	N	FACW	*Indicators of hydric soil and wetland hydrology must be
3 Lycopus americanus Cut-Leaf Water-Horehound	5	N	OBL	present, unless disturbed or problematic
9				
 0				Definitions of Vegetation Strata:
1				Definitions of Vegetation Strata.
2				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
3 <u></u> 4			·	
				Sapling/shrub - Woody plants less than 3 in. DBH and
5	95	= Total Cover		greater than 3.28 ft (1 m) tall.
	95	- Total Cover		Herb - All herbaceous (non-woody) plants, regardless o
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	
1	70 COVE	Opecies	Glalus	Woody vines - All woody vines greater than 3.28 ft in
				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
emarks: (Include photo numbers here or on a separate sheet)				
uckweed present in the open water portion of the wetland.				
ote: This data sheet has been adapted to use the 2018 National Wetland Plant	ant List:			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 18-3w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-8 10YR 2/1 100 Mucky Loam 8-14 10YR 4/1 80 10YR 4/6 20 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park W	/etland Assessment	t City/County:	Vadnais Height	ts/Ramsey	Sampling Date: 06/16/2	<u>2020</u>
Applicant/Owner: Vadnais Lake Area	a Water Managemer	nt Organization	State: MN	N	Sampling Point:	19-1w
Investigator(s): Rebecca Beduhn, Erin I			Section, To	ownship, R	Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): to	eslope	Loc	cal relief (cor	ncave, con	nvex, none): Concav	/e
· · · /		j.: -93.09487441	Datum:	: UTM NA	ND 83 ZONE 15N	
Soil Map Unit Name: Zimmerman fine s				NWI Cla	ssification: None	
Are climatic/hydrologic conditions of the		ime of the year?	Yes	$\overline{}$ (If no, ex	rplain in remarks)	
	, or hydrology		y disturbed?		Are "normal	
Are vegetation , soil	, or hydrology	naturally pr	roblematic?	(circumstances" present	t? Yes
(If needed, explain any answers in remain	rks)					
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	<u>Y</u>	Is the sampled	d area withir	n a wetlar	nd? Y	_
Hydric soil present?	<u>Y</u>				-	_
Indicators of wetland hydrology present?	? <u> </u>	If yes, optional	wetland site	ID:	Wetland 19	
Remarks: (Explain alternative procedure	s here or in a separ	ate report.)				
HYDROLOGY						
				Seconda	ary Indicators (minimum	of two
Primary Indicators (minimum of one is re	equired; check all th	at apply)		required))	
Surface Water (A1)	_Water-Sta	ained Leaves (B9)		Surfa	ace Soil Cracks (B6)	
High Water Table (A2)	Aquatic F	auna (B13)			nage Patterns (B10)	
Saturation (A3)	Marl Depr	osits (B15)		Moss	s Trim Lines (B16)	
Water Marks (B1)	Hydrogen	Sulfide Odor (C1)		Dry-S	Season Water Table (C2))
Sediment Deposits (B2)	Oxidized	Rhizospheres on Liv	ving	Cray	fish Burrows (C8)	
Drift Deposits (B3)	Roots (C3		-	Satur	ration Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence	of Reduced Iron (C	24)	(C9)		
Iron Deposits (B5)	Recent In	on Reduction in Tille	ed	Stun	ted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6))		X Geor	morphic Position (D2)	
Imagery (B7)	Thin Muc	k Surface (C7)		Shall	low Aquitard (D3)	
Sparsely Vegetated Concave		plain in Remarks)		X FAC	-Neutral Test (D5)	
Surface (B8)				Micro	otopographic Relief (D4)	
	<u></u>					
Field Observations:						
Surface water present? Yes	No X	Depth (inches):):		Indicators of	
Water table present? Yes	No X			-	wetland	
Saturation present? Yes	No X			-	hydrology	
(includes capillary fringe)		_ ' '	-	-	present? Y	
, , , ,					<u></u>	-
Describe recorded data (stream gauge,	monitoring well, aeri	ial photos, previous	s inspections	s), if availa	ble:	
, , -	•	•	•	,,		
Remarks:						
Tiomaine.						

GETATION - Use scientific na	mee or plante				Sampling Point: 19-1w 50/20 Thresholds
Tara Otraham	I Dealtrea	Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30	'Radius)	% Cover	Species	Status	Tree Stratum 0 0
			•		Sapling/Shrub Stratum 6 15
					Herb Stratum 20 50
					Woody Vine Stratum 0 0
					-
					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)
		- 0 :	Total Cover		
			- Total Covel		Percent of Dominant
		A la la d -	Danis	La dia atao	Species that are OBL,
apling/Shrub Plot Size (15	'Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/E
Stratum		% Cover	Species	Status	
Rhamnus cathartica	European Buckthorn	30	Y	FAC	Prevalence Index Worksheet
					Total % Cover of:
					OBL species $5 \times 1 = 5$
					FACW species 75 x 2 = 150
					FAC species 50 x 3 = 150
					FACU species 0 x 4 = 0
	<u></u>				<u> </u>
					Column totals 130 (A) 305 (B)
					Prevalence Index = B/A = 2.35
		30:	Total Cover		Halanda Ca Manada Canda Pantana
		A book ito	Dominant	Indicator	Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5'	Radius)	Absolute % Cover	Dominant Species	Indicator Status	Rapid test for hydrophytic vegetation Dominance test is >50%
Leersia virginica	White Grass	% Cover 20	Species V	FACW	X Prevalence index is ≤3.0*
Leersia virginica Laportea canadensis	Canadian Wood-Nettle	20	<u> </u>	FACW	
Impatiens capensis	Spotted Touch-Me-Not	20	<u> </u>	FACW	Morphological adaptations* (provide
· · · · · · · · · · · · · · · · · · ·	•				supporting data in Remarks or on a
Carex scoparia	Pointed Broom Sedge	10	<u>N</u>	FACW	separate sheet)
Athyrium angustum	Northern Lady Fern	10	<u>N</u>	FAC	Problematic hydrophytic vegetation*
Urtica dioica	Stinging Nettle	10	N	FAC	(explain)
Onoclea sensibilis	Sensitive Fern	<u>5</u> 5	N	FACW	*Indicators of hydric soil and wetland hydrology must
Carex stipata	Stalk-Grain Sedge	5	N	OBL	present, unless disturbed or problematic
		_			Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diamet
					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH at
					greater than 3.28 ft (1 m) tall.
		100 :	Total Cover		
					Herb - All herbaceous (non-woody) plants, regardless
Woody Vine Plot Size (30	' Padius \	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum 1 lot Size (30	radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
		0 :	= Total Cover		present? Y
			- Total Covel		present:
marks: (Include photo numbers here	e or on a separate sheet)				1
kweed present in the open water por					
Jou process in the open water por	or are mediana.				

SOIL Sampling Point: 19-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-4 100 Sandy Loam 4-10 10YR 4/2 90 7.5YR 5/8 10 С Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetla	and Assessmer	<u>it</u> City/County:	Vadnais He	ights/Ramsey	_{/_} Sampling Date: <u>06/15/</u>	′2020
Applicant/Owner: Vadnais Lake Area W	ater Manageme	ent Organization	State: I		Sampling Point:	20-1w
Investigator(s): Rebecca Beduhn, Erin Bud	row, Bailey Nel	son	Section,	Township	, Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslo	ре	Loc	cal relief (d	concave, c	convex, none): Conca	ive
Slope (%): 1 Lat.: 45.06438		g.: -93.09286351	Datu	ım: <u>UTM N</u>	NAD 83 ZONE 15N	
Soil Map Unit Name: Isanti loamy fine sand,			<u> </u>	NWI C	Classification: PEM1C	
Are climatic/hydrologic conditions of the site		time of the year?	Yes	(If no,	explain in remarks)	
	or hydrology	significantly	-		Are "normal	
Are vegetation , soil , o	or hydrology	naturally pr	oblematic	?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)	-					
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?		Is the sampled	d area wit	hin a wot	land? Y	
Hydric soil present?	<u> </u>	is tile sampled	Jaiea wii	.Illii a weu	iano:	_
	<u>'</u>	lf ontional	···ctland ai	:±-> ID.	Watland 20	
Indicators of wetland hydrology present?	<u> </u>	If yes, optional	wetiand si	ite iD:	Wetland 20	
Demontos (Evalais alternativo propeduros he	era or in a cons	erata rapart)				
Remarks: (Explain alternative procedures he	ere or in a sepa	rate report.)				
HYDROLOGY						
T T T T T T T T T T T T T T T T T T T				Casan	de de la die et ana (nainina un	·· -£ 4
Division la disente de l'estata una effecta de la magni	الم علم ما ما المناطقة المناط	to a Community (ndary Indicators (minimur	n or two
Primary Indicators (minimum of one is required to the control of t				require	,	
Surface Water (A1)		stained Leaves (B9)			urface Soil Cracks (B6)	
X High Water Table (A2)		Fauna (B13)			rainage Patterns (B10)	
X Saturation (A3)		posits (B15)			oss Trim Lines (B16)	<u>~`</u>
Water Marks (B1)		en Sulfide Odor (C1)			ry-Season Water Table (C	2)
Sediment Deposits (B2)		Rhizospheres on Liv	ving		rayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C	•	. 41		aturation Visible on Aerial I	magery
Algal Mat or Crust (B4)		e of Reduced Iron (C		(C	•	- 1
Iron Deposits (B5)		ron Reduction in Tille	∌d		unted or Stressed Plants (,D1)
Inundation Visible on Aerial	Soils (C6	•			eomorphic Position (D2)	
Imagery (B7)		ck Surface (C7)			nallow Aquitard (D3)	ŀ
Sparsely Vegetated Concave	Other (E	Explain in Remarks)			AC-Neutral Test (D5)	
Surface (B8)				Mi	icrotopographic Relief (D4))
E. 11 Ok					_	
Field Observations:						
Surface water present? Yes	NoX			—	Indicators of	
Water table present? Yes X	No	Depth (inches):			wetland	
Saturation present? Yes X	No	Depth (inches):	: 0		hydrology	
(includes capillary fringe)					present? Y	_
Describe recorded data (stream gauge, mor	nitoring well, ae	rial photos, previous	s inspectio	ons), if ava	ıilable:	
Remarks:						

/EGETATION - Use scientific names of plants				Sampling Point: 20-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
Tiee Stratum Flot Size (30 Radius)	% Cover	Species	Status	Tree Stratum 7 18
Fraxinus pennsylvanica Green Ash	25	Y	FACW	Sapling/Shrub Stratum 1 3
Salix nigra Black Willow	10	Y	OBL	Herb Stratum 20 50
				Woody Vine Stratum 1 3
				Dominance Test Worksheet
)				
				Number of Dominant
				Species that are OBL,
3				FACW, or FAC: 7 (A)
9				Total Number of Dominant
				Species Across all Strata: 8 (B)
	35	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 87.50% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	
		•		Prevalence Index Worksheet
	5	<u></u>	FACTV	
				Total % Cover of:
3				OBL species <u>55</u> x 1 = <u>55</u>
<u></u>				FACW species 60 x 2 = 120
				FAC species 10 x 3 = 30
				FACU species 20 x 4 = 80
·				UPL species $0 \times 5 = 0$
n	_			· — —
				Column totals 145 (A) 285 (B)
				Prevalence Index = B/A =1.97
				
	5	= Total Cover		
			,	Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
1 Typha angustifolia Narrow-Leaf Cat-Tail	15	<u>Y</u>	OBL	X Prevalence index is ≤3.0*
2 Onoclea sensibilis Sensitive Fern	15	<u>Y</u>	FACW	Morphological adaptations* (provide
3 Carex lacustris Lakebank Sedge	15	Y	OBL	supporting data in Remarks or on a
4 Vicia americana American Purple Vetch	15	<u>Y</u>	FACU	separate sheet)
5 Phalaris arundinacea Reed Canary Grass		<u>N</u>	FACW	Problematic hydrophytic vegetation*
6 Carex hystericina Porcupine Sedge		<u>N</u>	OBL	(explain)
7 Parthenocissus inserta Thicket-Creeper	5	N	FACU	*Indicators of hydric soil and wetland hydrology must be
8 Persicaria lapathifolia Dock-Leaf Smartweed		N	FACW	present, unless disturbed or problematic
9 Lemna minor Common Duckweed	5	N	OBL_	
D Equisetum arvense Field Horsetail	5	N	FAC	Definitions of Vegetation Strata:
2	<u> </u>			Tree - Woody plants 3 in. (7.6 cm) or more in diameter
3				at breast height (DBH), regardless of height.
4				Carling/about Mandy plants loss than 2 in DDH and
5				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
	100	= Total Cover		groater than 6.25 it (1 iii) tall.
				Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	W 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
1 Vitis riparia River-Bank Grape	5	Y	FAC	Woody vines - All woody vines greater than 3.28 ft in height.
·			170	neight.
3 				
4				Hydrophytic
5				vegetation
	5	= Total Cover		present? Y
emarks: (Include photo numbers here or on a separate sheet)				
uckweed present in the open water portion of the wetland.				
ote: This data sheet has been adapted to use the 2018 National Wetland	Plant List:			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 20-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/1 100 Loamy Sand 10-16 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetlar	nd Assessment	City/County:	Vadnais Hei	ights/Ramsey	_Sampling Date: 06/16/2	2020	
Applicant/Owner: Vadnais Lake Area Wa	ater Managemer	nt Organization	State: N	MN	Sampling Point:	21-1w	
Investigator(s): Rebecca Beduhn, Erin Budr			Section,	Township,	Range: T30 R22 S30		
Landform (hillslope, terrace, etc.): toeslop	pe	Lo	cal relief (c	concave, co	onvex, none): Concav	/е	
Slope (%): 1 Lat.: 45.063637		.: -93.09242204	Datu	ım: <u>UTM N</u>	IAD 83 ZONE 15N		
Soil Map Unit Name: Ronneby fine sandy loa				NWI C	Classification: None		
Are climatic/hydrologic conditions of the site	• •	•	Yes		explain in remarks)		
	or hydrology	significantly			Are "normal		
	or hydrology	naturally pr	roblematic'	?	circumstances" present	t? Yes	
(If needed, explain any answers in remarks)							
SUMMARY OF FINDINGS							
SUMMART OF FINDINGS							
Hydrophytic vegetation present?	Υ	Is the sampled	d area wit	hin a wetl	and? Y		
Hydric soil present?	<u>Y</u>					-	
Indicators of wetland hydrology present?	· ·	If yes, optional	wetland si	ita ID:	Wetland 21		
lindicators of wetland frydrology present.		ii yes, optional	Welland on		VV GUALIA Z I		
Remarks: (Explain alternative procedures he	re or in a separa	ate report.)					
Tromaino. (Explain alternative process. 55	C Or iii a copa	ato roport.,					
HYDROLOGY							
			-	Second	dary Indicators (minimum	of two	
Primary Indicators (minimum of one is require	ed check all th:	at annly)		require		UI LVVC	
Surface Water (A1)	•	ai apply) ained Leaves (B9)		•	rface Soil Cracks (B6)		
X High Water Table (A2)		auna (B13)			ainage Patterns (B10)		
X Saturation (A3)	Marl Depo				oss Trim Lines (B16)		
Water Marks (B1)		Sulfide Odor (C1)			y-Season Water Table (C2	·\	
Sediment Deposits (B2)		Rhizospheres on Liv			ayfish Burrows (C8)	′	
Drift Deposits (B3)	Roots (C3)		VIIIg	Saturation Visible on Aerial Imagery			
Algal Mat or Crust (B4)		of Reduced Iron (C	^ 4)	(C9)			
Iron Deposits (B5)		•	,		ອ) unted or Stressed Plants (D	11)	
	Soils (C6)	on Reduction in Tille	3 0		eomorphic Position (D2))1)	
Inundation Visible on Aerial							
Imagery (B7)		k Surface (C7)			allow Aquitard (D3)	ŀ	
Sparsely Vegetated Concave	Other (Exp	plain in Remarks)			C-Neutral Test (D5)		
Surface (B8)				IVIIC	crotopographic Relief (D4)		
Field Observations:							
Surface water present? Yes	No X	Depth (inches):	١٠		Indicators of		
Water table present? Yes X	No No	Depth (inches):		—	wetland		
Saturation present? Yes X	No No	Depth (inches):		—	hydrology		
(includes capillary fringe)	_ 100	Deptil (illulies).		—]	present? Y	l	
(includes capillary fringe)					present:	_	
Describe recorded data (stream gauge, moni	itoring well aeri:	al photos previous	e inenectic	ne) if avai	ilahla.		
Describe recorded data (stream gauge, mon	Weii, acid	al priotos, previous	s inspectio)115 <i>)</i> , 11 avai	iable.		
Ddie							
Remarks:							

