

Minnesota Wetland Conservation Notice of Decision

Item 7E.
BCWMC 4-20-17

Local Government Unit (LGU) City of Golden Valley	Address 7800 Golden Valley Road Golden Valley MN 55427
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1. PROJECT INFORMATION

Applicant Name Jacob Bronder	Project Name CSAH 66 Bassett Creek Culvert Replacement	Date of Application 4/5/2017	Application Number
☒ Attach site locator map.			

Type of Decision:

☒ Wetland Boundary	☐ No-Loss	☐ Exemption	☐ Sequencing
☐ Replacement Plan	☐ Banking Plan (road replacement)		

Technical Evaluation Panel Findings and Recommendation (if any):

☒ Approve	☐ Approve with conditions	☐ Deny
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2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: April 5, 2017		
☒ Approved	☐ Approved with conditions (include below)	☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

The City of Golden Valley received a wetland delineation report prepared by Hennepin county Environmental Services. The project area was reviewed in the fall of 2015 and summer of 2016.

The wetland assessment was to assist the Hennepin County Transportation Department design team with necessary wetland information to base permitting decisions for the culvert replacement along Bassett Creek, CSAH 66.

The TEP was asked to provide comments on the wetland delineation during the 15 day review period, which ended April 5, 2017. No TEP comments were received.

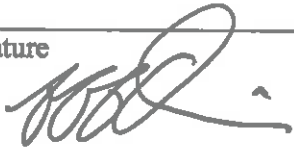
LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name Jeff Oliver, PE

Title: City Engineer

Signature



Date 4/6/17

Phone Number and E-mail

JOliver@goldenvalleymn.gov

763-593-8034

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT.

Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for three years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☒ Appeal of an LGU staff decision. Send petition and \$200 fee (if applicable) to:

City of Golden Valley
7800 Golden Valley Road
Golden Valley, MN 55427

☐ Appeal of LGU governing body decision. Send petition and \$500 filing fee to:

Executive Director
Minnesota Board of Water and Soil Resources
520 Lafayette Road North
St. Paul, MN 55155

4. LIST OF ADDRESSEES

☒ SWCD TEP member: (email only) Stacey Lijewski, Stacey.Lijewski@co.hennepin.mn.us

☒ BWSR TEP member: (email only) Ben Meyer, ben.meyer@state.mn.us

☐ LGU TEP member (if different than LGU Contact):

☐ DNR TEP member:

☒ DNR Regional Office (email only) Becky.Horton@state.mn.us

☒ WD or WMO (if applicable): **Laura Jester**

☒ Applicant (notice only) and Landowner

☐ Members of the public who requested notice (notice only):

☒ Corps of Engineers Project Manager (email only) Melissa.M.Jenny@usace.army.mil

☐ BWSR Wetland Bank Coordinator (wetland bank plan applications only)

5. MAILING INFORMATION

➤ For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➤ For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➤ Department of Natural Resources Regional Offices:

NW Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	NE Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Central Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Southern Region: Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073
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For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➤ For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687
or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➤ For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:



CSAH 66 Wetland Delineation Report

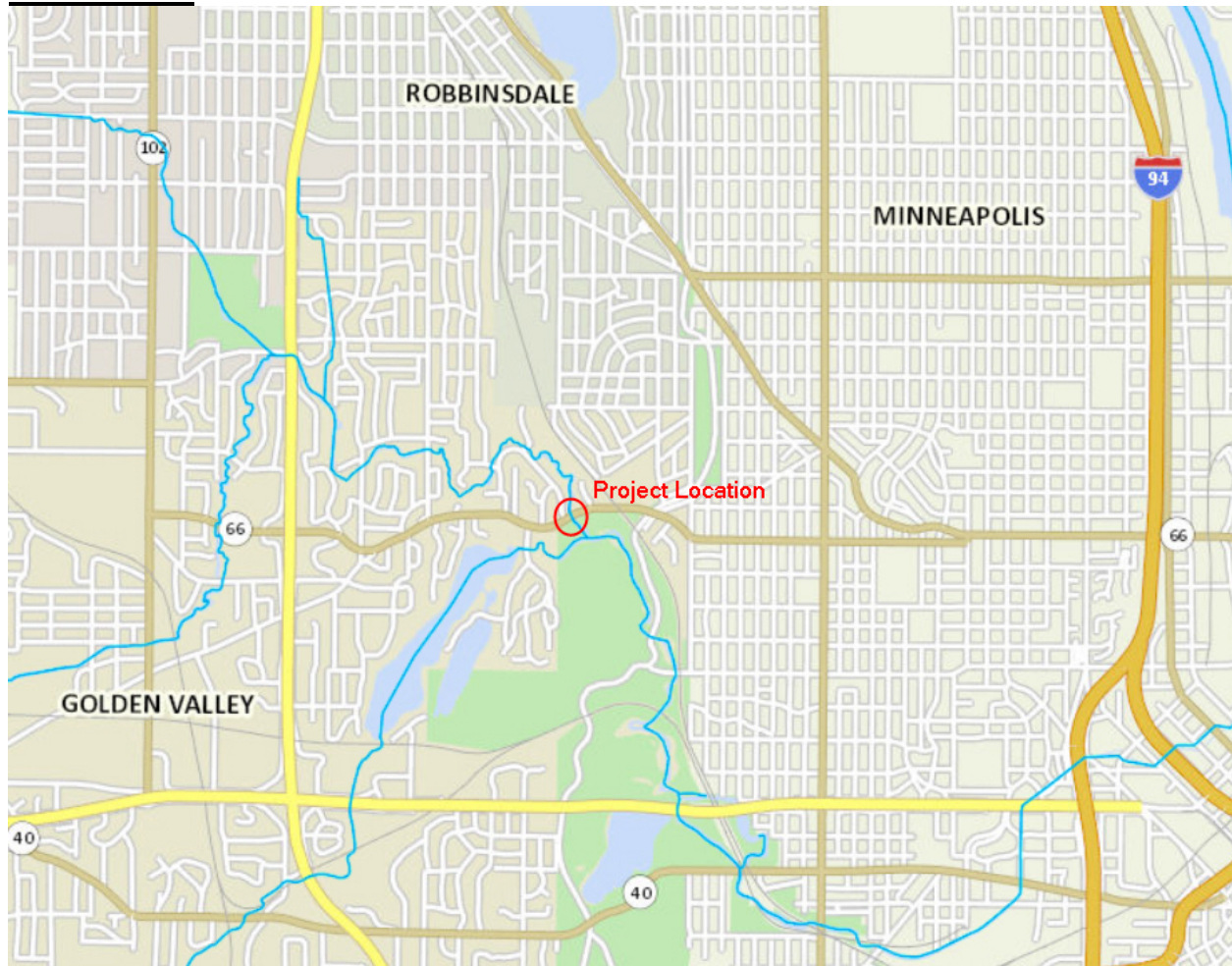
WETLAND DELINEATION REPORT

**CSAH 66
City of Golden Valley, MN
August, 2016**

Prepared by:

Hennepin County Environmental Services.
Attn: Tony Brough,
1600 Prairie Dr.
Medina, MN 55340
612-348-4378

***Site location:**



***Description of conditions at the time of review:**

The project area was reviewed in the fall of 2015 and summer of 2016. Site conditions were basically normal for the time of the inspections.

***Purpose of the delineation**

This wetland assessment is to assist the Hennepin County Transportation Department design team with necessary wetland information to base permitting determinations. The primary project is a culvert replacement along Bassett Creek, CSAH 66.

***Methodology**

Wetlands were delineated in accordance with the *Corps of Engineers (USACE) Wetland Delineation Manual* (Waterways Experiment Station, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Regional Supplement* as required by Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetlands, which met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Soils, vegetation and hydrology were documented at representative locations following typical guidance using the Routine Determination methodology. Soil colors are described in accordance with *Munsell Soil Color Charts* (1992 Revised Edition).

The Wetland classifications are based on the United States Fish and Wildlife Service (USFWS) publications *Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979), *Wetlands of the United States* (Circular 39), and the *Wetlands Plants and Plant Communities of Minnesota & Wisconsin* (Eggers & Reed).

***Mapping resources & data forms**

Attached: Four data sheets document the conditions about 25 ft downslope and 25 ft upslope of the boundary. Basic in-office mapping resources are attached.

***Results and discussion**

Flowing from north to south is a DNR Public Water - Bassett Creek. The Creek itself is to be mapped as a Riverine System and under the DNR regulation.

There are floodplain wetlands delineated on both side of CSAH 66. The primary hydrology for the identified wetlands are flood waters from Bassett Creek.

The vegetation and hydrology are generally exhibiting “normal circumstances.” All three parameters have been historically altered in portions of the project from the original road construction and maintenance (includes fill, culverts, etc.). The original road construction hydrologic alterations have stabilized and remained consistent for numerous years, so the vegetation is representative of current growing hydrologic conditions.

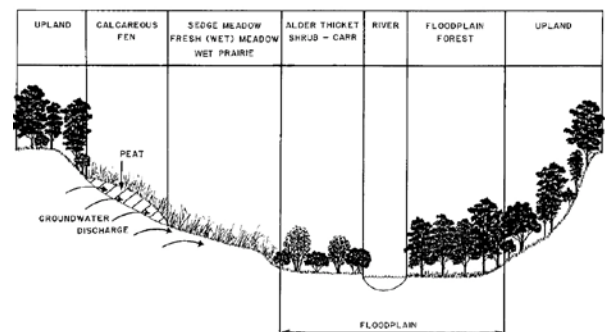


FIGURE 6 — GENERALIZED CROSS SECTION OF WETLAND PLANT COMMUNITIES IN A RIVER VALLEY

North Side of CSAH 66: Type 1 (PFO1A) – Hardwood Swamp

This delineated boundary follows a typical “simple slope” with the herbaceous vegetation layer changing from FacU to FacW species along a fairly steep slope. This includes a well-defined shoulder, slope, foot-slope, and toe-slope typical of roadside wetland delineations.

The first 40 feet north of the culvert has extremely steep slopes and no discernable floodplain wetland. This area will be mapped as riverine system only. As you continue north the slope flattens out to create a floodplain wetland dominated by reed canary grass, exposed soils due to flooding, a mixture of boxelder/green ash trees and an understory of common buckthorn.

South Side of CSAH 66: Type 1 (PEM1A) – Fresh (wet) Meadow & Shrub-Carr

South of the road, there is a narrow floodplain wetland on both sides of Bassett Creek. The creek bank has been ripped and it also appears to have been historically re-seeded with native vegetation. With that, the dominate vegetation consists of sandbar willow and reed canary grass. Some other native herbaceous vegetation is mixed into these dominates. There appears to have been a previous wetland/upland delineation in this area utilizing orange flagging. My delineation concurred with this determination.

***Jurisdiction**

WCA - The City of Golden Valley - Eric Eckman and Jeff Oliver (763-593-8084).

USACOE - Melissa Jenny (melissa.m.jenny@usace.army.mil)

DNR – MPARS – Public Waters Work Permit <http://www.dnr.state.mn.us/mpars/index.html>

***Conclusion**

Wetland delineation services were performed with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions, including, but not limited to, time, proposed project, and budgetary constraints. No other warranty, express or implied, is made. Wetland boundaries and regulatory interpretations are subject to verification and/or corroboration by jurisdictional authorities. This report does not represent approval for any activities on the property. The ultimate responsibility for obtaining permits and approvals remains with the client.

If you have questions or would like further information, please contact me (612-348-4378).



Tony Brough (WCDP Cert #1082)

Hennepin County Environmental and Energy

Legend

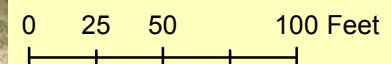
- Wetland Flags

Scale: 0 25 50 100 Feet

Legend

● Wetland Flags

- Wetland Flags





U.S. Fish and Wildlife Service

National Wetlands Inventory

Aug 20, 2015



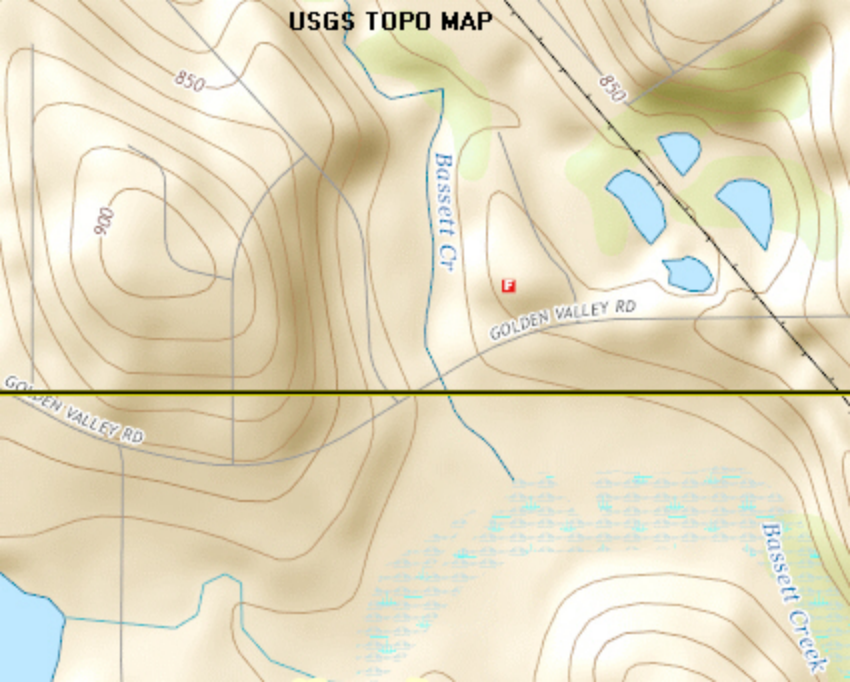
Wetlands

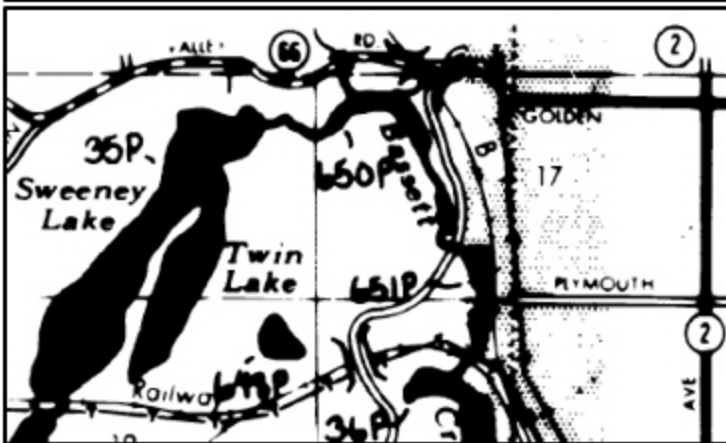
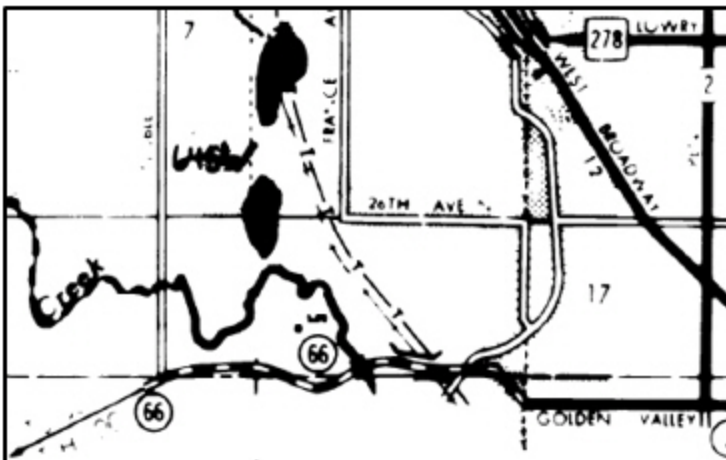
- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

User Remarks:

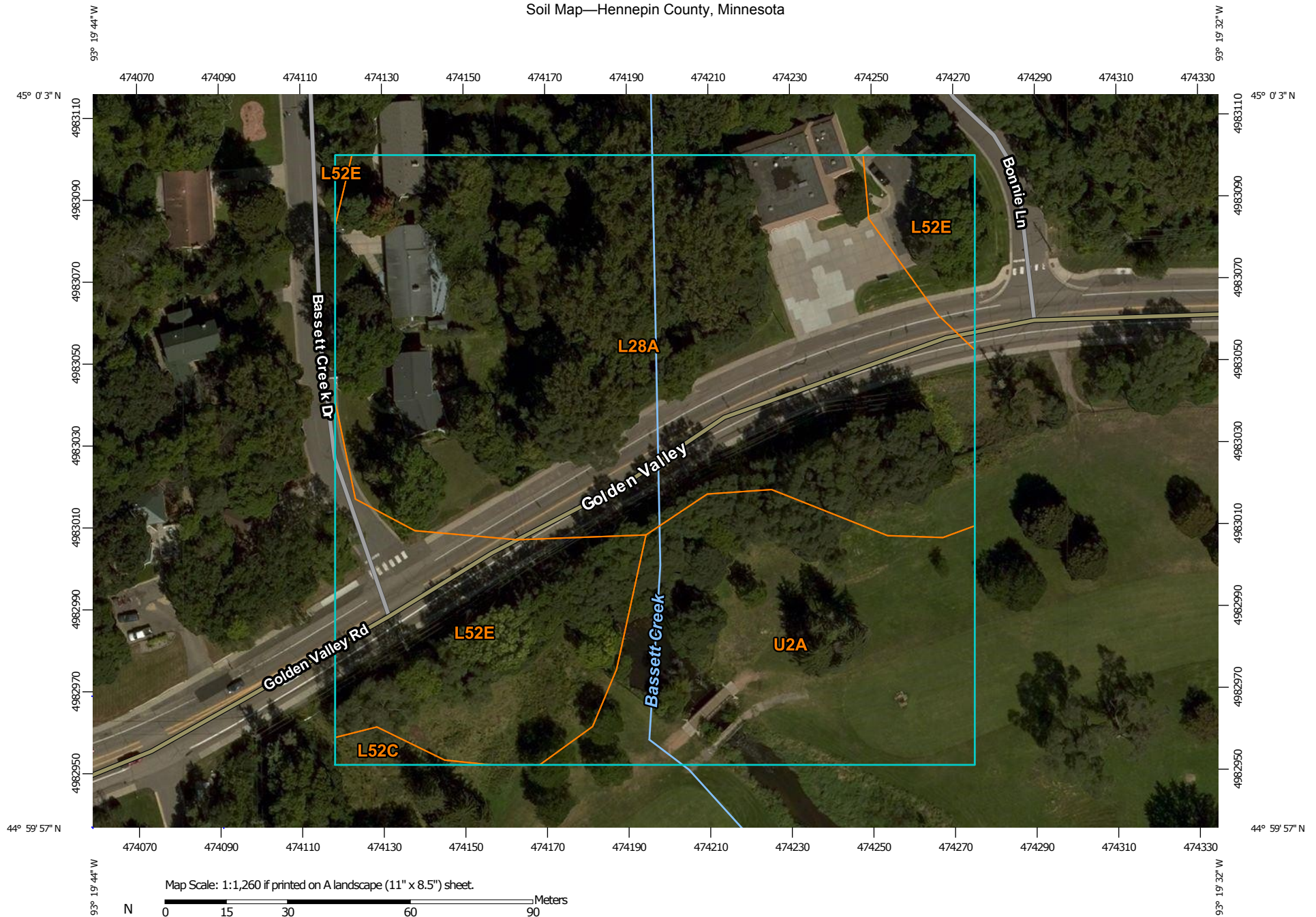
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

USGS TOPO MAP

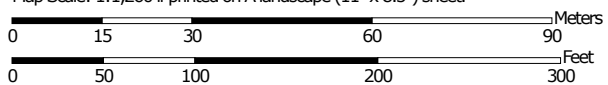




Soil Map—Hennepin County, Minnesota



Map Scale: 1:1,260 if printed on A landscape (11" x 8.5") sheet.



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



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/20/2015
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Hennepin County, Minnesota
Survey Area Data: Version 10, Sep 16, 2014

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

Date(s) aerial images were photographed: Aug 26, 2014—Sep 7, 2014

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

Map Unit Legend

Hennepin County, Minnesota (MN053)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
L28A	Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded	3.2	56.1%
L52C	Urban land-Lester complex, 2 to 18 percent slopes	0.0	0.8%
L52E	Urban land-Lester complex, 18 to 35 percent slopes	1.2	20.2%
U2A	Udorthents, wet substratum, 0 to 2 percent slopes	1.3	23.0%
Totals for Area of Interest		5.8	100.0%

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: CSAH 66 Golden Valley City/County: Henriep / Golden Valley Sampling Date: 9-1-15
 Applicant/Owner: _____ State: MN Sampling Point: (1)
 Investigator(s): T. Bragh Section, Township, Range: 17, T. 118N, R. 21W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 0-5 Lat: _____ Long: 51434.771 (N) Datum: 176376.224 N
 Soil Map Unit Name: L28A - Sakawack fine silt loam NWI or WWI classification: PFO1A

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? No Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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? <u>Yes</u> <u>X</u> <u>No</u> _____
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: _____)	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. Green Ash "Fraxinus pennsylvanica"	40	Y	FACW	
2. Boxelder "Acer negundo"	50	Y	FAC	
3. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: _____ (A) <u>0</u> (B) Prevalence Index = B/A = <u>0</u>
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> Dominance Test is >50% ____ Prevalence Index is ≤3.0' ____ 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.
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. European Buckthorn "Rhamnus cathartica"	100	Y	FAC	
2. _____	_____	_____	_____	Remarks: (Include photo numbers here or on a separate sheet.)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	Remarks: (Include photo numbers here or on a separate sheet.)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				

SOIL

Sampling Point: 1

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		
0-18	10YR 2/1				(Sandy loam mix)		moist	Sandy loam mix
18-20	10YR 5/2		2.5Y 4/4				sg loam	

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)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☒ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☒ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ 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:

Fluctuation area of Bayou Creek

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☒ No ☐ Depth (inches): 17"
 Saturation Present? Yes ☒ No ☐ Depth (inches): 15"
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Fluctuation areas of exposed soils due to pump for long duration
 well #1 9/

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: CSAH 66- Golden Valley City/County: Henn. Co. Golden Valley Sampling Date: 9-1-15
 Applicant/Owner: _____ State: _____ Sampling Point: _____
 Investigator(s): T. Brant Section, Township, Range: 17, T. 118N R. 21W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 10-15 Lat: 5-14447.162 Long: 176347.7176 Datum: Henn. Co.
 Soil Map Unit Name: L28A Subsoil fine sand NWI or WWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Yes X No _____ 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 _____ No <u>X</u>	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: <u>Highly forested</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Carex lasiocarpa "Acro-negundo"</u>	<u>90</u>	<u>Y</u>	<u>FAC</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>50</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Evonymus alatus "Rhamnus cathartica"</u>	<u>90</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
4. _____	_____	_____	_____	FAC species <u>2</u> x 3 = <u>6</u>
5. _____	_____	_____	_____	FACU species <u>2</u> x 4 = <u>8</u>
= Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: <u>4</u> (A) <u>14</u> (B)
1. <u>Gaultheria phillyrifolia "Althaea rosea"</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Prevalence Index = B/A = <u>3.5</u>
2. <u>Vallisneria spiralis "P. virginica"</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:
3. <u>Sagittaria arifolia "Helleborus viridis"</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
4. _____	_____	_____	_____	___ Dominance Test is >50%
5. _____	_____	_____	_____	___ Prevalence Index is ≤3.0' (rule)
6. _____	_____	_____	_____	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
8. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: 2

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		
0-16	moist	011	moist					

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)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ 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:

Based off of veg. & hyd criteria. Soils disturbed

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (minimum of two required)

- | | | |
|--|---|--|
| ☐ Surface Water (A1) | ☐ Water-Stained Leaves (B9) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Aquatic Fauna (B13) | ☐ Drainage Patterns (B10) |
| ☐ Saturation (A3) | ☐ True Aquatic Plants (B14) | ☐ Dry-Season Water Table (C2) |
| ☐ Water Marks (B1) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Crayfish Burrows (C8) |
| ☐ Sediment Deposits (B2) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Geomorphic Position (D2) |
| ☐ Iron Deposits (B5) | ☐ Thin Muck Surface (C7) | ☐ FAC-Neutral Test (D5) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Gauge or Well Data (D9) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Other (Explain in Remarks) | |

Field Observations:

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

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No criteria met or indicators inhibited. Steep slope up to plot for over the bed

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: CSAN 66 - Gish 1218 City/County: Hannover Co. VA Sampling Date: 3-9-15
 Applicant/Owner: _____ State: MD Sampling Point: _____
 Investigator(s): T. Brown Section, Township, Range: 17, T. 18N, R. 21W
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): _____ Lat: 514462.045-CH Long: 176140.672-CH Datum: Hann. Co. VA
 Soil Map Unit Name: L28A - suberose forest loam NWI or WWI classification: _____

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? N Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	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: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Basswood "Acer negundo"</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Green ash "Fraxinus pennsylvanica"</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
5. _____	_____	_____	_____	
_____ = Total Cover				OBL species _____ x 1 = <u>0</u>
Sapling/Shrub Stratum (Plot size: _____)				FACW species <u>1</u> x 2 = <u>2</u>
1. _____	_____	_____	_____	FAC species <u>2</u> x 3 = <u>6</u>
2. _____	_____	_____	_____	FACU species <u>3</u> x 4 = <u>12</u>
3. _____	_____	_____	_____	UPL species _____ x 5 = <u>0</u>
4. _____	_____	_____	_____	Column Totals: <u>6</u> (A) <u>20</u> (B)
5. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.33</u>
_____ = Total Cover				Hydrophytic Vegetation Indicators:
Herb Stratum (Plot size: _____)				
1. <u>Giant reed "Arundo donax"</u>	_____	<u>Y</u>	<u>FAC</u>	_____ Dominance Test is >50%
2. <u>C. clove "Glechoma hederacea"</u>	_____	<u>Y</u>	<u>FACU</u>	<u>X</u> Prevalence Index is ≤3.0 ¹
3. <u>Urtica dioica "A. dioica"</u>	_____	<u>Y</u>	<u>FACU</u>	_____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Virginia creeper "Hedera virginiana"</u>	_____	<u>Y</u>	<u>FACU</u>	_____ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Remarks: (Include photo numbers here or on a separate sheet.)
10. _____	_____	_____	_____	
_____ = Total Cover				Woody Vine Stratum (Plot size: _____)
1. _____				
2. _____				
_____ = Total Cover				

SOIL

Sampling Point: 3

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		
0-16	10YR 4/3						loamy sand	

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)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ 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:

No criteria met or indicators identified

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)

- ☐ Water-Stained Leaves (B9)
☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): - 11
 Water Table Present? Yes _____ No X Depth (inches): - 16
 Saturation Present? Yes _____ No X Depth (inches): - 16
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No criteria met or indicators identified

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: CSA# 66-Gold U-118 City/County: Hempden County, MO Sampling Date: 9-1-15
Applicant/Owner: _____ State: MO Sampling Point: (4)
Investigator(s): T. Brink Section, Township, Range: 17, T. 118N, R. 21W
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
Slope (%): 5-10 Lat: 314447 160 ft Long: 176347 710 ft Datum: NAD 83
Soil Map Unit Name: L25A NWI or WWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil ☒, or Hydrology _____ significantly disturbed? ☒ Are "Normal Circumstances" present? Yes ☒ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? ☒ (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: _____ (A) <u>0</u> (B) Prevalence Index = B/A = <u>0</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Silver willow "Salix alba"</u>	<u>40</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
= Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ 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.
1. <u>Reedgrass "Phalaris arundinacea"</u>	<u>75</u>	<u>Y</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes ☒ No _____
1. _____				
2. _____				
= Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.) <u>CSA# 66-Gold U-118</u>				

SOIL

Sampling Point: 41

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		
<u>0-10</u>	<u>shale</u>	<u>-obscure</u>						

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)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)

- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- ☐ Coast Prairie Redox (A16)
☐ Iron-Manganese Masses (F12)
☐ 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:

Back off of Hydrology & vegetation over

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): _____
 Water Table Present? Yes ☒ No ☐ Depth (inches): 6"
 Saturation Present? Yes ☒ No ☐ Depth (inches): 6"
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks: