

Permit Application No.: 16-443

Rules: Erosion Control, Floodplain Alteration,
Wetland Protection, Waterbody
Crossings and Structures

Applicant: City of Minnetrista and Minnehaha Creek Watershed District

Project: Jennings Bay Floodplain Mitigation Project

Location: PID #1211724220019, Jennings Bay, Minnetrista

Received: 8-10-16

Complete: 8-11-16

Noticed: 8-11-16

Recommendation:

Approval with conditions:

- Submission of an As-Built survey documenting the compensatory flood storage volume
- Execution of Public Entity Maintenance Agreement for the City of Minnetrista Wetland Buffer

Summary:

The City of Minnetrista (Minnetrista) as a co-applicant with the Minnehaha Creek Watershed District (MCWD) has applied for a MCWD permit to construct a floodplain mitigation area on Jennings Bay that will trigger the District's Erosion Control, Floodplain Alteration, Waterbody Crossings and Structures, and Wetland Protection rules (Attachment 1). The project meets the requirements under each of these District rules. Staff is recommending approval of this application with the conditions outlined in this report.

Background:

The City of Minnetrista has partnered with the MCWD to design and construct a floodplain mitigation project on a Minnetrista owned parcel on Jennings Bay of Lake Minnetonka (Attachment 2). The Project proposes to excavate approximately 2,320 cubic yards of earth material from the parcel in order to fulfil the floodplain storage compensation requirement for the Enchanted Lane Emergency Floodplain Permit (City of Minnetrista 14-621) and the 101 Causeway/Bushaway Road Shoreline Rehabilitation Project (MCWD & Hennepin County 13-460). Under Permit 14-621, the City filled approximately 500 cy of floodplain along Enchanted Lane in order to provide access to houses during the 2014 flood events. Under Permit 13-460, the MCWD is proposing to fill approximately 650 cy below the 100-yr elevation along the State Highway 101 Causeway in order to reconstruct the shoreline to provide littoral habitat, manage runoff, and dissipate wave energy. The total required floodplain compensation is 1,150 cy of storage. The Project will provide approximately 1,360 of floodplain storage through excavation on the City of Minnetrista parcel.

This permit is before the Board of Managers as MCWD has partnered with Minnetrista in Project management and design. MCWD will be responsible for the maintenance of the parcel, new culvert, and restoration of disturbed buffer associated with this project.

Erosion Control:

The District's Erosion Control rule is applicable for any project proposing to excavate 50 cubic yards or more of earth material. The Project proposes approximately 2,320 cubic yards of excavation, therefore, the rule is triggered. The applicant has provided an erosion control plan which meets the requirements of Section 5(a) of the District's Erosion Control rule and includes silt fence around the construction perimeter, a rock construction entrance, inlet protection, an erosion control blanket for stabilization, and final stabilization through mulch and seeding.

The erosion control plan meets the requirements of the District's Erosion Control rule.

Floodplain Alteration:

The District's Floodplain Alteration rule is applicable for any project proposing disturbance or fill below the 100-Year high water elevation of any waterbody. As this project involves disturbance below Jennings Bay's 100-Year high water elevation, the rule is triggered. Under Permit 14-621, the City of Minnetrista filled approximately 500 CY under the 100-yr HWL of Lake Minnetonka. Under Permit 13-460, the MCWD is proposing to fill approximately 650 CY under the 100-yr HWL of Lake Minnetonka. This project serves to fulfill the compensatory storage requirement for each project. This project proposes to create 1,360 cy of flood storage on Jennings Bay in Lake Minnetonka. The project will result in 210 cy of excess floodplain storage for Lake Minnetonka.

Sections 3(b) through (e) do not apply to this project as it does not propose any new impervious surface within the floodplain. Analysis under Section (f) of the Floodplain Alteration rule does not apply to the project as no new structures are proposed as part of this project.

The project provides the required flood storage compensation for permits 13-460 and 14-621 and meets the requirements of the District's Floodplain Alteration rule.

Waterbody Crossings and Structures:

The District's Waterbody Crossings and Structures rule is applicable to any project involving the placement of structures in contact with the bed or bank of any waterbody. The project proposes to replace an existing culvert currently located on the property which is within the bank of Painter Creek where it flows into Jennings Bay. The existing culvert will be removed and replaced with a new culvert that will provide hydrological connection to the proposed flood storage area as flows exceed the ordinary high water level. The proposed culvert will be made of reinforced concrete pipe and will be 18-inches in diameter. The applicant explored alternatives to provide the hydrologic connection to Jennings Bay. One alternative was to excavate a natural channel to connect the storage area to the Lake. In order to minimize impacts of tree loss, to provide the required floodplain storage, and to protect against erosion, the natural channel was not chosen as a preferred alternative. The second alternative was to install the culvert with an inlet and outlet structure, however, in order to expand the floodplain capacity as much as possible, this option was not pursued. The applicant has demonstrated a minimal impact design by using the original outlet location and utilizing a reinforced concrete pipe which will have a longer lifespan and require less disturbance associated with maintenance.

The culvert will be located within the ordinary high water elevation of Jennings Bay which is identified as a Public Water, as such, the project must meet a public benefit. This project meets a public benefit by providing the required floodplain mitigation for two public projects that triggered the District's floodplain alteration rule.

Sections 3(b-e) of the Districts Waterbody Crossings and Structures rule require that the project retain hydraulic capacity, retain navigational capacity, preserve aquatic and upland wildlife passage, and not adversely affect water quality. The culvert that is being replaced currently does not serve as a hydraulic or navigational structure, the purpose of replacing the culvert is to utilize it as an overflow pipe to connect rising waters to the flood storage compensation area therefore, Sections 3(b) and 3(c) of the rule do not apply to this project. The new culvert does not inhibit aquatic or upland wildlife passage as it serves as an overflow pipe and does not restrict the conveyance of Painter Creek into Jennings Bay. Water quality will be maintained as the new culvert will be installed to replace the existing one.

The Project does not involve any public utilities and does not propose horizontal directional drilling, therefore Sections (g) and (h) of the rule do not apply. The culvert will be maintained in accordance with section 6 of the rule by MCWD in accordance with its ongoing responsibilities for maintenance of the floodplain-storage project.

The Project meets the requirements of the District's Waterbody Crossings and Structures rule.

Wetland Protection:

The District's Wetland Protection rule is applicable for any project that triggers the Stormwater Management or Waterbody Crossings and Structures Rule. As the Project triggers the Waterbody Crossings and Structures rule, the Buffer provision of the Wetland Protection rule is applied. One wetland was delineated on the property. This wetland is classified as a Preserve Wetland under the District's Functional Assessment of Wetlands and requires a 75-foot buffer. The Applicant is able to provide a 75-foot buffer which will be maintained in accordance with a Public Entity Maintenance Agreement. Additionally, access to the property for construction requires the use of Outlot A of the adjacent Orchard Cove Development (Permit #14-114). This outlot contains a wetland that was classified as Manage 2 and currently has a 30' buffer surrounding it. The temporary access road will impact both the wetland and the buffer. The City of Minnetrista is the WCA LGU for permitting the temporary wetland impacts, however, under the District's wetland protection rule, the applicant is required to submit a buffer maintenance and monitoring plan for restoring the impacted buffer area. The MCWD will be responsible for restoring and maintaining the disturbed buffer per the requirements listed in the Declaration recorded under Permit 14-114 (Attachment 3). The Orchard Cove Home Owners Association will not be responsible for impacts to this buffer area as it is found to be non-actionable impact to the buffer. The Project meets the requirements of the District's Wetland Protection rule.

Attachments:

1. Permit Application
2. Site Location Map
3. Permit 14-114 Declaration- Orchard Cove Development, Minnetrista

Katherine Sylvia

Date: 8/25/2016

16-443

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: City of Minnetrista (David Abel, Community Development Director)
Mailing Address: 7701 County Road 110W City: Minnetrista State: MN Zip: 55364
Email Address: dabel@ci.minnetrista.mn.us Phone: (952) 241-2523 Fax: _____

2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...)
Business Name: Minnehaha Creek Watershed District Representative Name: Tiffany Schaufler
Business Address: 15320 Minnetonka Blvd. City: Minnetonka State: MN Zip: 55345
Email Address: TSchaufler@Minnehahacreek.org Phone: (952) 641-4513 Fax: _____

3. Project Address: PID 1211724220019 City: Minnetrista
State: MN Zip: 55364 Qtr Section(s): _____ Section(s): 12 Township(s): 117N Range(s): 24W
Lot: Outlot 2 Block: _____ Subdivision: Sun Valley (Addition) PID: 1211724220019

4. Size of project parcel (square feet or acres): 3.2 acres
Area of disturbance (square feet): 2.0 acres Volume of excavation/fill (cubic yards): 2,320 CY (Excavation)
Area of existing impervious surface: 0 sf Area of proposed impervious surface: 0 sf
Length of shoreline affected (feet): 0 lf Waterbody (& bay if applicable): Painter Creek/Lake Minnetonka (Jennings Bay)

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): Wetland Restoration/Floodplain Mitigation

7. NPDES/SDS General Stormwater Permit Number (if applicable): _____

8. Waterbody receiving runoff from site: Painter Creek / Lake Minnetonka (Jennings Bay)

9. Project Timeline: Start Date: October 2016 Completion Date: November 2016 (w/ planting Spring 2017)

Permits have been applied for: City County _____ MN Pollution Control Agency _____ DNR _____ COE _____
Permits have been received: City _____ County _____ MN Pollution Control Agency _____ DNR _____ 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.

Tiffany Schaufler
Signature of Each Property Owner

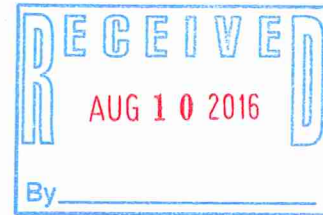
8/9/16
Date





August 9, 2016

Ms. Katherine Sylvia
Permitting Program Lead
Minnehaha Creek Watershed District
15320 Minnetonka Blvd
Minnetonka, MN 55345



Dear Ms. Sylvia:

RE: Jennings Bay Wetland Restoration / Floodplain Mitigation Project - Permit Application

We are pleased to submit this packet of application materials for the permits needed for the above referenced project. The required permits as part of this permit included WATERBODY CROSSINGS & STRUCTURES, Floodplain Alteration, and Erosion Control. Below is a short summary describing each of the permits and how they relate to this project.

WATERBODY CROSSINGS & STRUCTURES

- Replaces an existing culvert, in a similar alignment.
- Culvert will now provide a connection of Jennings Bay and Painter Creek flows above the OHW to the wetland restoration / floodplain mitigation site project area, increasing the available floodplain storage.
- Minimizes the erosion potential that would be more likely to occur if a swale was graded.
- Proposed culvert RCP which will increase the lifespan of the pipe and minimize maintenance.
- Proposed culvert will have end sections that blend into the natural topography better.
- The culvert will be 18 inches, which will provide sufficient capacity.
- The other options that were evaluated consisted of:
 - o Natural Channel – to minimize impacts of tree loss, to be able to provide the required floodplain storage, and to protect against erosion, the natural channel was not chosen as the preferred alternative.
 - o Culvert with Inlet/Outlet Structure – this would have been able to set the water surface elevations using stop logs. MCWD knew that they wanted to expand the floodplain capacity as much as possible and minimize required operation of the structure, so this method was not selected.

FLOODPLAIN ALTERATION

- This project is being implemented to create over 1,250 CY of additional storage capacity.
- All excavated material is being disposed of offsite.
- There is no impervious area being added as part of this project.
- Flows will enter the restoration area / floodplain mitigation site once above the OHW (Elev 929.4).
- An as-built survey will be completed once construction is complete.
- The following table summarizes the detailed grading calculations:

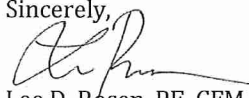
Total Cut	2,320 CY
Cut above Floodplain Elevation (931.5 – 935.0)	960 CY
Cut below Floodplain Elevation (926.0 - 931.5)	1,360 CY
Total Fill	0 CY
Net (Cut)	2,320 CY

EROSION CONTROL

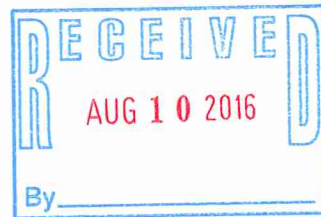
- A SWPPP was developed as part of the project plans to limit erosion during and after site disturbance.
- Methods to minimize erosion on this project included but were not limited to:
 - o Limiting site access with a defined construction path
 - o Requiring wetland mats when crossing the existing wetland
 - o Salvaging and stockpiling topsoil in a designated area surrounded with silt fence
 - o Providing filter berms at culverts and a floating silt curtain downstream of the culvert
 - o Minimizing disturbance to the site and impacts to existing trees
 - o Providing erosion control blanket on slopes
 - o Customized native vegetation planting plan
 - o Including 3 years of vegetation maintenance

All required components of the permits are contained above and in the attached plans. If you have any questions, please don't hesitate to contact me by e-mail (Lee.Rosen@respec.com) or telephone (651.305.2275).

Sincerely,



Lee D. Rosen, PE, CFM
Project Manager



MINNEHAHA CREEK WATERSHED DISTRICT JENNINGS BAY WETLAND RESTORATION

60% CONSTRUCTION PLANS
JULY 2016

PRELIMINARY
NOT FOR CONSTRUCTION

DESIGNED		LDR	ACT	LDR	LDR	DATE
DRAWN		LDR	ACT	LDR	LDR	7/14/16
CHECKED		LDR	ACT	LDR	LDR	
DATE						

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE: _____ D. ROSEN, P.E.
LICENSE # 51071



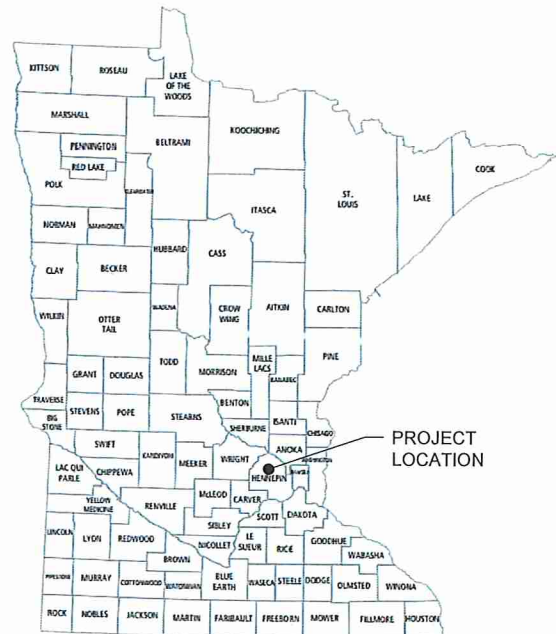
15320 MINNETONKA BLVD.
MINNETONKA, MN 55345
(952) 471-0990
www.minnehahacreek.org



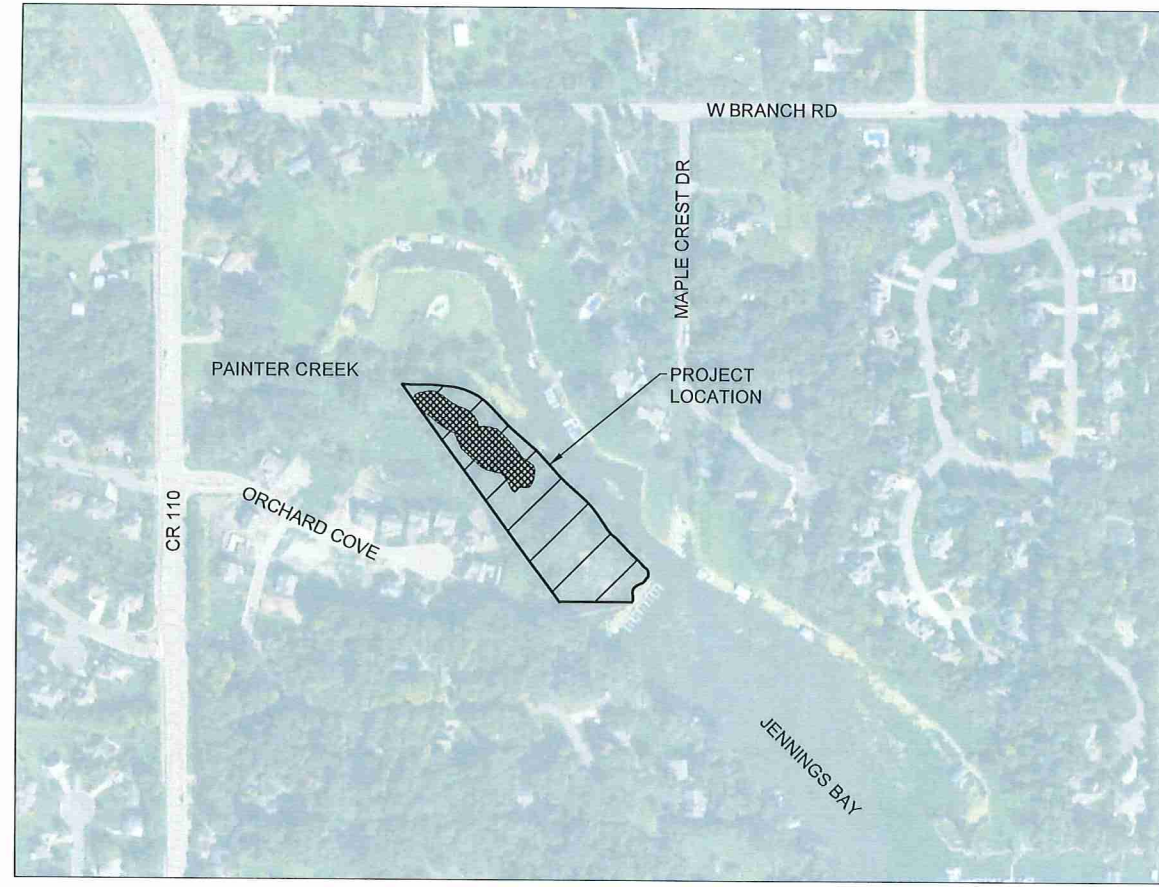
JENNINGS BAY
WETLAND
RESTORATION /
FLOODPLAIN
MITIGATION

COVER SHEET

SHEET NUMBER:
1



LOCATION MAP



VICINITY MAP
SCALE: 1" = 250'



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	NOTES & QUANTITIES
3	OVERALL SITE PLAN
4	HORIZONTAL CONTROL & GRADING PLAN
5	PROFILE & SECTIONS
6	DETAILS
7	STORM WATER POLLUTION PREVENTION PLAN
8	EROSION CONTROL PLAN
9	EROSION DETAILS (1 OF 2)
10	EROSION DETAILS (2 OF 2)
11	PLANTING PLAN
12	PLANTING NOTES & SEED MIXES



NAME: Z:\MINNESOTA\02935 JENNINGS BAY\CAD\SHEETS\02935-COVER.DWG
PLOT DATE: August 9, 2016 3:18 PM, BY: AMY C. TEIGEN

GENERAL NOTES:

- ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF PUBLIC IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY. IF A STANDARD OR SPECIFICATION DOES NOT EXIST, REFER TO THE MINNESOTA DEPARTMENT OF TRANSPORTATION (MNDOT). ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE. ALL WORK SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR THE MINNEHAHA CREEK WATERSHED DISTRICT (MCWD PROJECT MANAGER).
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON THE PLANS FROM THE CITY OF MINNETRISTA. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL GOPHER STATE ONE CALL (651-565-0002 OR TOLL FREE: 1-800-252-1116) AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS.
- THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE CITY OF MINNETRISTA AND MCWD, AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED BY CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FOR ALL APPLICABLE AGENCIES, NOT ALREADY OBTAINED BY MCWD. THE FOLLOWING PERMITS HAVE OR ARE IN THE PROCESS OF BEING OBTAINED.

AGENCY	PERMIT
CITY OF MINNETRISTA	WETLAND PERMIT
MINNEHAHA CREEK WATERSHED DISTRICT	EROSION & SEDIMENT CONTROL
MINNEHAHA CREEK WATERSHED DISTRICT	FLOODPLAIN ALTERATION
- THE CONTRACTOR SHALL NOTIFY MCWD AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.
- THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON-SITE AT ALL TIMES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF ALL PERSONNEL, ALL SITE VISITORS, AND THE GENERAL PUBLIC WHO MAY BE AFFECTED BY THE CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO CHANNEL EXCAVATION, SHORING, TRAFFIC CONTROL, AND SECURITY.
- THE CONTRACTOR SHALL PROVIDE A CONTINUOUS, ACCESSIBLE AND SAFE PEDESTRIAN WALKWAY THAT MEETS ADA AND MN MUTCD STANDARDS IF WORKING IN A SIDEWALK AREA, AND TRAFFIC CONTROL PER MN MUTCD REQUIREMENTS FOR WORK IN THE PUBLIC RIGHT OF WAY.
- IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE MCWD PROJECT MANAGER IMMEDIATELY.
- ALL CONSTRUCTION TRAFFIC (DAILY OR HAUL ROUTE) SHALL UTILIZE THE ROUTE APPROVED BY THE MCWD AND THE CITY OF MINNETRISTA.
- THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, IN ACCORDANCE WITH THE MN MUTCD, TO THE MCWD PROJECT MANAGER FOR APPROVAL, PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN, OR AFFECTING, THE RIGHT-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, INSPECTING, MAINTAINING AND REMOVING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS, SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE MCWD PROJECT MANAGER AT ALL TIMES.
- DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE MCWD PROJECT MANAGER FOR CLARIFICATION, AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWINGS.
- THE HOURS OF CONSTRUCTION SHALL BE LIMITED TO THOSE DEFINED IN THE CITY OF MINNETRISTA'S ORDINANCES. ANY HOURS OUTSIDE OF THESE MUST BE APPROVED BY THE CITY OF MINNETRISTA AND THE MCWD PROJECT MANAGER.
- ALL REMOVED ITEMS SHALL BECOME THE CONTRACTOR'S PROPERTY TO BE DISPOSED OF IN AN APPROVED MANNER IN ACCORDANCE WITH REGULATION BY THE OWNER AT NO ADDITIONAL EXPENSE TO THE OWNERS, UNLESS SPECIFIED WITHIN THE PLANS.
- ALL EXISTING AND PROPOSED CONTOURS ARE LABELED IN THE NGVD29 DATUM. ALL SLOPES ARE SHOWN AS DIAGRAMMATIC AND SHALL BE ROUNDED AT THE TOP AND BOTTOM, WHICH PROVIDE POSITIVE DRAINAGE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP ON A DAILY BASIS OF ANY TRASH OR MUD ON THE SITE OR ADJACENT STREETS AS A RESULT OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE AND CONTROL OF ALL SURFACE AND SUBSURFACE FLOWS. THE CONTRACTOR SHALL FURTHER BE RESPONSIBLE FOR DAMAGE TO STRUCTURES, LOSS OF TOPSOIL AND LOSS OF SEED CAUSED BY FLOWS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. IN ADDITION, THE CONTRACTOR IS RESPONSIBLE FOR DEWATERING AS NECESSARY TO PERFORM WORK IN DRY CONDITIONS. DEWATERING METHODS SHALL BE SHOWN ON A WATER CONTROL PLAN TO BE SUBMITTED BY THE CONTRACTOR TO THE MCWD PROJECT MANAGER FOR REVIEW PRIOR TO CONSTRUCTION. THE DEWATERING PLAN MUST PREVENT NUISANCE CONDITIONS, EROSION, OR INUNDATION OF WETLANDS. IF USING FILTERS WITH BACKWASH WATER, EITHER HAUL THE BACKWASH WATER AWAY FOR DISPOSAL, RETURN THE BACKWASH WATER TO THE BEGINNING OF THE TREATMENT PROCESS, OR INCORPORATE THE BACKWASH WATER INTO THE SITE IN A MANNER THAT DOES NOT ERODE INTO RUNOFF.
- THE FOLLOWING ITEMS ARE INCIDENTAL TO THE WATER CONTROL & DEWATERING PAY ITEM AND SHALL NOT BE MEASURED OR PAID FOR SEPARATELY: ALL LABOR, MATERIALS, AND EQUIPMENT TIME NECESSARY TO INSTALL, MAINTAIN AND REMOVE ANY WATER CONTROL AND DEWATERING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAVING AND PROTECTING ALL EXISTING TREES AND VEGETATION WHERE REMOVAL FOR CONSTRUCTION IS NOT MANDATORY. TREES TO BE REMOVED ARE NOTED IN THE PLANS. ALL TREES TO BE REMOVED OR RELOCATED WILL BE MARKED BY THE CONTRACTOR AND APPROVED BY THE MCWD PROJECT MANAGER PRIOR TO REMOVAL.
- MATERIALS STORED ON THE SITE WHICH MIGHT CONTRIBUTE POLLUTANTS TO RUNOFF, WILL BE LOCATED IN AN ENCLOSED, COVERED, AND LOCKABLE CONTAINER. THESE MATERIALS ARE EXPECTED TO CONSIST MAINLY OF FERTILIZERS, FUELS, AND MACHINERY LUBRICANTS.
- NON-ERODIBLE WASTE MATERIALS ARE REQUIRED TO BE ENCLOSED IN CONTAINERS TO PREVENT WIND OR WATER DISPERSAL OF THE ITEMS. NON-ERODIBLE MATERIALS INCLUDE PACKAGING MATERIALS, SHIPPING MATERIALS, AND CONSTRUCTION DEBRIS.
- THE CONTRACTOR SHALL RESTORE ACCESS AREAS, TO THEIR ORIGINAL GRADES AND PRE-DISTURBANCE STATE OF VEGETATION. THE COST TO RESTORE THESE AREAS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
- THE CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE MCWD PROJECT MANAGER AND THE DESIGN ENGINEER. THE CONTRACTOR SHALL CONTACT THE MCWD PROJECT MANAGER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- CONSTRUCTION SHALL REMAIN WITHIN THE LIMITS OF CONSTRUCTION BOUNDARY DEFINED IN THE PLANS UNLESS OTHERWISE NOTED.
- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL APPLICABLE LAWS AND REGULATIONS.
- ALL ESTIMATES OF QUANTITIES SHALL BE VERIFIED BY THE CONTRACTOR / SUBCONTRACTOR, WHO SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES AND PROVIDING THE WORK AND MATERIALS AS SHOWN ON THESE PLANS.
- ALL CONSTRUCTION EQUIPMENT, VEHICLE TRAFFIC AND STORAGE AREAS MUST BE LOCATED OUTSIDE OF ANY TREE PROTECTION AREA.
- IF WOUNDING OF SAVED TREES OCCURS, A NON-TOXIC WOUND DRESSING MUST BE APPLIED IMMEDIATELY. (EXCAVATORS MUST HAVE A NON-TOXIC TREE WOUND DRESSING WITH THEM ON CONSTRUCTION SITES.)
- SLOPES AT 4:1 OR STEEPER, AND/OR WHERE INDICATED ON THE PLANS SHALL BE SEEDED AND HAVE A EROSION CONTROL BLANKET INSTALLED.
- THE ORDINARY HIGH WATER LEVEL (OHW) IS AN ELEVATION DELINEATING THE HIGHEST WATER LEVEL THAT HAS BEEN MAINTAINED FOR A SUFFICIENT PERIOD OF TIME TO LEAVE EVIDENCE UPON THE LANDSCAPE, COMMONLY THE POINT WHERE THE NATURAL VEGETATION CHANGES FROM PREDOMINANTLY AQUATIC TO PREDOMINANTLY TERRESTRIAL.
- ADDITIONAL GRADING AND EROSION CONTROL NOTES & REQUIREMENTS ARE INCLUDED IN THE SWPPP SHEET 7.
- PLANTING PLAN NOTES AND SEED MIXES ARE INCLUDED ON SHEET 12.

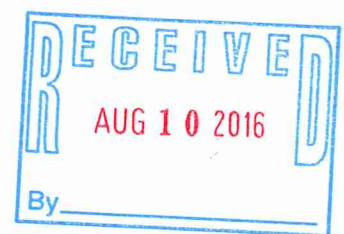
BENCHMARK:
 HORIZONTAL ORIENTATION IS BASED ON HENNEPIN COUNTY COORDINATES. VERTICAL IS BASED ON MNDOT VERTICAL CONTROL POINT 2713 VNGVD29 ELEVATION 968.91

QUANTITIES:

Contract Item Number	Contract Item	Quantity	Unit
1	Mobilization & Demobilization	1	LS
2	Water Control & Dewatering	1	LS
3	Traffic Control	1	LS
4	Construction Surveying	1	LS
5	Clearing & Grubbing	1	LS
6	Remove CMP Pipe	33	LF
7	Earthwork - Cut, Haul Offsite	2370	CY
8	Salvage and Respread Topsoil	605	CY
9	18" RC Pipe Culvert DES 3006 CL III	48.5	LF
10	Inlet/Outlet Structure	1	EA
11	Temporary Rock Construction Entrance	1	EA
12	Wetland Mats	185	LF
13	Storm Drain Inlet Protection	2	EA
14	Silt Fence	225	LF
15	Sediment Control Log (Coir)	100	LF
16	Filler Berm for Culvert Protection	20	LF
17	Silt Curtain	30	LF
18	Temporary Seeding	0.75	AC
19	Seeding (Seed Mix 34-261)	0.50	AC
20	Seeding (Beckmania Syzigachne)	0.25	AC
21	Erosion Control Blanket	1500	SY
22	Mulching, Type 3	2.0	TON
23	Plantings - Big Tooth Aspen	175	EA
24	Plantings - Pussy Willow	175	EA
25	Plantings - Willow Stakes	120	EA
26	Vegetation Enhancement	1	LS
27	Extended Vegetation Maintenance - Year 1	1	LS
28	Extended Vegetation Maintenance - Year 2	1	LS
29	Extended Vegetation Maintenance - Year 3	1	LS

EARTHWORK SUMMARY TABLE:

CUT = 2310 CY
 FILL = 0 CY
 NET = 2310 CY
 NEW ADDITIONAL FLOODPLAIN VOLUME = 1370 CY



LEGEND

PRELIMINARY
NOT FOR CONSTRUCTION

△ BM BENCHMARK
 ← FLOW ARROW
 - - - - - XXXX - - - - - EXISTING MAJOR CONTOURS
 - - - - - EXISTING MINOR CONTOURS
 - - - - - XXXX - - - - - PROPOSED MAJOR CONTOURS
 - - - - - PROPOSED MINOR CONTOURS
 - - - - - ALIGNMENT CENTERLINE
 --- PARCEL
 - - - - - EX EASEMENTS
 - - - - - EX WETLAND BOUNDARY
 - - - - - SUBWATERSHED
 - - - - - EX VEGETATION
 - - - - - EX STORM
 - - - - - EX SANITARY SEWER
 ○ PR SOIL RIPRAP
 ● AMERICAN ELM
 ● EASTERN COTTONWOOD
 ● HACKBERRY
 ● AMERICAN BASSWOOD
 ● WILLOW
 ● BOXELDER
 ● GREEN ASH
 ✕ TREE TO BE REMOVED AS PART OF CONSTRUCTION
 ~~~~~ AREAS OF BUCKTHORN REMOVAL

**ABBREVIATIONS**

AC ACRES  
 ADA AMERICANS WITH DISABILITIES ACT  
 ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS  
 BM BENCHMARK  
 CBMH CATCH BASIN MANHOLE  
 CFS CUBIC FEET PER SECOND  
 CIR CIRCLE  
 CL CENTERLINE  
 CLR CLEAR  
 CMP CORRUGATED METAL PIPE  
 CONC CONCRETE  
 CP CONTROL POINT  
 CY CUBIC YARDS  
 DND DO NOT DISTURB  
 DNR DEPARTMENT OF NATURAL RESOURCES  
 DR DRIVE  
 EA EACH  
 ESMT EASEMENT  
 EL/ELEV ELEVATION  
 EX EXISTING  
 FES FLARED END SECTION  
 FT FEET  
 GIS GEOGRAPHIC INFORMATION SYSTEM  
 HGL HYDRAULIC GRADE LINE  
 HWL HIGH WATER LEVEL  
 IN INCH  
 INV INVERT  
 L LENGTH  
 LF LINEAL FEET  
 LN LANE  
 LS LUMP SUM  
 LT LEFT  
 MAX MAXIMUM  
 MCWD MINNEHAHA CREEK WATERSHED DISTRICT  
 MIN MINIMUM  
 MNDOT MINNESOTA DEPARTMENT OF TRANSPORTATION  
 MUTCD MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES  
 NPDES NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 NTS NOT TO SCALE  
 NWL NORMAL WATER LEVEL  
 OHW ORDINARY HIGH WATER LEVEL  
 PR PROPOSED  
 PVC POLYVINYL CHLORIDE PIPE  
 Q100 100 YEAR PEAK DISCHARGE  
 RCP REINFORCED CONCRETE PIPE  
 ROW RIGHT-OF-WAY  
 RT RIGHT  
 STA STATION  
 STMH STORM MANHOLE  
 SWPPP STORM WATER POLLUTION PREVENTION PLAN  
 SY SQUARE YARDS  
 TBR TO BE REMOVED  
 T.H. TRUNK HIGHWAY  
 TRM TURF REINFORCING MAT  
 TYP TYPICAL  
 W WIDTH  
 W/ WITH  
 WSEL WATER SURFACE ELEVATION  
 YR YEAR

1935 W. COUNTY ROAD B2  
 SUITE 200  
 ROSEVILLE, MN 55113  
 PHONE (651) 305-5275

**RESPEC**

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DESIGNED LDR  
 DRAWN ACT  
 CHECKED LDR  
 DATE 7/14/16

DATE D. ROSEN, P.E.  
 LICENSE # 51071

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**JENNINGS BAY WETLAND RESTORATION / FLOODPLAIN MITIGATION**

**MINNEHAHA CREEK WATERSHED DISTRICT**

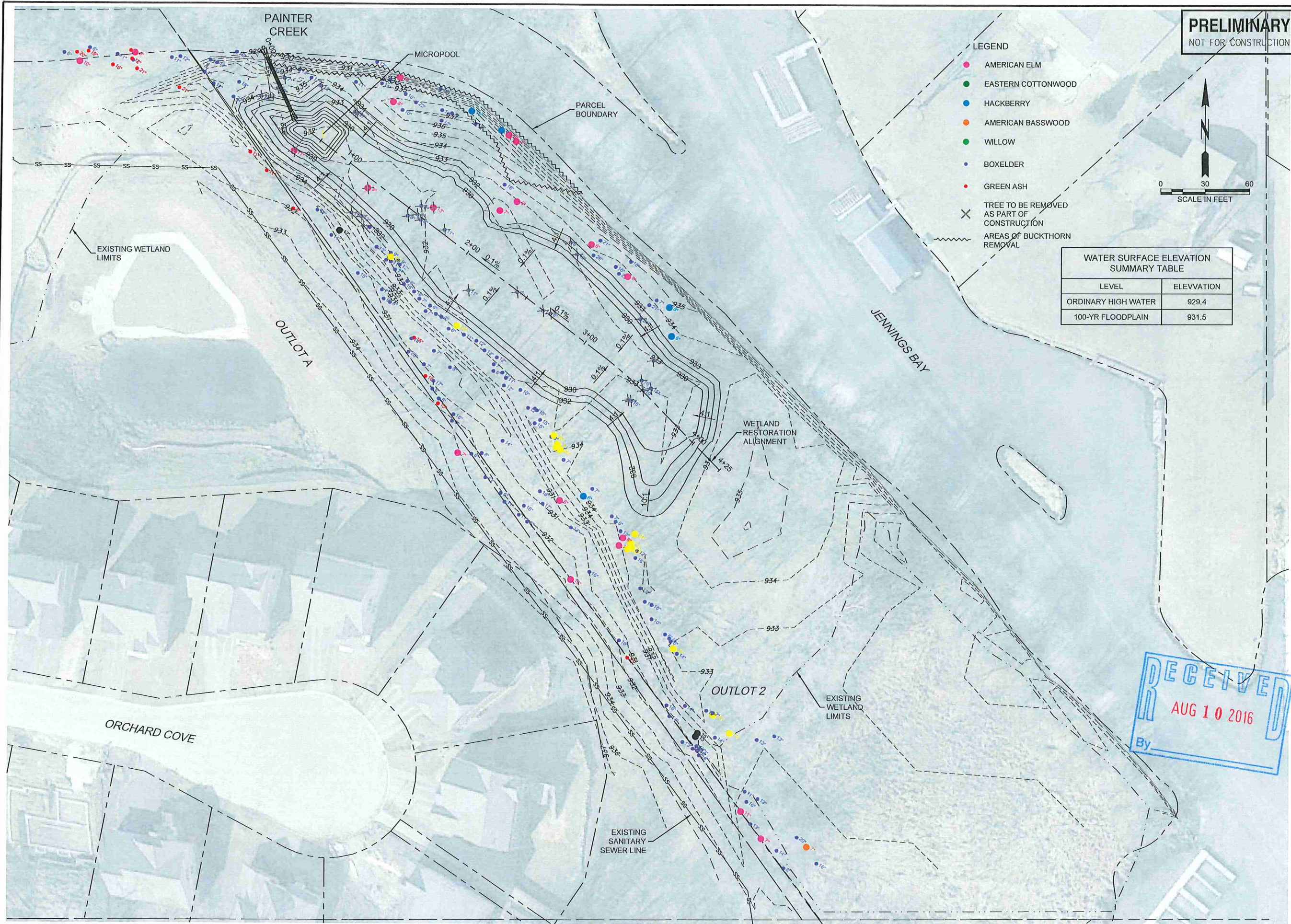
**NOTES & QUANTITIES**

SHEET NUMBER:  
**2**

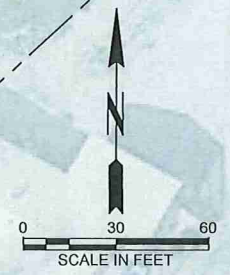
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 PLOT DATE: August 9, 2016 3:18 PM, BY: AMY C. TEIGEN



NAME: Z:\MINNESOTA\2016\JENNINGS BAY\CAD\SHETS\02035-SITE PLAN.DWG  
 PLOT DATE: August 9, 2016 3:27 PM, BY: AMY C. TEIGEN



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 SUITE 200  
 ROSSELLE, MN 55113  
 PHONE (651) 305-2275

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**MINNEHAHA CREEK**  
 WATERSHED DISTRICT

JENNINGS BAY  
 WETLAND  
 RESTORATION /  
 FLOODPLAIN  
 MITIGATION

OVERALL SITE PLAN

SHEET NUMBER:  
**3**

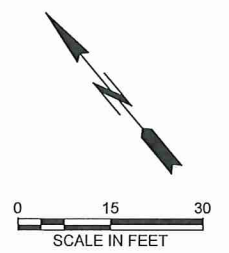
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 By

| WETLAND RESTORATION ALIGNMENT |         |         |                      |       |
|-------------------------------|---------|---------|----------------------|-------|
| NUMBER                        | LENGTH  | RADIUS  | LINE/CHORD DIRECTION | DELTA |
| L1                            | 53.58'  |         | S24° 51' 13.92"E     |       |
| L2                            | 265.01' |         | S53° 04' 19.90"E     |       |
| C1                            | 30.93'  | 200.00' | S48° 38' 31.68"E     | 8.86° |
| L3                            | 75.48'  |         | S44° 12' 43.45"E     |       |

JENNINGS BAY ALIGNMENT FROM BM X' AT A BEARING OF N X° XX' XX" W TO THE POINT OF BEGINNING STATION 0+00.

- LEGEND
- AMERICAN ELM
  - EASTERN COTTONWOOD
  - HACKBERRY
  - AMERICAN BASSWOOD
  - WILLOW
  - BOXELDER
  - GREEN ASH
  - ✕ TREE TO BE REMOVED AS PART OF CONSTRUCTION
  - ~~~~~ AREAS OF BUCKTHORN REMOVAL

**PRELIMINARY**  
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| REVISION |         |
|----------|---------|
| DESIGNED | LDR     |
| DRAWN    | ACT     |
| CHECKED  | LDR     |
| DATE     | 7/14/16 |

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DESIGNED: D. ROSEN, P.E.  
LICENSE # 51071



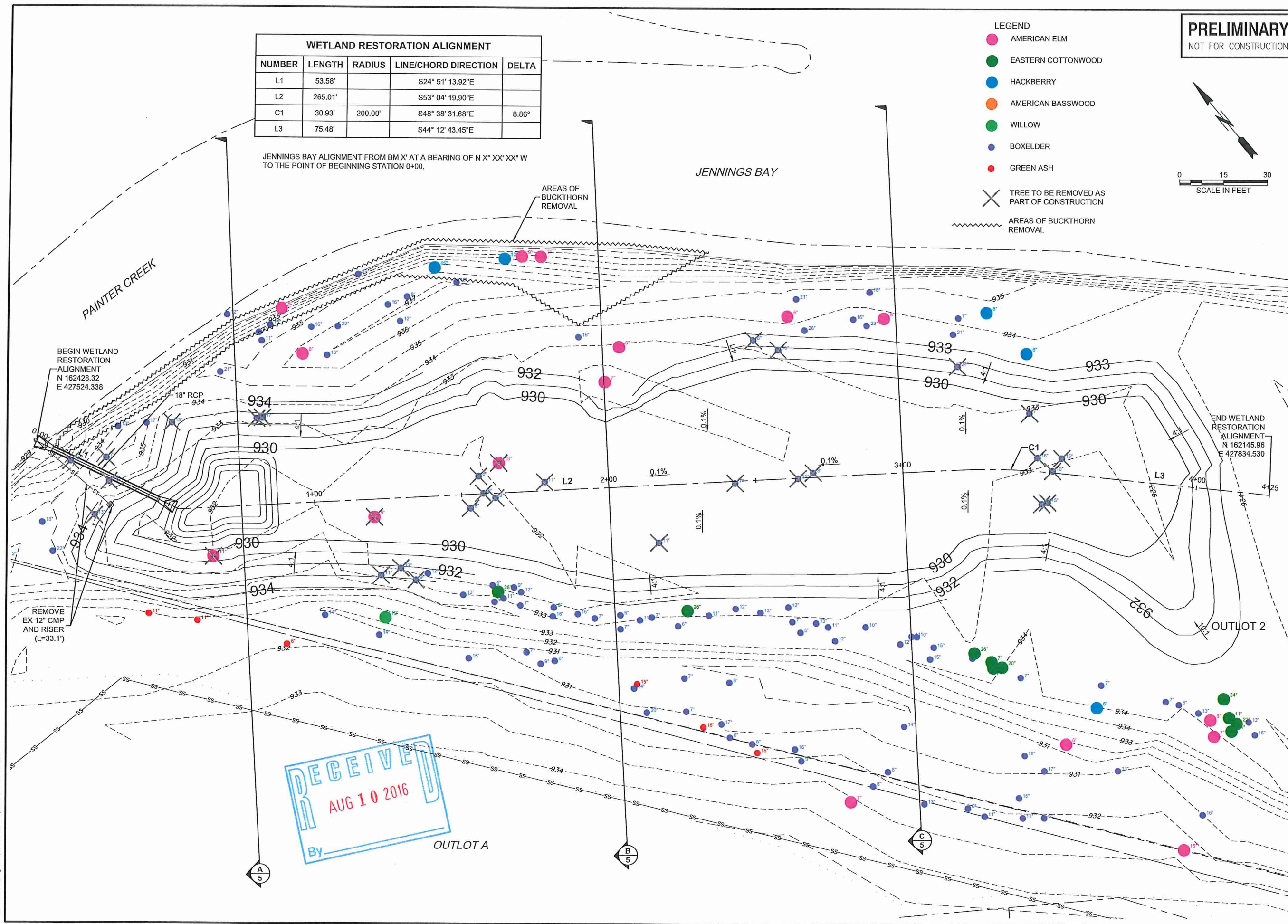
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www.minnetonkacreek.org



JENNINGS BAY  
WETLAND  
RESTORATION /  
FLOODPLAIN  
MITIGATION

HORIZONTAL CONTROL  
& GRADING PLAN

SHEET NUMBER:  
**4**



NAME: Z:\MINNESOTA\02935 JENNINGS BAY\CAD\SHSHEET\02935-CONTROL.DWG  
PLOT DATE: August 9, 2016 3:27 PM, BY: AMY C. TEIGEN

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SUITE 200  
ROSENDALE, MN 55113  
PHONE (951) 305-2275

**RESPEC**

| DESIGNED | LDR | ACT | DATE    |
|----------|-----|-----|---------|
| DRAWN    | LDR | LDR | 7/14/15 |
| CHECKED  | LDR | LDR |         |

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DATE: 7/14/15  
DESIGNED BY: D. ROSEN, P.E.  
LICENSE # 51071



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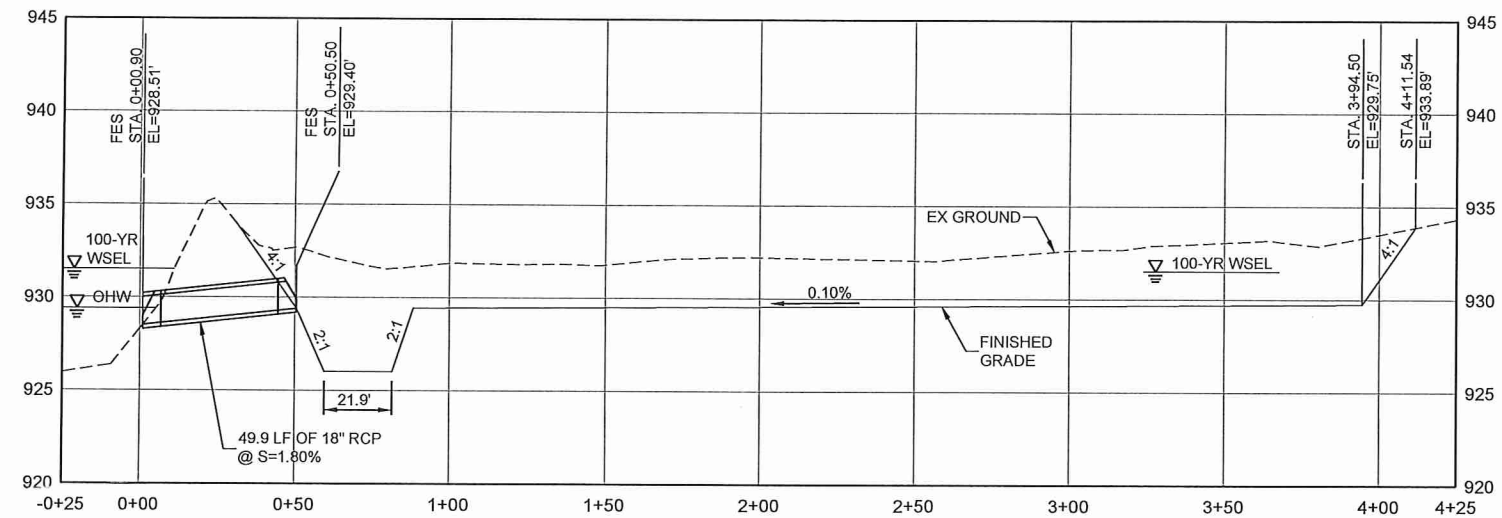


JENNINGS BAY  
WETLAND  
RESTORATION /  
FLOODPLAIN  
MITIGATION

PROFILE & SECTIONS

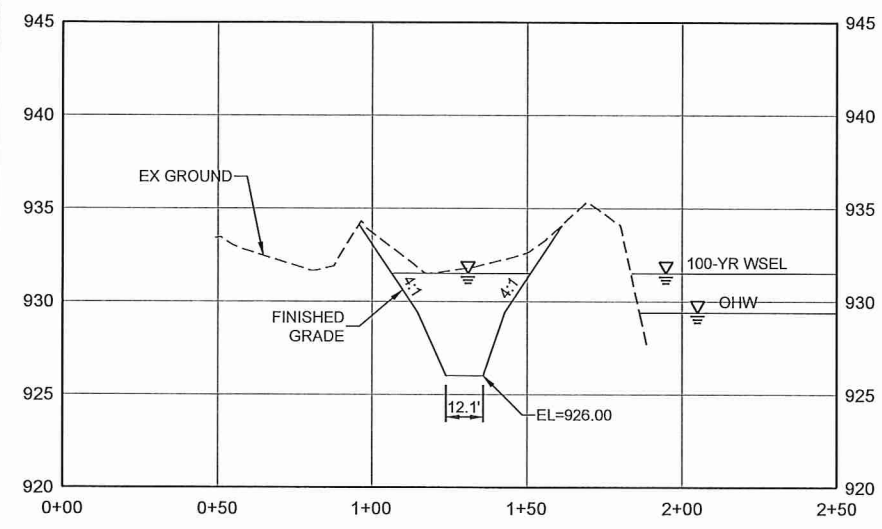
SHEET NUMBER:  
**5**

WETLAND RESTORATION PROFILE  
HORIZ. SCALE: 1" = 30'  
VERT. SCALE: 1" = 5'

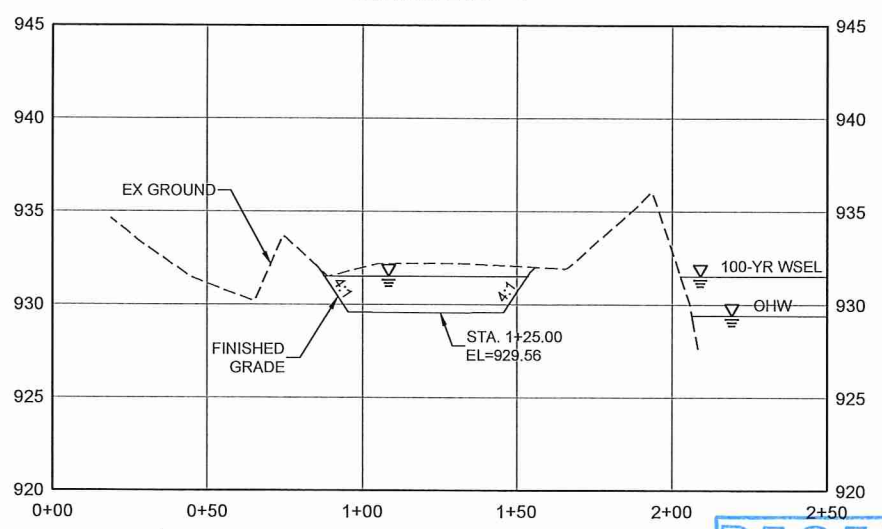


NOTE:  
OHW = 929.40'  
100-YR WSEL = 931.50'

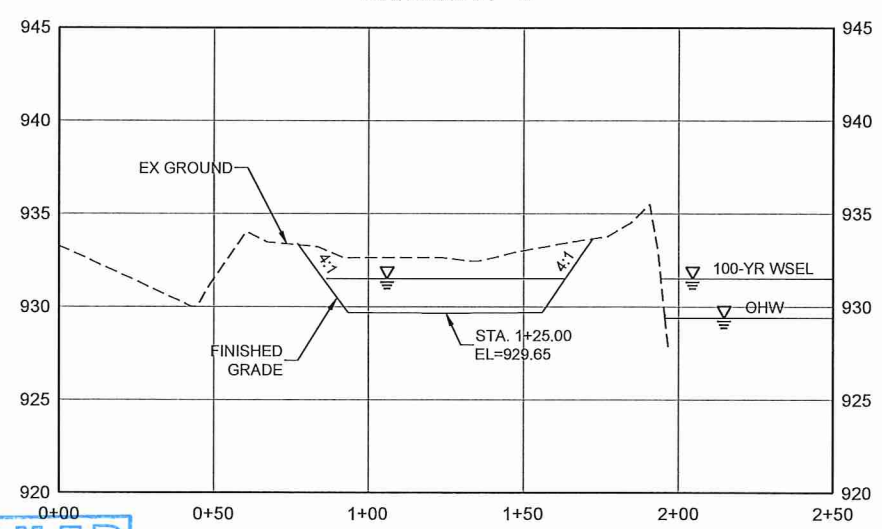
SECTION A PROFILE  
HORIZ. SCALE: 1" = 30'  
VERT. SCALE: 1" = 5'



SECTION B PROFILE  
HORIZ. SCALE: 1" = 30'  
VERT. SCALE: 1" = 5'



SECTION C PROFILE  
HORIZ. SCALE: 1" = 30'  
VERT. SCALE: 1" = 5'



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AUG 10 2016  
By \_\_\_\_\_

NAME: Z:\MINNESOTA\02935 JENNINGS BAY\CAD\SHSHEETS\02935-SECTIONS.DWG  
PLOT DATE: August 9, 2016 3:28 PM, BY: AMY C. TEIGEN

NAME: Z:\MINNESOTA\02935 JENNINGS BAY\CAD\SHETS\02935-DETAILS.DWG  
 PLOT DATE: August 9, 2016 3:28 PM, BY: AMY C. TEIGEN

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 NOT FOR CONSTRUCTION

|                                                                                                                                                                                                           |              |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|
| 1895 W. COUNTY ROAD B2<br>SUITE 200<br>ROSELLE, MN 55113<br>PHONE (651) 305-2275                                                                                                                          |              | REVISION        |
| <b>RESPEC</b>                                                                                                                                                                                             | DESIGNED LDR |                 |
|                                                                                                                                                                                                           | DRAWN ACT    |                 |
|                                                                                                                                                                                                           | CHECKED LDR  |                 |
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| DATE                                                                                                                                                                                                      | D. ROSEN,    | P.E.            |
|                                                                                                                                                                                                           |              | LICENSE # 51071 |



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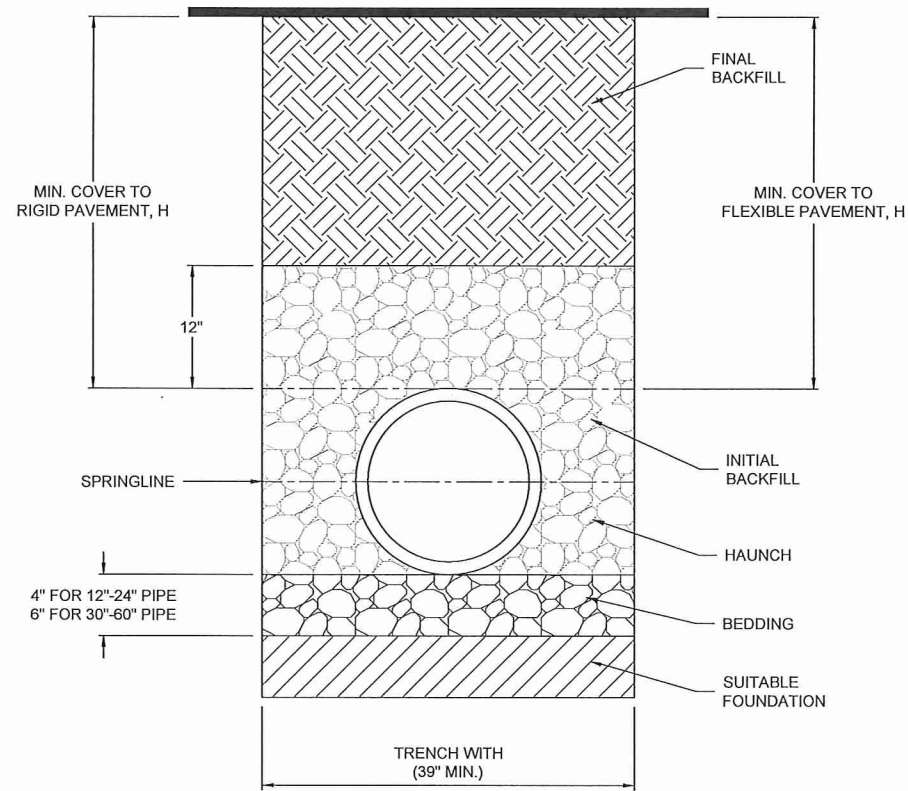
JENNINGS BAY  
 WETLAND  
 RESTORATION /  
 FLOODPLAIN  
 MITIGATION

DETAILS

SHEET NUMBER:  
**6**

**INSTALLATION NOTES**

1. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE AND REPLACE WITH SUITABLE MATERIAL, WITH APPROVAL OF THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: THE CONTRACTOR SHALL PROVIDE SUITABLE MATERIAL AND DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER.
5. INITIAL BACKFILL: SUITABLE MATERIAL IN THE PIPE ZONE SHALL EXTEND NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.



**PIPE IN TRENCH DETAIL**  
 NTS



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CHECKED: LDR  
DATE: 7/14/16

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DATE: 7/14/16  
D. ROSEN, P.E.  
LICENSE # 5107

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**JENNINGS BAY WETLAND RESTORATION / FLOODPLAIN MITIGATION**

**STORM WATER POLLUTION PREVENTION PLAN**

SHEET NUMBER:  
**7**

**STORMWATER POLLUTION PREVENTION PLAN (SWPPP):**

**PROJECT DESCRIPTION:**

THE JENNINGS BAY WETLAND RESTORATION PROJECT WILL PROVIDE ADDITIONAL FLOODPLAIN STORAGE, AN ENHANCED FLOODPLAIN FOREST, AND BOOST THE FUNCTIONAL RATING OF THE EXISTING WETLAND ON A PROPERTY OWNED BY THE CITY OF MINNETONKA. THE PROJECT SITE IS LOCATED IN THE CITY OF MINNETONKA NEAR THE NEWLY CONSTRUCTED ORCHARD COVE DEVELOPMENT AT COUNTY ROAD 110N AND ORCHARD COVE AND IS ADJACENT TO PAINTER CREEK AND LAKE MINNETONKA'S JENNINGS BAY. THE PROPOSED PROJECT WILL CONSIST PRIMARILY OF EARTHWORK AND ESTABLISHING VEGETATION WITH AN IMPROVED INLET/OUTLET STRUCTURE.

**ROLES & RESPONSIBILITIES:**

OWNER: MINNEHAHA CREEK WATERSHED DISTRICT  
OWNER REPRESENTATIVE: TIFFANY SCHAUFLER, MINNEHAHA CREEK WATERSHED DISTRICT  
PROJECT ENGINEER: LEE ROSEN, P.E., RESPEC CONSULTING AND SERVICES  
SWPPP DESIGNER: LEE ROSEN, P.E., RESPEC CONSULTING AND SERVICES  
PROJECT CONTRACTOR: \_\_\_\_\_ (TO BE DETERMINED)  
EROSION CONTROL SUPERVISOR: \_\_\_\_\_ (TO BE DETERMINED)  
CERTIFIED INSTALLER(S): \_\_\_\_\_ (TO BE DETERMINED)  
CONTRACTOR WILL PROVIDE THE EROSION CONTROL SUPERVISOR (ECS) IN ACCORDANCE WITH THE MNDOT SPECIFICATION 2573.3 A1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST PROVIDE DOCUMENTATION THAT SHOWS THE EROSION CONTROL SUPERVISOR HAS MET THE TRAINING REQUIREMENTS OF THE NPDES PERMIT. THE CONTRACTOR MUST ALSO IDENTIFY AND PROVIDE DOCUMENTATION OF AT LEAST ONE CERTIFIED EROSION CONTROL INSTALLER THAT WILL BE ASSIGNED TO THIS PROJECT.  
LONG TERM MAINTENANCE: MINNEHAHA CREEK WATERSHED DISTRICT

**PROPOSED SCHEDULE:**

CONSTRUCTION START DATE: FALL 2016  
FINAL COMPLETION DATE: WINTER 2016  
LONG TERM MAINTENANCE: A MINIMUM OF 3 YEARS AFTER COMPLETION DATE

**PROPOSED SEQUENCING:**

1. INSTALLATION OF INITIAL SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) AS SHOWN ON THE PLANS.
2. IMPLEMENT INTERIM EROSION CONTROL BMPs AS WORK IS BEING COMPLETE.
3. CLEARING AND GRUBBING.
4. REMOVAL OF THE OUTLET STRUCTURE.
5. GRADING OPERATIONS (CUT, HAUL OFFSITE).
6. INSTALLATION OF OUTLET STRUCTURE.
7. FINAL STABILIZATION AND PLANTINGS.
8. REMOVAL OF BMPs.
9. LONG TERM MAINTENANCE.

**AREA OF DISTURBANCE & IMPERVIOUS SURFACES:**

TOTAL AREA OF CONSTRUCTION SITE: 1.9 ACRES  
TOTAL AREA OF SEEDING: 1.9 ACRES  
PRE-CONSTRUCTION IMPERVIOUS AREA: 0.0  
POST-CONSTRUCTION IMPERVIOUS AREA: 0.0

**EXISTING SOIL DATA:**

THE SOIL ON THE SITE CONSISTS OF MUSKEGO, BLUE EARTH, AND HOUGHTON SOILS, PONDED WITH 0 TO 1 PERCENT SLOPES, CLASSIFIED AS TYPE B/D SOILS PER THE USDA NRCS WEB SOIL SURVEY. BORINGS FROM THE SITE AS PART OF A WETLAND DELINEATION INDICATE LOAMY SOIL WITH SOME ORGANIC MATTER UP TO A DEPTH OF 4 FT.

**EXISTING VEGETATION:**

THE EXISTING SITE OUTSIDE OF THE TYPE 3/4 WETLAND CONSISTS OF A FLOODPLAIN FOREST. THE SITE CONTAINS DESIRABLE TREE SPECIES SUCH AS HACKBERRY, AMERICAN ELM, AND SLIPPERY ELM. HOWEVER, THE SITE ALSO CONTAINS SPECIES SUCH AS GARLIC MUSTARD, BUCKTHORN, GROUND IVY AND OTHER LESS DESIRABLE TREE SPECIES SUCH AS BOX ELDER AND GREEN ASH.

**RECEIVING WATER:**

THE PROJECT INVOLVES PAINTER CREEK AND LAKE MINNETONKA'S JENNING BAY, WHICH IS THE RECEIVING WATER FOR ANY RUNOFF FROM THE SITE. LAKE MINNETONKA-JENNINGS BAY IS A SPECIAL AND IMPAIRED BODY OF WATER AND THEREFORE APPENDIX A REQUIREMENTS WILL APPLY ON THIS PROJECT.

**STORMWATER DISCHARGE DESIGN REQUIREMENTS:**

THIS PROJECT DOES NOT ADD ANY IMPERVIOUSNESS. DETAILED PLANTING PLANS AND SEED MIXES ARE INCLUDED IN THE PLAN SET TO ENHANCE VEGETATION WITHIN THE PROJECT AREA TO IMPROVE WATER QUALITY AND PROVIDE HABITAT.

**CONSTRUCTION ACTIVITY REQUIREMENTS:**

PERIMETER CONTROLS AND OTHER INITIAL BMPs SHALL BE INSTALLED AND APPROVED BY THE MCWD PROJECT MANAGER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE PROPOSED LOCATIONS OF THE BMPs FOR THE INITIAL, INTERIM AND FINAL STAGES OF CONSTRUCTION ARE INCLUDED IN THE PLAN SET. ADDITIONAL BMPs MAY BE REQUIRED TO MAINTAIN COMPLIANCE BASED ON THE MEANS AND METHODS OF THE CONTRACTOR AND SHALL BE INSTALLED TO MEET NPDES PERMIT REQUIREMENTS. IN SOME CASES, MULTIPLE APPLICATIONS OF BMPs MAY BE NECESSARY. THE BMPs SHALL BE INSTALLED ACCORDING TO THE EROSION CONTROL DETAILS INCLUDED WITHIN THE PLAN SET OR IF NOT AVAILABLE, THE MNDOT STANDARD PLANS AND SPECIFICATIONS. ALL WORK IS TO BE COMPLETED IN COMPLIANCE WITH THE DNR'S BEST PRACTICES MANUAL FOR MEETING DNR GENERAL PUBLIC WATERS WORK PERMIT GP 2004-0001. THE SWPPP QUANTITIES ARE SPECIFICALLY BROKEN OUT WITHIN THE OVERALL QUANTITIES.

**INSPECTION AND RECORD KEEPING NOTES:**

1. THE SWPPP MUST BE KEPT AT THE SITE DURING CONSTRUCTION AND INCLUDE ALL CHANGES, INSPECTIONS AND MAINTENANCE RECORD.
2. THE EROSION CONTROL SUPERVISOR SHALL ROUTINELY INSPECT THE ENTIRE CONSTRUCTION SITE AT LEAST ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. FOLLOWING AN INSPECTION THAT OCCURS WITHIN 24 HOURS AFTER A RAINFALL EVENT, THE NEXT INSPECTION MUST BE CONDUCTED WITHIN SEVEN (7) DAYS AFTER THE RAINFALL EVENT. RAINFALL AMOUNTS MUST BE OBTAINED BY A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ON SITE OR BY A WEATHER STATION LOCATED WITHIN ONE MILE OF THE SITE OR BY A WEATHER REPORTING SYSTEM.
3. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION MUST BE RECORDED WITHIN 24 HOURS IN WRITING AND SHALL INCLUDE:
  - a. DATE AND TIME OF INSPECTIONS
  - b. NAME OF PERSON(S) CONDUCTING INSPECTIONS
  - c. FINDINGS OF INSPECTIONS, INCLUDING THE SPECIFIC LOCATION WHERE CORRECTIVE ACTIONS ARE NEEDED
  - d. CORRECTIVE ACTIONS TAKEN (INCLUDING DATES, TIMES, AND PARTY COMPLETING MAINTENANCE ACTIVITIES)
  - e. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 1/2 INCH (0.5 INCHES) IN 24 HOURS. RAINFALL AMOUNTS MUST BE OBTAINED BY A PROPERLY MAINTAINED RAIN GAUGE INSTALLED ONSITE, OR BY A WEATHER STATION THAT IS WITHIN ONE MILE OR BY A WEATHER REPORTING SYSTEM.
  - f. IF ANY DISCHARGE IS OBSERVED TO BE OCCURRING DURING THE INSPECTION, A RECORD OF ALL POINTS OF THE PROPERTY FROM WHICH THERE IS A DISCHARGE MUST BE MADE, AND THE DISCHARGE SHOULD BE DESCRIBED (I.E., COLOR, ODOR, FLOATING, SETTLED, OR SUSPENDED SOLIDS, FOAM, OIL SHEEN, AND OTHER OBVIOUS INDICATORS OF POLLUTANTS) AND PHOTOGRAPHED.
  - g. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED AS REQUIRED IN PART III.B. WITHIN SEVEN (7) CALENDAR DAYS.
4. ANY AMENDMENTS TO THE SWPPP SHALL BE APPROVED BY THE PROJECT ENGINEER.

**BMP INSTALLATION AND MAINTENANCE NOTES:**

1. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CITY, WATERSHED DISTRICT AND N.P.D.E.S. PERMITS.
2. STABILIZATION MUST BE INITIATED IMMEDIATELY TO LIMIT SOIL EROSION WHENEVER ANY CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION MUST BE COMPLETED NO LATER THAN 14 CALENDAR DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.
3. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES BOTH ON AND OFF SITE WITHIN 24 HOURS OF DISCOVERY. STREET SWEEPING SHALL BE REQUIRED IF VEHICLE TRACKING BMPs ARE NOT ADEQUATE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE STREET.
4. ALL PERIMETER CONTROL DEVICES MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WHEN THEY BECOME NONFUNCTIONAL OR THE SEDIMENT REACHES ONE-HALF (1/2) OF THE HEIGHT OF THE DEVICE. THESE REPAIRS MUST BE MADE BY THE END OF THE NEXT BUSINESS DAY AFTER DISCOVERY, OR THEREAFTER AS SOON AS FIELD CONDITIONS ALLOW ACCESS.
5. SURFACE WATERS MUST BE INSPECTED FOR EVIDENCE OF EROSION AND SEDIMENT DEPOSITION DURING EACH INSPECTION. THE REMOVAL AND STABILIZATION MUST TAKE PLACE WITHIN SEVEN (7) DAYS OF DISCOVERY UNLESS PRECLUDED BY LEGAL, REGULATORY, OR PHYSICAL ACCESS CONSTRAINTS.
6. ANY EXCESS SEDIMENT IN PROPOSED BASINS SHALL BE REMOVED BY THE CONTRACTOR.
7. STORM DRAIN INLET PROTECTION SHALL BE REQUIRED FOR ALL CATCH BASINS IMMEDIATELY ADJACENT TO AND DOWNSTREAM OF THE WORK, AND SHALL BE INSTALLED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT STORM DRAIN INLET PROTECTION EVERY 7 DAYS AND WITHIN 24 HOURS AFTER EVERY RAIN EVENT. CONTRACTOR SHALL REPLACE OR CLEAN IF IT BECOMES NONFUNCTIONAL. CONTRACTOR SHALL CLEAN SUMP IF SEDIMENT IS WITHIN 12 INCHES OF OUTLET PIPE.

**POLLUTION PREVENTION MANAGEMENT MEASURES:**

1. PRODUCTS THAT HAVE THE POTENTIAL TO LEACH POLLUTANTS MUST BE UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) TO PREVENT THE DISCHARGE OF POLLUTANTS OR PROTECTED BY A SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
2. PESTICIDES, HERBICIDES, INSECTICIDES, FERTILIZERS, TREATMENT CHEMICALS, AND LANDSCAPE MATERIALS MUST BE UNDER COVER (E.G., PLASTIC SHEETING OR TEMPORARY ROOFS) TO PREVENT THE DISCHARGE OF POLLUTANTS OR PROTECTED BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.
3. HAZARDOUS MATERIALS, TOXIC WASTE, (INCLUDING OIL, DIESEL FUEL, GASOLINE, HYDRAULIC FLUIDS, PAINT SOLVENTS, PETROLEUM-BASED PRODUCTS, WOOD PRESERVATIVES, ADDITIVES, CURING COMPOUNDS, AND ACIDS) MUST BE PROPERLY

STORED IN SEALED CONTAINERS TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE OR HAZARDOUS MATERIALS MUST BE IN COMPLIANCE WITH MINN. R. CH. 7045 INCLUDING SECONDARY CONTAINMENT AS APPLICABLE.

4. SOLID WASTE MUST BE STORED, COLLECTED AND DISPOSED OF PROPERLY IN COMPLIANCE WITH MINN. R. CH. 7035.

5. PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER. SANITARY WASTE MUST BE DISPOSED OF PROPERLY IN ACCORDANCE WITH MINN. R. CH. 7041.

6. FUELING SHALL BE CONDUCTED IN A CONTAINED AREA UNLESS INFEASIBLE. THE CONTRACTOR SHALL TAKE REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS, INCLUDING FUEL, FROM ANY AREA WHERE CHEMICALS OR FUEL WILL BE LOADED OR UNLOADED INCLUDING THE USE OF DRIP PANS OR ABSORBENTS UNLESS INFEASIBLE.

7. TRUCK AND CONSTRUCTION VEHICLE WASHING IS PROHIBITED ON SITE. ENGINE DEGREASING IS ALSO PROHIBITED ON SITE.

**SPILL RESPONSE MEASURES:**

1. ADEQUATE SUPPLIES, INCLUDING A SPILL KIT, SHALL BE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS AND THAT AN APPROPRIATE DISPOSAL METHOD IS AVAILABLE FOR RECOVERED SPILLED MATERIALS.

2. ALL WORK ON THE SITE SHALL CEASE ON THE SITE UNTIL ADEQUATE CLEANUP HAS BEEN ACHIEVED.

3. SPILLS MUST BE REPORTED TO THE OWNER, PROJECT ENGINEER, AND THE STATE DUTY OFFICER (1-800-422-0798) AND CLEANED UP IMMEDIATELY AS REQUIRED BY MINN. STAT. § 115.061.

4. DRY CLEAN UP MEASURES SHALL BE USED WHERE POSSIBLE.

**PERMIT CLOSEOUT:**

1. ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND ALL SOILS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70 PERCENT OF ITS EXPECTED FINAL GROWTH DENSITY OVER THE ENTIRE PERVIOUS SURFACE AREA, OR OTHER EQUIVALENT MEANS NECESSARY TO PREVENT SOIL FAILURE UNDER EROSION.

2. THE PERMANENT STORMWATER MANAGEMENT SYSTEM IS CONSTRUCTED, MEETS ALL REQUIREMENTS AND IS OPERATING AS DESIGNED. TEMPORARY OR PERMANENT SEDIMENTATION BASINS THAT ARE TO BE USED AS PERMANENT WATER QUALITY MANAGEMENT BASINS HAVE BEEN CLEANED OF ANY ACCUMULATED SEDIMENT. ALL SEDIMENT HAS BEEN REMOVED FROM CONVEYANCE SYSTEMS AND DITCHES ARE STABILIZED WITH PERMANENT COVER.

3. ALL TEMPORARY SYNTHETIC AND STRUCTURAL BMPs (SUCH AS SILT FENCE) SHALL BE REMOVED FROM THE SITE. BMPs DESIGNED TO DECOMPOSE ON SITE (SUCH AS SOME COMPOST LOGS) MAY BE LEFT IN PLACE.

4. ANY SEDIMENT REMAINING IN PLACE AFTER THE EROSION CONTROL DEVICE IS NO LONGER REQUIRED SHALL BE REMOVED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED WITH THE APPROPRIATE SEED MIX AS DIRECTED BY THE OWNER.

5. SUBMIT THE NOTICE OF TERMINATION (NOT) TO THE MPCA.

6. A COPY OF ALL DOCUMENTS RELATED TO THE SWPPP MUST BE RETAINED FOR A PERIOD OF AT LEAST THREE YEARS AFTER COMPLETION OF THE PROJECT.

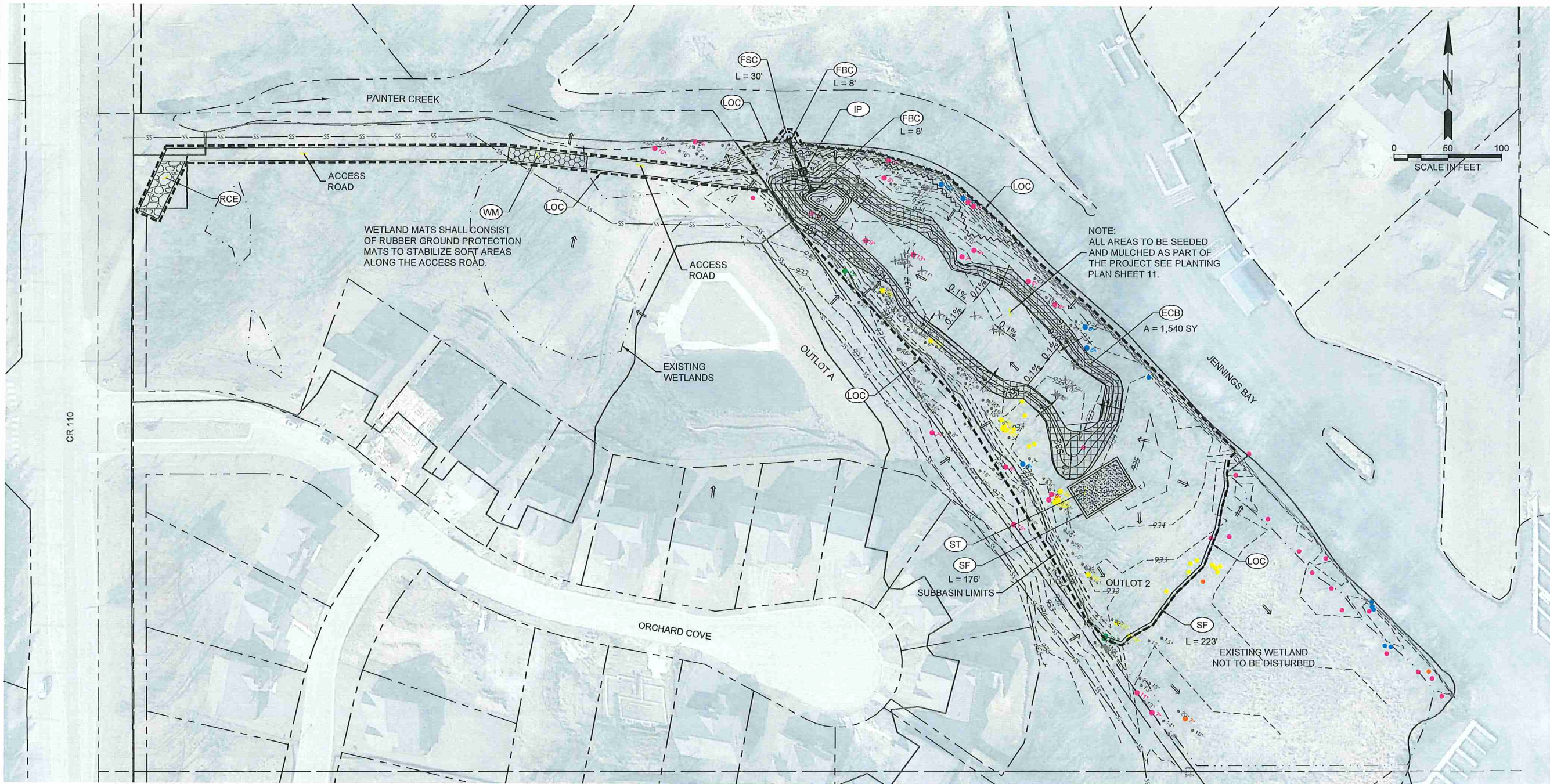
**OTHER DOCUMENTS:**

THE DESIGN MANUAL AND PROJECT SPECIFICATIONS ARE HEREBY INCLUDED AS PART OF THIS SWPPP.



NAME: Z:\MINNESOTA\2016\JENNINGS BAY\CAD\SHHEETS\02935-SWPPP.DWG  
PLOT DATE: August 9, 2016 3:29 PM, BY: AMY C. TEIGEN

**PRELIMINARY**  
NOT FOR CONSTRUCTION



CR 110

**LEGEND**

- FLOW ARROW
- (FSC) FLOATING SILT CURTAIN
- (ECB) EROSION CONTROL BLANKET
- (IP) INLET PROTECTION
- (LOC) LIMITS OF CONSTRUCTION
- (FBC) FILTER BERM FOR CULVERT PROTECTION (TYPE 3 ROCK WEEPER)
- (SF) SILT FENCE
- (ST) STOCKPILE TOPSOIL
- (WM) WETLAND MATS
- (RCE) ROCK CONSTRUCTION ENTRANCE



1935 W. COUNTY ROAD B2  
SUITE 230  
ROSEVILLE, MN 55113  
PHONE (651) 305-2275

**RESPEC**

DESIGNED LDR  
DRAWN ACT  
CHECKED LDR  
DATE 7/14/16

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LEE D. ROSEN, P.E.  
LICENSE # 51071



15320 MINNETONKA BLVD.  
MINNETONKA, MN 55345  
(952) 471-0990  
www.minnehahacreek.org



JENNINGS BAY  
WETLAND  
RESTORATION /  
FLOODPLAIN  
MITIGATION

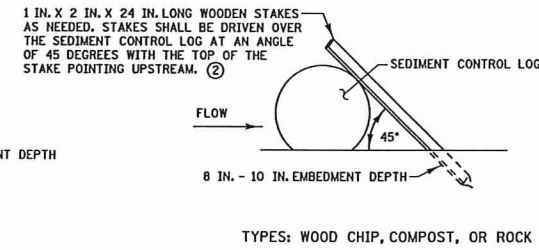
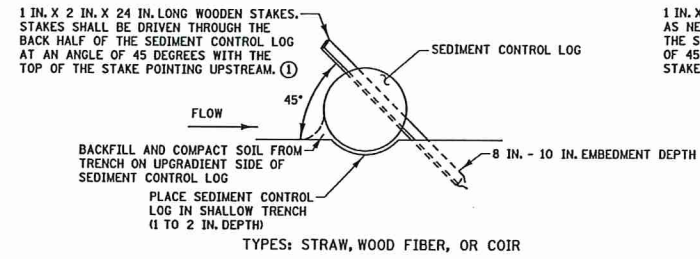
EROSION CONTROL  
PLAN

SHEET NUMBER:  
**8**

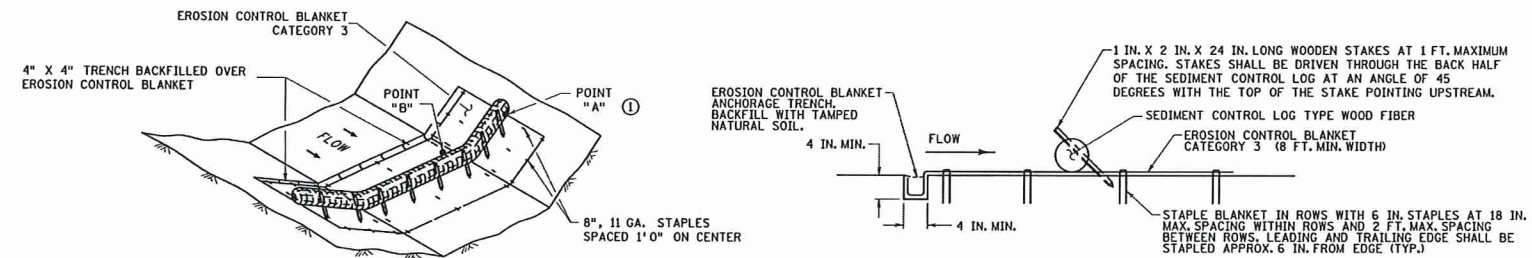
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PLOT DATE: August 9, 2016 3:25 PM, BY: AMY C. TEIGEN

**PRELIMINARY**  
NOT FOR CONSTRUCTION

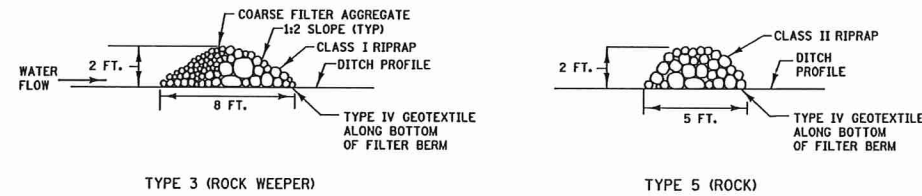
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|------------------------------------------------------------------------------------|--------------|
| 1935 W. COUNTY ROAD B2<br>SUITE 230<br>ROSEVILLE, MN 55113<br>PHONE (651) 305-2275 |              |
| <b>RESPEC</b>                                                                      | DESIGNED LDR |
|                                                                                    | DRAWN ACT    |
|                                                                                    | CHECKED LDR  |
|                                                                                    | DATE 7/14/15 |
|                                                                                    | REVISION     |



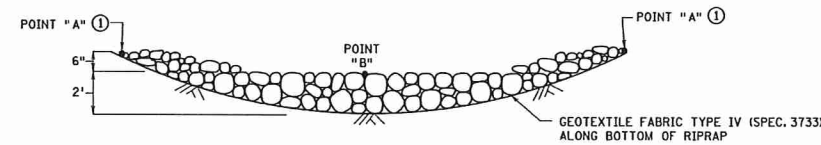
**SEDIMENT CONTROL LOGS**  
SCALE: NTS



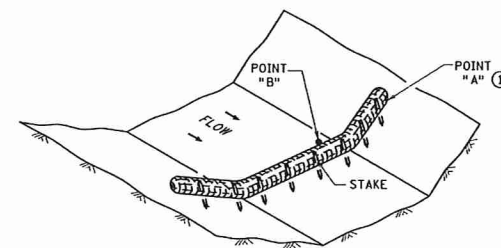
**SEDIMENT CONTROL LOG TYPE BLANKET SYSTEM**  
SCALE: NTS



**FILTER BERMS**  
SCALE: NTS

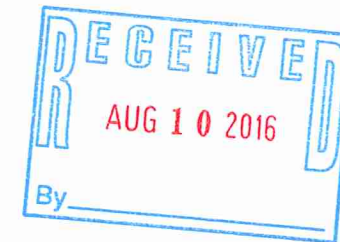


**ROCK DITCH CHECKS**  
FILTER BERMS TYPE 3 (ROCK WEEPER) OR FILTER TYPE 5 (ROCK) ② ③  
SCALE: NTS



**SEDIMENT CONTROL LOG TYPE WOOD FIBER, OR TYPE COMPOST**  
SCALE: NTS

- ① POINT "A" MUST BE A MINIMUM OF 6 INCHES HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
- ② PERMANENT ROCK DITCH CHECKS PLACED WITHIN THE CLEAR ZONE ARE TO BE 18" OR LESS IN HEIGHT. A 1:6 APPROACH AND DEPARTURE SLOPE SHALL BE PROVIDED.
- ③ DITCH GRADE 3% - 5%, MAX. FLOW VELOCITY 12 FT./SEC..
- ④ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 4.5 FT./SEC..
- ⑤ DITCH GRADE 1.5% - 3%, MAX. FLOW VELOCITY 1.5 FT./SEC..



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 7/14/15

DESIGNED LDR

DRAWN ACT

CHECKED LDR

DATE 7/14/15

REVISION



15320 MINNETONKA BLVD.  
MINNETONKA, MN 55345  
(952) 471-0590  
www.minnehahacreek.org



JENNINGS BAY  
WETLAND  
RESTORATION /  
FLOODPLAIN  
MITIGATION

EROSION DETAILS  
(1 OF 2)

SHEET NUMBER:  
**9**

**PRELIMINARY**  
NOT FOR CONSTRUCTION

1835 W. COUNTY ROAD B2  
SUITE 230  
ROSEVILLE, MN 55113  
PHONE (651) 305-2275

**RESPEC**

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DESIGNED LDR  
DRAWN ACT  
CHECKED LDR  
DATE 7/14/16

D. ROSEN, P.E.  
DATE

811  
Know what's below.  
Call before you dig.

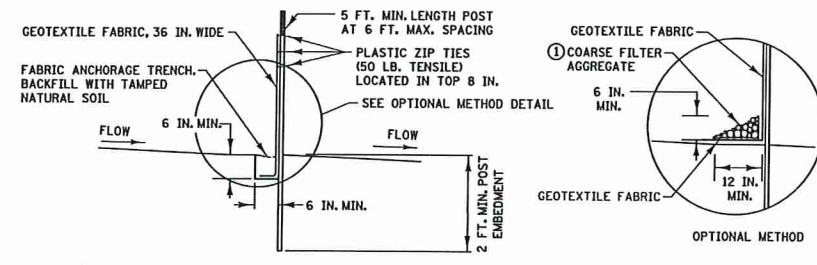
15320 MINNETONKA BLVD.  
MINNETONKA, MN 55345  
(952) 471-0590  
www.minnetonkacreek.org

MINNEHAHA CREEK  
WATERSHED DISTRICT

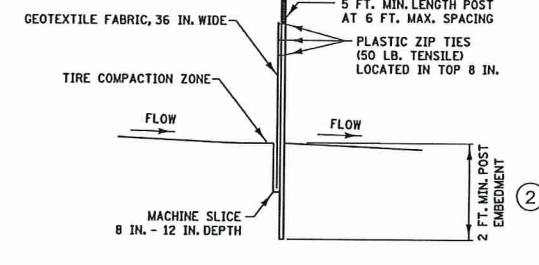
JENNINGS BAY  
WETLAND  
RESTORATION /  
FLOODPLAIN  
MITIGATION

EROSION DETAILS  
(2 OF 2)

SHEET NUMBER:  
**10**

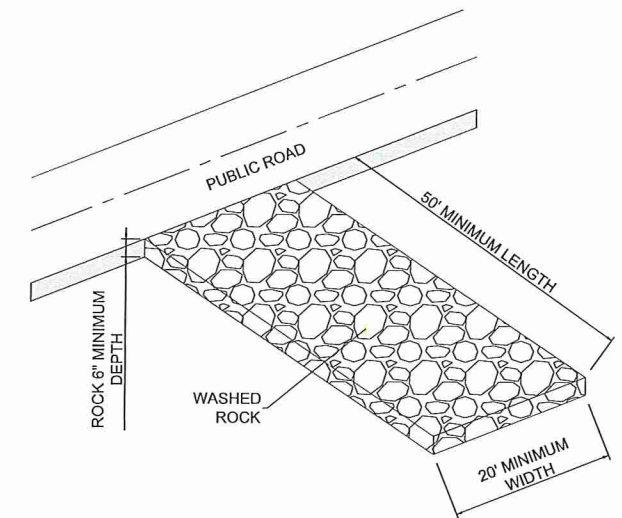


**SILT FENCE TYPE HI (HAND INSTALLED)** ②  
SCALE: NTS



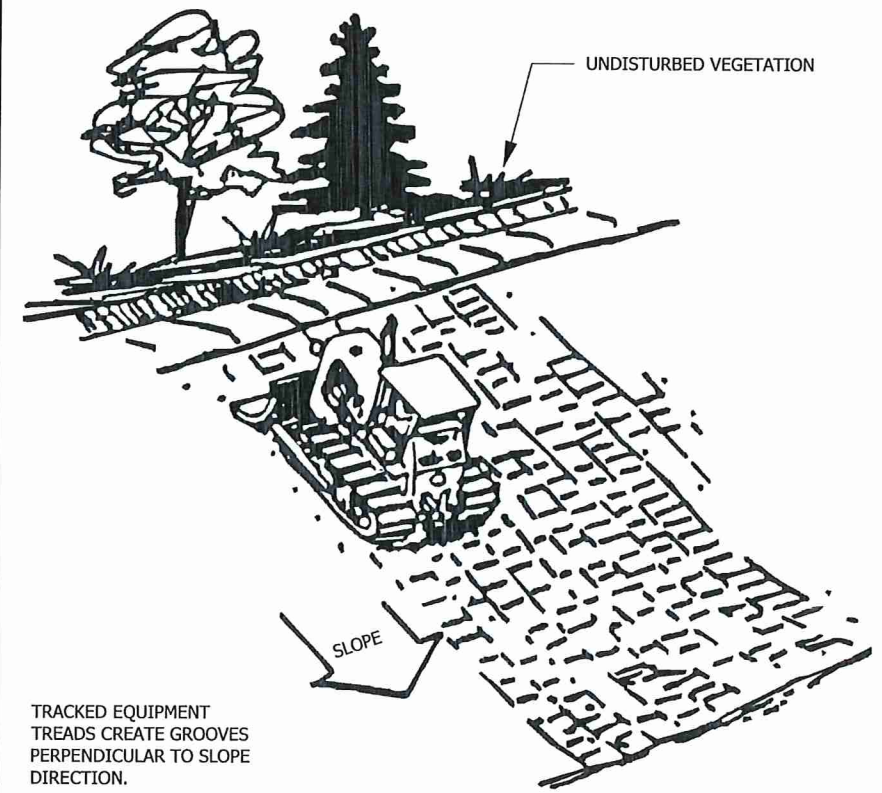
**SILT FENCE TYPE MS (MACHINE SLICED)**  
SCALE: NTS

- ① COARSE FILTER AGGREGATE (SPEC. 3149) SHALL BE INCIDENTAL.
- ② TO PROTECT AREAS FROM SHEET FLOW, MAXIMUM CONTRIBUTING AREA: 1 ACRE.

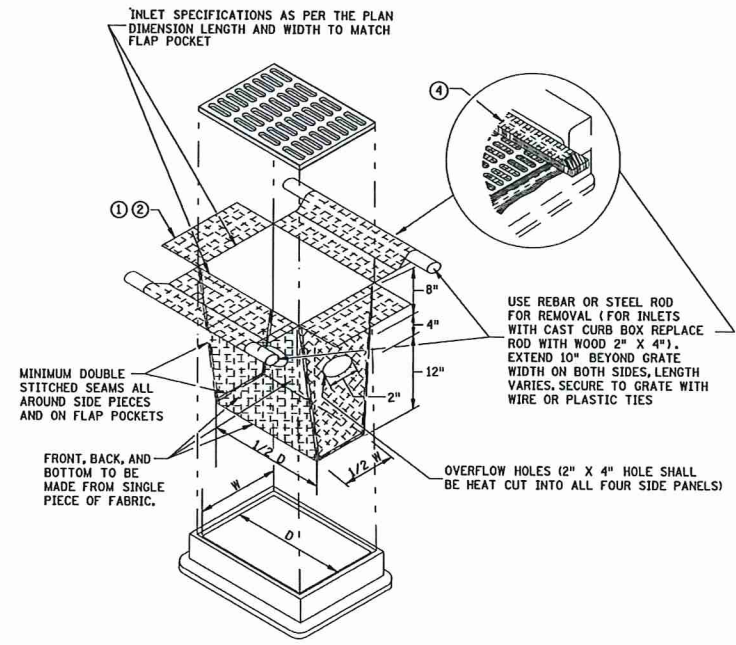


- NOTES**
1. FILTER FABRIC SHALL BE PLACED UNDER ROCK TO STOP MUD MIGRATION THROUGH MATERIAL.
  2. ENTRANCE MUST BE MAINTAINED REGULARLY TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. FUGITIVE ROCK WILL BE REMOVED FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.

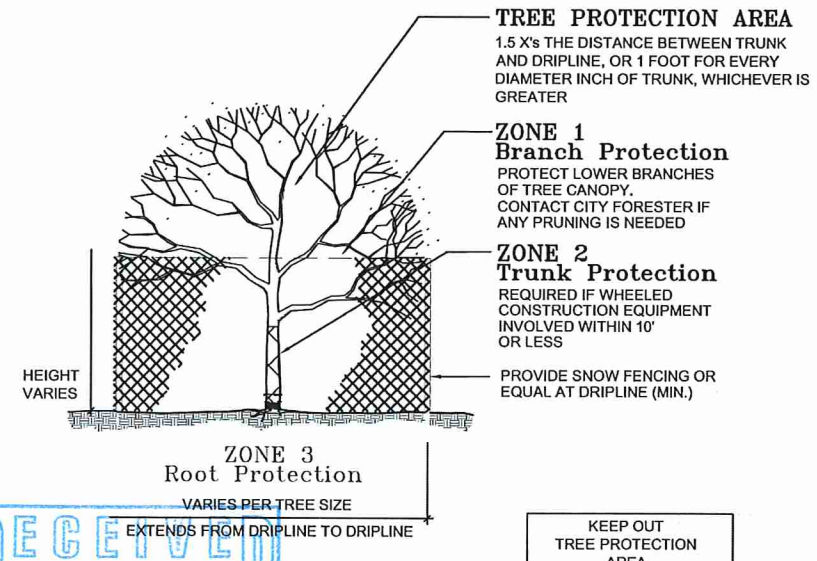
**TEMPORARY ROCK CONSTRUCTION ENTRANCE**  
SCALE: NTS



**SURFACE ROUGHENING DETAIL**  
SCALE: NTS



- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3986.
  - ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
  - ③ INSTALLATION NOTES:  
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
  - ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- FILTER BAG INSERT**  
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX) ③  
SCALE: NTS

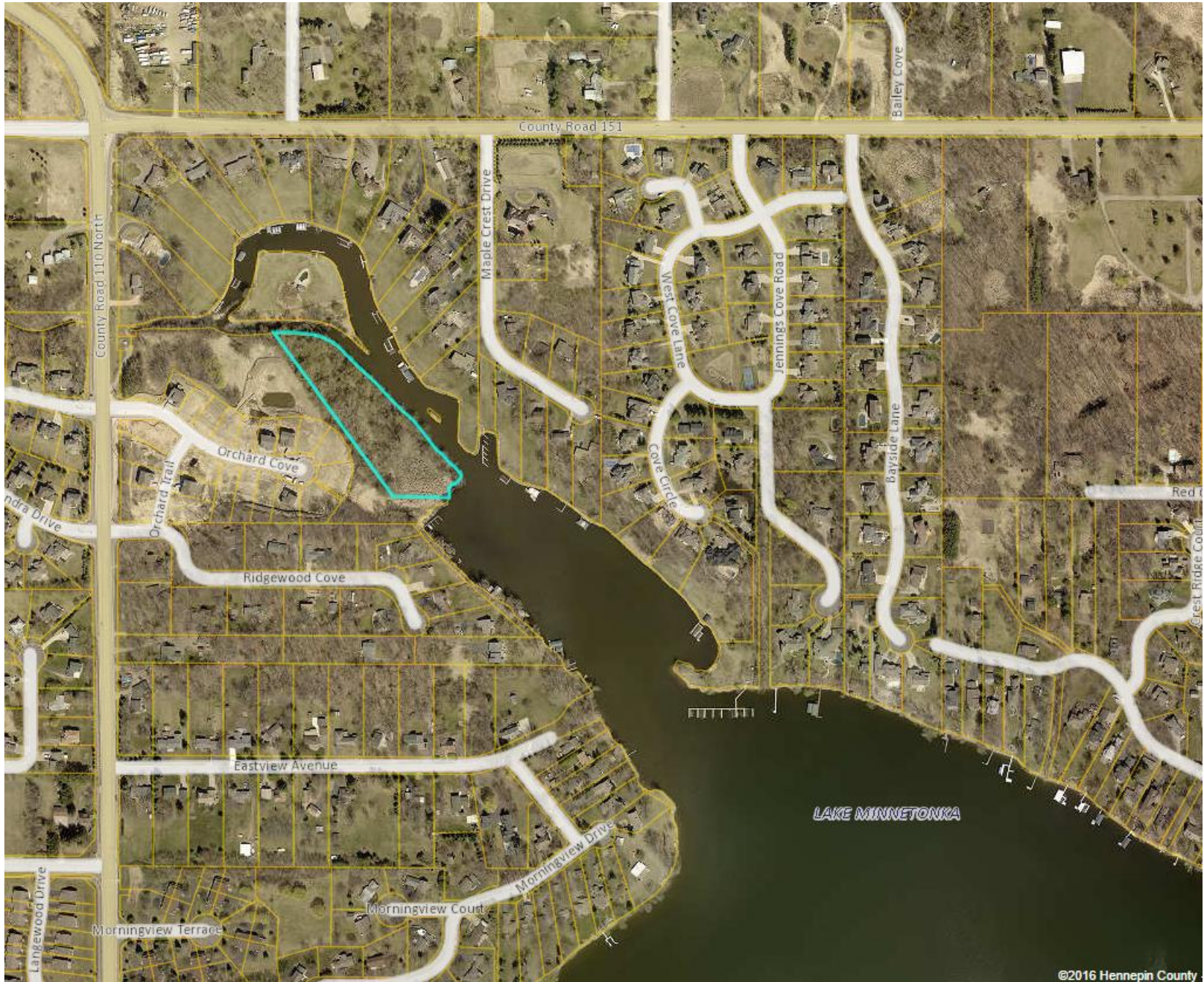


**TREE PROTECTION DETAIL**  
SCALE: NTS

RECEIVED  
AUG 10 2016  
By

NAME: Z:\MINNESOTA\02835 JENNINGS BAY\CAD\SHEETS\02835-EROSION DETAILS.DWG  
PLOT DATE: August 9, 2016 3:30 PM, BY: AMY C. TEIGEN







Doc No **A10108331**

Certified, filed and/or recorded on  
Aug 18, 2014 10:16 AM

Office of the County Recorder  
Hennepin County, Minnesota  
Martin McCormick, County Recorder  
Mark Chapin, County Auditor and Treasurer

Deputy 1

Pkg ID 1142769C

**Doc Name: Declaration**

|                                        |                |
|----------------------------------------|----------------|
| Document Recording Fee                 | \$46.00        |
| Attested Copy or Duplicate<br>Original | \$2.00         |
| <hr/>                                  |                |
| <b>Document Total</b>                  | <b>\$48.00</b> |

**DECLARATION**

**THIS DECLARATION** (Declaration) is made this 18<sup>th</sup> day of ~~July~~ <sup>August</sup>, 2014, by D.R. Horton, Inc. – Minnesota, a Delaware corporation (Declarant), in favor of the Minnehaha Creek Watershed District (MCWD), a special purpose local unit of government with purposes and powers pursuant to Minnesota Statutes Chapters 103B and 103D.

**RECITALS**

**WHEREAS** Declarant owns real property within the City of Minnetrista, HENNEPIN County, Minnesota, platted and legally described as:

Lot 1, Block 1, "EASTVIEW PARK"

And

That part of Government Lot 4, Section 12, Township 117, Range 24, described as follows:

Beginning at the southwesterly corner of said Lot 4; thence North on the west line of said Lot 4, a distance of 610.00 feet; thence East a distance of 571.00 feet; thence southeasterly at a deflection angle of 54 degrees 50 minutes a distance of 745.50 feet to the south line of said Government Lot 4; thence west 1000.00 feet to the point of beginning.

Together with:

and assigns. All features requiring maintenance identified on the scaled site plan for the Property attached hereto and incorporated herein as Attachment A will be maintained in perpetuity in accordance with Attachment B, Maintenance Plan & Schedule and as follows:

1. **Violation.** Both the Declarant and subsequent property owners are liable to the MCWD for performance under this Declaration. The MCWD may seek any remedy in law or equity against the Declarant as long as the Declarant owns the Property and thereafter against the property owner to enforce the Declaration.
2. **“Property owner”** as used in this Declaration means the owner of the Property or portion of the Property on which is located a feature(s) or facility(ies) to which the obligations herein apply.
3. **Recitals.** The recitals set forth above are expressly incorporated herein.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day and year first set forth above.

**DECLARANT:**

James R. Slaikeu

By: James R Slaikeu, Vice President of  
D.R. Horton, Inc. - Minnesota

State of Minnesota

County of Dakota

This instrument was acknowledged before me on Aug 18, 2014 by James R. Slaikeu as Vice President of D.R. Horton, Inc. – Minnesota.

Carla A Jensen (Signature of notarial officer)

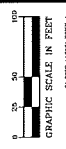
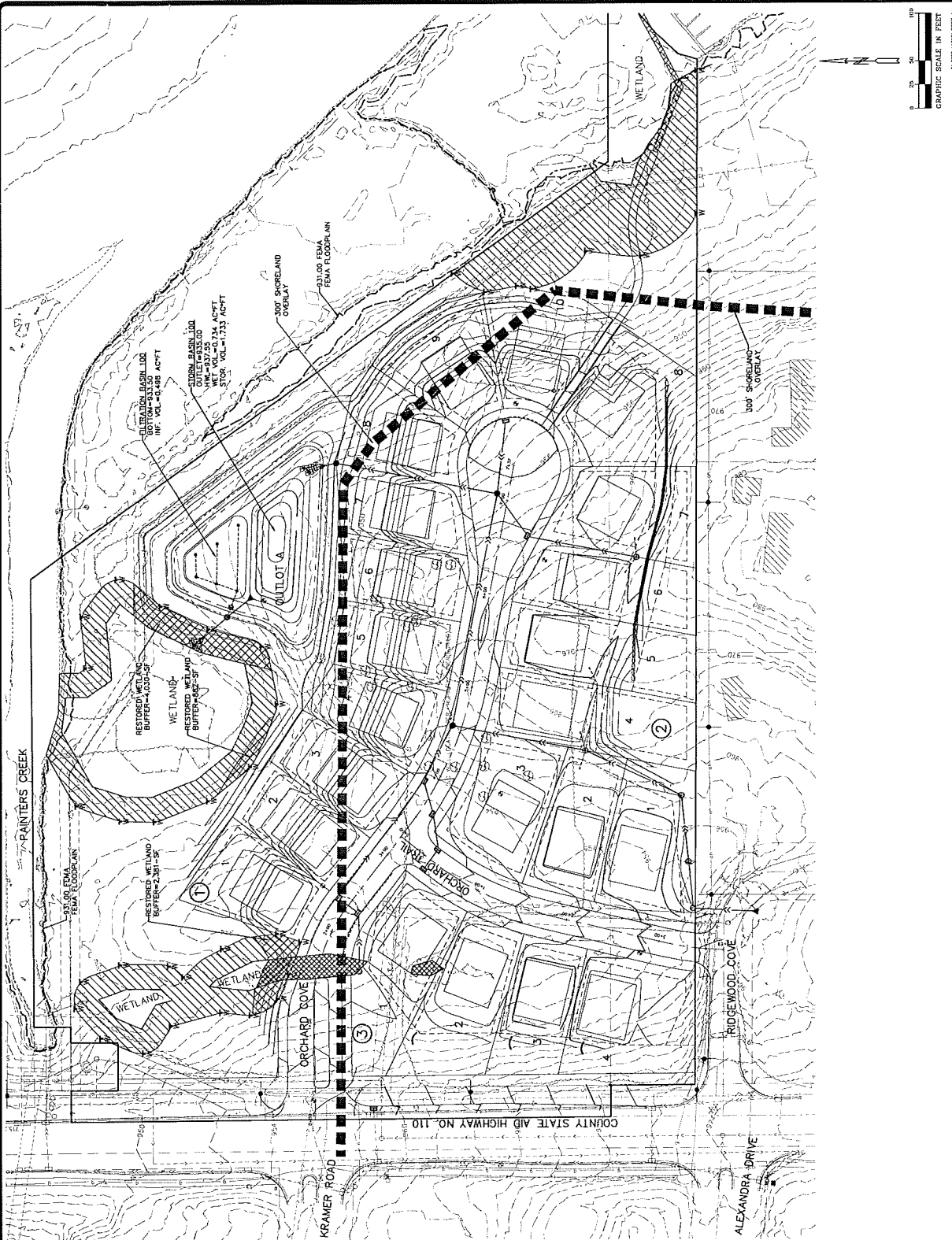


(Stamp)

\_\_\_\_\_ Title (and Rank)

My commission expires:

This Instrument Was Drafted By:  
D.R. Horton, Inc. – Minnesota  
20860 Kenbridge Court  
Lakeville, MN 55044



**LEGEND**

|  |                              |
|--|------------------------------|
|  | EXISTING PROPOSED FUTURE     |
|  | SANITARY MANHOLE             |
|  | EXISTING SANITARY SEWER      |
|  | FUTURE SANITARY SEWER        |
|  | HYDRANT                      |
|  | SOLENOID VALVE               |
|  | EXISTING WATERMAIN           |
|  | FUTURE WATERMAIN             |
|  | FLOODED SECTION              |
|  | STORM MANHOLE                |
|  | EXISTING STORM SEWER         |
|  | PROPOSED STORM SEWER         |
|  | STORM SEWER WITH CATCHER     |
|  | B-STYLE CURB & GUTTER        |
|  | REBORN CURB & GUTTER         |
|  | EASEMENT LINE                |
|  | EXISTING 2' CONTOUR LINE     |
|  | EXISTING 10' CONTOUR LINE    |
|  | PROPOSED 2' CONTOUR LINE     |
|  | PROPOSED 10' CONTOUR LINE    |
|  | POND OUTLET LINE             |
|  | POND HIGH WATER LINE         |
|  | PROPOSED SPOT ELEVATION      |
|  | FEMA FLOODPLAIN BOUNDARY     |
|  | STANDARD EROSION CONTROL     |
|  | RETAINING WALL               |
|  | CONSERVATION AREA SIGN       |
|  | CULVERT SIGN                 |
|  | OVERHEAD UTILITY LINES       |
|  | UNDERGROUND TELEVISION LINE  |
|  | UNDERGROUND FIBER OPTIC LINE |
|  | UNDERGROUND ELECTRIC LINE    |
|  | GAS LINE                     |
|  | FENCE (CHAIN LINK)           |
|  | FENCE (WOOD)                 |
|  | CHAIN LINK MONUMENT          |
|  | ELECTRIC POLE                |
|  | FLAG POLE                    |
|  | NATURAL GAS METER            |
|  | LAND POLE                    |
|  | JUDICIAL LAND MARK           |
|  | LIGHT POLE                   |
|  | UTILITY POLE                 |
|  | LAWN SPRINKLER VALVE         |
|  | SEWER MANHOLE                |
|  | TELEPHONE BOX                |
|  | TEST HOLE                    |
|  | WATER METER BOX              |
|  | MONITORING WELL              |
|  | MAILBOX                      |
|  | SIGN POLE POINT              |
|  | SIGN                         |
|  | CLEANOUT                     |
|  | SIGNIFICANT TREE             |
|  | TREE LINE                    |
|  | GRAVEL SURFACE               |
|  | BITUMINOUS SURFACE           |
|  | CONCRETE SURFACE             |
|  | WETLAND BUFFER               |
|  | DISTURBED WETLAND BUFFER     |

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D.R. HORTON INC - MINNESOTA  
 200 W. WASHINGTON ST. SUITE 100  
 LITTLETON, MINNESOTA 55120

ATTACHMENT A  
 ORCHARD COVE  
 MINNESOTA, MINNESOTA

SCALE: 1" = 40'  
 GRAPHIC SCALE IN FEET

DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 APPROVED BY: \_\_\_\_\_

I hereby certify that the above is a true and correct copy of the original as shown to me by the engineer or architect.  
 I am a duly Licensed Professional Engineer in the State of Minnesota.  
 DATE: \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_

**PIONEER engineering**  
 1750 44th Ave. S. Suite 100  
 Minneapolis, MN 55406  
 Phone: (612) 835-1100  
 Fax: (612) 835-1101  
 Website: www.pioneereng.com

© 2013 Pioneer Engineering, P.A.

**ATTACHMENT B**  
**MAINTENANCE PLAN & SCHEDULE**

1. WETLAND BUFFER AREAS

- a. Buffer vegetation will not be cultivated, cropped, pastured, mowed, fertilized, subject to the placement of mulch or yard waste, or otherwise disturbed, except for periodic cutting or burning that promotes the health of the buffer, actions to address disease or invasive species, mowing for purposes of public safety, temporary disturbance for placement or repair of buried utilities, or other actions to maintain or improve buffer quality, each as approved by MCWD staff in writing. Pesticides and herbicides may be used in accordance with Minnesota Department of Agriculture rules and guidelines. No new structure or hard surface will be placed within a buffer, except that construction of a trail or path of no more than 4 feet in width to provide riparian access through the buffer is acceptable. No fill, debris or other material will be excavated from or placed within a buffer.
- b. Permanent wetland buffer monuments will be maintained in the locations shown on the approved site plan. Language shall indicate the purpose of the buffer, restrictions, and the name and phone number of the Minnehaha Creek Watershed District.

2. WATERBODY CROSSINGS & STRUCTURES

- a. Crossings and structures in contact with the bed or bank of a waterbody will be inspected at least once a year and maintained in good repair in perpetuity to ensure continuing adequate hydraulic and navigational capacity is retained in accordance with approved plans, to ensure no net increase in the flood stage beyond that achieved by the approved plans, to prevent adverse effects on water quality, changes to the existing flowline/gradient and increased scour, erosion or sedimentation, and to minimize the potential for obstruction of the waterbody.

3. STORMWATER FACILITIES

- a. **Raingardens, infiltration basins and filtration basins.** Raingardens, infiltration basins and filtration basins will be inspected annually to ensure continued live storage capacity at or above the design volume. Invasive vegetation, excess sediment and debris will be removed as needed and healthy plant growth will be maintained to ensure that the facilities continue to perform per design.
- b. **Reporting.** The Declarant will submit to the MCWD annually a brief written report that describes stormwater facility maintenance activities performed under this declaration, including dates, locations of inspections and the maintenance activities performed.