PERMIT REPORT

To: MCWD Board of Managers

From: Grace Barlow, Permitting Technician

Date: October 7th, 2021

Re: Permit 19-553; MCES L24 St. Bonifacius Lift Station Reconstruction

Recommendation:

Approval of the requested buffer rule variance

Approval of the permit application with the following conditions;

- 1. Execution of a Minnehaha Creek Watershed District stormwater facility maintenance agreement
- 2. Submission of a wetland buffer planting plan
- 3. Submission of a wetland buffer maintenance and monitoring plan

Introduction:

The Metropolitan Council (Applicant) has applied for a Minnehaha Creek Watershed District (MCWD) permit for upgrades to the existing L24 lift station in Minnetrista. The project triggers the Wetland Conservation Act (WCA) and MCWD's Erosion Control, Stormwater Management, and Wetland Protection rules. The City of Minnetrista is the Local Governance Unit (LGU) for WCA. The project meets the District's Erosion Control and Stormwater Management rules. The project does not meet the District's Wetland Protection rule as the proposed buffers do not meet the required average buffer width, minimum applied buffer widths, or the total required buffer area. These shortfalls are the subject of a variance request. In accordance with established policy, the Board of Managers is asked to consider the application and variance request.

Background:

The Applicant is proposing to reconstruct the existing L24 lift station at the intersection of 4340 Highland Road and State Highway 7 in Minnetrista. The reconstruction will include relocating the existing generator and lift station to the south of the site and the construction of a larger lift station building and associated drive lanes. These upgrades will allow for increased service

capacity in conjunction with the St. Bonifacius Interceptor project and will also bring the facility into OSHA compliance.

The 0.51 acre parcel contains portions of a Type 3 Shallow Marsh wetland that is continuous around the north, east, and west edges of the property. The portions of wetland that extend onto the boundaries of the parcel are Type 2 Fringe. The City of Minnetrista is the LGU for WCA within its jurisdiction. The wetland was delineated and approved under a Notice of Decision issued by the City of Minnetrista on November 4th, 2015. Additional information pertaining to the distinction between the Type 3 and Type 2 boundaries was reviewed by the City of Minnetrista and approved under a second Notice of Decision issued on November 24th, 2016.

The District implements the Erosion Control, Stormwater Management, and Wetland Protection Rules within the City of Minnetrista. The Erosion Control and Stormwater Management rules are applicable as the project will result in land disturbance in an amount greater than the Erosion Control thresholds and an increase in impervious surface. The District's Wetland Protection rule is applicable because the work triggers the Stormwater Management rule. The Wetland Protection rule requires that a vegetated buffer be established on the edge of any property wetland downgradient from the proposed disturbance. The following rule analysis summarizes the application of the Erosion Control, Stormwater Management, and Wetland Protection rule and the variance request from the applicant.

The initial application and variance request was received by the District on October 9^{th} , 2019. An initial incomplete letter was sent on October 22^{nd} , 2019. The Applicant provided updated submittals on August 19^{th} , 2021 and was deemed complete on September 16^{th} of 2021. The project's public notice period and Board Meeting notice was issued on September 22^{nd} , 2021 and ended on October 6^{th} , 2021.

This permit is before the Board of Managers in accordance with established policy requiring Board consideration of variance requests.

District Rule Analysis

Erosion Control Rule

The District's Erosion Control Rule is applicable to projects proposing at least 5,000 square feet of land disturbance or 50 cubic yards of fill, grading, excavation, or stockpiling. The Applicant is proposing 15,400 sf of disturbance and 2,000 cy of excavation. As a result, this project is subject to review under the District's Erosion Control Rule.

The applicants have provided a Stormwater Pollution Prevention Plan and Erosion Control plan to meet District requirements. Silt fences will be established around all disturbed areas to provide perimeter control, including double layered silt fence along wetland edges. Hydroseed and long-term sod to stabilize areas of disturbance. Inlet protection will also be provided.

As a result, the proposed project meets the criteria of this rule.

Wetland Protection

The District's Wetland Protection rule is applicable to projects that propose draining or filling, or excavation in the permanently or semi-permanently flooded basins of type 3, 4, and 5 wetlands or for projects under review for the District's Stormwater Management or Waterbody Crossings and Structure rules.

The proposed project triggers the District's Stormwater Management rule and as a result requires review under the District's Wetland Protection rule. No wetland disturbance is proposed for the project.

According to the District's Functional Assessment of Wetlands and the delineated boundary, the surrounding wetland is a preserve wetland. As mentioned in the introduction, the parcel is surrounded on three sides by the same continuous, downgradient wetland, resulting in the requirement of one continuous wetland buffer. The existing site layout can be seen in Attachment 3 and the proposed site layout can be seen in Attachment 4

In full, the buffer has been established to the greatest extent possible on site, with buffer perimeter totaling 366 lf, an average buffer width of 34', and a total buffer area of 12,552 sf.

Because the proposed buffer widths fluctuate in multiple areas across the 366 lf of buffer, analysis of the buffer under this rule is best done by breaking it into three sections to the north, west, and east sides of the parcel. The breakdown of average buffer width, buffer minimum and maximum widths, and average buffer area for each section can be seen in Table 1 below.

			West	North	East	
Required	327	Provided	158	70	113	Total =
Linear Feet		Linear Feet				366
Required Base	75	Provided	31	20	51	Average =
Width (ft)		Average				34
		Base				
		Width (ft)				
Required	24,525	Provided	4,949	1,862	5,471	Total =
Buffer Area (sf)		Buffer				12,552
		Area (sf)				
Allowable	37.5	Provided	19	14	7	
Minimum		Minimum				
Width (ft)		(ft)				

Allowable	150	Provided	57	70	130	
Maximum		Maximum				
Width (ft)		(ft)				

Table 1: Required and Provided Buffer Widths and Averages

Per section 6 (b), preserve wetlands require a 75' average buffer width, with a minimum applied buffer width of 67'. As seen in Table 1, the average buffer width for each section includes 31' to the west, 21' to the north, and 51' to the east. The shortfalls in average buffer width equate to a total buffer area of 12,552 sf which is less than the required 25, 200 sf that would be achieved with a 75' average. As a result, the application does not meet the minimum buffer width requirements as proposed and has therefore requested a variance from the rule requirement.

Per section 6 (c), buffer widths may vary based on site constraints, provided that a width of at least 50% of the applied buffer width is maintained at all points. For a preserve wetland, the minimum allowable width is 37.5'. As seen in Table 1, all three sections of buffer have points that drop to widths less than the required 37.5'. The application does not meet this section as proposed. The inability to meet the minimum applied buffer width is part of the requested variance from the rule requirement.

Per section 7(b), establishment, maintenance, and monumentation of buffers are to be satisfied through maintenance documents. Submission of a maintenance agreement between the Applicant and MCWD is listed as a condition of approval.

Stormwater Management

The District's Stormwater Management rule is applicable for any project that creates new or replaces existing impervious surface in a way that affects the direction, peak rate, volume, or water quality of runoff. The construction of a larger lift station building and the associated drive lanes will result in an increase in impervious surface, triggering the District's rule.

Table 2 below summarizes the size of the project area, area to be disturbed, and existing and proposed impervious amounts.

Size of Site (ac)	Site Drains To	Existing Impervious in Disturbed Area (ac)	Proposed Impervious in Disturbed Area (ac)
0.51 acres (0.354 ac disturbed)	Six Mile Creek	0.073	0.163

Table 2: Project Disturbance and Impervious Amounts

Per section 5(a) of the rule, redevelopment requirements for sites that are one acre or less in size require the establishment of best Management Practices (BMPs) without a specific rate, volume, or phosphorous treatment scope.

The Applicant has proposed to meet the BMP requirement through the creation of both a sand filtration system and a bioswale. The BMPs are sized to provide rate and phosphorous control at a level that meets District standards for a site one acre or greater in size. This increase in BMP capacity exceeds the baseline stormwater management criteria for this project.

Rate Control

As outlined in section 3 (b), redevelopment projects that are subject to this rule shall result in no net increase in the peak runoff rate for the 1-, 10-, and 100-year rain events. Table 3 below demonstrates the overall reductions achieved on site from the two BMPs.

Storm Event	Existing Rate (cfs)	Proposed Rate (cfs)
-1	0.97	0.97
-10	2.22	1.93
-100	4.5	3.68

Table 3: Existing and Proposed Rates

Th addition of the sand filter and bioswale to the site will result in decreases in discharge rate the 1-, 10-, and 100-year storm events. These reductions meet District rate control requirements for sites that are one acre or greater in size. As a result, the provided rate control exceeds District requirements for a site less than one acre in size.

Phosphorous Reduction

As outlined in subsection 3(c), redevelopment projects that are subject to the volume control requirement of the rule shall provide phosphorous control in an amount equivalent to that which would be achieved through abstraction of one inch of rainfall from the site's impervious. The proposed project is not subject to the volume control requirement, but it is reviewed here as a point of comparison.

The addition of the two BMPs will provide for the filtration of 1.1 inches across the site. Pretreatment for sand filtration system is provided with a proposed grass filter strip while pretreatment to the proposed swale is met with a rip-rap strip.

Overall, the stormwater management requirements for a site under an acre are met through the establishment of the two stormwater BMPs. The applicant is proposing to provide stormwater treatment that exceeds the baseline requirements for the site by providing rate and phosphorus

reduction in an amount that would be required for a site greater than an acre. These reductions were confirmed by the District engineer.

In summary, the proposed project meets the criteria of the rule.

Variance

The Applicant is requesting a variance to the Wetland Protection rule, specifically for the required average buffer width, minimum applied buffer widths, and the total required buffer area.

The existing lift station was constructed in the early 1970's prior to any wetland buffer requirements. Its sizing and location were both determined based on population needs at that time. The applicant represents that as the lift station nears the end of its service life, improvements are required to allow for an increase in capacity to surrounding neighborhoods as the applicant completes the St. Bonifacius Interceptor project. The applicant represents that these improvements will also bring the facility into OSHA compliance.

The Applicant proposes to provide an average buffer width of 34' across the site, which does not meet the 75' width required for preserve wetlands. The buffer also drops below the allowable minimum width of 37.5' at various locations across its entirety. As a result, the total buffer area on site does not meet the required amount, providing 12,552 sf of the required 24,525 sf.

The District's Variance and Exception Rule states that the Managers may grant a variance from a provision of the rules if the applicant demonstrates the following:

- Because of special conditions inherent to the property that do not apply generally to other land or structures in the District, strict compliance with a provision of the a District rule will cause undue hardship to the applicant;
- The hardship was not created by the applicant, its owner or representative, or a contractor. Economic hardship is not grounds for issuing a variance;
- Granting the variance will not serve merely as a convenience to the applicant;
- There is no feasible and prudent alternative to the proposed activity requiring the variance; and
- Granting the variance will not impair or be contrary to the intent of the rules.

The Applicant cites limited site size of only half an acre, existing right of way, and setbacks from existing roads and utilities, as special conditions inherent to the property. With these existing conditions, establishing the full 75' buffer would make any sort of upgrades or expansion to the lift station infeasible. The Applicant states that strict compliance with the 75' buffer requirement would result in either a no-build scenario or requiring work to occur entirely within the existing footprint of the lift station. Both situations are not feasible as neither would allow for the

necessary capacity increase of OSHA compliance upgrades. Further, working within the existing footprint of the lift station would still result in buffer shortfalls. Additional alternatives beyond the two required for a variance request were also provided by the Applicant, The full explanations for why these alternatives can be found in Attachment 2.

To further support the request for a variance, the applicant has also submitted materials indicating the project is providing stormwater treatment beyond baseline requirements in order to enhance the natural resource benefit beyond what would be provided under strict adherence to the rule. Currently, no permanent stormwater BMPs or wetland buffers exist on site. Under these conditions, any overland flow from the site's impervious surface enters the wetland untreated. The addition of the sand filtration system and the bioswale, in conjunction with the establishment of wetland buffers, will provide stormwater treatment on a site that does not currently have any, . Under strict compliance with the rule, establishing a 75' buffer and a BMP with no treatment scope would result in a 32% removal of both total suspended solids and total phosphorous. Under the variance proposal, the establishment of the two BMPs will instead provide a 60% removal of total suspended solids and a 36% removal in total phosphorous from the site's runoff. As a result, the variance as proposed captures a greater pollutant load than would be achieved with the compliant buffer.

Staff concurs in the factual statements and technical justifications state above and in the variance application. According, staff finds there is an adequate technical basis and justification to grant the requested variance.

Summary:

The Metropolitan Council has applied for a District permit for Erosion Control, Wetland Protection, and Stormwater Management permit in order to provide capacity upgrades for the L24 lift station in Minnetrista. The applicant has also applied for a variance from the buffer width requirement of the Wetland Protection rule due to site constraints causing shortfalls in buffer width averages, minimum applied buffer widths, and total buffer area provided.

The proposed project does not meet minimum width requirements due to the size of the site and existing characteristics including easements and gas lines. Establishing a 75' buffer on the site would make it so that the proposed upgrades could not occur.

The applicant has provided materials showing that the site is providing stormwater treatment in an amount that is beyond what would be a required for the parcel size of 0.51 acres and is providing water quality benefits that exceed what would be achieved by the wetland buffer alone.

The permit application is currently complete. Staff recommends approval of the variance and approval of the permit with the condition that maintenance and monitoring documents are provided.

Attachments:

- 1. Signed Application Form
- 2. Variance Request Form
- 3. Existing Site Conditions
- 4. Proposed Site Conditions and Wetland Buffer Figure
- 5. Stormwater Management Narrative
- 6. WCA Notice of Decision 2015
- 7. Updated Notice of Decision 2016

WATER RESOURCE PERMIT APPLICATION FORM

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

15320 Minnetonka Blvd. Minnetonka, MN 55345. Keep a copy for your records. YOU MUST OBTAIN ALL REQUIRED AUTHORIZATIONS BEFORE BEGINNING WORK. 1. Name of each property owner: Jeannine Clancy - Metropolitan Council Mailing Address: 390 Robert St N City: St. Paul State: MN Zip: 55101 Email Address: jeannine.clancy@metc.state.mn.us Phone: 651-602-1210 Fax: 2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...) Business Name: Foth Representative Name: Bill Johnson Business Address: 8550 Hudson Blvd N Suite 105 City: St. Paul Zip: 55042 State: MN Email Address: Bill.Johnson@foth.com Phone: 651-288-8604 Fax: 651-288-8551 3. Project Address: 4340 Highland Road & 4275 Creek View Circle City: Minnetrista State: MN Zip: 55375 Otr Section(s): NE 1/4 Section(s): 32 Township(s): 117 Range(s): 24 Lot: 001 Block: 001 Subdivision: Unplatted 32 117 24 PID: 3211724130005 4. Size of project parcel (square feet or acres): 0.51 acre Area of disturbance (square feet): 15,400 SF Volume of excavation/fill (cubic yards): 2,000 CY Area of existing impervious surface: 0.073 acre Area of proposed impervious surface: 0.163 Length of shoreline affected (feet): N/A Waterbody (& bay if applicable): N/A 5. Type of permit being applied for (Check all that apply): ☑ EROSION CONTROL ☐ WATERBODY CROSSINGS/STRUCTURES ☐ FLOODPLAIN ALTERATION ☑ STORMWATER MANAGEMENT □ WETLAND PROTECTION ☐ APPROPRIATIONS □ DREDGING ☐ ILLICIT DISCHARGE ☐ SHORELINE/STREAMBANK STABILIZATION 6. Project purpose (Check all that apply): ☐ SINGLE FAMILY HOME ☐ MULTI FAMILY RESIDENTIAL (apartments) ☐ ROAD CONSTRUCTION ☐ COMMERCIAL or INSTITUTIONAL **☑** UTILITIES ☐ SUBDIVISIONS (include number of lots) □ DREDGING ☐ LANDSCAPING (pools, berms, etc.) ☐ SHORELINE/STREAMBANK STABILIZATION ☐ OTHER (DESCRIBE): 7. NPDES/SDS General Stormwater Permit Number (if applicable): 8. Waterbody receiving runoff from site: Six Mile Creek 9. Project Timeline: Start Date: 1/1/2021 Completion Date: 6/30/2022 MN Pollution Control Agency Permits have been applied for: City **⊠** County **⋈** DNR COE Permits have been received: City ☐ County ☐ MN Pollution Control Agency \square DNR \square COE By signing below, I hereby request a permit to authorize the activities described herein. I certify that I am familiar with MCWD Rules and that the proposed activity will be conducted in compliance with these Rules. I am familiar with the information contained in this application and, to the best of my knowledge and belief, all information is true, complete and accurate. I understand that proceeding with work before all required authorizations are obtained may be subject to federal, state and/or local administrative, civil and/or criminal penalties.

Signature of Each Property Owner

OCT 0 4 2019

Revised 7/15/13

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By:

REQUEST FOR VARIANCE AND STATEMENT OF HARDSHIP

Phone: 952-471-0590

Fax: 952-471-0682

MINNEHAHA CREEK WATERSHED DISTRICT (MCWD) 15320 MINNETONKA BLVD. MINNETONKA, MN 55345

A request for a Variance must be accompanied by a MCWD Water Resources Application

Project Details:			
Project address:	City:	State:	Zip:
County:	Property ID number (PID):		

The Board of Managers may hear requests for variances from strict compliance with provisions of the District Rules in instances where strict enforcement of the rules would cause an undue hardship because of circumstances unique to the property under consideration. The Board of Managers may grant variances where it is demonstrated that such action will remain in spirit and with the intent of these rules. An applicant granted a variance form full compliance with a requirement of the rules would be required to meet the requirement to the greatest degree feasible short of full compliance. A variance must be approved by a two-thirds majority of managers voting.

To grant a variance, the Board of Managers must determine, based on a showing by the applicant:

- That because of special conditions inherent to the property, which do not apply generally to other land or structures in the District, strict compliance with a provision of a District rule will cause undue hardship to the applicant or property owner;
- That the hardship was not created by the landowner, the landowner's agent or representative, or a contractor. Economic hardship is not grounds for issuing a variance.
- That granting such variance will not merely serve as a convenience to the applicant.
- That there is no feasible and prudent alternative to the proposed activity requiring the variance.
- That granting the variance will not impair or be contrary to the intent of these rules.

A variance will remain valid only as long as the underlying permit remains valid.

A violation of any condition of approval of a permit subject to a variance shall constitute grounds for termination of the variance.

Variance Requested From MCWD Rule(s):	
 □ Erosion Control □ Floodplain Alteration □ Wetland Protection □ Shoreline & Streambank Stabilization 	
Provision(s) and Requirement(s) of the Rule(s):	
Requested Variance:	
Please complete the below narrative to be used as the variance Managers. Please note that economic hardship is not grounds	
Describe the special conditions inherent to the property and how hardship.	v strict compliance with the rule will cause an undue
Describe how the special condition was not created by the appli	cant, the representative, or a contractor.
Provide a minimum of two alternatives that were considered and feasible and prudent alternative to the proposed activity requirin	
Referring to the Policy of the Rule(s), describe how the intent of	the rule(s) will be met.





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.



Existing Drainage Map

MCES L-24 Reconstruction

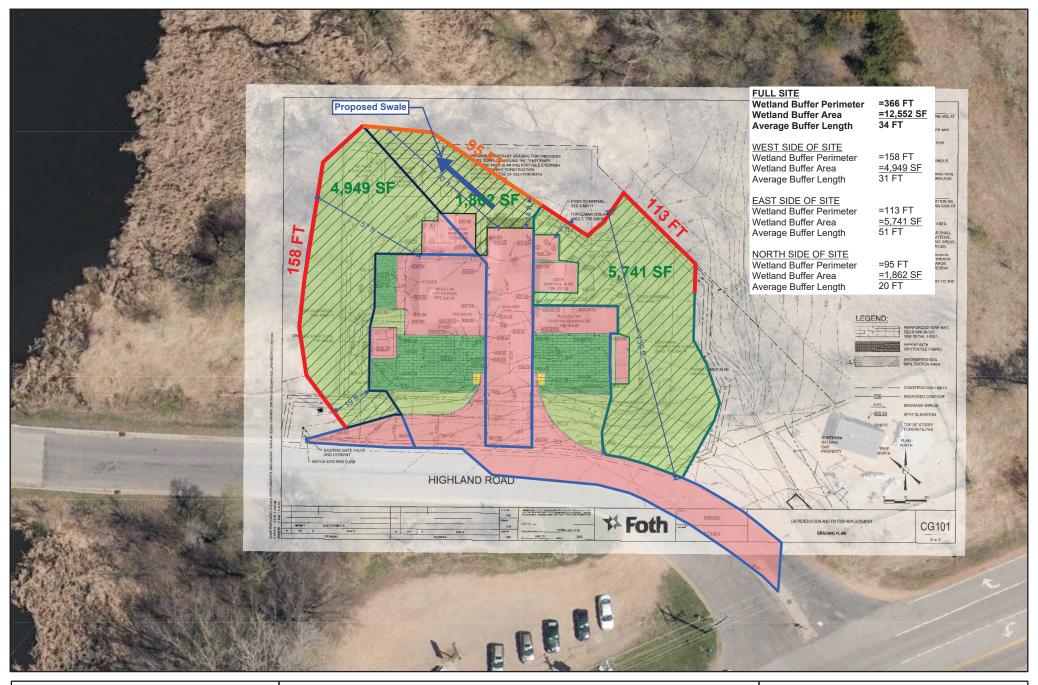
St. Bonifacius, Minnesota



Existing Drainage Areas

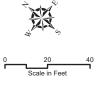
Pervious Area

Impervious Area





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Proposed Wetland Buffer Configuration

MCES L-24 Reconstruction

St. Bonifacius, Minnesota



Proposed Drainage Areas

Impervious Area

Pervious Area

Armored Turf Sand Filtration

Proposed Grass Filter Strip



MINNEHAHA CREEK WATERSHED DISTRICT PERMIT APPLICATION

AND

STORMWATER MANAGEMENT PLAN

FOR

L-24 LIFT STATION St. Bonifacius, MN

PREPARED BY:

EMILY CASTANIAS

APRIL 26, 2021

PROJECT SCOPE AND LOCATION

The proposed redevelopment project is located off Highland Road in St. Bonifacius within the Minnehaha Creek Watershed District (MCWD). The 0.51-acre site contains a 710 SF lift station building, a generator, an isolation valve vault, and access lane. The project proposes upgrading an existing lift station to meet the anticipated increased service capacity for future growth in conjunction with the St. Bonifacius Interceptor project as well as bring the facility into OSHA-compliance. The proposed upgrades include relocating the existing generator and lift station to the south, addition of an isolation valve vault and a larger lift station building with increased capacity and associated drive lanes for operations and maintenance access. The lift station is owned and operated by the Metropolitan Council Environmental Services (MCES). FOTH is responsible for preparation of construction documents.

WETLAND RULE REQUIREMENTS

A wetland delineation for the site was approved by the City of Minnetrista on November 4, 2015. No wetland impacts or mitigation are proposed at this time. From the approved wetland boundary, the wetland buffer width base requirement for Preserve Management Class is 75 feet. Due to the limited site size, existing right-of-way, setbacks from existing gas lines and associated easements, and proximity of wetland surrounding the site, the average wetland buffer provided is 34 feet. The average buffer for each side of runoff is 21 feet, 31 feet, and 51 feet for the north, west, and east side of the project site respectively. These buffer lengths fall short of the 75-foot requirement. Since the wetland buffer requirement is not satisfied, MCES proposes applying for a variance to this rule with the intent to exceed the stormwater rule requirements and meet the overall spirit and intent of the wetland buffer requirement.

Buffer Averages			North	West	East
Required Base Width	75 ft	Provided Average Width	20 ft	31 ft	51 ft
Linear feet of Buffer Required	327 ft	Linear Feet of Buffer	70 ft	158 ft	113 ft
		Provided			
Required Area based on 75'	24,525 sf	Provided Area (West)	1,862	4,949 ft	5,741 ft
Minimum Width	37.5 ft	Provided Minimum	14 ft	19 ft	7 ft
Maximum Width	150 ft	Provided Maximum	70 ft	57 ft	130 ft

STORMWATER RULE REQUIREMENTS

The proposed facility upgrades will result in an increase in impervious surface of 0.080 acres, and since the site is less than one acre in size, incorporation of BMPs is required per the MCWD stormwater management rule, but there is not a specific treatment requirement. To exceed the required stormwater management standards, runoff from the proposed impervious surfaces will be routed to two different BMPs: a sand filtration system beneath the armored turf, and a swale along the north side of the site which discharges to the wetland. The proposed BMP will be sized in accordance with the MCWD stormwater management rules for a redevelopment site increasing impervious surface greater than one acre in size, providing filtration of the 1.1-inch rainfall event and rate control for the 1-, 10-, and 100-year 24 hour rainfall events.

EXISTING SITE CONDITIONS

Existing impervious surfaces on the site and adjacent roadway run-on measure approximately 0.124 acres. The site slopes from southeast to northwest toward the existing wetland known as Six Mile Marsh riparian to Six Mile Creek. Six Mile Creek flows northeast and intersects Minnehaha Creek two miles downstream at Halsted's Bay. Runoff from higher elevations to the southeast follows a roadside ditch along Highway 7, flows through a driveway culvert along Highland Road, then discharges via an existing swale along the eastern border of the site to Six Mile Marsh. No stormwater treatment is provided for existing onsite impervious surfaces prior to discharge to the wetland.

The NRCS Soil Survey describes onsite soils as Hamel, overwash-Hamel complex, 0-10 percent slopes, which are classified as loam and clay loam, hydrologic soil group (HSG) C/D, poorly drained. Soil borings taken as part of the St. Bonifacius Interceptor project indicate soils comprise clayey sands and sandy lean clay, which are classified as HSG D soils. Additionally, the soil borings indicate the presence of artesian groundwater conditions. Logs indicate the groundwater was observed rising 15-16.6-ft after drilling in two borings drilled near the proposed BMP location. Based on this information, infiltration on this site has been deemed infeasible.

RATE CONTROL REQUIREMENT

Per MCWD Rules, no net increase over the existing conditions peak discharge rates from the site is allowed for the 1-, 10-, and 100-year Atlas 14 rainfall events. Calculations were performed in HydroCAD using the MSE 3 rainfall events. The results of the rate control calculations are summarized in the table below and further details may be found in the appendices.

Maximum Rate of Runoff (cfs)

Storm Event	Total Existing	Total Proposed
1-year	0.97	0.97
10-year	2.22	1.93
100-year	4.50	3.68

WATER QUALITY REQUIREMENT

MCWD requires a 75-ft wetland buffer. However, due to the sites existing proximity to the wetland and the necessary lift-station expansion, it is not possible to provide the 75-ft buffer or the alternative 37.5-ft average buffer. These scenarios would result in an infeasible site layout that would decrease accessibility. The intent of the proposed plan is to provide sand filtration such that the treatment is in excess of what would have been provided by the 75-ft wetland buffer alone. Water quality calculations were performed in the MPCA Minimal Impact Design Standards (MIDS) calculator to determine total suspended solids and total phosphorus removal onsite. Two MIDS models were created. The first shows the treatment which would be provided for the proposed site by a 75-ft buffer. The second shows the proposed site, which directions a portion of the runoff to a filtration system, a portion to a swale, and the remainder to side swales of the east and west side of the site. Based off this analysis, the sand filter provides higher quality treatment than would be provided by the wetland buffer alone.

Nutrient Analysis				
BMP	TSS Removal (%)	TP Removal (%)		
Sand Filter with Swale	60	36		
Wetland Buffer	32	32		

Pretreatment for the sand filtration system is provided with a proposed grass filter strip. Preatreatment to the proposed swale is met with a rip-rap strip. To determine whether the proposed filter strips are properly sized, the following equation from the MPCA was utilized:

$$LW = -((c * I * A) / (v_S) * ln(1 - FR))$$
 where $c = 0.7$ for small storms

Where:

- v_s, the settling velocity for the particle size targeted = 0.017 ft/s
- FR, the target fraction removal = 0.8
- A, the area of directly connected impervious draining to the pretreatment practice = 6,286 ft²
- I, the peak rain intensity (0.505 in/hr for a 1.1-inch event, Type 2 distribution) = 0.505 in/hr = 1.169E-5 ft/s

Plugging these values into the equation:

LW = -
$$((0.7 * 6,286 \text{ ft}^2) * 0.00001169 \text{ in/hr}) / 0.017 \text{ ft/s}) * ln(1-0.8) = 4.87 \text{ ft}^2$$

Therefore, the pretreatment filter strip requires approximately 5 sf of area. The proposed filter strips are 2-ft deep, 40.5 ft long, and have a surface area of 81 sf.

EMERGENCY OVERFLOW

The sand filter will overflow to the southwest during large rainfall events.

STORMWATER SYSTEM OPERATIONS & MAINTENANCE

A maintenance agreement in compliance with MCWD will be completed for the proposed sand filter.

FLOODPLAIN ALTERATION RULE REQUIREMENTS

FEMA floodplain (Zone A) is mapped on the site. See Appendix D for a FIRMette. Per MCWD, the 100-year flood elevation established for this site is 931.1 (Six Mile Creek at Highland Road, XPSWMM model, Atlas 14, 24-hour 100-year storm event.) There is no floodplain onsite.

SUMMARY

The proposed lift station project will meet the requirements of the MCWD through construction of a bioretention basin. This BMP will provide the required rate control, water quality, and volume reduction improvements prior to discharging stormwater runoff from the site to downstream receiving waters.

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit (LGU) City of Minnetrista	Address 7701 County Road 110 W Minnetrista, MN 55364				
1	. PROJECT INFORM	ATION			
Applicant Name Metropolitan Council Environmental Services	Project Name Lift Station 24 (LS 24) St. Bonifacious Forcen	&	Date of Application 9/3/2015	Application Number 2121-520 ML-15025	
Attach site locator map.					
Type of Decision:					
	☐ No-Loss	Exemptio		Sequencing	
Technical Evaluation Panel Finding	s and Recommendation (if	anv).			
Approve	Approve with condit	•		Deny	
Summary (or attach): No written co	minents were received from	THE TELL.			
2. LOCA	L GOVERNMENT UN	NIT DECISION	ON		
Date of Decision: November 4, 20 1	15				
⊠ Approved □ Δ	Approved with conditions (include below))	Denied	
LGU Findings and Conclusions (att	ach additional sheets as nec	cessary):			
The Metropolitan Council Environment Project involves an approximate 4-1 mile section bordering Lotus Drive. intersection of Minnesota Highway Minnesota Highway 7 and Baycliffe existing force main and install a new served by the force main interceptor.	mile section bordering Minimal The project begins east of 7 and Highland Road and 6 Prive intersection. The pure force main to meet the process.	nesota Highwa the City of St. extends to the surpose of the project capacity	y 7 and approxi Bonifacius nea southeast, endin roject is to remo needs of the con	mately a 0.5- r the g near the ove the mmunities	
A new LS-24 liftstation facility is b of Highland Road and State Highwa	A new LS-24 liftstation facility is being proposed, near the existing facility, located near the intersection of Highland Road and State Highway 7.				

City requested further field review of suspect areas that had not been investigated. Sambatek submitted an addendum report which documented the City comments, changes in wetland boundary locations, as well as provided supplemental information regarding the additional areas investigated.

Wetland boundaries were reviewed in the field on October 9, 2015. During the site review the City of Minnetrista requested changes to the delineated wetland boundaries at several locations. In addition, the

BWSR Forms 7-1-10 Page 1 of 3

The addendum, dated	October 20, 2015 is a	ttached.				
All wetland boundaries/types delineated and designated for this project are approved, as identified in the October 20, 2015 Wetland Delineation Report addendum, or if no changes were necessary, as indicated in the Wetland Delineation Report dated August 4, 2015.						
Because of the file six have received copies	_	eation Repo	ort is not attache	d with this Notice. TEP members		
nave received copies	011.					
For Replacement Plan	ns using credits from the	ne State We	tland Rank:			
Bank Account #	Bank Service Area	County	tiana Dank.	Credits Approved for		
				Withdrawal (sq. ft. or nearest .01 acre)		
				,		
_	Approval Conditions d Replacement Plan is		•	ditions specified by the LGU, the wing:		
assurance specifi	1 0	t be subm	itted to the LO	at is not in-advance, a financial GU in accordance with MN Rule		
the BWSR "Dec	claration of Restriction	ns and Cov	enants" and "C	must be provided to the LGU that Consent to Replacement Wetland" ne replacement wetland is located.		
Credit Withdrawal: For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.						
Wetlands may not be impacted until all applicable conditions have been met!						
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				r		
Name Shawn Williams Title Senior Environmental Scientist, WSB				onmental Scientist, WSB		
Signature			Date	Phone Number and E-mail		
11/4/2015 763-287-8531 swilliams@wsbeng.com						
Drace La	Diace Chi					

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.

BWSR Forms 7-1-10 Page 2 of 3

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	Appeal of LGU governing body decision. Send
petition and \$TBD fee (if applicable) to:	petition and \$500 filing fee to:
City of Minnetrista	Executive Director
7701 County Road 110 West	Minnesota Board of Water and Soil Resources
Minnetrista, MN 55364	520 Lafayette Road North
	St. Paul, MN 55155

4. LIST OF ADDRESSEES

	SWCD TEP member: Stacey Lijewski stacey.lijewski@hennepin.us
\boxtimes	BWSR TEP member: Ben Meyer ben.meyer@state.mn.us
\boxtimes	LGU TEP member (if different than LGU Contact): David Abel dabel@ci.minnetrista.mn.us
\boxtimes	DNR TEP member: Leslie Parris, Kate Drewry
	DNR Regional Office (if different than DNR TEP member)
\boxtimes	WD or WMO (if applicable): Elizabeth Brown, MCWD ebrown@minnehahacreek.org
	Applicant and Landowner (if different)
\boxtimes	Members of the public who requested notice:
	Todd Ullom, Sambatek
	Tim Stockman, Foth
	Corps of Engineers Project Manager BWSR Wetland Bank Coordinator (wetland bank plan decisions 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:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.
Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources
2115 Birchmont Beach Rd.	1201 E. Hwy. 2	1200 Warner Road	261 Hwy. 15 South
NE	Grand Rapids, MN 55744	St. Paul, MN 55106	New Ulm, MN 56073
Bemidji, MN 56601	_		

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

BWSR Forms 7-1-10 Page 3 of 3

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

Minnesota Board of Water and Soil Resources

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

6. ATTACHMENTS

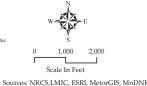
In addition to the site locator map, list any other attachments:
◯ Wetland Delineation Report Addendum dated October 20, 2015 (Sambatek)
⊠ Site Map
☐ Joint Application Form

BWSR Forms 7-1-10 Page 4 of 3





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.



Location Map

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista, Minnesota Map Legend

Project Limits

MFRA #19666

Project Name and/or Number: MCES Lift Station L-24 and St. Bonifacius Forcemain

PART ONE: Applicant Information

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

Applicant/Landowner Name: Bryce Pickart, Assistant General Manager

Mailing Address: 390 North Robert Street, St. Paul, MN 55101

Phone: 651-602-1176

E-mail Address: bryce.pickart@metc.state.mn.us

Authorized Contact (do not complete if same as above): Tim Stockman - Foth Infrastructure &

Environment, LLC

Mailing Address: Eagle Point II, 8550 Hudson Blvd N, Suite 105, Lake Elmo, MN 55042

Phone: 651-288-8550

E-mail Address: Tim.stockman@foth.com

Agent Name: Todd Ullom - Sambatek

Mailing Address: 12800 Whitewater Dr, Suite 300, Minnetonka, MN 55343

Phone: 763-476-6010

E-mail Address: tullom@sambatek.com

PART TWO: Site Location Information

County: Hennepin and Carver

City/Township: Minnetrista and Victoria

Parcel ID and/or Address: multiple

Legal Description (Section, Township, Range): Sections 32, 33, 34, & 35, T117N, R24W and Section 1, T116N, R24W

Lat/Long (decimal degrees): 44.890948, -93.701764

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

Approximate size of site (acres) or if a linear project, length (feet): 21,120 feet

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform 4345 2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted *prior to* this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

The proposed project involves Lift Station L-24 (located near the intersection of Highland Road and Minnesota State Highway 7) and the St. Bonifacius forcemain (located in the City of Minnetrista, along Minnesota State Highway 7 between St. Bonifacius and the intersection of Baycliffe Drive and Minnesota State Highway 7 in Victoria). The purpose of the project

is to remove the existing infras capacity needs of the communi	tructure and con ities served by th	struct a new e utilities.	lift station an	d install a new	forcemain in o	rder to meet th	ne
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TO STATE OF THE ST							
nesota Interagency Water Reso	urce Application	Form Februa	ary 2014			Page 4 of 13	

PART FOUR: Aquatic Resource Impact Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Resource Type	drain, or	Impact	Size of Impact ²	Overall Size of Aquatic Resource ³	Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵
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¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

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

PART FIVE: Applicant Signature

Check here if you are requesting a <u>pre-application</u> consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.
By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.
Signature: Bryce J. Pickart Date: 9/3/2015
I hereby authorize to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

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

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

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

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Project Name and/or Number: MCES Lift Station L-24 and St. Bonifacius Forcemain

Attachment A

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

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

(Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):
Wetland Type Confirmation
Delineation Concurrence. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).
Preliminary Jurisdictional Determination. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.
Approved Jurisdictional Determination. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.
In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the <i>Guidelines for Submitting Wetland Delineations in Minnesota</i> (2013). http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx



12800 Whitewater Drive Minnetonka, Minnesota 55343

(763) 476. 6010 main (763) 476. 8532 fax

www.sambatek.com

ADDENDUM

DATE: October 20, 2015

TO: Shawn Williams – City of Minnetrista (WSB)

FROM: Todd Ullom - Sambatek

SUBJECT: Addendum to Wetland Delineation Report

St. Bonifacius Interceptor – MCES #808200

Hennepin County, Minnesota

Sambatek #20093

Sambatek prepared and submitted a Wetland Delineation Report for St. Bonifacius Interceptor in August 2015. The Wetland Delineation Report was provided to the Technical Evaluation Panel (TEP) for review and comment. On October 9, 2015, Sambatek (Todd Ullom and Jessica Abernathy) met with the City of Minnetrista Wetland Consultant, Shawn Williams of WSB, for the purpose of reviewing the delineated wetland boundaries and types in the field. This Addendum is provided as response to comments and boundary revision requests received on October 9, 2015.

COMMENT 1 – Based on the vegetation and hydrology observed in the field, the City of Minnetrista believes that the wetland boundary of Wetland 22 should be moved further northeast than what was delineated in the field. The TEP requests that the wetland boundary be revised based on the vegetative and hydrological change that was observed in the field.

RESPONSE – Sambatek revised the boundary of Wetland 22 based on the vegetative and hydrological change. Sambatek located the revised wetland boundary with a handheld GPS unit on October 9, 2015 and included it on the attached figure labeled Updated Wetland Boundaries – Wetlands 1 and 22. The wetland boundary delineated in July 2015 is depicted by the solid blue line while the dashed orange line represents the revised wetland boundary delineated during the October 9, 2015 site meeting.

COMMENT 2 – Based on the vegetation observed in the field, the City of Minnetrista believes that the wetland boundary of Wetland 1 should be extended further northeast than what was originally delineated. The City of Minnetrista requests that the wetland boundary be revised based on the vegetative change that was observed in the field.

RESPONSE – Sambatek revised the boundary of Wetland 1 based on the vegetative change along the northeast sides of the basin. Sambatek located the revised wetland boundary with a handheld GPS unit on October 9, 2015 and included it on the attached figure labeled Updated

Wetland Boundaries – Wetlands 1 and 22. The wetland boundary delineated in July 2015 is depicted by the solid blue line while the dashed orange line represents the wetland boundary delineated on October 9, 2015.

COMMENT 3 – Based on the vegetation observed in the field, the City of Minnetrista believes that the wetland boundary of Wetland 9 should be extended further east than what was originally delineated. The City of Minnetrista requests that the wetland boundary be revised based on the vegetative change that was observed in the field.

RESPONSE – Sambatek revised the boundary of Wetland 9 based on the vegetative change along the east side of the basin. Sambatek located the revised wetland boundary with a handheld GPS unit on October 9, 2015 and included it on the attached figure labeled Updated Wetland Boundaries – Wetland 9 and OAR 2. The wetland boundary delineated in July 2015 is depicted by the solid blue line while the orange dashed line represents the wetland boundary delineated on October 9, 2015.

COMMENT 4 – Based on the hydrology observed in the field, the City of Minnetrista believes that the wetland boundary of Wetland 17 should be extended slightly further north than what was originally delineated. The City of Minnetrista requests that the wetland boundary be revised based on the hydrological conditions that were observed in the field.

RESPONSE – Sambatek revised the boundary of Wetland 17 based on the hydrological conditions along the north side of the basin. Sambatek located the revised wetland boundary with a handheld GPS unit on October 9, 2015 and included it on the attached figure labeled Updated Wetland Boundaries – Wetlands 17. The wetland boundary delineated in July 2015 is depicted by the solid blue line while the orange dashed line represents the wetland boundary delineated on October 9, 2015.

COMMENT 5 – Based on the vegetation observed in the field, the City of Minnetrista believes that the wetland boundary of Wetland 21 should be extended further southeast than what was originally delineated. The City of Minnetrista requests that the wetland boundary be revised based on the vegetative conditions that were observed in the field.

RESPONSE – Sambatek revised the boundary of Wetland 21 based on the vegetative change along the southeast side of the basin. Sambatek located the revised wetland boundary with a handheld GPS unit on October 9, 2015 and included it on the attached figure labeled Updated Wetland Boundaries – Wetland 21. The wetland boundary delineated in July 2015 is depicted by the solid blue line while the orange dashed line represents the wetland boundary delineated on October 9, 2015.

COMMENT 6 – Wetland hydrology and vegetation was observed in an area approximately 100 feet west of Wetland 4 during the TEP meeting on October 9, 2015. The City of Minnetrista would like the applicant to examine this area further in field to confirm that wetland conditions exist.

RESPONSE – Sambatek examined this area during a field visit on October 14, 2015 and confirmed that hydric soil, wetland hydrology, and wetland vegetation exist within this location. The wetland boundaries were marked with a handheld GPS unit. This wetland is not identified on the NWI map and is mapped as hydric soil. The boundary of this wetland was delineated during the October 14, 2015 field visit and is mapped as Wetland 23 in attached figure labeled Updated Wetland Boundaries – Wetland 23.

COMMENT 7 – Wetland hydrology was observed in an area approximately 600 feet north of Wetland 6 during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to further examine this area to determine if other wetland characteristics occur within this location.

RESPONSE – Sambatek examined the area during a field visit on October 14, 2015. Although this was a small depressional area the vegetation was predominantly upland vegetation including: Smooth Brome (FACU), Lesser Burdock (FACU), Leafy Spurge (UPL), Dandelion (FACU), and Daisy Fleabane (FACU). Due to the lack of wetland vegetation this area was determined to be non-wetland and is labeled as Area C on attached figure Updated Wetland Boundaries – Area C.

COMMENT 8 – Wetland hydrology and vegetation was observed in an area north of Highway 7 and directly east of the roundabout during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to examine the area further.

RESPONSE – Sambatek examined this area during a field visit on October 14, 2015. Hydric soil indicators, wetland vegetation, and wetland hydrology were recorded at this area during the October 14, 2015 field visit and the boundary was recorded with a handheld GPS unit. However, after a review of aerial photos this area was determined to be constructed in an upland between 2013 and 2015. Since this area was constructed in an upland it was determined to be an Other Aquatic Resource and is labeled as OAR 2 on attached figure Updated Wetland Boundaries – Wetland 9 and OAR 2.

COMMENT 9 – Wetland vegetation was observed between the roundabout and Wetland 10 during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to examine this area for additional wetland areas.

RESPONSE – Sambatek examined this area in during the field visit on October 14, 2015. Two additional wetland areas were identified within the road ditch between the roundabout and Wetland 10. These areas are not mapped on the NWI map however; hydric soil indicators, wetland vegetation, and wetland hydrology were observed at these two locations. The boundaries of these areas were delineated, recorded with a handheld GPS unit, and are labeled as Wetland 24 and 25 on the attached figure Updated Wetland Boundaries – Wetland 24 and 25.

COMMENT 10 – Wetland vegetation was observed between Wetland 11 and Wetland 12 during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to examine this area to determine if additional wetland areas are present in this area.

RESPONSE – This area was examined during a field visit on October 14, 2015. Although Reed Canary Grass was present in this area soil borings revealed a lack of hydric soil indicators. No wetlands are mapped on the NWI map within this area. This area was determined to be non-wetland and is labeled as Area D on attached figure Updated Wetland Boundaries – Wetland 26 and Area D.

COMMENT 11 – Wetland hydrology and vegetation was observed in an area approximately 500 feet southwest of Wetland 14 during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to examine this area to confirm that wetland characteristics occur within this area.

RESPONSE – Sambatek examined this area during a field visit on October 14, 2015. This area was confirmed as a wetland. This area is mapped as a PFO1A wetland on the NWI map. The Hennepin County Soil Survey also shows hydric soils in this area. The boundary of this wetland delineated during the October 14, 2015 field visit and these boundaries were recorded with a handheld GPS unit, and labeled as Wetland 26 on the attached figure Updated Wetland Boundaries – Wetland 26 and Area D.

COMMENT 12 – Wetland characteristics were not observed at Wetland 5 during the October 9, 2015 site meeting. The City of Minnetrista would like the applicant to reconsider this wetland boundary.

RESPONSE – Sambatek revisited Wetland 5 on October 14, 2015 and determined that it should be classified as a ditch/ravine which does not exhibit wetland characteristics due to the steep sideslopes. This area was relabeled as OAR 1 and the boundary is now represented by a red line in the attached figure Updated Wetland Boundaries – OAR 1.

List of Attachments

Updated Wetland Boundaries – Wetland 1 and 22

Updated Wetland Boundaries – Wetland 9 and OAR 2

Updated Wetland Boundaries – Wetland 17

Updated Wetland Boundaries – Wetland 21

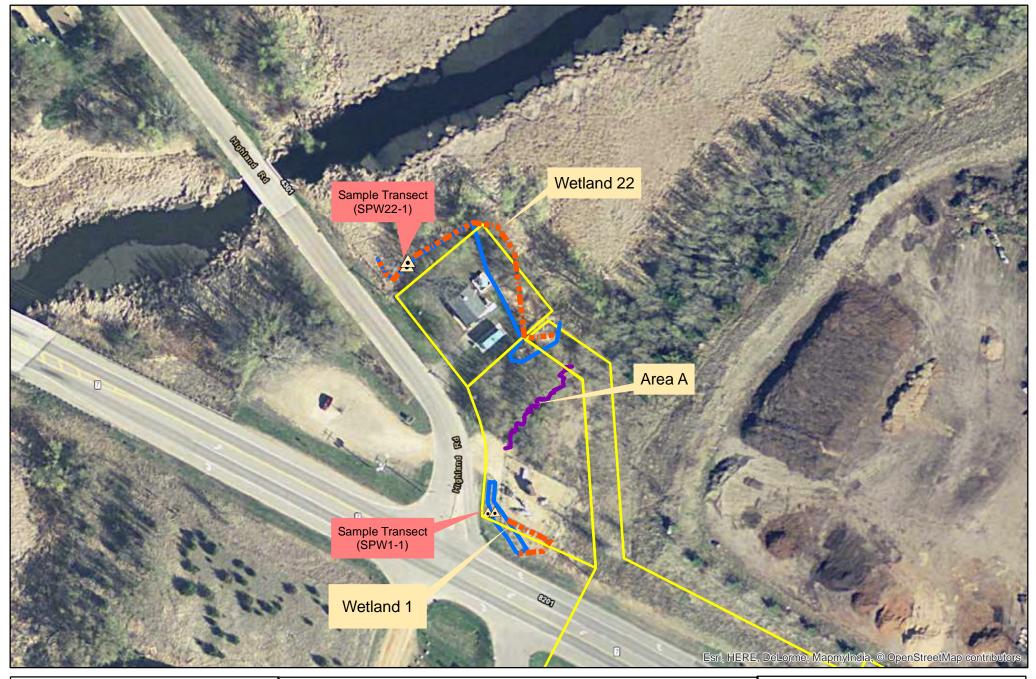
Updated Wetland Boundaries – Wetland 23

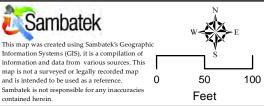
Updated Wetland Boundaries – Area C

Updated Wetland Boundaries – Wetland 24 and 25

Updated Wetland Boundaries – Wetland 26 and Area D

Field Data Sheets





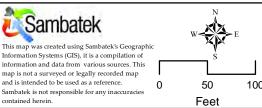
Updated Wetland Boundaries (Wetlands 1 and 22)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend Project Limits Wetland Boundary Updated_Boundaries Non Wetland Areas

Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR



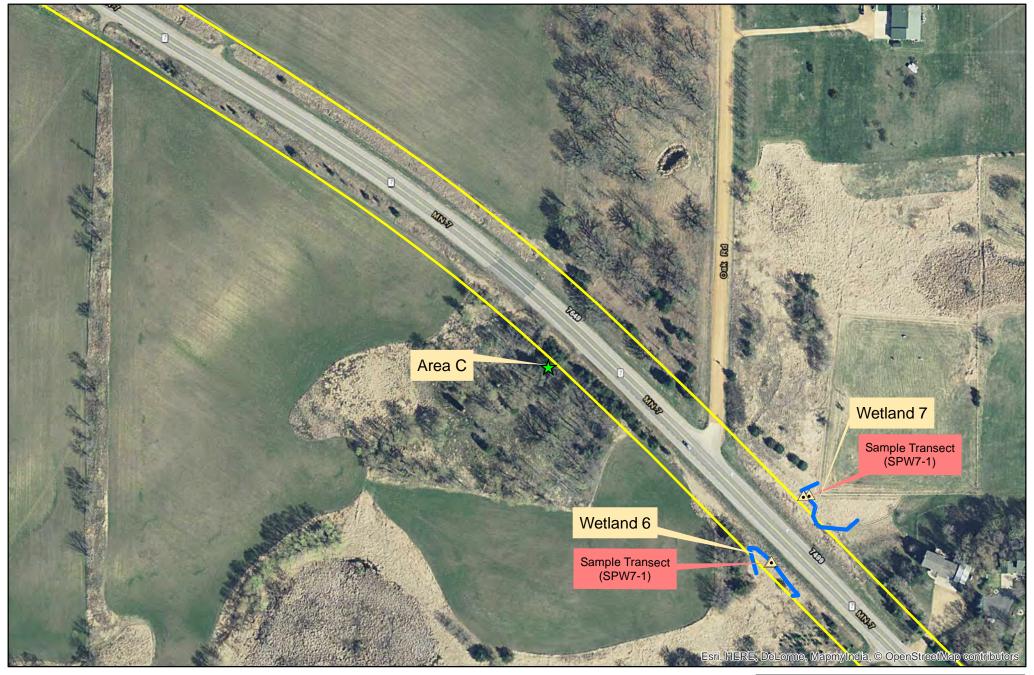


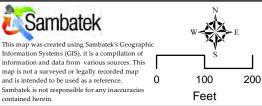
Updated Wetland Boundaries (OAR 1)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend Project Limits Wetland Boundary OAR Updated_Boundaries Non Wetland Areas

Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR





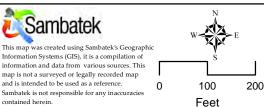
Updated Wetland Boundaries (Area C)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend Project Limits Wetland Boundary Updated_Boundaries Non Wetland Areas

Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR



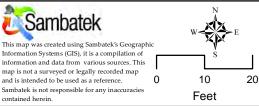


Updated Wetland Boundaries (Wetland 9 and OAR 2)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend Project Limits Wetland Boundary OAR Updated_Boundaries Non Wetland Areas Sources: NRCS. MetroGIS. NRCS. LMIC. ESRI. MnDNR





Updated Wetland Boundaries (Wetland 17)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista, Minnesota

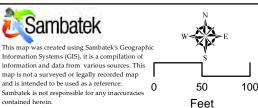
Legend Project Limits

Wetland Boundary ■ Updated_Boundaries



Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR





Updated Wetland Boundaries (Wetland 21)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista, Minnesota

Legend Project Limits Wetland Boundary Updated_Boundaries Non Wetland Areas

Sources: ESRI, MetroGIS, NRCS, LMIC, MnDNR

MFRA #19666





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.



Updated Wetland Boundaries (Wetland 23)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend

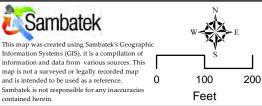
Project Limits
Wetland Boundary

Updated_Boundaries



Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR



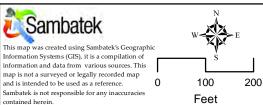


Updated Wetland Boundaries (Wetland 24 and 25)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista , Minnesota

Legend □ Project Limits ■ Wetland Boundary ■ Updated_Boundaries ★ Non Wetland Areas Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR MRFA #19666





Updated Wetland Boundaries (Wetland 26 and Area D)

St. Bonifacius Interceptor - MCES Project #808200 St. Bonifacius and Minnetrista, Minnesota

Legend Wetland Boundary

Updated_Boundaries



Sources: NRCS, MetroGIS, NRCS, LMIC, ESRI, MnDNR

Project/Site: St. Bonifacius Interceptor		City	//County: Mir	nnetrista / Hennepin	Sampling Date	e: Octobe	r 14, 2015
Applicant/Owner: Metropolitan Council Environmental S	Services			State: Minnesota	Sampling	Point: SF	P23-1 UP
Investigator(s): Sambatek – Jessica Abernathy		Sec	tion, Townsh	nip, Range: Section 33,	T117N, R24V	V	
Landform (hillslope, terrace, etc.) Depressions on mor	aines	Local re	lief (concave	e, convex, none): Conca	ive		
Slope (%): 0-1% Lat:		Lon	ng:	Datu	ım:		
Soil Map Unit Name: L24A – Glencoe loam, depression							
Are climatic / hydrologic conditions on the site typical for				<u></u>			
Are Vegetation, Soil, or Hydrologysi				"Normal Circumstances		'es X	No
Are Vegetation, Soil, or Hydrologyna				eeded, explain any ansv			140
Are vegetation, 30ii, 0i Trydrologyiii	aturally proble	mauc:	(11.116	seded, explain any ansv	vers in Neman	NS.)	
SUMMARY OF FINDINGS – Attach site ma	ap showing	g sampli	ng point l	ocations, transec	ts, importa	nt featu	ures, etc.
Hydraphytia Vagatation Present?	No	_					
	No _		s the Sample				
	No		vithin a Wetl	and? Yes _	No	<u> </u>	_
Wetland Hydrology Present? Yes	No	X					
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominan	t Indicator	Dominance Test wor	rksheet:		
Tree Stratum (Plot size: 30')	% Cover	Species?	Status				
1				Number of Dominan That Are OBL, FAC		1	(A)
2							_ ('')
				Total Number of Do			
5.				Species Across All S	Strata: _	2	_ (B)
		= Total C	over	Percent of Dominan	t Species		
				That Are OBL, FAC		50	(A/B)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wo	orksheet:		
<u>-</u>				Total % Cover of		Multiply by	<u>: </u>
				OBL species	x 1	I =	
4.				FACW species	X 2	2 =	
5.				FAC species		3 =	
		= Total C	over	FACU species	X	4 =	
Herb Stratum (Plot size: 5')				UPL species	X 5	5 =	
Solidago canadensis (Canada Goldenrod)	70	Υ	FACU	Column Totals:	(A	۸)	(B)
Phalaris arundinacea (Reed Canary Grass)	30	Y	FACW				
3.				Prevalen	ce Index = B/A	4 =	
4				Hydrophytic Vegetati			
5				1 - Rapid Test for		√egetatio	n
6				2 - Dominance To			
7. 8.				3 - Prevalence Te 4 - Morphological		(Provido	cupporting
9.				data in Remai	rks or on a sep	parate she	eet)
10				Problematic Hydr	rophytic Veget	ation ¹ (Ex	plain)
	100	= Total C	over	1			
Manda Vira Otratura (Diataina 00)				¹ Indicators of hydric s be present, unless dis	oil and wetlan sturbed or pro	d hydrolo: blematic	gy must
Woody Vine Stratum (Plot size: 30')					<u> </u>	<u> </u>	
1. 2.				Hydrophytic Vegetation			
2		= Total C	over	Present?	Yes	No	<u>X</u>
Remarks: (Include photo numbers here or on a separa	te sheet)			<u> </u>			
	01.001.)						

SOIL Sampling Point: SP23-1 UP

	cription: (Describe	to the depth	needed to do			or confirm	the absenc	e of indicators.)	
Depth	Matrix		0 1 (: 1)	Redox Featu		1 2	- .		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc²	Texture	_ Rema	rks
0-10	10YR 3/2	100					Clay loam		
10-24	10YR 4/3	100					Clay loam		
								_	
¹Type: C=C	oncentration, D=De	nletion RM=R	Reduced Matrix	CS=Covere	d or Coate	ed Sand G	rains	² Location: PL=Pore Lin	ing M=Matrix
1,700. 0 0						o cana c		Location: 12 1 ord Ellin	
Hydric Soil	Indicators:						Indica	ators for Problematic H	ydric Soils³:
_	sol (A1)		Sandy	Gleyed Matrix	(S4)			Coast Prairie Redox (A	-
	Epipedon (A2)			Redox (S5)	` ,			Dark Surface (S7)	,
	Histic (A3)			d Matrix (S6)				Iron-Mangenese Masse	es (F12)
	ogen Sulfide (A4)			Mucky Minera	al (F1)			Very Shallow Dark Surf	
	fied Layers (A5)			Gleyed Matrix				Other (Explain in Rema	
2 cm	Muck (A10)			ed Matrix (F3)	, ,				•
	eted Below Dark Su	rface (A11)		Dark Surface	(F6)				
	Dark Surface (A12	, ,		ed Dark Surfac			3		
Sand	y Mucky Mineral (S	1)	Redox	Depressions (F8)			ators of Hydrophytic vego and hydrology must be p	
	Mucky Peat or Pea			·	,			urbed or problematic.	nesent, unless
					1				
Type:	Layer (if observed).							
Depth (ir	nches):		_		нус	Iric Soil P	resent?	Yes	NoX
Remarks:			_						
HYDROLO	iGY								
	drology Indicators	<u></u>					Sec	ondary Indicators (minim	um of two required)
_	3,		di abaak all thi	ot apply)					
	cators (minimum of Water (A1)	one is require		at apply) r-Stained Leav	/es (B9)			Surface Soil Cracks (B6 Drainage Patterns (B10	
	ater Table (A2)			tic Fauna (B13				Dry-Season Water Tabl	
	tion (A3)			Aquatic Plants			_	Crayfish Burrows (C8)	
	Marks (B1)			gen Sulfide C zed Rhizosphe		ina Boota		Saturation Visible on Ae Stunted or Stressed Pla	
	ent Deposits (B2) eposits (B3)			ence of Reduc				Geomorphic Position (D	` '
	lat or Crust (B4)			nt Iron Reduct	`	,	6)	FAC-Neutral Test (D5)	-,
	posits (B5)			Muck Surface	` '				
	tion Visible on Aeria	0 , ,		e or Well Data	` '				
Sparse	ly Vegetated Conca	ve Suriace (B	o) Other	(Explain in Ri	emarks)				
Field Obser	vations:								
Surface W	ater Present? Y	es No	X Depth (in	nches):					
Water Tab	le Present? Y	es No	X Depth (in	nches):					
Saturation	Present? Y	es No	X Depth (in	nches):		Wetlan	d Hydrology	y Present? Yes _	No <u>X</u> _
	apillary fringe)		<u> </u>		_				
Dosoribo Bo	corded Data (strear	n gauga mani	itoring wall as	rial photos pr	ovious inc	nootiona)	if available:		
Describe Re	corded Data (Streat	ii gauge, iiioiii	itoring well, ae	riai priotos, pi	evious iris	pections),	ii avaliable.		
Remarks:									

Project/Site: St. Bonifacius Interceptor	ect/Site: St. Bonifacius Interceptor City/Coun					e: October	14, 2015	
Applicant/Owner: Metropolitan Council Environmental Se	rvices			State: Minnesota Sampling Point: SP23-1 WET				
Investigator(s): Sambatek – Jessica Abernathy		Secti	on, Townsh	nip, Range: Section 33,	T117N, R24V	V		
Landform (hillslope, terrace, etc.) Depressions on morai	nes	Local reli	ef (concave	e, convex, none): Conca	ve			
Slope (%): 0-1% Lat:		Long	j:	Datu	m:			
Soil Map Unit Name: L24A – Glencoe loam, depressional								
Are climatic / hydrologic conditions on the site typical for t				<u> </u>				
Are Vegetation, Soil, or Hydrologysign				"Normal Circumstances"		'es X	No	
Are Vegetation, Soil, or Hydrology nati				eeded, explain any answ				
Are vegetation, Soil, or rigurologynati	urany proble	mauc:	(11.116	eeded, explain any answ	ers in Neman	NS.)		
SUMMARY OF FINDINGS – Attach site map	showing	g samplin	ıg point l	ocations, transect	:s, importa	nt featu	res, etc.	
Hudrophytic Vogatation Propert?	V No							
	X No _	l IS	the Sampl					
	X No _		thin a Wetl	land? Yes _	X No			
Wetland Hydrology Present? Yes _	X No _							
Remarks:								
VEGETATION - Use scientific names of plants.								
	Absolute			Dominance Test wor	ksheet:			
Tree Stratum (Plot size: 30'		Species?		Number of Deminant	t Cassias			
12.				Number of Dominant That Are OBL, FACV		2	(A)	
2					_		_	
4.				Total Number of Dor		2	(D)	
5.				Species Across All S	ıı aıa		_ (B)	
		= Total Co	ver	Percent of Dominant	Species			
Conline/Chruh Ctratum (Diet eizer 15!				That Are OBL, FACV	V, or FAC: _	100	_ (A/B)	
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wo	rksheet:			
-				Total % Cover of	<u> </u>	Multiply by:		
				<u> </u>		l =		
4				FACW species		2 =		
5				FAC species		3 =		
		= Total Co	ver	FACU species		1 =		
Herb Stratum (Plot size: 5')				UPL species		5 =		
1. Typha sp. (Cattail sp.)	60	Y	OBL	Column Totals:	(A	۸)	(B)	
2. Phalaris arundinacea (Reed Canary Grass)	40	Y	FACW					
3.					ce Index = B/A		_	
4 5.				Hydrophytic Vegetation 1 - Rapid Test for				
6				X 2 - Dominance Te		vegetation	ļ	
7				3 - Prevalence Te				
8.				4 - Morphological	Adaptations ¹	(Provide s	supporting	
9.				data in Remar	ks or on a sep	parate shee	et)	
10				Problematic Hydr	ophytic Veget	ation¹ (Exp	olain)	
	100	= Total Co	ver	¹ Indicators of hydric s	oil and wetlan	ıd hydroloc	ıv must	
Woody Vine Stratum (Plot size: 30')				be present, unless dis			,,	
1				Hydrophytic				
2.				Vegetation		,		
		= Total Co		Present?	Yes X	No _		
Remarks: (Include photo numbers here or on a separate	sheet.)			•				

SOIL Sampling Point: SP23-1 WET

(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remar	KS
0-3	10YR 3/2	100					Clay loam			
3-24	10YR 2/1	50	7.5YR 5/6	5	C	M	Clay loam			
			10YR 6/1	45	D	М				
			-	-						
ype: C=C	Concentration, D=De	pletion, RI	M=Reduced Matrix, C	CS=Covere	d or Coate	d Sand G	rains.	² Location: PL=I	Pore Lini	ng, M=Matrix.
dric Soil	Indicators:							tors for Proble	-	
	sol (A1)			eyed Matrix	(S4)			Coast Prairie R	`	6)
	Epipedon (A2)		Sandy Re					Dark Surface (S	,	
	(Histic (A3)			Matrix (S6)				Iron-Mangenes		
	ogen Sulfide (A4)			ucky Minera				Very Shallow D		
	ified Layers (A5)			eyed Matrix				Other (Explain	n Kemar	KS)
	Muck (A10)	rfoos (111		Matrix (F3)						
	eted Below Dark Su									
	CDark Surface (A12	•		Dark Surfa pressions				tors of Hydroph		
	ly Mucky Mineral (S Mucky Peat or Pea		Redux De	pressions	(i 0 <i>)</i>			and hydrology m Irbed or problem		resent, unless
					1		uisit	irbed of problem	ialic.	
estrictive Type:	Layer (if observed):								
	nches):				Hyd	ric Soil P	resent?	Yes	X	_ No
emarks:					I					
/DROLC							Seco	ondary Indicator	s (minim	um of two reg
/DROLO	drology Indicator		wired, check all thete	analu)			·	ondary Indicator	-	
rimary Ind	drology Indicators		uired; check all that a		ves (B9)			Surface Soil Cr	acks (B6)
'DROLC 'etland Hy rimary Ind Surface	drology Indicator		Water-S Aquatic	tained Lea Fauna (B1	3) `´´		=	Surface Soil Cra Drainage Patter Dry-Season Wa	acks (B6 ns (B10) iter Table)
/DROLO /etland Hy rimary Ind Surface High W Satura	ydrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3)		Water-S Aquatic True Aq	tained Lea Fauna (B1: uatic Plants	3) s (B14)			Surface Soil Cra Drainage Patter Dry-Season Wa Crayfish Burrov	acks (B6 ns (B10) iter Table s (C8)) e (C2)
/DROLO /etland Hy rimary Ind Surface High W Satura Water	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)		Water-S Aquatic True Aq Hydroge	tained Lea Fauna (B1: uatic Plants n Sulfide C	3) s (B14) Odor (C1)	ving Roots		Surface Soil Croparate Soil Croparate Patter Dry-Season Ward Crayfish Burrow Saturation Visib	acks (B6 ns (B10) iter Table s (C8) ile on Ae	e (C2) rial Imagery (
YDROLO Yetland Hy rimary Ind Surface High W Satura Water Sedime	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)		Water-S Aquatic True Aqu Hydroge Oxidized	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosph	3) s (B14)		——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree	acks (B6 ns (B10) iter Table s (C8) ile on Ae ssed Plai	e (C2) rial Imagery (0nts (D1)
'DROLO 'etland Hy rimary Ind Surface High W Satura Water Sedime Drift De	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4)		Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosph e of Reduc ron Reduc	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille	4)	——————————————————————————————————————	Surface Soil Croparate Soil Croparate Patter Dry-Season Ward Crayfish Burrow Saturation Visib	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
TDROLO Tetland Hy rimary Ind Surface High W Satura Water Sedime Drift De	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	one is req	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizospho e of Reductor ron Reductor ck Surface	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7)	4)	——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree Geomorphic Po	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
rimary Ind Surface High W Satura Water Sedime Drift De Algal M Iron De	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aeria	one is req	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge of	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosph e of Reduc ron Reduc ck Surface or Well Data	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9)	4)	——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree Geomorphic Po	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
rimary Ind Surface High W Satura Water Sedime Drift De Algal M Iron De Inunda Sparse	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //ater Crust (B4) eposits (B5) tion Visible on Aeria	one is req	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge of	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizospho e of Reductor ron Reductor ck Surface	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9)	4)	——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree Geomorphic Po	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
/DROLC /etland Hy rimary Ind Surface High W Satura Water Sedime Drift De Algal M Iron De Inunda Sparse	ydrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tion Visible on Aeria	one is requal Imagery	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge c e (B8) Other (E	tained Lea Fauna (B1: uatic Plants in Sulfide C I Rhizosphi e of Reductron R	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9)	4)	——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree Geomorphic Po	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
CDROLC Vetland Hy rimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Seld Obset Surface W	rydrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) tition Visible on Aeria ely Vegetated Conca	al Imagery ave Surface	Water-S Aquatic True Aqi Hydroge Oxidizec Presenc Recent I Thin Mu (B7) Gauge of et (B8) Other (E	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosphi e of Reduction Re	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9)	4)	——————————————————————————————————————	Surface Soil Cr. Drainage Pattel Dry-Season Wa Crayfish Burrow Saturation Visib Stunted or Stree Geomorphic Po	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0nts (D1)
TDROLC Tetland Hyrimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Burface W Water Tab	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tition Visible on Aeria ely Vegetated Concar rvations: //ater Present?	al Imagery ave Surface 'es	Water-S	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosph e of Reduc ron Reduc ck Surface or Well Data (xplain in R	3) s (B14) Odor (C1) eres on Liv eed Iron (C4 tion in Tille (C7) a (D9) emarks)	4) d Soils (C	——————————————————————————————————————	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) ater Table /s (C8) ale on Ae ssed Plan sition (D	e (C2) rial Imagery (0 nts (D1) 2)
/DROLC /etland Hy rimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Surface W Water Tab	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tition (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) tition Visible on Aeria ely Vegetated Concar rvations: //ater Present?	al Imagery ave Surface 'es	Water-S Aquatic True Aqi Hydroge Oxidizec Presenc Recent I Thin Mu (B7) Gauge of et (B8) Other (E	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosph e of Reduc ron Reduc ck Surface or Well Data (xplain in R	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9)	4) d Soils (C	(C3) X (S6) X	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) tter Table vs (C8) lele on Ae sesed Plar sition (D: st (D5)	e (C2) rial Imagery (0 nts (D1) 2)
/DROLO /etland Hy rimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Surface W Water Tab Saturation (includes of	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //ater Crust (B4) eposits (B5) tion Visible on Aeria ely Vegetated Conca rvations: //ater Present? // Present? // Present? // Capillary fringe)	al Imagery ave Surface es es es	Water-S	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosphe e of Reduct ron Reduct ck Surface or Well Data xplain in R es): es): es):	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9) emarks)	4) d Soils (C	(C3) X XX XAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) tter Table vs (C8) lele on Ae sesed Plar sition (D: st (D5)	e (C2) rial Imagery (0 nts (D1) 2)
/DROLO /etland Hy rimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Surface W Water Tab Saturation (includes of	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //ater Crust (B4) eposits (B5) tion Visible on Aeria ely Vegetated Conca rvations: //ater Present? // Present? // Present? // Capillary fringe)	al Imagery ave Surface es es es	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge c e (B8) Other (E	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosphe e of Reduct ron Reduct ck Surface or Well Data xplain in R es): es): es):	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9) emarks)	4) d Soils (C	(C3) X XX XAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) tter Table vs (C8) lele on Ae sesed Plar sition (D: st (D5)	e (C2) rial Imagery (0 nts (D1) 2)
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rimary Ind Surface High W Satura Water Sedime Drift De Algal N Iron De Inunda Sparse Burface W Water Tab	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //ater Crust (B4) eposits (B5) tion Visible on Aeria ely Vegetated Conca rvations: //ater Present? // Present? // Present? // Capillary fringe)	al Imagery ave Surface es es es	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge c e (B8) Other (E	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosphe e of Reduct ron Reduct ck Surface or Well Data xplain in R es): es): es):	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9) emarks)	4) d Soils (C	(C3) X XX XAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) tter Table vs (C8) lele on Ae sesed Plar sition (D: st (D5)	e (C2) rial Imagery (0 nts (D1) 2)
rimary Ind Surface High W Satura Water Sedime Drift De Inunda Sparse eld Obser Surface W Water Tab Saturation (includes co	rdrology Indicators icators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //ater Crust (B4) eposits (B5) tion Visible on Aeria ely Vegetated Conca rvations: //ater Present? // Present? // Present? // Capillary fringe)	al Imagery ave Surface es es es	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge c e (B8) Other (E	tained Lea Fauna (B1: uatic Plants n Sulfide C I Rhizosphe e of Reduct ron Reduct ck Surface or Well Data xplain in R es): es): es):	3) s (B14) Odor (C1) eres on Liv ed Iron (C4 tion in Tille (C7) a (D9) emarks)	4) d Soils (C	(C3) X XX XAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Surface Soil Cr. Drainage Patter Dry-Season Wa Crayfish Burrov Saturation Visit Stunted or Stree Geomorphic Po FAC-Neutral Te	acks (B6 rns (B10) tter Table vs (C8) lele on Ae sesed Plar sition (D: st (D5)	e (C2) rial Imagery (0 nts (D1) 2)

Project/Site: St. Bonifacius Interceptor		Cit	y/County: <u>Mir</u>	nnetrista / Hennepin	Sampling Dat	.e: Octobe	r 14, 2015
Applicant/Owner: Metropolitan Council Environmental Ser	rvices			State: Minnesota Sampling Point: SP24-1 UP			
Investigator(s): Sambatek – Jessica Abernathy		Sec	ction, Townsh	ip, Range: Section 34,	, T117N, R24V	N	
Landform (hillslope, terrace, etc.) Hills on moraines		Local re	elief (concave	, convex, none): Linear	•		
Slope (%): 2-6% Lat:		 '		·	ım:		
Soil Map Unit Name: L40B – Angus-Kilkenny complex, en							
Are climatic / hydrologic conditions on the site typical for the				·			
Are Vegetation, Soil, or Hydrologysign				'Normal Circumstances		/es X	No
Are Vegetation , Soil , or Hydrology natu							110
Are vegetation, Soil, or hydrologynatt	rally proble	mauc?	(II IIE	eeded, explain any ansv	vers in Remai	KS.)	
SUMMARY OF FINDINGS – Attach site map	showing	g sampli	ing point l	ocations, transec	ts, importa	ant featu	ıres, etc.
Lludranhutia Vagatatian Propent?	No	_					
	No	l I	s the Sample				
	X No _		within a Wetl	and? Yes _	No) <u>X</u>	_
Wetland Hydrology Present? Yes	No	X					
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominan	t Indicator	Dominance Test wo	rksheet:		
Tree Stratum (Plot size: 30'	% Cover			Number of Descions	ot Conneile		
1.				Number of Dominar That Are OBL, FAC		2	(A)
2. 3.				·	_		_ ` ′
4.				Total Number of Do		4	(D)
5.				Species Across All S	Strata: _	4	_ (B)
		= Total C	Cover	Percent of Dominan	t Species		
Openhan (Objects Objects on A.F.)				That Are OBL, FAC	W, or FAC: _	50	_ (A/B)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wo	orksheet:		
				Total % Cover o	<u>f: N</u>	Multiply by:	<u> </u>
				-		1 =	
4				FACW species		2 =	
5				· —		3 =	
		= Total C	cover	FACU species	X	4 =	
Herb Stratum (Plot size: 5')				UPL species		5 =	
Poa pratensis (Kentucky Bluegrass)	30	Υ	FAC	Column Totals:	(/	A)	(B)
2. Phalaris arundinacea (Reed Canary Grass)	25	Υ	FACW				
Solidago Canadensis (Canada Goldenrod)	25	Y	FACU		ice Index = B/		
4. Lotus corniculatus (Bird's-foot Trefoil)	20	Y		Hydrophytic Vegetati			_
5 6.				1 - Rapid Test fo 2 - Dominance T		vegetation	1
7				3 - Prevalence T			
8.				4 - Morphologica		(Provide	supportina
9.				data in Rema	rks or on a se	parate she	et)
10				Problematic Hyd	rophytic Vege	tation ¹ (Ex	plain)
	100	= Total C	Cover	¹ Indicators of hydric s	soil and wotlar	ad bydrolo	av muet
Woody Vine Stratum (Plot size: 30')				be present, unless di			gy must
1				Hydrophytic			
2.				Vegetation			
		= Total C	over	Present?	Yes	No	<u>X</u>
Remarks: (Include photo numbers here or on a separate	sheet.)						

SOIL Sampling Point: SP24-1 UP

Sediment Deposits (B2)	0.6	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. **Location: PL=Pore Lining, M=Matrix.* **Jordic Soil Indicators:* Histosol (A1)	U-0	10YR 3/2	100					loam	
ydric Soil Indicators: Histosol (A1)	6-24	10YR 3/1	98	7.5YR 4/4	2	С	PL	loam	
ydric Soil Indicators: Histosol (A1)									
ydric Soil Indicators: Histosol (A1)									
ydric Soil Indicators: Histosol (A1)									
ydric Soil Indicators: Histosol (A1)									
ydric Soil Indicators: Histosol (A1)									
Histosol (A1)	Гуре: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, C	S=Covered	or Coated	d Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
Histic Epipedon (A2) Black Histic (A3) Stripped Matrix (S6) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Strattlied Layers (A5) Loamy Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Some Mucky Mine	lydric Soil	Indicators:						Indica	ators for Problematic Hydric Soils ³ :
Black Histic (A3) Stripped Matrix (S6) Iron-Mangenese Masses (F12) Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surfaces (TF12) Stratified Layers (A5) Loamy (Seyed Matrix (F2) Other (Explain in Remarks) 2 cm Muck (A10) Depleted Matrix (F3) Depleted Dark Surface (A11) X Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sindicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. sestrictive Layer (if observed): Type: Depth (inches): Wetland Hydrology Indicators: Wetland Hydrology Indicators: Wetland Hydrology Indicators: Wetland Hydrology Indicators (minimum of two requir rimary Indicators (minimum of nee is required; check all that apply) Surface Water (A1) High Water Table (A2) Aquatic Fauna (B13) Surface Water (A1) Drainage Patterns (B10) Drainage Patterns	Histo	sol (A1)		Sandy Gle	yed Matrix (S4)			Coast Prairie Redox (A16)
Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) Very Shallow Dark Surfaces (TF12) Startified Layers (A5) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Matrix (F3) Depleted Below Dark Surface (A11) X Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Redox Depressions (F8) setrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Drainage Patterns (B10) Surface Water (A1) Aquatic Fauna (B13) Surface Water (A1) Aquatic Fauna (B13) Surface Water (A1) Drainage Patterns (B10) Surface Water (A1) Hydrogen Surface (C1) Sediment Deposits (B2) Oxidezed Rhizospheres on Living Roots (C3) Sediment Deposits (B3) Presence of Reduced Iron (C4) Afgal Mat or Crust (E4) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Water Cancer (P8) Algal Mater Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Water Table Present? Yes No X Depth (inches): Surface Water Present? Yes No X Depth (inches): Saturation No X Depth (inches): Saturation Present? Yes No X Depth (inches):				Sandy Red	dox (S5)				
Stratified Layers (A5)									
2 cm Muck (A10)		-			-				
Depleted Below Dark Surface (A11) X Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Dark Surface (F7) Sandy Mucky Mineral (S1) Redox Depressions (F8) Sandy Mucky Peat or Peat (S3) Sandy Mucky Peat or Peat (S4) Sandy Mucky Peat (•	(F2)			Other (Explain in Remarks)
Thick Dark Surface (A12)			face (A11)			F6)			
Sandy Mucky Mineral (S1) Redox Depressions (F8) Indicators of Hydrophysic vegetation and wetland hydrology must be present, unless disturbed or problematic. sestrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes X No Water Stained Hydrology Indicators: Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Drainage Patterns (B10) Hydrogen Sulfide Odor (C1) Saturation (A3) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (B7) Drift Deposits (B3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Water Table (C2) Saturation Visible on Aerial Imagery (B7) Gauge or Well Data (D9) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Wetland Hydrology Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X Depth (inches):								2	
estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present?						. ,			
Type:				<u>——</u>	,	,			
POROLOGY Vettand Hydrology Indicators: rrimary Indicators (minimum of one is required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Water Marks (B1) Dorit Deposits (B2) Dorit Deposits (B3) Presence of Reduced Iron (C4) Each of Reduction in Tilled Soils (C6) Innudation Visible on Aerial Imagery (B7) Innudation Visible on Aerial Imagery (B7) Saparsely Vegetated Concave Surface (B8) Water Present? Water Stained Leaves (B9) Drainage Patterns (B10) Craffsh Burrows (C8) Saturation Visible on Aerial Imagery (C3) Saturation Visibl		Layer (if observed)):						
Properties Pro		achoo):				Hydi	ric Soil F	resent?	Yes X No
/DROLOGY //Potal Mydrology Indicators: //Potal Mydrology Patients: //Potal Mydrology Indicators: //Potal Mydrology Patients: //Potal Mydrology Indicators: /									
Surface Water (A1)									
Surface Water (A1)								Soc	ondary Indicators (minimum of two require
High Water Table (A2)	Wetland Hy	drology Indicators			and A			Sec	
Water Mark's (B1)	Netland Hy Primary Indi	drology Indicators cators (minimum of				es (B9)		Sec —	Surface Soil Cracks (B6)
Sediment Deposits (B2)	Vetland Hy Primary Indi Surface High W	drology Indicators cators (minimum of water (A1) ater Table (A2)		Water-Sta	ained Leave auna (B13)	, ,		<u>Sec</u>	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
Drift Deposits (B3)	Vetland Hy Primary Indi Surface High W Saturat	cators (minimum of e Water (A1) later Table (A2) cion (A3)		Water-Standard Water-Standard F Aquatic F True Aqu	ained Leave auna (B13) atic Plants	(B14)		<u>Sec</u>	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Iron Deposits (B5)	Wetland Hy Primary Indi Surface High W Saturat Water I	cators (minimum of e Water (A1) later Table (A2) cion (A3) Warks (B1)		Water-Standard Water-Standard F Aquatic F True Aqu Hydroger	ained Leave Fauna (B13) latic Plants n Sulfide Oc	(B14) lor (C1)	ing Roots	_ _ _	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime	cators (minimum of e Water (A1) later Table (A2) cion (A3) Warks (B1) ent Deposits (B2) eposits (B3)		Water-St: Aquatic F True Aqu Hydroger Oxidized Presence	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher e of Reduce	(B14) lor (C1) res on Livi d Iron (C4	ł)	G (C3)	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)
ield 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) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vetland Hy Primary Indi Surface High W Satural Water I Sedime Drift De	cators (minimum of e Water (A1) later Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)		Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher of Reduce on Reduction	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled	ł)	G (C3)	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)
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Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes No X (includes capillary fringe) escribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vetland Hy Primary Indi Surface High W Satural Sedime Drift De Algal M Iron De Inunda	cators (minimum of e Water (A1) dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) dat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca	one is requ I Imagery (I ve Surface	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc 37) Gauge or (B8) Other (Ex	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Geduce In Reduction In Reduction In Reduction In Reduction In Reduction In Reduction	(B14) lor (C1) es on Livi d Iron (C4 on in Tilled C7) (D9)	ł)	G (C3)	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)
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	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda Sparse Surface W	cators (minimum of e Water (A1) (ater Table (A2) (ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca	one is requ I Imagery (I ve Surface	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc 37) Gauge or (B8) Other (Ex	ained Leave Fauna (B13) latic Plants in Sulfide Oc Rhizospher e of Reduce con Reduction ek Surface (I r Well Data explain in Res	(B14) lor (C1) es on Livi d Iron (C4 on in Tilled C7) (D9)	d Soils (C	G (C3)	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)
emarks:	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda' Sparse Vield Obser Surface W Water Tab Saturation	cators (minimum of e Water (A1) dater Table (A2) cion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca evations: ater Present? Present? Yell Present?	I Imagery (Ive Surface	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc 37) Gauge or (B8) Other (Ex	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Graduce In Reduce In	(B14) lor (C1) es on Livi d Iron (C4 on in Tilled C7) (D9)	d Soils (C	G (C3)	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)
emarks:	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda Sparse Surface W Water Tab Saturation (includes of	cators (minimum of e Water (A1) (ater Table (A2) (ioin (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca vations: ater Present? Present? A possit (B5) A possit (B7) A possit	I Imagery (I ve Surface es N es N	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or (B8) Other (Ex) O X Depth (inches) Depth (inches)	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Grants In Sulfide Oc Rhizospher In Grants	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	l) d Soils (C	(C3) (C6)	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)
	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda Sparse Surface W Water Tab Saturation (includes of	cators (minimum of e Water (A1) (ater Table (A2) (ioin (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca vations: ater Present? Present? A possit (B5) A possit (B7) A possit	I Imagery (I ve Surface es N es N	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or (B8) Other (Ex) O X Depth (inches) Depth (inches)	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Grants In Sulfide Oc Rhizospher In Grants	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	l) d Soils (C	(C3) (C6)	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)
	Vetland Hy Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda Sparse Surface W Water Tab Saturation (includes of	cators (minimum of e Water (A1) (ater Table (A2) (ioin (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca vations: ater Present? Present? A possit (B5) A possit (B7) A possit	I Imagery (I ve Surface es N es N	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or (B8) Other (Ex) O X Depth (inches) Depth (inches)	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Grants In Sulfide Oc Rhizospher In Grants	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	l) d Soils (C	(C3) (C6)	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)
	Primary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda: Sparse Surface W Water Tab Saturation (includes co	cators (minimum of e Water (A1) (ater Table (A2) (ioin (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca vations: ater Present? Present? A possit (B5) A possit (B7) A possit	I Imagery (I ve Surface es N es N	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or (B8) Other (Ex) O X Depth (inches) Depth (inches)	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Grants In Sulfide Oc Rhizospher In Grants	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	l) d Soils (C	(C3) (C6)	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)
	rimary Indi Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inundar Sparse ield Obser Surface W Water Tab Saturation (includes co	cators (minimum of e Water (A1) (ater Table (A2) (ioin (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aeria ly Vegetated Conca vations: ater Present? Present? A possit (B5) A possit (B7) A possit	I Imagery (I ve Surface es N es N	Water-St: Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir Thin Muc Gauge or (B8) Other (Ex) O X Depth (inches) Depth (inches)	ained Leave Fauna (B13) latic Plants In Sulfide Oc Rhizospher In Grants In Sulfide Oc Rhizospher In Grants	(B14) lor (C1) res on Livi d Iron (C4 on in Tilled C7) (D9) marks)	l) d Soils (C	(C3) (C6)	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)

Project/Site: St. Bonifacius Interceptor		City/0	County: Mi	ty: Minnetrista / Hennepin Sampling Date: October 14, 2015			
Applicant/Owner: Metropolitan Council Environmental Servi	ices			State: Minnesota Sampling Point: SP24-1 WET			
Investigator(s): Sambatek – Jessica Abernathy		Section	n, Townsh	nip, Range: Section 34, T11	7N, R24W		
Landform (hillslope, terrace, etc.) Hills on moraines		Local relie	f (concave	e, convex, none): Linear			
Slope (%): 2-6% Lat:		_ Long:		Datum:			
Soil Map Unit Name: <u>L40B</u> – Angus-Kilkenny complex, eroc							
Are climatic / hydrologic conditions on the site typical for this				<u></u>			
Are Vegetation, Soil, or Hydrology signifi				"Normal Circumstances" pres		s X No	
Are Vegetation, Soil, or Hydrologynatura	ally probler	nauc?	(11.116	eeded, explain any answers	in Remarks	i.)	
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point l	locations, transects, i	mportan	it features,	etc.
Hydrophytic Vegetation Present? Yes X	No						
		IS t	he Sampl	ed Area land? Yes X			
	No						
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominant	Indicator	Dominance Test worksho	eet:		
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	Number of Dominant Spe	ocios		
1. 2.				That Are OBL, FACW, or		1 (A))
4.				Total Number of Domina Species Across All Strata		1 (B)	
5.				Species Across Air Strate		1 (B)	,
<u>-</u>		= Total Cov	er	Percent of Dominant Spe			
Cardina (Charle Charles (Diet eine 45)				That Are OBL, FACW, or	FAC:	100 (A/B	3)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index worksh	neet:		
				Total % Cover of:	Mu	ultiply by:	
				OBL species		=	
4				FACW species		=	
5				FAC species		=	
-		= Total Cov	er	FACU species	_ X4 =	=	
Herb Stratum (Plot size: 5')				UPL species	_ X5:		
1. Phalaris arundinacea (Reed Canary Grass)	100	<u>Y</u>	FACW	Column Totals:	(A)	(B	3)
2							
3				Prevalence In		=	
4				Hydrophytic Vegetation Ir		o actation	
5 6.				1 - Rapid Test for Hyd X 2 - Dominance Test is		sy c lalioff	
6				3 - Prevalence Test is			
8				4 - Morphological Ada		Provide support	ting
9.				data in Remarks o	r on a sepa	arate sheet)	-
10				Problematic Hydrophy	/tic Vegetat	tion¹ (Explain)	
-	100	= Total Cov	er	¹ Indicators of hydric soil at be present, unless disturb			st
Woody Vine Stratum (Plot size: 30')					ca or proble	a	
1				Hydrophytic Vegetation			
		= Total Cov		_	Yes X	No	
Remarks: (Include photo numbers here or on a separate sl	heet \	. 5107 000	<u></u>	1			
remands, (moldae prioto nambers nere or on a separate si	100t. <i>j</i>						

SOIL Sampling Point: SP24-1 WET

	•	to the dep	oth needed to docur			or confirm	the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	edox Feature %	es Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/2	100	COIOI (IIIOISI)	/0	i ype	LUC	loam	Neillains
							-	
4-20	10YR 4/2	90	5YR 4/4	10	<u>C</u>	M	loam	
20-24	10YR 3/1	98	7.5YR 7/6		С	PL		
			<u> </u>					
							-	
l								
								<u> </u>
¹ Type: C=C	oncentration, D=De	oletion, RM	1=Reduced Matrix, C	S=Covered	or Coate	ed Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
Histic Black Hydro Strati 2 cm X Deple Thick Sand 5 cm	sol (A1) Expipedon (A2) Histic (A3) Ogen Sulfide (A4) Fied Layers (A5) Muck (A10) Exted Below Dark Sur Dark Surface (A12) Mucky Mineral (Sa) Mucky Peat or Peat Layer (if observed)	(S3)	Sandy Rec Stripped M Loamy Mu Loamy Gle X Depleted M Redox Dar	latrix (S6) cky Mineral cyed Matrix ((F1) (F2) (F6) (F7) (F7)	Iric Soil P	³ Indica weth	Ators for Problematic Hydric Soils ³ : Coast Prairie Redox (A16) Dark Surface (S7) Iron-Mangenese Masses (F12) Very Shallow Dark Surfaces (TF12) Other (Explain in Remarks) ators of Hydrophytic vegetation and and hydrology must be present, unless urbed or problematic. Yes X No
HYDROLO								
Wetland Hy	drology Indicators	:					<u>Sec</u>	ondary Indicators (minimum of two required)
Surface High W Saturat Water I Sedime Drift De Algal M Iron De Inunda	e Water (A1) /ater Table (A2) /ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) /tion Visible on Aeria	I Imagery (Aquatic F True Aqu Hydroger Oxidized Presence Recent Ir	ained Leave Fauna (B13) latic Plants (In Sulfide Od Rhizospher e of Reduced fon Reduction ek Surface (0 Ir Well Data (1	(B14) or (C1) es on Liv d Iron (C on in Tille C7) (D9)	4)	X	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 Obser	vations:							
		es N	lo X Depth (inche	es):				
Water Tab			lo X Depth (inche					
Saturation			lo X Depth (inche			Wetlan	d Hydrology	y Present? Yes X No
Describe Re	corded Data (strean	n gauge, m	nonitoring well, aerial	photos, pre	vious ins	pections),	if available:	
Remarks:								

Project/Site: St. Bonifacius Interceptor	oject/Site: St. Bonifacius Interceptor City/Cou						r 14, 2015
Applicant/Owner: Metropolitan Council Environmental Se	ervices			State: Minnesota	Sampling	Point: SF	P25-1 UP
Investigator(s): Sambatek – Jessica Abernathy		Sect	ion, Townsh	nip, Range: Section 34,	T117N, R24V	V	
Landform (hillslope, terrace, etc.) Hills on moraines		Local reli	ef (concave	e, convex, none): Linear			
Slope (%): 18-25% Lat:				·	m:		
				NWI Classification: No			
Are climatic / hydrologic conditions on the site typical for t							
Are Vegetation, Soil, or Hydrologysig				"Normal Circumstances"		'es Y	No
							110
Are Vegetation, Soil, or Hydrologynat	urally proble	mauc?	(11 116	eeded, explain any answ	ers in Reman	KS.)	
SUMMARY OF FINDINGS - Attach site map	p showing	g samplir	ng point l	ocations, transect	ts, importa	nt feat	ures, etc.
Lludraphytia Vagatatian Dragant?	No	_					
	No _	l Is	the Sample				
	X No _		ithin a Wetl	land? Yes _	No	<u> </u>	_
Wetland Hydrology Present? Yes _	No _	X					
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominant	Indicator	Dominance Test wor	ksheet:		
Tree Stratum (Plot size: 30')		Species?					
1				Number of Dominan That Are OBL, FACV		1	(A)
2.				mat Aic OBL, I AO	v, or r Ao	'	_ (/\)
3				Total Number of Dor	minant		
5.				Species Across All S	itrata:	3	(B)
<u> </u>	· 	= Total Co	ver	Percent of Dominant	Snecies		
				That Are OBL, FAC		33	(A/B)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wo	rkohooti		
	· 			Total % Cover of		Aultiply by	:
	· 			OBL species		l =	
4.	-			FACW species		2 =	
5.						3 =	
		= Total Co	ver	FACU species		4 =	
Harla Otrationa (Districts 51				UPL species	X 5	5 =	
Herb Stratum (Plot size: 5') 1. Phalaris arundinacea (Reed Canary Grass)	40	Y	FACW	Column Totals:	(A	٠,	(B)
Solidago canadensis (Canada Goldenrod)	30	Y	FACU				
Physalis virginiana (Virginia Groundcherry)	20	Y	UPL	Prevalen	ce Index = B/A	\ =	
4. Cirsium arvense (Canada Thistle)	10	N	FACU	Hydrophytic Vegetation			
5				1 - Rapid Test for	Hydrophytic \	√egetatio	n
6				2 - Dominance Te			
7				3 - Prevalence Te		/D : 1	
8. 9.	· 			4 - Morphological data in Remar	Adaptations ks or on a ser	(Provide) parate she	supporting et)
10	· <u></u>			Problematic Hydr			,
	100	= Total Co	ver		., ,	(,
				¹ Indicators of hydric s be present, unless dis	oil and wetlan	d hydrolo	gy must
Woody Vine Stratum (Plot size: 30'					sturbed or prot	olemanc.	
1				Hydrophytic			
2		= Total Co		Vegetation Present?	Yes	No	X
Demorker (Include whate mounth are hour are as a first	abost)	- TOTAL CO	vei				
Remarks: (Include photo numbers here or on a separate	e sneet.)						

SOIL Sampling Point: SP25-1 UP

		to the dep	th needed to docu			or confirm	the absence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%	Color (moist)	edox Feature %	s Type ¹	Loc²	Texture	Remarks
0-4	10YR 3/2	100	Color (moist)	/0	туре	LUC	loam	Remarks
4-18	10YR 2/1	98	7.5YR 5/8		С	PL	-	
18-24	10YR 4/2	90	7.5YR 5/6	10	С	M	loam	
10-24	101134/2	90	7.51K 5/0			IVI	loam	
-								
	-		•					
	-							
Type: C=C	oncentration, D=De	pletion, RM	I=Reduced Matrix, C	S=Covered of	or Coate	ed Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
Huddia Cail	Indiantana.						lu di a	stana fan Buahlamastia Hudnia Caila ³ .
Hydric Soil	sol (A1)		Sandy Glo	yed Matrix (S	24)		Indica	ators for Problematic Hydric Soils ³ : Coast Prairie Redox (A16)
	Epipedon (A2)		Sandy Re	-	J +)			Dark Surface (S7)
	Histic (A3)		Stripped N					Iron-Mangenese Masses (F12)
	ogen Sulfide (A4)			icky Mineral ((F1)			Very Shallow Dark Surfaces (TF12)
	fied Layers (A5)			eyed Matrix (I				Other (Explain in Remarks)
	Muck (A10)			Matrix (F3)	,			
	eted Below Dark Su	face (A11)		rk Surface (F	6)			
	Dark Surface (A12			Dark Surface			31	-t
Sand	y Mucky Mineral (S	1)	Redox De	pressions (F8	3)			ators of Hydrophytic vegetation and and hydrology must be present, unless
5 cm	Mucky Peat or Pea	(S3)						urbed or problematic.
Restrictive	Layer (if observed	١.						
Type:		/ -			Hvc	dric Soil P	resent?	Yes X No
Depth (ir	nches):				'''		resent:	163 <u>X</u> 110
Remarks:								
HYDROLO	GY							
Wetland Hy	drology Indicators	:					Sec	ondary Indicators (minimum of two required)
Primary Indi	cators (minimum of	one is requ	ired; check all that a	ipply)				Surface Soil Cracks (B6)
	e Water (A1)	-		ained Leaves	s (B9)		_	Drainage Patterns (B10)
	ater Table (A2)			Fauna (B13)	D44)			Dry-Season Water Table (C2)
	tion (A3) Marks (B1)			ıatic Plants (I n Sulfide Odo				Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
	ent Deposits (B2)			Rhizosphere		ving Roots	(C3)	Stunted or Stressed Plants (D1)
	eposits (B3)			e of Reduced	,	,		Geomorphic Position (D2)
	lat or Crust (B4)			ron Reduction ck Surface (C		ed Soils (C	6)	FAC-Neutral Test (D5)
	ະposiເຮ (ອິວ) tion Visible on Aeria	l Imagery (r Well Data (I	,			
	ly Vegetated Conca			xplain in Rem	,			
F: 1101								
Field Obser								
Surface W	ater Present? Y	es N	lo X Depth (inch	es):				
Water Tab	le Present? Y	es N	lo X Depth (inch	es):		Matles	ما السامية	v Dungant2 Van Na V
Saturation	Present? Y	es N	lo X Depth (inch	es):		wetian	d Hydrolog	y Present? Yes No _X_
(includes o	apillary fringe)		<u> </u>	,				
Describe Re	ecorded Data (strear	n gauge, m	onitoring well, aerial	photos, prev	ious ins	spections).	if available:	
20002011.0		gaage,		p, p		, poetio: 10),		
Remarks:								

Project/Site: St. Bonifacius Interceptor	ject/Site: St. Bonifacius Interceptor City/Count						
Applicant/Owner: Metropolitan Council Environmental	Services			State: Minnesota	Samplin	ng Point: S	P25-1 WET
Investigator(s): Sambatek – Jessica Abernathy		Secti	on, Townsh	nip, Range: Section 34,	T117N, R24	4W	
Landform (hillslope, terrace, etc.) Hills on moraines		Local reli	ef (concave	e, convex, none): Linear			
· · · · · · · · · · · · · · · · · · ·		_			ım:		
Soil Map Unit Name: L41E – Lester-Kilkenny complex				NWI Classification: No			
Are climatic / hydrologic conditions on the site typical for							
Are Vegetation, Soil, or Hydrologys						Yes X	No
						<u>-</u>	
Are Vegetation, Soil, or Hydrologyi	laturally proble	nauc?	(11.116	eeded, explain any ansv	vers in Reina	31K5.)	
SUMMARY OF FINDINGS – Attach site m	nap showing	samplin	ıg point l	ocations, transec	ts, import	tant feat	ures, etc.
Lhadaanhadia Vanatatian Basaanto	V N-						
	X No _	IS	the Sample		X N		
						No	_
Wetland Hydrology Present? Yes	X No						
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominant	Indicator	Dominance Test wo	rksheet:		
Tree Stratum (Plot size: 30')	· · · · · · · · · · · · · · · · · · ·	Species?	Status				
1. Salix interior (Sandbar Willow)	95	<u>Y</u>	FACW	Number of Dominar That Are OBL, FAC		3	(A)
Populus deltoides (Eastern Cottonwood) 3.	5	N	<u>FAC</u>	,	, -		_
4.				Total Number of Do		•	(D)
5.				Species Across All S	strata:	3	(B)
	100	= Total Co	ver	Percent of Dominan	t Species		
				That Are OBL, FAC		100	(A/B)
Sapling/Shrub Stratum (Plot size: 15') Cornus sericea (Redosier dogwood)	100	V	FACW	Prevalence Index wo	orksheet:		
Corrus sericea (Nedosiei dogwood)		<u> </u>	TACW	Total % Cover o		Multiply by	<u>/:</u>
				OBL species		x 1 =	
4.				FACW species	>	X 2 =	
5				FAC species	>	× 3 =	
	100	= Total Co	ver	FACU species		X 4 =	
Herb Stratum (Plot size: 5')				UPL species		X 5 =	
1. Phalaris arundinacea (Reed Canary Grass)	90	Υ	FACW	Column Totals:		(A)	(B)
2. Urtica dioica (Stinging Nettle)	10	N	FACW				
3					ce Index = B		
4				Hydrophytic Vegetati			
56.				1 - Rapid Test fo X 2 - Dominance T		•	on
7.				3 - Prevalence To			
8.				4 - Morphologica		s ¹ (Provide	supporting
9.				data in Rema	rks or on a s	eparate sh	eet)
10				Problematic Hyd	rophytic Veg	etation ¹ (E:	xplain)
	100	= Total Co	ver	¹ Indicators of hydric s	oil and wetl:	and hydrole	nav muet
Woody Vine Stratum (Plot size: 30')				be present, unless di			ogy must
1				Hydrophytic			
2.				Vegetation			
	ver	Present?	Yes _	X No			
Remarks: (Include photo numbers here or on a separ	ate sheet.)			•			

SOIL Sampling Point: SP25-1 WET

Profile Des	cription: (Describe	to the dep				r confirm	the absence	e of indicators.)
Depth	Matrix			edox Features		. 2		
(inches)	Color (moist)	<u></u> %	Color (moist)		Type ¹	Loc ²	Texture	Remarks
0-18	10YR 2/1	98	7.5YR 4/4		<u>C</u>	M	Clay loam	
18-24	10YR 5/1	95	7.5YR 4/6	5	С	M	Clay loam	With gravel inclusions
				<u> </u>				
l								<u> </u>
1			Dadward Matrix C		0 1 -	-1.01.0		2)ti Di Dana Linina M Matrix
Type: C=C	oncentration, D=De	pletion, RIVI	=Reduced Matrix, C	S=Covered o	or Coate	d Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
Undria Cail	Indicators						Indian	tore for Droblemetic Hydric Spile ³ .
Hydric Soil			Cond. Ol	oved Matrix (C	. 4 \			tors for Problematic Hydric Soils ³ :
	sol (A1)			eyed Matrix (S	94)			Coast Prairie Redox (A16)
	Epipedon (A2)		Sandy Re					Dark Surface (S7)
	Histic (A3)			Matrix (S6)	E4\			Iron-Mangenese Masses (F12)
	ogen Sulfide (A4)			ucky Mineral (Very Shallow Dark Surfaces (TF12)
	fied Layers (A5)			eyed Matrix (F	-2)			Other (Explain in Remarks)
	Muck (A10)			Matrix (F3)				
	eted Below Dark Su	, ,		rk Surface (F				
	Dark Surface (A12)	'		Dark Surface			³ Indica	tors of Hydrophytic vegetation and
Sand	y Mucky Mineral (S	1)	Redox De	pressions (F8	3)			and hydrology must be present, unless
5 cm	Mucky Peat or Pear	t (S3)					distu	rbed or problematic.
Restrictive	Layer (if observed):						
Type:		,-			Hvd	ric Soil P	rosont?	Yes X No
Depth (ir	nches):				i i yu	110 0011 1	resent:	163 <u>X</u> 110
Remarks:								
	ocv							
HYDROLO Wetland Hy	drology Indicators						Seco	andary Indicators (minimum of two required)
_								
	cators (minimum of	one is requ			(DO)			Surface Soil Cracks (B6)
	e Water (A1) /ater Table (A2)			tained Leaves Fauna (B13)	s (B9)			Drainage Patterns (B10) Dry-Season Water Table (C2)
	tion (A3)			uatic Plants (E	314)			Crayfish Burrows (C8)
	Marks (B1)			n Sulfide Odo				Saturation Visible on Aerial Imagery (C9)
	ent Deposits (B2)			I Rhizosphere				Stunted or Stressed Plants (D1)
	eposits (B3)			e of Reduced	`	,		Geomorphic Position (D2)
	lat or Crust (B4) posits (B5)			ron Reductior ck Surface (C		a Solis (C	6) <u>X</u>	FAC-Neutral Test (D5)
	tion Visible on Aeria	l Imagery (l		or Well Data ([,			
	ly Vegetated Conca		<i>'</i> —	,	,			
			·	•				
Field Obser								
			o X Depth (inch					
Water Tab	le Present? Y	es N	o X Depth (inch	es):		Wetlan	d Hydrology	Present? Yes X No
Saturation	Present? Y	es N	o X Depth (inch	es):		Wellan	a riyarology	11036Ht: 163 <u>X</u> NO
(includes o	apillary fringe)				_			
Describe Re	corded Data (strear	n dalide m	onitoring well aeria	I nhotos previ	ious insi	nections)	if available:	
Besonbe re	oorded Data (otreat	ii gaage, iii	ormorning went, derid	i priotos, previ	iouo irio _l	pedilolio),	ii avaliabic.	
Remarks:								

Project/Site: St. Bonifacius Interceptor		City	//County: Mir	nnetrista / Hennepin	Sampling Date	e: Octobe	r 14, 2015
Applicant/Owner: Metropolitan Council Environmental Se	ervices			State: Minnesota	Sampling	Point: SF	P26-1 UP
Investigator(s): Sambatek – Jessica Abernathy		Sec	tion, Townsh	nip, Range: Section 35,	T117N, R24V	V	
Landform (hillslope, terrace, etc.) Drainageways on mo	raines	Local re	lief (concave	e, convex, none): Conca	ve		
Slope (%): 1-4% Lat:		_ Lon	ıg:	Datu	ım:		
Soil Map Unit Name: L36A – Hamel, overwash-Hamel co							
Are climatic / hydrologic conditions on the site typical for the				<u>-</u>			
Are Vegetation, Soil, or Hydrologysig				"Normal Circumstances"		es Y	No
							110
Are Vegetation, Soil, or Hydrologynat	lurally proble	mauc?	(11 116	eeded, explain any ansv	vers in Reman	(S.)	
SUMMARY OF FINDINGS - Attach site ma	p showing	g sampli	ng point l	ocations, transec	ts, importa	nt featı	ures, etc.
Lhudranh, tie Veretation Proport?	Na	V					
	No		s the Sample				
_	No _		vithin a Wetl	and? Yes _	No	X	=
Wetland Hydrology Present? Yes _	No _	X					
Remarks:							
VEGETATION - Use scientific names of plants.							
	Absolute	Dominan	t Indicator	Dominance Test wor	rksheet:		
Tree Stratum (Plot size: 30')		Species?					
				Number of Dominan That Are OBL, FAC\		1	(A)
				1110(7110 052,1710)			_ ('')
3 4.				Total Number of Dor			
5.				Species Across All S	Strata:	2	(B)
		= Total C	over	Percent of Dominant	t Species		
				That Are OBL, FAC		50	(A/B)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wo	orksheet:		
				Total % Cover of		fultiply by	<u>: </u>
	· <u></u>			OBL species	x 1	=	
4.				FACW species	X 2	2 =	
5.				FAC species		3 =	
		= Total C	over	FACU species	X 4	1 =	
Herb Stratum (Plot size: 5')				UPL species	X 5	5 =	
1. Phalaris arundinacea (Reed Canary Grass)	40	Υ	FACW	Column Totals:	(A	١)	(B)
Solidago canadensis (Canada Goldenrod)	40	Y	FACU				
3. Poa pratensis (Kentucky Bluegrass)	15	N	FAC	Prevalen	ce Index = B/A	<i>t</i> =	
4. Cirsium arvense (Canada Thistle)	5	N	FACU	Hydrophytic Vegetation			
5				1 - Rapid Test for		√egetatio	n
6				2 - Dominance Te			
8.				3 - Prevalence Te 4 - Morphological		(Provido	cupporting
9.				data in Remar	rks or on a ser	arate she	et)
10				Problematic Hydr			
	100	= Total C	over	1			
Marcha Vina Otratama (Diataina 00)				¹ Indicators of hydric s be present, unless dis	oil and wetlan sturbed or prol	d hydrolo blematic	gy must
Woody Vine Stratum (Plot size: 30')					<u> </u>	<u> </u>	
1. 2.				Hydrophytic Vegetation			
2.		= Total C	over	Present?	Yes	No	<u> </u>
Remarks: (Include photo numbers here or on a separate	sheet)			<u> </u>			
	31.000.7						

SOIL Sampling Point: SP26-1 UP

	cription: (Describe	-				r confirm	the absenc	e of indicators.)		
Depth (inches)	Matrix Color (moist)	%	Color (moist)	edox Features %	s Type¹	Loc ²	Texture	Por	narks	
0-10	10YR 3/1	100	Color (moist)	70	Туре		Clay loam		IIaiks	
10-24	10YR 4/4	95	7 EVD 5/6							
10-24	10114/4	95	7.5YR 5/6			M	Clay loam			-
								<u> </u>		
				· —— -						
										
				· —— -				<u> </u>		
-				·						
¹ Type: C=C	oncentration, D=De	pletion, RM	=Reduced Matrix, C	CS=Covered o	or Coate	d Sand Gi	ains.	² Location: PL=Pore I	ining, M=Ma	trix.
Histic Black Hydre Strati 2 cm Deple Thick Sand 5 cm	sol (A1) Expipedon (A2) Cyper Sulfide (A4) Expipedon (A2) Cyper Sulfide (A4) Expired Layers (A5) Expired Below Dark Sulfide (Below Dark Sulfide (A12) Expired Below Mineral (Syper Mucky Peat or Pead) 1) t (S3)	Sandy Re Stripped M Loamy Mu Loamy Gli Depleted Redox Da Depleted	eyed Matrix (S dox (S5) Matrix (S6) Jucky Mineral (eyed Matrix (F3) Matrix (F3) rk Surface (F6) Dark Surface pressions (F8)	F1) F2) 6) (F7)	ric Soil P	³ Indica wetla distu	Ators for Problematic Coast Prairie Redox Dark Surface (S7) Iron-Mangenese Mas Very Shallow Dark S Other (Explain in Rer Ators of Hydrophytic wand hydrology must b urbed or problematic. Yes	(A16) uses (F12) urfaces (TF12) narks) egetation and	2)
HYDROLO Wetland Hy	OGY rdrology Indicators	s:					Seco	ondary Indicators (mir	imum of two	required)
	cators (minimum of	one is requi						Surface Soil Cracks (
	e Water (A1)			tained Leaves	s (B9)			Drainage Patterns (B		
	ater Table (A2) tion (A3)			Fauna (B13) uatic Plants (E	314)			Dry-Season Water Ta Crayfish Burrows (Ca		
	Marks (B1)			n Sulfide Odd				Saturation Visible on		ry (C9)
	ent Deposits (B2)			I Rhizosphere				Stunted or Stressed I		
	eposits (B3) lat or Crust (B4)			e of Reduced ron Reductior				Geomorphic Position FAC-Neutral Test (D		
	eposits (B5)			ck Surface (C		u Solis (C	<u> </u>	TAC-Neutral Test (D.))	
	tion Visible on Aeria	ıl Imagery (E		or Well Data (I						
Sparse	ly Vegetated Conca	ve Surface	(B8) Other (E	xplain in Rem	narks)					
Field Obcor	n/otiono:				T					
Field Obser		,								
Surface W			Depth (inch							
Water Tab	le Present? Y	es No	X Depth (inch	es):		Wotlan	d Hydrology	/ Present? Ves	No	<u> </u>
Saturation	Present? Y	es No	Depth (inch	es):		vvetian	u riyurology	riesent: les		
(includes o	apillary fringe)									
Describe Re	corded Data (stream	m gauge, mo	onitoring well, aeria	I photos, prev	ious insi	oections).	if available:			
	,	0 0 ,	3			,,				
Remarks:										

Project/Site: St. Bonifacius Interceptor	City/County: Minnetrista / Hennepin Sampling Date: October 14, 2015
Applicant/Owner: Metropolitan Council Environmental Services	State: Minnesota Sampling Point: SP26-1 WET
Investigator(s): Sambatek – Jessica Abernathy	Section, Township, Range: Section 35, T117N, R24W
Landform (hillslope, terrace, etc.) Drainageways on moraines Lo	cal relief (concave, convex, none): Concave
Slope (%): 1-4% Lat:	Long: Datum:
Soil Map Unit Name: L36A – Hamel, overwash-Hamel complex	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly disturbe	
Are Vegetation, Soil, or Hydrologynaturally problematic	
Are vegetation, our, or rigurology hattarany problematic	: (If fleeded, explain any answers in Kemaks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	
	is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Remarks:	
VEGETATION - Use scientific names of plants.	
	ninant Indicator Dominance Test worksheet:
Tree Stratum (Plot size: 30'	ecies? Status Number of Dominant Species
	That Are OBL, FACW, or FAC:1 (A)
3.	
4.	Total Number of Dominant Species Across All Strata: 1 (B)
5	
= Ti	otal Cover Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15')	That Are OBL, FACW, or FAC:100 (A/B)
(1.150.0.2.5. <u>10</u>	Prevalence Index worksheet:
	Total % Cover of: Multiply by:
	OBL species x 1 =
4	FACW species X 2 =
5	FAC species X 3 = otal Cover FACI species X 4 =
Herb Stratum (Plot size: 5'	· — — — — — — — — — — — — — — — — — — —
1. Phalaris arundinacea (Reed Canary Grass) 90	Y FACW Column Totals: (A) (B)
2	
3	Prevalence Index = B/A = Hydrophytic Vegetation Indicators:
5	1 Panid Tost for Hydrophytic Vagatation
6.	
7	3 - Prevalence Test is ≤ 3.0 ¹
8	
9	data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain)
	otal Cover
Woody Vine Stratum (Plot size: 30')	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	Hydrophytic
2.	Vegetation
= To	otal Cover Present? Yes X No
Remarks: (Include photo numbers here or on a separate sheet.)	

SOIL

Sampling Point: SP26-1 WET

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

0-6	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	10YR 3/1	98	7.5YR 4/4	2	С	М	Clay loam	
6-24	10YR 4/2	90	5YR 5/6	10	С	М	Clay loam	
Type: C=C	oncentration, D=De	epletion, RN	M=Reduced Matrix, C	S=Covered	or Coate	d Sand G	rains.	² Location: PL=Pore Lining, M=Matrix.
lydric Soil	Indicators:						Indica	ators for Problematic Hydric Soils ³ :
Histos	sol (A1)		Sandy Gle	eyed Matrix (S4)			Coast Prairie Redox (A16)
Histic	Epipedon (A2)		Sandy Re	dox (S5)				Dark Surface (S7)
Black	Histic (A3)		Stripped N	/latrix (S6)				Iron-Mangenese Masses (F12)
Hydro	gen Sulfide (A4)			ıcky Mineral	' '			Very Shallow Dark Surfaces (TF12)
Stratif	fied Layers (A5)			eyed Matrix ((F2)			Other (Explain in Remarks)
	Muck (A10)			Matrix (F3)				
	ted Below Dark Su			rk Surface (F	,			
	Dark Surface (A12			Dark Surface			³ Indica	ators of Hydrophytic vegetation and
	y Mucky Mineral (S		Redox De	pressions (F	8)		wetl	and hydrology must be present, unless
	Mucky Peat or Pea						dist	urbed or problematic.
Restrictive I Type:	Layer (if observed	d):				O . !! D		V V N-
Depth (in	ches):				нуа	ric Soil P	resent?	Yes <u>X</u> No
YDROLO								
	GY drology Indicator	s:					Sec	ondary Indicators (minimum of two require
Vetland Hyerimary Indic	drology Indicator		uired; check all that a		- (DO)		<u>Sec</u>	Surface Soil Cracks (B6)
Vetland Hydrimary India Surface	drology Indicator cators (minimum o Water (A1)		Water-S	tained Leave			<u>Sec</u>	Surface Soil Cracks (B6) Drainage Patterns (B10)
Vetland Hy Primary Indio Surface High W	drology Indicator		Water-S Aquatic		. ,		=	Surface Soil Cracks (B6)
Vetland Hydromary India Surface High Water N	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-S Aquatic True Aqu Hydroge	tained Leave Fauna (B13) uatic Plants (n Sulfide Od	B14) or (C1)			Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Vetland Hydromary India Surface High Words Saturati Water No	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2)		Water-S Aquatic True Aqu Hydroge Oxidized	tained Leave Fauna (B13) uatic Plants (n Sulfide Od Rhizospher	B14) or (C1) es on Liv		(C3)	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)
Vetland Hyverimary India Surface High W Saturati Water N Sedime Drift De	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-S Aquatic True Aqu Hydroge Oxidized Presenc	tained Leave Fauna (B13) uatic Plants (n Sulfide Od Rhizospher e of Reduced	B14) or (C1) es on Liv d Iron (C4	4)	(C3) X	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)
Vetland Hyverimary India Surface High Words Saturati Water Nords Sedime Drift De	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2)		Water-S Aquatic True Aqu Hydroge Oxidized Presenc Recent I	tained Leave Fauna (B13) uatic Plants (n Sulfide Od Rhizospher	B14) or (C1) es on Liv d Iron (C4 on in Tille	4)	(C3) X	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)
Vetland Hyverimary India Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat	drology Indicator cators (minimum o water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri	f one is req	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o	tained Leave Fauna (B13) Juatic Plants (In Sulfide Od Rhizospher e of Reduced ron Reduction ck Surface (0 r Well Data (B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9)	4)	(C3) X	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)
Vetland Hyverimary India Surface High W Saturati Water N Sedime Drift De Algal M Iron De Inundat	drology Indicator cators (minimum o water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri	f one is req	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu	tained Leave Fauna (B13) Juatic Plants (In Sulfide Od Rhizospher e of Reduced ron Reduction ck Surface (0 r Well Data (B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9)	4)	(C3) X	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)
Vetland Hydrimary India Surface High W. Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aericly Vegetated Concevations:	f one is req al Imagery ave Surface	Water-S Aquatic True Aqu Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Juatic Plants (In Sulfide Od Rhizospher e of Reducer ron Reduction ck Surface (C r Well Data (xplain in Rer	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9)	4)	(C3) X	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)
Vetland Hyverimary India Surface High W. Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel	drology Indicator cators (minimum o e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri y Vegetated Conc. vations:	al Imagery ave Surface	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Latic Plants (In Sulfide Od Rhizospher e of Reduced ron Reduction ck Surface (C r Well Data (xplain in Rer	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9) marks)	4)	(C3) X	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)
Vetland Hyv Primary India Surface High W. Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel	drology Indicator cators (minimum o e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri y Vegetated Conc. vations:	al Imagery ave Surface	Water-S Aquatic True Aqu Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Latic Plants (In Sulfide Od Rhizospher e of Reduced ron Reduction ck Surface (C r Well Data (xplain in Rer	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9) marks)	4) d Soils (C	(C3) X 6) X	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)
Primary India Surface High W. Saturati Water N Sedime Drift De Algal M Iron De Inundat Sparsel Sield Obser Surface Wa Water Tabl Saturation	drology Indicator cators (minimum o Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) reposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri ly Vegetated Conce vations: ater Present?	al Imagery ave Surface Yes I	Water-S Aquatic True Aqi Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Latic Plants (In Sulfide Od Rhizospher e of Reduced ron Reduction ck Surface (C r Well Data (I xplain in Rer es):	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9) marks)	4) d Soils (C	(C3) X	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)
Vetland Hyv Primary India Surface High W. Saturatio Water N Sedime Drift De Algal M Iron De Inundat Sparsel Selded Obser Surface Wa Water Tabl Saturation (includes ca	drology Indicator cators (minimum o e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri y Vegetated Conc. vations: ater Present? Present?	al Imagery ave Surface Yes ! Yes !	Water-S Aquatic True Aqu Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Latic Plants (In Sulfide Od Rhizosphere of Reduced ron Reduction ck Surface (C r Well Data (I xplain in Rer es): es):	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9) marks)	4) d Soils (C	(C3) X 6) X	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)
Vetland Hyv Primary India Surface High W. Saturatio Water N Sedime Drift De Algal M Iron De Inundat Sparsel Selded Obser Surface Wa Water Tabl Saturation (includes ca	drology Indicator cators (minimum o e Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) posits (B5) ion Visible on Aeri y Vegetated Conc. vations: ater Present? Present?	al Imagery ave Surface Yes ! Yes !	Water-S Aquatic True Aqu Hydroge Oxidized Presenc Recent I Thin Mu (B7) Gauge o e (B8) Other (E	tained Leave Fauna (B13) Latic Plants (In Sulfide Od Rhizosphere of Reduced ron Reduction ck Surface (C r Well Data (I xplain in Rer es): es):	B14) or (C1) es on Liv d Iron (C4 on in Tille C7) (D9) marks)	4) d Soils (C	(C3) X 6) X	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)
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Project/Site: St. Bonifacius Interceptor		City/0	County: Mi	nnetrista / Hennepin S	ampling Date:	October 14, 2015
Applicant/Owner: Metropolitan Council Environmental Ser	rvices			State: Minnesota	Sampling F	Point: SPD-1
Investigator(s): Sambatek – Jessica Abernathy		Section	on, Townsł	nip, Range: Section 35, T	117N, R24W	
Landform (hillslope, terrace, etc.) Drainageways on mora	aines	Local relie	ef (concave	e, convex, none): Concave	е	
Slope (%): 12-18% Lat:		 Long	:	Datum	i:	
Soil Map Unit Name: L41D2 – Lester-Kilkenny complex, e						
Are climatic / hydrologic conditions on the site typical for the						
Are Vegetation, Soil, or Hydrologysign			<u> </u>	"Normal Circumstances" p		e X No
Are Vegetation, Soil, or Hydrologynatu	rally proble	mauc?	(11.11)	eeded, explain any answe	is in Remarks	5.)
SUMMARY OF FINDINGS – Attach site map	showing	g samplin	g point	locations, transects	s, importan	nt features, etc.
	X No _	ls i	the Sampl	ed Area		
_	No	X wit	thin a Wet	land? Yes	No	X
Wetland Hydrology Present? Yes	No	X				
Remarks:						
VEGETATION - Use scientific names of plants.						
	Absolute	Dominant	Indicator	Dominance Test work	sheet:	
Tree Stratum (Plot size: 30')		Species?				
				Number of Dominant : That Are OBL, FACW		1 (A)
				matric obe, i nov	, 01 1710.	(/ //
3. 4.				Total Number of Dom		
4 5				Species Across All St	rata:	(B)
		= Total Cov	/er	Percent of Dominant S	Species	
				That Are OBL, FACW		100 (A/B)
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index wor	kehoot:	
				Total % Cover of:		ıltiply by:
			-	OBL species	x 1 :	=
4.				FACW species	X 2 :	=
5.				FAC species	X3:	=
		= Total Cov	/er	FACU species	X 4 :	=
Herb Stratum (Plot size: 5')				UPL species	X 5 :	=
1. Phalaris arundinacea (Reed Canary Grass)	100	Υ	FACW	Column Totals:	(A)	(B)
2.						
3.					e Index = B/A	=
4				Hydrophytic Vegetation		
5.				1 - Rapid Test for I		egetation
6				X 2 - Dominance Tes		
8				3 - Prevalence Tes 4 - Morphological A		Provide supporting
9.				data in Remark		
10				Problematic Hydro	phytic Vegetat	tion¹ (Explain)
	100	= Total Cov	/er	1 Indicators of budgie ==	il and watland	hydrology must
Woody Vine Stratum (Plot size: 30')				¹ Indicators of hydric so be present, unless dist		
				Hydrophytic		
1				Vegetation		
		= Total Cov		Present?	Yes X	No
Remarks: (Include photo numbers here or on a separate	sheet.)			I		
	,					

								Sampling Point	01 D 1
	cription: (Describ Matrix		th needed to docum			r confirn	n the absenc	e of indicators.)	
Depth (inches)	Color (moist)	<u>x</u> %	Color (moist)	dox Featu %	Type ¹	Loc ²	Texture	Ren	narks
0-7	10YR 3/2	100					loam		
7-24	10YR 4/4	98	5YR 5/4	2	С	М	loam		
Туре: С=С	oncentration, D=D	epletion, RM	=Reduced Matrix, C	S=Covered	d or Coate	d Sand G	Grains.	² Location: PL=Pore L	ining, M=Matrix.
Histo Histic Black Hydro Strati 2 cm Deple	Indicators: sol (A1) Epipedon (A2) Histic (A3) Ogen Sulfide (A4) fied Layers (A5) Muck (A10) Eted Below Dark St Dark Surface (A1)		Sandy Gley Sandy Red Stripped M Loamy Mu Loamy Gle Depleted M Redox Dar	lox (S5) atrix (S6) cky Minera yed Matrix flatrix (F3) k Surface	(F1) (F2) (F6)		<u></u>	Ators for Problematic Coast Prairie Redox (Dark Surface (S7) Iron-Mangenese Mas Very Shallow Dark Su Other (Explain in Ren	(A16) ses (F12) urfaces (TF12) narks)
5 cm	y Mucky Mineral (\$ Mucky Peat or Pea Layer (if observed)	at (S3)	Redox Dep	ressions (F8)		wetl	land hydrology must be urbed or problematic.	
Type: Depth (ir	nches):				Hyd	ric Soil F)raaam#?	Yes	
							resent?		No <u>X</u>
YDROLO									
Vetland Hy Primary Indi Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda	cators (minimum of e Water (A1) later Table (A2) licion (A3) Marks (B1) lent Deposits (B2) leposits (B3) lat or Crust (B4) leposits (B5) ltion Visible on Aeri	of one is requ ial Imagery (l	Aquatic F True Aqu Hydroger Oxidized Presence Recent In Thin Muc	ained Leavanne (B13 atic Plants a Sulfide O Rhizosphe of Reducton Reduct & Surface Well Data	(B14) dor (C1) eres on Lived Iron (C4) ion in Tille (C7) (D9)	ring Roots 4)	Sec ————————————————————————————————————	ondary Indicators (min Surface Soil Cracks (I Drainage Patterns (B Dry-Season Water Ta Crayfish Burrows (C8 Saturation Visible on Stunted or Stressed F Geomorphic Position FAC-Neutral Test (D5	imum of two requir B6) 10) able (C2)) Aerial Imagery (C9 Plants (D1) (D2)
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Remarks:

Minnesota Wetland Conservation Act **Notice of Decision**

Local Government Unit (LGU) City of Minnetrista		Address 7701 County Road 110 W Minnetrista, MN 55364			
		1VIIIIICU ISCA	, 1111 33304		
1.	PROJECT INFORMA	ATION			
Applicant Name	Project Name		Date of Application	Application Number	
Metropolitan Council Environmental Services (MCES)	St. Boni Interceptor Wetland Delineation Addendum #2 (MCES #808200)		10/3/2016 2121-0 ML-1		
Attach site locator map.					
Type of Decision:					
	☐ No-Loss	☐ Exemptio	n 🗌	Sequencing	
☐ Replacement	Plan	Banking Pl	an		
Technical Evaluation Panel Findings	and Recommendation (if	any):			
Approve	Approve with conditi	ions		Deny	
Summary (or attach): No written com	ments were received from	n the TEP.			
	GOVERNMENT UN	IT DECISION	ON		
Date of Decision: November 14, 201	6				
⊠ Approved □ Ap	proved with conditions (i	include below)		☐ Denied	

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	LGU Findings and Conclusions (attach additional sheets as necessary):						
	The MCES requested a wetland boundary/type review for the Wetland Addendum #2 for wetlands located along a segment of Highway 7 and other areas identified in the report. A wetland investigation was completed for the additional areas for the project by Sambatek on August 1, 2016.						
	WSB reviewed the project area (Addendum #2) in the field for wetland boundary/type on November 3, 2016.						
	The City of Minnetrista has determined the Applicant has successfully documented the extent of wetland within the project limits, in accordance with the US Army Corps of Engineers wetland delineation methodology, and approves the wetland boundaries/types as indicated in the wetland delineation addendum report #2, dated October 3, 2016 (attached).						
ı	For Replacement Plans using credits from the State Wetland Bank:						
	Bank Account # Bank Service Area County Credits Approved for Withdrawal (sq. ft. or nearest acre)	.01					
	Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, approval of a Wetland Replacement Plan is conditional upon the following:	the					
	Financial Assurance: For project-specific replacement that is not in-advance, a finance assurance specified by the LGU must be submitted to the LGU in accordance with MN R 8420.0522, Subp. 9 (List amount and type in LGU Findings).						
	Deed Recording: For project-specific replacement, evidence must be provided to the LGU to the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland forms have been filed with the county recorder's office in which the replacement wetland is located	nd"					
	Credit Withdrawal: For replacement consisting of wetland bank credits, confirmation to BWSR has withdrawn the credits from the state wetland bank as specified in the approximation replacement plan.						
	Wetlands may not be impacted until all applicable conditions have been met!						
	LGU Authorized Signature:						
١	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						

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 Shawn Williams	Title Senior Environmental Scientist, WSB		
Signature Lac Chi	Date 11/14/2016	Phone Number and E-mail 763-287-8531 swilliams@wsbeng.com	

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

BWSR Forms 7-1-10 Page 2 of 3

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	Appeal of LGU governing body decision. Send
petition and \$TBD fee (if applicable) to:	petition and \$500 filing fee to:
City of Minnetrista	Executive Director
7701 County Road 110 West	Minnesota Board of Water and Soil Resources
Minnetrista, MN 55364	520 Lafayette Road North
	St. Paul, MN 55155

4. LIST OF ADDRESSEES

SWCD TEP member: Stacey Lijewski stacey.lijewski@hennepin.us BWSR TEP member: Ben Meyer ben.meyer@state.mn.us LGU TEP member (if different than LGU Contact): David Abel dabel@ci.minnetrista.mn.us DNR TEP member: Becky Horton Becky.Horton@state.mn.us	
DNR Regional Office (if different than DNR TEP member) WD or WMO (if applicable): Katherine Sylvia, MCWD ksylvia@minnehahacreek.org Applicant and Landowner (if different) Members of the public who requested notice: Todd Ullom, Sambatek tullom@sambatek.com Corps of Engineers Project Manager Melissa Jenny Melissa.M.Jenny@usace.army.mil BWSR Wetland Bank Coordinator (wetland bank plan decisions 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:

1	2 opuniment of 1 tutorial resources regional offices:						
	NW Region:	NE Region:	Central Region:	Southern Region:			
	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.	Reg. Env. Assess. Ecol.			
	Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources	Div. Ecol. Resources			
	2115 Birchmont Beach Rd.	1201 E. Hwy. 2	1200 Warner Road	261 Hwy. 15 South			
	NE	Grand Rapids, MN 55744	St. Paul, MN 55106	New Ulm, MN 56073			
	Bemidji, MN 56601						

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

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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

W
In addition to the site locator map, list any other attachments:
◯ Wetland Delineation Report Addendum #2, dated October 3, 2016 (Sambatek)

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