

Wetland Delineation Report

-FOR-

Canterbury 7th Addition

Scott County

-FOR-

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Prepared By:



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INTRODUCTION AND BACKGROUND

Sambatek has prepared this Wetland Delineation Report for the proposed Canterbury 7th Addition site. The project site is located within the NE 1/4 Section 08, T115N, R22W, of Scott County in the City of Shakopee, MN. One area exhibiting wetland characteristics was observed and delineated during an April 26, 2017 site visit. This report provides a summary of the project site and a detailed description of the delineated wetland and documents its status under the various wetland regulations.

The proposed project involves construction of multi-use commercial and residential property. The subject property is located on the west side of Shenandoah Drive, adjacent to Canterbury Park and is within the Lower Minnesota River (#33) major watershed and the Scott County Watershed Management Organization boundary.

Sambatek delineated one wetland during an April 26, 2017 site visit. This report describes the characteristics of the wetland and documents its status under the various wetland regulations. If your project will not impact the wetland, or is below the threshold limits outlined below, this report can be submitted to the regulatory authorities to document compliance. If wetland impacts are proposed as part of your project, additional documentation, applications and plans may be necessary.

PURPOSE OF THIS REPORT

The purpose of this Wetland Delineation Report is to:

- Present an accurate record of wetland resources within the Project Limits
- Provide a document to guide the Technical Evaluation Panel (TEP) members in a field review,
- Solicit review and comment on wetland resources from the City of Shakopee, Scott County Soil and Water Conservation District, the Board of Water and Soil Resources (BWSR), the Minnesota Department of Natural Resources (DNR), the U.S. Army Corps of Engineers (COE) and other relevant wetland regulatory agencies early in the design process.

This report is also intended to serve as a resource with which to guide a TEP in the review and approval of the delineated wetland boundary and for future permitting purposes. This Wetland Delineation Report is intended so that the site designers can have the necessary information to avoid and minimize impacts to wetlands to the extent practicable.

LEGAL CONTEXT

At the state government level wetlands are protected by the Minnesota Wetland Conservation Act (WCA) administered by the Board of Water and Soil Resources (BWSR) and the Public Waters Program administered by the Minnesota Department of Natural Resources (DNR).

At the federal government level wetlands are protected by Section 404 of the Clean Water Act (CWA).

To comply with Section 404 of the CWA, the federal government mandates the use of the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual* (hereafter *The 1987 Manual*) and the regional supplement of the Project Area. The proposed project is located within the Midwest Region, therefore the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region was utilized as part of the delineation activities. A 1994 Federal Memorandum of Agreement between the Department of Defense, Department of Interior, U.S. Environmental Protection Agency (EPA), and the U.S. Department of Agriculture requires the use of *The 1987 Manual* and regional supplement by all federal resource agencies on non-agricultural lands.

Wetland regulations relevant to the Canterbury 7th Addition project are summarized below.

STATE REGULATIONS

Minnesota WCA

The WCA establishes a state policy of no-net-loss of wetlands and requires in the course of project development the avoidance of wetlands, minimization of impacts to wetlands, and mitigation for unavoidable impacts to wetlands. The WCA specifies several exemptions, e.g. conditions under which wet areas are not afforded the protection of the WCA. Categories of exemptions that potentially apply to the Canterbury Commons project are excerpted from the Minnesota Wetland Conservation Act Manual, are 1) incidental wetlands, and 2) *de minimis* exemption.

“Incidental wetlands” are wetland areas that the applicant can demonstrate, to the satisfaction of the local government unit, were created in non-wetland areas solely by actions, the purpose of which was not to create the wetland. Incidental wetlands include drainage ditches, impoundments, or excavations constructed in non-wetland areas solely for the purpose of effluent treatment, containment of waste material, storm water retention or detention, drainage, soil and water conservation practices, and water quality improvements and not as part of a wetland replacement process that may, over time, take on wetland characteristics.

A *de minimis* exemption is an area of wetland that may be impacted for which there is no obligation to mitigate for it. The amount of allowable *de minimis* varies with respect to several factors such as location within the state, wetland types impacted and the presence of shoreland zones. However, if the *de minimis* impact threshold is exceeded then mitigation is required for all proposed wetland impacts.

Governor’s Executive Order 03-04 and 00-02

This is the No-Net-Loss of Wetlands policy for the State of Minnesota.

Public Waters Work Permit Program

Those wetlands, waters, and streams that are included on Public Waters and Wetlands Inventory maps are under the jurisdiction of the DNR. The DNR has jurisdiction over that portion of the Public Water Wetland that is below the established Ordinary High Water Level (OHW). Areas above the OHW are regulated by the WCA.

FEDERAL REGULATIONS

Clean Water Act (CWA) (Section 404)

Section 404 of the CWA regulates the discharge of dredged or fill material into Waters of the United States, including wetlands. The U.S. Army Corps of Engineers (USACOE) administers the Section 404 permit program, while the EPA oversees the overall implementation of the CWA.

WETLAND DELINEATION METHODOLOGY

The delineation of wetlands within the Project Corridor consisted of a review of published resources, delineation of agricultural wetlands by conducting an aerial photo review, and site delineation of agricultural and non-agricultural wetlands per the “three-parameter” (Level 2) methodology set forth in the *1987 Manual* and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (hereafter, *The Regional Supplement*) (U.S. Army Corps of Engineers, Version 2.0, August 2010).

Published resources used in the wetland delineation process included the National Wetland Inventory (NWI) maps, Scott County Soil Survey, USGS Topographic Maps, Minnesota DNR Public Waters Inventory maps for Scott County, precipitation data, and historical aerial photography.

REVIEW OF PUBLISHED RESOURCES

The review of published resources is relevant to any effort in assessing the extent of wetland resources.

Scott County Soil Survey

The presence of hydric soils is an indicator that wetland conditions may exist within an area. The Scott County Soil Survey (SSURGO, 2013) was examined prior to and during fieldwork activities of the Project Limits. SSURGO digital soils data were obtained and overlain on aerial photography for use during fieldwork. Hydric soils are defined in the *Field Indicators of Hydric Soils in the United States: Guide for Identifying and Delineating Hydric Soils, Version 7.0, 2010* (NRCS, 2010), *The 1987 Manual*, and *The Regional Supplement* (USACOE, January 2012). Table 1 provides a summary of the soil map units that were identified within the Project Limits and identifies which soil map units are hydric and their drainage classification.

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Table 1. Mapped Soil Types within Project Limits

Map Unit Symbol	Map Unit Name	Hydric Soil Rating	Rating Description	Drainage Classification
CdA	Copaston silt loam, 0-2% slopes	15	Predominantly non hydric	Well drained
DaA	Dakota loam, 0-2% slopes	10	Predominantly non hydric	Well drained
DbA	Dickman sandy loam, 0-2% slopes	0	Non hydric	Somewhat excessively drained
HdA	Sparta fine sand, 0-2% slopes	0	Non hydric	Excessively drained
HdB	Sparta fine sand, 2-6% slopes	0	Non hydric	Excessively drained
TcB	Terril loam, 2-6% slopes	8	Predominantly non hydric	Well drained

National Wetland Inventory (NWI)

Digital NWI data were obtained from the Minnesota Geospatial Commons website (<http://gisdata.mn.gov>), overlain on aerial photography and depicted on maps used during the wetland delineation office and fieldwork activities. NWI maps are utilized as an off-site tool in identifying areas of potential wetlands. The most current mapping (2014 update) was used for this portion of the delineation. There is one NWI wetland within the Project Area, located off the SE corner of the corn maze, southwest of Shanendoah Drive. Table 2 provides a summary of the NWI-indicated wetlands identified within the Project Limits.

Table 2. NWI Mapped Wetlands within the Project Limits

NWI Wetland	Circular 39 Wetland Community	Location	Delineated Wetland
PEMA1	Type 1	SE corner of corn maze	N/A

DNR Public Waters and Public Water Wetlands

Public Waters Wetlands are those wetlands regulated by the DNR and specifically excluded from jurisdiction under the WCA. The following, excerpted from the DNR webpage, summarizes key facts about Public Waters Wetlands:

Public waters are all waterbasins and watercourses that meet the criteria set forth in [Minnesota Statutes, Section 103G.005](#), subd. 15 that are identified on Public Water Inventory maps authorized by Minnesota Statutes, Section 103G.201. Public waters wetlands include all type 3, type 4, and type 5 wetlands (as defined in U.S. Fish and Wildlife Service Circular No. 39, 1971 edition) that are 10 acres or more in size in unincorporated areas or 2.5 acres or more in size in incorporated areas (see: [Minnesota Statutes Section 103G.005](#), subd. 17b, Wetland Type). Currently, DNR Waters utilizes scanned mylar county-scale maps printed on paper to show the general location of the public waters and public waters wetlands (lakes, wetlands, and watercourses) under its regulatory jurisdiction. These maps are commonly known as Public Waters Inventory (PWI) maps. The regulatory "boundary" of these waters and wetlands is called the [ordinary high water level](#) (OHWL).

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There are no DNR Public Waters and Public Water Wetlands within the Project Limits as is illustrated on the DNR Public Waters Map.

Precipitation Data

Analysis of precipitation data pertinent to the Project Limits helps to interpret the wetland hydrology indicators observed during the fieldwork activities. Abnormal precipitation is considered to be that below the 30th percentile (drier than normal) and above the 70th percentile (wetter than normal). Normal precipitation is based on the 30-year average for the period of 1981-2010. For the purpose of this study, Sambatek utilized Section 6, Township 115N, Range 22W (Unnamed Township, nearest community-Shakopee) as the project location for the precipitation data. Table 3 summarizes the precipitation data from May 2016 through April 2017.