GETATION - Use scientific nar	nes of plants				Sampling Point: 21-1v
		Absolute	Dominant	Indicator	50/20 Thresholds 20% 50%
Tree Stratum Plot Size (30'	Radius)	% Cover	Species	Status	Tree Stratum 8 20
Fraxinus pennsylvanica	Green Ash	10	Y	FACW	Sapling/Shrub Stratum 10 25
Populus deltoides	Eastern Cottonwood	10	<u> </u>	FAC	Herb Stratum 22 55
Ulmus americana	American Elm	10	<u> </u>	FACW	Woody Vine Stratum 0 0
Quercus rubra	Northern Red Oak	10	<u> </u>	FACU	Troody Tine Statement
		_		<u> </u>	Dominance Test Worksheet
	 	_	-		
					Number of Dominant Species that are OBL,
		_			FACW, or FAC: 5 (A
				-	Total Number of Dominant
			Tatal Cover		Species Across all Strata:6 (B
		40 =	= Total Cover		Percent of Dominant
					Species that are OBL,
apling/Shrub Plot Size (15'	Padius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>83.33%</u> (A
Stratum Piol Size (15	Raulus)	% Cover	Species	Status	
Rhamnus cathartica	European Buckthorn	50	Y	FAC	Prevalence Index Worksheet
• • • • • • • • • • • • • • • • • • • •				<u> </u>	Total % Cover of:
	 				OBL species 10 x 1 = 10
					FACW species 120 x 2 = 240
					FAC species 60 x 3 = 180
				<u> </u>	FACU species 10 x 4 = 40
					UPL species 0 x 5 = 0
			-		Column totals 200 (A) 470 (E
			-		Prevalence Index = $B/A = 2.35$
					Prevaience index - Din - 2.00
		 50 :	= Total Cover		
			= TOtal Cove.		Hydrophytic Vegetation Indicators:
		Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
erb Stratum Plot Size (5'	Radius)	% Cover	Species	Status	X Dominance test is >50%
Leersia virginica	White Grass	% Cover	Species	FACW	X Prevalence index is ≤3.0*
Laportea canadensis	VVIIILE Grass Canadian Wood-Nettle	20	<u>Y</u> N	FACW	
Phalaris arundinacea	Reed Canary Grass	10	N N	FACW	Morphological adaptations* (provide
	•				supporting data in Remarks or on a
Impatiens capensis	Spotted Touch-Me-Not	10	N	FACW	separate sheet)
Calamagrostis canadensis	Bluejoint	10	<u>N</u>	OBL	Problematic hydrophytic vegetation*
					(explain)
					*Indicators of hydric soil and wetland hydrology mu
					present, unless disturbed or problematic
				_	
		<u> </u>			Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diam
		_			at breast height (DBH), regardless of height.
	<u></u>				Sapling/shrub - Woody plants less than 3 in. DBF
		110 :	= Total Cover		greater than 3.28 ft (1 m) tall.
		110	- Total Gove.		Herb - All herbaceous (non-woody) plants, regardl
Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30'	Radius)	% Cover	Species	Status	
Stratum		/0 OOVO.	Species	Status	Woody vines - All woody vines greater than 3.28 f
					height.
			-		
	<u></u>				Hydrophytic
					vegetation
		0 =	= Total Cover		present? Y
			1 444		
parks: (Include photo numbers here	or on a separate sheet)				
narks: (Include photo numbers here kweed present in the open water port					

SOIL Sampling Point: 21-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-6 100 Sandy Loam 6-12 10YR 4/2 90 7.5YR 5/8 10 С Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment	City/County:	Vadnais Heights/Rams	sey Sampling Date: 06/16/2	2020	
Applicant/Owner: Vadnais Lake Area Wate	r Management (Organization	State: MN	Sampling Point:	22-1w	
Investigator(s): Rebecca Beduhn, Erin Budrov	v, Bailey Nelson		Section, Townshi	ip, Range: T30 R22 S30		
Landform (hillslope, terrace, etc.): toeslope		Loc	cal relief (concave,	, convex, none): Conca	ve	
Slope (%): 5 Lat.: 45.06174262	2 Long.:	-93.09391703		1 NAD 83 ZONE 15N		
Soil Map Unit Name: Water			NWI	l Classification: PFO1A		
Are climatic/hydrologic conditions of the site type				o, explain in remarks)	_	
Are vegetation, soil, or			/ disturbed?	Are "normal		
	hydrology	naturally pro	oblematic?	circumstances" present	t? Yes	
(If needed, explain any answers in remarks)						
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	<u>Y</u>	Is the sampled	l area within a we	etland? Y	_	
Hydric soil present? Indicators of wetland hydrology present?	Y	If yes, optional v	wetland site ID:	Wetland 22		
Remarks: (Explain alternative procedures here	or in a separate	report.)				
HYDROLOGY						
			Seco	ondary Indicators (minimum	of two	
Primary Indicators (minimum of one is required	t check all that	anply)	requi	-	101111	
X Surface Water (A1)		ed Leaves (B9)	-	Surface Soil Cracks (B6)		
X High Water Table (A2)	Aquatic Faur	` ,		Drainage Patterns (B10)		
X Saturation (A3)	Marl Deposit			Moss Trim Lines (B16)		
Water Marks (B1)		ulfide Odor (C1)		Dry-Season Water Table (C2	<u>'</u>)	
Sediment Deposits (B2)		izospheres on Liv		Crayfish Burrows (C8)	,	
Drift Deposits (B3)	Roots (C3)			Saturation Visible on Aerial In	nagery	
Algal Mat or Crust (B4)		Reduced Iron (C				
Iron Deposits (B5)	Recent Iron	Reduction in Tille		Stunted or Stressed Plants ([D1)	
Inundation Visible on Aerial	Soils (C6)			Geomorphic Position (D2)		
Imagery (B7)	Thin Muck S	Surface (C7)	<u> </u>	Shallow Aquitard (D3)		
Sparsely Vegetated Concave	Other (Expla	ain in Remarks)	X	FAC-Neutral Test (D5)		
Surface (B8)			<u> </u>	Microtopographic Relief (D4)		
Field Observations:			_			
Surface water present? Yes X		Depth (inches):		Indicators of		
Water table present? Yes X		Depth (inches):		wetland		
Saturation present? Yes X	No	Depth (inches):	0	hydrology		
(includes capillary fringe)				present? Y	_	
Describe recorded data (stream gauge, monito	ring well aerial	shotos previous	increations) if a	voilable:		
Describe recorded data (stream gauge, monito	TITIS WEII, actial p	prioros, previous	ilispections), ii a	valiable.		
Remarks:						

GETATION - Use scientific n	•				50/20 Thresholds
roo Stratum Dlat Sizo / 2	O' Radius	Absolute	Dominant	Indicator	20% 50%
ree Stratum Plot Size (3	O'Radius)	% Cover	Species	Status	Tree Stratum 8 20
Populus deltoides	Eastern Cottonwood	10	<u> </u>	FAC	Sapling/Shrub Stratum 3 8
Ulmus americana	American Elm	10	Υ	FACW	Herb Stratum 10 25
Quercus macrocarpa	Burr Oak	10	Y	FACU	Woody Vine Stratum 0 0
Quercus rubra	Northern Red Oak	10	Υ	FACU	
					Dominance Test Worksheet
		_			Number of Dominant
					Species that are OBL,
		_			FACW, or FAC: <u>8</u> (A)
		_			Total Number of Dominant
					Species Across all Strata: 10 (B)
		40	Total Cover		Percent of Dominant
					Species that are OBL,
pling/Shrub	El Dadius	Absolute	Dominant	Indicator	FACW, or FAC: 80.00% (A/I
Stratum Plot Size (1	5 Radius)	% Cover	Species	Status	,
Rhamnus cathartica	European Buckthorn	10	Υ	FAC	Prevalence Index Worksheet
Fraxinus pennsylvanica	Green Ash	5	<u> </u>	FACW	Total % Cover of:
. raxinas perinsylvanica	Green Asn			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	OBL species 30 x 1 = 30
					FACW species 20 x 2 = 40
					FAC species 30 x 3 = 90
					FACU species 25 x 4 = 100
					UPL species 0 x 5 = 0
					Column totals 105 (A) 260 (B)
					Prevalence Index = B/A = 2.48
					
		15	= Total Cover		H. L. J. C. V. J. C. J. P. J.
		Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
erb Stratum Plot Size (5	5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Rhamnus cathartica	European Buckthorn	10	Y	FAC	X Prevalence index is ≤3.0*
Carex stricta	Uptight Sedge	10	<u> </u>	OBL	Morphological adaptations* (provide
Iris versicolor	Harlequin Blueflag	10	Y	OBL	supporting data in Remarks or on a
Iris pseudacorus	Pale-Yellow Iris	10	Y	OBL	separate sheet)
Maianthemum canadense	FALSE Lily-of-the-Valley	5	N	FACU	Problematic hydrophytic vegetation*
Fraxinus pennsylvanica	Green Ash	5	N	FACW	(explain)
					*Indicators of hydric soil and wetland hydrology mus
					present, unless disturbed or problematic
		_			Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diame
		_			at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH
		_			greater than 3.28 ft (1 m) tall.
		50	Total Cover		
					Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall.
Voody Vine Plot Size (3	0' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.20 it tall.
Stratum	,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft
					height.
					
					Hydrophytic
					vegetation
		0	Total Cover		present? Y
arks: (Include photo numbers her	re or on a separate sheet)				
weed present in the open water po	rtion of the wetland.				

SOIL Sampling Point: 22-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-8 10YR 2/1 100 Muck *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	1 Assessment City/County:	Vadnais Heights/Ramsey	_Sampling Date: <u>06/16/2</u>	<u> 2020 </u>		
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	23-1w		
Investigator(s): Rebecca Beduhn, Erin Budrov			Range: T30 R22 S30			
Landform (hillslope, terrace, etc.): toeslope	eLoc	cal relief (concave, co	onvex, none): Concav	ve		
Slope (%): 3 Lat.: 45.0618631		Datum: UTM N.	IAD 83 ZONE 15N			
Soil Map Unit Name: Duluth silt loam, 6 to 12		NWI CI	lassification: None			
Are climatic/hydrologic conditions of the site ty		Yes (If no, e	explain in remarks)			
Are vegetation, soil, or			Are "normal			
Are vegetation, soil, or	hydrology naturally pro	oblematic?	circumstances" present	t? Yes		
(If needed, explain any answers in remarks)						
SUMMARY OF FINDINGS						
OUMILIANT OF THE INC.						
Hydrophytic vegetation present?	Y Is the sampled	l area within a wetla	and? Y			
Hydric soil present?	<u>Y</u>			-		
Indicators of wetland hydrology present?	Y If yes, optional v	wetland site ID:	Wetland 23			
, J						
Remarks: (Explain alternative procedures here	or in a separate report.)					
` '						
HYDROLOGY						
		Second	dary Indicators (minimum	of two		
Primary Indicators (minimum of one is required	d: check all that apply)	required				
Surface Water (A1)	Water-Stained Leaves (B9)	•	rface Soil Cracks (B6)			
X High Water Table (A2)	Aquatic Fauna (B13)		ainage Patterns (B10)			
X Saturation (A3)	Marl Deposits (B15)		ss Trim Lines (B16)			
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		/-Season Water Table (C2	.)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		ayfish Burrows (C8)	<i></i>		
Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery			
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4					
Iron Deposits (B5)	Recent Iron Reduction in Tille	<i></i> `	inted or Stressed Plants (D) 1)		
Inundation Visible on Aerial	Soils (C6)		omorphic Position (D2)	,		
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)	ŀ		
Sparsely Vegetated Concave	Other (Explain in Remarks)		C-Neutral Test (D5)	ŀ		
Surface (B8)			crotopographic Relief (D4)	ŀ		
ounass (25)			,			
Field Observations:						
Surface water present? Yes	No X Depth (inches):		Indicators of			
Water table present? Yes X	No Depth (inches):		wetland			
Saturation present? Yes X	No Depth (inches):		hydrology			
(includes capillary fringe)			present? Y	l		
(Illiciades capillally fillinge)			present:	-		
Describe recorded data (stream gauge, monito	oring well aerial photos previous	inspections) if avail	lahle.			
Describe recorded data (stream gaage, memic	Jilly Well, deliai priotos, provisas	illopections, il avail	able.			
Remarks:						
Remarks.						

	nes of plants				50/20 Thresholds
Trop Ctratum Diet Size / 2011	Dodina \	Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30' I	Radius)	% Cover	Species	Status	Tree Stratum 0 0
		<u> </u>			Sapling/Shrub Stratum 1 3
					Herb Stratum 20 50
					Woody Vine Stratum 0 0
					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)
		0 :	Total Cover	•	Percent of Dominant
					Species that are OBL,
Sapling/Shrub	- "	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B
Stratum Plot Size (15' I	Radius)	% Cover	Species	Status	(***
	European Buckthorn	5	Y	FAC	Prevalence Index Worksheet
	Laropean Backmon		<u></u>	<u> </u>	Total % Cover of:
					OBL species 25 x 1 = 25
					FACW species 75 x 2 = 150
					FAC species <u>5</u> x 3 = <u>15</u>
					FACU species 0 x 4 = 0
					UPL species0 _ x 5 =0
					Column totals 105 (A) 190 (B)
					Prevalence Index = B/A = 1.81
		5 :	Total Cover		
					Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' F	Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
		% Cover	Species	Status	X Dominance test is >50%
	Reed Canary Grass	60	<u>Y</u>	FACW	X Prevalence index is ≤3.0*
•	Arrow-Leaf Tearthumb	20	Υ	OBL	Morphological adaptations* (provide
	Spotted Touch-Me-Not	10	N	FACW	supporting data in Remarks or on a
Laportea canadensis	Canadian Wood-Nettle	5	N	FACW	separate sheet)
Carex lacustris	Lakebank Sedge	5	N	OBL	Problematic hydrophytic vegetation*
					(explain)
					*Indicators of hydric soil and wetland hydrology must
					present, unless disturbed or problematic
					Definitions of Vegetation Strata:
					
					Tree - Woody plants 3 in. (7.6 cm) or more in diamet
					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH a
					greater than 3.28 ft (1 m) tall.
		100 :	= Total Cover		
					Herb - All herbaceous (non-woody) plants, regardles size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' I	Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 5.20 ft tail.
Stratum 1 lot 3126 (30 l	,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
		0 :	= Total Cover		present? Y
marks: (Include photo numbers here o	or on a separate sheet)				
kweed present in the open water portion	on of the wetland.				
ckweed present in the open water portion	on of the wetland.				

SOIL Sampling Point: 23-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-2 10YR 2/2 100 Muck 2-6 10YR 3/2 100 Silty Loam 10YR 5/1 100 Silty Loam 6-12 *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: vadnais/Sucker Park Wetian	ı Assessmeni	City/County:	Vadnais H	leights/Ramsey	Sampling Date: 06/16/2	2020
Applicant/Owner: Vadnais Lake Area Wat	er Manageme	nt Organization	State:	MN	Sampling Point:	24-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nels	son	Section	, Township,	Range: T30 R22 S19	
Landform (hillslope, terrace, etc.): toeslope	е	Lor			onvex, none): Concav	ve
Slope (%): 3 Lat.: 45.059971	Long	g.: -93.103373	Dat	um: UTM N	IAD 83 ZONE 15N	
Soil Map Unit Name: Aquolls and histosols, p		-			lassification: PEM1C	
Are climatic/hydrologic conditions of the site ty		time of the year?	Yes		explain in remarks)	
	hydrology	significantly			Are "normal	
	hydrology	naturally pr			circumstances" present	t? Yes
(If needed, explain any answers in remarks)			•	•	• · · · · · · · · · · · · · · · · · · ·	
,						
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	Υ	Is the sampled	d area w	ithin a wetl	and? Y	
Hydric soil present?	<u> </u>					-
Indicators of wetland hydrology present?	<u> </u>	If yes, optional	wetland (oita ID:	Wetland 24	
Indicators of wedand flydrology present:	<u> </u>	ii yes, optional	Welland	SILE ID	VV Ellanu 24	
Remarks: (Explain alternative procedures here	or in a senar	rate report)				
Remains. (Explain alternative procedures here	; Ur iii a separ	ale report.				
HYDROLOGY						
					de la die etema (mainima) ma	- £ 4
	1 - 1 - 1 - 1 - 1 4	(1 \)			dary Indicators (minimum	OT TWO
Primary Indicators (minimum of one is require	-	11.27		require	,	
X Surface Water (A1)		ained Leaves (B9)			rface Soil Cracks (B6)	
X High Water Table (A2)		Fauna (B13)			ainage Patterns (B10)	
X Saturation (A3)		osits (B15)			oss Trim Lines (B16)	
Water Marks (B1)		n Sulfide Odor (C1)			y-Season Water Table (C2)	:)
Sediment Deposits (B2)		Rhizospheres on Liv	ving		ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)				turation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence	e of Reduced Iron (C	4)	(C9	3)	
Iron Deposits (B5)	Recent In	on Reduction in Tille	∍d	Stu	unted or Stressed Plants (D) 1)
Inundation Visible on Aerial	Soils (C6)	·)		X Ge	eomorphic Position (D2)	
Imagery (B7)	Thin Muc	ck Surface (C7)		Sha	allow Aquitard (D3)	
Sparsely Vegetated Concave		xplain in Remarks)		X FA	.C-Neutral Test (D5)	
Surface (B8)					crotopographic Relief (D4)	
, ,						
Field Observations:						
Surface water present? Yes X	No	Depth (inches):	: 3		Indicators of	
Water table present? Yes X	No	Depth (inches):		_	wetland	
Saturation present? Yes X	No	Depth (inches):		-	hydrology	
(includes capillary fringe)			·		present? Y	
(_
Describe recorded data (stream gauge, monitor	oring well, aer	ial photos, previous	s inspect	ions), if avai	lable:	
	J ,	F		- /,		
Remarks:						
Tromano.						

EGETATION - Use scientific names of plants				Sampling Point: 24-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
Tiot olize (oo raada)	% Cover	Species	Status	Tree Stratum 0 0
<u></u>				Sapling/Shrub Stratum 6 15
2				Herb Stratum 19 48
			-	Woody Vine Stratum 0 0
				
<u></u>				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)
	0	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B
Stratum Plot Size (15' Radius)	% Cover	Species	Status	FACW, 01 FAC. 100.00% (A/B
		•		
Rhamnus cathartica European Buckthorn	20	Y	FAC	Prevalence Index Worksheet
Cornus alba Red Osier	10	Y	FACW	Total % Cover of:
-				OBL species 95 x 1 =95
				FACW species 10 x 2 = 20
				FAC species 20 x 3 = 60
				FACU species $0 \times 4 = 0$
			•	UPL species $0 \times 5 = 0$
				Column totals 125 (A) 175 (B)
				Prevalence Index = B/A = 1.40
				
	30	= Total Cover		H. L. J. C. W. M. C. J. P. C.
	A book ito	Dominant	Indicator	Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation X Dominance test is >50%
Typha spp Cattails	% Cover	Species	Status OBL	X Prevalence index is ≤3.0*
Typha spp Cattails	95	Y	OBL	
				Morphological adaptations* (provide
				supporting data in Remarks or on a
<u></u>				separate sheet)
				Problematic hydrophytic vegetation*
-				(explain)
				*Indicators of hydric soil and wetland hydrology must
				present, unless disturbed or problematic
<u></u>				
				Definitions of Vegetation Strata:
				_
				Tree - Woody plants 3 in. (7.6 cm) or more in diamete
				at breast height (DBH), regardless of height.
				Sapling/shrub - Woody plants less than 3 in. DBH ar greater than 3.28 ft (1 m) tall.
	95	= Total Cover		greater than 3.20 ft (1 fil) tall.
		. 510 5575.		Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	W 1
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0,000.00		Woody vines - All woody vines greater than 3.28 ft in height.
	-			neight.
			•	
			•	
				Hydrophytic
				vegetation
	0	= Total Cover		present? Y
emarks: (Include photo numbers here or on a separate sheet) ckweed present in the open water portion of the wetland. te: This data sheet has been adapted to use the 2018 National Wetland				

SOIL Sampling Point: 24-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-4 10YR 2/2 100 Muck 4-20 10YR 2/2 100 Loam 20-26 10YR 6/1 100 Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators: Indicators for Problematic Hydric Soils:** Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/16/2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Sampling Point: 24-1w
Investigator(s): Rebecca Beduhn, Erin Budro		Section, Township, Range: T30 R22 S19
Landform (hillslope, terrace, etc.): toeslope		cal relief (concave, convex, none): Concave
Slope (%): 3 Lat.: 45.061181	Long.: -93.102609	Datum: UTM NAD 83 ZONE 15N
Soil Map Unit Name: Aquolls and histosols, po		NWI Classification: PSS1B
Are climatic/hydrologic conditions of the site ty		Yes (If no, explain in remarks)
Are vegetation, soil, or		y disturbed? Are "normal
Are vegetation , soil , or	hydrologynaturally pro	oblematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		
SUMMARY OF FINDINGS		
SUMMART OF FINDINGS		
Hydrophytic vegetation present?	Y Is the sampled	d area within a wetland?
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	Y If yes, optional v	wetland site ID: Wetland 24
Therefore of Welland Hydrology process.		Wolfalla Sita ID.
Remarks: (Explain alternative procedures here	e or in a separate report.)	
Tromano. (Explain anoa.r.) p. 000aa. 22	you in a coparate topotal,	
HYDROLOGY		
	-	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required	d check all that annly)	required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4	
Iron Deposits (B5)	 `	
	Recent Iron Reduction in Tille Soils (C6)	X Geomorphic Position (D2)
Inundation Visible on Aerial		
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes	No X Depth (inches):	Indicators of
Water table present? Yes X	No Depth (inches):	
Saturation present? Yes X	No Depth (inches):	
(includes capillary fringe)		present?
(Illiciades capillally lillinge)		hiezent:
Describe recorded data (stream gauge, monito	oring well serial photos previous	s inspections) if available:
Describe recorded data (stream gadge, months	Jilly Well, acital priotos, provioso	s inspections, in available.
Damaria		
Remarks:		

GETATION - Use scientific nam	•				50/20 Thresholds
Tree Stratum Plot Size (30' F	Padius 1	Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30 P	Radius)	% Cover	Species	Status	Tree Stratum 0 0
					Sapling/Shrub Stratum 10 25
					Herb Stratum 6 15
					Woody Vine Stratum 0 0
					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)
		0 =	Total Cover		Percent of Dominant
					Species that are OBL,
apling/Shrub Plot Size (15' F	Padius \	Absolute	Dominant	Indicator	FACW, or FAC:100.00%_ (A/B
Stratum Plot Size (15 F	Radius)	% Cover	Species	Status	
Frangula alnus	Glossy FALSE Buckthorn	20	Υ	FAC	Prevalence Index Worksheet
	European Buckthorn	10	Y	FAC	Total % Cover of:
	Green Ash	10	<u> </u>	FACW	OBL species 20 x 1 = 20
•	Red Osier	10	Y	FACW	FACW species $30 \times 2 = 60$
				FACW	
					FAC species 30 x 3 = 90
					FACU species 0 x 4 = 0
					UPL species0 x 5 =0
					Column totals <u>80</u> (A) <u>170</u> (B)
					Prevalence Index = B/A = 2.13
		50=	Total Cover		
		A la a a la da	D 1	la d'a de a	Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' R	adius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation X Dominance test is >50%
Tunho ann	Cattails	% Cover	Species	Status OBL	X Prevalence index is ≤3.0*
	Callaiis Reed Canary Grass	20 10	<u> </u>	FACW	
	•			FACW	Morphological adaptations* (provide
					supporting data in Remarks or on a
					separate sheet)
					Problematic hydrophytic vegetation*
	 				(explain)
					*Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
					present, unless disturbed of problematic
					Definitions of Vanadation Ofmate.
					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diamet at breast height (DBH), regardless of height.
	 				at bloadt holght (bb11), rogardiood of holght.
	 				Sapling/shrub - Woody plants less than 3 in. DBH a
<u> </u>			Total Cover		greater than 3.28 ft (1 m) tall.
		30=	Total Cover		Herb - All herbaceous (non-woody) plants, regardless
Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' F	Radius)	% Cover	Species	Status	
Giratain		70 OOVCI	Орсско	Otatas	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
		0	= Total Cover		present? Y
marks: (Include photo numbers here o					
kweed present in the open water portio	n or the welland.				

SOIL Sampling Point: 24-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-2 10YR 2/2 100 Muck 2-10 10YR 2/2 100 Loam 10-16 10YR 6/1 100 Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Samplin	ng Date: 06/16/2020		
Applicant/Owner: Vadnais Lake Area Wat	ter Management Organization		npling Point: 25-1w		
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelson	Section, Township, Range:	T30 R22 S30		
Landform (hillslope, terrace, etc.): toeslope		cal relief (concave, convex, no	one): Concave		
Slope (%): 3 Lat.: 45.0611192		Datum: UTM NAD 83 Z			
Soil Map Unit Name: Mahtomedi loamy sand,		NWI Classificati	ion: PFO1A		
Are climatic/hydrologic conditions of the site ty			,		
Are vegetation, soil, or	·	y disturbed? Are "nor			
	hydrologynaturally pr	oblematic? circums	stances" present? Yes		
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS	<u> </u>				
Hydrophytic vegetation present? Hydric soil present?	Y Is the sampled	d area within a wetland?	Y		
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID: W	Vetland 25		
Remarks: (Explain alternative procedures here	e or in a separate report.)				
Tromano. (Explain altoalto p. 000a	y or in a coparate . sps,				
HYDROLOGY					
		Secondary Indic	cators (minimum of two		
Primary Indicators (minimum of one is require	d; check all that apply)	required)			
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil	Cracks (B6)		
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Par			
X Saturation (A3)	Marl Deposits (B15)	Moss Trim L	` ,		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Water Table (C2)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv				
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery			
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	, <u> </u>			
Iron Deposits (B5)	Recent Iron Reduction in Tille		tressed Plants (D1)		
Inundation Visible on Aerial	Soils (C6)	X Geomorphic	, ,		
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aqui			
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral			
Surface (B8)		iviicrotopogra	aphic Relief (D4)		
Field Observations:		1			
Surface water present? Yes	No X Depth (inches):	: Indicat	tors of		
Water table present? Yes X	No Depth (inches):				
Saturation present? Yes X	No Depth (inches):				
(includes capillary fringe)		pres			
					
Describe recorded data (stream gauge, monitor	oring well, aerial photos, previous	s inspections), if available:			
Remarks:					

SETATION - Use scientific nar	nes of plants				Sampling Point: 25-1w
					50/20 Thresholds
ree Stratum Plot Size (30'	Radius)	Absolute	Dominant	Indicator	20% 50%
`	,	% Cover	Species	Status	Tree Stratum 8 20
Fraxinus pennsylvanica	Green Ash	10	<u>Y</u>	FACW	Sapling/Shrub Stratum 10 25
Populus deltoides	Eastern Cottonwood	10	<u>Y</u>	FAC	Herb Stratum 28 70
Ulmus americana	American Elm	<u>10</u> 10	Y	FACW FACU	Woody Vine Stratum 0 0
Quercus rubra	Northern Red Oak	10	<u> </u>	FACU	· · · · · · · · · · · · · · · · ·
					Dominance Test Worksheet
					Number of Dominant
					Species that are OBL,
					FACW, or FAC: 7 (A)
					Total Number of Dominant
					Species Across all Strata: 8 (B)
		40 =	Total Cover		Percent of Dominant
					Species that are OBL,
oling/Shrub Plot Size (15'	Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>87.50%</u> (A/
Stratum	radias)	% Cover	Species	Status	
Rhamnus cathartica	European Buckthorn	50	Y	FAC	Prevalence Index Worksheet
					Total % Cover of:
		_			OBL species 5 x 1 = 5
					FACW species 75 x 2 = 150
					FAC species 140 x 3 = 420
					FACU species 10 x 4 = 40
					UPL species $0 \times 5 = 0$
					Column totals 230 (A) 615 (B)
	<u></u>				
	<u></u>				Prevalence Index = B/A = 2.67
		=	= Total Cover		
			- Total Gover		Hydrophytic Vegetation Indicators:
DI 101 / FIA	- " · · ·	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
b Stratum Plot Size (5' F	Radius)	% Cover	Species	Status	X Dominance test is >50%
Laportea canadensis	Canadian Wood-Nettle	30	·Y	FACW	X Prevalence index is ≤3.0*
Carex tenera	Quill Sedge	30	Y	FAC	Morphological adaptations* (provide
Rhamnus cathartica	European Buckthorn	25	Υ	FAC	supporting data in Remarks or on a
Carex radiata	Eastern Star Sedge	20	N	FAC	separate sheet)
Impatiens capensis	Spotted Touch-Me-Not	10	N	FACW	Problematic hydrophytic vegetation*
Leersia virginica	White Grass	5	N	FACW	(explain)
Glyceria striata	Fowl Manna Grass	5	N	OBL	*Indicators of hydric soil and wetland hydrology mus
Solanum dulcamara	Climbing Nightshade	5	N	FAC	present, unless disturbed or problematic
Fraxinus pennsylvanica	Green Ash	5	N	FACW	
Phalaris arundinacea	Reed Canary Grass	5	N	FACW	Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diame
		_			at breast height (DBH), regardless of height.
					Continuo la
					Sapling/shrub - Woody plants less than 3 in. DBH greater than 3.28 ft (1 m) tall.
		140 =	= Total Cover		grouter than 5.20 ft (1 fil) tall.
			22		Herb - All herbaceous (non-woody) plants, regardle
ody Vine	Dadius \	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
tratum Plot Size (30'	raulus)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft
					height.
		_			
	-				
					Hydronhytio
					Hydrophytic vegetation
		0 =	= Total Cover		present? Y
			- Total Covel		present? 1
rks: (Include photo numbers here	or on a senarate sheet)				.1
	טוו טו נווכ שכנומווט.				
eed present in the open water porti					
veed present in the open water porti					

SOIL Sampling Point: 25-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-6 100 Loamy Sand 6-12 10YR 4/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	J Assessment	City/County:	Vadnais Heig	ghts/Ramsey	Sampling Date: 06/16/2	<u>2020</u>
Applicant/Owner: Vadnais Lake Area Wate	er Management (Organization	State: N	/N	Sampling Point:	26-1w
Investigator(s): Rebecca Beduhn, Erin Budrov			Section, 7	Township,	Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslope			cal relief (co	oncave, co	onvex, none): Concav	/e
Slope (%): 1 Lat.: 45.0596596	1 Long.:	-93.09105685	Datur	m: <u>UTM N</u>	IAD 83 ZONE 15N	
Soil Map Unit Name: Udifluvents				NWI CI	lassification: None	
Are climatic/hydrologic conditions of the site ty		•	Yes		explain in remarks)	
	hydrology	significantly			Are "normal	
Are vegetation , soil , or	hydrology	naturally pro	oblematic?	,	circumstances" present	t? Yes
(If needed, explain any answers in remarks)	_					
SUMMARY OF FINDINGS						
OOMINACT OF FREE CO						
Hydrophytic vegetation present?	<u>Y</u>	Is the sampled	l area with	nin a wetla	and? Y	_
Hydric soil present?	Y					_
Indicators of wetland hydrology present?	Y	If yes, optional v	wetland site	e ID:	Wetland 26	
Remarks: (Explain alternative procedures here	or in a separate	report.)				
HYDROLOGY						
				Second	dary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d; check all that a	apply)		required		
Surface Water (A1)	Water-Staine	ed Leaves (B9)		Sur	rface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Faun	na (B13)			ainage Patterns (B10)	
X Saturation (A3)	Marl Deposits	s (B15)		Mos	ss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Su	ılfide Odor (C1)		Dry	/-Season Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhi	zospheres on Liv	/ing	Cra	ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)	-	-	Sat	turation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of F	Reduced Iron (C	4)	(C9		
Iron Deposits (B5)	Recent Iron F	Reduction in Tille	ed .	Stu	inted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)			X Geo	omorphic Position (D2)	
Imagery (B7)	Thin Muck Su	urface (C7)		Sha	allow Aquitard (D3)	ŀ
Sparsely Vegetated Concave	Other (Explai	in in Remarks)		X FAC	C-Neutral Test (D5)	
Surface (B8)				Mic	crotopographic Relief (D4)	
Field Observations:						
Surface water present? Yes	No X	Depth (inches):			Indicators of	
Water table present? Yes X		Depth (inches):		_	wetland	
Saturation present? Yes X		Depth (inches):		_	hydrology	
(includes capillary fringe)		. ,		_	present? Y	
, , , , , , , , , , , , , , , , , , , ,					•	-
Describe recorded data (stream gauge, monito	oring well, aerial r	ohotos, previous	inspection	ns), if avail	lable:	
	-	•	•	•		
Remarks:						

EGETATION - Use scientific nar	mes or plants				Sampling Point: 26-1w 50/20 Thresholds
		Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30'	Radius)	% Cover	Species	Status	Tree Stratum 0 0
					Sapling/Shrub Stratum 6 15
					Herb Stratum 5 14
					Woody Vine Stratum 0 0
5					Dominance Test Worksheet
5					Number of Dominant
,				-	Species that are OBL,
					FACW, or FAC: 4 (A)
				-	Total Number of Dominant
					Species Across all Strata: 4 (B)
			= Total Cover		· · · · · · · · · · · · · · · · · · ·
			- Total Govel		Percent of Dominant
Capling/Chr.th		A book ito	Dominant	Indicator	Species that are OBL,
Sapling/Shrub Stratum Plot Size (15'	Radius)	Absolute % Cover	Dominant	Status	FACW, or FAC: <u>100.00%</u> (A/E
			Species		
Rhamnus cathartica	European Buckthorn	15	Y	FAC	Prevalence Index Worksheet
Fraxinus pennsylvanica	Green Ash	15	Y	FACW	Total % Cover of:
					OBL species 0 x 1 = 0
					FACW species 40 x 2 = 80
					FAC species 17 x 3 = 51
					FACU species 0 x 4 = 0
					UPL species $0 \times 5 = 0$
					Column totals 57 (A) 131 (B)
					Prevalence Index = B/A = 2.30
			Total Cause		
		30:	= Total Cover		Hudronbutio Variation Indicators
		Absolute	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5'	Radius)	% Cover	Species	Status	X Dominance test is >50%
Leersia virginica	White Grass	10	Y	FACW	X Prevalence index is ≤3.0*
Carex scoparia	Pointed Broom Sedge	10	<u>'</u>	FACW	
Laportea canadensis	Canadian Wood-Nettle	5	<u>·</u> N	FACW	Morphological adaptations* (provide
Rhamnus cathartica	European Buckthorn		N	FAC	supporting data in Remarks or on a separate sheet)
Knamnus camanica	•		IN	FAC	
	_ 			-	Problematic hydrophytic vegetation*
					(explain)
					*Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
					present, unless disturbed of problematic
					
					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diamet
					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH a
					greater than 3.28 ft (1 m) tall.
		27 =	= Total Cover		
					Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30'	Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.20 it tall.
Stratum 1 lot Size (30	,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
2					
					Hydrophytic
					vegetation
		0 :	= Total Cover		present? Y
			rotal cover		<u> </u>
marks: (Include photo numbers here	or on a separate sheet)				
marks: (Include photo numbers here ckweed present in the open water port					

SOIL Sampling Point: 26-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-6 10YR 2/1 100 Loamy Sand 6-12 10RY 2/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) X Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetlan	d Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/16/202	.0
Applicant/Owner: Vadnais Lake Area Wat	ter Management Organization		27-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelson	Section, Township, Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslop	e Lo	ocal relief (concave, convex, none): Concave	
Slope (%): 2 Lat.: 45.0584538			
Soil Map Unit Name: Mahtomedi loamy sand,		NWI Classification: None	
Are climatic/hydrologic conditions of the site to			
Are vegetation, soil, or		tly disturbed? Are "normal	
	hydrologynaturally p	problematic? circumstances" present?	Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Hydric soil present?	Y Is the sample	ed area within a wetland? Y	
Indicators of wetland hydrology present?	Y If yes, optional	wetland site ID: Wetland 27	_
Remarks: (Explain alternative procedures here	e or in a separate report.)		
Tromano. (Explain anomano processa es escales	o or in a coparace . eps. a,		
HYDROLOGY			
		Secondary Indicators (minimum of	two
Primary Indicators (minimum of one is require	ed; check all that apply)	required)	
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Li	<u> </u>	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imag	ery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	, <u> </u>	
Iron Deposits (B5)	Recent Iron Reduction in Till		
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		
Surface (B8)		Microtopographic Relief (D4)	
Field Observations:			
Surface water present? Yes	No X Depth (inches)	i): Indicators of	
Water table present? Yes X	No Depth (inches)	′ 	
Saturation present? Yes X	No Depth (inches)		
(includes capillary fringe)		present? Y	
, , , , ,			
Describe recorded data (stream gauge, monit	oring well, aerial photos, previou	us inspections), if available:	
Remarks:			

VEGETATION - Use scientific names of plants				Sampling Point: 27-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
1 Populus deltoides Eastern Cottonwood	% Cover 20	Species Y	Status FAC	Tree Stratum 8 20 Sapling/Shrub Stratum 10 25
2 Fraxinus pennsylvanica Green Ash	10	<u> </u>	FACW	Herb Stratum 7 18
3 Ulmus americana American Elm	10	<u>'</u>	FACW	Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6	_			Number of Dominant
7				Species that are OBL,
8	_			FACW, or FAC: 7 (A)
9				Total Number of Dominant
10		T-1-I O		Species Across all Strata:7 (B)
	40	= Total Cover		Percent of Dominant
Caplina/Chruh	Abaduta	Dominant	Indicator	Species that are OBL,
Sapling/Shrub Plot Size (15' Radius)	Absolute % Cover	Dominant Species	Indicator Status	FACW, or FAC: <u>100.00%</u> (A/B)
1 Rhamnus cathartica European Buckthorn	40	Y	FAC	Prevalence Index Worksheet
2 Fraxinus pennsylvanica Green Ash		<u> </u>	FACW	Total % Cover of:
3 Green Asir	_ 10	<u></u>	FACW	OBL species $0 \times 1 = 0$
4			-	FACW species $45 \times 2 = 90$
5			-	FAC species 80 x 3 = 240
6				FACU species $0 \times 4 = 0$
7				UPL species $0 \times 5 = 0$
8				Column totals 125 (A) 330 (B)
9	_			Prevalence Index = $B/A = 2.64$
10				
	50	= Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation X Dominance test is >50%
1 Rhamnus cathartica European Buckthorn	% Cover 20	Species Y	Status FAC	X Prevalence index is ≤3.0*
2 Laportea canadensis Canadian Wood-Nettle	10	<u> </u>	FACW	Morphological adaptations* (provide
3 Leersia virginica White Grass	5	N	FACW	supporting data in Remarks or on a
4				separate sheet)
5	_			Problematic hydrophytic vegetation*
6				(explain)
7	_			*Indicators of hydric soil and wetland hydrology must be
8			FAC	present, unless disturbed or problematic
9				D.C. W C.V C.V C.V
10			-	Definitions of Vegetation Strata:
12				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
13				at breast height (DBH), regardless of height.
14				Sapling/shrub - Woody plants less than 3 in. DBH and
15	_			greater than 3.28 ft (1 m) tall.
	35	= Total Cover		
M 1 N		Б.,		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute % Cover	Dominant Species	Indicator Status	
1	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in height.
2				neight.
3			-	
4				Hydrophytio
5				Hydrophytic vegetation
	0	= Total Cover		present? Y
Remarks: (Include photo numbers here or on a separate sheet)				
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland F	Plant List			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4	=101.			

SOIL Sampling Point: 27-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-18 10YR 2/2 95 10YR 5/1 5 D Loamy Sand M 18-24 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) X Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/16/2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Sampling Point: 28-1w
Investigator(s): Rebecca Beduhn, Erin Budro		Section, Township, Range: T30 R22 S30
Landform (hillslope, terrace, etc.): toeslope	e Lor	cal relief (concave, convex, none): Concave
Slope (%): 2 Lat.: 45.0583455		Datum: UTM NAD 83 ZONE 15N
Soil Map Unit Name: Hayden fine sandy loam		NWI Classification: PUBG
Are climatic/hydrologic conditions of the site ty	· ·	Yes (If no, explain in remarks)
Are vegetation, soil, or		y disturbed? Are "normal
Are vegetation , soil , or	hydrology naturally pr	roblematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		
SUMMARY OF FINDINGS		
SUMMART OF FINDINGS		
Hydrophytic vegetation present?	Y Is the sampled	d area within a wetland?
Hydric soil present?	<u> </u>	
Indicators of wetland hydrology present?	Y If yes optional	wetland site ID: Wetland 28
Therefore of Welland Hydrology process.		Wetterfu Site is.
Remarks: (Explain alternative procedures here	e or in a separate report.)	
1 to 11 to 1	, or in a soparate . Sps. tr,	
HYDROLOGY		
	-	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required	d check all that annly)	required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	
Iron Deposits (B5)		
	Recent Iron Reduction in Tille Soils (C6)	X Geomorphic Position (D2)
Inundation Visible on Aerial		Shallow Aguitard (D3)
Imagery (B7)	Thin Muck Surface (C7)	
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		-
Surface water present? Yes	No X Depth (inches):	: Indicators of
Water table present? Yes X	No Depth (inches):	
Saturation present? Yes X	No Depth (inches):	
(includes capillary fringe)	NO Deptil (iliches).	
(includes capillary iringe)		present? Y
Describe recorded data (stream gauge, monito	oring well periol photos previous	
Describe recorded data (stream gauge, monito	Jing well, aeliai pilotos, pievious	s inspections), ii avaliable.
Dd.s.		
Remarks:		

VEGETATION - Use scientific names of plants				Sampling Point: 28-1w
	A book ito	Dominant	Indicator	50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute % Cover	Dominant Species	Indicator Status	20% 50% Tree Stratum 4 10
1 Quercus macrocarpa Burr Oak	% Cover 20	Species	FACU	Sapling/Shrub Stratum 8 20
2 Bull Oak			1 700	Herb Stratum 25 63
3				Woody Vine Stratum 0 0
4				Woody villo Ottatam.
5				Dominance Test Worksheet
6		-		Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:6 (A)
9				Total Number of Dominant
				Species Across all Strata:7 (B)
	20	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub Plot Size (15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>85.71%</u> (A/B)
Stratum Tiol Size (13 Radius)	% Cover	Species	Status	
1 Rhamnus cathartica European Buckthorn	20	Y	FAC	Prevalence Index Worksheet
2 Fraxinus pennsylvanica Green Ash	20	Y	FACW	Total % Cover of:
3				OBL species <u>95</u> x 1 = <u>95</u>
4				FACW species 50 x 2 = 100
5				FAC species <u>20</u> x 3 = <u>60</u>
6				FACU species 20 x 4 = 80
7				UPL species 0 x 5 = 0
8				Column totals <u>185</u> (A) <u>335</u> (B)
9				Prevalence Index = B/A = 1.81
	40	= Total Cover		
	Absoluto	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	Absolute % Cover	Species	Status	X Dominance test is >50%
1 Leersia oryzoides Rice Cut Grass	30	Y	OBL	X Prevalence index is ≤3.0*
2 Carex lacustris Lakebank Sedge	25	Y	OBL	Morphological adaptations* (provide
3 Leersia virginica White Grass	20	Υ	FACW	supporting data in Remarks or on a
4 Carex hystericina Porcupine Sedge	20	Υ	OBL	separate sheet)
5 Laportea canadensis Canadian Wood-Nettle	10	N	FACW	Problematic hydrophytic vegetation*
6 Lemna minor Common Duckweed	10	N	OBL	(explain)
7 Persicaria sagittata Arrow-Leaf Tearthumb	10	N	OBL	*Indicators of hydric soil and wetland hydrology must be
8				present, unless disturbed or problematic
9				
10 11				Definitions of Vegetation Strata:
10				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
42				at breast height (DBH), regardless of height.
1314				
15				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
·-	125	= Total Cover		ground than 6.20 it (1 iii) taii.
				Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
Remarks: (Include photo numbers here or on a separate sheet)				.1
Duckweed present in the open water portion of the wetland.				
Note: This data sheet has been adapted to use the 2018 National Wetland	ป Plant List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 28-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-16 100 Loamy Sand 16-20 10YR 4/2 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/16/2	:020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	29-1w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section, Township,	Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslope	eLr	ocal relief (concave, co	onvex, none): Concav	re
Slope (%): 2 Lat.: 45.0577747	78 Long.: <u>-93.090336</u> 85	Datum: UTM N	AD 83 ZONE 15N	
Soil Map Unit Name: Udifluvents			lassification: None	
Are climatic/hydrologic conditions of the site ty			explain in remarks)	
		•	Are "normal	
Are vegetation, soil, or	hydrology naturally p	problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				 _
SUMMARY OF FINDINGS				
SUMMART OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sample	ed area within a wetla	and? Y	
Hydric soil present?	<u> </u>			-
Indicators of wetland hydrology present?	Y If yes, options	l wetland site ID:	Wetland 29	
midicators of wettaria figure 1997 present.	, 300, 001	- Wottaila oito ib.	*** Ottana 20	-
Remarks: (Explain alternative procedures here	or in a separate report.)			
Torrida (Explain and Later p. 111111)	, or in a cope. atc . op 1. 1.,			
HYDROLOGY				
	-	Second	lary Indicators (minimum	of two
Primary Indicators (minimum of one is required	d: check all that annly)	required		OI LVVO
X Surface Water (A1)	Water-Stained Leaves (B9)	•	face Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		ninage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		ss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		-Season Water Table (C2)	\
Sediment Deposits (B2)	Oxidized Rhizospheres on L		ayfish Burrows (C8)	,
Drift Deposits (B3)	Roots (C3)		uration Visible on Aerial Im	accon.
Algal Mat or Crust (B4)	Presence of Reduced Iron (lagery
· · · · · · · · · · · · · · · · ·	 `	<i>'</i>		14)
Iron Deposits (B5)	Recent Iron Reduction in Til		nted or Stressed Plants (Damerahic Position (D2)	71)
Inundation Visible on Aerial	Soils (C6) Thin Muck Surface (C7)		omorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		C-Neutral Test (D5)	
Surface (B8)		IVIIC	rotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes X	No Depth (inches	3):	Indicators of	
Water table present? Yes X	No Depth (inches		wetland	
Saturation present? Yes X	No Depth (inches		hydrology	
(includes capillary fringe)	Doput (monec)	present? Y	
(Includes capillally fillings)			present:	-
Describe recorded data (stream gauge, monito	oring well aerial photos, previou	us inspections), if avail	ahle:	
Describe recorded data (otream gaage, meme	Ting well, actial priotoc, provide	do inopociono,, ir avail	abic.	
Remarks:				
Remarks.				

EGETATION - Use scientific names of plants				Sampling Point: 29-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
	% Cover	Species	Status	Tree Stratum 2 5
Ulmus americana American Elm	10	Y	FACW	Sapling/Shrub Stratum 4 10
<u></u>				Herb Stratum 23 58
				Woody Vine Stratum 0 0
				Dominance Test Worksheet
				Number of Dominant
				Species that are OBL,
				FACW, or FAC: 3 (A)
			-	
	· ——			Total Number of Dominant
	10	Total Cause		Species Across all Strata:3(B)
	10	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub Plot Size (15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/B
Stratum	% Cover	Species	Status	
Rhamnus cathartica European Buckthorn	20	Υ	FAC	Prevalence Index Worksheet
·				Total % Cover of:
-				OBL species 80 x 1 = 80
				FACW species 40 x 2 = 80
<u></u>				FAC species <u>25</u> x 3 = <u>75</u>
				FACU species 0 x 4 = 0
-				UPL species $0 \times 5 = 0$
-				Column totals 145 (A) 235 (B)
	·			Prevalence Index = $B/A = 1.62$
				1 Tevalence index = B/A = 1.02
	20	= Total Cover		
		- Total Covel		Hydrophytic Vegetation Indicators:
	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Carex lacustris Lakebank Sedge	70	Y	OBL	X Prevalence index is ≤3.0*
Phalaris arundinacea Reed Canary Grass	10	N	FACW	
•	10	N	FACW	Morphological adaptations* (provide
,				supporting data in Remarks or on a
Onoclea sensibilis Sensitive Fern	10	<u>N</u>	FACW	separate sheet)
Alisma triviale Northern Water-Plantain	10	N	OBL	Problematic hydrophytic vegetation*
Solanum dulcamara Climbing Nightshade	5	N	FAC	(explain)
				*Indicators of hydric soil and wetland hydrology must
				present, unless disturbed or problematic
				Definitions of Vegetation Strata:
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
-				
				Sapling/shrub - Woody plants less than 3 in. DBH ar greater than 3.28 ft (1 m) tall.
	115	= Total Cover		greater than 3.20 ft (1 fil) tall.
				Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	
	70 0010.	0,00.00	Otatao	Woody vines - All woody vines greater than 3.28 ft in height.
				neight.
				
				Hydrophytic
				vegetation
				1 40 14
	0	= Total Cover		present? Y
	0	= Total Cover		present? Y
marks: (Include photo numbers here or on a separate sheet)	0	= Total Cover		present? Y
	0	= Total Cover		present? Y
marks: (Include photo numbers here or on a separate sheet)	0	= Total Cover		present? Y
marks: (Include photo numbers here or on a separate sheet)		= Total Cover		present? Y

SOIL Sampling Point: 29-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-8 10YR 2/1 100 Muck *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) X Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: <u>06/16/2</u>	:020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	30-1w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section, Township, R	lange: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslope	Loc	cal relief (concave, con	ivex, none): Concav	re
Slope (%): 1 Lat.: 45.0575489		Datum: UTM NA	D 83 ZONE 15N	
Soil Map Unit Name: Hayden fine sandy loam,		NWI Clas	ssification: None	
Are climatic/hydrologic conditions of the site ty		Yes (If no, ex	plain in remarks)	
Are vegetation, soil, or			Are "normal	
Are vegetation, soil, or	hydrology naturally pr	oblematic? c	circumstances" present	? Yes
(If needed, explain any answers in remarks)				 _
SUMMARY OF FINDINGS				
SUMMART OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sampled	l area within a wetlan	nd? Y	
Hydric soil present?	<u> </u>			-
Indicators of wetland hydrology present?	Y If yes, optional v	wetland site ID:	Wetland 30	
midicators of wettaria figure 1997 present.		Welland one i.b.	W Ottom to OO	-
Remarks: (Explain alternative procedures here	or in a separate report.)			
Torriding (Explain and Later p. 2004. 12	of it a coparate report,			
HYDROLOGY				
		Seconda	ry Indicators (minimum	of two
Primary Indicators (minimum of one is required	d. check all that apply)	required)	-	OI LVVO
Surface Water (A1)	Water-Stained Leaves (B9)	. ,	ace Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)		nage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		s Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Season Water Table (C2)	\
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		fish Burrows (C8)	,
Drift Deposits (B3)	Roots (C3)		ration Visible on Aerial Im	accon.
Algal Mat or Crust (B4)	Presence of Reduced Iron (C		allon visible on venariii	lagei y
Iron Deposits (B5)	 `	<u> </u>	ted or Stressed Plants (D	11)
	Recent Iron Reduction in Tille Soils (C6)		norphic Position (D2)	,,,, ,,,,
Inundation Visible on Aerial			ow Aquitard (D3)	
Imagery (B7)	Thin Muck Surface (C7)			
Sparsely Vegetated Concave	Other (Explain in Remarks)		-Neutral Test (D5)	
Surface (B8)		IVIICIC	otopographic Relief (D4)	
Field Observations:				
Surface water present? Yes	No Depth (inches):		Indicators of	
Water table present? Yes X	No Depth (inches):		wetland	
Saturation present? Yes X	No Depth (inches):		hydrology	
(includes capillary fringe)			present? Y	
(Includes capillally fillinge)			present:	-
Describe recorded data (stream gauge, monito	oring well aerial photos, previous	inspections) if availal	hle.	
Describe recorded data (otream gaage, meme	Jilly Woll, delial priotos, profisas	iliopooliolioj, il avallai	DIG.	
Remarks:				
Remarks.				

EGETATION - Use s	cientific names of plants				Sampling Point: 30-1w
		ما براه ما ۱	Development	l. disala	50/20 Thresholds
Tree Stratum Plo	ot Size(30' Radius)	Absolute % Cover	Dominant	Indicator	20% 50% Tree Stratum 0 0
		% Cover	Species	Status	
					Sapling/Shrub Stratum 0 0
					Herb Stratum 27 68
					Woody Vine Stratum 0 0
					
					Dominance Test Worksheet
					Number of Dominant
			<u> </u>		Species that are OBL,
					FACW, or FAC:1(A
					Total Number of Dominant
` <u>. </u>	<u></u> -				Species Across all Strata: 1 (B
			= Total Cover		
			- Total 55.5.		Percent of Dominant
" 'Ohmila		^ haaluta	Destinant	t tt = - akon	Species that are OBL,
Sapling/Shrub	ot Size(15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A
Stratum	,	% Cover	Species	Status	
			<u> </u>		Prevalence Index Worksheet
					Total % Cover of:
					OBL species 112 x 1 = 112
			·		FACW species 23 x 2 = 46
					FAC species 0 x 3 = 0
	<u>-</u>				FACU species0 _ x 4 =0
					UPL species 0 x 5 = 0
					Column totals 135 (A) 158 (B
	 -				Prevalence Index = B/A = 1.17
9 D					Prevaience index - Dir
			= Total Cover		
			= TUtal Covo.		Hydrophytic Vegetation Indicators:
		Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum PI	ot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
1 Carex strict	a Uptight Sedge	% Cover 85	Species	OBL	X Prevalence index is ≤3.0*
2 Carex lasioca		10	N 1	OBL	Morphological adaptations* (provide
3 Bidens cern			<u>N</u>	OBL	supporting data in Remarks or on a
4 Phalaris arundir		10	<u>N</u>	FACW	supporting data in Remarks of on a separate sheet)
5 Leersia virgin	· · · · · · · · · · · · · · · · · · ·	5	<u>N</u>	FACW	Problematic hydrophytic vegetation*
6 Impatiens cape			<u>N</u>	FACW	(explain)
			N	OBL	
7 Persicaria sagi					*Indicators of hydric soil and wetland hydrology mus
8 Laportea canad		e 3 2	N	FACW	present, unless disturbed or problematic
O <u>Calamagrostis car</u>	•		IN	OBL	D. Calling
					Definitions of Vegetation Strata:
1					Tree - Woody plants 3 in. (7.6 cm) or more in diame
2					at breast height (DBH), regardless of height.
3					
4					Sapling/shrub - Woody plants less than 3 in. DBH
5					greater than 3.28 ft (1 m) tall.
		135	= Total Cover		the state of the s
					Herb - All herbaceous (non-woody) plants, regardle size, and woody plants less than 3.28 ft tall.
Woody Vine Pla	ot Size(30' Radius)	Absolute	Dominant	Indicator	SIZE, and woduy piants less than 5.20 it tail.
Stratum	A SIZE (50 INAUIUS)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft
1					height.
2					3 3
2			-		
<u> </u>					
4					Hydrophytic
5			_		vegetation
		=	= Total Cover		present? Y
omarke: (Include photo n	umbers here or on a separate sheet)				
	en water portion of the wetland				
uckweed present in the op	chi watch portion of the wettand.				
	en water portion of the wettand.				
	— — — — — — — — — — — — — — — — — — —				

SOIL Sampling Point: 30-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-2 10YR 2/1 100 Muck 2-8 10YR 2/1 100 Loamy Sand 10YR 5/1 95 10YR 5/8 С 8-14 5 Μ Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface X 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Surface (A11) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleyed Matrix (S4) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County: var	dnais Heights/Ramsey Sampling Date: 06/16/2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization St	rate: MN Sampling Point: 31-1w
Investigator(s): Rebecca Beduhn, Erin Budrov	v, Bailey Nelson Se	ection, Township, Range: T30 R22 S30
Landform (hillslope, terrace, etc.): toeslope		relief (concave, convex, none): Concave
Slope (%): 5 Lat.: 45.0552588	3 Long.: -93.08752457	Datum: UTM NAD 83 ZONE 15N
Soil Map Unit Name: Hayden fine sandy loam,	6 to 12 percent slopes	NWI Classification: PABG
Are climatic/hydrologic conditions of the site ty	pical for this time of the year?	Yes (If no, explain in remarks)
Are vegetation , soil , or		sturbed? Are "normal
	hydrology naturally proble	ematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		·
SUMMARY OF FINDINGS		
- The state of the		
Hydrophytic vegetation present?	Y Is the sampled ar	rea within a wetland?
Hydric soil present?		- I
Indicators of wetland hydrology present?	V If you entional west	land site ID: Wetland 31
Indicators of wetland hydrology present?	Y If yes, optional wet	iand site ib. Wetland 31
Remarks: (Explain alternative procedures here	or in a separate report \	
Internative procedures here	or in a separate report.)	
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required	l: check all that apply)	required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	(C9)
Iron Deposits (B5)	Recent Iron Reduction in Tilled	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)	Other (Explain in Remarks)	Microtopographic Relief (D4)
Carrace (Bo)		Milorotopograpino rener (B4)
Field Observations:		
Surface water present? Yes	No X Depth (inches):	Indicators of
Water table present? Yes X	No Depth (inches):	10 wetland
Saturation present? Yes X	No Depth (inches):	0 hydrology
(includes capillary fringe)		present? Y
, , , , ,		· —
Describe recorded data (stream gauge, monito	ring well, aerial photos, previous ins	spections), if available:
, , ,		
Remarks:		
Remarks:		
Remarks:		

EGETATION - Use scientific name	3 OI PIAITIS				Sampling Point: 31-1w
					50/20 Thresholds
Tree Stratum Plot Size (30' Ra	adius)	Absolute	Dominant	Indicator	20% 50%
,	,	% Cover	Species	Status	Tree Stratum 4 10
	Ash-Leaf Maple	10	Y	FAC	Sapling/Shrub Stratum 4 10
Quercus rubra	Northern Red Oak	10	Y	<u>FACU</u>	Herb Stratum 16 40
·					Woody Vine Stratum 0 0
					
j					Dominance Test Worksheet
					Number of Dominant
'					Species that are OBL,
<u></u>					FACW, or FAC: 4 (A)
					Total Number of Dominant
					Species Across all Strata: (B)
		20	= Total Cover		Percent of Dominant
					Species that are OBL,
Sapling/Shrub Plot Size (15' Ra	adius \	Absolute	Dominant	Indicator	FACW, or FAC: <u>80.00%</u> (A/B)
Stratum Flot Size (15 Ra	adius)	% Cover	Species	Status	
Rhamnus cathartica	European Buckthorn	20	Υ	FAC	Prevalence Index Worksheet
	,				Total % Cover of:
					OBL species 10 x 1 = 10
					FACW species 65 x 2 = 130
					FAC species 35 x 3 = 105
´					· — — — — — — — — — — — — — — — — — — —
<u></u>		<u> </u>			FACU species 10 x 4 = 40
					UPL species x 5 = 0
					Column totals <u>120</u> (A) <u>285</u> (B)
)					Prevalence Index = B/A = 2.38
		20	= Total Cover		H. L. J. C. W. G. G. J. P. J.
		A booksto	Dominant	Indicator	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Ra	dius)	Absolute % Cover	Species	Status	X Dominance test is >50%
Phalaris arundinacea	Reed Canary Grass	30	Y	FACW	X Prevalence index is ≤3.0*
	Cinnamon Fern	30	<u> </u>	FACW	
	Harlequin Blueflag	5	N	OBL	Morphological adaptations* (provide supporting data in Remarks or on a
	Northern Lady Fern		N	FAC	supporting data in Remarks of on a separate sheet)
	Common Duckweed		N	OBL	Problematic hydrophytic vegetation*
	Sensitive Fern		<u>N</u>	FACW	(explain)
				17.000	*Indicators of hydric soil and wetland hydrology must b
}		_			present, unless disturbed or problematic
)		_			Definitions of Vegetation Strata:
- -					Dominions of Vogotation Strata.
					Tree - Woody plants 3 in. (7.6 cm) or more in diamete
					at breast height (DBH), regardless of height.
				-	
					Sapling/shrub - Woody plants less than 3 in. DBH an greater than 3.28 ft (1 m) tall.
		80	= Total Cover		greater than 0.20 ft (1 m) tail.
					Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	adia	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Ra	adius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
		0	= Total Cover		present? Y
marks: (Include photo numbers here or	on a separate sheet)				•
	- £ 41 41 - 1 4				
ckweed present in the open water portion	or the wetland.				
ckweed present in the open water portion	or the wetland.				

SOIL Sampling Point: 31-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 3/2 100 Sandy Loam 10-20 10YR 5/1 100 Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: vadnals/Sucker Park Wetland A	Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/16/2020
Applicant/Owner: Vadnais Lake Area Water	Management Organization	State: MN	Sampling Point: 32-1w
Investigator(s): Rebecca Beduhn, Erin Budrow,	Bailey Nelson	Section, Township,	Range: T30 R22 S30
Landform (hillslope, terrace, etc.): toeslope	-	ocal relief (concave, co	
Slope (%): 5 Lat.: 45.05459638	Long.: -93.08801415	•	IAD 83 ZONE 15N
Soil Map Unit Name: Hayden fine sandy loam, 6			lassification: None
Are climatic/hydrologic conditions of the site typic			explain in remarks)
• •	-	tly disturbed?	Are "normal
		oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)	- Indiana	A Object latio .	Circumstances present.
(II ficeded, explain any anovers in remains,			
SUMMARY OF FINDINGS			
	<u> </u>		
Uladranhatic vegetation propert?	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	d area within a watl	43 V
Hydrophytic vegetation present?	is the sample	ed area within a wetl	and? Y
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	Y If yes, optional	l wetland site ID:	Wetland 32
Remarks: (Explain alternative procedures here o	r in a separate report.)		
HYDROLOGY			
		Second	dary Indicators (minimum of two
Primary Indicators (minimum of one is required;	check all that annly)	require	
Surface Water (A1)	Water-Stained Leaves (B9)	•	rface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)		ainage Patterns (B10)
			
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		y-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L		ayfish Burrows (C8)
Drift Deposits (B3)	Roots (C3)		turation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (•
Iron Deposits (B5)	Recent Iron Reduction in Till		unted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6)	X Ge	eomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FA	.C-Neutral Test (D5)
Surface (B8)	_	Mic	crotopographic Relief (D4)
Field Observations:			
	No X Depth (inches	s):	Indicators of
	No Depth (inches		wetland
	No Depth (inches		hydrology
(includes capillary fringe))	present? Y
(moludes capillary minge)			present:
Describe recorded data (stream gauge, monitorin	ng well serial photos previou	us inspections) if avai	ilahla:
Describe recorded data (stream gauge, morniorii	ig Weii, acriai priotos, provioc	is inspections, it avai	lable.
Remarks:			

EGETATION - Use scientific names	of plants				Sampling Point: 32-1w
					50/20 Thresholds
Tree Stratum Plot Size (30' Radi	ius)	Absolute	Dominant	Indicator	20% 50%
The otratam Thot offer (30 Main	, ids	% Cover	Species	Status	Tree Stratum 0 0
1					Sapling/Shrub Stratum 4 10
					Herb Stratum 16 40
3					Woody Vine Stratum 0 0
5					Dominance Test Worksheet
-					
					Number of Dominant
					Species that are OBL,
					FACW, or FAC: <u>4</u> (A)
					Total Number of Dominant
					Species Across all Strata: 4 (B)
		0	= Total Cover		
			. 0.0 00.0.		Percent of Dominant
					Species that are OBL,
Sapling/Shrub Plot Size (15' Radi	ius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/B
Stratum Flot Size (13 Radi	,	% Cover	Species	Status	
Rhamnus cathartica I	European Buckthorn	20	Υ	FAC	Prevalence Index Worksheet
					Total % Cover of:
					OBL species <u>60</u> x 1 = <u>60</u>
<u></u>					FACW species 20 x 2 = 40
					FAC species 20 x 3 = 60
		_			FACU species 0 x 4 = 0
					UPL species0x 5 =0
					Column totals 100 (A) 160 (B)
					Prevalence Index = B/A = 1.60
		20	= Total Cover		
					Hydrophytic Vegetation Indicators:
		Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radiu	us)	% Cover	Species	Status	X Dominance test is >50%
Dhalaria arrindinasas	Bood Conom: Cross		•		X Prevalence index is ≤3.0*
	Reed Canary Grass		<u>Y</u>	FACW	X Prevalence index is ≤3.0"
	Lakebank Sedge	20	Y	<u>OBL</u>	Morphological adaptations* (provide
Carex hystericina I	Porcupine Sedge	20	<u> </u>	OBL	supporting data in Remarks or on a
Bidens cernua I	Nodding Burr-Marigold	10	N	OBL	separate sheet)
	Dotted Smartweed	10	N	OBL	Problematic hydrophytic vegetation*
	201104 Ciliarii Cod				(explain)
					*Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
					present, unless disturbed or problematic
<u></u>					
<u></u>					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter
-					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH an
<u></u>					greater than 3.28 ft (1 m) tall.
		80	Total Cover		
					Herb - All herbaceous (non-woody) plants, regardless
	iue \	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Padi	iuo <i>j</i>	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
Woody Vine Stratum Plot Size (30' Radi					height.
Stratum Piol Size (30 Radi		_			
Stratum Flot Size (30 Radi	·				
Stratum Piol Size (30 Radi					
Stratum Flot Size (30 Radi					Hydrophytic
Stratum					
Stratum			= Total Cover		vegetation
Stratum		0	= Total Cover		
Stratum		0	= Total Cover		vegetation
Stratum	n a separate sheet)	0	= Total Cover		vegetation
Stratum	n a separate sheet)	0	= Total Cover		vegetation
Stratum	n a separate sheet)	0	= Total Cover		vegetation
Stratum	n a separate sheet) f the wetland.		= Total Cover		vegetation

SOIL Sampling Point: 32-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/2 100 Sandy Loam 10-20 10YR 5/1 90 10YR 4/6 10 С Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	d Assessmer	t City/County:	Vadnais H	eights/Ramse	ey Sampling Date: 06/16	2020
Applicant/Owner: Vadnais Lake Area Wat	er Manageme	ent Organization	State:	MN	Sampling Point:	33-1w
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nel	son	Section,	, Townshi	o, Range: T30 R22 S29	
Landform (hillslope, terrace, etc.): toeslope	9	Loc			convex, none): Conca	ave
Slope (%): 2 Lat.: 45.0527334	7 Long	g.: -93.08484468	Dat	um: UTM	NAD 83 ZONE 15N	
Soil Map Unit Name: Hayden fine sandy loam	, 6 to 12 perc	ent slopes		NWI	Classification: None	
Are climatic/hydrologic conditions of the site ty	pical for this	time of the year?	Yes	(If no	, explain in remarks)	
Are vegetation , soil , or		significantly	disturbe	ed?	Are "normal	
	hydrology	naturally pr	oblematio	?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)					·	
SUMMARY OF FINDINGS						
COMMENT OF THE PROPERTY.						
Hydrophytic vegetation present?	Y	Is the sampled	l area wi	thin a we	tland? Y	
Hydric soil present?	<u> </u>					_
Indicators of wetland hydrology present?	<u> </u>	If yes, optional	wotland s	ito ID:	Wetland 33	
Indicators of wetland flydrology present?	'	ii yes, optionar	welland s		W Cliana 33	-
Remarks: (Explain alternative procedures here	e or in a sepa	rate report.)				
	, c a copa					
HYDROLOGY						
				Seco	ndary Indicators (minimur	n of two
Primary Indicators (minimum of one is require				requi	,	
Surface Water (A1)	Water-S	tained Leaves (B9)		s	Surface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic I	Fauna (B13)			Prainage Patterns (B10)	
X Saturation (A3)	Marl Dep	osits (B15)		N	loss Trim Lines (B16)	
Water Marks (B1)	Hydroge	n Sulfide Odor (C1)			ry-Season Water Table (C	2)
Sediment Deposits (B2)	Oxidized	Rhizospheres on Liv	/ing	C	Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C	•		S	aturation Visible on Aerial I	magery
Algal Mat or Crust (B4)	Presence	e of Reduced Iron (C	4)	((C9)	
Iron Deposits (B5)	Recent I	on Reduction in Tille	ed	s	tunted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6	5)			Seomorphic Position (D2)	
Imagery (B7)	Thin Mud	ck Surface (C7)		s	shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (E	xplain in Remarks)			AC-Neutral Test (D5)	
Surface (B8)				N	licrotopographic Relief (D4)
Field Observations:						
Surface water present? Yes	No X				Indicators of	
Water table present? Yes X	No	Depth (inches):			wetland	
Saturation present? Yes X	No	Depth (inches):	0		hydrology	
(includes capillary fringe)					present? Y	_
Describe assessed data (stances assessed as a sixty		:- - ti		\ :f	allala.	
Describe recorded data (stream gauge, monitor	oring well, ae	riai pnotos, previous	sinspecti	ons), it av	aliable:	
Remarks:						
incinains.						

