

**PERMIT REPORT**

To: Board of Managers

From: Heidi Quinn, Permitting Technician

Date: April 25th, 2019

Re: Permit 19-064: 28th Avenue South Bridge, Minneapolis

Recommendation:

Approval of MCWD permit application on the following conditions:

1. Documentation of authorization to perform work on Minneapolis Park & Recreation Board property;
2. Submission of signed plan set from the City of Minneapolis;
3. Submission of an NPDES permit;
4. Submission of draft Maintenance Agreement for Waterbody Crossings & Structures and Wetland Buffers for District approval and then execution;
5. Submission of a plan amendment to include a 4 foot deep sump as the pre-treatment practice for the stormwater biofiltration basin;

Background:

The City of Minneapolis (Applicant) has applied for a Minnehaha Creek Watershed District (MCWD) permit for the replacement of the 28th Avenue South Bridge (Bridge) that crosses Minnehaha Creek (Creek) and proposes a new trail underpass connection adjacent to the Creek. The Bridge and associated trail improvements are located approximately 500 feet downstream (east) of Lake Hiawatha in the City of Minneapolis. The application is before the MCWD Board of Managers for consideration as the Applicant has requested an Exception from full compliance with section 6(c) of the Wetland Protection rule. The application was complete on April 19th, 2019.

The project will involve removal of the existing over 100-year old Bridge to the top of the footings, and placement of a new concrete bridge. In addition, the project will include replacement of an existing outfall on the north side of the Creek, and construction of a new trail underpass below the bridge that will connect to the existing trail system. The Applicant's stated needed for the project is to improve motorist and pedestrian safety.

The project triggers the District's Erosion Control, Floodplain Alteration, Waterbody Crossings and Structures, Wetland Protection rules. The project plans show a shortfall from the applicable



wetland buffer requirement, and the applicant has requested approval of an exception. The project is considered a linear transportation project per MCWD definitions, which is defined as the construction or reconstruction of a road, trail, or sidewalk. The project does not propose an increase in impervious surface equivalent or greater than 10,000 square feet and therefore is exempt from the Stormwater management rule per section 2(d).

District Rule Analysis:

Erosion Control Rule

The District's Erosion Control Rule is applied to projects proposing 5,000 square feet of disturbance or 50 cubic yards of fill, excavation, or stockpiling on-site. The Applicant is proposing 1.9 acres of disturbance and 1,000 cubic yards of excavation, therefore the rule is applied. In accordance with the rule provisions, the Applicant has submitted an erosion control plan which identifies erosion and sediment control best management practices. These include: silt fence down gradient of disturbed areas, floating silt curtain, inlet protection where necessary, and concrete washout with be contained on the truck. The existing road will be used as a construction entrance and the Applicant has provided a sediment tracking clean-up schedule to be conducted as the end of each work day. Additionally, a vegetative stabilization plan including the incorporation of six-inches of topsoil into underlying soils prior to final stabilization has also been provided.

Submission of an NPDES permit is listed as recommended condition of approval. Upon satisfaction of the recommended condition, the project meets the Erosion Control Rule.

Floodplain Alteration

The Floodplain Alteration Rule is applicable whenever land altering activity is proposed beneath the projected 100-year high water elevation of any waterbody or watercourse. The projected 100-year high water elevation for this reach of the Creek has been identified, and confirmed by the District Engineer, to be 816.36'. The Applicant is proposing land disturbance below the 100-year high water elevation of Minnehaha Creek, therefore the rule is applied.

Per section 3(a) of the rule, fill shall not cause a net decrease in storage capacity below the projected 100-year high water elevation of a waterbody and any fill brought onsite below the projected 100-year high water elevation must be mitigated by the creation of compensatory storage. The Applicant has submitted plans and quantified calculations to demonstrate the project will result in 15.93 cubic yards of fill and will create 85.63 cubic yards of compensatory storage. The District Engineer has confirmed that the project will result in a net increase of 69.70 cubic yards of new floodplain storage below the 816.36' elevation contour, therefore the criteria of section 3(a) has been met.



Section 3(b) of the rule requires no increase in the 100-year flood elevation of a watercourse. The Applicant has submitted plans and hydraulic modeling that demonstrates a net increase of 69.70 cubic yards of new floodplain storage that will result in a 0.07' reduction of the 100-year elevation from the existing elevation of 816.43' to the proposed elevation of 816.36' upstream of the 28th Avenue Bridge. The applicant has also demonstrated that all increases downstream of the 28th Avenue Bridge are less than +0.0044 feet (0.0044 is the Department of Natural Resources threshold). Because a slight reduction in flood elevation of the watercourse will occur for this reach of Minnehaha Creek, section 3(b) of the rule has been met.

Section 3(c) of the rule states that section 3(a) of this rule does not apply to fill in a waterbasin if the applicant shows that the proposed fill, together with the filling of all other properties on the waterbody to the same degree of encroachment will not cause high water or aggravate flooding on other properties. Because the project involves a watercourse, section 3(c) of the rule does not apply to this project.

Section 3(d) of the rule requires that no new impervious surface be created in the lesser of 25 feet of the centerline of a watercourse or the 10 year floodplain, unless that surface is an integral component of a linear public roadway or trail. The District Engineer has confirmed that the 10-year floodplain for this reach of the Creek is 815.91'. All impervious surface within 25 feet of the centerline of the creek or within the 10-year floodplain are part of the trail system, and is therefore permitted under the rule.

Section 3(e) of the rule is not applicable, as no ice ridge grading is proposed.

Section 3(f) of the rule requires that the low openings to all residential, commercial, and institutional structures be a minimum of 2 feet above the 100 year high water elevation. There are no residential, commercial, or institutional structures proposed with the project, therefore the rule is not applicable.

The project as proposed meets the Floodplain Alteration rule.

Waterbody Crossings and Structures

The Waterbody Crossings and Structures Rule is applied to any project that proposes to place a structure in the bed or bank of a waterbody. The project includes the removal and replacement of the Bridge abutments and removal and replacement of one outfall on the north side of the Creek, therefore the rule applicable to the project. For the purposes of this permit report, sections 3(a)-3(d) will be analyzed separately for the Bridge and outfall. The remaining sections are summarized at the end of the rule analysis.



Bridge

The project as proposed includes the removal and replacement of an existing Bridge at 28th Avenue South that crosses the Creek approximately 500 feet downstream (east) of Lake Hiawatha in the City of Minneapolis.

Per section 3(a) of the rule, the use of the bed or bank of a public water must meet a demonstrated public benefit. Based on the narrative submitted by the Applicant, the replacement of the Bridge is needed due to signs of aging infrastructure that were observed on January 17th, 2012. Additionally, the residential community has requested an underpass pedestrian trail crossing to improve commuter safety. Staff have determined that the applicant has demonstrated that replacement of the Bridge and proposed new trail underpass will improve commuter safety at the crossing, therefore demonstrating a public benefit.

Per section 3(b) of the rule, use of the bed or bank shall retain adequate hydraulic capacity, and may not result in upstream or downstream increases in flood stage. The Applicant has submitted a hydraulic analysis to demonstrate that the project will not result in upstream or downstream increase in floodstage. The District Engineer has reviewed the modeling and has confirmed that the modeling demonstrates a no-rise condition to the 100-year floodstage upstream or downstream. Table 1 lists the existing and proposed elevation upstream and downstream of the 28th avenue Bridge. Although the project proposes a change in the floodplain and floodway width at the Bridge crossing, the applicant has demonstrated that the project will not increase downstream water surface elevations (WSE) beyond +0.00 (0.0044 is the Department of Natural Resources threshold).

Model Node	Node Location	Existing WSE (ft)	Proposed WSE (ft)	WSE Diff. (ft)
MC-173 FN3	U/S 28th Ave	816.479	816.472	-0.007
MC-174 FN1	D/S 28th Ave	816.087	816.086	-0.001
MC-174 FN2	U/S 30th Ave	815.852	815.852	0.000
MC-175 FN1	D/S 30th Ave	815.849	815.848	-0.001
MC-175 FN2	U/S Nokomis Ave	815.206	815.207	0.001
MC-178 FN1	D/S Nokomis Ave	814.624	814.624	0.000
MC-178 FN2	U/S 31st Ave	814.357	814.357	0.000
MC-178	D/S 31st Ave	814.336	814.336	0.000
MC-179 FN1	U/S 34th Ave	813.343	813.343	0.000
MC-180 FN1	D/S 31th Ave	813.296	813.296	0.000

Table 1: Floodstage Elevations



Per section 3(c) of the rule, the use of the bed or bank shall retain adequate navigational capacity pursuant to any requirements of the waterbody's classification by the District. The Applicant has submitted plans, cross-sections, and a narrative demonstrating conformance with this criteria of the rule. Staff and the District Engineer's analysis of the Applicant's submittals determined that the bridge will be raised 1.4 feet from the existing condition of 7.7 feet to the proposed condition of 9.1 feet above the 100-year floodplain. The existing footings of the Bridge will remain in place, therefore there will be no change in the channel width from existing to proposed conditions. The Applicant has demonstrated that navigation will be maintained, meeting the criteria of the rule.

Per section 3(d) of the rule, the use of the bed or bank shall preserve aquatic and upland wildlife passage along each bank and within the waterbody as follows:

- Where there is sufficient depth and width, waterbody crossings shall provide upland bank passage to the greatest extent feasible, graded to connect to the streambank on both the upstream and downstream ends;
- Where the depth or the width of is not sufficient to provide adequate upland bank passage, waterbody crossings shall provide multiple offset culverts;
- Where the multiple offset culverts are not feasible, waterbody crossings shall provide a wildlife shelf insert above bankfull height, unless such a structure will impact hydraulic capacity;
- Rural section low traffic roads that meet vertical and horizontal site distance for a vehicle speed of 40mph or less are exempt from the requirements.

The Applicant has submitted plans, cross-sections, design details, and a narrative that demonstrate there will be no work below the ordinary high water level (OHW), therefore aquatic passage will be preserved from existing to proposed conditions. The addition of the trail underpass on the north side of the Creek will create a new upland bank passage that does not currently exist. District Staff and the District Engineer concur that the criteria of the rule is met.

Stormwater Outfall

One outfall, located on the north side of the Creek, will be replaced. The current condition consists of a concrete plume and does not reflect generally accepted modern engineering principles. The concrete flume will be replaced with a 15" reinforced concrete pipe (RCP) with a MnDOT Standard Plate 3133 D outfall with hand placed class III riprap for energy dissipation, placed at the OHW.

Per section 3(a) of the rule, the use of the bed or bank shall meet a demonstrated public benefit. Based on the narrative and photographs of the existing conditions, the removal of the existing concrete flume and replacement with a standard outfall will minimize the flooding potential at



the proposed trail, therefore, providing a public benefit. Based on Staff's assessment of the narrative and photographs, the Applicant has met this criteria of the rule.

Per section 3(b) of the rule, use of the bed or bank shall retain adequate hydraulic capacity, and may not result in upstream or downstream increases in flood stage. The Applicant has submitted hydraulic modeling and plans to demonstrate that there is no change to the subwatershed drainage area or impervious surface within the subwatershed that is directed to the outfall from existing to proposed conditions. Therefore there is no change in volume discharging from the proposed outfall that would cause changes in the floodstage upstream or downstream. Upon Staff and the District Engineer review, it has been determined that the criteria of the rule has been met.

Per section 3(c) of the rule, the use of the bed or bank shall retain adequate navigational capacity pursuant to any requirements of the waterbody's classification by the District. The Applicant has submitted plans, cross-sections, and a narrative demonstrating conformance with this criteria of the rule. Staff and the District Engineer's analysis of the Applicant's submittals determined that no navigational impediment is presented by the location of the proposed outfall, as it is proposed at the OHW and will not encroach beyond the existing bank. Based on this analysis, staff and the District Engineer have determined the applicant has met this criteria of the rule.

Because the outfall will be buried, no impediment to wildlife passage will be imposed, meeting section 3(d) of the rule.

Bridge & Stormwater Outfall

Per section 3(e) of the rule, use of the bed or bank shall not adversely affect water quality. The submitted designs demonstrate that the proper erosion and sediment control BMPs will be in place during construction and has provided a plan for final stabilization of the site. The applicant has also incorporated a stormwater BMP within the right-of-way (ROW) that will provide water quality treatment of stormwater prior to discharging into the Creek. Staff and the District Engineer have reviewed the plans and concur that water quality will not be adversely affected from existing to proposed conditions. Therefore, the Applicant has met this criteria of the rule.

Per section 3(f) of the rule, the use of the bed or bank shall represent the "minimal impact" solution to a specific need with respect to all other reasonable alternatives, including, but not limited to vegetation or bioengineering for bank stabilization, structural stabilization, acquisition of additional easements, or installation of upstream control to manage stream flow. The Applicant provided an alternatives analysis to demonstrate the proposed project represents the minimal impact solution in consideration of other options. Based upon the analysis provided by the Applicant, several design alternatives were considered (attachment 2). Two of the alternative options considered addressed impacts to natural resources. One option considered rehabilitation of the bridge arch only. This option was rejected as it does not include a trail underpass, it does



not address the concerns of the aging infrastructure outside of the arch, nor will it provide an upland wildlife passage. Another option considered was rehabilitating the arch and adding an adjacent concrete arch bridge for the trail. This option was rejected as it does not address the concerns around the aging infrastructure of the Bridge outside of the arch and would result in greater upland disturbance adjacent to the Creek. MCWD Staff have reviewed the proposed option to leave the existing bridge footings in place, replace the bridge, and incorporate an underpass trail and have determined that the proposed plan represents the minimal impact solution to natural resources by limiting floodplain disturbance, avoiding work below the OHW, and creating an upland wildlife crossing. Based on this analysis, the Applicant has met this criteria of the rule.

Section 3(g) of the rule is not applicable, as no bored utility lines are proposed underneath the bed or bank of a watercourse.

Section 3(h) of the rule is not applicable, as no installation, modification, or excavation of sanitary sewer is proposed as a component of this project.

Per section 6 of the rule, maintenance requirements for the outfall will be met through an executed maintenance agreement between the City and MCWD as listed as an item in the conditions of recommended approval.

Upon satisfaction of the recommended condition, the project meets the Waterbody Crossings and Structures rule.

Wetland Protection

The Wetland Protection rule is applicable for any project that proposes temporary or permanent wetland impacts. Additionally, the buffer provisions of the rule are applied whenever the Stormwater Management or Waterbody Crossings rules are applicable. There is one wetland located on the north side of the Creek and west of the Bridge. A Notice of Decision confirming the wetland boundary and type was issued on May 9th, 2016 (W15-81). The delineated wetland is outside of the project construction limit, and is not proposed to be disturbed, therefore the rule requires only buffer on the wetland edge downgradient from the site disturbance. The District's Functional Assessment of Wetlands (FAW) has identified the wetland as a Preserve Management Class, which requires a 75-foot average buffer width per section 6(a) of the rule.

Per section 5(c) of the rule, buffers must be documented by a declaration or other recordable instrument. An executed maintenance agreement for Wetland Protection is listed as a condition of recommended approval. The maintenance agreement will list the applicable vegetation maintenance requirements and restricts as outlined in sections 7(a) and 7(b).