Table 3. Precipitation Recorded at Unnamed Township

Month / Year	30-Year Average* (inches)	Actual* (inches)	Difference (inches)	
May 2016	3.74	1.94	-1.80	
June 2016	4.19	3.64	-0.55	
July 2016	3.88	4.93	+1.05	
August 2016	4.48	9.12	+4.64	
September 2016	3.38	6.18	+2.80	
October 2016	2.40	3.84	+1.44	
November 2016	1.71	2.02	+0.31	
December 2016	1.03	1.67	+0.64	
January 2017	0.83	0.37	-0.46	NRCS Condition Method
February 2017	0.71	0.70	-0.01	Normal
March 2017	1.68	0.39	-1.29	Dry
April 2017	2.61	3.78	+1.17	Wet
Total	30.64	38.58	+7.94	Normal (11)

*2016, 2017 and 30 year Data from the Minnesota State Climatology Office website

According to the recorded precipitation amounts in the project area, the region was approximately 7.94 inches above the 30-year average for the entire year. The antecedent moisture condition for the prior 3 months is Normal. Antecedent moisture condition was calculated utilizes method detailed in Board of Water and Soil Resources publication “Evaluating Antecedent Precipitation Conditions Using Climate Data Available in Minnesota”, dated May 2015.

THREE-PARAMETER WETLAND DELINEATIONS (NON-FARMED WETLANDS)

The delineation of wetlands in non-agricultural areas was conducted in accordance to routine determination Level 2 methods described in *The 1987 Manual*. Data on soils, hydrology, and vegetation (the three parameters mandated in *The 1987 Manual*) were collected at each potential wetland. One sampling transect was established at each wetland, which included one sampling location clearly on the upland side of the wetland boundary and another sampling location clearly on the wetland side of the wetland

boundary. The wetland boundary was established at the line where one or more of the mandatory parameters (hydric soils, indicators of wetland hydrology, and a predominance of hydrophytic vegetation) were not present.

The definition of hydric soils as used in this report is per *Field Indicators of Hydric Soils in the United States: Guide for Identifying and Delineating Hydric Soils, Version 7.0, 2010* (NRCS 2010). *The 1987 Manual* provides additional information relevant to the definition and characteristics of hydric soils. Digital soils data for Scott County was overlain on aerial photos and reviewed for locations of mapped hydric soils, potential inclusions of hydric soils, and non-hydric soils within the Project Limits. Soil map units considered hydric in Scott County were based on the hydric rating for each map unit.

The definitions of wetland hydrology and predominance of hydrophytic vegetation follow *The 1987 Manual* and *The Regional Supplement*. The designation of Wetland Plant Indicator Status for plants observed in wetland and upland sampling pits follows *The National List of Plant Species that Occur in Wetlands – 2016 Update*.

Boundaries of non-farmed wetlands were located with a Trimble GeoXH GPS unit, which provides sub-meter accuracy.

ROUTINE FIELD WETLAND DELINEATION

Sambatek implemented the Level 2 routine wetland delineation methodology and determined that one wetland was located within the Project Limits. Areas identified as potential wetlands were examined in the field to determine if they exhibited wetland characteristics. This potential wetland area was initially identified through preliminary office delineation by examining historical aerial imagery, NWI maps, and Scott County Soil Survey maps.

RESULTS

Wetland 1

Date of Wetland Delineation: April 26, 2017

Location: NE1/4, Section 08, T 115N, R22W

Wetland Description: Wetland 1 is located along the west edge of the Project Limits, at the southern end of the large drainage area within the woods. Wetland 1 is a long linear wetland oriented north/south. It appears to be hydrologically charged primarily by surface runoff and in larger rain events, by receiving overflow from the basin to the north. There is high density residential adjacent to the west, open field to the south and east and a small wooded area to the north.

Delineated Wetland Type: Type 2, Fresh (wet) meadow (PEM1B)

NWI: Not mapped

DNR Public Waters Map: Not mapped

Hennepin County Soil Survey:
Copaston silt loam, 0-2% slopes (CdA)

Hydric Rating: 15%, Predominantly non hydric

Dominant Vegetation of Wetland:
Typha spp. (Cattail spp.), OBL
Salix nigra (Black Willow), OBL

Basis of Delineated Boundary: There is a distinct topographic break along the west edge which corresponds with a change in soil type. The north, south and east edges were identified through a combination of topography and vegetative dominance.

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Photos of Wetland 1:



Wetland 1, facing south



Wetland 1, facing west



Wetland 1, facing west



Wetland 1, facing northwest

Area A

Date of Wetland Delineation: April 26, 2017

Location: NE1/4, Section 08, T 115N, R22W

Description: Area A is located in a depression just to the southeast of the corn maze and just west of Shanendoah Drive. Area A is an isolated depression which receives directed runoff from a 24" RCP located to the northeast of the depression. The vegetation consists of a Sandbar Willow and Trembling Aspen over story with Reed Canary Grass below. The soils are a loam/sand.

NWI: PEM1A

DNR Public Waters Map: Not mapped

Hennepin County Soil Survey:
Dakota loam, 0-2% slopes (DaA)

Hydric Rating: 10%, Predominantly non hydric

Dominant Vegetation of Wetland:
Salix exigua (Sandbar Willow), FACW
Populus tremuloides (Quaking Aspen), FAC
Phalaris arundinacea (Reed Canary Grass), FACW
Solidago gigantea (Smooth Goldenrod), FACW

Basis for exclusion: While the area looks very 'wetlandy', being dominated by hydrophytes, the soils do not qualify as hydric. The soil generally consists of 0-4" of a sandy loam over sand. The soils had a 3/1 surface over 3/4 with occasional streaks of 4/6. In my opinion, this area receives enough moisture to support hydrophytic vegetation but the extremely well drained soils do not allow water to remain in place for long enough to develop hydric characteristics.

Photos of Area A:



Area A, facing southwest



Area A, facing southwest



Area A, facing southwest



24" RCP directing water to area A

Area B

Date of Wetland Delineation: April 26, 2017

Location: NE1/4, Section 08, T 115N, R22W

Description: Area B is located along the west edge of the Project Limits, to the north of Wetland 1. Area A is an isolated depression which appears to have been constructed sometime prior to 1991. Historical aerials from 1991 show a basin and cleared area surrounding it. The next available photo from 2003 shows the area with minimal tree growth in the immediate area. This area receives hydrology via overland flow and a 30" RCP which directs storm flow from the east.

NWI: Not mapped

DNR Public Waters Map: Not mapped

Hennepin County Soil Survey:
Sparta fine sand, 0-2% slopes (HdA)

Hydric Rating: 0%, Non hydric

Dominant Vegetation of Wetland:
Populus deltoides (Cottonwood), FAC

Basis for exclusion: The vegetation in the area is marginally hydric but the entire basin area is entirely sand. The soil has a hydric rating of 0% in this area and when sampled, the Munsell color was a 3/3 with no evidence of hydrology present.

Photos of Area B:



Area B, facing north



Area B, facing south



Area B, facing north

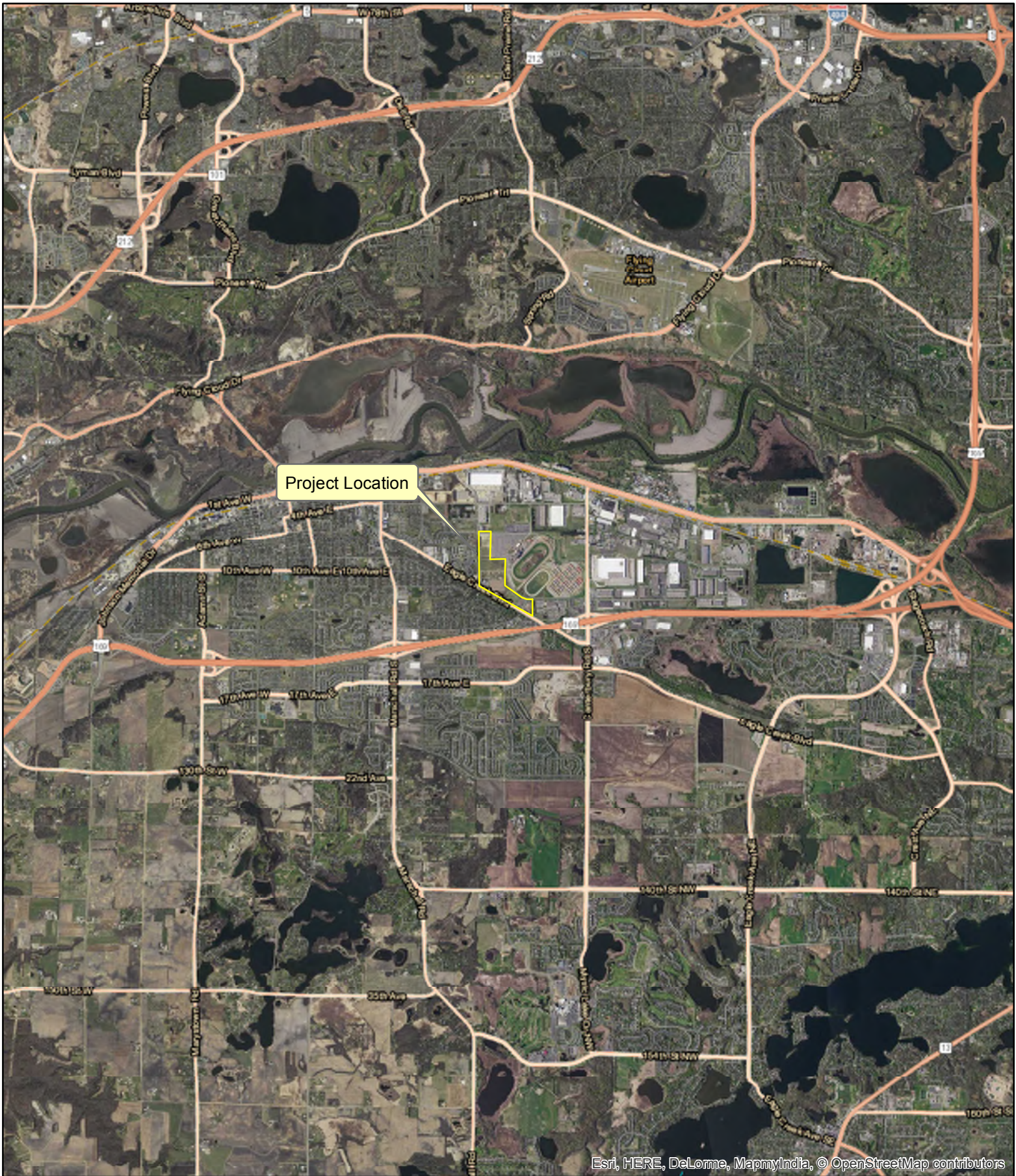


30" RCP from the east.

CONCLUSIONS

One wetland was delineated within the Canterbury 7th Addition Project Limits. The wetland was delineated based on the three-parameter approach in accordance to *The 1987 Manual*. Field activities were completed on April 26, 2017.

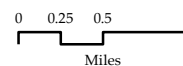
The above described wetland delineation was performed by Sambatek's Environmental Scientist, JD Donath (Minnesota Certified Wetland Delineator #1105). The delineation was performed in accordance to *The 1987 Manual* and *The Regional Supplement*. The delineation meets the standards and criterion described in *The 1987 Manual* and conforms to applicable standards and regulations in force at the time the delineation was completed.



Project Location Map

Canterbury 7th Addition

Shakopee, MN



Sources: MetroGIS, NRCS, LMIC



This map was created using Sambatek's Geographic Information Systems (GIS), it is a compilation of information and data from various sources. This map is not a surveyed or legally recorded map and is intended to be used as a reference. Sambatek is not responsible for any inaccuracies contained herein.



