

Permit Application No.: 17-584

Rules: Erosion Control, Wetland Protection, Shoreline & Streambank Stabilization, Floodplain Alteration, Waterbody Crossings & Structures, and Variance

Applicant: **Metropolitan Council Environmental Services & Hennepin County**

Received: **11/15/17**

Project: **L38 Interceptor Replacement Project**

Complete: **3/13/18**

Location: **CSAH 44 from approximately Halsted Lane in the City of Mound, South through Minnetrista to Highway 7, and East on Highway 7 to approximately Baycliffe Road in the City of Victoria**

Noticed: **3/8/18**

Recommendation:

Staff recommend approval with the following conditions:

- Submission of an executed maintenance agreement for Waterbody Crossings & Structures after approval of a draft by MCWD staff
- Identification of the Contractor responsible for implementing the erosion control plan
- Submission of documentation of acquisition of all land-use rights necessary for the proposed work
- Submission of a copy of the NPDES permit number;

Background:

The Metropolitan Council Environmental Services (MCES) and Hennepin County have applied for a MCWD permit for Erosion Control, Wetland Protection, Shoreline & Streambank Stabilization, Floodplain Alteration, Waterbody Crossings & Structures, and Variance from the required setback for tunneling under a watercourse and from the minimum wetland buffer width and total buffer area requirement for one wetland for the L38 Interceptor Replacement Project (Project). The Project is located along approximately 4 miles of the right-of-way (ROW) for Westedge Boulevard, CSAH 44, Shadywood Lane, and Trunk Highway 7 in the Cities of Mound, Minnetrista, and Victoria. The project will upgrade the sanitary interceptor line, install a permanent cleanout structure located at 3205 Eagle Bluff Road, and upgrade existing stormsewer utilities. MCES and Hennepin County have a Cooperative Agreement for the construction and maintenance of the Project (attachment 3). As outlined in Cooperative Agreement the MCES is the agency responsible for the construction of the Project and Hennepin County is the agency responsible for the maintenance of the utilities. For the purposes of the permit report the use of the term “applicant” is in reference to the MCES. The Project requires approvals from the City of Mound, Minnetrista, Three Rivers Park District, MnDOT, and Hennepin County, along with acquisition of temporary and permanent easements with residential landowners; MCES has submitted all necessary permit applications and has initiated the easement acquisition process. MCES will update MCWD staff on the status of permits and easements. Approval of the MCWD permit is recommended to be contingent on acquisition of the necessary easements.

Per section 2(d)(1) of the Stormwater Management Rule, linear projects, including utilities, that create less than 10,000 square feet of new impervious surface are exempt from the rule. As the project proposes to replace the road with no increase in impervious surface, the Stormwater Management Rule is not applicable to the proposed utility replacement.

Per Section 2(b) of the Stormwater Management Rule, new development that creates less than 20% new impervious surface is exempt from the Stormwater Management Rule. The project proposes to create approximately 350 square feet of new impervious surface for the permanent placement of a concrete slab and clean out structure. The Structure will be located on a 1.53 acre undeveloped parcel at 3205 Eagle Bluff Road in the City of Minnetrista. Because the impervious surface of 350 sf is 0.5% of the parcel, this portion of the project is exempt from the Stormwater Management rule as well.

Erosion Control:

The District’s Erosion Control rule is applicable for any project that proposes earth disturbance of 5,000 square feet or 50 cubic yards of excavation or fill. The proposed linear redevelopment alone will disturb approximately 13 acres of land; therefore, the rule applies to all proposed work. The applicant has provided the proper erosion control measures including floating silt curtain, silt fence, sediment control log, inlet protection, construction access stabilization, location of concrete washout, and final stabilization, including six inches of topsoil (attachment 4). A copy of the NPDES permit number will be submitted to MCWD per section 4(k) as listed in the recommendation for conditional approval.

The erosion control plan meets the District’s rule requirements.

Wetland Protection Rule:

Twenty wetlands were delineated along the project corridor. Eighteen of the delineated wetlands are within the ROW and permanent easements. The City of Mound and MCWD, which exercises Wetland Conservation Act (WCA) jurisdiction in the City of Victoria, waived administration of WCA to the City of Minnetrista as the LGU for wetlands within the project corridor. The City of Minnetrista issued Notice of Decision (NOD) ML-15025 dated March 18th, 2016 and NOD ML-17028 dated August 1st, 2017, approving the wetland types and boundaries (attachment 5). WCA NOD ML-17028 approving a utilities exemption for proposed impacts for the culvert replacements was sent on February 5th, 2018 (attachment 6).

One of the utility replacements will involve excavation within a Type 2 wetland (Wetland 4). The WCA NOD for utility exemptions does not apply to this impact as WCA does not regulate excavation in Type 2 wetlands, however, the District regulates excavation in all wetland types. Per section 2(b) excavation in any type of wetland, except where specifically exempted by the WCA, must meet WCA sequencing and replacement-plan requirements. The excavation is required for replacement of the utility and therefore would qualify to meet the criteria for exemption under 8420.0420 Subp. 6 Utilities if excavation in Type 2 wetlands were regulated by the WCA. The WCA Utilities exemption requires that impacts be minimized to the greatest extent possible and that the project alters less than one-half acre of wetland. The replacement involves 200 square feet of excavation within the wetland and has been minimized to the greatest extent needed to replace the utility. Therefore, the excavation is specifically exempt by the WCA, and sequencing and replacement requirements are not required to be met. Wetland 4 vegetation consists of Reed Canary Grass and Common Buckthorn; both are invasive species that will be removed through the excavation. The area will be reseeded with State Seed Mix 34-262 and 34-181, both seed mixes consist of native grasses, forbs, and sedges.

Per section 5(a) of the MCWD Wetland Protection Rule, wetland buffer is required when a project triggers the Waterbody Crossing and Structures rule. The buffer width requirements for the Project were analyzed under section 6(e) for linear reconstruction projects with the exception of the buffer width requirement at Wetland 6 which is located on the parcel that the permeant clean-out structure is proposed. Per section 6(e), the provided applied buffer width for linear reconstruction projects shall be limited to the extent of available ROW. The new permanent concrete slab associated clean-out structure is not considered to be a linear reconstruction project; therefore, Wetland 6 located at 3205 Eagle Bluff Road in the City of Minnetrista is subject to the buffer width requirements of section 6(a). The applicant has provided wetland buffers to the available extent of the ROW and permanent easements to be acquired for the Project. Wetland 6, has a Preserve Management Class requiring a 75-foot applied buffer width (attachment 7). The applicant is seeking a variance from Section 6(c) as the proposed buffer width does not meet the minimum applied buffer width and total buffer area required for Wetland 6 as discussed in the Variance Section of this report.

The below table, on the next page, outlines the wetlands, required applied buffer width for non-linear projects, provided applied buffer width limited to extent of the ROW (with the exception of Wetland 6*), and if the wetland buffer is proposed to be disturbed.

Wetland ID	Management Class	Required Applied Buffer Width	Provided Applied Buffer Width ¹	Buffer Disturbance
1	Preserve	75'	25'	Y
2	Preserve	75'	25'	Y
3	Preserve	75'	20'	Y
4	Preserve	75'	20'	Y
5	Preserve	75'	n/a, outside ROW and acquired easements	N
6*	Preserve	75'	85' (max) 15' (min)	Y
7	Manage 1	40'	Varies 9'-18'	Y
8	Manage 1	40'	Varies 15'-17'	N
9	Unclassified	n/a	n/a, outside ROW and acquired easements	N
10	Preserve	75'	Varies 18'-26'	N
11	Preserve	75'	Varies 5'-10'	Y
12	Manage 2	30'	30'	Y
13	Manage 2	30'	Varies 10'-27'	N
14	Manage 1	40'	Varies 20'-23'	N
15	Manage 2	30'	30'	Y
16	Preserve	75'	25'	Y
17	Manage 1	40'	25'	Y
18	Manage 1	40'	Varies 7'-12.5'	Y
19	Manage 3	20'	20'	Y
20	Manage 2	30'	30'	Y

Per section 7(c), buffer areas that will be disturbed by site activity must provide a revegetation, monitoring, and maintenance plan. The applicant has demonstrated that soils in areas where the buffer is to be disturbed will be decompacted to 18 inches, except for within 10 feet of existing underground utilities, 6 inches of organic material will be incorporated into the soils and the areas will be seeded with State Seed Mix 36-211. The MCES and Hennepin County have submitted a maintenance and monitoring plan (Specification 02900- Landscaping, Articles 1.10 & 3.18) in accordance with sections 7 and 10 of the rule. Wetland buffer monumentation shall be provided along the buffer contour spaced no less than 100' apart and where the buffer crosses property lines as stated in Keynote 9 of the Wetland Buffer Plan.

MCWD and Hennepin County have an executed cooperative agreement that satisfies the maintenance agreement requirements for buffers on public land or ROW per section 5(c) (attachment 8).

The Project as designed, with the exception of the minimum buffer width provided and total buffer area provided adjacent to Wetland 6, meets the District's Wetland Protection Rule.

Shoreline & Streambank Stabilization:

The District's Shoreline and Streambank Stabilization rule is applicable for any project proposing an improvement or alteration of the shoreline of a water basin or the bank of a watercourse. There are two locations where the existing culvert outfalls will be replaced within the shoreline of Halsted Bay of Lake Minnetonka such that stabilization of the shorelines will be necessary. One outfall is proposed to be replaced at the Sinclair site (Station 39+48) at Wetland 4 (attachment 9) and two culverts are proposed to be replaced at the LS8 site near 3895 County Road 44 (Station 96+00) (attachment 10). The disturbed shoreline at each location is proposed to be stabilized with a proprietary bioengineering stabilization product, referred to as flexamat, which provides permanent erosion control. The mat consist of concrete blocks (6.5" x 6.5" with a 2.25" profile) locked together and embedded

¹ Provided buffer width, where less than the required width, is the maximum width that can be provided within the right of way that is either presently owned or will be acquired by the applicants, excluding Wetland 6.

into a high strength geogrid. There is 1.5" spacing between the blocks that gives the mat flexibility and allows for optional vegetation growth (product description provided by website <http://www.flexamat.com/>). The mat at the Sinclair site will be seeded with State Seed Mix 34-181 and 34-626 and the mat at the LS8 site will be seeded with mixes 34-181 and 36-211. Both seed mixes consist of native grasses and forbs.

Per section 3, the applicant has submitted an erosion intensity score for both locations which equated to a low score (attachment 11 & 12). Per section 3(b)(1), low erosion intensity shorelines shall utilize biological stabilization. Due to specific site conditions such as, the amount of the proposed land disturbance associated with the culvert outfall replacement and the existing bank contours, the applicant has requested to apply section 5, design flexibility as the erosion intensity score may have inaccurately predicted the degree of erosion for the proposed conditions. The applicant has submitted an alternatives analysis that included hard armoring stabilization and biological stabilization.

Staff recommends approval of the proposed bioengineering stabilization as the most minimal impact solution for the enhanced short term stabilization during establishment of native vegetation (seed mixes 34-181, 34-626, & 36-211) and for long-term stabilization of the bank to protect against erosion at the culvert outlets from modeled velocities during high intensity storm events.

The bioengineered erosion-control mat will be installed at less than a 3:1 slope, will extend no more than three feet waterward, and the area will be enclosed with a floating silt curtain, meeting the criteria for stabilization techniques per section 6.

All other instances where the replacement of an existing outfall come into contact with the shoreline are in-kind replacements in conformance with the criteria of the rule and do not require a Shoreline Stabilization permit per section 2(c).

The project as designed meets the District's Shoreline & Streambank Stabilization Rule.

Floodplain Alteration:

The District's Floodplain Alteration rule is triggered for any alteration or filling of land below the 100-year high water level (HWL) elevation of a waterbody. The District's approved 100-year HWL for Lake Minnetonka is 931.5'. There are two locations where the replacements of existing culvert outfalls cause disturbance and the existing contours will be altered below the 100- year HWL, therefore the Floodplain Alteration Rule is applicable. One outfall is proposed to be replaced at the Sinclair site within Wetland 4 (attachment 13) and two culverts are proposed to be replaced at the LS8 site near 3895 County Road 44 (attachment 14). The applicant has provided land alteration quantities between the ordinary high water (OHW) elevation 929.4' and the 100-year HWL elevation 931.5'. The below table describes the proposed fill and provided compensatory storage as required under paragraph 3(a).

Floodplain Alteration between 929.4' & 931.5'

Site	Fill (cy)	Cut (cy)	Floodplain Storage Created (cy)
Sinclair site at station 39+48	3.15	7.58	4.43
LS8 site at station 96+00	2.97	3.54	0.57

The proposed floodplain alteration will result in an increase of 5 cubic yards of floodplain storage capacity and the proposed fill will not increase the 100-year HWL elevation. Additional land disturbances are proposed below the 100-year HWL for several of the proposed stormsewer replacements along the project corridor. The additional land disturbances at these locations will not result in fill below the 100-year HWL, as the plans show that existing contours will be maintained, indicating land disturbance that will not result in an increase of fill; therefore, no floodplain mitigation is required.

The project does not propose new impervious surface within the 10-year floodplain elevation of Lake Minnetonka (930.07') per section 3(d). There are no new residential, commercial, industrial, or institutional structures proposed therefore, section 3(f) is not applicable to the project.

The project as designed meets the District's Floodplain Alteration Rule.

Waterbody Crossings & Structures:

The District Waterbody Structures rule is applicable for any project that proposes to place a road, highway, utility, bridge, boardwalk or associated structure in contact with the bed or bank of any waterbody. The project proposes to replace 26 stormsewer structures that convey stormwater. 19 of the stormsewer structures come into contact with the bank of a wetland or Lake Minnetonka (attachment 15). The project also proposes to tunnel a sanitary line under the Halstead Bay-Priest’s Bay Channel (Channel) (attachment 16), triggering required compliance with the rule for projects proposing to “conduct horizontal drilling under” a water in the watershed. For the purposes of the permit report, the stormsewer structures and tunneling under the Channel are analyzed separately below.

Stormsewer Structures

Per section 3(a), structures in public waters shall meet a demonstrated public benefit and meet a specific need for all other projects. The culvert replacements are proposed to upgrade the existing stormsewers to be in conformance with Hennepin County stormsewer requirements and to address areas of localized flooding in areas where the culverts are not functioning as originally designed. The applicant has demonstrated that the structures provide a public benefit for use of the bank of Lake Minnetonka and a specific need for the use of the bank of a wetland.

Section 3(b) requires that the placement of the utilities retain adequate hydraulic capacity. For 10 of the stormsewer replacements the proposed changes are simple upgrades to the type of pipe along a large stormsewer connection that would not change the overall hydraulic flow or cause increases in upstream or downstream waterbodies. For 6 of these hydraulic connections, the stormsewer is being upgraded from a corrugated metal pipe (CMP) to a high-density polyethylene (HDPE) pipe of the same capacity. For these 6 proposed replacements, flow rates will increase, however, due to the size of receiving waterbody (Lake Minnetonka) increases in the downstream high water level are not proposed. For the final 3 of the 19 connections, the new pipes or hydraulic crossing were modeled to show that the new waterbody crossings would not result in upstream or downstream increase in the 100-year HWL. The below table lists the existing and proposed 100-year HWLs as modeled in XP-SWMM by the applicant to show that the 100-yr HWL elevation of the upstream ponding area is reduced or does not increase. The District engineer has determined that the applicant has demonstrated that the placement of the structures will retain hydraulic capacity.

Ponding Area	Project Location	HWL Elevations (ft)	
		Existing	Proposed
Wetland west of the Well House CSAH 44 N. of Lakeview Drive	39+65	975.90	975.88
Residential front yard N. of Hardscrabble Circle	73+59	932.18	931.69
Residential Ditches CSAH 44, N. of Sinclair Rd.	125+49	933.41	932.69

Per section 3(c) hydraulic crossings shall retain adequate navigation capacity. The proposed stormsewer replacements convey stormwater and will not impede the navigation capacity of Lake Minnetonka. The wetlands along project corridor are not considered to be navigable. Additionally, none of the stormsewer replacements will increase to the 100-year HWL elevation of the waterbodies. Navigation capacity will not change from existing to proposed conditions

Per section 3(d), aquatic and upland wildlife passages shall be preserved. The proposed stormsewer replacements are for stormwater conveyance from the stormsewer pipe and do not provide a connection between a waterbody or watercourse. Aquatic and upland wildlife passages will be preserved from existing to proposed conditions.

Per Section 3(e) the placement of a utility shall not adversely affect water quality, specifically there will not be an increase in erosion or TSS loading. Each proposed outfall will be stabilized with either riprap or proprietary bioengineered erosion-control matting to provide long term stabilization and energy dissipation to prevent scour. Water quality will not be negatively affected per section 3(e).

Per Section 3(f), the applicant has submitted design alternatives to show the proposed plan meets the minimal impact solution with relation to natural resource impact. One alternative considered is a no build scenario, which does not meet the project goals or address areas of localized flooding. Another alternative considered was to relocate or add new stormsewer pipes, given the proximity of the project to wetlands and the shoreline of Lake Minnetonka, the relocation of the pipes has the potential to result in greater natural resource impact to the bank of Lake Minnetonka and to the bank of a wetland. The applicant has demonstrated that the replacement of the existing stormsewer structures represent the minimal impact solution.

Tunnel Crossing:

Per section 3(a), structures in public waters shall meet a demonstrated public benefit and meet a specific need for all other projects. The replacement of the sanitary sewer line under a channel of Lake Minnetonka to upgrade sanitary sewer service for the Mound L38 interceptor provides a public benefit.

Per the section 3(b) the placement of the utility shall retain adequate hydraulic capacity, specifically changes in hydraulic capacity may not result in upstream or downstream increases in flood stage. The depth of the proposed tunneling is approximately twelve feet below the channel bed will not impede hydraulic capacity.

Per section 3(c) hydraulic crossings shall retain adequate navigation capacity. There is no structural work proposed to the bridge that crosses the Halstead-Priest's Channel, there is no proposed increase to the 100-year floodplain elevation, and there is no proposed change to the existing channel cross-section, therefore navigation capacity will not change from existing to proposed conditions.

Per section 3(d), aquatic and upland wildlife passages shall be preserved. The proposed tunneling is below the bed of the channel. Aquatic and upland wildlife passages will be preserved from existing to proposed conditions.

Per Section 3(e) the placement of a utility shall not adversely affect water quality, specifically there will not be an increase in erosion or TSS loading. The tunneling entrance and exit pits will have redundant erosion control BMPs in place to prevent sedimentation from entering into Lake Minnetonka. Water quality will not be negatively affected per section 3(e).

Per Section 3(f), the applicant has submitted two design alternatives to show the proposed plan meets the minimal impact solution with relation to natural resource impact. One alternative submitted was a no-build scenario. Upgrading the sanitary line under the Channel is needed as testing has indicated the presence of corrosion and up to twenty-five percent of pipeline wall loss. Not replacing the pipeline would eventually result in pipe failure with a potential to release raw sewage into Lake Minnetonka. The second alternative explored was to re-line the existing pipeline with a corrosion resistant liner, because of the number of bends in the pipeline at the Channel crossing, a greater amount of excavation would be required and would be more disruptive at the Channel crossing than the tunneling option. The third option considered was to install the sanitary line using open cut construction techniques, this method would result in greater disturbance to the Channel. The applicant has demonstrated that tunneling under the Channel represents the minimal impact solution.

Per section 3(g), projects shall provide a minimum clearance of three feet below the bed of a waterbody, and a minimum set back of 100 feet from the stream bank for pilot entrance and exit pit locations. The sanitary sewer line is proposed approximately 12 feet below the bed of Halstead-Priest Channel (attachment 16). The north tunnel pit is located approximately 200 feet from the bank of the Channel. The applicant is requesting a variance for the south bore pit which is proposed to be located approximately 52 feet from the bank of the Channel. The applicant asserts that the tunnel pit location cannot be located in compliance with the 100 foot setback requirement because of the location of the existing bridge abutments, utility crossings, including a natural gas line, and existing topography restraints. The request for a variance from the required set-back for the south tunnel pit is discussed in the following section of this permit report.

Per section 3(h), the project shall provide design detail for avoiding sanitary discharge to a surface water in the event of a sanitary sewer breakage. The sanitary line has included redundant pipes to avoid sanitary discharge into the Channel. The applicant has demonstrated that the bore pits will be defended with redundant erosion control best management practices.

Summary

MCWD and Hennepin County will execute a maintenance agreement in accordance with section 6 for the proposed culverts within the ROW and permanent easements, as listed in the recommendation for conditional approval.

The Project as designed, with the exception of the 52-foot setback from the Channel bank for the south tunnel pit, meets the District's Waterbody Crossings and Structures rule.

Variance:

The applicant has submitted a signed variance application requesting a variance from the required setback for tunneling under a watercourse for the 48-foot shortfall from compliance with the required 100-foot setback for the southern tunnel pit location. The applicant has also submitted a variance request for a 22.5-foot shortfall from the from compliance with the required 37.5-foot minimum buffer width and a 555-square foot shortfall from the required total square footage of buffer area of 8,633-square feet provided at Wetland 6 for the placement of a permanent clean-out structure at the same location as the southern entrance pit for the interceptor line. The purpose of a clean out structure is to provide a location for draining the force main, should it ever

become necessary to make repairs. Under the District's variance rule, the managers must find, based on demonstration of the applicant, that:

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

Waterbody Crossings and Structures:

Pertinent to the variance criteria: The space constraints requiring the variance are a result of special conditions that are unique to this location and do not apply to other land in the District. The inability to move the tunnel pit to the 100-foot minimum setback distance was not created by MCES but is instead due to the existing bridge abutments, location of a proposed eight-inch natural gas main, and existing site topography. The limitations were not created by the MCES as the bridge was installed in the 1920's and MCES is not responsible for the existing site topography. The MCES has provided redundant erosion control best management practices to protect the water quality and integrity of the Channel, reducing the risk the rule provision is in place to address. The Variance is not requested by the MCES as a convenience, but is due to site limitations. As described in the analysis of the project under the minimal-impact criterion of the Waterbody Crossings and Structures Rule, MCES has provided sufficient information to support a determination that there is no feasible or prudent alternative to the proposed location of the tunnel pit.

Wetland Protection:

Pertinent to the variance criteria: The space constraints requiring the variance are a result of special conditions that are unique to this location and do not apply to other land in the District. The inability to meet the minimum buffer width requirement and the total square footage of buffer was not created by MCES but is instead due to the existing bridge abutments and existing site topography. The limitations were not created by the MCES as the bridge was installed in the 1920's and MCES is not responsible for the existing site topography. The MCES has provided redundant erosion control best management practices to protect the water quality and integrity of Wetland 6 and the Channel, additionally the buffer area will be reseeded with State Seed Mix 36-211, reducing the risk the rule provision is in place to address. The Variance is not requested by the MCES as a convenience, but is due to site limitations. Moving the clean-out structure 37.5-feet from the edge of Wetland 6 would result in greater excavation and site grading due to the existing site topography. As the area will already be disturbed for the tunnel pit location, MCES has provided sufficient information to support a determination that there is no feasible or prudent alternative to the proposed location of the clean-out structure.

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

Summary:

The MCES and Hennepin County have applied for a MCWD permit for Erosion Control, Wetland Protection, Shoreline & Streambank Stabilization, Floodplain Alteration, Waterbody Crossings & Structures, and Variance for road and utility improvements along Westedge Boulevard, CSAH 44, Shadywood Lane, and Trunk Highway 7 in the Cities of Mound, Minnetrista, and Victoria. The project as proposed meets the applicable requirements under the District's Erosion Control, Wetland Protection, Shoreline and Streambank Stabilization, Floodplain Alteration and Waterbody Crossings & Structures rules with the exception of the 52-foot setback from the Channel bank for the southern tunnel pit and the minimum required buffer width and required buffer area at Wetland 6, for which the applicant has requested a variance. Staff recommends approval of the MCWD permit application with the conditions as listed.

Attachments:

1. Signed Applications
2. Variance Request
3. MCES & Hennepin County Cooperative Agreement
4. Erosion Control Plan
5. WCA NOD for Boundary & Type
6. WCA NOD for Utilities Exemption
7. Wetland Buffer Exhibit
8. MCWD & Hennepin County Cooperative Agreement

9. Shoreline Exhibit Sinclair Site
10. Shoreline Exhibit for LS8 Site
11. Shoreline Stabilization Exhibit for Sinclair Site
12. Shoreline Stabilization Exhibit for LS8 Site
13. Floodplain Exhibit for Sinclair Site
14. Floodplain Exhibit for LS8 site
15. Stormsewer Exhibit
16. Channel Crossing Exhibit

Heidi Quinn

Date: 4/12/2018

17-584

Print Form

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: <u>Bryce Pickart, Assistant General Manager</u>	
Mailing Address: <u>390 North Robert Street</u>	City: <u>St. Paul</u> State: <u>MN</u> Zip: <u>55101</u>
Email Address: <u>bryce.pickart@metc.state.mn.us</u>	Phone: <u>651-602-1176</u> Fax: _____
2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...)	
Business Name: <u>Brown and Caldwell</u>	Representative Name: <u>Peter Glashagel</u>
Business Address: <u>30 7th Street E Suite 2500</u>	City: <u>St. Paul</u> State: <u>MN</u> Zip: <u>55101</u>
Email Address: <u>pglashagel@brwnncald.com</u>	Phone: <u>651-468-2062</u> Fax: _____
3. Project Address: <u>Westedge Blvd, CSAH 44, and Hwy 7</u> City: <u>Mound and Minnetrista</u>	
State: <u>MN</u> Zip: <u>55364</u> Qtr Section(s): <u>NW 1/4</u> Section(s): <u>23/26/3</u> Township(s): <u>T117N</u> Range(s): <u>R24W</u>	
Lot: _____ Block: _____ Subdivision: _____	PID: _____
4. Size of project parcel (square feet or acres): <u>18 Acres</u>	
Area of disturbance (square feet): <u>~600,000 SF</u>	Volume of excavation/fill (cubic yards): <u>~4,000,000 CY</u>
Area of existing impervious surface: <u>~500,000 SF</u>	Area of proposed impervious surface: <u>~500,000 SF</u>
Length of shoreline affected (feet): <u>~2,000 LF</u> Waterbody (& bay if applicable): <u>Halsted/Priest Bay Lake Minnetonka</u>	
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 checked="" type="checkbox"/> STORMWATER MANAGEMENT
<input checked="" type="checkbox"/> WETLAND PROTECTION	<input type="checkbox"/> APPROPRIATIONS
<input type="checkbox"/> DREDGING	<input type="checkbox"/> ILLICIT DISCHARGE
<input checked="" 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 checked="" 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 type="checkbox"/> OTHER (DESCRIBE): _____
7. NPDES/SDS General Stormwater Permit Number (if applicable): <u>TBD</u>	
8. Waterbody receiving runoff from site: <u>Langdon Lake (northerly 3,000 LF) Lake Minnetonka (southerly 18,000 LF)</u>	
9. Project Timeline: Start Date: <u>3/1/2018</u> Completion Date: <u>12/30/2019</u>	
Permits have been applied for: City <input checked="" type="checkbox"/> County <input checked="" type="checkbox"/> MN Pollution Control Agency <input checked="" type="checkbox"/> DNR <input checked="" type="checkbox"/> COE <input checked="" type="checkbox"/>	
Permits have been received: City <input type="checkbox"/> County <input type="checkbox"/> MN Pollution Control Agency <input type="checkbox"/> DNR <input type="checkbox"/> COE <input type="checkbox"/>	

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.

Bryce J. Pickart

Signature of Each Property Owner

6/16/17

Date



17-584



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: Hennepin County Transportation
Mailing Address: 1600 Prairie Dr City: Medina State: MN Zip: 55340
Email Address: kirsten.barfa@hennepin.us Phone: 612-543-3373 Fax:

2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...)
Business Name: Representative Name:
Business Address: City: State: Zip:
Email Address: Phone: Fax:

3. Project Address: CSAH 44 from CSAH 110 to MN Hwy 7 City: Mound, Minnetrista
State: MN Zip: 55364 Qtr Section(s): NW 1/4 Section(s): 23/26/3 Township(s): T117N Range(s): R24W
Lot: Block: Subdivision: PID:

4. Size of project parcel (square feet or acres): 18 Acres
Area of disturbance (square feet): ~600,000 Volume of excavation/fill (cubic yards): ~4,000,000
Area of existing impervious surface: ~500,000 Area of proposed impervious surface: ~500,000
Length of shoreline affected (feet): 20,000 line Waterbody (& bay if applicable): Halsted/Priest's Bay L. Minnetonka

5. Type of permit being applied for (Check all that apply):
 EROSION CONTROL WATERBODY CROSSINGS/STRUCTURES
 FLOODPLAIN ALTERATION STORMWATER MANAGEMENT
 WETLAND PROTECTION APPROPRIATIONS
 DREDGING ILLICIT DISCHARGE
 SHORELINE/STREAMBANK STABILIZATION

6. Project purpose (Check all that apply):
 SINGLE FAMILY HOME MULTI FAMILY RESIDENTIAL (apartments)
 ROAD CONSTRUCTION COMMERCIAL or INSTITUTIONAL
 UTILITIES SUBDIVISIONS (include number of lots)
 DREDGING LANDSCAPING (pools, berms, etc.)
 SHORELINE/STREAMBANK STABILIZATION OTHER (DESCRIBE):

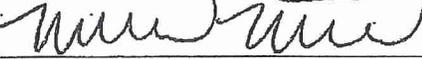
7. NPDES/SDS General Stormwater Permit Number (if applicable): TBD

8. Waterbody receiving runoff from site: Langdon Lake (~2,000 LF), Lake Minnetonka (18,000 LF)

9. Project Timeline: Start Date: 3/1/2018 Completion Date: 12/30/19

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.


Signature of Each Property Owner

4/14/18
Date



**Request for Variance
And
Statement of Hardship**

The Board of Managers may hear requests for variances from the literal provisions of these rules in instances where their strict enforcement would cause undue hardship because of circumstances unique to the property under consideration. The Board of Managers may grant variances where it is demonstrated that such action will be keeping with the spirit and intent of these rules. An applicant granted a variance from full compliance with a requirement of the rules would be required to meet the requirement to the degree feasible short of full compliance.

In order to grant a variance, the Board of Managers shall determine that:

- the special conditions which apply to the structure or land in question do not apply generally to other land or structures in the District
- the granting of such variance will not merely serve as a convenience to the applicant,
- the variance will not impair or be contrary to the intent of these rules.

A hardship cannot be created by the landowner, the landowner's agent or representative, or a contractor, and must be unique to the property. Economic hardship are not grounds for issuing a variance.

A variance shall become void one year after it is granted if not used.

A violation of any condition set forth in a variance shall be a violation of the District rules and shall automatically terminate the variance.

Date 2-29-2018

Permit # 17-584

Applicant Metropolitan Council of Environmental Services

Jeannine Clancy, Assistant General Manager

Address 390 N Robert St, Saint Paul, MN 55101

Telephone number 651-602-1210

Property ID number 2611724220028

MCWD Rule (circle applicable rule(s)): A B C D E F **G** J K M N

3(g) of the Waterbody Crossings & Structures Rule

Description of project:

This project will replace 13,800 linear feet of existing 24" diameter forcemain with two new 18" diameter forcemains in the vicinities of Mound and Minnetrista, MN. The existing forcemain starts at MCES lift station L38, running east and then south along Westedge Blvd which transitions into County Road 44. The forcemain leaves Mound, MN as it crosses over Halstead bay bridge into Minnetrista, MN. The forcemain continues south until shady lane where it changes direction to the east and discharges into MCES interceptor 7019A (gravity sanitary sewer). The forcemain is proposed to cross underneath the Halstead-Priests Channel on the west side of the Halstead Bay bridge by tunneling methods. Refer to Attachment A for the location of the proposed alignment. Refer to Attachment B for the location of the tunnel jacking pit at the Halstead Bay channel crossing.

Requirements of rule(s)

The Waterbody Crossings & Structures Rule 3(g) requires a 100' setback from any stream bank for pilot, entrance and exit holes, for projects involving horizontal directional drilling.

Requested Variance

The edge of the proposed tunnel jacking pit is approximately 52 feet from the edge of the bank of the Halstead-Priests Channel. Therefore, a request is being made for a variance from the 100' setback rule during construction. The proposed design meets the requirement for a minimum clearance of 3 feet below the bed of the waterbody.

Statement of Hardship (include any mitigating circumstances).

Design Alternatives

The current alignment and construction methods for the Halstead Bay crossings were selected following an evaluation of the following alternatives:

1. No Action Alternative

The existing forcemain beneath Halstead Bay consists of two parallel pipelines. The first is a steel pipeline constructed in 1971. The second is a ductile iron pipeline construction in 1984. Although testing was not conducted at the Halstead Bay crossing, testing at other locations along the alignment indicated corrosion and corresponding wall loss of the original pipeline up to 25% of the original wall thickness. Not replacing the pipeline could eventually lead to a failure of the pipeline, with a potential release of raw sewage into Lake Minnetonka.

2. Rehabilitation of the Existing Pipeline

Technologies exist to reline the existing pipeline with a corrosion resistant liner, however lining methods still require access to the pipeline at multiple locations for insertion of the lining material. Because of the number of bends in the pipeline at the Halstead Bay crossing, the amount of excavation that would be required to insert a liner would be as or more disruptive at the channel crossing than the tunneling option. Furthermore, the access pits required for lining the existing pipeline would be within 100 feet of the shoreline.

3. Open Cut

The crossing could be executed using open cut construction methods but this would result in greater disruption to the entire channel crossing and would result in a pipeline with shallower depth beneath the channel bottom with a greater risk of eventual exposure.

Site Constraints

The edge of the proposed tunnel jacking entrance pit is approximately 52 feet from the navigable channel and encroaches into wetland 6 (see Attachment B). The decision to place the pit in this location was due to the following site constraints.

1. There are existing bridge abutments for the current Halstead Bay Bridge as well as the original bridge constructed in the 1920's that limit placement of the jacking pit.
2. There are existing utility crossings at the channel including installation of a new 8" natural gas line that limited the forcemain alignment alternatives.
3. Moving the jacking pit to the south would further encroach into the existing embankment necessitating closure of Eagle Bluff Road; resulting in loss of access to 20 homes.
4. Keeping the pit inland allows the bank of the channel and shoreline to remain undisturbed throughout construction.

How do you propose to meet the requirements of the applicable MCWD rules?

Additional rules triggered by this project are the Erosion Control Rule, the Wetland Protection Rule, the Shoreline & Streambank Stabilization Rule and the Waterbody Crossings & Structures Rule. Compliance with these additional rules has been documented in the original application and supplemental information submitted on November 16, 2017, January 18, 2018 and March 2, 2018. Specific to the Erosion Control Rule, erosion control measures in the area will include the following:

Proposed Temporary Erosion Control Measures

Construction limits shall be bordered by super-duty silt fence as denoted on sheet CU76 as —XS-SD—. Per MnDOT 3886, referenced in Specification Section 01563, "Super-duty silt fence consisting of concrete or water-filled jersey barriers with fabric wrapped around the front face of the barrier. The contractor may provide woven or non-woven geotextile fabric or poly/poly-reinforced sheeting."

As an additional protection measure, floating silt curtains denoted as —X-SF— on sheet GC20, will be installed along the bank of the Halstead-Priests Channel and along the banks of all potentially affected waters. Installation will be performed per MnDOT 3886.

Large trees near the channel banks will be protected and remain to maintain the integrity of the shoreline.

Sheet piling will be installed for excavation support at the tunnel pit to limit the size of the excavation.

Proposed Permanent Erosion Control Measures

The construction area shall be restored according to Spec 02900 using the following MnDOT seed mixes:

Wetland Buffer Zones: Erosion control blanket with mix 36-211

Wetland 6 and OAR-1: Erosion control blanket with mix 34-181

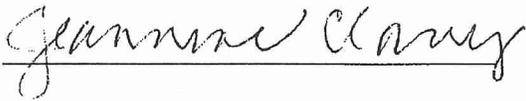
Rip-rap will be installed around at-grade structures to reduce erosion and promote long-term stabilization. The two structures within the variance boundary are the relocated storm outlet with energy dissipater and the MCES forcemain structure.

Future access to the forcemain structure will be attained using newly-installed timber/mulch walkway and steps per detail on Sheet CU77.

These measures are further described in the following previously transmitted specific sections:

- 01563 - Dewatering, Erosion and Sedimentation Control
- 02100 - Site Preparation
- 02342 - Tunneling Pits
- 02350 - Sheeting, Shoring, and Bracing (check for tunnel pit spec)
- 02900 - Landscaping

Applicant Name: Jeannine Clancy Date: 3/2/18

Applicant Signature: 

Staff Recommendation (For staff use only): Approve



Attachment B - Tunnel Jacking Pit Location

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap

Wetland 6 Shoreline Vegetation

L-38 Interceptor (MCES #7021)
Mound and Minnetrista, Minnesota



Legend

- Project Corridor
- Wetland Boundary
- Other Aquatic Resource



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

Supplement

to

Request for Variance and Statement of Hardship

Date March 13, 2018

Permit # 17-584

Applicant: Metropolitan Council Environmental Services
Jeannine Clancy, Assistant General Manager
Address: 390 N Robert Street, St. Paul, MN 55101
Telephone: 651-602-1210

This supplement to the Request for Variance is for the permanent structure and adjacent rip rap, which is approximately 15 ft from the edge of the wetland and does not meet the minimum 37.5 ft set-back requirement. The location of the structure is dictated by the same site constraints listed in the original variance request. The structure at this location is known as a clean-out structure, something that is located at all low-points along the force main alignment. The purpose of the structure is to provide a location for draining the force main, should it ever become necessary to make repairs. The design of the structure is such that draining of the forcemain can be accomplished by transferring wastewater from one barrel of the forcemain into the second parallel barrel, both of which are accessible from within the structure. This will allow draining of either barrel without the risk of spilling raw wastewater during the process.

Metropolitan Council No. 17I085
Hennepin County Agreement No. PW 69-67-17

**CONSTRUCTION COOPERATION AGREEMENT FOR
CONSTRUCTION OF DRAINAGE IMPROVEMENTS
IN HENNEPIN COUNTY**

THIS AGREEMENT is made and entered into by and between the **Metropolitan Council**, a public corporation and political subdivision of the State of Minnesota (“Council”), and **Hennepin County**, a body politic and corporate under the laws of the State of Minnesota (“County”).

BACKGROUND RECITALS

1. The Council plans to construct a new interceptor sewer system in the Cities of Minnetrista and Mound along Westedge Boulevard from Setter Circle to the Minnetrista city border, during the 2018-2020 construction seasons (“the Council Project”).

2. The County desires to upgrade its drainage system along County State Aid Highway No. (CSAH) 44 from south of Bartlett Blvd to Highway 7 (“the County Project”).

3. Both Council and County desire that the County Project be constructed in conjunction with the Council Project to minimize community impacts and to complete the project before a county road surface overlay project.

4. The County does not have the staff to construct the County Project during the 2018-2020 construction seasons.

5. Therefore, the County desires to have the Council construct the County Project at the same time as the Council Project.

6. The Council Project includes adding a retaining wall at 3601 CSAH 44 in the City of Mound which will be jointly maintained by the parties pursuant to this Agreement.

NOW, THEREFORE, for mutual consideration, the receipt and sufficiency of which is hereby acknowledged by the parties, the parties agree as follows:

AGREEMENT

**I.
Purpose of Agreement**

1. This Agreement describes the responsibilities of each of the parties (collectively, “Parties”) for design and construction of the County Project.

2. The Council or its agents shall prepare the necessary plans, specifications, and proposals for the County Project and enter into a contract with the successful bidder at the unit prices specified in the bid of such bidder. The contract shall include the plans and specifications prepared by the Council or its agents and approved by the County. The plans and specifications shall comply with all applicable requirements of the Minnesota Department of Transportation (Mn/DOT) Division of State Aid for Local Transportation. The County appoints the Council as its agent to obtain bids, enter into a contract for the construction of the work, and supervise the work performed on the County Project for compliance with the County Project construction documents and this Agreement.

3. The scope of the County Project is:

Improvement of existing stormwater drainage by replacing existing culverts in and adjacent to the County right of way within the scope of the Council Project, installing new inlet and environmental structures throughout the Council Project, extend existing storm sewer system to outlet with public property and extend curb and gutter in areas to collect stormwater into County system.

Mill and overlay existing bituminous roadway followed by striping of CSAH 44 south of Lotus Drive to Highway 7.

Participation in reconstruction and striping of CSAH 44 south of Bartlett Blvd to Lotus Drive upon completion of Council pipe project.

4. The locations of the County Project and the Council Project are shown on Exhibit A to this Agreement.

II. Construction Documents

1. The Council will incorporate the County Project into the Council Project Construction Documents (“Combined Project Construction Documents”) for the Council and the County Projects (“the Combined Project”). The Council or its agents have prepared a construction cost estimate for the County Project, attached as Exhibit B.

III. Easements and Permits

1. The County gives the Council the right to enter onto County property, and any easements and rights-of-way the County obtained for construction of the County Project for the purpose of the Council fulfilling this Agreement.

2. The Council will acquire all permanent and temporary permits, easements and property interests necessary in the Council's name for the Combined Project, except that the Council will acquire property interests on Parcels 28, 29, 31, 32, and 38 in the County's name. If necessary, all eminent domain actions for parcels 28, 29, 31, 32, and 38 shall be the responsibility of the County. At the close of all acquisition activities for the Combined Project, the County will convey a permanent utility easement on Parcel 29 to the Council as shown on Exhibit C. The conveyance will be in the form of a permanent easement document as approved by the Council and recorded at the County Recorder's office.

3. The Council is responsible for getting all permits associated with construction of the Combined Project at no cost to the County.

IV. Procedure for Acceptance of Bids

1. **Bidding Procedure.** The Council will advertise for bids for the work and construction of the Combined Project, receive and open bids and may, subject to County's acceptance of the bid submitted, enter into a construction contract with the successful bidder in accordance with applicable law.

After opening the bids, the Council will give the County a written summary of the bids with the Council's recommendation for selection of the lowest responsible bidder.

2. **Council decision not to award Council Project.** If the Council decides not to award the Council Project, this contract terminates without further liability between the Parties.

V. Construction and Contract Administration

1. The Council will include in the construction contract for the Combined Project, the County Project Construction Documents, and require that the contractor construct the County Project according to these Documents. At least 14 days before the contractor begins work on the County Project, the Council will give written notice to the County that the contractor will begin construction by sending notice to:

Hennepin County Public Works
Kristy Morter
Administrative Engineer
1600 Prairie Drive
Medina, MN 55340-5421

2. The Council will perform and direct all construction supervision, contract administration and inspections required to complete the Combined Project.

3. The County's authorized representative (Right of Way Use Manager) or their designee identified to the Council in writing) may observe the work during the construction of the County Project, but the County's authorized representative is not responsible for supervising the County Project. When observing the work, the County's authorized representative will cooperate with the Council's Engineer or designated representative. The County's authorized representative will be available to the Council during construction of the County Project. The County will designate an authorized representative with the authority and experience to make decisions concerning the construction of the County Project so as not to delay construction of the Council Project or the Combined Project.

3. If after installation, the County determines that any portion of the County Project was not constructed substantially in accordance with the County Project Construction Documents, the County's authorized representative must inform the Council of the deficiency within ten working days. The County's notice to the Council must also explain why the portion of the County Project does not conform to the County Project Construction Documents and the actions the County believes the contractor must take to correct the deficiency. The Council shall require the contractor to make the corrections to meet the requirements of the County Project Construction Documents.

4. The County's authorized representative will participate in the inspection of the County Project for substantial completion. Within ten working days of any substantial completion inspection, the County will provide the Council the punch list items that need to be addressed before final completion of the County Project. If the County does not provide punch list items within ten days, the contractor's work will be deemed accepted.

5. The Council will inform the County in writing of final completion of construction (including the punch list items) of the County Project. Within ten working days of receiving the Council's written notice, the County will inform the Council in writing whether the County Project conforms to the County Project Construction Documents. The County will make the final decision on whether the contractor's County Project work conforms to the County Construction Documents. In order to accept the work on the County Project, the County must provide the Council a letter from the County's Transportation Operations Department Director.

6. The County will participate in the claims process on the Combined Project for the following types of contractor claims:

- (a) Project delays relating in any way to site conditions; and
- (b) County requests for changes or modifications to any construction documents (County Project, Council Project, or Combined Project).
- (c) Project delays caused by untimely response to the inspection requirements in Section III-VI above.

The County will pay the portion of any claim that relates to the acts of the County.

**VI.
Modifications to Construction Documents**

1. The Council may make minor changes in the Combined Project Construction Documents if the changes are necessary to complete construction. The Council may also enter into any change orders or supplemental agreements with the contractor on the Combined Project to incorporate these changes in the Combined Project Construction documents. These changes may result in a change to the County's cost participation described in Section VIII.

2. The Council will give the County's Authorized Representative all proposed amendments and material changes to the Combined Project Construction Documents. The County will review the documents and communicate in writing its acceptance or rejection to the Council within seven days.

3. The County may make changes to the County Project if the following occur:
- a. The County gives the Council ten days written notice;
 - b. The County bears the costs of all the changes; and
 - c. The change does not increase the cost or significantly delay completion of the Council Project.

**VII.
Cost Participation and Payment**

1. The County will reimburse the Council for the costs shown in Exhibit B as specified in this Section VII. The County will reimburse the Council for the actual cost of construction for the County Project, actual costs of construction for portions of the Combined Project as identified in Exhibit B, actual land acquisition costs as shown below, plus seven percent. The additional seven percent is for the following:

- (a) surveying, inspection, and testing for the County Project;
- (b) other costs associated with the County or Combined Project including contract administration, and other administrative expenses associated with the County or Combined Project.

The additional seven percent does not include the costs of land acquisition.

2. The Council, at its sole expense will acquire in its name all permanent and temporary permits, easements, and property interests necessary for the Combined Project, except

for Parcels 28, 29, 31, 32, and 38.

(a) The County will be responsible for the easement payment and all costs associated with the acquisition of Parcels 28, 31, 32, and 38 including exhibit preparation, appraisals, consultant fees, and condemnation costs.

(a) The County will be responsible for portions of the costs associated with the acquisition of Parcels 29 including exhibit preparation, appraisals, consultant fees, and condemnation costs. The Council will reimburse the County the value of the permanent utility easement required by the Council as indicated in Section III. This value will be based on the appraisal. If the parcel is settled or provided an award different than the appraisal value, then the Council's permanent easement value will be prorated accordingly to the percentage in the appraisal. The Council reserves the right to review and approve any settlement or award.

3. The Parties understand that the County Project costs shown in Exhibit B are an estimate. The final County Project construction costs will be based on the unit prices in the Council's construction contract, the final quantities, and any amendments or change orders.

4. After the Council awards the Combined Project Construction Contract, the Council will prepare a revised Exhibit B and give it to the County. The revised Exhibit B will update the County Project costs for construction, land acquisition, and administration based on the actual design costs and contract unit prices. The Parties will substitute the revised Exhibit B for the Exhibit B attached to this Agreement without any amendment to this Agreement.

5. The Council will pay its contractor for the contractor's work on the County Project. For the land acquisition, the Council will submit invoices from the land acquisition consultants to the County for review as it pertains to parcels 28, 29, 31, 32, and 38. Council will pay the land acquisition consultant invoices and submit charges for those parcels in Council's monthly invoices to the County. The County will then pay the Council under this section. During construction, the Council will submit monthly invoices to the County. The Council's monthly invoices will include a progress report. The County must pay the Council within 45 days after it receives the invoice. If the County disputes any portion of an invoice it must give the Council notice of the dispute within 14 days after the County receives the invoice. If the County disputes any portion of an invoice, the County must pay the undisputed portion of the invoice within 45 days after receives the invoice, and it must pay the remainder of any amount due within 45 days after the dispute is resolved.

6. When the work on the Combined Project is substantially complete, the Council will give the County an updated cost participation breakdown. This cost participation breakdown will show actual construction costs based on the contract unit prices and the units of work the contractor

performed. The updated cost participation breakdown will also contain the updated administrative and other costs to be paid to the Council by County.

7. If after subtracting the County's payments from the updated cost participation breakdown the County owes the Council money, the Council will invoice the County for that amount. The County will then pay the Council the amount owed within 45 days of receiving the invoice. If the County has already paid more than the updated cost participation breakdown, the Council will refund the County's excess amount without interest.

VIII. Trees

The County will furnish and plant up to 77 trees along CSAH 44 to replace trees removed due to construction of the Combined Project. Tree location and species will be determined by the County and tree installation will be coordinated with the Council's construction project engineer and the Combined Project's construction contractor. The County will be responsible for all underground utility locates and traffic control, and shall coordinate its traffic control with the Council's construction project engineer and the Combined Project's construction contractor. The County will be responsible for maintaining the trees upon completion of the tree planting activities by the County and will warranty the trees for a two-year period. The Council shall reimburse the County for the costs to furnish, install and maintain said trees at a cost of \$200.00 per tree. The total amount paid by the Council to the County under this agreement shall not exceed \$15,400.00.

Upon completion of the tree planting activities by the County as provided for herein, the County will notify the Council and submit an invoice for one hundred percent of the Council's total and final cost for the trees furnished and installed by the County. The Council will, within 35 days of receipt of invoice, deposit with the County funds totaling the amount of the invoice.

IX. Warranties/Maintenance

1. The County Project bonds and warranties will be issued in the names of the Council. Once construction of the County Project is complete and the County accepts the County Project, the County Project will be under the full control of the County and warranties and guarantees provided by the construction contractors and subcontractors for the County Project are the property of County.

2. After acceptance of the County Project by the County the County is responsible for operation and maintenance of the County Project.

3. Upon completion of the Combined Project, the retaining walls constructed along CSAH 44 will become the property of the County. The County, at its sole cost and expense, will

perform all routine maintenance on the retaining walls and retaining wall fencing/railing constructed as part of the Combined Project. In the event, at any time in the future, that the retaining walls and integral retaining wall fencing/railing constructed along CSAH 44 as a part of the Project are rehabilitated, replaced, or rehabilitated and replaced, the Council agrees to pay 50% of the total construction costs at the time of the replacement through execution of a new cooperative agreement between the parties, provided that rehabilitation or replacement is not required due to the negligence or misconduct of the County.

X.
Liability

1. To the extent authorized by law each party is responsible only for its own acts and the results of its acts. The County's and Council's liability is governed by the provisions of Minnesota Statutes, Chapter 466.

2. The County and Council each warrant that they have an insurance or self-insurance program with minimum coverage consistent with the liability limits in Minnesota Statutes, Chapter 466. Nothing in this Agreement is a waiver or limitation of any immunity or limitation of liability by the County or Council.

3. The Council will ensure that the Combined Project construction contract includes clauses that:

A) require the Combined Project contractor to defend, indemnify, and hold harmless the County, its officers, agents and employees from claims, suits, demands, damages, judgments, costs, interest, expenses (including reasonable attorney's fees, witness fees and disbursements) arising out of or by reason of the negligent acts or omissions of the Contractor, its officers, employees, agents or subcontractors;

B) require the Combined Project contractor to provide and maintain insurance and name the County as additional insured; and

C) require the Combined Project contractor to be an independent contractor for the purposes of completing the work on the County Project.

The Council agrees to defend, indemnify and hold harmless the County, its officials, officers, agents, volunteers and employees, from any liabilities, claims, causes of action, judgments, damages, losses, costs or expenses, including reasonable attorneys' fees, resulting directly or indirectly from any act or omission of the Council, its contractors, anyone directly or indirectly employed by them, and/or anyone for whose acts and/or omissions they may be liable for related to the construction, ownership, maintenance, existence, restoration, repair or replacement of the improvements constructed as part of this Agreement.

The County agrees to defend, indemnify and hold harmless the Council, its officials, officers,

agents, volunteers and employees, from any liabilities, claims, causes of action, judgments, damages, losses, costs or expenses, including reasonable attorneys' fees, resulting directly or indirectly from any act or omission of the County, its contractors, anyone directly or indirectly employed by them, and/or anyone for whose acts and/or omissions they may be liable for related to the construction, ownership, maintenance, existence, restoration, repair or replacement of the improvements constructed as part of this Agreement.

XI. General Provisions

1. All records kept by the County and Council with respect to the Council Project are subject to examination by representatives of each party. All data collected, created, received, maintained or disseminated for any purpose by the County and Council under this Agreement are governed by Minnesota Statutes, Chapter 13("Act"), and the Minnesota Rules implementing the Act.

2. The Parties agree to comply with all laws applicable to the Parties relating to nondiscrimination, affirmative action, public purchases, contracting, employment, workers' compensation, and surety deposits required for construction contracts. Minnesota Statutes, Section 181.59 and any applicable local ordinance relating to civil rights and discrimination and the Affirmative Action Policy statement of the County is considered a part of this Agreement.

3. It is agreed that any and all employees of the Council and all other persons engaged by the Council in the performance of any work or services required or provided for herein to be performed by the Council shall not be considered employees of the County, and that any and all claims that may or might arise under the Worker's Compensation Act or the Minnesota Economic Security Law on behalf of said employees, subject to Section X(1), while so engaged and any and all claims made by any third parties as a consequence of any act or omission on the part of said employees while so engaged on any of the work or services provided to be rendered herein shall in no way be the obligation or responsibility of the County.

Also, any and all employees of the County and all other persons engaged by the County in the performance of any work or services required or provided for herein to be performed by the County shall not be considered employees of the Council, and that any and all claims that may or might arise under the Worker's Compensation Act or the Minnesota Economic Security Law on behalf of said employees, subject to Section X(1), while so engaged and any and all claims made by any third parties as a consequence of any act or omission on the part of said employees while so engaged on any of the work or services provided to be rendered herein shall in no way be the obligation or responsibility of the Council.

4. To the extent a Party's acts or omissions result in the release or spill of hazardous wastes, pollutants or contaminants, as those terms are defined in law, on the Combined Project site, such Party will be responsible for any response or remedial action, monitoring or reporting under the law. The County will apply for and have the Council named as a beneficiary in any no

association letters, no action/no further action letters and other environmental regulatory assurances for the site. The County will give the Council copies of any Phase I and Phase II environmental investigations, approved Response Action Plans, and environmental assurance letters naming the Council as a beneficiary. Nothing in this paragraph requires that the Parties accept responsibility for any environmental conditions that are not the Parties' legal responsibility. This paragraph survives the termination of this Agreement.

5. The County's authorized representative will manage this Agreement for the County and act as a liaison between the County and Council.

6. The Council's Assistant General Manager of Technical Services in Environmental Services will manage this Agreement for the Council and act as a liaison between the Council and the County.

7. This Agreement is the entire agreement between the parties and supersedes all oral agreements and negotiations between the parties relating to this Agreement. All exhibits and attachments to this Agreement are incorporated into the Agreement. If there is a conflict between the terms of this Agreement and any of the exhibits the Agreement governs.

8. The provisions of this Agreement are severable. If a court finds any part of this Agreement void, invalid, or unenforceable, it will not affect the validity and enforceability of the remainder of this Agreement. A waiver by a party of any part of this Agreement is not a waiver of any other part of the Agreement or of a future breach of the Agreement.

9. Any modifications to this Agreement must be in writing as a formal amendment.

10. This Agreement is binding upon and for the benefit of the parties and their successors and assigns. This Agreement is not intended to benefit any third-party.

11. Except as otherwise provided for in this Agreement, the Agreement may be terminated by the mutual agreement of the parties.

12. If a force majeure event occurs, neither party is responsible for a failure to perform or a delay in performance due to the force majeure event. A force majeure event is an event beyond a party's reasonable control, such as unusually severe weather, fire, floods, other acts of God, labor disputes, acts of war or terrorism, or public health emergencies.

13. Under Minnesota Statutes, Section 16C.05, subdivision 5, the Parties agree that the books, records, documents, and accounting procedures and practices relevant to this Agreement are subject to examination by either Party and the state auditor or legislative auditor, as appropriate, for at least six years from the end of this Agreement.

14. A party must send all notices or demands under this Agreement either by:
(A) certified mail;

(B) e-mail, as long as the recipient acknowledges receipt by e-mail or otherwise in writing; or

C) delivered in person to the other party addressed to the following authorized representatives:

Assistant General Manager, Technical Services
Metropolitan Council Environmental Services
390 Robert Street North
St. Paul, MN 55101-1805

Kristy Morter (or successor)
Administrative Engineer
Hennepin County
Transportation Operations
1600 Prairie Drive
Medina, MN 55340-5421

15. The parties will use a dispute resolution process for any unresolved dispute between the parties before exercising any legal remedies. The dispute resolution process is a three-level dispute resolution ladder that escalates a dispute from the project management level through the executive management level. At each level of the dispute resolution process, the Parties' representatives will meet and explore resolution until either party determines that effective resolution is not possible at the current level, and notifies the other party that the process is elevated to the next level. The parties designate the following dispute resolution representatives:

	County Representative	Council Representative
Level 1	Administrative Engineer	Manager, Interceptor Project Delivery
Level 2	Transportation Operations Department Director	Assistant General Manager
Level 3	Assistant County Administrator – Public Works	General Manager, Environmental Services

The parties must complete the dispute resolution process in good faith before resorting to any other legal process or remedy.

16. Council and the County are each authorized to enter into this Agreement pursuant to Council action on Business Item 2017-202, approved on September 27, 2017, and County Resolution No. _____, approved on _____.

[The remainder of this page is intentionally blank.]

Metropolitan Council No. 17I085
Hennepin County Agreement No. PW 69-67-17

METROPOLITAN COUNCIL,
A public corporation and political subdivision
of the State of Minnesota

By: _____
Weston W. Kooistra, Regional Administrator

Date: _____

LIST OF EXHIBITS

Exhibit A - County Project and Council Project Locations

Exhibit B - Council Project Construction Costs Estimates

Exhibit A
County Project and Council Project Locations

Exhibit B
Council Project Construction Costs Estimates

[Note to County: make sure this list includes surveying, construction inspection, geotechnical testing and contract administration, & County Engineer's charges to incorporate the Council Project Construction Documents into the County Project construction documents]

Exhibit A

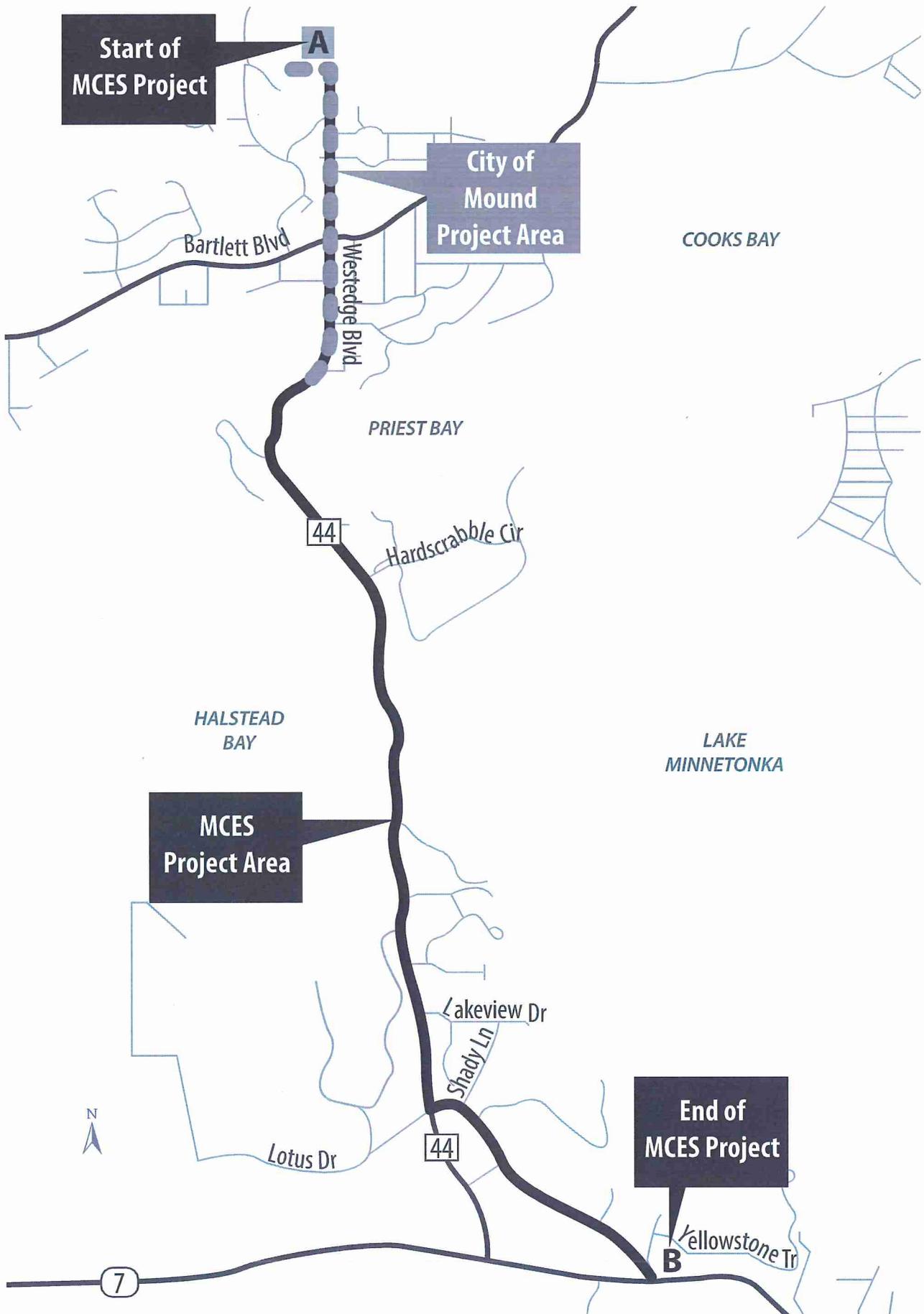


Exhibit A

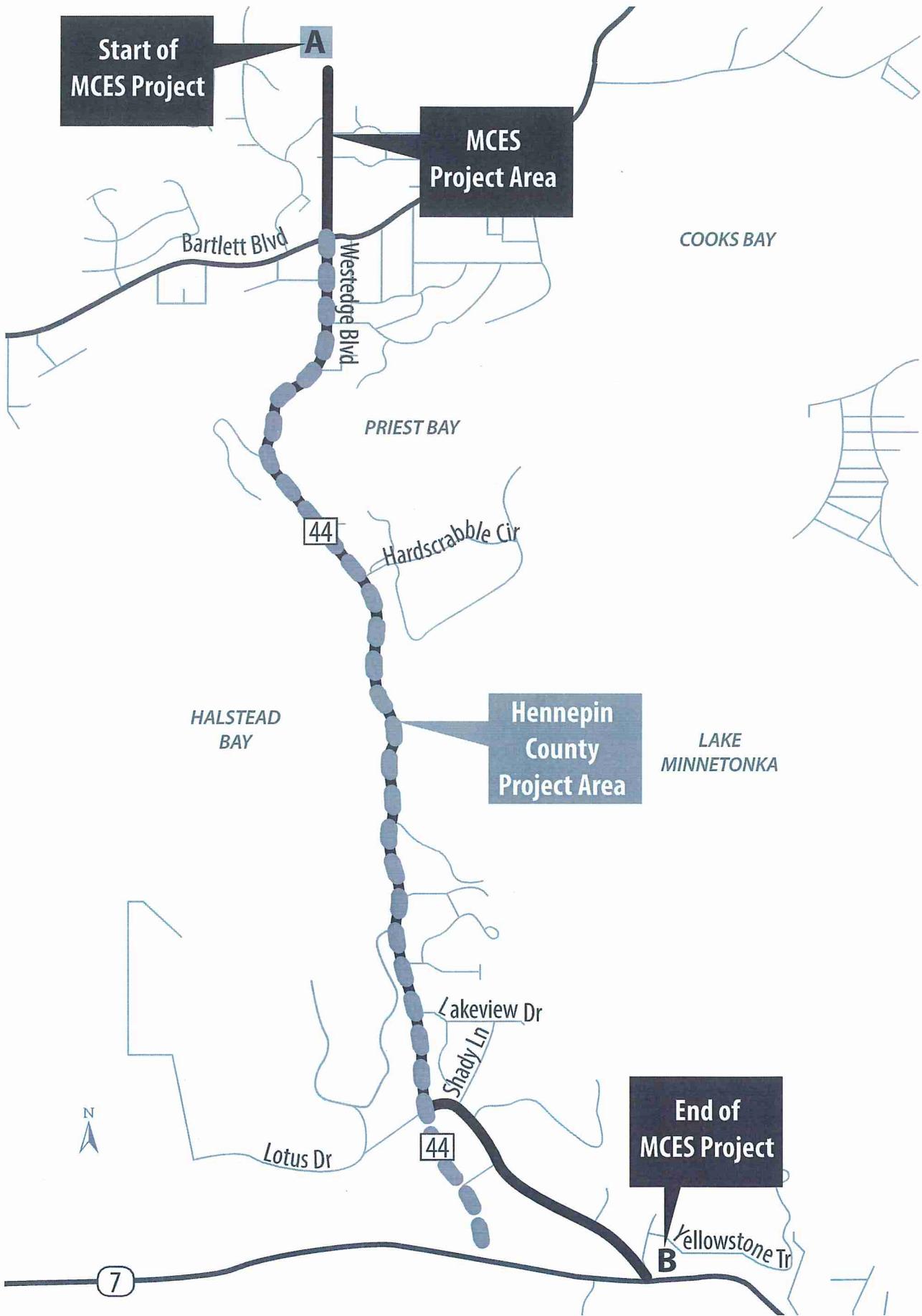
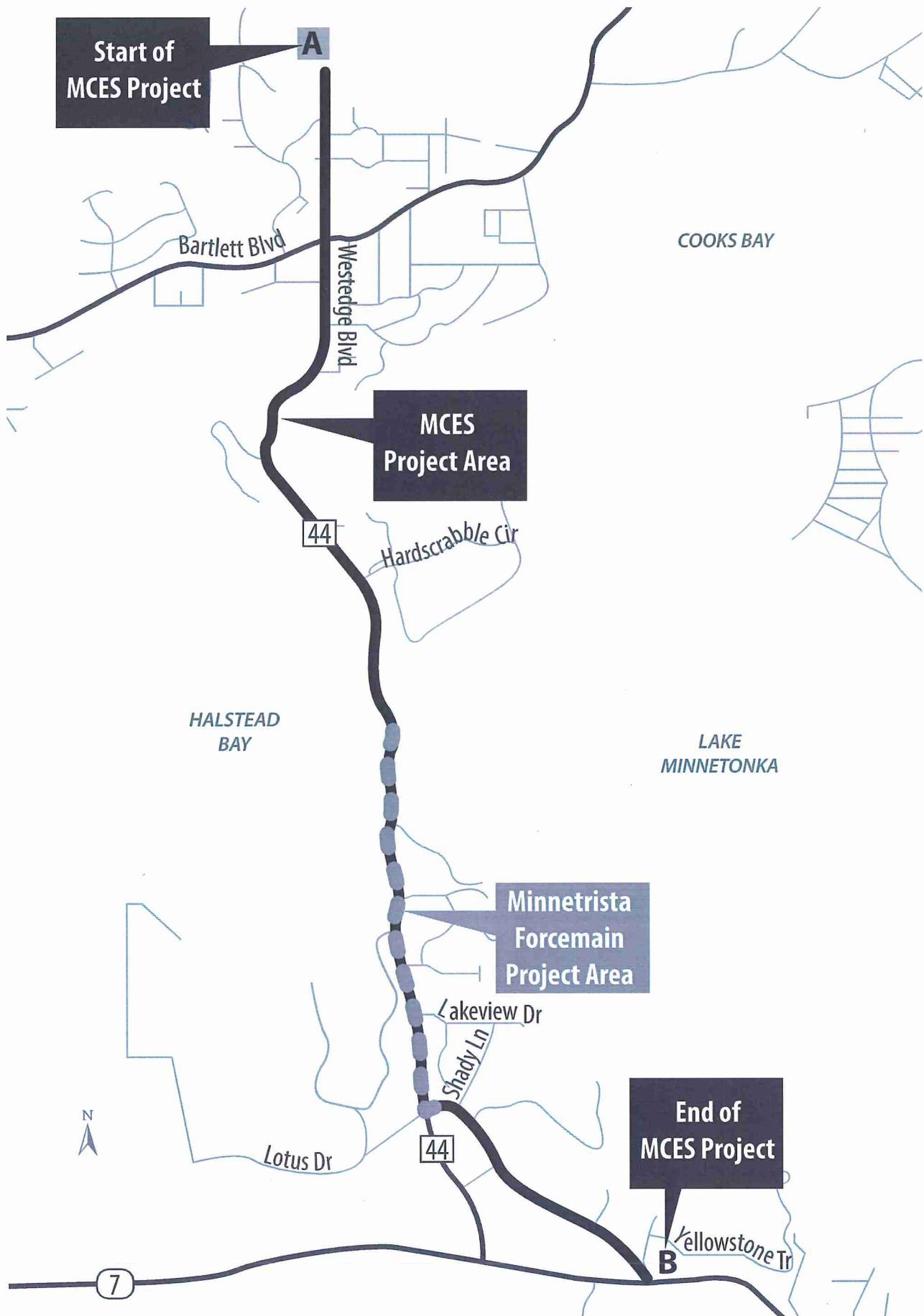


Exhibit A



Ground Area Improvements - Interceptor 7021

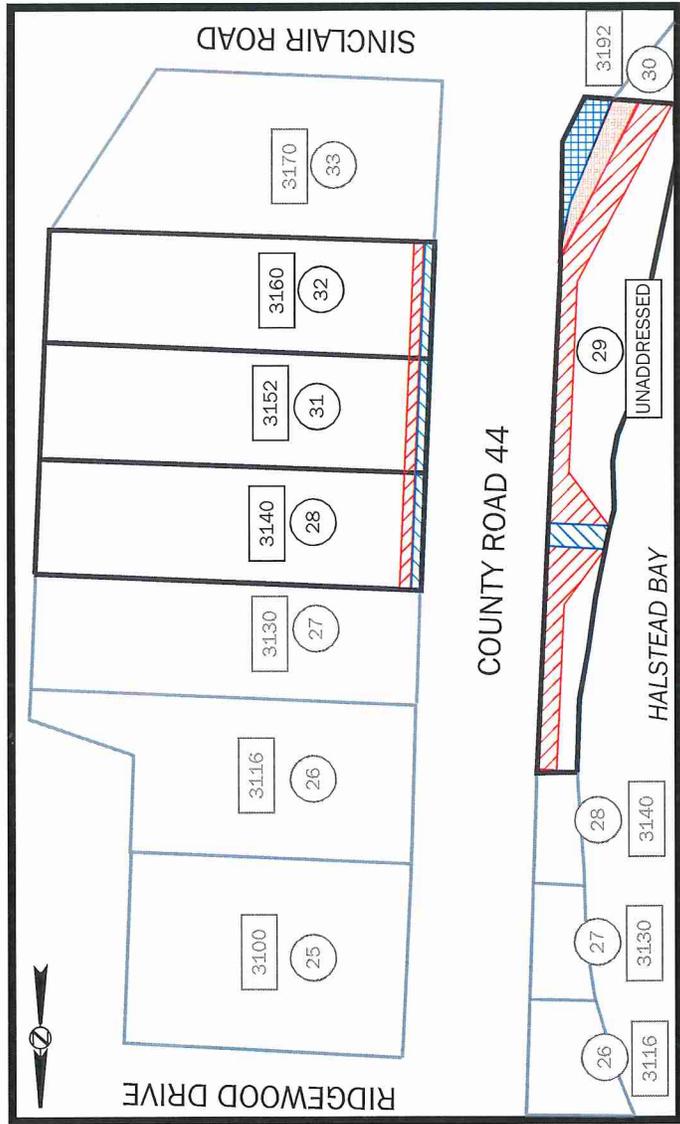
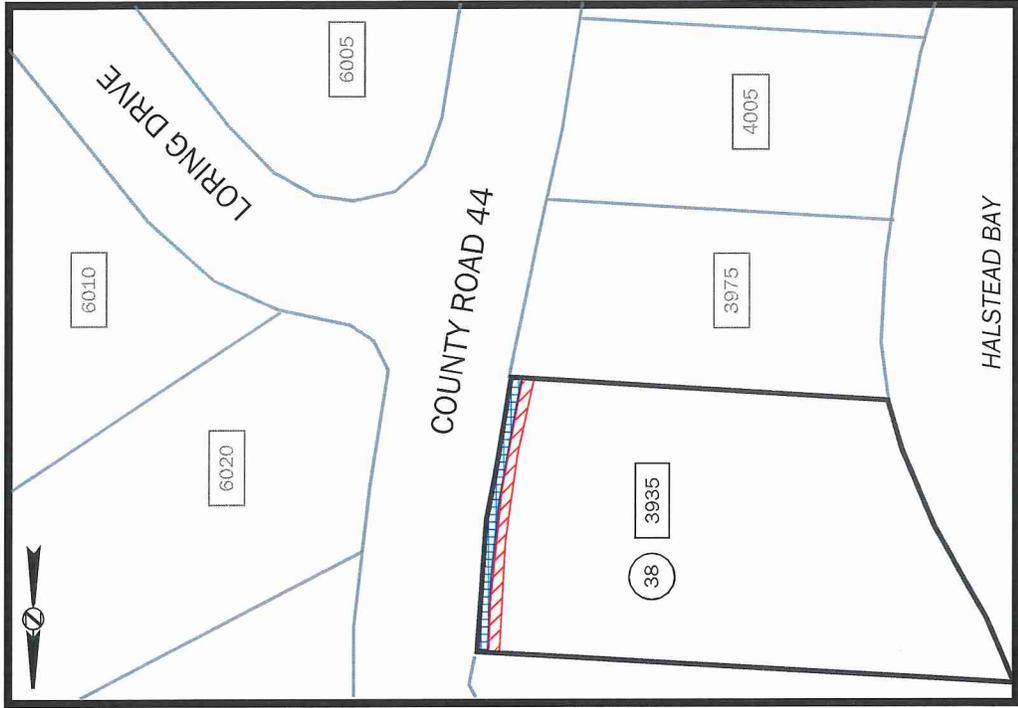
OPCC with Cost Sharing - February 7, 2018

Line Item	Description	Units	Total Project			MCEES			Hennepin County			Revised			Category Subtotals				
			Quantity	Unit Price	Extended Amount	%	Quantity	Amount	%	Quantity	Amount	%	Quantity	Amount	%	Total Project	MCEES	Hennepin County	Mound
PROJECT ADMINISTRATION																			
1	Mobilization - Demolition	LS	1	\$1,314,768.00	\$1,314,768.00	92%	1	\$1,211,220.00	3%	0	\$0.00	0%	0	\$0.00	0%	\$1,314,768.00	\$1,211,220.00	\$0.00	\$0.00
2	Project Documentation and Construction Surveying	LS	1	\$150,000.00	\$150,000.00	100%	1	\$150,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$150,000.00	\$150,000.00	\$0.00	\$0.00
3	Carroll's Administrative Office	LS	1	\$40,000.00	\$40,000.00	60%	1	\$15,750.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$40,000.00	\$15,750.00	\$0.00	\$0.00
4	Utility Relocation	LWF	350	\$45.00	\$15,750.00	100%	350	\$15,750.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$15,750.00	\$15,750.00	\$0.00	\$0.00
ALLOWANCES																			
5	Utility Relocation Allowance	***	1	\$150,000.00	\$150,000.00	100%	1	\$150,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$150,000.00	\$150,000.00	\$0.00	\$0.00
6	Contaminated Soil Disposal Allowance	***	1	\$75,000.00	\$75,000.00	100%	1	\$75,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$75,000.00	\$75,000.00	\$0.00	\$0.00
7	Traffic Sign Allowance	***	1	\$50,000.00	\$50,000.00	100%	1	\$50,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$50,000.00	\$50,000.00	\$0.00	\$0.00
8	Snow Removal Allowance	***	1	\$45,000.00	\$45,000.00	100%	1	\$45,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$45,000.00	\$45,000.00	\$0.00	\$0.00
9	Archaeological Allowance	***	1	\$75,000.00	\$75,000.00	100%	1	\$75,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$75,000.00	\$75,000.00	\$0.00	\$0.00
10	Tunnel Boulder Removal Allowance	***	1	\$150,000.00	\$150,000.00	100%	1	\$150,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$150,000.00	\$150,000.00	\$0.00	\$0.00
11	MCEES Host Pipe Repair Allowance	***	1	\$75,000.00	\$75,000.00	100%	1	\$75,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$75,000.00	\$75,000.00	\$0.00	\$0.00
12	Restoration Allowance	***	1	\$300,000.00	\$300,000.00	100%	1	\$300,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$300,000.00	\$300,000.00	\$0.00	\$0.00
BTE WORK																			
13	Site Preparation	LS	1	\$100,000.00	\$100,000.00	95%	1	\$95,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$100,000.00	\$95,000.00	\$0.00	\$0.00
14	Bio-Roll	LF	10,200	\$5.50	\$56,100.00	50%	5,695	\$31,327.50	30%	4,000	\$22,000.00	5%	505	\$2,777.50	5%	\$56,100.00	\$31,327.50	\$0.00	\$0.00
15	Silt Fence - Machine Steed	LF	25,000	\$3.50	\$87,500.00	80%	24,000	\$84,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$87,500.00	\$84,000.00	\$0.00	\$0.00
16	Silt Fence - Heavy Duty	LF	8,300	\$9.25	\$76,725.00	100%	8,300	\$76,725.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$76,725.00	\$76,725.00	\$0.00	\$0.00
17	Silt Fence - Super Duty - Fabric only	LF	8,100	\$10.00	\$81,000.00	100%	8,100	\$81,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$81,000.00	\$81,000.00	\$0.00	\$0.00
18	Fill/Blank Silt Curtain	LF	4,500	\$10.00	\$45,000.00	100%	4,500	\$45,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$45,000.00	\$45,000.00	\$0.00	\$0.00
19	Temporary Rock Construction Entrance	EA	25	\$3,000.00	\$75,000.00	100%	25	\$75,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$75,000.00	\$75,000.00	\$0.00	\$0.00
20	Cable and Filled End Pipe Protection	EA	50	\$3,000.00	\$150,000.00	100%	50	\$150,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$150,000.00	\$150,000.00	\$0.00	\$0.00
21	Storm Drain	EA	60	\$250.00	\$15,000.00	95%	60	\$15,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$15,000.00	\$15,000.00	\$0.00	\$0.00
22	Storm Drain Control Blanket w/Seed Mat 21-111	SY	25,000	\$2.00	\$50,000.00	100%	25,000	\$50,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$50,000.00	\$50,000.00	\$0.00	\$0.00
23	Temporary Hydro-Mulch w/Seed Mat 21-111	SY	25,000	\$2.00	\$50,000.00	100%	25,000	\$50,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$50,000.00	\$50,000.00	\$0.00	\$0.00
24	Dewatering - Trenches, pipelines, and structure excavations	LS	1	\$470,200.00	\$470,200.00	100%	1	\$470,200.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$470,200.00	\$470,200.00	\$0.00	\$0.00
25	Dewatering - Channel Grouting, Tunnel Pits	LS	1	\$59,200.00	\$59,200.00	100%	1	\$59,200.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$59,200.00	\$59,200.00	\$0.00	\$0.00
26	Temporary Conveyance of Wastewater - 7021 Foremain System	LS	1	\$379,500.00	\$379,500.00	100%	1	\$379,500.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$379,500.00	\$379,500.00	\$0.00	\$0.00
27	Temporary Conveyance of Wastewater - 7021 Foremain System	LS	1	\$84,000.00	\$84,000.00	100%	1	\$84,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$84,000.00	\$84,000.00	\$0.00	\$0.00
28	Temporary Conveyance of Wastewater - Midland Gravity & LS Systems	LS	1	\$68,000.00	\$68,000.00	100%	1	\$68,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$68,000.00	\$68,000.00	\$0.00	\$0.00
29	Temporary Conveyance of Wastewater - Minnehaha LS Systems	LS	1	\$70,800.00	\$70,800.00	100%	1	\$70,800.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$70,800.00	\$70,800.00	\$0.00	\$0.00
30	Traffic Control	LS	1	\$201,000.00	\$201,000.00	68%	0,200	\$124,200.00	7%	650	\$114,000.00	5%	0	\$0.00	0%	\$201,000.00	\$114,000.00	\$0.00	\$0.00
31	Jersey Barriers	LF	9,000	\$15.00	\$135,000.00	92%	8,200	\$123,000.00	7%	600	\$9,000.00	1%	0	\$0.00	0%	\$135,000.00	\$123,000.00	\$0.00	\$0.00
32	Salvage and Renewal Sign	EA	235	\$400.00	\$94,000.00	68%	207	\$82,800.00	7%	16	\$6,200.00	5%	12	\$4,700.00	5%	\$94,000.00	\$82,800.00	\$0.00	\$0.00
33	Street Sweeping	HR	600	\$130.00	\$78,000.00	68%	704	\$91,520.00	7%	56	\$7,280.00	5%	40	\$5,200.00	5%	\$78,000.00	\$91,520.00	\$0.00	\$0.00
34	Dust Control - Calcium Chloride	GAL	10,000	\$1.00	\$10,000.00	68%	8,800	\$8,800.00	7%	700	\$7,000.00	5%	500	\$5,000.00	5%	\$10,000.00	\$8,800.00	\$0.00	\$0.00
35	Dust Control - Water	GAL	20,000	\$0.50	\$10,000.00	68%	17,000	\$8,500.00	7%	1,400	\$700.00	5%	1,000	\$500.00	5%	\$10,000.00	\$8,500.00	\$0.00	\$0.00
36	Cable and Pipe Locator Equipment	EA	1	\$10,000.00	\$10,000.00	100%	1	\$10,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$10,000.00	\$10,000.00	\$0.00	\$0.00
ABANDONMENT AND DEMOLITION																			
37	Blumhaus Pavement Milling 10' To 2' inches	SY	10,000	\$1.00	\$10,000.00	3%	500	\$500.00	97%	15,500	\$15,500.00	0%	0	\$0.00	0%	\$10,000.00	\$15,500.00	\$0.00	\$0.00
38	Blumhaus Pavement Demolition 2-inches to 6-inches	SY	15,400	\$2.00	\$30,800.00	50%	8,024	\$25,072.00	7%	1,078	\$3,234.00	37%	5,698	\$17,094.00	37%	\$30,800.00	\$25,072.00	\$0.00	\$0.00
39	Blumhaus Pavement Demolition Greater Than 6-inches Thick	SY	40,000	\$5.25	\$210,000.00	100%	40,000	\$210,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$210,000.00	\$210,000.00	\$0.00	\$0.00
40	Concrete Pavement Demolition Up To 6 inches Thick	SY	600	\$10.00	\$6,000.00	83%	632	\$10,110.40	7%	48	\$918.60	0%	0	\$0.00	0%	\$6,000.00	\$10,110.40	\$0.00	\$0.00
41	Concrete Pavement Demolition Greater Than 6 inches Thick	SY	250	\$30.00	\$7,500.00	83%	233	\$4,995.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$7,500.00	\$4,995.00	\$0.00	\$0.00
42	Concrete Curb and Gutter Demolition	LF	1,050	\$3.50	\$3,675.00	83%	1,000	\$3,500.00	7%	50	\$1,750.00	5%	2,824	\$10,025.00	5%	\$3,675.00	\$10,025.00	\$0.00	\$0.00
43	Roller Bituminous Curb Demolition	EA	16	\$3,500.00	\$56,000.00	100%	16	\$56,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$56,000.00	\$56,000.00	\$0.00	\$0.00
44	24 Inch Foremain Structure Abandonment	EA	16	\$3,500.00	\$56,000.00	100%	16	\$56,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$56,000.00	\$56,000.00	\$0.00	\$0.00
45	24 Inch Street Foremain Abandonment	EA	16	\$3,500.00	\$56,000.00	100%	16	\$56,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$56,000.00	\$56,000.00	\$0.00	\$0.00
46	24 Inch Street Foremain Abandonment	EA	16	\$3,500.00	\$56,000.00	100%	16	\$56,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$56,000.00	\$56,000.00	\$0.00	\$0.00
47	24 Inch Street Foremain Demolition	LF	6,000	\$55.00	\$330,000.00	100%	6,000	\$330,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$330,000.00	\$330,000.00	\$0.00	\$0.00
48	Foremain Abandonment Less Than 24 inch	LF	1,050	\$21.00	\$22,050.00	100%	1,050	\$22,050.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$22,050.00	\$22,050.00	\$0.00	\$0.00
49	Foremain Demolition Less Than 24 inch	LF	1,500	\$21.00	\$31,500.00	100%	1,500	\$31,500.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$31,500.00	\$31,500.00	\$0.00	\$0.00
50	Watermain Demolition	LF	4,550	\$7.00	\$31,850.00	27%	1,229	\$8,609.50	0%	0	\$0.00	0%	3,322	\$23,240.50	73%	\$31,850.00	\$8,609.50	\$0.00	\$0.00
51	Lead Joint Watermain Demolition	LF	150	\$25.00	\$3,750.00	100%	150	\$3,750.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$3,750.00	\$3,750.00	\$0.00	\$0.00
52	Gravity Sewer Abandonment Less Than 24 inch	LF	240	\$8.00	\$1,920.00	100%	240	\$1,920.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$1,920.00	\$1,920.00	\$0.00	\$0.00
53	Gravity Sewer Demolition Less Than 24 inch	LF	670	\$15.00	\$10,050.00	100%	670	\$10,050.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$10,050.00	\$10,050.00	\$0.00	\$0.00
54	Gravity Sewer Manhole Demolition	EA	4	\$5,000.00	\$20,000.00	100%	4	\$20,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$20,000.00	\$20,000.00	\$0.00	\$0.00
55	Storm Sewer Manhole Demolition	EA	1	\$5,000.00	\$5,000.00	100%	1	\$5,000.00	0%	0	\$0.00	0%	0	\$0.00	0%	\$5,000.00	\$5,000.00	\$0.00	\$0.00
56	Storm Sewer Catch Basin Demolition	EA	27	\$900.00	\$24,300.00	88%	24	\$21,600.00	7%	2	\$1,800.00	0%	0	\$0.00	0%	\$24,300.00	\$		

Parcel 29			\$24,300.00	
Map Area	0.24	520,789.43		
County Area	18.51%	\$4,017.57		
Parcel 31			\$1,500.00	
Map Area	0.00%	\$0.00		
County Area	100.00%	\$1,500.00		
Parcel 32			\$1,300.00	
Map Area	0.00%	\$0.00		
County Area	100.00%	\$1,300.00		
Parcel 38			\$11,600.00	
Map Area	1.50%	\$0.00		
County Area	100.00%	\$11,600.00		

EXHIBIT C

HENNEPIN COUNTY EASEMENTS



- 4 PARCEL NUMBER
- 9005 PARCEL ADDRESS
- NEW PERMANENT HENNEPIN COUNTY HIGHWAY EASEMENT
- NEW PERMANENT HENNEPIN COUNTY UTILITY EASEMENT
- NEW PERMANENT MCES EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT

NPDES STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

THE PROJECT WILL REPLACE THE EXISTING MCES MOUND L-38 FORCEMAIN (7021 INTERCEPTOR) WITH TWO NEW FORCEMAIN PIPES RUNNING FROM THE MCES L38 LIFT STATION LOCATED ON WESTEDGE BLVD IN THE CITY OF MOUND, RUNNING EAST ALONG WESTEDGE BLVD BEFORE TURNING SOUTH AND CONTINUING DOWN WESTEDGE BLVD AS IT TURNS INTO COUNTY RD 44. THE NEW 18" DIAMETER PIPES WILL FOLLOW COUNTY RD 44 AS IT CROSSES THE HALSTEAD BAY BRIDGE FROM THE CITY OF MOUND AND INTO THE CITY OF MINNETRISTA. THE FORCEMAIN CONSTRUCTION WILL END WITHIN LAKE MINNETONKA REGIONAL PARK ON OLD COUNTY RD 44, SOUTHEAST OF THE SHADY LN / COUNTY RD 44 INTERSECTION. AT THIS POINT THE FORCEMAIN WILL CONNECT TO THE MCES 7021 GRAVITY INTERCEPTOR AND GRAVITY SEWER REHABILITATION OF MAINTENANCE HOLE STRUCTURES AND LINING OF PIPING WILL CONTINUE THRU THE REGIONAL PARK TO THE INTERSECTION OF MERRYWOOD LN AND STATE TRUNK HWY 7, CONTINUING ALONG HWY 7 TO BAYCLIFFE DR. FORCEMAIN VALVE VAULT STRUCTURES WILL BE CONSTRUCTED FOR THE NEW DUAL FORCEMAIN PIPES WHILE THE EXISTING PIPE WILL BE REMOVED WHERE NECESSARY OR FILLED AND ABANDONED IN PLACE. WITHIN THE FORCEMAIN PORTION OF THE PROJECT, CITY OF MOUND WATERMAIN, CITY STREET WESTEDGE BLVD, AND COUNTY RD 44 WILL ALL BE FULLY REMOVED AND REPLACED AS PART OF THE WORK.

THE TOTAL LAND AREA ANTICIPATED TO BE DISTURBED AT THE PROJECT (EXCLUSIVE OF BORROW AND DISPOSAL AREAS) IS 19.75 ACRES.

CONSTRUCTION DATES ARE ESTIMATED TO BE FROM APRIL 2018 TO NOVEMBER 2019. THE RECEIVING WATERS OF CONSTRUCTION STORMWATER RUNOFF INCLUDE LAKE MINNETONKA, LANGDON LAKE, STONE LAKE, AND MINNETONKA-HALSTEDS BAY. DUTCH LAKE, WHILE WITHIN 1-MILE OF THE PROJECT SITE, DOES NOT RECEIVE RUNOFF FROM THE PROJECT SITE.

SPECIAL AND IMPAIRED WATERS: ALL FOUR RECEIVING WATERS ARE NOT LISTED AS SPECIAL WATERS WITH THE EPA, BUT THREE OF THE WATERS ARE LISTED FOR IMPAIRMENTS RELATED TO CONSTRUCTION ACTIVITY. LAKE MINNETONKA HAS AN EPA-APPROVED IMPAIRMENT FOR MERCURY IN FISH TISSUE. THESE IMPAIRMENTS ARE CONSIDERED NON-CONSTRUCTION RELATED AND DO NOT REQUIRE ANY ADDITIONAL BEST MANAGEMENT PRACTICES (BMPs) OR PLAN REVIEW FOR COMPLIANCE WITH THE NPDES/SDS CONSTRUCTION PERMIT. MINNETONKA-HALSTEDS BAY HAS AN EPA-APPROVED IMPAIRMENT FOR MERCURY IN FISH TISSUE BUT IT ALSO HAS NUTRIENT/EUTROPHICATION BIOLOGICAL INDICATOR IMPAIRMENTS FOR PHOSPHORUS AND E. COLI THAT ARE CONSIDERED TO BE CONSTRUCTION RELATED PARAMETERS AND MAY REQUIRE ADDITIONAL BMPs SINCE A PORTION OF THE PROJECT HAS A DISCHARGE POINT WITHIN 1 MILE (AERIAL RADIUS MEASUREMENT) THAT FLOWS TO THE IMPAIRED WATER. LANGDON LAKE HAS NUTRIENT/EUTROPHICATION BIOLOGICAL INDICATOR IMPAIRMENTS FOR PHOSPHORUS AND E. COLI THAT ARE CONSIDERED TO BE CONSTRUCTION RELATED PARAMETERS AND MAY REQUIRE ADDITIONAL BMPs SINCE A PORTION OF THE PROJECT HAS MULTIPLE DISCHARGE POINTS WITHIN 1 MILE (AERIAL RADIUS MEASUREMENT) THAT FLOW TO THE IMPAIRED WATER. STONE LAKE HAS UNSPECIFIED NUTRIENT/EUTROPHICATION BIOLOGICAL INDICATOR IMPAIRMENTS THAT ARE CONSIDERED TO BE CONSTRUCTION RELATED PARAMETERS AND MAY REQUIRE ADDITIONAL BMPs SINCE A PORTION OF THE PROJECT HAS MULTIPLE DISCHARGE POINTS WITHIN 1 MILE (AERIAL RADIUS MEASUREMENT) THAT FLOW TO THE IMPAIRED WATER. MCES IS RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF THE FORCEMAIN IN THE AREA AS IT IS ADJACENT TO THESE ENVIRONMENTALLY SENSITIVE WATERS. BECAUSE AREAS OF DISTURBANCE ONLY RANGE FROM 3 TO 4 ACRES DUE TO CONSTRUCTION SEQUENCING, IT IS ANTICIPATED THAT SEDIMENTATION BASINS WILL NOT BE REQUIRED FOR THIS PROJECT. CHANGES TO THE AMOUNT OF AREA DISTURBED AT ANY ONE TIME THAT INCREASE THE AREA DISTURBED TO 5.0 ACRES OR MORE WILL NECESSITATE USE OF TEMPORARY SEDIMENTATION BASINS.

CONTACTS:

THE SWPPP ENGINEER IS: PETER GLASHAGEL BROWN & CALDWELL 30 EAST SEVENTH ST. SUITE 2500 ST. PAUL, MN 55101 (651) 468-2045 PGLASHAGEL@BRWNCALD.COM	AREA HYDROLOGIST: KATE DREWRY MINNESOTA DNR 1200 WARNER RD. ST PAUL, MN 55106 (651) 259-5753 KATE.DREWRY@STATE.MN.US	THE MCES PROJECT SUPERVISOR IS: CHRISTOPHER REMUS MCES RMF 3565 KENNEBEC DR. EAGAN, MN 55122 (651) 602-6538 CHRISTOPHER.REMUS@METC.STATE.MN.US
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TIMING OF BMP INSTALLATION

THE EROSION AND SEDIMENTATION CONTROL BMPs SHALL BE INSTALLED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ON SITE, AND SHALL MEET THE NPDES PERMIT PART IV CONSTRUCTION ACTIVITY REQUIREMENTS.

- TEMPORARY PERIMETER CONTROL BMPs WILL BE INSTALLED BEFORE ANY UP GRADIENT SOIL DISTURBANCE OCCURS.
- TOPSOIL AND RIPRAP, OR OTHER TEMPORARY EROSION CONTROL BMPs SHALL BE PLACED WITHIN 3 DAYS OF COMPLETION OF WORK ADJACENT TO ANY LAKES OR ANY DRAINAGEWAYS LEADING TO SUCH LAKE.
- ONCE CONSTRUCTION ACTIVITY CEASES FOR 3 DAYS OR MORE IN AN AREA ADJACENT TO ANY LAKES, THAT AREA WILL BE STABILIZED WITH TEMPORARY OR PERMANENT BMPs FOR EROSION.

CALCULATIONS

EXISTING AREA OF IMPERVIOUS SURFACE = 9.75 ACRES
POST-CONSTRUCTION AREA OF IMPERVIOUS SURFACE IN ACRES = 9.75 ACRES
IMPERVIOUS NET = 0 ACRES

SOILS INFORMATION: SEE SOILS REPORT AS APPENDIX IN THE PROJECT SPECIFICATIONS.

CONSTRUCTION SHALL BE GOVERNED BY THE MNDOT STANDARD SPECIFICATIONS (2016), CITY OF MOUND AND CITY OF MINNETRISTA STANDARD CONSTRUCTION SPECIFICATIONS, CEAM, AND CONSTRUCTION SPECIFICATION INSTITUTE DIVISION SECTIONS.

SWPPP TRAINING

THIS SWPPP WAS PREPARED BY THE PROJECT ENGINEER WHO IS CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. A COPY OF THE ENGINEER'S CERTIFICATION IS IN THE APPENDIX. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION CONTROL SUPERVISOR THAT IS RESPONSIBLE FOR OVERSEEING THE IMPLEMENTATION OF THE SWPPP. THE CONTRACTOR MUST PROVIDE PROOF OF CERTIFICATION AT THE PRECONSTRUCTION MEETING AND WILL NOT BE ALLOWED TO COMMENCE WORK UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED TO THE PROJECT ENGINEER.

THE CONTRACTOR SHALL KEEP WRITTEN INSPECTION AND MAINTENANCE LOGS (INCLUDING ALL CLEAN OUT AND CORRECTIVE ACTIONS) IN ACCORDANCE WITH THIS SWPPP AND ALL PERMITS.

THERE ARE NO STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHEOLOGICAL OR AGENCY REVIEW. ALL MITIGATION MEASURES HAVE BEEN ADDRESSED IN THIS PLAN SET OR THE CONTRACT DOCUMENTS.

TMDL IMPLEMENTATION PLANS CONTAINING STORM WATER REQUIREMENTS

NO TMDL IMPLEMENTATION PLANS CURRENTLY EXIST FOR THE RECEIVING WATERS ON THIS PROJECT.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN		
DESCRIPTION	TITLE	LOCATION
DIRECTION OF FLOW/DRAINAGE AREA	PLAN	SHEETS
RECEIVING SURFACE WATERS	PLAN	APPENDIX
NO DISTURBANCE AREAS AND AREAS OF PHASE CONSTRUCTION	SWPPP	APPENDIX
EROSION CONTROL DETAILS	DETAILS	SHEETS
SEDIMENT CONTROL PRACTICES	DETAILS	SHEETS
FINAL STABILIZATION	PLAN	SHEETS

SWPPP IMPLEMENTATION CONTACTS			
AGENCY	PERMIT	NAME	PHONE/E-MAIL
CONTRACTOR'S EROSION CONTROL SUPERVISOR		TBD	TBD
MPCA	NPDES	PAUL ERDMANN	(651) 757-2883 paul.erdmann@state.mn.us
MINNEHAHA CREEK WATERSHED DISTRICT	NPDES	KATHERINE SYLVIA	(952) 473-2855 ksylvia@minnehahacreek.org
MnDNR WATERS AREA HYDROLOGIST	WATRBDY CROSSING	KATE DREWRY	(651) 259-5753 kate.drewry@state.mn.us
HENNEPIN COUNTY	N/A	STEVEN GROEN	(612) 596-0337 steven.groen@hennepin.us
CITY OF MINNETRISTA	N/A	GARY PETERS	(952) 241-2532 gpeters@ci.minnetrista.mn.us
CITY OF MOUND	N/A	RAY HANSON	(952) 472-0614 rayhanson@cityofmound.com

EROSION CONTROL NOTES

- MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (2017 EDITION) SHALL APPLY. ALONG WITH THE MCES, THE CONTRACTOR WILL BE CO-PERMITTEE FOR THE MPCA NPDES STORMWATER CONSTRUCTION PERMIT FOR THIS PROJECT - CONTRACTORS SIGNATURE ON PERMIT IS REQUIRED. SUBMIT INITIAL EROSION CONTROL (EC) SCHEDULE AT OR BEFORE THE PRECONSTRUCTION CONFERENCE. SUBMIT EC SCHEDULE ALTERATIONS/ADJUSTMENTS WEEKLY THEREAFTER FOR ENGINEERS APPROVAL.
- THE CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL QUALITY CONTROL (QC) ON THIS PROJECT. CONTRACTOR SHALL PHASE/SEQUENCE THE PROJECT TO MINIMIZE EXPOSURE TO EROSION. CONTRACTOR SHALL PLACE OR OTHERWISE CONSTRUCT EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES TO MINIMIZE THE RUNOFF, TRACKING AND SEDIMENT LOSS FROM DISTURBED AREAS OF THE PROJECT SITE.
- DISTURBED SLOPES NOT ACTIVELY WORKED SHALL BE PROTECTED FROM SOIL EROSION WITH TEMPORARY OR PERMANENT COVER 3 DAYS OF BEING WORKED. ADJACENT WATERWAY EMBANKMENTS, EROSION CONTROL BLANKET WITH SOIL STAPLES SHALL BE USED. ALL AREAS WITH EXPOSED SOILS THAT ARE TO REMAIN WITHOUT ACTIVE CONSTRUCTION FOR MORE THAN 14 DAYS, INCLUDING STOCKPILES, SHALL BE STABILIZED WITHIN 7 DAYS AFTER CONSTRUCTION ACTIVITY IN THE AREA CEASES. STABILIZATION SHALL AT A MINIMUM INCLUDE SEEDING AND MULCHING.
- AT MINIMUM, THE FOLLOWING CONTROLS WILL BE IMPLEMENTED AT THE CONSTRUCTION SITE:
 - EROSION CONTROL BLANKETS SHALL BE USED ON ALL SLOPES 3H:1V OR STEEPER.
 - SILT FENCE SHALL BE USED IN CONJUNCTION WITH OTHER EROSION BMPs. SILT FENCE WITHIN FORTY FEET OF RECEIVING WATERS WILL BE SET AT ORDINARY HIGH WATER LEVEL.
 - SILT FENCE WITH BALE BACKING DITCH CHECKS, STAKED BIOROLL DITCH CHECKS, OR APPROVED EQUAL SHALL BE USED TO REDUCE DITCH VELOCITIES AND REDUCE EROSION.
 - SILT FLOATATION CURTAINS WILL BE INSTALLED ALONG CONSTRUCTION AREAS THAT ARE WITHIN 40 LF OF A RECEIVING WATER.
 - J-HOOK BIOROLLS PLACED ON ROADS TO CONTROL RUNOFF FOR SLOPE LENGTHS GREATER THAN 75 FEET WITH A GRADE OF 2% OR STEEPER.
 - CULVERT INLETS AND OUTLET AREAS SHALL BE CONTINUOUSLY PROTECTED WITH MNDOT APPROVED DEVICES/METHODS.
 - STABILIZED CONSTRUCTION ENTRANCE, OR REUSABLE MUD MAT SHALL BE USED TO REDUCE SEDIMENT TRACKING.
 - PERMANENT VEGETATION WILL BE ESTABLISHED RIGHT AFTER TOPSOIL IS SPREAD.
 - CONTROL ALL SITE WASTE, DEBRIS, MATERIAL STORAGE, CONCRETE WASHOUT, ONSITE. NO MITIGATION OFFSITE ALLOWED.
- IF ANY STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 7 DAYS SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED. NO STOCK PILING WILL BE PERMITTED ADJACENT TO WATERWAY EMBANKMENTS.
- WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE DIRECTED THROUGH EFFECTIVE FILTERING DEVICE(S) IN ACCORDANCE WITH MNDOT SPECIFICATION 2573 AND SPECIFICATION SECTION 01563. USE OF APPROVED FLOCCULATION MAY BE NECESSARY.

CODE	QUANTITY	UNITS	COMMON BMP NAME	REMARKS
A	25,000	SY	EROSION CONTROL BLANKET	RESTORATION AREAS WITH 5:1 SLOPES OR MORE
B	81	EA	INLET PROTECTION	CB AND FE INLETS
C	42,000	LF	SILT FENCE	MS AND HD SILT FENCES
D	109,000	SY	SEEDING	ALL TURF RESTORATION
E	25	EA	ROCK CONSTRUCTION ENTRANCE	MAY VARY DUE TO FINAL CONTRACTOR SCHEDULE
F	4,500	LF	SILT FLOTATION CURTAIN	WITHIN LAKE-MINNETONKA HALSTEAD BAY
G	10,200	LF	BIOROLL FILTER LOG	EDGE OF PAVEMENTS AND DITCH CHECKS

NOTE: SEE BID FORM FOR ADDITIONAL BREAKDOWN OF BMP QUANTITIES.

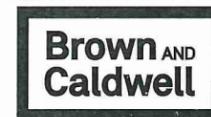
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MODIFIED: 11/17/2017 2:27:49 PM

NO	DATE	BY	REVISIONS	NO	DATE	BY	REVISIONS
	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PGG
DRAWN: DAF
CHECKED: HPV
HPV

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

SIGNATURE: *Harold P Voth*
TYPED OR PRINTED NAME: HAROLD P VOTH
DATE: 11/17/2017 REG NO: 17045



PROJECT: 802829
FILE NAME: GC0011

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
STORMWATER POLLUTION PREVENTION PLAN

GC11
20 of 216

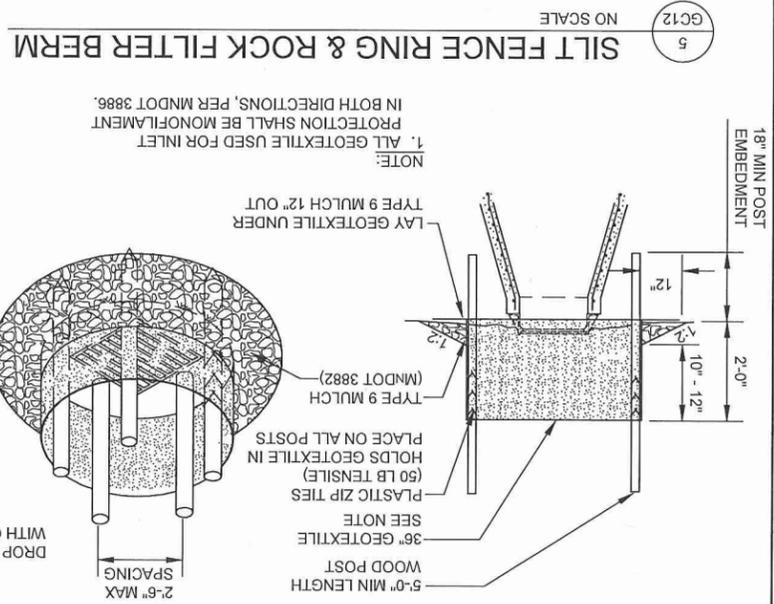
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DESIGNED	PGC	
DRAWN	DAF	
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DATE	11/17/2017	
TYPE OR PREPARED NAME	HAROLD P VOTH	
DATE	11/17/2017	
REV NO	17045	

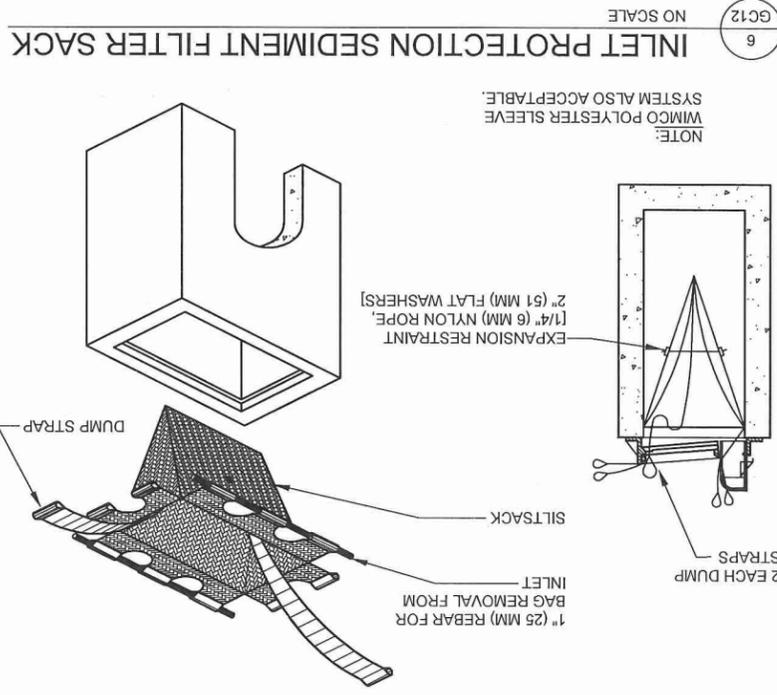


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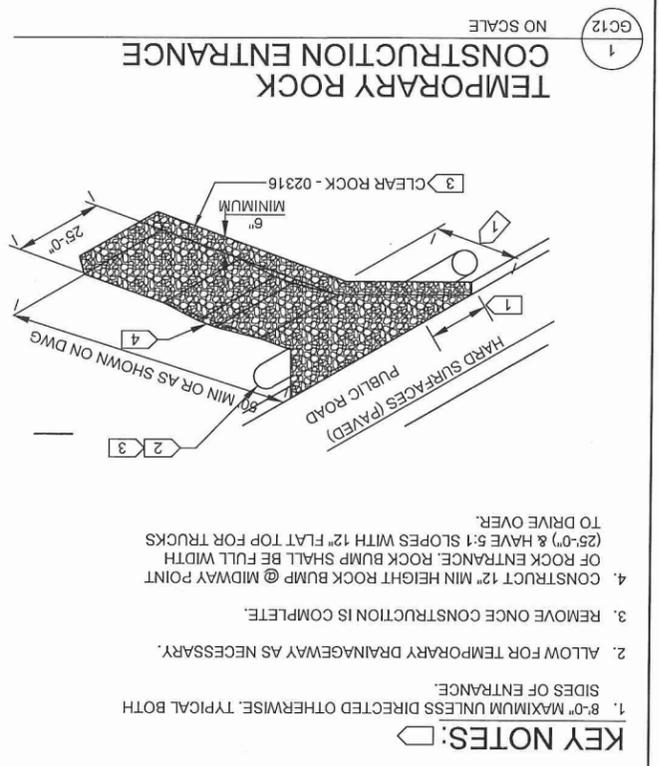
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION CONTROL DETAILS



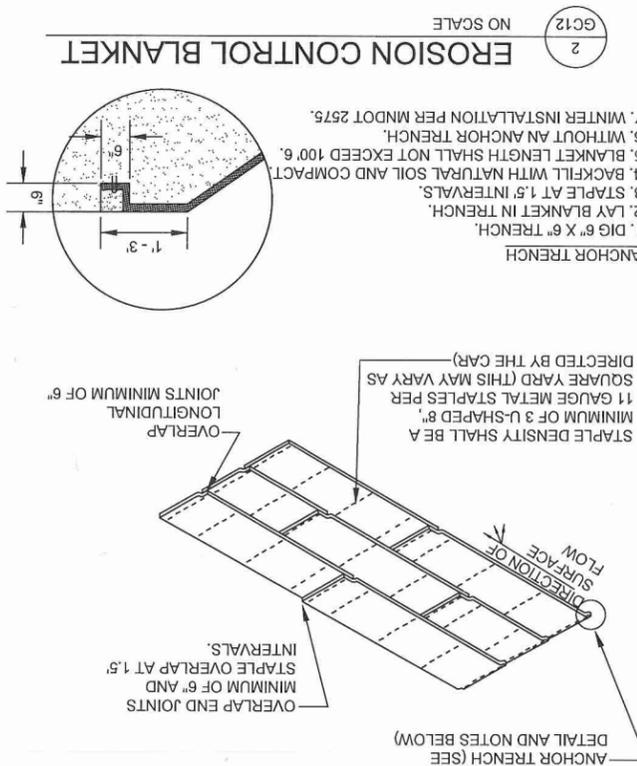
NOTE:
 1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, PER MNDOT 3886.



NOTE:
 WIMCO POLYESTER SLEEVE SYSTEM ALSO ACCEPTABLE.



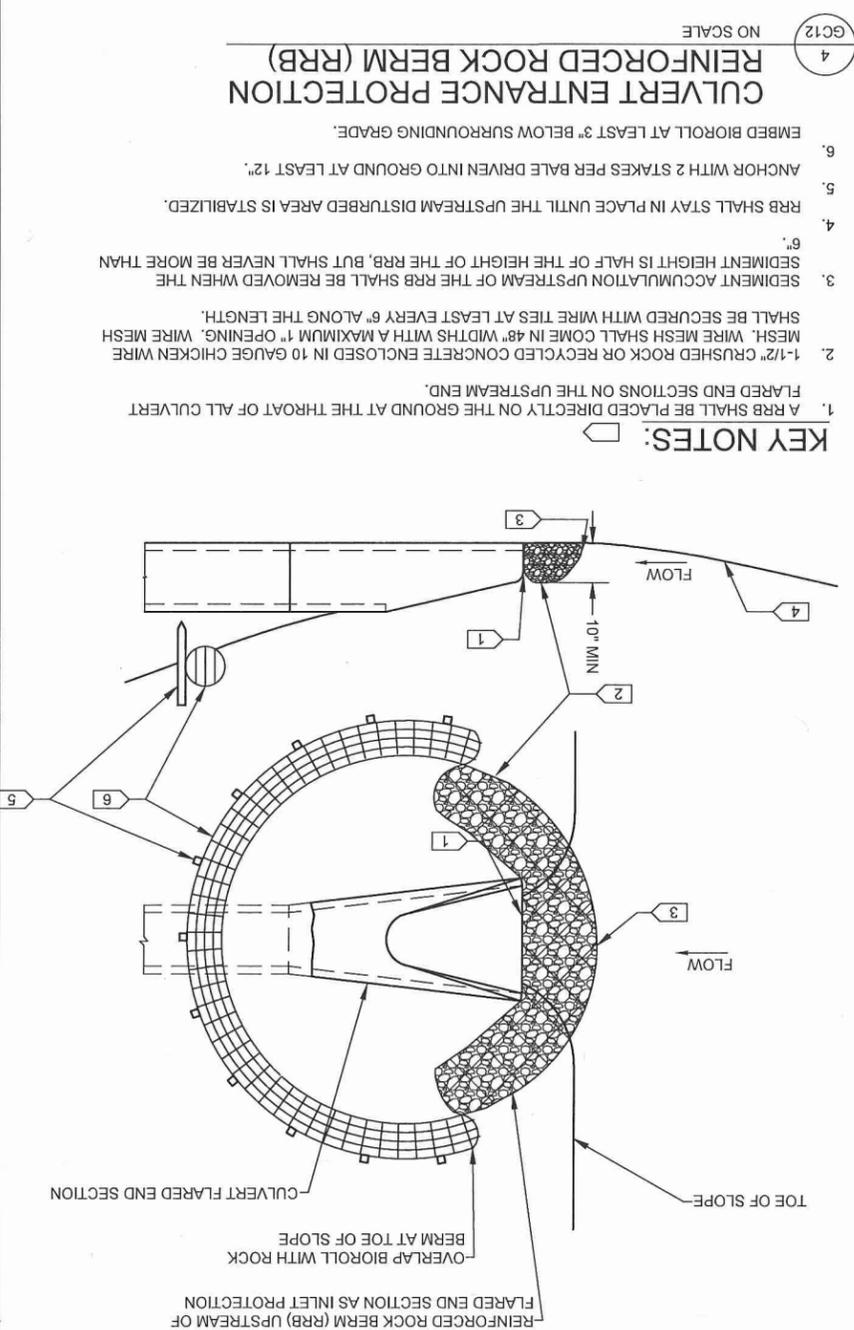
KEY NOTES:
 1. 8'-0" MAXIMUM UNLESS DIRECTED OTHERWISE. TYPICAL BOTH SIDES OF ENTRANCE.
 2. ALLOW FOR TEMPORARY DRAINAGEWAY AS NECESSARY.
 3. REMOVE ONCE CONSTRUCTION IS COMPLETE.
 4. CONSTRUCT 12" MIN HEIGHT ROCK BUMP @ MIDWAY POINT OF ROCK ENTRANCE. ROCK BUMP SHALL BE FULL WIDTH (25'-0") & HAVE 5:1 SLOPES WITH 12" FLAT TOP FOR TRUCKS TO DRIVE OVER.



ANCHOR TRENCH
 1. DIG 6" X 6" TRENCH.
 2. LAY BLANKET IN TRENCH.
 3. STAPLE AT 1.5' INTERVALS.
 4. BACKFILL WITH NATURAL SOIL AND COMPACT.
 5. BLANKET LENGTH SHALL NOT EXCEED 100'.
 6. WINTER INSTALLATION PER MNDOT 2575.
 7. WITHOUT AN ANCHOR TRENCH.



KEY NOTES:
 TRACKED EQUIPMENT TRENDS CREATE GROOVES PERPENDICULAR TO SLOPE DIRECTION.
 ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1 REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD IS EROSION CONTROL BLANKET OR HYDROMULCH.



KEY NOTES:
 1. A RRB SHALL BE PLACED DIRECTLY ON THE GROUND AT THE THROAT OF ALL CULVERT FLARED END SECTIONS ON THE UPSTREAM END.
 2. 1-1/2" CRUSHED ROCK OR RECYCLED CONCRETE ENCLOSED IN 10 GAUGE CHICKEN WIRE MESH. WIRE MESH SHALL COME IN 48" WIDTHS WITH A MAXIMUM 1" OPENING. WIRE MESH SHALL BE SECURED WITH WIRE TIES AT LEAST EVERY 6" ALONG THE LENGTH.
 3. SEDIMENT ACCUMULATION UPSTREAM OF THE RRB SHALL BE REMOVED WHEN THE SEDIMENT HEIGHT IS HALF OF THE HEIGHT OF THE RRB, BUT SHALL NEVER BE MORE THAN 6".
 4. RRB SHALL STAY IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED.
 5. ANCHOR WITH 2 STAKES PER BALE DRIVEN INTO GROUND AT LEAST 12".
 6. EMBED BIOROLL AT LEAST 3" BELOW SURROUNDING GRADE.

GC12
 4
 NO SCALE
 CULVERT ENTRANCE PROTECTION REINFORCED ROCK BERM (RRB)

GC12
 6
 NO SCALE
 INLET PROTECTION SEDIMENT FILTER SACK

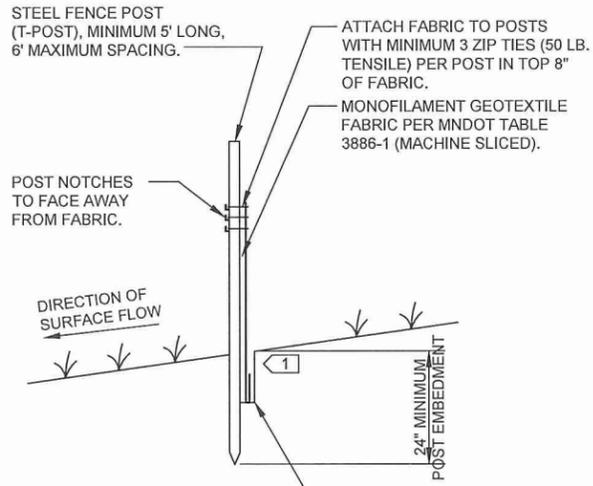
GC12
 5
 NO SCALE
 SILT FENCE RING & ROCK FILTER BERM

GC12
 1
 NO SCALE
 TEMPORARY ROCK CONSTRUCTION ENTRANCE

GC12
 2
 NO SCALE
 EROSION CONTROL BLANKET

GC12
 3
 NO SCALE
 SLOPE STABILIZATION

GC12
 4
 NO SCALE
 CULVERT ENTRANCE PROTECTION REINFORCED ROCK BERM (RRB)

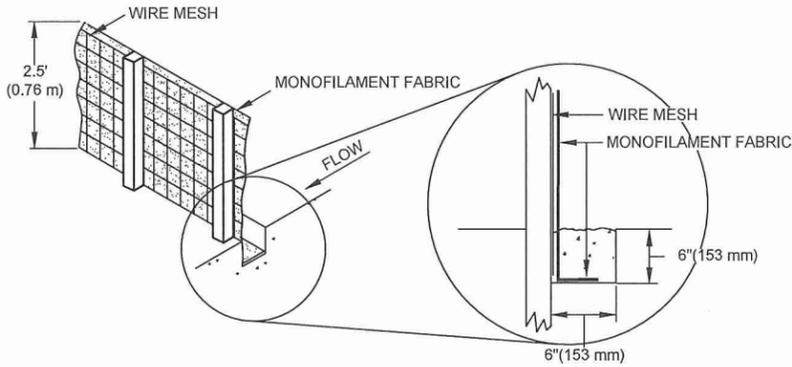


NOTE:
THE MACHINE SLICED METHOD (THIS DETAIL) IS THE STANDARD SILT FENCE INSTALLATION METHOD.

KEY NOTES:

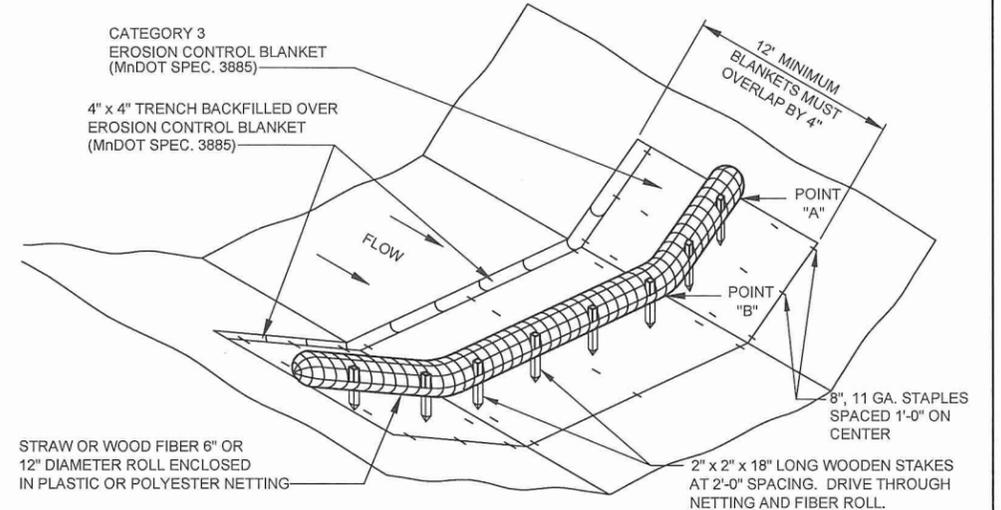
1. AFTER "SLICING" IN THE FABRIC AND BEFORE INSTALLATION OF STEEL POSTS, DRIVE INSTALLATION EQUIPMENT OVER THE "SLICE" WHILE FABRIC IS LAYING ON THE GROUND FOR COMPACTION. THEN INSTALL STEEL POSTS AND PULL UP FABRIC TO ATTACH AT A UNIFORM HEIGHT.

1 SILT FENCE - MACHINE SLICED
GC13 NO SCALE



NOTES:
- PLACE BOTTOM EDGE OF FENCE INTO 6" (153 mm) DEEP TRENCH AND BACKFILLED IMMEDIATELY.
- POSTS SHALL BE:
- 4' (1.22 m) ON CENTER
- STEEL T-POSTS WITH WELDED PLATE
- DRIVEN 2' (0.61 m) INTO THE GROUND.
- THREE ZIP TIE FASTENERS PER POST

2 SILT FENCE - HEAVY DUTY - MANUAL CONSTRUCTION
GC13 NO SCALE

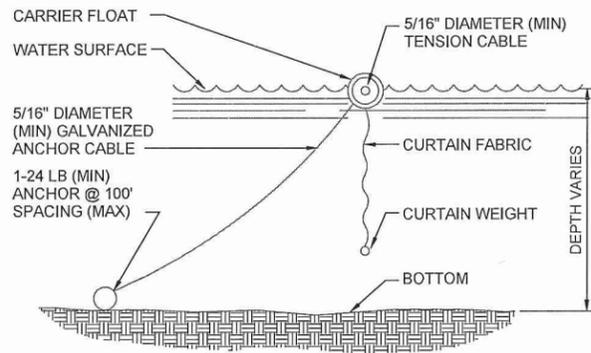


POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

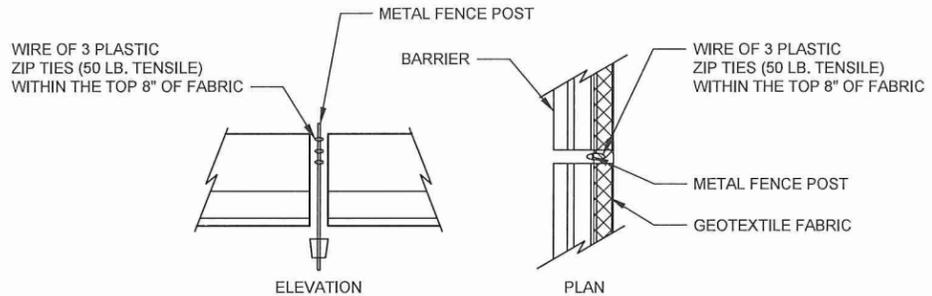
3 BIOROLL DITCH CHECK
GC13 NO SCALE

NOTES:

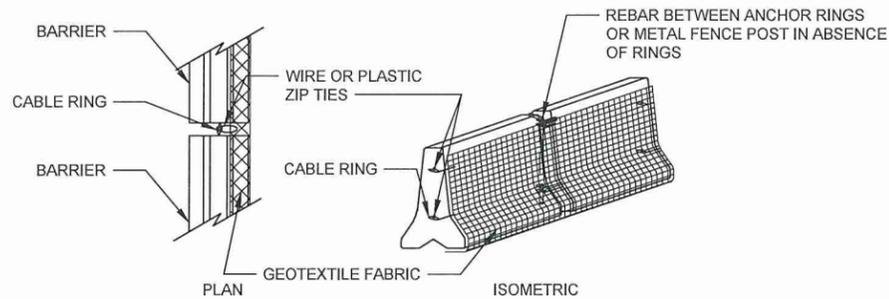
1. 6" MAXIMUM FOR WATER DEPTHS UP TO 3'-0" DEEP AND 1'-0" MAXIMUM FOR DEPTHS OVER 3'-0"
2. ELIMINATE ANCHOR AND CABLE FOR WATER DEPTHS LESS THAN 3'-0" OR DISTANCE BETWEEN SHORE ANCHORS FOR TENSION CABLE OF LESS THAN 100'
3. ANCHOR TENSION CABLE AT BOTH SIDES WITH STEEL POSTS OF DIAMETER AND LENGTH TO PREVENT BENDING AND PULL-OUT
4. WEIGHT HEAVY ENOUGH TO HOLD CURTAIN VERTICAL IN CURRENT AND WAVES TYPICAL FOR SITE
5. MATERIALS:
CURTAIN: 22 OZ VINYL COATED NYLON FABRIC
FLOAT: 8" MINIMUM DIAMETER PLASTIC SEGMENTS
CURTAIN WEIGHT:
-> CONTINUOUS GALVANIZED STEEL CHAIN
-> 5/16" MINIMUM DIAMETER, OR SEGMENTS OF 5/16" DIAMETER STEEL CABLE
-> 24" LONG @ 12" BETWEEN PIECES



4 SILT FLOTATION CURTAIN
GC13 NO SCALE

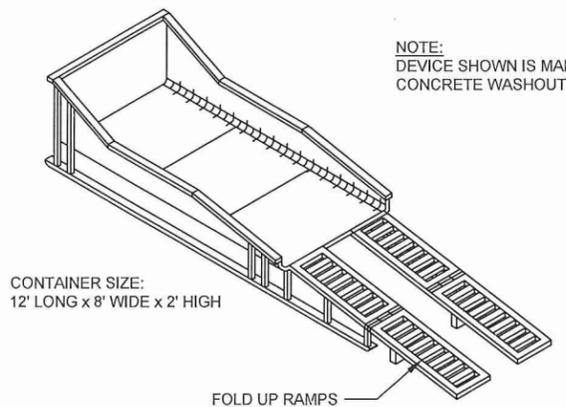


BARRIER WITHOUT CABLE RINGS



BARRIER WITH CABLE RINGS, SUPER DUTY SILT FENCE

5 SILT FENCE - SUPER DUTY
GC13 NO SCALE



NOTE:
DEVICE SHOWN IS MANUFACTURED BY CONCRETE WASHOUT SYSTEMS, INC.

NOTES:

1. CONTAINER IS TO BE PORTABLE, TEMPORARY, SELF-CONTAINED, AND WATERTIGHT TO CAPTURE AND CONTAIN CAUSTIC CONCRETE WASTEWATER AND WASHOUT MATERIAL TO A CAPACITY OF APPROXIMATELY 350 YARDS OF POURED CONCRETE.
2. THE CONTAINER SHALL BE EQUIPPED WITH RAMPS. A RAMPLESS CONTAINER MAY BE USED IN CONJUNCTION WITH A RAMPED CONTAINER OR BY ITSELF IF A CONCRETE PUMP IS NOT NEEDED.
3. THE WASHOUT MUST BE DISPOSED OF OR TREATED AND RECYCLED IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH FEDERAL, STATE, OR LOCAL REGULATIONS.
4. INSPECT AND CLEAN OUT WHEN 3/4 FULL, NOT ALLOWING THE CONTAINER TO OVERFLOW.
5. INSPECT SUBCONTRACTORS TO ENSURE THAT PROPER HOUSEKEEPING MEASURES ARE EMPLOYED WHEN WASHING OUT EQUIPMENT.

6 PORTABLE CONCRETE WASHOUT CONTAINER
GC13 NO SCALE

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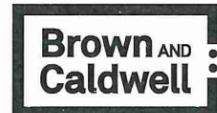
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DESIGNED	PCG
DRAWN	DAF
CHECKED	HPV
DATE	11/17/2017
REG NO	17045

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.

Signature: *Harold P Voth*

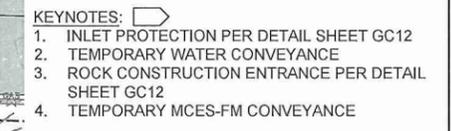
TYPED OR PRINTED NAME: HAROLD P VOTH

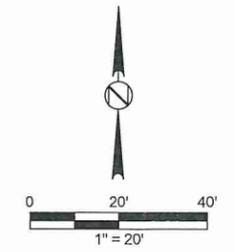
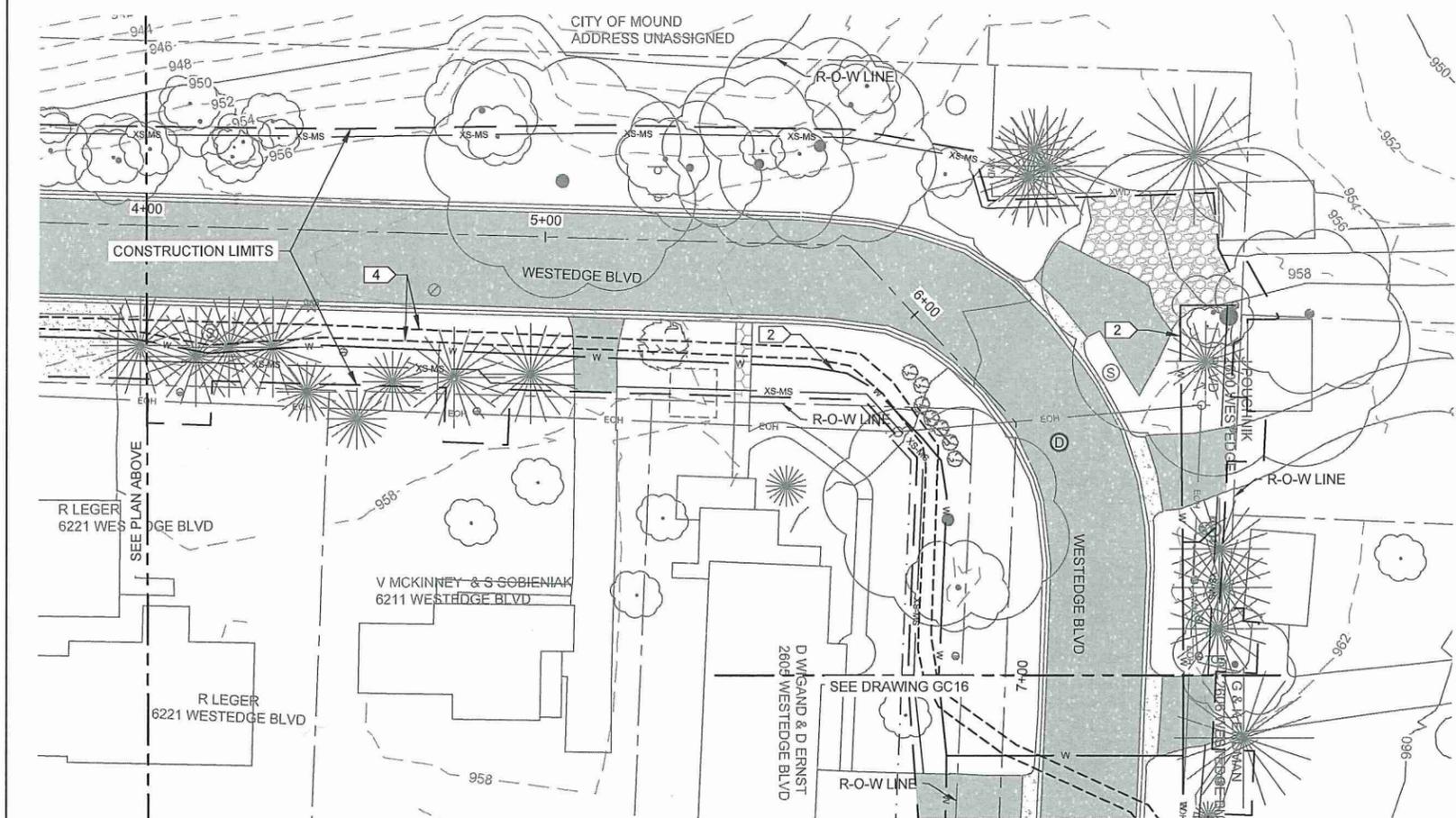
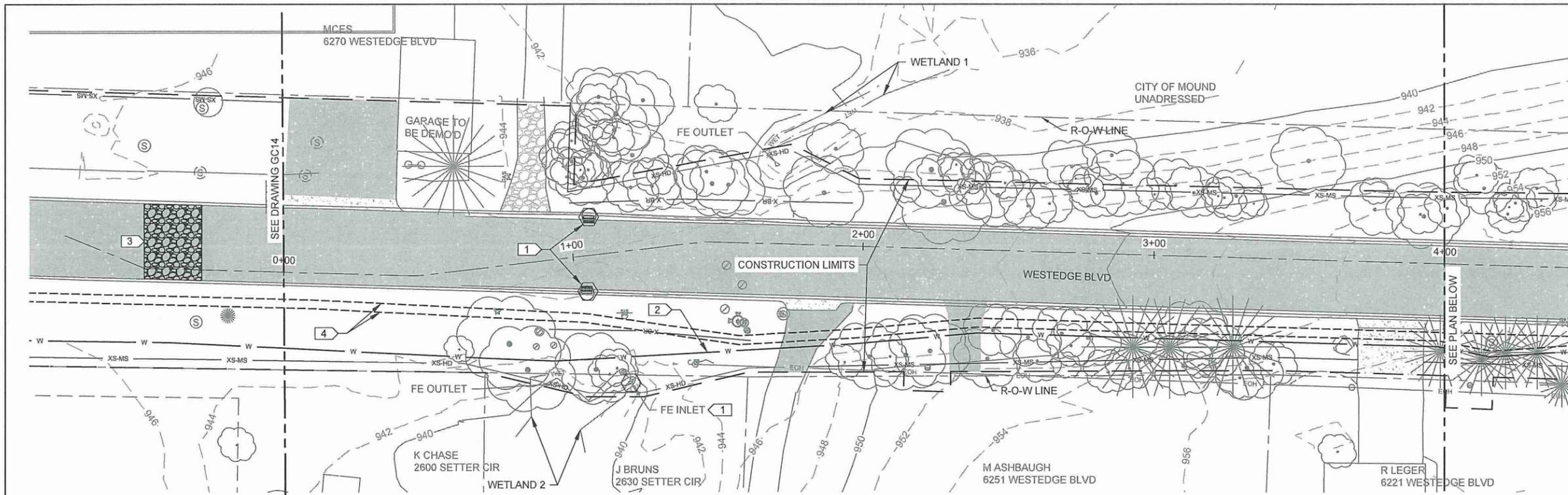


PROJECT	802829
FILENAME	GC0013

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
SEDIMENT CONTROL DETAILS

GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.

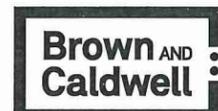
KEYNOTES: 
 1. INLET PROTECTION PER DETAIL SHEET GC12
 2. TEMPORARY WATER CONVEYANCE
 3. ROCK CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 4. TEMPORARY MCES-FM CONVEYANCE



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DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH
 DATE: 11/17/2017 REG NO: 17045



PROJECT: 802829
 FILE NAME: GC0015

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 2

GC15
 24 OF 216

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1	11/17/17				

NO	DATE	BY	REVISIONS	REMARKS

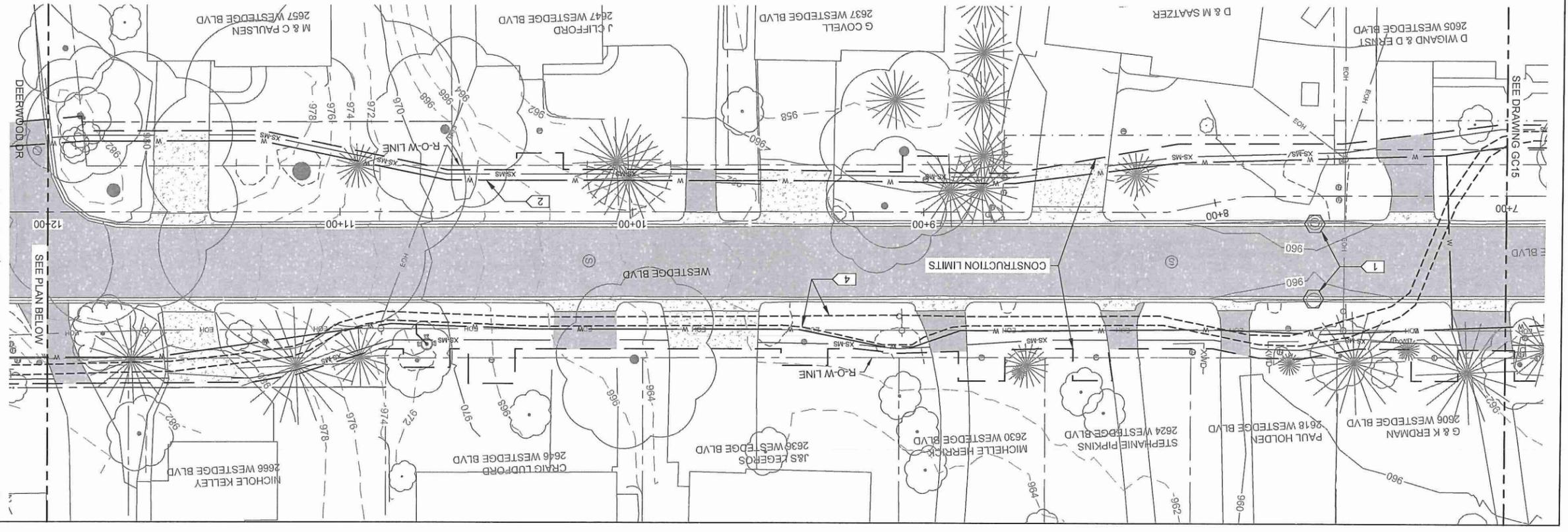
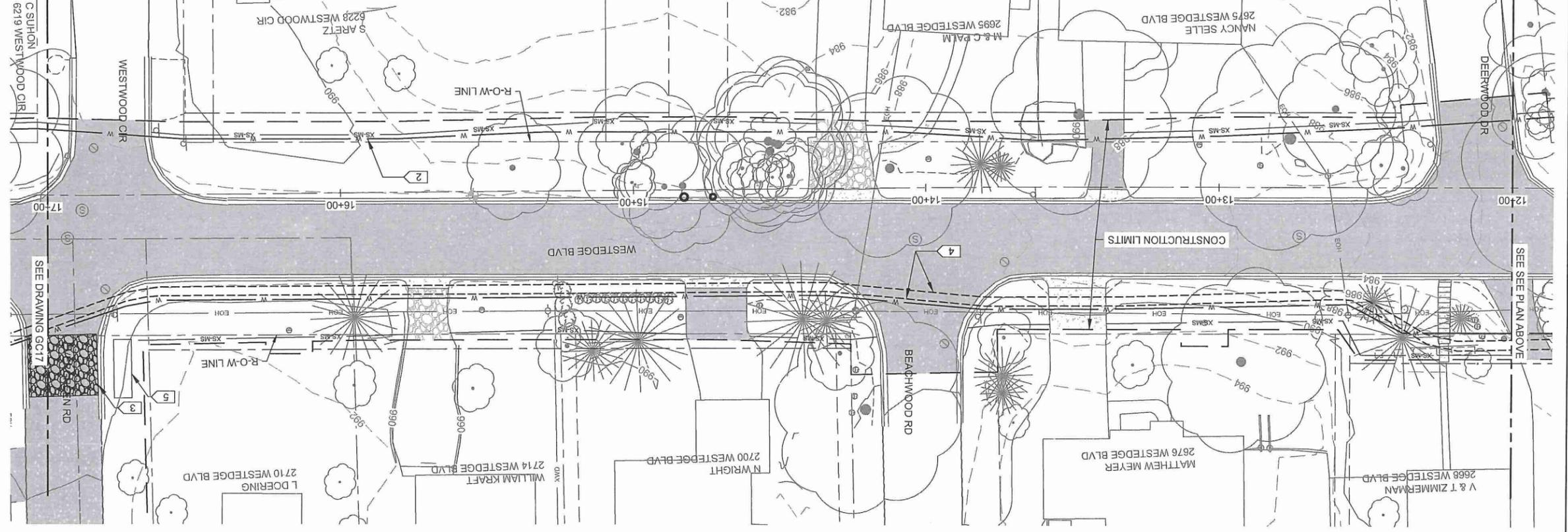
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 CHECKED: HPV
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 TYPED OR PRINTED NAME: HAROLD P VOITH
 SIGNATURE: *[Signature]*
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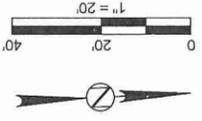
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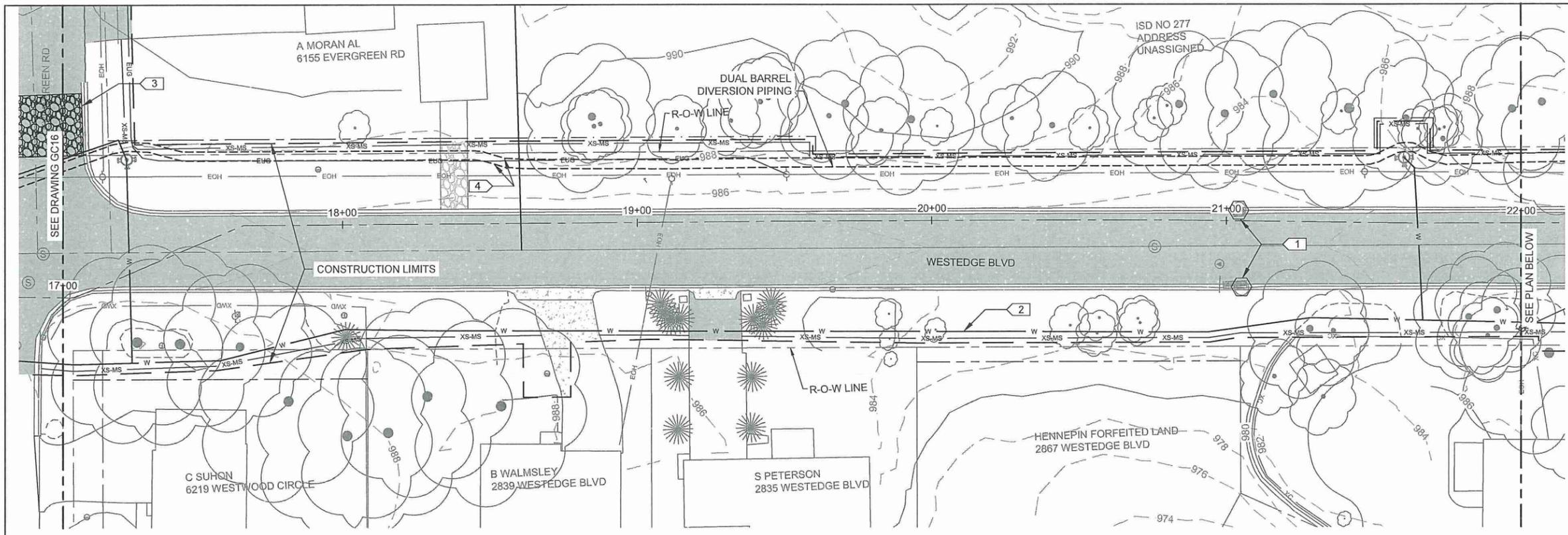
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 3

GC16
 25 of 216



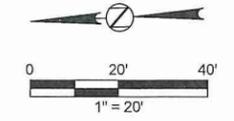
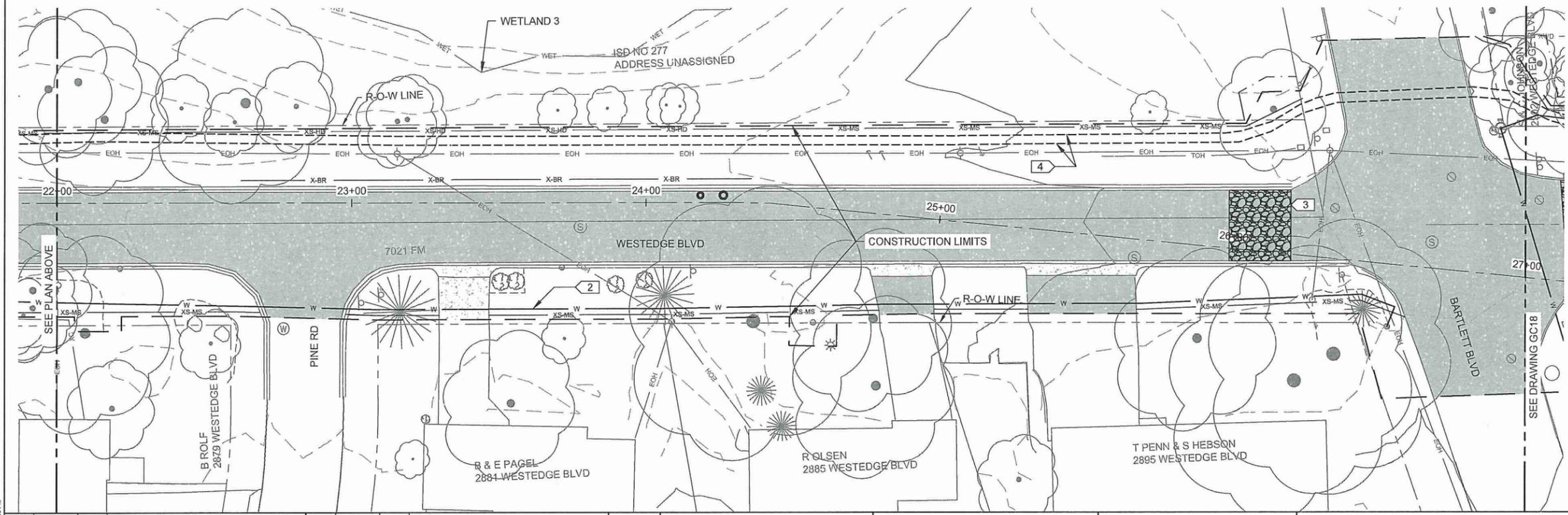
- GENERAL NOTES:
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- KEYNOTES: INLET PROTECTION PER DETAIL SHEET GC12
 1. TEMPORARY WATER CONVEYANCE
 2. TEMPORARY CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 3. ROCK CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 4. TEMPORARY MCES-FM CONVEYANCE
 5. PROVIDE TEMPORARY MAILBOXES FOR ALL PROPERTIES WITHIN WESTEDGE BLVD FROM DEERWOOD DR TO BARTLETT BLVD, INCLUDING WESTWOOD CL





GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.

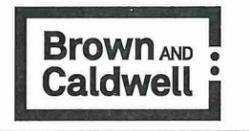
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 2. TEMPORARY WATER CONVEYANCE
 3. ROCK CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 4. TEMPORARY MCES-FM CONVEYANCE



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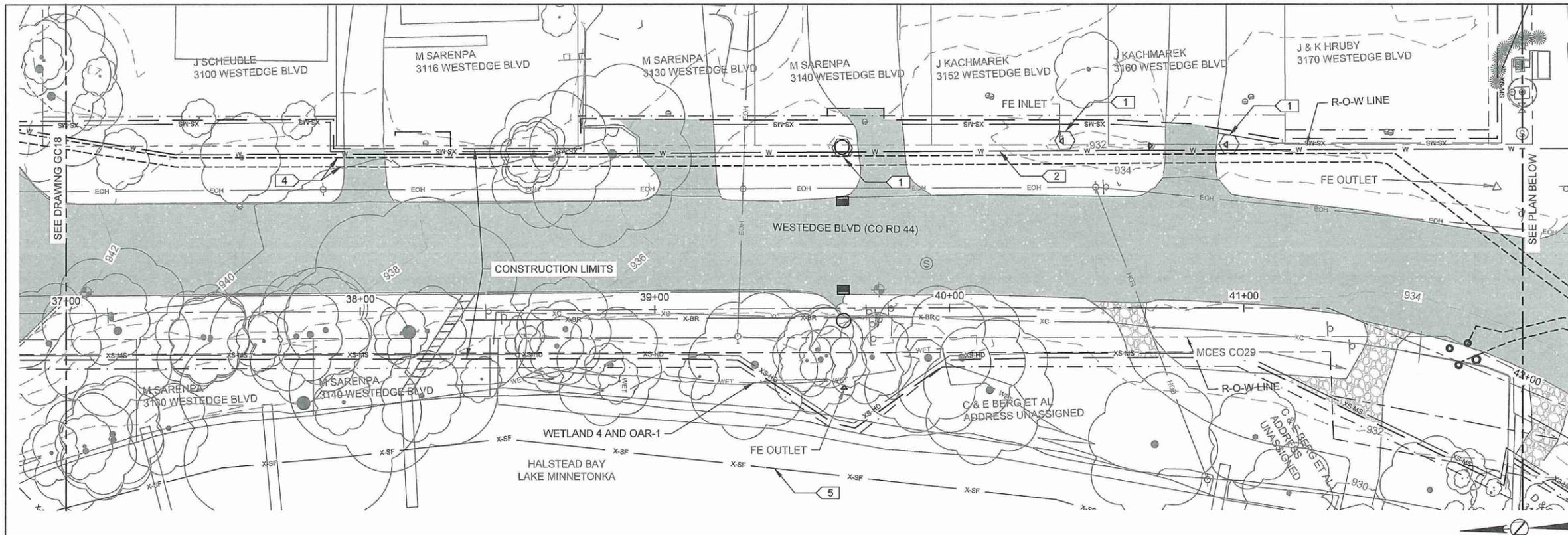
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 SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH
 DATE: 11/17/2017 REG NO: 17045



PROJECT: 802829
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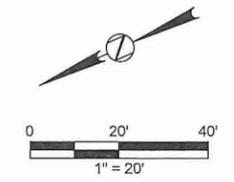
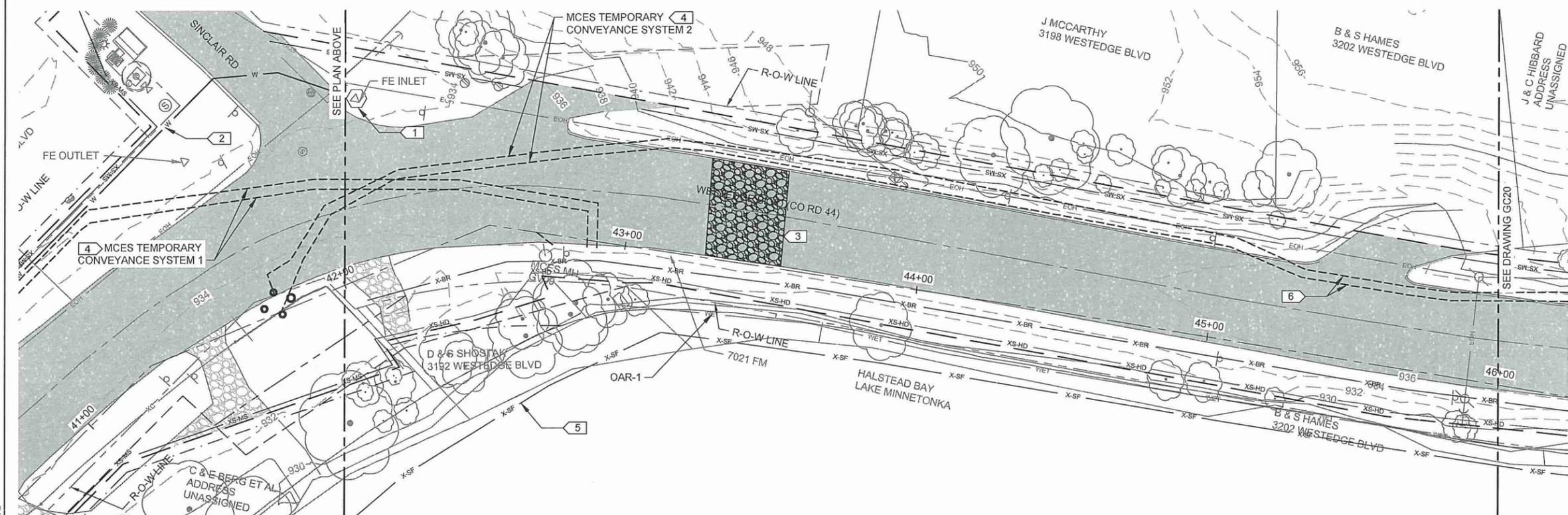
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 4

GC17
 26 of 216



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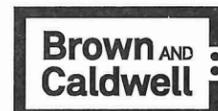
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 2. TEMPORARY WATER CONVEYANCE
 3. ROCK CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 4. TEMPORARY MCES-FM CONVEYANCE
 5. SILT FLOTATION FENCE PER DETAIL SHEET GC13
 6. INSTALL TEMPORARY CONVEYANCE PIPING WITH J-BARRIER PROTECTION AND BERM OVER PIPING AT DRIVEWAY CROSSING



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DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH
 DATE: 11/17/2017 REG NO: 17945



PROJECT: 802829
 FILE NAME: GC0019

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN -6

GC19
 28 OF 216

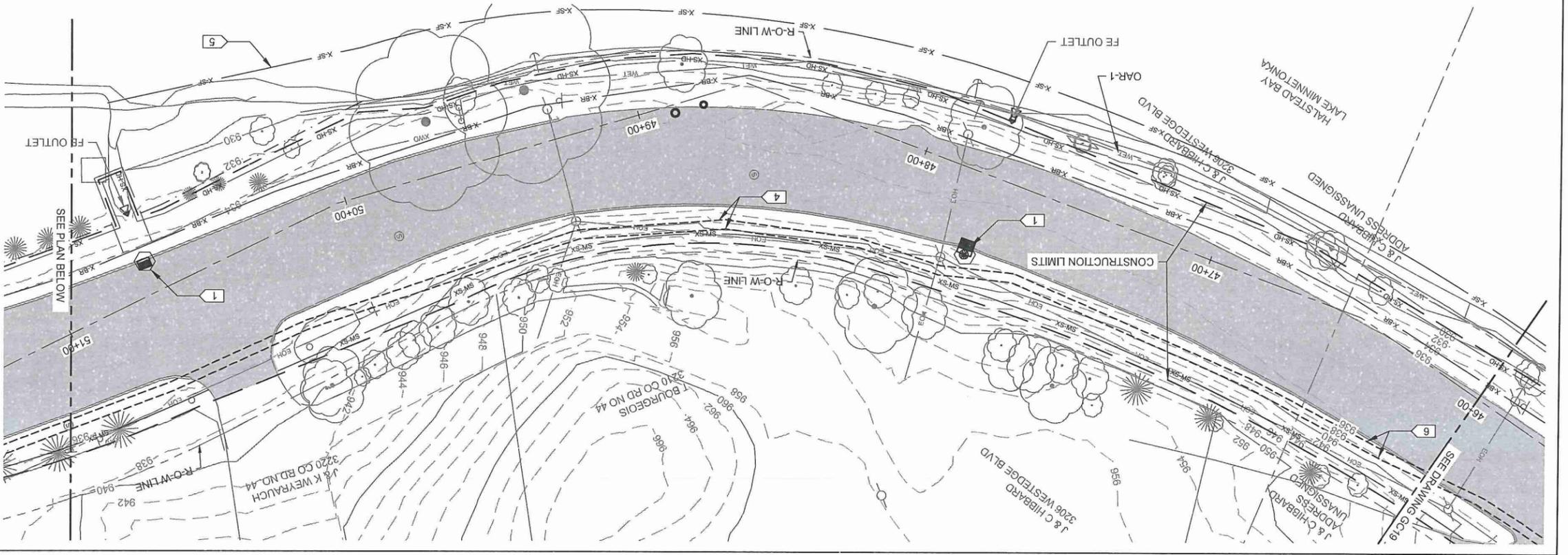
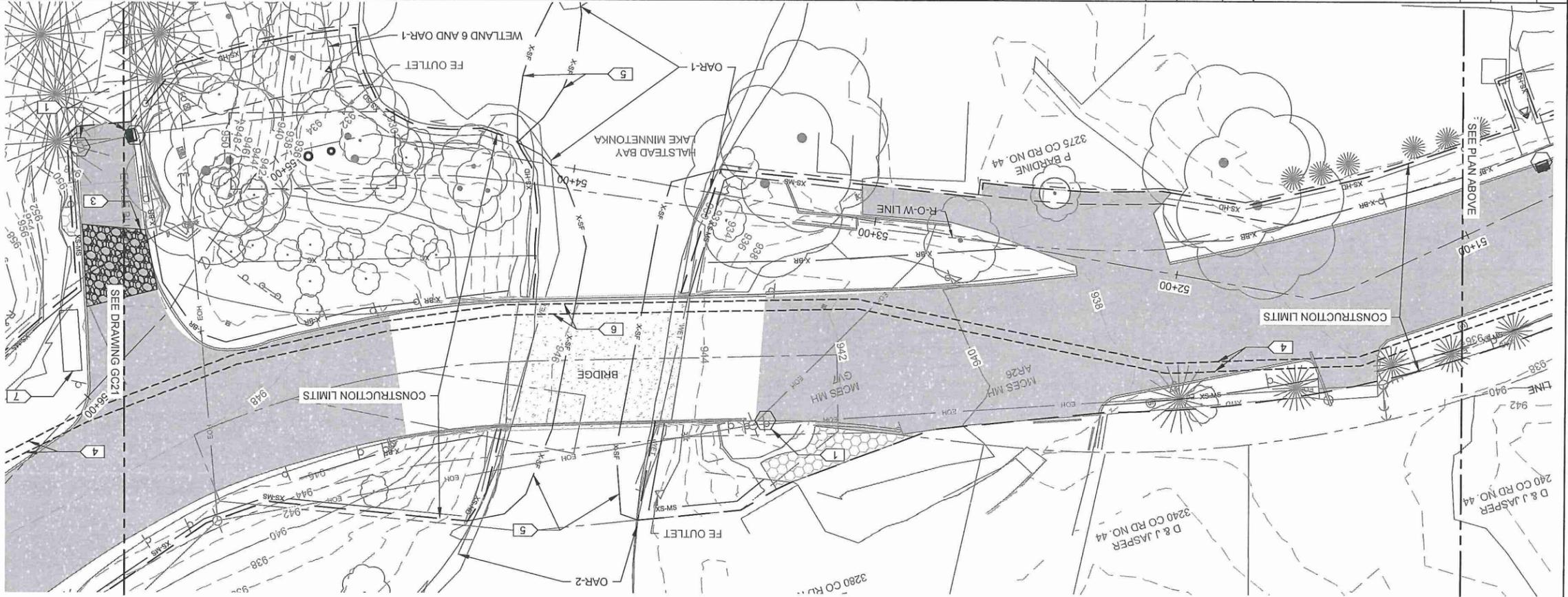
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DESIGNED	PCG	DRAWN	DATE	11/17/2017
CHECKED	DAF	DATE	11/17/2017	
TYPE OR PLOTTED NAME: HAROLD P VOIT				
SIGNATURE: <i>[Signature]</i>				
REG NO: 17045				
REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.				

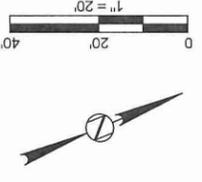


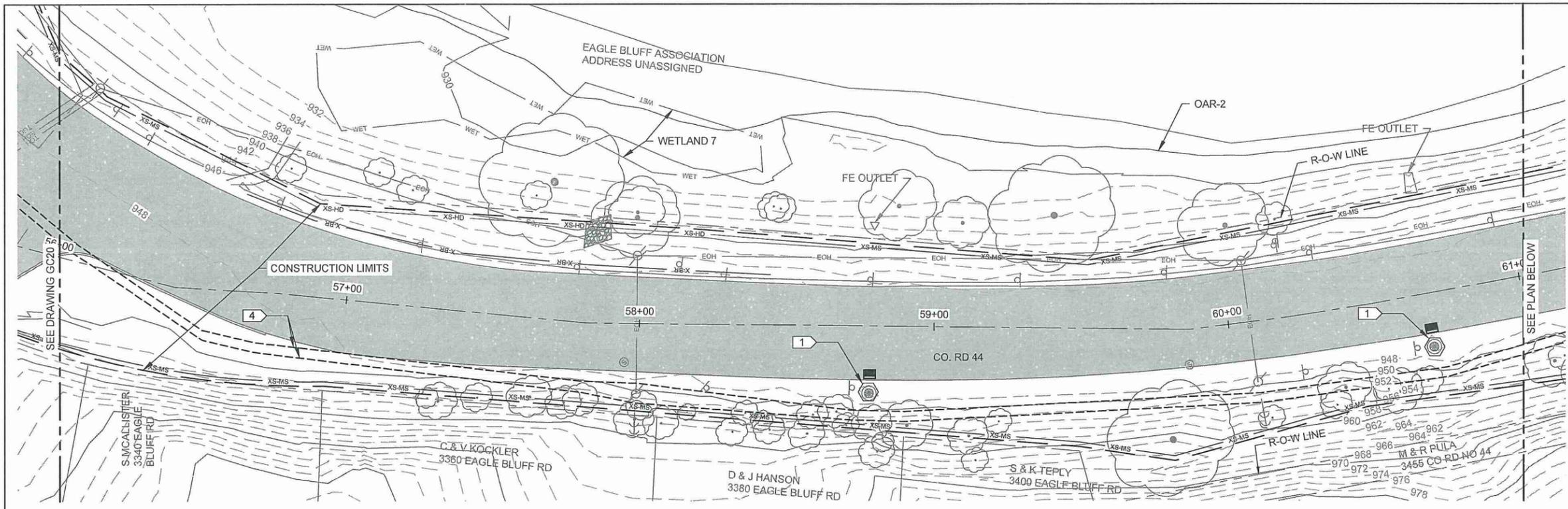
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MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 7



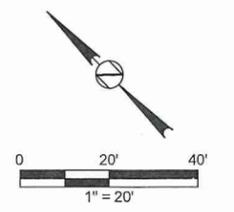
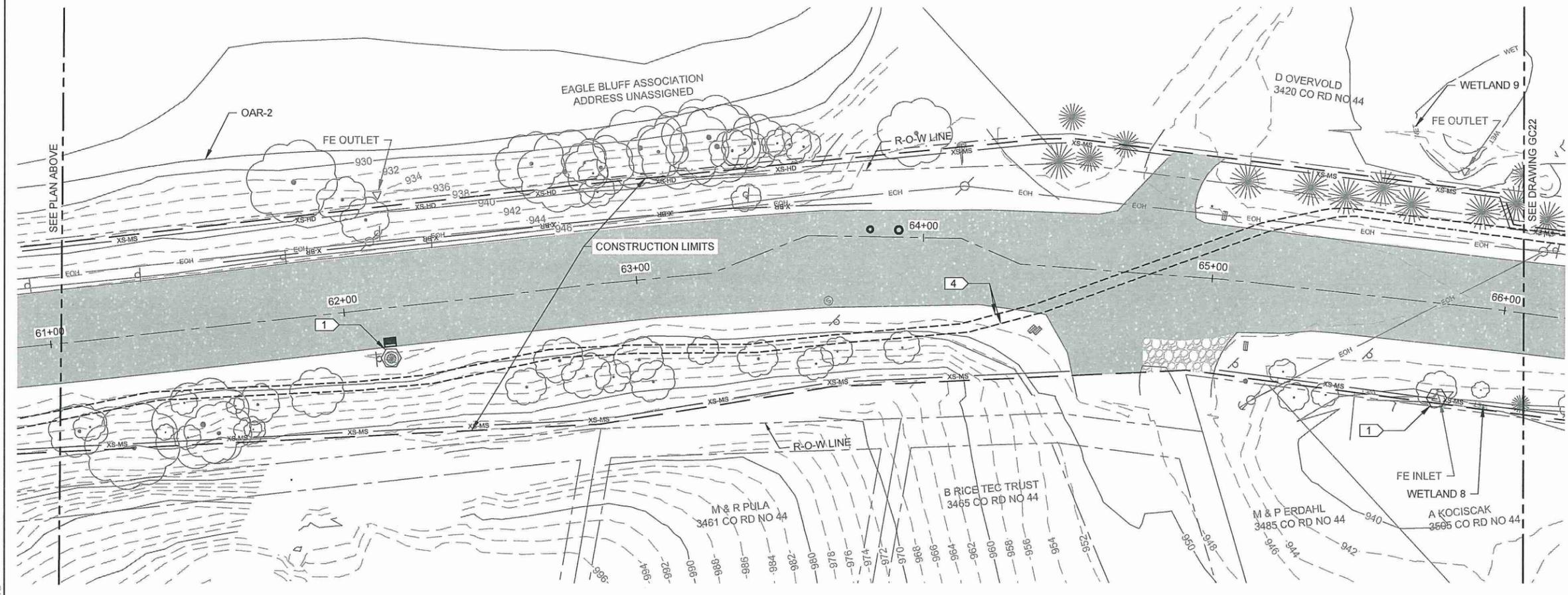
- GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.
 KEYNOTES:
 1. INLET PROTECTION PER DETAIL SHEET GC12
 2. NOT USED
 3. ROCK CONSTRUCTION ENTRANCE PER DETAIL SHEET GC12
 4. TEMPORARY MCES-FM CONVEYANCE
 5. SHEET GC12
 6. SILT FLOTATION FENCE PER DETAIL SHEET GC13
 7. J-BARRIER PROTECTION
 8. PROVIDE TEMPORARY MAILBOXES FOR ALL PROPERTIES WITHIN CSAH 44 FROM SINCLAIR CT TO EAGLE BLUFF RD





GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.

- KEYNOTES:
1. INLET PROTECTION PER DETAIL SHEET GC12
 2. NOT USED
 3. NOT USED
 4. TEMPORARY MCES-FM CONVEYANCE
 5. NOT USED
 6. NOT USED



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DESIGNED	PCG
DRAWN	DAF
CHECKED	
HPV	

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SIGNATURE: *Harold P Voth*

TYPED OR PRINTED NAME: HAROLD P VOTH

DATE: 11/17/2017 REG NO: 17045

PROJECT: 802829

FILE NAME: GC0021

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

EROSION & SEDIMENT CONTROL PLAN - 8

GC21

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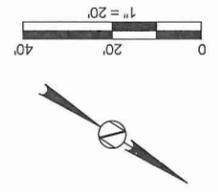
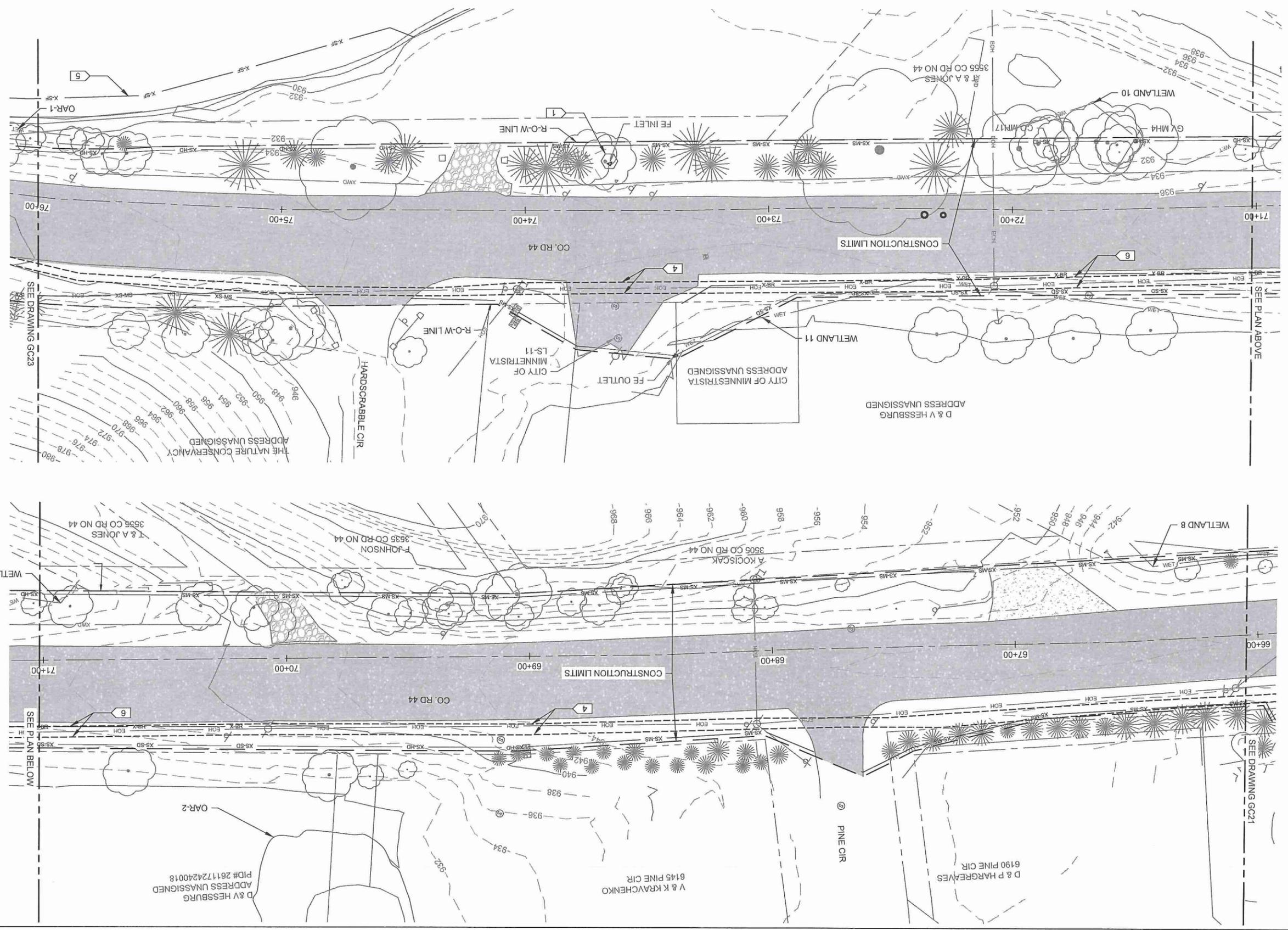
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ISSUED FOR BID	PCG	1/17/07			

DESIGNED	PCG
DRAWN	DMP
CHECKED	HPV
DATE	11/17/07
TYPED OR PRINTED NAME	HAROLD P VOITH
PROJECT NO	17045



PROJECT	802829
FILE NAME	GC0022

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 9



- GENERAL NOTES:
- SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.
 - INLET PROTECTION PER DETAIL SHEET GC12
 - NOT USED
 - NOT USED
 - TEMPORARY MCES-FM CONVEYANCE
 - SILT FLATATION FENCE PER DETAIL SHEET GC13
 - INSTALL TEMPORARY CONVEYANCE PIPING WITH 1-BARRIER PROTECTION
- KEYNOTES: INLET PROTECTION PER DETAIL SHEET GC12

SEE PLAN BELOW

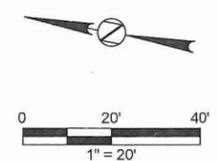
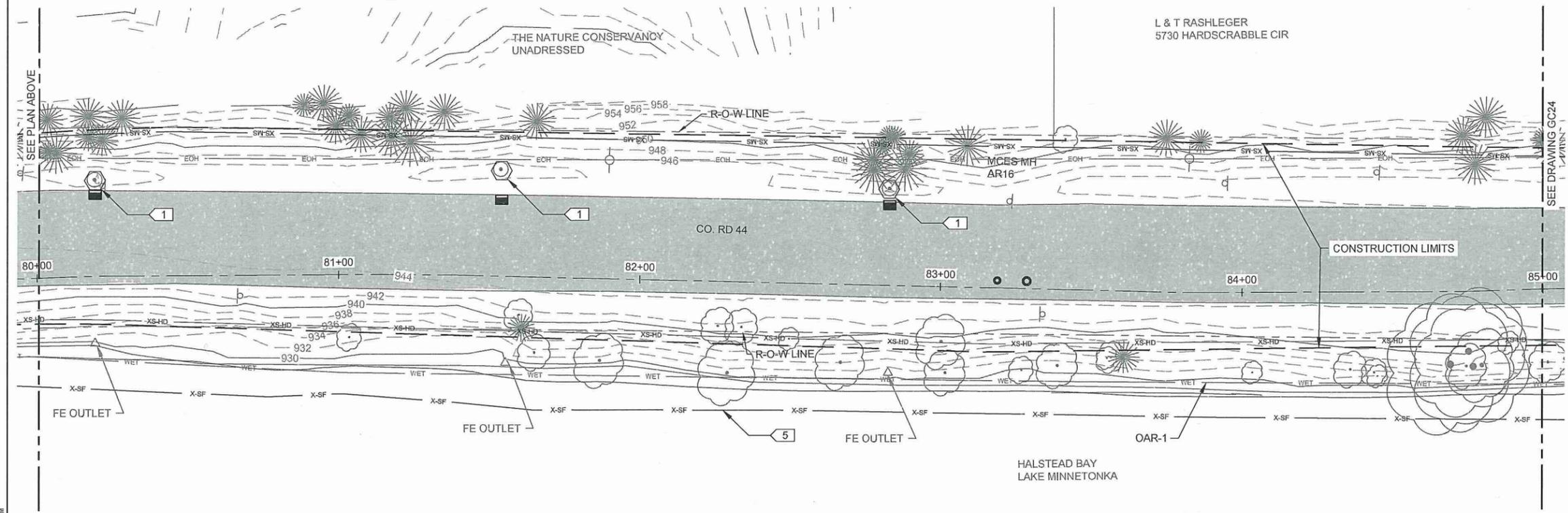
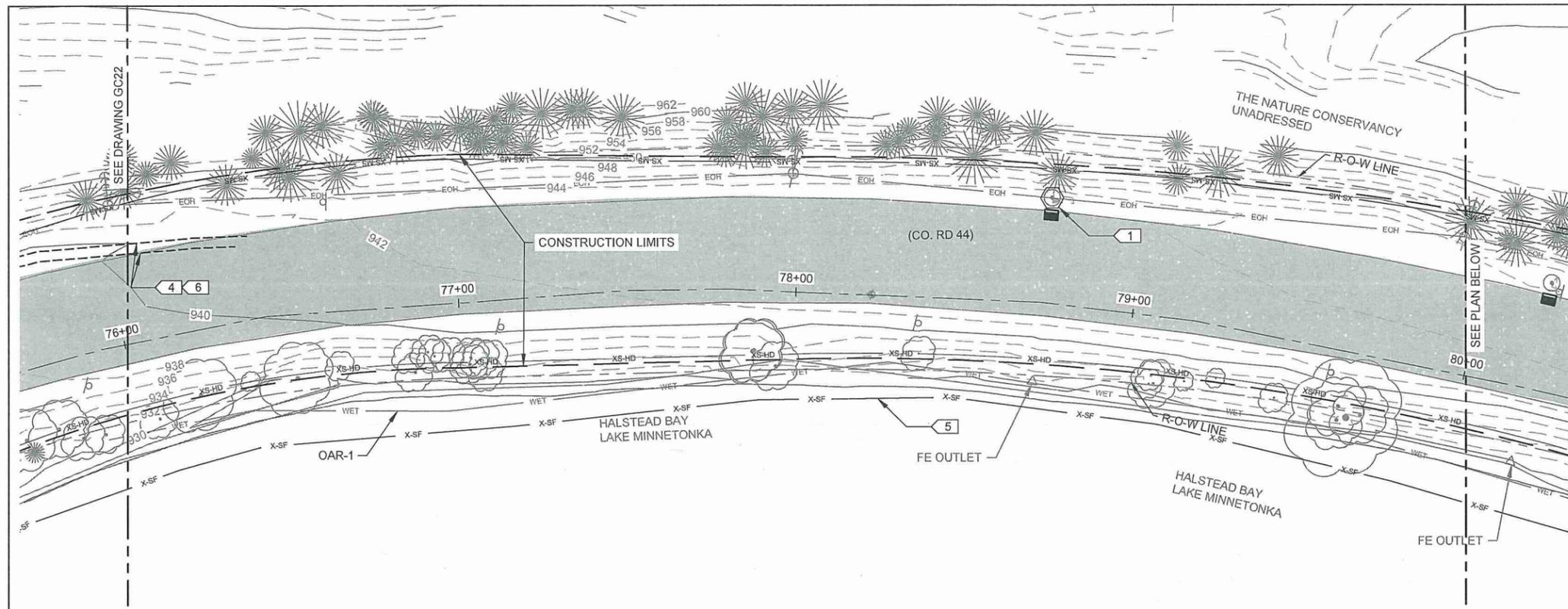
SEE DRAWING GC21

SEE DRAWING GC23

SEE PLAN ABOVE

GENERAL NOTES:
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KEYNOTES: 
 1. INLET PROTECTION PER DETAIL SHEET GC12
 2. NOT USED
 3. NOT USED
 4. TEMPORARY MCES-FM CONVEYANCE
 5. SILT FLOTATION FENCE PER DETAIL SHEET GC13
 6. INSTALL TEMPORARY CONVEYANCE PIPING WITH J-BARRIER PROTECTION



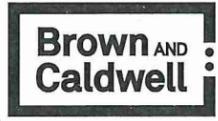
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DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 DATE: 11/17/2017 REG NO: 17045

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SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH



PROJECT: 802829
 FILENAME: GC0023

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 10

GC23
 32 of 216

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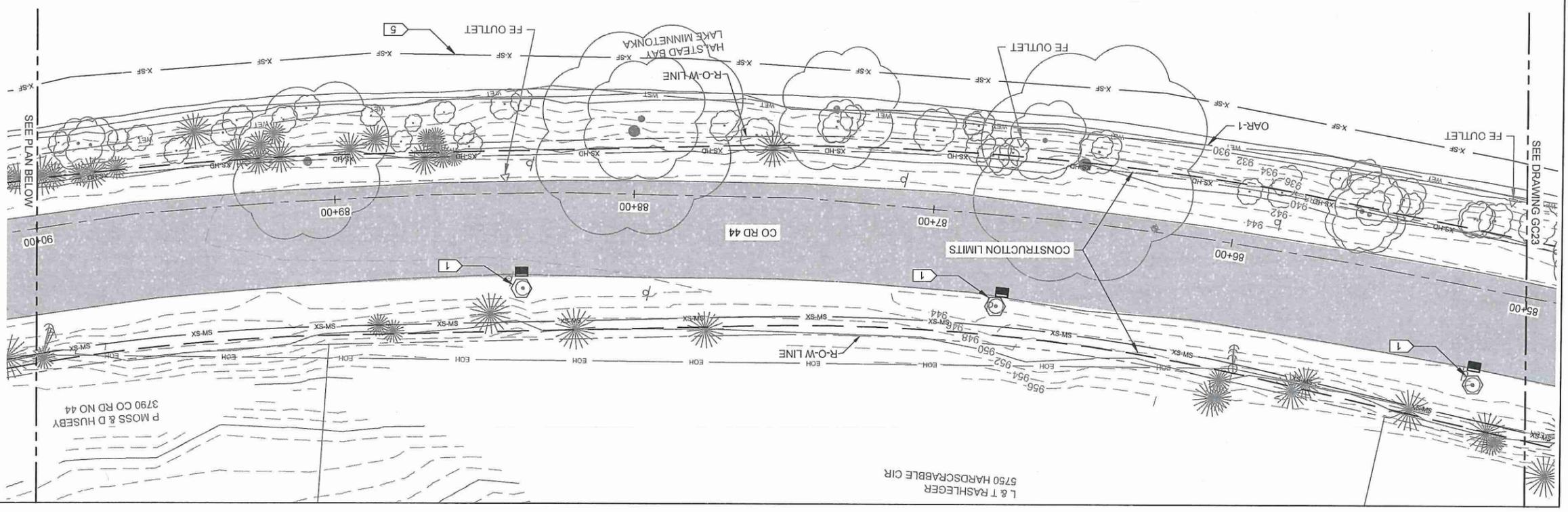
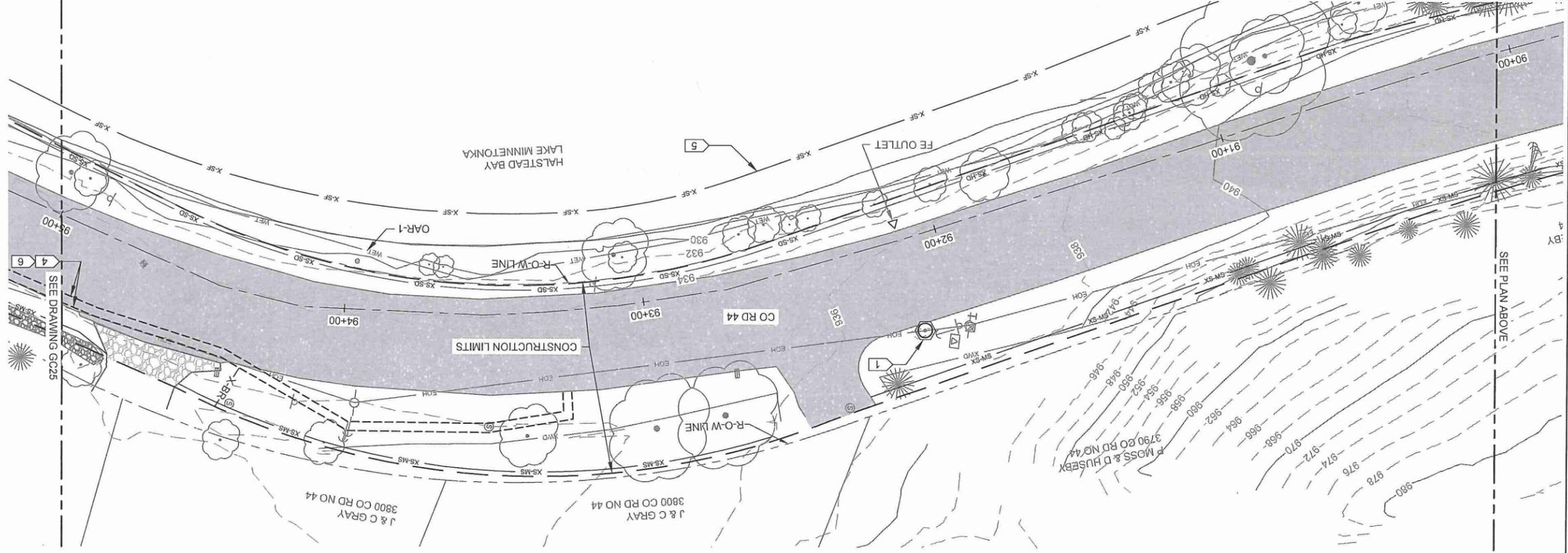
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CHECKED	HPV
TYPED OR PRINTED NAME:	11/17/2017
DATE:	17045



PROJECT	802829
FILE NAME	GC0024

EROSION & SEDIMENT CONTROL PLAN - 11
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021



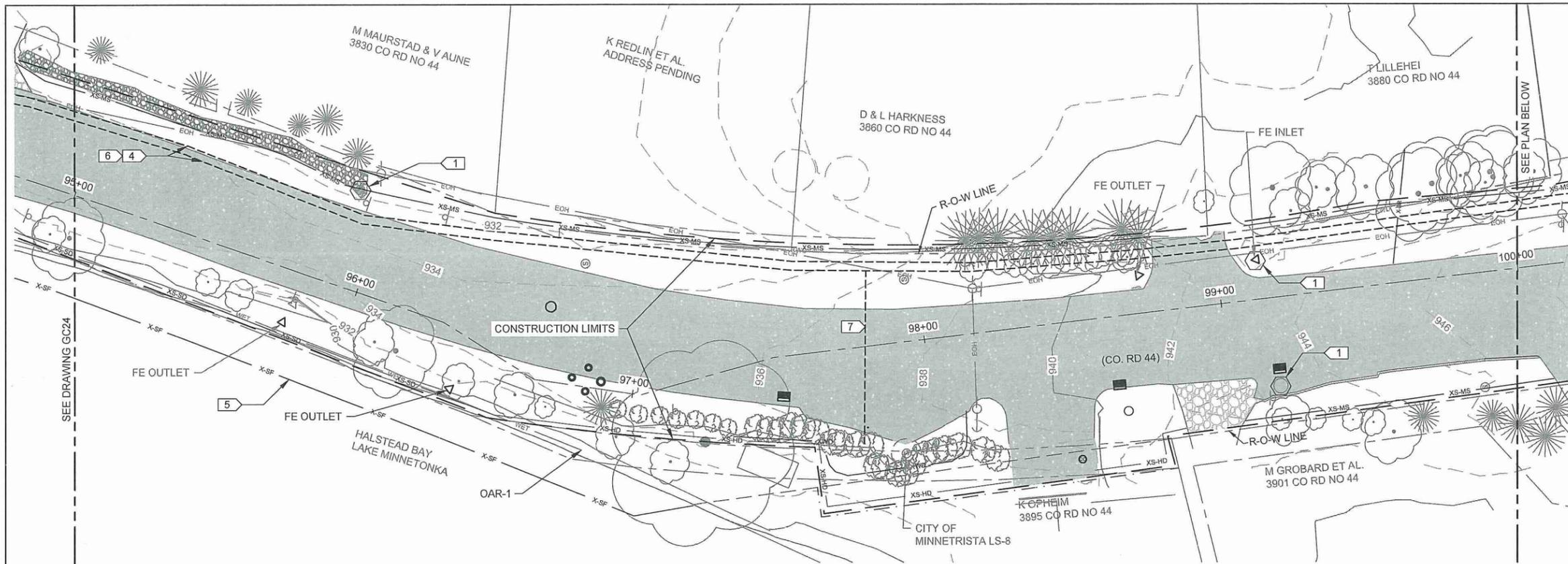
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- KEYNOTES:
 1. INLET PROTECTION PER DETAIL SHEET GC12
 2. NOT USED
 3. NOT USED
 4. TEMPORARY MCES-FM CONVEYANCE
 5. SILT FLotation FENCE PER DETAIL SHEET GC13
 6. INSTALL TEMPORARY CONVEYANCE PIPING WITH L-BARRIER PROTECTION AND BERM ACROSS DRIVEWAY

SEE PLAN ABOVE

SEE DRAWING GC25

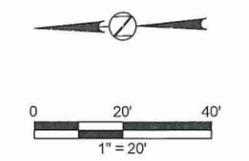
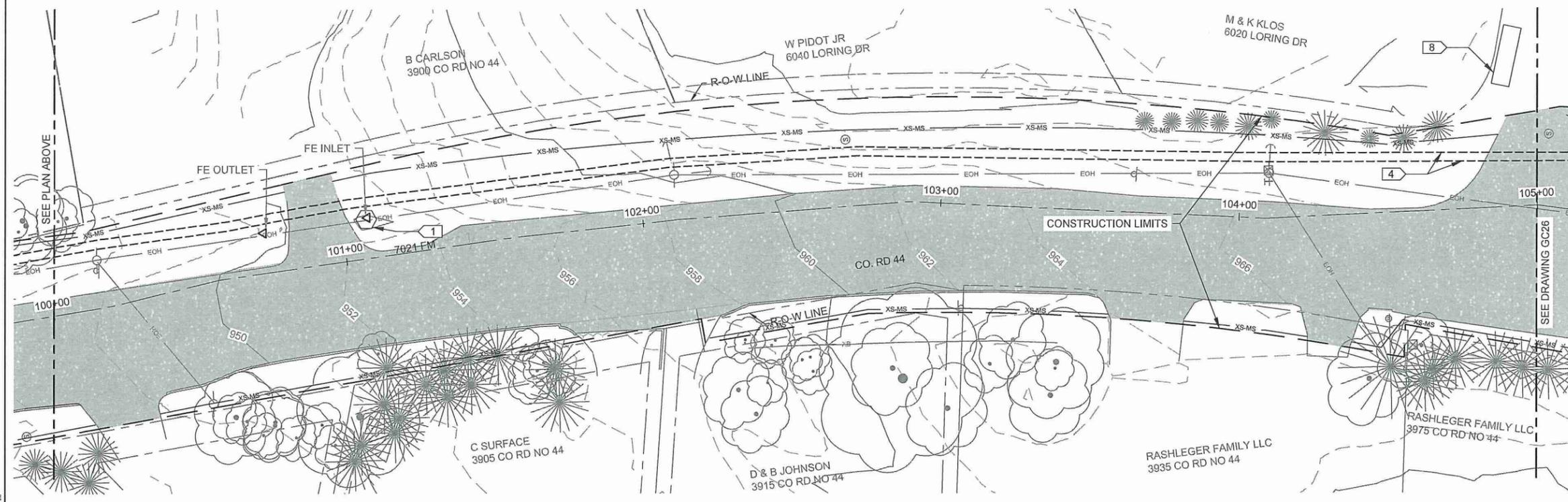
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SEE PLAN BELOW



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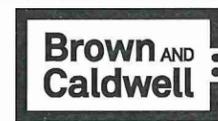
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 - 2. NOT USED
 - 3. NOT USED
 - 4. TEMPORARY MCES-FM CONVEYANCE
 - 5. SILT FLOTATION FENCE PER DETAIL SHEET GC13
 - 6. INSTALL TEMPORARY CONVEYANCE PIPING WITH J-BARRIER PROTECTION
 - 7. TEMPORARY CITY-FM CONVEYANCE
 - 8. PROVIDE TEMPORARY MAILBOXES FOR ALL PROPERTIES WITHIN CSAH 44 FROM 3860 TO 4075



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 CHECKED: HPV
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 SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH
 DATE: 11/17/2017 REG NO: 17045



PROJECT: 802829
 FILE NAME: GC0025

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 12

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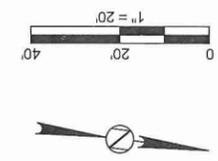
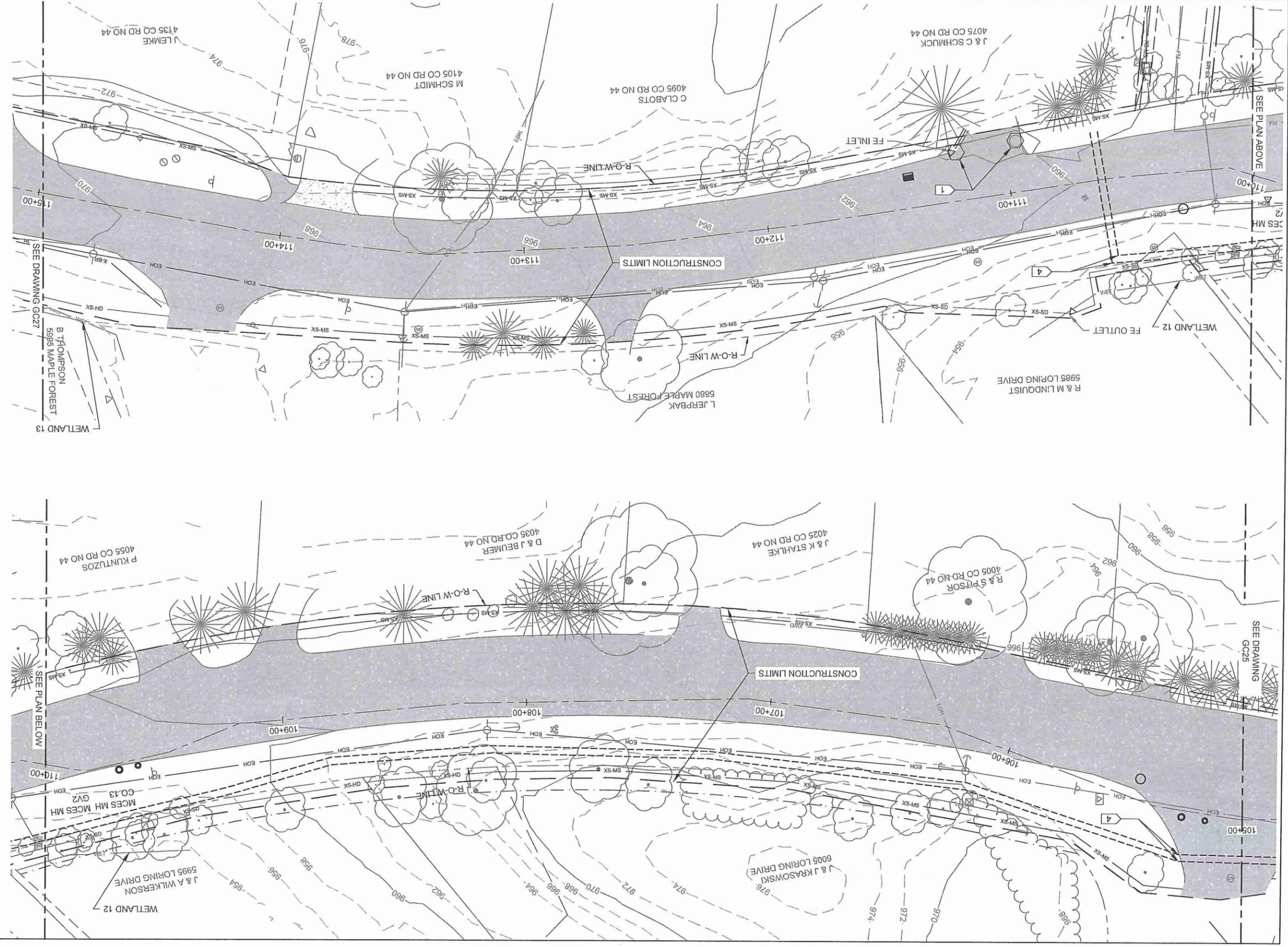
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TYPED OR PRINTED NAME:	HAROLD P VOTH
DATE:	11/17/2017
REG NO:	17045



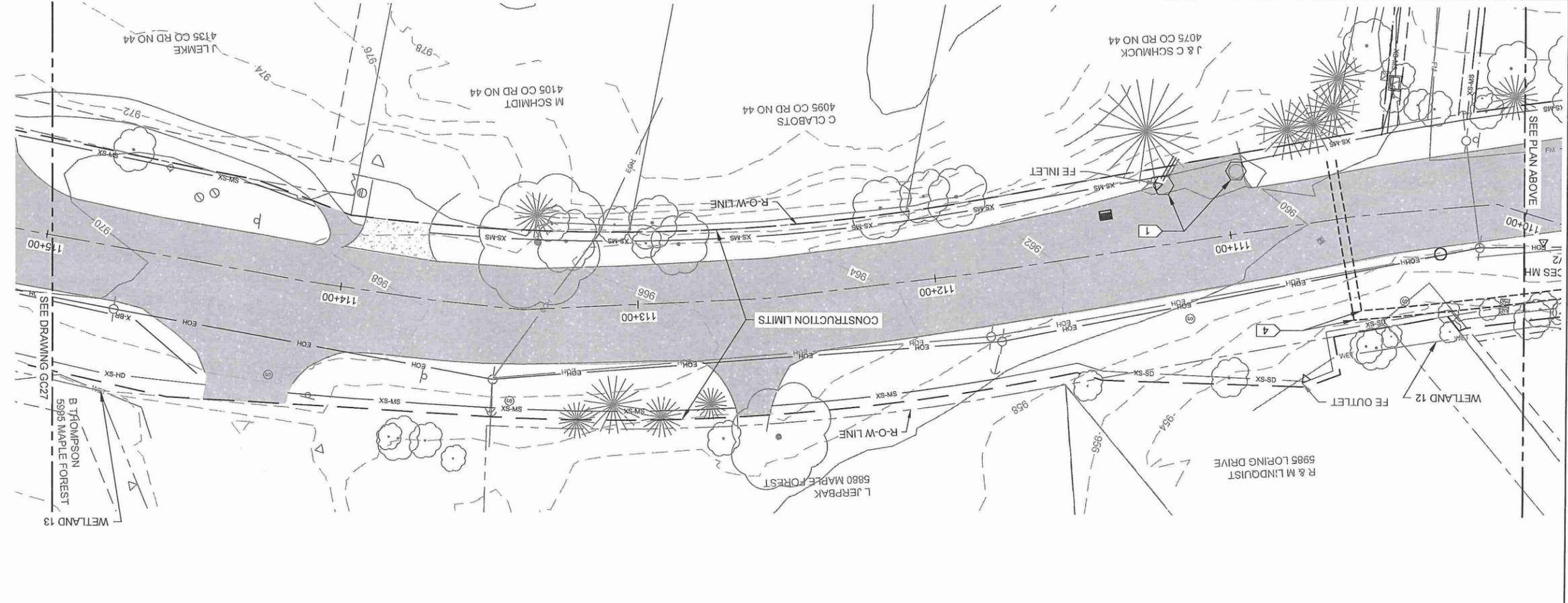
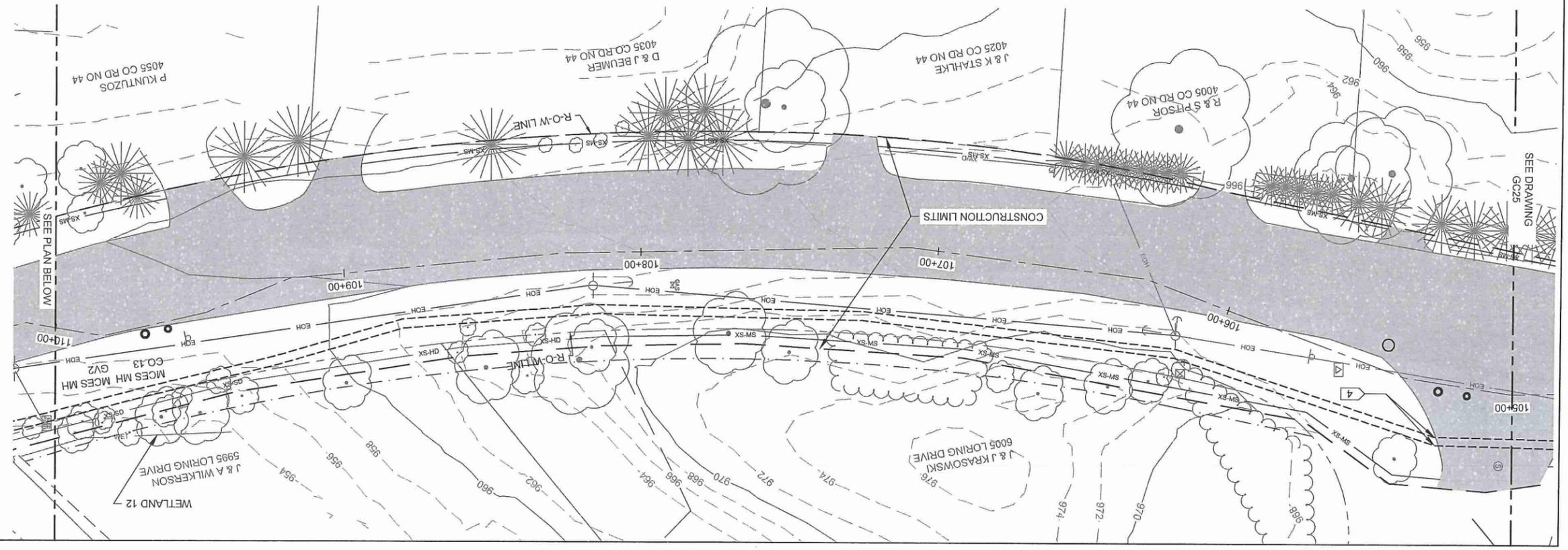
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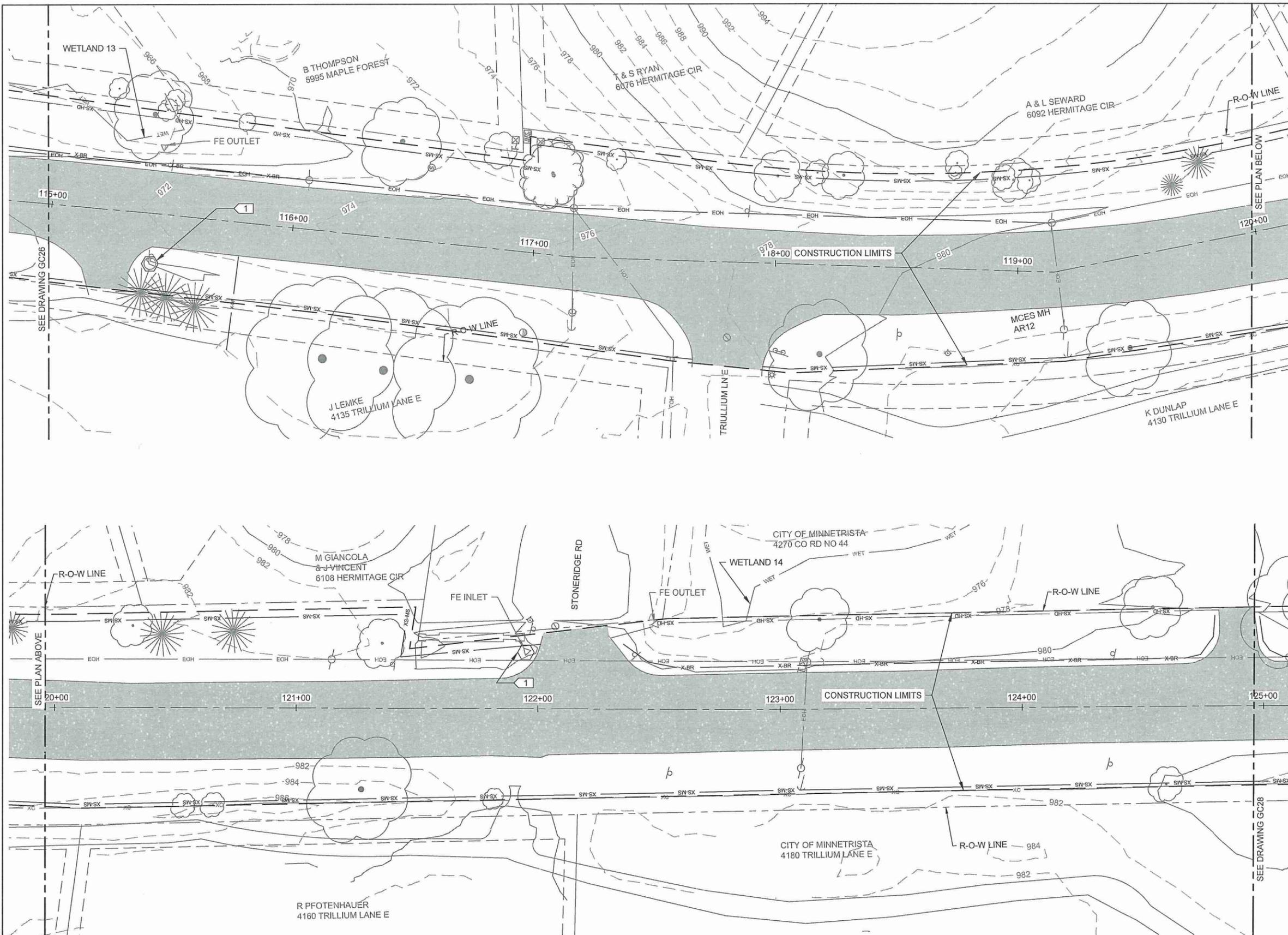
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 EROSION & SEDIMENT CONTROL PLAN - 13

GC26
 35 of 216



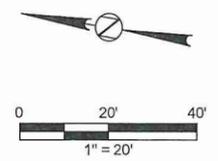
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 - TEMPORARY MCES-FM CONVEYANCE
 - NOT USED
 - NOT USED
 - NOT USED
- KEYNOTES: INLET PROTECTION PER DETAIL SHEET GC14 FOR





GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.

KEYNOTES:
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DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Harold P Voth*
 TYPED OR PRINTED NAME: HAROLD P VOTH
 DATE: 11/17/2017 REG NO: 17045



PROJECT: 802829
 FILE NAME: GC0027

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 14

GC27
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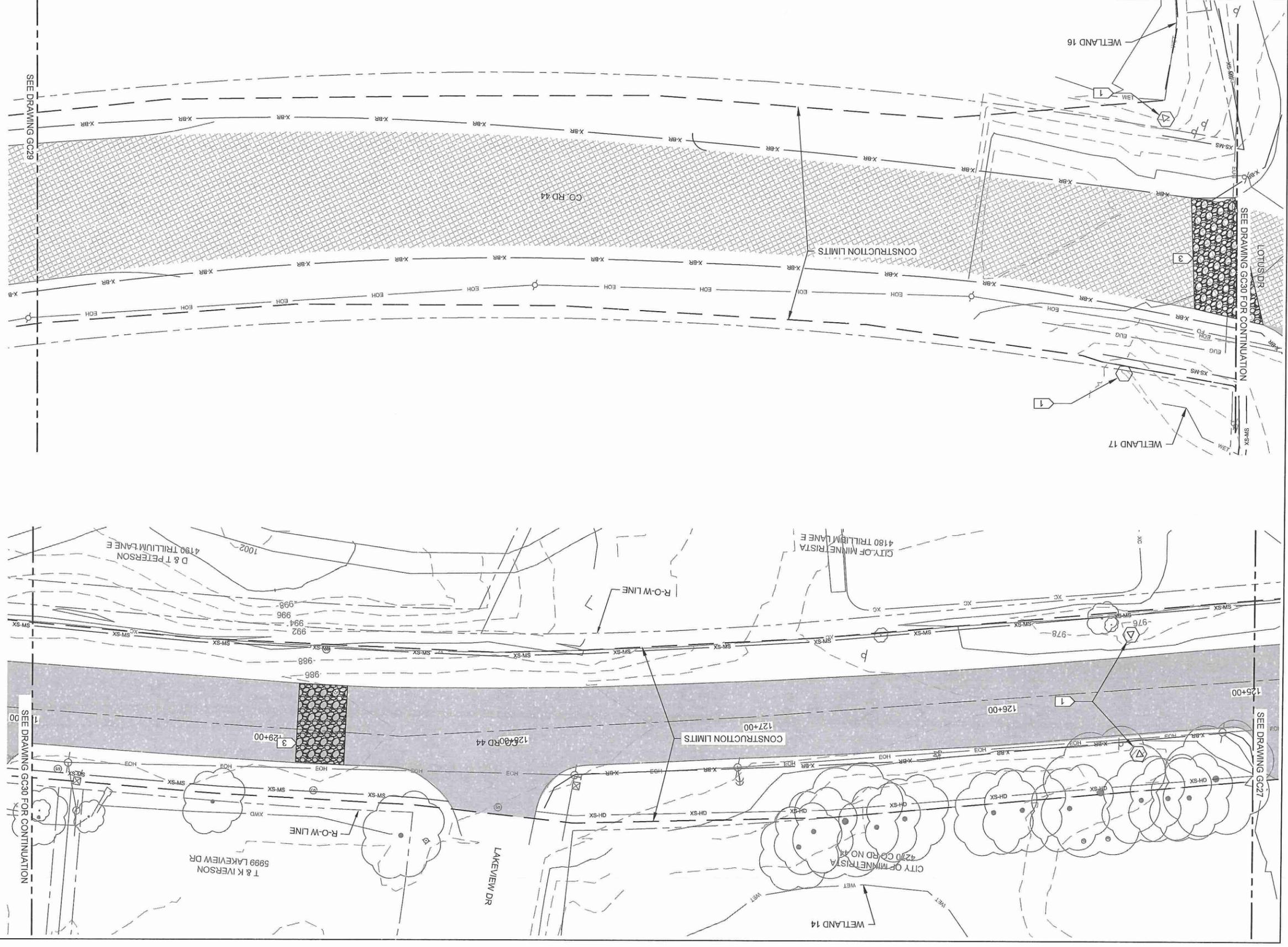
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REG NO	17045



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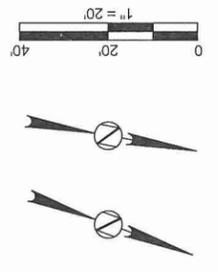
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 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

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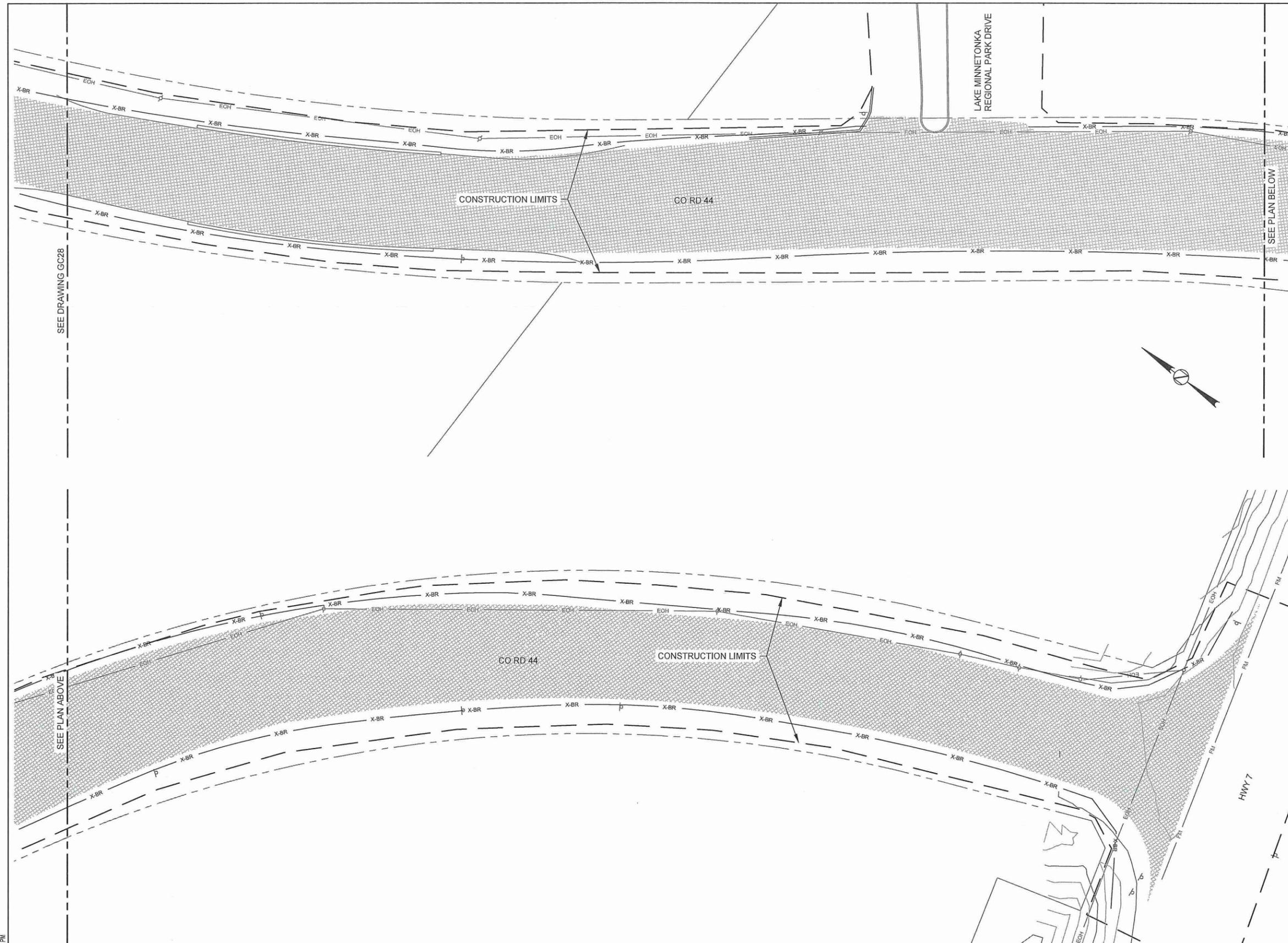


- KEYNOTES:
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GENERAL NOTES:
 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.



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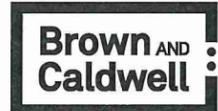


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 1. SEE GENERAL NOTES 1-7 SHEET GC14 FOR ADDITIONAL REQUIREMENTS REGARDING INFORMATION SHOWN HEREON.

KEYNOTES:
 1. NOT USED

NO	DATE	BY	REVISIONS	REMARKS

DESIGNED PCG	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. SIGNATURE: <i>Harold P Voth</i> TYPED OR PRINTED NAME: HAROLD P VOTH DATE: 11/17/2017 REG NO: 17045
DRAWN DAF	
CHECKED HPV	

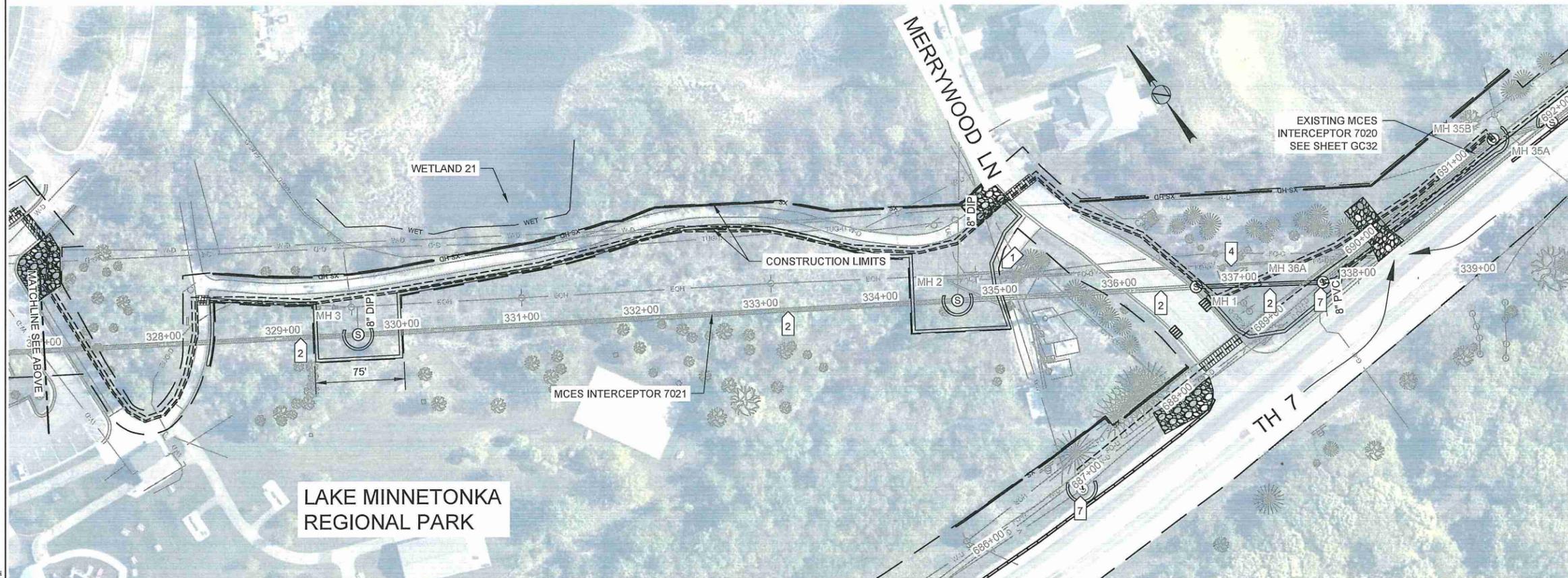
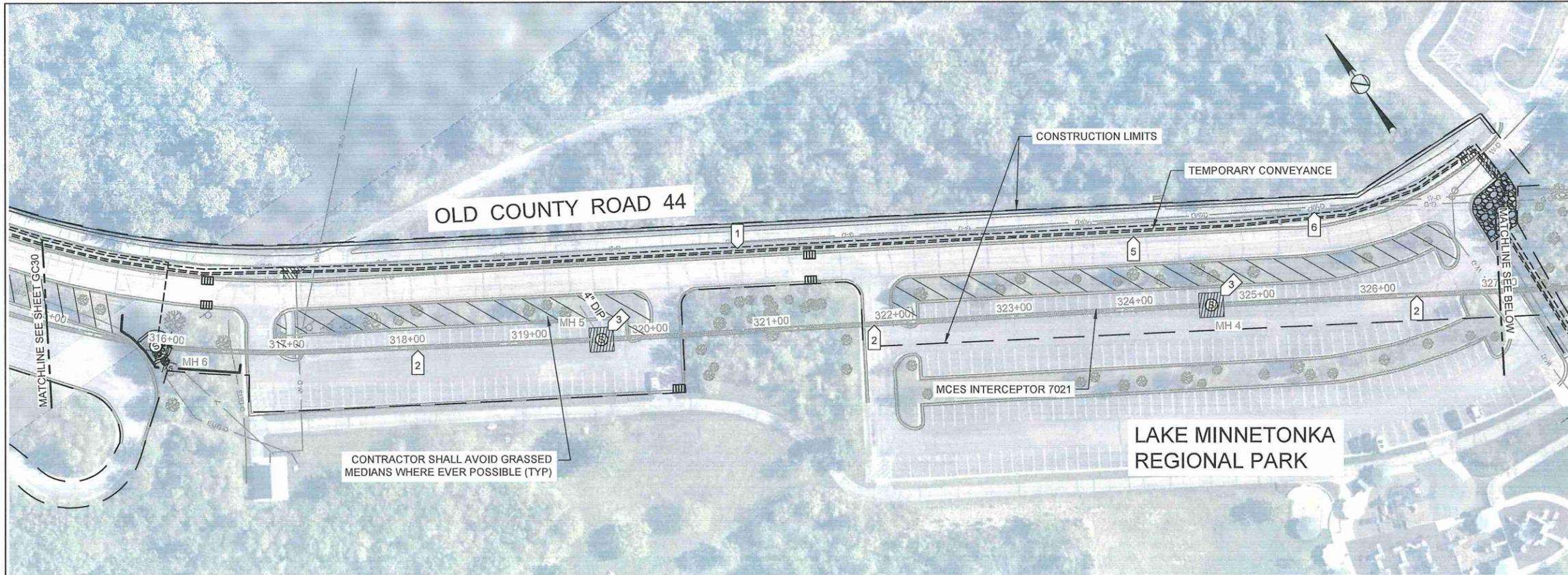


PROJECT	802829
FILE NAME	GC0029

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 16

GC29
 38 OF 216

Q:\METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES\MOUND INTERCEPTOR (MA) 7021 FM IMPROVEMENTS\SHEETS\GC0031.DWG
 PLOTTED: 11/02/2017 8:28:37 AM
 MODIFIED: 11/13/2017 2:56:15 PM



GENERAL NOTES

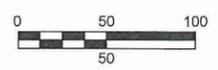
1. RESTORE ALL DISTURBED AREAS TO MATCH EXISTING SURFACES, THICKNESSES AND MATERIALS.
2. REFER TO SHEET G14 FOR EROSION CONTROL NOTES.
3. INSTALL CULVERT ENTRANCE PROTECTION PER DETAIL ON ALL AFFECTED CULVERTS.
4. SEE CD SHEETS FOR ADDITIONAL REMOVALS.

KEY NOTES: ◻

1. PROTECT CITY WATER MAIN.
2. PROTECT EXISTING MCES SANITARY SEWER.
3. REMOVE BITUMINOUS PAVEMENT.
4. PROTECT LANDSCAPING.
5. PROTECT CURB & GUTTER.
6. PROTECT GAS MAIN.
7. TEMPORARY CONVEYANCE PUMPING MH.

LEGEND:

- CONSTRUCTION LIMITS
- CATCH BASIN INLET PROTECTION
- TEMPORARY SECURITY FENCE
- BIOROLL
- TEMPORARY CONVEYANCE
- ROCK CONSTRUCTION ENTRANCE
- CONTRACTOR ACCESS POINTS
- TREES TO BE REMOVED
- PAVEMENT REMOVAL



NO	DATE	BY	REVISIONS	REMARKS
1	11/17/2017	MLH	ISSUED FOR BIDDING	

DESIGNED: **AJS**
 DRAWN: **MLH**
 CHECKED: **WJ**
 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.
 SIGNATURE: *[Signature]*
 TYPED OR PRINTED NAME: **WILLIAM J JOHNSON**
 DATE: **11/17/2017** REG NO: **20740**

Foth
 Foth Infrastructure & Environment, LLC
 Eagle Point II
 8550 Hudson Boulevard North, Suite 105
 Lake Simms, MN 55042
 Phone: 651-288-8550 Fax: 651-288-8551

PROJECT: **802829**
 FILE NAME: **GC0031**

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
EROSION & SEDIMENT CONTROL PLAN - 18

GC31
 40 of 216

NO	DATE	BY	REVISIONS
1	11/17/2017	M.H.	ISSUED FOR BIDDING
REVISIONS			
NO	DATE	BY	REVISIONS

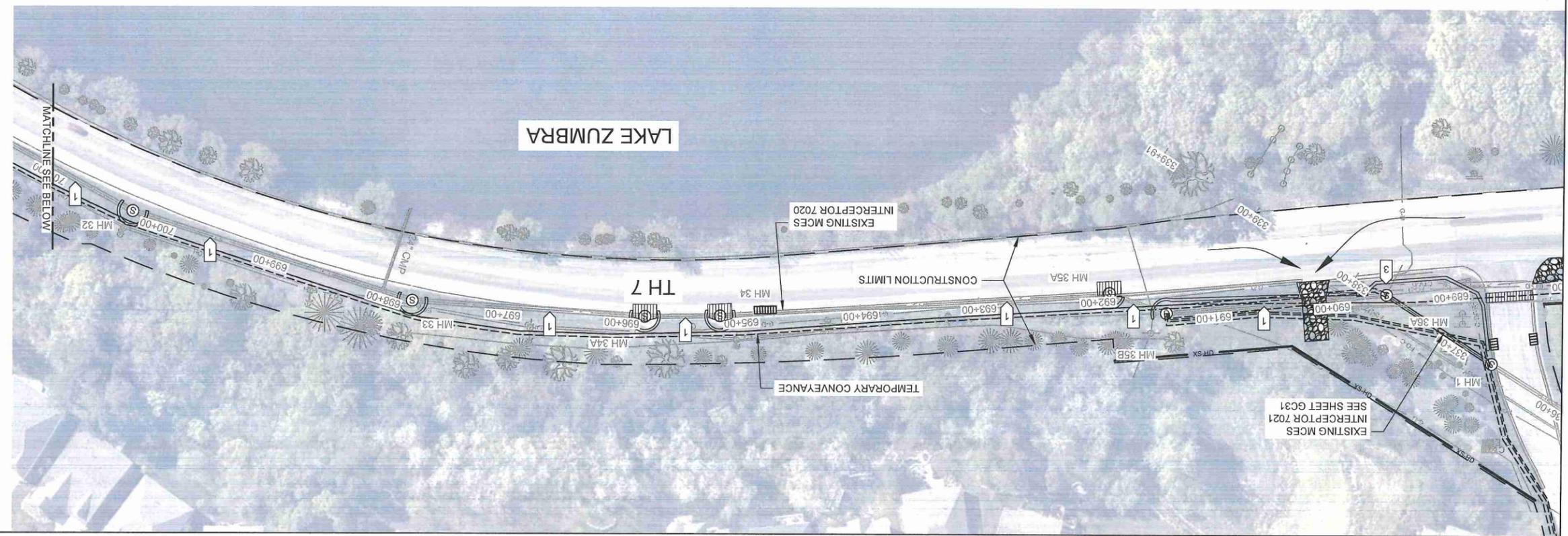
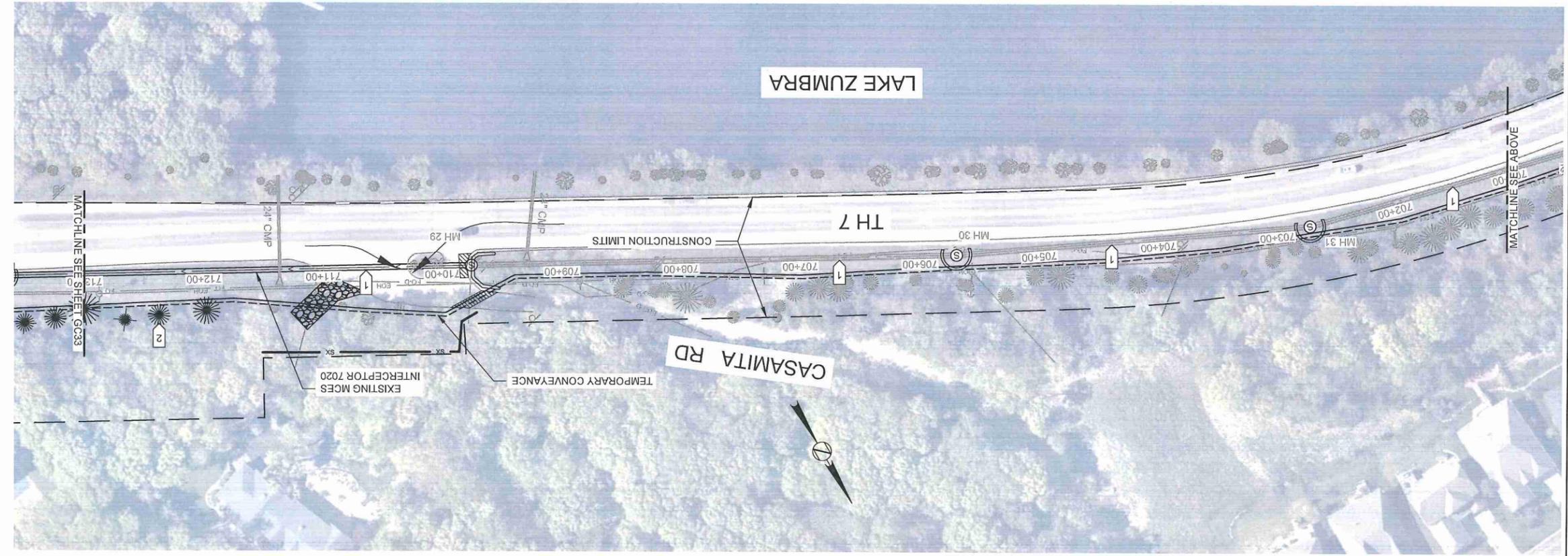
DESIGNED	AJS
DRAWN	M.H.
CHECKED	
DATE	11/17/2017
TYPED OR PRINTED NAME	WILLIAM J JOHNSON
SIGNATURE	
REG NO	20740

Foth
 Foth Infrastructure & Environment, LLC
 850 Hudson Boulevard North, Suite 105
 Lake Elm, MN 55042
 Phone: 651-288-8550 Fax: 651-288-8551

PROJECT	802829
FILE NAME	GC0032

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 19

GC32
 41 of 216



LEGEND:

- CONSTRUCTION LIMITS
- CATCH BASIN INLET
- TEMPORARY SECURITY FENCE
- TEMPORARY CONVEYANCE
- ROCK CONSTRUCTION ENTRANCE
- CONTRACTOR ACCESS POINTS
- TREES TO BE REMOVED
- PAVEMENT REMOVAL

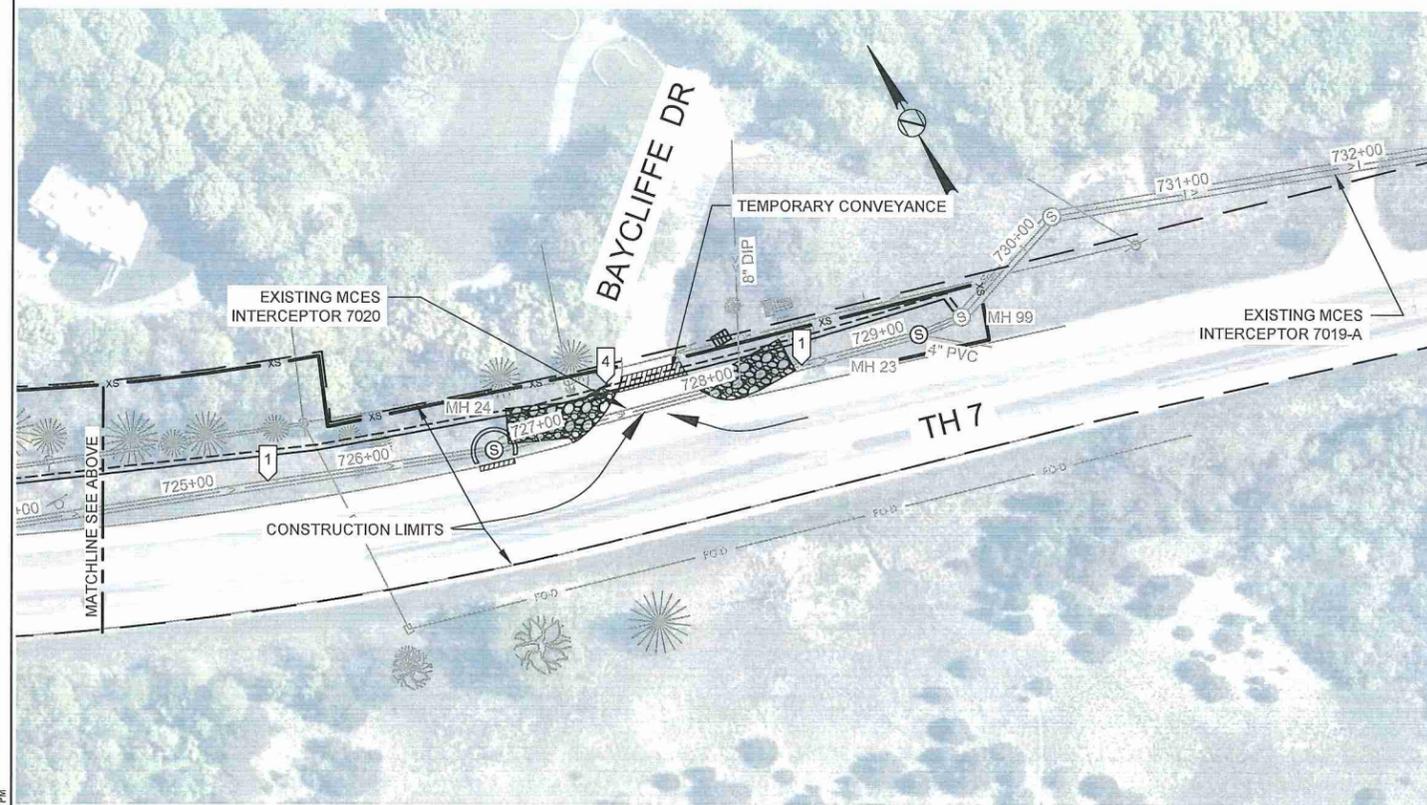
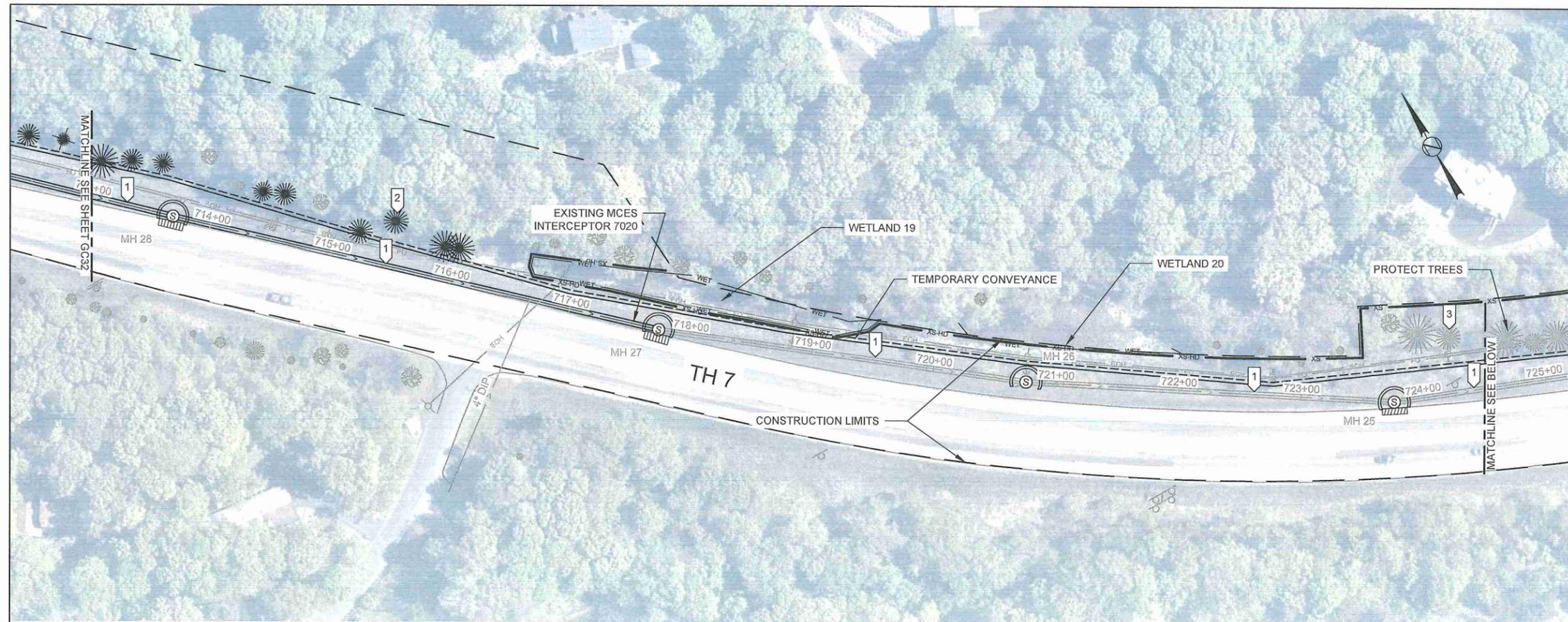
KEY NOTES:

1. PROTECT EXISTING MCES SANITARY SEWER.
2. REMOVE EXISTING TREES (TYP).
3. TEMPORARY CONVEYANCE PUMPING MH.

GENERAL NOTES

1. RESTORE ALL DISTURBED AREAS TO MATCH EXISTING SURFACES, THICKNESSES AND MATERIALS.
2. REFER TO SHEET G14 FOR EROSION CONTROL NOTES.
3. INSTALL CULVERT ENTRANCE PROTECTION PER DETAIL ON ALL AFFECTED CULVERTS.
4. SEE CD SHEETS FOR ADDITIONAL REMOVALS.

Q:\METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES\MOUND INTERCEPTOR\802829-MOUND AREA INTERCEPTOR (MAI) 7021 FM IMPROVEMENTS\SHEETS\GC0033.DWG
 PLOTTED: 11/17/2017 10:14:46 AM
 MODIFIED: 11/17/2017 2:14:08 PM



GENERAL NOTES

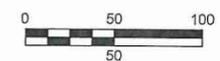
- RESTORE ALL DISTURBED AREAS TO MATCH EXISTING SURFACES, THICKNESSES AND MATERIALS.
- REFER TO SHEET G14 FOR EROSION CONTROL NOTES.
- INSTALL CULVERT ENTRANCE PROTECTION PER DETAIL ON ALL AFFECTED CULVERTS.
- SEE CD SHEETS FOR ADDITIONAL REMOVALS.

KEY NOTES:

- PROTECT EXISTING MCES SANITARY SEWER.
- REMOVE EXISTING TREES (TYP).
- PROTECT EXISTING TREES (TYP).
- SALVAGE EXISTING SIGN & POLES (TYP).

LEGEND:

- CONSTRUCTION LIMITS
- CATCH BASIN INLET PROTECTION
- BIOROLL
- TEMPORARY CONVEYANCE
- ROCK CONSTRUCTION ENTRANCE
- CONTRACTOR ACCESS POINTS
- TREES TO BE REMOVED
- PAVEMENT REMOVAL



NO	DATE	BY	REVISIONS	REMARKS
1	11/17/2017	MLH	ISSUED FOR BIDDING	

DESIGNED	AJS
DRAWN	MLH
CHECKED	WJJ
DATE	11/17/2017
REG NO	20740

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.
 SIGNATURE:
 TYPED OR PRINTED NAME: WILLIAM J. JOHNSON
 DATE: 11/17/2017 REG NO: 20740

Foth
 Foth Infrastructure & Environment, LLC
 Eagle Point II
 8550 Hudson Boulevard North, Suite 105
 Lake Elmo, MN 55042
 Phone: 651-268-8550 Fax: 651-268-8551

PROJECT: 802829
 FILE NAME: GC0033
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 EROSION & SEDIMENT CONTROL PLAN - 20

GC33
 42 OF 216

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) City of Minnetrista	Address 7701 County Road 110 W Minnetrista, MN 55364
-----------------------------------------------------------	--------------------------------------------------------------------

1. PROJECT INFORMATION

Applicant Name Metropolitan Council Environmental Services (MCES)	Project Name MCES L38 Mound Interceptor (MCES #7021)	Date of Application 6/16/2017 Complete 6/29/2017	Application Number ML-17028
<input type="checkbox"/> 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 checked="" type="checkbox"/> Approve	<input type="checkbox"/> Approve with conditions	<input type="checkbox"/> Deny
Summary (or attach): The City of Minnetrista reviewed the delineated wetland boundaries at the site on June 21, 2017 with the applicant's consultant (Sambatek), the MN Board of Water and Soil Resources (BWSR) indicated it was generally in agreement with the wetland delineation, and had no immediate concerns about the wetland boundaries/types (attached email dated July 20, 2017). No other comments were received from the TEP.		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: August 1, 2017
<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved with conditions (include below) <input type="checkbox"/> Denied
<p>The City of Minnetrista approves the wetland boundaries and types, as described in the wetland delineation report dated June 7, 2017, prepared by Sambatek (attached). This wetland boundary/type decision is also applicable to the portion of the project which extends into Mound and Victoria, as the City of Minnetrista has agreed to WCA delegation of authority for the wetland boundary type review.</p> <p>Wetland 5 is connected with Wetland 6 via a culvert, and appeared slightly higher in topographic setting (above the OHW of Lake Minnetonka), therefore Wetland 5 is believed to fall under WCA jurisdiction unless the MnDNR determines otherwise. Wetland 6 is directly connected to the waterway channel and is a MnDNR Public Waters. Areas of wetland below the OHW at Wetland 11, are also MnDNR Public Waters. The Applicant understands to differentiate between public waters and WCA wetlands during the permitting process, if applicable.</p>

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

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)
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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 Shawn Williams	Title Senior Environmental Scientist WSB & Associates, Inc. Minneapolis, MN 55416	
Signature 	Date 8/1/2017	Phone Number and E-mail 763-287-8531 swilliams@wsbeng.com

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all 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 \$ TBD fee (if applicable) to: City of Minnetrista 7701 County Road 110 West Minnetrista, MN 55364	<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
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4. LIST OF ADDRESSEES

<input checked="" type="checkbox"/> SWCD TEP member: Stacey Lijewski, Hennepin County stacey.lijewski@hennepin.us <input checked="" type="checkbox"/> BWSR TEP member: Ben Meyer ben.meyer@state.mn.us <input checked="" type="checkbox"/> LGU TEP member (if different than LGU Contact): David Abel dabel@ci.minnetrista.mn.us <input checked="" type="checkbox"/> DNR TEP member: Becky Horton Becky.Horton@state.mn.us , Jason Spiegel Jason.Spiegel@state.mn.us <input type="checkbox"/> DNR Regional Office (if different than DNR TEP member) <input checked="" type="checkbox"/> WD or WMO (if applicable): Katherine Sylvia ksylvia@minnehahacreek.org (Minnehaha Creek) <input type="checkbox"/> Applicant and Landowner (if different) <input checked="" type="checkbox"/> Members of the public who requested notice: Jessica Abernathy, Sambatek jabernathy@sambatek.com Todd Ullom, Sambatek tullom@sambatek.com Nick Olson, City of Minnetrista nolson@ci.minnetrista.mn.us Paul Hornby, WSB & Associates, Inc. phornby@wsbeng.com <input checked="" type="checkbox"/> Corps of Engineers Project Manager Justin Berndt Justin.T.Berndt@usace.army.mil <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

- For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf
- For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf
- Department of Natural Resources Regional Offices:

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

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

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

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

6. ATTACHMENTS

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

- Wetland Delineation Report dated June 7, 2017**
- Joint Application**
- WCA Delegation of Authority Resolution - Mound dated July 17, 2017**
- WCA Delegation of Authority Resolution - Victoria dated July 17, 2017**
- TEP Comments – BWSR email dated July 20, 2017**

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) City of Minnetrista	Address 7701 County Road 110 W Minnetrista, MN 55364
-----------------------------------------------------------	-----------------------------------------------------------------------------

1. PROJECT INFORMATION

Applicant Name Metropolitan Council Environmental Services	Project Name Lift Station 24 (LS 24) & St. Bonifacius Forcemain	Date of Application 2/4/2016	Application Number 2121-520 ML-15025
<input type="checkbox"/> Attach site locator map.			

Type of Decision:

<input type="checkbox"/> Wetland Boundary or Type	<input type="checkbox"/> No-Loss	<input type="checkbox"/> Exemption	<input type="checkbox"/> Sequencing
<input checked="" 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): No written comments were received from the TEP.		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: March 18, 2016		
<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):

<p>The Metropolitan Council Environmental Services (MCES) St. Bonifacius (MCES Project #808200) Project involves an approximate 4-mile section bordering Minnesota Highway 7 and approximately a 0.5-mile section bordering Lotus Drive. The project begins east of the City of St. Bonifacius near the intersection of Minnesota Highway 7 and Highland Road and extends to the southeast, ending near the Minnesota Highway 7 and Baycliffe Drive intersection. The purpose of the project is to remove the existing force main and install a new force main to meet the project capacity needs of the communities served by the force main interceptor.</p> <p>A new LS-24 liftstation facility is being proposed, near the existing facility, located near the intersection of Highland Road and State Highway 7.</p> <p>Wetland boundaries were reviewed in the field on October 9, 2015. During the site review the City of Minnetrista requested changes to the delineated wetland boundaries at several locations. In addition, the City requested further field review of suspect areas that had not been investigated. Sambatek submitted an addendum report which documented the City comments, changes in wetland boundary locations, as well as provided supplemental information regarding the additional areas investigated.</p>

The addendum, dated October 20, 2015 is attached.

All wetland boundaries/types delineated and designated for this project are approved, as identified in the October 20, 2015 Wetland Delineation Report addendum, or if no changes were necessary, as indicated in the Wetland Delineation Report dated August 4, 2015.

Because of the file size, the August 4 Delineation Report is not attached with this Notice. TEP members have received copies of it.

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 Shawn Williams	Title Senior Environmental Scientist, WSB	
Signature 	Date 3/18/2016	Phone Number and E-mail 763-287-8531 swilliams@wsbeng.com

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all 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 \$TBD fee (if applicable) to: City of Minnetrista 7701 County Road 110 West Minnetrista, MN 55364	<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
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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 checked="" type="checkbox"/> LGU TEP member (if different than LGU Contact): David Abel dabel@ci.minnetrista.mn.us <input checked="" type="checkbox"/> DNR TEP member: Leslie Parris, Kate Drewry <input type="checkbox"/> DNR Regional Office (if different than DNR TEP member) <input checked="" type="checkbox"/> WD or WMO (if applicable): Elizabeth Brown, MCWD ebrown@minnehahacreek.org <input type="checkbox"/> Applicant and Landowner (if different) <input checked="" type="checkbox"/> Members of the public who requested notice: Todd Ullom, Sambatek Tim Stockman, Foth <input checked="" type="checkbox"/> Corps of Engineers Project Manager <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

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

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

➤ Department of Natural Resources Regional Offices:

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

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

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

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

6. ATTACHMENTS

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

- Wetland Delineation Report Addendum dated October 20, 2015 (Sambatek)**
- Site Map**
- Joint Application Form**
-
-

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) City of Minnetrista	Address 7701 County Road 110 W Minnetrista, MN 55364
-----------------------------------------------------------	-----------------------------------------------------------------------------

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Metropolitan Council Environmental Services (MCES)	MCES L38 Mound Interceptor (MCES Project #802829, Forcemain #7021) USACE: MVP-2017-02125-JTB	10/24/2017 Complete 11/17/2017	ML-17028
<input checked="" type="checkbox"/> Attach site locator map.			

Type of Decision:

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

Technical Evaluation Panel Findings and Recommendation (if any):

<input checked="" type="checkbox"/> Approve	<input type="checkbox"/> Approve with conditions	<input type="checkbox"/> Deny
<p>Summary (or attach): The MN Board of Water and Soil Resources was in agreement with the City, that the proposed temporary wetland impacts are in compliance with MN WCA Rules and qualifies for the No-Loss decision (1/5/2018 email). The City of Mound has confirmed that the City of Mound has delegated WCA authority for this project, for the portion of the project that is located within Mound (11/20/2017 email). The City of Victoria has also delegated WCA authority to Minnetrista (MCWD).</p>		

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: February 5, 2018
<input type="checkbox"/> Approved <input checked="" type="checkbox"/> Approved with conditions (include below) <input type="checkbox"/> Denied
<p>The MCES Project #802829, Forcemain #7021) requires temporary impacts to four wetlands, totaling 1,650 square feet, which would be rectified upon completion of the necessary work qualifies for the No-Loss decision. Specifically, this project qualifies for a utilities exemption in accordance with MN Rules Chapter 8420.0420 Subp. 6 – Utilities.</p> <p><u>Condition 1:</u> The applicant will provide proof of wetland impact rectification/restoration to the City upon completion. As stated in the application: “Type 3 and 4 wetlands will be seeded with the 34-181 Minnesota State Seed Mix and Type 2 wetlands will be seeded with the 34-262 Minnesota State Seed Mix. All wetland buffers will be restored within the constraints allowed by the road right-of-way and the adjacent structures. Disturbed wetland buffer areas will be seeded with the 36-211 Minnesota State Seed Mix”. Seed tags and photo documentation of final restoration/secured slopes will be submitted to the City within 1 month of wetland/buffer restoration completion.</p>

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LGU Findings and Conclusions (attach additional sheets as necessary):
 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 Shawn Williams	Title Senior Environmental Scientist WSB & Associates, Inc. Minneapolis, MN 55416	
Signature 	Date 2/5/2018	Phone Number and E-mail 763-287-8531 swilliams@wsbeng.com

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT.

Additional approvals or permits from local, state, and federal agencies may be required. Check with all 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
 BWSR Forms 7-1-10 Page 2

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 type="checkbox"/> Appeal of an LGU staff decision. Send petition and \$ TBD fee (if applicable) to: City of Minnetrista 7701 County Road 110 West Minnetrista, MN 55364	<input checked="" 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, Hennepin County stacey.lijewski@hennepin.us <input checked="" type="checkbox"/> BWSR TEP member: Ben Carlson ben.carlson@state.mn.us <input checked="" type="checkbox"/> LGU TEP member (if different than LGU Contact): David Abel dabel@ci.minnetrista.mn.us <input checked="" type="checkbox"/> DNR TEP member: Becky Horton Becky.Horton@state.mn.us , <input type="checkbox"/> DNR Regional Office (if different than DNR TEP member) <input checked="" type="checkbox"/> WD or WMO (if applicable): Katherine Sylvia wca@minnehahacreek.org (Minnehaha Creek) <input type="checkbox"/> Applicant and Landowner (if different): <input checked="" type="checkbox"/> Members of the public who requested notice: Todd Ullom, Sambatek tullom@sambatek.com Jessica Abernathy, Sambatek jabernathy@sambatek.com Mark Perry, Bolton & Menk markpe@bolton-menk.com Nick Olson, City of Minnetrista nolson@ci.minnetrista.mn.us Paul Hornby, WSB & Associates, Inc. PHornby@wsbeng.com <input checked="" type="checkbox"/> Corps of Engineers Project Manager Justin Berndt Justin.T.Berndt@usace.army.mil <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

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

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

➤ Department of Natural Resources Regional Offices:

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

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:

- City Resolution**
- emails from BWSR and City of Mound (during comment period)**
- Site Location Map**

RESOLUTION NO. 26-18

CITY OF MINNETRISTA

**RESOLUTION GRANTING APPROVAL OF THE MINNESOTA WETLAND
CONSERVATION ACT (WCA) WETLAND NO-LOSS APPLICATION FOR
METROPOLITAN COUNCIL ENVIRONMENTAL SERVICES (MCES) L38 MOUND
INTERCEPTOR FORCEMAIN IMPROVEMENT PROJECT
(MCES PROJECT #802829)
(FORCEMAIN #7021)**

WHEREAS, the City of Minnetrista (the "City") is a municipal corporation, organized and existing under the laws of Minnesota; and

WHEREAS, the City is the Local Government Unit for the Minnesota Wetland Conservation Act, and has requested (and been delegated) WCA authority by the Cities of Mound and Victoria, for the WCA duties for this project; and

WHEREAS, Metropolitan Council Environmental Services (the "Applicant") is the responsible government entity responsible for maintaining and improving the sanitary sewer forcemain and related infrastructure for this project; and

WHEREAS, on August 1, 2017 the City issued a WCA Notice of Decision approving the wetland boundary/type within the wetland boundary review limits; and

WHEREAS, the City received a WCA wetland no-loss application for the project and deemed the application complete on November 17, 2017, and thus issuing the Notice of Application for comment through January 5, 2018.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Minnetrista, Minnesota that the City makes the following findings of fact regarding the wetland no-loss application for the MCES L38 Mound Interceptor project (MCES #802829):

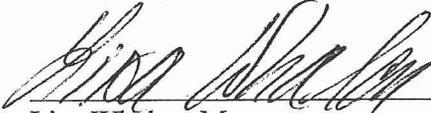
1. The wetland no-loss application prepared by Sambatek, dated October 24, 2017 constitutes a complete wetland application, in accordance with WCA rules; and
2. The project requires temporary impacts to four wetlands, totaling 1,650 square feet, which will be rectified upon completion of the necessary work, in accordance with WCA rules and best management practices to minimize wetland impacts.
3. Specifically, this project qualifies for a utilities exemption in accordance with MN Rules Chapter 8420.0420 Subp. 6 – Utilities. No wetland replacement is required for the temporary wetland impacts.
4. The wetland no-loss application and project work plan conforms with the MN WCA rules.

NOW, THEREFORE, BE IT FURTHER RESOLVED, that final approval is granted to the wetland no-loss application for MCES project #802829, subject to the following terms and conditions:

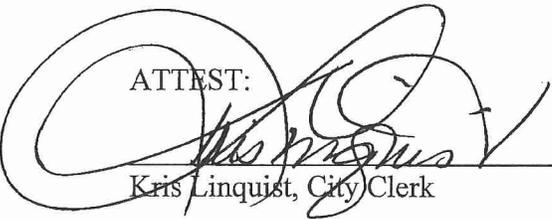
- 1. Condition 1: The applicant will provide proof of wetland impact rectification/restoration to the City upon completion. As stated in the application: "Type 3 and 4 wetlands will be seeded with the 34-181 Minnesota State Seed Mix and Type 2 wetlands will be seeded with the 34-262 Minnesota State Seed Mix. All wetland buffers will be restored within the constraints allowed by the road right-of-way and the adjacent structures. Disturbed wetland buffer areas will be seeded with the 36-211 Minnesota State Seed Mix".

Seed tags and photo documentation of final restoration/secured slopes will be submitted to the City within 1 month of wetland/buffer restoration completion.

This resolution was adopted by the City Council of the City of Minnetrista on the 5th day of February 2018 by a vote of 5 ayes and 0 nays.

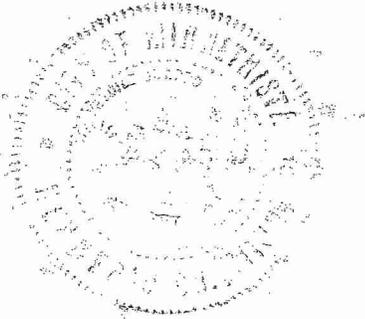


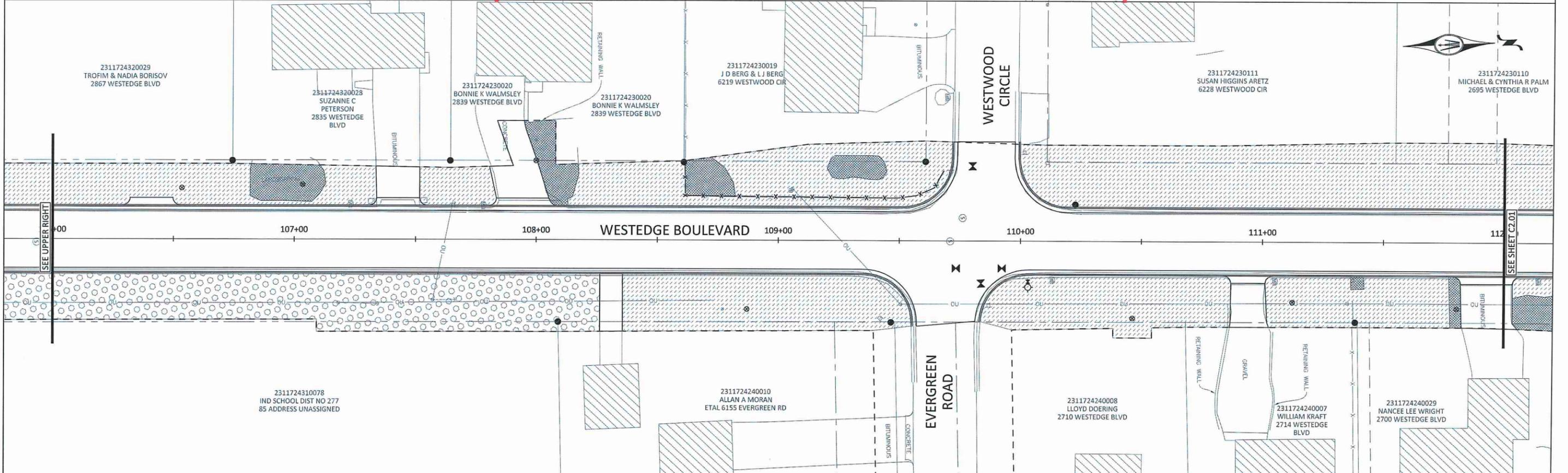
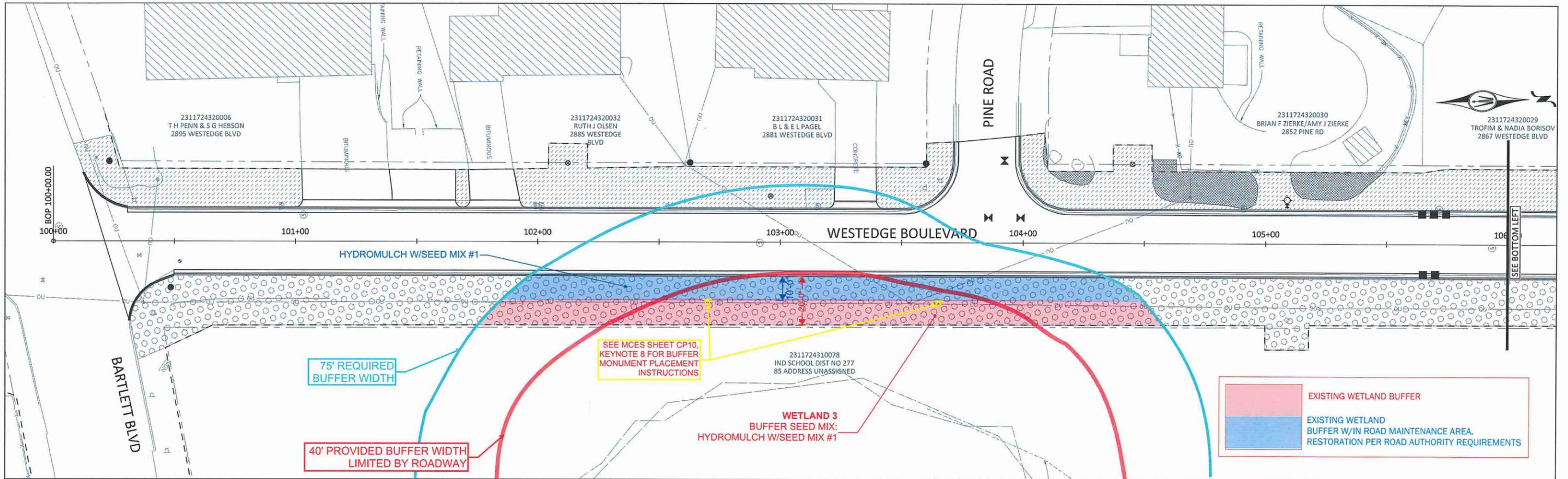
Lisa Whalen, Mayor

ATTEST:


Kris Linnquist, City Clerk

(SEAL)





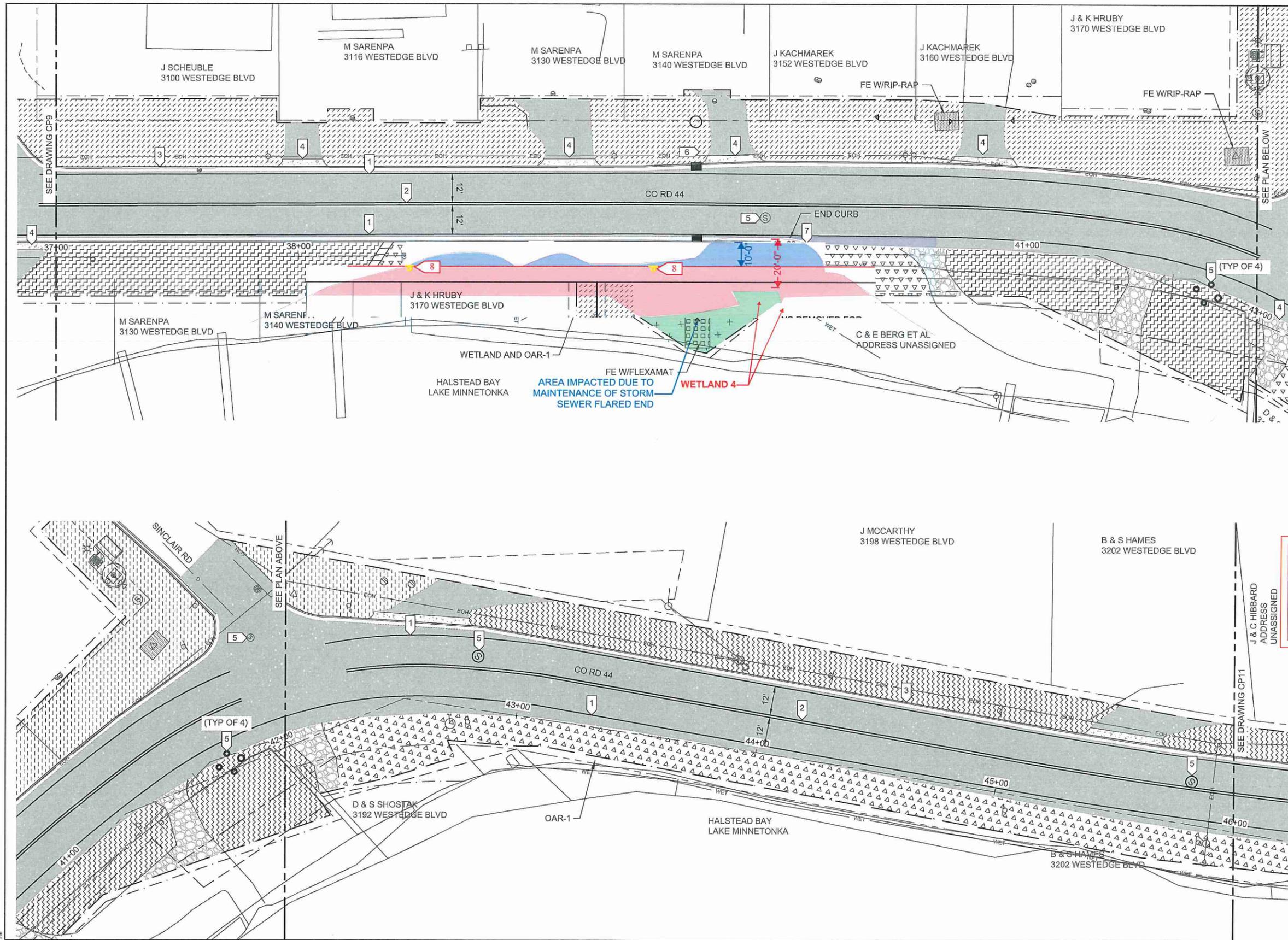
BOLTON & MENK
 2638 SHADOW LANE, SUITE 200
 CHASKA, MINNESOTA 55318
 Phone: (952) 448-8838
 Email: Chaska@bolton-menk.com
 www.bolton-menk.com

REV	ISSUED FOR	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.

Matthew S. Bauman
 MATTHEW S. BAUMAN
 U.C. NO. 51323 DATE 11/17/2017

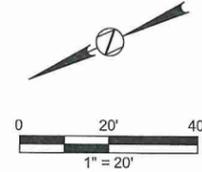
DESIGNED MSB	CITY OF MOUND, MINNESOTA 2018 STREET & UTILITY IMPROVEMENTS TURF RESTORATION	SHEET C2.01 OF 35
DRAWN MJO		
CHECKED BDS		



- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEY NOTES:**
1. SINGLE WHITE SOLID EDGE LINE - 6" WIDE EPOXY, GROUND IN (GROOVED), EDGE LINES MUST BE AT LEAST 2' AWAY FROM FACE OF CURB
 2. DOUBLE YELLOW SOLID LINE - 4" WIDE EPOXY, GROUND IN (GROOVED)
 3. REPLACE BITUMINOUS CURB WITH CONCRETE CURB AND GUTTER (B618)
 4. CONCRETE DRIVEWAY APRON PER CITY PLANS (BMI). REGRADE DRIVE AS NECESSARY
 5. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 6. REGRADE FOR DRAINAGE PER CU SHEETS
 7. FLEXAMAT PER DETAIL SHEET CP3
 8. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES, MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWJ APPROVAL.

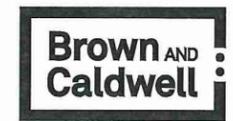
- RESTORATION LEGEND:**
- SEED MIX 25-151 AND HYDROMULCH
 - SEED MIX 35-241 AND EROSION CONTROL BLANKET
 - SEED MIX 36-211 AND EROSION CONTROL BLANKET
 - SEED MIX 33-262
 - FLEXAMAT WITH SEED MIX 25-141



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REVISIONS				REVISIONS			

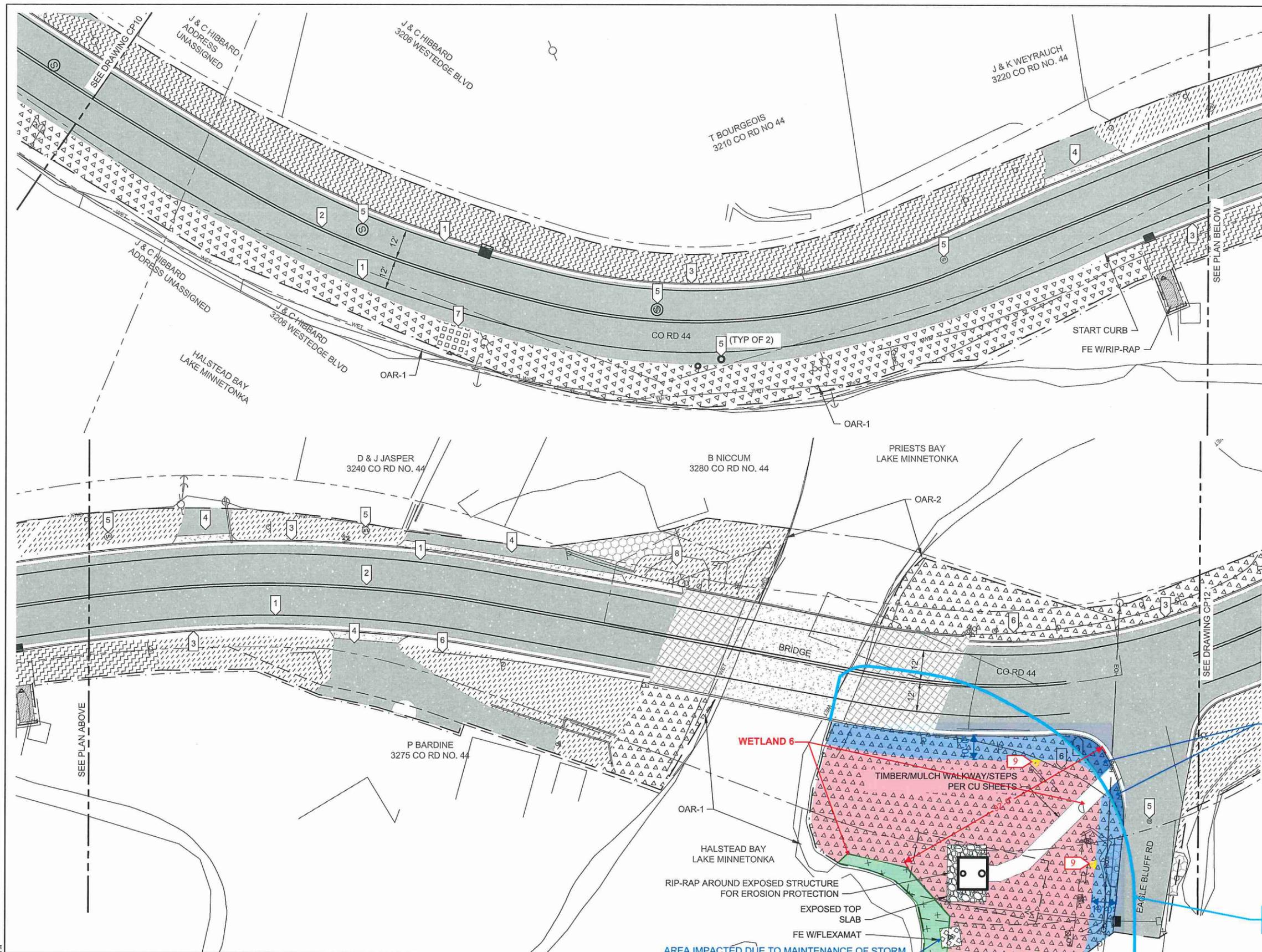
DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42905



PROJECT: 802829
 FILE NAME: CP0010

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 2

CP10
 184 of 216



- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEY NOTES:**
1. SINGLE WHITE SOLID EDGE LINE - 6" WIDE EPOXY, GROUND IN (GROOVED). EDGE LINES MUST BE AT LEAST 2' AWAY FROM FACE OF CURB
 2. DOUBLE YELLOW SOLID LINE - 4" WIDE EPOXY, GROUND IN (GROOVED)
 3. REPLACE BITUMINOUS CURB WITH CONCRETE CURB AND GUTTER (B618)
 4. CONCRETE DRIVEWAY APRON PER CITY PLANS (BMI). REGRADE DRIVE AS NECESSARY
 5. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 6. GUARDRAIL PER DETAILS SHEET CP7
 7. FLEXAMAT PER DETAIL SHEET CP3
 8. COORDINATE WITH MCES-CAR FOR LANDSCAPING REMOVAL AND REPLACEMENT
 9. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.

- RE:**
- [Hatched pattern] SEED MIX 25-151 AND HYDROMULCH
 - [Cross-hatched pattern] SEED MIX 35-241 AND EROSION CONTROL BLANKET
 - [Triangle pattern] SEED MIX 36-211 AND EROSION CONTROL BLANKET
 - [Square with cross] WETLAND 6 & OAR-1, USE SEED MIX 34-181 AND EROSION CONTROL BLANKET
 - [Square with dots] FLEXAMAT WITH SEED MIX 25-141

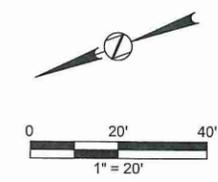
EXISTING WETLAND BUFFER

EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA, RESTORATION PER ROAD AUTHORITY REQUIREMENTS

TEMPORARY WETLAND IMPACT

NEW PROPOSED WETLAND BUFFER

AREA WITHIN REQUIRED BUFFER WIDTH = 8633 SF
 PROPOSED BUFFER AREA = 8078 SF
 BUFFER AREA LOSS = 555 SF



75' REQUIRED BUFFER WIDTH

AREA IMPACTED DUE TO MAINTENANCE OF STORM SEWER FLARED END W/FLEXAMAT

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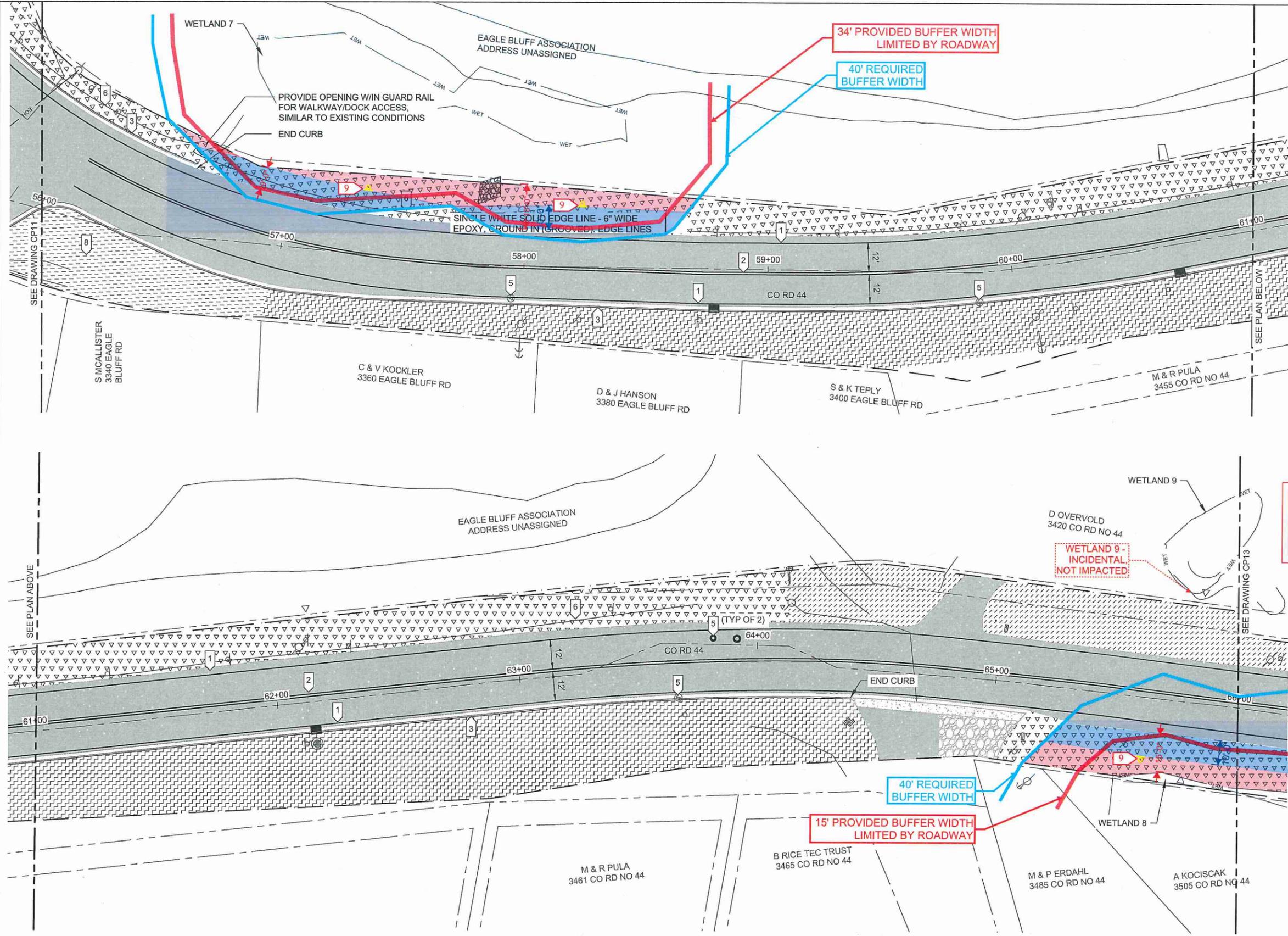
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 DRAWN: DAF
 CHECKED: HPV
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, BY ME OR UNDER MY DIRECT SUPERVISION AND I PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42905



PROJECT: 802829	MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021	CP11
FILE NAME: CP0011	RESTORATION PLAN - 3	

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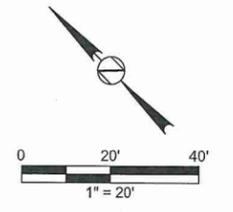
- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

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 4. CONCRETE DRIVEWAY APRON PER CITY PLANS (BMI). REGRADE DRIVE AS NECESSARY
 5. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 6. GUARDRAIL PER DETAILS SHEET CP7
 7. FLEXAMAT PER DETAIL SHEET CP3
 8. COORDINATE WITH MCES-CAR FOR LANDSCAPING REMOVAL AND REPLACEMENT
 9. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.

- RES:**
- SEED MIX 25-151 AND HYDROMULCH
 - SEED MIX 35-241 AND EROSION CONTROL BLANKET
 - SEED MIX 36-211 AND EROSION CONTROL BLANKET

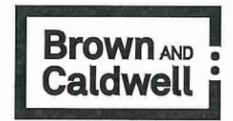
EXISTING WETLAND BUFFER

EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA. RESTORATION PER ROAD AUTHORITY REQUIREMENTS



NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
1	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42805

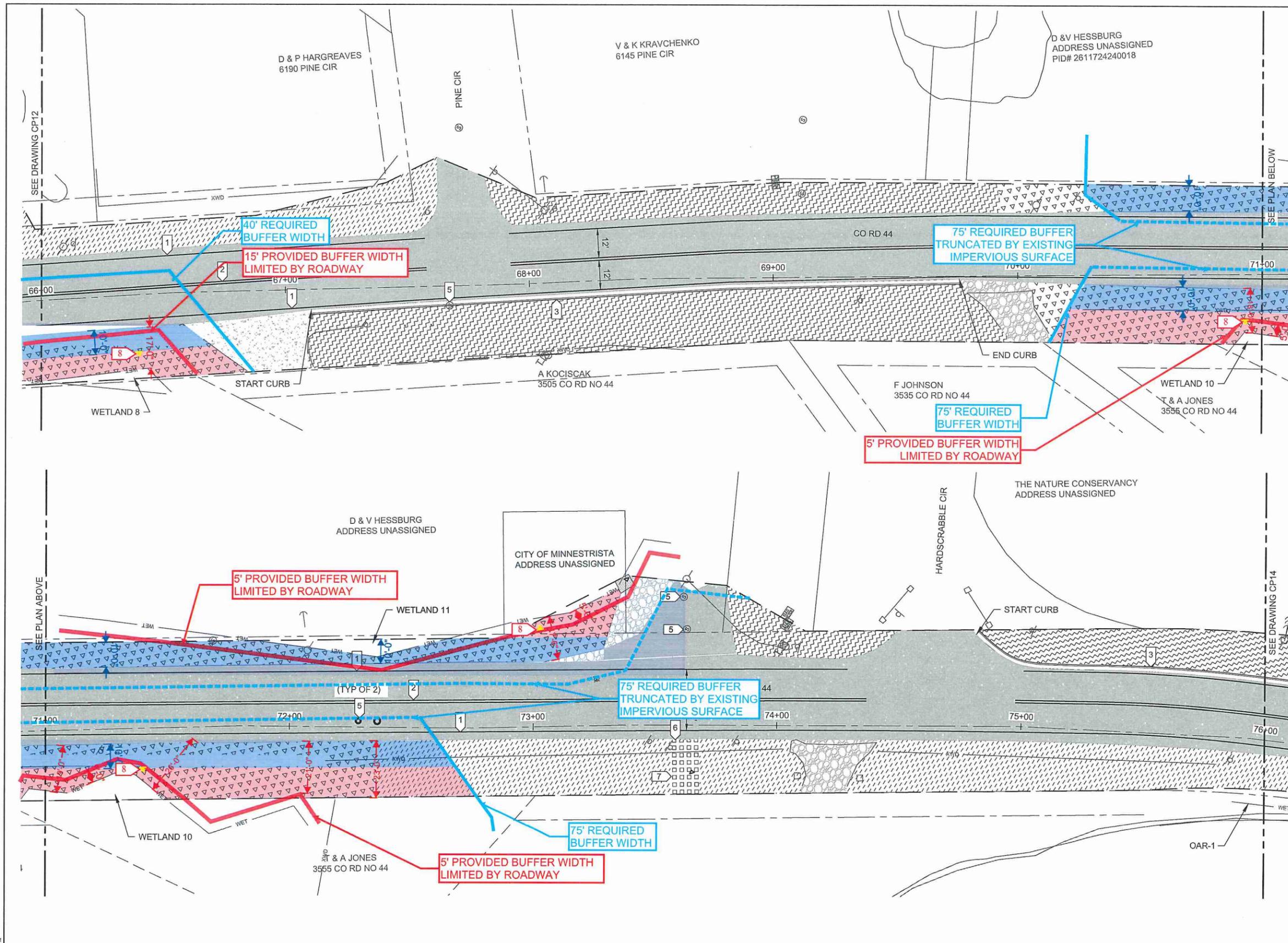


PROJECT: 802829
 FILE NAME: CP0012

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 4

CP12
 186 of 216

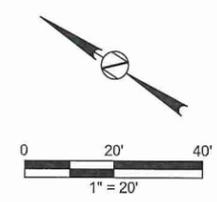
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- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEY NOTES:**
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 3. REPLACE BITUMINOUS CURB WITH CONCRETE CURB AND GUTTER (B618)
 4. CONCRETE DRIVEWAY APRON PER CITY PLANS (BMI), REGRADE DRIVE AS NECESSARY
 5. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 6. FLEXAMAT PER DETAIL SHEET CP3
 7. REGRADE FOR DRAINAGE PER CU SHEETS
 8. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES, MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWAD APPROVAL.

- RESTORATION LEGEND:**
- SEED MIX 25-151 AND HYDROMULCH
 - SEED MIX 35-241 AND EROSION CONTROL BLANKET
 - SEED MIX 36-211 AND EROSION CONTROL BLANKET

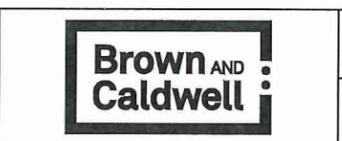


NO	DATE	BY	REVISIONS
1	11/17/17	PCG	ISSUED FOR BID

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 DATE: 11/17/17
 REG NO: 42905

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.

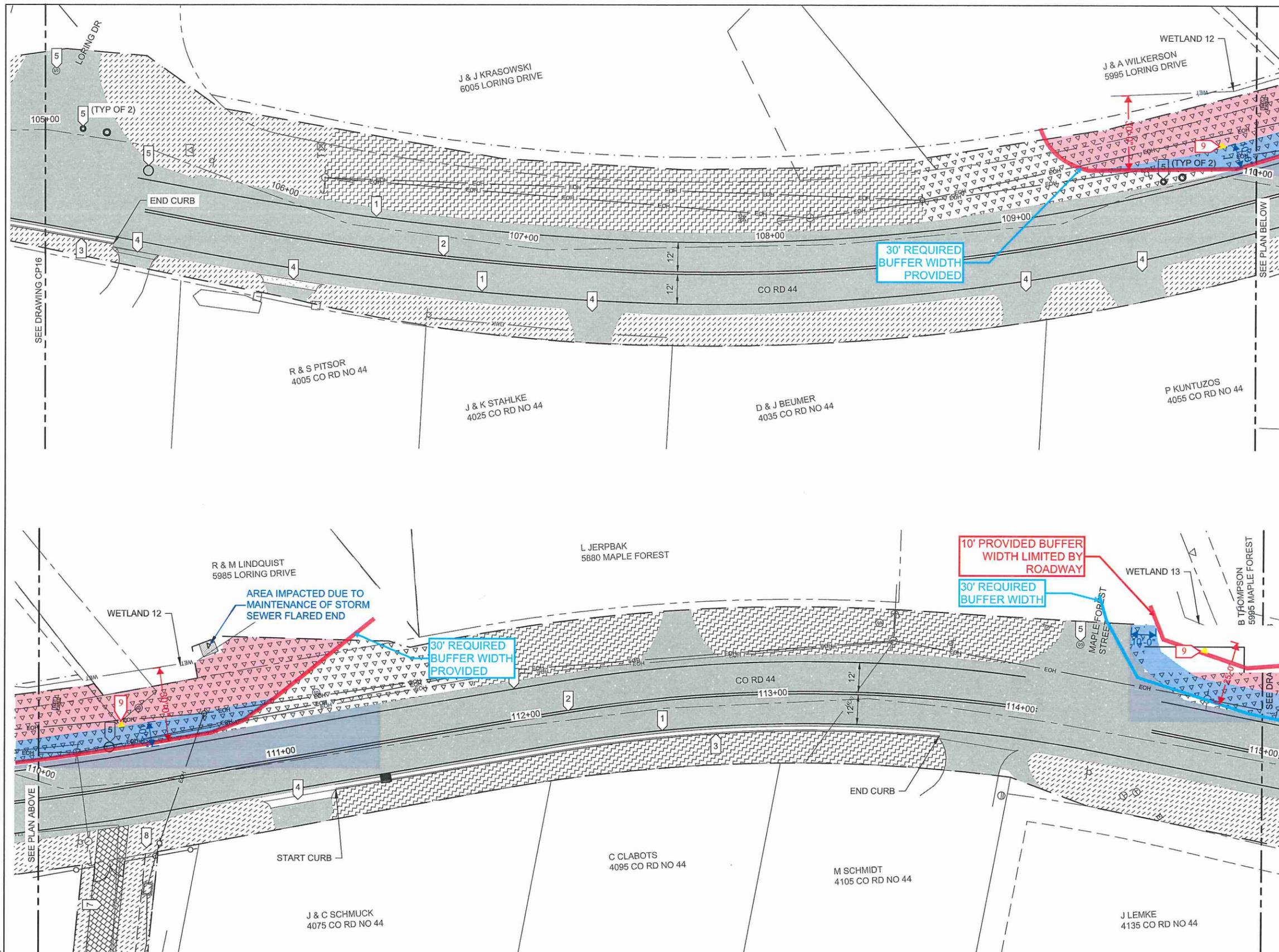
SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL



PROJECT: 802829
 FILE NAME: CP0013

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 5

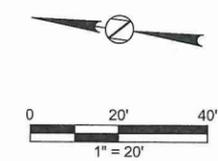
CP13
 187 OF 216



- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEYNOTES:**
1. SINGLE WHITE SOLID EDGE LINE - 6" WIDE EPOXY, GROUND IN (GROOVED). EDGE LINES MUST BE AT LEAST 2' AWAY FROM FACE OF CURB
 2. DOUBLE YELLOW SOLID LINE - 4" WIDE EPOXY, GROUND IN (GROOVED)
 3. REPLACE BITUMINOUS CURB WITH CONCRETE CURB AND GUTTER (B618)
 4. CONCRETE DRIVEWAY APRON PER CITY PLANS (BMI). REGRADE DRIVE AS NECESSARY
 5. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 6. CONCRETE VALLEY GUTTER PER CITY PLANS (BMI)
 7. REINFORCED TURF MAT (DRIVEABLE) SEE DETAIL SHEET CU29
 8. PRIVACY FENCE PER DETAILS SHEET CP3
 9. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL

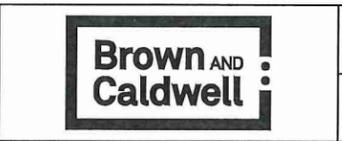
- SEED MIX 35-241 AND EROSION CONTROL BLANKET
- SEED MIX 36-211 AND EROSION CONTROL BLANKET
- FLEXAMAT WITH SEED MIX 25-151



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NO	DATE	BY	REVISIONS	REMARKS
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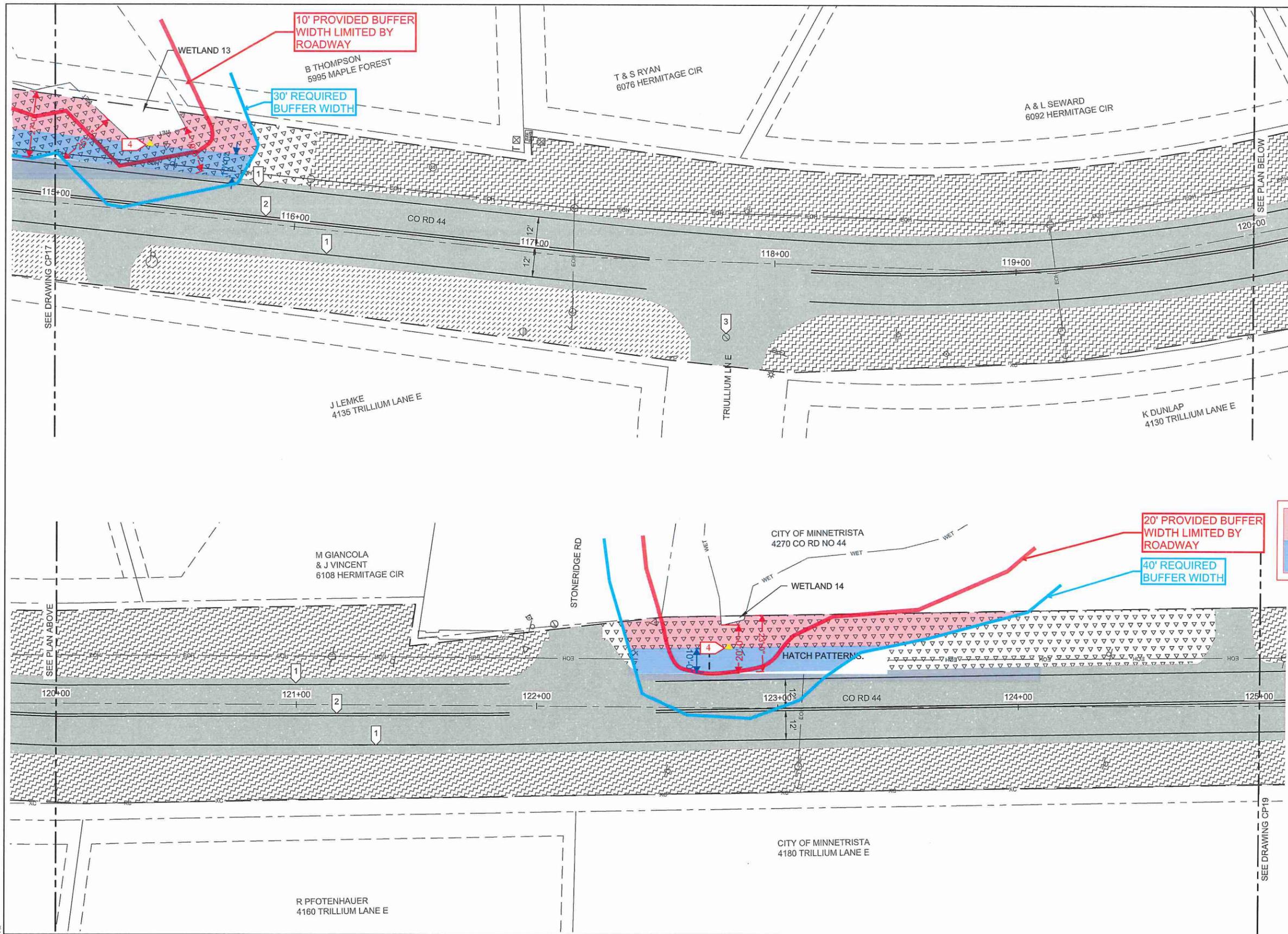
DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42905



PROJECT: 802829
 FILE NAME: CP0017

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 9

CP17
 191 OF 216

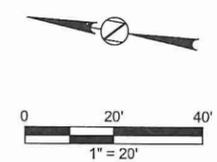


- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEYNOTES:**
1. SINGLE WHITE SOLID EDGE LINE - 6" WIDE EPOXY, GROUND IN (GROOVED). EDGE LINES MUST BE AT LEAST 2' AWAY FROM FACE OF CURB
 2. DOUBLE YELLOW SOLID LINE - 4" WIDE EPOXY, GROUND IN (GROOVED)
 3. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS
 4. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES, MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.

- RESTORATION LEGEND:**
- SEED MIX 25-151 AND HYDROMULCH
 - SEED MIX 35-241 AND HYDROMULCH
 - SEED MIX 36-211 AND EROSION CONTROL BLANKET

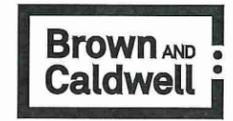
- EXISTING WETLAND BUFFER**
- EXISTING WETLAND BUFFER
 - EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA. RESTORATION PER ROAD AUTHORITY REQUIREMENTS



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NO	DATE	BY	REVISIONS
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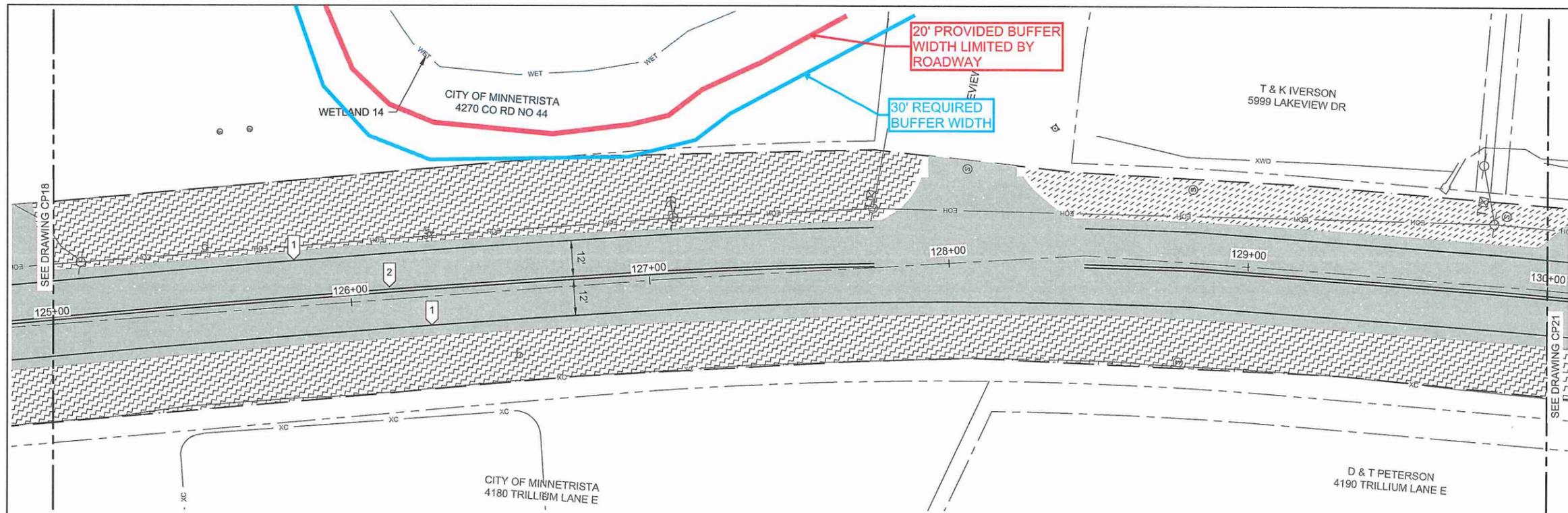
DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42905



PROJECT: 802829
 FILE NAME: CP0018

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 10

CP18
 192 of 216



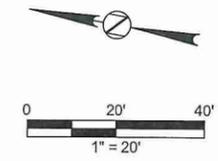
- GENERAL NOTES:**
1. ALL EXISTING ROAD SIGNS REMOVED FOR CONSTRUCTION SHALL BE SALVAGED AND REINSTALLED PRIOR TO FINAL PAVING.
 2. SEE SHEET CP8 FOR RESTORATION MATERIAL HATCH PATTERNS.

- KEYNOTES:**
1. SINGLE WHITE SOLID EDGE LINE - 6" WIDE EPOXY, GROUND IN (GROOVED). EDGE LINES MUST BE AT LEAST 2' AWAY FROM FACE OF CURB
 2. DOUBLE YELLOW SOLID LINE - 4" WIDE EPOXY, GROUND IN (GROOVED)
 3. GUARDRAIL (NOT REMOVED DURING CONSTRUCTION)
 4. 24" STOP BAR (PERFORMED POLYMER TAPE OR THERMOPLASTIC)
 5. 24" SOLID YELLOW LINE (PAINTED ISLAND) (45° DIAGONAL @ 20' SPACING)
 6. ADJUST CASTING PER COUNTY/CITY/MCES STANDARDS

- RESTORATION LEGEND:**
- SEED MIX 25-151 AND HYDROMULCH
 - SEED MIX 35-241 AND HYDROMULCH

EXISTING WETLAND BUFFER

EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA. RESTORATION PER ROAD AUTHORITY REQUIREMENTS



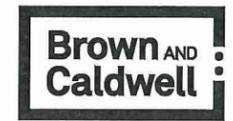
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NO	DATE	BY	REVISIONS	NO	DATE	BY	REVISIONS
1	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV

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SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/17 REG NO: 42905

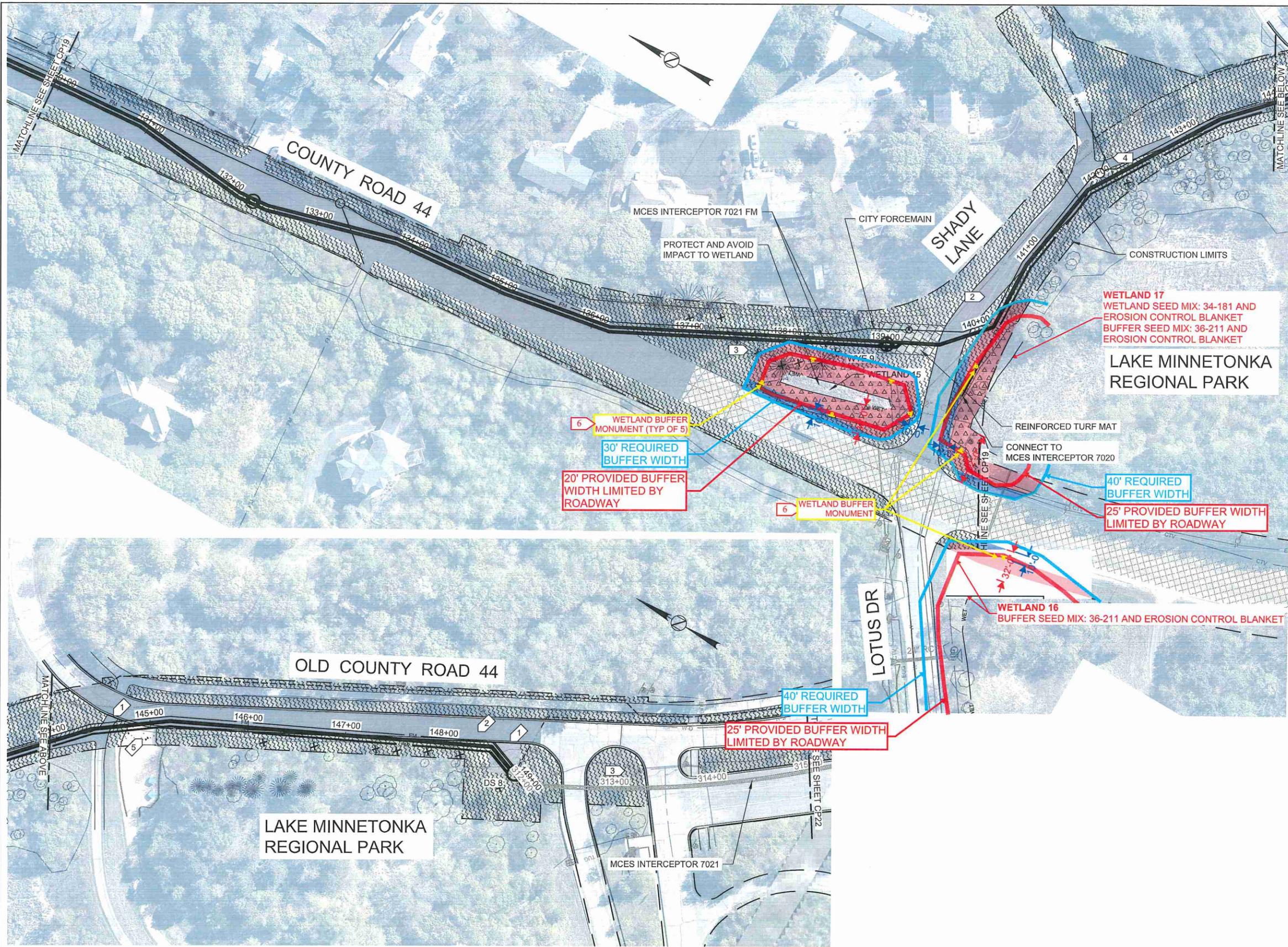


PROJECT: 802829
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MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 11

CP19
 193 OF 216

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GENERAL NOTES

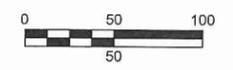
1. COMPLY WITH ALL REQUIREMENTS OF EROSION CONTROL PERMITS.
2. SEE CP4 FOR PAVEMENT SECTION.

KEY NOTES:

1. REPLACE EXISTING CONCRETE CURB AND GUTTER WITH TYPE B618 CONCRETE CURB AND GUTTER. INSTALL CURB CUT AT PAVED AREA.
2. RESTORE PAVEMENT. PAVEMENT SECTION AND MARKINGS TO MATCH EXISTING.
3. GRADE TO MATCH EXISTING. SEED ALL SURFACES EXPOSED DURING CONSTRUCTION.
4. REPLACE EXISTING BOLLARDS
5. RESTORE AGGREGATE. AGGREGATE SECTION TO MATCH EXISTING.
6. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.

	SEED MIX 35-241 AND HYDRAULIC MULCH
	SEED MIX 36-211 AND HYDRAULIC MULCH
	BITUMINOUS PAVEMENT
	AGGREGATE PAVEMENT
	MILL AND OVERLAY

	EXISTING WETLAND BUFFER
	EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA. RESTORATION PER ROAD AUTHORITY REQUIREMENTS



NO	DATE	BY	REVISIONS	REMARKS
1	11/17/2017	MLH	ISSUED FOR BIDDING	

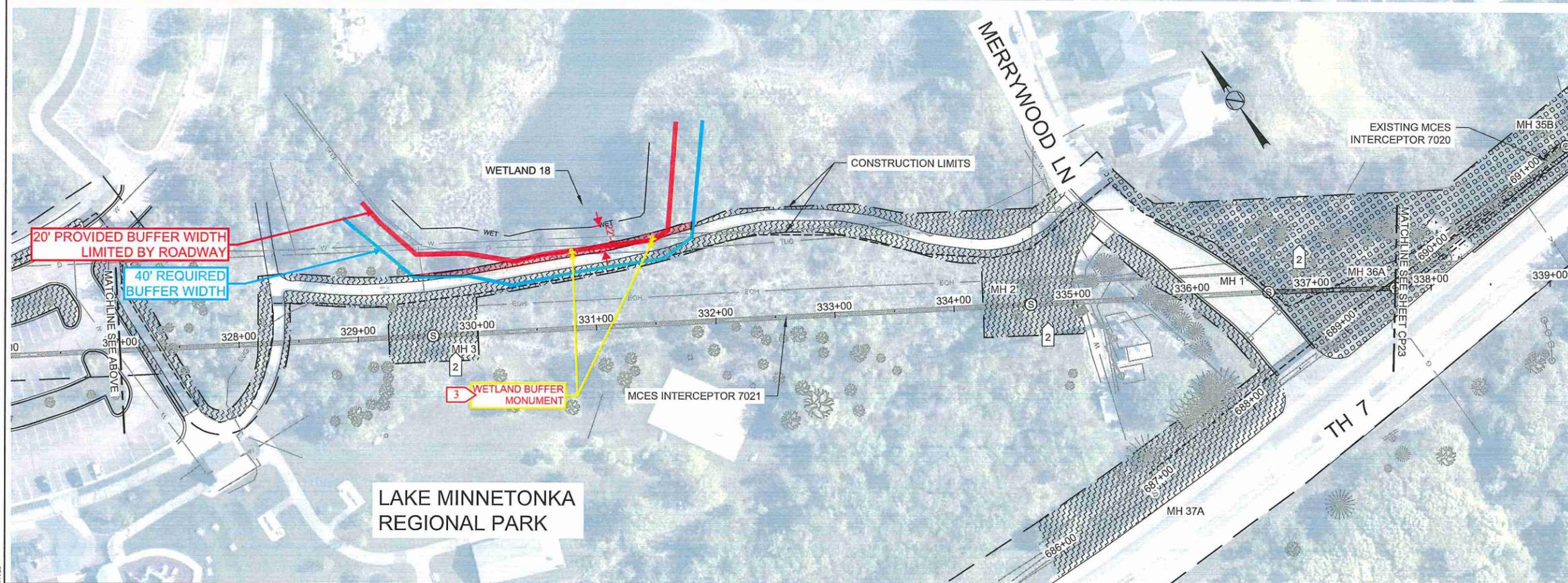
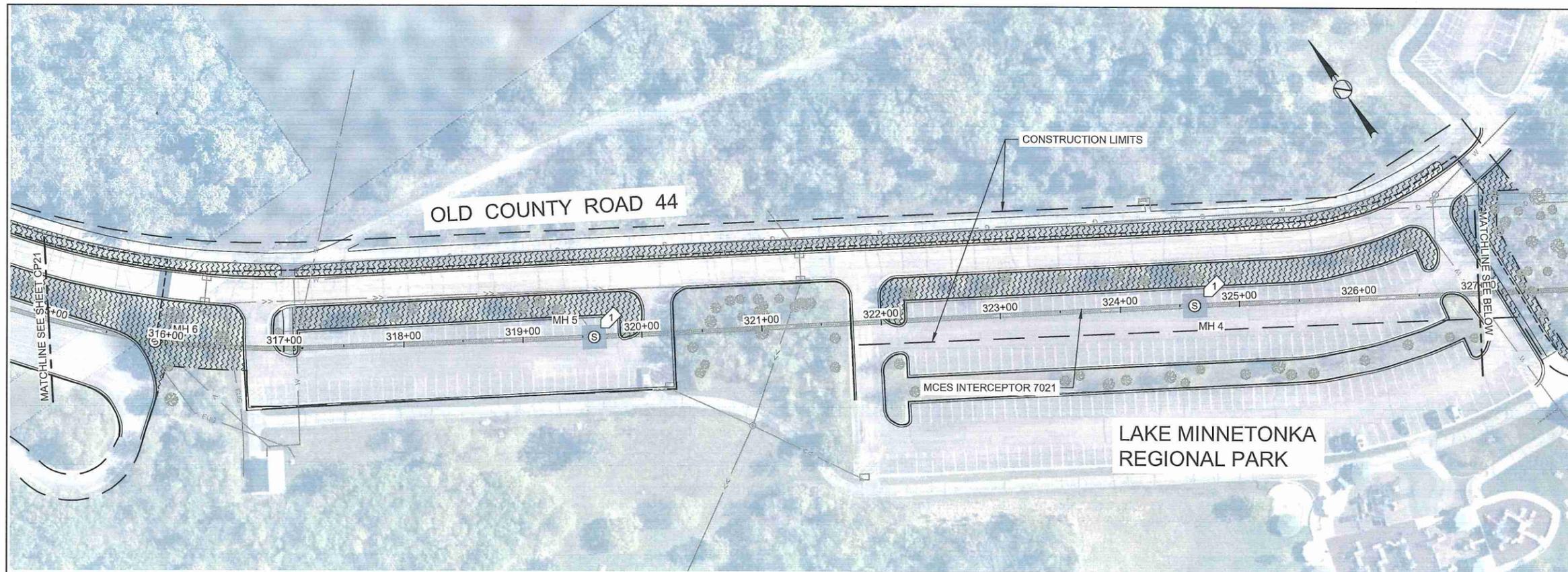
DESIGNED: **AJS**
 DRAWN: **MLH**
 CHECKED: **WJJ**
 DATE: 11/17/2017
 REG NO: 20740

Foth
 Foth Infrastructure & Environment, LLC
 Eagle Point II
 8550 Hudson Boulevard North, Suite 105
 Lake Elmo, MN 55042
 Phone: 651-288-8550 Fax: 651-288-8551

PROJECT: 802829
 FILE NAME: CP0021

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 RESTORATION PLAN - 13

CP21
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GENERAL NOTES

1. COMPLY WITH ALL REQUIREMENTS OF EROSION CONTROL PERMITS.
2. SEE CP4 FOR PAVEMENT SECTION.

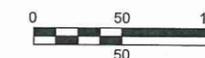
KEY NOTES: ◻

1. RESTORE PAVEMENT, PAVEMENT SECTION AND MARKINGS TO MATCH EXISTING.
2. GRADE TO MATCH EXISTING, SEED ALL SURFACES EXPOSED DURING CONSTRUCTION.
3. **WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.**

LEGEND:

- CONSTRUCTION LIMITS
- ▣ SEED MIX 25-141 AND HYDRAULIC MULCH
- ▣ SEED MIX 35-241 AND HYDRAULIC MULCH
- ▣ BITUMINOUS PAVEMENT
- ▣ AGGREGATE PAVEMENT

- ▣ EXISTING WETLAND BUFFER
- ▣ EXISTING WETLAND BUFFER W/IN ROAD MAINTENANCE AREA. RESTORATION PER ROAD AUTHORITY REQUIREMENTS



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 MODIFIED: 11/14/2017 11:02:11 AM

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
	11/17/2017	MLH	ISSUED FOR BIDDING				
REVISIONS				REVISIONS			

DESIGNED: **AJS**
 DRAWN: **MLH**
 CHECKED: **WJJ**
 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.
 SIGNATURE: *[Signature]*
 TYPED OR PRINTED NAME: **WILLIAM J. JOHNSON**
 DATE: 11/17/2017 REG NO: 20740

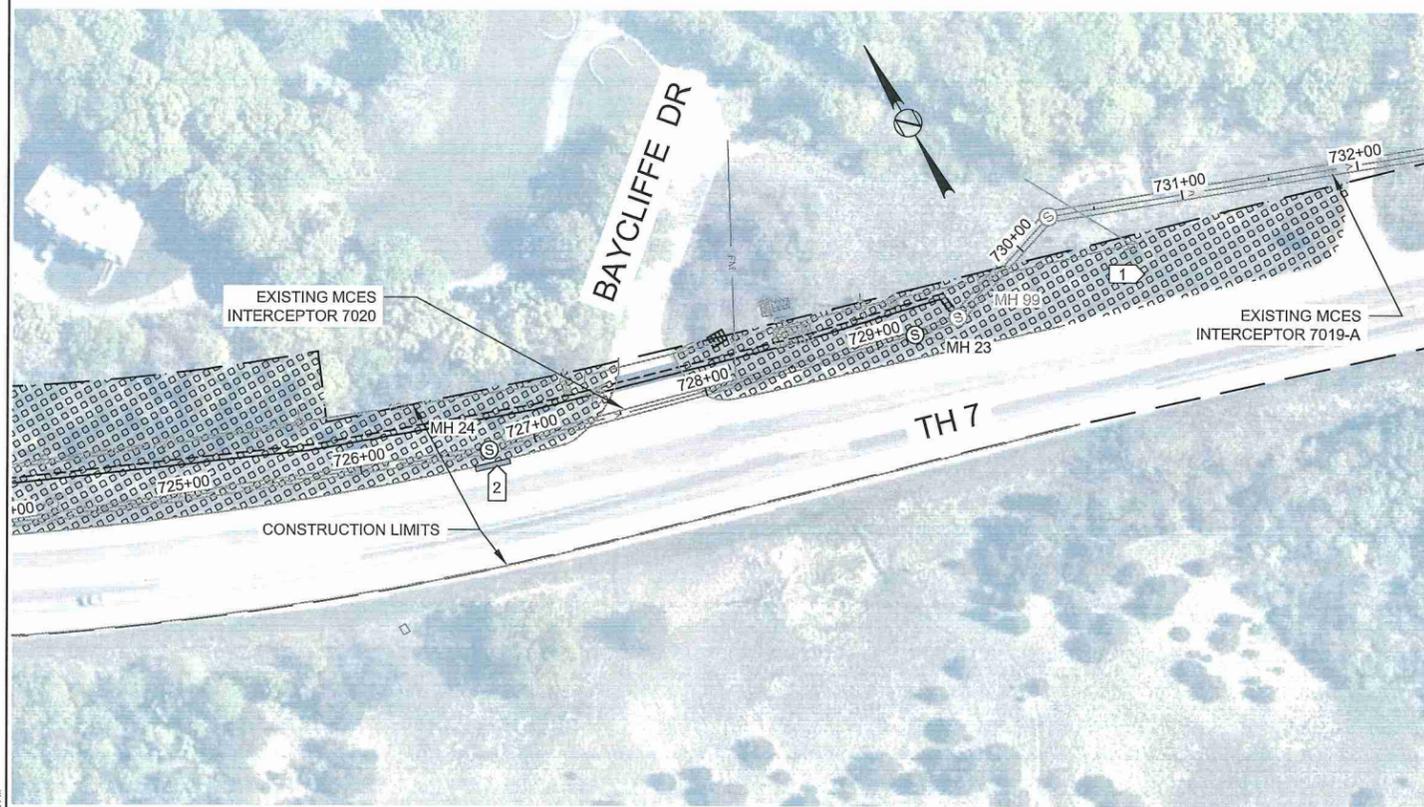
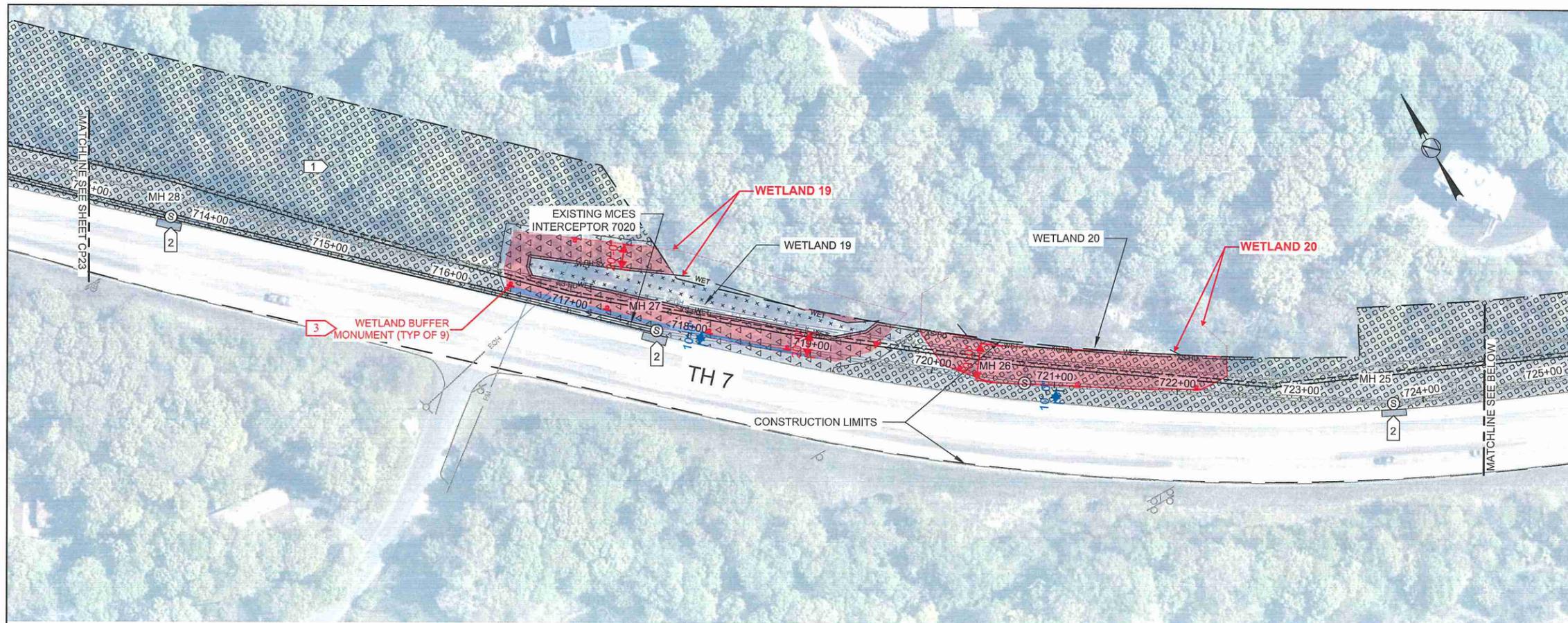
Foth
 Foth Infrastructure & Environment, LLC
 Eagle Point II
 8550 Hudson Boulevard North, Suite 105
 Lake Elmo, MN 55042
 Phone: 651-288-9550 Fax: 651-288-8551

PROJECT: **802829**
 FILE NAME: **CP0022**

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
RESTORATION PLAN - 14

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 196 of 216

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 MODIFIED: 11/30/2017 3:42:22 PM



GENERAL NOTES

1. COMPLY WITH ALL REQUIREMENTS OF EROSION CONTROL PERMITS.
2. SEE CP4 FOR PAVEMENT SECTION.

KEY NOTES:

1. GRADE TO MATCH EXISTING, SEED ALL SURFACES EXPOSED DURING CONSTRUCTION.
2. RESTORE PAVEMENT. PAVEMENT SECTION AND MARKINGS TO MATCH EXISTING.
3. WETLAND BUFFER MONUMENTATION ALONG THE CONTOUR OF THE BUFFER NO LESS THAN 100' APART AND WHEN CROSSING PROPERTY LINES. MARKER SHALL BE MADE OF BREAKABLE MATERIAL AT GRADE AND MAY BE INSTALLED FLUSH TO THE GROUND. CONTRACTOR SHALL STAKE PRIOR TO INSTALLATION PENDING CAR/MCWD APPROVAL.

LEGEND:

-  CONSTRUCTION LIMITS
-  SEED MIX 25-141 AND HYDRAULIC MULCH
-  SEED MIX 33-262 AND HYDRAULIC MULCH
-  SEED MIX 36-211 AND HYDRAULIC MULCH
-  BITUMINOUS PAVEMENT



NO	DATE	BY	REVISIONS	REMARKS
1	11/17/2017	MLH	ISSUED FOR BIDDING	

DESIGNED	AJS
DRAWN	MLH
CHECKED	WJL
DATE	11/17/2017
REG NO	20740


Foth
 Foth Infrastructure & Environment, LLC
 Eagle Point II
 8550 Hudson Boulevard North, Suite 105
 Lake Elmo, MN 55042
 Phone: 651-266-9550 Fax: 651-266-8551

PROJECT	802829
FILE NAME	CP0024

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021	
RESTORATION PLAN - 16	

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 198 OF 216

ORIGINAL

Agreement No. PW 49-60-07
Minnehaha Creek Watershed District
County of Hennepin

**COOPERATIVE AGREEMENT
FOR
STORMWATER FACILITY MAINTENANCE**

THIS AGREEMENT, Made and entered into this 29 day of July, 2008, by and between the **County of Hennepin**, a body politic and corporate under the laws of the State of Minnesota, hereinafter referred to as the "County", and the **Minnehaha Creek Watershed District**, a watershed district with purposes and powers as set forth at Minnesota Statutes Chapters 103B and 103D, hereinafter referred to as "MCWD".

WITNESSETH:

WHEREAS, pursuant to authority of Minnesota Statutes § 103D.345, the MCWD implements a permitting program under which stormwater management requirements apply to land development activities presently referenced as Rule N; and

WHEREAS, pursuant to authority of Minnesota Statutes § 103D.345, the MCWD implements a permitting program under which wetland management requirements apply to land development activities presently referenced as Rule D; and

WHEREAS, the County is subject to those requirements; and

WHEREAS, in order to comply with applicable MCWD requirements, a landowner constructing stormwater management facilities is required to execute a declaration assuming responsibility to maintain those facilities indefinitely; and

WHEREAS, the County from time to time is subject to this requirement pursuant to the terms of an MCWD permit; and

WHEREAS, the parties concur that it is clearer and procedurally more efficient for the MCWD and the County to agree at this time on the standard requirements of stormwater facility maintenance, so that this Agreement may be referenced in MCWD permits for future projects;

WHEREAS, the parties concur that the County has the resources and organizational structure necessary to carry out maintenance needs, as they become apparent;

NOW THEREFORE, the following maintenance obligations apply to the County, at its own expense, under any permit that explicitly applies this Agreement to stormwater management facilities

WL

identified in the permit:

1. The County shall inspect all stormwater retention and detention ponds consistent with the Storm Water Pollution Prevention Program (SWPPP) for said facilities. It is understood that the County will be inspecting all stormwater retention and detention ponds at least once every five (5) years. Pond function will be considered inadequate if sediment accumulation has decreased the wet storage volume by 50%, or dry detention volume by 25%. The County shall restore the basin to its original design elevations and dimensions and will restore vegetation in disturbed areas within one year of the inspection date.
2. The County shall inspect grit chambers, sump catch basins, sump manholes, outlet structures, culverts, and other stormwater facilities twice a year in the spring following snow melt and the fall after leaf fall. Accumulated sediment and debris will be removed so that the facility continues to operate as designed and erosion or structural problems will be corrected.
3. To comply with Rule D buffer requirements, buffer areas will be identified on permit application plan sheets. Buffer vegetation shall 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 or when implemented pursuant to a written agreement executed with the MCWD. Pesticides and herbicides may be used in accordance with Minnesota Department of Agriculture rules and guidelines. No new structure or hard surface shall be placed within a buffer. No fill, debris or other material shall be excavated from or placed within a buffer.
4. A brief written report, on a form provided by the MCWD, will be prepared and submitted to MCWD upon request, but no more than once a year, that describes the maintenance activities performed under this Agreement, including dates, locations of inspection and maintenance activities performed.
5. MCWD permits for specific projects may contain additional conditions regarding stormwater facility maintenance or other project elements as determined by the MCWD to be appropriate pursuant to MCWD Rules.
6. Responsibilities of the County may be assigned to another governmental unit with written notification by the County and assignee.
7. This Agreement may be modified only by an amendment signed by the parties.
8. This Agreement is in force for seven (7) years from the date on which it has been fully executed and will renew automatically for seven-year terms unless terminated. Either party may terminate the Agreement on 30 days' written notice to the other. Any obligations assumed by the County through incorporation into an issued permit before the effective date of termination will survive expiration.

9. If the County conveys into private ownership a fee interest in any property that has become subject to this Agreement, it will require as a condition of sale and enforce: (a) that the purchaser record a declaration on the property incorporating the buffer protection and stormwater facility maintenance requirements of this Agreement; and (b) that recordation occur either before any encumbrance is recorded on the property or, if after, only as accompanied by a subordination and consent executed by the encumbrance holder ensuring that the declaration will run with the land in perpetuity. If the County conveys into public ownership a fee interest in any property that has become subject to this Agreement, it will require as a condition of the purchase of sale agreement that the purchaser accept an assignment of all obligations vested under this Agreement.
10. The recitals above are incorporated into this Agreement.

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IN TESTIMONY WHEREOF, The parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the day and year first above written.

MINNEHAHA CREEK WATERSHED DISTRICT

(Seal)

By: James B. Collins
President, Board of Managers
Date: 5-7-08

APPROVED AS TO FORM AND EXECUTION

By: [Signature]
Its Attorney
Date: 5.12.08

COUNTY OF HENNEPIN

ATTEST:

By: [Signature]
Deputy/Clerk of the County Board
Date: 7/29/08

By: [Signature]
Chair of its County Board
Date: 7/29/08

APPROVED AS TO FORM:

By: [Signature]
Assistant County Attorney
Date: 3/6/08

And: [Signature]
County Administrator

Date: 6-24-08

And: [Signature]
Assistant County Administrator, Public Works

Date: 6-24-08

APPROVED AS TO EXECUTION:

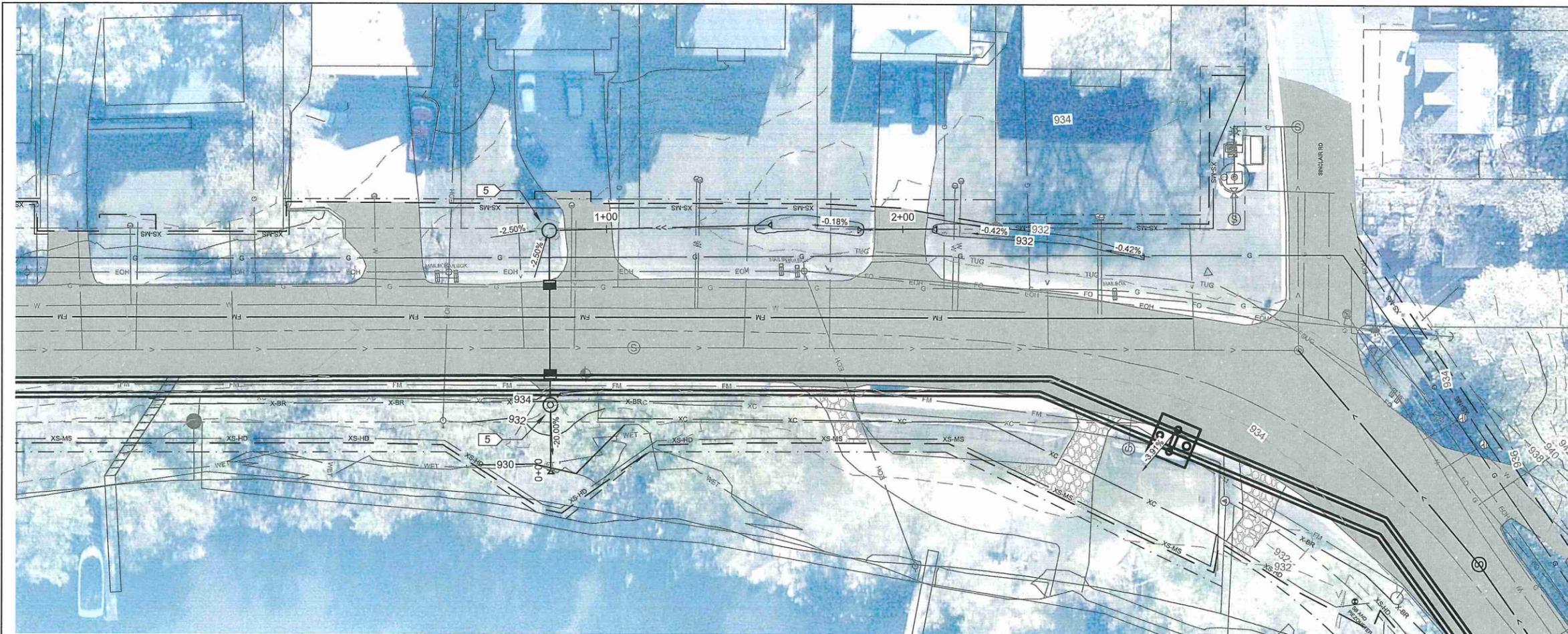
By: [Signature]
Assistant County Attorney
Date: 8/1/08

RECOMMENDED FOR APPROVAL

By: [Signature]
Director, Transportation Department and
County Engineer

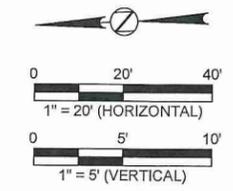
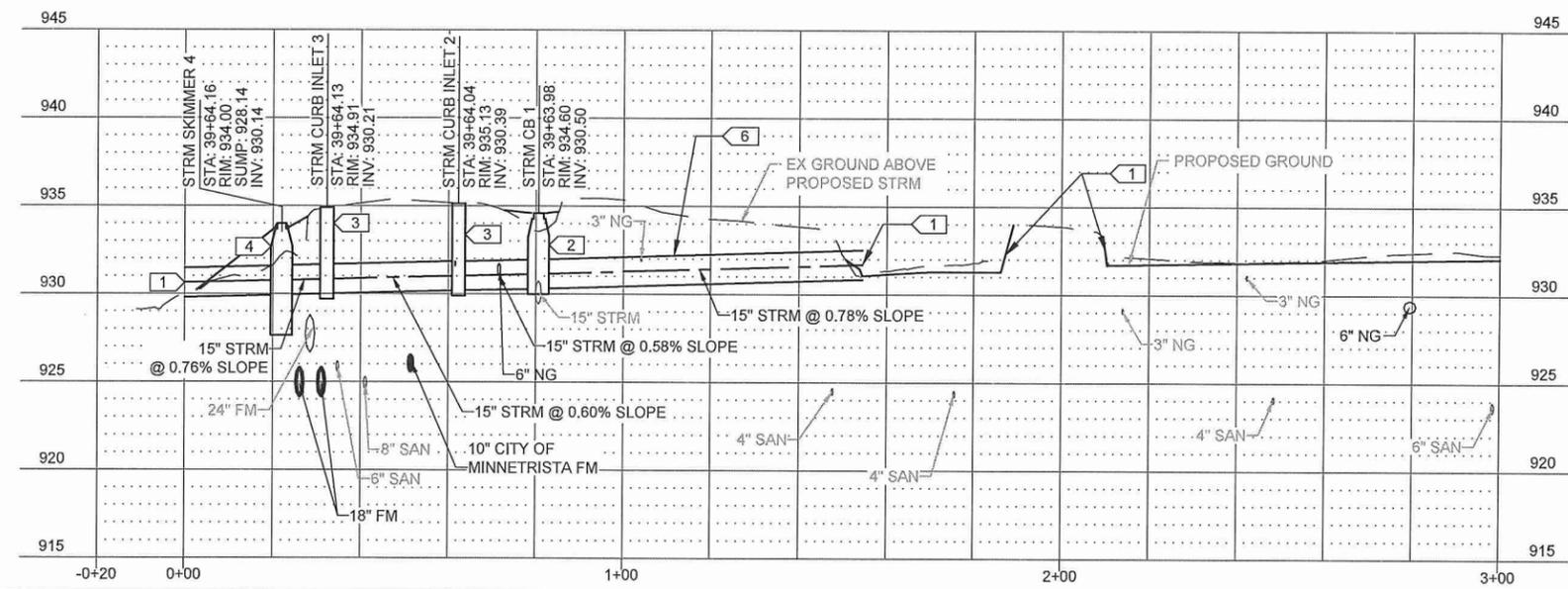
Date: 8/11/08

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- GENERAL NOTES:
1. SEE MCES FORCEMAIN PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
 2. SEE SHEET CU82 FOR GRADING.

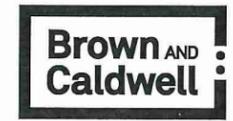
- KEYNOTES:
1. INSTALL FLARED END SECTION PER DETAILS SHEET CU21.
 2. REMOVE AND REPLACE CATCH BASIN PER DETAILS WITHIN CITY (BMI) PLANS.
 3. INSTALL NEW CURB INLET CATCH BASIN PER DETAILS WITHIN CITY (BMI) PLANS.
 4. INSTALL NEW CATCH BASIN WITH ENERGY DISSIPATOR & SKIMMER PER DETAILS WITHIN CITY (BMI) PLANS.
 5. FILL AROUND STRM CB 1 AND MH TO FE..
 6. ALL STORM SEWER IN PROFILE TO BE REINFORCED CONCRETE.



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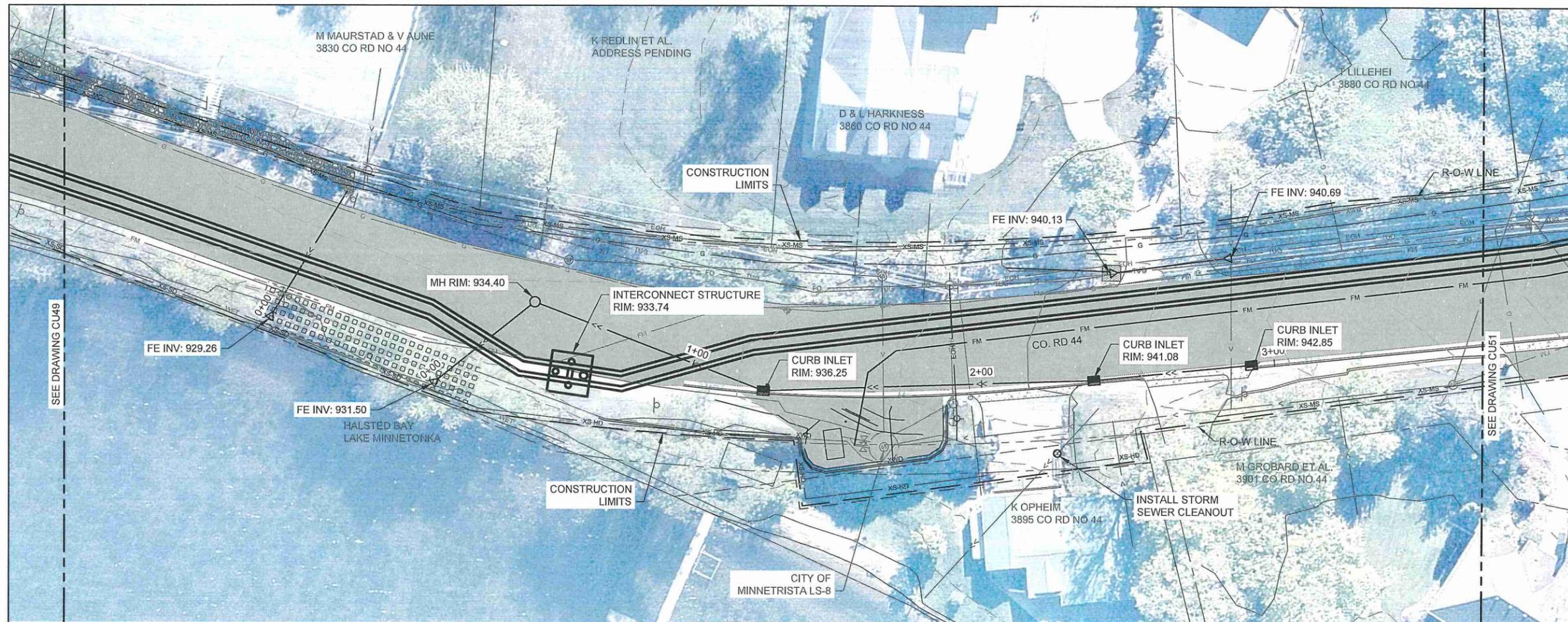
DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 RES NO: 42905



PROJECT: 802829
 FILE NAME: CU0074

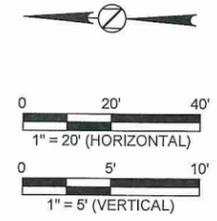
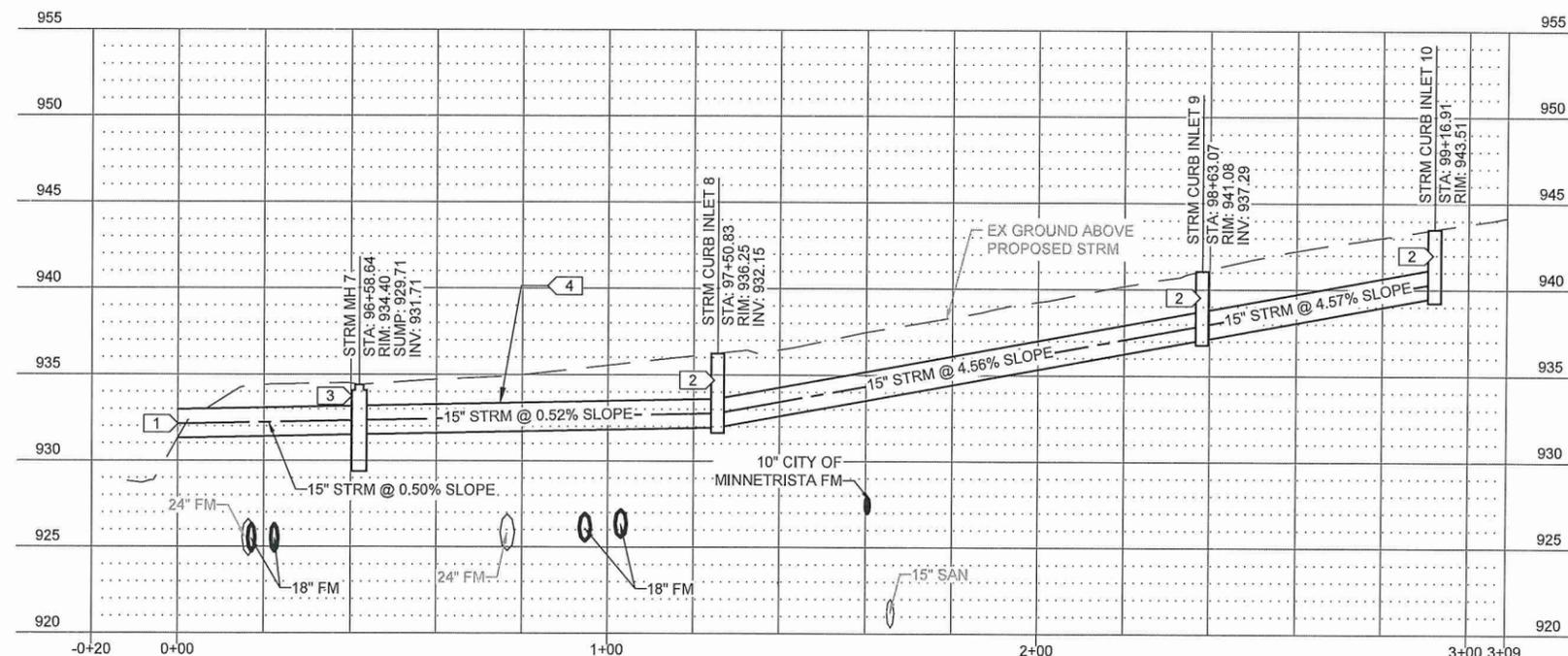
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 STORM SEWER PROFILE - CO RD 44 & SINCLAIR

CU74
 152 OF 216



- GENERAL NOTES:
1. SEE MCES FORCEMAIN PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
 2. SEE CU80 FOR GRADING.

- KEYNOTES:
1. INSTALL FLARED END SECTION PER DETAILS SHEET CU21.
 2. INSTALL CURB INLET CATCH BASIN PER DETAILS WITHIN CITY (BMI) PLANS.
 3. INSTALL MANHOLE PER DETAILS WITHIN CITY (BMI) PLANS.
 4. ALL STORM SEWER IN PROFILE TO BE REINFORCED CONCRETE.



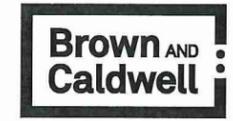
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NO	DATE	BY	REVISIONS

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV

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.

SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0079

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 STORM SEWER PROFILE - CO RD 44 & MINNETRISTA LS-8

CU79
 157 of 216

**COUNTY ROAD 44 AND MINNETRISTA – LS8 VEGETATION
VEGITATIVE RESTORATION AND BIOENGINEERING CHECKLIST**

MCWD realizes successful, sustainable, livable communities are built on a foundation of integrated planning- planning that recognizes communities as living organisms and takes into consideration all components of the urban ecology.

- | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ✓ WATER RESOURCES APPLICATION FORM (electronic signatures accepted) <u>Previously Submitted</u> ✓ EROSION INTENSITY SCORESHEET (If new project proposed) ✓ PHOTOS OF EXISTING SHORELINE CONDITIONS ✓ SITE PLAN/SURVEY* (11"x17" or electronic copy) ✓ LAYOUT AND CROSS SECTION OF PLANT ZONES** (Plant and seed list) ✓ IDENTIFICATION OF RESPONSIBLE PARTY*** (3 year plan) <input type="checkbox"/> \$10.00 APPLICATION FEE (Payable to MCWD by check or credit card) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

***SITE PLAN OR SURVEY** (11"x17" or electronic):

- ✓ Ordinary high water elevation contour (OHW) See attached sheet CU379
- ✓ 100-year floodplain elevation contour See attached sheet CU379
- ✓ Existing shoreline elevation contour at least 15 feet from OHW See attached sheet CU379
- ✓ Location of existing trees (indicate if they will be removed or retained) See plan sheet CD27
- ✓ Property lines and utilities See attached sheet CU379
- ✓ Proposed project plan with plant zone and species marked See plan sheet CP16
- ✓ Placement location of any bioengineering devices See plan sheet CP16
- ✓ Identify proposed access route for vehicles or indicate if working by barge See plan sheet CP16
- ✓ Floating silt curtain location See plan sheet GC25
- ✓ Stabilization plan for disturbed areas including type of erosion control device to be used (examples include: biologs, coir fiber rolls, wattles, fascines, erosion control blankets, stakes and live plantings) See plan sheets GC25 and CP16
- Identify location of any material stockpiles N/A

****LAYOUT AND CROSS SECTION OF PLANT ZONES**

- ✓ Drawn to scale (horizontal and vertical scales noted on the drawing) See attached sheet CU379
- ✓ Labeled existing bank, OHW and 100 year flood elevation contours See attached sheet CU379
- ✓ Plant list with common and scientific names and/or seed mix (specify quantities and origins of all materials) Attached
- ✓ All species added to shoreline or bank classified as native aquatic or native upland vegetation (See 'references' section below for plant lists) Attached



- ✓ Finished grading at a 3:1 or more gradual slope See plan sheet CP16
- ✓ Identify location and type of plantings in relation to hard armoring material See plan sheet CP16
- ☐ Toe boulders buried 50% and are 30 inches or less in diameter N/A
- ☐ If wave barriers are used, they do not create an obstruction to navigation, are three feet deep or less and removed within 2 years of installation N/A

*****RESPONSIBLE PARTY**

- ☐ Identify party responsible for plantings with schedule, installation & maintenance plan for three years: include invasive species control and plant replacement as necessary
- ☐ Submit a surety in the form of an Escrow, Letter of Credit or Performance Bond in the amount of \$5,000 or \$100 per linear foot if greater than 50 feet.
- ✓ See intergovernmental cooperative agreement between MCES and Hennepin County for additional tree planting and vegetation maintenance plan

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County Road 44 and Minnetrista LS 8
Vegetation

Memorandum

DATE: Wednesday, February 28, 2018
TO: Peter Glashagel – Project Engineer
Brown and Caldwell
FROM: Jessica Abernathy
SUBJECT: Response to MCWD Comments and Questions
L-38 Mound Interceptor
Sambatek #20575

County Road 44 and Sinclair Road/ Wetland 4 Vegetation

Sambatek observed the vegetation within Wetland 4 during a site visit on June 5, 2017. During the site visit Sambatek noted that Reed Canary Grass (*Phalaris arundinacea*) and Common Buckthorn (*Rhamnus cathartica*) dominated the wetland. These invasive species will be removed by the excavation planned in the No Net Loss of Floodplain Plan. Once the excavation is completed, the area will be reseeded. State Seed Mix 34-262 will be used above the high water elevation of 930.10, while State Seed Mix 34-181 will be used below the high water elevation. Both of these seed mixes contain a mixture of native grasses, sedges, and forbs. The excavation and reseeded will lead to a more diverse wetland community and a higher quality wetland.

County Road 44 and Minnetrista LS-8 Vegetation

The vegetation at the culvert extension near Minnetrista LS-8 is dominated by Kentucky Bluegrass (*Poa pratensis*) and Smooth Brome (*Bromus inermis*). Neither of these species is considered native to Minnesota, and Smooth Brome is considered an invasive species by the Minnesota DNR. The excavation necessary to construct the proposed culvert extension and excavate the new floodplain area will likely remove these non-native species. Once the excavation of these areas is completed, they will be reseeded with the State Seed Mix 36-211 above the high water level of 930.10, and the State Seed Mix 34-181 below the high water level. Both of these seed mixes contain a mixture of native grasses and forbs. This process will likely lead to a more diverse plant community that will include deep rooted species that can provide added support for the shoreline.

List of Attachments

Erosion Intensity Score Sheets

Seed Mixes

Additional Photographs

EROSION INTENSITY SCORESHEET

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES					EI VALUE
	EROSION INTENSITY (EI) VALUE IS LOCATED IN PARENTHESIS ON LEFT SIDE OF EACH CATEGORY BOX					
AVERAGE FETCH – Average distance (miles) across open water to the opposite shore.	(0) <1/10	(2) 1/10-1/3	(4) 1/3-1	(7) 1-3	(10) >3	4
DEPTH AT 20 FEET – Depth of water (feet) 20 feet from the shoreline.	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12	2
DEPTH AT 100 FEET – Depth of water (feet) 100 feet from the shoreline.	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12	3
BANK HEIGHT – Measure from toe of bank to top of bank-lip (feet).	(1) <1	(2) 1-3	(3) 3-6	(4) 6-10	(5) >10	2
INFLUENCE OF ADJACENT STRUCTURES – Likelihood that adjacent structures are causing flank erosion at the site.	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures	0
AQUATIC VEGETATION – Type and abundance of vegetation occurring in the water off the shoreline.	(0) rocky substrates unable to support vegetation.	(1) dense or abundant emergent, floating or submergent vegetation	(4) scattered or patchy emergent, floating or submergent vegetation	(7) lack of emergent, floating or submergent vegetation		4
BANK VEGETATION – Type and abundance of vegetation occurring on bank face and immediately on top of bank lip.	(0) bank composed of rocky outcropping unable to support vegetation.	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) minimal vegetation(due to shading or erosion)		1
BANK STABILITY – Degree to which bank and adjacent area (within 10 feet of bank lip) is stabilized by natural ground, shrub, and canopy vegetation. Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees and/or shrubs	(1) established lawn with moderate to dense canopy trees and/or shrubs	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of ground vegetation		4
SHORELINE GEOMETRY – General shape of the shoreline at the point of interest plus 200 yards on either side.	(1) cove or sheltered area		(4) irregular shoreline or straight shoreline	(8) headland, point, or island		4
SHORE ORIENTATION – Geographic direction the shoreline faces.	(0) <1/3 mile fetch	(1) north to east to south-southeast (349°-360°, 1°-168°)	(4) south to west-southwest (169°-258°)	(8) west to north-northwest (259°-349°)		1
BOAT WAKES – Proximity to and intensity of boat traffic.	(1) broad open waterbody with limited traffic; constricted shallow water body; or no-wake zone	(4) limited traffic within 200 yards; moderate traffic 200 yards to ¼ mile offshore	(8) moderate traffic within 200 yards; or intensive traffic 200 yards to ¼ mile offshore	(12) intensive traffic within 200 yards		4
TOTAL EROSION INTENSITY SCORE =						29

EROSION INTENSITY CLASSIFICATION: LOW = 5-30, MEDIUM = 31-48, HIGH = 49-78

EROSION INTENSITY SCORESHEET GUIDANCE

1. **AVERAGE FETCH*** – Fetch is the distance (miles) across open water to the opposite shoreline. Fetch is measured at a 45° angle from the shoreline on either side. The longest possible fetch is also measured. The average of these 3 values represents the average fetch.

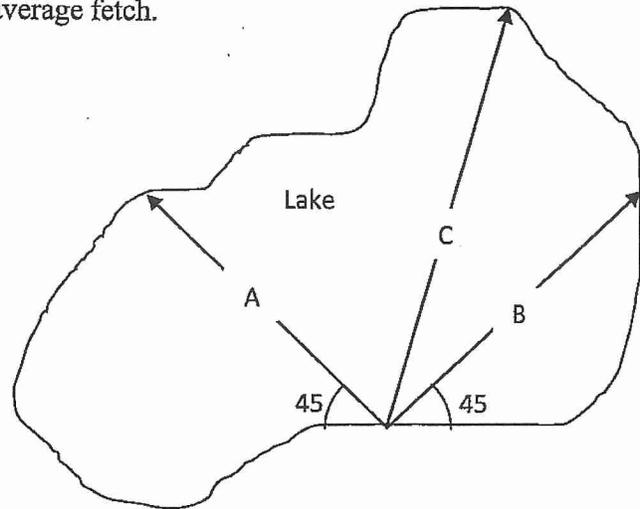
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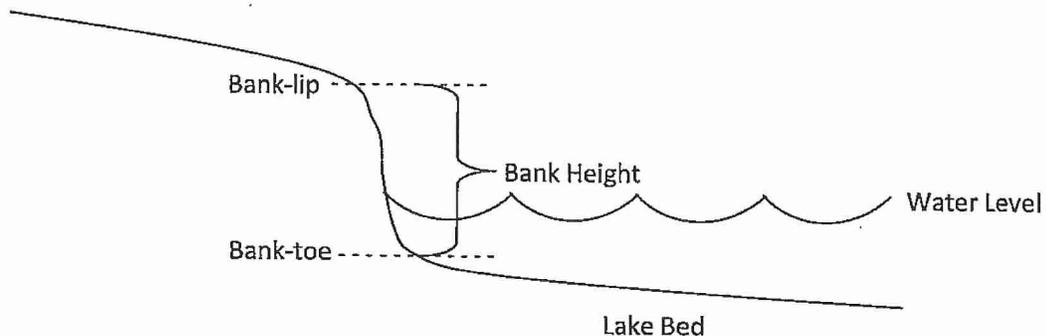
C = Longest possible fetch

$$\text{Ave. Fetch} = (A + B + C) / 3$$

Note: Fetch measurements should not be taken through a channel or other narrow area where waves would not maintain their energy.



2. **DEPTHS AT 20 AND 100 FEET*** - Depths (feet) can be estimated by MCWD staff using bathymetric maps, or more precise measurements can be provided by the applicant.
3. **BANK HEIGHT** – Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip. (Note: bank-toe may be below the water level.)

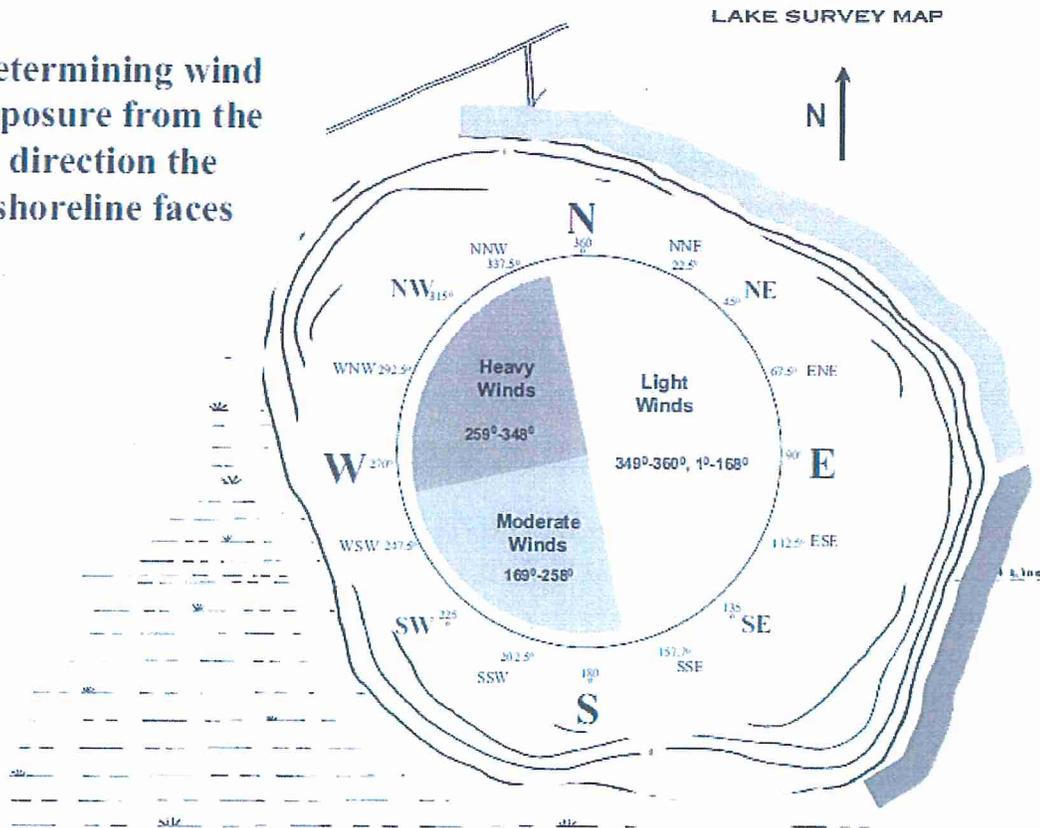


4. **AQUATIC VEGETATION** – Estimate of the percent of the lake bottom that is visually obstructed by plants during the growing season (June 1 - September 15):
 - > 50% - Dense or abundant
 - 5-50% - Scattered or patchy
 - < 5% - Lack of vegetation
5. **BANK VEGETATION** – Estimate of the percent of ground cover on the bank:
 - > 75% - Dense vegetation
 - 25-75% - Clumps of vegetation
 - < 25% - Minimal vegetation

6. **BANK STABILITY** – Represents the degree of human disturbance. A shoreline that has had little or no disturbance (with natural tree and shrub layers) but still exhibits erosion indicates that the existing vegetation may not be sufficient to stabilize the shoreline and a more structural solution may be needed. Alternatively, a shoreline that has an established lawn up to the bank may experience erosion simply due to the lack of deep-rooted vegetation, so a biological or bioengineering solution may be suitable.

7. **SHORE ORIENTATION*** –

Determining wind exposure from the direction the shoreline faces



8. **BOAT WAKES** – “Intensive traffic” is defined as a major thoroughfare or an area with regular recreational traffic such as a ski lane. “Limited traffic” means a channel, bay, or lake that is generally only used by the people who live in the surrounding area.

*Values will be provided by the MCWD at the request of the applicant.

County Road 44 and Minnetrista LS-8

Above the HWL: 930.10 State Seed Mix 36-211

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (%) by Weight	Seeds /sq ft	Terrestrial or Aquatic*	Native? (Y/N)
big bluestem	<i>Andropogon gerardii</i>	1.12	1	2.90%	3.68	Terrestrial	Y
side-oats grama	<i>Bouteloua curtipendula</i>	1.12	1	2.89%	2.2	Terrestrial	Y
kalm's brome	<i>Bromus kalmii</i>	1.68	1.5	4.34%	4.4	Terrestrial	Y
nodding wild rye	<i>Elymus canadensis</i>	1.4	1.25	3.61%	2.38	Terrestrial	Y
bottlebrush grass	<i>Elymus hystrix</i>	0.36	0.32	0.91%	0.88	Terrestrial	Y
slender wheatgrass	<i>Elymus trachycaulus</i>	1.4	1.25	3.64%	3.18	Terrestrial	Y
switchgrass	<i>Panicum virgatum</i>	0.07	0.06	0.17%	0.3	Terrestrial	Y
little bluestem	<i>Schizachyrium scoparium</i>	0.69	0.62	0.79%	3.4	Terrestrial	Y
Indian grass	<i>Sorghastrum nutans</i>	1.12	1	2.89%	4.4	Terrestrial	Y
Total Grasses		8.97	8	23.14%	24.82		
common yarrow	<i>Achillea millefolium</i>	0.03	0.03	0.09%	2	Terrestrial	Y
blue giant hyssop	<i>Agastache foeniculum</i>	0.11	0.1	0.28%	3.2	Terrestrial	Y
white snakeroot	<i>Ageratina altissima</i>	0.03	0.03	0.09%	1.7	Terrestrial	Y
white prairie clover	<i>Dalea candida</i>	0.19	0.17	0.50%	1.2	Terrestrial	Y
Canada tick trefoil	<i>Desmodium canadense</i>	0.16	0.14	0.42%	0.29	Terrestrial	Y
ox-eye	<i>Heliopsis helianthoides</i>	0.15	0.13	0.38%	0.3	Terrestrial	Y
wild bergamot	<i>Monarda fistulosa</i>	0.07	0.06	0.18%	1.6	Terrestrial	Y
stiff goldenrod	<i>Oligoneuron rigidum</i>	0.07	0.06	0.17%	0.9	Terrestrial	Y
Clayton's sweet cicely	<i>Osmorhiza claytonii</i>	0.07	0.06	0.17%	0.06	Terrestrial	Y
smooth wild rose	<i>Rosa blanda</i>	0.07	0.06	0.17%	0.06	Terrestrial	Y
black-eyed susan	<i>Rudbeckia hirta</i>	0.2	0.18	0.52%	6.1	Terrestrial	Y
Lance-leaved Figwort	<i>Scrophularia lanceolata</i>	0.06	0.05	0.14%	3.2	Terrestrial	Y
zigzag goldenrod	<i>Solidago flexicaulis</i>	0.02	0.02	0.05%	0.5	Terrestrial	Y
showy goldenrod	<i>Solidago speciosa</i>	0.07	0.06	0.18%	1.8	Terrestrial	Y
smooth aster	<i>Symphotrichum laeve</i>	0.07	0.06	0.19%	1.3	Terrestrial	Y
American Vetch	<i>Vicia americana</i>	0.2	0.18	0.52%	0.14	Terrestrial	Y
golden alexanders	<i>Zizia aurea</i>	0.12	0.11	0.33%	0.46	Terrestrial	Y
Total Forbs		1.68	1.5	4.38%	24.8		
Oats or winter wheat		28.02	25	72.48%	11.14	Terrestrial	N

Total Cover Crop	20.02	25	72.48%	11.14
Totals	38.67	34.5	100.00%	60.75

*Species classified as OBL were considered Aquatic

Below the HWL: 930.10 State Seed Mix 34-181

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (by Weight)	Seeds/ sq ft	Terrestrial or Aquatic*	Native (Y/N)
American slough grass	<i>Beckmannia syzigachne</i>	0.78	0.7	14.07%	12.29	Aquatic	Y
tall manna grass	<i>Glyceria grandis</i>	0.28	0.25	4.98%	6.4	Aquatic	Y
rice cut grass	<i>Leersia oryzoides</i>	0.34	0.3	5.93%	3.7	Aquatic	Y
Total Grasses		1.4	1.25	24.98%	23.02		
river bulrush	<i>Bolboschoenus fluviatilis</i>	0.85	0.76	15.20%	1.2	Aquatic	Y
bristly sedge	<i>Carex comosa</i>	0.2	0.18	3.63%	2	Aquatic	Y
lake sedge	<i>Carex lacustris</i>	0.07	0.06	1.20%	0.24	Aquatic	Y
tussock sedge	<i>Carex stricta</i>	0.04	0.04	0.77%	0.75	Aquatic	Y
least spikerush	<i>Eleocharis acicularis</i>	0.11	0.1	1.94%	2.5	Aquatic	Y
marsh spikerush	<i>Eleocharis palustris</i>	0.11	0.1	2.03%	1.9	Aquatic	Y
Torrey's rush	<i>Juncus torreyi</i>	0.04	0.04	0.85%	25	Terrestrial	Y
Three-square bulrush	<i>Schoenoplectus pungens</i>	0.26	0.23	4.54%	1	Aquatic	Y
soft stem bulrush	<i>Schoenoplectus tabernaemontani</i>	0.49	0.44	8.78%	5	Aquatic	Y
woolgrass	<i>Scirpus cyperinus</i>	0.06	0.05	1.02%	32	Aquatic	Y
Total Sedges and Rushes		2.24	2	39.95%	71.59		
Sweet flag	<i>Acorus americanus</i>	0.31	0.28	5.53%	0.67	Aquatic	Y
common water plantain	<i>Alisma triviale</i>	0.45	0.4	8.00%	9.7	Aquatic	Y
marsh milkweed	<i>Asclepias incarnata</i>	0.31	0.28	5.67%	0.5	Aquatic	Y
broad-leaved arrowhead	<i>Sagittaria latifolia</i>	0.34	0.3	6.07%	6.8	Aquatic	Y
giant bur reed	<i>Sparganium eurycarpum</i>	0.55	0.49	9.80%	0.09	Aquatic	Y
Total Forbs		1.96	1.75	35.07%	17.76		
Totals:		5.6	5.00%	100.00%	112.37		

*Species classified as OBL were considered Aquatic

**COUNTY ROAD 44 AND SINCLAIR ROAD – WETLAND 4 VEGETATION
VEGITATIVE RESTORATION AND BIOENGINEERING CHECKLIST**

MCWD realizes successful, sustainable, livable communities are built on a foundation of integrated planning- planning that recognizes communities as living organisms and takes into consideration all components of the urban ecology.

- | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ✓ WATER RESOURCES APPLICATION FORM (electronic signatures accepted) <u>Previously Submitted</u> ✓ EROSION INTENSITY SCORESHEET (If new project proposed) ✓ PHOTOS OF EXISTING SHORELINE CONDITIONS ✓ SITE PLAN/SURVEY* (11"x17" or electronic copy) ✓ LAYOUT AND CROSS SECTION OF PLANT ZONES** (Plant and seed list) ✓ IDENTIFICATION OF RESPONSIBLE PARTY*** (3 year plan) <input type="checkbox"/> \$10.00 APPLICATION FEE (Payable to MCWD by check or credit card) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

***SITE PLAN OR SURVEY** (11"x17" or electronic):

- ✓ Ordinary high water elevation contour (OHW) See attached sheet CU374
- ✓ 100-year floodplain elevation contour See attached sheet CU374
- ✓ Existing shoreline elevation contour at least 15 feet from OHW See attached sheet CU374
- ✓ Location of existing trees (indicate if they will be removed or retained) See plan sheet CD15
- ✓ Property lines and utilities See attached sheet CU374
- ✓ Proposed project plan with plant zone and species marked See plan sheet CP10
- ✓ Placement location of any bioengineering devices See plan sheet CP10
- ✓ Identify proposed access route for vehicles or indicate if working by barge See plan sheet CP10
- ✓ Floating silt curtain location See plan sheet GC19
- ✓ Stabilization plan for disturbed areas including type of erosion control device to be used (examples include: biologs, coir fiber rolls, wattles, fascines, erosion control blankets, stakes and live plantings) See plan sheets GC19 and CP10
- Identify location of any material stockpiles N/A

****LAYOUT AND CROSS SECTION OF PLANT ZONES**

- ✓ Drawn to scale (horizontal and vertical scales noted on the drawing) See attached sheet CU374
- ✓ Labeled existing bank, OHW and 100 year flood elevation contours See attached sheet CU374
- ✓ Plant list with common and scientific names and/or seed mix (specify quantities and origins of all materials) Attached
- ✓ All species added to shoreline or bank classified as native aquatic or native upland vegetation (See 'references' section below for plant lists) Attached



- ✓ Finished grading at a 3:1 or more gradual slope See plan sheet CP10
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- ☐ Toe boulders buried 50% and are 30 inches or less in diameter N/A
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County Road 44 and Sinclair Road - Wetland 4 Vegetation

Memorandum

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Brown and Caldwell
FROM: Jessica Abernathy
SUBJECT: Response to MCWD Comments and Questions
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Sambatek #20575

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Peter Glashagel, P.E.

February 28, 2018

Page 2

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BOAT WAKES – Proximity to and intensity of boat traffic.	(1) broad open waterbody with limited traffic; constricted shallow water body; or no-wake zone	(4) limited traffic within 200 yards; moderate traffic 200 yards to ¼ mile offshore	(8) moderate traffic within 200 yards; or intensive traffic 200 yards to ¼ mile offshore	(12) intensive traffic within 200 yards		4
TOTAL EROSION INTENSITY SCORE =						27

EROSION INTENSITY CLASSIFICATION: LOW = 5-30, MEDIUM = 31-48, HIGH = 49-78

EROSION INTENSITY SCORESHEET GUIDANCE

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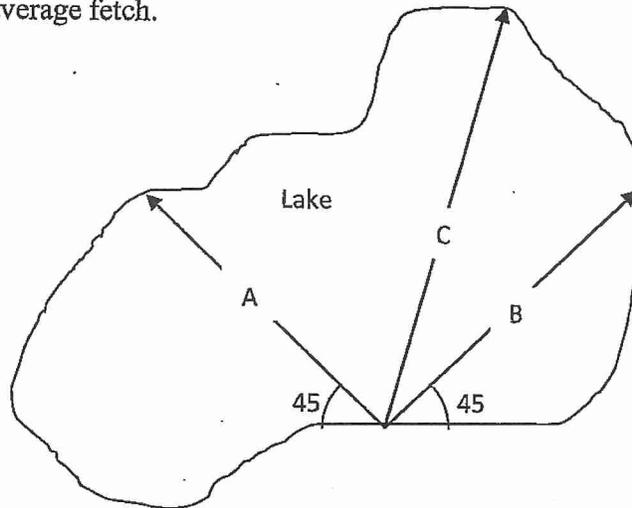
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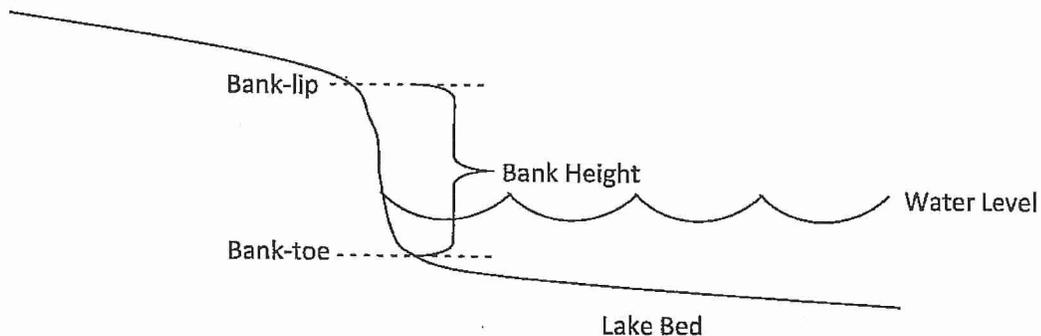
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$$\text{Ave. Fetch} = (A + B + C) / 3$$

Note: Fetch measurements should not be taken through a channel or other narrow area where waves would not maintain their energy.



2. **DEPTHS AT 20 AND 100 FEET*** - Depths (feet) can be estimated by MCWD staff using bathymetric maps, or more precise measurements can be provided by the applicant.
3. **BANK HEIGHT** – Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip. (Note: bank-toe may be below the water level.)

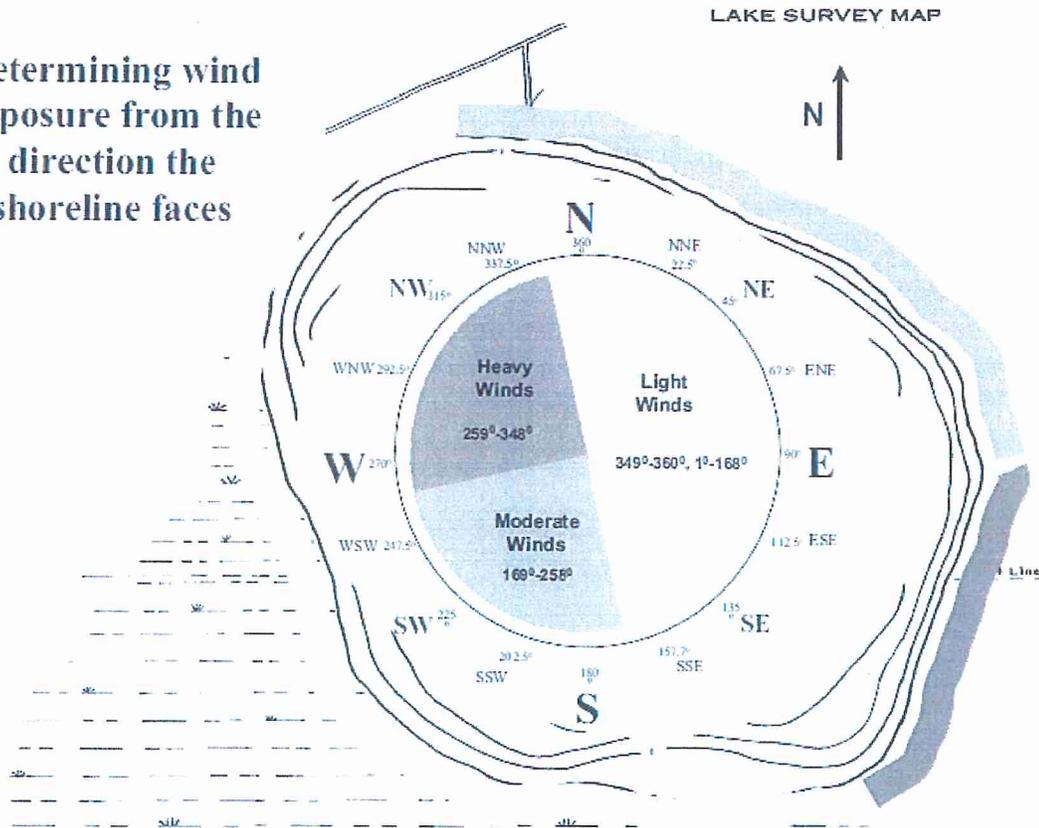


4. **AQUATIC VEGETATION** – Estimate of the percent of the lake bottom that is visually obstructed by plants during the growing season (June 1 - September 15):
 - > 50% - Dense or abundant
 - 5-50% - Scattered or patchy
 - < 5% - Lack of vegetation
5. **BANK VEGETATION** – Estimate of the percent of ground cover on the bank:
 - > 75% - Dense vegetation
 - 25-75% - Clumps of vegetation
 - < 25% - Minimal vegetation

6. **BANK STABILITY** – Represents the degree of human disturbance. A shoreline that has had little or no disturbance (with natural tree and shrub layers) but still exhibits erosion indicates that the existing vegetation may not be sufficient to stabilize the shoreline and a more structural solution may be needed. Alternatively, a shoreline that has an established lawn up to the bank may experience erosion simply due to the lack of deep-rooted vegetation, so a biological or bioengineering solution may be suitable.

7. **SHORE ORIENTATION*** –

Determining wind exposure from the direction the shoreline faces



8. **BOAT WAKES** – “Intensive traffic” is defined as a major thoroughfare or an area with regular recreational traffic such as a ski lane. “Limited traffic” means a channel, bay, or lake that is generally only used by the people who live in the surrounding area.

*Values will be provided by the MCWD at the request of the applicant.

County Road 44 and Sinclair

Above HWL: 930.10 State Seed Mix 34-262

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (by weight)	Seeds / sq ft	Terrestrial or Aquatic*	Native? (Y/N)
big bluestem	<i>Andropogon gerardii</i>	1.12	1	6.89%	3.67	Terrestrial	Y
fringed brome	<i>Bromus ciliatus</i>	1.68	1.5	10.38%	6.08	Terrestrial	Y
bluejoint	<i>Calamagrostis canadensis</i>	0.04	0.04	0.24%	4	Aquatic	Y
Virginia wild rye	<i>Elymus virginicus</i>	1.96	1.75	12.07%	2.7	Terrestrial	Y
tall manna grass	<i>Glyceria grandis</i>	0.17	0.15	1.02%	3.8	Aquatic	Y
fowl manna grass	<i>Glyceria striata</i>	0.12	0.11	0.73%	3.5	Aquatic	Y
Indian grass	<i>Sorghastum nutans</i>	0.56	0.5	3.44%	2.2	Terrestrial	Y
prairie cordgrass	<i>Spartina pectinata</i>	0.56	0.5	3.41%	1.2	Terrestrial	Y
	Total Grasses	7.29	6.5	44.76%	40.6		
woolly sedge	<i>Carex pellita</i>	0.06	0.05	0.32%	0.47	Aquatic	Y
tussock sedge	<i>Carex stricta</i>	0.02	0.02	0.17%	0.48	Aquatic	Y
fox sedge	<i>Carex vulpinoidea</i>	0.11	0.1	0.66%	3.5	Terrestrial	Y
dark green bulrush	<i>Scirpus atrovirens</i>	0.11	0.1	0.72%	17.74	Aquatic	Y
woolgrass	<i>Scirpus cyperinus</i>	3.00%	0.03	0.18%	16	Aquatic	Y
	Total Sedges and Rushes	0.34	0.3	2.05%	38.19		
Canada anemone	<i>Anemone canadensis</i>	0.03	0.03	0.21%	0.09	Terrestrial	Y
marsh milkweed	<i>Asclepias incarnata</i>	0.09	0.08	0.55%	0.14	Aquatic	Y
Canada tick trefoil	<i>Desmodium canadense</i>	0.56	0.5	3.41%	1	Terrestrial	Y
flat-topped aster	<i>Doellingeria umbellata</i>	0.06	0.05	0.34%	1.2	Terrestrial	Y
common boneset	<i>Eupatorium perfoliatum</i>	0.03	0.03	0.23%	2	Aquatic	Y
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	0.02	2.00%	0.11%	2	Terrestrial	Y
spotted Joe pye weed	<i>Eutrochium maculatum</i>	0.04	0.04	0.30%	1.5	Aquatic	Y
autumn sneezeweed	<i>Helenium autumnale</i>	0.06	0.05	0.35%	2.39	Terrestrial	Y
sawtooth sunflower	<i>Helianthus grosseserratus</i>	0.06	0.05	0.38%	0.3	Terrestrial	Y
great blazing star	<i>Liatris pycnostachya</i>	0.02	0.02	0.17%	0.1	Terrestrial	Y
great lobelia	<i>Lobelia siphilitica</i>	0.01	0.01	0.05%	1.4	Aquatic	Y
blue monkey flower	<i>Mimulus ringens</i>	0.01	0.01	0.05%	6.4	Aquatic	Y
Virginia mountain mint	<i>Pycnanthemum virginianum</i>	0.09	0.08	0.55%	6.5	Terrestrial	Y
red-stemmed aster	<i>Symphotrichum puniceum</i>	0.09	0.08	0.56%	2.4	Aquatic	Y

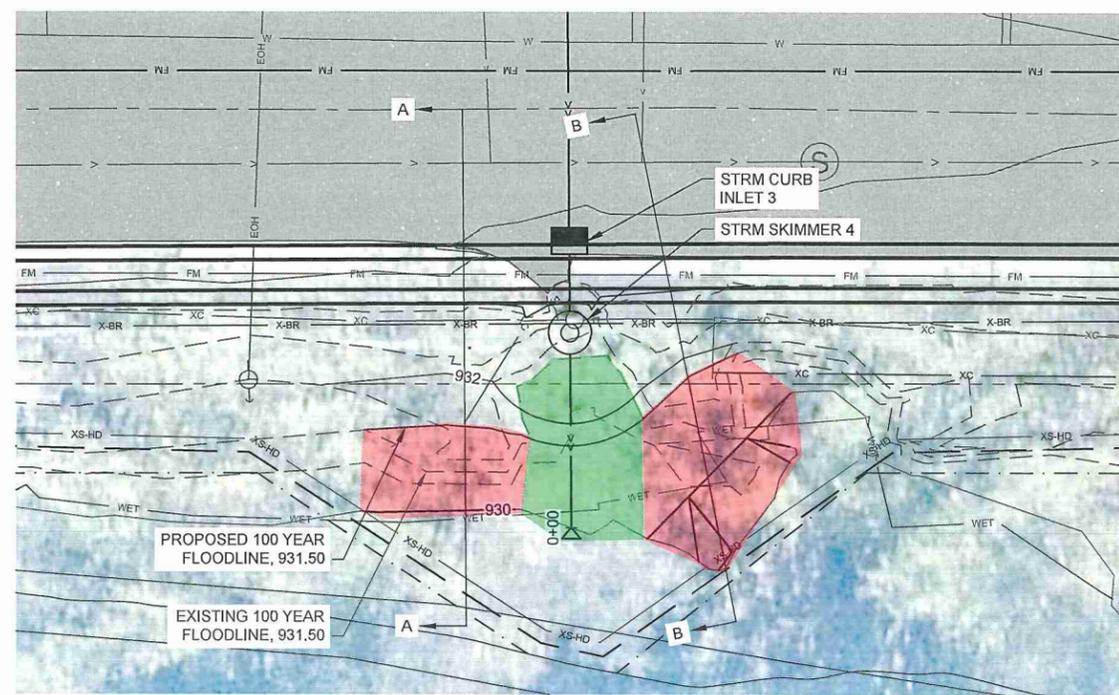
blue vervain	<i>Verbena hastata</i>	0.17	0.15	1.06%	5.25	Terrestrial	Y
bunched ironweed	<i>Vernonia fasciculata</i>	0.03	0.03	0.23%	0.3	Terrestrial	Y
Culver's root	<i>Veronicastrum virginicum</i>	0.02	0.02	0.14%	6	Terrestrial	Y
golden alexanders	<i>Zizia aurea</i>	0.28	0.25	1.76%	1.03	Terrestrial	Y
	Total Forbs	1.68	1.5	10.45%	40		
Oats or winter wheat		6.95	6.2	42.74%	2.76	Terrestrial	N
	Total Cover Crop	6.95	6.2	42.74%	2.76		
	Totals	16.25	14.5	100.00%	121.55		

*Species classified as OBL were considered Aquatic

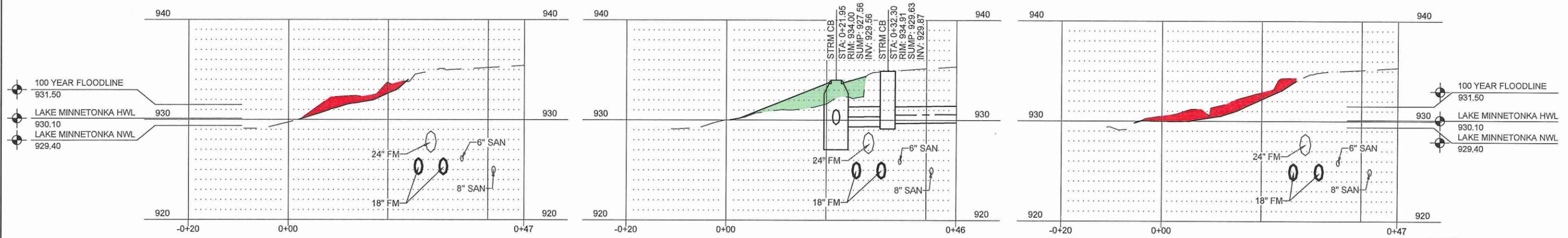
Below HWL: 930.10 State Seed Mix 34-181

Common Name	Scientific Name	Rate (kg/ha)	Rate (lb/ac)	% of Mix (% by Weight)	Seeds/sq ft	Terrestrial or Aquatic*	Native (Y/N)
American slough grass	<i>Beckmannia syzigachne</i>	0.78	0.7	0.1407	12.29	Aquatic	Y
tall manna grass	<i>Glyceria grandis</i>	0.28	0.25	0.0498	6.4	Aquatic	Y
rice cut grass	<i>Leersia oryzoides</i>	0.34	0.3	0.0593	3.7	Aquatic	Y
	Total Grasses	1.4	1.25	0.2498	23.02		
river bulrush	<i>Bolboschoenus fluviatilis</i>	0.85	0.76	0.152	1.2	Aquatic	Y
bristly sedge	<i>Carex comosa</i>	0.2	0.18	0.0363	2	Aquatic	Y
lake sedge	<i>Carex lacustris</i>	0.07	0.06	0.01195	0.24	Aquatic	Y
tussock sedge	<i>Carex stricta</i>	0.04	0.04	0.0077	0.75	Aquatic	Y
least spikerush	<i>Eleocharis acicularis</i>	0.11	0.1	0.0194	2.5	Aquatic	Y
marsh spikerush	<i>Eleocharis palustris</i>	0.11	0.1	0.0203	1.9	Aquatic	Y
Torrey's rush	<i>Juncus torreyi</i>	0.04	0.04	0.0085	25	Terrestrial	Y
Three-square bulrush	<i>Schoenoplectus pungens</i>	0.26	0.23	0.0454	1	Aquatic	Y
soft stem bulrush	<i>Schoenoplectus tabernaemontani</i>	0.49	0.44	0.0878	5	Aquatic	Y
woolgrass	<i>Scirpus cyperinus</i>	0.06	0.05	0.0102	32	Aquatic	Y
	Total Sedges and Rushes	2.24	2	0.3995	71.59		
Sweet flag	<i>Acorus americanus</i>	0.31	0.28	0.0553	0.67	Aquatic	Y
common water plantain	<i>Alisma triviale</i>	0.45	0.4	0.08	9.7	Aquatic	Y
marsh milkweed	<i>Asclepias incarnata</i>	0.31	0.28	0.0567	0.5	Aquatic	Y
broad-leaved arrowhead	<i>Sagittaria latifolia</i>	0.34	0.3	0.0607	6.8	Aquatic	Y
giant bur reed	<i>Sparganium eurycarpum</i>	0.55	0.49	0.098	0.09	Aquatic	Y

FLOODPLAIN ALTERATION EL 931.5 AND BELOW:
 7.58 CU YDS CUT
 3.15 CU YDS FILL



PROPOSED STORM PLAN

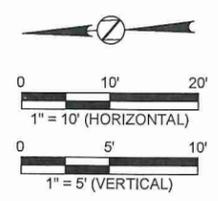


GRADING SECTION A-A

PROPOSED STORM PROFILE

GRADING SECTION B-B

PROPOSED CUT
 PROPOSED FILL



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 MODIFIED: 3/20/18 15:51:51

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
REVISIONS				REVISIONS			

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905

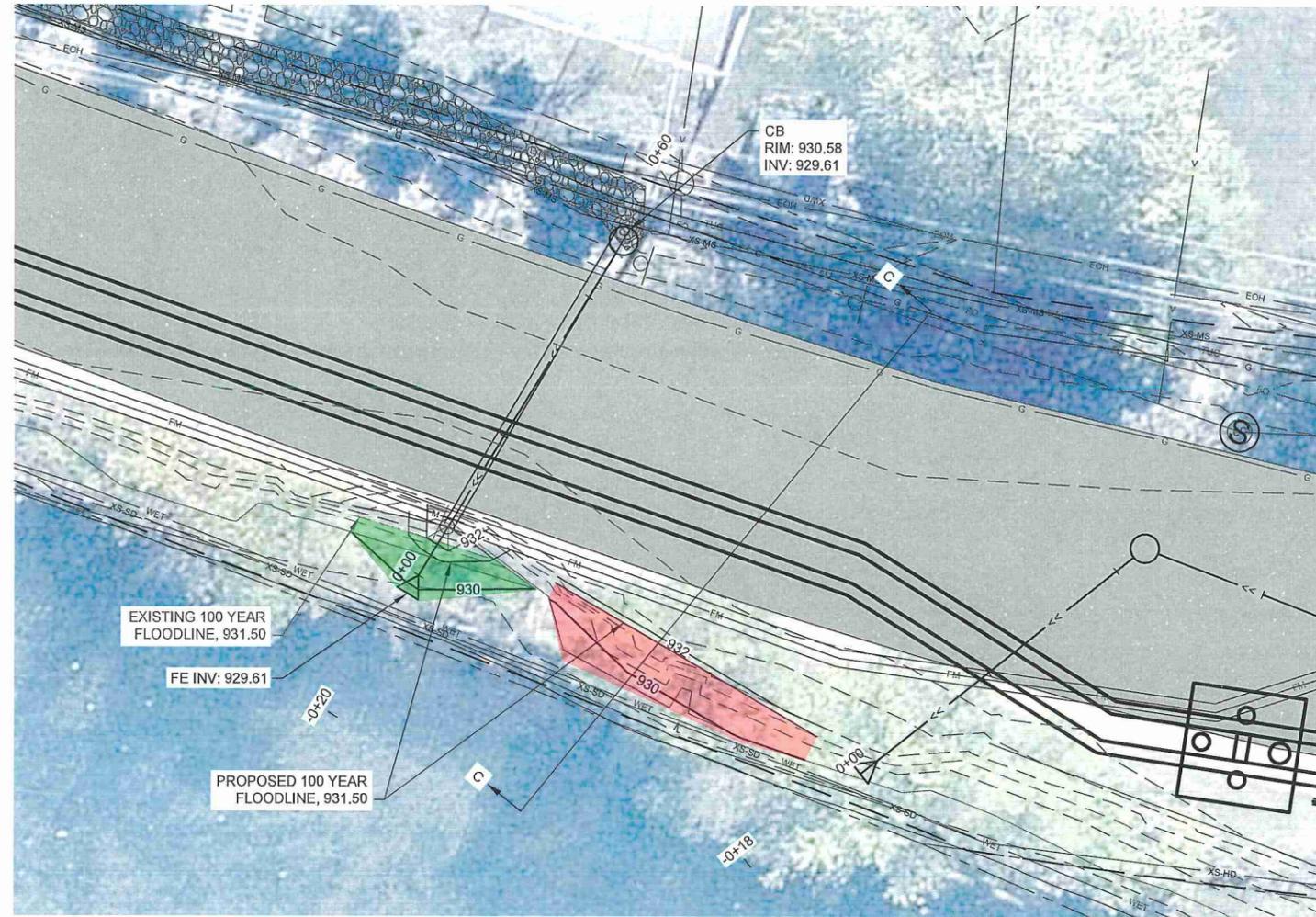


PROJECT: 802829
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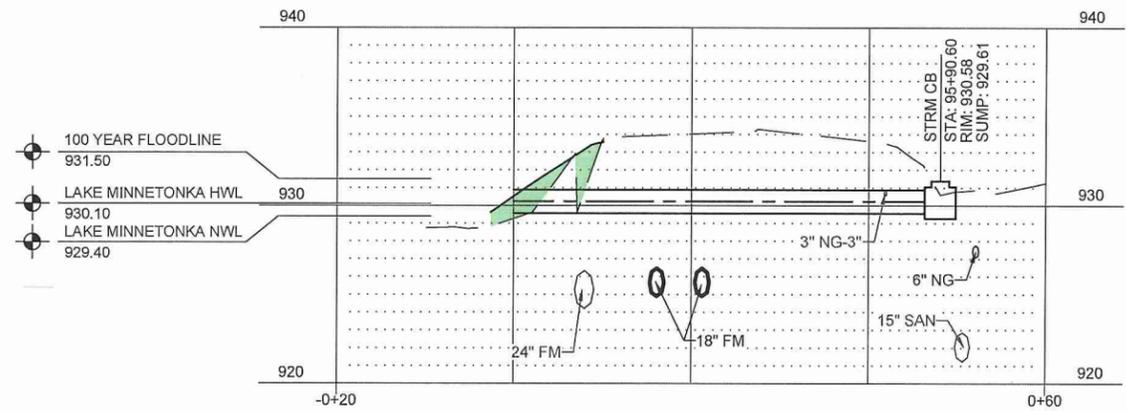
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 STORM SEWER EXHIBIT - CO RD 44 & SINCLAIR

CU374

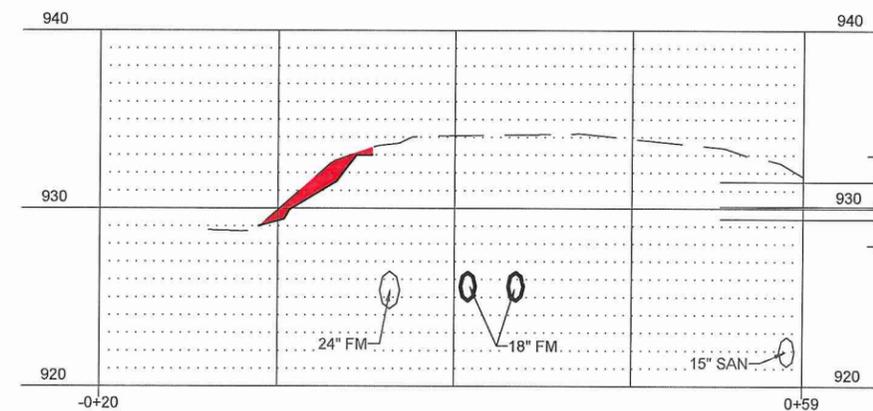
FLOODPLAIN ALTERATION EL 931.5 AND BELOW:
 3.72 CU YDS CUT
 2.97 CU YDS FILL



PROPOSED STORM PLAN

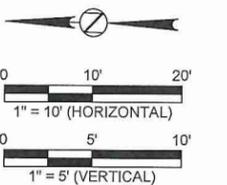


PROPOSED STORM PROFILE



GRADING SECTION C-C

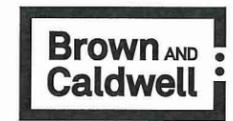
PROPOSED CUT
 PROPOSED FILL



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 MODIFIED: 3/20/18 13:17:48

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS

DESIGNED PCG	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. SIGNATURE: <i>Peter C. Glashagel</i> TYPED OR PRINTED NAME: PETER C. GLASHAGEL DATE: 11/17/2017 REG NO: 42905
DRAWN DAF	
CHECKED HPV	



PROJECT	802829
FILE NAME	CU0379

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 STORM SEWER EXHIBIT - CO RD 44 & MINNETRISTA LS-8

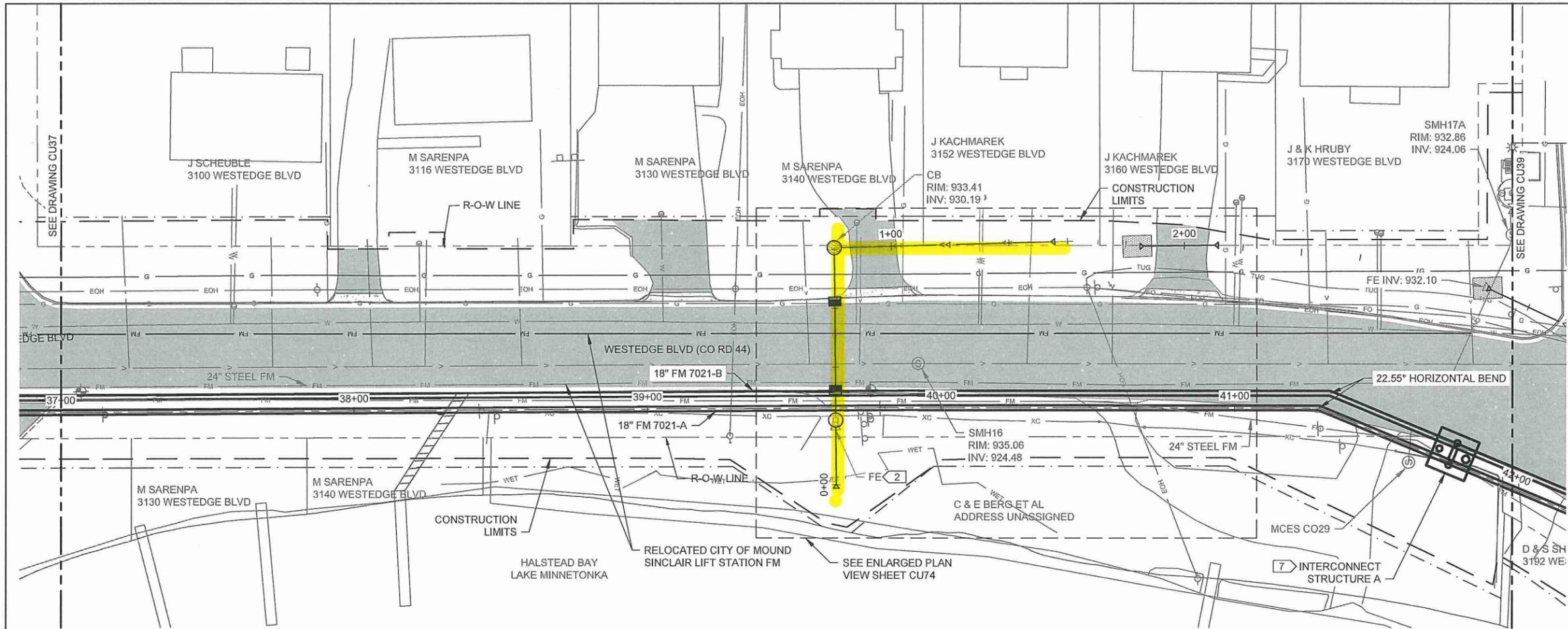
CU379

EXHIBIT A

WATERBODY CROSSINGS
AND
STRUCTURE LOCATIONS

Storm Sewer Table

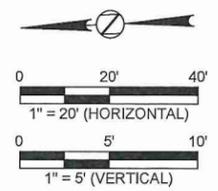
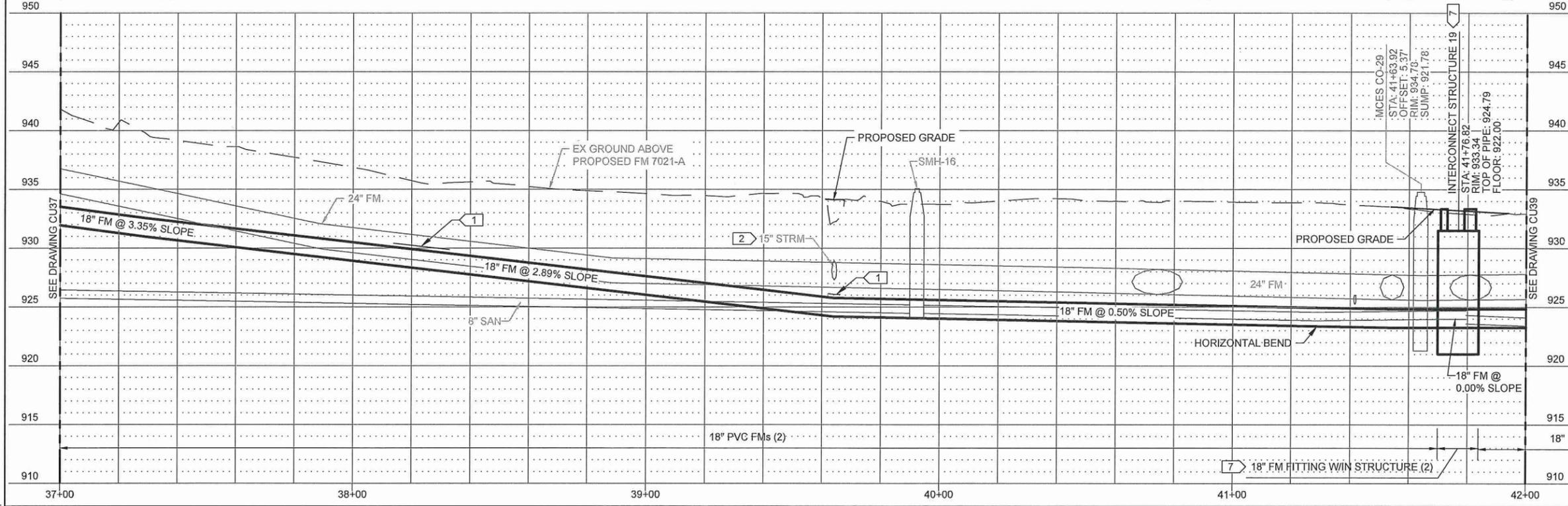
Structure	Engineer	Station	Drawing	References			Diameter (in)	Material		Existing Storm Pipe						Proposed Storm Pipe (if differs from existing)		Slope (%)		Velocity, V (f/s)	
				Profile	Existing	Existing		Existing	New	Existing	New	Upstream	Invert	Downstream	Pipe Length (ft)	Existing	New	Full Pipe Existing	Full Pipe New	Modeled 10-Year	Modeled 100-Year
CB MH	BC	39+65.00	CU38	CU76	CU64	2'x2'	RCP	RCP	930.14	930.01	20	929.56	929.42	21	0.67%	0.65%	NA - See Model	4.91	4.18		
CB MH	BC	47+76.83	CU40	CU62	CU62	18	CMP	HP	931.96	928.69	44	931.96	928.69	44	7.43%	7.43%	Replaced Like and In-Kind, Including FE Outlet	17.60			
CURB INLET	BC	54+77.57	CU41	CU62	CU62	15	CMP	CMP	944.00	931.93	77	944.00	930.10	69	15.68%	20.14%	Replaced Like and In-Kind w/Existing Energy Dissipator	14.00			
CURB INLET	BC	58+78.61	CU42	CU62	CU62	15	CMP	HP	941.76	936.27	53	941.31	937.90	32	10.36%	10.66%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	10.04			
CURB INLET	BC	60+68.15	CU42	CU62	CU62	15	CMP	HP	941.53	936.81	51	941.53	937.68	37	9.25%	10.41%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	9.49			
CURB INLET	BC	62+14.86	CU43	CU62	CU62	15	CMP	HP	941.82	937.42	52	941.82	938.41	36	8.46%	9.47%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	9.07			
PIPE CROSSING	BC	73+59.45	CU45	CU62	CU62	18	CMP	HP	928.67	927.24	75	930.40	929.40	78	1.91%	1.28%	NA - See Model	2.66	2.58		
CURB INLET	BC	78+73.78	CU46	CU63	CU63	15	CMP	HP	939.13	933.27	51	939.13	934.70	40	11.49%	11.07%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	10.57			
CURB INLET	BC	80+20.01	CU47	CU63	CU63	15	CMP	HP	939.77	931.40	50	939.77	934.29	29	16.74%	18.90%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	12.76			
CURB INLET	BC	81+55.66	CU47	CU63	CU63	15	CMP	HP	942.85	931.51	62	942.85	934.36	37	18.29%	22.95%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	13.34			
CURB INLET	BC	82+83.65	CU47	CU63	CU63	18	CMP	HP	940.03	931.90	57	940.03	933.81	40	14.26%	15.55%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	13.30			
CURB INLET	BC	85+12.54	CU48	CU63	CU63	24	CMP	HP	940.91	932.98	59	940.91	934.93	40	13.44%	14.95%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	15.64			
CURB INLET	BC	86+74.67	CU48	CU63	CU63	15	CMP	HP	940.10	935.44	55	940.10	936.32	39	8.47%	9.69%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	9.08			
CURB INLET	BC	88+43.12	CU48	CU64	CU64	15	CMP	HP	939.10	934.31	60	939.10	936.75	23	7.98%	10.22%	Replaced Like and In-Kind, Connect to existing storm system prior to FE outlet	8.81			
CB MH	BC	92+13.54	CU49	CU64	CU64	15	CMP	HP	933.24	929.96	47	933.24	929.96	47	6.98%	6.98%	Replaced Like and In-Kind, Including FE Outlet	15.11			
CB MH	BC	95+84.47	CU50	CU64	CU64	15	CMP	HP	929.61	929.61	42	-	-	-	0.00%	0.00%	Replaced Like and In-Kind Meets flexamat velocity requirements (<5fps)	0.00			
CB MH	BC	96+58.64	CU50	CU79	CU79	15	NA	RCP	-	-	-	930.71	930.50	44	0.48%	NEW	Meets flexamat velocity requirements (<5fps)	3.95			
CURB INLET	BC	111+29.46	CU53	CU64	CU64	15	CMP	HP	958.50	949.24	74	956.72	952.00	75	12.51%	6.29%	Rip-Rap at Outlet, outside of Wetland 12	14.34			
PIPE CROSSING	BC	125+48.99	CU56	CU64	CU64	2'x2'	RC Box	Arched RCP	975.11	974.46	45	975.11	974.46	45	1.44%	1.44%	NA - See Model	4.63	4.65		



GENERAL NOTES:
 1. SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

KEYNOTES:

- INSULATE OVER FM PER DETAIL CU23.
- SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
- NOT USED.
- NOT USED.
- NOT USED.
- NOT USED.
- FURNISH AND INSTALL INTERCONNECT STRUCTURE PER SCHEDULE SHEET CU3.
- NOT USED.
- NOT USED.



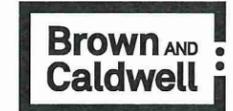
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NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
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	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV

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.

SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0038

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 37+00 TO 42+00

CU38
 116 of 216

REVISIONS			
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2	2/20/18	HPV	CONFORMED DRAWING

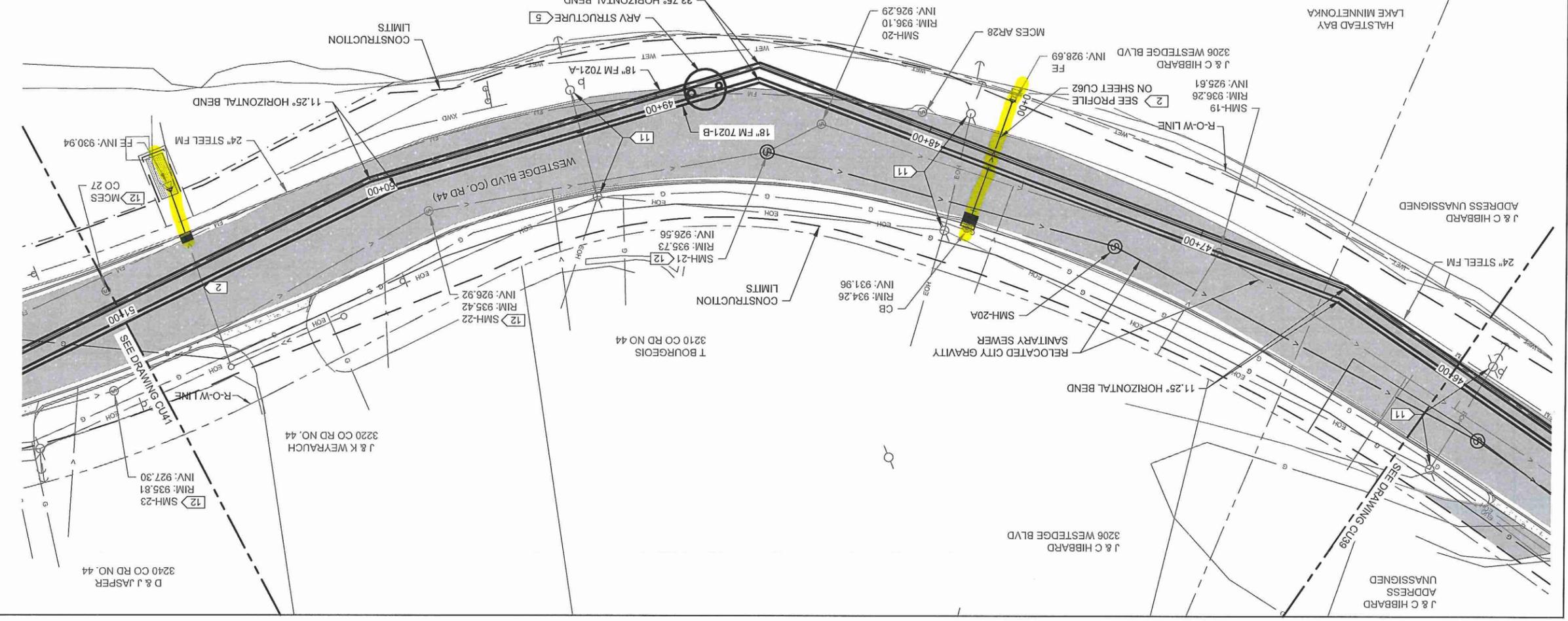
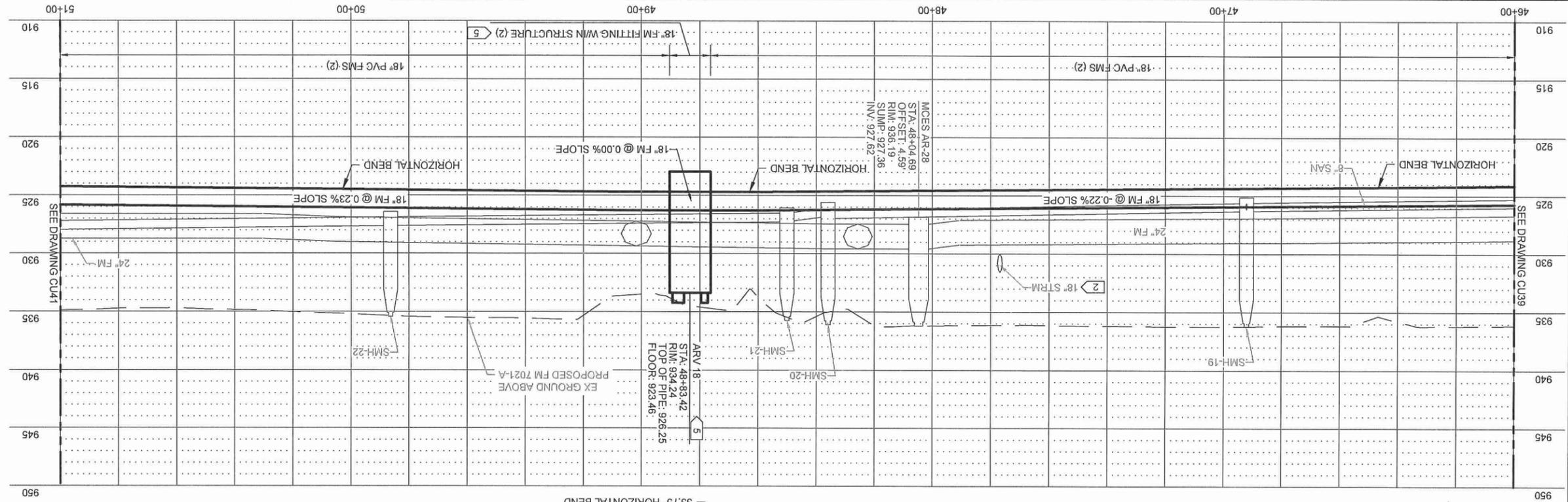
REVISIONS			
NO	DATE	BY	REMARKS

DESIGNED: *[Signature]*
 CHECKED: *[Signature]*
 DATE: 11/17/2017
 FILE NO: 42905
 PETER C. GLASGAGE
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

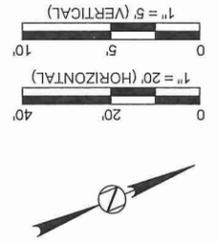
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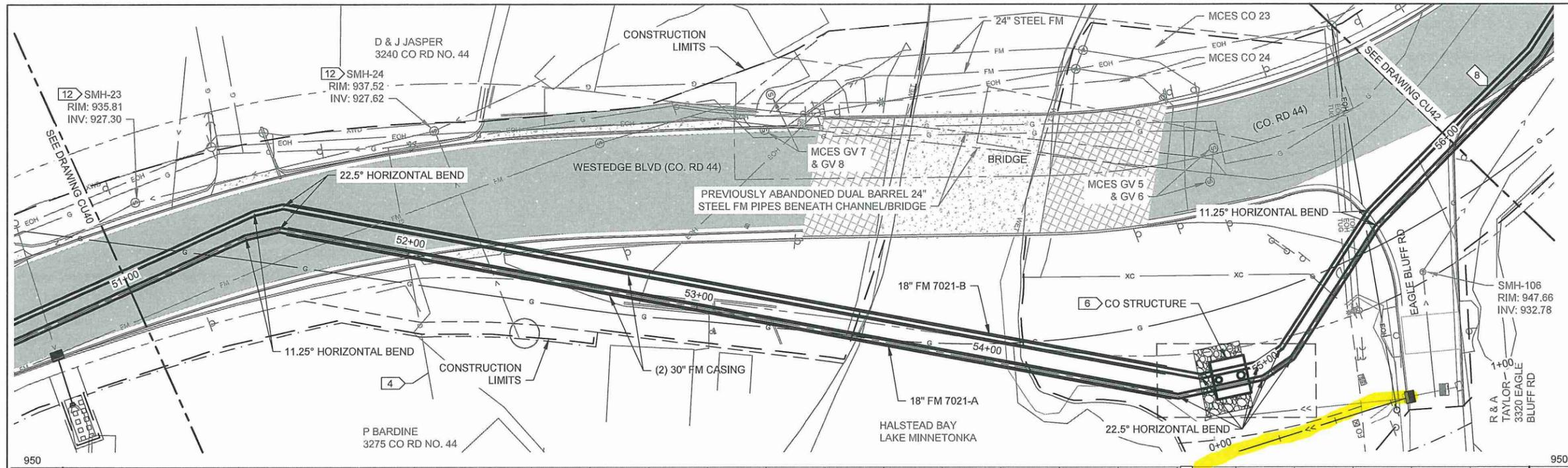
MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 46+00 TO 51+00

CU40
 118 OF 216



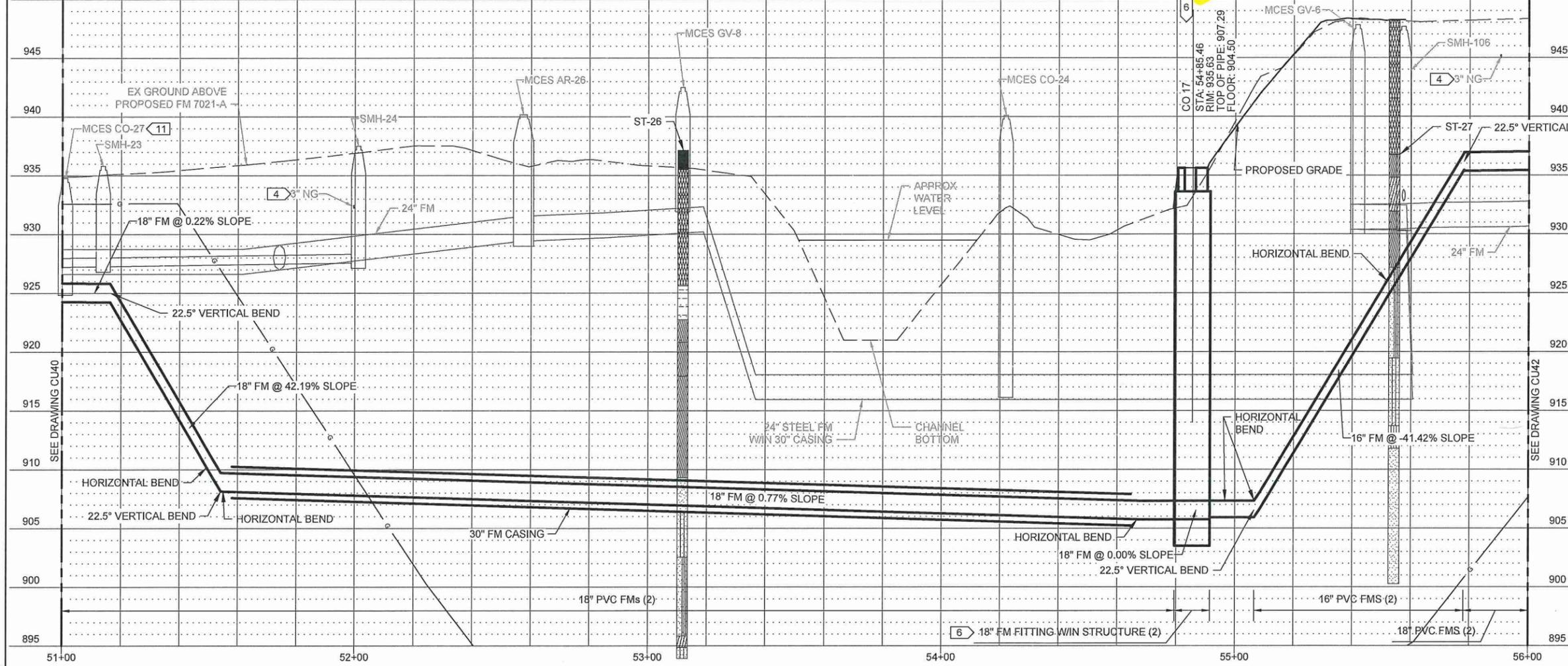
- GENERAL NOTES:
 1. SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
- KEYNOTES:
 1. NOT USED.
 2. SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS. SEE SHEET CU91 FOR STORM SEWER PROFILES.
 3. NOT USED.
 4. NOT USED.
 5. FURNISH AND INSTALL ARV STRUCTURE PER SCHEDULE SHEET CU3.
 6. NOT USED.
 7. NOT USED.
 8. NOT USED.
 9. NOT USED.
 10. NOT USED.
 11. COORDINATE WITH XCEL ENERGY FOR TEMPORARY HOLDING OF EAST-SIDE POWER-POLE TO ALLOW FOR REMOVAL AND REINSTALLATION OF WEST-SIDE GUY-WIRE POLE DURING FM INSTALLATION.
 12. STRUCTURE NOT ACCESSIBLE (PAVED OVER).





- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

- KEYNOTES:**
- NOT USED.
 - NOT USED.
 - NOT USED.
 - SUPPORT OR REMOVE AND REPLACE GASMAIN AS NECESSARY FOR CONSTRUCTION OF FM. COORDINATE WITH CENTERPOINT ENERGY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE.
 - NOT USED.
 - FURNISH AND INSTALL CO STRUCTURE PER SCHEDULE SHEET CU3.
 - NOT USED.
 - SUPPORT TEMPORARY CONVEYANCE PIPING AS NECESSARY FOR CONSTRUCTION OF FM.
 - NOT USED.
 - NOT USED.
 - STRUCTURE NOT ACCESSIBLE (PAVED OVER).



P:\MCEMSA\15P013A\INTERCEPTOR ENG SERV\149232.MOUND.L38\FORCEMAIN\CAD\SHETS\CU0041.DWG
 PLOTTED: 3/30/2018 9:42:28
 MODIFIED: 2/27/2018 12:04:10

NO	DATE	BY	REVISIONS	REMARKS
1	2/10/18	HPV	CONFORMED DRAWING	
2	11/17/17	PCG	ISSUED FOR BID	

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILENAME: CU0041

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 51+00 TO 56+00

NO	DATE	BY	REVISIONS
1	3/1/18	HJV	PCM 1
2	2/27/18	HJV	CONFORMED DRAWING
3	1/17/17	PCG	ISSUED FOR BID

DESIGNED	PCG	DATE	BY	REVISIONS

DATE: 11/17/2017
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 REG NO: 42905

DESIGNED: PCG
 DRAWN: HJV
 DAF: HJV
 CHECKED: HJV
 HPV: HJV

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION AND 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.

PROJECT	8028229
FILE NAME	CU0076

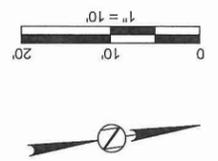
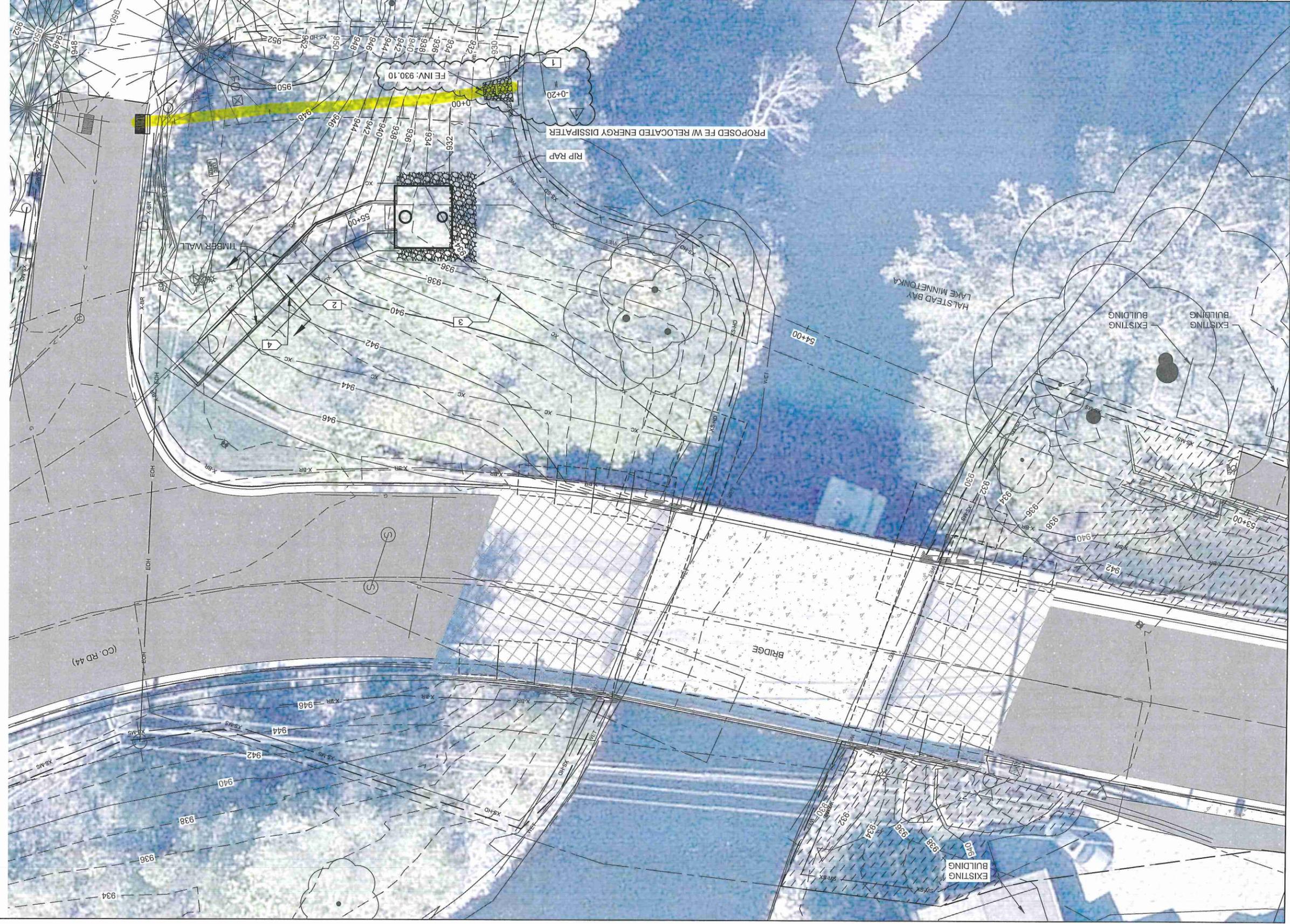
Brown and Caldwell

GRADING & RESTORATION ENLARGED PLAN - CO RD 44 & EAGLE BLUFF

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

CU76

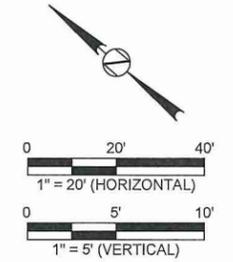
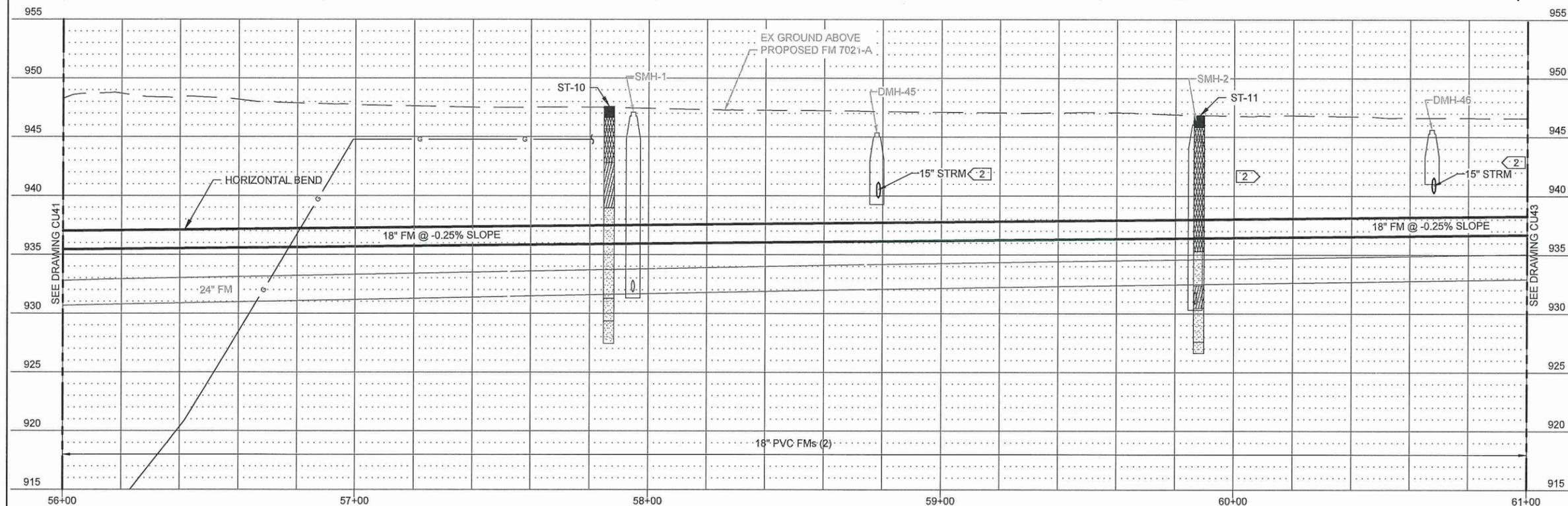
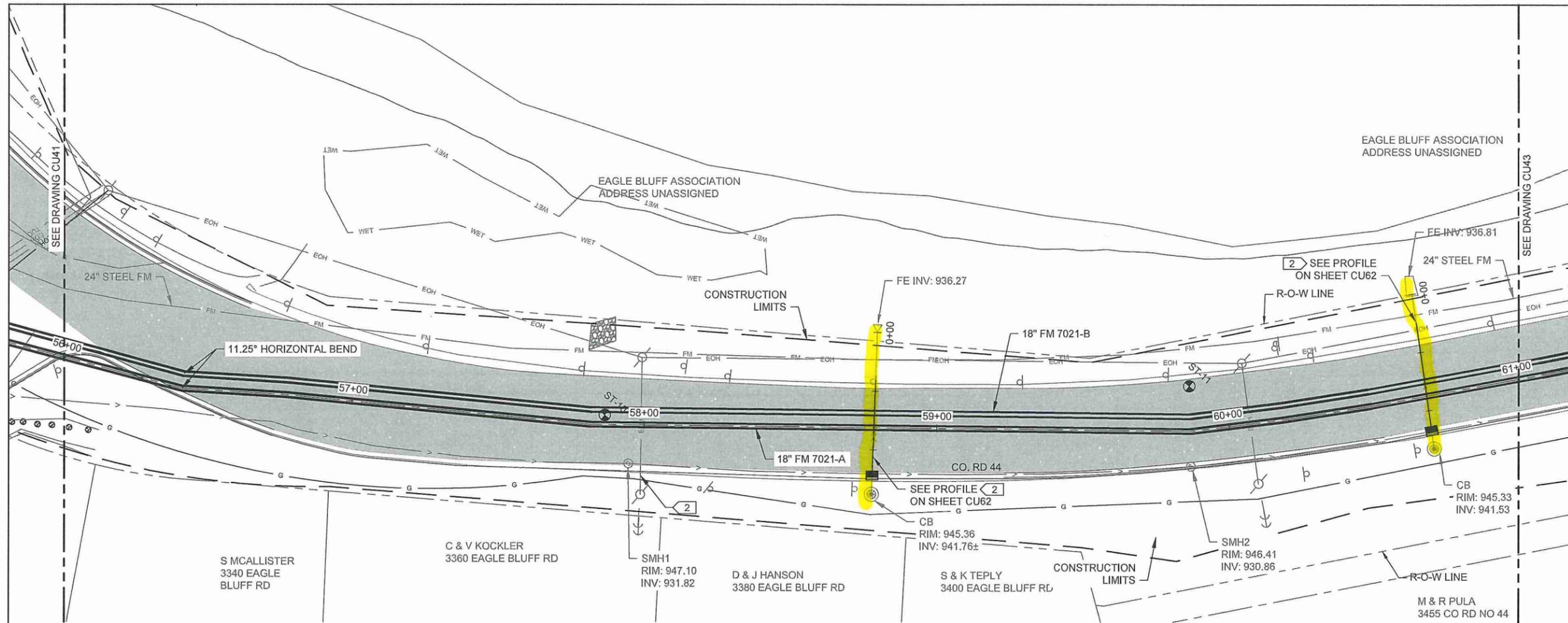
154 OF 216



- GENERAL NOTES:**
- SEE MCS FORCEMAIN PLAN AND PROFILE SHEETS FOR ADDITIONAL INFORMATION.
- KEY NOTES:**
- STORM SEWER TO BE REPLACED PER PROFILE ON SHEET CU62.
 - SEE STAIRWAY PROFILE AND DETAIL ON SHEET CUT7.
 - INSTALL CHAINLINK FENCE PER DETAIL ON SHEET CP3.
 - SEE CROSS SECTION VIEW ON SHEET CUT7.

GENERAL NOTES:
 1. SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

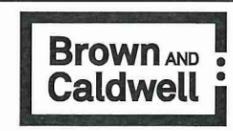
KEYNOTES:
 1. NOT USED.
 2. SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS. SEE SHEET CU91 FOR STORM SEWER PROFILES.
 3. NOT USED.
 4. NOT USED.
 5. NOT USED.
 6. NOT USED.
 7. NOT USED.
 8. NOT USED.
 9. NOT USED.
 10. NOT USED.
 11. NOT USED.



P:\MCS\MSA_15P013A_INTERCEPTOR_ENG_SERV\149232_MOUND_L38\FORCEMAIN\CAD\SHEETS\CU0042.DWG
 PLOTTED: 2/27/2018 12:45:15
 MODIFIED: 2/27/2018 11:04:10

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
1	2/10/18	HPV	CONFORMED DRAWING				
2	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0042

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 56+00 TO 61+00

CU42
 120 of 216

REVISIONS		NO	DATE	BY	REMARKS
20/1/18	HPV	1	1/17/17		ISSUED FOR BID
	PCG				CONFORMED DRAWING

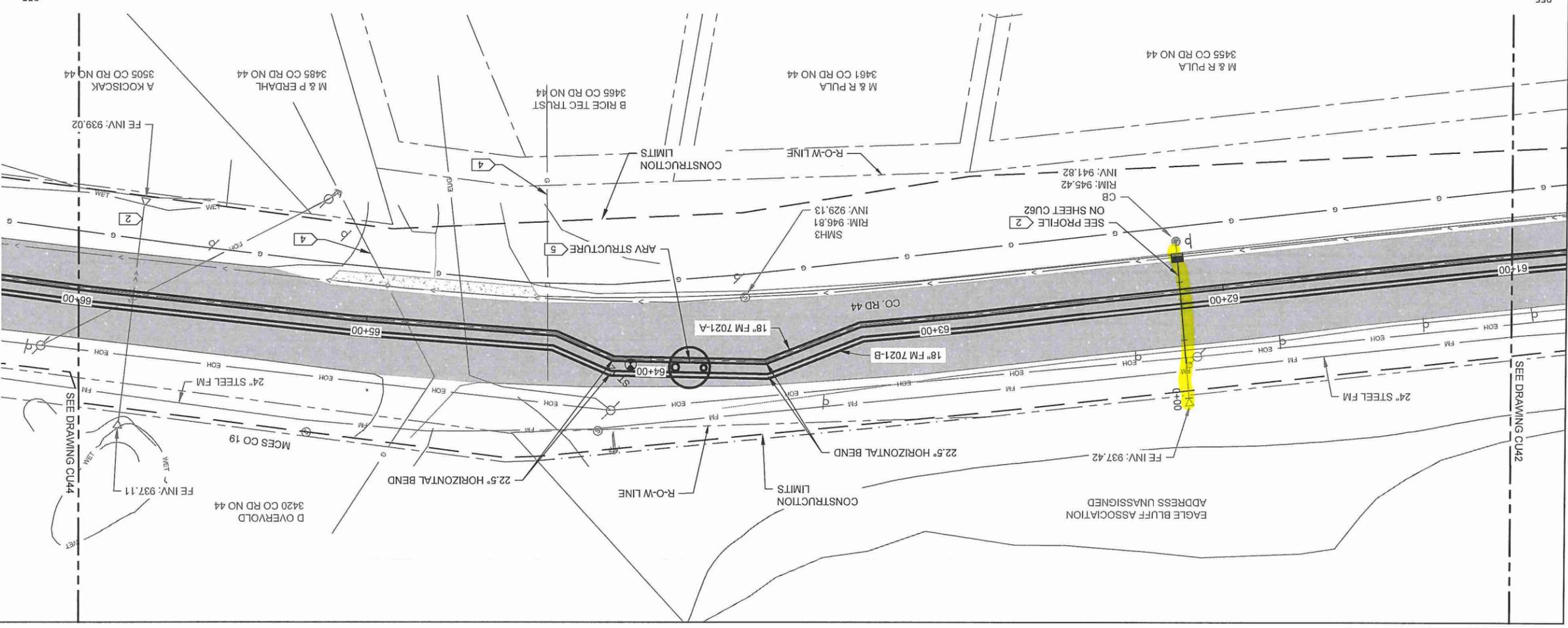
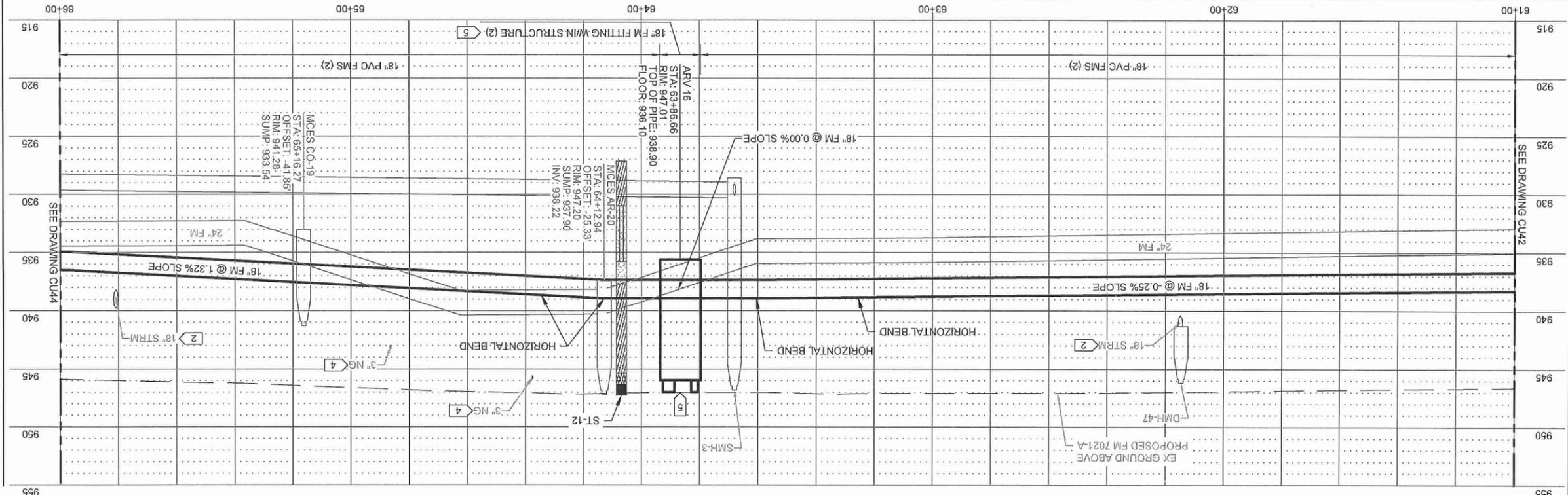
DESIGNED: _____
 DRAWN: _____
 DATE: 1/17/2017
 CHECKED: _____
 DATE: 1/17/2017
 TYPED OR PRINTED NAME: PETER C. GLASWAGEL
 RBS NO: 42905
 SIGNATURE: *Peter C. Glaswagel*
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.



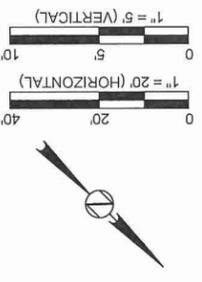
PROJECT: 802829
 FILE NAME: CU0043

PLAN & PROFILE STA 61+00 TO 66+00
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

CU43
 121 OF 216

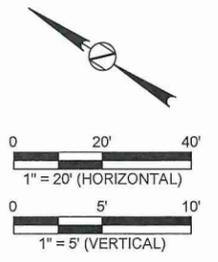
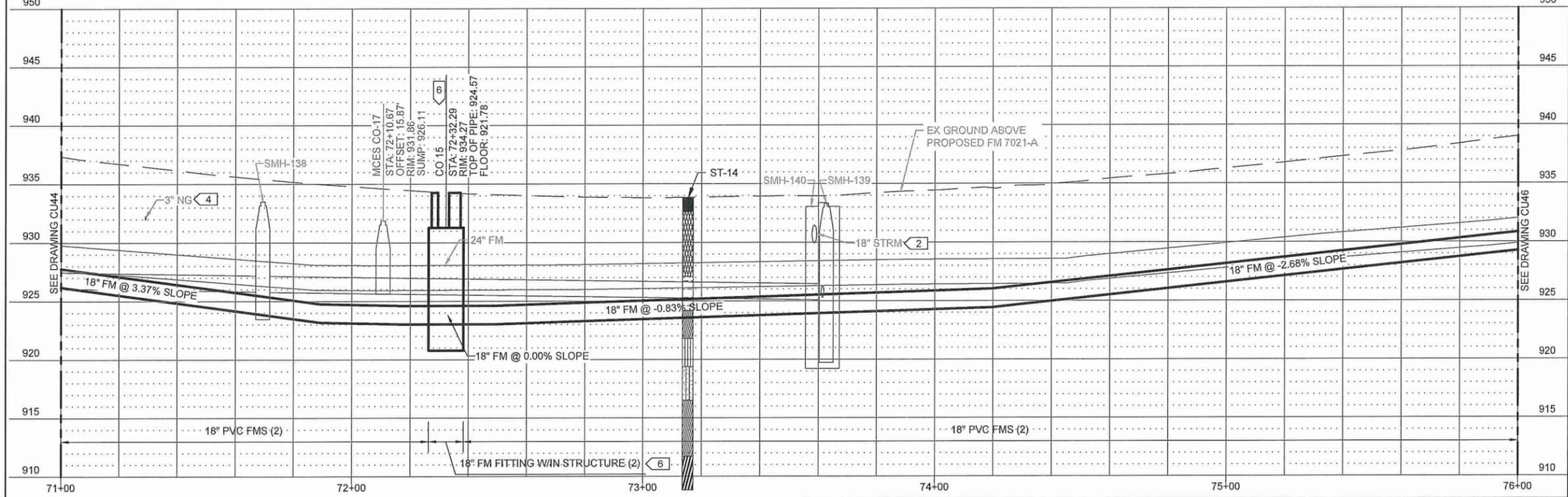
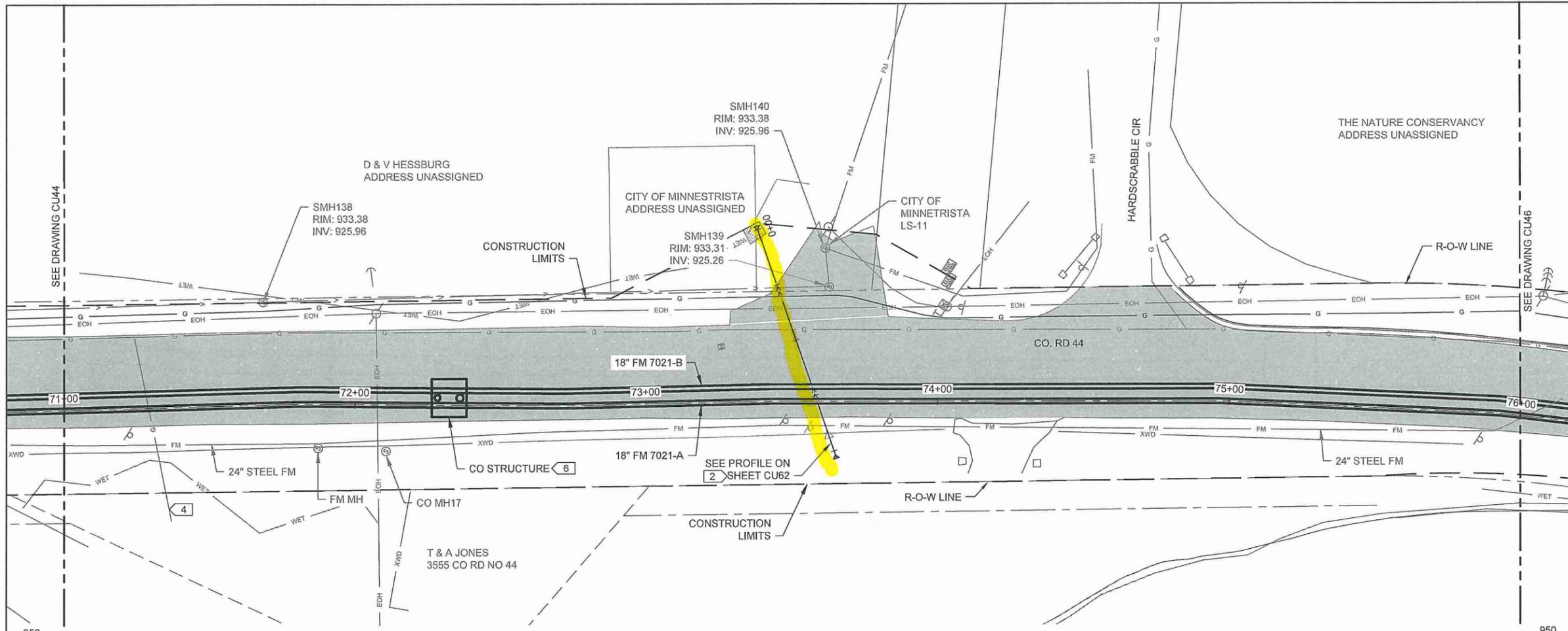


- GENERAL NOTES:
 1. SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
- KEYNOTES:
 1. NOT USED.
 2. SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS. SEE SHEET CU91 FOR STORM SEWER PROFILE.
 3. NOT USED.
 4. NOT USED.
 5. FURNISH AND INSTALL ARV STRUCTURE PER SCHEDULE SHEET CU3.
 6. NOT USED.
 7. NOT USED.
 8. NOT USED.
 9. NOT USED.
 10. NOT USED.
 11. NOT USED.
 12. NOT USED.



- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

- KEYNOTES:**
- NOT USED.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - NOT USED.
 - SUPPORT OR REMOVE AND REPLACE GASMAIN AS NECESSARY FOR CONSTRUCTION OF FM OR WM. COORDINATE WITH CENTERPOINT ENERGY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. FURNISH AND INSTALL CO STRUCTURE PER DETAIL SHEET CU10.
 - NOT USED.
 - NOT USED.



P:\MCS\MSA 15P013A\INTERCEPTOR ENG SERV149232.MOUND.L38\FORCEMAIN\CAD\SHETS\CU0045.DWG
 PLOTTED: 2/27/2018 12:17:57
 MODIFIED: 2/27/2018 11:04:13

NO	DATE	BY	REMARKS
201/18	HPV	CONFORMED DRAWING	
11/17/17	PCG	ISSUED FOR BID	

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0045

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 71+00 TO 76+00

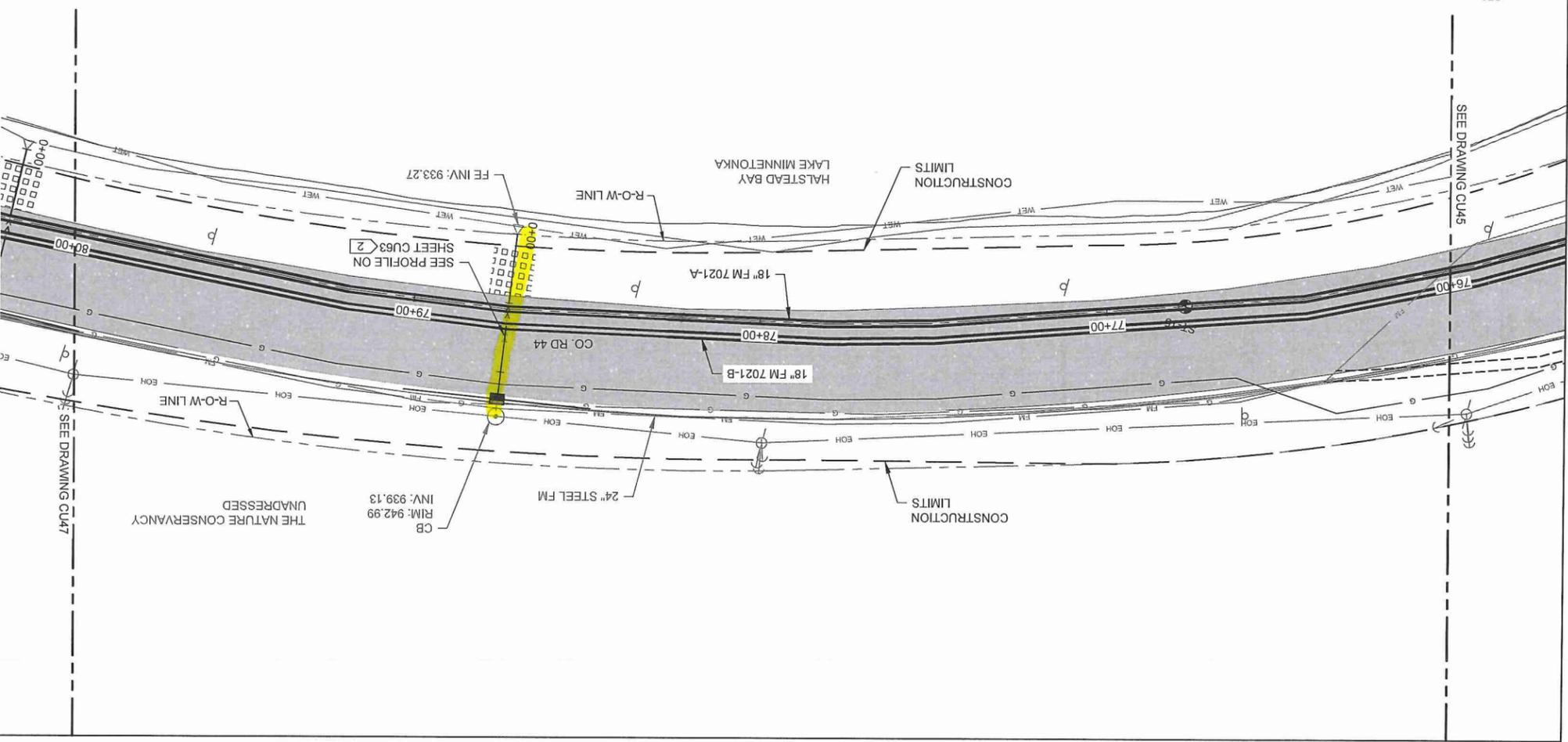
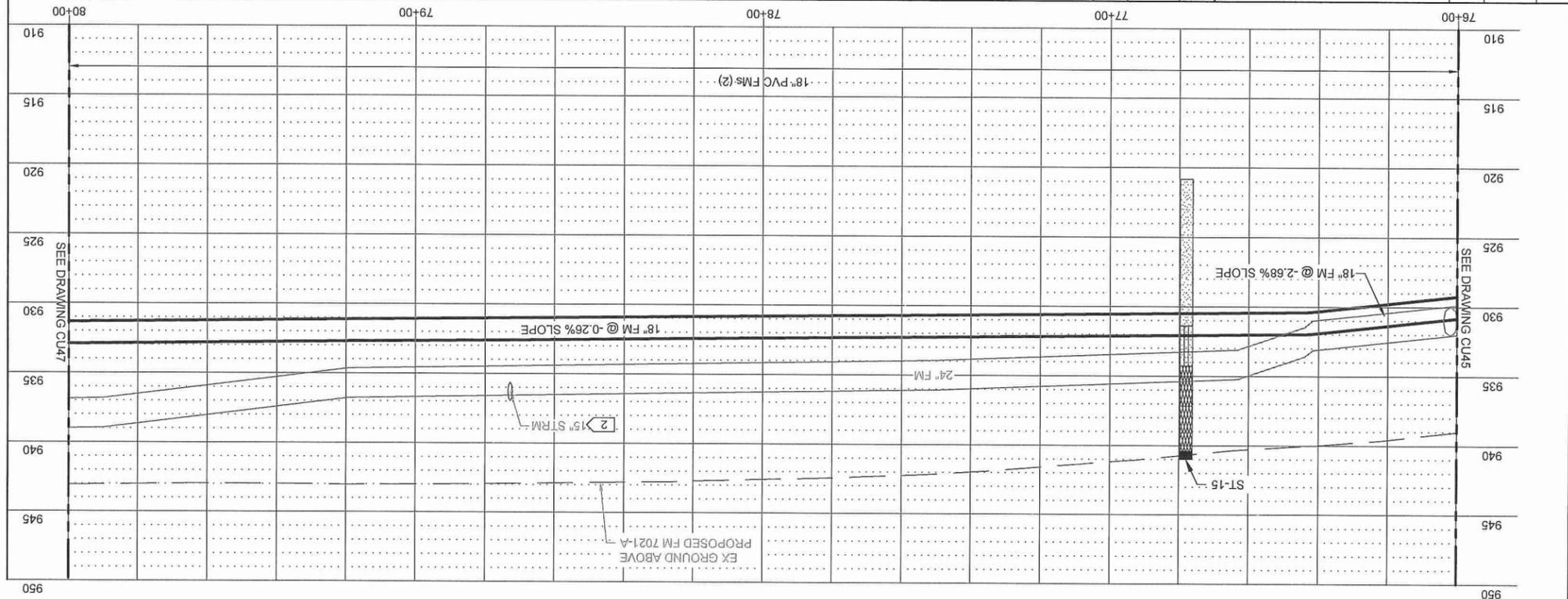
REVISIONS		REVISIONS			
NO	DATE	BY	DATE	NO	REMARKS
1	11/17/17	PGJ			ISSUED FOR BID
2	2/21/18	HPV			CONFORMED DRAWING

DESIGNED: PGJ
 DRAWN: HPV
 DATE: 11/17/2017
 PROJECT: CU0046
 SHEET: 802829

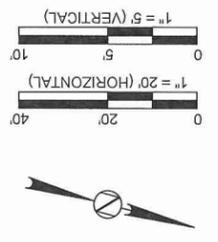


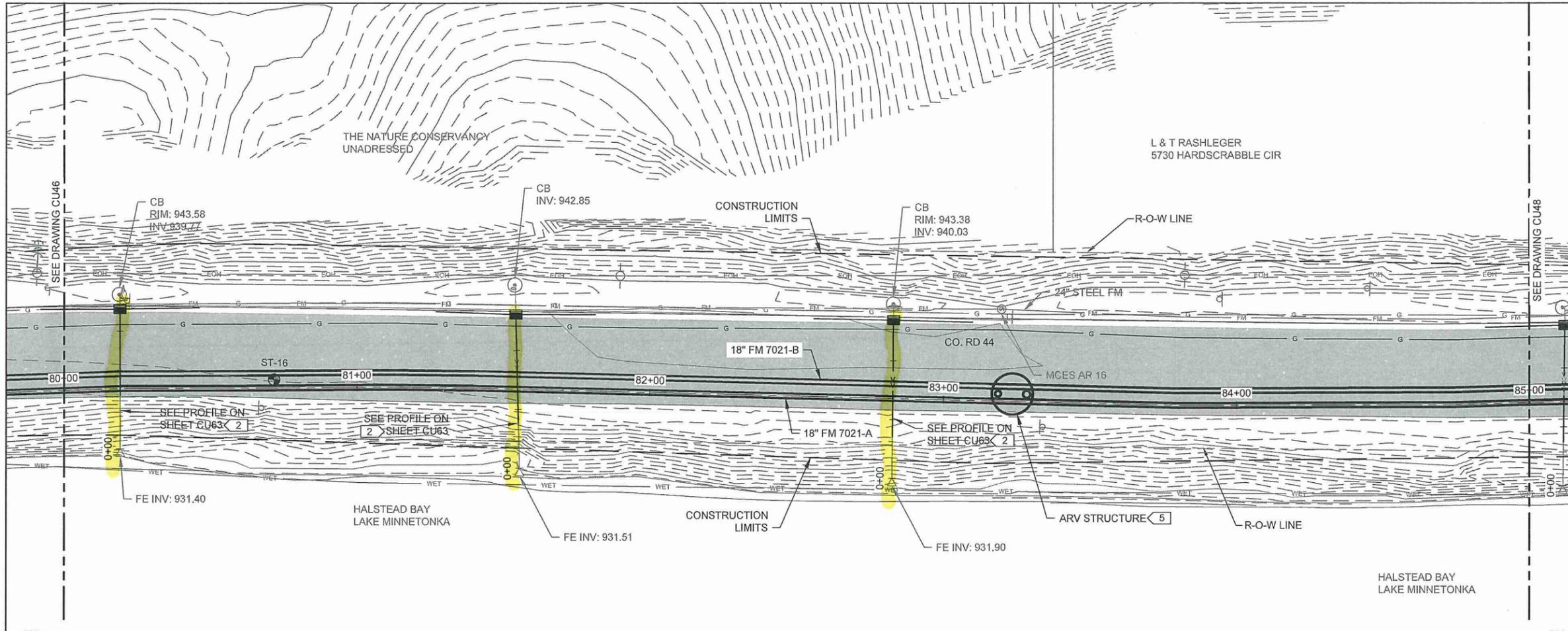
PROJECT: 802829
 PREPARED BY: CU0046
 PLAN & PROFILE STA 76+00 TO 80+00
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

124 OF 216
 CU46



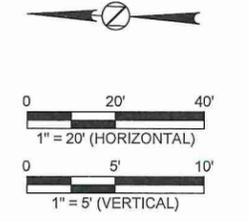
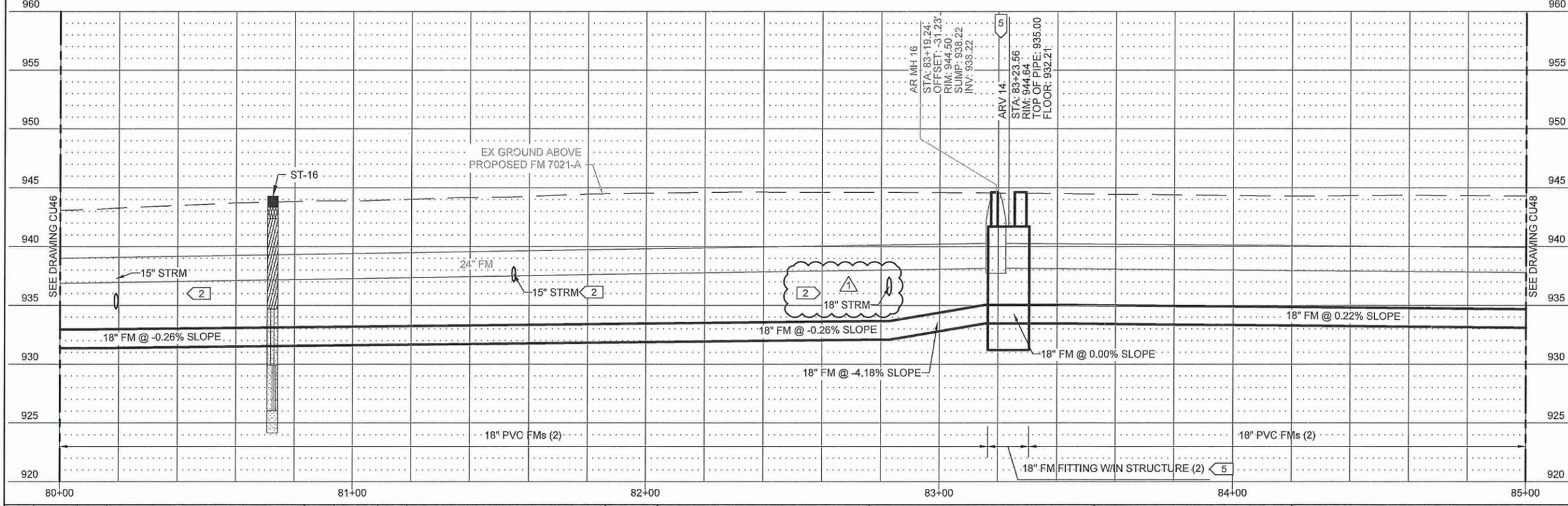
- GENERAL NOTES:
 1. SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
- KEYNOTES:
 1. NOT USED.
 2. SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 3. NOT USED.
 4. NOT USED.
 5. NOT USED.
 6. NOT USED.
 7. NOT USED.
 8. NOT USED.
 9. NOT USED.
 10. NOT USED.
 11. NOT USED.
 12. NOT USED.





- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

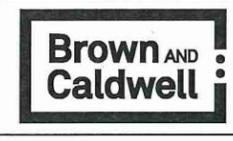
- KEYNOTES:**
- NOT USED.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - NOT USED.
 - NOT USED.
 - FURNISH AND INSTALL ARV STRUCTURE PER SCHEDULE SHEET CU3.
 - NOT USED.
 - NOT USED.



P:\MCS\WISA_15P013A_INTERCEPTOR_ENG_SERV\1482322_MOUND_L38\FORCEMAIN\CD\SHEETS\CU0047.DWG
 PLOTTED: 3/1/2018 15:25:59
 MODIFIED: 3/1/2018 15:15:47

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS
1	3/1/18	PCG	PCM 1				
2	2/21/18	HPV	CONFORMED DRAWING				
3	11/17/17	PCG	ISSUED FOR BID				

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: _____
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0047

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 80+00 TO 85+00

CU47
 125 of 216

REVISIONS		REVISIONS	
NO	DATE	BY	REMARKS
1	3/1/18	PGS	PGM 1
2	2/27/18	HPV	CONFORMED DRAWING
3	1/17/17	PGS	ISSUED FOR BID

DESIGNED	DRAWN	CHECKED	DATE
PGS	HPV	HPV	1/17/2017

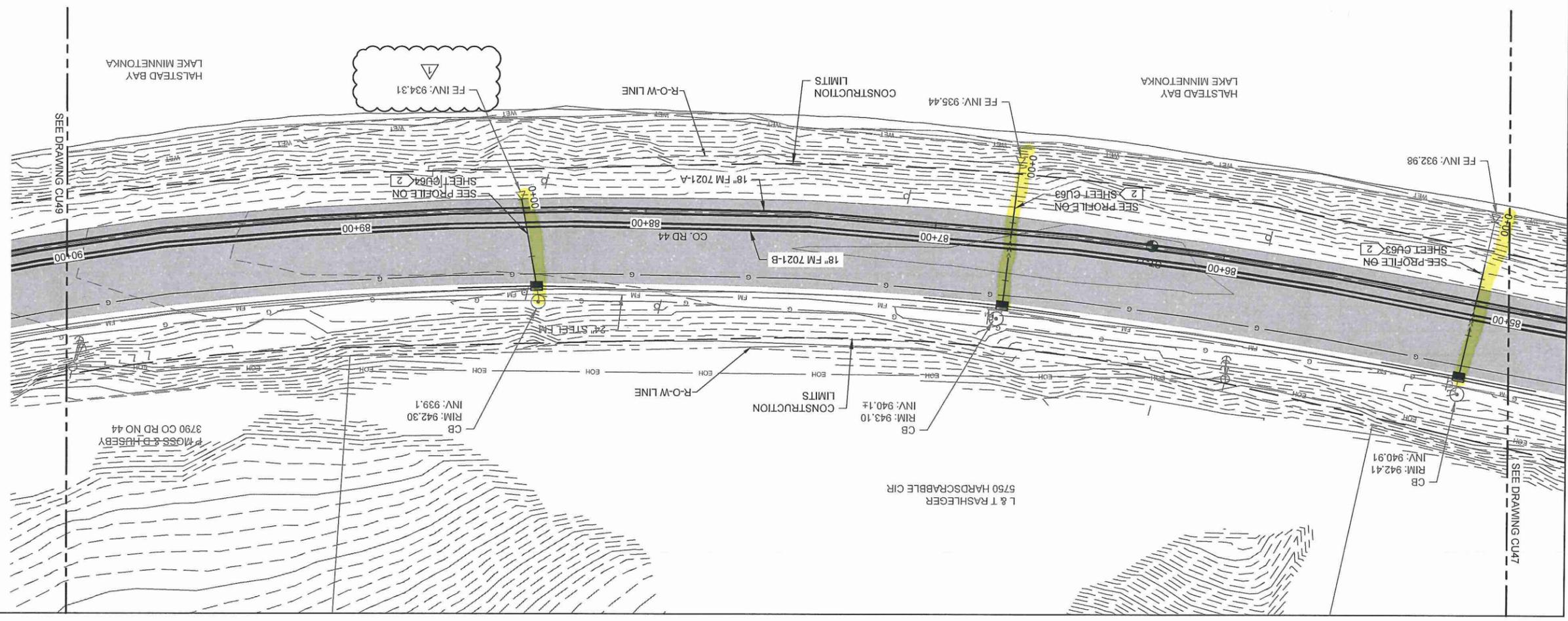
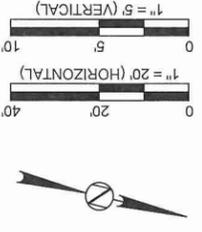
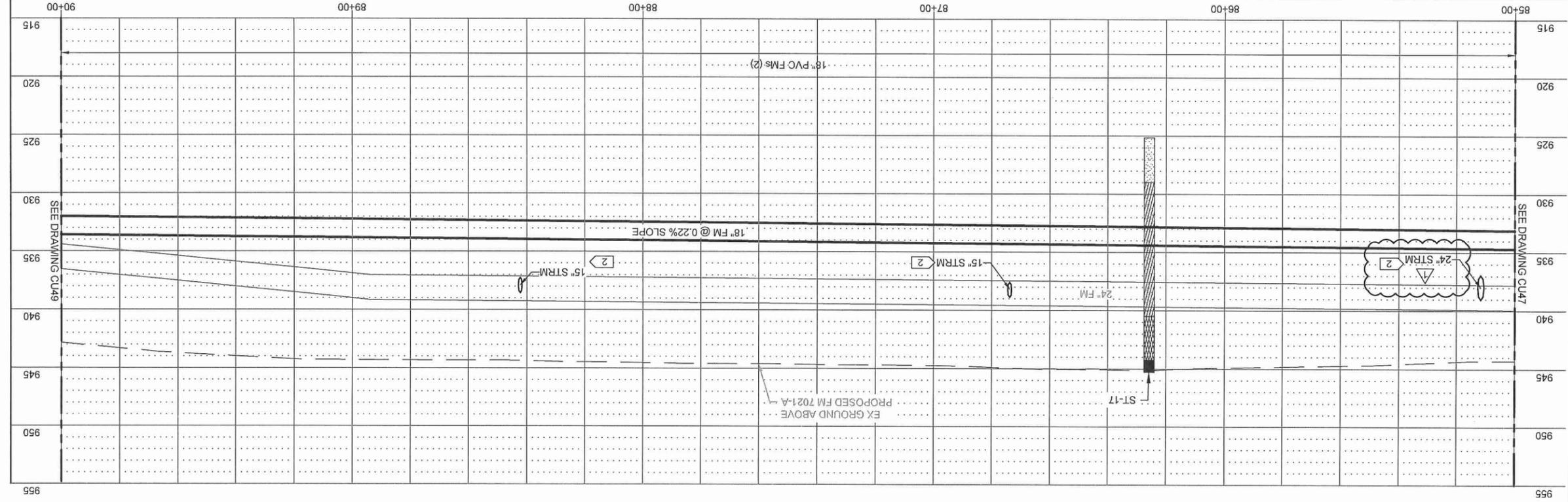
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNATURE: PETER C. GLASGELL
 TYPE OF PRINTED NAME: PETER C. GLASGELL
 DATE: 1/17/2017
 REG. NO.: 42905



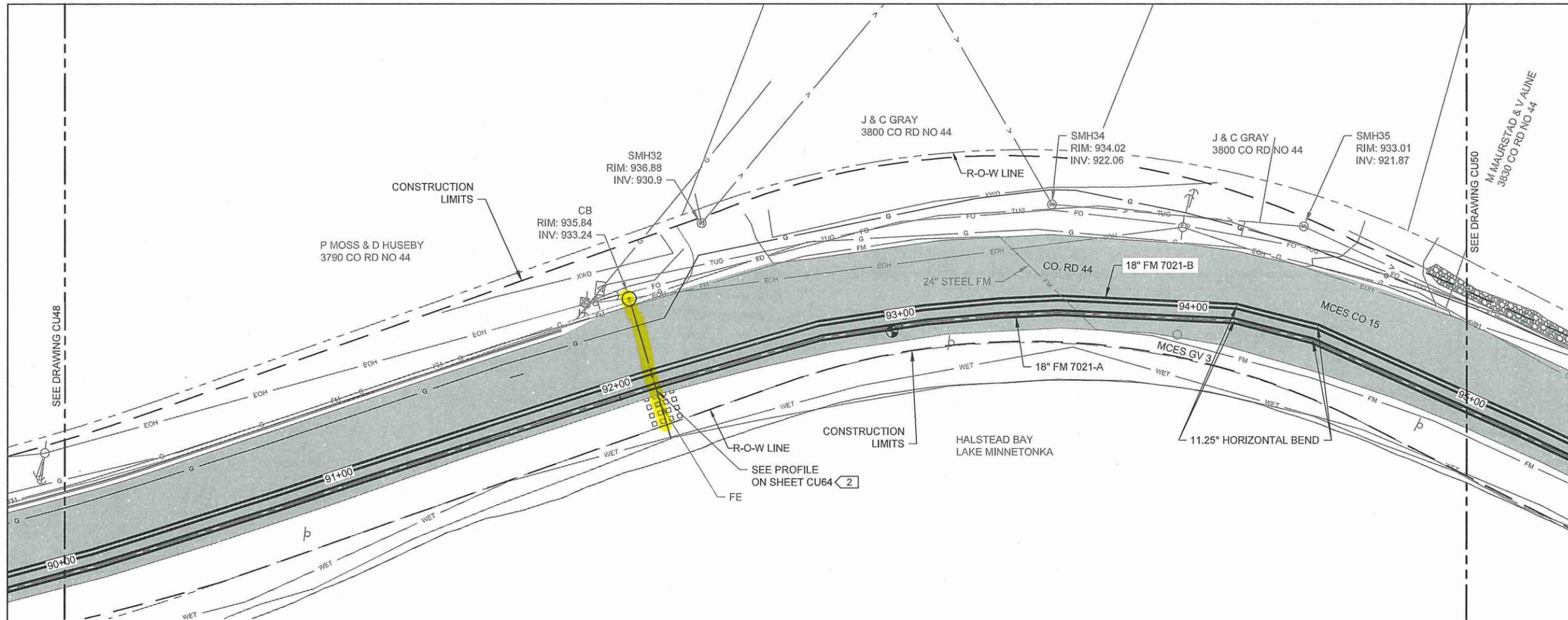
PROJECT: 802829
 DRAWING: CU0048

PLAN & PROFILE STA 85+00 TO 90+00
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

126 OF 216
 CU48

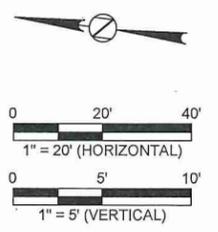
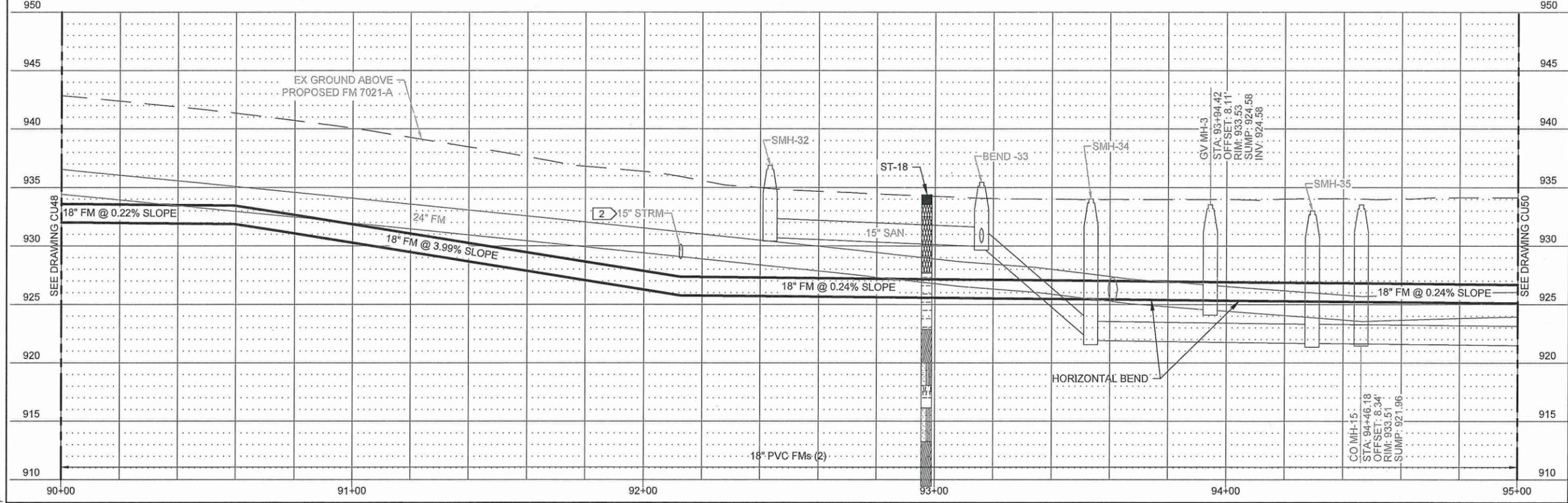


- GENERAL NOTES:
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - NOT USED.
 - NOT USED.
- KEYNOTES:
- 1. NOT USED.
 - 2. SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - 3. NOT USED.
 - 4. NOT USED.
 - 5. NOT USED.
 - 6. NOT USED.
 - 7. NOT USED.
 - 8. NOT USED.
 - 9. NOT USED.
 - 10. NOT USED.
 - 11. NOT USED.
 - 12. NOT USED.



- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

- KEYNOTES:**
- NOT USED.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - NOT USED.
 - NOT USED.



P:\MCS\MSA_15P013A_INTERCEPTOR_ENG_SERV\148232_MOUND_L38\FORCEMAIN\CAD\SHETS\CU0049.DWG
 PLOTTED: 2/27/2018 12:58:18
 MODIFIED: 2/27/2018 11:54:17

NO	DATE	BY	REVISIONS
2/6/18	HPV	CONFORMED DRAWING	
1/17/17	PCG	ISSUED FOR BID	

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV

DATE: 11/17/2017 REG NO: 42905

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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL

PROJECT: 802829
 FILE NAME: CU0049

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 90+00 TO 95+00

CU49
 127 of 216

REVISIONS		REVISIONS	
NO	DATE	BY	DATE
1	1/17/17	PCG	ISSUED FOR BID
2	2/01/18	HPV	CONFORMED DRAWING

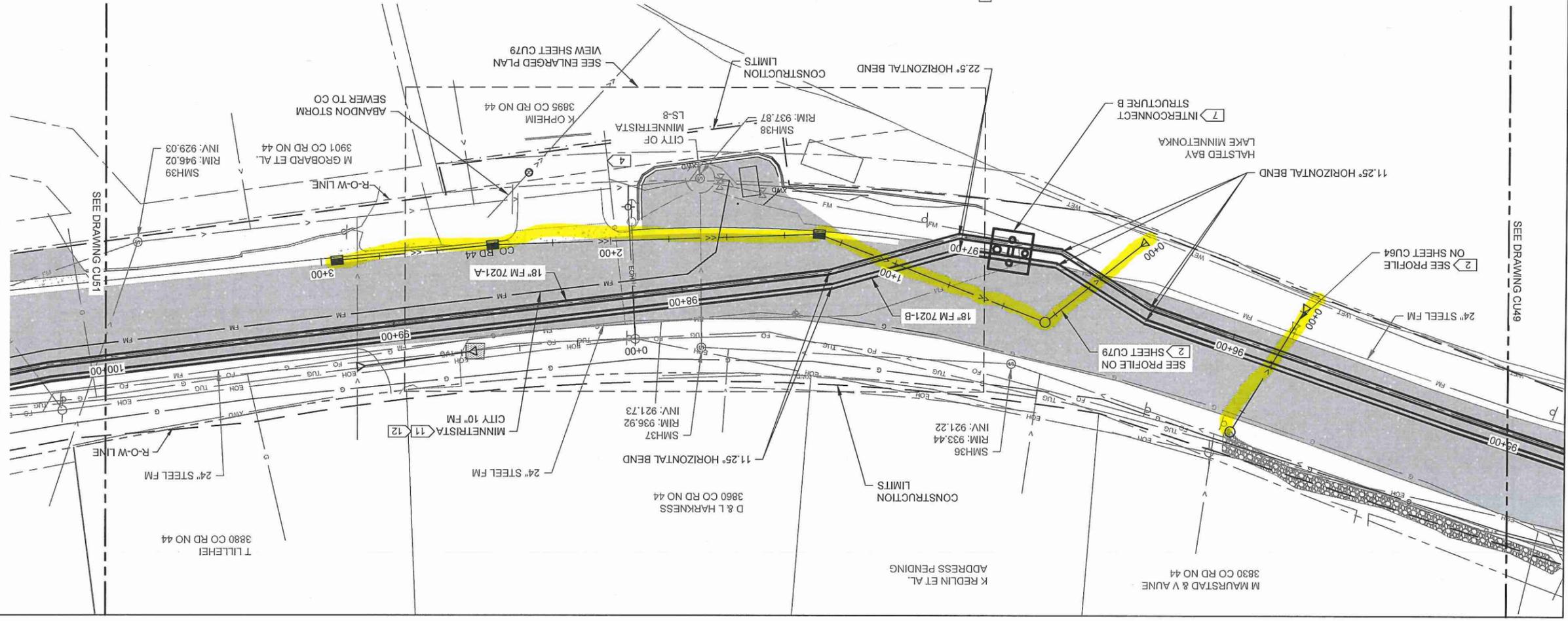
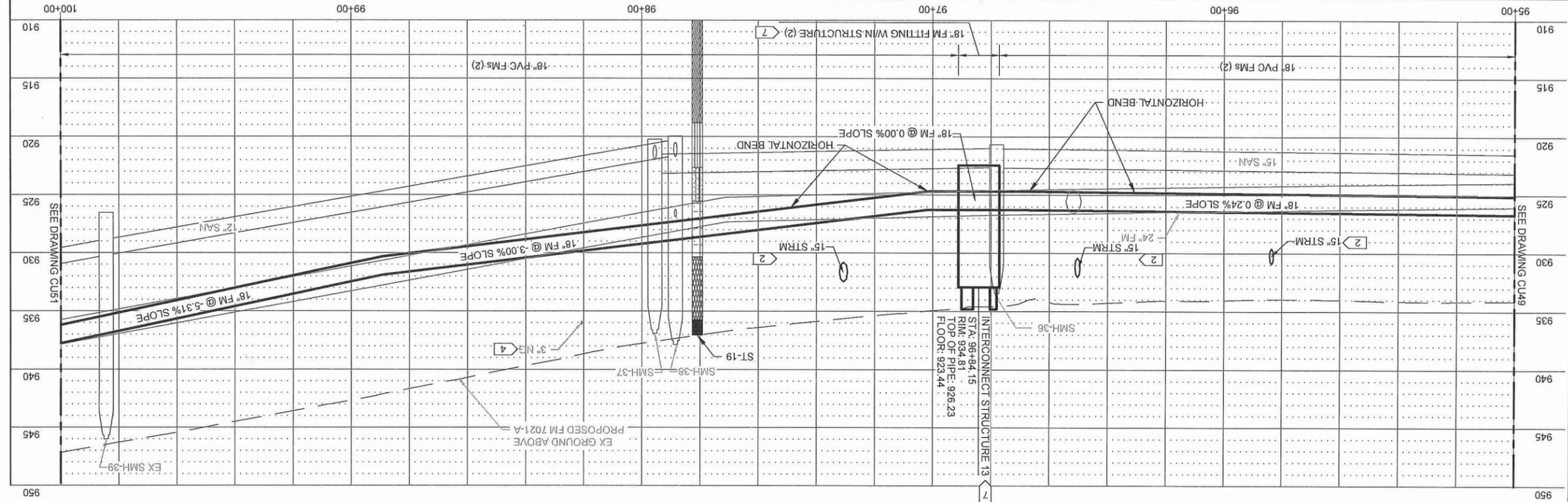
DESIGNED	DATE	DATE	DATE
PCG	1/17/2017	1/17/2017	1/17/2017

Brown and Caldwell

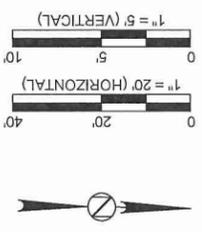
PROJECT: 802829
 FILE NAME: CU0050

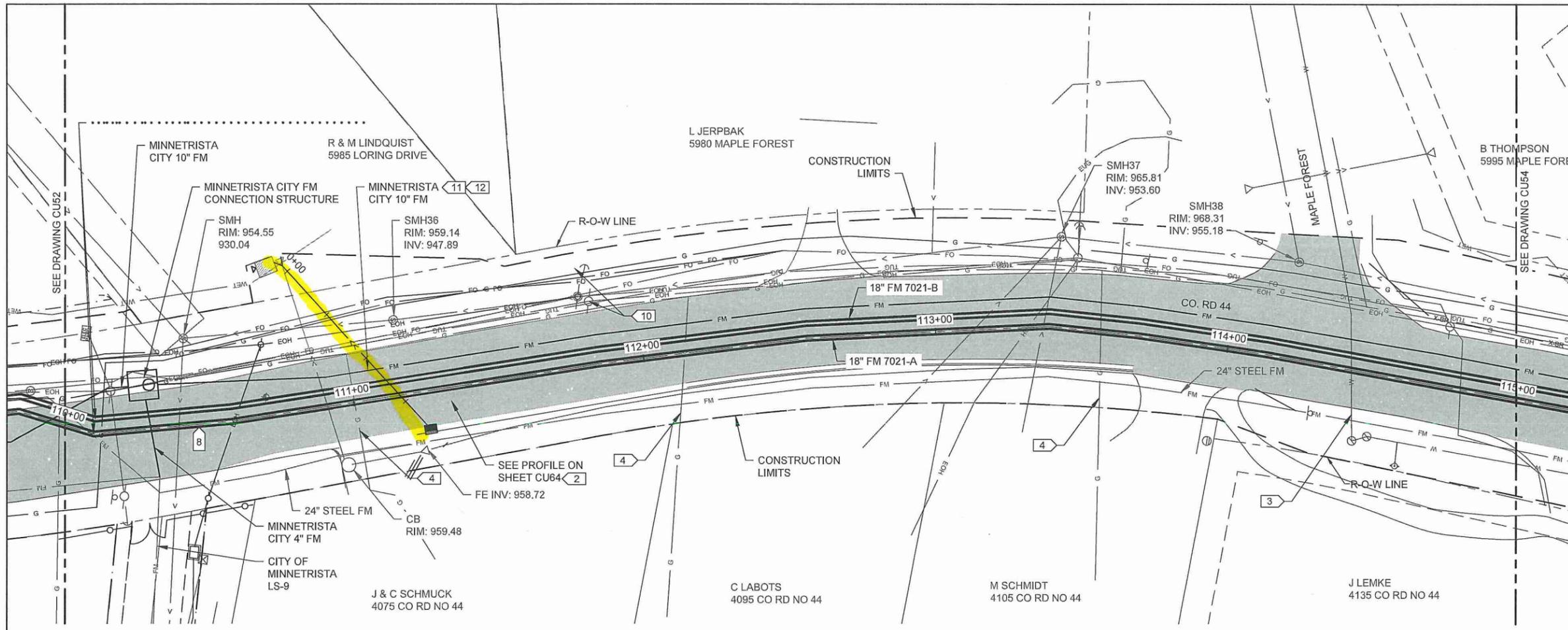
PLAN & PROFILE STA 95+00 TO 100+00
 MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021

CU50
 128 OF 216



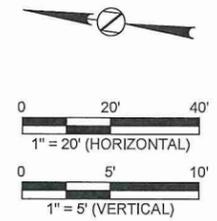
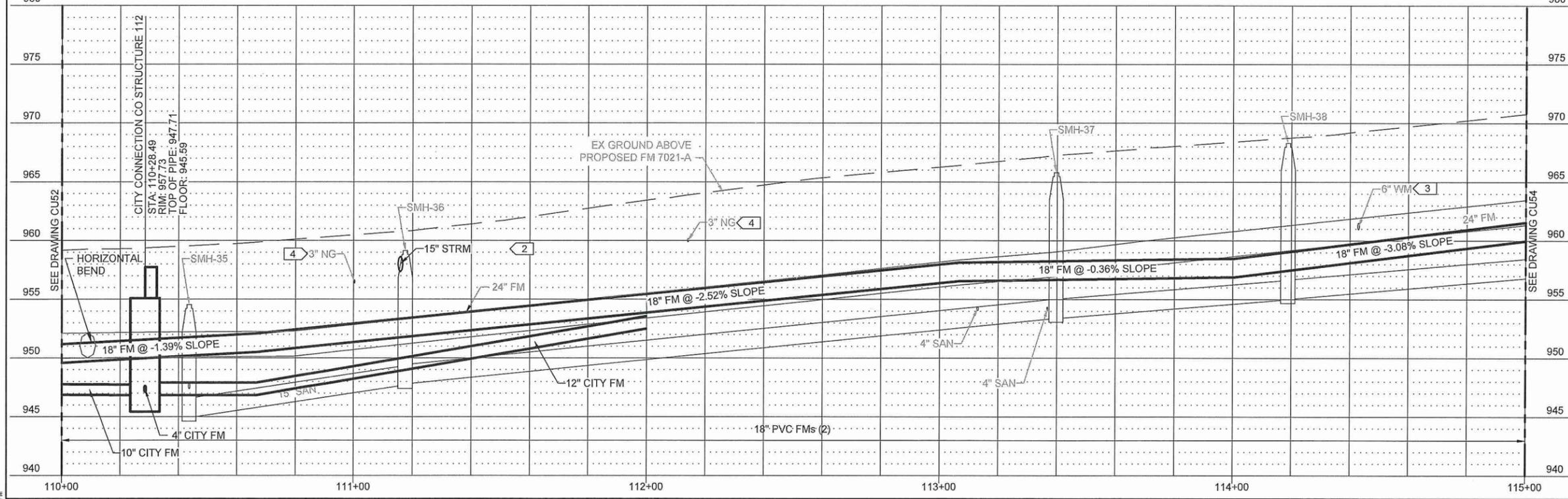
- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - NOT USED.
 - SUPPORT OR REMOVE AND REPLACE GASMAIN AS NECESSARY FOR CONSTRUCTION OF FM OR WM. COORDINATE WITH CENTERPOINT ENERGY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE.
 - NOT USED.
 - INSTALL MINNETRISTA CITY FM IN JOINT TRENCH WITH MCES FM PIPE @ 5-FT ON CENTER (TYP).
 - CITY FM SHALL MATCH PROFILE OF MCES-FM. MATCHING PIPE CROWNS.





- GENERAL NOTES:**
- SEE GENERAL NOTES 1-4 SHEET CU30 AND CD SHEETS FOR INFORMATION REGARDING STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.

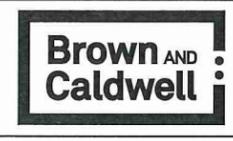
- KEYNOTES:**
- NOT USED.
 - SUPPORT OR REMOVE AND REPLACE STORM SEWER AS NECESSARY FOR CONSTRUCTION OF FM, WM, OR OTHER SEWER. PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND STORM SEWER CONSTRUCTION REQUIREMENTS.
 - SUPPORT OR REMOVE AND REPLACE WATERMAIN AS NECESSARY FOR CONSTRUCTION OF FM. COORDINATE WITH CITY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE. SEE CD SHEETS AND ROAD CONSTRUCTION PLANS FOR REMOVAL/REPLACEMENT LIMITS AND WATERMAIN CONSTRUCTION REQUIREMENTS.
 - SUPPORT OR REMOVE AND REPLACE GASMAIN AS NECESSARY FOR CONSTRUCTION OF FM. COORDINATE WITH CENTERPOINT ENERGY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE.
 - NOT USED.
 - NOT USED.
 - NOT USED.
 - SUPPORT TEMPORARY CONVEYANCE PIPING AS NECESSARY FOR CONSTRUCTION OF FM.
 - NOT USED.
 - COORDINATE WITH XCEL ENERGY FOR RELOCATION OF POWER LINES TO NEW PERMANENT LOCATION PRIOR TO UNDERGROUND WET UTILITY CONSTRUCTION.
 - INSTALL MINNETRISTA CITY FM IN JOINT TRENCH WITH MCES FM PIPE @ 5-FT ON CENTER (TYP.). CITY FM SHALL MATCH PROFILE OF MCES-FM; MATCHING PIPE CROWNS.



C:\USERS\HPV\1\DOCUMENTS\PROJECTS\802829-L38 FORCEMAIN SHEETS\CU0053.DWG
 PLOTTED: 2/22/2018 1:40:26 AM
 MODIFIED: 2/4/2018 4:28:34 PM

NO	DATE	BY	REMARKS	NO	DATE	BY	REMARKS

DESIGNED: PCG
 DRAWN: DAF
 CHECKED: HPV
 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.
 SIGNATURE: *Peter C. Glashagel*
 TYPED OR PRINTED NAME: PETER C. GLASHAGEL
 DATE: 11/17/2017 REG NO: 42905



PROJECT: 802829
 FILE NAME: CU0053

MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 110+00 TO 115+00

CU53
 131 OF 216

P:\MCE\MSA 15P013A INTERCEPTOR ENG SERV\149232 MOUND L38\FORCEMAINCAD\SHETS\CUR041.DWG
 PLOTTED: 12/20/17 19:51:56
 MODIFIED: 12/20/17 14:33:43

NO.	DATE	BY	REVISIONS
1	11/17/17	MEC	ISSUED FOR PERMITS
2	11/17/17	MEC	REVISED PER COMMENTS

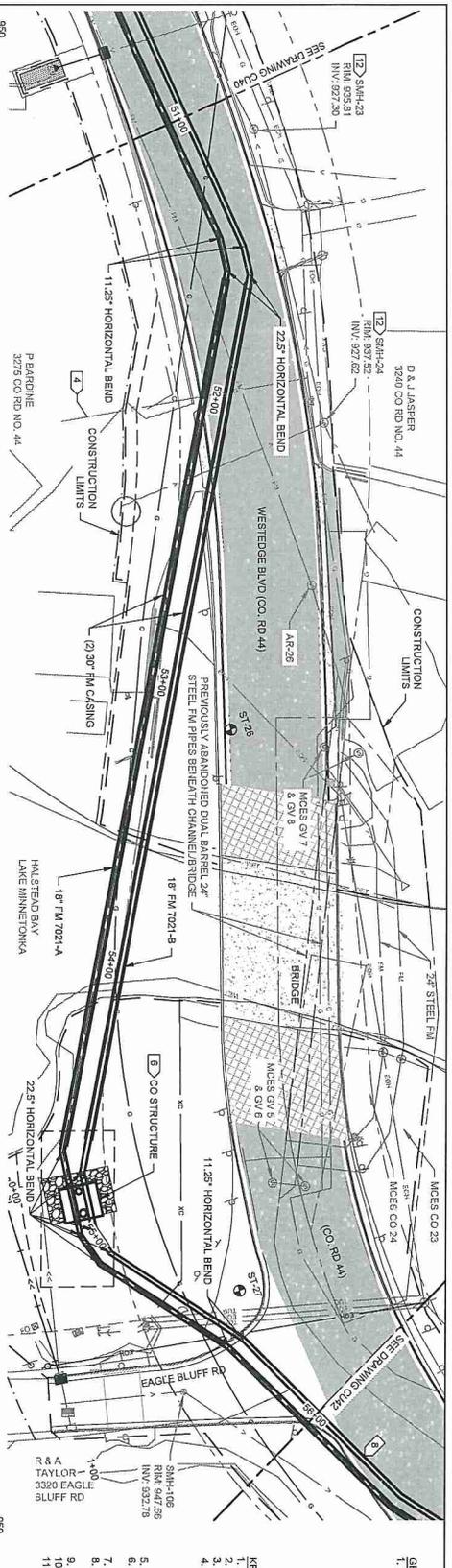
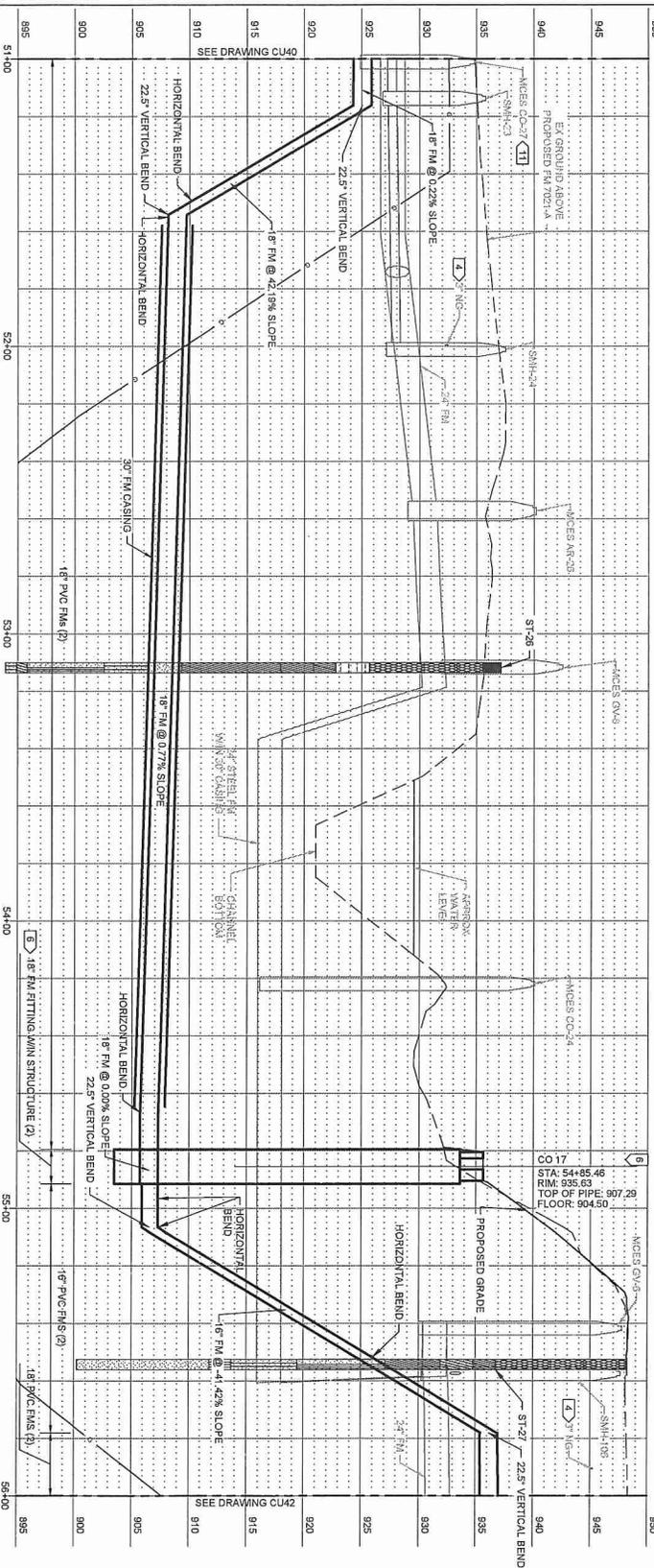
DESIGNED BY: *MEC*
 CHECKED BY: *MEC*
 DATE: 11/17/17



PROJECT NO: 802829
 DRAWING TITLE: CU0041

PROJECT LOCATION: MOUND AREA IMPROVEMENTS - INTERCEPTOR 7021
 PLAN & PROFILE STA 51+00 TO 56+00

CUR41
 119 OF 216



- GENERAL NOTES:
1. SEE GENERAL NOTES 1-4 SHEET CU09 AND CO STATIONING, UTILITIES, AND OTHER REQUIREMENTS SHOWN HEREON.
 2. NOT USED.
 3. NOT USED.
 4. AS NECESSARY FOR CONSTRUCTION OF FIM COORDINATE WITH CENTERPOINT ENERGY FOR SHUTOFF AND PROVIDE TEMPORARY SERVICES UNTIL REPLACEMENT IS COMPLETE.
 5. FURNISH AND INSTALL CO STRUCTURE PER SCHEDULE SHEET C13.
 6. NOT USED.
 7. NOT USED.
 8. NOT USED.
 9. NOT USED.
 10. NOT USED.
 11. STRUCTURE NOT ACCESSIBLE (PAVED OVER).