EGETATION - Use scientific na	mes or plants				Sampling Point: 33-1w 50/20 Thresholds
		Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30	'Radius)	% Cover	Species	Status	Tree Stratum 4 10
Fraxinus pennsylvanica	Green Ash	10	Y	FACW	Sapling/Shrub Stratum 0 0
Salix nigra	Black Willow	10	Y	OBL	Herb Stratum 23 58
					Woody Vine Stratum 0 0
					-
					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)
		20	= Total Cover		Percent of Dominant
					Species that are OBL,
Sapling/Shrub Plot Size (15	'Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/E
Stratum Tiot Size (13	radius)	% Cover	Species	Status	
					Prevalence Index Worksheet
					Total % Cover of:
					OBL species 50 x 1 = 50
					FACW species 85 x 2 = 170
		_			FAC species 0 x 3 = 0
					FACU species 0 x 4 = 0
					UPL species 0 x 5 = 0
					Column totals 135 (A) 220 (B)
					Prevalence Index = $B/A = 1.63$
					1 revalence index = B/A = 1.00
		- - 0 :	= Total Cover		
					Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5'	Radius \	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
		% Cover	Species	Status	X Dominance test is >50%
Carex lacustris	Lakebank Sedge	40	<u>Y</u>	OBL	X Prevalence index is ≤3.0*
Laportea canadensis	Canadian Wood-Nettle	25	Y	FACW	Morphological adaptations* (provide
Phalaris arundinacea	Reed Canary Grass	10	<u>N</u>	FACW	supporting data in Remarks or on a
Impatiens capensis	Spotted Touch-Me-Not	10	N	FACW	separate sheet)
Onoclea sensibilis	Sensitive Fern	10	<u>N</u>	FACW	Problematic hydrophytic vegetation*
Persicaria pensylvanica	Pinkweed	10	N	FACW FACW	(explain)
Leersia virginica	White Grass	10	<u>N</u>	FACW	*Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
					present, unless disturbed or problematic
					Definitions of Vegetation Strata:
		_			Definitions of vegetation Strata.
					Tree - Woody plants 3 in. (7.6 cm) or more in diamete
					at breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH ar greater than 3.28 ft (1 m) tall.
		115	= Total Cover		greater than 3.20 ft (1 ff) tall.
					Herb - All herbaceous (non-woody) plants, regardless
Woody Vine Plot Size (30	' Padius N	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30	Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
		0 :	= Total Cover		present? Y
narks: (Include photo numbers here					
kweed present in the open water port	tion of the wetland.				
te: This data sheet has been adapted	42 112 Hz 2040 N-8- 1284 11 1	Dlant List			

SOIL Sampling Point: 33-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Coast Prairie Redox (A16) (LRR K, L, R) Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: vadnais/Sucker Park vvetiand	Assessment Cir	ty/County:	Vadnais He	ights/Ramsey	Sampling Date: 06/16/2	2020
Applicant/Owner: Vadnais Lake Area Water	r Management Orç	ganizati <u>on</u>	State: I	MN	Sampling Point:	34-1w
Investigator(s): Rebecca Beduhn, Erin Budrow	, Bailey Nelson		Section,	Township,	Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslope	-				onvex, none): Concav	ve
Slope (%): 1 Lat.: 45.05092766	Long.: -9	3.09508819	Datu	ım: UTM N	AD 83 ZONE 15N	
Soil Map Unit Name: Udorthents, wet substratu		•			lassification: None	
Are climatic/hydrologic conditions of the site type		of the vear?	Yes		explain in remarks)	
	nydrology	significantly		`	Are "normal	
	nydrology	naturally prob			circumstances" present	t? Yes
(If needed, explain any answers in remarks)			D . J	•	on control production	
(II Hooded, explain any chemical in termina)						
SUMMARY OF FINDINGS						
Hydrophytic vegetation present?	Y	the sampled a	area wit	hin a wetla	and? Y	
Hydric soil present?	<u>'</u>	tile sampies .	a.ca	IIIII 4 17 0 C. C		-
· · · · · ·		ess entional w	estland oi	4- ID:	Motland 24	
Indicators of wetland hydrology present?	<u> </u>	yes, optional w	/etianu si	te iD:	Wetland 34	
Describe / Evaloin alternative precedures here	in a congrete re					
Remarks: (Explain alternative procedures here	or in a separate re	port.)				
LIVEROL OOV						
HYDROLOGY						
					lary Indicators (minimum	of two
Primary Indicators (minimum of one is required	; check all that app	ply)		required	d)	
Surface Water (A1)	Water-Stained I	Leaves (B9)		Sur	face Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna ((B13)		Dra	inage Patterns (B10)	
X Saturation (A3)	Marl Deposits (I	B15)		Mos	ss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfid	de Odor (C1)		Dry	-Season Water Table (C2	<u>'</u> .)
Sediment Deposits (B2)	Oxidized Rhizos		na		yfish Burrows (C8)	,
Drift Deposits (B3)	Roots (C3)				uration Visible on Aerial In	nagery
Algal Mat or Crust (B4)	Presence of Re	educed Iron (C4	4)	— (C9		lage. y
Iron Deposits (B5)	Recent Iron Rec				nted or Stressed Plants ([)1)
Inundation Visible on Aerial	Soils (C6)	3404011111111111	4		omorphic Position (D2)	,
Imagery (B7)	Thin Muck Surfa	face (C7)			allow Aquitard (D3)	
	Other (Explain i				C-Neutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)	Other (Explain)	II Memana,			rotopographic Relief (D4)	l
Sulface (Do)					1010hodiahilir veliei (54)	
Field Observations:						
Surface water present? Yes	No X De	epth (inches):			Indicators of	
		epth (inches): _ epth (inches):	0	—	wetland	
Water table present? Yes X Saturation present? Yes X		epth (inches): _ epth (inches):		—		
	NoDe	βρίπ (πισπ ε δ)	- 0	—	hydrology	
(includes capillary fringe)					present? Y	_
Describe assessed data (atream gauge monitor	· - · · · · · · · · · · · · · · · · · ·	-1	·nootic	> if everil	-1.1 ₋ .	
Describe recorded data (stream gauge, monitor	ing well, aerial pric	Stos, previous i	Inspectio	ns), II avall	able:	
Remarks:						

/EGETATION - Use scientific names of plants				Sampling Point: 34-1w
	Absolute	Dominant	Indicator	50/20 Thresholds 20% 50%
Tree Stratum Plot Size (30' Radius)	% Cover	Species	Status	Tree Stratum 10 25
1Ulmus americana American Elm	25	Y	FACW	Sapling/Shrub Stratum 8 20
2 Fraxinus pennsylvanica Green Ash	25	Y	FACW	Herb Stratum 20 50
3				Woody Vine Stratum 0 0
<u></u>				Dominance Test Worksheet
;				Number of Dominant
7				Species that are OBL,
<u></u>				FACW, or FAC:7(A)
				Total Number of Dominant
)	50	= Total Cover		Species Across all Strata:7 (B)
		= 10tal Covei		Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 100.00% (A/B)
Sapining/Siliub Plot Size (15' Radius)	% Cover	Species	Status	FACW, or FAC: 100.00% (A/B)
	30	Y	FAC	Prevalence Index Worksheet
· · ·	5	N	FAC	Total % Cover of:
		N N		
,		IN	FACW_	OBL species 75 x 1 = 75 FACW species 75 x 2 = 150
<u></u>				· — —
<u></u>				FAC species 40 x 3 = 120
<u></u>				FACU species 0 x 4 = 0
7				UPL species $0 \times 5 = 0$
3				Column totals 190 (A) 345 (B)
)				Prevalence Index = B/A = 1.82
) 	40	= Total Cover		
		- Total Gover		Hydrophytic Vegetation Indicators:
Harb Chrahima Diet Cina / El Dadina)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
Leersia oryzoides Rice Cut Grass	25	Y	OBL	X Prevalence index is ≤3.0*
Onoclea sensibilis Sensitive Fern	20	Υ	FACW	Morphological adaptations* (provide
3 Carex stricta Uptight Sedge	20	Y	OBL_	supporting data in Remarks or on a
1 Carex lacustris Lakebank Sedge	20	Y	OBL_	separate sheet)
Bidens cernua Nodding Burr-Marigold		<u>N</u>	OBL	Problematic hydrophytic vegetation*
Athyrium angustum Northern Lady Fern	5	<u>N</u>	FAC	(explain)
 }				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
) 				present, unless disturbed of problematic
				Definitions of Vegetation Strata:
				Definitions of Vegetation Strata.
<u></u> 2				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
				at breast height (DBH), regardless of height.
	_			Sapling/shrub - Woody plants less than 3 in. DBH and
				greater than 3.28 ft (1 m) tall.
	100	= Total Cover		
				Herb - All herbaceous (non-woody) plants, regardless o size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 5.20 it tall.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
				height.
2				
4				Hydrophytic
<u></u>		Total Causes		vegetation
	0	= Total Cover		present? Y
emarks: (Include photo numbers here or on a separate sheet)				.1
ickweed present in the open water portion of the wetland.				
ote: This data sheet has been adapted to use the 2018 National Wetland	Plant List:			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 34-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-8 100 Sandy Loam 8-14 10YR 5/1 100 Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/Co	unty: Vadnais Heights/Rams	sey Sampling Date: 06/16/2	2020
Applicant/Owner: Vadnais Lake Area Wate	r Management Organiza		Sampling Point:	35-1w
Investigator(s): Rebecca Beduhn, Erin Budrov	v, Bailey Nelson	Section, Townsh	nip, Range: T30 R22 S29	
Landform (hillslope, terrace, etc.): toeslope		Local relief (concave,	, convex, none): Concav	re
Slope (%): 2 Lat.: 45.0515960			/I NAD 83 ZONE 15N	
Soil Map Unit Name: Dundas fine sandy loam			I Classification: PFO1C	
Are climatic/hydrologic conditions of the site type	·		o, explain in remarks)	
Are vegetation, soil, or		nificantly disturbed?	Are "normal	
	hydrologynatu	urally problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Y Is the s	sampled area within a we	etland? Y	_
Hydric soil present?	<u>Y</u>			
Indicators of wetland hydrology present?	Y If yes, c	optional wetland site ID:	Wetland 35	
Remarks: (Explain alternative procedures here	or in a separate report.))		
HYDROLOGY				
		Seco	ondary Indicators (minimum	of two
Primary Indicators (minimum of one is required	f check all that apply)		uired)	01 1110
X Surface Water (A1)	Water-Stained Leave		Surface Soil Cracks (B6)	
X High Water Table (A2)	Aquatic Fauna (B13)	` ′	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Od		Dry-Season Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhizosphere		Crayfish Burrows (C8)	,
Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced		(C9)	lage. j
Iron Deposits (B5)	Recent Iron Reductio		Stunted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)		Geomorphic Position (D2)	,
Imagery (B7)	Thin Muck Surface (0		Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Ren		FAC-Neutral Test (D5)	
Surface (B8)	` ` `		Microtopographic Relief (D4)	
Field Observations:				
Surface water present? Yes X	No Depth ((inches):1	Indicators of	
Water table present? Yes X		(inches): 0	wetland	
Saturation present? Yes X		(inches): 0	hydrology	
(includes capillary fringe)	 · ·	, <u> </u>	present? Y	
<u> </u>			·	
Describe recorded data (stream gauge, monito	ring well, aerial photos,	previous inspections), if a	vailable:	
	•	•		
Remarks:				

EGETATION - Use scientific names of plants				Sampling Point: 35-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
	% Cover	Species	Status	Tree Stratum 8 20
1 Populus deltoides Eastern Cottonwo		Y	FAC	Sapling/Shrub Stratum 4 10
2 Fraxinus pennsylvanica Green Ash	20	Y	FACW	Herb Stratum 20 50
3				Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:4(A)
9				Total Number of Dominant
0				Species Across all Strata: 4 (B)
	40	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B
Stratum Plot Size (15' Radius)	% Cover	Species	Status	(
1 Rhamnus cathartica European Buckth	orn 20	Y		Prevalence Index Worksheet
	0111 20		<u> </u>	Total % Cover of:
3			-	OBL species 80 x 1 = 80
4				FACW species 40 x 2 = 80
5				FAC species <u>40</u> x 3 = <u>120</u>
6				FACU species0 _ x 4 =0
7				UPL species0 x 5 =0
8				Column totals <u>160</u> (A) <u>280</u> (B)
9				Prevalence Index = $B/A = 1.75$
0				
	20	= Total Cover		
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
1 Lemna minor Common Duckwe		<u>Y</u>	OBL	X Prevalence index is ≤3.0*
2 Iris versicolor Harlequin Bluefla		N	OBL_	Morphological adaptations* (provide
3 Phalaris arundinacea Reed Canary Gra		N	FACW	supporting data in Remarks or on a
4 Carex cristatella Crested Sedge	10	N	FACW	separate sheet)
5				Problematic hydrophytic vegetation*
6				(explain)
7				*Indicators of hydric soil and wetland hydrology must b
8				present, unless disturbed or problematic
9				
0				Definitions of Vegetation Strata:
1				
2 <u></u>				Tree - Woody plants 3 in. (7.6 cm) or more in diamete
3				at breast height (DBH), regardless of height.
4				Sapling/shrub - Woody plants less than 3 in. DBH and
5				greater than 3.28 ft (1 m) tall.
	100	= Total Cover		Mark All back assess (assessed a standard assessed
				Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute	Dominant	Indicator	oizo, and woody planto loop than oizo it tail.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
				<u> </u>
emarks: (Include photo numbers here or on a separate sheet	t) ————			
uckweed present in the open water portion of the wetland.				
	1147 (1 1 1 1 1 1 1			
ote: This data sheet has been adapted to use the 2018 National S. Army Corps of Engineers 2018. National Wetland Plant List, version 3				

SOIL Sampling Point: 35-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-10 10YR 2/2 100 Loamy Sand 10-20 10YR 4/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetlar	nd Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/16/2	<u>2020</u>
Applicant/Owner: Vadnais Lake Area Wa	ter Management Organization	State: MN	Sampling Point:	36-1w
Investigator(s): Rebecca Beduhn, Erin Budro			Range: T30 R22 S30	
Landform (hillslope, terrace, etc.): toeslop	pe Lor	cal relief (concave, con	nvex, none): Concav	/e
Slope (%): 1 Lat.: 45.050505		Datum: UTM NA	D 83 ZONE 15N	
Soil Map Unit Name: Udorthents, wet substra		NWI Cla	ssification: None	
Are climatic/hydrologic conditions of the site t			plain in remarks)	
Are vegetation, soil, o	r hydrologysignificantly		Are "normal	
Are vegetation , soil , o	r hydrology naturally pr	oblematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				
CUMMARY OF FINDINGS				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sampler	d area within a wetlar	nd? Y	
Hydric soil present?	<u> </u>	1 41 C4 11 11 11 11 4 11 4 11 4 11 4 11		-
Indicators of wetland hydrology present?	y If was optional	wetland site ID:	Wetland 36	
Indicators of wetland hydrology present:	1 yes, optionar	Welland Site ID.	VV Cliana 30	
Remarks: (Explain alternative procedures her	re or in a senarate report)			
Themains. (Explain alternative procedures her	e or in a separate report.			
HYDROLOGY				
		Seconds	r. Indicatore (minimum	of two
Primary Indicators (minimum of one is require	ad: abook all that apply)		ary Indicators (minimum	OI two
Primary Indicators (minimum of one is require Surface Water (A1)	Water-Stained Leaves (B9)	required)) ace Soil Cracks (B6)	
X High Water Table (A2)				
	Aquatic Fauna (B13)		nage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		s Trim Lines (B16)	`
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Season Water Table (C2))
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv		fish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		ration Visible on Aerial Im	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	<i>`</i>		
Iron Deposits (B5)	Recent Iron Reduction in Tille		ted or Stressed Plants (D)1)
Inundation Visible on Aerial	Soils (C6)		morphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		low Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		-Neutral Test (D5)	ŀ
Surface (B8)		Micro	otopographic Relief (D4)	
Field Observations:				
Surface water present? Yes	No Depth (inches):		Indicators of	l
	: ` ′		wetland	
Water table present? Yes X Saturation present? Yes X	No Depth (inches): No Depth (inches):		wetiand hydrology	
·				l
(includes capillary fringe)			present? Y	-
Describe recorded data (atream gauge, moni	toring wall porial photos provious	: inapportional if availa	hla.	
Describe recorded data (stream gauge, moni	toring well, aerial priotos, previous	3 Inspections), ii avalia	DIE:	
D1-				
Remarks:				

GETATION - USE SCIENTING Hai	mes of plants				Sampling Point: 36-1
					50/20 Thresholds
Free Stratum Plot Size (30'	Radius)	Absolute	Dominant	Indicator	20% 50%
·		% Cover	Species	Status	Tree Stratum 8 20
Acer negundo	Ash-Leaf Maple	40	<u> </u>	FAC	Sapling/Shrub Stratum 5 13
					Herb Stratum 2 6
					Woody Vine Stratum 0 0
					,
					Dominance Test Worksheet
					Number of Dominant
					Species that are OBL,
		_			FACW, or FAC: 4 (/
			·		Total Number of Dominant
					Species Across all Strata: 4 (I
		40	= Total Cover		·
		40	- Total Cover		Percent of Dominant
					Species that are OBL,
apling/Shrub Plot Size (15'	Padius \	Absolute	Dominant	Indicator	FACW, or FAC:
Stratum Plot Size (15	Radius)	% Cover	Species	Status	
Phompus authortics	European Buoktharn	25	Y	FAC	Prevalence Index Worksheet
Rhamnus cathartica	European Buckthorn		r	FAC	
					Total % Cover of:
		<u> </u>			OBL species0 _ x 1 =0
					FACW species 7 x 2 = 14
		_			FAC species 70 x 3 = 210
					· — —
					FACU species0 _ x 4 =0
					UPL species 0 x 5 = 0
					Column totals 77 (A) 224 (I
					Prevalence Index = B/A = 2.91
					Frevalence index - B/A - 2.91
					
		25	= Total Cover		
					Hydrophytic Vegetation Indicators:
erb Stratum Plot Size (5'	Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
CID Citatum 1 lot Cize (3	radius)	% Cover	Species	Status	X Dominance test is >50%
Rhamnus cathartica	European Buckthorn	5	Υ	FAC	X Prevalence index is ≤3.0*
Laportea canadensis	Canadian Wood-Nettle	5	Y	FACW	Morphological adaptations* (provide
Fraxinus pennsylvanica	Green Ash	2	N	FACW	supporting data in Remarks or on a
Traxinae penneyivamea				171011	
					separate sheet)
					Problematic hydrophytic vegetation*
					(explain)
					*Indicators of hydric soil and wetland hydrology
			·		be present, unless disturbed or problematic
	==				
					Definitions of Vegetation Strata:
					Deminitions of vegetation strata:
					Tree Woody plants 2 in 77.2 and a second in
					Tree - Woody plants 3 in. (7.6 cm) or more in dia
					at breast height (DBH), regardless of height.
	 				Sanling/shruh - Woody plants less than 2 in Di
		12	= Total Cover		Sapling/shrub - Woody plants less than 3 in. Di and greater than 3.28 ft (1 m) tall.
		12	= Total Cover		and greater than 3.28 ft (1 m) tall.
				Indicates	and greater than 3.28 ft (1 m) tall.
oody Vine Plot Size (30'		Absolute	Dominant	Indicator	and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal
loody Vine				Indicator Status	and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall.
/oody Vine Plot Size (30'		Absolute	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall.
/oody Vine Plot Size (30'		Absolute	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28
oody Vine Plot Size (30'		Absolute	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28
/oody Vine Plot Size (30'	 Radius) 	Absolute	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.29 height.
Voody Vine Plot Size (30'	 Radius) 	Absolute	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.29 height. Hydrophytic
/oody Vine Plot Size (30'	 Radius) 	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.29 height.
/oody Vine Plot Size (30'	 Radius) 	Absolute % Cover	Dominant		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.29 height. Hydrophytic
Voody Vine Plot Size (30'	 Radius) 	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation
Voody Vine Plot Size (30' Stratum	Radius)	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation
Voody Vine Plot Size (30' Stratum	Radius) e or on a separate sheet)	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation
Voody Vine Plot Size (30' Stratum	Radius) e or on a separate sheet)	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation
Voody Vine Plot Size (30' Stratum	Radius) e or on a separate sheet)	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation
Voody Vine Plot Size (30'	Radius) e or on a separate sheet) ion of the wetland.	Absolute % Cover	Dominant Species		and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regal of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.23 height. Hydrophytic vegetation

SOIL Sampling Point: 36-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 0-6 10YR 2/1 100 Loamy Sand 6-12 10YR 4/1 90 10YR 4/6 10 С Loamy Sand *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	Assessment City/County:	Vadnais Heights/Ramsey	Sampling Date: 06/16/2	:020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	37-1w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section, Township,	Range: T30 R22 S31	
Landform (hillslope, terrace, etc.): toeslope	. Lc	ocal relief (concave, co	onvex, none): Concav	re
Slope (%): 2 Lat.: 45.04847978		Datum: UTM N	NAD 83 ZONE 15N	
Soil Map Unit Name: Udorthents, wet substrat		NWIC	Classification: None	
Are climatic/hydrologic conditions of the site ty			explain in remarks)	
Are vegetation, soil, or		ly disturbed?	Are "normal	
Are vegetation , soil , or	hydrology naturally p	problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				 _
CURRENA DV OF FINDINGS				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	∨ Is the sample	ed area within a wetla	land? Y	
Hydric soil present?	<u> </u>	u alca witimi a woth	and: .	-
· ·	If you ontional	Lucational cita ID:	Motland 27	
Indicators of wetland hydrology present?	Y II yes, optional	I wetland site ID:	Wetland 37	
Remarks: (Explain alternative procedures here	or in a senarate report)			
Remarks. (Explain alternative procedures here	Of III a Separate report.			
HYDROLOGY				
		Second	dory Indicators (minimum	of two
Drimon, Indicators (minimum of one is required	d. chook all that apply)		dary Indicators (minimum	OI LWO
Primary Indicators (minimum of one is required X Surface Water (A1)	Water-Stained Leaves (B9)	require	,	
X High Water Table (A2)	Aquatic Fauna (B13)		ırface Soil Cracks (B6) ainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)	
Water Marks (B1)			` '	`
<u> </u>	Hydrogen Sulfide Odor (C1)		y-Season Water Table (C2)	'
Sediment Deposits (B2)	Oxidized Rhizospheres on Li		ayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		turation Visible on Aerial Im	iagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	<i></i> `		\4\
Iron Deposits (B5)	Recent Iron Reduction in Till		unted or Stressed Plants (D	11)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		allow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		C-Neutral Test (D5)	
Surface (B8)		Mic	crotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes X	No Depth (inches)): 2	Indicators of	
Water table present? Yes X	No Depth (inches)	·	wetland	
Saturation present? Yes X	No Depth (inches)):	hydrology	ĺ
(includes capillary fringe)			present? Y	-
Describe recorded data (stream gauge, monito	pring well gerial photos, previou	in inepections) if avai	ilahla:	
Describe recorded data (stream gauge, monito	allig well, aerial priolos, previou	is ilispections), ii avai	iable.	
Remarks:				
Remarks.				

VEGETATION - Use scientific names of plants				Sampling Point: 37-1w
				50/20 Thresholds
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	20% 50%
	% Cover	Species	Status	Tree Stratum 0 0 Sapling/Shrub Stratum 0 0
				I
2				Herb Stratum 22 55
3				Woody Vine Stratum 0 0
				Daminana Tast Wadahada
5				Dominance Test Worksheet
<u></u>				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC:1(A)
9				Total Number of Dominant
0				Species Across all Strata:(B)
		= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub Plot Size (15' Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/B)
Stratum Flot Size (15 Radius)	% Cover	Species	Status	
1				Prevalence Index Worksheet
2				Total % Cover of:
3				OBL species 100 x 1 = 100
4				FACW species 10 x 2 = 20
·	_			FAC species $0 \times 3 = 0$
5				FACU species 0 x4 = 0
7				UPL species 0 x5 = 0
8				Column totals 110 (A) 120 (B)
9				Prevalence Index = B/A = 1.09
	0	= Total Cover		
		- Total Cover		Hydrophytic Vegetation Indicators:
	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5' Radius)	% Cover	Species	Status	X Dominance test is >50%
1 Typha angustifolia Narrow-Leaf Cat-Tail	90	Υ	OBL	X Prevalence index is ≤3.0*
2 Schoenoplectus tabernaemontani Soft-Stem Club-Rush	10	N	OBL	Morphological adaptations* (provide
3 Solidago gigantea Late Goldenrod	10	N	FACW	supporting data in Remarks or on a
4				separate sheet)
5				Problematic hydrophytic vegetation*
6				(explain)
7				*Indicators of hydric soil and wetland hydrology must be
8				present, unless disturbed or problematic
9				
0				Definitions of Vegetation Strata:
1				
2				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
3				breast height (DBH), regardless of height.
4				Sapling/shrub - Woody plants less than 3 in. DBH and
5				greater than 3.28 ft (1 m) tall.
	110	= Total Cover		
				Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine Plot Size (20' Redius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30' Radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2	<u> </u>			
3				
4	<u> </u>			Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
				· —
emarks: (Include photo numbers here or on a separate sheet)				•
uckweed present in the open water portion of the wetland.				
ote: This data sheet has been adapted to use the 2018 National Wetland Pl	lant List:			
S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 37-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetland	J Assessment	City/County:	Vadnais Hei	ights/Ramsey	_Sampling Date: <u>06/16/2</u>	<u>2020</u>	
Applicant/Owner: Vadnais Lake Area Wate	er Management (Organization	State: N	MN	Sampling Point:	38-1w	
Investigator(s): Rebecca Beduhn, Erin Budrov			Section,	Township,	Range: T30 R22 S32		
Landform (hillslope, terrace, etc.): toeslope		Loc	cal relief (c	concave, co	onvex, none): Concav	/e	
Slope (%): 2 Lat.: 45.0499186		-93.08284293	Datu	m: <u>UTM N</u>	IAD 83 ZONE 15N		
Soil Map Unit Name: Dundas fine sandy loam				NWI C	lassification: None		
Are climatic/hydrologic conditions of the site ty	•	•	Yes		explain in remarks)		
Are vegetation, soil, or		significantly			Are "normal		
Are vegetation, soil, or	hydrology	naturally pro	oblematic?	?	circumstances" present	t? Yes	
(If needed, explain any answers in remarks)	_						
SUMMARY OF FINDINGS							
SUMMART OF FINDINGS							
Hydrophytic vegetation present?	Y	Is the sampled	l area wit	hin a wetl	and? Y		
Hydric soil present?	<u>'</u>	is the sumpled	1 a1 ca ++	Illii a woul	and: .	-	
Indicators of wetland hydrology present?	'	If yes ontional y	watland ei	to ID:	Wetland 38		
Indicators of wetland flydrology present:	<u> </u>	If yes, optional v	Wellanu Sii	le iD	W Elianu 30		
Remarks: (Explain alternative procedures here	or in a senarate	renort)					
	Of it a separate	; 16port.)					
HYDROLOGY							
				Second	dary Indicators (minimum	of two	
Primary Indicators (minimum of one is required	d check all that	annly)		require		OI TWO	
Surface Water (A1)	-	apply) ed Leaves (B9)		•	rface Soil Cracks (B6)		
X High Water Table (A2)	Aquatic Faur	` ,			ainage Patterns (B10)		
X Saturation (A3)	Marl Deposits				oss Trim Lines (B16)		
Water Marks (B1)		ulfide Odor (C1)			y-Season Water Table (C2)	1	
Sediment Deposits (B2)		izospheres on Liv					
Drift Deposits (B3)	Roots (C3)	1205pricies on Liv	/IIIy		turation Visible on Aerial Im	nogon/	
Algal Mat or Crust (B4)		Reduced Iron (C-	4)	Sai (C9		lagel y	
Iron Deposits (B5)		Reduction in Tille	,		unted or Stressed Plants (D	11)	
Inundation Visible on Aerial	Soils (C6)	Reduction in time	;u		comorphic Position (D2)	71,	
Imagery (B7)	Thin Muck S	turface (C7)			allow Aquitard (D3)		
		ain in Remarks)			X FAC-Neutral Test (D5)		
Sparsely Vegetated Concave	O(IIGI (Explai	III III Nemana					
Surface (B8)				IVIIC	crotopographic Relief (D4)		
Field Observations:	-						
Surface water present? Yes	No X	Depth (inches):			Indicators of		
Water table present? Yes X		Depth (inches):		-	wetland		
Saturation present? Yes X		Depth (inches):		-	hydrology	ļ	
(includes capillary fringe)		Doptii (—	present? Y		
(moludes capillary mings)					prosont	-	
Describe recorded data (stream gauge, monito	oring well, aerial	nhotos, previous	inspectio	ns). if avai	lable:		
20001100110001404 4414 (51.54111 34434,	71119 11011, 20.1 ₁	priotoo, p. 01.12	, mopout	110), 11 2.	auto.		
Remarks:							
Tomano.							

VEGETATION - Use scientific names of plants				Sampling Point: 38-1w
Tree Stratum Plot Size (30' Radius)	Absolute	Dominant	Indicator	50/20 Thresholds 20% 50%
1 Fraxinus pennsylvanica Green Ash	% Cover 40	Species Y	Status FACW	Tree Stratum 10 25 Sapling/Shrub Stratum 4 10
2 Quercus alba Northern White Oak	10	<u> </u>	FACU	Herb Stratum 20 50
3 Northern write Oak			TACO	Woody Vine Stratum 0 0
4				
5				Dominance Test Worksheet
6				Number of Dominant
7				Species that are OBL,
8				FACW, or FAC: 9 (A)
9				Total Number of Dominant
10	50	= Total Cover		Species Across all Strata: 10 (B)
		rotal Govol		Percent of Dominant Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 90.00% (A/B)
Stratum Plot Size (15' Radius)	% Cover	Species	Status	
1 Rhamnus cathartica European Buckthorn	20	Υ	FAC	Prevalence Index Worksheet
2				Total % Cover of:
3				OBL species <u>35</u> x 1 = <u>35</u>
4				FACW species 65 x 2 = 130
5				FAC species 60 x 3 = 180
6				FACU species10x 4 =40
7				UPL species0x 5 =0
8				Column totals <u>170</u> (A) <u>385</u> (B)
9				Prevalence Index = B/A = 2.26
10	20	= Total Cover		
		- Total Gover		Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
1 Carex lacustris Lakebank Sedge 2 Urtica dioica Stinging Nettle	<u>30</u> 10	<u> </u>	OBL FAC	X Prevalence index is ≤3.0*
2 Urtica dioica Stinging Nettle 3 Phalaris arundinacea Reed Canary Grass	10	<u> </u>	FACW	Morphological adaptations* (provide
4 Athyrium angustum Northern Lady Fern	10	<u> </u>	FAC	supporting data in Remarks or on a separate sheet)
5 Onoclea sensibilis Sensitive Fern	10	<u> </u>	FACW	Problematic hydrophytic vegetation*
6 Osmunda claytoniana Interrupted Fern	10	<u> </u>	FAC	(explain)
7 Myosoton aquaticum Giant-Chickweed	10	Y	FAC	*Indicators of hydric soil and wetland hydrology must be
8 Persicaria punctata Dotted Smartweed	5	N	OBL	present, unless disturbed or problematic
9 Bidens frondosa Devil's-Pitchfork	5	N	FACW	
10 <u></u> 11				Definitions of Vegetation Strata:
11			 -	Tree - Woody plants 3 in. (7.6 cm) or more in diameter
13				at breast height (DBH), regardless of height.
14				Sapling/shrub - Woody plants less than 3 in. DBH and
15				greater than 3.28 ft (1 m) tall.
	100	= Total Cover		
Mondy Vino	A book ito	Dominant	Indicator	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (30' Radius)	Absolute % Cover	Species	Status	
1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0,00.00		Woody vines - All woody vines greater than 3.28 ft in height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
Remarks: (Include photo numbers here or on a separate sheet)				
Duckweed present in the open water portion of the wetland.				
	. =			
Note: This data sheet has been adapted to use the 2018 National Wetland	d Plant List:			
U.S. Army Corps of Engineers 2018. National Wetland Plant List, version 3.4				

SOIL Sampling Point: 38-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** % (Inches) Color (moist) Color (moist) Type* 10YR 2/2 0-6 100 Sandy Loam 6-12 10YR 5/1 100 Sandy Loam *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR K, L) Loamy Mucky Mineral (F1) X Depleted Below Dark Surface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Other (Explain in Remarks) Dark Surface (S7) (LRR R, MLRA 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks:



Project/Site: Vadnais/Sucker Park Wetland	1 Assessment City/County:	Vadnais Heights/Ramsey Sampling Date: 06/16/2020
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN Sampling Point: 39-1w
Investigator(s): Rebecca Beduhn, Erin Budrov		Section, Township, Range: T30 R22 S31
Landform (hillslope, terrace, etc.): toeslope	eLo	ocal relief (concave, convex, none): Concave
Slope (%): 2 Lat.: 45.0478994		Datum: UTM NAD 83 ZONE 15N
Soil Map Unit Name: Udorthents, wet substrate		NWI Classification: None
Are climatic/hydrologic conditions of the site ty		Yes (If no, explain in remarks)
Are vegetation, soil, or		y disturbed? Are "normal
Are vegetation, soil, or	hydrology naturally pr	roblematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		
SUMMARY OF FINDINGS		
SUMMART OF FINDINGS		
Hydrophytic vegetation present?	Y Is the sample	d area within a wetland?
Hydric soil present?	<u> </u>	
Indicators of wetland hydrology present?	V If yes optional	wetland site ID: Wetland 39
indicators of wedand flydrology present.		Welland Site ID.
Remarks: (Explain alternative procedures here	or in a separate report.)	
Tromaine (Explain alternative processings	, or in a coparate report.	
HYDROLOGY		
	-	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required	d: check all that annly)	required)
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C	
· · · · · · · · · · · · · · · · ·		, <u> </u>
Iron Deposits (B5)	Recent Iron Reduction in Tille	
Inundation Visible on Aerial	Soils (C6) This Music Surface (C7)	X Geomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)	Shallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes	No X Depth (inches)	: Indicators of
Water table present? Yes X	No Depth (inches)	·
Saturation present? Yes X	No Depth (inches)	
(includes capillary fringe)	Deptil (illorido)	present?
(Includes capillary minge)		present:
Describe recorded data (stream gauge, monito	oring well aerial photos previou	s inspections) if available:
Describe recorded data (otream gaage, meme	Ting Weil, derial priotoe, previous	5 inspections, in available.
Remarks:		-
Remarks.		

Tree Stratum Plot Size (30'					
Tree Stratum Plot Size (30'					50/20 Thresholds
2	Radius)	Absolute	Dominant	Indicator	20% 50%
1	,	% Cover	Species	Status	Tree Stratum 0 0
					Sapling/Shrub Stratum 0 0
\					Herb Stratum 20 50
'				-	Woody Vine Stratum 0 0
ł					
5					Dominance Test Worksheet
6					Number of Dominant
,					Species that are OBL,
3					FACW, or FAC: 1 (A)
9					Total Number of Dominant
)					Species Across all Strata:1 (B)
` <u> </u>		0	= Total Cover		
			10101 00101		Percent of Dominant
Cardina (Charde		A la a a la 4 a	Daminant	l	Species that are OBL,
Sapling/Shrub Plot Size (15'	Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/B
Stratum 1 lot 512e (15	•	% Cover	Species	Status	
i					Prevalence Index Worksheet
2	p				Total % Cover of:
<u></u>					OBL species 95 x 1 = 95
 }					FACW species $0 \times 2 = 0$
					FAC species 5 x 3 = 15
<u>'</u>		_			
<u> </u>	-				· — —
7					UPL species0x 5 =0
3					Column totals <u>100</u> (A) <u>110</u> (B)
9					Prevalence Index = B/A =1.10
)					
		0	Total Cover		
					Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5' F	Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
•		% Cover	Species	Status	X Dominance test is >50%
1 Eleocharis obtusa	Blunt Spike-Rush	80	<u> </u>	OBL	X Prevalence index is ≤3.0*
Scirpus atrovirens	Dark-Green Bulrush	10	N	OBL	Morphological adaptations* (provide
BTypha angustifolia	Narrow-Leaf Cat-Tail	5	N	OBL	supporting data in Remarks or on a
Rumex crispus	Curly Dock	5	N	FAC	separate sheet)
					Problematic hydrophytic vegetation*
6					(explain)
·					*Indicators of hydric soil and wetland hydrology must I
3				-	present, unless disturbed or problematic
9					p
					Definitions of Vegetation Strata:
	-			•	Definitions of Vegetation Strata:
1					
2					Tree - Woody plants 3 in. (7.6 cm) or more in diamete at breast height (DBH), regardless of height.
3					at bleast fielgrit (DBH), regardless of fielgrit.
1					Sapling/shrub - Woody plants less than 3 in. DBH an
5					greater than 3.28 ft (1 m) tall.
		100	Total Cover		
					Herb - All herbaceous (non-woody) plants, regardless
Woody Vine Plot Size (30'	Radius)	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum 1 lot Size (30	radius)	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1					height.
					
2					
2					Hydrophytic
					Hydrophytic
4			= Total Cover		vegetation
		^	LOUGH L OVAT		
4		0	- Total Covel		present? Y
3 4 5	or on a congrete checkly	0	- Total Covel		present:
gemarks: (Include photo numbers here	•	0	- Total Covel		present:
3 4 5	•	0	- Total Gover		present:
gemarks: (Include photo numbers here	•	0:	- Total Gover		present:
gemarks: (Include photo numbers here	on of the wetland.		- Total Covel		present:

SOIL Sampling Point: 39-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Coast Prairie Redox (A16) (LRR K, L, R) Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetland	J Assessment	_ City/County:	Vadnais Hei	ights/Ramsey	Sampling Date: 06/16/2	2020	
Applicant/Owner: Vadnais Lake Area Wate	er Management	Organization	State: N	MN	Sampling Point:	40-1w	
Investigator(s): Rebecca Beduhn, Erin Budro	w, Bailey Nelsor				Range: T30 R22 S31		
Landform (hillslope, terrace, etc.): toeslope	.	Loc	cal relief (c	concave, co	onvex, none): Conca	ve	
Slope (%): 2 Lat.: 45.0478013		-93.09678895	Datu	m: <u>UTM N</u>	IAD 83 ZONE 15N		
Soil Map Unit Name: Udorthents, wet substra				NWIC	lassification: None		
Are climatic/hydrologic conditions of the site ty			Yes		explain in remarks)		
Are vegetation, soil, or		significantly			Are "normal		
	hydrology	naturally pr	oblematic?	?	circumstances" present	t? Yes	
(If needed, explain any answers in remarks)							
CLIMMADY OF FINDINGS							
SUMMARY OF FINDINGS							
Hydrophytic vegetation present?	Y	Is the sampled	l area wit	hin a wetl:	and? Y		
Hydric soil present?	<u>'</u>	10 010 001110	1 6106 11	IIII u		-	
Indicators of wetland hydrology present?	'	If yes, optional	wetland si	to ID:	Wetland 40		
Indicators of welland flydrology present:		II yes, optional	WELIALIU SI	le iD.	VV Cliana To		
Remarks: (Explain alternative procedures here	or in a separat	e report.)					
Tromano. (Explain altornativo procedu. co	or in a coparac.	o roport.					
HYDROLOGY							
				Second	dary Indicators (minimum	of two	
Primary Indicators (minimum of one is require	d check all that	annly)		require		. OI LVVO	
X Surface Water (A1)	•	ned Leaves (B9)		•	rface Soil Cracks (B6)		
X High Water Table (A2)	Aquatic Fau	` '			ainage Patterns (B10)		
X Saturation (A3)	Marl Deposi		Moss Trim Lines (B16)				
Water Marks (B1)		Sulfide Odor (C1)					
Sediment Deposits (B2)		nizospheres on Liv	ina		ayfish Burrows (C8)	,	
Drift Deposits (B3)	Roots (C3)	IIZUSPITETUS ON LIV	Saturation Visible on Aerial Imagery				
Algal Mat or Crust (B4)		f Reduced Iron (C	4)	Sai		lagery	
Iron Deposits (B5)		Reduction in Tille	,		unted or Stressed Plants (E	11)	
Inundation Visible on Aerial	Soils (C6)	Reduction in Time	:u		omorphic Position (D2)) i j	
		Surface (C7)					
Imagery (B7)				Shallow Aquitard (D3) X FAC-Neutral Test (D5)			
Sparsely Vegetated Concave	Other (Expre	ain in Remarks)					
Surface (B8)				IVIIC	crotopographic Relief (D4)		
Field Observations:							
Surface water present? Yes X	No	Depth (inches):	: 1		Indicators of		
Water table present? Yes X	No	Depth (inches):		_	wetland		
Saturation present? Yes X	No	Depth (inches):		-	hydrology		
(includes capillary fringe)		,		-	present? Y		
(morados sapinary milgo)					p. 000	-	
Describe recorded data (stream gauge, monito	oring well, aerial	photos, previous	inspectio	ns), if avai	lable:		
		, , , , , , , , , , , , , , , , , , ,		,,			
Remarks:							

EGETATION - Use scientific nar	mes of plants				Sampling Point: 40-1w
					50/20 Thresholds
Tree Stratum Plot Size (30'	Doding	Absolute	Dominant	Indicator	20% 50%
Tree Stratum Plot Size (30'	Radius)	% Cover	Species	Status	Tree Stratum 0 0
			•		Sapling/Shrub Stratum 2 5
					Herb Stratum 20 50
				•	Woody Vine Stratum 0 0
				-	vvoody vine otratum
				•	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)
			= Total Cover	-	Percent of Dominant
Canling/Chm.h		A book ito	Dominant	Indicator	Species that are OBL,
apling/Shrub Plot Size (15'	Radius)	Absolute	Dominant	Indicator	FACW, or FAC: <u>100.00%</u> (A/B
Stratum 1 lot 5126 (13	,	% Cover	Species	Status	
Salix interior	Sandbar Willow	10	Y	FACW	Prevalence Index Worksheet
					Total % Cover of:
					OBL species 60 x 1 = 60
		-			
					FACW species 50 x 2 = 100
					FAC species0 x 3 =0
					FACU species0x 4 =0
					UPL species 0 x 5 = 0
					Column totals 110 (A) 160 (B)
					Prevalence Index = B/A = 1.45
			= Total Cover	-	
			= Total Cover		Hadrankatia Vanatatian Indiantana
		A la a a l4 a	Daminant	la dia atau	Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5'	Radius)	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
_ , , , , , , ,		% Cover	Species	Status	X Dominance test is >50%
Typha angustifolia	Narrow-Leaf Cat-Tail	60	<u>Y</u>	OBL	X Prevalence index is ≤3.0*
Phalaris arundinacea	Reed Canary Grass	20	Υ	FACW	Morphological adaptations* (provide
Solidago gigantea	Late Goldenrod	20	<u> </u>	FACW	supporting data in Remarks or on a
	-				separate sheet)
					Problematic hydrophytic vegetation*
					(explain)
					*Indicators of hydric soil and wetland hydrology must
					present, unless disturbed or problematic
					process, unicod dictarbed of problematic
				•	
_					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter
					at breast height (DBH), regardless of height.
					Continued have be Woody plants loss than 2 in DDI I on
					Sapling/shrub - Woody plants less than 3 in. DBH an greater than 3.28 ft (1 m) tall.
		100	= Total Cover		greater than 3.20 ft (1 m) tail.
			10101 00101		Herb - All herbaceous (non-woody) plants, regardless
Woody Vine		Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size (30'	Radius)	% Cover	Species	Status	
Stratum		70 COVEI	Opedies	Otatus	Woody vines - All woody vines greater than 3.28 ft in
					height.
	-				Hydrophytic
	<u> </u>	_			vegetation
			= Total Cover		present? Y
					I DIESCIL!
		0			
	or on a senarate shoot)	0			
marks: (Include photo numbers here		0			
marks: (Include photo numbers here		0			

SOIL Sampling Point: 40-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Coast Prairie Redox (A16) (LRR K, L, R) Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Project/Site: Vadnais/Sucker Park Wetland	d Assessment City/County:	Vadnais Heights/Ramsey S	Sampling Date: 06/16/20	020	
Applicant/Owner: Vadnais Lake Area Wate	er Management Organization	State: MN	Sampling Point:	41-1w	
Investigator(s): Rebecca Beduhn, Erin Budrov	w, Bailey Nelson	Section, Township, Ra	ange: T30 R22 S30		
Landform (hillslope, terrace, etc.): toeslope		cal relief (concave, conv	vex, none): Concave	е	
Slope (%): 2 Lat.: 45.0470916		Datum: UTM NAD			
Soil Map Unit Name: Zimmerman fine sand, 6			ssification: None		
Are climatic/hydrologic conditions of the site ty			olain in remarks)	_	
Are vegetation, soil, or		-	Are "normal		
	hydrologynaturally pr	roblematic? c	ircumstances" present?	? Yes	
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS	- <u></u>				
Hydrophytic vegetation present?	V Is the sample:	d area within a wetlan	d? Y		
Hydric soil present?		u dica willini a wchan	<u> </u>		
·	If you entional	···stland sita ID:	Motland 41		
Indicators of wetland hydrology present?	II yes, optional	wetland site ID:	Wetland 41		
Remarks: (Explain alternative procedures here	or in a senarate renort)		_		
Themains. (Explain alternative procedures here	; Of III a separate report.				
HYDROLOGY					
		Secondar	ry Indicators (minimum	of two	
Primary Indicators (minimum of one is required	d: check all that apply)	required)	•		
Surface Water (A1)	Water-Stained Leaves (B9)		ce Soil Cracks (B6)		
X High Water Table (A2)	Aquatic Fauna (B13)		age Patterns (B10)		
X Saturation (A3)	Marl Deposits (B15)		Trim Lines (B16)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Season Water Table (C2)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Liv	iving Crayfish Burrows (C8)			
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial Imagery			
Algal Mat or Crust (B4)	Presence of Reduced Iron (C			0 ,	
Iron Deposits (B5)	Recent Iron Reduction in Tille		ed or Stressed Plants (D	1)	
Inundation Visible on Aerial	Soils (C6)		norphic Position (D2)		
Imagery (B7)	Thin Muck Surface (C7)	Shallo	ow Aquitard (D3)		
Sparsely Vegetated Concave	Other (Explain in Remarks)		Neutral Test (D5)		
Surface (B8)			topographic Relief (D4)		
			<u> </u>		
Field Observations:					
Surface water present? Yes	No Depth (inches):		Indicators of		
Water table present? Yes X	No Depth (inches):		wetland		
Saturation present? Yes X	No Depth (inches):	: 0	hydrology		
(includes capillary fringe)		_	present? Y		
Describe recorded data (stream gauge, monito	oring well, aerial photos, previous	s inspections), if availab	ole:		
Remarks:					

VEGETATION - Use scientific nar	nes of plants				Sampling Point:	41-1v
					50/20 Thresholds	•
Tree Stratum Plot Size (30'	Radius)	Absolute	Dominant	Indicator		20% 50%
•		% Cover	Species	Status	Tree Stratum	4 10
1 Fraxinus pennsylvanica	Green Ash	10	Y	FACW	Sapling/Shrub Stratum	0 0
2 Ulmus americana	American Elm	10	Y	FACW	Herb Stratum	3 8
3					Woody Vine Stratum	0 0
4						
5					Dominance Test Worksheet	
6	<u></u>				Number of Dominant	
7					Species that are OBL,	
8	<u></u>				FACW, or FAC:	(A
9					Total Number of Dominant	
0					Species Across all Strata:	<u> </u>
		20	= Total Cover		Percent of Dominant	
					Species that are OBL,	
Sapling/Shrub Plot Size (15'	Padius \	Absolute	Dominant	Indicator	FACW, or FAC: 1	00.00% (A
Stratum Flot Size (15	Radius)	% Cover	Species	Status		
1					Prevalence Index Worksheet	t
2					Total % Cover of:	
3					OBL species 0 x 1 =	0
<u> </u>					FACW species 35 x 2 =	70
					FAC species 0 x 3 =	0
5					· —	
6					FACU species 0 x 4 =	0
/					UPL species 0 x 5 =	0(7
8					Column totals 35 (A)	<u>70</u> (B
9					Prevalence Index = B/A =	2.00
0			= Total Cover			
			- Total Covel		Hydrophytic Vegetation Indic	ootoro:
		Absolute	Dominant	Indicator	Rapid test for hydrophytic	
Herb Stratum Plot Size (5' F	Radius)	% Cover	Species	Status	X Dominance test is >50%	vogotation
1 Phalaris arundinacea	Reed Canary Grass	5	Υ	FACW	X Prevalence index is ≤3.0*	
2 Carex cristatella	Crested Sedge	5	Y	FACW	Morphological adaptations*	* (provide
3 Fraxinus pennsylvanica	Green Ash	<u> </u>	<u> Y</u>	FACW	supporting data in Remark	
4					separate sheet)	
5					Problematic hydrophytic ve	egetation*
6					(explain)	
7					*Indicators of hydric soil and wetland	hydrology mu
8					present, unless disturbed or problema	
9		<u> </u>				
0					Definitions of Vegetation Str	ata:
1						
2					Tree - Woody plants 3 in. (7.6 cm) or	
3					at breast height (DBH), regardless of	height.
4					Sapling/shrub - Woody plants less the	han 3 in DBH
5					greater than 3.28 ft (1 m) tall.	
		15	Total Cover			
					Herb - All herbaceous (non-woody) p size, and woody plants less than 3.28	
Woody Vine Plot Size (30'	Radius)	Absolute	Dominant	Indicator	Size, and woody plants less than 5.20) it tall.
Stratum	,	% Cover	Species	Status	Woody vines - All woody vines great	er than 3.28 ft
1					height.	
2						
3						
4					Hydrophytic	
5					vegetation	
		0	Total Cover		present? Y	
Name and the Allert All					<u> </u>	
temarks: (Include photo numbers here	• • • • • • • • • • • • • • • • • • • •					
uckweed present in the open water porti-	on of the wetland.					
ote: This data sheet has been adapted t	to use the 2018 National Watland	l Plant Liet				
	a u Eu i u i valiuliai vv clialil	a i lulli Liot.				
.S. Army Corps of Engineers 2018. National W						

SOIL Sampling Point: 41-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Matrix Redox Features Depth Texture Remarks Loc** (Inches) % Color (moist) Color (moist) Type* *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix **Hydric Soil Indicators:** Indicators for Problematic Hydric Soils: Histosol (A1) Polyvalue Below Surface 2 cm Muck (A10) (LRR K, L, MLRA 149B Histic Epipedon (A2) Coast Prairie Redox (A16) (LRR K, L, R) (S8) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) Dark Surface (S7) (LRR K, L Hydrogen Sulfide (A4) (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Surface (A11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Loamy Gleved Matrix (F2) Iron-Manganese Masses (F12) (LRR K, L, R) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Gleyed Matrix (S4) Redox Dark Surface (F6) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (TF2) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Type: Hydric soil present? Y Depth (inches): Remarks: In accordance with the 1987 Manual Obsite Determination Method, hydric soils are assumed to be present in plant communities where dominant species are OBL or FACW, the wetland boundary is considered abrupt, and wetland hydrology is observed.



Appendix D – Climate Summary Worksheet

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

home | current conditions | journal | past data | summaries | agriculture | other sites | about us



Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Ramsey township number: 30N township name: White Bear range number: 22W nearest community: Cardigan Junction section number: 30

Aerial photograph or site visit date: Monday, June 15, 2020

Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: May 2020	second prior month: April 2020	third prior month: March 2020
estimated precipitation total for this location:	3.96R	1.30R	2.42R
there is a 30% chance this location will have less than:	2.82	2.14	1.31
there is a 30% chance this location will have more than:	3.92	3.40	1.91
type of month: dry normal wet	wet	dry	wet
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)		14 (Normal)	

Other Resources:

- retrieve daily precipitation data
- view radar-based precipitation estimates
- view weekly precipitation maps
- Evaluating Antecedent Precipitation Conditions (BWSR)