Wetland Boundary Map

Canterbury 7th Addition

Shakopee, MN

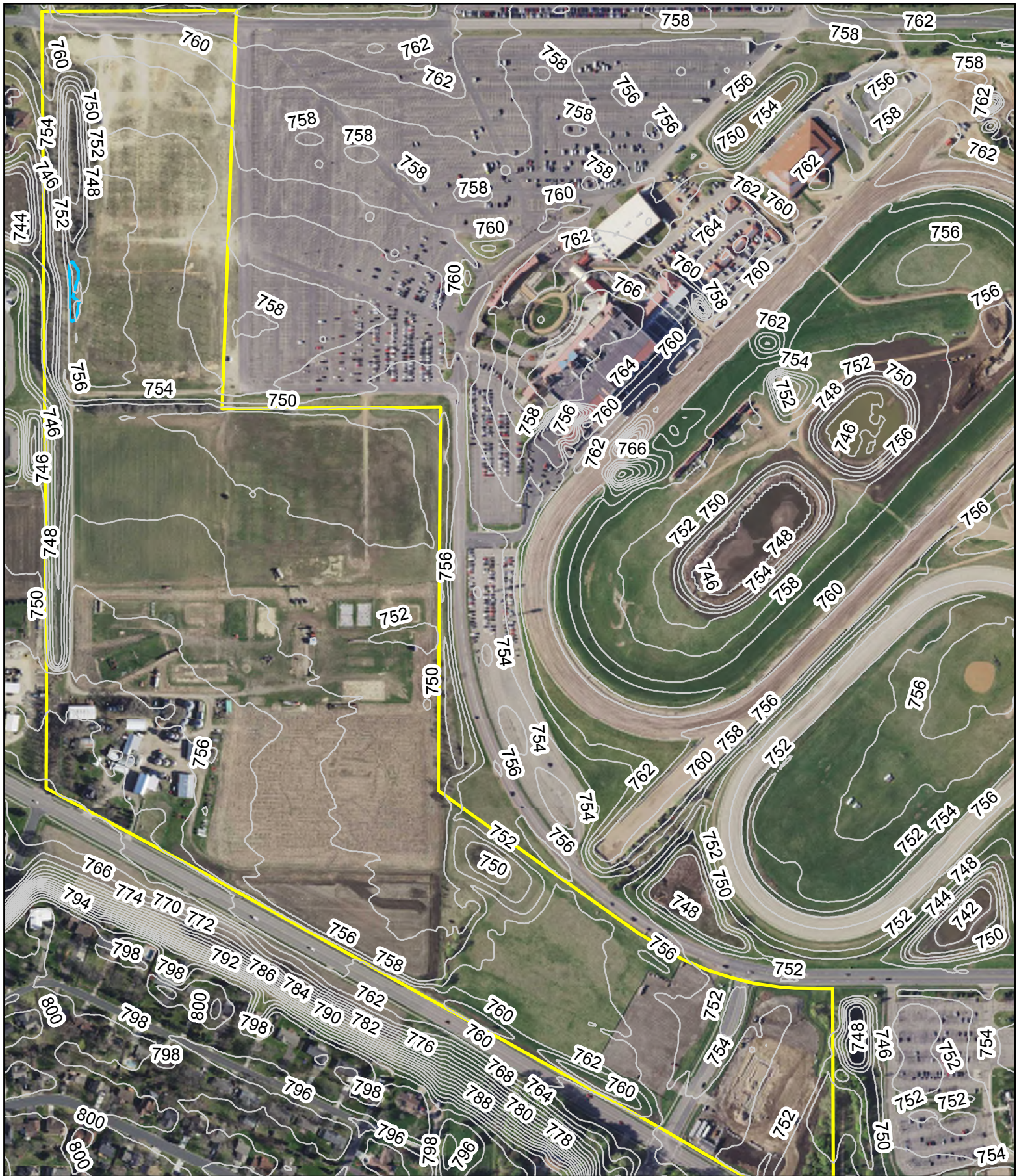


0 200 400
Scale In Feet

Sources: MetroGIS, NRCS, LMIC



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Contour Map

Canterbury 7th Addition

Shakopee, MN

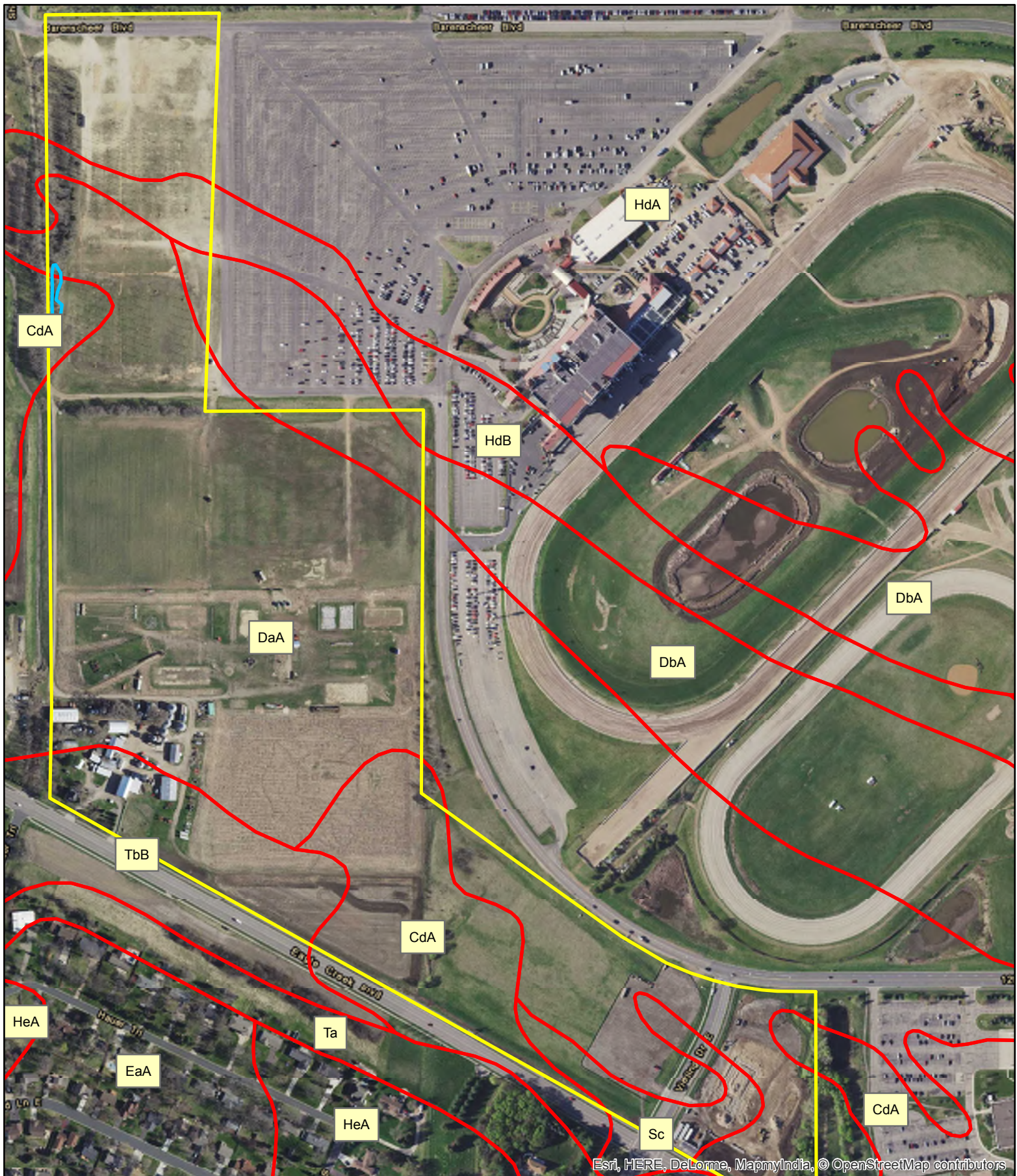


0 200 400
Scale In Feet



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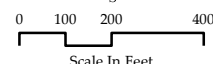
Sources: MetroGIS, NRCS, LMIC



