

MEETING DATE: July 26, 2018

TITLE: Approval of Design for the Minnehaha Creek FEMA Repair Project and Authorization to Solicit Bids

RESOLUTION NUMBER: 18-071

PREPARED BY: Tiffany Schaufler

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TELEPHONE: 952-641-4513

REVIEWED BY: Administrator Counsel Program Director:
 Board Committee Engineer Other

WORKSHOP ACTION:

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date):_____	<input type="checkbox"/> Refer to taskforce or committee (date):_____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input checked="" type="checkbox"/> Other (specify): Seeking final approval on July 26, 2018.	

PURPOSE or ACTION REQUESTED:

- Approval of final design for the Minnehaha Creek FEMA Repair Project
- Authorization to solicit bids for construction

PROJECT/PROGRAM LOCATION:

Minnehaha Creek Subwatershed within the City of Minneapolis

PROJECT TIMELINE:

- May-July 2018 – Design Repairs
- July 2018: Approval of Final Design
- August/September 2018 – Seek Construction Bids, Select Construction Contractor
- September 2018 - June 2019 – Construct Repairs

PROJECT/PROGRAM COST:

Fund name and number: FEMA Flood Repair, 3148

2018 Budget: \$584,940

Expenditures to date: \$119,212

Requested amount of funding: \$0

PAST BOARD ACTION:

- September 11, 2014: RES 14-074 – Authorization to contract with Wenck Associates to develop 2014 flood report (included performing a damage assessment on the District’s six major creeks to apply for FEMA funding)
- November 13, 2014 – Board discussion on the 2014 flood damage and FEMA process
- June 18, 2015 – FEMA funding approval update
- December 17, 2015: RES 15-101 – Acceptance of the 2014 MCWD Flood Report (included a summary of damage submitted to FEMA and maps of the damage locations)
- February 23, 2017: RES 17-016 – Authorization to Execute Grant Agreements for Minnehaha Creek Stormwater Management and Six Mile Creek - East Auburn Stormwater Enhancement Project
- February 23, 2017: RES 17-017 – Authorization to enter into a Memorandum of Understanding with the City of Minneapolis and Minneapolis Park and Recreation Board and Issue a Request for Qualifications for the Integrated Planning of the Minnehaha Creek Subwatershed in Minneapolis
- September 14, 2017: 17-059 -- Authorization to Execute a Contract for Preliminary Design for FEMA Repairs and Minnehaha Creek Corridor Planning
- April 26, 2018: 18-042 – Ordering of the Minnehaha Creek FEMA Repair Project and Authorization to execute a Design and Construction Oversight Contract for the Minnehaha Creek FEMA Repair Project
- June 28, 2018 – Board review of preliminary design plans for the Minnehaha Creek FEMA Repair Project

SUMMARY:

Minnehaha Creek Flood Damage Assessment

In 2014, the Twin Cities saw the wettest first half of the year on record, and the month of June was the wettest month ever on record. Coupled with a long winter and late snowmelt, this extreme precipitation led to a record flow on Minnehaha Creek and prolonged flooding throughout most of the spring and summer. This record precipitation across the Twin Cities resulted in a Federal Disaster Declaration for Hennepin County. In the fall of 2014, MCWD completed a flood damage assessment of Minnehaha Creek and identified 47 damaged sites. MCWD coordinated the damage assessment with the Federal Emergency Management Agency (FEMA) and was awarded over \$500,000 from FEMA to address flood damage at 35 of the 47 sites along Minnehaha Creek.

In the fall of 2017, MCWD’s consultant team performed an engineering screening at the original 47 damage sites to identify what should be done at each site:

1. Do nothing, as the site has “self-healed” over time
2. Move into final design and construct repair over the fall and winter of 2018-2019
3. Defer repair and include as part of the larger regional planning for the Minnehaha Creek corridor

During this screening each site was inspected to document current conditions and determine if further action is warranted. 28 of the 47 sites were removed from the project list because the consultant team determined that they either had naturally “healed” themselves or are better considered as part of future creek corridor planning initiatives. The remaining 19 sites were discussed and reviewed at a joint workshop in December 2017 with District, MPRB, and City staff to determine which sites should move into design and construction in 2018 and which sites should be deferred and should be included as part of MPRB’s Minnehaha Parkway Region Trail master planning process. The result of that joint workshop identified 13 sites to move into final design and construction and 6 sites to be deferred and included in MPRB’s master planning effort.

After further review and discussion with MPRB staff in June 2018, the District also recommended deferring two additional sites that involve damage to WPA walls along Minnehaha Creek. District and MPRB staff agreed

**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.
Resolutions are not final until approved by the Board and signed by the Board Secretary.**

that it would be best to let the MPRB's Minnehaha Parkway Region Trail master planning process play out to identify what should be done with the WPA wall sites.

Minnehaha Creek FEMA Repair Project

In April 2018, the Board of Managers ordered the Minnehaha Creek FEMA Repair Project and authorized a design and construction oversight contract with Wenck for the Project. The Minnehaha Creek FEMA Repair Project will include repairing flood damage at 11 sites along Minnehaha Creek within Minneapolis. An interactive map of the 11 sites can be viewed on the MCWD Project website:

<http://www.minnehahacreek.org/project/minnehaha-creek-fema-repairs>

In conjunction with MPRB and the City, the District held two community open house meetings for the Minnehaha Creek FEMA Repair Project on April 12 and April 17, 2018. Additionally, the District held an informational community meeting on July 24, 2018 to review the design plans for the Project.

The estimated construction cost for the 11 flood repair sites is \$301,360. The FEMA grant received for those 11 sites totals approximately \$248,576 and the District intends to use this grant money towards the cost of construction.

At the June 28, 2018 Board Meeting, the Board reviewed the preliminary design plans for the Project.

July 26, 2018 Board Meeting

At the July 26, 2018 Board meeting, staff will provide a brief presentation discussing final plans, construction cost estimate, and project schedule for the Minnehaha Creek FEMA Repair Project. Staff is recommending Board approval of final design and authorization to solicit bids for the Project.

ATTACHMENT:

- Design Plans for the Minnehaha Creek FEMA Repair Project

RESOLUTION

RESOLUTION NUMBER: 18-071

TITLE: **Approval of Design for the Minnehaha Creek FEMA Repair Project and Authorization to Solicit Bids**

WHEREAS, the Minnehaha Creek Watershed District (MCWD) has adopted a watershed management plan (WMP) in accordance with Minnesota Statutes §103B.231; and

WHEREAS, the WMP identifies the Minnehaha Creek FEMA Repair Project (“Project”) as a capital improvement project for the purpose of stabilizing streambanks with bioengineering and hard armoring to reduce erosion and protect the stream channel and improve the ecological integrity of the stream corridor within the Minnehaha Creek subwatershed; and

WHEREAS, on April 26, 2018, the MCWD Board of Managers ordered the Minnehaha Creek FEMA Repair Project; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has granted MCWD approximately \$248,576 to repair flood damage at the 11 sites identified as part of the Minnehaha Creek FEMA Repair Project; and

WHEREAS, on April 26, 2018, the MCWD Board authorized the District Administrator to execute a contract with Wenck, with HKGi and Inter-Fluve as subconsultants, for an amount not to exceed \$330,112 for design and construction oversight services for the Minnehaha Creek FEMA Repair Project; and

WHEREAS, MCWD has coordinated the Project with MPRB and the City of Minneapolis, and the MPRB and the City are supportive of the project and have individually submitted letters of support to the District for the Project; and

WHEREAS, on June 28, 2018, the MCWD Board of Managers reviewed the preliminary design plans for the Minnehaha Creek FEMA Repair Project; and

WHEREAS, a public information meeting was held in Minneapolis on July 24, 2018 to present project plans and schedule.

NOW, THEREFORE, BE IT RESOLVED, that the Minnehaha Creek Watershed District Board of Managers hereby approves the final design for the Minnehaha Creek FEMA Repair Project; and

BE IT FURTHER RESOLVED that the MCWD Board of Managers authorizes the District Administrator to solicit bids for construction of the Minnehaha Creek FEMA Repair Project.

Resolution Number 18-071 was moved by Manager _____, seconded by Manager _____.
Motion to adopt the resolution ___ ayes, ___ nays, ___ abstentions. Date: _____.

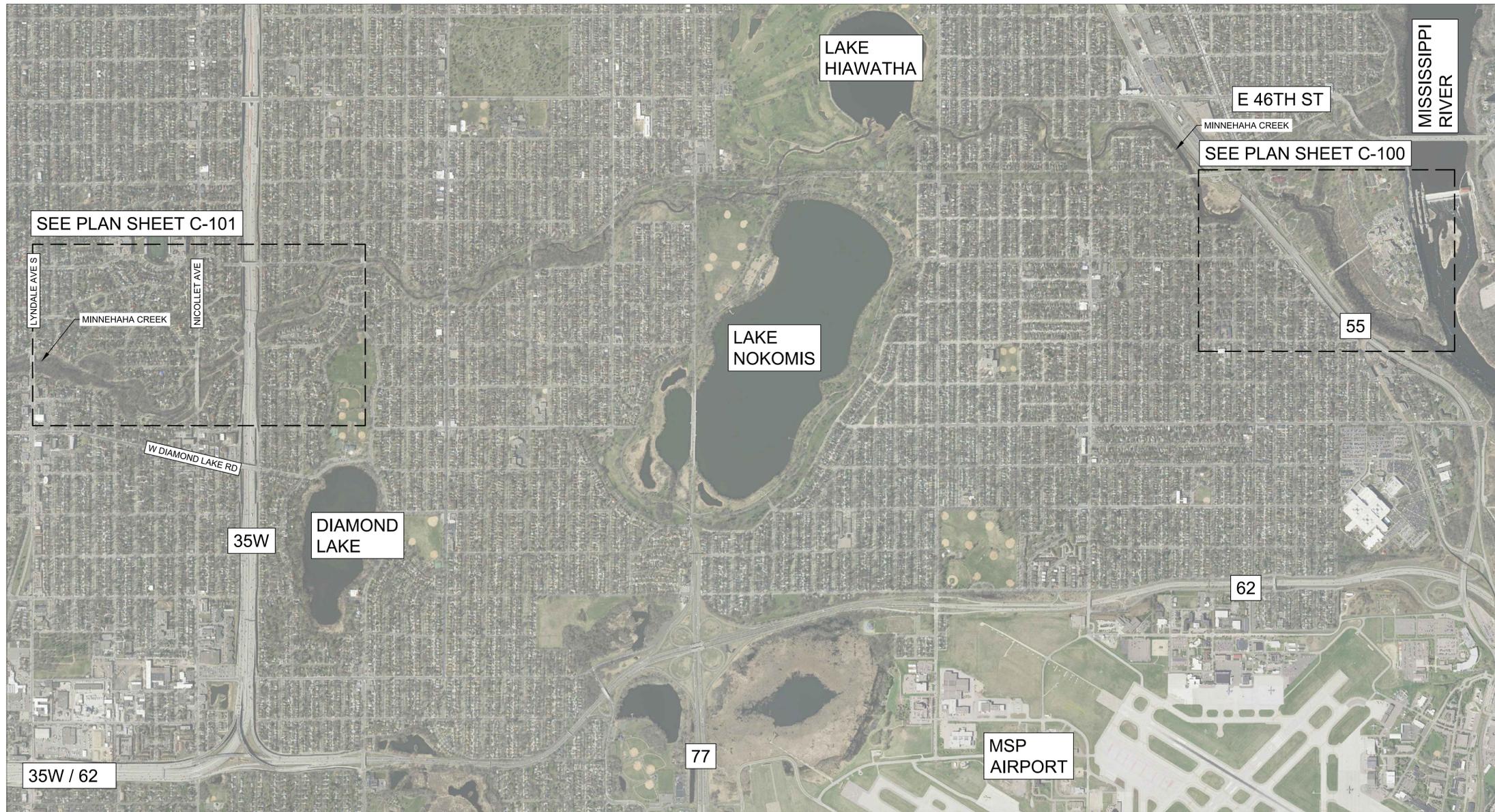
Secretary

Date: _____

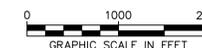
CONSTRUCTION PLANS FOR 2018 FEMA FLOODWAY REPAIRS

PREPARED FOR MINNEHAHA CREEK WATERSHED DISTRICT

JULY 2018



PROJECT VICINITY MAP



SHEET INDEX	
SHEET	TITLE
G-100	TITLE AND INDEX SHEET
G-101	LEGEND AND NOTES
C-100	LOCATION PLAN EAST
C-101	LOCATION PLAN WEST
C-102	SITE PLAN - PROJECT 2
C-103	SITE PLAN - PROJECT 5
C-104	SITE PLAN - PROJECT 8
C-105	SITE PLAN - PROJECTS 9 - 11
C-106	SITE PLAN - PROJECT 13
C-107	SITE PLAN - PROJECT 30
EC-200	SWPPP
C-800	DETAILS
C-801	DETAILS
C-802	DETAILS
CS-100	SITE PLAN - PROJECT 8
CS-101	CROSS SECTIONS - PROJECT 8
CS-102	SITE PLAN - PROJECT 26
CS-103	CROSS SECTIONS - PROJECT 26
CS-104	SITE PLAN - PROJECT 34
CS-105	CROSS SECTIONS - PROJECT 34
CS-800	TYPICAL CROSS SECTIONS
CS-801	DETAILS 1
CS-802	DETAILS 2
CS-803	DETAILS 3
THIS PLAN CONTAINS 24 SHEETS	



ISSUE NO.	DATE	DESCRIPTION
0	06/27/2018	60% DESIGN
1	07/22/2018	90% DESIGN

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

PROJECT NO.:	0185-0103	
DWN BY:	CHKD BY:	APPD BY:
SJB	MUS	CM
ISSUE DATE:	DATE	
ISSUE NO.:	0	
SHEET TITLE:	TITLE SHEET	
SHEET NO.:	G-100	

WARNING:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CALL BEFORE YOU DIG
GOPHER STATE ONE CALL
TWIN CITY AREA: 651-454-0002
TOLL FREE 1-800-252-1166

PROJECT SCOPE

THE CONTRACTOR SHALL COMPLETE ALL EROSION CONTROL, GRADING, AND RESTORATION TO ACHIEVE PROPOSED IMPROVEMENTS AS INDICATED ON THE DRAWINGS IN CONFORMANCE WITH GOVERNING SPECIFICATIONS AND CODES.

GENERAL NOTES

- ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH MN DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" (LATEST EDITION) & LATEST SUPPLEMENTS, AND APPLICABLE CITY AND COUNTY REGULATIONS. UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM AS APPLICABLE TO THESE STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS, AND REQUIREMENTS.
- ALL QUANTITIES ARE APPROXIMATE AND MAY VARY TO ALLOW COMPLETION OF WORK.
- EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. NO GUARANTEE IS MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2 ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
- TOPOGRAPHIC INFORMATION IS TAKEN FROM A COMBINATION OF LIDAR DATA AND A PARTIAL TOPOGRAPHIC SURVEY BY WENCK ASSOCIATES. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
- EXACT LOCATION OF UNDERGROUND UTILITIES SUCH AS GAS, TELEPHONE, FIBER OPTIC, PIPELINES, ELECTRICAL, AND CABLE TV ARE UNKNOWN. CONTRACTOR RESPONSIBLE FOR LOCATING PRIOR TO STARTING WORK.
- CONTRACTOR SHOULD ANTICIPATE PRIVATE UTILITY CONFLICTS THROUGHOUT THE PROJECT SUB CUT AND TRENCH AREAS AND SHALL COORDINATE WITH PRIVATE UTILITY OWNERS IF ENCOUNTERED. IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
- THE RELOCATION AND OR PROTECTION OF ALL EXISTING UTILITIES MUST BE COORDINATED BY THE CONTRACTOR AND ANY COSTS FOR SUCH WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR EXTRA TIME AND EFFORT OF PROVISIONS NECESSARY TO WORK AROUND OR UNDER ANY UTILITIES.
- PROTECT EXISTING PAVEMENT AND SITE FEATURES, EXCEPT AS NOTED.
- THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
- ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL FROM THE OWNER AND NOTIFICATION TO THE ENGINEER.
- MAINTAIN DRAINAGE CONVEYANCE DURING CONSTRUCTION (BOTH PIPED AND OVERLAND).
- THE EXISTING PAVEMENT CONDITIONS HAVE BEEN DOCUMENTED, AND ANY DAMAGE TO THE EXISTING PAVEMENT, CURBING, AND STRIPING SHALL BE REPLACED BY THE CONTRACTOR, TO THE OWNERS SATISFACTION, AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING CONSTRUCTION PHASES OF THIS PROJECT. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES TO THE ADJACENT PROPERTIES OCCURRING DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
- SAFETY NOTICE TO CONTRACTORS: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE ENGINEER OR THE OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON OR NEAR THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF MN PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.

CALL BEFORE YOU DIG
GOPHER STATE ONE CALL
 TWIN CITY AREA: 651-454-0002
 TOLL FREE 1-800-252-1166

EROSION CONTROL NOTES AND MAINTENANCE

- THE STORM WATER POLLUTION PREVENTION PLAN ("SWPPP") IS COMPRISED OF THE EROSION CONTROL PLAN, THE STANDARD DETAILS, THE PLAN NARRATIVE, SPECIFICATIONS, ATTACHMENTS, IN ADDITION TO THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- IF APPLICABLE, ALL CONTRACTORS AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE SWPPP AND MN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND BE FAMILIAR WITH THEIR CONTENTS.
- BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER, OR AS SITE CONDITIONS DICTATE.
- ALL EROSION CONTROL DEVICES SHOWN ON THESE PLANS SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES.
- ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION CONTROL AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A CERTIFIED INSPECTOR AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING.
 - INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
 - ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED. FOR MAINTENANCE REQUIREMENTS REFER TO THE STANDARD SPECIFICATIONS.
 - SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-THIRD THE HEIGHT OF THE SILT FENCE.
 - THE CONSTRUCTION ENTRANCE(S) SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
 - THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF AS CONDITIONS DEMAND.
 - REMOVE TRACKED SEDIMENT FROM ALL PAVED SURFACES BOTH ON AND OFFSITE ON A DAILY BASIS (INCIDENTAL).
 - MINIMIZE DUST FROM CONSTRUCTION OPERATIONS BY PROVIDING WATER OR OTHER APPROVED METHOD ON A DAILY BASIS (INCIDENTAL).
 - ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER BUT IN NO CASE LATER THAN 2 CALENDAR DAYS FOLLOWING THE INSPECTION.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING ON SITE CONDITIONS DURING CONSTRUCTION. COORDINATE WITH ENGINEER.
- ALL EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCEMENT OF WORK, MAINTAINED IN ACCORDANCE WITH THE SWPPP, NPDES, AND SPECIFICATIONS THROUGHOUT DURATION OF PROJECT, AND REMOVED UPON ESTABLISHMENT OF FINAL STABILIZATION AS DIRECTED BY ENGINEER. EROSION CONTROL MEASURES USED FOR CONSTRUCTION SHALL NOT BE REMOVED UNTIL AUTHORIZED BY OWNER OR ENGINEER.
- FINAL STABILIZATION TO BE COMPLETED WITHIN ONE WEEK (7 DAYS) OF SITE GRADING. ALL DISTURBED AREAS SHALL BE STABILIZED WITH SEED, SOD, OR ROCK BASE AS DETAILED ON THE CONSTRUCTION DOCUMENTS.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE SWPPP.
- ALL DISTURBED UNPAVED AREAS ARE TO IMMEDIATELY RECEIVE SALVAGED TOPSOIL, SEED AND MULCH AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- TEMPORARY SEEDING OR OTHER APPROVED METHODS OF STABILIZATION SHALL BE INITIATED WITHIN 7 DAYS OF THE LAST DISTURBANCE ON ANY AREA OF THE SITE.
- SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ON A PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY. WHEN WASHING IS REQUIRED IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR OTHER BMP. ALL FINES IMPOSED FOR DISCHARGING SEDIMENT ONTO PUBLIC AREAS SHALL BE PAID BY THE CONTRACTOR.
- CONTRACTOR SHALL DENOTE ON THE PLAN THE TEMPORARY PARKING, STORAGE AREAS, EQUIPMENT MAINTENANCE AND CLEANING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES SUCH AS TOILETS OR OFFICE TRAILER.
- ALL WASH WATER (VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC PRODUCTS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE.
- CONTRACTOR SHALL INCORPORATE APPROPRIATE BMP'S AS NECESSARY TO ENSURE THAT ALL STAGING AREAS, STOCKPILES, SPOILS, ETC. SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY.
- ALL EROSION CONTROL MEASURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THIS PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER.
- IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN WILL HAVE TO BE REVISED AND/OR ADDITIONAL BMP'S AND MEASURES IMPLEMENTED. ANY REVISIONS TO THE EROSION CONTROL PLAN MADE BY THE CONTRACTOR MUST BE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION STAGING, ON OR OFFSITE, AS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN THE PROJECT DOCUMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL. ALL TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MN MUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER, OWNER, MINNEAPOLIS PARK AND RECREATION BOARD AND CITY FOR REVIEW AND APPROVAL PRIOR TO ANY CONSTRUCTION RELATED ACTIVITIES. PLANS SHALL COMPLY WITH ALL APPLICABLE PERMIT REQUIREMENTS
- TRAFFIC CONTROL INCLUDES ALL NECESSARY SIGNAGE, TEMPORARY FENCING AND MARKINGS REQUIRED FOR SIDEWALK, TRAIL, AND PARK AREA CLOSURES NEEDED FOR COMPLETION OF THE WORK. COORDINATE WITH MINNEAPOLIS PARK AND RECREATION BOARD.

PERMITS REQUIRED

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE ANY AND ALL STATE, COUNTY, AND CITY PERMITS NECESSARY FOR CONSTRUCTION.

HORIZONTAL AND VERTICAL CONTROL

- THE HORIZONTAL CONTROL FOR THIS PLAN IS HENNEPIN COUNTY COORDINATE SYSTEM NAD83.
- THE VERTICAL CONTROL FOR THIS PLAN IS NAVD88.

GRADING NOTES

- GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- CONTRACTOR SHALL SALVAGE ALL TOPSOIL PRIOR TO GRADING, AND STOCKPILE IT FOR RESPREADING. TOPSOIL WASTED SHALL BE REPLACED AT NO ADDITIONAL COST TO OWNER. RESPREAD TOPSOIL FOR FINAL GRADING.
- THE CONTRACTOR SHALL RESTRICT ALL GRADING AND CONSTRUCTION ACTIVITIES TO AREAS DESIGNATED ON THE PLANS.
- CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND ENSURE THERE IS POSITIVE DRAINAGE FROM THE PROPOSED BUILDINGS AND/OR PADS AND NO PONDING IN PAVED AREAS. CONTRACTOR TO NOTIFY ENGINEER IF ANY GRADING DISCREPANCIES ARE FOUND IN THE EXISTING AND PROPOSED GRADES PRIOR TO PLACEMENT OF PAVEMENT OR UTILITIES.
- ALL ELEVATIONS SHOWN ON PLAN ARE TOP OF FINISHED SURFACE UNLESS OTHERWISE NOTED.
- CONTRACTOR IS REQUIRED TO MEET ALL APPLICABLE OSHA STANDARDS.
- IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND/OR ENGINEER PRIOR TO ANY EXCAVATION.
- LIMITS OF CONSTRUCTION ARE TO THE PROPERTY LINE UNLESS OTHERWISE SPECIFIED ON THE PLAN.
- UNSUITABLE SOILS DISCOVERED ONSITE DURING GRADING OPERATIONS SHALL BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS AND BY DIRECTION OF ENGINEER.
- CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
- SITE SHALL BE GRADED TO MAINTAIN POSITIVE DRAINAGE FROM THE SITE TO EXISTING AND PROPOSED STORMWATER SYSTEMS AND AVOID PONDING WATER. SUBGRADE THAT BECOMES SATURATED WITH WATER AND UNABLE TO MEET MOISTURE AND DENSITY REQUIREMENTS WILL BE CORRECTED BY CONTRACTOR AT NO EXPENSE TO OWNER.
- ONSITE EXCAVATED BOULDERS MEETING THE SIZE REQUIREMENTS FOR RIPRAP WILL BE ALLOWED FOR USE AS RIPRAP. COORDINATE WITH OWNER.



CLIENT:

MINNEHAHA CREEK
WATERSHED DISTRICT
 QUALITY OF WATER, QUALITY OF LIFE



2018 FEMA
FLOODWAY REPAIRS
 MINNEAPOLIS, MN

PROJECT TITLE:

DATE	DESCRIPTION	ISSUE NO.	0	1											
06/27/2018	60% DESIGN														
07/23/2018	90% DESIGN														

CERTIFICATION:

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DATE: _____
 SIGNATURE: _____

PROJECT NO.: 0185-0103

DWN BY: SJB CHKD BY: MUS APPD BY: CM
 ISSUE DATE: _____ DATE

ISSUE NO.: 0

SHEET TITLE:

LEGEND & NOTES

SHEET NO.:

G-101



ISSUE NO.	DESCRIPTION	DATE
0	60% DESIGN	06/27/2018
1	90% DESIGN	07/22/2018

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 License #:
 Exp. Date:

PROJECT NO.: 0185-0103

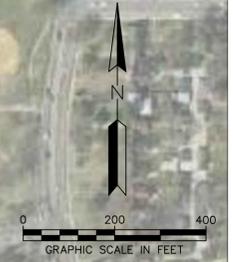
DWN BY:	CHKD BY:	APPD BY:
SJB	MJS	CM

ISSUE DATE: DATE

ISSUE NO.: 0

SHEET TITLE:
LOCATION PLAN WEST

SHEET NO.:
C-100





PID# 1802823110004

PID# 1702823220002

PID# 1702823220002

- PROJECT NOTES:**
1. PROTECT ALL PAVEMENT, TRAILS, BOARDWALK, RETAINING WALLS, AND OTHER SITE FEATURES. ANY DAMAGE TO EXISTING FEATURES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
 2. ACCESS IS FROM THE CREEK JUST TO THE SOUTH OF BRIDGE 3. ACCESS TO THIS PROJECT AREA SHALL BE THROUGH THE CREEK - NO BRIDGE ACCESS ALLOWED
 3. CONTRACTOR MUST PROVIDE MEANS TO KEEP ALL MATERIALS FROM WASHING INTO THE CREEK
 4. REPAIR AREA OF THE CREEK BANK SHOWN IS APPROXIMATE AND SHALL BE FIELD DIRECTED AS NECESSARY TO COMPLETE THE WORK.

ISSUE NO.	DESCRIPTION	DATE
0	60% DESIGN	06/27/2018
1	90% DESIGN	07/23/2018

CERTIFICATION:
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DATE: _____
 SIGNATURE: _____

PROJECT NO.:	0185-0103	
DWN BY:	CHKD BY:	APPD BY:
SJB	MJS	CM
ISSUE DATE:	DATE	
ISSUE NO.:	0	

SHEET TITLE:
SITE PLAN - PROJECT 5

SHEET NO.:

C-106



- PROJECT 2 NOTES:**
1. PROTECT ALL PAVEMENT, TRAILS, BOARDWALK, RETAINING WALLS, AND OTHER SITE FEATURES NOT CALLED OUT FOR REMOVAL. ANY DAMAGE TO EXISTING SITE FEATURES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
 2. ACCESS IS FROM BRIDGE 4. VEHICLE ACCESS ACROSS BRIDGE 4 IS LIMITED TO _____ VEHICLES.
 3. CONTRACTOR MUST PROVIDE MEANS TO KEEP ALL MATERIALS FROM WASHING INTO THE CREEK.
 4. REPAIR AREA OF THE TRAIL SHOWN IS APPROXIMATE AND SHALL BE FIELD DIRECTED AS NECESSARY TO COMPLETE THE WORK.

PROJECT TITLE:	ISSUE NO.:	DESCRIPTION:	DATE:
2018 FEMA FLOODWAY REPAIRS	0	60% DESIGN	06/27/2018
	1	90% DESIGN	07/22/2018

CERTIFICATION:
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 License #:
 Date:

PROJECT NO.:	0185-0103	
DWN BY:	CHKD BY:	APPD BY:
SJB	MJS	CM
ISSUE DATE:	DATE	
ISSUE NO.:	0	
SHEET TITLE:	SITE PLAN - PROJECT 2	
SHEET NO.:	C-107	

PROJECT INFORMATION

PROJECT NAME: 2018 FEMA FLOODWAY REPAIRS
PROJECT LOCATION: MINNEHAHA CREEK WATERSHED DISTRICT
DISTRICT
PROJECT TYPE: STREAM BANK RESTORATION

TOTAL AREA DISTURBED BY CONSTRUCTION: ±0.3 ACRES.
TOTAL SITE AREA: ±0.3 ACRES.
ESTIMATED CONSTRUCTION DATES: OCTOBER 2018-MARCH 2019

CUMULATIVE IMPERVIOUS SURFACE/PERMANENT STORMWATER MANAGEMENT REQUIREMENTS: THERE IS CURRENTLY ±0.1 ACRES OF EXISTING IMPERVIOUS SURFACE IN THE PROJECT AREA.

THE PROPOSED AREA OF IMPERVIOUS IS ±0.1 ACRES RESULTING IN A ±0.0 ACRE NET INCREASE IN IMPERVIOUS SURFACE.

THE SITE ULTIMATELY DRAINS TO, AND IS LOCATED DIRECTLY ON, MINNEHAHA CREEK, WHICH IS LISTED AS AN IMPAIRED WATER FOR AQUATIC LIFE AND AQUATIC RECREATION. THERE ARE CURRENT EPA APPROVED TMDLS FOR THE WATERBODY FOR CHLORIDE AND FECAL COLIFORM.

THE CONSTRUCTION PLANS OUTLINE STABILIZATION PRACTICES INCLUDING RIPRAP, ROCK TOES, SEEDING, AND INSTALLATION OF EROSION CONTROL BLANKET FOR VEGETATIVE RE-ESTABLISHMENT.

PARTY RESPONSIBLE FOR LONG TERM OPERATION AND MAINTENANCE OF THE SITE (OWNER): MINNEHAHA CREEK WATERSHED DISTRICT
CONTACT: TIFFANY SCHAUFLE
CONTACT PHONE: (952) 471-0590
CONTACT EMAIL: TSCHAUFLE@MINNEHAHACREEK.ORG

PARTY RESPONSIBLE FOR IMPLEMENTATION OF THE SWPPP (CONTRACTOR): TBD - CONTRACTOR SHALL PROVIDE A CHAIN OF RESPONSIBILITY WITH ALL OPERATORS ON THE SITE FOR INCORPORATION INTO THIS SWPPP DOCUMENT TO ENSURE THAT THE SWPPP WILL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE (THROUGH FINAL STABILIZATION AND NOT SUBMITTAL). CONTRACTOR SHALL ALSO PROVIDE DOCUMENTATION OF PERSONNEL TRAINING IN ACCORDANCE WITH THE PERMIT FOR INCORPORATION INTO THIS SWPPP DOCUMENT AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. CONTRACTOR IS RESPONSIBLE FOR KEEPING A FINAL SWPPP DOCUMENT, CONTAINING THE INFORMATION REQUIRED ABOVE, AT THE CONSTRUCTION SITE FOR THE DURATION OF THE PROJECT.

INSPECTIONS

THE INSPECTION LOG WILL BE COMPLETED BY THE CONTRACTOR FOR THE CONSTRUCTION SITE. INSPECTOR(S): TBD - TRAINING DOCUMENTATION (PER PART IV.E OF THE PERMIT) WILL BE INCORPORATED INTO THIS SWPPP AS SOON AS THE PERSONNEL FOR THE PROJECT HAVE BEEN DETERMINED. THE CONTRACTOR WILL MAKE CORRECTIONS OR REPAIRS REQUIRED TO COMPLY WITH THE PERMIT.

INSPECTIONS AT THE SITE WILL BE COMPLETED IN ACCORDANCE WITH THE PERMIT AS FOLLOWS: ONCE EVERY SEVEN (7) DAYS DURING ACTIVE CONSTRUCTION AND, WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS.

- 1. THE INDIVIDUAL PERFORMING INSPECTIONS MUST BE TRAINED AS REQUIRED BY PART IV.E OF THE PERMIT. TRAINING DOCUMENTATION SHALL BE PROVIDED BY THE CONTRACTOR FOR INCORPORATION INTO THE SWPPP. INSPECTIONS MUST INCLUDE STABILIZED AREAS, EROSION PREVENTION AND SEDIMENT CONTROL BMPs, AND INFILTRATION AREAS. CORRECTIVE ACTIONS MUST BE IDENTIFIED AND DATE OF CORRECTION MUST BE NOTED AS IDENTIFIED IN SECTION IV.E. OF THE PERMIT. ANY OFFSITE DISCHARGE MUST BE DOCUMENTED AS IDENTIFIED IN SECTION IV.E.2.F OF THE PERMIT. ANY AMENDMENTS TO THE SWPPP PROPOSED AS A RESULT OF THE INSPECTION MUST BE DOCUMENTED WITHIN SEVEN (7) CALENDAR DAYS. AN INSPECTION LOG IS ALSO ATTACHED; THE INSPECTION LOG AND SWPPP MUST BE KEPT ON-SITE FOR THE DURATION OF THE CONSTRUCTION PROJECT.

AT A MINIMUM, THE FOLLOWING SHALL BE COMPLETED DURING EACH INSPECTION:

- RECORD DATE AND TIME OF INSPECTION.
-RECORD RAINFALL RECORDS SINCE THE MOST RECENT INSPECTION.
-INSPECT THE SITE FOR EXCESS EROSION AND SEDIMENTATION.
-INSPECT THE SITE FOR DEBRIS, TRASH, AND SPILLS.
-INSPECT TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES.
-INSPECT CONSTRUCTION ENTRANCES FOR SEDIMENT TRACKING ONTO PUBLIC STREETS.
-RECORD RECOMMENDED REPAIRS AND MODIFICATIONS TO EROSION AND SEDIMENT CONTROLS.
-RECOMMEND ANY NECESSARY CHANGES TO THIS SWPPP.
-RECORD REPAIRS AND MODIFICATIONS IMPLEMENTED SINCE PREVIOUS INSPECTIONS.
-INSPECT THE ADJACENT STREETS AND CURB AND GUTTER FOR SEDIMENT, LITTER, AND CONSTRUCTION DEBRIS.

THE GC MUST UPDATE THE SWPPP, INCLUDING THE JOBSITE BINDER AND SITE MAPS, TO REFLECT THE PROGRESS OF CONSTRUCTION ACTIVITIES AND GENERAL CHANGES TO THE PROJECT SITE. UPDATES SHALL BE MADE DAILY TO TRACK PROGRESS WHEN ANY OF THE FOLLOWING ACTIVITIES OCCUR: BMP INSTALLATION, MODIFICATION OR REMOVAL, CONSTRUCTION ACTIVITIES (E.G. PAVING, SEWER INSTALLATION, ETC), CLEARING, GRUBBING, GRADING, OR TEMPORARY AND PERMANENT STABILIZATION.

THE CONTRACTOR MAY UPDATE OR MODIFY THE SWPPP WITHOUT ENGINEER APPROVAL IN AN EMERGENCY SITUATION TO PREVENT SEDIMENT DISCHARGE OR PROTECT WATER QUALITY. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE TO ENSURE COMPLIANCE WITH THE PERMIT AND PROTECTION OF DOWNSTREAM WATER QUALITY.

EROSION AND SEDIMENT CONTROL

PRIOR TO ANY SITE DISTURBANCE, AND AS REQUIRED AS CONSTRUCTION PROGRESSES, ANY PERMIT REQUIRED EROSION PREVENTION MEASURES AND THE SEDIMENT CONTROL DEVICES (BIOLOG, EROSION CONTROL BLANKET) SHOWN ON THE CONSTRUCTION DRAWINGS WILL BE INSTALLED AT THE SITE.

ALL EXPOSED SOIL AREAS WITHIN THE CONSTRUCTION LIMITS WILL BE STABILIZED WITHIN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY (WILL NOT RESUME FOR A PERIOD EXCEEDING 7 CALENDAR DAYS) OR PERMANENTLY CEASED. STABILIZATION WILL BE INITIATED IMMEDIATELY. EXPOSED SOIL AREAS MUST HAVE TEMPORARY EROSION PROTECTION (SLASH MULCH, EROSION CONTROL BLANKET, SEED) OR PERMANENT COVER YEAR ROUND.

CONTRACTOR SHALL IMPLEMENT APPROPRIATE CONSTRUCTION PHASING, VEGETATIVE BUFFER STRIPS, HORIZONTAL SLOPE GRADING, AND OTHER CONSTRUCTION PRACTICES THAT MINIMIZE EROSION WHEN PRACTICAL. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT DRAINS WATER FROM A CONSTRUCTION SITE, OR DIVERTS WATER AROUND A SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZATION MUST BE COMPLETED WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER. PIPE OUTLETS MUST BE PROVIDED WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

SWPPP IMPLEMENTATION, PHASING, AND SEQUENCE OF CONSTRUCTION

BMP AND EROSION CONTROL INSTALLATION SEQUENCE SHALL BE AS FOLLOWS:

- 1. INSTALL PERIMETER CONTROL, IF APPLICABLE.
2. PREPARE TEMPORARY STORAGE, PARKING, AND PHASING AREAS.
3. CONSTRUCT AND STABILIZE DIVERSIONS AND TEMPORARY SEDIMENT TRAPS/BASINS, IF REQUIRED.
4. PERFORM CLEARING AND GRUBBING OF THE SITE, IF APPLICABLE.
5. START CONSTRUCTION OF REPAIRS.
6. PERFORM MASS GRADING, ROUGH GRADE TO ESTABLISH PROPOSED DRAINAGE PATTERNS.
7. TEMPORARILY SEED WITH PURE LIVE SEED THROUGHOUT CONSTRUCTION DISTURBED AREAS THAT WILL BE INACTIVE FOR SEVEN (7 DAYS) OR MORE AS REQUIRED BY NPDES PERMIT.

SEDIMENT CONTROL PRACTICES MUST MINIMIZE SEDIMENT FROM ENTERING SURFACE WATERS, INCLUDING CURB AND GUTTER SYSTEMS AND STORM SEWER INLETS. THE FOLLOWING MEASURES WILL BE TAKEN AS SEDIMENT CONTROL PRACTICES IN ORDER TO MINIMIZE SEDIMENTS FROM ENTERING SURFACE WATERS:

- 1. INSTALLATION OF SEDIMENT CONTROL PRACTICES ON ALL DOWN GRADIENT PERIMETERS PRIOR TO LAND DISTURBING ACTIVITIES.
2. STREET SWEEPING SHALL BE PERFORMED IF VEHICLE TRACKING BMPs ARE NOT ADEQUATE TO PREVENT SEDIMENT TRACKING. TRACKED SEDIMENT MUST BE REMOVED FROM ALL PAVED SURFACES BOTH ON AND OFFSITE WITHIN 24 HOURS OF DISCOVERY PER THE PERMIT.

THE FOLLOWING GUIDELINES WILL BE USED TO DETERMINE IF POLLUTION CONTROL DEVICES REQUIRE MAINTENANCE, REPAIR, OR REPLACEMENT:

-IF SEDIMENT CONTROL DEVICES SUCH AS SILT FENCE ARE FILLED TO 1/3 THE HEIGHT OF THE FENCE, REMOVE ALL SEDIMENT WITHIN 24 HOURS OF DETECTION OR NOTIFICATION.

-IF INLET PROTECTION DEVICES APPEAR PLUGGED WITH SEDIMENT, ARE FILLED TO 1/3 CAPACITY, OR HAVE STANDING WATER AROUND THEM, REMOVE THE SEDIMENT AND CLEAN OR REPLACE THE FILTER WITHIN 24 HOURS OF DETECTION OR NOTIFICATION.

-IF THE GRAVEL CONSTRUCTION ENTRANCE(S) ARE FILLED WITH SEDIMENT EITHER REPLACE THE ENTRANCE OR ADD ADDITIONAL GRAVEL WITH 24 HOURS OF DETECTION OR NOTIFICATION.

-IF SEDIMENT FROM THE SITE IS OBSERVED ON ADJACENT STREETS OR OTHER PROPERTIES, THE INSPECTOR SHALL IDENTIFY THE SOURCE AND DISCHARGE LOCATION OF THE SEDIMENT AND INSTRUCT TO IMPLEMENT ADDITIONAL EROSION AND SEDIMENT CONTROLS AT THOSE LOCATIONS TO PREVENT FUTURE DISCHARGES.

-IF BUILDING MATERIALS, CHEMICALS, OR GENERAL REFUSE IS BEING USED, STORED, DISPOSED OF, OR OTHERWISE MANAGED INAPPROPRIATELY, CORRECT SUCH DEFECTS WITHIN 24 HOURS OF DETECTION OR NOTIFICATION.

-IF EXCESSIVE SEDIMENTS OR DEBRIS ARE OBSERVED AT THE FLARED END SECTION OUTFALLS, THE INSPECTOR SHALL DETERMINE THE SOURCE AND DISCHARGE LOCATIONS OF SUCH MATERIALS. IF THE DISCHARGE HAS OCCURRED ON THE PROPERTY, REMOVE THE SEDIMENTS AND DEBRIS WITHIN 24 HOURS OF NOTIFICATION AND CORRECT THE SOURCE OF SUCH MATERIALS AS DIRECTED BY THE INSPECTOR

CERTIFICATION

IN ACCORDANCE WITH PART III.A.2.A.I. OF THE GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NPDES, THE PREPARER OF THIS DOCUMENT WAS TRAINED UNDER THE UNIVERSITY OF MINNESOTA EROSION AND SEDIMENT CONTROL CERTIFICATION PROGRAM. LOUIS SIGTERMANS' CERTIFICATION IN DESIGN OF SWPPP IS VALID THROUGH MAY 31, 2020.

POLLUTION PREVENTION MEASURES

SOLID WASTE
SOLID WASTE, INCLUDING BUT NOT LIMITED TO, COLLECTED ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS AND OTHER WASTE MUST BE DISPOSED OF PROPERLY AND MUST COMPLY WITH MPCA DISPOSAL REQUIREMENTS.

HAZARDOUS MATERIALS
HAZARDOUS MATERIALS, INCLUDING BUT NOT LIMITED TO OIL, GASOLINE, PAINT AND ANY HAZARDOUS SUBSTANCE MUST BE PROPERLY STORED INCLUDING SECONDARY CONTAINMENTS, TO PREVENT SPILLS, LEAKS OR OTHER DISCHARGE. RESTRICTED ACCESS TO STORAGE AREAS MUST BE PROVIDED TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS WASTE MUST BE IN COMPLIANCE WITH MPCA REGULATIONS.

CONSTRUCTION EQUIPMENT/VEHICLES
EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES MUST BE LIMITED TO A DEFINED AREA OF THE SITE. RUNOFF MUST BE CONTAINED AND WASTE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE. REASONABLE STEPS TO PREVENT THE DISCHARGE OF SPILLED OR LEAKED CHEMICALS SHALL BE TAKEN. ADEQUATE SUPPLIES MUST BE AVAILABLE AT ALL TIMES TO CLEAN UP DISCHARGED MATERIALS; CONDUCT FUELING IN A CONTAINED AREA UNLESS INFEASIBLE.

CONCRETE WASHOUT AREA
CONCRETE WASHOUT WILL BE PERMITTED ON-SITE; CONTRACTOR SHALL FOLLOW ALL PERMIT REQUIREMENTS FOR CONCRETE WASHOUT. THE CONTRACTOR SHALL PROVIDE EFFECTIVE CONTAINMENT FOR ALL LIQUID AND SOLID WASTES GENERATED BY WASHOUT OPERATIONS. LIQUID AND SOLID WASHOUT WASTES MUST NOT CONTACT THE GROUND AND THE CONTAINMENT MUST BE DESIGNED TO PROHIBIT RUNOFF FROM THE WASHOUT OPERATIONS/AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA RULES. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY THAT REQUIRES SITE PERSONNEL TO UTILIZE THE PROPER FACILITIES FOR CONCRETE WASHOUT AND DISPOSAL OF WASHOUT WASTES. CONTRACTOR SHALL REVISE SWPPP TO INDICATE WASHOUT LOCATION ONCE THE LOCATION HAS BEEN DETERMINED.

FERTILIZERS AND LANDSCAPE MATERIALS MUST BE UNDER COVER TO PREVENT THE DISCHARGE OF POLLUTANTS OR PROTECTED BY SIMILARLY EFFECTIVE MEANS DESIGNED TO MINIMIZE CONTACT WITH STORMWATER.

PORTABLE TOILETS MUST BE POSITIONED SO THAT THEY ARE SECURE AND WILL NOT BE TIPPED OR KNOCKED OVER - SANITARY WASTE MUST BE DISPOSED OF PROPERLY.

GENERAL SWPPP NOTES

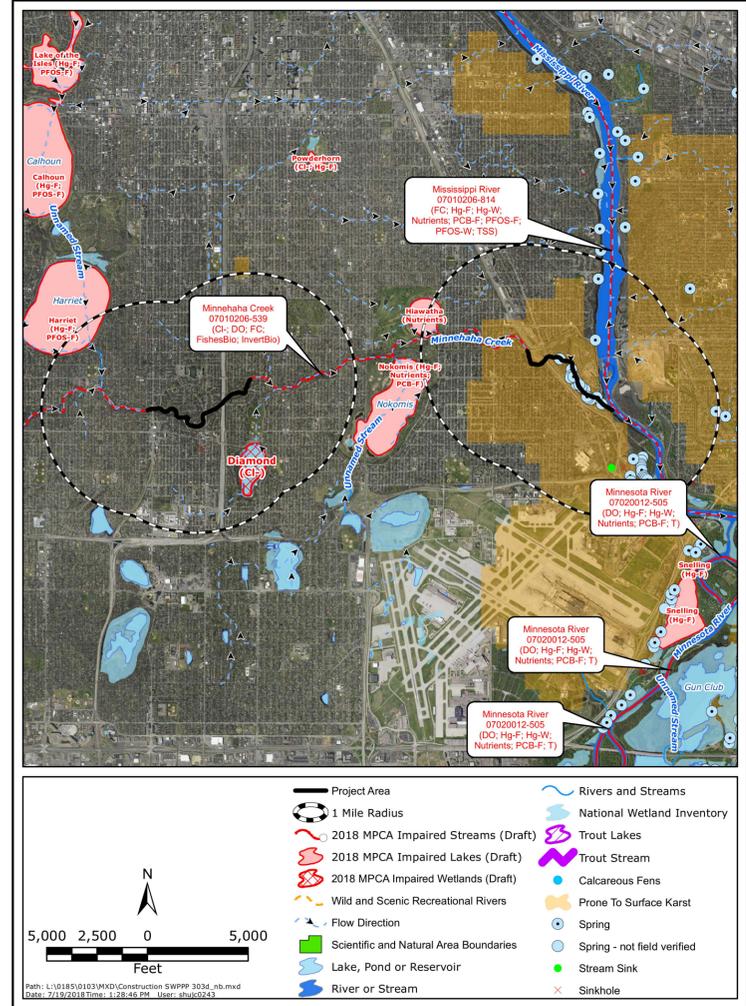
DEWATERING IS NOT ANTICIPATED TO BE REQUIRED. IN THE EVENT THAT DEWATERING IS NECESSARY CONTRACTOR SHALL COMPLY WITH PERMIT PART IV.D. REQUIREMENTS FOR DEWATERING.

THIS SWPPP SHALL BE AMENDED BY THE CONTRACTOR IN ACCORDANCE WITH THE PERMIT AS NECESSARY TO INCLUDE ADDITIONAL REQUIREMENTS TO CORRECT PROBLEMS IDENTIFIED OR ADDRESS SITUATIONS PER PART III.B. OF THE PERMIT.

THE PROJECT MAY DISTURB 5 OR MORE ACRES THAT PROMOTE DRAINAGE TO A COMMON LOCATION. THEREFORE A TEMPORARY SEDIMENT BASIN MAY BE REQUIRED. THIS SWPPP SHALL BE AMENDED BY THE CONTRACTOR IN ACCORDANCE WITH THE GENERAL PERMIT TO INCLUDE TEMPORARY SEDIMENTATION BASINS. BASINS SHALL BE DESIGNED TO ACCOMMODATE NO LESS THAN 3,600 CUBIC FEET OF LIVE STORAGE PER ACRE OF CONTRIBUTING DRAINAGE AREA. BASIN OUTLETS SHALL BE DESIGNED TO WITHDRAW WATER FROM THE SURFACE OF THE BASIN, PREVENT SHORT-CIRCUITING AND THE DISCHARGE OF FLOATING DEBRIS. BASINS SHALL HAVE A STABILIZED EMERGENCY OVERFLOW LOCATION AND BE DESIGNED TO PREVENT THE DISCHARGE OF POLLUTANTS TO THE EXTENT PRACTICAL.