Section 5(d) of the rule requires a permanent wetland buffer monument to be installed at each lot line where it intersects the buffer, and where needed to indicate the contour of the buffer, with a maximum spacing of 100 feet. The applicant has provided a wetland buffer exhibit that demonstrates conformance with the monumentation requirement of the rule (sheet C2.03 of attachment 3).

Per section 6(c) of the rule, buffer averaging is permitted should the full width of the buffer not be able to be provided in all locations. Under this provision of the rule, buffer averaging may encompass minimum buffer widths of 50% of the applied buffer width (37.5 feet for Management Class Preserve), with a maximum width of 200% of the applied buffer width (150 feet for Management Class Preserve), provided that there is no reduction in total buffer area (assumes an area equal to a uniform 75 foot buffer along the length of the wetland). Based on review of the plans and specifications, the project as proposed does not meet the buffer averaging provision due to the location of the existing and proposed trails. The Applicant has submitted plans that demonstrate a provided minimum buffer width of 15.48 feet and a buffer area of 11,277 square feet (12,824 square feet required based on a 75 foot average buffer width). The Applicant has requested an Exception to section 6(c) of the Wetland Protection rule, which has been analyzed under the Exception section of the report.

Per section 7(c) of the rule, any buffer areas that will be disturbed by grading or other site activities during construction must be replanted and maintained according to the following standards:

- Soils must be decompacted to a depth of 18 inches and organic matter must be incorporated into soils before revegetation. Decompaction shall be accomplished solely by incorporation of organic matter within the drip line or critical root zone of trees or within 10 feet of underground utilities;
- Erosion/sediment control practices consistent with the requirements of the District Erosion Control rule must be employed during buffer establishment;
- Buffers shall be planted with a native seed mix and/or native plantings approved by the District; and
- Buffer maintenance and monitoring shall be performed and meet the standards of the District's Wetland Buffer Monitoring requirements.

The Applicant has submitted a wetland buffer exhibit sheet C2.03 of attachment 3) that demonstrates conformance with the decompaction requirements, erosion control plan, and native seed mix. The maintenance and monitoring requirements will be incorporated into the Wetland Protection Maintenance Agreement.

In summary, upon satisfaction of the recommended conditions of approval, the project meets the requirements of the Wetland Protection Rule, apart from section 6(c), as noted above, for which the Applicant has requested an Exception.

Exception

The Variance and Exception Rule allows the Board of Managers to grant exceptions from a provision of the rules on a determination that the proposed application will achieve a greater degree of water resource protection than strict compliance with the provision. The Applicant has requested an exception from section 6(c) of the Wetland Protection rule for maintaining a minimum buffer width of 50% of the applied buffer width at all points and for the reduction of total buffer area provided.

The buffer provision of the Wetland Protection rule requires buffers on all wetlands that are downgradient of site disturbance. One wetland is located downgradient of site disturbance. The District's FAW classifies the wetland as a Preserve Management Class, which requires an average buffer width of 75 feet and a minimum buffer width of 37.5 feet.

Due to the location of the existing and proposed trails upgradient of the wetland edge, maintaining the minimum buffer width of 37.5 feet at all points is not achievable with the proposed project. The Applicant has proposed a minimum wetland buffer of 15.48 feet and has requested an exception for the 22.02-foot shortfall. In addition to maintaining the minimum wetland buffer width, section 6(c) states that there can be no reduction in total buffer area. The portion of wetland that is downgradient of site disturbance is 144 linear feet, with a 75-foot average buffer width, equates to a buffer area of 12,824 square feet. The Applicant has submitted a plan that demonstrates a wetland buffer of 160 linear feet is applied, however an 11,277 square feet of wetland buffer is provided. The applicant is also seeking an exception for the 1,547 square foot reduction of wetland buffer area provided.

Per the submitted Exception Request Application, the Applicant has incorporated a stormwater biofiltration swale located within the ROW of 28th Avenue South to capture the equivalent area of runoff from the trail that would be filtered by the wetland buffer. The Applicant has submitted a simplified MIDS modeling to demonstrate that total phosphorous reduction achieved by the stormwater biofiltration swale exceeds the total phosphorous (TP) reduction achieved by the wetland buffer (attachment 6). Staff and the District Engineer have reviewed the model and have confirmed that filtration of the first one inch of runoff from the trail area through a 37.5-foot wetland buffer would achieve 0.02 pounds per year of TP removal. Furthermore, Staff and the District Engineer have reviewed the model and confirmed that the stormwater biofiltration swale will achieve a TP removal of 0.08 pounds per year, thus providing a greater water quality benefit of 0.06 pounds per year of TP removal than full compliance with the allowable minimum wetland buffer width and required buffer area for a Preserve Management Class wetland. While wetland buffers provide other natural resource benefits than TP reduction alone, Staff and the District Engineer have determined that the addition of a biofiltration BMP coupled with a wetland buffer width of 15.48 feet provides a greater water quality benefit in this circumstance.



Staff and District Engineer find that the Applicant has submitted sufficient evidence for the MCWD Board of Managers to consider the Exception request that the project will achieve a greater natural resources benefit by the incorporation of stormwater management BMP than that would be achieved by strict compliance with the buffer provisions of the Wetland Protection rule.

It is the recommendation of Staff and the District Engineer that the pre-treatment sump be amended from a one-foot in depth sump to a four-foot in depth sump. A four-foot sump for a pre-treatment practice is in conformance with the District's BMP design criteria. A four foot sump is listed in the recommendation of conditional approval.

Summary:

The City of Minneapolis has applied for a MCWD permit for the Erosion Control, Floodplain Alteration, Waterbody Crossings & Structures, and Wetland Protection rules and has requested an Exception to the buffer provisions of the Wetland Protection rule for the replacement of the 28th Avenue South Bridge and associated trail improvements. Staff have found that the proposed project meets the applicable rule requirements, upon satisfaction of the recommended conditions of approval, and recommend approval of the permit. Furthermore, Staff find that the Applicant has provided a satisfactory analysis for the Board of Managers to consider the exception request for providing a minimum wetland buffer width of 15.48 feet, a reduction of 1,547 square feet of buffer provided, and incorporation of a biofiltration swale that will provide 0.08 pounds per year of TP removal.

Attachments:

1. Permit Application
2. Alternatives Analysis
3. Site Plan (condensed)
4. W15-81 WCA NOD
5. Exception Application
6. MIDS Modeling

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 Minneapolis - Department of Public Works
Mailing Address: 309 Second Ave S City: Minneapolis State: MN Zip: 55401
Email Address: Ahmed.Omar@minneapolismn.gov Phone: 612-673-3612 Fax: _____

2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...)
Business Name: Bolton & Menk, Inc. Representative Name: Rich Revering, PE
Business Address: 12224 Nicollet Ave City: Burnsville State: MN Zip: 55337
Email Address: richard.revering@bolton-menk.com Phone: 612-718-8412 Fax: _____

3. Project Address: 28th Ave S Bridge at Minnehaha Creek City: Minneapolis
State: MN Zip: na Qtr Section(s): NE Section(s): 13 Township(s): 28N Range(s): 24W
Lot: _____ Block: _____ Subdivision: _____ PID: 130282412

4. Size of project parcel (square feet or acres): na (28th Ave S ROW)
Area of disturbance (square feet): 1.9 Acres Volume of excavation/fill (cubic yards): 1000 CY Exc
Area of existing impervious surface: 0.7 Acres Area of proposed impervious surface: 0.7 Acres
Length of shoreline affected (feet): 200 Waterbody (& bay if applicable): Minnehaha Creek (above OHWL)

5. Type of permit being applied for (Check all that apply):

- | | |
|---|--|
| <input checked="" type="checkbox"/> EROSION CONTROL | <input checked="" type="checkbox"/> WATERBODY CROSSINGS/STRUCTURES |
| <input checked="" type="checkbox"/> FLOODPLAIN ALTERATION | <input type="checkbox"/> STORMWATER MANAGEMENT |
| <input checked="" type="checkbox"/> WETLAND PROTECTION | <input type="checkbox"/> APPROPRIATIONS |
| <input type="checkbox"/> DREDGING | <input type="checkbox"/> ILLICIT DISCHARGE |
| <input type="checkbox"/> SHORELINE/STREAMBANK STABILIZATION | |

6. Project purpose (Check all that apply):

<input type="checkbox"/> SINGLE FAMILY HOME	<input type="checkbox"/> MULTI FAMILY RESIDENTIAL (apartments)
<input type="checkbox"/> ROAD CONSTRUCTION	<input type="checkbox"/> COMMERCIAL or INSTITUTIONAL
<input type="checkbox"/> UTILITIES	<input type="checkbox"/> SUBDIVISIONS (include number of lots)
<input type="checkbox"/> DREDGING	<input type="checkbox"/> LANDSCAPING (pools, berms, etc.)
<input type="checkbox"/> SHORELINE/STREAMBANK STABILIZATION	<input checked="" type="checkbox"/> OTHER (DESCRIBE): <u>Bridge and Trail Rep.</u>

7. NPDES/SDS General Stormwater Permit Number (if applicable): to be obtained after contract award

8. Waterbody receiving runoff from site: Minnehaha Creek

9. Project Timeline: Start Date: April, 2019 Completion Date: December, 2019

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.

Ahmed Omar
Signature of Each Property Owner

2/15/19
Date



4. Discussion of Options

4.1. Option 1: Rehabilitate Arch

Option 1 is the basic rehabilitation of Bridge 90592 to keep the bridge as is in service without accommodating a separated grade crossing for the trail.

A few main items need to be addressed for the rehabilitation. The headwalls are in poor condition and, based on the condition of the cores and compressive strength of the concrete, they should be replaced. In addition, the railing is substandard and also in poor condition. The railing should also be replaced. The last main item to address is the drainage. The pipes on the east side of the bridge should be reworked as existing pipes are cracked.

Based on the results of the concrete testing, the barrel of the arch will not require any partial or complete removal. The cracks in the barrel would be sealed and the backside of the barrel would be waterproofed to prevent further water penetration into the concrete. Waterproofing the barrel is recommended at this time because the backside of the barrel could be easily exposed while the headwalls are being replaced.

The new deck for the bridge would be concrete. The overhang steel supports would be eliminated and the deck would be reinforced to accommodate the overhang of 3.5 feet.

The opinion of probable construction cost for Option 1 is \$800,000.

Figure 15 contains the west bridge elevation for Option 1.

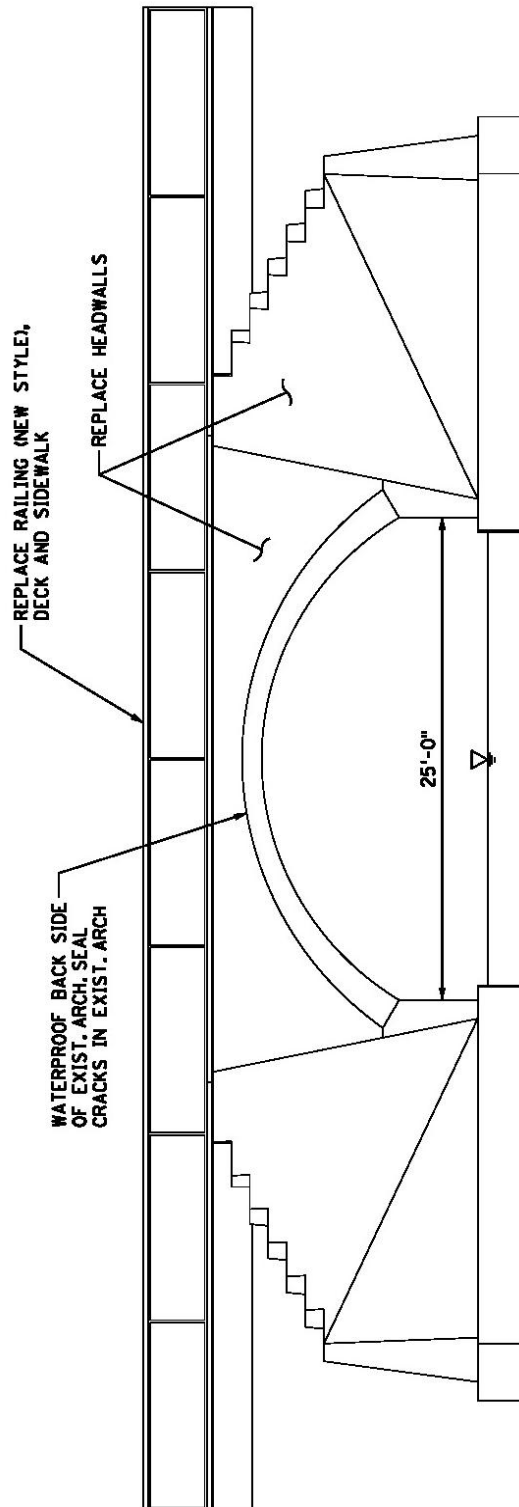


FIGURE 15: OPTION 1 ELEVATION
DRAIN PIPES ON EAST SIDE OF
BRIDGE TO BE REWORKED



4.2. Option 2: Rehabilitate Arch and Add Adjacent Concrete Arch Bridge for Trail

Option 2 is the basic rehabilitation of Bridge 90592 to keep the bridge as is in service while accommodating a separated grade crossing for the trail adjacent to the existing bridge.

The rehabilitation work on Bridge 90592 will be similar to Option 1. The main exception is the headwalls to the north will tie into the proposed concrete arch bridge over the trail instead of being replaced in kind.

The existing trail at-grade crossing is aligned at a skew with 28th Avenue. For ease of construction, the trail alignment would be modified on the west side of 28th Avenue so that the skew is eliminated. A house is currently located in the northeast corner of the proposed trail crossing. Retaining walls will be required in this area to protect the property until the grades can tie in further east of 28th Avenue. Figure 16 contains a plan view of the area with the proposed trail crossing location identified.

A Bebo Arch System is recommended for the proposed bridge over the trail. This type of bridge will complement the existing bridge and will simplify construction because the arch will be precast. An arch with a 24 foot clear span and 11.5 foot rise is suggested in order to mirror the existing bridge and maintain a 10 foot vertical clearance at the edge of the trail. This minimum vertical clearance will allow access for emergency vehicles underneath the bridge. The trail width will be 10 feet with 1 foot shoulders on either side of the trail. Figure 17 contains the west bridge elevation for Option 2.

The opinion of probable construction cost for Option 2 is \$1.6 million.



Figure 16: Plan View of Existing Bridge Location

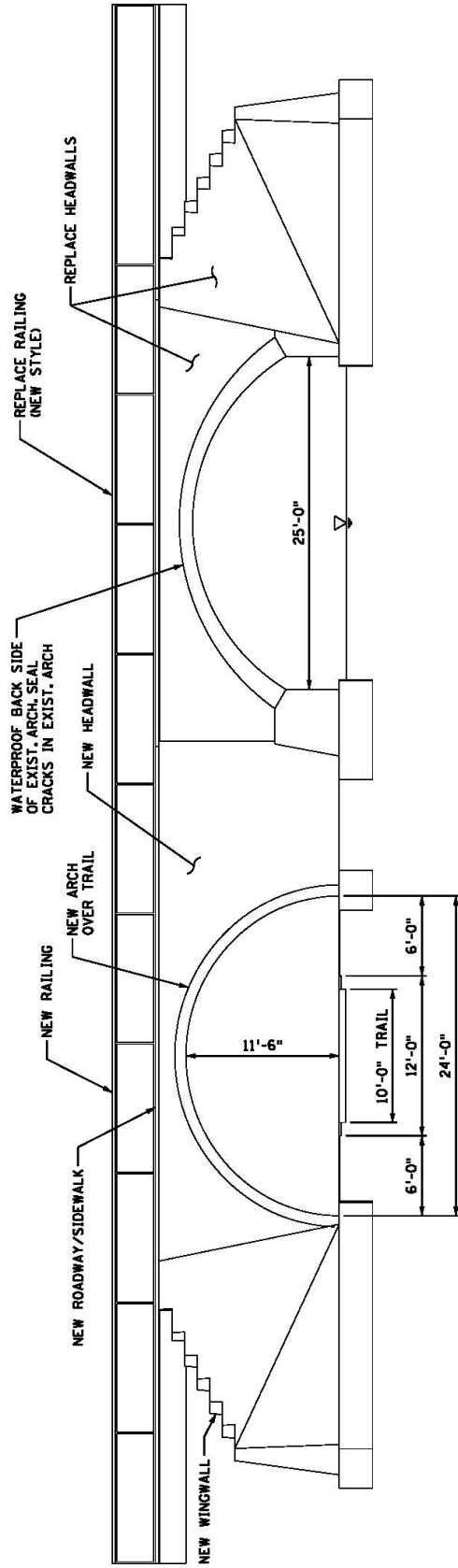


FIGURE 17: OPTION 2 ELEVATION



4.3. Option 3: New Bridge to Span Minnehaha Creek and Trail

Option 3 eliminates the existing Bridge 90592 and replaces it with a new concrete arch bridge that spans the Minnehaha Creek and the trail in a new alignment.

The proposed bridge is a Bebo Arch System in order to replicate the existing bridge appearance. The clear span for the arch is approximately 42 feet in order to accommodate the creek and an 8 foot trail that has the 10 foot minimum vertical clearance at the outer edge of the trail. The creek and trail will be separated by a wall with a railing. This wall may be the existing foundation to minimize construction in the creek bed.

The option of probable construction cost of the bridge alone is approximately \$877,500. However, this option has two drawbacks. The trail alignment will require significant changes to move the trail directly adjacent to the creek. In addition, to provide the correct clearance over the trail and the correct width to accommodate the trail and creek, 28th Avenue will need to be raised approximately 6.5 feet. A flatter arch with straight walls could be used instead, but the road will still need to be raised 3.5 feet. With private property in the northeast corner of the site, this option was not pursued further.

Figure 18 provides a west elevation of Option 3.

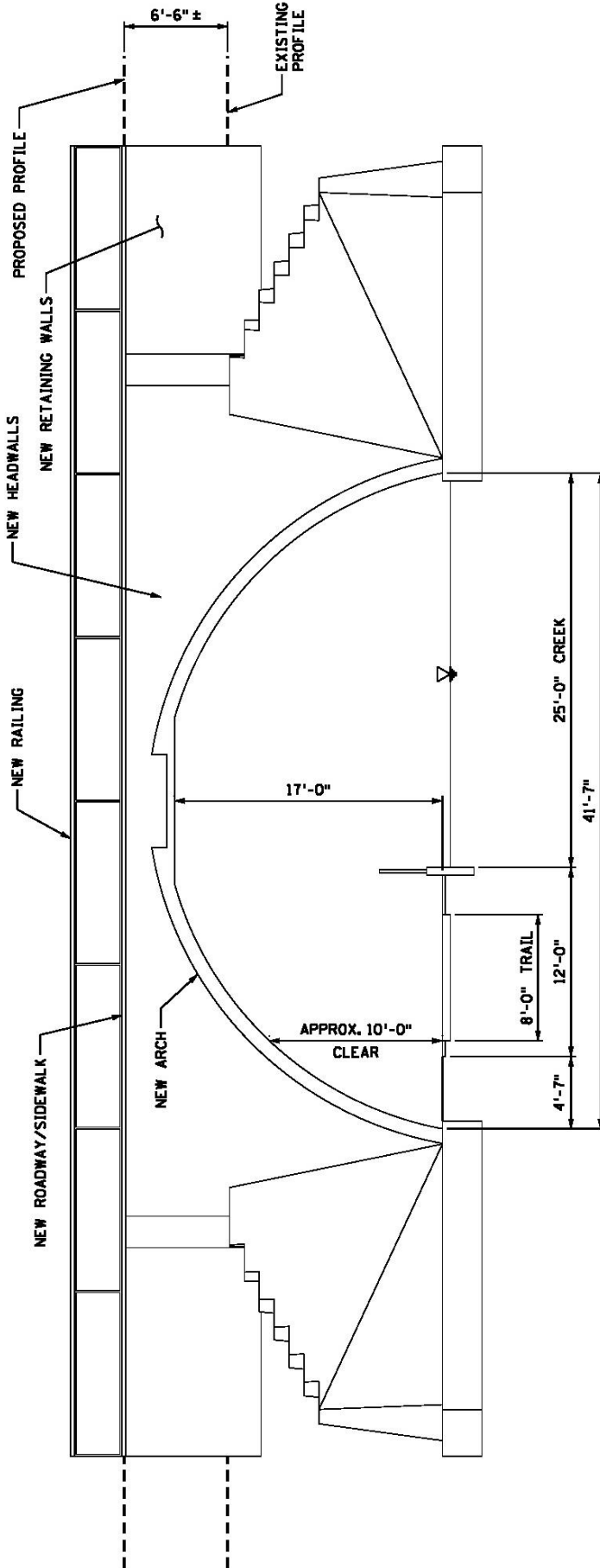


FIGURE 18: OPTION 3 ELEVATION



4.4. Option 4: Replace Existing Arch with Concrete Slab Bridge

Option 4 is the replacement of Bridge 90592 without accommodating a separated grade crossing for the trail.

A simple span concrete slab bridge was chosen for a replacement bridge due cost and ease of construction. The abutments would be placed at the same location as the existing thrust blocks to provide a similar hydraulic opening which minimizes water concerns up and downstream. Also, by placing the abutments at that location, the span length requirement for the bridge is relatively short which allows for a conventionally reinforced concrete slab span. The wingwalls would be placed in a similar configuration to minimize grading impacts.

The opinion of probable construction cost for Option 4 is \$450,000.

Figure 19 contains the west bridge elevation for Option 4.

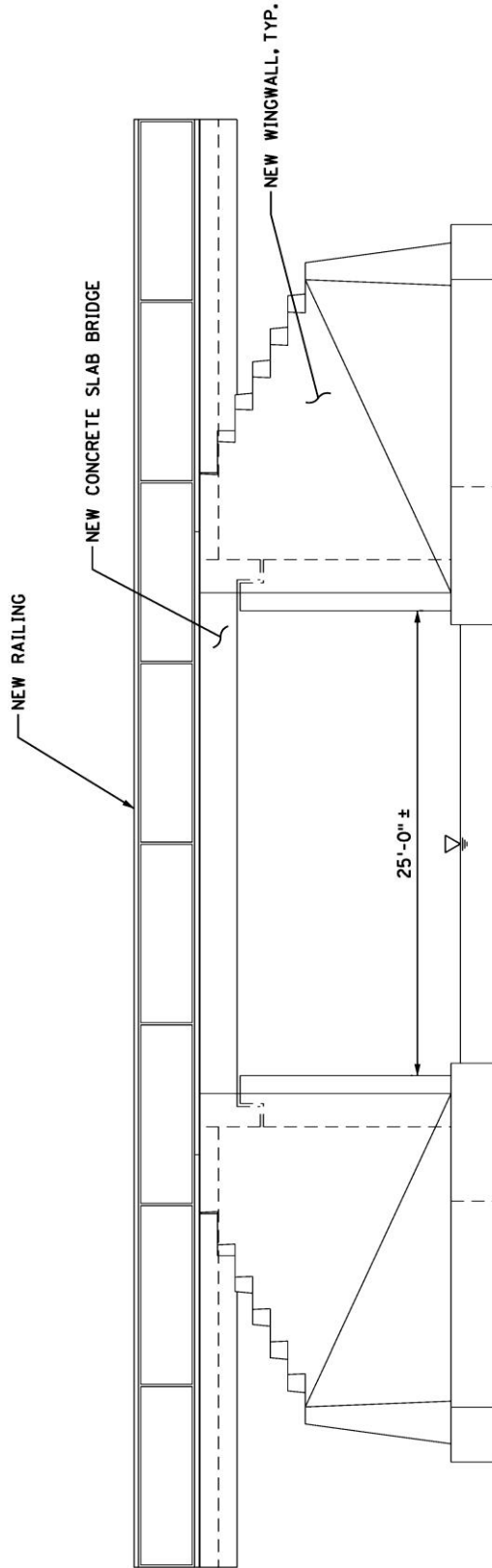


FIGURE 19: OPTION 4 ELEVATION
DRAIN PIPES ON EAST SIDE OF
BRIDGE TO BE REWORKED



4.5. Option 5: Replace Existing Arch with Concrete Slab Bridge Over Creek and Trail

Option 5 is the replacement of Bridge 90592 while accommodating a separated grade crossing for the trail adjacent to the existing bridge.

The proposed trail crossing location would be the same as Option 2. The only difference between Option 2 and Option 5 is the bridge type. For this option, the existing bridge would be removed and a two span continuous concrete slab bridge would be constructed to span over the creek and trail.

A two span bridge was chosen for two reasons: the creek and trail would be difficult to span with a single span concrete slab bridge, and the two span bridge minimizes the grading impacts required with greater trail realignment.

The proposed bridge would accommodate a trail width of 10 feet with 1 foot shoulders on either side of the trail. The minimum vertical clearance would be greater than 10 feet, which will allow access for emergency vehicles underneath the bridge.

The opinion of probable construction cost for Option 5 is \$945,000.

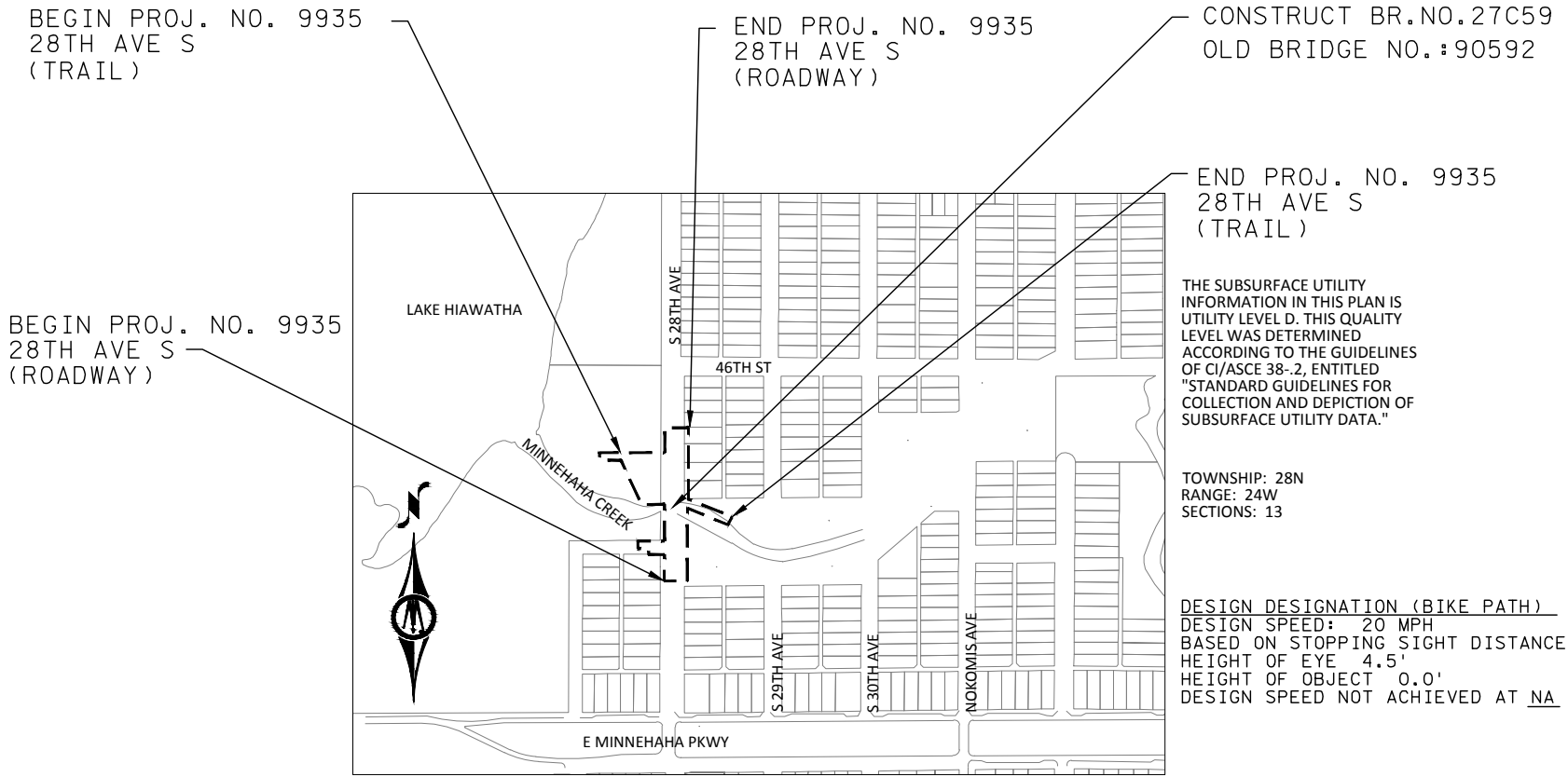
Figure 20 contains the west bridge elevation for Option 5.

MINNESOTA DEPARTMENT OF TRANSPORTATION
CITY OF MINNEAPOLIS
HENNEPIN COUNTY

CONSTRUCTION PLAN FOR: BRIDGE, TRAIL, SIDEWALK & 28TH AVE S
PROJECT NAME: 28TH AVE S BRIDGE REPLACEMENT AND
TRAIL IMPROVEMENTS
CITY OF MPLS. PROJ. NO : 9935

LOCATION: AN AREA BOUNDED ON THE NORTH BY: E 46TH STREET
ON THE SOUTH BY: MINNEHAHA PARKWAY
ON THE WEST BY: 27TH AVE S
ON THE EAST BY: 29TH AVE S

GROSS LENGTH: 477.00 FEET 0.090 MILES
BRIDGES LENGTH: 100.00 FEET 0.019 MILES
EXCEPTIONS LENGTH: FEET MILES
NET LENGTH: 477.00 FEET 0.090 MILES



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR COLLECTION AND DEPICTION OF SUBSURFACE UTILITY DATA."

TOWNSHIP: 28N
RANGE: 24W
SECTIONS: 13

DESIGN DESIGNATION (BIKE PATH)
DESIGN SPEED: 20 MPH
BASED ON STOPPING SIGHT DISTANCE
HEIGHT OF EYE 4.5'
HEIGHT OF OBJECT 0.0'
DESIGN SPEED NOT ACHIEVED AT NA

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.

Richard Revering
RICHARD REVERING LIC. NO. 20711 DATE 01-18-2019

APPROVED: MINNEAPOLIS CITY ENGINEER OR DEPUTY CITY ENGINEER DATE

APPROVED: DIRECTOR, TRAFFIC & PARKING SERVICES DATE

APPROVED: DIRECTOR, TRANSPORTATION ENGINEERING & DESIGN DATE

APPROVED: DIRECTOR, TRANSPORTATION PLANNING & PROGRAMMING DATE

APPROVED: DIRECTOR, TRANSPORTATION MAINTENANCE & REPAIR DATE

APPROVED: DIRECTOR, SURFACE WATER & SEWER DATE

APPROVED: DIRECTOR, WATER TREATMENT & DISTRIBUTION DATE

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B-2	CROSS SECTIONS
B-3	WORKING POINT LAYOUT
B-4	MICRO PILE DETAILS
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B-6	SOUTH ABUTMENT DETAILS (2 OF 3)
B-7	SOUTH ABUTMENT DETAILS (3 OF 3)
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B-18	FRAMING PLAN
B-19	27" PRESTRESSED CONCRETE BEAM (PRETENSIONED) 27M-59
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C1.01	TYPICAL SECTIONS
C2.01 - C2.04	SWPPP & EROSION CONTROL
C4.01	STORM PLAN & PROFILE
C6.01 - C6.03	PLAN & PROFILE
C7.01 - C7.05	SIGNAGE & STRIPING
C8.01 - C8.09	DETAILS & STANDARD DETAIL PLATES
C9.01 - C9.05	CROSS SECTIONS

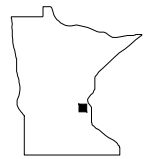
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28TH AVE S
(ROADWAY)

BEGIN PROJ. NO. 9935
28TH AVE S
(TRAIL)

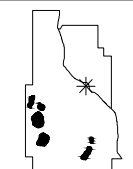
END PROJ. NO. 9935
28TH AVE S
(ROADWAY)

CONSTRUCT BR. NO. 27C59
OLD BRIDGE NO.: 90592

END PROJ. NO. 9935
28TH AVE S
(TRAIL)



STATE: MINNESOTA
COUNTY: HENNEPIN
DIVISION: METRO
CITY: MINNEAPOLIS



SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN IN CONJUNCTION WITH THE 2019 EDITION OF THE "STANDARD SUPPLEMENTAL SPECIFICATIONS FOR THE CONSTRUCTION OF PUBLIC INFRASTRUCTURE IN THE CITY OF MINNEAPOLIS".

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MN MUTCD, INCLUDING FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

HORIZONTAL DATA

HENNEPIN COUNTY COORDINATE SYSTEM
DATUM: NAD83, 1986 ADJUSTMENT (NON HARN)
UNITS: US SURVEY FEET

VERTICAL DATA

DATUM: NGVD 29



SHEET NUMBER	APPROVED	DATE

BOLTON & MENK
12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
Phone: (952) 890-0509
Email: burns@bolton-menk.com
www.bolton-menk.com

MINNEAPOLIS
DEPARTMENT OF
PUBLIC WORKS

TITLE SHEET	
DRW: JLW	DATE: 01/18/19
CHK: RR	DATE: 01/18/19
APP: RR	DATE: 01/18/19

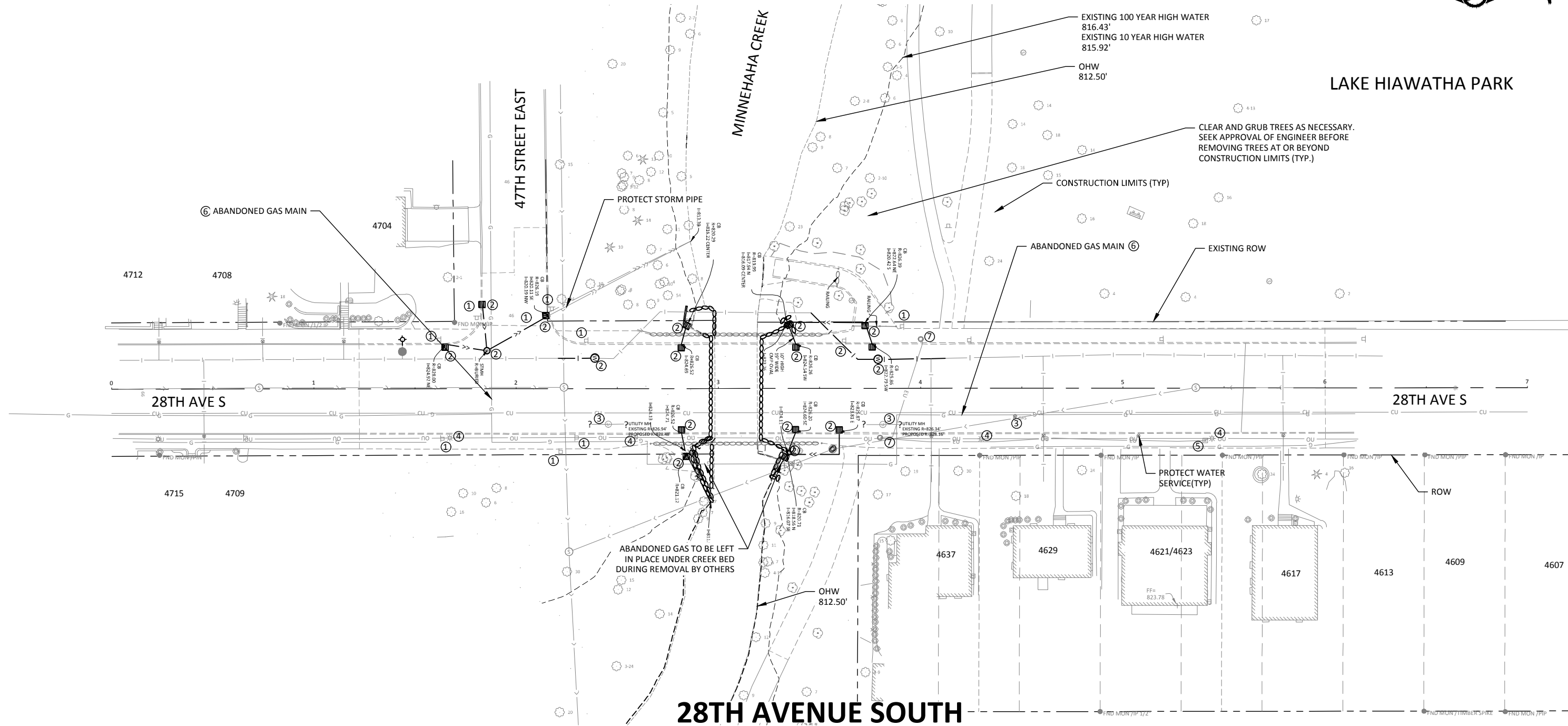
28TH AVE BRIDGE REPLACEMENT & TRAIL IMPROVEMENTS

CITY OF MINNEAPOLIS
PROJECT NO: 9935

G0.01



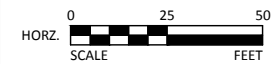
LAKE HIAWATHA PARK



LEGEND	
-->>--	REMOVE STORM SEWER
①	SALVAGE SIGN
②	REMOVE DRAINAGE OR WATER STRUCTURE / PIPE
③	FEATURE REMOVED OR ADJUSTED BY OTHERS
④	PROTECT EXISTING LIGHT POLE
⑤	ADJUST HANDHOLE
⑥	ABANDONED GAS MAIN REMOVAL BY OTHERS
⑦	SALVAGE FLASHER

- GENERAL NOTES:**
1. REMOVALS MUST NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER.
 2. BITUMINOUS CURB REMOVAL IS INCIDENTAL TO BITUMINOUS PAVEMENT REMOVAL.
 3. CONTRACTOR MUST COORDINATE WITH ALL PRIVATE UTILITY OWNERS TO PROTECT, SUPPORT, HOLD, DEENERGIZE OR OTHERWISE ACCOMMODATE FOR CONSTRUCTION ACTIVITY. THIS WORK IS CONSIDERED INCIDENTAL FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.
 4. CONTRACTOR MUST SALVAGE AND INSTALL ALL MAIL BOXES WITHIN THE CONSTRUCTION LIMITS. CONTRACTOR MUST PROVIDE TEMPORARY MAILBOXES DURING CONSTRUCTION.
 5. SALVAGE ALL LANDSCAPING ITEMS TO EXTENT PRACTICAL. ALL LANDSCAPED AREAS AND ITEMS MUST BE RESTORED TO PRECONSTRUCTION CONDITION USING LIKE MATERIALS. COORDINATE WITH EACH PROPERTY OWNER TO VERIFY MATERIALS, LAYOUT, ETC.
 6. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UNDERGROUND UTILITIES.
 7. SHRUB AND TREE REMOVAL MUST OCCUR IMMEDIATELY PRIOR TO CONSTRUCTION REQUIRING REMOVAL. ENTIRE REMOVAL OF SHRUBS AND TREES MAY NOT BE ALLOWED IN A SINGULAR MOBILIZATION. NO ADDITIONAL PAYMENT WILL BE MADE FOR REMOBILIZATION OF SPECIALIZED CREWS OR OTHER COSTS ASSOCIATED WITH TREE OR SHRUB REMOVAL.

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John K. Hennig

UC NO. 20711 DATE 01/13/2019



12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
Phone: (952) 890-0509
Email: Burnsville@bolton-menk.com
www.bolton-menk.com



DESIGNED	NO.	REVISION	DATE
RR			
DRAWN	JLW		
CHECKED	RR		
CLIENT PROJ. NO.	T11.110351		

CITY OF MINNEAPOLIS, MN
28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS
EXISTING CONDITIONS & MISC. REMOVAL PLAN

SHEET
C0.01



LAKE HIAWATHA PARK

MINNEHAHA CREEK

47TH STREET EAST

28TH AVE S

28TH AVE S

28TH AVENUE SOUTH

100 YEAR HIGH WATER
816.43'

CONSTRUCTION LIMITS (TYP)

EXISTING ROW

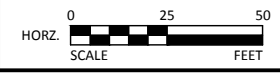
OHW
812.50'

LEGEND

	REMOVE CURB & GUTTER
	REMOVE BITUMINOUS
	REMOVE CONCRETE
	SAWCUT BITUMINOUS OR CONCRETE PAVEMENT

- GENERAL NOTES:**
1. REMOVALS MUST NOT OCCUR WITHOUT AUTHORIZATION FROM THE ENGINEER.
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Rich Perry

UC NO. 20711 DATE 01/11/2019



12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
Phone: (952) 890-0509
Email: Burnsville@bolton-menk.com
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CITY OF MINNEAPOLIS, MN

28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS

EXISTING CONDITIONS & PAVEMENT REMOVAL PLAN

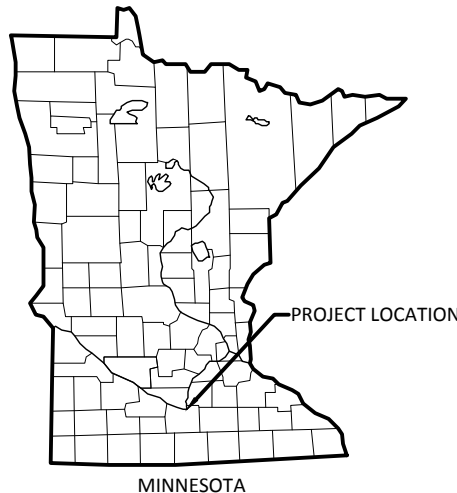
SHEET

C0.02

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

28TH AVE BRIDGE REPLACEMENT CITY OF MINNEAPOLIS HENNEPIN COUNTY, MINNESOTA

SWPPP DESIGNER



LEGEND

- PROJECT BOUNDARY
- IMPAIRED, SPECIAL OR PROTECTED WATERS
- NATIONAL WETLANDS INVENTORY
- STEEP SLOPES (>33.3%)
- RECEIVING WATERS

PROJECT AREAS:
 Total Project Size (disturbed area) = 1.9 ACRES
 Existing area of impervious surface = .7 ACRES
 Post construction area of impervious surface = .7 ACRES
 Total new impervious surface area created = 0.0 ACRES

Planned Construction Start Date: 04/01/2019
 Estimated Construction Completion Date: 12/31/2019

PERMANENT STORMWATER MANAGEMENT SYSTEM:

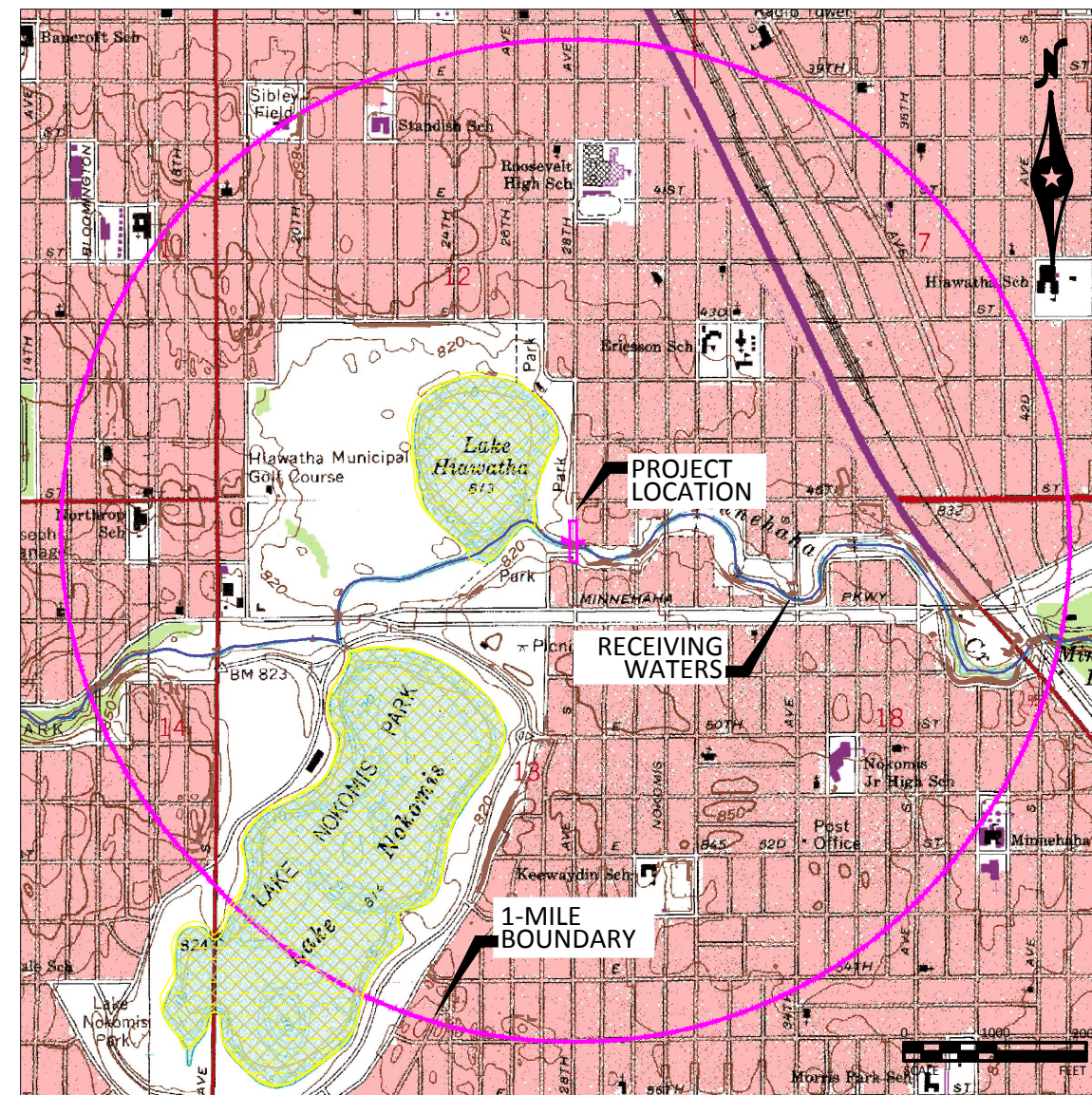
Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
	Regional Pond
X	Permanent Storm Water Management Not Required

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
HENNEPIN	28	24	13	44.918240	-93.232160

BMP QUANTITIES	UNIT	QUANTITY
STORM DRAIN INLET PROTECTION	EACH	9
FLOTATION SILT CURTAIN TYPE MOVING WATER	LF	581
SILT FENCE	LF	421
SUPER DUTY SILT FENCE	LF	315
TURF ESTABLISHMENT	LS	1
CATEGORY 3 BLANKET (INCIDENTAL TO TURF)	SQ FT	4000



RESPONSIBLE PARTIES:

The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. [Longer time frames apply to sites that disturb areas greater than 50 acres.]

The Contractor shall provide one or more trained Construction SWPPP Manager(s) knowledgeable and experienced in the application of erosion prevention and sediment control BMPs that will oversee the implementation of the SWPPP, and the installation, inspection and maintenance of the erosion prevention and sediment control BMPs. A Construction SWPPP Manager must be available for an on-site inspection within 72 hours upon request by the MPCA.

	COMPANY	CONTACT PERSON	PHONE
OWNER:	City of Minneapolis		
SWPPP DESIGNER:	Bolton & Menk, Inc.	Lanol Leichy	952-890-0509
CONTRACTOR:	TBD		
CONSTRUCTION SWPPP MANAGER:	TBD		
PARTY RESPONSIBLE FOR LONG TERM O&M:	City of Minneapolis		

The SWPPP Designer and Construction SWPPP Manager must have appropriate training. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Training documentation for the SWPPP Designer is included on this sheet. The Contractor shall attach training documentation to this SWPPP for the Construction SWPPP Manager prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

ADDITIONAL COMPENSATION

Payment for all work associated with Erosion and Sediment Control shall be as described in the Project Manual. Unless otherwise authorized by the Owner no additional payment shall be made for any work required to administer and maintain the site erosion and sediment control in compliance with the Minnesota Pollution Control Agency (MPCA) - General Storm Water Permit for Construction Activity (MN R100001) including but not limited to inspection, maintenance, and removal of BMPs or addition of BMPs to accommodate Contractor phasing.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

NO.	QUESTION	ANSWER
1)	Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
2)	Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
3)	Does any portion of this site discharge to a Calcareous fen.	NO
4)	Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
5)	Have any Karst features been identified in the project vicinity?	NO
6)	Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO
7)	Has the MN DNR promulgated "work in water restrictions" for any Public Water this site discharges to during fish spawning?	NO

GENERAL STORMWATER DISCHARGE REQUIREMENTS

All requirements listed in Part III of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to:

- The expected amount, frequency, intensity, and duration of precipitation.
- The nature of stormwater runoff and run-on at the site
- Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
- The range of soil particle sizes expected to be present on the site.

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:

Construction activities include: Bridge and pavement removals, site grading, storm sewer, temporary erosion and sediment control, concrete curb and gutter, aggregate base, bituminous paving and permanent stabilization.

The purpose of this project is to: 1) eliminate a skewed, at-grade trail crossing and provide a grade separated trail crossing of 28th Avenue; 2) narrow the roadway across the bridge to provide traffic calming and improve pedestrian crossings; 3) provide room for future bike facilities; 4) provide a 10-ft wide sidewalk on the bridge crossing Minnehaha Creek; 5) provide a boulevard separation of the road and sidewalk; and 6) provide ADA compliant crossings on 47th Street E.

DOCUMENT RETENTION

The following documentation will be retained for a period of not less than 3-years from the date of submittal of the NOT in compliance with Part III.E of the Permit.

- The final SWPPP
- Copies of all stormwater related permits required for the project
- Records of all inspection and maintenance conducted during construction
- Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance, and
- All required calculations for design of the temporary and permanent BMPs.

RECEIVING WATERS:

Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, are identified on the USGS 7.5 min quad map within one mile of the project boundary. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Appendix A Special Water?	Flows to Impaired Water Within 1 Mile?	USEPA Approved TMDL?
MINNEHAHA CREEK	STREAM	YES	YES	YES

Impairments: TMDL needed for Dissolved Oxygen, Fishes Bioassessments & Aquatic Macroinvertebrate Bioassessments; TMDL approved for Chlorides and Fecal Coliform

IMPLEMENTATION SCHEDULE AND PHASING:

- Submit SWPPP Updates to Engineer. Submittal shall include any requested changes to the SWPPP, including but not limited to: Trained Personnel, Locations for Stockpiles, Concrete Washout, Sanitation Facilities, Types and Locations of Erosion & Sediment Control. Failure to submit updates shall be considered acceptance of the SWPPP as designed with no changes.
- Install perimeter sediment control, inlet protection, and construction exit.
- Conduct removals for the road, bridge and trail.
- Perform site grading.
- Install bridge structural members, storm sewer and drainage structures.
- Install concrete curb and gutter.
- Install aggregate and bituminous paving.
- Add additional temporary BMPs as necessary during construction based on inspection reports.
- Ensure final stabilization measures are complete.
- Submit Notice of Termination (NOT) to MPCA within 30 days of final stabilization.

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 [Signature]
 U.C. NO. 20711 DATE 01/14/2019



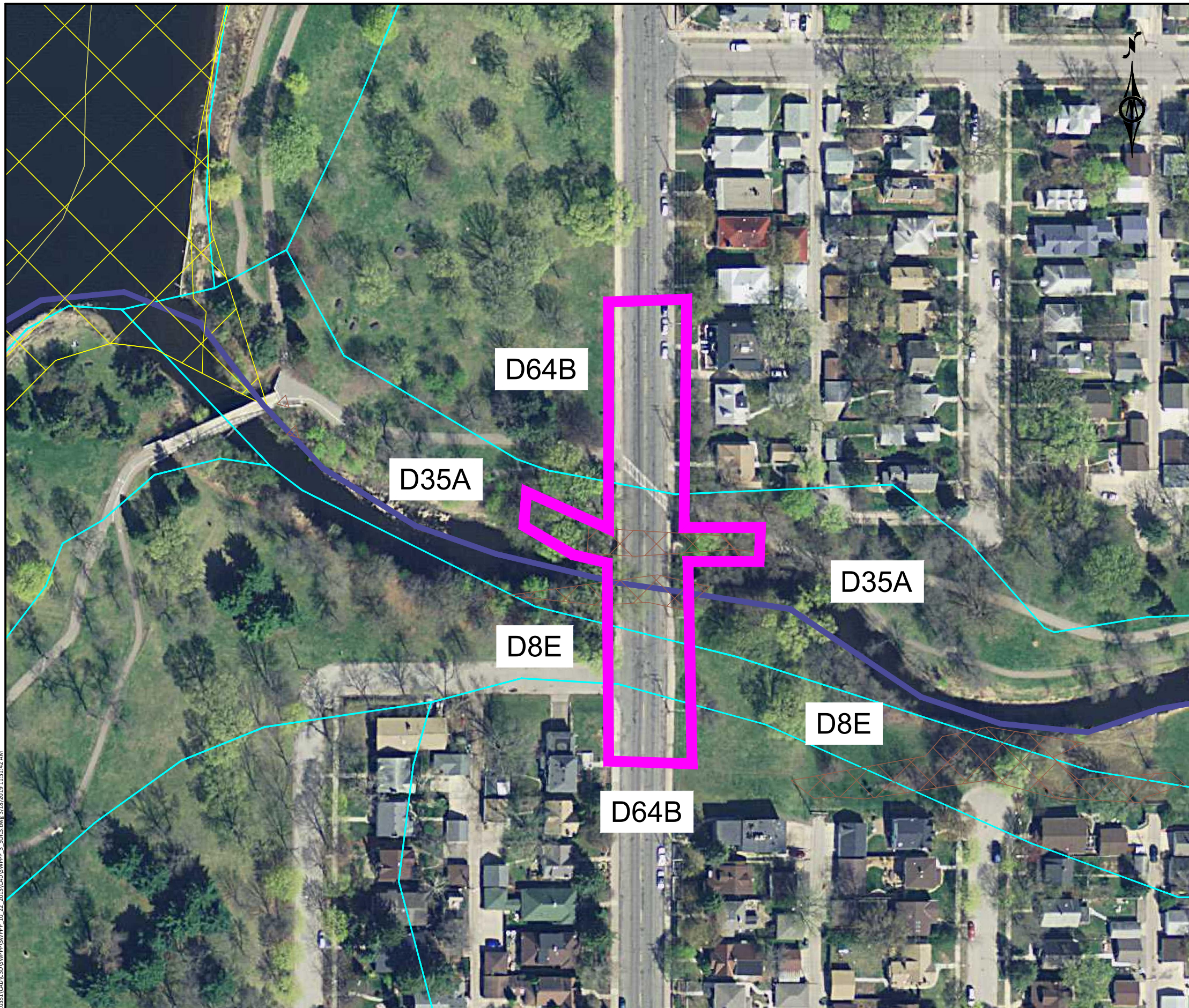
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RR			
DRAWN			
JLW			
CHECKED			
RR			
CLIENT PROJ. NO.	T11.110351		

CITY OF MINNEAPOLIS, MN
 28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS
 STORM WATER PREVENTION POLLUTION PLAN

SHEET
C2.01



LEGEND

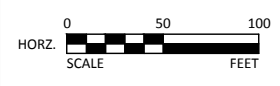
-  PROJECT BOUNDARY
-  SOIL TYPE
-  IMPAIRED, SPECIAL OR PROTECTED WATERS
-  NATIONAL WETLANDS INVENTORY
-  DWSMA, LOW VULNERABILITY
-  STEEP SLOPES (>33.3%)
-  RECEIVING WATERS

SOIL TYPE SUMMARY

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
MUSYM	MUNAME	HYDGRP	MUHELCL
D35A	Elkriver-Fordum complex, 0 to 2 percent slopes, occasionally flooded	A/D	
D64B	Urban land-Hubbard complex, Mississippi River Valley, 0 to 8 percent slopes	A	
D8E	Sandberg loamy coarse sand, 18 to 35 percent slopes	A	

NHEL - Not Highly Erodible Land
 PHEL - Potentially Highly Erodible Land
 HEL - Highly Erodible Land

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David J. Jentz

UC NO. 20846 DATE 01/14/2019








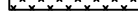

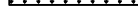


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 Email: Burnsville@bolton-menk.com
 www.bolton-menk.com

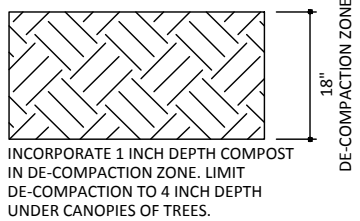


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JLW			
RR			
CLIENT PROJ. NO.	T11.110351		

EROSION CONTROL LEGEND

-  MS SILT FENCE MACHINE SLICED
-  SD SUPER DUTY SILT FENCE
-  TURBIDITY BARRIER
-  TEMPORARY BOAT BARRIER
-  INLET PROTECTION
-  DRY PRAIRIE GENERAL MIX 35-221 WITH CATEGORY 3 BLANKET (INCIDENTAL TO TURF ESTABLISHMENT)
-  SOD (INCIDENTAL TO TURF ESTABLISHMENT)
-  WETLAND BUFFER (INCIDENTAL TO TURF ESTABLISHMENT)
-  EXISTING WETLAND BUFFER (DO NOT DISTURB)
-  WETLAND BUFFER MARKER

WETLAND BUFFER DETAIL



TURBIDITY BARRIER SEE C2.04

MINNEHAHA CREEK

47TH STREET EAST

28TH AVENUE SOUTH

28TH AVENUE SOUTH

28TH AVENUE SOUTH



LAKE HIAWATHA PARK

EXISTING 100 YEAR HIGH WATER = 816.43'
 PROPOSED 100 YEAR HIGH WATER = 816.36'
 EXISTING 10 YEAR HIGH WATER = 815.92'
 PROPOSED 10 YEAR HIGH WATER = 815.91'

OHW 812.50'

75' OFFSET FROM WETLAND EDGE

WETLAND DELINEATION

TEMPORARY BOAT BARRIER DURING CHANNEL CLOSURE ONLY (SEE STAGING NOTES). (INCIDENTAL)

TRAIL - 2,399 SQ FT
 EXISTING BUFFER - 4,543 SQ FT
 PROPOSED BUFFER - 4,335 SQ FT
 TOTAL - 11,277 SQ FT

- EROSION AND SEDIMENT CONTROL NOTES:**
1. INSTALL PERIMETER EROSION CONTROLS AS INDICATED IN PLANS PRIOR TO START OF WORK.
 2. REMOVE ALL SOILS AND SEDIMENTS DEPOSITED ONTO PUBLIC AND/OR PRIVATE ROADWAYS WITHIN 24 HOURS OF DEPOSITION. REMOVAL OF TRACKING MATERIALS SHALL BE COMPLETED AT THE END OF EACH WORK DAY WHEN TRACKING OCCURS. SWEEPING MAY BE ORDERED AT ANY TIME IF CONDITIONS WARRANT. SWEEPING SHALL BE MAINTAINED THROUGHOUT DURATION OF CONSTRUCTION AND IN SUCH A MANNER TO PREVENT DUST BEING BLOWN TO ADJACENT PROPERTIES.
 3. INSTALL INLET PROTECTION IN ALL DOWNSTREAM CATCH BASINS WHICH RECEIVE RUNOFF FROM THE DISTURBED AREA. CATCH BASIN INSERTS ARE REQUIRED AT ALL LOCATIONS NOT WITHIN THE DISTURBED AREA WHICH RECEIVE RUNOFF (MNDOT TYPE C INLET PROTECTION).
 4. LOCATE ALL SOIL AND DIRT SPOIL PILES NO LESS THAN 25 FT FROM ANY PUBLIC OR PRIVATE ROADWAY OR DRAINAGE CHANNEL. ALL STOCK PILES THAT REMAIN IN PLACE FOR 7 DAYS OR MORE SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPING, OR OTHER MEANS. TEMPORARY STOCK PILES LOCATED ON PAVED SURFACES MUST BE AT LEAST 2 FT OR MORE AWAY FROM THE DRAINAGE/GUTTER LINE AND SHALL BE COVERED IF REMAINING MORE THAN 24 HOURS.
 5. ALL EXPOSED SOILS WITHIN 200 FT OF THE CREEK MUST BE STABILIZED WITHIN 24 HOURS FROM MARCH 15TH THRU JUNE 15TH. MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. INSPECT TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ON A WEEKLY BASIS AND REPLACE DETERIORATED, DAMAGED, OR ROTTED EROSION CONTROL DEVICES IMMEDIATELY.
 6. MAINTENANCE OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PERFORMED WHENEVER THE DEVICE IS 30% FULL. FAILURE TO MAINTAIN DEVICES MAY LEAD TO FURTHER ENFORCEMENT ACTION. WEEKLY INSPECTIONS REQUIRED AND AFTER EACH 1/2" OR MORE RAIN EVENT WITHIN 24-HOURS.
 7. READY MIXED CONCRETE AND BATCH PLANT WASHOUTS PROHIBITED WITHIN THE PUBLIC RIGHT OF WAY. DESIGNATED CONCRETE WASHOUT AND MIXING LOCATIONS IN THE EROSION CONTROL PLAN. UNDER NO CIRCUMSTANCES MAY WASHOUT WATER DRAIN ONTO THE PUBLIC ROW OR INTO THE PUBLIC STORM DRAIN.
 8. TEMPORARILY OR PERMANENTLY DISTURBED AREAS WHICH HAVE BEEN FINISH GRADED WITHIN 7 DAYS. USE SEEDING AND MULCHING, EROSION CONTROL MATTING, AND/OR SODDING WITHIN TEMPORARY STAKING IN GREEN SPACE AREAS. USE EARLY APPLICATION OF GRAVEL BASE FOR AREAS DESIGNATED FOR PAVED SURFACES.
 9. REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, AND NON-BIODEGRADABLE EROSION AND SEDIMENT CONTROL AFTER THE SITE HAS UNDERGONE FINAL STABILIZATION AND PERMANENT VEGETATION HAS BEEN ESTABLISHED. MINIMUM VEGETATION COVER OF 70% REQUIRED. ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES SHALL BE MAINTAINED UNTIL THE SITE HAS 70% ESTABLISHED VEGETATIVE COVER AND ALL PAVED AREAS HAVE BEEN STABILIZED WITH THE SELECTED PAVEMENT TYPE.

PERPENDICULAR TURBIDITY BARRIER DURING CHANNEL CLOSURE ONLY SEE C2.04 AND STAGING NOTES

TEMPORARY BOAT BARRIER DURING CHANNEL CLOSURE ONLY (SEE STAGING NOTES). (INCIDENTAL)

- CONSTRUCTION STAGING NOTES:**
1. CREEK CHANNEL SHALL BE TEMPORARILY CLOSED DURING BRIDGE REMOVAL AND OVERHEAD INSTALLATIONS. CLOSURE SHALL BE COORDINATED WITH CITY OF MINNEAPOLIS PARKS DEPARTMENT, MN DEPARTMENT OF NATURAL RESOURCES AND THE MINNEHAHA CREEK WATERSHED DISTRICT PRIOR TO CONSTRUCTION. CLOSURE OF THIS WATERWAY SHALL BE NO LONGER THAN 72 HOURS.
 2. NO WORK WILL TAKE PLACE IN THE CREEK FROM MARCH 15 THRU JUNE 15TH PER THE MN DEPARTMENT OF NATURAL RESOURCES DUE TO THE SPAWNING OF FISH. THE AREA IN QUESTION WOULD BE DEFINED AS THE OHW LEVEL TO THE CREEKS BED.
 3. AFTER THE CLOSURE, PERPENDICULAR BARRIERS WILL BE REMOVED AND FLOATING SILT CURTAINS PARALLEL TO THE BANKS WILL REMAIN IN PLACE.
 4. TURBIDITY BARRIER AT CHANNEL SIDES SHALL REMAIN IN PLACE UNTIL BRIDGE DECK HAS BEEN PLACED.

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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.

David J. Jost

UC NO. 20846 DATE 01/14/2019



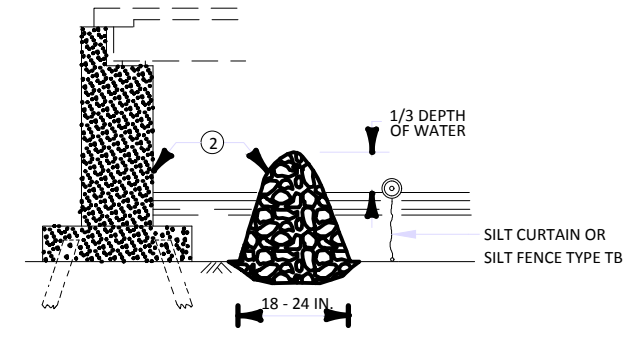
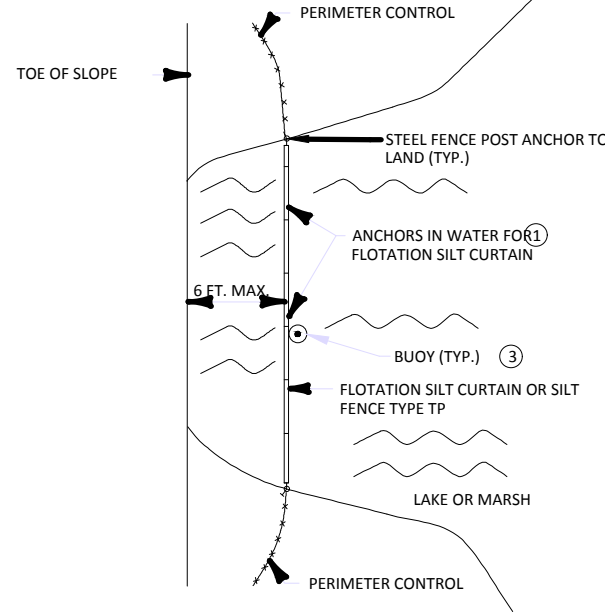
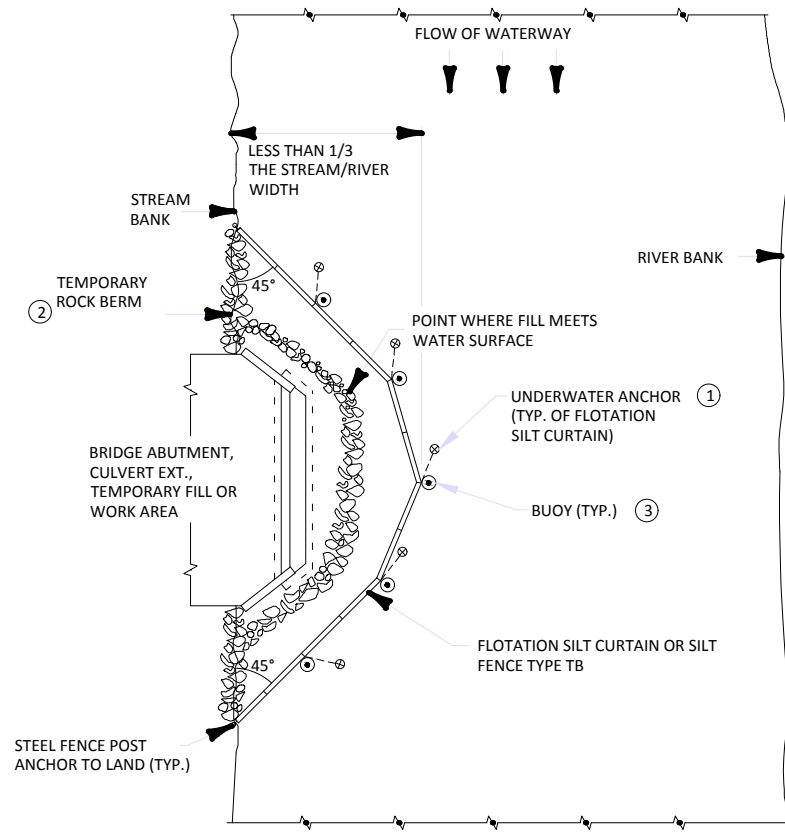
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CITY OF MINNEAPOLIS, MN
 28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS
 EROSION CONTROL PLAN

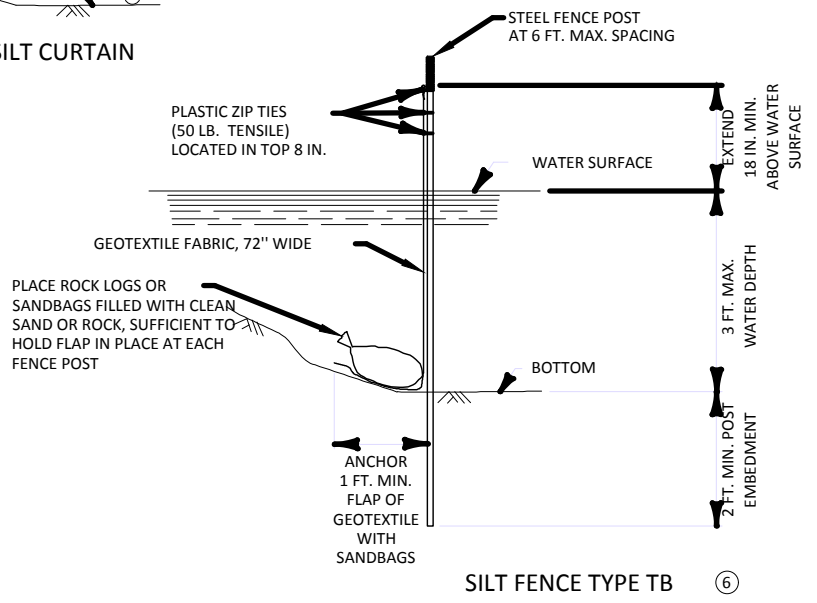
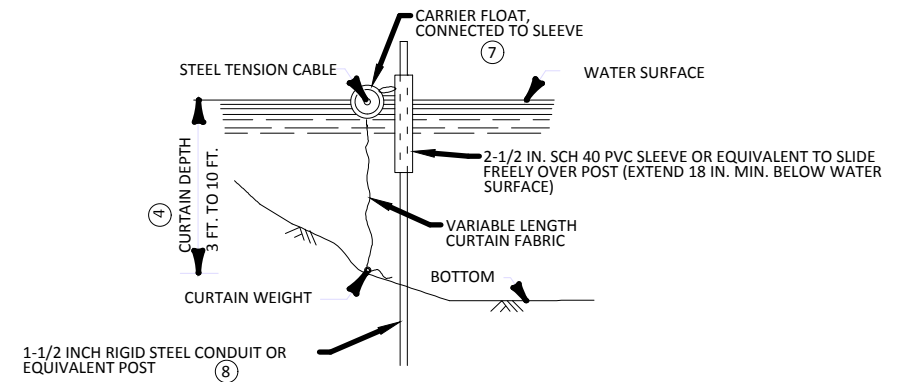
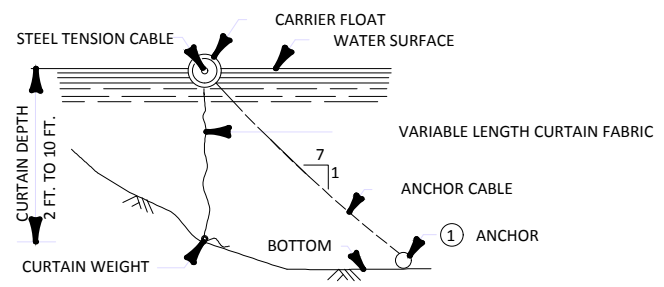
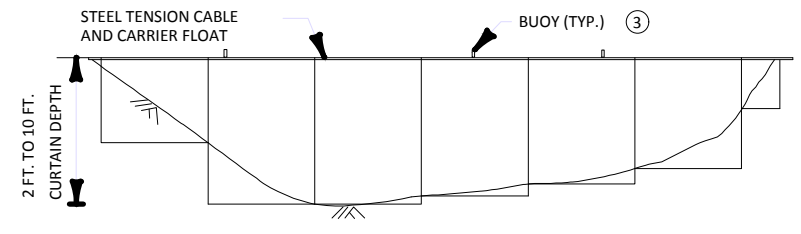
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C2.03



**INSTALLATION GUIDELINES
SILT FENCE TYPE TB**
 MINIMUM WATER DEPTH: 1 FT.
 MAXIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

**INSTALLATION GUIDELINES
FLOTATION SILT CURTAIN
TYPE: STILL WATER**
 MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 2 FT./SEC.
 MAXIMUM WAVE HEIGHT: 1 FT

**INSTALLATION GUIDELINES
FLOTATION SILT CURTAIN
TYPE: MOVING WATER**
 MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WAVE HEIGHT: 2 FT.



NOTES:

- SEE SPECS. 2573, 3886, 3887 & 3893.
- ① FOR ANCHOR SPACING AND WEIGHT REQUIREMENTS, SEE SPEC. 2573.
- ② IN AREAS WHERE THE PLAN CALLS FOR RIPRAP AT A BRIDGE, CULVERT, OR SLOPE, A TEMPORARY ROCK BERM CONSTRUCTED FROM THE RIPRAP CAN BE USED TO PROVIDE ADDITIONAL PROTECTION. WHEN THE WORK IS COMPLETE THE RIPRAP CAN THEN BE MOVED TO THE PERMANENT LOCATION INDICATED IN THE PLANS. THE TEMPORARY ROCK BERM IS INCIDENTAL.
- ③ ON U.S. COAST GUARD OR OTHER MOTORIZED WATERWAYS, BUOYS ARE REQUIRED TO MARK THE ENDS AND SPECIAL AREAS FOR VISIBILITY. PLACE BUOYS AS REQUIRED FOR NAVIGATIONAL PURPOSES.
- ④ MINIMUM WATER DEPTH APPLIES TO THE DEEPEST POINT ALONG THE FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB FOR DETERMINING APPLICABILITY OF FLOTATION SILT CURTAIN OR SILT FENCE TYPE TB.
- ⑤ SILT CURTAIN SHOULD BE REMOVED WHEN THE AREA CONTRIBUTING DIRECT RUNOFF HAS BEEN TEMPORARILY OR PERMANENTLY STABILIZED. SILT CURTAIN SHOULD ALSO BE REMOVED BEFORE WINTER IF ICE UP OR ICE FLOW IS ANTICIPATED.
- ⑥ EMBED POST INTO BOTTOM A MINIMUM OF 40% OF THE WATER DEPTH (INCLUDING WAVE HEIGHT), BUT IN NO CASE SHALL EMBEDMENT BE LESS THAN 2 FEET.
- ⑦ ANCHOR FLOAT MUST BE CONNECTED SECURELY TO SLEEVE WITH A MINIMUM TENSILE STRENGTH OF 100 LBS. CONNECTION METHOD MUST ALLOW FOR SLEEVE TO MOVE FREELY ON POST.
- ⑧ PROVIDE SUFFICIENT NUMBER OF POST ANCHORS TO MAINTAIN SILT CURTAIN POSITION.

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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.
David J. Kuehler
 U.C. NO. 20846 DATE 01/14/2019



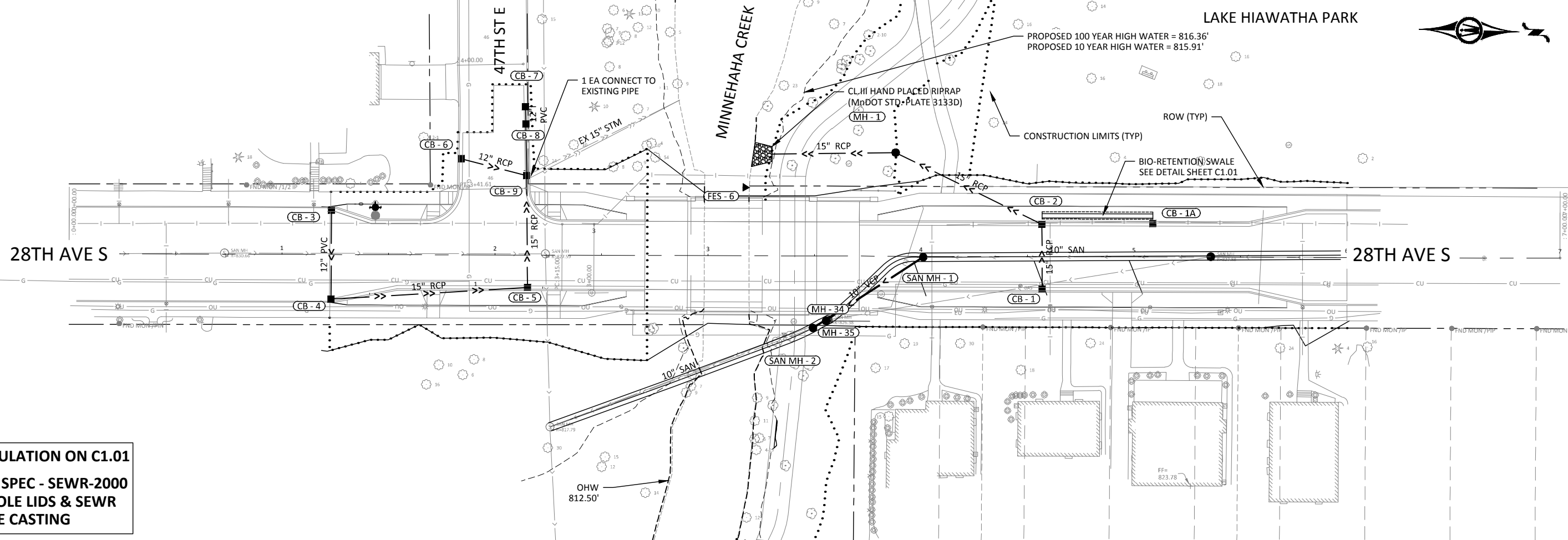
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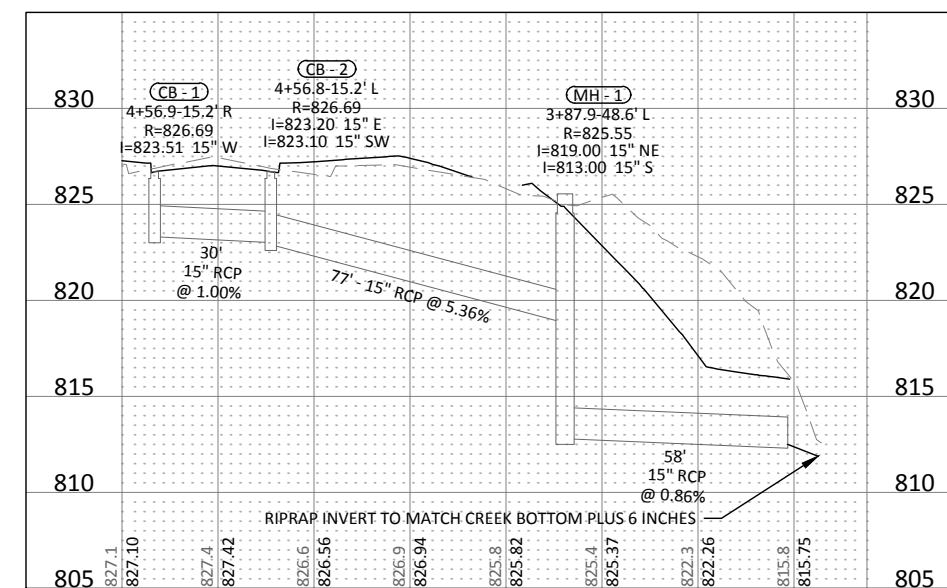
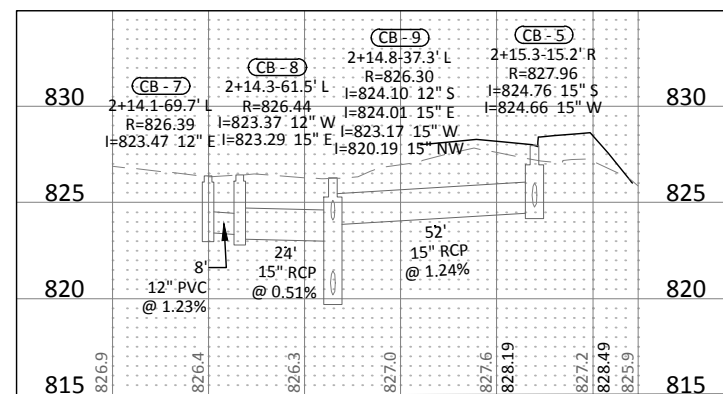
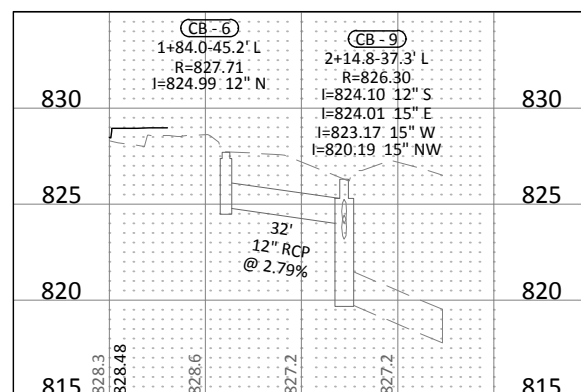
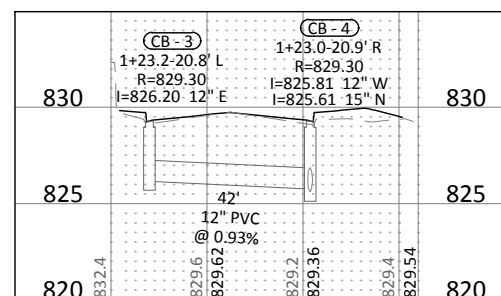
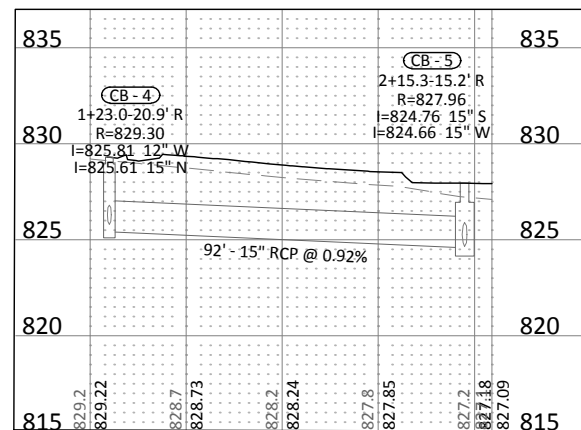
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CITY OF MINNEAPOLIS, MN
 28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS
 EROSION CONTROL PLAN

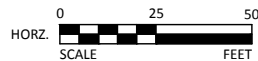
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C2.04



SEE STORM TABULATION ON C1.01
 REFER TO MPLS SPEC - SEWR-2000
 FOR ALL MANHOLE LIDS & SEWR
 1017 FOR GRATE CASTING



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David J. Juchacz
 LIC. NO. 20846 DATE 01/14/2019



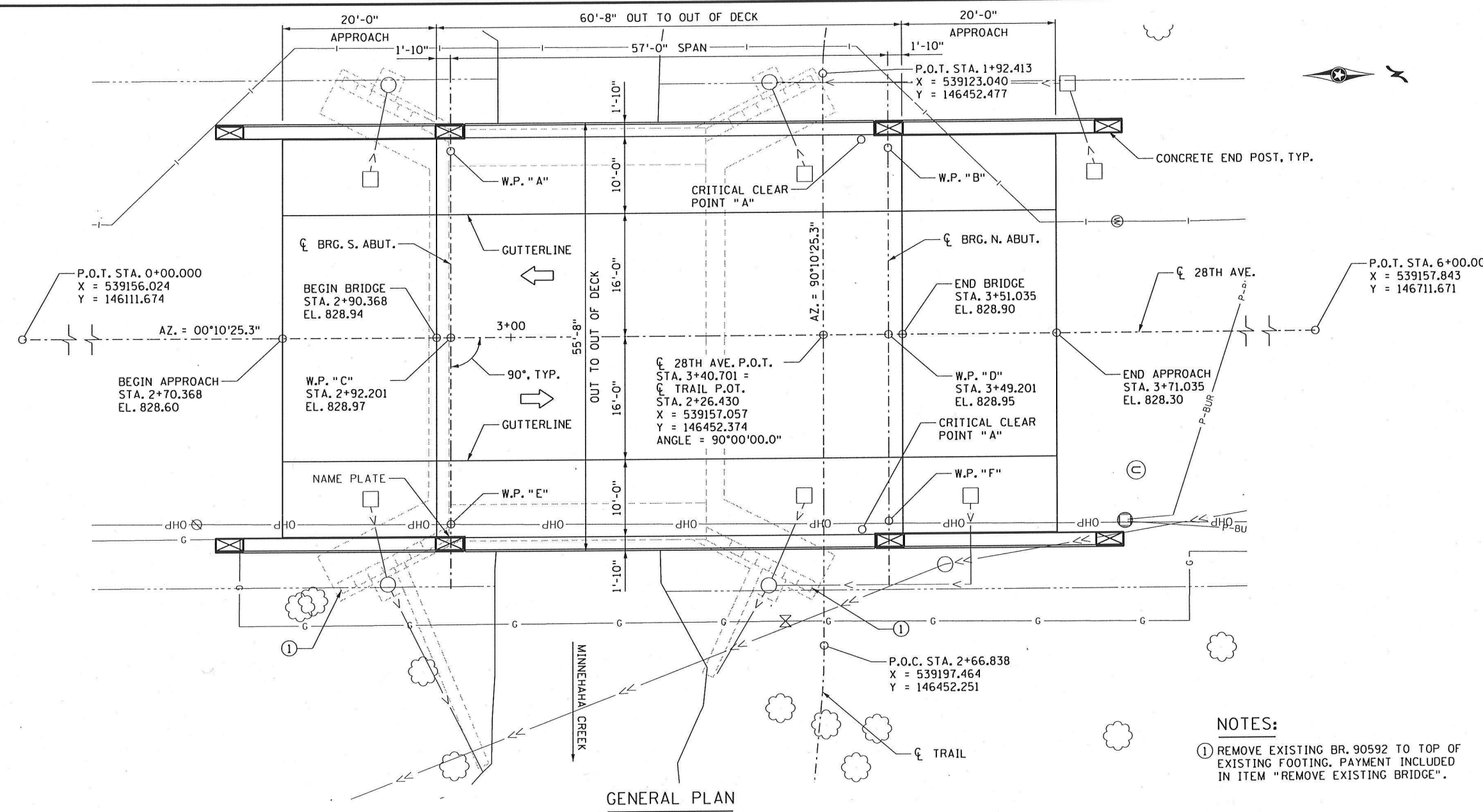
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CITY OF MINNEAPOLIS, MN
 28TH AVENUE BRIDGE REPLACEMENT AND TRAIL IMPROVEMENTS
 STORM SEWER PLAN

SHEET
 C4.01



NOTES:

① REMOVE EXISTING BR. 90592 TO TOP OF EXISTING FOOTING. PAYMENT INCLUDED IN ITEM "REMOVE EXISTING BRIDGE".

DESIGN DATA

DESIGNED IN ACCORDANCE WITH 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

HL 93 LIVE LOAD

DEAD LOAD INCLUDES 20 p.s.f. ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.

MATERIAL DESIGN PROPERTIES:

REINFORCED CONCRETE:
f'c = 4 k.s.i. CONCRETE
fy = 60 k.s.i. PLAIN AND EPOXY COATED BARS
n = 8 FOR REINFORCEMENT


PRESTRESSED CONCRETE:
f'c = 7.1 k.s.i. CONCRETE
fpu = 270 k.s.i. LOW RELAXATION STRANDS
n = 1 FOR PRETENSIONING STRANDS
0.75 fpu FOR INITIAL PRESTRESS

DECK AREA = 3377 SQ. FT

7600 AADT FOR YEAR 2038

DESIGN SPEED:
OVER = 30 M.P.H.

HL 93 LRFD BRIDGE OPERATING RATING FACTOR RF = 1.75

 **Olson & Nesvold Engineers, P.S.C.**
8000 West 78th Street, Suite 410
Edina, MN 55439

I HEREBY CERTIFY THAT THIS PLAN 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.

PRINTED OR TYPED NAME: MICHAEL D. SPEEDLING
LIC. NO.: 20760
DATE: 1/14/2019

LIST OF SHEETS

NO.	DESCRIPTION
B-1	GENERAL PLAN AND ELEVATION
B-2	TRANSVERSE SECTION & SCHEDULE OF QUANTITIES
B-3	WORKING POINT LAYOUT
B-4	MICROPILE DETAILS
B-5 TO B-17	ABUTMENT DETAILS
B-18	FRAMING PLAN
B-19	27" PRESTRESSED CONCRETE BEAM (PRETENSIONED) 27M-59
B-20 TO B-24	DECK DETAILS
B-25 TO B-29	RAILING AND BARRIER DETAILS
B-30 TO B-33	APPROACH PANEL DETAILS
B-34 TO B-36	MISCELLANEOUS DETAILS
B-37	BRIDGE SURVEY
B-38	BRIDGE SURVEY PLAN
B-39	BRIDGE SURVEY PROFILE
B-40	AS-BUILT DATA

BRIDGE NO. 27C59

28TH AVE. OVER MINNEHAHA CREEK IN MINNEAPOLIS

32'-0" ROWY.

58'-3" 27" PRESTRESSED CONCRETE BEAM TYPE MOD. P-1 BARRIER WITH ORNAMENTAL METAL RAILING 0° SKEW

IDENTIFICATION NO. 501

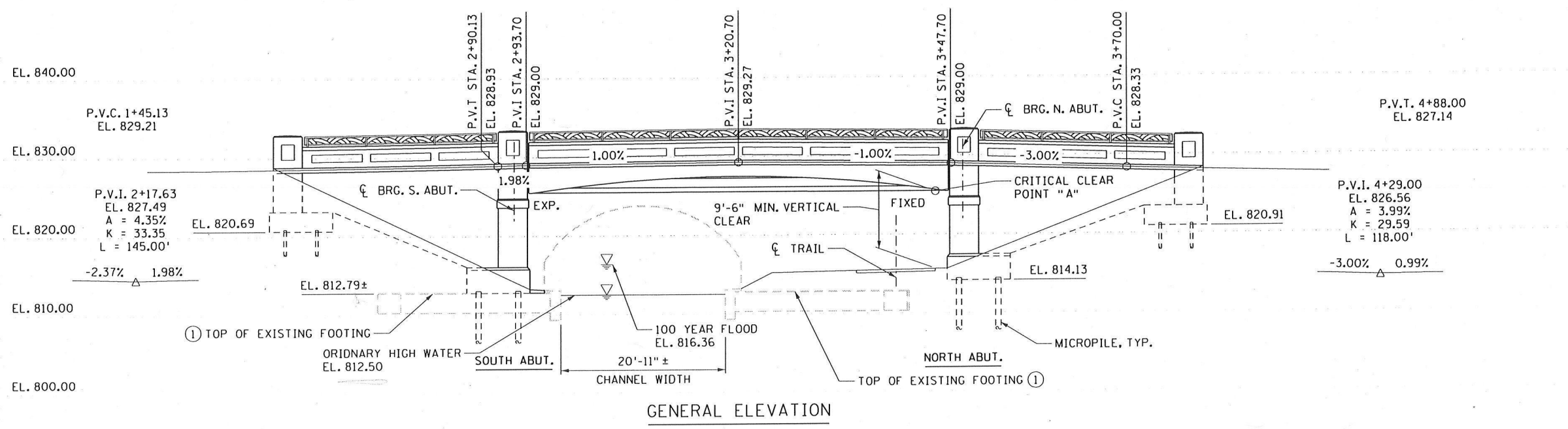
GENERAL PLAN AND ELEVATION

SEC 13 T 28 N R 24 W

CITY OF MINNEAPOLIS HENNEPIN COUNTY

DES: MDS DR: DPS
CHK: SLN CHK: MDS

SHEET NO. B-1 OF B-40 SHEETS



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 Plotted on: 2/6/2019 at 10:19:07 AM
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Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) Minnehaha Creek Watershed District	Address 15320 Minnetonka Blvd Minnetonka, MN 55345
--	--

1. PROJECT INFORMATION

Applicant Name City of Minneapolis/ Olson & Nesvold Engineers	Project Name 28th Ave S Bridge	Date of Application 12/15/2015 (Incomplete) 12/16/2015 (Complete)	Application Number W15-81
---	---	---	-------------------------------------

Attach site locator map

Type of Decision:

<input checked="" type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Banking Plan		

Technical Evaluation Panel Findings and Recommendation (if any):

<input type="checkbox"/> Approve	<input type="checkbox"/> Approve with conditions	<input type="checkbox"/> Deny
Summary (or attach):		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: <i>5/9/2016</i>		
<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Approved with conditions (include below)	<input type="checkbox"/> Denied

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

The City of Minneapolis, represented by Olson & Nesvold Engineers, has applied for wetland boundary & type confirmation for the wetlands located at the 28th Ave S Bridge over Minnehaha Creek in the City of Minneapolis, Hennepin County, Minnesota. Legal description: Section 13, Township 28N, Range 24W. The boundary/type approval was requested December 15th, 2015.

A wetland delineation was conducted by Bolton & Menk (Dan Donayre) on September 11th, 2015. A complete delineation report and WCA application were submitted to MCWD on December 16th, 2015. One wetland was delineated on site. Wetland 1 (W1) is identified as a Type 2, Fresh Meadow.

MCWD reviewed the boundaries in the field on April 29th, 2016. MCWD was in agreement with the wetland boundaries and types identified on site.

MCWD approves the wetland boundaries and types as delineated in the field and documented in the delineation report. This decision is valid for five years.

For Replacement Plans using credits from the State Wetland Bank:

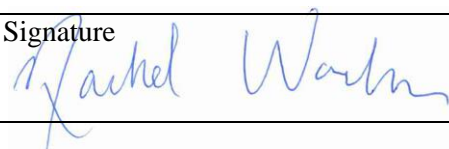
Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

- Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).
- Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that 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.
- 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 LGU upon request.		
Name Rachel Workin	Title Permitting Technician	
Signature 	Date 5/9/2016	Phone Number and E-mail (952) 641-4518 rworkin@minnehahacreek.org

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

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

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

3. APPEAL OF THIS DECISION

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

Check one:

<input checked="" type="checkbox"/> Appeal of an LGU staff decision. Send petition and \$0 fee (if applicable) to: Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345	<input type="checkbox"/> Appeal of LGU governing body decision. Send petition and \$500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155
--	---

4. LIST OF ADDRESSEES

<input checked="" type="checkbox"/> SWCD TEP member: Stacey Lijewski – stacey.lijewski@hennepin.us <input checked="" type="checkbox"/> BWSR TEP member: Ben Meyer – ben.meyer@state.mn.us <input type="checkbox"/> LGU TEP member (if different than LGU Contact): <input checked="" type="checkbox"/> DNR TEP member: Becky Horton- becky.horton@state.mn.us <input checked="" type="checkbox"/> DNR Regional Office (if different than DNR TEP member): Leslie Parris - leslie.parris@state.mn.us <input type="checkbox"/> WD or WMO (if applicable): <input checked="" type="checkbox"/> Applicant (notice only) and Landowner (if different): Olson & Nesvold Engineers (Steve Olson)- steve.olson@one-mn.com <input checked="" type="checkbox"/> Members of the public who requested notice (notice only): Bolton & Menk (Dan Doyare)- dando@bolton-menk.com, Elizabeth Stout- elizabeth.stout@ci.minneapolis.mn.us, Wes Boll- wboll@wenck.com <input checked="" type="checkbox"/> Corps of Engineers Project Manager (notice only): Melissa Jenny – melissa.m.jenny@usace.army.mil <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan applications only)

5. MAILING INFORMATION

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

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

➤ Department of Natural Resources Regional Offices:

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

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

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

➤ For Wetland Bank Plan applications, also send a copy of the application to:
Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

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

Approved wetland boundaries



Map Document: H:\OLSONNES_PRT\1110351\GIS\ESRI\Maps\110351_Delineation_8x11.mxd
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REQUEST FOR EXCEPTION FROM A RULE PROVISION

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

Phone: 952-471-0590
Fax: 952-471-0682

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

Project Details:

Project address: 28th Ave Bridge at creek City: Minneapolis State: MN Zip: na
 County: Hennepin Property ID number (PID): 130282412

The Board of Managers may grant an exception from a provision of the rules on a determination that the proposed application will achieve a greater degree of water resource protection than would strict compliance with the provision. An exception must be approved by a two-thirds majority of managers voting.

Exception Requested From MCWD Rule(s):

- | | |
|---|---|
| <input type="checkbox"/> Erosion Control | <input type="checkbox"/> Waterbody Crossings & Structures |
| <input type="checkbox"/> Floodplain Alteration | <input type="checkbox"/> Stormwater Management |
| <input checked="" type="checkbox"/> Wetland Protection | <input type="checkbox"/> Appropriations |
| <input type="checkbox"/> Shoreline & Streambank Stabilization | <input type="checkbox"/> Illicit Discharge |

Provision(s) and Requirement(s) of the Rule(s):

Section 6(c) of Wetland Protection Rule requires minimum buffer width of 50% of required average width.

Requested Exception:

Requesting exception to minimum width due to need to connect new trail under bridge to existing trails. The new trail must be closer than the minimum width due to the location of 28th Avenue and existing trails near the wetland.

Describe how the proposed design will achieve a greater degree of water resource protection than strict compliance with the provision, referring to the impacts on water quality, water quantity, and ecological integrity. Quantify water resource protection as much as possible (pounds of pollutant removal, acres of habitat creation, etc).

The proposed project would not normally trigger a storm water management requirement; however, to offset the reduced runoff volume and quality benefits of a reduced buffer width, the City proposes to provide treatment of street runoff from 28th Avenue equivalent to 1 inch of runoff from the new trail near the wetland on the west side of the new bridge. A bio-retention swale will reduce runoff volumes and nutrient loadings prior to discharge to the creek. Simplified MIDS modeling (reports attached) shows the swale is more effective for volume and nutrient reduction over the minimum-width buffer by a factor of 10 or more.

Project Information

Calculator Version: Version 3: January 2017
 Project Name: 28th Avenue Bridge Replacement
 User Name / Company Name:
 Date:
 Project Description:
 Construction Permit?: Yes

Site Information

Retention Requirement (inches): 1
 Site's Zip Code: 55416
 Annual Rainfall (inches): 31
 Phosphorus EMC (mg/l): 0.3
 TSS EMC (mg/l): 54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.0409		0.0409
			Impervious Area (acres)		0.0482
			Total Area (acres)		0.0891

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.0409		0.0409
			Impervious Area (acres)		0.0482
			Total Area (acres)		0.0891

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	175	ft ³
Volume removed by BMPs towards performance goal:	62	ft ³
Percent volume removed towards performance goal	35	%

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	0.1274	acre-ft
Annual runoff volume removed by BMPs:	0.0669	acre-ft
Percent annual runoff volume removed:	52	%

Post development annual particulate P load:	0.057	lbs
Annual particulate P removed by BMPs:	0.052	lbs
Post development annual dissolved P load:	0.047	lbs
Annual dissolved P removed by BMPs:	0.025	lbs
Percent annual total phosphorus removed:	74	%

Post development annual TSS load:	18.9	lbs
Annual TSS removed by BMPs:	15.3	lbs
Percent annual TSS removed:	81	%

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft ³)	Volume Recieved (ft ³)	Volume Retained (ft ³)	Volume Outflow (ft ³)	Percent Retained (%)
1 - Bioretention basin (with underdrain)	62	175	62	113	35

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Bioretention basin (with underdrain)	0.1274	0	0.0669	0.0605	52

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (with underdrain)	0.0572	0	0.0518	0.0054	90

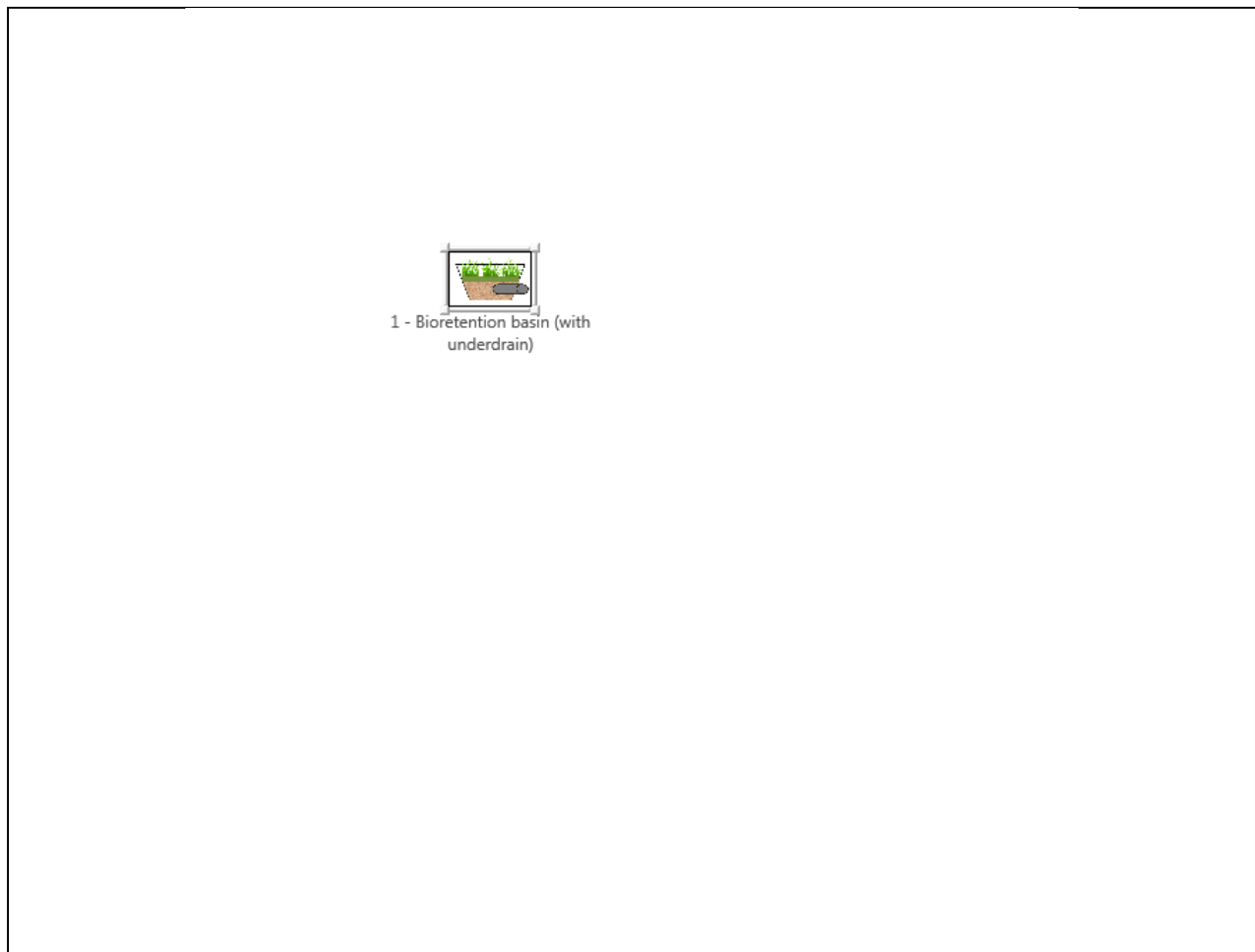
Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (with underdrain)	0.0468	0	0.025	0.0218	53

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (with underdrain)	18.88	0	15.29	3.59	81

BMP Schematic



Project Information

Calculator Version: Version 3: January 2017
 Project Name: 28th Avenue Bridge Replacement
 User Name / Company Name:
 Date:
 Project Description:
 Construction Permit?: Yes

Site Information

Retention Requirement (inches): 1
 Site's Zip Code: 55416
 Annual Rainfall (inches): 31
 Phosphorus EMC (mg/l): 0.3
 TSS EMC (mg/l): 54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.0409		0.0409
			Impervious Area (acres)		0.0482
			Total Area (acres)		0.0891

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.0409		0.0409
			Impervious Area (acres)		0.0482
			Total Area (acres)		0.0891

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	175	ft3
Volume removed by BMPs towards performance goal:	8	ft3
Percent volume removed towards performance goal	5	%

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	0.1274	acre-ft
Annual runoff volume removed by BMPs:	0.0197	acre-ft
Percent annual runoff volume removed:	15	%

Post development annual particulate P load:	0.057	lbs
Annual particulate P removed by BMPs:	0.009	lbs
Post development annual dissolved P load:	0.047	lbs
Annual dissolved P removed by BMPs:	0.007	lbs
Percent annual total phosphorus removed:	15	%

Post development annual TSS load:	18.9	lbs
Annual TSS removed by BMPs:	2.9	lbs
Percent annual TSS removed:	15	%

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft3)	Volume Recieved (ft3)	Volume Retained (ft3)	Volume Outflow (ft3)	Percent Retained (%)
1 - Swale Side Slope	8	175	8	167	5

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Swale Side Slope	0.1274	0	0.0197	0.1077	15

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Swale Side Slope	0.0572	0	0.0088	0.0484	15

Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Swale Side Slope	0.0468	0	0.0072	0.0396	15

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Swale Side Slope	18.88	0	2.91	15.97	15

BMP Schematic