Scott County Soil Survey Map

Canterbury 7th Addition

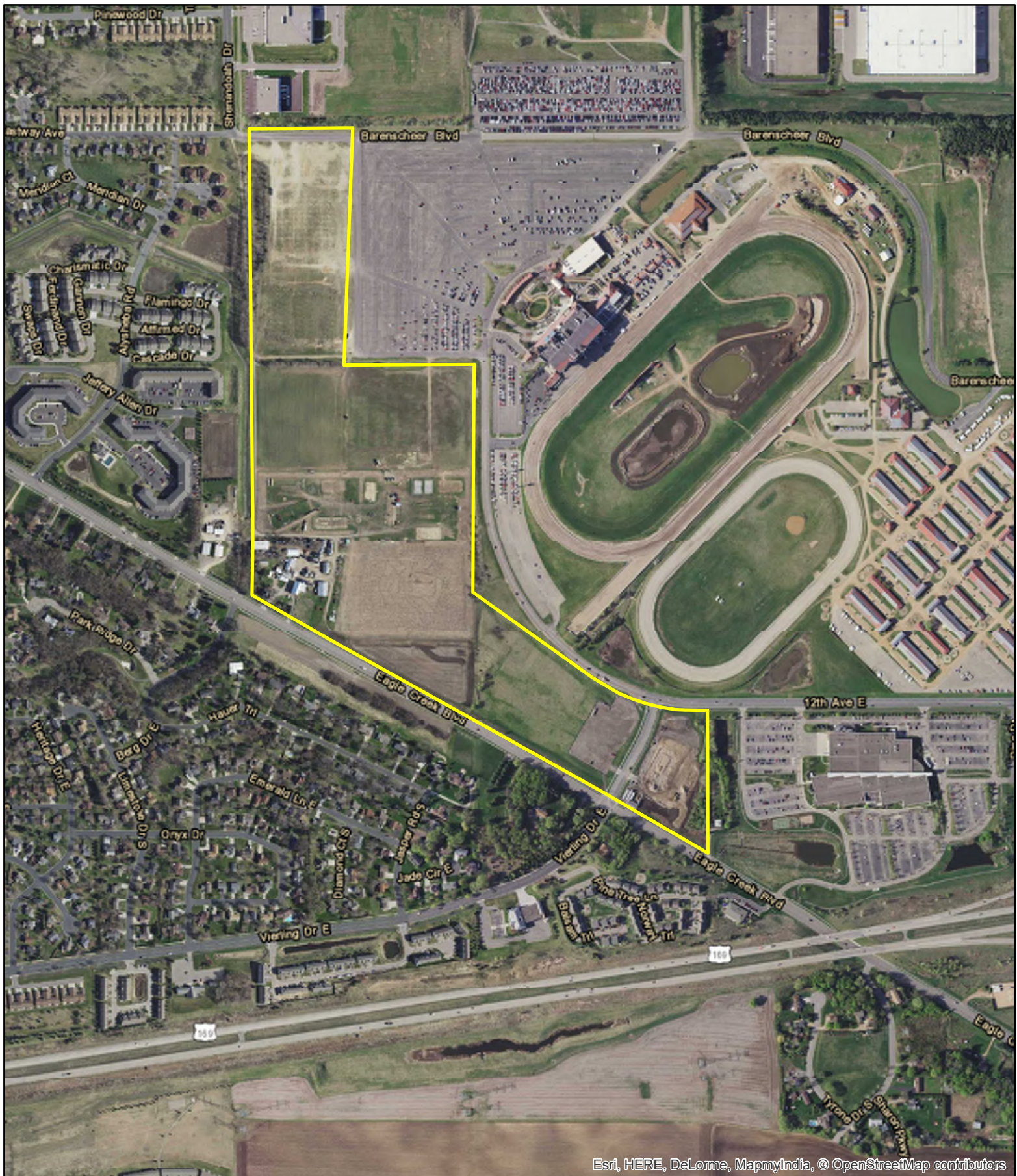
Shakopee, MN



Sources: MetroGIS, NRCS, LMIC

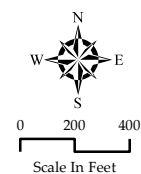


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DNR PWI Map Canterbury 7th Addition Shakopee, MN



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Sources: MetroGIS, NRCS, LMIC

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury 7th Addition City/County: Shakopee/Scott Sampling Date: April 26, 2017
 Applicant/Owner: Doran Canterbury I, LLC State: Minnesota Sampling Point: WL1-1 UP
 Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 08, T115N, R22W
 Landform (hillslope, terrace, etc.): Stream terraces Local relief (concave, convex, none): none
 Slope (%): 2% slopes Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: CdA – Copaston loam, 0-2% slopes NWI Classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus pumula</u> (Siberian Elm)	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	<u>50</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	_____	_____	_____	OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ X 2 = _____
2. _____	_____	_____	_____	FAC species _____ X 3 = _____
3. _____	_____	_____	_____	FACU species _____ X 4 = _____
4. _____	_____	_____	_____	UPL species _____ X 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
_____	_____	= Total Cover		Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>5'</u>)	_____	_____	_____	Hydrophytic Vegetation Indicators:
1. <u>Poa pratensis</u> (Kentucky Bluegrass)	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Taraxicum officinale</u> (Common Dandelion)	<u>10</u>	<u>N</u>	<u>FACU</u>	<u>X</u> 2 - Dominance Test is > 50% _____
3. <u>Solidago gigantea</u> (Giant Goldenrod)	<u>10</u>	<u>N</u>	<u>FACW</u>	3 - Prevalence Test is ≤ 3.0 ¹ _____
4. _____	_____	_____	_____	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____
5. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain) _____
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
9. _____	_____	_____	_____	
10. _____	<u>80</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____	_____	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WL1-1 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					SL	
6-24	10 YR 3/4	100					S	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surfaces (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No X Depth (inches): _____
 Water Table Present? Yes ☐ No X Depth (inches): _____
 Saturation Present? Yes ☐ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury 7th Addition City/County: Shakopee/Scott Sampling Date: April 26, 2017
 Applicant/Owner: Doran Canterbury I, LLC State: Minnesota Sampling Point: WL1-1 WT
 Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 08, T115N, R22W
 Landform (hillslope, terrace, etc.): Stream terraces Local relief (concave, convex, none): concave
 Slope (%): 2% slopes Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: CdA – Copaston silt loam, 0-2% slopes NWI Classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks:	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix nigra</u> (Black Willow)	<u>30</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Populus deltoids</u> (Cottonwood)	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>50</u>	= Total Cover		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
10. _____	_____	_____	_____	
	<u>90</u>	= Total Cover		Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: WL1-1 WT

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/2	100					SL	
5-24	10 YR 5/2	95	10YR 4/6	5			SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)
☒ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surfaces (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ☒ No ☐	Depth (inches): <u>2</u>
Water Table Present?	Yes ☒ No ☐	Depth (inches): <u>6</u>
Saturation Present? (includes capillary fringe)	Yes ☒ No ☐	Depth (inches): <u>surface</u>

Wetland Hydrology Present?

Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury 7th Addition City/County: Shakopee/Scott Sampling Date: April 26, 2017
 Applicant/Owner: Doran Canterbury I, LLC State: Minnesota Sampling Point: Area A
 Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 08, T115N, R22W
 Landform (hillslope, terrace, etc.): Outwash plains, moraines Local relief (concave, convex, none): concave
 Slope (%): 2-6% slopes Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: DaA – Dakota loam, 0-2% slopes NWI Classification: PEM1A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	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: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. <u>Salix exigua</u> (Sandbar Willow)	<u>70</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Populus deltoides</u> (Quaking Aspen)	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
	<u>100</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. <u>Phalaris arundinacea</u> (Reed Canary Grass)	<u>30</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Solidago gigantea</u> (Giant Goldenrod)	<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>60</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Area A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					SL	
6-24	10 YR 3/4	100					S	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surfaces (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____**Hydric Soil Present?**Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No X Depth (inches): _____

Water Table Present? Yes ☐ No X Depth (inches): _____

Saturation Present? Yes ☐ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Canterbury 7th Addition City/County: Shakopee/Scott Sampling Date: April 26, 2017
 Applicant/Owner: Doran Canterbury I, LLC State: Minnesota Sampling Point: Area B
 Investigator(s): Sambatek – JD Donath Section, Township, Range: Section 08, T115N, R22W
 Landform (hillslope, terrace, etc.): Stream terraces Local relief (concave, convex, none): concave
 Slope (%): 2% slopes Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: HdA – Sparta fine sand, 0-2% slopes NWI Classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		
Remarks:			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Populus deltoides (Cottonwood)</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>40</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ X 2 = _____
4. _____	_____	_____	_____	FAC species _____ X 3 = _____
5. _____	_____	_____	_____	FACU species _____ X 4 = _____
	_____	= Total Cover		UPL species _____ X 5 = _____
				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5'</u>)				Prevalence Index = B/A = _____
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	_____	= Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	_____	= Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: Area B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-24	10YR 3/3	100					S	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)
☐ Black Histic (A3)	☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)	

Indicators for Problematic Hydric Soils³:

☐ Coast Prairie Redox (A16)
☐ Dark Surface (S7)
☐ Iron-Manganese Masses (F12)
☐ Very Shallow Dark Surfaces (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____**Hydric Soil Present?** Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)
☐ High Water Table (A2)	☐ Aquatic Fauna (B13)
☐ Saturation (A3)	☐ True Aquatic Plants (B14)
☐ Water Marks (B1)	☐ Hydrogen Sulfide Odor (C1)
☐ Sediment Deposits (B2)	☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Drift Deposits (B3)	☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4)	☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Iron Deposits (B5)	☐ Thin Muck Surface (C7)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Gauge or Well Data (D9)
☐ Sparsely Vegetated Concave Surface (B8)	☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No X Depth (inches): _____

Water Table Present? Yes ☐ No X Depth (inches): _____

Saturation Present? Yes ☐ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: