

Permit Application No.: 16-228

Rules: Floodplain Alteration, Waterbody
Crossings and Structures,
Stormwater Management, and
Wetland Protection

Applicant: Park Nicollet Methodist Hospital

Project: Floodwall and Sidewalk Repair

Location: 6500 Excelsior Boulevard, St. Louis Park

Received: 5-5-16

Complete: 5-25-16

Noticed: 5-25-16

Recommendation:

Approval with conditions:

- Payment of engineering fees for District inspection and analysis of proposed project.
- Documentation of USACE and DNR approval of Park Nicollet Wetland Enhancement Project.
- Payment of Financial Assurance in the amount of \$5,102 for temporary wetland and buffer impacts.

Summary:

Park Nicollet Methodist Hospital (Park Nicollet) has applied for an MCWD permit to construct a floodwall on its loading dock and repair an existing sidewalk that will trigger the District's Floodplain Alteration, Waterbody Crossings and Structures, Stormwater Management, and Wetland Protection rules (Attachment 1). The project meets the requirements under each of these District rules. Staff is recommending approval of this application with the conditions outlined in this report.

Background:

Park Nicollet is proposing to construct a floodwall in order to protect Park Nicollet Methodist Hospital property from flooding. (Use of the loading dock was impaired by flooding during the 2014 flooding.) The floodwall will be placed at the western edge of the loading dock area and will serve to protect the loading dock and the Tier 1 trauma center from vulnerability during periods of flooding (Attachment 2). Several storm sewer outlets which drain to the Minnehaha Creek Floodplain Wetland are located along the site proposed for the floodwall. With the floodwall construction, Park Nicollet is proposing to reconfigure the current storm sewer outlet system so that drainage from two existing outlets is directed to one new proposed outlet. The two existing outlets will be removed. Contemporaneous with the floodwall construction, Park Nicollet will also be repairing the emergency sidewalk access immediately to the south of the floodwall area. In order to repair this sidewalk, the adjacent wetland will need to be impacted temporarily so that the areas of repair can be accessed with the appropriate equipment to complete the repair. This work is proposed for September, 2016.

Park Nicollet has identified two options for mitigation of the floodplain storage capacity that will be lost through the floodwall construction. The first option is through a wetland enhancement project in the adjacent Minnehaha Creek Floodplain Wetland which will enhance approximately 3 acres of the wetland through grading, increasing vegetation community types, reducing invasive species, and improving the diversity of existing vegetation communities (Attachment 3). The wetland is identified as Public Water Wetland 27066200 and therefore the proposed enhancement is subject to regulation by the Department of Natural Resources (DNR) under the Work in Public Waters rules and the United States Army Corps of Engineers (USACE) under the Clean Water Act. The second option identified is to cut the required volume from a hillside adjacent to Minnehaha Creek within the Park Nicollet property. The application proposes and the approval hereunder would authorize the wetland enhancement project to provide floodplain mitigation. In the event that Park Nicollet elects or is not able to pursue the wetland enhancement project, a modified application proposing the second option will be submitted for review and approval by staff.

DNR has waived jurisdiction over all wetland impacts from the project to MCWD acting as Wetland Conservation Act (WCA) local government unit. DNR also has concurred that Park Nicollet may proceed with the proposed outfall replacement work regulated under the MCWD's Waterbody Crossings and Structures Rule as long as the work complies with the conditions of the applicable General Permit (2001-6009).

This permit is before the Board of Managers as MCWD has partnered with Park Nicollet Hospital to facilitate the wetland enhancement project and also provide technical assistance in visioning this enhancement as part of a larger Master Plan for the Park Nicollet campus.

Floodplain Alteration:

The District's Floodplain Alteration rule is applicable for any project proposing to fill land below the 100-Year high water elevation of any waterbody. The 100-year high water level elevation for Minnehaha Creek was modeled to be 890.1. The project proposes approximately 37,715 cubic feet of fill below this modeled elevation. The applicant is required to provide compensatory storage equal to the amount of fill within the floodplain. To meet this requirement, the applicant has proposed grading within the adjacent wetland as part of the wetland enhancement project. The grading for the wetland enhancement will create approximately 49,000 cubic feet of flood storage compensation. Floodwall construction is scheduled for early September 2016. The wetland enhancement is scheduled for Winter 2016.

Under Section 3(a) of the Floodplain Alteration rule, placement of fill prior to creation of floodplain storage is only allowed upon demonstration by a registered professional engineer that such work will not aggravate high water conditions. The applicant has provided a No-Rise Certificate signed by a Professional Engineer which demonstrates that the floodwall itself will not raise the 100-year flood elevation (Attachment 4).

Sections 3(b) and (f) of the Floodplain Alteration rule do not apply.

Waterbody Crossings and Structures:

The District's Waterbody Crossings and Structures rule is applicable to any project involving the placement of structures in contact with the bed or bank of any waterbody. The project proposes to place a new outfall structure within a public water wetland, therefore, the rule is triggered. The new outfall structure is proposed to replace two existing outfall structures which will be removed as part of the floodwall construction. The existing runoff from these outfalls will be directed to the new outfall.

This outfall installation meets public benefit under paragraph 3(a) of the rule by properly conveying stormwater from the Park Nicollet Hospital campus and reducing the existing incursion of mechanical structures into (and associated fill in) the wetland. Since no conveyance of water in the wetland is affected by the work, analysis of hydraulic and navigational capacity and wildlife passage as required by paragraphs (b), (c) and (d), respectively, of section 3 of the rule is not relevant to the project. Relevant to the criterion in paragraph 3(e) of the rule, this new outfall will not adversely affect water quality. The existing drainage will be routed through a planned storage facility, which provides rate control. With regard to the minimal impact criterion in paragraph (f), the applicant has provided two alternative design solutions. The first is a no-build alternative which would leave the current outfall structures and associated effect on the wetland in place, which is not feasible if the flooding issue at Park Nicollet is to be addressed. The second alternative is to use the existing outfalls and route water from a planned stormwater storage facility through one of the outfalls. The proposed design is determined to be the minimal impact solution as it reduces the amount of fill within the wetland and it also conveys water from the planned stormwater storage facility, thereby providing stormwater treatment for rate control and reducing wetland impacts. The proposed design represents the minimal impact solution. Paragraphs (g) and (h) also are not relevant to the proposed work.

This new outfall will result in approximately 154 square feet of permanent wetland fill. This amount of fill is within the de minimis threshold for fill within a Type 1 wetland, and would qualify for approval under the de minimis exemption under WCA. (Park Nicollet need not, and has not, applied for an exemption determination under the Wetland Conservation Act). The removal of the old outfalls and placement of the new outfall structure fall within the scope of DNR General Permit 2001-6009 for Work in Public Waters. As long as the individual work proceeds in accordance with the conditions of the general permit, the applicant need not obtain an individual Work in Public Waters permit.

Stormwater Management:

The District's Stormwater Management rule is applicable to any project proposing to create new or replace existing impervious surface. The proposed floodwall will replace existing impervious surface, therefore the rule is triggered. The project is on a parcel greater than 5 acres, will disturb less than 40% of the site, and proposes a 7% decrease in impervious surface. The applicant is required to provide a stormwater BMP. This requirement is met through the wetland enhancement, which provides over-all benefit to surface waters downstream of the proposed project.

Wetland Protection:

The District's Wetland Protection rule is applicable for any project involving draining, filling, or excavation of a wetland. The proposed floodwall and sidewalk work involves temporary and permanent excavation and fill within the adjacent wetland, therefore, the rule is triggered.

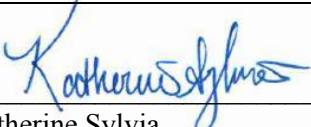
The wetland was delineated as a Type 1 seasonally flooded basin and is classified as a DNR Public Water Wetland. MCWD approved the Boundary and Type determination and issued the associated Notice of Decision on May 25th, 2016.

Currently, two stormwater pipes outlet into the wetland. With the construction of the floodwall, Park Nicollet is proposing to remove those pipes and direct the existing stormwater to a new outlet. The removal of the existing outlets will cause approximately 250 square feet of temporary impact. The installation of the new outlet will cause approximately 622 square feet of temporary impact and 152 square feet of permanent fill. The temporary fill for sidewalk repair access will result in 213 square feet of temporary impact. Areas of temporary impact will be restored and seeded with the appropriate wetland vegetation. The applicant has applied for a WCA No-Loss Decision. The DNR has waived regulation of these temporary impacts to WCA (Attachment 5). As the LGU, staff is recommending that the Board approve the Notice of Decision regulating these temporary impacts as No-Loss under the WCA (Attachment 6).

The wetland has an existing wetland buffer that was established with the 2003 Meadowbrook Medical Building Entry Improvements (Permit 03-415). The wetland and wetland buffer are located directly adjacent to the loading dock, proposed floodwall, and emergency sidewalk. Approximately 4,300 square feet of the buffer will be temporarily impacted during this construction. The wetland protection rule requires that disturbed wetland buffers are restored per the standards listed in Section 7(c). These standards will be met with the wetland enhancement and campus master plan development.

Attachments:

1. Permit Application
2. Site Location Map
3. Wetland Enhancement Plan
4. No Rise Certificate
5. DNR waivers
6. Draft W16-30 Notice of Decision


Katherine Sylvia

Date: 6/09/2016

16-228

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: Park Nicollet Health Services
Mailing Address: 6500 Excelsior Blvd City: St. Louis Park State: MN Zip: 55426
Email Address: Robert.riesselman@parknicollet.com Phone: 952-993-5103 Fax: _____

2. Property Owner Representative Information (not required) (licensed contractor, architect, engineer, etc...)
Business Name: Barr Engineering Company Representative Name: Mark Kretschmer, PE
Business Address: 4300 MarketPointe Drive #200 City: Minneapolis State: MN Zip: 55435
Email Address: mkretschmer@barr.com Phone: 952-832-2940 Fax: 952-832-2601

3. Project Address: 6500 Excelsior Blvd City: St. Louis Park
State: MN Zip: 55426 Qtr Section(s): NE Section(s): 20 Township(s): 117 Range(s): 21
Lot: _____ Block: _____ Subdivision: _____ PID: _____

4. Size of project parcel (square feet or acres): 48.8 acres
Area of disturbance (square feet): 18,730 sf (Const. Limit) Volume of excavation/fill (cubic yards): 400 cy
Area of existing impervious surface: 11,761 sf Area of proposed impervious surface: 10,890 sf
Length of shoreline affected (feet): 360 ft Waterbody (& bay if applicable): Minnehaha Creek

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): Floodwall construction

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

8. Waterbody receiving runoff from site: Minnehaha Creek

9. Project Timeline: Start Date: August 2016 Completion Date: June 2017

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

By signing below, I hereby request a permit to authorize the activities described herein. I certify that I am familiar with MCWD Rules and that the proposed activity will be conducted in compliance with these Rules. I am familiar with the information contained in this application and, to the best of my knowledge and belief, all information is true, complete and accurate. I understand that proceeding with work before all required authorizations are obtained may be subject to federal, state and/or local administrative, civil and/or criminal penalties.

Robert A. Riesselman
Signature of Each Property Owner

5/3/2016
Date
Received

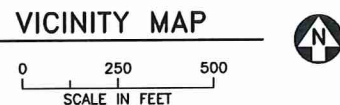
MAY 05 2016

By: _____

PARK NICOLLET FLOODWALL PROJECT

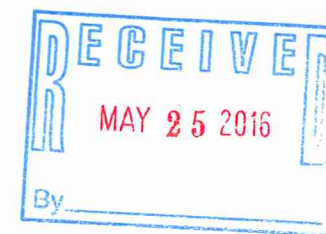
PARK NICOLLET HEALTH SERVICES

ST. LOUIS PARK, MINNESOTA



- NOTES:**
- PROJECT DATUM:
HORIZONTAL: HENNEPIN COUNTY NAD83, US FT (1986 ADJ.)
VERTICAL: NGVD 29

DRAWING SERIES	PLAN SHEET	DESCRIPTION	REVISION #	REVISION DATE
GENERAL	G-01	COVER & INDEX SHEET	D	05/24/2016
	G-02	LEGEND, STANDARD NOTES AND ABBREVIATIONS	C	05/24/2016
	G-03	GENERAL OVERALL PLAN - SITE ACCESS AND STAGING	B	04/29/2016
	G-04	STORMWATER POLLUTION PREVENTION NOTES	B	04/29/2016
	G-05	TEMPORARY EROSION CONTROL PLAN	B	04/29/2016
	G-06	TEMPORARY EROSION CONTROL DETAILS	B	04/29/2016
CIVIL	C-01	DEMOLITION AND DETAILS - FLOODWALL AREA	C	05/09/2016
	C-02	FLOODWALL PLAN AND PROFILE	B	04/29/2016
	C-03	STORM SEWER MODIFICATIONS	C	05/09/2016
	C-04	STORM SEWER MODIFICATIONS - DETAILS	B	04/29/2016
	C-05	STORM SEWER MODIFICATIONS - DETAILS	B	04/29/2016
	C-06	PUMP STATION AND GATEWELL STRUCTURE - PLAN	B	04/29/2016
	C-07	PUMP STATION AND GATEWELL STRUCTURE - SECTION AND DETAILS	B	04/29/2016
	C-08	TWIN 18" PIPE OUTLET GATEWELL STRUCTURES - PLAN, SECTIONS AND DETAILS	A	04/29/2016
	C-09	ROADWAY AND SITE RESTORATION - FLOODWALL AREA	D	05/24/2016
	C-10	ROADWAY AND SITE RESTORATION - SIDEWALK AREA / TESTING REQUIREMENTS	B	05/24/2016
	C-11	ROADWAY AND SITE RESTORATION - DETAILS	B	04/29/2016
STRUCTURAL	S-01	STRUCTURAL SPECIFICATIONS	B	04/29/2016
	S-02	STRUCTURAL FLOODWALL DETAILS	B	04/29/2016
	S-03	SIDEWALK REPAIR - PLAN, SECTIONS AND DETAILS	A	04/29/2016
ELECTRICAL	E-01	ELECTRICAL SPECIFICATIONS	B	04/29/2016
	E-02	ELECTRICAL PLAN AND SECTION	B	04/29/2016
	E-03	CONTROL PANEL SCHEMATIC	B	04/29/2016



**95% DRAFT
SUBMITTAL**

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT: BARR ENGINEERING CO. CONSTRUCTION: _____ RELEASED TO/FOR: _____ DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (652) 832-2601 www.barr.com		Scale: AS SHOWN Date: 10/12/15 Drawn: MJJ Checked: MTP2 Designed: MTP2 Approved: MAK2		PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA COVER & INDEX SHEET		BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. _____ DWG. No. G-01 REV. No. D	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION						

CADD USER: Max J. Jouppe FILE: M:\DESIGN\2327138000\C-01.DWG PLOT SCALE: 1:2 PLOT DATE: 5/24/2016 6:54 AM

GENERAL NOTES:

GENERAL

CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY AND ALL DAMAGE RESULTING FROM CONTRACTOR'S WORK. CONTRACTOR SHALL REPAIR OR REMOVE, AND/OR REPLACE ITEMS THAT ARE DAMAGED DUE TO CONTRACTOR'S ACTIVITIES. REPAIR OR REPLACEMENT WILL BE AT THE EXPENSE OF CONTRACTOR AND MUST BE PERFORMED TO THE CONDITION, AT MINIMUM, EQUAL TO THE CONDITION PRIOR TO START OF THE WORK.

EXISTING CONDITIONS

PRIOR TO COMMENCING WORK AT THE SITE, CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AND HAVE ALL EXISTING UTILITIES, PUBLIC AND PRIVATE, FIELD LOCATED AND MARKED. EXISTING UTILITIES SHALL BE PROTECTED UNLESS OTHERWISE INDICATED. ANY UTILITIES DAMAGED BY CONTRACTOR SHALL BE REPAIRED OR REPLACED AT EXPENSE OF CONTRACTOR.

IF SITE CONDITIONS OR UTILITIES DIFFER SIGNIFICANTLY FROM THAT SHOWN, CONTRACTOR SHALL NOTIFY ENGINEER.

ALL EXISTING UTILITY LOCATIONS AND PROPERTY LINES SHOWN ARE APPROXIMATE ONLY.

GEOTECHNICAL

CONTRACTOR'S EXCAVATIONS AND STOCKPILING MUST BE DESIGNED BY A MINNESOTA REGISTERED PROFESSIONAL ENGINEER.

CONTRACTOR SHALL NOT DISTURB EXISTING VEGETATION AREAS WHERE GRADING IS NOT TO OCCUR OR, IN ANY CASE, OUTSIDE OF CONSTRUCTION LIMITS.

SAFETY

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES THE CONTRACTOR IS RESPONSIBLE FOR JOB-SITE CONDITIONS AND SAFETY PROCEDURES AND PROGRAMS, INCLUDING SAFETY AND HEALTH OF ALL PERSONS AND PROPERTY, ON THOSE PORTIONS OF THE PROPERTY AFFECTED BY OR USED BY THE CONTRACTOR, EMPLOYEES, SUBCONTRACTORS, AGENTS, AND OTHERS DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF PROPERTY AND THE SAFETY AND HEALTH OF ITS EMPLOYEES, SUBCONTRACTORS, SUPPLIERS, AGENTS AND OTHERS ON OR NEAR THE PROPERTY.

CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE SITE PERIMETER SAFE FOR PUBLIC ON OR ADJACENT TO SITE FOR THE DURATION OF THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY PRECAUTIONS. CONTRACTOR TO DEVELOP AND FOLLOW GENERAL CONTRACTOR'S SAFETY MANUAL AND FOLLOW ALL PROCEDURES IN THE PARK NICOLLET PATIENT SAFETY AND INFECTION CONTROL MANUAL.

DEMOLITION

CONTRACTOR SHALL COORDINATE ALL REMOVALS WITH ENGINEER. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND UTILITIES NOT DESIGNATED FOR REMOVAL. EXISTING UTILITIES AND FACILITIES NOT DESIGNATED FOR REMOVAL SHALL REMAIN OPERATIONAL FOR THE DURATION OF THE WORK. DEMOLITION DEBRIS UNLESS OTHERWISE NOTED SHALL BECOME THE PROPERTY OF CONTRACTOR AND TRANSPORTED OFF SITE FOR RECYCLING OR DISPOSAL IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

WORK HOURS

THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL STRICTLY ADHERE TO CITY OF ST. LOUIS PARK NOISE ORDINANCE REQUIREMENTS. CONTRACTOR SHALL COORDINATE WORK HOURS WITH OWNER PRIOR TO THE START OF CONSTRUCTION.

NO EQUIPMENT SHALL BE STARTED OUTSIDE OF THE STATED WORK HOURS.

ENVIRONMENTAL

CONTRACTOR SHALL INSPECT AND SWEEP IF NECESSARY PAVED SURFACES TO PREVENT DIRT AND MUD FROM BEING TRACKED OFF SITE. HAUL ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH REQUIREMENTS IN THE SWPPP.

PRIOR TO COMMENCING SITE WORK AND DISTURBING EXISTING VEGETATION, CONTRACTOR MUST ESTABLISH TEMPORARY EROSION CONTROL MEASURES.

EXISTING WETLANDS IDENTIFIED FOR PROTECTION SHALL BE PROTECTED BY CONTRACTOR. WETLAND IMPACT LIMITS ARE SHOWN. WETLAND BOUNDARIES AND IMPACT LIMITS SHALL BE STAKED PRIOR TO CONSTRUCTION AND EROSION CONTROL MEASURES INSTALLED.

STOCKPILES SHALL BE PROTECTED FROM EROSION IN ACCORDANCE WITH ALL APPLICABLE PERMITS FOR THE WORK. SEE SWPPP.

SEQUENCING

CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION PHASING WITH ENGINEER. CONSTRUCTION LIMITS FOR ALL PHASES OF WORK SHALL BE TO COORDINATED WITH ENGINEER.

CONTRACTOR SHALL PHASE WORK TO MINIMIZE EXPOSED SOIL AND EROSION POTENTIAL.

SURVEY

EXISTING TOPOGRAPHY SHOWN BASED ON THE FOLLOWING INFORMATION:

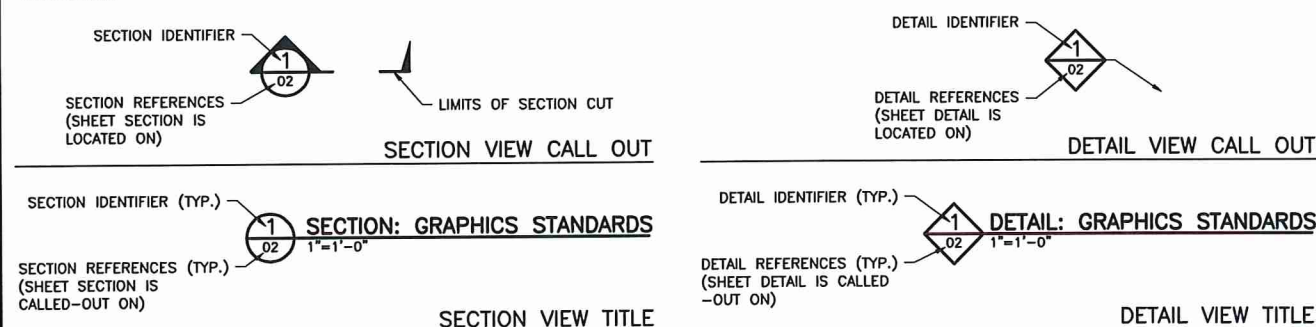
- SITE SURVEY AND TOPOGRAPHY ACQUIRED FROM LOUCKS, INC.
- WETLAND DELINEATION COMPLETED BY LOUCKS, INC. (OCTOBER 2015)

SURVEY STAKING, BENCHMARKS AND CONTROL FOR PROJECT CONSTRUCTION AND WORK TO BE COMPLETED BY CONTRACTOR.

TRAFFIC MANAGEMENT

CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO EFFECTIVELY ADDRESS VEHICLE AND PEDESTRIAN TRAFFIC, ACCESSIBILITY AND WORKER SAFETY DURING CONSTRUCTION. CONTRACTOR SHALL FOLLOW ALL MUTCD AND MnDOT REQUIREMENTS FOR TRAFFIC MANAGEMENT.

REFERENCING



NOTES:

- PROJECT DATUM:
HORIZONTAL: HENNEPIN COUNTY NAD83, US FT (1986 ADJ.)
VERTICAL: NGVD 29

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME _____
SIGNATURE _____
DATE _____ LICENSE # _____

CLIENT	11/17/15	01/29/16	05/24/16				
BID							
CONSTRUCTION							
RELEASED TO/FOR	A	B	C	0	1	2	3



Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 832-2601
www.barr.com

Scale	AS SHOWN
Date	10/12/15
Drawn	MJJ
Checked	MTP2
Designed	MTP2
Approved	MAK2

TABLE G-02A

ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
Ac.	ACRE
●	AT
APPROX	APPROXIMATE
AVE.	AVERAGE
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICES
B.O.	BOTTOM OF
BOT.	BOTTOM
CJ	CONTROL JOINT
CL	CENTERLINE
CL	CONSTRUCTION LIMIT
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONT	CONTINUE
C & G	CURB AND GUTTER
DESC.	DESCRIPTION
DIAG.	DIAGONAL
Ø, DIA.	DIAMETER
DWG	DRAWING
EA.	EACH
E.F.	EACH FACE
EG	EXISTING GRADE
EJ	EXPANSION JOINT
EL./ELEV.	ELEVATION
EQ.	EQUAL
E.W.	EACH WAY
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
F.E.S.	FLARED END SECTION
F.G.	FINISHED GRADE
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
INV.	INVERT
LBS.	POUNDS
LF	LINEAR FEET
LP	LOW POINT
MAX.	MAXIMUM
MDNR	MINNESOTA DEPT. OF NATURAL RESOURCES
MH	MANHOLE
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MnDOT	MINNESOTA DEPT. OF TRANSPORTATION
MPCA	MINNESOTA POLLUTION CONTROL AGENCY
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NAD	NORTH AMERICAN DATUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO.	NUMBER
NPDES	NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PNHS	PARK NICOLLET HEALTH SERVICES
PT	POINT OF TANGENT
PVI	POINT OF VERTICAL INTERSECTION
R	RADIUS
REF.	REFERENCE
REINF.	REINFORCED
RCP	REINFORCED CONCRETE PIPE
SPEC.	SPECIFICATION
SF/SQ. FT.	SQUARE FEET
ST.	STATE/STREET
STA.	STATION
STD	STANDARD
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TBD	TO BE DETERMINED
T&B	TOP AND BOTTOM
TOBS	TOP OF BASE SLAB
TOC	TOP OF CASTING

TABLE G-02A (CONTINUED)

ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
TOW	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V	VERTICAL

EXISTING LEGEND

— B10 —	EXISTING INDEX CONTOUR
— · · · · ·	EXISTING INTERMEDIATE CONTOUR
— — — — —	EXISTING EDGE OF PAVEMENT
— — — — —	EXISTING CURB AND GUTTER
— · · · · ·	EXISTING WETLAND
— x — x —	EXISTING TREE LINE
— x — x —	EXISTING FENCE
○	EXISTING BOLLARD
—	EXISTING SIGN
— FO —	EXISTING FIBER OPTIC
○	EXISTING FIBER OPTIC BOX
— OXY —	EXISTING UNDERGROUND OXYGEN
— ELE —	EXISTING UNDERGROUND ELECTRICAL
○	EXISTING ELECTRICAL BOX
—	EXISTING LIGHT POLE
— —	EXISTING WATERMAIN
—	EXISTING GATE VALVE
—	EXISTING HYDRANT
—	EXISTING STORM SEWER
○	EXISTING STORM SEWER MANHOLE
—	EXISTING CATCH BASIN
— GAS —	EXISTING GAS
— TEL —	EXISTING TELEPHONE
— UTL — UTL — UTL —	EXISTING COMMUNICATIONS
○	EXISTING TELEPHONE UTILITY BOX
—	EXISTING TREE
—	EXISTING BUILDING
—	EXISTING DRAIN TILE
—	EXISTING FLARED END SECTION
—	EXISTING PAVEMENT STRIPING
—	EXISTING BOARDWALK
—	EXISTING PAVEMENT STRIPING
—	EXISTING RETAINING WALL
—	EXISTING TRENCH DRAIN
—	EXISTING CONCRETE
—	EXISTING RIPRAP

LEGEND

↑	DRAINAGE ARROW
○	MANHOLE
○	MANHOLE CATCH BASIN
○	CATCH BASIN
— x — x —	CONSTRUCTION FENCE
— SF — SF —	SILT FENCE
—	BORING LOCATION/IDENTIFIER
—	CONSTRUCTION LIMIT
—	BENCHMARK
—	TREE PROTECTION FENCE
—	STORM SEWER + FES
—	CURB AND GUTTER
— B10 —	INDEX CONTOUR
— · · · · ·	INTERMEDIATE CONTOUR
—	FLOODWALL
—	RAILING
—	STAGING AREA/STOCKPILE LIMITS
—	RIPRAP
—	ROCK CONSTRUCTION ENTRANCE
—	TEMPORARY WETLAND IMPACTS
—	PAVEMENT REMOVAL
—	BITUMINOUS PAVEMENT
—	LANDSCAPE ROCK
—	EROSION CONTROL BLANKET
—	WETLAND RESTORATION

GENERAL CONDITIONS:
STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACTS PREPARED BY ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), CURRENT VERSION/EDITION, ARE CONSIDERED AS PART OF THE CONTRACTOR AND OWNER CONTRACT DOCUMENTS FOR THE PROJECT.



GOPHER STATE ONE CALL:
CALL BEFORE YOU DIG.
1-800-252-1166



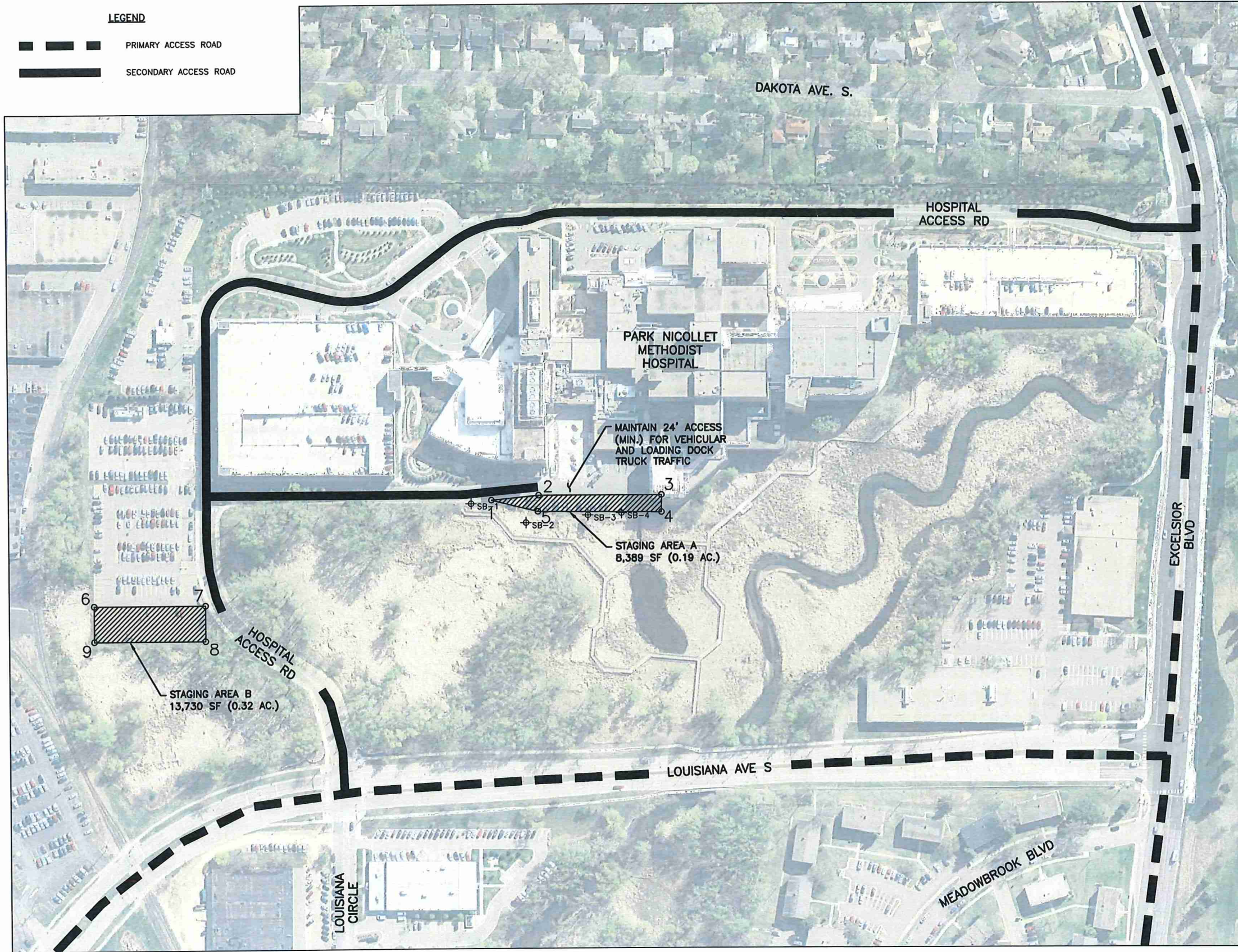
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PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA	BARR PROJECT No. 23/27-1380.00
		CLIENT PROJECT No. —
LEGEND, STANDARD NOTES AND ABBREVIATIONS		DWG. No. G-02
		REV. No. C

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LEGEND

-  PRIMARY ACCESS ROAD
-  SECONDARY ACCESS ROAD



PROJECT ACCESS NOTES:

1. PRIMARY REGIONAL ACCESS IS DEFINED AS EXISTING PAVED PUBLIC ROADS AND INCLUDES LOUISIANA AVE. S. AND EXCELSIOR BLVD. WEIGHT AND DIMENSIONAL RESTRICTIONS SHALL FOLLOW MNDOT AND LOCAL REQUIREMENTS. PRIMARY ACCESS ROADS HAVE NO UNUSUAL WEIGHT OR WIDTH RESTRICTIONS.
2. SECONDARY LOCAL ACCESS ROADS ARE DEFINED AS EXISTING PAVED OR UNPAVED PUBLIC ROADS AND INCLUDES HOSPITAL ACCESS RD. WEIGHT RESTRICTIONS SHALL FOLLOW PNHS REQUIREMENTS.

CONSTRUCTION STAGING NOTES:

1. STAGING AREAS MUST BE DELINEATED PRIOR TO CONSTRUCTION TO ESTABLISH LIMITS AND FOR EROSION CONTROL. ORANGE CONSTRUCTION FENCE CAN BE USED AS APPROVED BY ENGINEER IN AREAS WHERE EROSION CONTROL IS NOT A CONCERN.
2. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL SILT FENCE, SILT SOCK AND OTHER TEMPORARY EROSION CONTROL MEASURES AFTER GROUND COVER VEGETATION IS ESTABLISHED.
3. STOCKPILES SHALL BE PROTECTED FROM EROSION AND CONTROLLED IN ACCORDANCE WITH ALL APPLICABLE PERMITS FOR THE WORK, SEE SWPPP.

SITE PREPARATION/ACCESS SPECIFICATIONS:

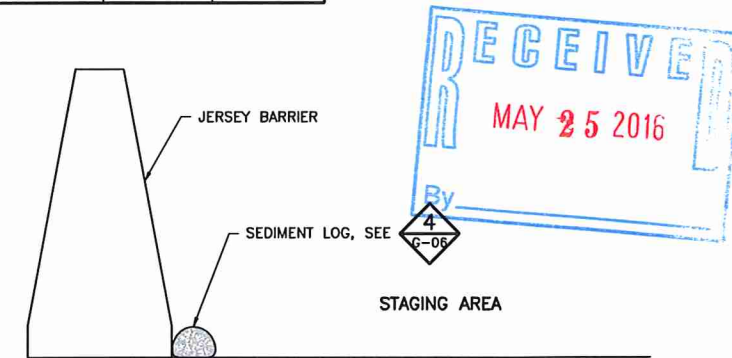
- 1.00 WHERE A SPECIFIC STANDARD OR METHOD OF INSTALLATION IS NOT SPECIFIED, CONTRACTOR SHALL FOLLOW THE CURRENT VERSION OF MNDOT STANDARD SPECIFICATIONS.
- 1.01 CONTRACTOR TO PROTECT EXISTING ACCESS ROADS TO THE PROJECT SITE. ACCESS ROADS SHALL BE IN A CONDITION THAT ALLOWS ENTRANCE TO THE SITE BY OWNER, INSPECTORS, AND AGENCIES AT ALL TIMES. CONTRACTOR SHALL TAKE MEASURES AS NECESSARY TO SECURE THE PROJECT SITE FROM PUBLIC ACCESS.
- 1.02 CONTRACTOR NOT TO USE OR OBSTRUCT ANY PUBLIC OR PRIVATE ROADWAY OR DRIVEWAY OR PORTION WITHOUT PRIOR WRITTEN APPROVAL. ANY AND ALL DAMAGE TO SUCH ROADWAYS OR DRIVEWAYS AS A RESULT OF CONTRACTOR ACTIVITIES AND OPERATIONS SHALL BE REPAIRED, AT CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE PROPERTY OWNER.
- 1.03 CONTRACTOR SHALL PARK VEHICLES, EQUIPMENT, AND STORE MATERIALS WITHIN STAGING AREAS DESIGNATED IN THE DRAWINGS. CONTRACTOR TO IMPROVE, MAINTAIN, AND DEVELOP STAGING AREAS AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS AS NECESSARY TO COMPLETE THE WORK.
- 1.04 CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS NECESSARY FOR THE CONTROL OF DUST ARISING DURING THE PERFORMANCE OF THE WORK.
- 1.05 WHERE NEEDED, CONSTRUCTION FENCE SHALL BE 4' HIGH ORANGE UV STABILIZED EXTRUDED POLYPROPYLENE.
- 1.06 PERSONAL PROTECTIVE EQUIPMENT REQUIRED FOR ALL PERSONNEL.

TABLE G-03A

COORDINATE TABLE STAGING AREA A POINTS		
ID	NORTHING	EASTING
1	150844.1587	505218.3192
2	150756.9761	505227.0000
3	150528.9761	505227.0000
4	150528.9761	505194.9984
5	150758.4291	505197.0247

TABLE G-03B

COORDINATE TABLE STAGING AREA B POINTS		
ID	NORTHING	EASTING
6	151585.2386	505026.8023
7	151377.2386	505026.8023
8	151377.2386	504960.8023
9	151585.2386	504960.8023



NOTE: BARRIER AND SEDIMENT LOGS TO BE INSTALLED SURROUNDING PROPOSED STAGING AREAS TO CONTROL TRAFFIC, ACCESS AND MINIMIZE SEDIMENT IN RUNOFF.

2 **DETAIL: STAGING AREA BARRIER & SEDIMENT LOG**
NOT TO SCALE

1 **PLAN: GENERAL PLAN**
0 100 200
SCALE IN FEET

**95% DRAFT
SUBMITTAL**

CADD USER: Max J. Jouppe FILE: M:\DESIGN\232713800\03\DWG PLOT SCALE: 1:2 PLOT DATE: 4/27/2016 3:20 PM

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT: 01/07/15 24/28/16 CONSTRUCTION: _____ RELEASED TO/FOR: A B C O 1 2 3 DATE RELEASED: _____	BARR Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE SUITE 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale: AS SHOWN Date: 10/12/15 Drawn: MJJ Checked: MTP2 Designed: MTP2 Approved: MAK2	PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA GENERAL OVERALL PLAN SITE ACCESS AND STAGING	BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. - DWG. No. G-03 REV. No. B
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION			

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GENERAL CONSTRUCTION ACTIVITY INFORMATION:

The Stormwater Pollution Prevention Plan (SWPPP) is required for the General Permit Authorization to Discharge Stormwater Associated with Construction Activity (NPDES Permit) as required by the Minnesota Pollution Control Agency (MPCA) under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS).

The project is located in Hennepin County in Saint Louis Park, Minnesota. Proposed construction will take place within section 20 township 117, range 21, Latitude: 44°55'48"N, Longitude: 93°21'48"W

The project work involves the construction of a proposed floodwall and storm sewer modifications for the purpose of providing flood risk management for a portion of the Park Nicollet Methodist Hospital complex. The project work includes earthwork, storm sewer installation, floodwall construction, erosion control, pump station and site restoration. The project is not part of a larger common plan of development. The project proposed has a total disturbance area of less than five (5) acres. Erosion prevention measures are required to prevent sediment from being transported off site and to nearby surface waters. Refer to project drawings for further details.

The anticipated total area of disturbance is approximately 0.43 acres.

The total area of pre-construction impervious area is approximately 0.27 acres. The total area of post-construction impervious area is approximately 0.25 acres.

DATES OF CONSTRUCTION: Begin Construction August 2016, Completion January 2017.

RESPONSIBLE PERSONS:

Below is a list of people responsible for this project who are knowledgeable and experienced in the application of erosion prevention and sediment control BMPs. They shall oversee the implementation of the SWPPP, inspection, and maintenance of erosion prevention, and sediment control BMPs before and during construction.

RESPONSIBLE PERSONS IS PENDING CONTRACTOR SELECTION

OWNER: PARK NICOLLET HEALTH SERVICES CONTRACTOR: MORTENSON CONSTRUCTION
MAILING ADDRESS: 6500 EXCELSIOR BLVD MAILING ADDRESS: 700 MEADOW LN NORTH
ST. LOUIS PARK, MN 55426 MINNEAPOLIS, MN 55422

CONTACT PERSON: ROBERT RIESSELMAN CONTACT PERSON: JULIE CRAWFORD
PHONE: 952-993-5103 PHONE: 763-287-5373
EMAIL: ROBERT.RIESSELMAN@PARKNICOLLET.COM MOBILE PHONE: 612-328-2961

TRAINED INDIVIDUAL	RESPONSIBILITY	APPLICABLE TRAINING	TRAINING DOCUMENTATION ATTACHED?
TBD	Preparation of SWPPP	TBD	No
TBD	Oversight of SWPPP Implementation, Revision And Amendment	TBD	
TBD	Performance of SWPPP Inspections	TBD	
TBD	Performance or Supervision of Installation Maintenance, and Repair of BMPs	TBD	

RECEIVING WATERS:

Water body ID: Water Body Name: Minnehaha Creek Water Body Type: Creek

Special Water? No Impaired Water? Yes DNR Work in Water Restrictions? No

Project Area Soil Type:

Impaired Waters:

Wetland Impacts and Mitigation: SEE G-05

Environmental Review/Endangered or Threatened Species Review/Archaeological Site Review: N/A.

PROJECT PLANS AND SPECIFICATIONS:

Required Feature	Sheet No.
Project Location	G-01
Construction Limits	G-05
Existing and Final Grades with Flow Direction	G-05
Impervious Surfaces	G-05
Potential Pollution generating activities	G-01 - C-10
Areas not to be disturbed	Any Areas Outside Construction Limits
Areas where construction will be phased	N/A
Temporary and Permanent erosion and sediment control BMPs	G-05
Standard Details for erosion and sediment control	G-06
Estimated Preliminary BMP Quantities	Bid Documents

TEMPORARY EROSION CONTROL PRACTICES

Timing:

- Delineate areas of the site not to be disturbed (with flags, stakes, signs, silt fence, etc.) before work begins.
- Construction phasing will be used when possible to minimize concurrent soil exposure; stabilizing areas as soon as work is completed; and restoring access paths when they are no longer needed.
- Initiate stabilization immediately whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- Complete stabilization no later than 7 calendar days after the construction activity in that portion of the site has temporarily or permanently ceased.
- Pipe outlets must be provided with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

BMPs:

- Erosion control and stabilization practices to be installed are depicted on Drawings No. G-05 and G-06, and include: silt fence, sediment control logs, erosion control blanket, turf reinforcement mat, rock construction entrance, and vegetation (through seeding).
- Soils stockpiles shall be stabilized with fast-growing cover crop and silt fence or siltation log shall be placed around the perimeter of the stock piles.
- Erosion control blanket shall be used to cover all disturbed slopes.
- Direct construction site discharges to vegetated areas where feasible.
- Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

TEMPORARY SEDIMENT CONTROL PRACTICES

Timing:

- Establish sediment control practices on all downgradient perimeters prior to commencing any upgradient land-disturbing activities.
- If sediment control practices must be adjusted or removed to accommodate short-term activities, complete the activity as quickly as possible and re-install immediately after the activity has been completed or before the next precipitation event (even if the activity is not yet complete).
- Maintain downgradient sediment control practices until final stabilization has been achieved for upgradient areas.

BMPs:

- Minimize soil compaction where feasible.
- Preserve topsoil where feasible; if topsoil must be removed, store in a segregated stockpile for reuse in site restoration.
- Sediment control practices to be installed are depicted on Sheets G-05 and G-06 and include: silt fence, siltation logs, and rock construction entrance.
- Install silt fence or siltation logs around the perimeter of temporary soil stockpiles.
- Install rock construction entrances as a vehicle tracking BMP to minimize the track out of sediment from the construction site.
- Monitor adjacent paved surfaces for track out of sediment from construction site and remove sediment via street sweeping if necessary.
- Install all BMPs in accordance with relevant manufacturer specifications and accepted engineering practices.

BMP DESIGN FACTORS

- Expected amount, frequency, intensity, and duration of precipitation: Approximately 2.5 inches of precipitation from the 1-year, 24-hour storm event (Atlas 14).
- Nature of stormwater runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features: The site accumulates runoff from many off site slopes. Contractor shall install all erosion and sedimentation control devices to handle this off site runoff.
- If any stormwater flow will be channelized at the site, design BMPs to control both peak flow rates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion: Peak flow rates and total stormwater volume should not be increased during this project. Stormwater channelization is anticipated. Channelized flow will be routed to vegetated areas where appropriate.
- Range of soil particle sizes expected to be present on the site and surrounding area: clay, sandy clay, sandy silt, silty sand, sand, gravel.

PERMANENT STORMWATER MANAGEMENT SYSTEM

This project will NOT generate greater than one acre of new impervious surface and will NOT require a stormwater management system.

INSPECTION AND MAINTENANCE ACTIVITIES

Inspection Requirements:

- Inspect the entire construction site at least once every 7 days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.
- Where parts of the site have permanent cover, but work remains on other parts of the site, inspection frequency may be reduced to once per month in areas with permanent cover.
- Inspect all erosion prevention and sediment control BMPs and pollution prevention management measures for integrity and effectiveness.
- Inspect surface waters for evidence of erosion and sediment deposition.
- Inspect construction site vehicle exit locations for evidence of off-site sediment tracking onto paved surfaces and inspect streets and other areas adjacent to the project for evidence of off-site accumulations of sediment.
- Inspections must be conducted by an appropriately trained individual in accordance with the CSW Permit.

Maintenance Requirements:

- Repair, replace, or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery or as soon as field conditions allow access.
- Repair, replace or supplement all perimeter control devices when they become nonfunctional or the sediment reaches 1/2 of the height of the device.
- Remove all deltas and sediment deposited in surface waters and restabilize the areas where sediment removal results in exposed soil within 7 days of discovery.
- Remove tracked sediment from all paved surfaces both on and off site within 24 hours of discovery.
- Remove off-site accumulations of sediment in a manner and at a frequency sufficient to minimize off-site impacts.
- Maintain all BMPs accordance with relevant manufacturer specifications and accepted engineering practices.

Recordkeeping:

- All inspections and maintenance must be recorded within 24 hours in writing and records must be retained with the SWPPP.
- Records of each inspection and maintenance activity shall include:
 - Date and time of inspections
 - Name of person(s) conducting inspections
 - Findings of inspections, including the specific location where corrective actions are needed
 - Corrective actions taken (including dates, times, and party completing maintenance activities)
 - Date and amount of all rainfall events greater than 0.5 inches in 24 hours; rainfall amounts will be obtained from a properly maintained rain gauge installed onsite, a weather station that is within 1 mile of the site, or a weather reporting system that provides site specific rainfall data from radar summaries.
 - If any discharge is observed to be occurring during the inspection, a record of all points of the property from which there is a discharge must be made, and the discharge should be described (i.e., color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of pollutants) and photographed.
 - Any amendments to the SWPPP proposed as a result of the inspection must be incorporated within 7 calendar days

RECORD RETENTION

This SWPPP including, all changes to it, and inspections and maintenance records must be kept at the site during construction in either the field office or in an on-site vehicle during normal working hours.

Upon request make this SWPPP (including all certificates, reports, records, or other information required by the CSW Permit) available to federal, state, and local officials within 72 hours for the duration of the permit and for 3 years following the NOT.

POLLUTION PREVENTION MANAGEMENT MEASURES

- Minimize exposure to stormwater of the following products, materials, or wastes: building products that have potential to leach pollutants are not expected to be present on site, but if present exposure to stormwater will be minimized through coverage with plastic sheeting; pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials through coverage with plastic sheeting; hazardous materials and toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) through proper storage in sealed containers in restricted access storage areas and in compliance with Minn. R. ch. 7045 including secondary containment as applicable; solid waste through proper storage, collection, and disposal in compliance with Minn. R. ch. 7035.
- Position portable toilets so that they are secure and will not be tipped or knocked over.
- Properly dispose of sanitary waste in accordance with Minn. R. ch. 7041.
- Spill Prevention and Response: Take reasonable steps to prevent the discharge of spilled or leaked chemicals, ensure adequate supplies of absorbent and other dry clean-up materials are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials, report and clean up spills immediately as required by Minn. Stat. §115.061.
- Fueling and maintenance of equipment and/or vehicles will not occur on-site.
- Washing of vehicles and/or equipment will not occur on-site.
- Washout of concrete and/or other similar wastes (such as stucco, paint, form release oils, curing compounds and other construction materials) will not occur on-site.

FINAL STABILIZATION

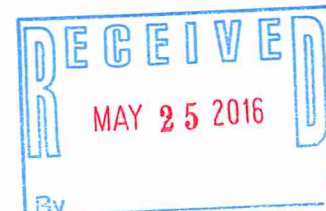
Ensure final stabilization of the site.

- For final stabilization to be considered complete, the following must occur:
 - Complete all soil disturbing activities at the site.
 - Stabilize all soils with permanent cover.
 - Remove all temporary synthetic and structural erosion prevention and sediment control BMPs.
- Permanent Cover will consist of seeding, erosion control blanket on slopes and disturbed areas, and seeding in all other disturbed areas.
- Storm sewer culverts shall have flared sections and riprap to eliminate erosion.
- BMPs shall not be removed until MCWD has determined that the site has been permanently re-established and shall be removed within 30 days thereafter.
- Within 30 days after all activities for final stabilization have been completed, submit a Notice of Termination (NOT) form to the MPCA.

SWPPP AMENDMENTS

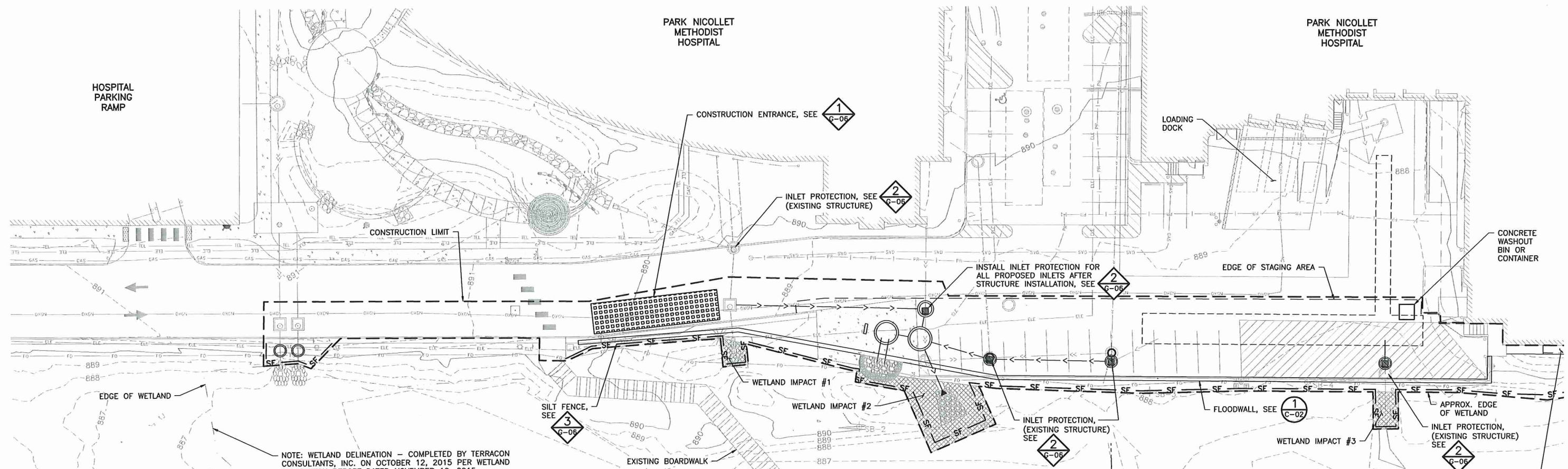
Record of SWPPP Amendments

DATE	AMENDMENT	RESPONSIBLE INDIVIDUAL
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		CLIENT: 11/17/15 04/29/16	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435	Scale: AS SHOWN	PARK NICOLLET HEALTH SERVICES		PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA		BARR PROJECT No. 23/27-1380.00	
PRINTED NAME: _____		CONSTRUCTION	Corporala Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Date: 10/12/15	ST. LOUIS PARK, MINNESOTA		STORMWATER POLLUTION PREVENTION NOTES		CLIENT PROJECT No. -	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A B C 0 1 2 3	DATE RELEASED	DWG. No. G-04	REV. No. B



1 PLAN: EROSION CONTROL - FLOODWALL AREA

0 20 40
SCALE IN FEET

TABLE G-05

WETLAND IMPACTS		
ID	TEMPORARY	PERMANENT
#1	100 SF	
#2	622 SF	152 SF
#3	150 SF	
#4	213 SF	

CONTRACTOR ACQUIRED PERMITS:

- 1.00 CONTRACTOR TO OBTAIN AN EROSION CONTROL PERMIT FROM THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) AND CITY OF ST. LOUIS PARK.
- 1.01 CONTRACTOR TO OBTAIN AN AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION STORMWATER GENERAL PERMIT FOR THE SITE.
- 1.02 CONTRACTOR TO OBTAIN BUILDING PERMIT FROM CITY OF ST. LOUIS PARK.
- 1.03 CONTRACTOR TO OBTAIN NECESSARY DEWATERING PERMITS.

TEMPORARY EROSION AND SEDIMENT CONTROL SPECIFICATIONS:

- 2.00 CONTRACTOR TO IMPLEMENT ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES TO MEET THE REQUIREMENTS OF THE CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP), EROSION CONTROL DETAILS, SPECIFICATIONS, APPLICABLE CODES, LAWS AND REGULATIONS AND PERMITS.
- 2.01 QUALIFIED PERSONNEL PROVIDED BY THE CONTRACTOR SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT ACHIEVED FINAL VEGETATION STABILIZATION IN ACCORDANCE WITH THE SWPPP.
- 2.02 OWNER MAY STOP WORK ON THE PROJECT IF CONTRACTOR IS OPERATING IN VIOLATION OF THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL, WITHIN 24 HOURS, COMMENCE TO DILIGENTLY RESTORE THE PROJECT TO CONFORM TO THE CONDITIONS OF THE DRAWINGS AND SPECIFICATIONS. IF, IN OWNER'S OPINION, CONTRACTOR HAS NOT, WITHIN 24 HOURS AFTER THE WORK STOPPAGE, COMMENCED TO DILIGENTLY RESTORE THE PROJECT TO CONFORM TO THE CONDITIONS OF THE DRAWINGS AND SPECIFICATIONS, THEN OWNER MAY, WITHOUT FURTHER NOTICE TO CONTRACTOR, TAKE ACTIONS TO IMMEDIATELY RESTORE THE PROJECT TO THE CONDITIONS OF THE DRAWINGS AND SPECIFICATIONS. THE COST OF ACTIONS BY THE OWNER REQUIRED TO RESTORE THE PROJECT TO THE CONDITIONS OF DRAWINGS AND SPECIFICATIONS WILL BE PAID BY THE CONTRACTOR.

- 2.04 DEWATERING OR BASIN DRAINING (E.G. PUMPED DISCHARGES, TRENCH/DITCH CUTS FOR DRAINAGE) RELATED TO THE CONSTRUCTION ACTIVITY THAT MAY HAVE TURBID OR SEDIMENT LADEN DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE SITE WHENEVER POSSIBLE. IF WATER CANNOT BE DISCHARGED TO A SEDIMENTATION BASIN PRIOR TO ENTERING THE SURFACE WATER, IT MUST BE TREATED WITH THE APPROPRIATE BMPs, SUCH THAT THE DISCHARGE DOES NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDOWNERS.

EARTHWORK SPECIFICATIONS:

- 3.00 CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR UTILIZING MEANS AND METHODS THAT PROTECT ADJACENT STRUCTURES AND UTILITIES FROM DAMAGE RESULTING FROM CONTRACTOR'S OPERATIONS, SPECIFICALLY INCLUDING, BUT NOT LIMITED TO, SETTLEMENT, CONSOLIDATION, DISPLACEMENT, CRACKING, VIBRATION, UNDERMINING, WASHOUT, AND UPLIFT CAUSED BY EXCAVATING, COMPACTION, DEWATERING, OR ANY OTHER OPERATION.
- 3.01 CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, TRENCH BOXES, AND OTHER MEASURES REQUIRED TO PERFORM ALL WORK IN ACCORDANCE WITH LAWS AND REGULATIONS AND IN A MANNER TO PROTECT THE HEALTH AND SAFETY OF FIELD PERSONNEL. SPECIFICALLY, CONTRACTOR SHALL BE RESPONSIBLE TO ASSURE THAT ALL EXCAVATIONS TO BE ENTERED CONFORM TO THE REQUIREMENTS OF OSHA INCLUDING WITHOUT LIMITATION THOSE SET FORTH IN 29 CFR 1926, SUBPART P (OCCUPATIONAL SAFETY AND HEALTH STANDARDS - EXCAVATIONS).
- 3.02 ALL MATERIAL PLACED AS COMMON FILL SHALL CONSIST OF MATERIAL CLASSIFIED BY ASTM D 2487 AS SP, SM, SC, CL, CH AND SW. THE MATERIAL SHALL BE FREE OF ICE, SNOW, FROZEN EARTH, TRASH, DEBRIS, SOD, ROOTS, STONES LARGER THAN 3 INCHES IN ANY DIMENSION AND HAVE LESS THAN TWO PERCENT ORGANIC CONTENT. MATERIAL PLACED SHALL BE THE TYPE AS SPECIFIED FOR THE USE AND LOCATION AS SHOWN ON THE DRAWINGS.
- 3.03 IMPORT TOPSOIL SHALL BE IMPORTED SELECT TOPSOIL BORROW THAT MEETS THE REQUIREMENTS OF MNDOT STANDARD SPECIFICATIONS 3877.2A, COMMON TOPSOIL BORROW.

- 3.04 UTILITY BEDDING AND BACKFILL MATERIALS USED IN UTILITY CONSTRUCTION IS DESCRIBED IN TRENCHING AND BACKFILLING FOR UTILITIES.
- 3.05 RIPRAP AND RIPRAP BEDDING MATERIALS USED IN RIPRAP BEDDING AND RIPRAP CONSTRUCTION SHALL FOLLOW MNDOT STANDARD SPECIFICATIONS 2511 AND 3601.
- 3.06 THE CONTRACTOR SHALL IMPACT ONLY THOSE WETLAND AREAS IDENTIFIED AS ALLOWABLE TEMPORARY WETLAND IMPACT, FILL OR EXCAVATION.

COMPACTION SPECIFICATIONS:

- 4.00 MOISTURE CONTROL: CONTROL OF MOISTURE IN THE FILL SHALL BE MAINTAINED TO PROVIDE ACCEPTABLE COMPACTION. DRIED OR CRUSTED COHESIVE SOILS SHALL BE PLOWED, DISKED OR OTHERWISE BROKEN UP BEFORE COMPACTION. IF WATER IS ADDED TO FILLS, THE LAYER SHALL BE SPREAD IN EVEN LIFTS, MOISTENED AS NECESSARY, THOROUGHLY MIXED TO A HOMOGENEOUS STATE, AND COMPACTED. MAINTAIN MOISTURE CONTENT FOR LEVEE FILL BETWEEN W_o - 3% AND W_o + 3% DURING PLACEMENT AND COMPACTION.
- 4.01 PLACEMENT AND COMPACTION: EACH LAYER SHALL BE SPREAD UNIFORMLY. THE TYPE OF FILL, ITS MAXIMUM UNCOMPACTED LIFT THICKNESS, AND THE MINIMUM COMPACTION REQUIREMENTS (PERCENT OF STANDARD PROCTOR DRY DENSITY) TO WHICH EACH TYPE OF FILL SHALL BE COMPACTED SHALL BE AS LISTED BELOW.

FILL ZONE	MAXIMUM COMPACTED LIFT THICKNESS (INCHES)	PERCENT OF STANDARD PROCTOR DRY DENSITY
GENERAL GRADING (COMMON FILL) (EXCLUDES TOPSOIL)	10	90
STRUCTURE SUBGRADES/ FOUNDATIONS FOR FOOTING SLABS, MANHOLE STRUCTURES	6	95
UTILITY BACKFILL	6	95

- 4.02 FILL MATERIALS SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING 4 INCHES COMPACTED THICKNESS WHEN HAND-OPERATED COMPACTORS ARE USED.
- 4.03 STRUCTURE BACKFILL MATERIALS UNDER PAVEMENTS SHALL BE COMPACTED TO THE SPECIFIED MINIMUM PERCENT OF STANDARD PROCTOR DRY DENSITY FOR THE TOP 36 INCHES BELOW THE AGGREGATE BASE COURSE. FILL SHALL BE PLACED IN COMPACTED LIFTS NOT EXCEEDING 6 INCHES AND COMPACTED TO MINIMUM 95% OF STANDARD PROCTOR DRY DENSITY.
- 4.04 ONLY TRACKED SKID STEERS, WIDE TRACKED DOZER OR OTHER LOW GROUND PRESSURE EQUIPMENT SHALL BE USED TO SPREAD TOPSOIL.

CONTROL OF WATER / DEWATERING SPECIFICATIONS:

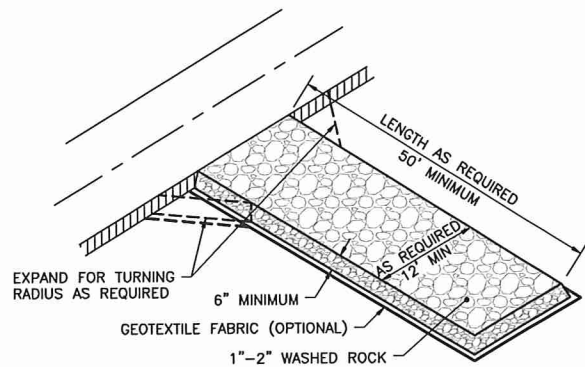
- 5.00 CONTRACTOR SHALL MONITOR RAIN FORECASTS, MONITOR RIVER GAGE DATA AND OTHER AVAILABLE INFORMATION WHEN SEQUENCING WATER CONTROL.
- 5.01 CONTRACTOR SHALL SUBMIT A PROPOSED WATER CONTROL, DEWATERING AND WATER MANAGEMENT PLAN FOR REVIEW.
- 5.02 CONTRACTOR SHALL CARRY OUT THE CONTROL OF WATER IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL APPLICABLE STREAM DISCHARGE AND POLLUTION REQUIREMENTS.
- 5.03 CONTRACTOR WILL BE REQUIRED TO MANAGE THE WORK AREA DURING CONSTRUCTION TO ACCOUNT FOR FLUCTUATIONS IN WATER FLOW AND RIVER WATER LEVELS AS NECESSARY TO PROTECT THE WORK AND CONTRACTOR'S EQUIPMENT, MATERIAL, AND PERSONNEL, AND ACCORDING TO ALL APPLICABLE LAWS AND REGULATIONS.
- 5.04 CONTROL OF RUNOFF ON THE SITE AND DISCHARGE OF RUNOFF TO SURFACE WATERS SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE WORK AND COMPLY WITH APPLICABLE LAWS AND REGULATIONS.
- 5.05 CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ADEQUACY OF THE DEWATERING SYSTEM(S).
- 5.06 DISCHARGE OF ANY WATER FROM EXCAVATIONS OR OTHER AREAS SHALL MEET ALL PERMIT REQUIREMENTS, RULES, AND REGULATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY DEWATERING PERMITS.

95% DRAFT
SUBMITTAL

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PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		RELEASED TO/FOR: _____ DATE RELEASED: _____		A B C 0 1 2 3		TEMPORARY EROSION CONTROL PLAN		DWG. No. G-05		REV. No. B			
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION								

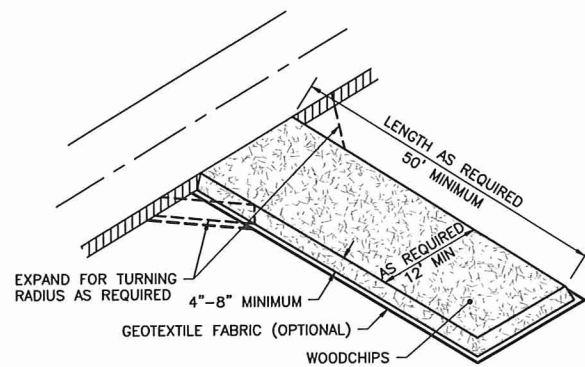


DETAIL: CONSTRUCTION ENTRANCE - ROCK

NOTES:

- ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
- ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.

ROCK ENTRANCES ARE THE DEFAULT CONSTRUCTION ENTRANCES WOOD CHIP ENTRANCES MAY BE SUBSTITUTED ON AN INDIVIDUAL BASIS IF APPROVED BY ENGINEER.

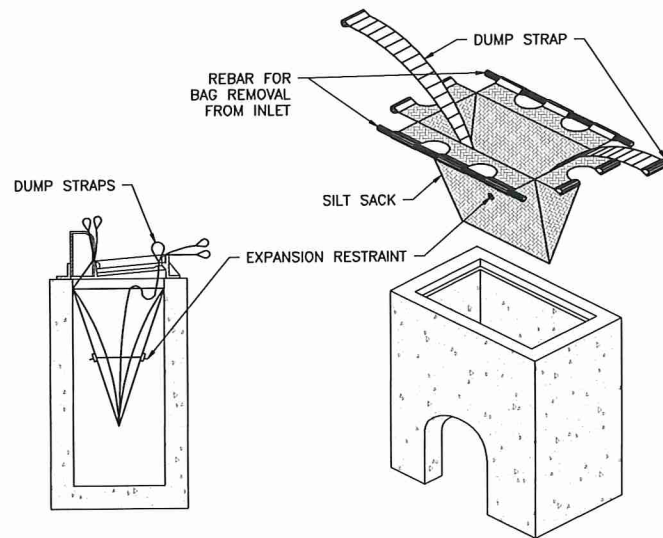


DETAIL: CONSTRUCTION ENTRANCE - WOODCHIP

NOTES:

- ENTRANCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED TO PREVENT TRACKING OFFSITE.
- ENTRANCE SHALL BE REMOVED IN CONJUNCTION WITH FINAL GRADING AND SITE STABILIZATION.

1 **DETAIL: CONSTRUCTION ENTRANCE - ROCK AND WOODCHIP**
G-05 NOT TO SCALE

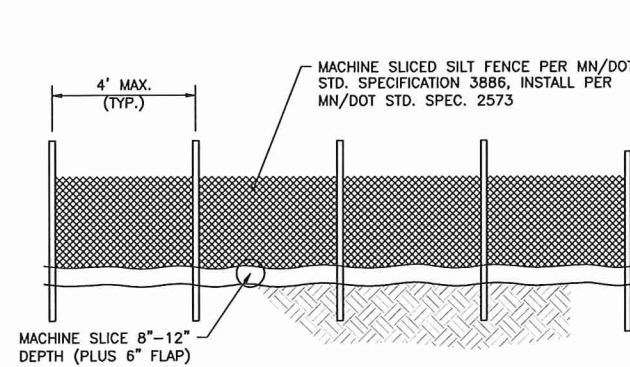


DETAIL: INLET PROTECTION - FILTER SACK

NOTES:

- INLET PROTECTION SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED OR IMMEDIATELY FOLLOWING CATCHBASIN INSTALLATION, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- MATERIALS SHALL BE SUFFICIENT TO ALLOW FLOW WHILE BLOCKING SEDIMENT. NO HOLES OR GAPS SHALL BE PRESENT IN/AROUND FILTER SACK.
- FILTER SACK SHOULD BE CLEANED AS REQUIRED TO ALLOW FLOW INTO CATCHBASIN.
- MATERIALS AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
- CONTRACTOR SHALL USE APPLICABLE SACK BASED ON STRUCTURE SIZE AND GEOMETRY. (DETAIL REFERENCES RECTANGULAR INLET STRUCTURE)

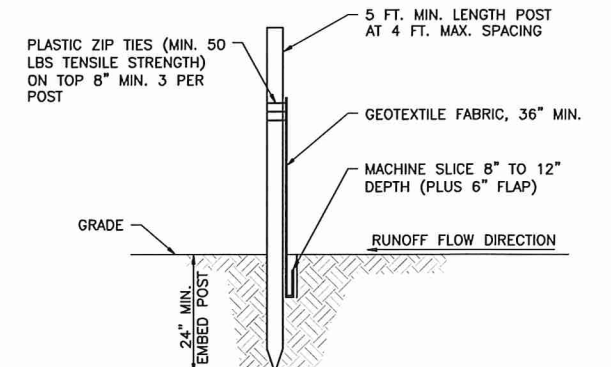
2 **DETAIL: INLET SEDIMENT PROTECTION**
G-05 NOT TO SCALE



DOWNSTREAM VIEW

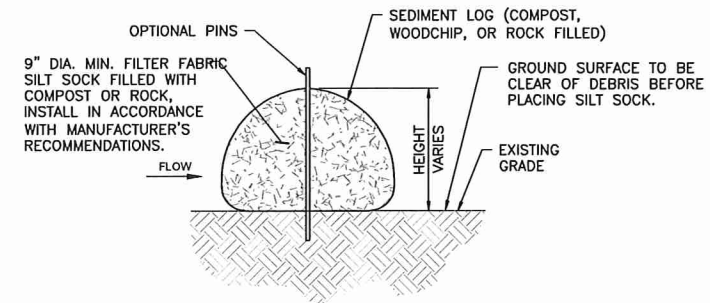
NOTES:

- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. SILT FENCE AND ANY ACCUMULATED SEDIMENT SHALL BE REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION.
- SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE REQUIREMENTS OF MN/DOT SPECIFICATIONS 2573 AND 3886.
- NO HOLES OR GAPS SHALL BE PRESENT IN/UNDER SILT FENCE. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
- WHEN SEDIMENT BUILD UP REACHES 1/3 OF FENCE HEIGHT, THE SILT FENCE SHOULD BE REMOVED OR A SECOND SILT FENCE INSTALLED UPSTREAM OF THE EXISTING FENCE AT A SUITABLE DISTANCE.
- WHEN SPLICES ARE NECESSARY MAKE SPLICE AT POST ACCORDING TO SPLICE DETAIL. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS TOGETHER AT LEAST 180 DEGREES TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL. CUT THE FABRIC NEAR THE BOTTOM OF THE POSTS TO ACCOMMODATE THE 6 INCH FLAP. THEN DRIVE BOTH POSTS AND BURY THE FLAP. COMPACT BACKFILL.



SECTION VIEW

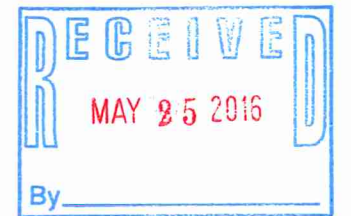
3 **DETAIL: SILT FENCE - MACHINE SLICED**
G-05 NOT TO SCALE



NOTES:

- STAKE FREE SEDIMENT LOG TO BE USED IN AREAS THAT ARE RELATIVELY FLAT AND SHOULD BE INSTALLED ALONG CONTOURS (CONSTANT ELEVATION).
- NO GAPS SHALL BE PRESENT UNDER SEDIMENT LOG. PREPARE AREA AS NEEDED TO SMOOTH SURFACE OR REMOVE DEBRIS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN REACHING 1/2 OF LOG HEIGHT.
- SEDIMENT LOG SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REPAIRED OR REPLACED AS REQUIRED.

4 **DETAIL: SEDIMENT LOG - STAKE FREE**
G-05 NOT TO SCALE

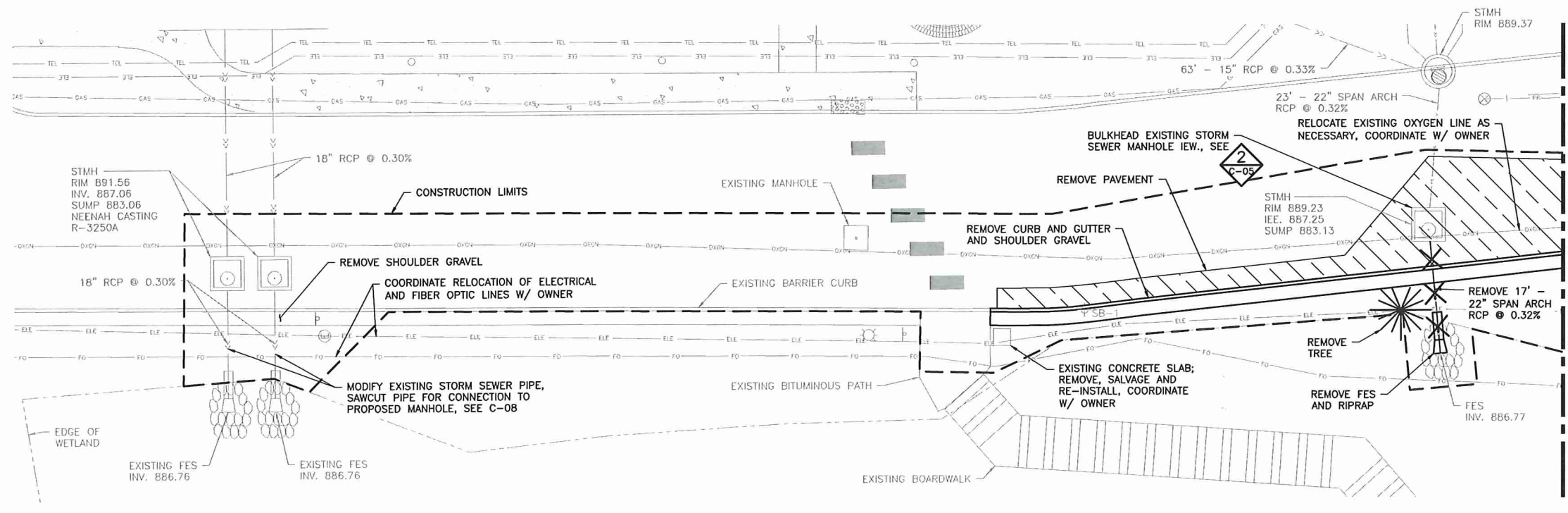


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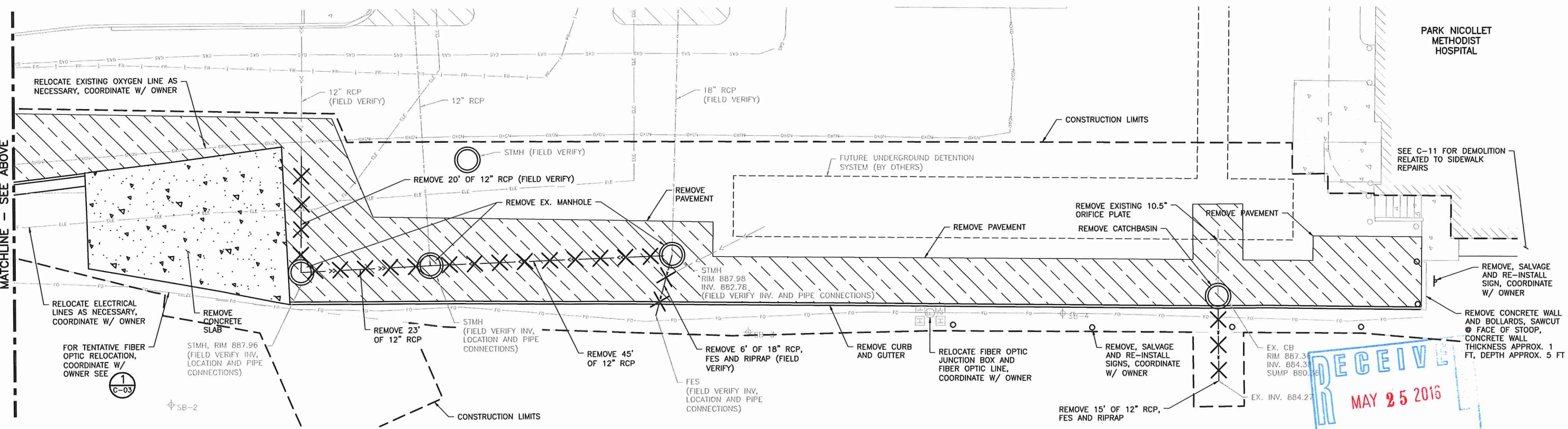
CADD USER: Max J. Jouppe FILE: M:\DESIGN\23271380\00\2327138000_G-06.DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2016 10:43 AM

NO. BY CHK. APP. DATE REVISION DESCRIPTION		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.		CLIENT: 11/17/15 4/28/16 BID: _____ CONSTRUCTION: _____ RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 10/12/15 Drawn: MJJ Checked: MTP2 Designed: MTP2 Approved: MAK2		PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA		PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA TEMPORARY EROSION CONTROL DETAILS		BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. - DWG. No. G-06 REV. No. B	
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1 PLAN: DEMOLITION - FLOODWALL AREA
 SCALE IN FEET
 0 10 20



2 PLAN: DEMOLITION - FLOODWALL AREA
 SCALE IN FEET
 0 10 20

- DEMOLITION SPECIFICATIONS:**
- 1.00 CONTRACTOR TO NOTIFY OWNER BEFORE PROCEEDING WITH DEMOLITION WORK TO PROVIDE OWNER THE OPPORTUNITY TO INSPECT THE WORK AREA PRIOR TO STARTING WORK. CONTRACTOR SHALL PERFORM A SITE WALK-THROUGH WITH OWNER PRIOR TO START OF DEMOLITION.
 - 1.01 ALL DEMOLITION AND CONSTRUCTION ACTIVITIES, INCLUDE STORAGE, STOCKPILING AND VEHICULAR TRAFFIC MUST BE KEPT WITHIN THE CONSTRUCTION LIMITS. DO NOT BLOCK ACCESS TO ADJACENT BUILDINGS WITHOUT PERMISSION AND COORDINATION WITH OWNER.
 - 1.02 CONTRACTOR IS RESPONSIBLE FOR SEQUENCING OF ALL DEMOLITION WORK AS IT RELATES TO IMPLEMENTATION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE WORK. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO DISTURBING EXISTING VEGETATED LAND COVER, REMOVING EXISTING PAVEMENTS OR STRUCTURES OR EXPOSING ERODIBLE SOILS.
 - 1.03 **SUBMIT PRE-CONSTRUCTION/POST-CONSTRUCTION SURVEYS.** THE CONTRACTOR SHALL PHOTOGRAPH AND VIDEO TAPE FACILITIES WITHIN THE WORK LIMITS PRIOR TO WORKING IN AN AREA IN ORDER TO DOCUMENT THE PRECONSTRUCTION CONDITIONS. THE CONTRACTOR SHALL ALSO TAKE PHOTOGRAPHS AND VIDEO TAPE THE CONDITIONS IN THE SAME AREAS UPON COMPLETION OF THE PROJECT. CONTRACTOR SHALL SUBMIT TO OWNER AND ENGINEER THE DOCUMENTATION GATHERED DURING SURVEYS.
 - 1.04 PRECAUTIONS SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING FEATURES AND COMPLETED WORK WHICH IS TO REMAIN IN PLACE, BE REUSED, OR REMAIN THE PROPERTY OF OWNER AND TO ANY NEW WORK CONSTRUCTED OR INSTALLED UNDER THIS CONTRACT. ANY DAMAGE TO SUCH WORK SHALL BE REPAIRED OR REPLACED AS APPROVED BY OWNER AT NO ADDITIONAL COST TO OWNER.
 - 1.05 AS PART OF DEMOLITION, CONTRACTOR SHALL REVIEW SITE CONDITIONS, UTILITY LOCATIONS, PAVEMENTS, FOUNDATIONS, ETC. TO REMOVE TO THE GREATEST EXTENT POSSIBLE ALL KNOWN OBSTRUCTIONS WITHIN THE FLOODWALL FOOTPRINT.
 - 1.06 CONTRACTOR SHALL GRADE, BACKFILL AND COMPACT EXCAVATIONS ASSOCIATED WITH DEMOLITION ACTIVITIES IN ACCORDANCE WITH REQUIREMENTS DEFINED UNDER EARTHWORK.
 - 1.07 UTILITIES SHOWN ARE APPROXIMATE AND BASED ON GOPHER STATE ONE-CALL LOCATE FOR DESIGN. FIELD VERIFY LOCATION AND PRESENCE OF ALL UTILITIES PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES. COORDINATE REMOVAL/RELOCATION OF UTILITIES WITH PNHS AND UTILITY OWNERS.
 - 1.08 CONTRACTOR TO DEWATER EXCAVATIONS AS NECESSARY TO KEEP THE BOTTOM OF ALL EXCAVATIONS FREE FROM INCOMING WATER.
 - 1.09 EDGES OF ASPHALT OR CONCRETE SUBJECT TO REMOVAL SHALL BE SAW CUT VERTICALLY THROUGH THE ENTIRE DEPTH OF PAVEMENT STRUCTURE.

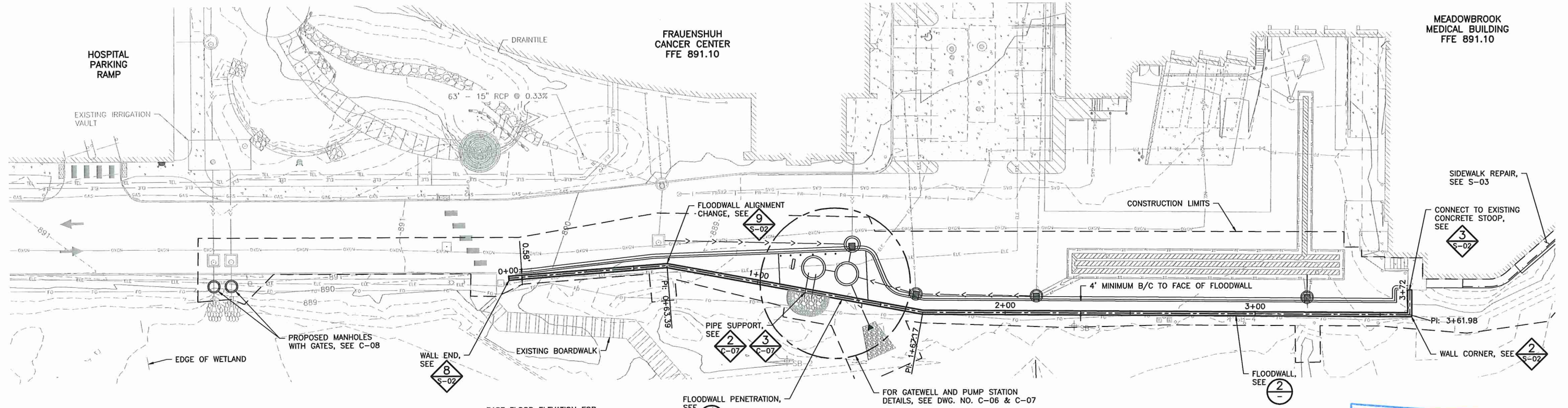
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By _____

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	PRINTED NAME	SIGNATURE	DATE	LICENSE #	RELEASED TO/FOR	A	B	C	O	1	2	3



SHEET PILE GENERAL NOTES:

1. ALL ELEVATIONS PROVIDED HEREIN ARE REFERENCED TO NGVD 29 UNLESS NOTED OTHERWISE.
2. COORDINATE SYSTEM PROVIDED HEREIN ARE REFERENCED TO HENNEPIN COUNTY COORDINATE SYSTEM, FEET.
3. IF IMPACTED SOILS ARE ENCOUNTERED, NOTIFY OWNER IMMEDIATELY.

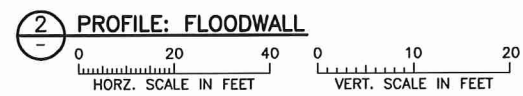
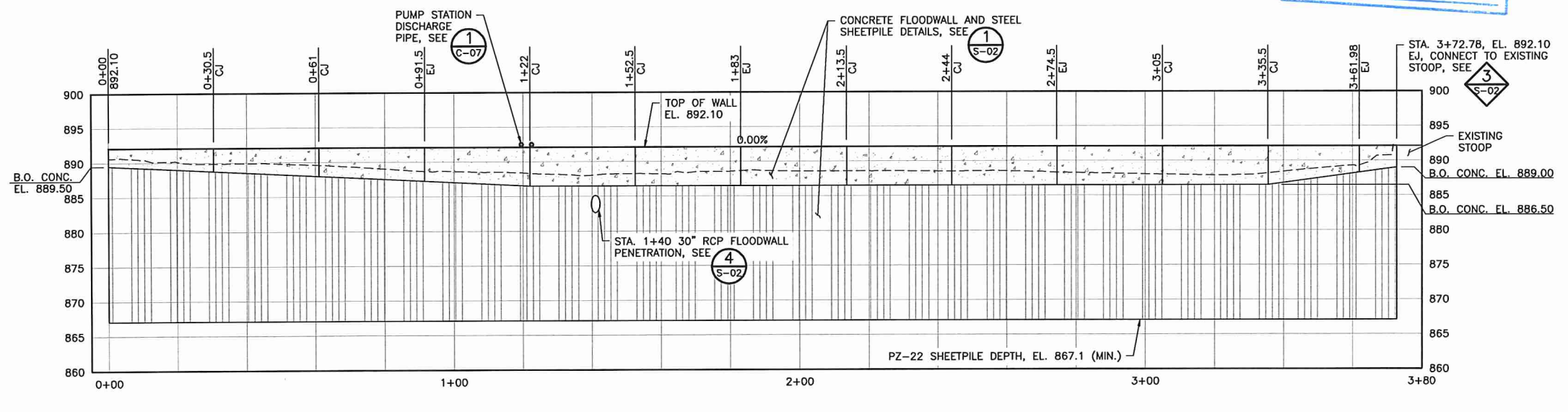
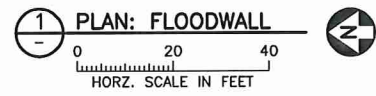
SUBMITTALS NOTES:

1. PROVIDE THE FOLLOWING SUBMITTALS FOR BARR ENGINEERING COMPANY REVIEW FOR COMPLIANCE WITH DESIGN DOCUMENT:
 - CONSTRUCTION SCHEDULE INCLUDING DRIVING PLAN/SEQUENCING.
 - MATERIAL CERTIFICATIONS FOR SHEET PILE
2. REVIEW AND APPROVAL BY THE PROJECT DESIGN ENGINEER (BARR) DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF QUALITY WORKMANSHIP AND CORRECTION OF DEFECTIVE WORK.

SHEET PILE CONSTRUCTION SPECIFICATIONS:

- GENERAL**
- 1.01 THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING PROJECT DESIGN ENGINEER (BARR) OF ANY DEVIATIONS OR CHANGE IN FIELD CONDITIONS FROM DESIGN DRAWINGS. ALL DEVIATIONS OR CHANGES IN CONDITION MUST BE REVIEWED AND APPROVED BY BARR ENGINEERING.
- MATERIALS**
- 1.02 SHEET PILING MATERIALS SHALL BE APPROVED BY PROJECT DESIGN ENGINEER (BARR).
 - 1.03 SHEET PILING SHALL BE HOT-ROLLED STRUCTURAL SECTIONS WITH INTERLOCKS ON THE FLANGE TIP. COLD-FORMED SHEET PILING WILL NOT BE ACCEPTABLE.
 - 1.04 SHEET PILING, CONNECTION FABRICATIONS, AND ACCESSORIES SHALL CONFORM TO THE LATEST REQUIREMENTS OF ASTM A572 OR A690, GRADE 50 STEEL.
 - 1.05 MINIMUM ULTIMATE INTERLOCK STRENGTH SHALL BE 20 KIPS PER INCH.
 - 1.06 SHEET PILING SHALL BE IN GOOD CONDITION AND FREE OF HOLES, TEARS, RUST SCALING OR WELDED REPAIRS. USED SHEET PILING WILL BE INSPECTED AS PART OF THE SUBMITTAL PROCESS.
 - 1.07 SHEET PILE SHALL HAVE A MINIMUM SECTION MODULUS OF 15 in³/ft AND A MINIMUM MOMENT OF INERTIA OF 20 in⁴/ft.
- EXECUTION**
- 1.08 ALL CONSTRUCTION ACTIVITIES MUST BE PERFORMED WITH THE APPROVED CONSTRUCTION METHODS SUBMITTED.
 - 1.09 SHEET PILING SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATIONS NOTED HEREIN.
 - 1.10 TOP OF SHEET PILES SHALL BE WITHING +1/2" AND -0" OF ELEVATIONS NOTED HEREIN.
 - 1.11 EXPOSED INTERLOCKS OF EACH SHALL BE WELDED IN A WATER-TIGHT FASHION AFTER DRIVING.
 - 1.12 CONTRACTOR SHALL SUBMIT DRIVING RECORDS, INCLUDING TIP ELEVATIONS, TOP ELEVATIONS, AND DRIVING RESISTANCE.
 - 1.13 APPARENT REFUSAL CRITERIA IS 30 BLOWS FOR 2 CONSECUTIVE INCHES OF PENETRATION. ALL APPARENT REFUSAL SHALL BE DISCUSSED WITH PROJECT ENGINEER.
 - 1.14 CONTRACTOR SHALL NOTIFY PROJECT DESIGN ENGINEER (BARR) A MINIMUM OF ONE WEEK PRIOR TO DRIVING SHEET PILE TO ALLOW FOR COORDINATION OF INSPECTIONS.
- COMPLETION**
- 1.15 UPON COMPLETION OF FINAL WORK, CONTRACTOR SHALL PROVIDE RECORD OF ACTUAL TIP ELEVATIONS FOR EACH SHEET FOR CREATION OF RECORD DRAWINGS.

BASE FLOOD ELEVATION FOR MINNEHAHA CREEK = 890.1 (PENDING FEMA FLOODPLAIN MAPPING)



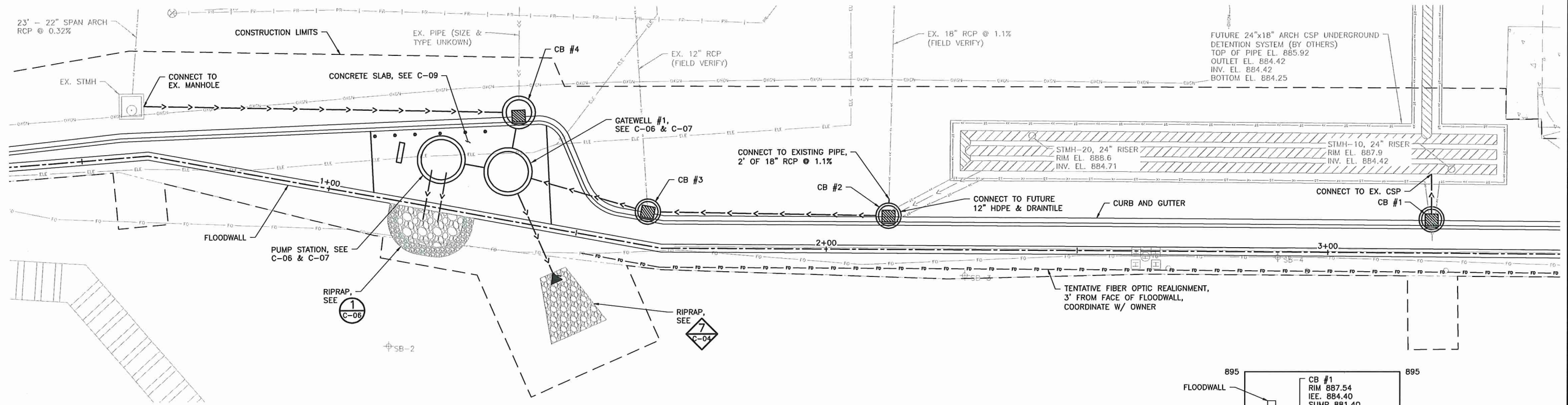
- PROFILE NOTES:**
1. FOR CONTROL JOINT, SEE 6 S-02
 2. FOR EXPANSION JOINT, SEE 7 S-02

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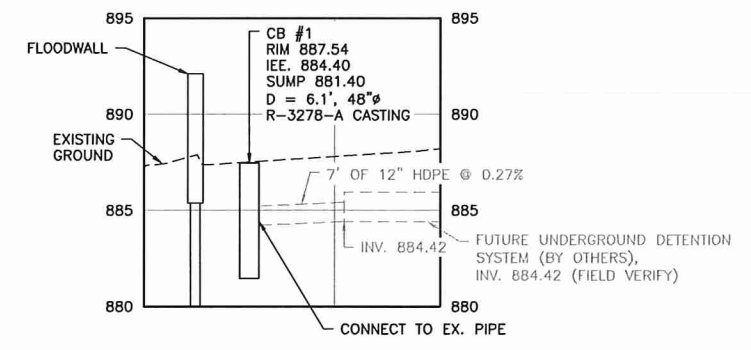
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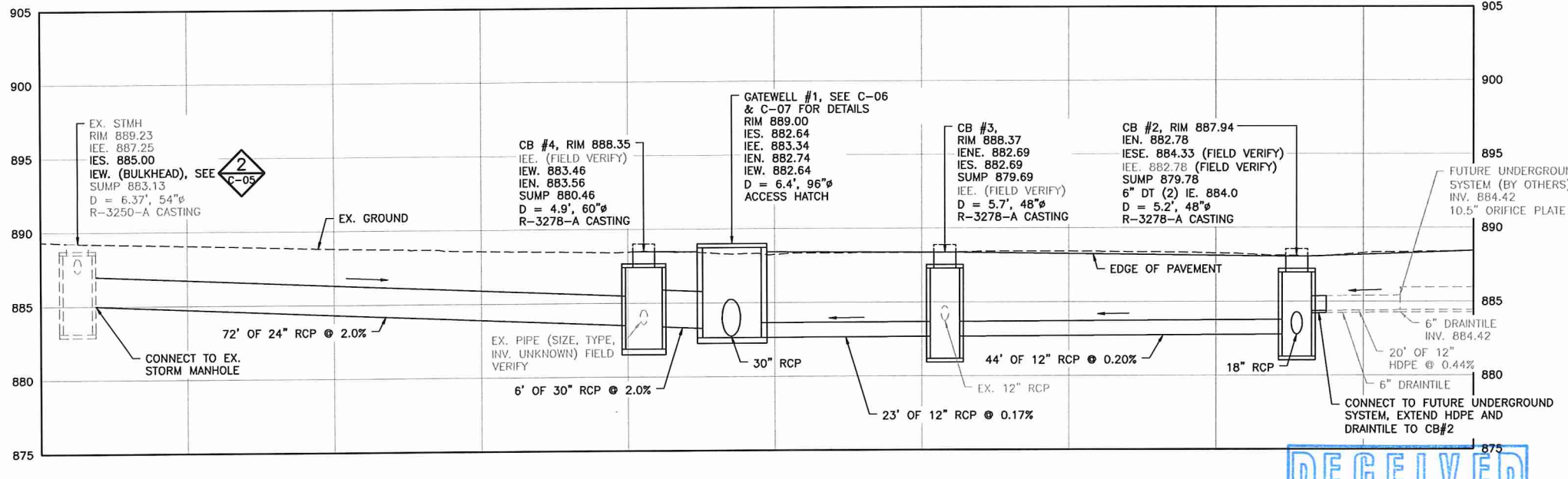
1 PLAN: STORM SEWER

0 10 20
HORZ. SCALE IN FEET



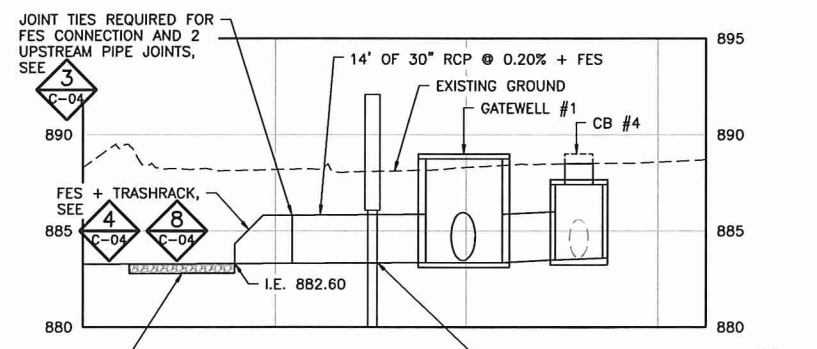
3 PROFILE: STORM SEWER

0 10 20 0 5 10
HORZ. SCALE IN FEET VERT. SCALE IN FEET



2 PROFILE: STORM SEWER

0 10 20 0 5 10
HORZ. SCALE IN FEET VERT. SCALE IN FEET



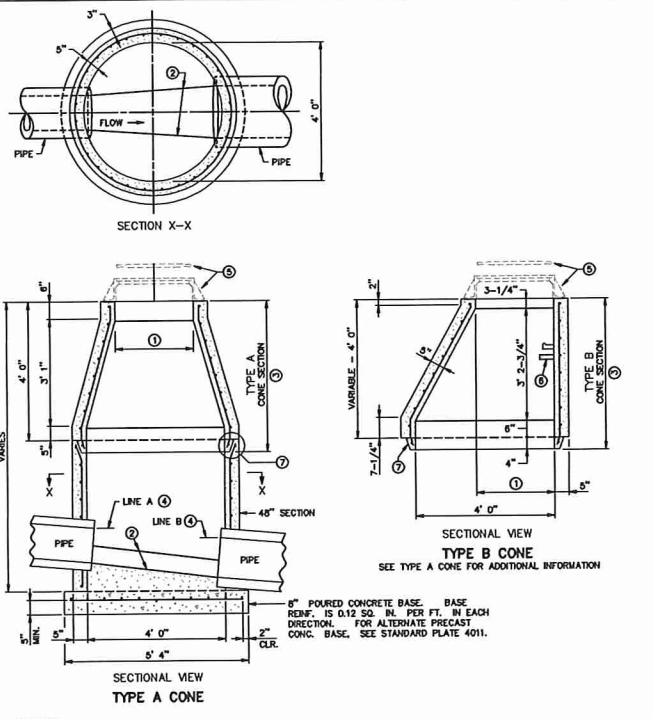
4 PROFILE: STORM SEWER

0 10 20 0 5 10
HORZ. SCALE IN FEET VERT. SCALE IN FEET



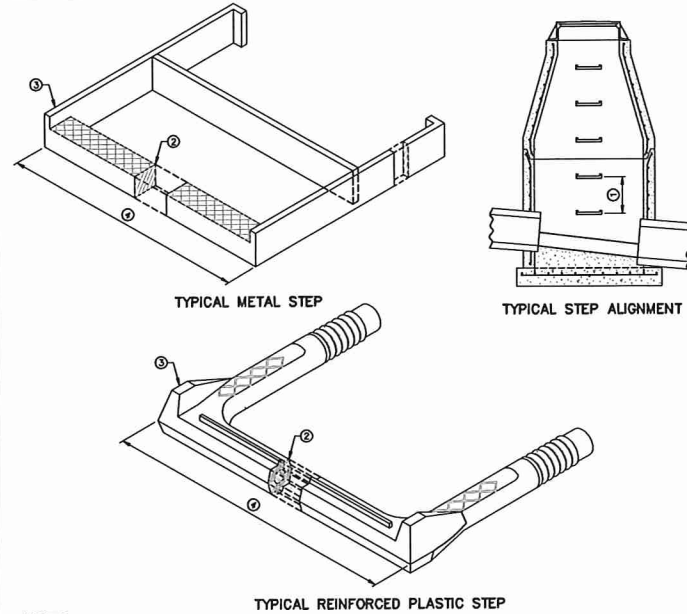
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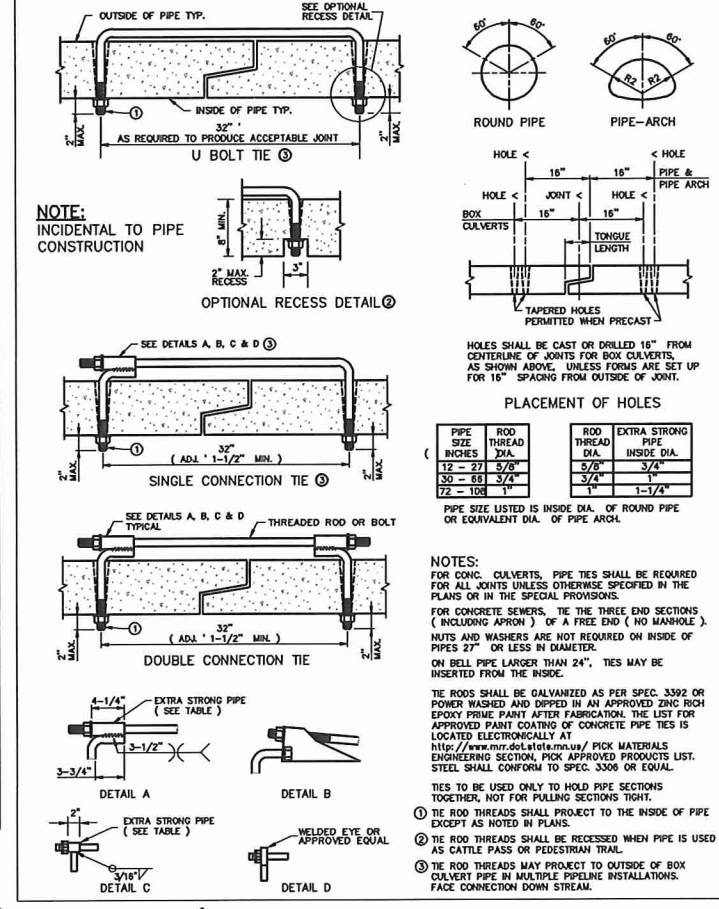
NOTES:
 REINFORCING: SINGLE LINE STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.12 SQ. IN. PER FOOT OF HEIGHT.
 1 PROVIDE MORTAR FILLETS TO FIT THE BOTTOM PORTION OF PIPE TO DIRECT FLOW TO OUTLET.
 2 TYPE A CONE SECTION SHALL BE USED UNLESS OTHERWISE INDICATED IN THE PLANS. FOR SHORT CONE SECTION USE TYPE C. SEE STANDARD PLATE 4010.
 3 THE ELEV. OF LINE A SHALL BE EQUAL TO OR ABOVE LINE B.
 4 REFER TO PLAN FOR CASTINGS REQUIRED. USE ADJUSTING RINGS WHERE NECESSARY. SEE STANDARD PLATES INDEX. CASTING AND PRECAST CONG. ADJUSTING RINGS SHALL BE SET ON FULL MORTAR BEDS.
 5 REFER TO PLANS FOR ANY STEP REQUIREMENTS.
 6 SEE STANDARD PLATES INDEX FOR OTHER APPROVED JOINTS.

1 DETAIL: MANHOLE OR CATCH BASIN (PRECAST)
 N.T.S. MN/DOT STD. PLATE 4005L



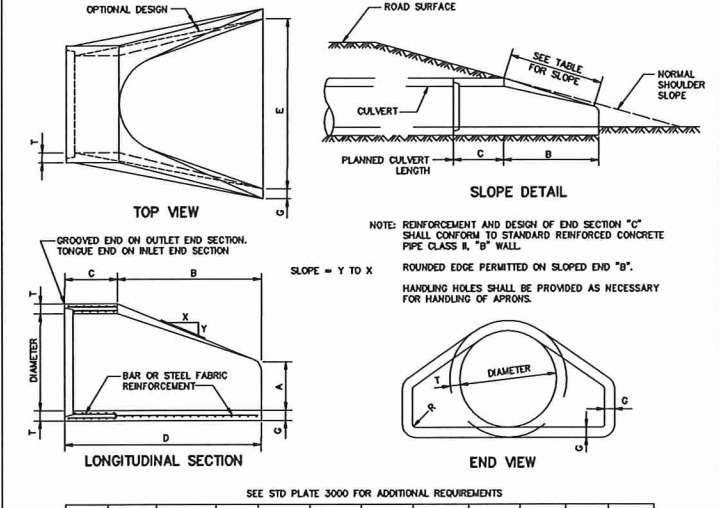
NOTES:
 STEPS SHOWN ARE BASIC DESIGNS ONLY. FINAL CONFIGURATIONS MAY VARY FROM THESE DRAWINGS. VARIATIONS IN THE ABOVE DESIGNS WHICH WILL NOT DECREASE STRENGTH WILL BE PERMITTED.
 THE OFFICE OF MATERIALS, RESEARCH AND ENGINEERING WILL MAINTAIN A LISTING OF APPROVED MANHOLE STEPS. CURRENTLY APPROVED STEPS ARE ALUMINUM, CAST IRON AND STEEL REINFORCED PLASTIC. SELECTION OF APPROVED STEP DESIGN IS THE OPTION OF THE CONTRACTOR OR SUPPLIER. ALUMINUM STEPS SHALL CONFORM TO ASTM B29-84A. ALLOY AA 514.0. EMBEDDED LEG SECTIONS SHALL BE GIVEN A REINFORCED PROTECTIVE COATING OR EQUIVALENT FOR CORROSION PROTECTION. COATINGS SHALL BE APPROVED BY MATERIALS ENGINEERING.
 EXCEPT AS OTHERWISE NOTED ON THIS PLATE, STEPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C478.
 STEPS SHALL BE EMBEDDED IN THE RISER OR CONICAL TOP SECTION WALL A MINIMUM DISTANCE OF 3 IN. THE RING OR CLEAT SHALL PROJECT A MINIMUM CLEAR DISTANCE OF 4 IN. FROM THE WALL OF THE RISER OR CONE SECTION MEASURED FROM THE POINT OF EMBEDMENT.
 THE MIN. CLEAR DISTANCE BETWEEN THE RING OR CLEAT AND THE OPPOSITE WALL OF THE MANHOLE RISER OR CONE SHALL BE 18 IN. MEASURED AT THE CENTER FACE OF THE STEP.
 1 STEPS SHALL BE SPACED AT A MAXIMUM DESIGN DISTANCE OF 18 IN. APART.
 2 STEPS SHALL HAVE A MINIMUM CROSS SECTION DIMENSION OF 1 IN.
 3 MINIMUM VERTICAL SIDE DIMENSION TO PREVENT FOOT FROM SLIPPING OFF IS 1/2".
 4 THE MINIMUM WIDTH OF RUNGS OR CLEATS SHALL BE 10 IN.

2 DETAIL: MANHOLE OR CATCH BASIN STEP
 N.T.S. MN/DOT STD. PLATE 4180J



NOTES:
 FOR CONG. CULVERTS, PIPE TIES SHALL BE REQUIRED FOR ALL JOINTS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR IN THE SPECIAL PROVISIONS.
 FOR CONCRETE BOXES, THE THREE END SECTIONS (INCLUDING APRON) OF A FREE END (NO MANHOLE), NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF PIPES 27" OR LESS IN DIAMETER.
 ON BELL PIPE LARGER THAN 24", TIES MAY BE INSERTED FROM THE INSIDE.
 THE ROOD SHALL BE GALVANIZED AS PER SPEC. 3392 OR POWER WASHED AND DIPPED IN AN APPROVED ZINC RICH EPOXY PRIME PAINT AFTER FABRICATION. THE LIST FOR APPROVED PAINT COATING OF CONCRETE PIPE TIES IS LOCATED ELECTRONICALLY AT http://www.mn.dot.state.mn.us/pick/materials/engineering/section_pick_approved_products_list.stl. STEEL SHALL CONFORM TO SPEC. 3306 OR EQUIV.
 TIES TO BE USED ONLY TO HOLD PIPE SECTIONS TOGETHER, NOT FOR PULLING SECTIONS TIGHT.
 1 THE ROOD THREADS SHALL BE RECESSED WHEN PIPE IS USED AS CATTLE PASS OR PEDESTRIAN TRAIL.
 2 THE ROOD THREADS SHALL BE RECESSED WHEN PIPE IS USED AS CATTLE PASS OR PEDESTRIAN TRAIL.
 3 THE ROOD THREADS MAY PROJECT TO OUTSIDE OF BOX CULVERT PIPE IN MULTIPLE PIPELINE INSTALLATIONS. FACE CONNECTION DOWN STREAM.

3 DETAIL: CONCRETE PIPE TIES
 N.T.S. MN/DOT STD. PLATE 3145F

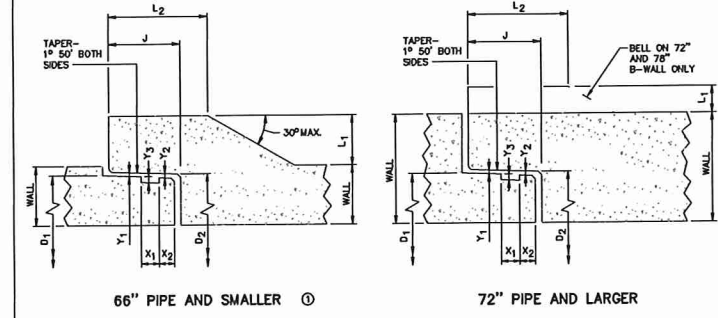


NOTE: REINFORCEMENT AND DESIGN OF END SECTION "C" SHALL CONFORM TO STANDARD REINFORCED CONCRETE PIPE CLASS II, "B" WALL.
 ROUNDED EDGE PERMITTED ON SLOPED END "B".
 HANDLING HOLES SHALL BE PROVIDED AS NECESSARY FOR HANDLING OF APRONS.
 SLOPE = Y TO X
 SEE STD. PLATE 3000 FOR ADDITIONAL REQUIREMENTS

4 DETAIL: CONCRETE APRON FOR REINFORCED CONCRETE PIPE
 N.T.S. MN/DOT STD. PLATE 3100G

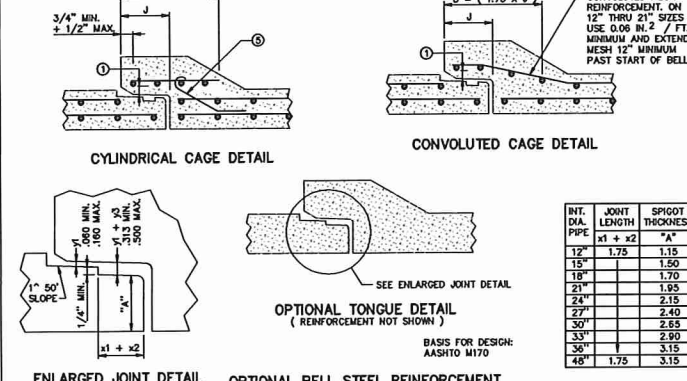
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DIAL. D IN.	APPROX. GASKET VOLUME IN. CU. IN.	LENGTH OF JOINT INCHES	D1 INCHES	D2 INCHES	(MIN.) L2 INCHES	B-WALL L1 INCHES	C-WALL L1 INCHES	X1 INCHES	X2 INCHES	Y1 INCHES	Y2 INCHES	Y3 INCHES
12	21/32	13.9	3-5/8	15.331	5	2	0	1	7/8	0.062	0.090	0.313
15	21/32	16.5	3-5/8	18.723	4-3/4	2-3/16	0	1	7/8	0.062	0.090	0.313
18	21/32	19.5	3-5/8	22.098	5	2-3/16	0	1	7/8	0.062	0.090	0.313
21	21/32	22.5	3-7/8	25.600	5-1/4	2-9/16	0	1	7/8	0.062	0.090	0.313
24	21/32	25.5	3-7/8	29.075	5-1/2	2-3/4	2	1	7/8	0.062	0.090	0.313
27	21/32	29.0	3-7/8	32.478	5-1/2	2-3/4	2	1	7/8	0.062	0.090	0.313
30	21/32	32.0	4-1/8	35.978	6-3/4	2-1/8	3	1	7/8	0.062	0.090	0.313
33	21/32	35.0	4-1/8	39.478	6-3/4	2-1/8	3	1	7/8	0.062	0.090	0.313
36	21/32	38.0	4-1/8	42.978	6-3/4	2-1/8	3	1	7/8	0.062	0.090	0.313
39	21/32	41.0	4-1/8	46.478	6-3/4	2-1/8	3	1	7/8	0.062	0.090	0.313
42	3/4	44.0	4-5/8	50.021	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
45	3/4	47.0	4-5/8	53.521	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
48	3/4	50.0	4-5/8	57.021	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
51	3/4	53.0	4-5/8	60.521	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
54	3/4	56.0	4-5/8	64.021	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
57	3/4	59.0	4-5/8	67.521	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378
60	3/4	62.0	4-5/8	71.021	7-1/4	3-3/8	3	1-3/16	1	0.067	0.129	0.378



NOTES:
 SEE STANDARD PLATE 3000 FOR PIPE DESIGN.
 THE ENGINEER MAY APPROVE A CHANGE IN THE SIZE OF THE NOTCH AND GASKET. A WRITTEN REQUEST FOR APPROVAL OF SUCH CHANGE WILL BE REQUIRED.
 TOLERANCES IN DIMENSIONS:
 JOINT DIMENSIONS ARE NOMINAL AND SUBJECT TO REASONABLE MANUFACTURING TOLERANCES.
 THE TONGUE AND GROOVE SHALL BE SUCH THAT WHEN THE PIPE IS JOINTED WITH THE GASKET IN PLACE A PROPER FIT IS OBTAINED. FINAL ACCEPTANCE OF THE PIPE WILL BE AT THE JOB SITE AFTER EFFECTIVE JOINTING HAS BEEN OBTAINED.
 DIMENSIONS SHOWN ARE DESIGN DIMENSIONS. INSPECTORS SHALL MEASURE TO THE NEAREST 1/8 OF AN INCH.
 GASKET VOLUMES: * 4 PERCENT FOR PIPE 72" AND LARGER, * 10 PERCENT FOR UNDER 72".
 1 SEE SHEET 2 FOR OPTIONAL BELL REINFORCEMENT, CLEARANCES AND NOTES.

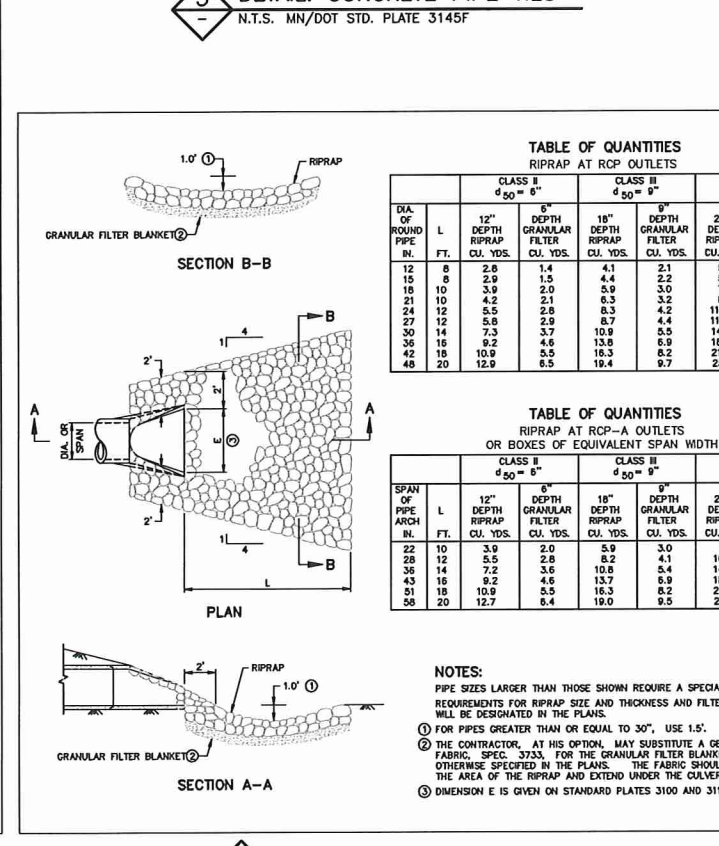
5 DETAIL: GASKET JOINT FOR R.C. PIPE
 N.T.S. MN/DOT STD. PLATE 3006G (1 OF 2)



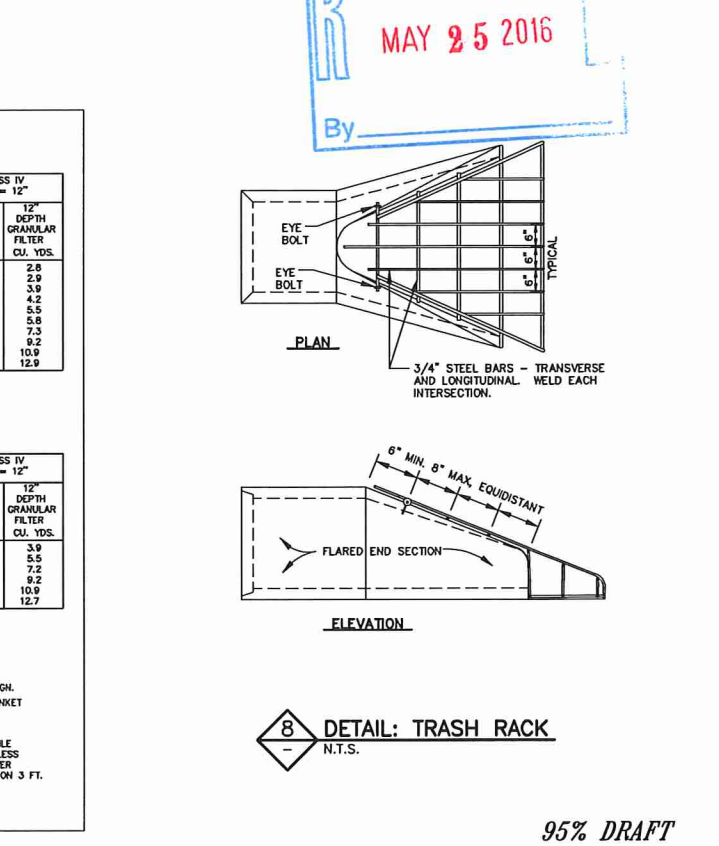
INT. DIA. OF PIPE	JOINT LENGTH X1 + X2	SPIGOT THICKNESS "A"
12"	1.75	1.15
15"	1.75	1.50
18"	2.0	1.70
21"	2.15	1.95
24"	2.15	2.15
27"	2.40	2.40
30"	2.55	2.55
33"	2.90	2.90
36"	3.15	3.15
48"	1.75	3.15

INTERNAL DIAMETER	12"	15"	18"	21"	24"	27"	30"
WALL	4"	4-3/8"	4-7/8"	5-1/4"	5-3/4"	6"	6-1/4"
STEEL INSIDE (SQ. IN./LIN. FT.)	.08	.08	.10	.12	.12	.14	.18
STEEL OUTSIDE (SQ. IN./LIN. FT.)				.08	.08	.08	.11

6 DETAIL: GASKET JOINT FOR R.C. PIPE (OPTIONS)
 N.T.S. MN/DOT STD. PLATE 3006G (2 OF 2)



7 DETAIL: RIPRAP AT RCP OUTLETS
 N.T.S. MN/DOT STD. PLATE 3133C



8 DETAIL: TRASH RACK
 N.T.S.

CADD USER: Max J. Jouppe FILE: M:\DESIGN\23271380\00\2327138000_C-04-DWG PLOT SCALE: 1:2 PLOT DATE: 4/28/2016 1:07 PM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

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 PRINTED NAME: _____
 SIGNATURE: _____
 DATE: _____ LICENSE # _____

CLIENT	BID	CONSTRUCTION	RELEASED TO/FOR	DATE RELEASED
BARR ENGINEERING CO.	11/10/15	11/20/15	A B C O 1 2 3	11/20/15

BARR
 Project Office:
 BARR ENGINEERING CO.
 4300 MARKETPOINTE DRIVE
 Suite 200
 MINNEAPOLIS, MN 55435
 Ph: 1-800-632-2277
 Fax: (952) 832-2601
 www.barr.com

Scale	AS SHOWN
Date	10/12/15
Drawn	MJJ
Checked	MTP2
Designed	MTP2
Approved	MAK2

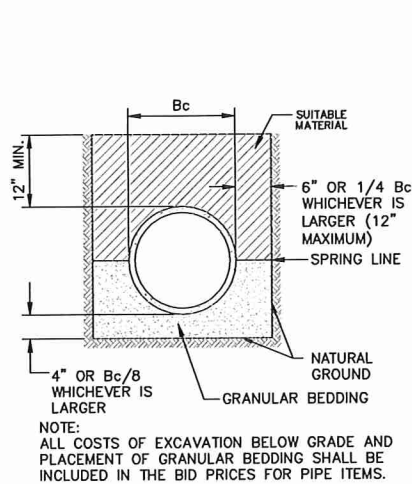
PARK NICOLLET HEALTH SERVICES
 ST. LOUIS PARK, MINNESOTA

PARK NICOLLET FLOODWALL PROJECT
 ST. LOUIS PARK, MINNESOTA
 STORM SEWER MODIFICATIONS
 DETAILS

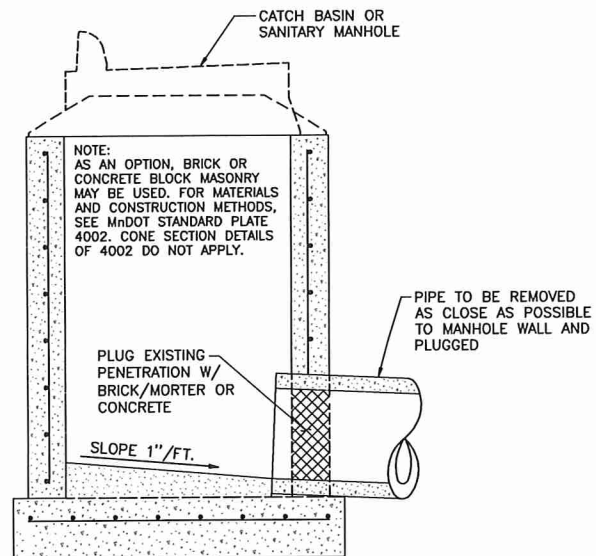
BARR PROJECT No.	23/27-1380.00
CLIENT PROJECT No.	-
DWG. No.	C-04
REV. No.	B

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1 **DETAIL: PIPE BEDDING**
N.T.S.



2 **DETAIL: BULKHEAD EXISTING MANHOLE**
N.T.S.

TRENCHING AND BACKFILLING FOR UTILITIES SPECIFICATIONS:

1.00 GRANULAR MATERIALS FURNISHED FOR USE IN FOUNDATION, BEDDING, ENCASUREMENT, OR BACKFILL CONSTRUCTION SHALL BE PLACED AS SHOWN IN THE DRAWINGS AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

PERCENT PASSING SIEVE SIZE	MATERIAL USE DESIGNATION			
	FOUNDATION	BEDDING	ENCASEMENT	BACKFILL
3 INCH				
2 INCH				100
1 INCH	100	100	100	
3/4 INCH	85-100	90-100	90-100	
3/8 INCH	30-60	50-90	50-90	
NO. 4	0-10	35-80	35-80	35-100
NO. 10		20-65	20-65	20-100
NO. 40		0-35	0-35	0-35
NO. 200		0-10	0-10	0-10

STORM SEWER SPECIFICATION:

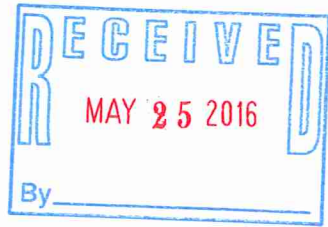
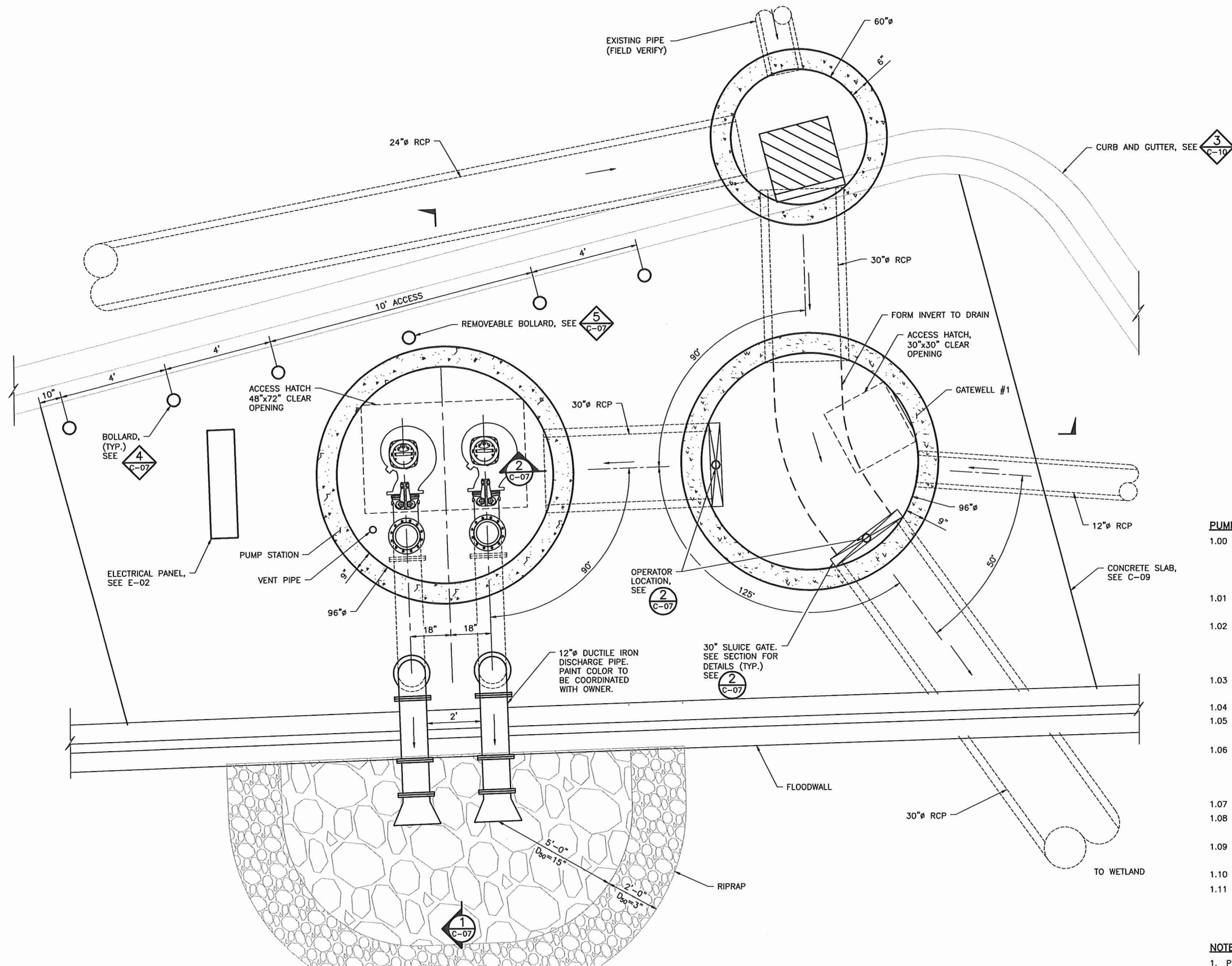
- 2.00 SUBMIT FOR APPROVAL THE TECHNICAL DATA AND PRODUCT INFORMATION FOR ALL STORM SEWER PIPING MATERIALS. SHOP DRAWINGS: SUBMIT DETAILS OF THE PRECAST RCP FOR APPROVAL TO ENGINEER PRIOR TO MANUFACTURING
- 2.01 RCP SHALL BE MANUFACTURED IN ACCORDANCE WITH AND CONFORMING TO AWWA C302 OR ASTM C76, PER EM 1110-2-2902. STRENGTH CAPACITY OF PIPE WILL BE DETERMINED IN ACCORDANCE WITH ASTM C497, PER EM1110-2-2902. PIPE LENGTHS SHALL NOT EXCEED 8 FEET PER EM 1110-2-2902. JOINTS SHALL BE DEEP OR EXTRA DEEP.
- 2.02 FLEXIBLE WATERTIGHT GASKETS: ALL JOINTS ARE REQUIRED TO HAVE GASKETS. GASKETS MAY BE EITHER CLOSED-CELL EXPANDED RUBBER GASKETS OR RUBBER O-RING GASKETS. CLOSED-CELL EXPANDED RUBBER GASKETS SHALL BE A CONTINUOUS BAND APPROXIMATELY 3/8 INCH THICK AND MEET THE REQUIREMENTS OF ASTM C443. RUBBER O-RING GASKETS SHALL BE 13/16 INCH IN DIAMETER FOR PIPE DIAMETERS OF 36 INCHES OR SMALLER AND 7/8 INCH IN DIAMETER FOR LARGER PIPE HAVING 1/2 INCH DEEP END CORRUGATION. RUBBER O-RING GASKETS SHALL BE 1-3/8 INCHES IN DIAMETER FOR PIPE HAVING 1 INCH DEEP END CORRUGATIONS. O-RINGS SHALL MEET THE REQUIREMENTS OF ASTM C443 PER EM1110-02-2902. PREFORMED FLEXIBLE JOINT SEALANTS SHALL CONFORM TO ASTM C990, TYPE B.
- 2.03 CONNECTION TO STRUCTURES: FLEXIBLE, WATERTIGHT CONNECTORS USED FOR CONNECTING PIPE TO MANHOLES AND INLETS SHALL CONFORM TO ASTM C923. CONCRETE PIPE TO MANHOLE CONNECTION SHALL BE WATERSTOP GROUT RING OR APPROVED EQUAL.
- 2.04 PIPE TIES: TIE BOLT ASSEMBLY SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH AASHTO M232. TIE BOLTS SHALL CONFORM TO ASTM A36. NUTS SHALL BE HEAVY HEX AND CONFORM TO ASTM A563. WASHERS SHALL CONFORM TO ASTM F436, TYPE 1. WELDED PIPE SLEEVES AND CAST-IN BOLT SLEEVES SHALL CONFORM TO ASTM A53, GRADE B.
- 2.05 LAY PIPE TO THE REQUIRED LINE AND GRADE. INSTALLATION OF THE PIPE SHALL BE IN ACCORDANCE WITH ASTM D2321 AND AS RECOMMENDED BY THE PIPE MANUFACTURER.



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NO.	BY	CHK	APP.		DATE	REVISION DESCRIPTION			PRINTED NAME
RELEASED TO/FOR		DATE RELEASED		A B C O 1 2 3		DWG. No. C-05		REV. No. B	

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PUMP STATION AND GATEWELL SPECIFICATIONS:

- 1.00 SUBMERSIBLE PUMP: FLYGT NP 3153 LT 3~625. GREY CAST IRON PUMP WITH HARD IRON IMPELLER OR APPROVED EQUAL WITHOUT COOLING JACKET. SS LIFTING HANDLE. OPERATING POINT 1: 2100 GPM AT 11 FT TDH, OPERATING POINT 2: 2850 GPM AT 6 FT TDH. INSTALL PUMP AND DISCHARGE ELBOW IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
- 1.01 DUCK BILL: TIDEFLEX SERIES 35, EPDM OR APPROVED EQUAL. DRILL 1/4" HOLE TO ALLOW PIPE TO DRAIN.
- 1.02 SLUICE GATE VALVE: FONTAINE SERIES 20, RMX TYPE COMPATIBLE WITH CONCRETE PIPE, WATERSTOP GROUT RING, AND ROUND MANHOLE OR APPROVED EQUAL. STAINLESS STEEL 304L. FONTAINE PEDESTAL MOUNTED GEAR BOX. STAINLESS STEEL RISING STEM. CRANK OPERATOR. PROVIDE CUSTOM CLEAR PVC STEM COVER.
- 1.03 LIFTING CHAIN: STAINLESS STEEL RATED FOR LIFTING A MIN. OF 2X THE WEIGHT OF THE PUMP.
- 1.04 GUIDE RAILS: STAINLESS STEEL. COMPATIBLE WITH SUPPLIED PUMP.
- 1.05 DISCHARGE PIPE: MORTAR LINED DUCTILE IRON RESTRAINED JOINTS BELOW GROUND AND FLANGES ON EXPOSED PIPE. CONFORM TO ANSI/AWWA C150/A21.50 AND C151/A21.51.
- 1.06 PAINT FOR EXPOSED PIPING AND VALVE OPERATOR: PROVIDE 2-PART EPOXY COATING ON EXPOSED PIPING, GATE OPERATOR AND VENT PIPE. TENMEC, SHERWIN WILLIAMS, OR EQUAL. STANDARD COLORS. COORDINATE COLOR WITH OWNER. PREPARE SURFACE AND APPLY ACCORDING TO MANUFACTURER RECOMMENDATIONS.
- 1.07 VENT PIPE: STEEL SCREENED.
- 1.08 ACCESS COVERS: 30"x30" BILCO ALUMINUM SINGLE LEAF J-2AL. 48"x72" BILCO ALUMINUM DOUBLE LEAF JD-3AL OR EQUAL.
- 1.09 WINTER: COVER PUMP STATION WITH HAY BALES AND TARP TO PREVENT FREEZING. ROTATE IMPELLER EVERY OTHER MONTH. DO NOT ALLOW PUMP TO FREEZE.
- 1.10 MAINTENANCE: FOLLOW MANUFACTURER'S RECOMMENDATIONS.
- 1.11 SUBMITTALS:
 - 1. PUMP
 - 2. SLUICE GATE

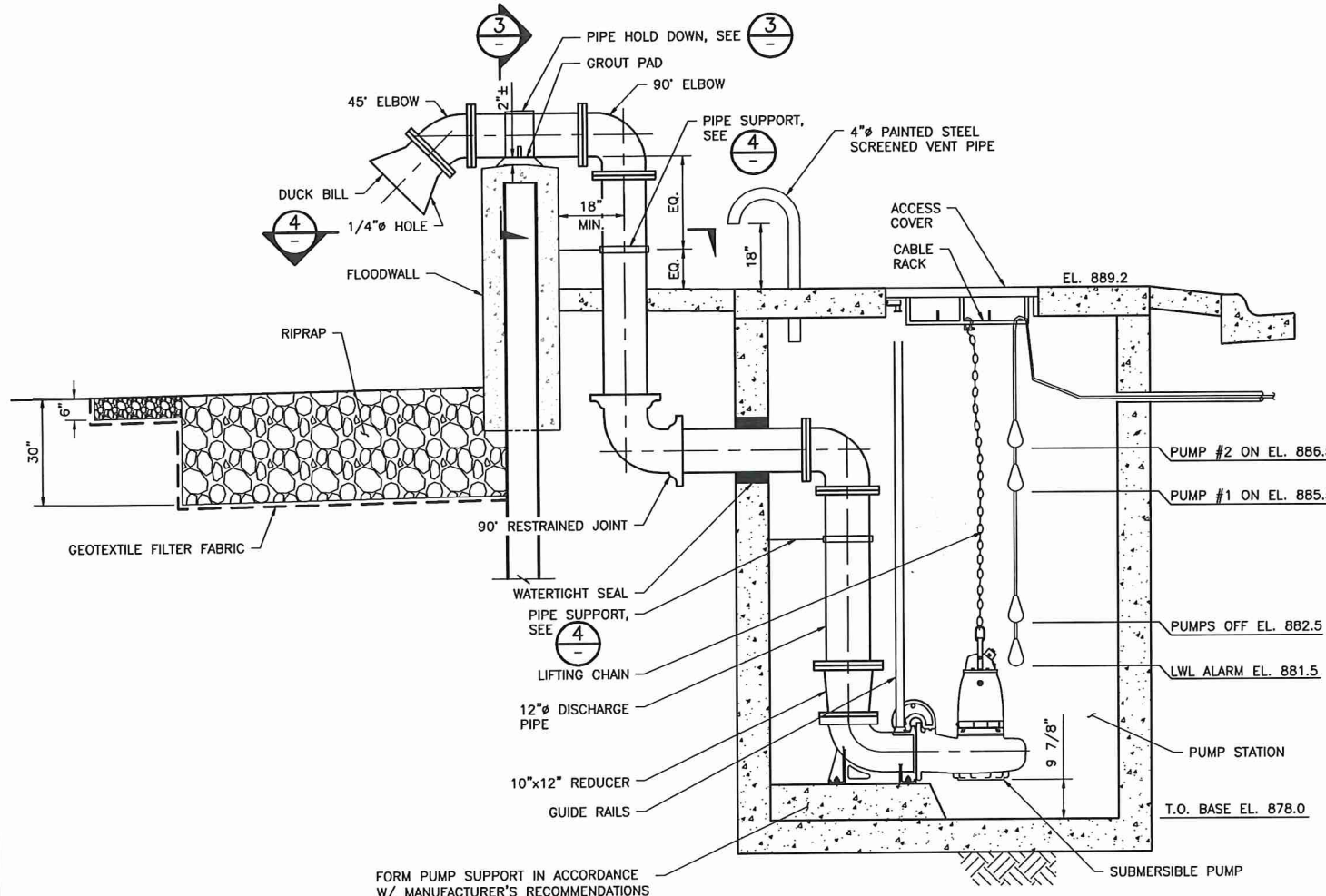
NOTES:

- 1. PROVIDE OPERATION AND MAINTENANCE MANUALS TO OWNER AND ENGINEER FOR PUMPS, GATES & CONTROLS.
- 2. COORDINATE ACCESS HATCH SIZE AND LOCATION WITH PUMP SUPPLIER.
- 3. FIELD VERIFY SITE CONDITIONS AND DIMENSIONS.
- 4. INSTALL ALL COMPONENTS TO MANUFACTURER'S INSTRUCTIONS.

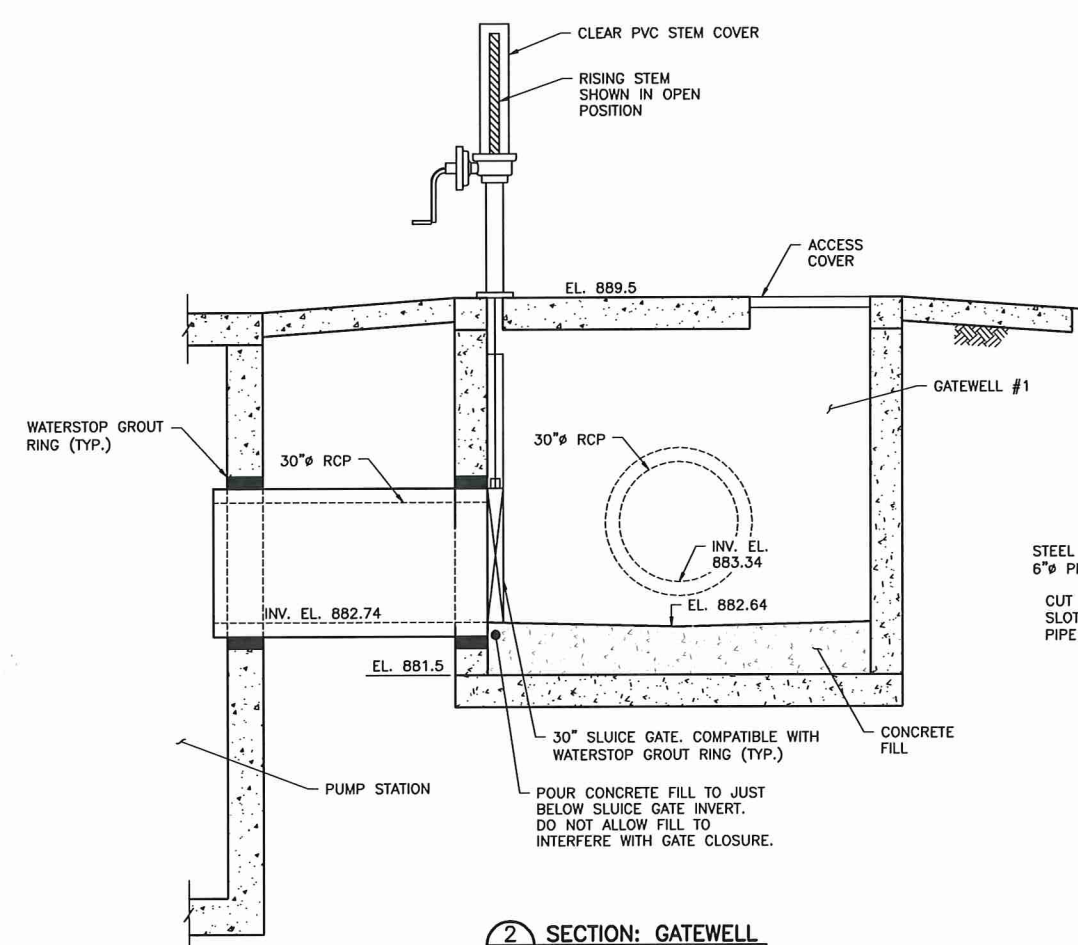
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1 PLAN: PUMP STATION AND GATEWELL
 0 1 2 3 4
 SCALE IN FEET

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NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION		

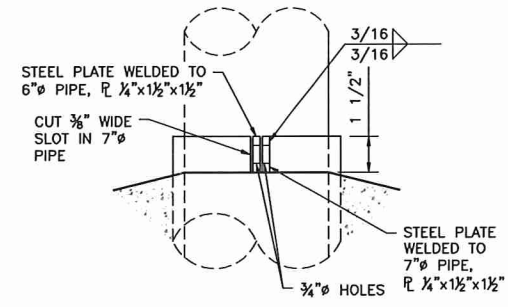


1 SECTION: PUMP STATION
C-06
SCALE IN FEET

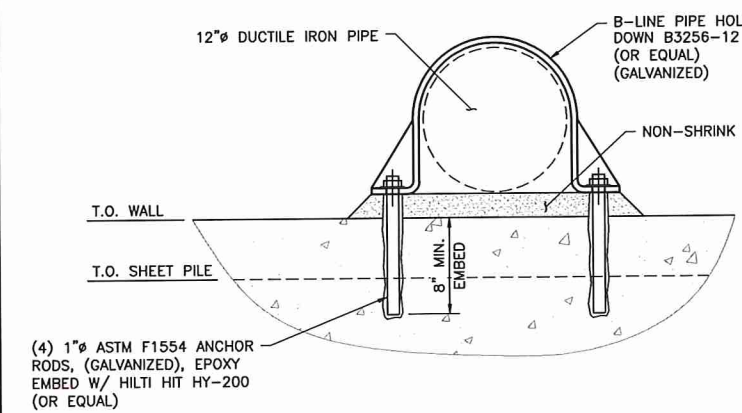


2 SECTION: GATEWELL
C-06
SCALE IN FEET

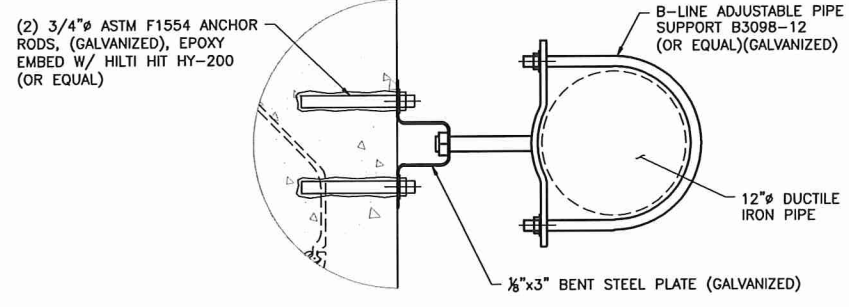
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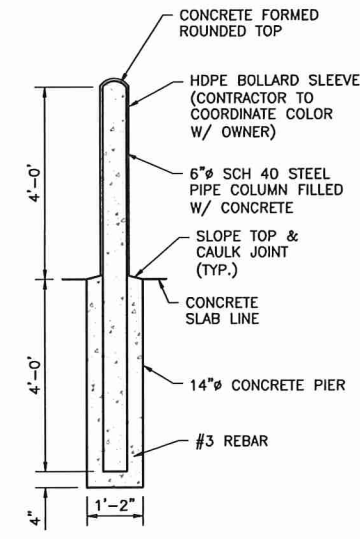
7 SECTION: LOCKING TABS
C-06 N.T.S.



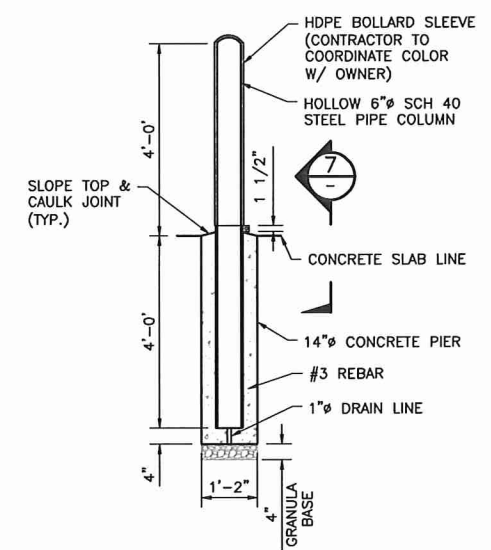
3 SECTION: PIPE HOLD DOWN
N.T.S.



4 SECTION: PIPE SUPPORT
N.T.S.



5 DETAIL: PIPE BOLLARD
C-06 N.T.S.



6 DETAIL: REMOVABLE BOLLARD
C-06 N.T.S.

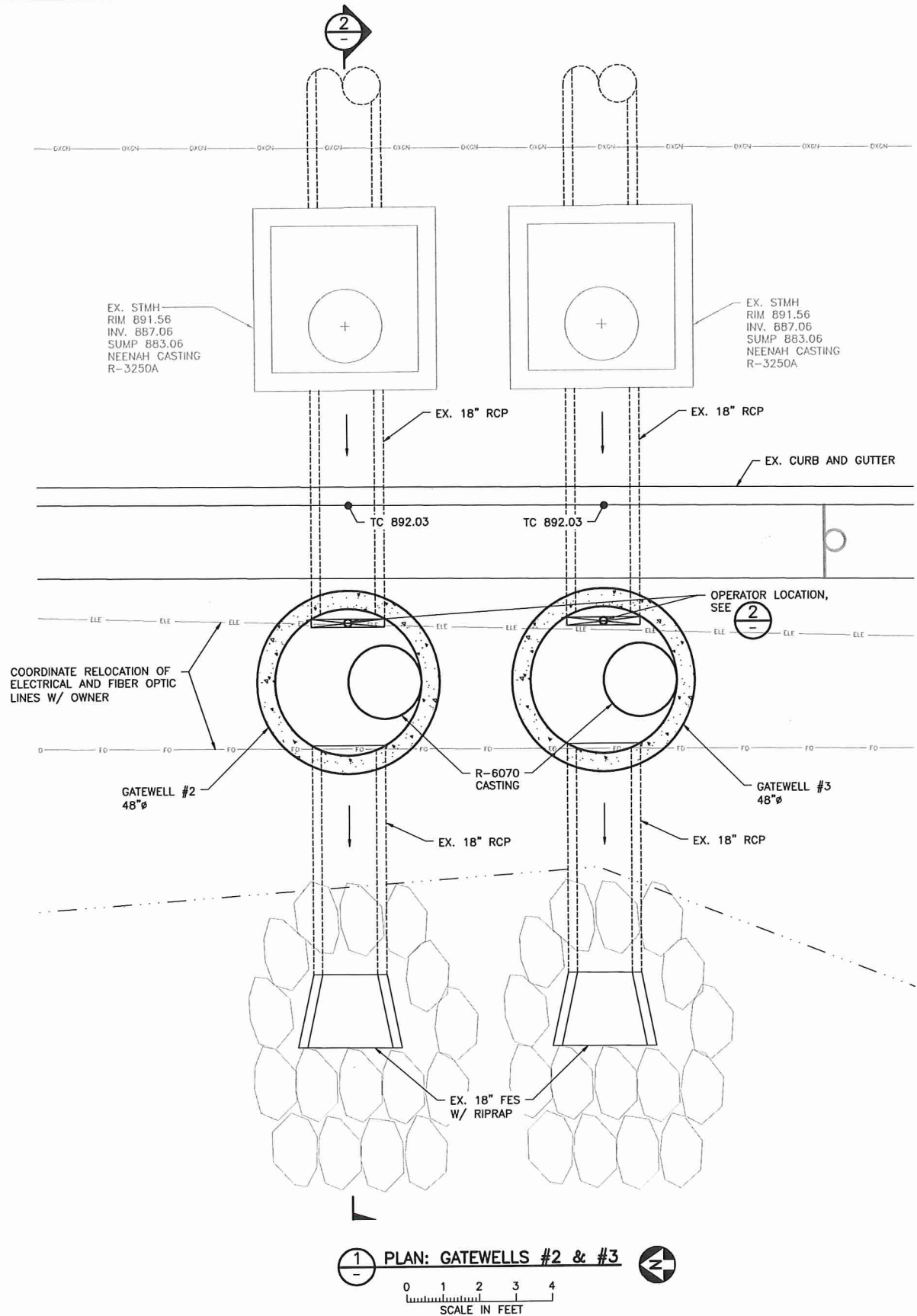
- NOTES:**
1. VERIFY PUMP INSTALLATION, DIMENSIONS, AND REQUIREMENTS WITH PUMP SUPPLIER.
 2. FIELD VERIFY SITE COORDINATES AND DIMENSIONS.

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SUBMITTAL**

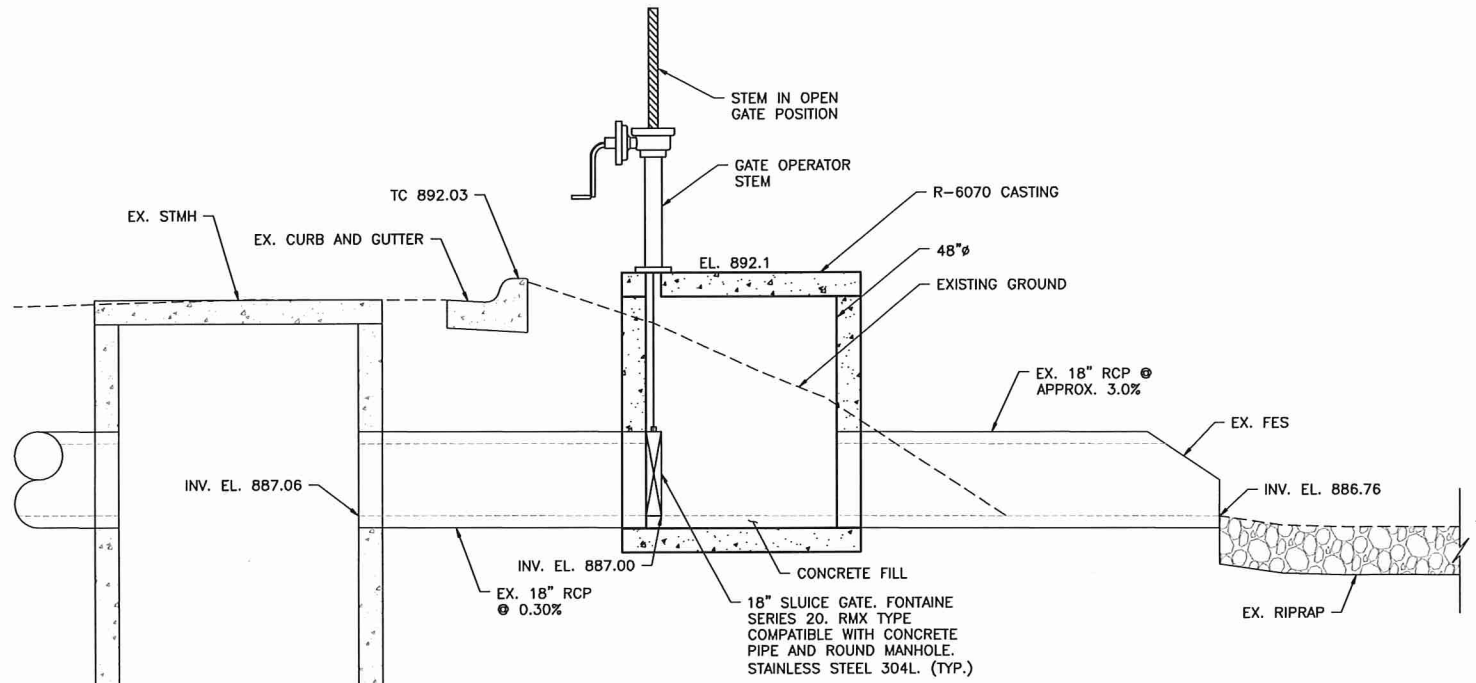
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PRINTED NAME	SIGNATURE	CONSTRUCTION	Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Date 10/12/15	Checked MTP2			DWG. No. C-07	REV. No. B					
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION	RELEASED TO/FOR	A	B	C	0	1	2	3	DATE RELEASED

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1 PLAN: GATEWELLS #2 & #3
SCALE IN FEET



2 SECTION: GATEWELLS #2 & #3
SCALE IN FEET

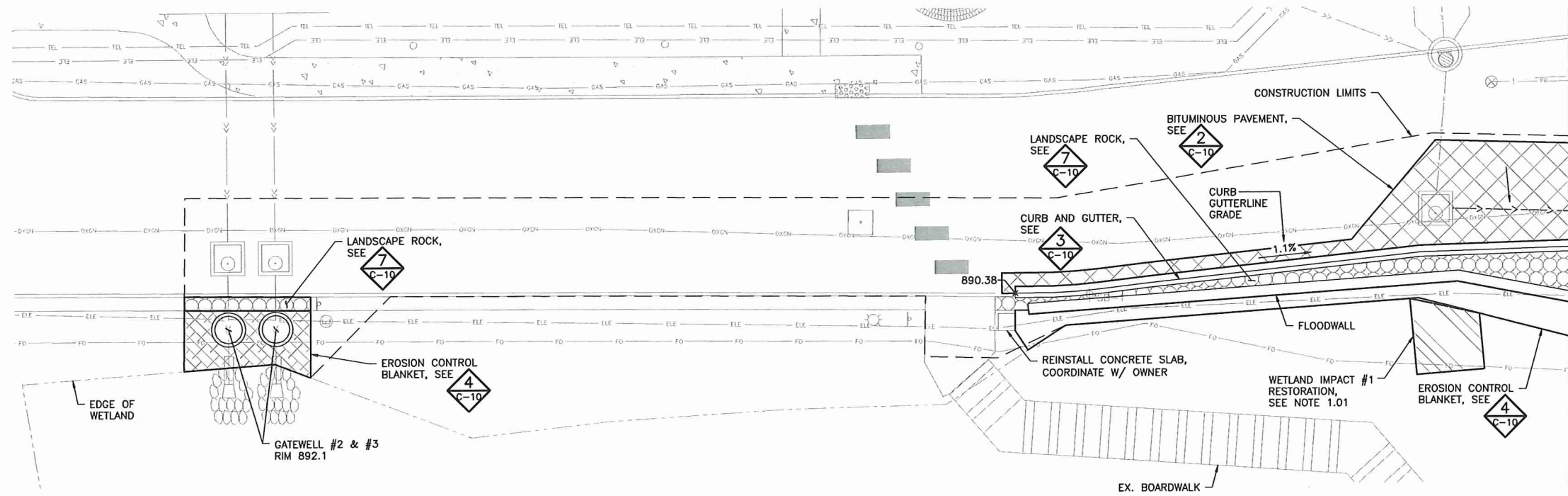
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE # _____		CLIENT: ST. LOUIS PARK BID: _____ CONSTRUCTION: _____		 BARR Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: AS SHOWN Date: 10/12/15 Drawn: MJJ Checked: MTP2 Designed: MTP2 Approved: MAK2		PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA		PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA		BARR PROJECT No. 23/27-1380.00	
		RELEASED TO/FOR: A B C O 1 2 3 DATE RELEASED: _____			DWG. No. C-08 REV. No. A									
NO. BY CHK. APP. DATE REVISION DESCRIPTION														



1 PLAN: RESTORATION - FLOODWALL AREA

RESTORATION SPECIFICATIONS:

1.00 CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND LABOR TO RESTORE ALL DISTURBED AREAS, AND INCLUDES FINAL GRADING, SOIL PREPARATION, SEEDING, MULCHING, AND ALL OTHER WORK AS MAY BE NECESSARY INCLUDING, BUT NOT LIMITED TO: RESTORING ALL AREAS DISTURBED AS A RESULT OF CONTRACTOR'S PERFORMANCE OF THE WORK; TOPSOIL, SEED, AND MULCH ALL DISTURBED AREAS; AREAS DISTURBED BY CONTRACTOR FOR ACCESS PURPOSES OF OR USED AS LAYDOWN AREAS AND SITE CLEANUP.

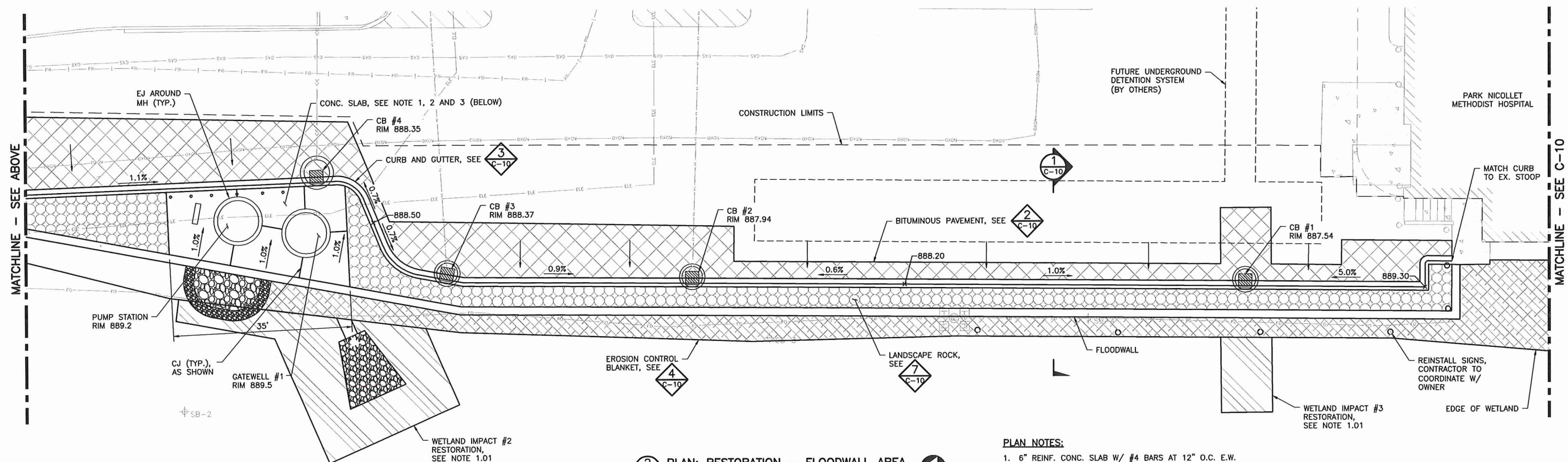
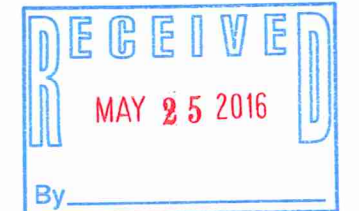
1.01 TURF ESTABLISHMENT SHALL CONFORM TO THE PLANTING SEASON OF PLANTING REQUIREMENTS OF MN/DOT STANDARD SPECIFICATIONS 2575.3 A. SEED MIX SHALL FOLLOW MNDOT STANDARD SPECIFICATION 3876, STATE SEED MIX 25-131. TEMPORARY WETLAND IMPACTS SHALL BE RESTORED TO PREVIOUS/EXISTING CONDITIONS AND SEEDED WITH STATE SEED MIX 34-261.

1.02 WHERE INSPECTED SEEDING/TURF ESTABLISHMENT WORK DOES NOT MEET THE REQUIREMENTS OF THE OWNER, CONTRACTOR SHALL REPLACE REJECTED WORK UNTIL INSPECTED AGAIN BY THE OWNER AND FOUND TO BE ACCEPTABLE.

NOTES:

1. SPOT ELEVATIONS SHOWN ARE @ CURB GUTTERLINE (xxx.xx)

2. PAVEMENT MARKINGS AND STRIPING TO BE COMPLETED BY CONTRACTOR. COORDINATE W/ OWNER.



2 PLAN: RESTORATION - FLOODWALL AREA

PLAN NOTES:

1. 6" REINF. CONC. SLAB W/ #4 BARS AT 12" O.C. E.W. CENTERED ON SLAB.

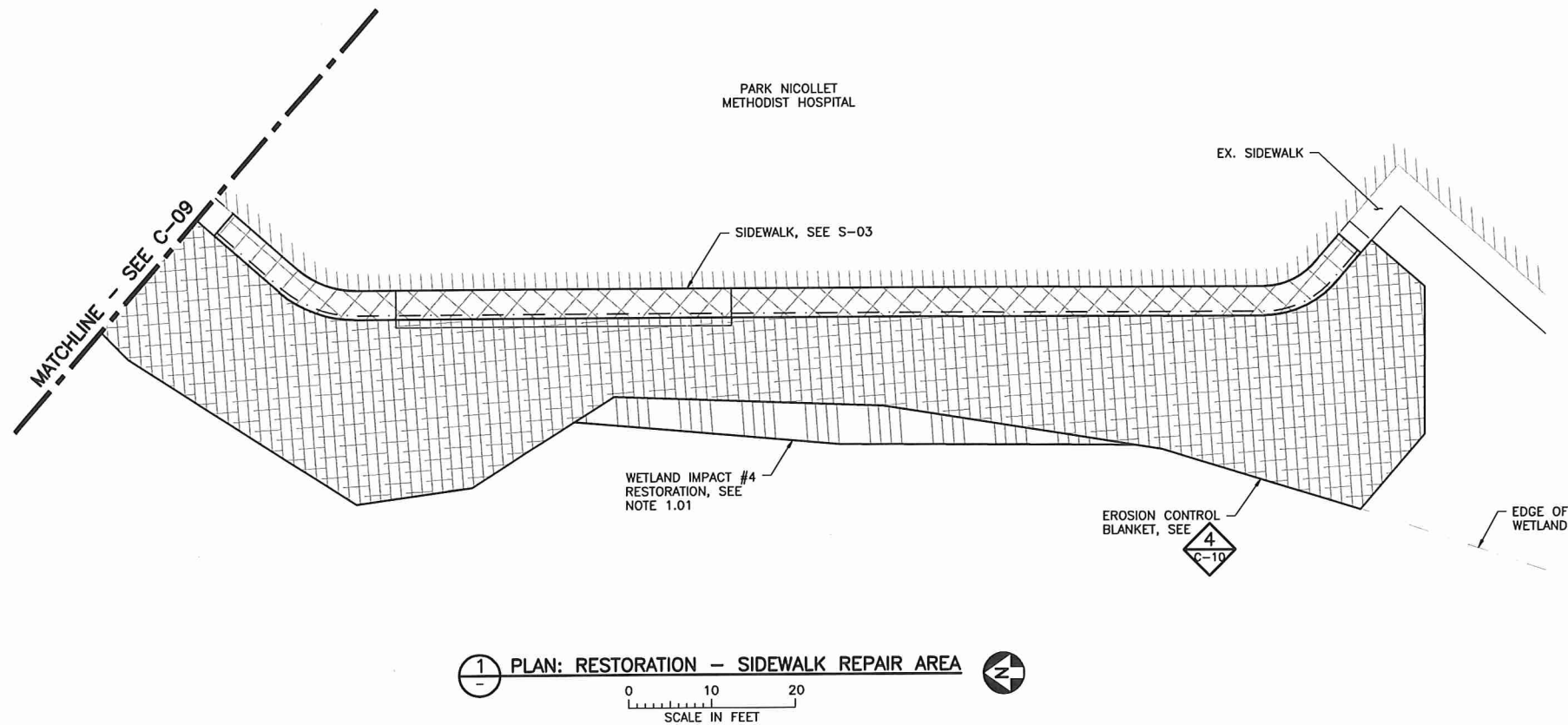
2. 1/4" DEEP SAWCUT AT C.J.

3. 1/2" PREFORMED JOINT FILLER AT EJ WITH JOINT SEALANT.

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CADD USER: Max J. Jouppe FILE: W:\DESIGN\232713800\232713800_C-09.DWG PLOT SCALE: 1:2 PLOT DATE: 5/24/2016 6:58 AM

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____		CLIENT: 11/17/15 04/22/16 05/09/16 05/24/16 CONSTRUCTION: _____ RELEASED TO/FOR: A B C D 1 2 3 DATE RELEASED: _____	BARR Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: (652) 832-2601 www.barr.com	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale: AS SHOWN Date: 10/12/15 Drawn: M.J.J. Checked: MTP2 Designed: MTP2 Approved: MAK2	PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA ROADWAY AND SITE RESTORATION FLOODWALL AREA	BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. - DWG. No. C-09 REV. No. D
NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION			



SUMMARY OF FIELD TESTING REQUIREMENTS				
CONCRETE MATERIALS				
ITEM	TEST	TEST METHOD OR STANDARD	MINIMUM FREQUENCY	ACCEPTANCE CRITERIA
CONCRETE PLACEMENT	AIR CONTENT	ASTM C 231	PRE-TEST EACH TRUCK BEFORE UN-LOADING, AND MID-LOAD EACH TRUCK	6% +/- 1.5%
	UNCONFINED COMPRESSIVE STRENGTH	ASTM C 39	ONE PER 150 CUBIC YARDS, OR FRACTION THEREOF (PERFORM ALL TESTS OF SAME BATCH OF CONCRETE) (MINIMUM 4 CYLINDERS PER SET) ADDITIONAL TESTING AS NECESSARY	4,000 PSI (28-DAY)
	TEMPERATURE	ASTM C 1064	PRE-TEST EACH TRUCK BEFORE UN-LOADING, AND MID-LOAD EACH TRUCK	60 TO 90 DEGREES
EARTHWORK				
ITEM	TEST	TEST METHOD OR STANDARD	FREQUENCY	ACCEPTANCE CRITERIA
SUBGRADE - PAVEMENTS	IN-PLACE DENSITY / MOISTURE CONTENT	ASTM D2922	3 TESTS TOTAL, MINIMUM 1 TEST DAILY	MINIMUM 95% STANDARD PROCTOR
SUBGRADE - UTILITY	IN-PLACE DENSITY / MOISTURE CONTENT	ASTM D2922	1 TEST PER 100 LF OF TRENCH, 1 TEST PER GATEWELL & PUMP STATION STRUCTURE	MINIMUM 95% STANDARD PROCTOR
BACKFILL - UTILITY	IN-PLACE DENSITY / MOISTURE CONTENT	ASTM D2922	1 TEST PER 100 LF OF TRENCH (EACH LIFT), 1 TEST PER GATEWELL & PUMP STATION (EACH LIFT)	MINIMUM 95% STANDARD PROCTOR
MAXIMUM DRY DENSITY / OPTIMUM MOISTURE CONTENT	STANDARD PROCTOR	ASTM D698	1 TEST FOR EACH SOIL TYPE, AND AS NEEDED/DIRECTED BY ENGINEER	PER FILL MATERIAL REQUIREMENTS
PUMP STATION DISCHARGE PIPES				
ITEM	TEST	TEST METHOD OR STANDARD	FREQUENCY	ACCEPTANCE CRITERIA
PIPING	HYDROSTATIC PRESSURE TESTING	ASTM F2164	ALL NEW PIPE INSTALLATION	PER STANDARD
PUMP STATION	STARTUP/OPERATION	NA	NA	OWNER ACCEPTANCE
PAVING				
ITEM	TEST	TEST METHOD OR STANDARD	FREQUENCY	ACCEPTANCE CRITERIA
AGGREGATE SURFACE	GRADATION	ASTM D2940	1 TEST PER SOURCE STOCKPILE, 1 TEST IN-PLACE, MINIMUM 1 TEST DAILY	MEETS GRADATION REQUIREMENTS
	IN-PLACE DENSITY	ASTM D698	2 TESTS TOTAL, MINIMUM 1 TEST DAILY	95% STANDARD PROCTOR
BITUMINOUS ASPHALT	IN-PLACE DENSITY	ASTM C-136, ASTM D-1559	2-6" DIAMETER CORES - 2 TESTS TOTAL, MINIMUM 1 TEST DAILY	PER ASTM
CONCRETE CURB & GUTTER, PAD, SIDEWALK	UNCONFINED COMPRESSIVE STRENGTH	ASTM C39	2 CYLINDERS TOTAL, MINIMUM 1 TEST DAILY	4,000 PSI (28-DAY)
HYDRAULIC GATES				
ITEM	TEST	TEST METHOD OR STANDARD	FREQUENCY	ACCEPTANCE CRITERIA
GATES	OPERATION	NA	NA	OWNER ACCEPTANCE



RESTORATION SPECIFICATIONS:

- 1.00 CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, AND LABOR TO RESTORE ALL DISTURBED AREAS, AND INCLUDES FINAL GRADING, SOIL PREPARATION, SEEDING, MULCHING, AND ALL OTHER WORK AS MAY BE NECESSARY INCLUDING, BUT NOT LIMITED TO: RESTORING ALL AREAS DISTURBED AS A RESULT OF CONTRACTOR'S PERFORMANCE OF THE WORK; TOPSOIL, SEED, AND MULCH ALL DISTURBED AREAS; AREAS DISTURBED BY CONTRACTOR FOR ACCESS PURPOSES OF OR USED AS LAYDOWN AREAS AND SITE CLEANUP.
- 1.01 TURF ESTABLISHMENT SHALL CONFORM TO THE PLANTING SEASON OF PLANTING REQUIREMENTS OF MN/DOT STANDARD SPECIFICATIONS 2575.3 A. SEED MIX SHALL FOLLOW MNDOT STANDARD SPECIFICATION 3876, STATE SEED MIX 25-131. TEMPORARY WETLAND IMPACTS SHALL BE RESTORED TO PREVIOUS/EXISTING CONDITIONS AND SEEDED WITH STATE SEED MIX 34-261.
- 1.02 WHERE INSPECTED SEEDING/TURF ESTABLISHMENT WORK DOES NOT MEET THE REQUIREMENTS OF THE OWNER, CONTRACTOR SHALL REPLACE REJECTED WORK UNTIL INSPECTED AGAIN BY THE OWNER AND FOUND TO BE ACCEPTABLE.

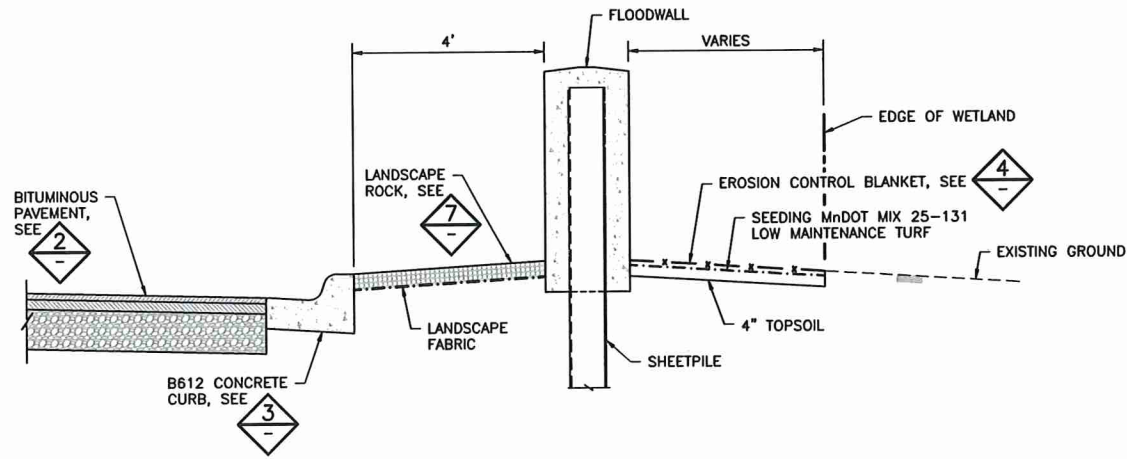
TESTING SPECIFICATIONS:

- 2.01 CONTRACTOR WILL PROVIDE AN INDEPENDENT TESTING AGENCY FOR QUALITY CONTROL TESTING OF EARTHWORK, COMPACTION, DENSITIES, AND GRADATIONS AND OTHER ITEMS AS REQUIRED IN THE CONSTRUCTION DRAWINGS.
- 2.02 ALL INSPECTIONS, TESTS, RETESTS AND OTHER QUALITY-CONTROL SERVICES SHALL BE AT THE EXPENSE OF CONTRACTOR.
- 2.03 THE COST OF RETESTING WORK, REVISED OR REPLACED BY CONTRACTOR, IS CONTRACTOR'S RESPONSIBILITY. ALL ACTIVITIES TO CORRECT WORK AND RETESTING SHALL BE AT THE EXPENSE OF THE CONTRACTOR UNTIL ALL WORK MEETS SPECIFIED CRITERIA AND ACCEPTABLE TEST RESULTS ARE OBTAINED ON THE WORK.
- 2.04 CONTRACTOR SHALL FURNISH DRAFT COPIES OF FIELD TESTING RESULTS TO THE ENGINEER DAILY, OR ON A FREQUENT AND REGULAR BASIS AS DIRECTED. ALL FIELD TESTING RESULTS SUBMITTED TO ENGINEER SHALL BE SUBMITTED IN ELECTRONIC PDF FORMAT. THE CONTRACTOR (OR CONTRACTOR'S INDEPENDENT TESTING AGENCY) SHALL SUBMIT A CERTIFIED WRITTEN REPORT, IN DUPLICATE, OF EACH INSPECTION, TEST, OR SIMILAR SERVICE TO THE ENGINEER.

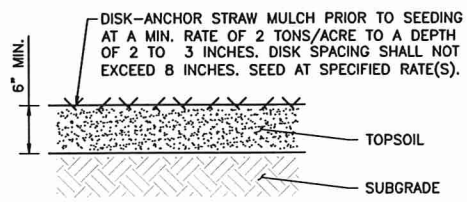
95% DRAFT
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CADD USER: Max J. Jouppe FILE: M:\DESIGN\23271380\00\2327138000_C-10.DWG PLOT SCALE: 1:2 PLOT DATE: 5/24/2016 7:03 AM

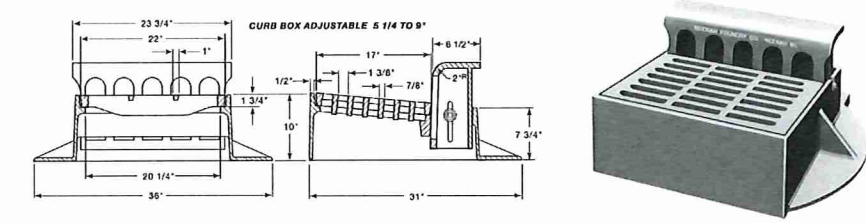
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NO.	BY	CHK.	APP.	DATE	REVISION	DESCRIPTION	PRINTED NAME	SIGNATURE	DATE	LICENSE #	RELEASED TO/FOR	A	B	C	0	1	2	3



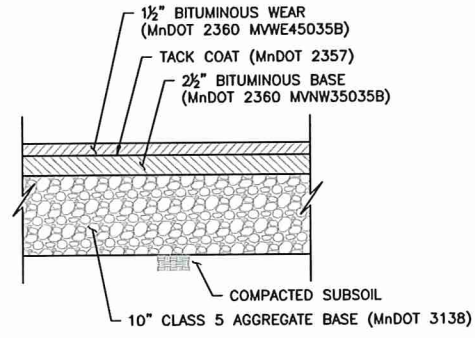
1 SECTION: TYPICAL FLOODWALL
C-09 NOT TO SCALE



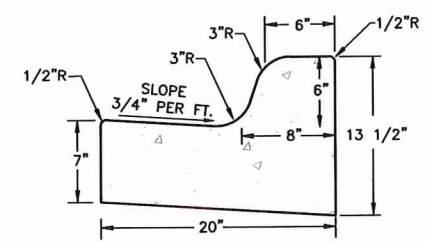
5 DETAIL: TOPSOIL, SEED AND MULCH
NOT TO SCALE (NON-EROSION CONTROL BLANKET AREAS)



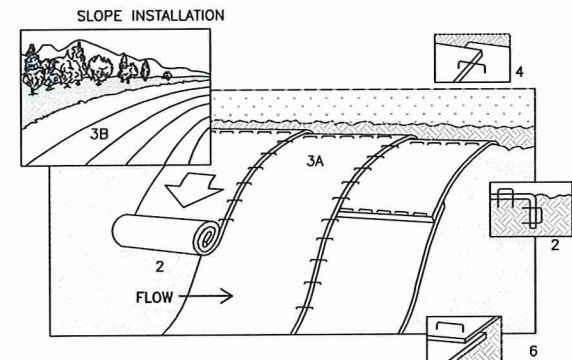
6 DETAIL: MANHOLE CASTING - R-3278-A
NOT TO SCALE



2 DETAIL: BITUMINOUS PAVEMENT
NOT TO SCALE

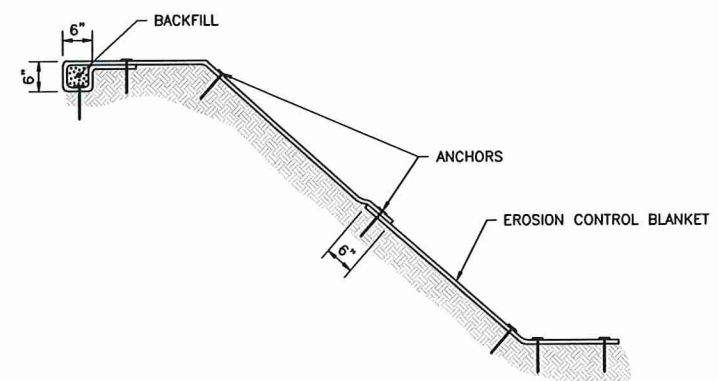


3 DETAIL: B612 CURB AND GUTTER
NOT TO SCALE



DETAIL: EROSION CONTROL BLANKET - INSTALLATION

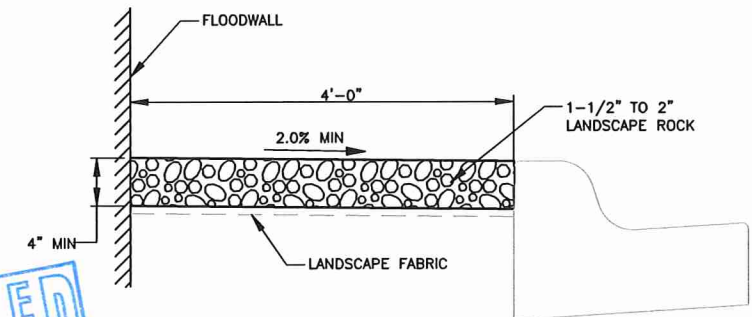
- NOTES:**
- REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
 - PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
 - BEGIN (A) AT THE TOP OF THE SLOPE AND ROLL THE BLANKETS DOWN OR (B) AT ONE END OF THE SLOPE AND ROLL THE BLANKETS HORIZONTALLY ACROSS THE SLOPE.
 - THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 6" OVERLAP, WITH THE UPHILL BLANKET ON TOP.
 - WHEN BLANKETS MUST BE SPICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 6" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
 - BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.



DETAIL: EROSION CONTROL BLANKET - ANCHOR TRENCH

- NOTES:**
- REFER TO MANUFACTURER RECOMMENDATIONS FOR STAPLE PATTERNS FOR SLOPE INSTALLATIONS.
 - PREPARE SOIL BY LOOSENING TOP 1-2 INCHES AND APPLY SEED (AND FERTILIZER WHERE REQUIRED) PRIOR TO INSTALLING BLANKETS. GROUND SHOULD BE SMOOTH AND FREE OF DEBRIS.
 - BLANKET MATERIALS SHALL BE AS SPECIFIED OR AS APPROVED BY ENGINEER.

4 DETAIL: EROSION CONTROL BLANKET
NOT TO SCALE



- NOTES:**
- LANDSCAPE ROCK AND EDGING COLOR TO BE SUBMITTED BY CONTRACTOR FOR APPROVAL BY OWNER PRIOR TO INSTALLATION.

7 DETAIL: LANDSCAPE ROCK
NOT TO SCALE



ROADWAY SPECIFICATIONS:

- 1.00 SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MNDOT STANDARD SPECIFICATION 2112.
- CONCRETE CURB AND GUTTER:**
- 2.00 CONCRETE CURB AND GUTTER SHALL BE OF THE SIZE, TYPE AND CONFIGURATION AS SHOWN ON THE DRAWINGS.
 - 2.01 CONTRACTOR SHALL SUBMIT CONCRETE CURB AND GUTTER DESIGN FOR APPROVAL. CONCRETE CURB AND GUTTER SHALL BE IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 2531 WITH A MIX DESIGN AS DEFINED IN MN/DOT STANDARD SPECIFICATION 2461.
 - 2.02 JOINTS SHALL CONFORM TO MN/DOT STANDARD SPECIFICATION 2531, CONCRETE CURBING.
 - 2.03 THE REQUIRED MINIMUM 28-DAY COMPRESSIVE STRENGTH SHALL BE 4,000 PSI. CONTRACTOR SHALL PERFORM 28-DAY COMPRESSIVE STRENGTH TESTING ON AT A MINIMUM TWO (2) CYLINDERS OF THE PROPOSED MIX DESIGN. IF NECESSARY, THE MIX DESIGN SHALL BE MODIFIED TO MEET THE MINIMUM COMPRESSIVE STRENGTH REQUIREMENTS AND OTHER SPECIFICATIONS, AND RETESTED UNTIL SUCCESSFUL TEST RESULTS ARE OBTAINED.
- AGGREGATE BASE:**
- 3.00 AGGREGATE BASE SHALL CONFORM TO REQUIREMENTS IN MNDOT SPECIFICATION 3138.
 - 3.01 MNDOT AGGREGATE CLASSES SHALL CONSIST OF MATERIALS AS FOLLOWS: AGGREGATE BASE, CLASS 5, SHALL BE 100% CRUSHED QUARRY ROCK.
 - 3.02 AGGREGATE BASE SHALL BE PLACED IN ACCORDANCE WITH MNDOT STANDARD SPECIFICATION 2211.
- BITUMINOUS PAVEMENT:**
- 4.00 CONTRACTOR SHALL SUBMIT BITUMINOUS MIX DESIGNS FOR APPROVAL. NON-WEARING AND WEARING COURSE MIXTURE SHALL CONFORM TO REQUIREMENTS IN MNDOT SPECIFICATION 2360 FOR PLANT MIXED ASPHALT PAVEMENT.
 - 4.01 BITUMINOUS TACK COAT SHALL CONFORM TO REQUIREMENTS IN MNDOT SPECIFICATION 2357 FOR BITUMINOUS TACK COAT.
 - 4.02 CONTRACTOR SHALL INSTALL BITUMINOUS PAVEMENT IN ACCORDANCE WITH MN/DOT STANDARD SPECIFICATION 2360.

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NO.	BY	CHK	APP	DATE	REVISION DESCRIPTION	PRINTED NAME	SIGNATURE			DATE	LICENSE #	RELEASED TO/FOR	A	B	C	O	1	2

1.0 GENERAL REQUIREMENTS AND SUBMITTALS

- A. GENERAL**
- THESE SPECIFICATIONS ARE COMPLIMENTARY TO THE DRAWINGS AND REPRESENT MINIMUM REQUIREMENTS.
 - DO NOT SCALE DRAWINGS.
 - THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION.
 - FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PREPARATION AND INSTALLATION OF PURCHASED MATERIALS AND EQUIPMENT.
- B. GOVERNING CODES**
- PERFORM WORK IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS.
 - 2006 INTERNATIONAL BUILDING CODE AND REFERENCED STANDARDS W/ 2007 MINNESOTA BUILDING CODE AMENDMENTS.
- C. SUBMITTALS**
- PROVIDE SUBMITTALS TO OWNER A MINIMUM OF TWO WEEKS PRIOR TO INCORPORATION INTO THE WORK.
 - ENGINEER'S ACCEPTANCE MUST BE SECURED FOR ALL STRUCTURAL SUBSTITUTIONS.
- D. DESIGN LOADS**
- HYDROSTATIC LOADING:
 - FLOOD SIDE LOAD: 810.00'
 - PROTECTED SIDE LOAD: 804.00'
- E. GEOTECHNICAL INFORMATION**
- BARR ENGINEERING COMPANY, "xxx", XX/XX/15.

2.0 EXCAVATION, SUBGRADE PREPARATION, BACKFILL, & COMPACTION

- A. PRODUCTS**
- STRUCTURAL FILL:
 - WELL GRADED (PER UNIFIED SOIL CLASSIFICATION SYSTEM) GRANULAR SOIL CONSISTING OF GRAVEL AND SAND, OR
 - CRUSHED STONE WITH A MAXIMUM PARTICLE SIZE OF 1 1/2" AND LESS THAN 5% PASSING THE NO. 200 SIEVE AND FREE OF VEGETATION, DEBRIS, ROOTS, STICKS, BRUSH, AND NON-SOIL MATERIALS.
 - COMMON FILL: SUITABLE UNFROZEN MATERIALS EXCAVATED FROM THE FOUNDATION SITE OR IMPORTED AS NECESSARY AND PROCESSED TO THE SPECIFIED REQUIREMENTS BELOW.
 - MATERIALS BACKFILLED WITHIN 1 FOOT OF ANY CONCRETE: FINE, WELL GRADED MATERIAL WITH PARTICLE SIZE NO GREATER THAN 3".
 - REMAINING BACKFILL TO MEET THE DENSITY REQUIREMENTS, FREE OF VEGETATION, DEBRIS, ROOTS, STICKS, BRUSH AND NON-SOIL MATERIALS, AND PLACED USING METHODS THAT WILL PREVENT VOIDS FROM OCCURRING.
 - COHESIVE MATERIALS HAVING LIQUID LIMIT VALUES OF 40% OR LESS AND PLASTICITY INDICES OF 15% OR LESS.
- B. EXECUTION**
- PRIOR TO PLACING CONCRETE, HAVE A PROFESSIONAL GEOTECHNICAL ENGINEER (OR A PERSON UNDER THE GEOTECHNICAL ENGINEER'S DIRECT SUPERVISION) INSPECT THE SUBGRADE CONDITIONS AND RECORD THE SOIL TYPE ENCOUNTERED, GROUNDWATER CONDITIONS, OR OTHER SUBSURFACE CONDITIONS. PREPARE AND SUBMIT A SUBGRADE INSPECTION REPORT FOR EACH FOUNDATION THAT INCLUDES THE FOLLOWING:
 - VERIFICATION THAT OBSERVATIONS TAKEN ARE CONSISTENT WITH THE OBSERVATIONS CONTAINED IN THE GEOTECHNICAL REPORT.
 - METHODS AND RESULTS TO VERIFY SUBGRADE STRENGTH AND UNIFORMITY.
 IF SOIL CONDITIONS ARE ENCOUNTERED THAT ARE NOT CONSISTENT WITH THE GEOTECHNICAL REPORT, SUBGRADE IS NON-UNIFORM, OR STRENGTH IS INSUFFICIENT: OBTAIN WRITTEN INSTRUCTIONS FROM THE FOUNDATION ENGINEER AS TO THE MEANS OF CORRECTION TO BE UNDERTAKEN. OBTAIN WRITTEN CONFIRMATION FROM THE GEOTECHNICAL ENGINEER THAT THE SPECIFIED CORRECTIVE ACTIONS WERE COMPLETED.
 - BACKFILL AND COMPACTION: PLACE AND COMPACT MATERIALS TO THE LIMITS, DEPTH AND DRY DENSITY INDICATED ON THE DRAWINGS.
 - STRUCTURAL FILL - PLACE IN MAXIMUM LOOSE LIFTS OF 9 INCHES OR LESS TO ACHIEVE THE SPECIFIED DENSITY, COMPACT TO A MINIMUM OF 98% STANDARD PROCTOR.
 - COMMON FILL - PLACE IN MAXIMUM LOOSE LIFTS OF 12 INCHES OR LESS TO ACHIEVE THE SPECIFIED DENSITY, COMPACT TO A MINIMUM OF 95% STANDARD PROCTOR.
 - BACKFILL MAY BE PLACED WHEN THE ADJACENT CONCRETE HAS REACHED 2,000 PSI.
 - BACKFILL ALL SIDES OF FOUNDATION WALLS OR PIERS EVENLY.
 - GRADING TOLERANCE: ± 0.1 FEET.

3.0 CONCRETE

- A. GENERAL**
- COMPLETE ALL CONCRETE WORK COVERED BY THESE CONTRACT DOCUMENTS IN ACCORDANCE WITH THE REFERENCED SECTIONS OF ACI 301 AS PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, FARMINGTON HILLS, MICHIGAN, EXCEPT AS MODIFIED BY THESE SPECIFICATIONS.
 - CONTRACTOR QUALIFICATIONS: 5 YEARS MINIMUM EXPERIENCE ON COMPARABLE CONCRETE PROJECTS.
 - WORKER QUALIFICATIONS: COMPETENT AND EXPERIENCED FOREMAN IN PLACING THE TYPES OF CONCRETE SPECIFIED WITH TRAINED AND EXPERIENCED CONCRETE FINISHERS.
- B. SUBMITTALS**
- MANUFACTURER'S DESCRIPTIVE LITERATURE AND PRODUCT SPECIFICATIONS FOR EACH PRODUCT.
 - SHOP DRAWINGS AND MILL REPORTS:
 - STEEL REINFORCING
 - EMBEDDED STEEL, INSERTS, ANCHOR BOLT AND ACCESSORIES LOCATIONS
 - BATCH PLANT QUALIFICATIONS: PLANT'S NAME, ADDRESS, PHONE NUMBER, DISTANCE AND TRAVEL TIME TO SITE, AND CERTIFICATION OF READY-MIX PLANT EQUIPMENT AND FACILITIES PER MN/DOT 2461.4D.
 - CONCRETE MIX DESIGN:
 - PERFORMED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MINNESOTA
 - BASIS FOR MIX DESIGN (BY CONCRETE PRODUCTION FACILITY OR LABORATORY TRIAL MIXES)
 - IDENTIFICATION OF AGGREGATE SOURCE, GRADATION, AND COMPLIANCE TEST TO ASTM REQUIREMENTS
 - COMPRESSIVE STRENGTH AT 28 DAYS
 - SCALE WEIGHTS OF EACH AGGREGATE
 - ABSORBED WATER IN EACH AGGREGATE
 - BRAND, TYPE, AND AMOUNT OF CEMENTIOUS MATERIAL IN MIX
 - PROPORTIONS OF EACH MATERIAL REQUIRED PER CUBIC YARD
 - REPORTS ON MATERIALS, CONCRETE DESIGN MIXED, AND TESTING PERFORMED
 - ONE SIGNED COPY OF THE DELIVERY TICKET IN ACCORDANCE WITH ASTM C94 AS PROOF OF ACCEPTANCE OR REJECTION OF CONCRETE FOR EACH BATCH OF CONCRETE DELIVERED TO THE JOBSITE PROVIDE.
 - HOT AND COLD WEATHER PROTECTION PLAN OF CONCRETE IN ACCORDANCE WITH ACI 305-306.
 - ASR MITIGATION PLAN, INCLUDING VERIFICATION THAT THE PROPOSED MEASURES WILL SUFFICIENTLY LIMIT ASR TO PREVENT EXCESSIVE EXPANSION, INCLUDING RESULTS OF TESTS PERFORMED ACCORDING TO ASTM C1567, AASHTO T303, OR ASTM C1293.
- C. PRODUCTS**
- CONCRETE: MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH: 4,000 PSI. SERVICABILITY (SEE ACI 301 4.2.2.7 FOR DEFINITIONS AND REQUIREMENTS):
 - SULFATE RESISTANCE REQUIREMENT: S0
 - FREEZE THAW RESISTANCE REQUIREMENT: F2
 - PERMIABILITY REQUIREMENT: P0
 - REINFORCING CORROSION RESISTANCE REQUIREMENT: C1
 - MAXIMUM WATER-TO-CEMENT RATIO: 0.45
 - MINIMUM AIR CONTENT: 5.5% (±1.5%) AND AS SPECIFIED IN ACI 301 4.2.2.7.b
 - CEMENTIOUS MATERIAL: PORTLAND CEMENT: ACI 301 4.2.1.1 OR POZZOLANIC MINERAL ADMIXTURE: ACI 301 4.2.1.1.d.
 - AGGREGATES: GRADATION: ACI 301 4.2.2.1 AND MAXIMUM SIZE: ACI 301 4.2.2.3.
 - WATER: WATER: ACI 301 4.2.1.3
 - ADMIXTURES: CHLORIDE FREE WATER REDUCING ADMIXTURE AND SUPERPLASTICIZER AS IN ACCORDANCE WITH THE APPROVED CONCRETE MIX DESIGN SUBMITTAL.
 - CURING MATERIALS: WATER FOR CURING: ASTM C1602, MEMBRANE CURING COMPOUND: ASTM C309 OR ASTM C1315, WATERPROOF SHEETS: ASTM C171.
 - EXPANSION JOINT MATERIAL: EXPANSION AND ISOLATION MATERIAL USED FOR EXTERIOR APPLICATIONS WITHOUT A SEALANT: FIBER EXPANSION JOINT FILLER CONFORMING TO ASTM D1751.
 - JOINT SEALER: SEALANT FOR USE IN WALL JOINTS: 1-COMPONENT GUN GRADE POLYURETHANE SEALANT SONOLASTIC NP1 AS MANUFACTURED BY SONNEBORN, SIKAFLEX-1A AS MANUFACTURED BY SIKA, OR APPROVED EQUAL.
- D. EXECUTION**
- PREPARATION: ACI 301 5.3.1.
 - CAST-IN-PLACE CONCRETE TOLERANCES: ACI 117
 - SET ANCHOR RODS USING PLYWOOD, STEEL, AND EMBEDDED TEMPLATES (IF NECESSARY). SECURE WITH NUTS ON EACH SIDE OF TEMPLATE.
 - COAT ANCHOR ROD THREADS WITH GREASE AND WRAP WITH BURLAP.
 - PLUG OR CAP ANCHOR ROD SLEEVES.
 - TOLERANCES: AISC 303, SECTION 7.5.1.
 - DELIVERY AND CONVEYANCE OF CONCRETE
 - DELIVERY: ASTM C94
 - TIME OF DISCHARGE: ACI 301 4.3.2.2
 - CONVEYANCE: ACI 301 5.3.2.2 AND 5.3.2.3
 - PLACEMENT OF CONCRETE: ACI 301 5.3.2

- COLD WEATHER PROTECTION: ACI 301 AND RECOMMENDATIONS OF ACI 306R.
- HOT WEATHER PROTECTION: ACI 301 AND RECOMMENDATIONS OF ACI 305R.
- CONSOLIDATION: ACI 301 5.3.2.5
- FINISHING
 - EXPOSED SURFACES NOT IN CONTACT WITH FORMWORK: ACI 301 5.3.4.
 - EXTERIOR PAVEMENT AND WALKWAYS: ACI 301 5.3.4.2.c, BROOM OR BELT FINISH
 - INTERIOR SLABS: ACI 301 5.3.4.2.c, TROWEL FINISH
 - ALL OTHER EXPOSED SURFACES: ACI 301 5.3.4.2.c, TROWEL FINISH
- CURING AND PROTECTION: ACI 301 5.3.6
- REPAIR OF SURFACE DEFECTS: ACI 301 5.3.7



95% DRAFT
SUBMITTAL

CADD USER: Max J. Jouppe FILE: M:\DESIGN\232713800\232713800_01.DWG PLOT SCALE: 1:2 PLOT DATE: 4/29/2016 7:57 AM

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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.

PRINTED NAME _____

SIGNATURE _____

DATE _____ LICENSE # _____

CLIENT	11/17/15	04/29/16									
BID											
CONSTRUCTION											
RELEASED TO/FOR	A	B	C	0	1	2	3				
DATE RELEASED											

BARR

Project Office:
BARR ENGINEERING CO.
4300 MARKETPOINTE DRIVE
Suite 200
MINNEAPOLIS, MN 55435
Ph: 1-800-632-2277
Fax: (952) 632-2601
www.barr.com

Corporate Headquarters:
Minneapolis, Minnesota
Ph: 1-800-632-2277

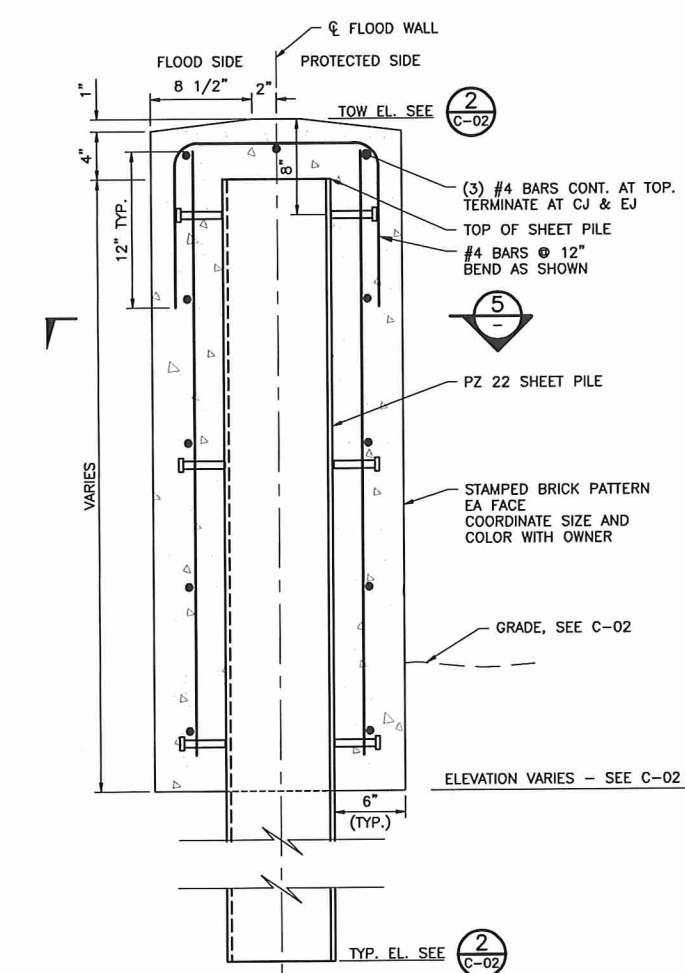
Scale	AS SHOWN
Date	10/26/15
Drawn	MJJ
Checked	BJS
Designed	BJS
Approved	BJS

PARK NICOLLET HEALTH SERVICES
ST, LOUIS PARK, MINNESOTA

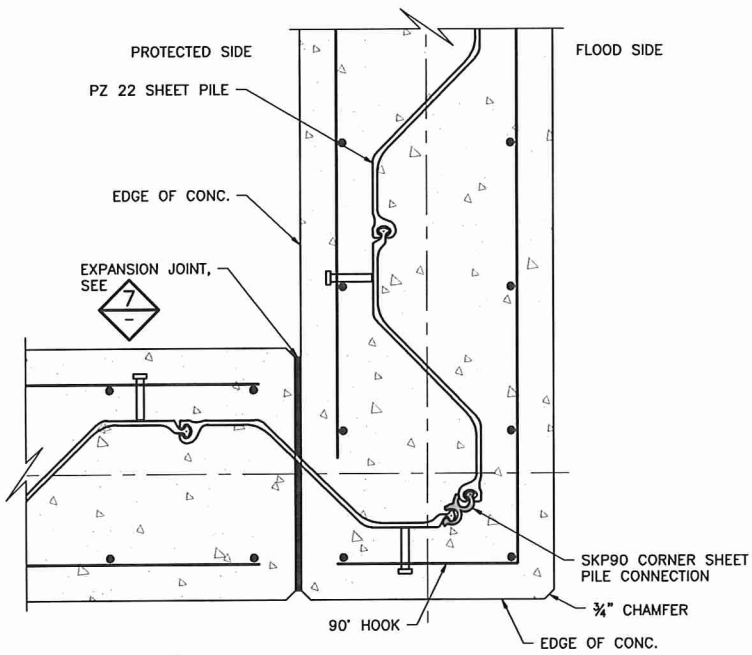
PARK NICOLLET FLOOD RISK MGMT
ST. LOUIS PARK, MINNESOTA
STRUCTURAL SPECIFICATIONS

BARR PROJECT No.	23/27-1380.00
CLIENT PROJECT No.	
DWG. No.	S-01
REV. No.	B

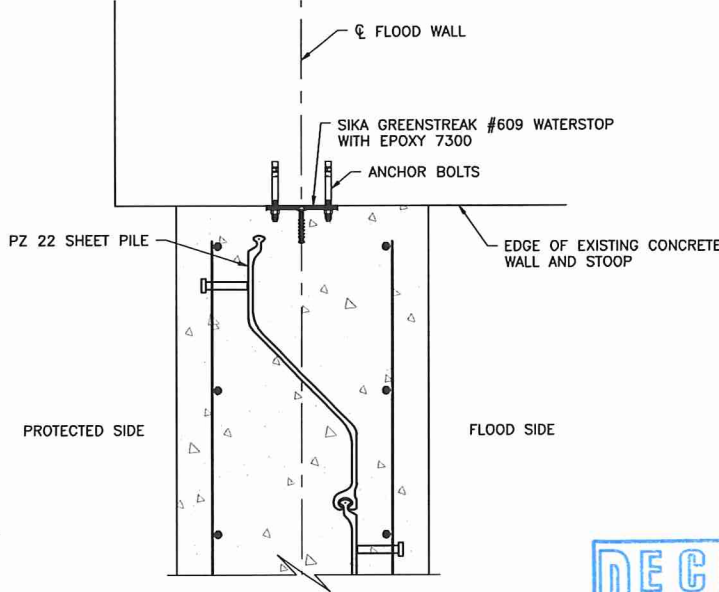
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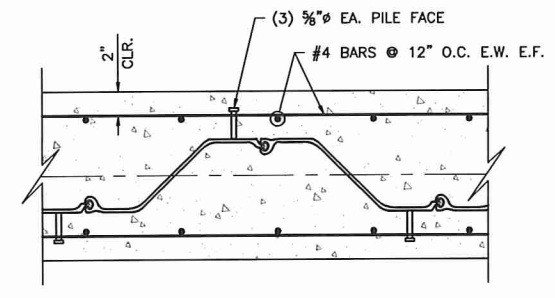
1 SECTION: SHEET PILE AND CONCRETE WALL
 SCALE: 0 3" 6" 9" 1' 2'



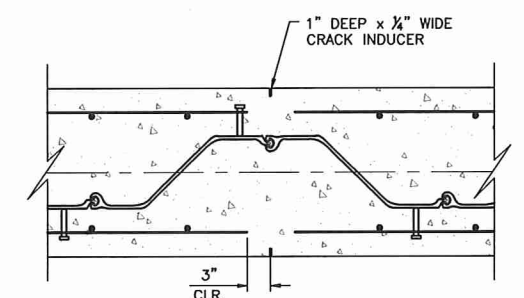
2 DETAIL: WALL CORNER
 SCALE: 0 3" 6" 9" 1' 2'



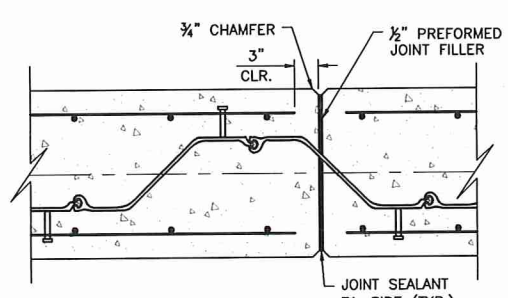
3 DETAIL: WALL CONNECTION TO EXISTING
 SCALE: 0 3" 6" 9" 1' 2'



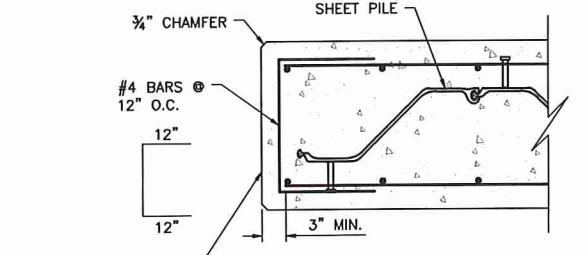
5 SECTION: TYPICAL WALL
 SCALE: 0 3" 6" 9" 1' 2' 3'



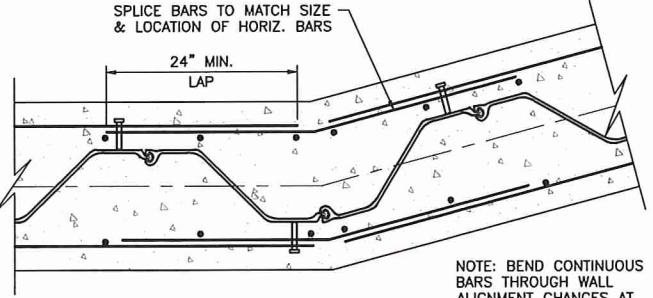
6 DETAIL: CONTROL JOINT
 SCALE: 0 3" 6" 9" 1' 2' 3'



7 DETAIL: EXPANSION JOINT
 SCALE: 0 3" 6" 9" 1' 2' 3'

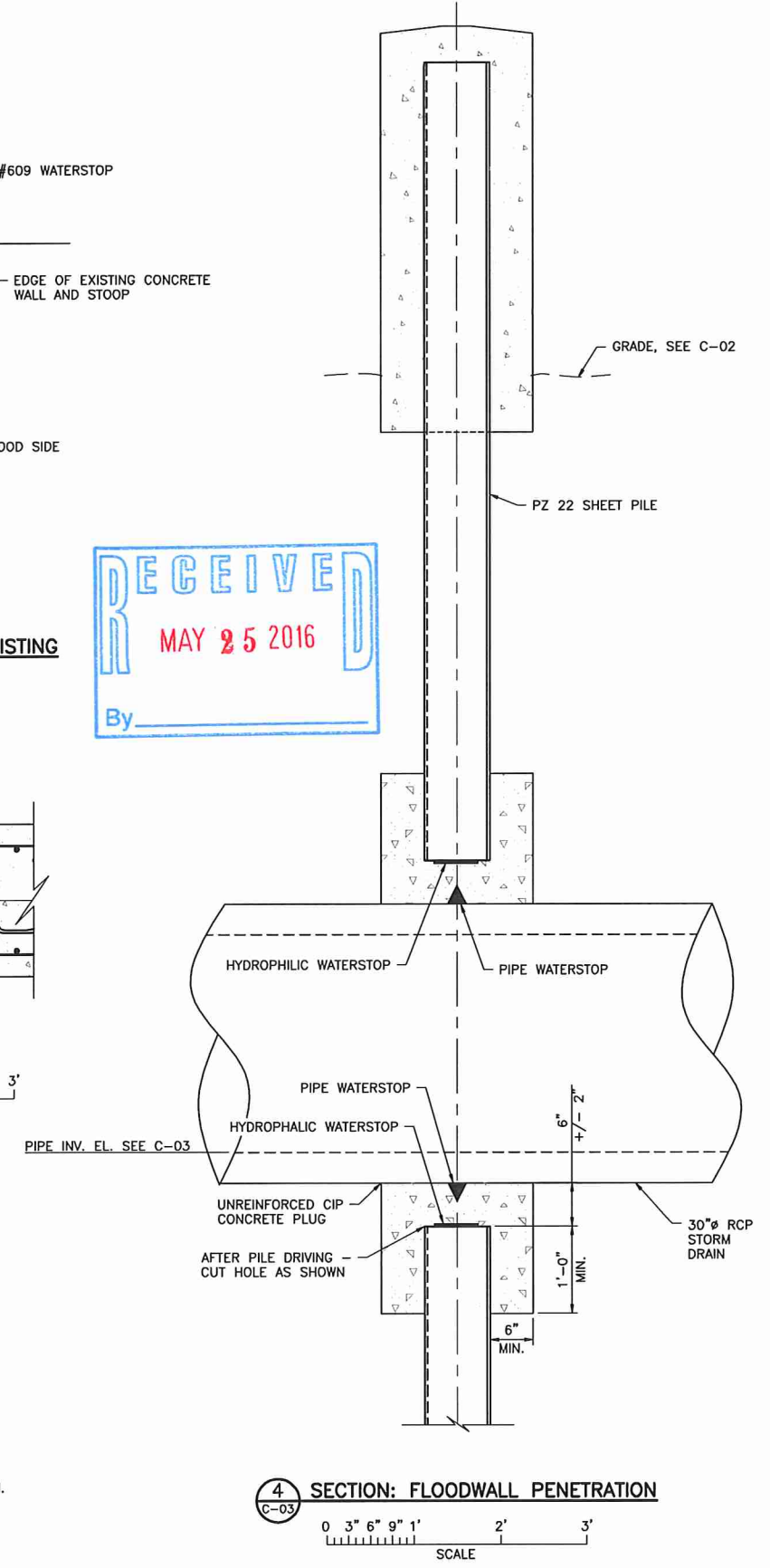


8 DETAIL: WALL END
 SCALE: 0 3" 6" 9" 1' 2' 3'



9 DETAIL: LAP SPLICE
 SCALE: 0 3" 6" 9" 1' 2' 3'

NOTE: BEND CONTINUOUS BARS THROUGH WALL ALIGNMENT CHANGES AT CONTRACTORS DISCRETION.



4 SECTION: FLOODWALL PENETRATION
 SCALE: 0 3" 6" 9" 1' 2' 3'

95% DRAFT SUBMITTAL

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. PRINTED NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE #: _____		CLIENT: BARR ENGINEERING CO. PROJECT: PARK NICOLLET FLOOD RISK MGMT ST. LOUIS PARK, MINNESOTA RELEASED TO/FOR: A B C O 1 2 3 DATE RELEASED: 1/17/15 3/2/16	Project Office: BARR ENGINEERING CO. 4300 MARKETPOINTE DRIVE Suite 200 MINNEAPOLIS, MN 55435 Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Fax: (952) 632-2601 www.barr.com	Scale: AS SHOWN Date: 10/26/15 Drawn: GWB Checked: BJS Designed: BJS Approved: BJS	PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOOD RISK MGMT ST. LOUIS PARK, MINNESOTA FLOODWALL DETAILS	BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. _____ DWG. No. S-02 REV. No. B	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION			

GENERAL ELECTRICAL SPECIFICATIONS

- 1.0 The work included in the project shall include the furnishing of all required labor and materials for a complete and operable electrical system as indicated on the accompanying drawings and as required by the project manual inclusive of all appurtenances not specifically shown or covered by the specifications but required for complete operation of the electrical system as defined in the documents. The work shall include the testing, adjustment, start-up and troubleshooting of the electrical equipment and the training of the Owner's operating personnel in its operation and maintenance.
- 1.01 It shall be the responsibility of the Contractor to furnish a complete and fully operating system. The Contractor shall be responsible for all details which may be necessary to properly install, adjust and place in operation the complete installation. The Contractor shall assume full responsibility for additional costs which may result from unauthorized deviations from the contract documents.
- 1.02 The drawings indicate the required size of conduit and cable for wiring. The locations of equipment shall be verified in the field by the Contractor. In the event it should become necessary to change the location of any work due to interference with other work, consult with the Engineer before making any changes. The Contractor shall determine and be responsible for the proper location and character of all anchor bolts, inserts, hangers, sleeves, etc. for the electrical equipment, unless specifically detailed otherwise.
- 1.03 The Contractor shall submit for approval complete shop drawings for all equipment including but not limited to: lift station control panel, complete with all components shown in the Drawings; submersible level transducer and float switches; cable and conduit; and any other devices and systems, including complete schematic and interconnection diagrams, with detailed parts lists and other information required by the Engineer. The shop drawings shall include system schematic drawings, dimensional drawings, equipment specification sheets, and complete control panel layout drawings. The Contractor shall not accept or ship any equipment until he or she has received complete review for the drawings. The Contractor, manufacturer and supplier accept total responsibility for any modifications to equipment or any costs incurred due to the removal and replacement of equipment that has not had shop drawing reviewed with no exceptions being taken.
- 1.04 After installation and before the final acceptance of the equipment, an operation and maintenance manual containing the record drawings in addition to complete information on the operation, maintenance, adjustment and repair of all equipment, together with a detailed parts list shall be furnished to the Engineer for transmittal to the Owner.
- 1.05 All work shall be installed by skilled mechanics in a neat and workmanlike manner and shall be approved by the Engineer before final acceptance by the Owner.
- 1.06 If equipment is furnished having power and control requirements other than as specified, the Contractor shall make all necessary changes and furnish a complete set of drawings for installing the alternate equipment.
- 1.07 The installation shall comply with the requirements of the 2014 edition of the National Electrical Code, local and state codes and ordinances. Where the contract documents call for workmanship or materials in excess of code requirements, the project manual shall take precedence. Electrical equipment and materials shall be Underwriters Laboratory approved, where UL standards for such products exist.
- 1.08 All equipment to be installed on the project shall be new and unused. Existing equipment, if applicable, shall be reused only after obtaining written permission from the Engineer.
- 1.09 All work shall be under the direct supervision of a master electrician. Furnish permits as required for electrical construction. Pay all electrical inspection charges for the construction.
- 1.10 Furnish and install all power and control conduit and cable. Furnish and install the ground system and complete all grounding connections. Furnish and install electrical equipment as specified in accordance with the manufacturer's recommendations, instructions and directions. All equipment shall be properly protected during construction. Complete all connections and test operate the equipment in cooperation with the Owner, the Engineer and others working on the project.
- 1.11 The Contractor shall inspect all the electrical equipment and shall notify the Engineer in writing before the equipment is installed if the equipment appears to be deficient in fit, form or function.
- 1.12 The Contractor shall be responsible for all cutting, patching, excavation, backfill, sleeves, chases, openings, etc. for equipment specified in this portion of the contract documents or for cable and conduit and associated electrical equipment that is specified in this portion of the contract documents to serve equipment that is provided by a different portion of these documents. If the Contractor provides equipment that has power and control requirements that are different from those specified, then that Contractor shall be responsible for any additional costs incurred for engineering, construction, and all wiring changes required to make the alternate equipment perform per the intent of the contract documents.
- 1.13 All patching, cutting, etc. shall have a finish that is compatible with the final finish of the remainder of the surface and shall meet with the approval of the Engineer.

MATERIALS AND METHODS

- 2.01 All material shall meet the requirements of the National Electrical Code (NEC), National Electrical Manufacturers Association (NEMA) specifications and local codes and ordinances, and shall be Underwriters Laboratories listed, where UL standards for such products exist.
- 2.02 Conductors shall be of soft drawn, annealed copper, having a conductivity of not less than 98% of pure copper. Conductors shall be NEMA Class B stranded. The conductors shall conform to ICEA and NEMA standards. The minimum size for wiring shall be #12 AWG copper, unless shown otherwise. All conductor sizes are based on copper with THWN insulation rated at not less than 75 degrees C and suitable for wet and dry locations unless noted otherwise. All circuits shall be installed using wire with 600V insulation, unless wire with a different voltage rating is indicated. The insulation, shall have a minimum, shall have a conductor rating of not less than 75 degrees C in both wet and dry locations. All cable shall have the same type of insulation by the same manufacturer throughout the project. Insulation shall meet all applicable NEMA and ICEA standards. Control cable and all power cable shall be stranded.
- 2.03 Multi conductor cable shall be installed and shall have not less than the number of conductors required by the application. The conductors shall be of soft drawn, annealed copper having a conductivity of not less than 98% pure copper, and shall be NEMA Class B stranded. The wire size shall be #14 AWG unless shown otherwise.
- 2.04 All circuits shall be installed using wire with 600 volt insulation, unless a different voltage rating is indicated. The insulation type shall be suitable for not less than 75C in a wet or dry location. All cable shall have the same type of insulation by the same manufacturer throughout the project.
- 2.05 Control cable shall have each conductor insulated with code grade insulating fillers where required, to provide a round cable; tape over the insulated conductors and fillers; and a polyvinyl chloride jacket over all. The fillers and binders shall be of moisture-resisting type. Each conductor of each cable shall have insulation color-coded in accordance with ICEA standards. The color coding of the insulation shall be clear through the insulation, an exterior layer only of color coding is not acceptable.
- 2.06 No splices shall be made in wire or cable unless specifically detailed otherwise. Conductors shall be continuous between devices and shall be terminated with pressure type connectors. The terminators shall be preinsulated, flanged, slotted tongue, indenter type lugs. Soldered type terminators are not acceptable.

MATERIALS AND METHODS -- CONTINUED

- 2.07 Signal cable shall be supplied where required. Signal cable shall meet the following requirements: The conductors shall be not less than 16 gauge, 7 strand min., Class B, tin coated concentric bare copper wire with a 15 mil (nominal) 90C PVC primary insulation. The conductors shall be shielded with .35x5 mil (min.) 100% coverage aluminum or copper mylar tape shield, or equal, and an 18 gauge strand copper wire drain wire. The outer jacket shall be 20 mils (nominal) 75C PVC suitable for wet or dry locations.
- 2.08 Each power, control and signal cable identified on the drawings shall be identified by plastic tags permanently attached to the cable. The tags shall be attached to each cable at each termination and wherever the cable is accessible in junction or pull boxes. Tags shall be marked with printing showing the circuit number. The cable marking system shall be Raychem TMS cable identification system utilizing a typewriter and TMS permaziter, or equal.
- 2.09 The Contractor shall supply conduit, couplings, connectors, junction boxes, fittings and all other required items for a complete raceway system. The conduit fills indicated in the contract documents are based on copper conductors with THWN insulation suitable for 75°C insulation in both wet and dry locations. The Contractor shall resize conduits for other conductor and/or insulation systems, if approved. The conduit shall be reamed, cleaned and free of burrs. Exposed conduit runs shall be straight and true with the building lines, elbows, bends and offsets uniform and symmetrical. All conduit runs shall be installed with adequate means for drainage provided at the low points.
- 2.10 Where shown, the Contractor shall furnish and install PVC conduit. The conduit shall be supported as recommended by the manufacturer or as required by applicable codes and ordinances, whichever is the more stringent. The conduit shall be composed of high impact PVC conduit and shall be rated for 90C wire. The conduit shall be listed for underground, enclosed, and exposed applications. The PVC conduit system shall contain fittings for connecting to cast junction boxes and other devices as required.
- 2.11 Wherever a PVC conduit system is used, the Contractor shall furnish and install copper ground conductors. The conductors shall be continuous with no splices or joints. The size of the ground conductor shall be as required by the National Electrical Code or as shown on the drawings, whichever is more stringent.
- 2.12 Where shown, the Contractor shall furnish and install rigid steel conduit. The conduit used shall be hot dipped galvanized, including the threads. Unless specified otherwise the conduit shall not be smaller than 3/4". The conduit shall bear the UL label. Job site threading need not be galvanized. However, job site threading shall be painted with oil base primer to prevent oxidation of the threads.
- 2.13 EMT is not allowed on this project.
- 2.14 The Contractor shall be responsible for all excavating, concrete work where applicable, and backfilling. The underground conduit shall be at least 24 inches below the finished grade. Backfill shall be earth or sand tamped into place. The trench shall be filled to the top and the surface restored to a finished condition. All excess earth shall be removed.
- 2.15 The Contractor shall be responsible for locating all existing underground conduits, pipes, wiring, etc. prior to construction. Contact Gopher State One Call for locates.

PUMP STATION CONTROL PANEL

- 3.00 The Contractor shall furnish and install, complete, a pump station control panel that will operate two 15hp submersible pumps. The pumps will be operated with across-the-line motor starters, based on wet well level as measured with float switches. 480vac three phase power for operating the control panel will be sourced from the adjacent building. Pump station alarm status will be provided for remote monitoring, as shown in the Drawings. All internal buswork and wiring shall be completed by the manufacturer and where connections must be completed between equipment sections in the field, the wiring or buswork shall be terminated in each section of equipment in a manner to facilitate field connections. The Contractor shall furnish, properly sized and coordinated, connectors for the conductors entering the equipment. All equipment shall meet the requirements of NEMA standards and the latest edition of the National Electrical Code, where applicable.
- 3.01 The pump station control panel shall be constructed in accordance with Underwriters Laboratories (UL) 508. The panel shall be shop-inspected by UL, or constructed in a UL-recognized facility. The completed panel shall bear a serialized UL label indicating acceptance under Standard 508.
- 3.02 The pump station control panel enclosure shall be a NEMA 3R tamper resistant stainless steel unit. All panels shall be of not less than 12 gauge stainless steel with continuously welded seams. The enclosure shall contain an interior sub-panel for mounting all control components and the enclosure shall be sufficiently large to accept all control components without crowding. Larger enclosures shall contain door and panel stiffeners as required. The front door shall be of 12 gauge steel with a rolled lip and the door flanged and the corners ground smooth. All enclosure welding seams shall also be ground smooth. Enclosures shall have maximum height as indicated on Drawings. Supplier shall determine enclosure width and depth as required for the internal components, wire bending spaces, and UL-required clearances.
- 3.03 The door shall be fastened to the enclosure with a continuous type stainless steel piano hinge and three-point minimum, stainless steel hardware. The door shall include a vault-style handle with pad-lock provisions. The inside of the door shall contain a data pocket.
- 3.04 The enclosure shall have a dead-front inner hinged door that house all front panel components including switches, indicating lights, circuit breaker operating handles, running time meters, overload reset pushbuttons, level displays and controllers, and any other controls that require operator access.
- 3.05 All panels shall be flanged with corners welded and ground smooth. The enclosure shall be tamper-resistant with no exposed fasteners, and rodent-resistant with no gaps greater than 1/8 inch. The enclosure shall contain an electric heater to prevent condensation. Terminate all wiring on barrier type terminal strips. Label terminals per manufacturer's shop drawings. Label all components using engraved laminated plastic nameplates next to the component.
- 3.06 The control panel enclosure shall be provided with 14 gauge stainless steel skirting with louvered vent openings as indicated on the Drawings. Fasteners for the skirting shall be stainless-steel, tamper-resistant.
- 3.07 The pump motor starters shall be three phase and shall be UL labeled. Starters shall be NEMA-rated for the motor horsepower. Starters shall have three ambient compensated class 10 (quick-trip) heater elements. The starter operating coils shall be suitable for operation at 120 VAC. IEC style starters are not acceptable.
- 3.08 All control devices including, but not limited to, selector switches, pushbutton switches, limit switches, and indicating lights shall be of the heavy duty, oil tight type. The contacts shall meet NEMA rating designation A600. The devices shall be Cutler-Hammer Type T, Allen Bradley Bulletin 800T, or Square D Class 9001 units, or equal. Each shall be supplied complete with escutcheon and nameplate.
- 3.09 Control relays shall be supplied as required. Additional relays shall be provided to starter auxiliary contacts as required. The relays shall be of the plug-in type with associated sockets and retaining clips. The relays shall have dust covers. All contacts shall be rated for not less than 10 amps at 120 VAC with 3/16" diameter gold flashed silver cadmium oxide moving and stationary points. Insulation resistance shall be 1000 megohms, nominal, at 500 VDC between all non-connected terminals. Dielectric withstand shall be 2,000 VAC between non-connected terminals.

PUMP STATION CONTROL PANEL -- CONTINUED

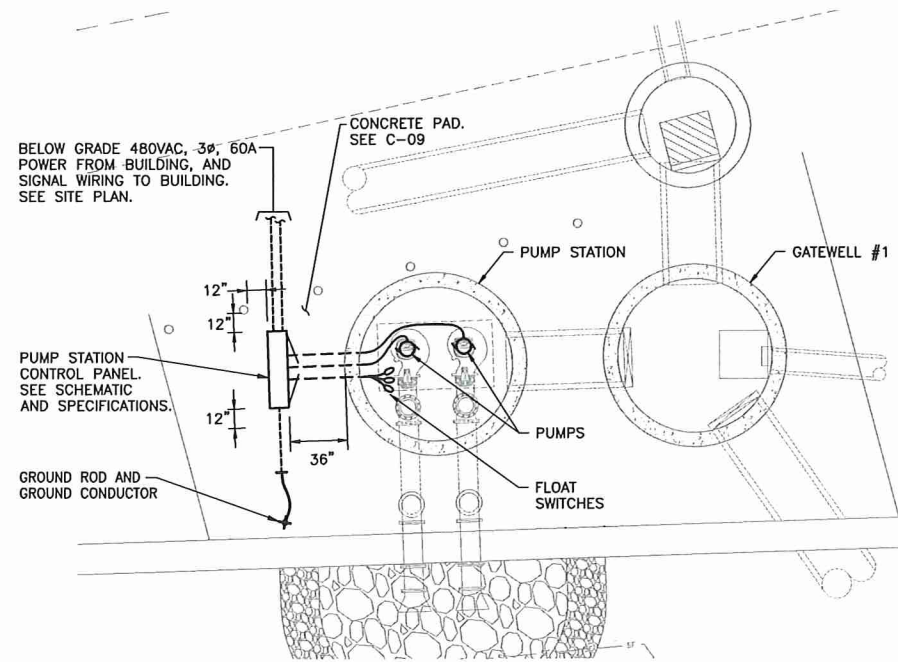
- 3.10 Circuit breakers shall be one, two or three pole devices as required. All circuit breakers shall be UL labeled and shall be of the size shown. Breakers shall have an interrupting rating of not less than 22,000 amps, sym. The main and standby circuit breakers shall be mechanically interlocked so that only one of them can be energized at a time.
- 3.11 The receptacle for portable tools, etc. shall be a ground fault interrupter type 20 amp duplex receptacle.
- 3.12 The control panel shall be equipped with a thermostatically controlled electric heater, sized to maintain the temperature inside the panel above 32 degrees F. The heater shall be Hoffman DAH series or equal.
- 3.13 Furnish and install free hanging type float switches in the pump station wet well. The float switches shall have an inert outer cover with the cord encapsulated into the bulb portion to form a water-tight seal. The switch shall be of the non-mercury vial type with a SPDT contact arrangement. The cord shall be of type SO extra flexible conductors with an outer jacket over all conductors. The switch and cord assembly shall be suitable for not less than 4 amps at 120 VAC, 0.8 P.F. The float shall operate from 0 C. to +60 C. in a liquid with a specific gravity of from 0.65 to 1.50 minimum. Anchor Scientific "Eco-Float", or equal.
- 3.14 An exterior alarm light shall be mounted on top of the enclosure. The mounting hardware shall include gaskets, etc., to prevent the entrance of moisture. The fixture shall be a Federal Signal LP3M-120-R or equal.
- 3.15 All external float switches and terminals for relays, starters, etc. shall be terminated on terminal strips. The terminal strips shall be of the barrier type. Each terminal shall be of the two screw type. The contacts shall be tin-plated copper, capable of carrying 10 amps at 600 VAC. The contacts shall be large enough to accept up to and including No. 12 AWG wire. The barrier strip shall have a minimum voltage withstand of 5,000 volts. The barrier strip shall be suitable for the required number of connections.
- 3.16 The control panel shall include surge protectors on all incoming phases, Square D Class 6671 or equal.
- 3.17 Control panel indicating lights shall be LED, with colored lenses as required, heavy duty oil tight type, with press to test feature.
- 3.18 Run time meters shall be six digit, hours and tenths, non-resettable, 3-inch diameter front, nominal
- 3.19 The pump station control panel shall include a duplex pump controller. The pump controller shall call for operation of the pump station pumps based on wet well level as measured with the float switches. The pump controller shall alternate lead and lag operation of the submersible pumps, and will have a front panel mounted switch to allow for automatic alternation or fixed pumping sequences. The pump controller will have built in relay contact closures rated at a minimum of 10 amps at 120vac for motor starter control.
- 3.20 If the water level in the wetwell rises to the lead pump float switch, the lead pump shall be called for operation. If the water level rises to the lag pump float switch, the lag pump shall also be called for operation. If the water level rises to the high level float switch, a high level alarm shall be generated. If the water level drops to the pump stop level, the lead and lag pumps shall both be disabled. The pump controller shall be UL rated for the installation. The control panel shall have relay outputs for pump 1 and 2 running, pump 1 and 2 seal fail alarms, pump 1 and 2 overtemperature alarms, and high level float switch alarm.
- 3.21 Furnish and install a submersible level transducer in the pump station, and make connections to a digital display mounted on the front panel of the pump station control panel. The submersible level transducer shall monitor water level in the pump station, and the digital display shall monitor a 4-20mA signal from the transducer and display the water level in feet and tenths of feet. The digital display shall also have a 4-20mA output signal proportional to water level that can be remotely monitored by the Owner. The submersible level transducer shall be KSPI model 750 or equal. The digital display shall be Red Lion PAX series or equal.
- 3.22 The control panel supplier shall provide a skilled instrumentation engineer or technician who shall complete troubleshooting and start-up to place the entire system into satisfactory operation. The engineer or technician shall make the necessary inspection of the completed installation, make the final field adjustments, and make control panel revisions as required for start-up. Demonstrate proper operation of all system features and functions to Owner and Engineer. Coordinate installation and start-up scheduling with the Owner and Engineer.
- 3.23 Training on operation of the pump station control panel shall be for two (2) hours, minimum.



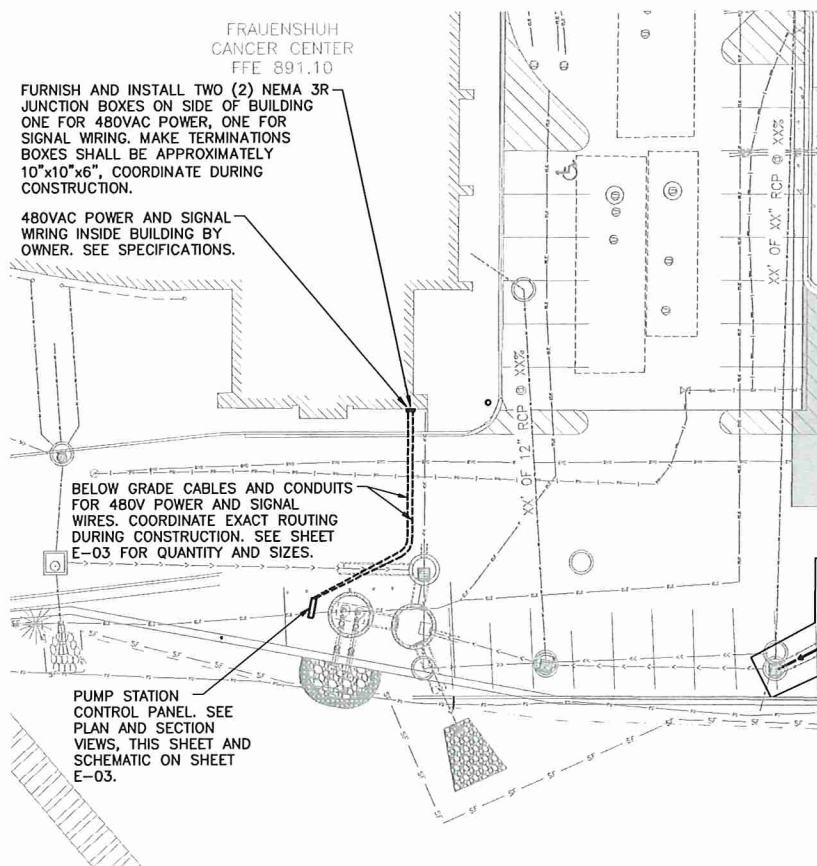
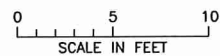
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I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: STUART S. STEPHENS SIGNATURE: _____ DATE: _____ LICENSE # 25753		CLIENT: 11/17/15/24/28/16 BID: _____ CONSTRUCTION: _____ RELEASED TO/FOR: _____ DATE RELEASED: _____		Project Office: BARR ENGINEERING CO. 4700 WEST 77TH STREET MINNEAPOLIS, MN. 55435-4803 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com		Scale: NO SCALE Date: 10/27/2015 Drawn: TJT Checked: SSS Designed: SSS Approved: SSS		PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA		PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA ELECTRICAL SPECIFICATIONS		BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. -		DWG. No. E-01 REV. No. B	
NO.	BY	CHK.	APP.	DATE	REVISION	DESCRIPTION									

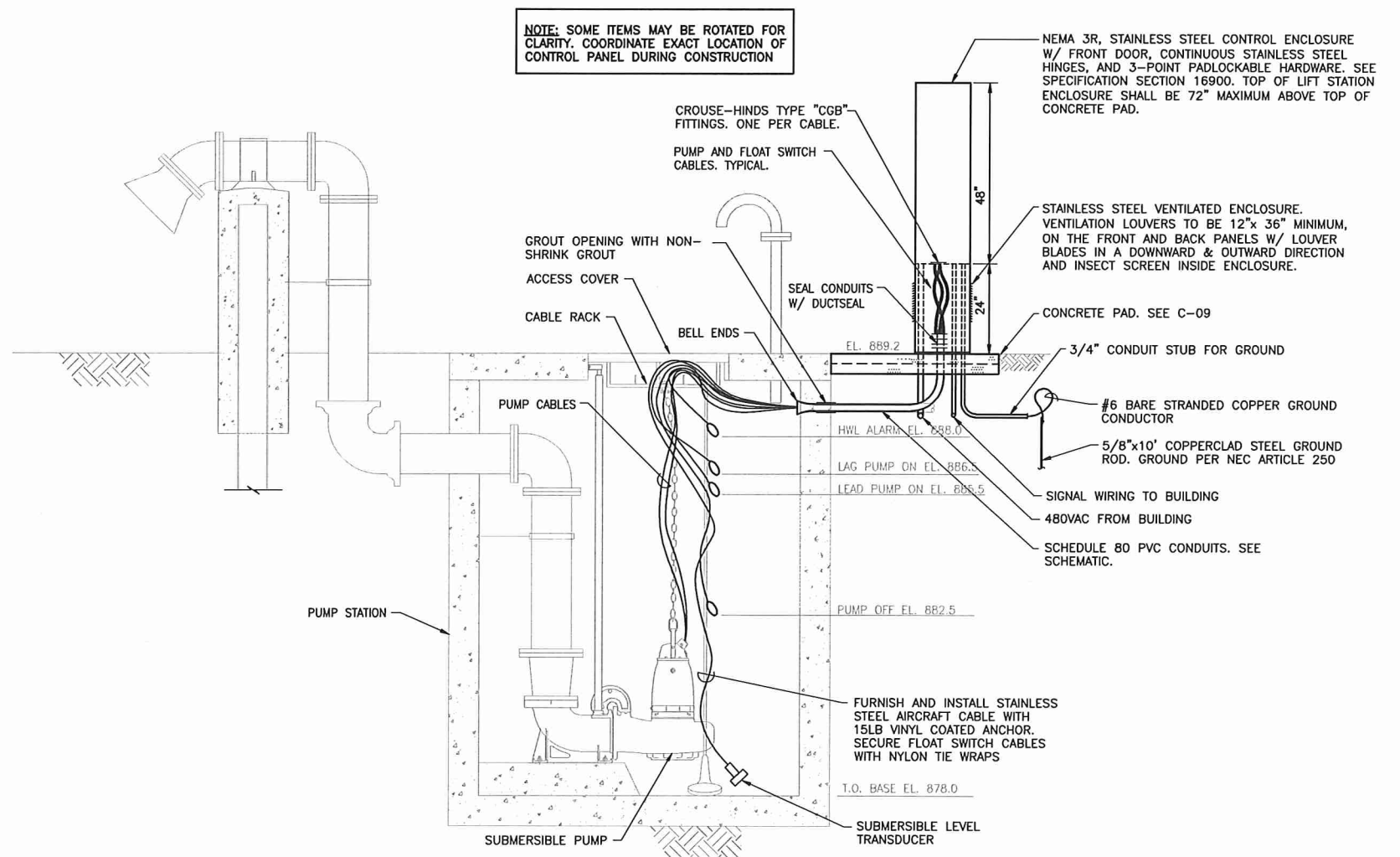
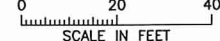
95% DRAFT
SUBMITTAL



1 PLAN: PUMP STATION AND GATEWELL - ELECTRICAL



3 PLAN: SITE PAN - ELECTRICAL



2 SECTION: PUMP STATION - ELECTRICAL
NO SCALE

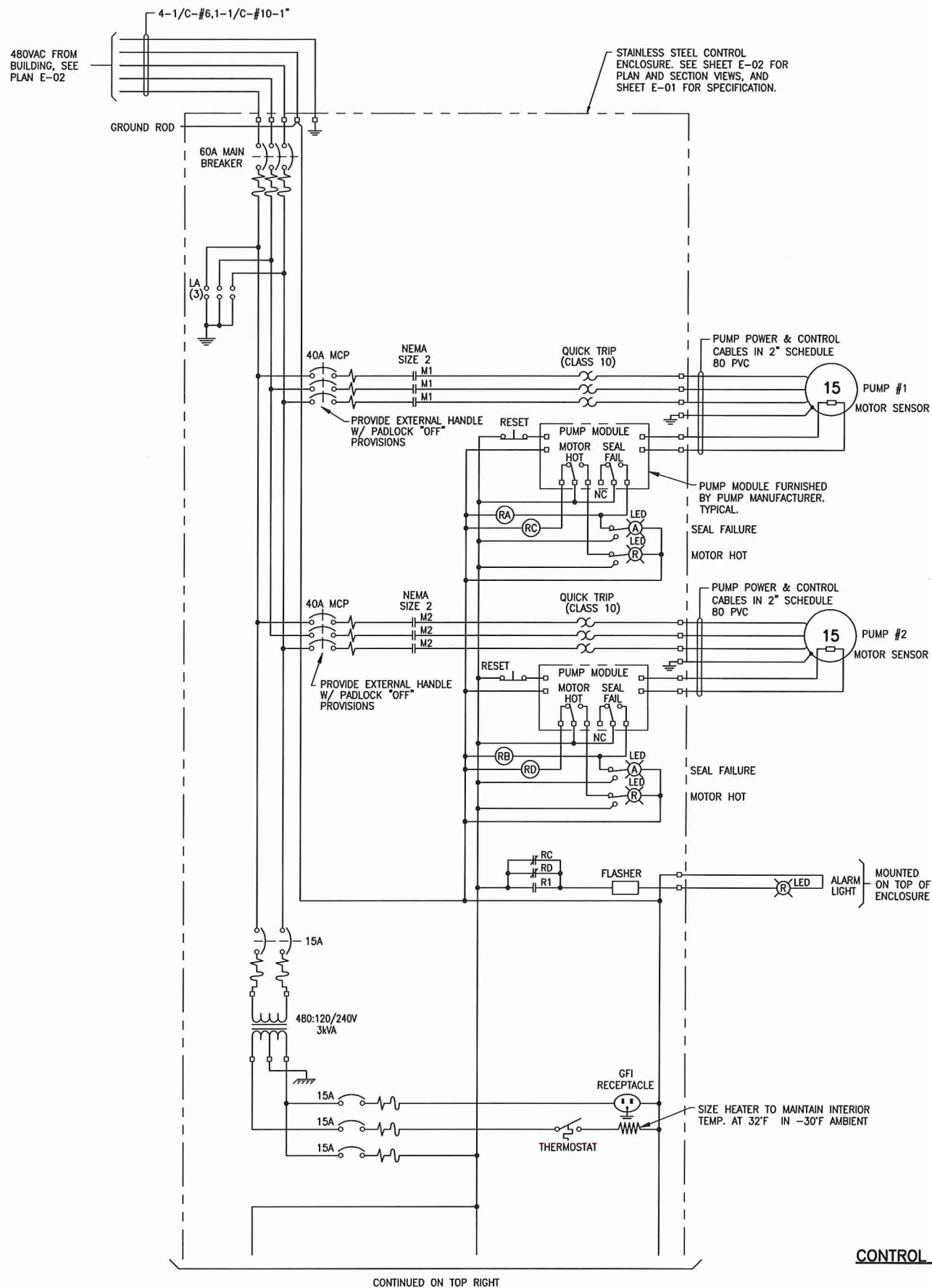


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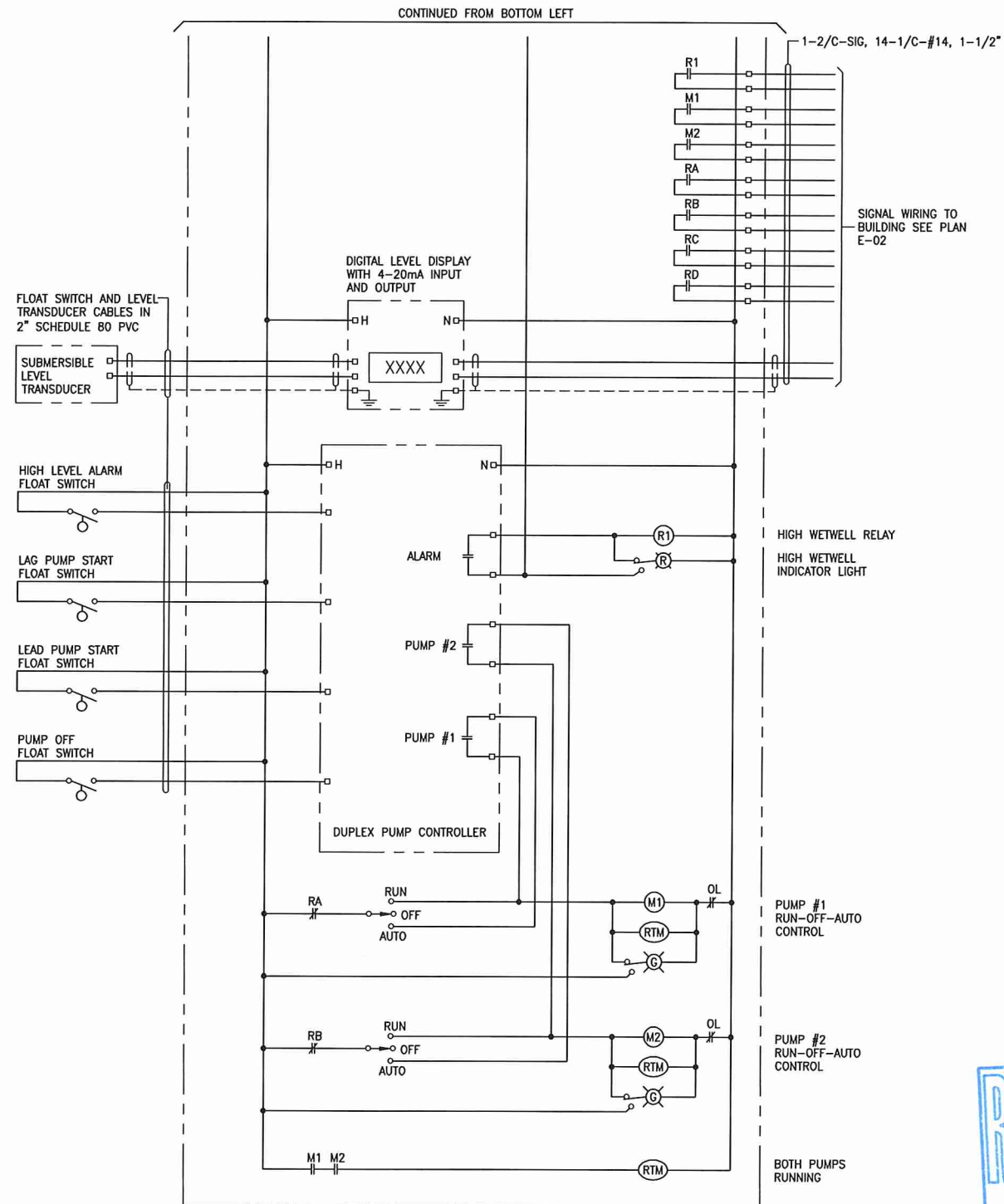
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: STUART S. STEPHENS SIGNATURE: _____ DATE: _____ LICENSE # 25753		CLIENT: 11/17/15 04/29/16 CONSTRUCTION: _____ RELEASED TO/FOR: A B C 0 1 2 3 DATE RELEASED: _____	BARR Corporate Headquarters: Minneapolis, Minnesota Ph: 1-800-632-2277 Ph: (952) 832-2601 www.barr.com	Project Office: BARR ENGINEERING CO. 4700 WEST 77TH STREET MINNEAPOLIS, MN. 55435-4803 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale: AS NOTED Date: 10/27/2015 Drawn: TJT2 Checked: SSS Designed: SSS Approved: SSS	PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA ELECTRICAL PLAN AND SECTION	BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. _____ DWG. No. E-02 REV. No. B	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION				

95% DRAFT
SUBMITTAL

CAD USER: Terril J. Toms FILE: M:\DESIGN\2327138000_E-03.DWG PLOT SCALE: 1:2 PLOT DATE: 4/26/2016 2:24 PM



CONTROL PANEL SCHEMATIC



GENERAL NOTES:

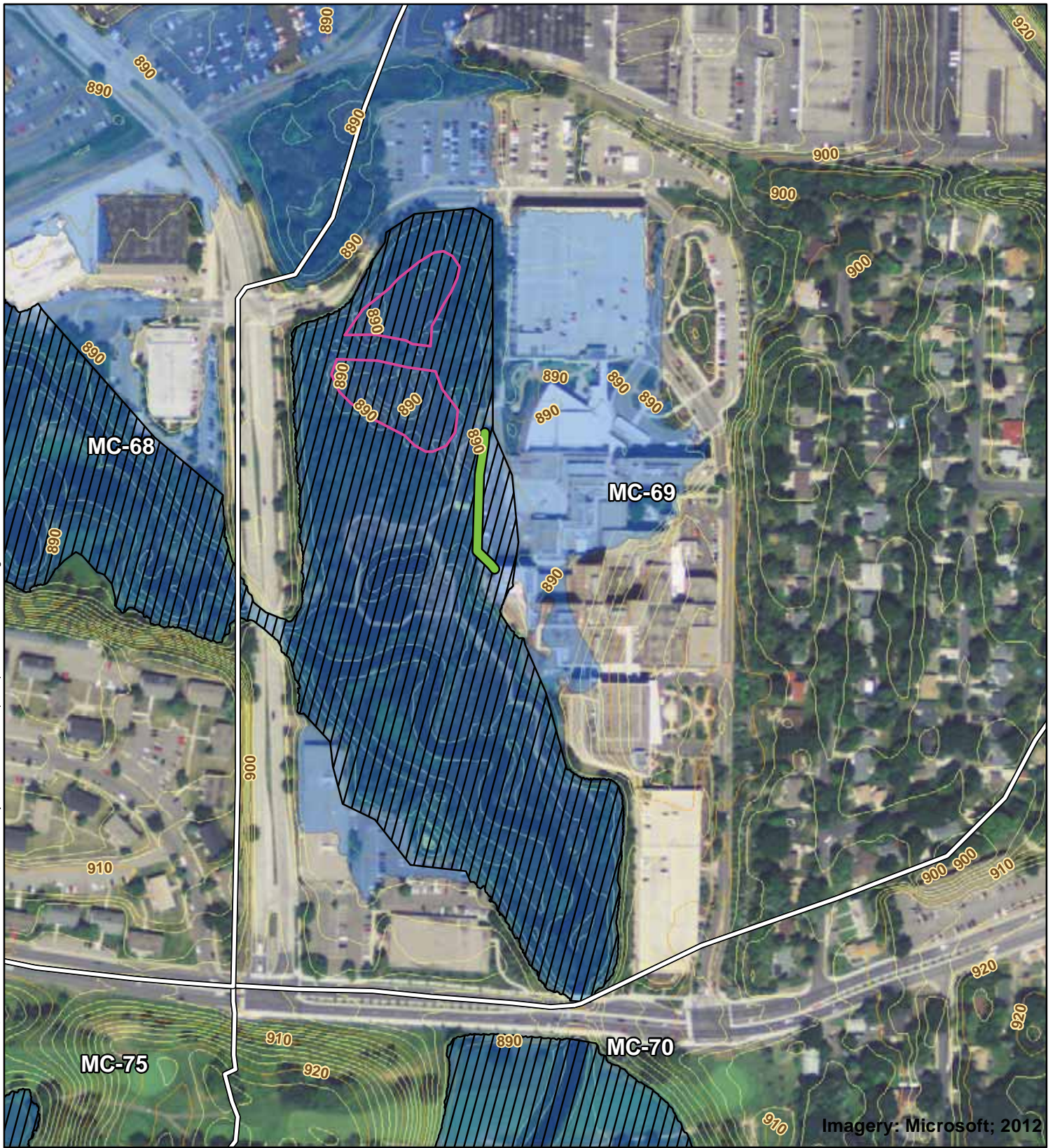
1. CONTROL PANEL SHALL BEAR SERIALIZED LABEL INDICATING CONFORMANCE WITH UL 508 AND UL698A.
2. PUMP PROTECTIVE CIRCUITRY IS BASED ON FLYGT. ALTERNATE SYSTEMS SHALL INCLUDE PUMP MOTOR, OVERTEMPERATURE AND LEAK DETECTION CIRCUITS WITH CONTROL MODIFICATIONS AS REQUIRED.
3. STARTERS SHALL BE NEMA RATED STARTERS. IEC OR DUAL RATED STARTERS ARE NOT ACCEPTABLE.
4. GROUND SYSTEM PER NEC ARTICLE 250.
5. UNLESS SPECIFICALLY NOTED OTHERWISE USE GRS CONDUIT ABOVE GRADE, TRANSITION TO SCH. 80 PVC BELOW GRADE.










**95% DRAFT
SUBMITTAL**

		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. PRINTED NAME: STUART S. STEPHENS SIGNATURE: _____ DATE: _____ LICENSE # 25753	CLIENT BID CONSTRUCTION RELEASED TO/FOR DATE RELEASED	<table border="1"> <tr> <td>11/17/15</td> <td>01/29/16</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>A</td> <td>B</td> <td>C</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> </table>	11/17/15	01/29/16						A	B	C	0	1	2	3	Project Office: BARR ENGINEERING CO. 4700 WEST 77TH STREET MINNEAPOLIS, MN. 55435-4803 Ph: 1-800-632-2277 Fax: (952) 832-2601 www.barr.com	Scale AS NOTED Date 10/27/2015 Drawn TJT2 Checked SSS Designed SSS Approved SSS	PARK NICOLLET HEALTH SERVICES ST. LOUIS PARK, MINNESOTA	PARK NICOLLET FLOODWALL PROJECT ST. LOUIS PARK, MINNESOTA CONTROL PANEL SCHEMATIC	BARR PROJECT No. 23/27-1380.00 CLIENT PROJECT No. - DWG. No. E-03 REV. No. B
11/17/15	01/29/16																						
A	B	C	0	1	2	3																	
NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION																		

Barr Footer: ArcGIS 10.4, 2016-04-28 14:05 File: \\barr.com\GIS\Projects\231271380\Maps\Reports\No_Rise_Cert\Figure 1 - Flood Plain.mxd User: lad



-  Flood Wall Alignment
-  Watershed Divides
-  Compensatory Storage Areas
-  Administrative Floodway
-  1% Annual Flood Hazard
- 2 Foot Contours (MN DNR; 2011)**
-  10-Foot Contour
-  2-Foot Contour

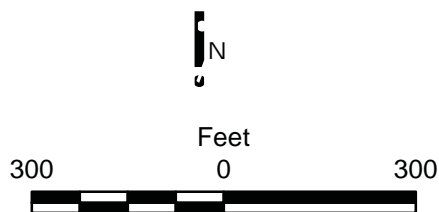


Figure 1

PARK NICOLLET FLOOD PLAIN
Park Nicollet Health Services



#	DESCRIPTION	XXX	XXX	XX/XX/XX
REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

NOT FOR CONSTRUCTION

PRIME CONSULTANT



Responsive partner. Exceptional outcomes.

PROJECT TITLE
METHODIST HOSPITAL FLOODPLAIN MITIGATION

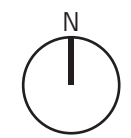
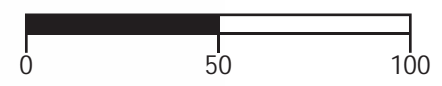
PARK NICOLLET

SHEET TITLE GRADING PLAN			
DWN BY MJS	CHK'D	APP'D	DWG DATE APRIL 2016
PROJECT NO.	SHEET NO.	SCALE AS SHOWN	
	C-301	REV NO.	



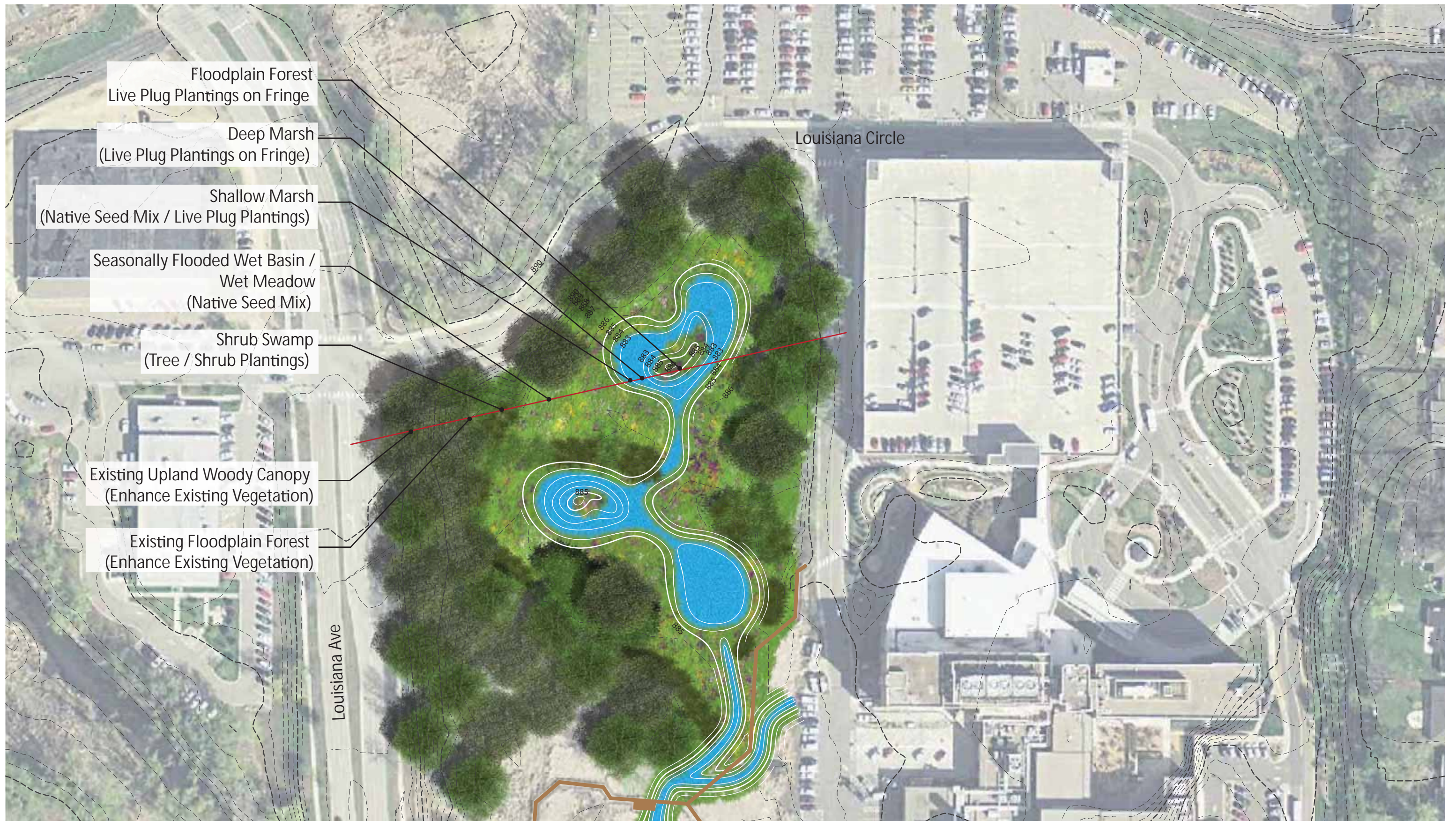
Park Nicollet Methodist Hospital

Existing Vegetation



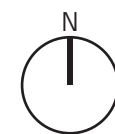
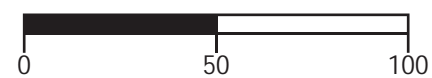
B1





Park Nicollet Methodist Hospital

Proposed Vegetation Plan



B2



MINNESOTA "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified professional engineer licensed to practice in the State of Minnesota.

It is further to certify that the attached technical data supports the fact that the proposal to construct a permanent floodwall structure along Minnehaha Creek at the Park Nicollet Heath Services hospital facility at 6500 Excelsior Boulevard, St. Louis Park, Minnesota will not impact the floodway width or 100-year flood elevation (will not raise or lower by more than 0.00 feet) on Minnehaha Creek at published sections in the Flood Insurance Study for Hennepin County, Minnesota dated September 2, 2004 and will not impact the 100-year flood elevation (will not raise or lower by more than 0.00 feet) at unpublished cross-sections in the vicinity of the proposed development / project.

Attached are the following documents that support my findings:

- Technical Memorandum dated April 28, 2016
- XP-SWMM models electronic files – available upon request

Date: April 28, 2016

Signature: 

Name: Joseph J. Waln, PE, CFM

Title: Sr. Water Resources Engineer

License # 46928

Technical Memorandum

To: Project File
From: Joe Wain and Leslie DellAngelo
Subject: Floodplain Impacts for Park Nicollet-Methodist Hospital Floodwall
Date: May 24, 2016
Project: 23271380

This memorandum summarizes the hydraulic modeling completed to determine the impacts that the construction of a floodwall at the Park Nicollet-Methodist Hospital would have on Minnehaha Creek. The hospital facility is near the intersection of Louisiana Avenue South and Excelsior Boulevard in St. Louis Park, Minnesota. Park Nicollet is planning to construction a floodwall adjacent to the creek, followed by a wetland restoration/enhancement project that includes compensatory floodplain storage for the floodwall. The proposed project locations are shown in **Figure 1**.

The hydraulic modeling was based on the model developed for the preliminary FIS for Hennepin County. A copy of the model was obtained from the Minnesota Department of Natural Resources (MnDNR) in October 2014. The model is in the U.S. EPA's Storm Water Management Model (SWMM), with a computerized graphical interface provided by XP Software (XP-SWMM). In 2003, the Minnehaha Creek Watershed District (MCWD) developed XP-SWMM hydrologic and hydraulic models of the upper and lower Minnehaha Creek watersheds as part of the Hydrologic, Hydraulic, and Pollutant Loading Study (HHPLS). Periodic model revisions have been made by MCWD since 2003, including revisions made in 2011 to make the model suitable for use in updating Federal Emergency Management Agency (FEMA) flood elevations and mapping. Revisions were also made in 2012 with updated survey data. The upper model includes the portion of the watershed tributary to Lake Minnetonka. The lower Minnehaha Creek model includes the area that drains directly to Minnehaha Creek.

Duplicate Effective Model

The XP-SWMM model referenced above was used as the basis for this study and is deemed the Duplicate Effective Model. Hydraulic conditions in the project area did not require updates or corrections, so separate Corrected Effective Model or Existing Conditions Models were not created. The Duplicate Effective Model represents existing conditions.

Proposed Conditions Models

The Duplicate Effective Model was copied and modified to reflect the post-project conditions at the hospital facility. Because the floodwall will be constructed prior to the compensatory floodplain storage, two proposed conditions models were developed. The Phase I Proposed Conditions Model has a modified stage area curve to account for loss of storage from constructing the floodwall. The Phase II Proposed Conditions Model has a modified stage area curve to account for the loss of storage from constructing

the floodwall and the gained compensatory storage from the wetland restoration / enhancement project. The floodwall and the wetland restoration are shown in **Figure 1**. The stage area curves in the Existing Conditions Model and the Proposed Conditions Models are shown in **Table 1**.

Table 1: Stage-Area Curves for model node MC-69

Elevation (NGVD29 feet)	Existing Conditions Model Storage Area (acres)	Phase I (Floodwall Only) Proposed Conditions Model Storage Area (acres)	Phase II (Floodwall and Compensatory Storage) Proposed Conditions Model Storage Area (acres)
883.4	0.40	0.40	0.95
884.0	0.70	0.70	1.45
885.0	1.25	1.25	2.10
886.0	1.80	1.80	2.24
888.0	13.70	13.68	13.68
889.0	14.70	14.35	14.35
890.0	15.70	15.11	15.11

Results

The model results are shown in **Table 2**. The table shows flood elevations for the existing and both the proposed conditions. The model results indicate zero impact to the 100-year flood level due to the proposed project after Phase I and Phase II.

Table 2: 100-Year Flood Results for model node MC-69

Model Version	Minnehaha Creek 100-year Water Surface Elevation (NGVD29 feet)
Existing Conditions Model	890.07
Phase I Proposed Conditions Model	890.07
Phase II Proposed Conditions Model	890.07

To: Project File
From: Joe Waln and Leslie DellAngelo
Subject: Floodplain Impacts for Park Nicollet-Methodist Hospital Floodwall
Date: May 24, 2016
Page: 3

Conclusions

Using the preliminary FIS XP-SWMM model for Minnehaha Creek, there are no floodplain impact associated with the proposed project as it is currently planned.

The XP-SWMM model files are available upon request.

Supporting Data

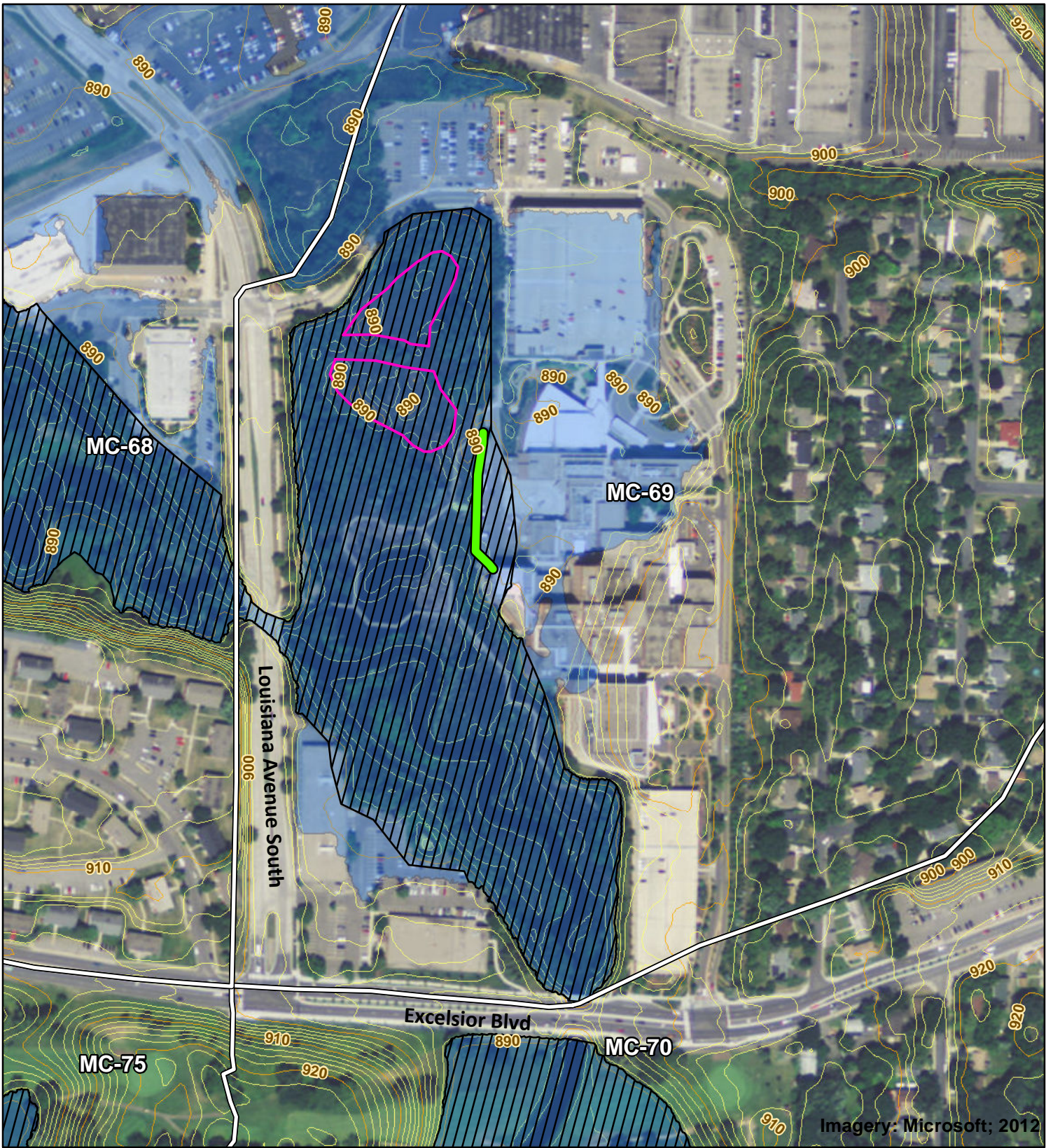
Attached is a copy of the floodway data table from the preliminary FIS and portion of the Minnehaha Creek FIS profile for the project area. The hospital is between the Excelsior Boulevard and Louisiana Avenue South Crossings. This means the project is between FEMA cross sections BB and BC in the floodway data table. Note that the regulatory flood elevations in the floodway data table are similar to the elevation listed above in Table 2, but not the same. The discrepancy between the model and the FIS is a known issue for the county and the MnDNR.








Also attached is a copy of the planimetric survey for the project area.

Attachments

- Figure 1 – FIRM and topographic map showing project location and compensatory storage
- Preliminary FIS floodway data table
- Preliminary FIS profile
- Planimetric survey

Barr Footer: ArcGIS 10.4, 2016-04-28 14:05 File: \\barr.com\GIS\Projects\231271380\Maps\Reports\No_Rise_Cert\Figure 1 - Flood Plain.mxd User: lad



-  Flood Wall Alignment
-  Watershed Divides
-  Compensatory Storage Areas
-  Administrative Floodway
-  1% Annual Flood Hazard
- 2 Foot Contours (MN DNR; 2011)**
-  10-Foot Contour
-  2-Foot Contour

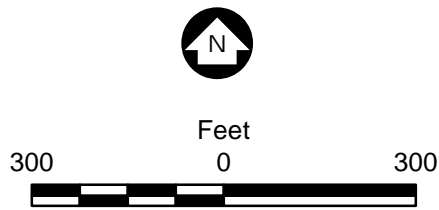


Figure 1

PARK NICOLLET FLOOD PLAIN
Park Nicollet Health Services

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE-FLOOD WATER SURFACE ELEVATION			
NODE	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
MINNEHAHA CREEK (CONTINUED)								
AO	49,339	*	*	*	862.3	862.3	*	*
AP	49,989	*	*	*	862.8	862.8	*	*
AQ	51,269	*	*	*	864.8	864.8	*	*
AR	51,301	*	*	*	864.8	864.8	*	*
AS	52,258	*	*	*	865.7	865.7	*	*
AT	52,752	*	*	*	866.1	866.1	*	*
AU	55,437	*	*	*	871.3	871.3	*	*
AV	55,972	*	*	*	872.5	872.5	*	*
AW	57,062	*	*	*	877.9	877.9	*	*
AX	57,072	*	*	*	878.0	878.0	*	*
AY	61,063	*	*	*	889.6	889.6	*	*
AZ	61,090	*	*	*	889.6	889.6	*	*
BA	62,081	*	*	*	889.8	889.8	*	*
Project → BB	62,527	*	*	*	890.2	890.2	*	*
BC	74,643	*	*	*	891.8	891.8	*	*
BD	74,686	*	*	*	892.0	892.0	*	*
BE	75,804	*	*	*	897.3	897.3	*	*
BF	76,342	*	*	*	898.3	898.3	*	*
BG	77,614	*	*	*	900.7	900.7	*	*
BH	77,794	*	*	*	901.1	901.1	*	*

¹Feet above confluence with Mississippi River

*Data not available – Administrative Floodway

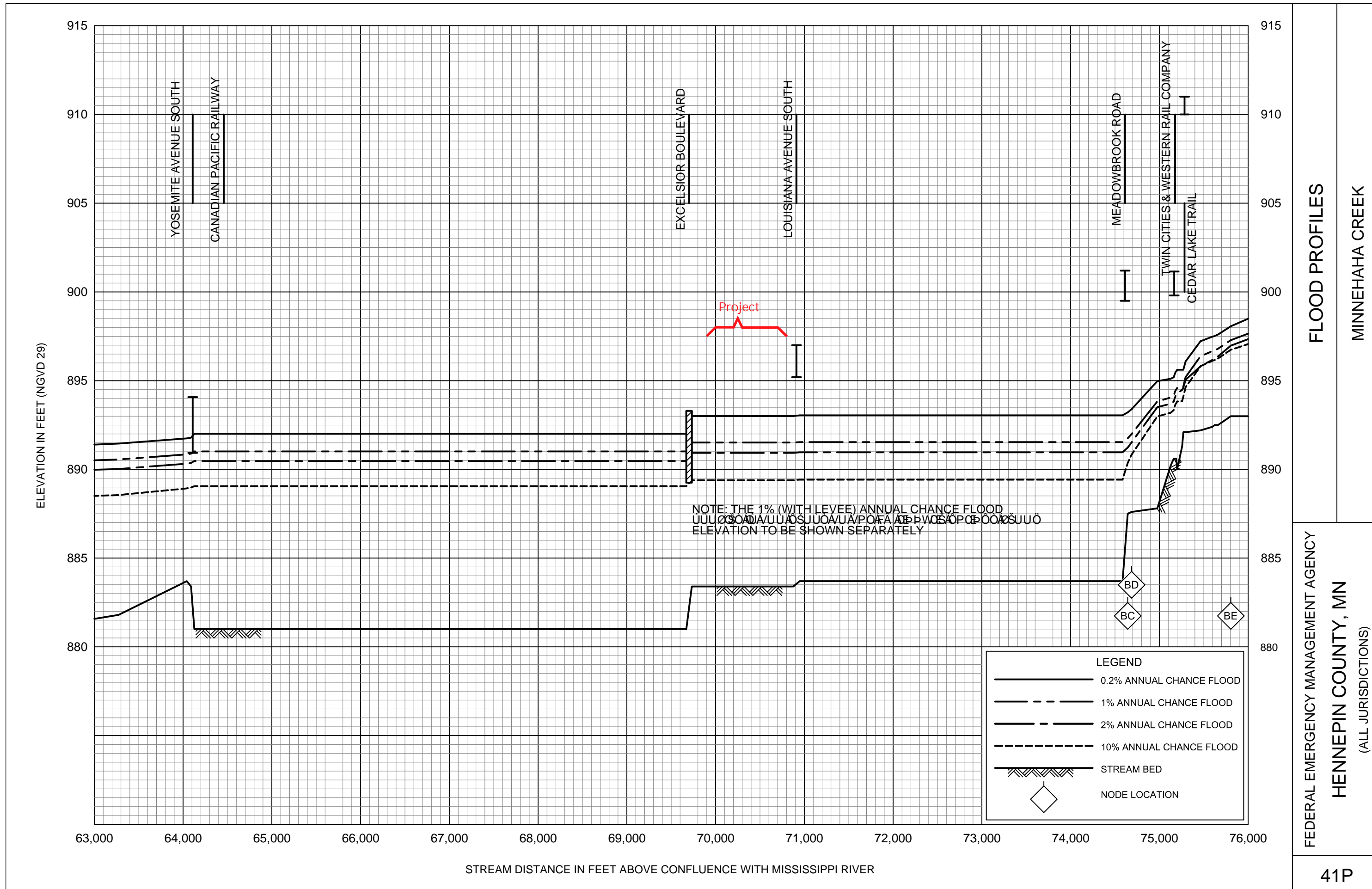
TABLE 9

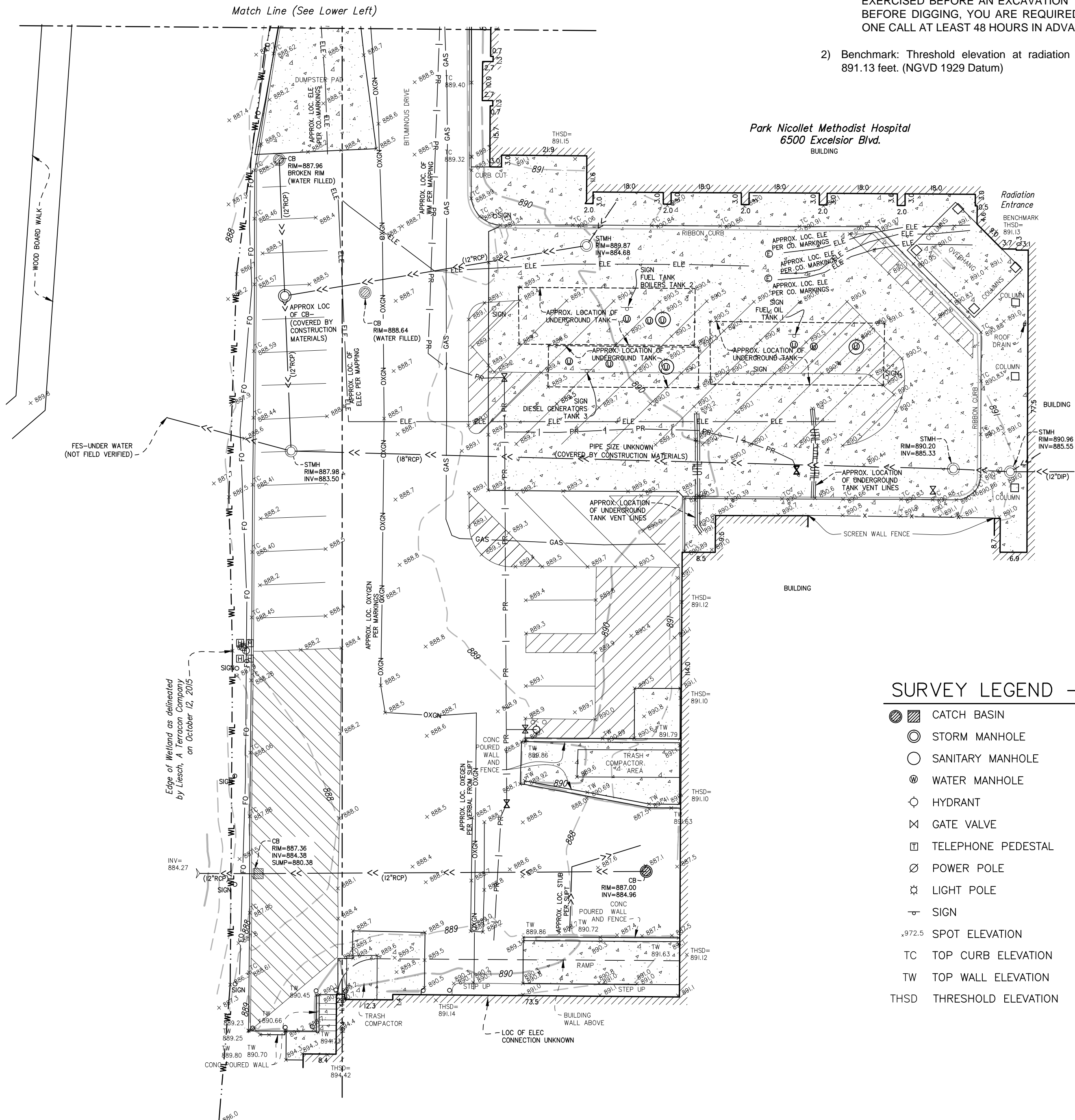
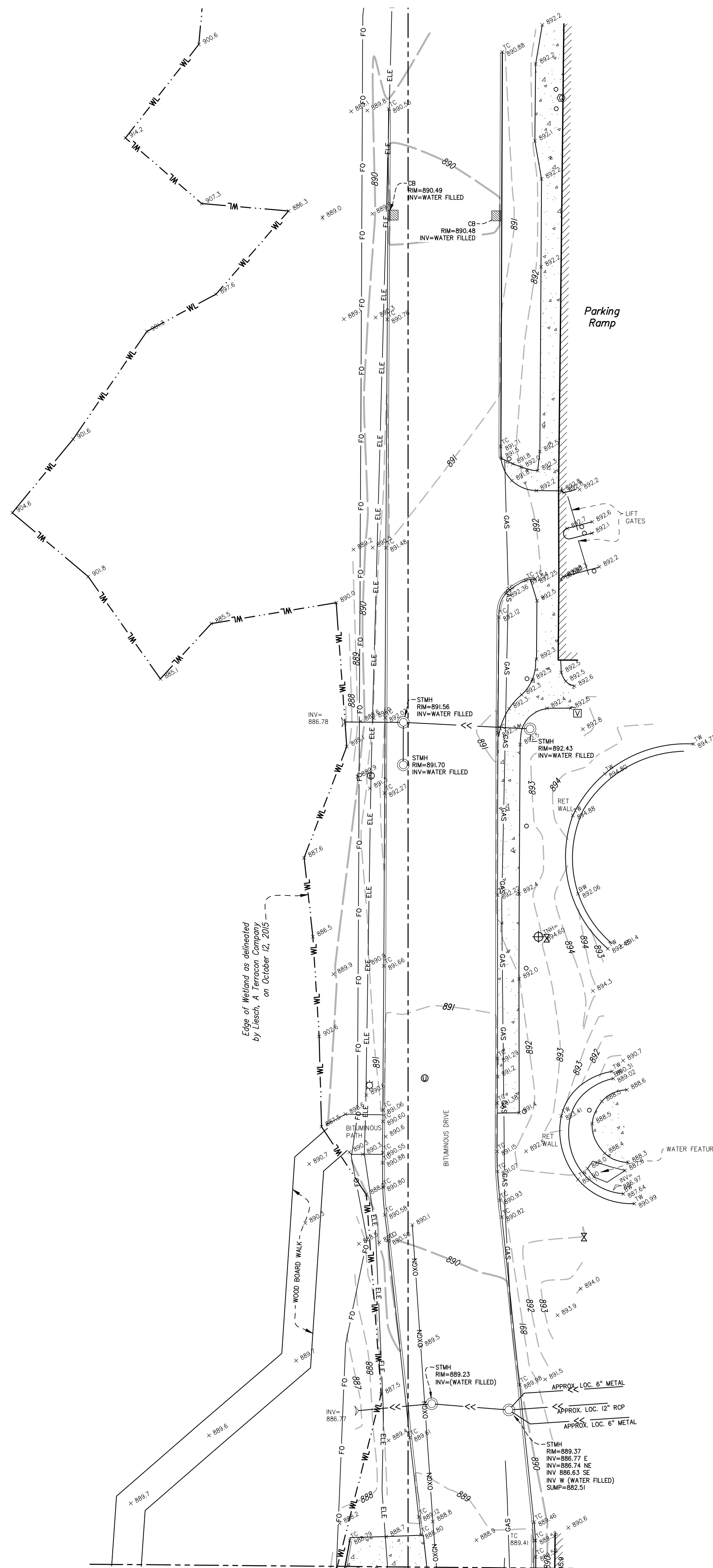
FEDERAL EMERGENCY MANAGEMENT AGENCY

**HENNEPIN COUNTY, MN
(ALL JURISDICTIONS)**

FLOODWAY DATA

MINNEHAHA CREEK



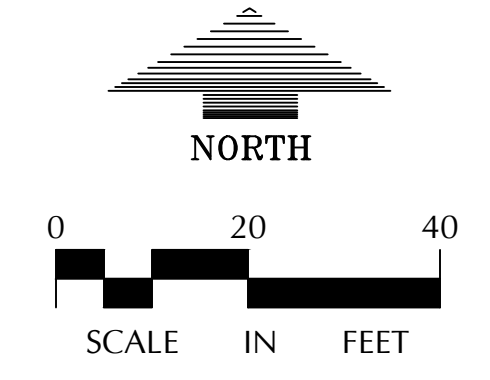


NOTES

- We have shown buried structures and utilities on and/or serving the site Per Gopher State One-Call Ticket No. 142733785. The following utilities and municipalities were notified:

ARVIG -	(763) 682-3514
AT&T TRANSMISSION -	(903) 753-3145
CENTER POINT ENERGY -	(406) 541-9571
CITY OF HOPKINS -	(952) 939-1382
CITY OF ST. LOUIS PARK -	(952) 924-2558
COMCAST -	(612) 522-8141
DEPARTMENT OF TRANSPORTATION -	(651) 366-5750
MCI -	(800) 289-3427
HENNEPIN COUNTY PUBLIC WORKS -	(612) 596-0339
LEVEL 3 COMMUNICATIONS -	(877) 366-8344
MINNEAPOLIS PARK AND REC -	(612) 499-9090
METRO WASTE COMMISSION -	(651) 602-4511
PARK NICOLLET MEDICAL CENTER -	(952) 993-2003
ST LOUIS PARK SCHOOL DISTRICT -	(651) 438-0152
QWEST COMMUNICATIONS -	(800) 283-4237
TW TELECOM -	(800) 778-9140
XCEL ENERGY -	(612) 630-4366
CENTURYLINK -	(800) 283-4237
- Utility operators do not consistently respond to locate requests through the Gopher State One Call service for boundary purposes such as this. Those utility operators that do respond often will not locate services from their main line to the customer's structure or facility - they consider those segments private installations that are outside their jurisdiction. If a private service to an adjoiner's site crosses this site or a service to this site crosses an adjoiner, it may not be located since most operators will not mark such "private" services.
- Snow and ice conditions during winter months may obscure otherwise visible evidence of a buried structure or utility.
- Maps provided by operators, either along with a field location or in lieu of such a location, are very often inaccurate or inconclusive. EXTREME CAUTION MUST BE EXERCISED BEFORE AN EXCAVATION TAKES PLACE ON OR NEAR THIS SITE. BEFORE DIGGING, YOU ARE REQUIRED BY LAW TO NOTIFY GOPHER STATE ONE CALL AT LEAST 48 HOURS IN ADVANCE AT 651/454-0002.

2) Benchmark: Threshold elevation at radiation entrance as shown hereon. Elevation = 891.13 feet. (NGVD 1929 Datum)



SURVEY LEGEND - EXISTING CONDITIONS

	CATCH BASIN		STORM SEWER
	STORM MANHOLE		SANITARY SEWER
	SANITARY MANHOLE		WATERMAIN
	WATER MANHOLE		UNDERGROUND ELECTRIC
	HYDRANT		UNDERGROUND GAS
	GATE VALVE		UNDERGROUND TELEPHONE
	TELEPHONE PEDESTAL		OVERHEAD UTILITY
	POWER POLE		CHAIN LINK FENCE
	LIGHT POLE		CONCRETE CURB
	SIGN		CONCRETE
	SPOT ELEVATION		CONTOUR
	TOP CURB ELEVATION		ELECTRIC MANHOLE
	TOP WALL ELEVATION		UTILITY MANHOLE
	THRESHOLD ELEVATION		HAND HOLE
			GUARDPOST
			FIBER OPTIC MANHOLE

Project Name:

Park Nicollet Methodist Hospital

St. Louis Park, Minnesota

Owner/Developer:

Park Nicollet Methodist Hospital

6500 Excelsior Blvd.
St. Louis Park, MN 55426

Professional Services:

LOUCKS ASSOCIATES

Planning • Civil Engineering • Land Surveying
Landscape Architecture • Environmental

7200 Hemlock Lane - Suite 300
Maple Grove, MN 55369
Telephone: (763) 424-5505
www.LoucksAssociates.com

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CADD Qualification:

CADD files prepared by the Consultant for this project are instruments of the Consultant's professional services for use solely with respect to this project. These CADD files shall not be used on other projects, for additions to this project, or for completion of this project by others without written approval by the Consultant. With the Consultant's approval, others may be permitted to obtain copies of the CADD files made at the full risk of that party making such revisions, additions or deletions and that party shall hold harmless and indemnify the Consultant from any & all responsibilities, claims, and liabilities.

S14544-MASTER.DWG/TOPO 10-30-15

Revisions:

10-23-14	Original Issue
01-26-15	Changed Vertical Datum to NGVD 1929
02-27-15	Added Private Utilities Marked 02-20-15 and 02-26-15
10-30-15	Additional Topo
12-02-15	Added Storm Sewer

Professional Signature:

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

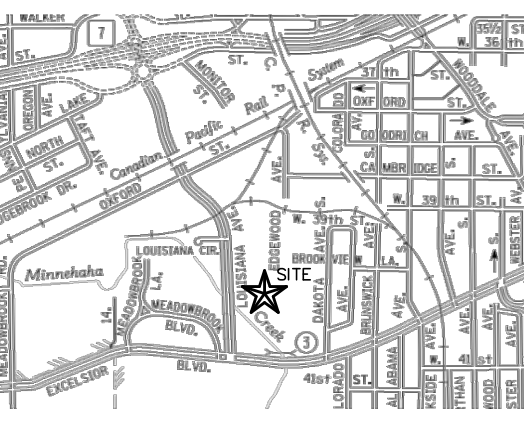
Richard L. Licht
Richard L. Licht - PLS

26724 License No. 10-22-14 Date

Quality Control:

Project Lead:	---	TMB/JT
Checked By:	RLL	DP/JS/BS

Vicinity Map:



Sheet Title:

Partial Topographic Survey

Project No.:

14-544

Sheet No.:

Sheet 1 of 1

Rachel Workin

From: MNDNR MPARS <NOREPLY.MPARS.dnr@state.mn.us>
Sent: Tuesday, May 31, 2016 10:30 AM
To: Katherine Sylvia
Subject: [MPARS] Application 2016-1043 Waived
Attachments: application_6056.pdf

Based on the review of information provided in Public Waters Work permit application 2016-1043, we have determined that DNR's regulatory authority for the project is waived to the Local Government Unit (LGU) responsible for implementation of the Wetland Conservation Act. The original application and any supporting documents are attached to this email.

The LGU contact is Katherine Sylvia at ksylvia@minnehahacreek.org.

Project Details:

Project Name: Park Nicollet Floodwall Project
Activity: Culvert Construction/Modification/Replacement
Landowner: Park Nicollet Health Services
Agent: Barr Engineering Company - Minneapolis
County: Hennepin
Legal Description: T117N-R21W-S20 SENE, T117N-R21W-S20 SENE
Resource: Wetland: Unnamed (27066200)

If you have any questions about this decision, or if project plans change, please contact Kate Drewry at kate.drewry@state.mn.us, (651) 259-5753 and/or Jason Spiegel at jason.spiegel@state.mn.us, 651-259-2822.

*** DO NOT REPLY TO THIS EMAIL ***



Public Waters Work Permit Application

Reference Number: 2016-1043

Date Submitted to DNR: May 26, 2016 at 8:39 AM	Application Reference Name: Park Nicollet Floodwall Project
DNR Lead Hydrologist: Kate Drewry Area: Metro N Email: kate.drewry@state.mn.us Phone: (651) 259-5753	DNR Region: Central Region 3 Address: Minnesota Department of Natural Resources 1200 Warner Road St. Paul, MN 55106

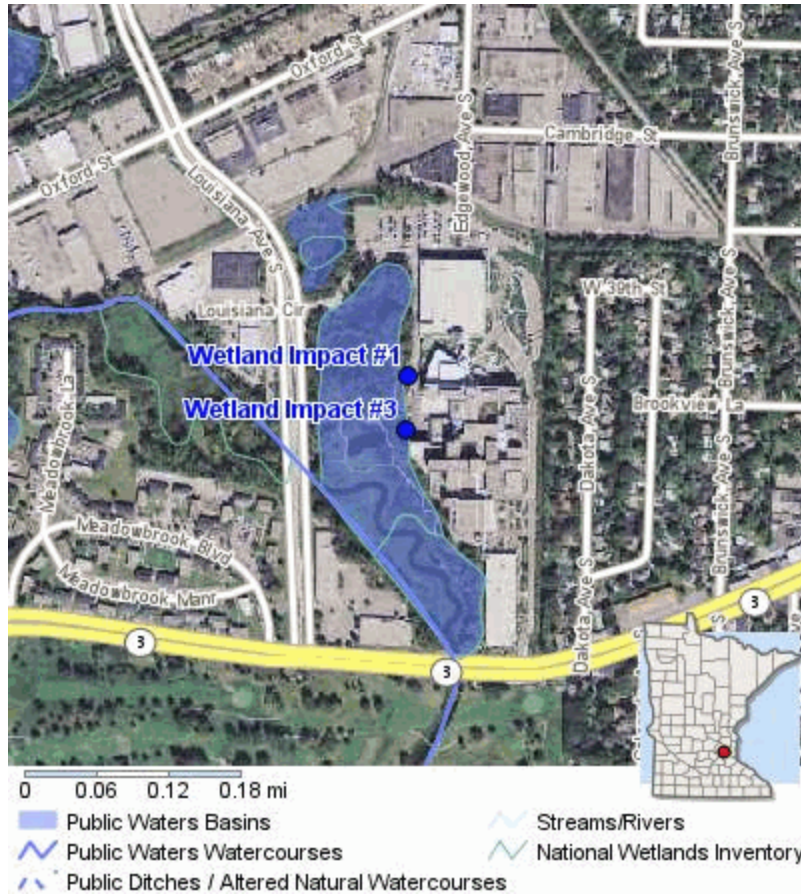
Parties *(Individuals and Organizations associated with the permit application)*

Park Nicollet Health Services - Landowner or Government Unit	Address: 6500 Excelsior Boulevard, St Louis Park, MN 55426
Mark Kretschmer - Contact <i>(representing Barr Engineering Company - Minneapolis)</i> <i>(submitted application)</i>	Address: 4300 MarketPointe #200, Minneapolis, MN 54016 Phone: 952-832-2940 Email: mkretschmer@barr.com
Robert Riesselman - Contact <i>(representing Park Nicollet Health Services)</i>	Address: 6500 Excelsior Blvd, St Louis Park, MN 55426 Phone: 952-993-5103 Email: robert.riesselman@parknicollet.com
Barr Engineering Company - Minneapolis - Agent	Address: 4300 MarketPoint Dr., #200, Minneapolis, MN 55435 Phone: 952-832-2600

Proposed Activity

Culvert Construction/Modification/Replacement

Location and Water Resources (within 50 meters)



Site Name: Wetland Impact #1

(Culvert Construction/Modification/Replacement)

Counties: Hennepin

Watersheds: Mississippi River - Twin Cities

PLS: T117N-R21W-S20 SENE

UTM: X:471336 Y:4975299

Water Resources: Wetland: Unnamed (27066200) -
Public Waters Basin, Lake: Unnamed (27066200),
Wetlands: National Wetland Inventory (quantity = 4)

Site Name: Wetland Impact #3

(Culvert Construction/Modification/Replacement)

Counties: Hennepin

Watersheds: Mississippi River - Twin Cities

PLS: T117N-R21W-S20 SENE

UTM: X:471331 Y:4975225

Water Resources: Wetland: Unnamed (27066200) -
Public Waters Basin, Lake: Unnamed (27066200),
Wetlands: National Wetland Inventory (quantity = 4)

Project Overview

1	Please assign a reference/project name to this application.	Park Nicollet Floodwall Project
2	What is the main type of work you are proposing to do?	Work in or near a lake, wetland, or river/stream (e.g., excavate, place fill, install a structure in a waterbody, modify a dam)
3	When is the anticipated start date for the project?	08/01/2016
4	When is the anticipated bid date for the project, if applicable? (optional)	06/10/2016
5	When is the expected completion date for the entire project?	12/30/2016
6	Briefly describe the overall project purpose and need.	Project Proposed - The project includes the development of a proposed floodwall located on the westerly side of the existing Methodist Hospital facility in St. Louis Park, MN. The project will include relocation of storm sewer, installation of gatewell and pump station and pavement modifications. Project also includes restoration of an existing sidewalk for emergency access. Project Purpose and Need - Purpose of the project is to provide flood risk management for the existing hospital facility which would allow the hospital to continue operations and access during seasonal flooding of the adjacent Minnehaha Creek. Sidewalk improvements are necessary for emergency access to and from the building.

Project Overview (Continued)

7	Has any portion of the proposed work in wetlands or water areas already started?	No
8	Is this a transportation project sponsored by a government unit?	No
9	Will the project require any dewatering (the deliberate removal of water through the use of a pump, ditch, etc. to lower water levels to allow work to be accomplished)?	Yes
10	Will the removed water remain within its original source at all times (e.g., only pumped over the side of a coffer dam and never pumped off site to a holding pond)?	Yes
11	Has an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) been completed for the project, or will it be required?	No
12	Has the project gone through a Natural Heritage (endangered species) review?	No
13	Have you developed any mitigation plans for the portion(s) of the project that will impact public waters?	No
14	Describe TWO alternatives to the proposed project that were considered that would avoid or minimize impacts to public waters. One option may be "no build" or "do nothing".	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
15	Why did you choose to pursue the option proposed in this application over these alternatives?	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
16	What is the project cost for the work that will be conducted in Public Waters? (estimate if unknown)	\$1,000.00

Activity Detail


Activity: Culvert Construction/Modification/Replacement

How many different sites will have culvert construction/modification work (i.e., the number of individual stream/river, ditch, lake, pond, pit, and/or wetland crossings or impact areas)? 2

Site #1 Name: Wetland Impact #1

1	Which of the following most closely describes the culvert work at this site?	Culvert repair/modification/replacement with another culvert(s) at an existing crossing
2	How many culverts (openings/barrels) are currently at the crossing?	1
3	Describe the general condition of the existing culvert(s), including size and elevation.	22" RCP, Inv 886.77
4	What is the existing culvert material? (choose all that apply)	Reinforced concrete pipe
5	How many culverts (openings/barrels) are proposed for the site?	0
6	Will all of the culverts be installed at the same flow line elevation?	No
7	What is the proposed culvert material? (choose all that apply)	Reinforced concrete pipe
8	Do any of the current culverts (if applicable), or will any of the proposed culverts, at this site function as a water level control structure?	No

Activity Detail *(Continued)*

9	Describe any change in the navigability of the waterbody due to the proposed work, if applicable.	No change, culvert to be removed
10	How many cubic yards of fill are proposed, if any?	0 cubic yards
11	If applicable, what is the size of the area to be filled?	0
12	Please choose units:	square feet
13	Is the fill permanent or temporary?	Not applicable
14	How many cubic yards of material are proposed to be excavated, if any?	0 cubic yards
15	If applicable, what is the size of the area to be excavated?	100
16	Please choose units:	square feet
17	Is the excavation permanent or temporary?	Temporary
18	If temporary, what is the duration of impact in days?	30 days
19	Please upload <u>construction plans</u> depicting both the current structure(s), if applicable, and the proposed structure(s); the stream profile, if applicable, and any change in stream alignment. The following information is required for all culverts: 1. Shape(s): box; round; elliptical; flat-bottomed; arch; bottomless; other (specify) 2. Length, width (span), height (rise), and/or diameter in inches 3. Inlet and outlet invert elevation in feet 4. Associated datum for the elevation numbers 5. Indication of any end sections, including maximum length in feet.	2327138000_95__Draft_2016-05-24_11x17.pdf
20	Please upload a <u>hydraulics report</u> showing existing and proposed conditions.	95__Design_Summary_Memorandum_v1.2.pdf
21	Select the resource(s) below that describes the type of water bodies that could be impacted at this site.	wetland, lake
22	Counties	Hennepin
23	Watersheds	Mississippi River - Twin Cities
24	PLS	T117N-R21W-S20 SENE
25	UTMXY	X:471336 Y:4975299
26	Water resources	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)
 Attachment(s): 2327138000_95__Draft_2016-05-24_11x17.pdf 95__Design_Summary_Memorandum_v1.2.pdf		

Site #2 Name: Wetland Impact #3

1	Which of the following most closely describes the culvert work at this site?	Culvert repair/modification/replacement with another culvert(s) at an existing crossing
2	How many culverts (openings/barrels) are currently at the crossing?	1
3	Describe the general condition of the existing culvert(s), including size and elevation.	RCP, 12", Inv 884.27
4	What is the existing culvert material? (choose all that apply)	Reinforced concrete pipe

Activity Detail *(Continued)*

5	How many culverts (openings/barrels) are proposed for the site?	0
6	Will all of the culverts be installed at the same flow line elevation?	N/A - only 1 culvert will be at the site
7	What is the proposed culvert material? (choose all that apply)	Reinforced concrete pipe
8	Do any of the current culverts (if applicable), or will any of the proposed culverts, at this site function as a water level control structure?	No
9	Describe any change in the navigability of the waterbody due to the proposed work, if applicable.	No change, removal of existing culvert
10	How many cubic yards of fill are proposed, if any?	0 cubic yards
11	If applicable, what is the size of the area to be filled?	0
12	Please choose units:	square feet
13	Is the fill permanent or temporary?	Not applicable
14	How many cubic yards of material are proposed to be excavated, if any?	0 cubic yards
15	If applicable, what is the size of the area to be excavated?	150
16	Please choose units:	square feet
17	Is the excavation permanent or temporary?	Temporary
18	If temporary, what is the duration of impact in days?	30 days
19	Select the resource(s) below that describes the type of water bodies that could be impacted at this site.	wetland, lake
20	Counties	Hennepin
21	Watersheds	Mississippi River - Twin Cities
22	PLS	T117N-R21W-S20 SENE
23	UTMXY	X:471331 Y:4975225
24	Water resources	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)

Aquatic Resource Impact Summary

Aquatic Resource Map Site ID	Aquatic Resource Type	Type of Impact	Duration of Impact	Size of Impact	Overall Size of Aquatic Resource	Existing Plant Community Type(s)	County; Major Watershed #; and Bank Service Area
Wetland Impact #1	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
Wetland Impact #3	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)	Excavate	Temporary (30 days)	150 square feet	14.5	seasonally flooded	Hennepin; 93; 7

Acknowledgment *(By the party who submitted the permit application)*

Acknowledgement *(Continued)*



I attest that:

- I own or control (by lease, license, or other permission) the land that I propose to alter, AND
- There are no easements or other restrictions on the land that would prohibit the proposed activities from being authorized under a permit, AND
- I possess the authority to undertake the work described, or I am acting as a duly authorized agent, AND
- The information submitted and the statements made concerning this application are true and correct to the best of my knowledge.

PRINTED: 05/26/2016 at 8:39 AM

Rachel Workin

From: MNDNR MPARS <NOREPLY.MPARS.dnr@state.mn.us>
Sent: Tuesday, May 31, 2016 10:30 AM
To: Katherine Sylvia
Subject: [MPARS] Application 2016-1044 Waived
Attachments: application_6059.pdf

Based on the review of information provided in Public Waters Work permit application 2016-1044, we have determined that DNR's regulatory authority for the project is waived to the Local Government Unit (LGU) responsible for implementation of the Wetland Conservation Act. The original application and any supporting documents are attached to this email.

The LGU contact is Katherine Sylvia at ksylvia@minnehahacreek.org.

Project Details:

Project Name: Park Nicollet Floodwall Project2
Activity: Culvert Construction/Modification/Replacement
Landowner: Park Nicollet Health Services
Agent: Barr Engineering Company - Minneapolis
County: Hennepin
Legal Description: T117N-R21W-S20 SENE
Resource: Wetland: Unnamed (27066200)

If you have any questions about this decision, or if project plans change, please contact Kate Drewry at kate.drewry@state.mn.us, (651) 259-5753 and/or Jason Spiegel at jason.spiegel@state.mn.us, 651-259-2822.

*** DO NOT REPLY TO THIS EMAIL ***



Public Waters Work Permit Application

Reference Number: 2016-1044

Date Submitted to DNR: May 26, 2016 at 8:52 AM

Application Reference Name: Park Nicollet Floodwall
Project2

DNR Lead Hydrologist: **Kate Drewry**
Area: Metro N
Email: kate.drewry@state.mn.us
Phone: (651) 259-5753

DNR Region: Central Region 3
Address: Minnesota Department of Natural Resources
1200 Warner Road
St. Paul, MN 55106

Parties *(Individuals and Organizations associated with the permit application)*

Park Nicollet Health Services - Landowner or Government Unit

Address: 6500 Excelsior Boulevard, St Louis Park, MN 55426

Mark Kretschmer - Contact *(representing Barr Engineering Company - Minneapolis)*
(submitted application)

Address: 4300 MarketPointe #200, Minneapolis, MN 54016
Phone: 952-832-2940
Email: mkretschmer@barr.com

Robert Riesselman - Contact *(representing Park Nicollet Health Services)*

Address: St. Louis Park, MN 55343

Barr Engineering Company - Minneapolis - Agent

Address: 4300 MarketPoint Dr., #200, Minneapolis, MN 55435
Phone: 952-832-2600

Proposed Activity

Culvert Construction/Modification/Replacement

Location and Water Resources (within 50 meters)



Site Name: Wetland Impact #2

(Culvert Construction/Modification/Replacement)

Counties: Hennepin

Watersheds: Mississippi River - Twin Cities

PLS: T117N-R21W-S20 SENE

UTM: X:471331 Y:4975282

Water Resources: Wetland: Unnamed (27066200) -
Public Waters Basin, Lake: Unnamed (27066200),
Wetlands: National Wetland Inventory (quantity = 4)

Project Overview

1	Please assign a reference/project name to this application.	Park Nicollet Floodwall Project2
2	What is the main type of work you are proposing to do?	Work in or near a lake, wetland, or river/stream (e.g., excavate, place fill, install a structure in a waterbody, modify a dam)
3	When is the anticipated start date for the project?	08/01/2016
4	When is the anticipated bid date for the project, if applicable? (optional)	06/10/2016
5	When is the expected completion date for the entire project?	12/30/2016
6	Briefly describe the overall project purpose and need.	Project Proposed - The project includes the development of a proposed floodwall located on the westerly side of the existing Methodist Hospital facility in St. Louis Park, MN. The project will include relocation of storm sewer, installation of gatewell and pump station and pavement modifications. Project also includes restoration of an existing sidewalk for emergency access. Project Purpose and Need - Purpose of the project is to provide flood risk management for the existing hospital facility which would allow the hospital to continue operations and access during seasonal flooding of the adjacent Minnehaha Creek. Sidewalk improvements are necessary for emergency access to and from the building.

Project Overview (Continued)

7	Has any portion of the proposed work in wetlands or water areas already started?	No
8	Is this a transportation project sponsored by a government unit?	No
9	Will the project require any dewatering (the deliberate removal of water through the use of a pump, ditch, etc. to lower water levels to allow work to be accomplished)?	Yes
10	Will the removed water remain within its original source at all times (e.g., only pumped over the side of a coffer dam and never pumped off site to a holding pond)?	Yes
11	Has an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) been completed for the project, or will it be required?	No
12	Has the project gone through a Natural Heritage (endangered species) review?	No
13	Have you developed any mitigation plans for the portion(s) of the project that will impact public waters?	No
14	Describe TWO alternatives to the proposed project that were considered that would avoid or minimize impacts to public waters. One option may be "no build" or "do nothing".	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
15	Why did you choose to pursue the option proposed in this application over these alternatives?	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
16	What is the project cost for the work that will be conducted in Public Waters? (estimate if unknown)	\$3,000.00

Activity Detail

Activity: Culvert Construction/Modification/Replacement


How many different sites will have culvert construction/modification work (i.e., the number of individual stream/river, ditch, lake, pond, pit, and/or wetland crossings or impact areas)? 1

Site Name: Wetland Impact #2

1	Which of the following most closely describes the culvert work at this site?	Culvert construction at a new crossing
2	Describe the type of crossing.	Permanent new crossing
3	How many culverts (openings/barrels) are proposed for the site?	1
4	Will all of the culverts be installed at the same flow line elevation?	Yes
5	What is the proposed culvert material? (choose all that apply)	Reinforced concrete pipe
6	Do any of the current culverts (if applicable), or will any of the proposed culverts, at this site function as a water level control structure?	No
7	How many cubic yards of fill are proposed, if any?	14 cubic yards
8	If applicable, what is the size of the area to be filled?	152
9	Please choose units:	square feet
10	Is the fill permanent or temporary?	Permanent

Activity Detail (Continued)

11	Is the excavation permanent or temporary?	Not applicable
12	Please upload <u>construction plans</u> depicting both the current structure(s), if applicable, and the proposed structure(s); the stream profile, if applicable, and any change in stream alignment. The following information is required for all culverts: 1. Shape(s): box; round; elliptical; flat-bottomed; arch; bottomless; other (specify) 2. Length, width (span), height (rise), and/or diameter in inches 3. Inlet and outlet invert elevation in feet 4. Associated datum for the elevation numbers 5. Indication of any end sections, including maximum length in feet.	2327138000_95__Draft_2016-05-24_11x17.pdf
13	Please upload a <u>hydraulics report</u> showing existing and proposed conditions.	95__Design_Summary_Memorandum_v1.2.pdf
14	Select the resource(s) below that describes the type of water bodies that could be impacted at this site.	wetland, lake
15	Counties	Hennepin
16	Watersheds	Mississippi River - Twin Cities
17	PLS	T117N-R21W-S20 SENE
18	UTMXY	X:471331 Y:4975282
19	Water resources	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)

 **Attachment(s):** 2327138000_95__Draft_2016-05-24_11x17.pdf
95__Design_Summary_Memorandum_v1.2.pdf

Aquatic Resource Impact Summary

Aquatic Resource Map Site ID	Aquatic Resource Type	Type of Impact	Duration of Impact	Size of Impact	Overall Size of Aquatic Resource	Existing Plant Community Type(s)	County; Major Watershed #; and Bank Service Area
Wetland Impact #2	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)	Fill	Permanent	152 square feet	14.5	seasonally flooded	Hennepin; 93; 7

Acknowledgment (By the party who submitted the permit application)

- I attest that:
- I own or control (by lease, license, or other permission) the land that I propose to alter, AND
 - There are no easements or other restrictions on the land that would prohibit the proposed activities from being authorized under a permit, AND
 - I possess the authority to undertake the work described, or I am acting as a duly authorized agent, AND
 - The information submitted and the statements made concerning this application are true and correct to the best of my knowledge.

PRINTED: 05/26/2016 at 8:52 AM

Rachel Workin

From: MNDNR MPARS <NOREPLY.MPARS.dnr@state.mn.us>
Sent: Tuesday, May 31, 2016 10:31 AM
To: Thomas Dietrich
Subject: [MPARS] Application 2016-1045 Waived
Attachments: application_6060.pdf

Based on the review of information provided in Public Waters Work permit application 2016-1045, we have determined that DNR's regulatory authority for the project is waived to the Local Government Unit (LGU) responsible for implementation of the Wetland Conservation Act. The original application and any supporting documents are attached to this email.

The LGU contact is Katherine Sylvia at ksylvia@minnehahacreek.org.

Project Details:

Project Name: Park Nicollet Floodwall Project3
Activity: Access Fill Strip
Landowner: Park Nicollet Health Services
Agent: Barr Engineering Company - Minneapolis
County: Hennepin
Legal Description: T117N-R21W-S20 SENE
Resource: Wetland: Unnamed (27066200)

If you have any questions about this decision, or if project plans change, please contact Kate Drewry at kate.drewry@state.mn.us, (651) 259-5753 and/or Jason Spiegel at jason.spiegel@state.mn.us, 651-259-2822.

*** DO NOT REPLY TO THIS EMAIL ***



Public Waters Work Permit Application

Reference Number: 2016-1045

Date Submitted to DNR: May 26, 2016 at 9:01 AM

Application Reference Name: Park Nicollet Floodwall
Project3

DNR Lead Hydrologist: Kate Drewry

Area: Metro N

Email: kate.drewry@state.mn.us

Phone: (651) 259-5753

DNR Region: Central Region 3

Address: Minnesota Department of Natural Resources
1200 Warner Road
St. Paul, MN 55106

Parties *(Individuals and Organizations associated with the permit application)*

Park Nicollet Health Services - Landowner or Government Unit

Address: 6500 Excelsior Boulevard, St Louis Park, MN 55426

Mark Kretschmer - Contact *(representing Barr Engineering Company - Minneapolis)*
(submitted application)

Address: 4300 MarketPointe #200, Minneapolis, MN 54016
Phone: 952-832-2940
Email: mkretschmer@barr.com

Robert Riesselman - Contact *(representing Park Nicollet Health Services)*

Address: St. Louis Park, MN 55343

Barr Engineering Company - Minneapolis - Agent

Address: 4300 MarketPoint Dr., #200, Minneapolis, MN 55435
Phone: 952-832-2600

Proposed Activity

Access Fill Strip

Location and Water Resources (within 50 meters)



Site Name: Wetland Impact #4

(Access Fill Strip)

Counties: Hennepin

Watersheds: Mississippi River - Twin Cities

PLS: T117N-R21W-S20 SENE

UTM: X:471333 Y:4975198

Water Resources: Wetland: Unnamed (27066200) -
Public Waters Basin, Lake: Unnamed (27066200),
Wetlands: National Wetland Inventory (quantity =
4)

Project Overview

1	Please assign a reference/project name to this application.	Park Nicollet Floodwall Project3
2	What is the main type of work you are proposing to do?	Work in or near a lake, wetland, or river/stream (e.g., excavate, place fill, install a structure in a waterbody, modify a dam)
3	When is the anticipated start date for the project?	08/01/2016
4	When is the anticipated bid date for the project, if applicable? (optional)	06/10/2016
5	When is the expected completion date for the entire project?	12/30/2016
6	Briefly describe the overall project purpose and need.	Project Proposed - The project includes the development of a proposed floodwall located on the westerly side of the existing Methodist Hospital facility in St. Louis Park, MN. The project will include relocation of storm sewer, installation of gatewell and pump station and pavement modifications. Project also includes restoration of an existing sidewalk for emergency access. Project Purpose and Need - Purpose of the project is to provide flood risk management for the existing hospital facility which would allow the hospital to continue operations and access during seasonal flooding of the adjacent Minnehaha Creek. Sidewalk improvements are necessary for emergency access to and from the building.

Project Overview (Continued)

7	Has any portion of the proposed work in wetlands or water areas already started?	No
8	Is this a transportation project sponsored by a government unit?	No
9	Will the project require any dewatering (the deliberate removal of water through the use of a pump, ditch, etc. to lower water levels to allow work to be accomplished)?	No
10	Has an Environmental Assessment Worksheet (EAW) or Environmental Impact Statement (EIS) been completed for the project, or will it be required?	No
11	Has the project gone through a Natural Heritage (endangered species) review?	No
12	Have you developed any mitigation plans for the portion(s) of the project that will impact public waters?	No
13	Describe TWO alternatives to the proposed project that were considered that would avoid or minimize impacts to public waters. One option may be "no build" or "do nothing".	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
14	Why did you choose to pursue the option proposed in this application over these alternatives?	The project involves temporary and no-loss wetland impacts and ultimately does not represent a loss of wetland acreage or functional quality and therefore avoidance does not apply.
15	What is the project cost for the work that will be conducted in Public Waters? (estimate if unknown)	\$1,000.00

Activity Detail

Activity: Access Fill Strip


How many different water sites will have this type of activity (i.e., the number of individual stream/river, ditch, lake, pond, pit, and/or wetland crossings or unique impact areas)? 1

Site Name: [Wetland Impact #4](#)

1	Briefly describe the impact to the waterbodies at this particular site:	Seasonally flooded basin
2	How many cubic yards of fill are proposed, if any?	50 cubic yards
3	If applicable, what is the size of the area to be filled?	213
4	Please choose units:	square feet
5	Is the fill permanent or temporary?	Temporary
6	If temporary, what is the duration of impact in days?	90 days
7	Is the excavation permanent or temporary?	Not applicable
8	Will you be removing any vegetation from an aquatic resource that is not already associated with excavation/filling?	No
9	Will work at this site result in the draining of any water resources?	No
10	Please upload construction plans showing existing and proposed conditions.	2327138000_95__Draft_2016-05-24_11x17.pdf
11	Please upload photo(s) of the project site.	95__Design_Summary_Memorandum_v1.2.pdf
12	Select the resource(s) below that describes the type of water bodies that could be impacted at this site.	wetland, lake

Activity Detail *(Continued)*

13	Counties	Hennepin
14	Watersheds	Mississippi River - Twin Cities
15	PLS	T117N-R21W-S20 SENE
16	UTMXY	X:471333 Y:4975198
17	Water resources	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)

 **Attachment(s):** 2327138000_95__Draft_2016-05-24_11x17.pdf
95__Design_Summary_Memorandum_v1.2.pdf

Aquatic Resource Impact Summary

Aquatic Resource Map Site ID	Aquatic Resource Type	Type of Impact	Duration of Impact	Size of Impact	Overall Size of Aquatic Resource	Existing Plant Community Type(s)	County; Major Watershed #; and Bank Service Area
Wetland Impact #4	Wetland: Unnamed (27066200) - Public Waters Basin, Lake: Unnamed (27066200), Wetlands: National Wetland Inventory (quantity = 4)	Fill	Temporary (90 days)	213 square feet	14.5	seasonally flooded basin	Hennepin; 93; 7

Acknowledgment *(By the party who submitted the permit application)*

- I attest that:
- I own or control (by lease, license, or other permission) the land that I propose to alter, AND
 - There are no easements or other restrictions on the land that would prohibit the proposed activities from being authorized under a permit, AND
 - I possess the authority to undertake the work described, or I am acting as a duly authorized agent, AND
 - The information submitted and the statements made concerning this application are true and correct to the best of my knowledge.

PRINTED: 05/26/2016 at 9:02 AM

Minnesota Wetland Conservation Act

Notice of Decision

Local Government Unit (LGU) Minnehaha Creek Watershed District	Address 15320 Minnetonka Blvd Minnetonka, MN 55345
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1. PROJECT INFORMATION

Applicant Name Park Nicollet Methodist Hospital (Robert Riesselman)	Project Name Park Nicollet Floodwall Project	Date of Application 05/25/16	Application Number W16-30
<input checked="" type="checkbox"/> Attach site locator map			

Type of Decision:

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

Technical Evaluation Panel Findings and Recommendation (if any):

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

2. LOCAL GOVERNMENT UNIT DECISION

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

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

Park Nicollet Methodist Hospital (Robert Riesselman) has applied for a No-Loss determination for temporary impacts to the wetland located at 6500 Excelsior Boulevard in the City of St. Louis Park, Hennepin County, Minnesota (PID 2011721140026). Legal description: Section 20, Township 117N, Range 21W.

A wetland delineation was conducted by Terracon Consultants, Inc. on October 12, 2015. The wetland was identified as a Type 1, seasonally flooded basin and is inventoried as a Department of Natural Resources (DNR) Public Water Wetland (PWW). MCWD approved the delineated boundary and type on May 25, 2016 (W15-79). The DNR has waived regulation of these impacts to MCWD as the local government unit administering the Wetland Conservation Act.

Park Nicollet Methodist Hospital is proposing to construct a floodwall which will be placed on the western edge of the existing loading dock. Several storm sewer outlets which are placed within the delineated wetland are located along the site proposed for the floodwall. With the floodwall construction, Park Nicollet is proposing to reconfigure the current storm sewer outlet system so that drainage from two existing outlets is directed to one proposed outlet. The two existing outlets will be removed and a new outlet will be placed in a new

location. Contemporaneous with the floodwall construction, Park Nicollet will also be repairing the emergency sidewalk access to the south of the floodwall area. In order to repair this sidewalk, the adjacent wetland will need to be impacted temporarily so that the areas of repair can be accessed with the appropriate equipment to complete the repair. This work is proposed for the end of September, 2016.

Removing the existing outfalls will result in approximately 250 square feet of wetland impact (100 square feet and 150 square feet individually). Placing the new outfall will result in approximately 622 square feet of temporary impact. Temporary access to complete the sidewalk repair will result in approximately 213 square feet of temporary wetland fill. These areas will be restored to pre-existing contours and will be revegetated with state approved wetland seed mix within six months of the construction start date.

MCWD approves the temporary wetland impacts associated with outfall configuration and temporary access as No-Loss under Minnesota Rule 8420.0415(H), conditional on the applicant's providing financial assurance of \$5,102. This decision is valid for three years. A future project located on this property may require a permit from the MCWD.

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	Title	
Signature	Date 06/10/16	Phone Number and E-mail (952) 473-2855 ksylvia@minnehahacreek.org

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

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

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

3. APPEAL OF THIS DECISION

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

Check one:

<input checked="" type="checkbox"/> Appeal of an LGU staff decision. Send petition and \$0 fee (if applicable) to: Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345	<input type="checkbox"/> Appeal of LGU governing body decision. Send petition and \$500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155
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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 type="checkbox"/> LGU TEP member (if different than LGU Contact): <input checked="" type="checkbox"/> DNR TEP member: Kate Drewry— kate.drewry@state.mn.us <input checked="" type="checkbox"/> DNR Regional Office (if different than DNR TEP member): Leslie Parris - leslie.parris@state.mn.us <input type="checkbox"/> WD or WMO (if applicable): <input checked="" type="checkbox"/> Applicant (notice only) and Landowner (if different): Robert Riesselman— Robert.riesselman@parknicollet.com <input checked="" type="checkbox"/> Members of the public who requested notice (notice only): Mark Kretschmer—mkretschmer@barr.com, Phillip Elkin- pelkin@stlouispark.org, efrancis@stlouispark.org <input checked="" type="checkbox"/> Corps of Engineers Project Manager (notice only): Melissa Jenny – melissa.m.jenny@usace.army.mil <input type="checkbox"/> BWSR Wetland Bank Coordinator (wetland bank plan applications only)
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5. MAILING INFORMATION

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

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

➤ Department of Natural Resources Regional Offices:

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

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

US Army Corps of Engineers

St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

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

6. ATTACHMENTS

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

- Joint Application Form for Activities Affecting Water Resources in Minnesota**
- Site Plans**
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