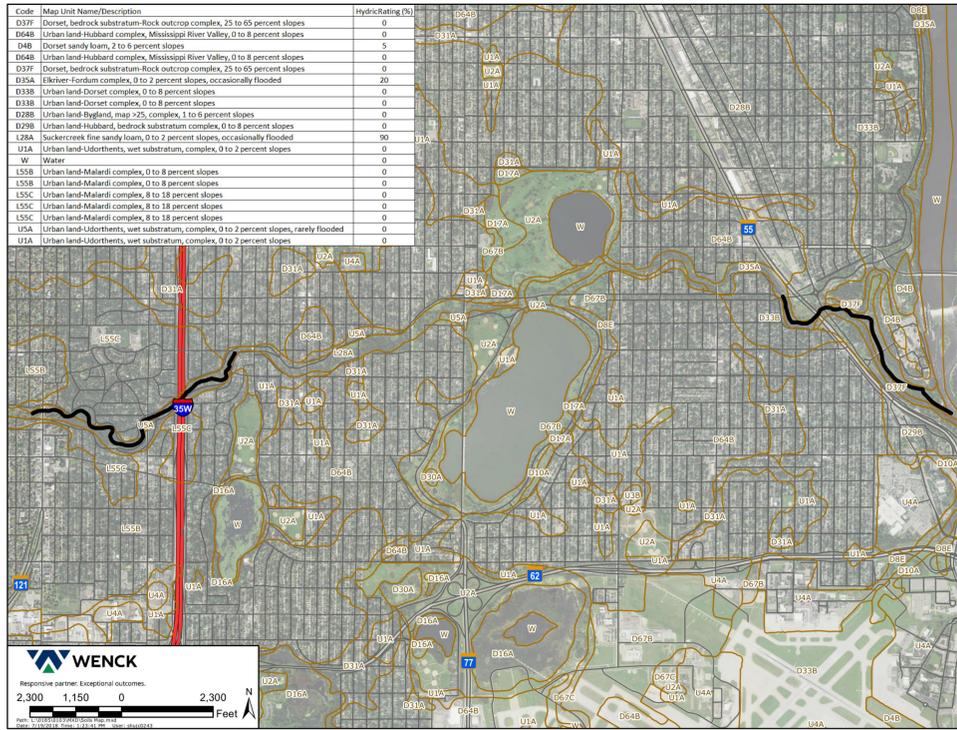
FINAL STABILIZATION

ALL PERVIOUS AREAS DISTURBED BY CONSTRUCTION AS DESIGNATED WILL RECEIVE VEGETATIVE COVER ACCORDING TO THE PLANS AND SPECIFICATIONS AND WITHIN THE SPECIFIED VEGETATIVE TIME SCHEDULE. FINAL STABILIZATION WILL OCCUR WHEN THE SITE HAS A UNIFORM VEGETATIVE COVER WITH A DENSITY OF 70% OVER THE RESTORED PERVIOUS AREAS. ALL TEMPORARY SYNTHETIC EROSION PREVENTION AND SEDIMENT CONTROL BMPs (SUCH AS SILT FENCE) MUST BE REMOVED AS PART OF THE SITE FINAL STABILIZATION. ALL SEDIMENT MUST BE CLEANED OUT OF CONVEYANCES AND TEMPORARY SEDIMENTATION BASINS IF APPLICABLE. NOTICE OF TERMINATION (NOT) MUST BE SUBMITTED WITHIN 30 DAYS OF FINAL STABILIZATION.



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SOIL MAP



WENCK
7500 OLSON MEMORIAL HWY, SUITE 300
GOLDEN VALLEY, MN 55427
PHONE: 763-252-6800
FAX: 952-831-1288
WWW.WENCK.COM

SUB CONSULTANT:
inter-fluve

CLIENT:
MINNEHAHA CREEK WATERSHED DISTRICT
QUALITY OF WATER, QUALITY OF LIFE

PROJECT TITLE:
2018 FEMA FLOODWAY REPAIRS
MINNEAPOLIS, MN

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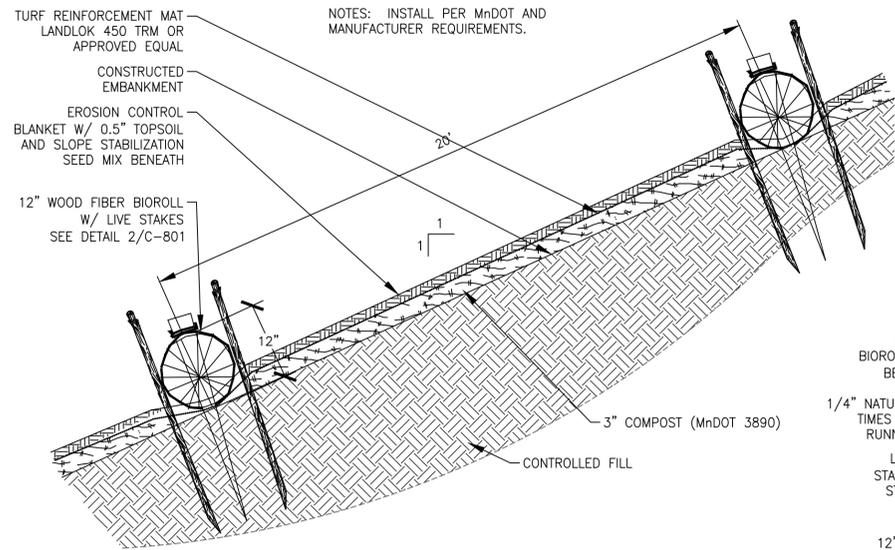
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PROJECT NO.: 0185-0103
DWN BY: SJB
CHKD BY: MUS
APPD BY: CM
ISSUE DATE: DATE
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SHEET TITLE: SWPPP

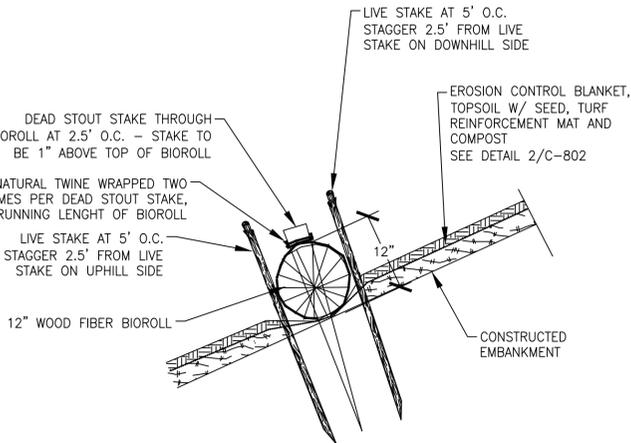
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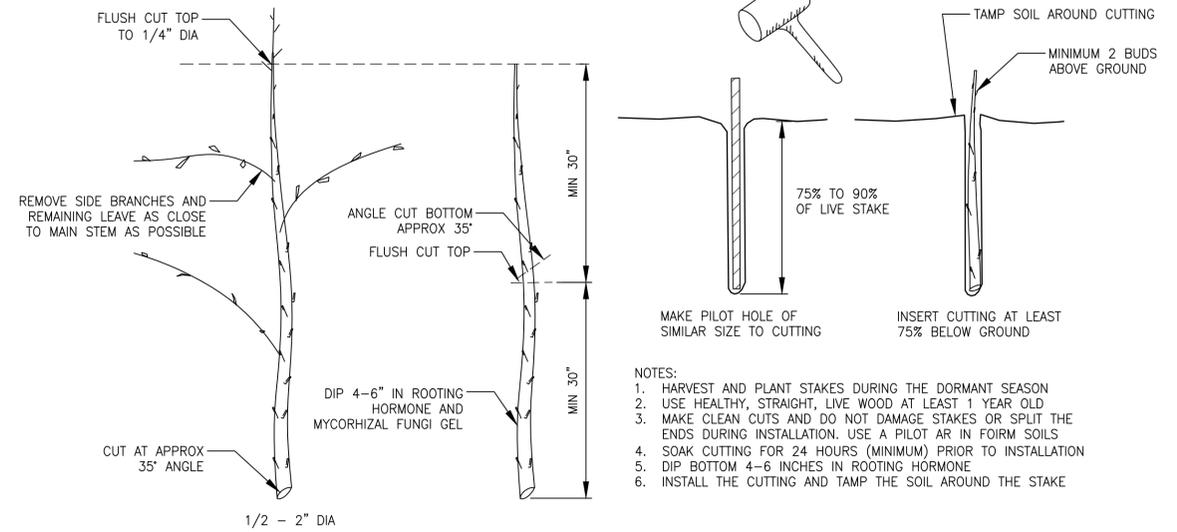
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SECTION

NOTES: ALL LIVE STAKES REQUIRE MACHINE DRIVEN PILOT HOLE. SEE DETAIL 2/C-800 FOR HARVEST AND INSTALLATION.

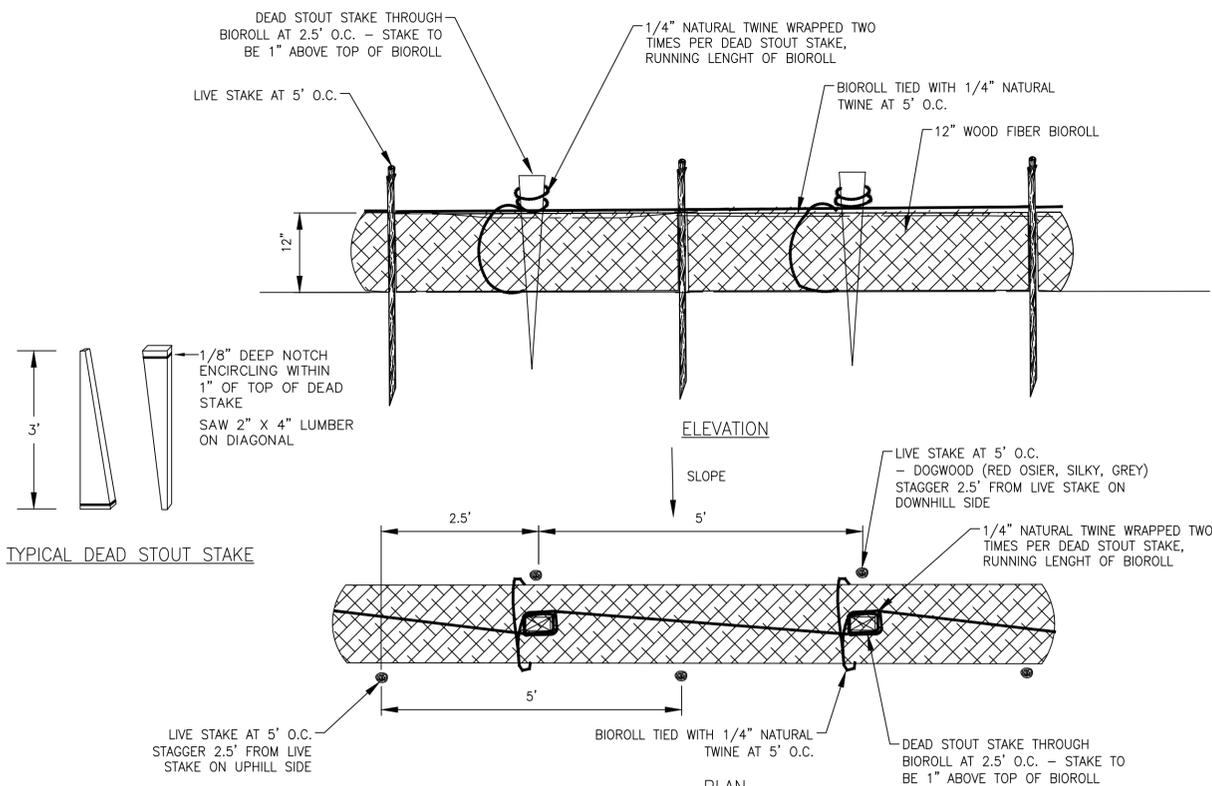


LIVE STAKE HARVEST AND INSTALLATION

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- NOTES:
1. HARVEST AND PLANT STAKES DURING THE DORMANT SEASON
 2. USE HEALTHY, STRAIGHT, LIVE WOOD AT LEAST 1 YEAR OLD
 3. MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT THE ENDS DURING INSTALLATION. USE A PILOT AR IN FOIRM SOILS
 4. SOAK CUTTING FOR 24 HOURS (MINIMUM) PRIOR TO INSTALLATION
 5. DIP BOTTOM 4-6 INCHES IN ROOTING HORMONE
 6. INSTALL THE CUTTING AND TAMP THE SOIL AROUND THE STAKE



TYPICAL DEAD STOUT STAKE

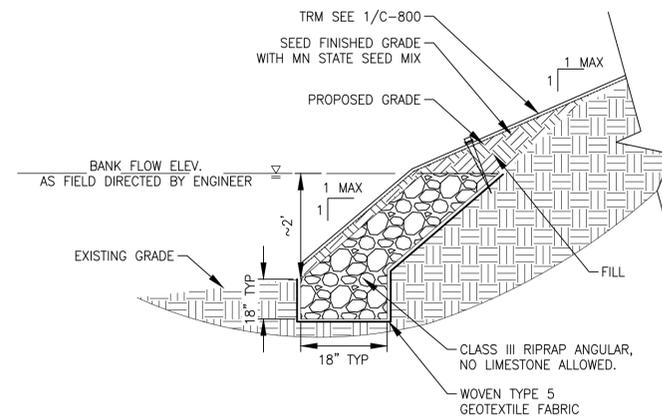
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PLAN

BIOROLL W/ LIVE STAKES

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CLASS III VEGETATED RIPRAP TOE DETAIL

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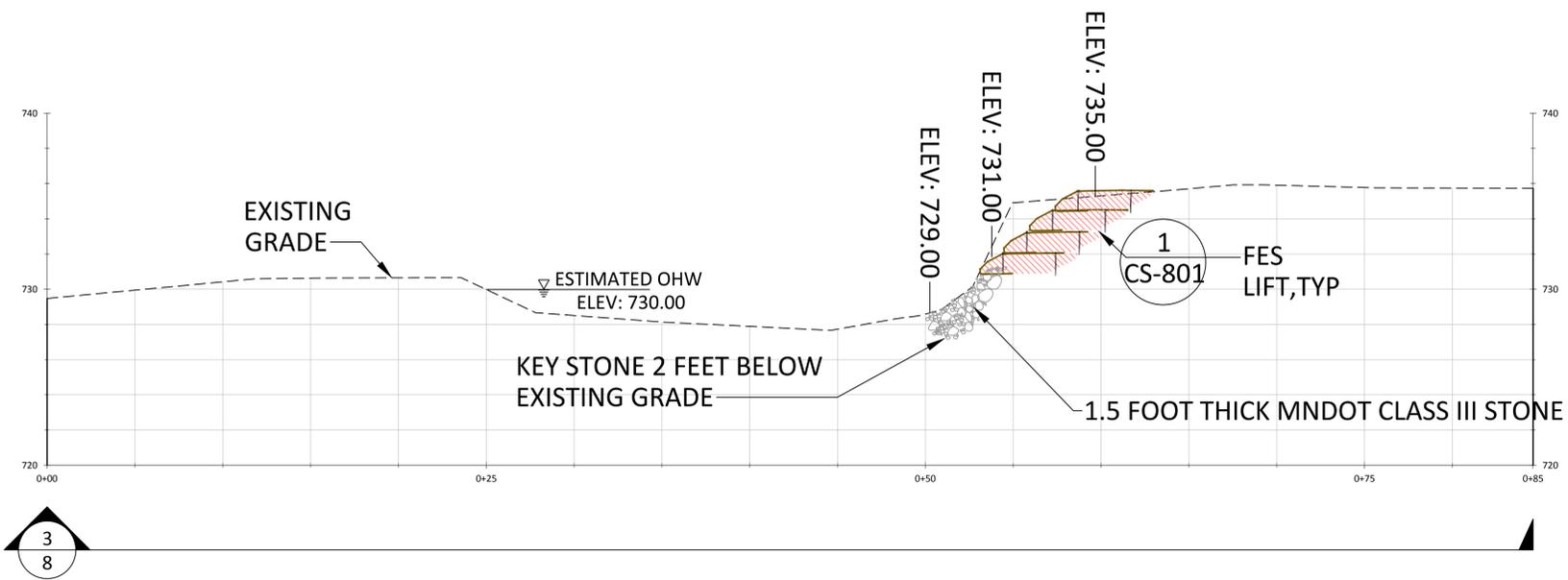
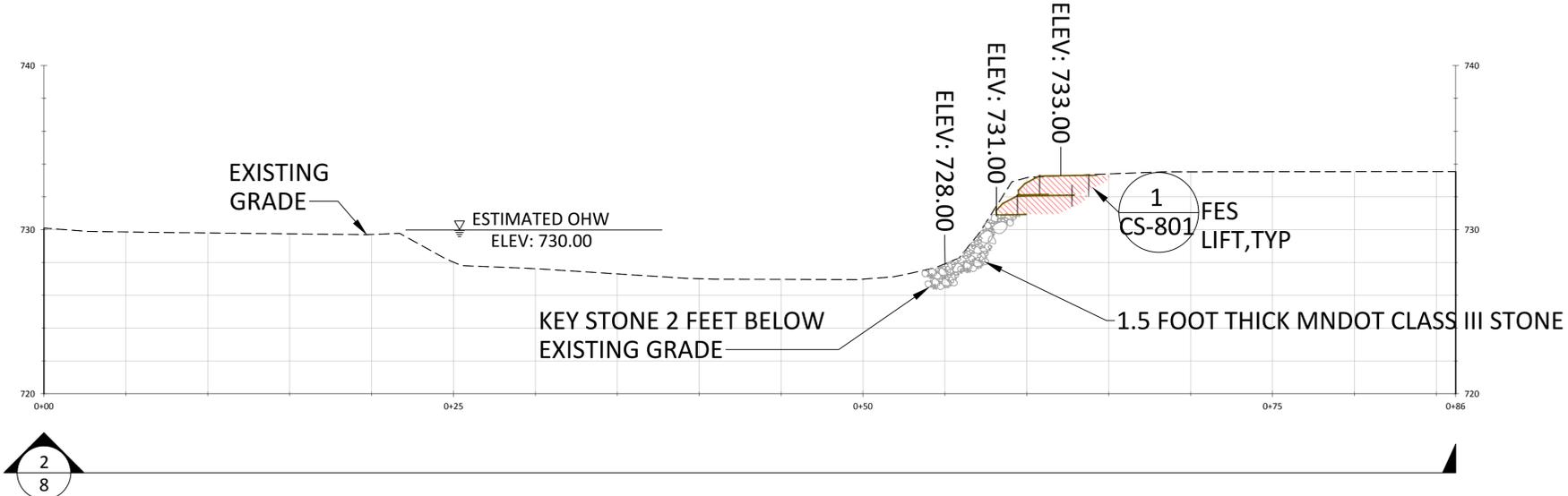
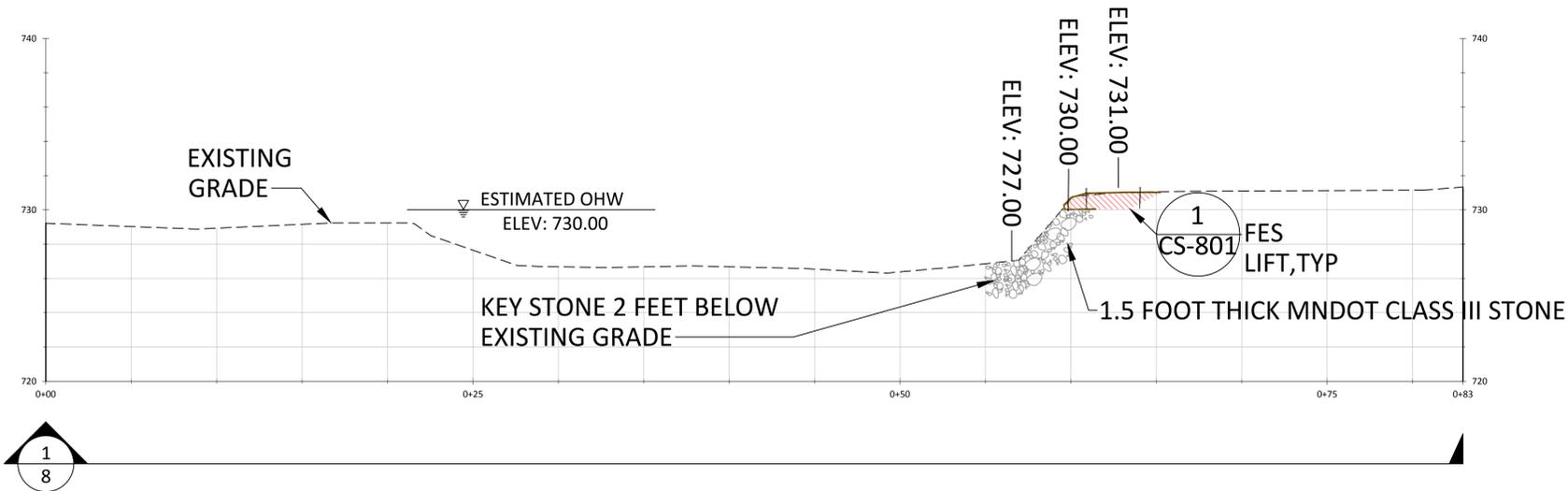
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Signature: _____
 Date: _____

PROJECT NO.: 0185-0103

DWN BY: SM, GS	CHKD BY: BC	APPD BY: JK
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ISSUE DATE: 7/23/2018

ISSUE NO.: ISSUE #

SHEET TITLE:
 CROSS SECTIONS - PROJECT 8

SHEET NO.:
CS-101

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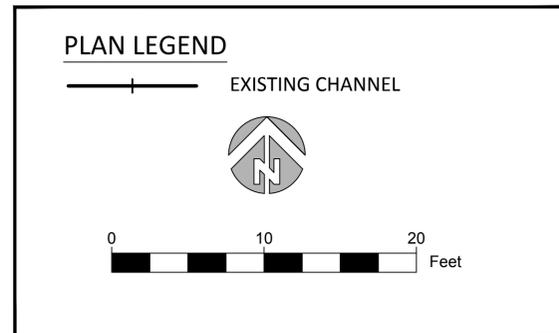


Project Area 26

CONSTRUCTION SEQUENCING

1. ISOLATE WORK AREA AND DE-WATER
2. CLEAR AND GRUB BANK TO REMOVE VEGETATION AND ORGANIC SOIL
3. PREPARE THE BANK BY EXCAVATING TO THE ELEVATIONS AS DEPICTED ON THE PLANS AND AS STAKED IN THE FIELD (DIMENSIONS MAY VARY)
4. EXCAVATE THE SUBGRADE AT TOE TO 2 FOOT BELOW EXISTING GRADE
5. PLACE A 1 FOOT THICK LAYER OF MNDOT CLASS II STONE TO THE ELEVATIONS AS DEPICTED ON THE PLANS AND AS STAKED IN THE FIELD
6. CONSTRUCT FABRIC ENCAPSULATED LIFTS TO THE ELEVATIONS AS DEPICTED ON THE PLANS AND AS STAKED IN THE FIELD
7. REVEGETATE THE DISTURBED AREA AS DESCRIBED IN THE TECHNICAL SPECIFICATIONS

CONSTRUCTION ELEVATIONS		
STATION	ROCK ELEV	FES ELEV
5+30	828.00	830.00
5+45	827.00	829.00
5+60	827.50	828.50



WENCK
 7500 OLSON MEMORIAL HWY, SUITE 300
 GOLDEN VALLEY, MN 55427
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 FAX: 952-931-1288
 WWW.WENCK.COM

SUB CONSULTANT:

CLIENT:
MINNEHAHA CREEK
 WATERSHED DISTRICT
 QUALITY OF WATER, QUALITY OF LIFE

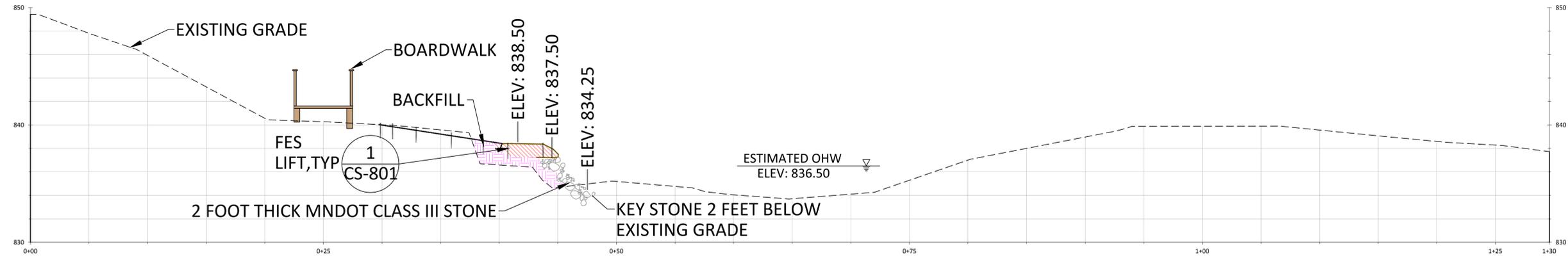
PROJECT TITLE:
2018 FEMA
FLOODWAY REPAIRS
 MINNEAPOLIS, MN

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 ISSUE DATE: 7/23/2018
 SHEET TITLE:
 SITE PLAN - PROJECT 26
 SHEET NO.:
CS-102

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SHEET TITLE:
CROSS SECTIONS - PROJECT 34

SHEET NO.:
CS-106



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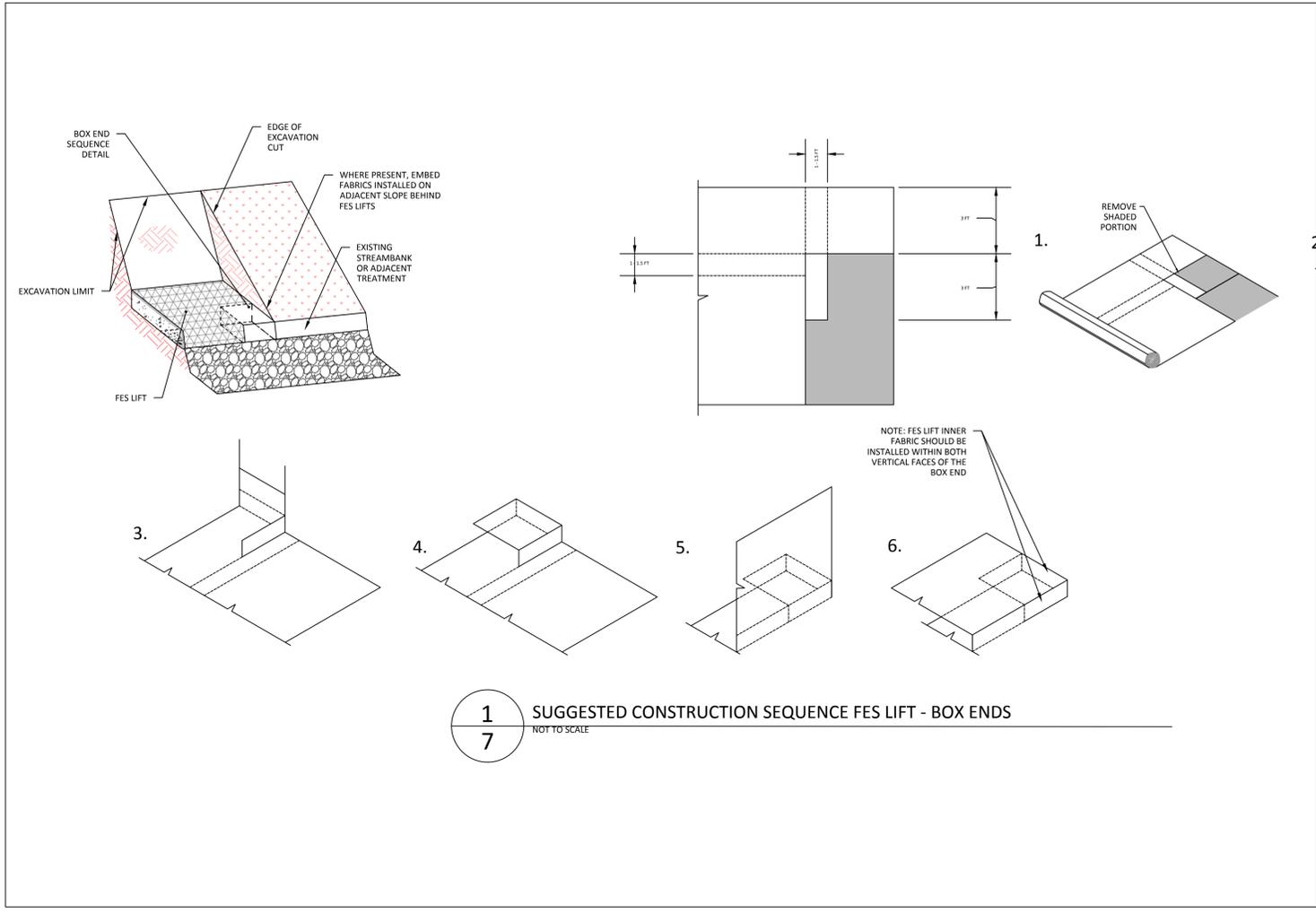
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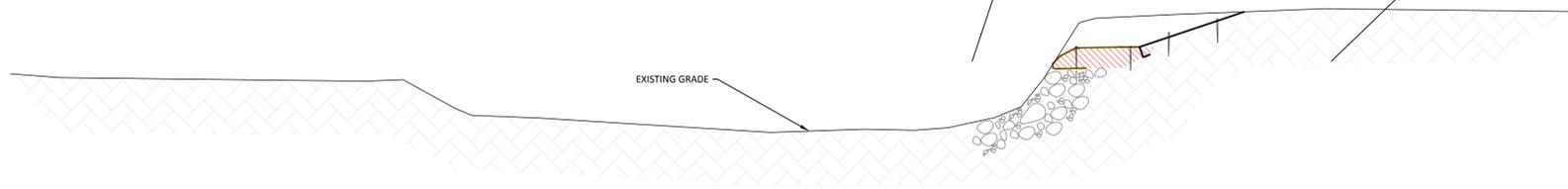
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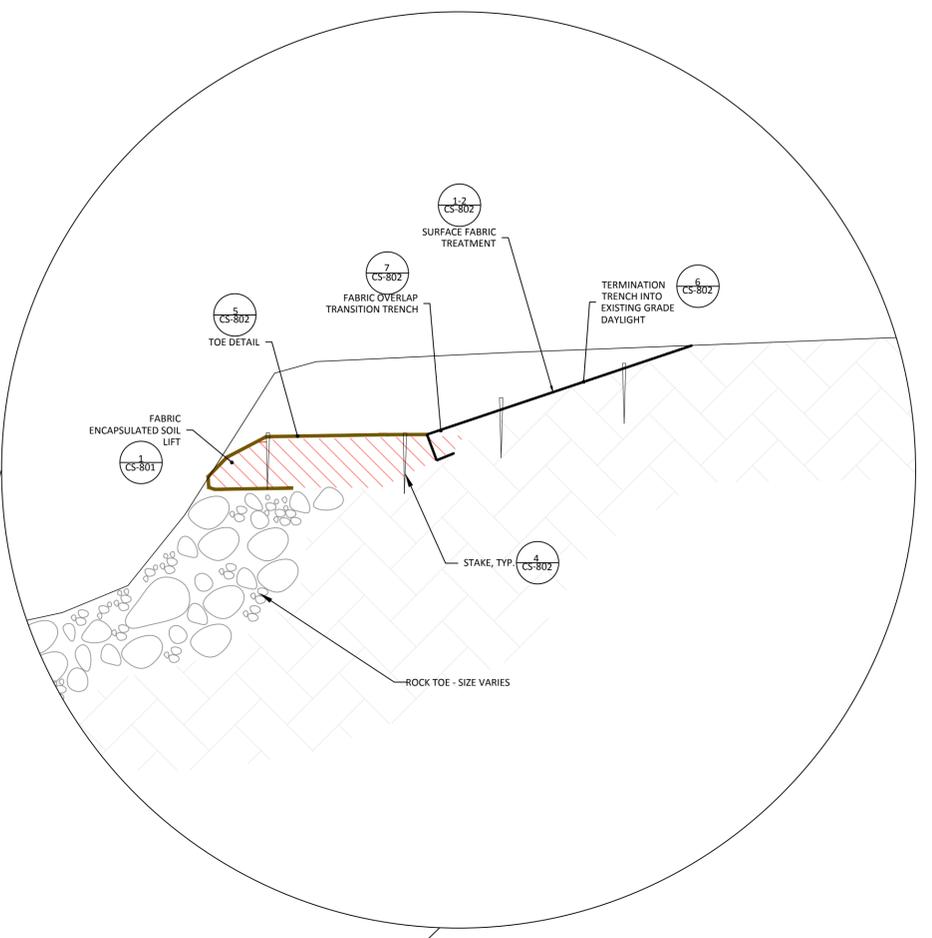
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TYPICAL CROSS SECTION
SHEET NO.: **CS-800**

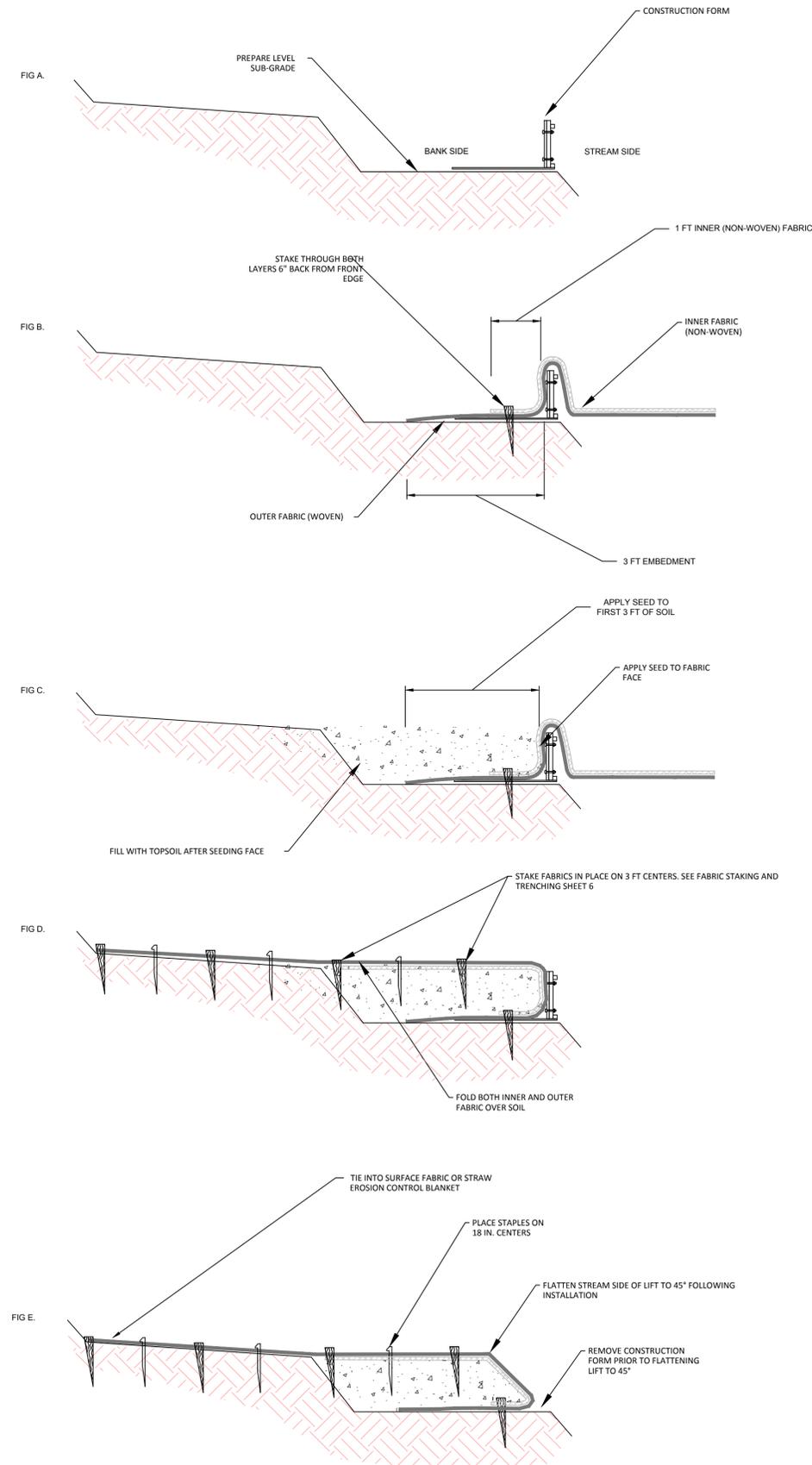


1
7
SUGGESTED CONSTRUCTION SEQUENCE FES LIFT - BOX ENDS
NOT TO SCALE



2
7
BANK TREATMENT
TYPICAL SECTION
SCALE: 1" = 5'





GENERAL INSTRUCTIONS FOR FABRIC ENCAPSULATED LIFTS

1. BANKS MAY BE CONSTRUCTED IN EITHER AN UPSTREAM OR DOWNSTREAM DIRECTION, AS LONG AS THE FABRIC IS OVERLAPPED IN THE PROPER DIRECTION.
2. PLACE A SERIES OF THREE OR MORE FORMS ON THE GROUND SO THAT THE FORMS FOLLOW THE PROPOSED STREAM BANK ALIGNMENT. BUTT THE ENDS OF THE FORMS
3. UNROLL THE OUTER FABRIC PARALLEL TO THE LONG AXIS OF THE CHANNEL AND POSITION IT SO THAT 3 FEET EXTENDS FOR EMBEDMENT ON THE BANK SIDE OF THE FOR
4. UNROLL THE INNER FABRIC OVER THE TOP OF THE WOVEN COIR FABRIC (FIG B) AND POSITION IT SO THAT AT LEAST 1 FOOT OF THE INNER FABRIC EXTENDS AS AN EMBED
5. APPLY NATIVE SEED MIX TO INNER FABRIC ALONG VERTICAL EDGE OF LIFT (FIG C). PLACE TOPSOIL/CHANNEL BANK STONE OVER THE FABRIC ON THE BANK SIDE OF THE FO
6. APPLY NATIVE SEED MIX TO TOP OF FILL (FIG C).
7. FOLD THE LOOSE ENDS OF THE TWO COIR FABRIC LAYERS BACK OVER THE COMPACTED FILL MATERIAL AND STRETCH TIGHTLY TO REMOVE WRINKLES (FIG D). SECURE WI
8. REMOVE THE FORMS FROM THE FRONT OF THE COMPLETED LIFTS (FIG. 2). LEAVE THE LAST FORM IN PLACE AT THE END OF THE NEWLY CONSTRUCTED LIFT (FIG. 2).
9. WHERE THE TOP OF THE LIFT MEETS THE GROUND SURFACE, EXCAVATE A KEY TRENCH 1 FOOT DEEP ALONG THE EDGE OF THE OUTER FABRIC LAYER, PARALLEL TO THE FO
10. SUPPLEMENT LIFT STAKING WITH ADDITIONAL WOODEN STAPLES ON 18" CENTERS EXCEPT WHERE WOODEN STAKES HAVE ALREADY BEEN PLACED.

SUGGESTED SEQUENCE FOR PLACEMENT OF FORMS

PROFILE VIEW LOOKING INTO BANK



FIG 1. PLACE A ROW OF CONSTRUCTION FORMS ALONG DESIRED CHANNEL ALIGNMENT FOR FIRST FES LIFT.

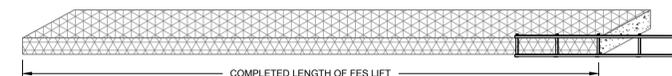


FIG 2. CONSTRUCT FES LIFTS ALONG LENGTH OF FIRST SET OF FORMS AND THEN BEGIN PLACEMENT OF FORMS AND CONSTRUCTION OF SECOND LIFT.

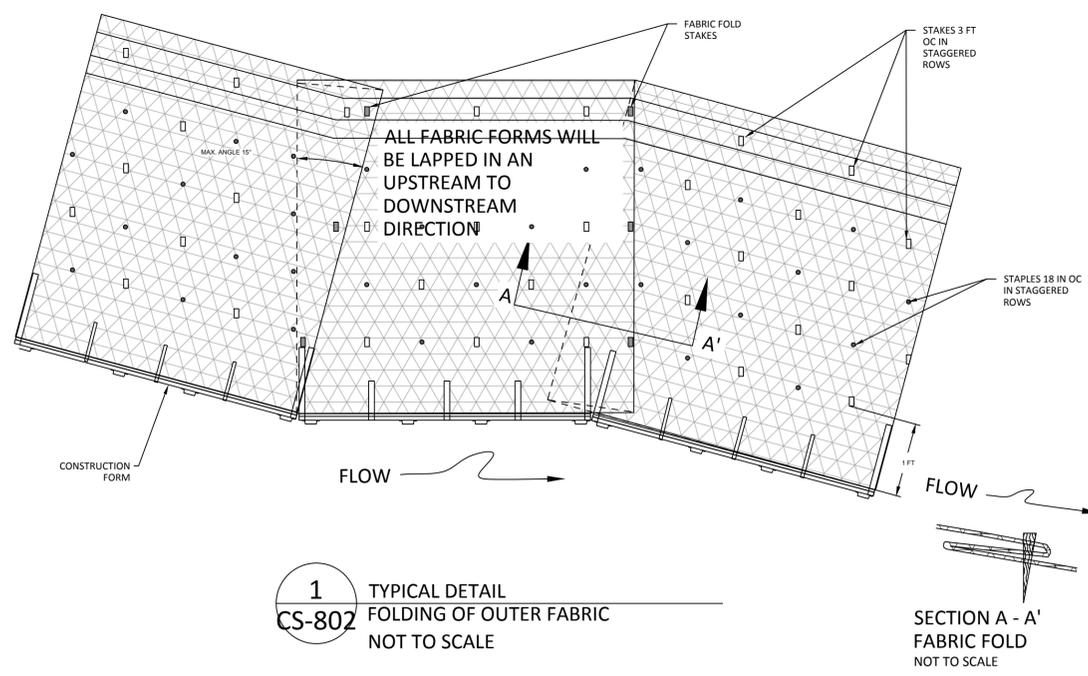


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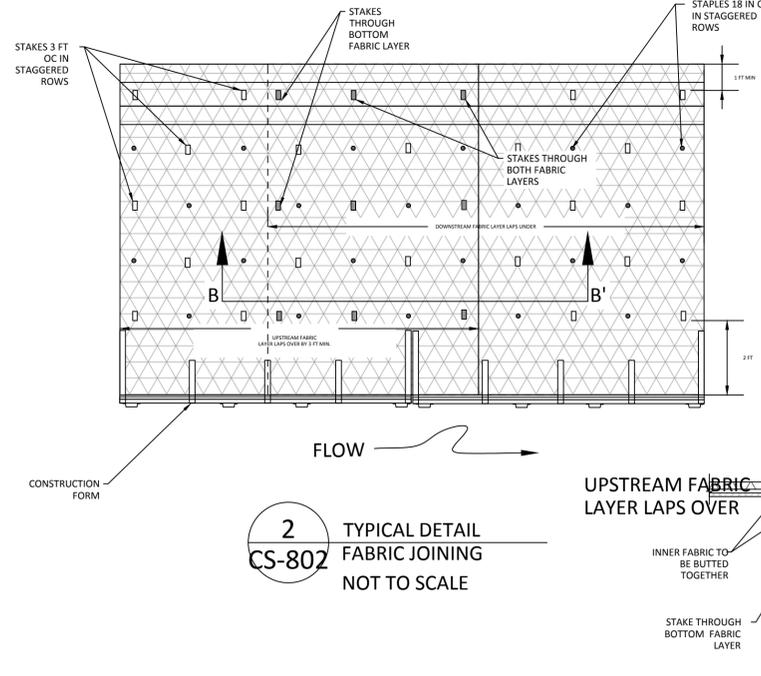


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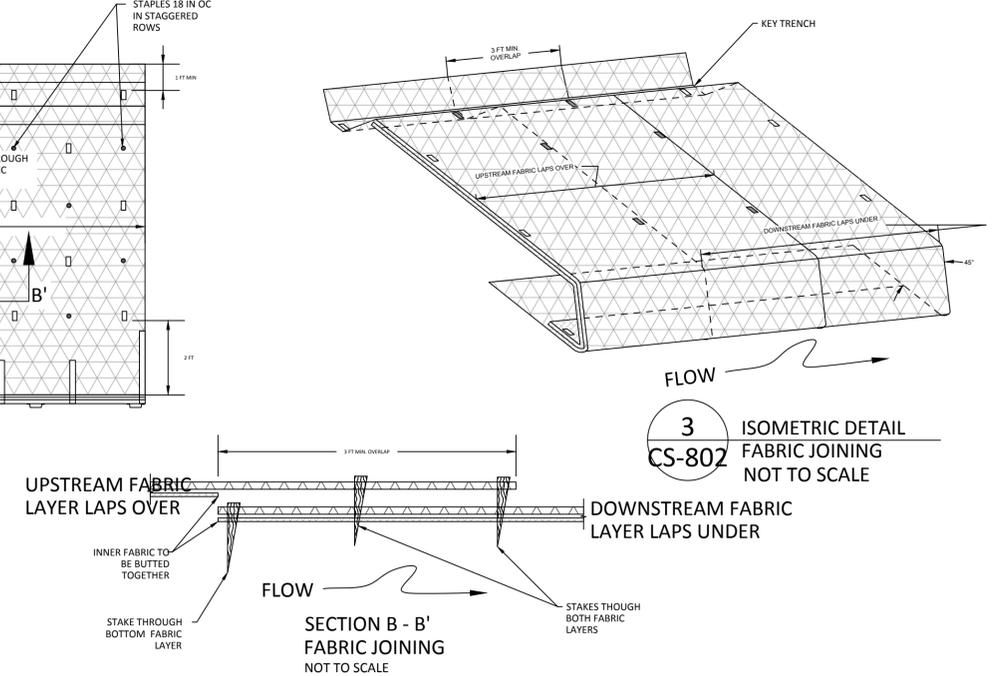


1 TYPICAL DETAIL
CS-802 FOLDING OF OUTER FABRIC
NOT TO SCALE

SECTION A - A'
FABRIC FOLD
NOT TO SCALE

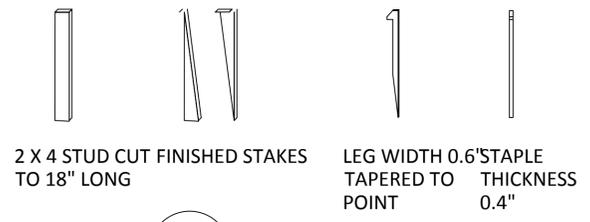


2 TYPICAL DETAIL
CS-802 FABRIC JOINING
NOT TO SCALE

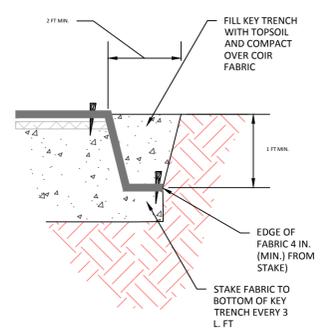


3 ISOMETRIC DETAIL
CS-802 FABRIC JOINING
NOT TO SCALE

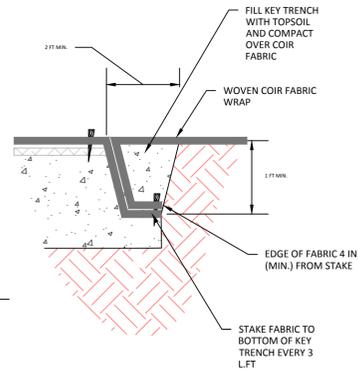
SECTION B - B'
FABRIC JOINING
NOT TO SCALE



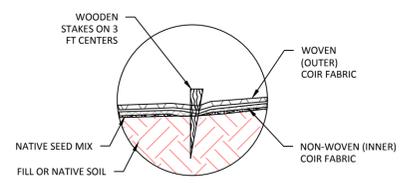
4 WOODEN STAKE AND STAPLES
CS-802 FABRICATING DETAIL
NOT TO SCALE



6 KEY TRENCH DETAIL
CS-802 TERMINATION TRENCH
NOT TO SCALE



7 KEY TRENCH DETAIL
CS-802 TRANSITION TRENCH
NOT TO SCALE



5 TOE DETAIL
CS-802 BIODEGRADABLE FABRICS AND STAKES
NOT TO SCALE

GENERAL NOTES ON SECURING COIR FABRIC

1. SECURE THE OUTER FABRIC (WOVEN, WHERE APPLICABLE), WITH A WOODEN STAKE THROUGH THE FABRIC ON 3 FT CENTERS (SEE DETAIL VIEW 2)
NOTE: THE HOLES FOR STAKES SHALL NOT BE PRECUT. ALLOW THE STAKE TO BREAK THE MINIMUM NUMBER OF STRANDS AS IT IS BEING DRIVEN IN. DRIVE STAKES SO THAT 2" TO 3" OF THE TOP OF THE STAKE IS LEFT EXPOSED.
2. OUTER FABRIC ENDS SHALL BE JOINED BY LAPPING THE UPSTREAM PIECE OF FABRIC OVER THE DOWNSTREAM PIECE AS SHOWN IN SECTION B-B. OVERLAPS SHALL BE A MINIMUM OF 3 FT, INNER FABRIC ENDS SHALL BE BUTTED TOGETHER, NOT OVERLAPPED. OVERLAPS SHALL BE STAGGERED FROM LIFT TO LIFT.
3. STAKE AND STAPLE SPACING IS DEFINED IN SPECIFICATIONS FOR FES LIFT AND SURFACE FABRIC.