

MINNEAPOLIS PARK & RECREATION BOARD LAKE NOKOMIS SHORELINE ENHANCEMENT

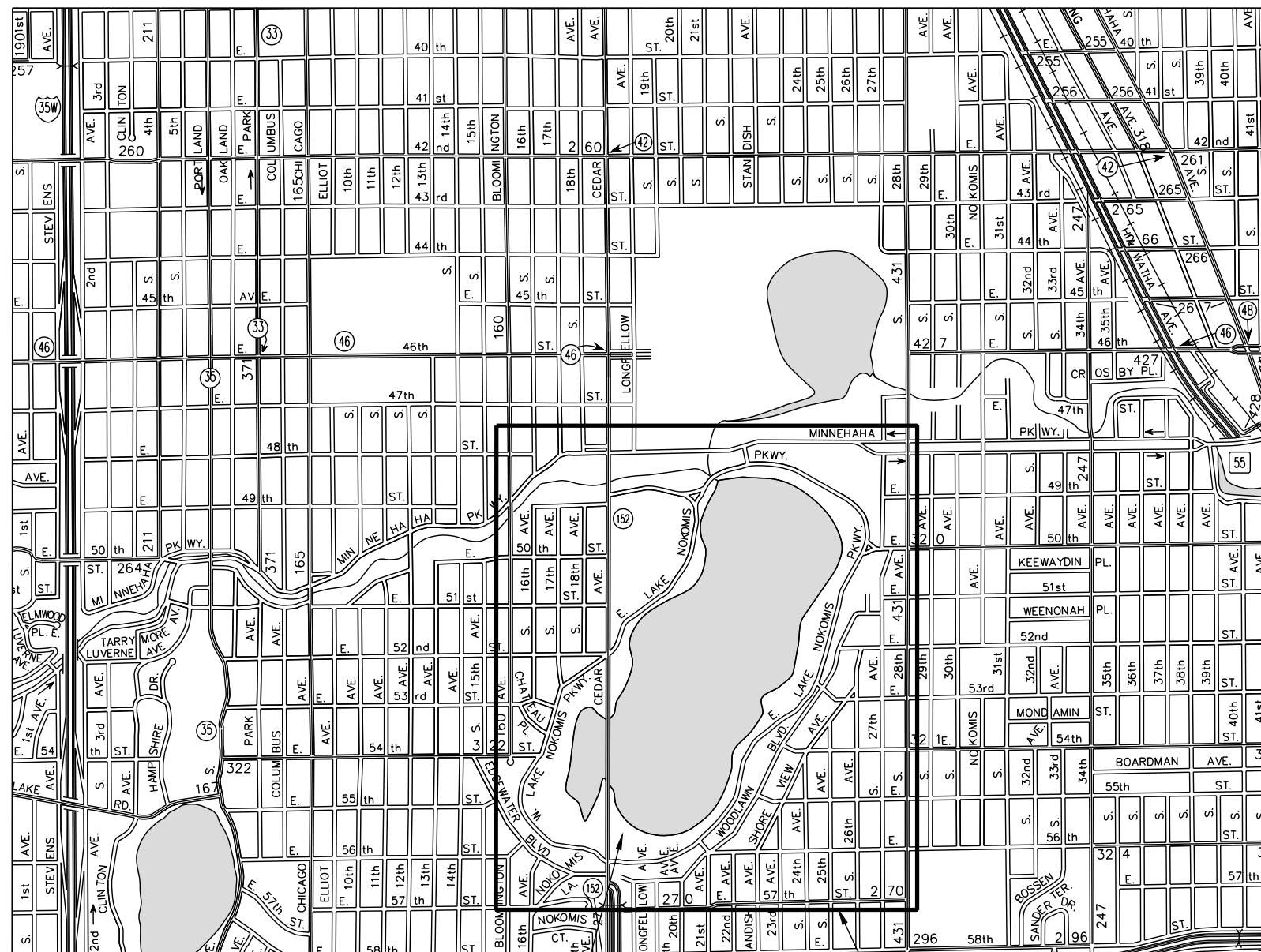
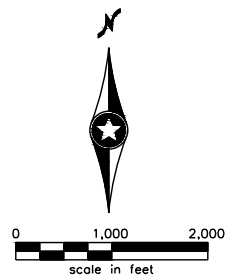
CONSTRUCTION PLANS FOR SHORELINE STABILIZATION, STORMWATER OUTFALL REPAIRS, AND LANDSCAPING.

PLAN SYMBOLS

STATE LINE	----
COUNTY LINE	----
TOWNSHIP OR RANGE LINE	----
SECTION LINE	----
QUARTER LINE	----
SIXTEENTH LINE	----
RIGHT-OF-WAY LINE	----
PRESENT RIGHT-OF-WAY LINE	----
CONTROL OF ACCESS LINE	----
PROPERTY LINE (Except Land Lines)	----
VACATED PLATTED PROPERTY	----
CORPORATE OR CITY LIMITS	----
TRUNK HIGHWAY CENTER LINE	----
CONC. RETAINING WALL	----
RAILROAD	----
RAILROAD RIGHT-OF-WAY LINE	----
RIVER OR CREEK	----
DRY RUN	----
DRAINAGE DITCH	----
DRAIN TILE	----
CULVERT	----
DROP INLET	----
GUARD RAIL	----
BARBED WIRE FENCE	----
WOVEN WIRE FENCE	----
CHAIN LINK FENCE	----
RAILROAD SNOW FENCE	----
STONE WALL OR FENCE	----
HEDGE	----
RAILROAD CROSSING SIGN	----
RAILROAD CROSSING BELL	----
ELECTRIC WARNING SIGN	----
CROSSING GATE	----
MEANDER CORNER	----
MAIL BOX	----
SPRINGS	----
MARSH	----
TIMBER ORCHARD	----
BRUSH	----
NURSERY	----
CATCH BASIN	----
FIRE HYDRANT	----
CATTLE GUARD	----
OVERPASS (Highway Over)	----
UNDERPASS (Highway Under)	----
BRIDGE	----
BUILDING (One Story Frame)	----
F-FRAME C-CONCRETE	----
S-STONE T-TILE	----
B-BRICK ST-STUCCO	----
IRON PIPE OR ROD	----
MONUMENT (STONE, CONCRETE, OR METAL)	----
WOODEN HUB	----
GRAVEL PIT	----
SAND PIT	----
BORROW PIT	----
ROCK QUARRY	----

UTILITY SYMBOLS

POWER POLE LINE	----
TELEPHONE OR TELEGRAPH POLE LINE	----
JOINT TELEPHONE AND POWER ON POWER POLES	----
JOINT TELEPHONE AND POWER ON TELEPHONE POLES	----
ANCHOR	----
STEEL TOWER	----
STREET LIGHT	----
PEDESTAL (TELEPHONE CABLE TERMINAL)	----
GAS MAIN	----
WATER MAIN	----
CONDUIT	----
TELEPHONE CABLE IN CONDUIT	----
ELECTRIC CABLE IN CONDUIT	----
TELEPHONE MANHOLE	----
ELECTRIC MANHOLE	----
BURIED TELEPHONE CABLE	----
BURIED ELECTRIC CABLE	----
AERIAL TELEPHONE CABLE	----
SEWER, (SANITARY)	----
SEWER, (STORM)	----
SEWER MANHOLE	----
HANDHOLE	----



LAKE NOKOMIS REGIONAL PARK

PROJECT LOCATION

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MN MUTCD).

CITY OF MINNEAPOLIS 2019 EDITION OF SUPPLEMENTAL SPECIFICATIONS FOR THE CONSTRUCTION OF PUBLIC INFRASTRUCTURE.

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 LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: SEAN C. JERGENS

Sean Jergens

DATE: MARCH 19, 2019

LICENSE #: 47256

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.

PRINT NAME: LEAH GIFFORD

Leah Gifford

DATE: MARCH 22, 2019

LICENSE #: 52263

SHEET INDEX

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THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

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 Landscape Architect under the laws of the State of Minnesota.

Print Name: SEAN C. JERGENS

Sean Jergens

Date: MARCH 22, 2019 License #: 47256



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DESIGNED BY
S. JERGENS
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S. JERGENS
COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD
COVER SHEET/INDEX
LAKE NOKOMIS SHORELINE ENHANCEMENT

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PROVIDE FOR THE REMOVAL AND DISPOSAL OF ANY INPLACE SURFACING, STRUCTURES OR DEBRIS THAT WOULD INTERFERE WITH CONSTRUCTION. ALL SUCH MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL EITHER BE RECYCLED TO THE EXTENT ALLOWED OR DISPOSED OF OFF MPRB PROPERTY AND THE RIGHT OF WAY IN ACCORDANCE WITH SPEC. 2104.3C. PROVIDE FOR SAWCUTTING AS SEEMED NECESSARY BY THE ENGINEER.

ALL RIPRAP MATERIAL SHALL BE GRANITE (NOT LIMESTONE). RIPRAP SHALL BE WASHED OF FINES PRIOR TO DELIVERY TO THE PROJECT SITE. NO WASHING SHALL OCCUR ONCE THE RIPRAP HAS BEEN DELIVERED TO THE SITE. RIPRAP SHALL BE STOCKPILED SUCH THAT NO ADDITIONAL FINES WILL BE PICKED UP DURING TRANSPORT AND PLACEMENT OPERATIONS.

IN ORDER TO PREVENT INVASIVE SPECIES ENTERING LAKE NOKOMIS, IT IS IMPORTANT THAT ALL EQUIPMENT BEING USED ON THE PROJECT IS DECONTAMINATED FOR INVASIVE AND EXOTIC VIRUSES AND SPECIES PRIOR TO AND AFTER USE. DECONTAMINATION INCLUDES INSPECTING ALL EQUIPMENT AND REMOVING ALL AQUATIC PLANTS, ANIMALS, AND MUD, DRAINING ALL WATER FROM EQUIPMENT THAT COMES INTO CONTACT WITH INFECTED WATERS, DISPOSING OF ALL AQUATIC PLANTS AND ANIMALS IN THE TRASH, AND WASHING ALL EQUIPMENT WITH HOT (>104 F) AND/OR PRESSURIZED WATER OR ALLOWING EQUIPMENT TO THOROUGHLY DRY FOR FIVE DAYS. THE PREVIOUS GUIDANCE NOTWITHSTANDING, THE CONTRACTOR IS RESPONSIBLE TO FOLLOW THE MnDNR'S LATEST VERSION OF "BEST PRACTICES FOR PREVENTING THE SPREAD OF AQUATIC INVASIVE SPECIES". LAKE NOKOMIS HAS IDENTIFIED AQUATIC INVASIVE SPECIES. ALL EQUIPMENT SHALL BE CLEANED ON SITE BEFORE BEING TRANSPORTED UNLESS A PERMIT HAS BEEN OBTAINED BY MnDNR.

SITE ENTRY/ACCESS:

ALL ACCESS INTO PARK MUST BE FROM AN ACCESS POINT THAT IS APPROVED BY THE OWNER AND THE ENGINEER AT THE PRE-CONSTRUCTION MEETING. NO LARGE TRUCK AND TRAILER TRAFFIC MAY GO PAST THIS POINT. UNLOADING CAN OCCUR IN PARKING LOT AREAS AS DESIGNATED IN THE PLANS. WEIGHT LIMIT FOR VEHICLES AS PRESCRIBED IN MPRB PERMIT. ALL VEHICLES ON TURF MUST BE RUBBER TRACKED AND ANY TREES ALONG THE TURF ROUTE MUST BE PROTECTED PER MPRB GUIDELINES AND SPECIFICATIONS.

PARKING IS AVAILABLE ON STREET ONLY. NO PARKING IN PARK. NO PARKING ON TURF OR TRAIL AREAS.

TREE PROTECTION NOTES:

PROTECT ALL TREES IN IMMEDIATE VICINITY OF WORK. NO PARKING VEHICLES OR EQUIPMENT UNDER DRIP LINES OF TREES. TREE PROTECTION IS TO BE EITHER SNOW OR CONSTRUCTION FENCE OF 4' HEIGHT WITH POSTS 8' O.C. WITH 2" MIN. BURY AT THE DRIPLINE OR OUTERMOST BRANCHES. FENCE MUST ENCIRCLE TREE WITHIN CONSTRUCTION LIMITS. TREE PROTECTION FENCING SHALL BE CONSIDERED INCIDENTAL TO GRADING OPERATIONS,

CONTROL

ALL COORDINATES ARE IN THE HENNEPIN COUNTY COORDINATE SYSTEM, NGVD 29.

BENCHMARKS

- 1) TOP OF CONCRETE LIGHT POLE BASE AT INTERSECTION OF SOUTH 22ND AVE AND WEST LAKE NOKOMIS PARKWAY, ELEVATION = 822.18 FT
- 2) TOP OF CONCRETE LIGHT POLE BASE, EAST SIDE OF PARKING LOT ON NORTH SIDE OF LAKE NOKOMIS, ELEVATION = 819.46 FT
- 3) TOP OF CONCRETE LIGHT POLE BASE, SOUTH OF INTERSECTION OF EAST LAKE NOKOMIS PARKWAY AND 50TH STREET, ELEVATION = 819.46 FT
- 4) DOUBLE SPIKE IN SIGN ON EAST SIDE OF LAKE, ELEVATION = 819.02 FT

STABILIZATION AND SEDIMENT CONTROL NOTES:

THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs SHALL BE PLACED AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY REMOVAL WORK AND/OR GROUND DISTURBING ACTIVITIES AND SHALL BE MAINTAINED UNTIL THE POTENTIAL FOR EROSION HAS BEEN ELIMINATED. IF SEDIMENT CONTROLS ARE OVERLOADED (BASED ON FREQUENT FAILURE OR EXCESSIVE MAINTENANCE), ADDITIONAL UPGRADIENT OR REDUNDANT BMPs SHALL BE PLACED.

SEDIMENT CONTROL DEVICES SHALL BE ESTABLISHED ON ALL DOWN GRADIENT PERIMETERS BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITIES BEGIN. SEDIMENT CONTROL DEVICES AND BEST MANAGEMENT PRACTICES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- FLOTATION SILT CURTAIN SHALL BE USED AS PERIMETER CONTROL FOR WORK BELOW THE WATERLINE WHERE WATER DEPTH IS > 2 FT. THE CURTAIN SHALL BE CONSTRUCTED AND MAINTAINED PER "PROTECTING WATER QUALITY IN URBAN AREAS" (MPCA, 2000). IF WATER DEPTH IS < 2 FT. DEEP, CONTRACTOR MAY USE SILT FENCE TYPE TB PER MNDOT STANDARD PLAN 5-297.405 AND THE SPECIFICATIONS. IMMEDIATELY AFTER THE CONSTRUCTION IN THE AREA IS COMPLETE, UPLAND BMPs SHALL BE PLACED IF EXPOSED SOILS CONTINUE TO DRAIN TO THE LAKE.
- FLOTATION SILT CURTAIN AND ANY EQUIPMENT OR MACHINERY THAT WILL ENTER THE WATER FOR IN-WATER OPERATIONS SHALL BE DECONTAMINATED PER DNR PROTOCOLS BOTH PRIOR TO USE AND FOLLOWING USE ON THIS PROJECT.
- PAVEMENT SURFACES SHALL BE SWEEPED WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKING ONTO PAVEMENT. PAVEMENT SHALL BE LIGHTLY WETTED PRIOR TO SWEEPING.
- INITIATE STABILIZATION OF ALL EXPOSED SOIL AREAS IMMEDIATELY AFTER CONSTRUCTION ACTIVITY ON THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN NO MORE THAN 7 DAYS. ALL EXPOSED SOIL DRAINING TO THE LAKE DURING SPECIFIED FISH SPAWNING TIME FRAMES (APRIL 1-JUNE 30), SHALL BE STABILIZED WITHIN 24 HOURS.
- THE CONTRACTOR SHALL PLACE STABILIZED CONSTRUCTION MATS OR PADS, AS NECESSARY, TO PREVENT TRACKING SEDIMENT INTO THE LAKE DURING IN-WATER OPERATIONS. SEE PLANS AND SPECIAL PROVISIONS FOR DETAILS.

UTILITIES

- THE CONTRACTOR IS RESPONSIBLE UNDER STATE LAW TO CONTACT ALL UTILITIES THAT MAY HAVE FACILITIES IN THE AREA. CONTACT MUST BE MADE THROUGH GOPHER STATE ONE-CALL. CONTACT GOPHER STATE ONE CALL AT 651-454-0002 (800-252-1166) FOR PRECISE ONSITE LOCATION OF UTILITIES PRIOR TO ANY EXCAVATION.
- UTILITIES COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.
- UTILITY INFORMATION IN THE PLANS WERE PROVIDED BY THE SURVEYOR. REQUEST SURVEY INFORMATION FROM ENGINEER OR OWNER FOR UTILITY AUTHORITY AND GSOC TICKET INFORMATION.
- REFER TO SPECIFICATION SECTION 020100 EXISTING UTILITIES.

GENERAL EROSION CONTROL NOTES:

A FORMAL NPDES PERMIT IS NOT REQUIRED FOR THIS PROJECT, BUT A SWPPP HAS BEEN PREPARED. SEE SHEETS 24 AND 25 FOR SWPPP. THE CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION STORMWATER PERMIT AT ALL TIMES. THE CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATIONS ON THE SITE TO ENSURE THAT THE PERMIT CONDITIONS ARE IMPLEMENTED. COMPLIANCE SHALL STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE AND THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION.

THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN IN THE PLANS AND AS REQUIRED TO PREVENT SILT MIGRATION PRIOR TO BEGINNING CONSTRUCTION.

THE CONTRACTOR SHALL PLACE STABILIZED CONSTRUCTION EXITS AND SLASH MULCH PADS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES OR THE LAKE AND IN COMPLIANCE WITH PART IV.C. OF THE NPDES PERMIT. STABILIZED CONSTRUCTION EXITS SHALL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT. THE CONTRACTOR SHALL REMOVE THE ACCESS DRIVE AND RESTORE ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND ACCESS UPON COMPLETION OF CONSTRUCTION.

DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS OBTAIN WRITTEN PERMISSION PRIOR TO PROCEEDING. PRESERVE ALL BUFFERS AND AREAS DELINEATED AS "LIMITED COMPACTION" SHOWN ON THE PLANS.

PAVEMENT SURFACES SHALL BE SWEEPED WITHIN 24 HOURS OF DISCOVERY OF SEDIMENT OR TRACKED ONTO PAVEMENT. PAVEMENT SHALL BE LIGHTLY WETTED PRIOR TO SWEEPING.

TEMPORARY SOIL STOCKPILES MUST HAVE EFFECTIVE SEDIMENT CONTROL AND CANNOT BE PLACED IN SURFACE WATERS OR STORM WATER CONVEYANCE SYSTEMS. TEMPORARY STOCKPILES WITHOUT SIGNIFICANT AMOUNT OF SILT, CLAY, OR ORGANIC COMPOUNDS ARE EXEMPT. EX: CLEAN AGGREGATE STOCK PILES, DEMOLITION CONCRETE STOCKPILES, SAND STOCKPILES.

FINAL STABILIZATION REQUIRES THAT ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED AND THAT DISTURBED AREAS ARE STABILIZED BY A UNIFORM PERENNIAL VEGETATION COVER WITH 70% OF THE EXPECTED FINAL DENSITY, AND THAT ALL PERMANENT PAVEMENTS HAVE BEEN INSTALLED. ALL TEMPORARY BMP'S SHALL BE REMOVED.

THE CONTRACTOR SHALL FOLLOW DEPARTMENT OF NATURAL RESOURCES (DNR) GUIDELINES FOR WORK BELOW THE WATER SURFACE OR THE ORDINARY HIGH WATER LEVEL (OHWL).

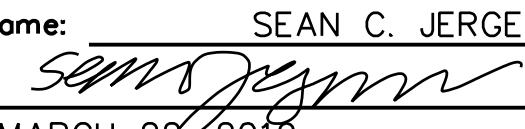
DECOMPACTION OF ALL AREAS THAT WILL RECEIVE VEGETATIVE COVER SHALL FOLLOW MN/DOT 2574 SUBSOILING AND THE SPECIAL PROVISIONS. SEE PLANS AND SPECIAL PROVISIONS FOR DETAILS.

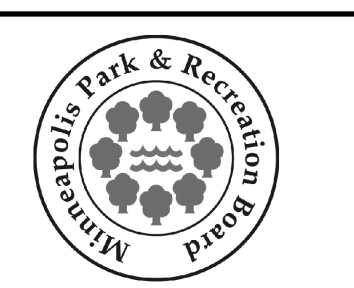
SEE SWPPP FOR ADDITIONAL EROSION CONTROL NOTES AND REQUIREMENTS.

CITY OF MINNEAPOLIS STANDARD PLATES	
PLATE NO.	DESCRIPTION
SEWR - 7000	MANHOLE COVER CITY LOGO
SEWR - 2001	SELF SEALING MANHOLE COVER
SEWR - 2004	STANDARD PROFILE MANHOLE RING CASTING
SEWR - 8003	INLET PROTECTION TYPE A & C
SEWR - 8007	EROSION CONTROL NOTES
SEWR - 3005	RIPRAP AT RC PIPE OUTLETS (10F2)
SEWR - 3010	RC PIPE FLARED END/ APRON TRASH GUARD

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NO	DATE	BY	CHKD	APPR

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 Print Name: SEAN C. JERGENS

 Date: MARCH 22, 2019 License #: 47256

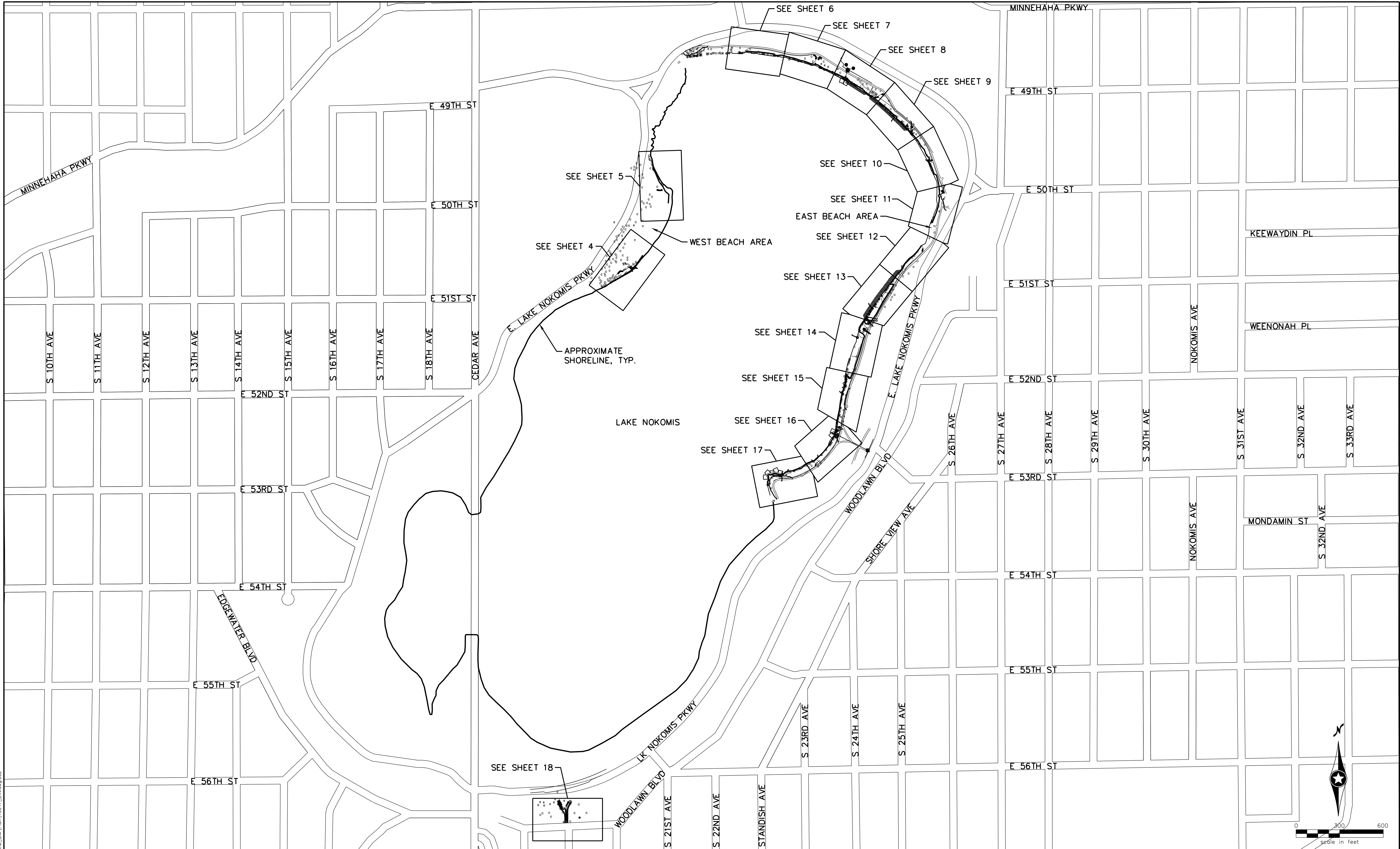


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R. BURAND
 DESIGNED BY
S. JERGENS
 CHECKED BY
S. JERGENS
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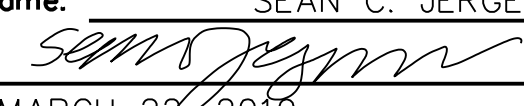
MINNEAPOLIS PARK & RECREATION BOARD
 GENERAL & EROSION CONTROL NOTES
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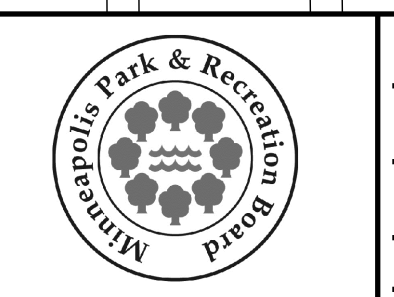
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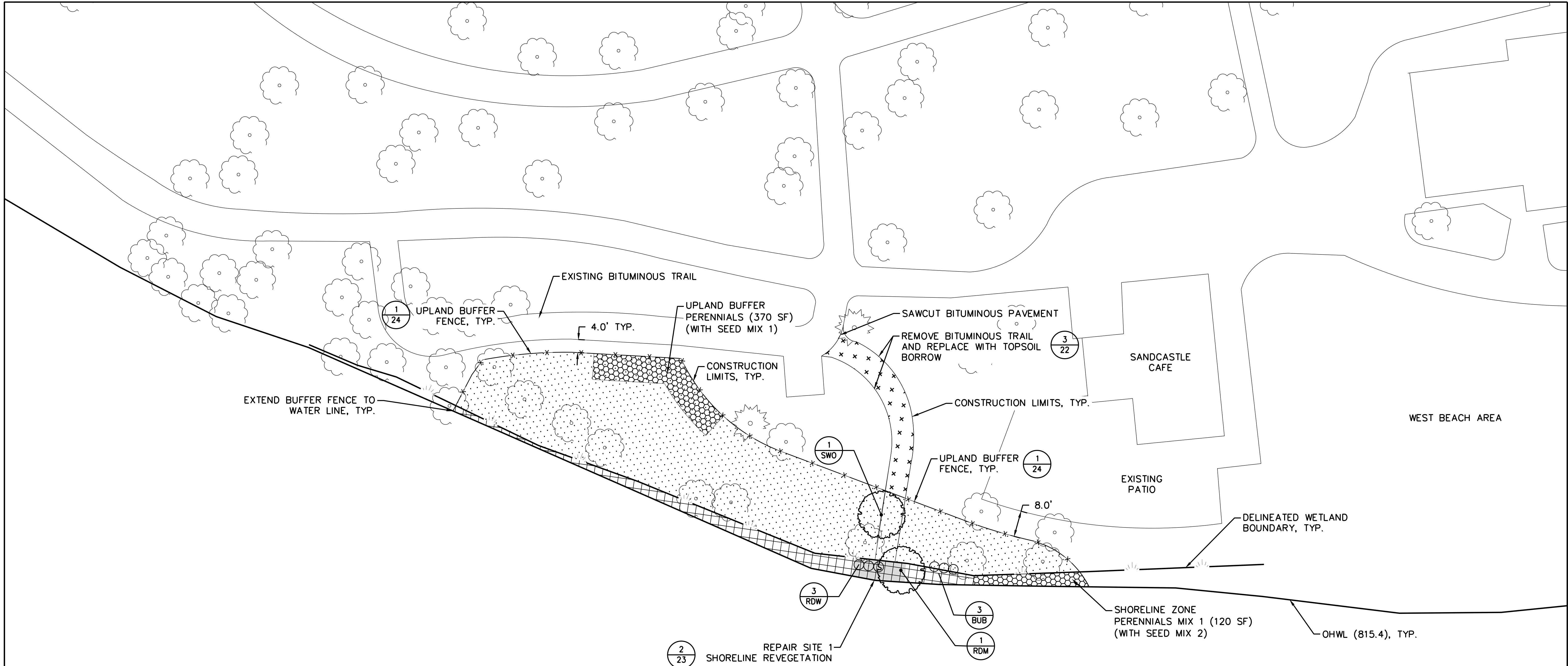


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MINNEAPOLIS PARK & RECREATION BOARD
 OVERALL LAYOUT
 LAKE NOKOMIS SHORELINE ENHANCEMENT

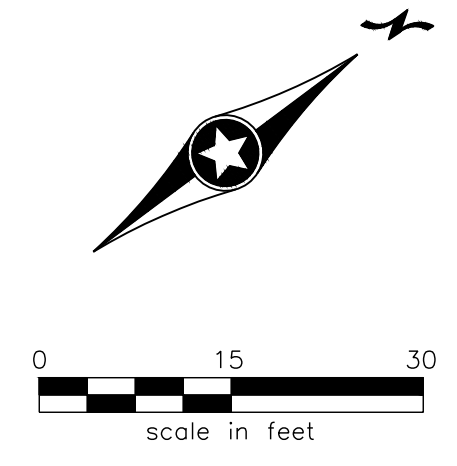
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- NOTES:**
1. ALL GENERAL NOTES FROM SHEET 2 SHALL APPLY.
 2. REPORT ALL LAYOUT DISCREPANCIES IMMEDIATELY TO THE LANDSCAPE ARCHITECT FOR DIRECTION PRIOR TO PROCEEDING.
 3. WRITTEN DIMENSIONS SHALL PREVAIL OVER DRAWING.
 4. PROTECT ALL EXISTING VEGETATION NOT SCHEDULED FOR REMOVAL. ALL DISTURBED AREAS OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE REPAIRED TO EXISTING CONDITION BY THE CONTRACTOR.
 5. ALL INVASIVE WOODY AND ALL INVASIVE HERBACEOUS VEGETATION WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED BY THE CONTRACTOR. USE OF HERBICIDE SHALL COMPLY WITH MPRB REQUIREMENTS. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.
 6. VEGETATION REMOVAL AND SEEDBED PREPARATION PER MNDOT 2545. SEEDING PER MNDOT 2575. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.
 7. PROJECT SITE MUST BE KEPT CLEAN AND FREE OF DEBRIS.
 8. CONTRACTOR SHALL STAKE ALL HERBICIDE, SEEDING, RIP RAP PLACEMENT, AND PLANTING LOCATIONS FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION OR APPLICATION OF ANY HERBICIDE.
 9. SEE PLANT SCHEDULE ON SHEET 21.
 10. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LEGEND

UPLAND BUFFER ZONE (SEED MIX 1)	EMERGENT ZONE PLANTINGS
SHORELINE ZONE (SEED MIX 2)	PERENNIAL PLANTINGS
LOW MAINTENANCE TURF (SEED MIX 3)	EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
DELINEATED WETLAND BOUNDARY, TYP.	TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)	DECIDUOUS TREE
UPLAND BUFFER FENCE (SEE DTL. 1/24)	SHRUBS
WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)	EXISTING TREE
NATIVE BUFFER SIGN (SEE DTL. 3/24)	



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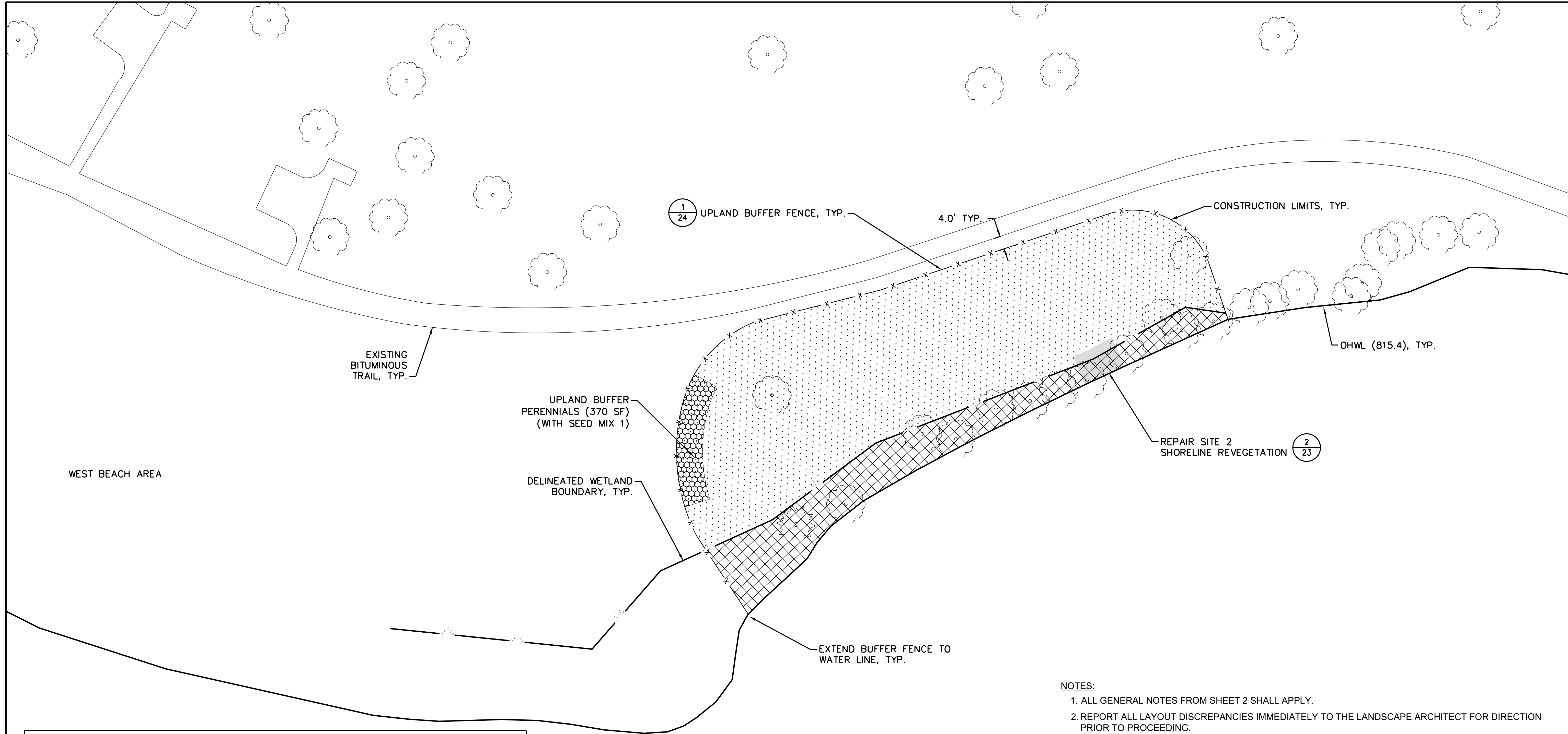
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MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 4 OF 38

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UPLAND BUFFER FENCE, TYP.

4.0' TYP.

CONSTRUCTION LIMITS, TYP.

EXISTING BITUMINOUS TRAIL, TYP.

OHWL (815.4), TYP.

UPLAND BUFFER PERENNIALS (370 SF) (WITH SEED MIX 1)

REPAIR SITE 2 SHORELINE REVEGETATION 2
23

WEST BEACH AREA

DELINEATED WETLAND BOUNDARY, TYP.

EXTEND BUFFER FENCE TO WATER LINE, TYP.

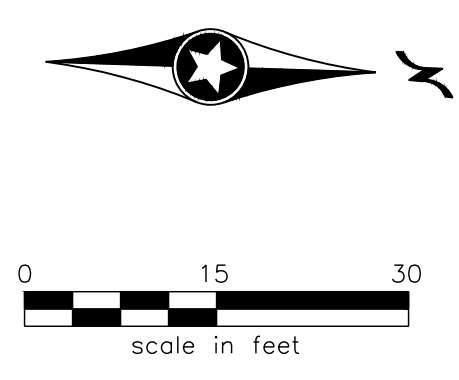
LAKE NOKOMIS

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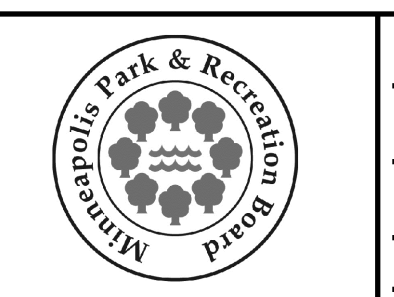
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MINNEAPOLIS PARK & RECREATION BOARD

LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
5
OF
38

ALL GENERAL NOTES FROM SHEET 2 SHALL APPLY.

REPORT ALL LAYOUT DISCREPANCIES IMMEDIATELY TO THE LANDSCAPE ARCHITECT FOR DIRECTION PRIOR TO PROCEEDING.

WRITTEN DIMENSIONS SHALL PREVAIL OVER DRAWING.

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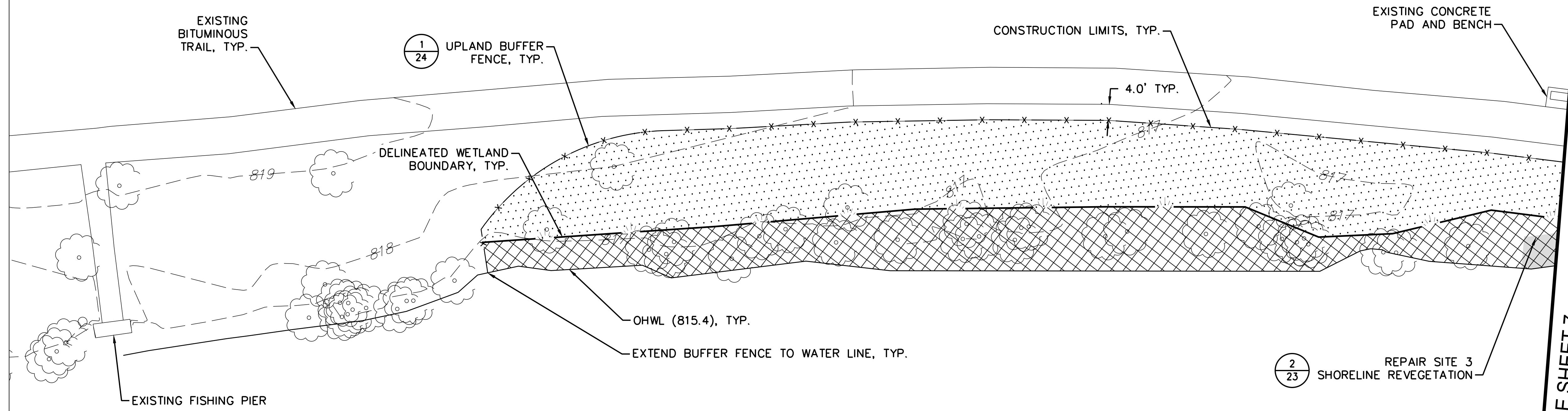
VEGETATION REMOVAL AND SEEDBED PREPARATION PER MNDOT 2545. SEEDING PER MNDOT 2575. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.

PROJECT SITE MUST BE KEPT CLEAN AND FREE OF DEBRIS.

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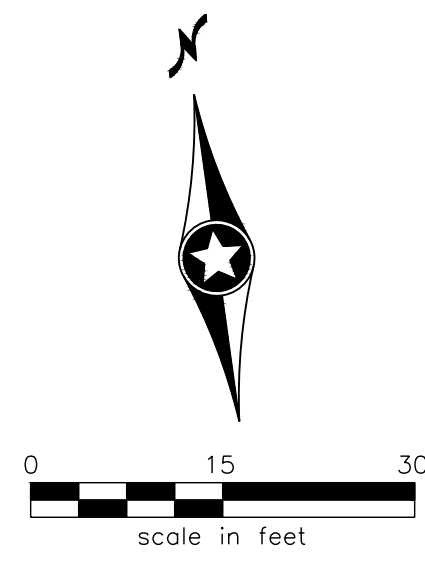
SEE PLANT SCHEDULE ON SHEET 21.

REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



MATCHLINE - SEE SHEET 7

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
	DELINEATED WETLAND BOUNDARY, TYP.
	100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)
	UPLAND BUFFER FENCE (SEE DTL. 1/24)
	WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)
	NATIVE BUFFER SIGN (SEE DTL. 3/24)
	EMERGENT ZONE PLANTINGS
	PERENNIAL PLANTINGS
	EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
	TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
	DECIDUOUS TREE
	SHRUBS
	EXISTING TREE



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NO	DATE	BY	CKD	APPR

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 Landscape Architect under the laws of the State of Minnesota.

Print Name: SEAN C. JERGENS

Sean C. Jergens

Date: MARCH 22, 2019 License # 47256



DRAWN BY
R. BURAND
DESIGNED BY
S. JERGENS
CHECKED BY
S. JERGENS
COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD

LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
6
OF
38

ALL GENERAL NOTES FROM SHEET 2 SHALL APPLY.

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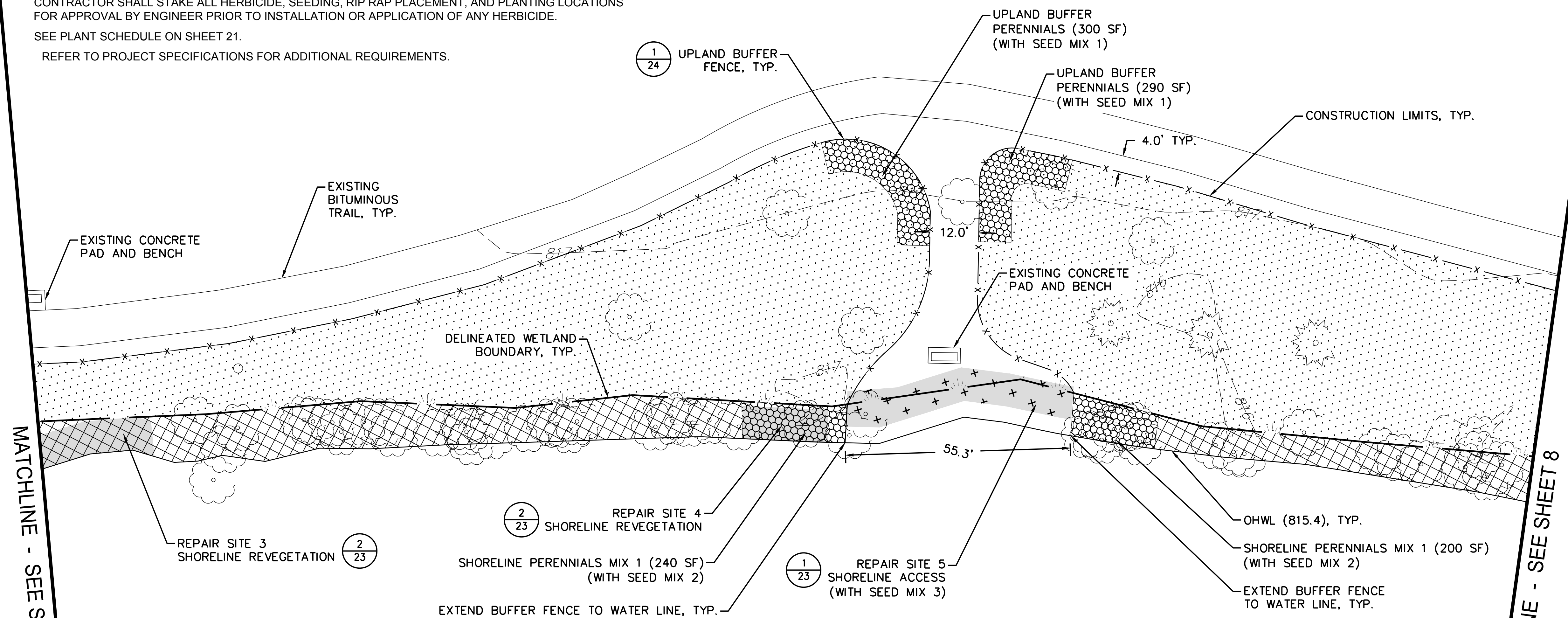
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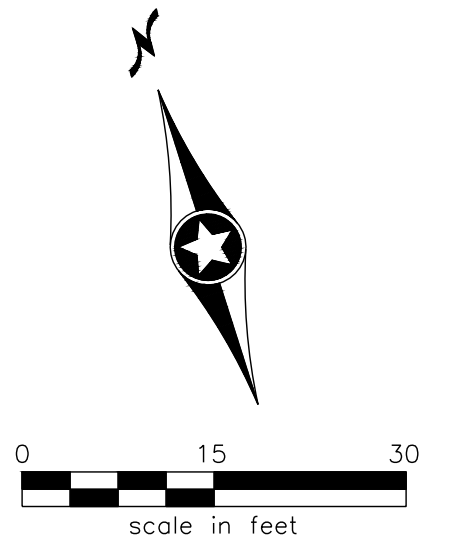


MATCHLINE - SEE SHEET 6

MATCHLINE - SEE SHEET 8

LEGEND

UPLAND BUFFER ZONE (SEED MIX 1)	EMERGENT ZONE PLANTINGS
SHORELINE ZONE (SEED MIX 2)	PERENNIAL PLANTINGS
LOW MAINTENANCE TURF (SEED MIX 3)	EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
DELINEATED WETLAND BOUNDARY, TYP.	TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)	DECIDUOUS TREE
UPLAND BUFFER FENCE (SEE DTL. 1/24)	SHRUBS
WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)	EXISTING TREE
NATIVE BUFFER SIGN (SEE DTL. 3/24)	



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Print Name: SEAN C. JERGENS

Sean C. Jergens

Date: MARCH 22, 2019 License # 47256



DRAWN BY
R. BURAND
DESIGNED BY
S. JERGENS
CHECKED BY
S. JERGENS
COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD

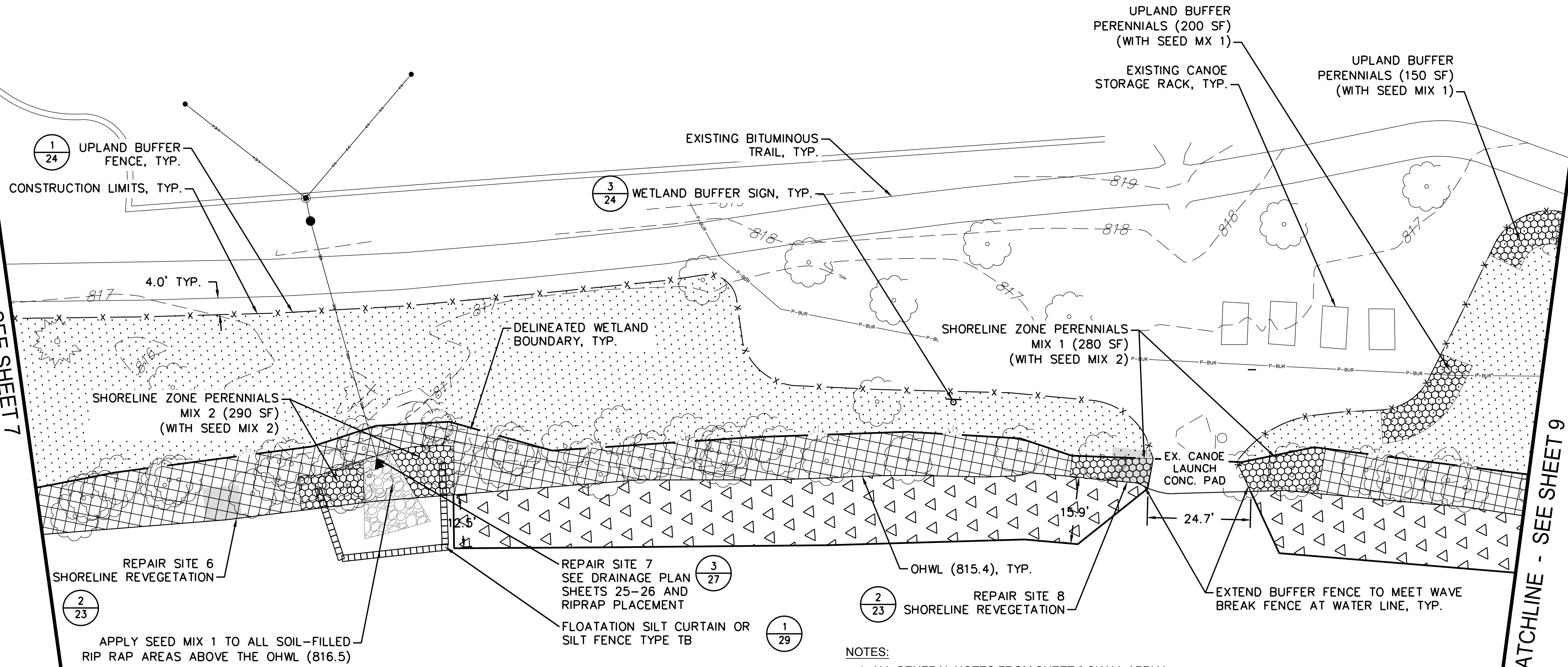
LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
7
OF
38

MATCHLINE - SEE SHEET 7

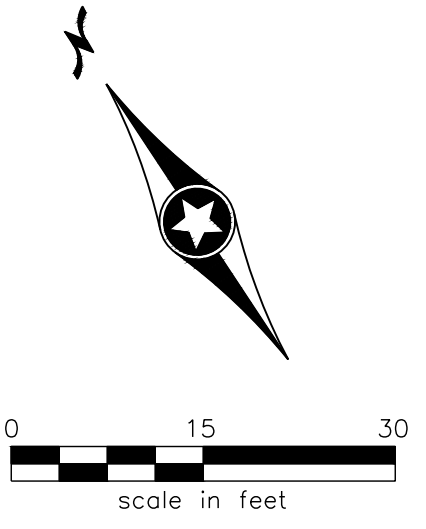
MATCHLINE - SEE SHEET 9



APPLY SEED MIX 1 TO ALL SOIL-FILLED RIP RAP AREAS ABOVE THE OHWL (816.5)

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
	DELINEATED WETLAND BOUNDARY, TYP.
	100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)
	UPLAND BUFFER FENCE (SEE DTL. 1/24)
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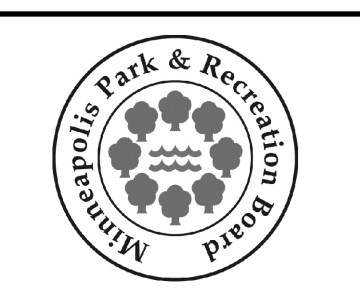
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DRAWN BY
R. BURAND

DESIGNED BY
S. JERGENS

CHECKED BY
S. JERGENS

COMM. NO. 10547



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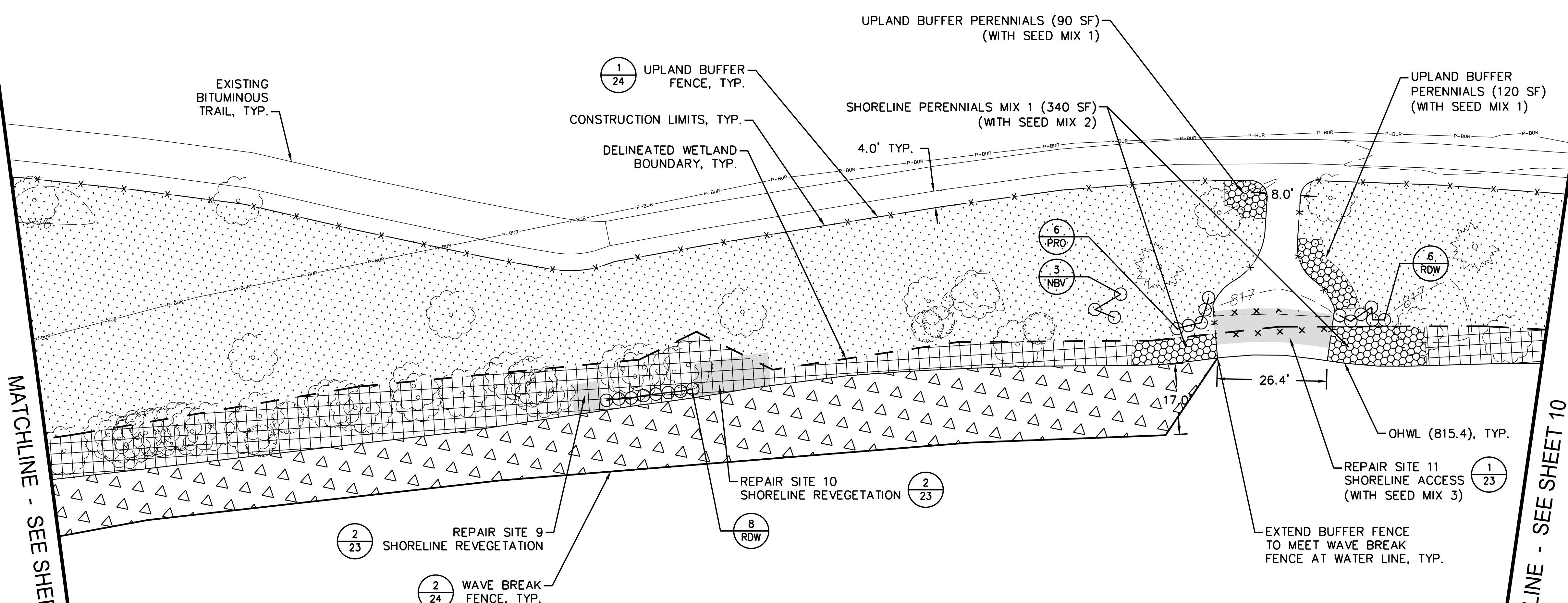
LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 8 OF 38

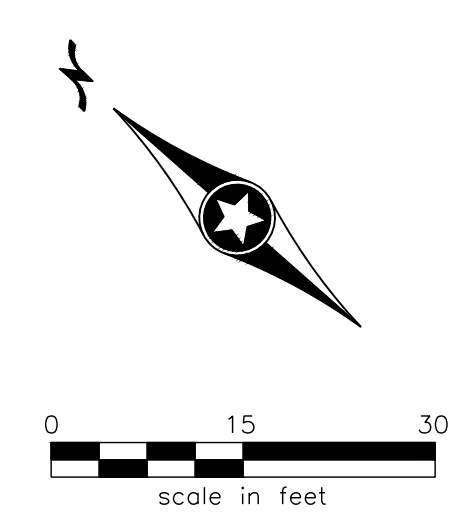
MATCHLINE - SEE SHEET 8

MATCHLINE - SEE SHEET 10



LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
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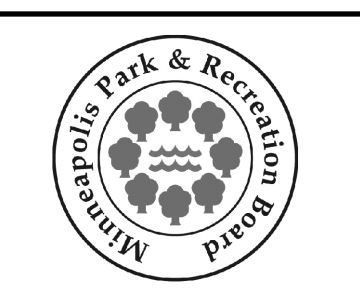
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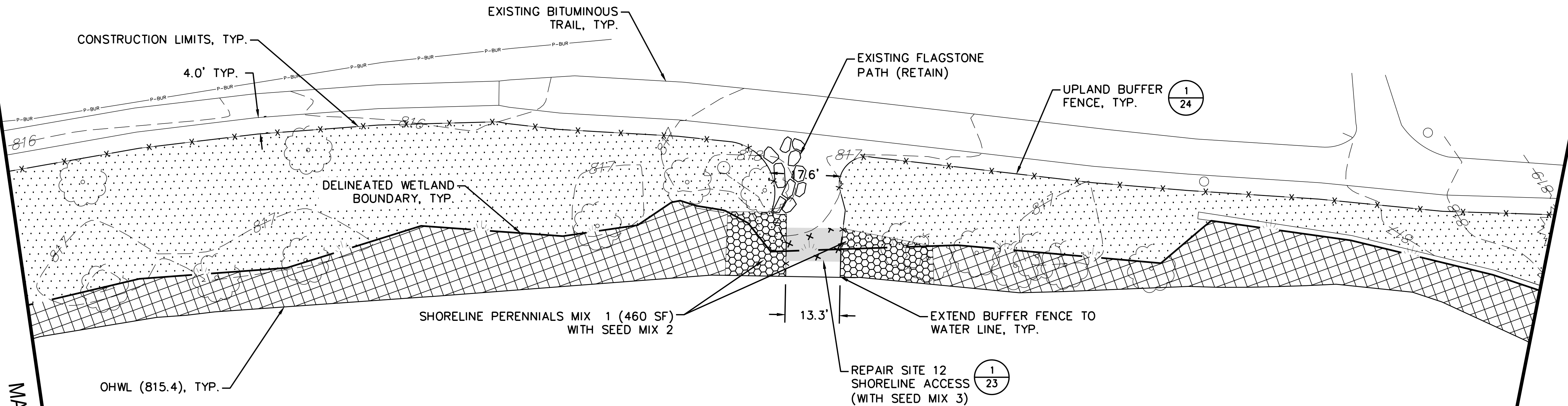


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MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
9
OF
38



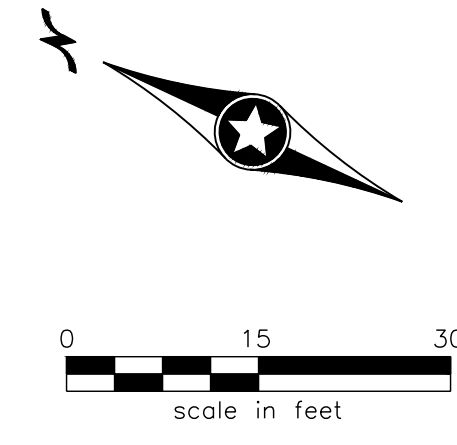
MATCHLINE - SEE SHEET 9

MATCHLINE - SEE SHEET 11

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
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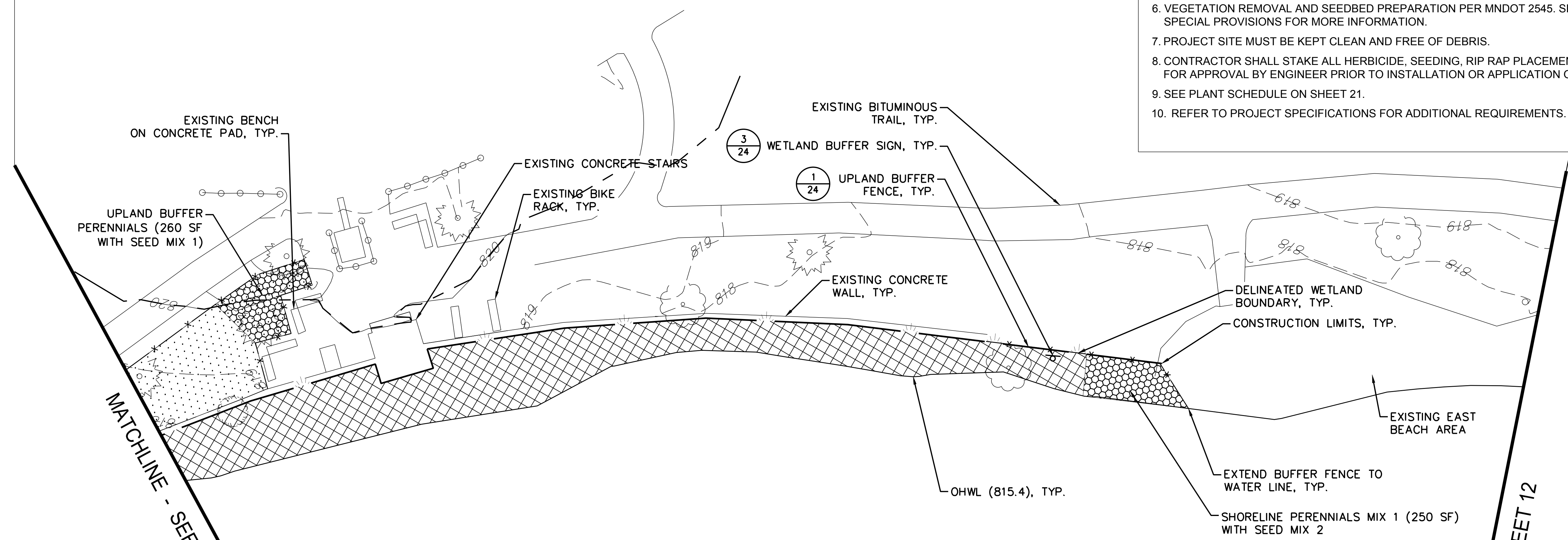


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 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
10
OF
38

NOTES:

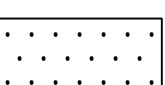
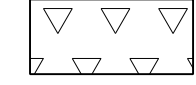
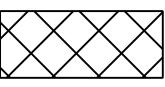

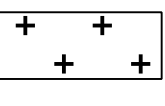




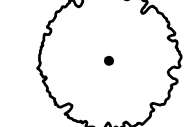
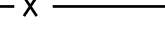
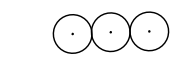


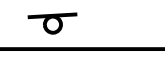
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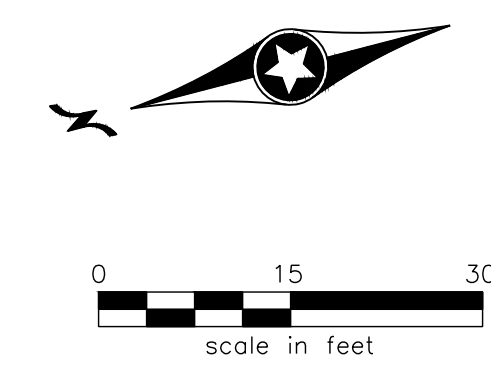


MATCHLINE - SEE SHEET 10

MATCHLINE - SEE SHEET 12

LEGEND

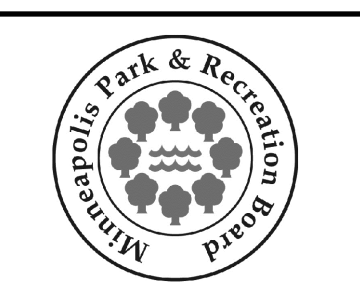
 UPLAND BUFFER ZONE (SEED MIX 1)	 EMERGENT ZONE PLANTINGS
 SHORELINE ZONE (SEED MIX 2)	 PERENNIAL PLANTINGS
 LOW MAINTENANCE TURF (SEED MIX 3)	 EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
 DELINEATED WETLAND BOUNDARY, TYP.	 TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
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 UPLAND BUFFER FENCE (SEE DTL. 1/24)	 SHRUBS
 WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)	 EXISTING TREE
 NATVIE BUFFER SIGN (SEE DTL. 3/24)	



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NO	DATE	BY	CKD	APPR

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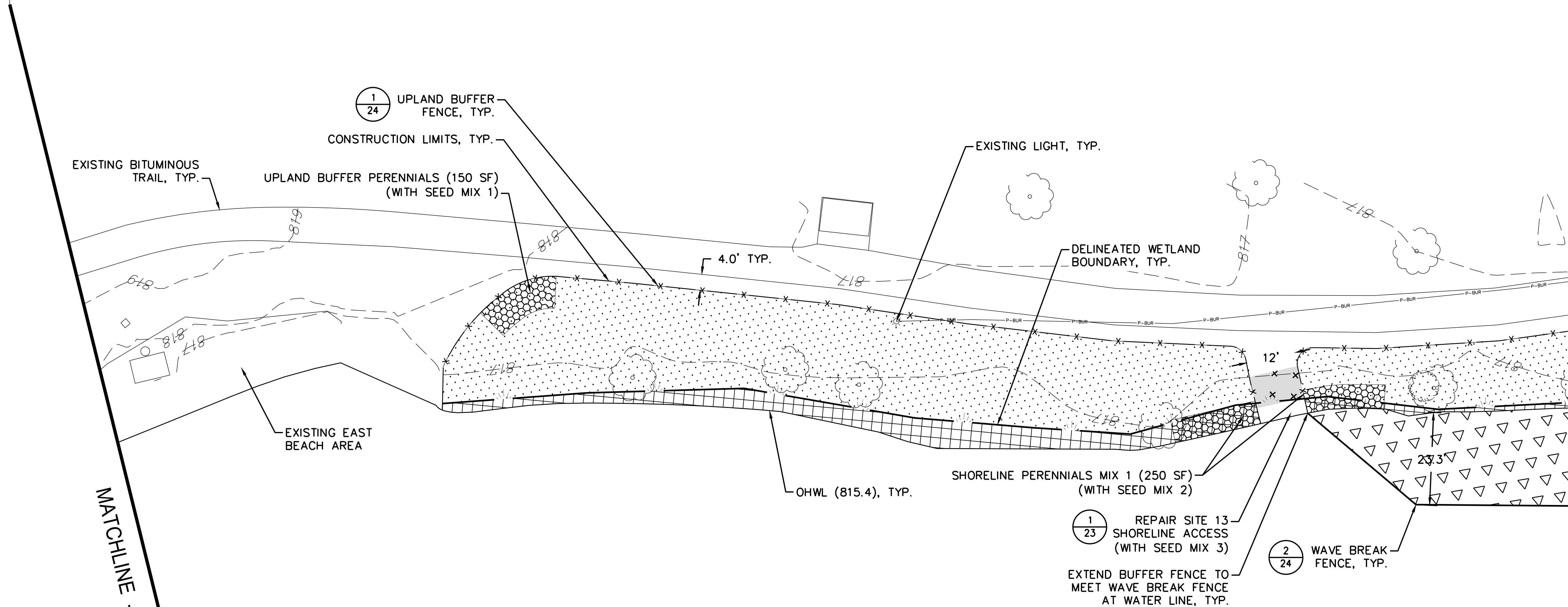


DRAWN BY
R. BURAND
DESIGNED BY
S. JERGENS
CHECKED BY
S. JERGENS
COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
11
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38

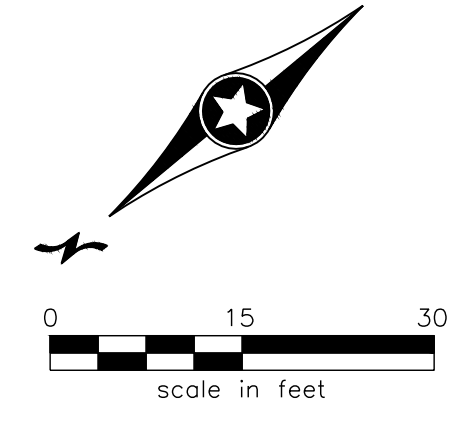


MATCHLINE - SEE SHEET 11

MATCHLINE - SEE SHEET 13

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
	DELINEATED WETLAND BOUNDARY, TYP.
	100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)
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NO	DATE	BY	CHKD	APPR

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 Landscape Architect under the laws of the State of Minnesota.
 Print Name: SEAN C. JERGENS
 Date: MARCH 22, 2019 License #: 47256



DRAWN BY
R. BURAND
 DESIGNED BY
S. JERGENS
 CHECKED BY
S. JERGENS
 COMM. NO. 10547

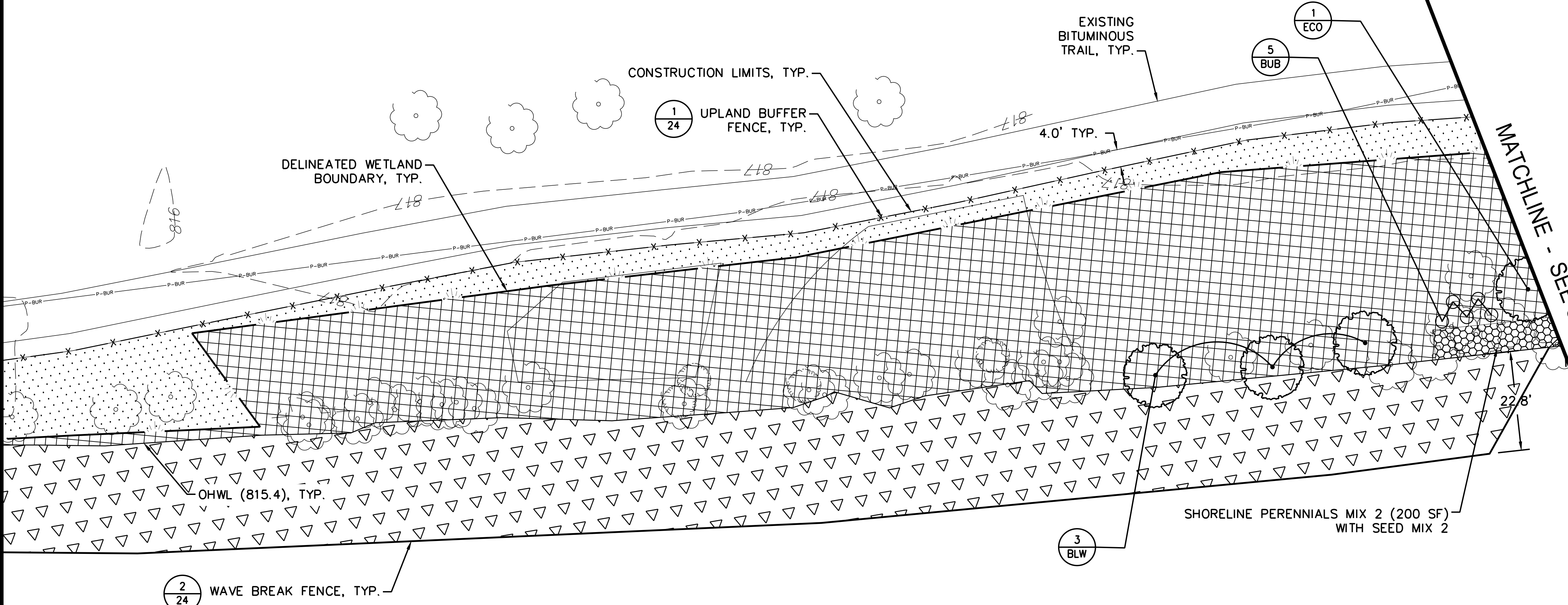


MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
12
OF
38

MATCHLINE - SEE SHEET 12

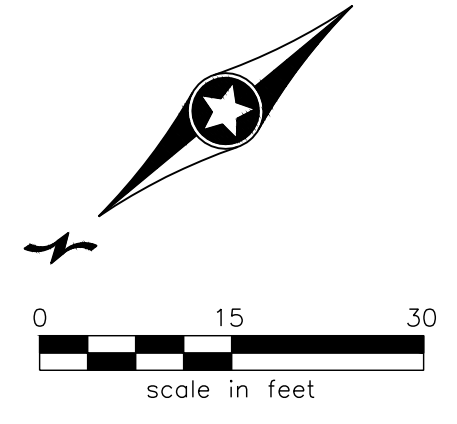
MATCHLINE - SEE SHEET 14



LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
	DELINEATED WETLAND BOUNDARY, TYP.
	100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)
	UPLAND BUFFER FENCE (SEE DTL. 1/24)
	WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)
	NATIVE BUFFER SIGN (SEE DTL. 3/24)
	EMERGENT ZONE PLANTINGS
	PERENNIAL PLANTINGS
	EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
	TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
	DECIDUOUS TREE
	SHRUBS
	EXISTING TREE

NOTES:

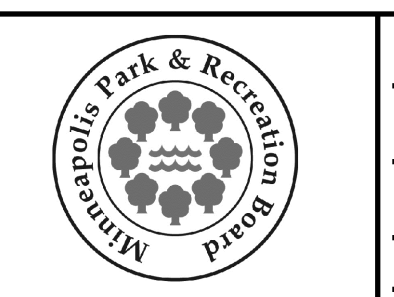
1. ALL GENERAL NOTES FROM SHEET 2 SHALL APPLY.
2. REPORT ALL LAYOUT DISCREPANCIES IMMEDIATELY TO THE LANDSCAPE ARCHITECT FOR DIRECTION PRIOR TO PROCEEDING.
3. WRITTEN DIMENSIONS SHALL PREVAIL OVER DRAWING.
4. PROTECT ALL EXISTING VEGETATION NOT SCHEDULED FOR REMOVAL. ALL DISTURBED AREAS OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE REPAIRED TO EXISTING CONDITION BY THE CONTRACTOR.
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6. VEGETATION REMOVAL AND SEEDBED PREPARATION PER MNDOT 2545. SEEDING PER MNDOT 2575. SEE SPECIAL PROVISIONS FOR MORE INFORMATION.
7. PROJECT SITE MUST BE KEPT CLEAN AND FREE OF DEBRIS.
8. CONTRACTOR SHALL STAKE ALL HERBICIDE, SEEDING, RIP RAP PLACEMENT, AND PLANTING LOCATIONS FOR APPROVAL BY ENGINEER PRIOR TO INSTALLATION OR APPLICATION OF ANY HERBICIDE.
9. SEE PLANT SCHEDULE ON SHEET 21.
10. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



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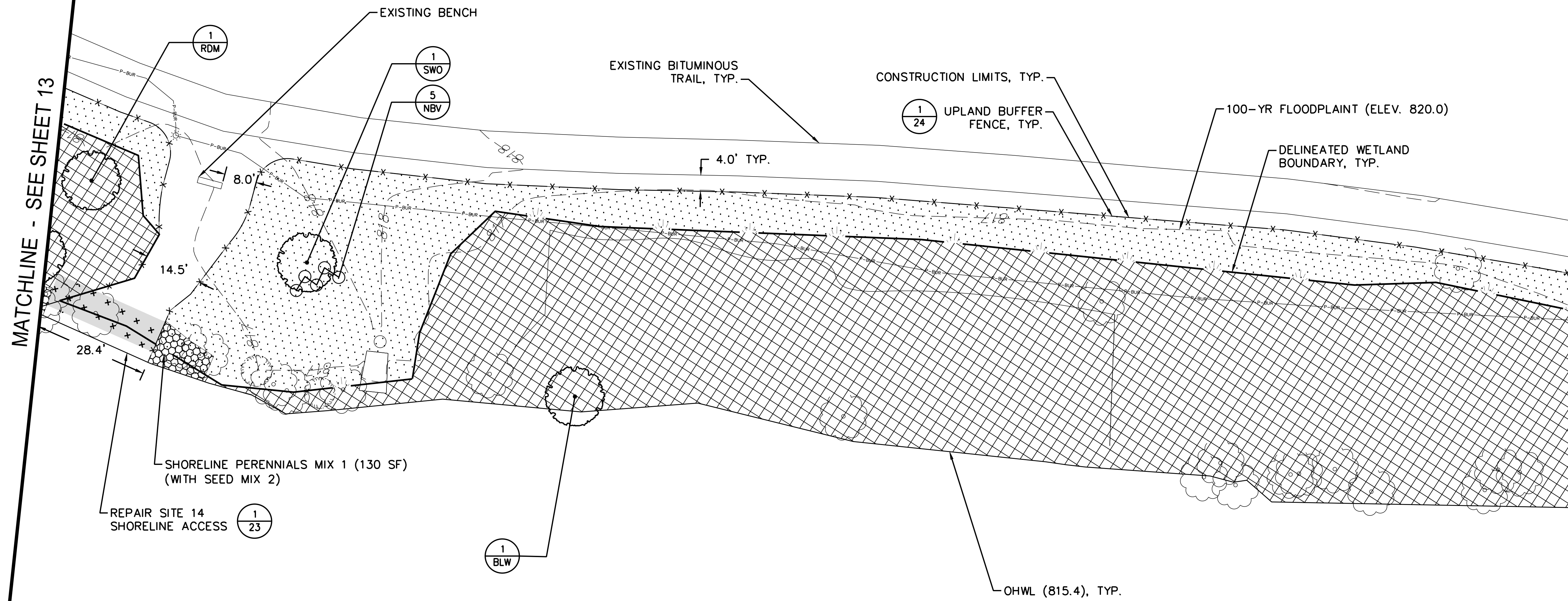


MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
13
OF
38

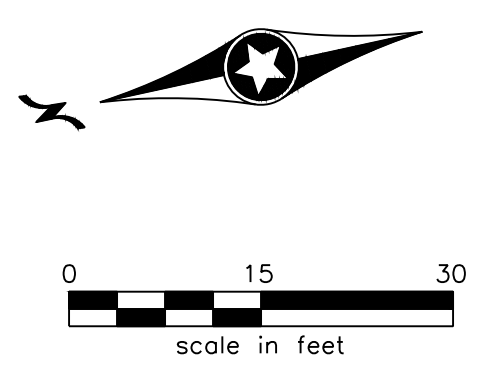
MATCHLINE - SEE SHEET 13

MATCHLINE - SEE SHEET 15



LEGEND	
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	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
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	100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)
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	DECIDUOUS TREE
	SHRUBS
	EXISTING TREE

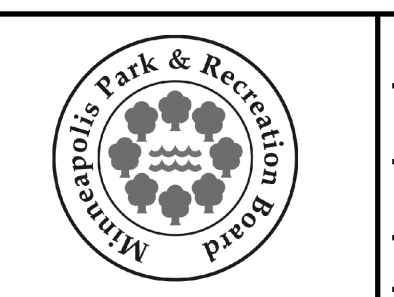
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MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 14 OF 38

ALL GENERAL NOTES FROM SHEET 2 SHALL APPLY.

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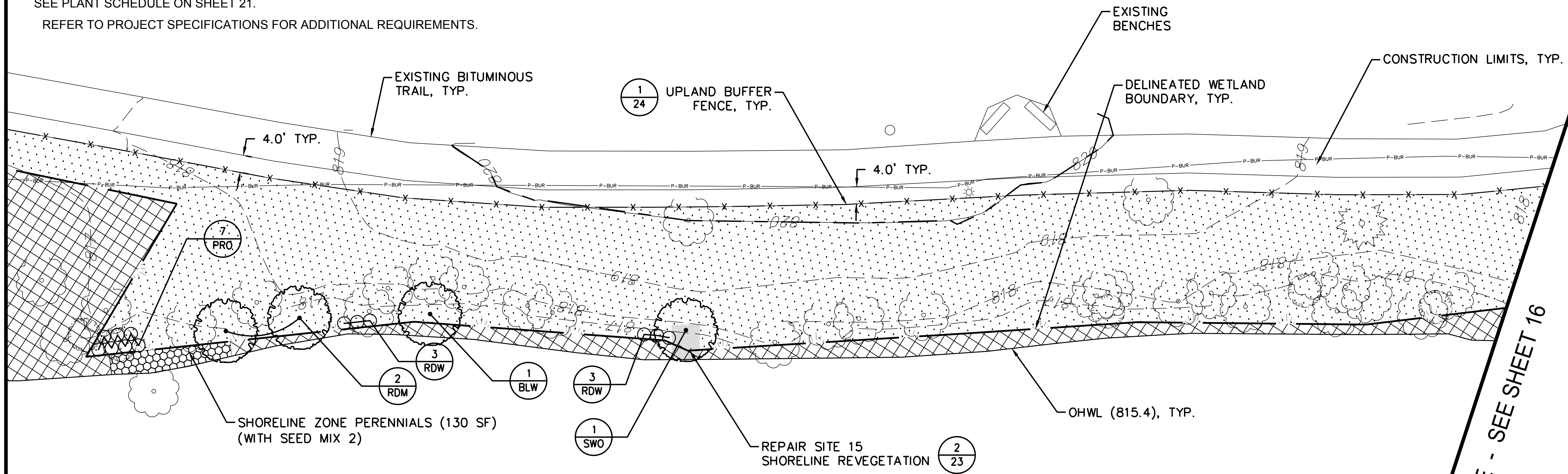
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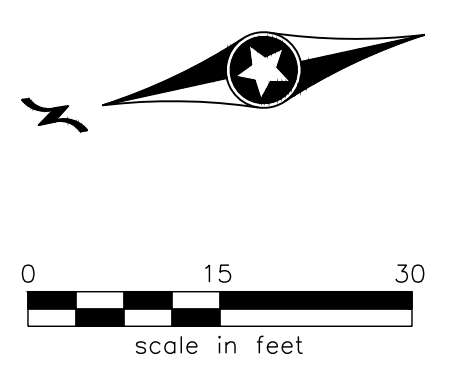


MATCHLINE - SEE SHEET 14

MATCHLINE - SEE SHEET 16

LEGEND

UPLAND BUFFER ZONE (SEED MIX 1)	EMERGENT ZONE PLANTINGS
SHORELINE ZONE (SEED MIX 2)	PERENNIAL PLANTINGS
LOW MAINTENANCE TURF (SEED MIX 3)	EROSION CONTROL BLANKET CAT. 3N WITH SEED MIX 2 - SEE DETAILS
DELINEATED WETLAND BOUNDARY, TYP.	TURF REINFORCEMENT MAT (TRM) CAT. 2 - SEE DETAILS
100-YR FLOODPLAIN BOUNDARY (ELEV. 820.0)	DECIDUOUS TREE
UPLAND BUFFER FENCE (SEE DTL. 1/24)	SHRUBS
WAVE BREAK / FISH EXCLUSION FENCE (SEE DTL. 2/24)	EXISTING TREE
NATIVE BUFFER SIGN (SEE DTL. 3/24)	



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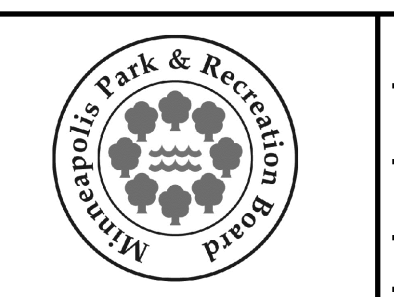
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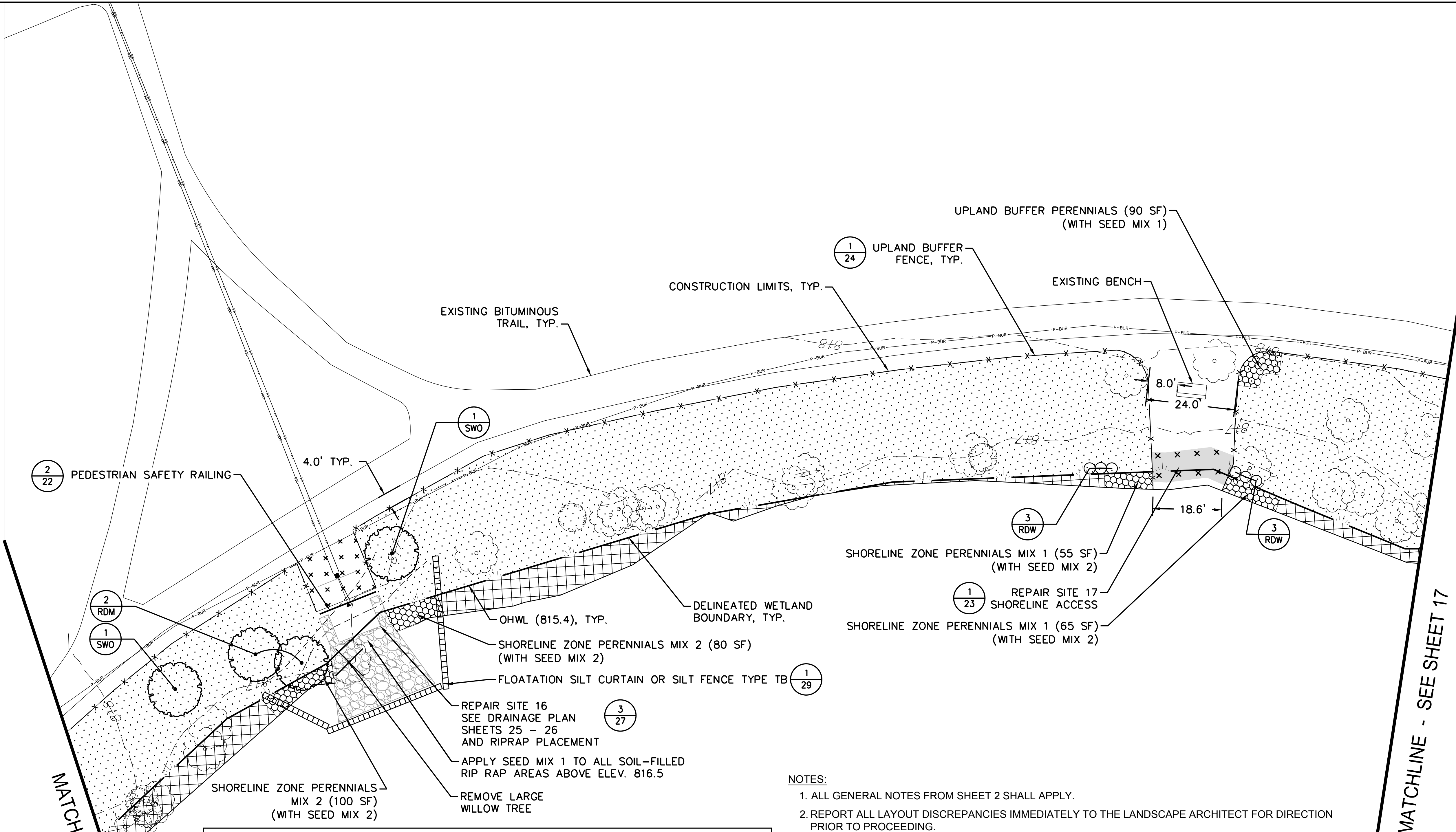


MINNEAPOLIS PARK & RECREATION BOARD

LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
15
OF
38



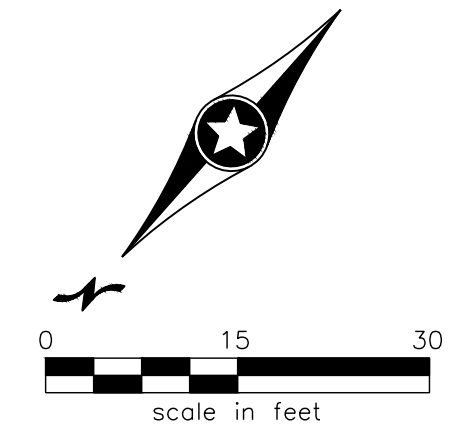
MATCHLINE - SEE SHEET 15

MATCHLINE - SEE SHEET 17

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
	LOW MAINTENANCE TURF (SEED MIX 3)
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NOTES:

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S. JERGENS
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MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
16
OF
38

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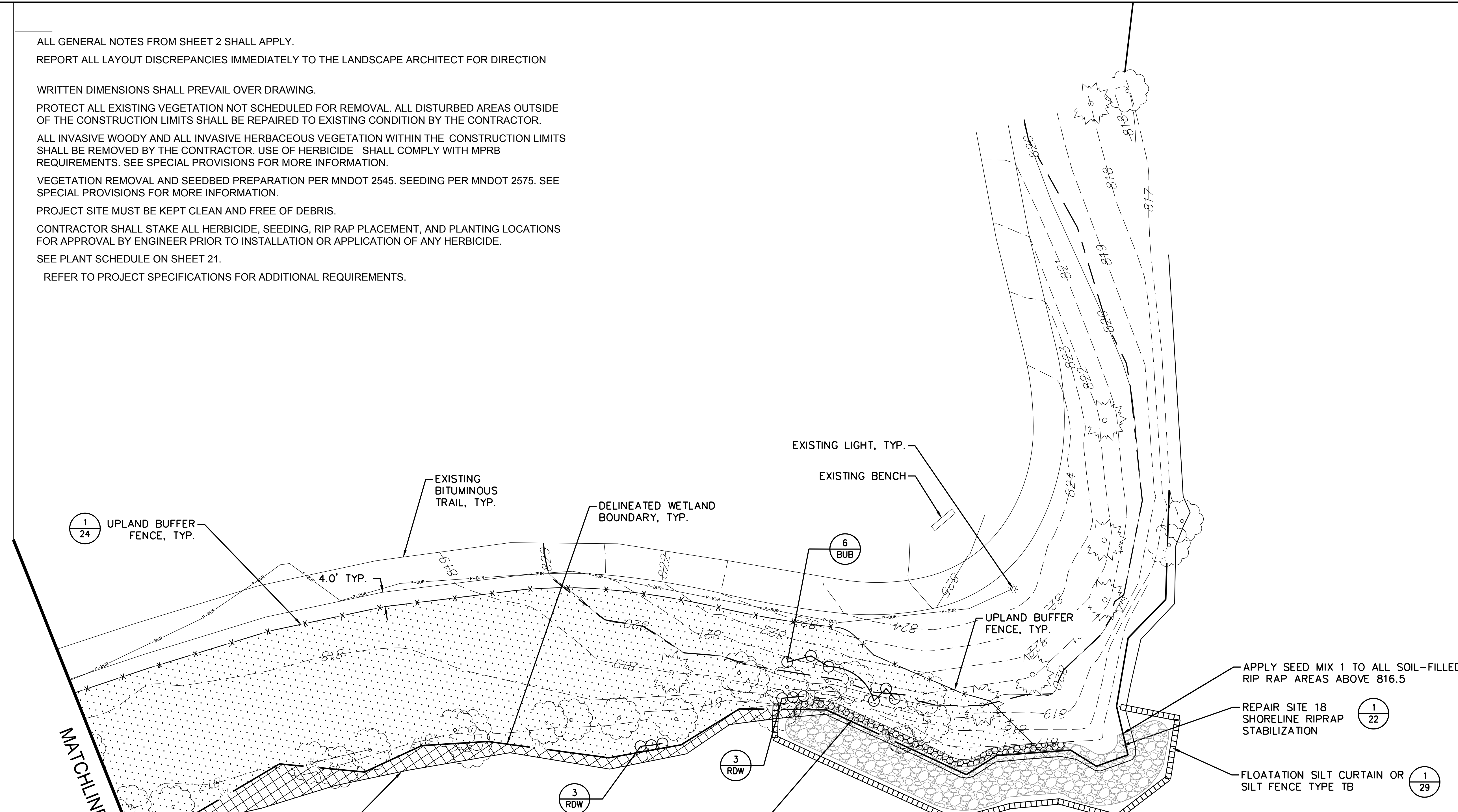
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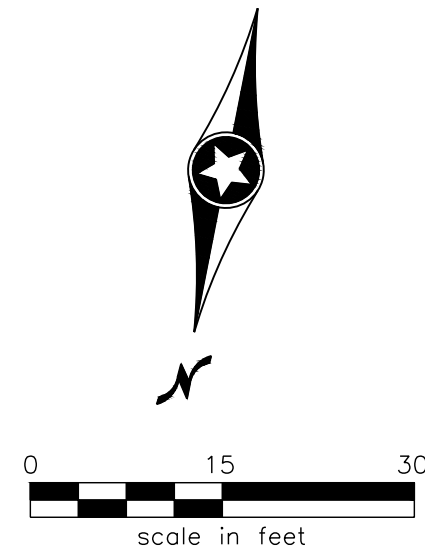
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MATCHLINE - SEE SHEET 16

LEGEND	
	UPLAND BUFFER ZONE (SEED MIX 1)
	SHORELINE ZONE (SEED MIX 2)
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	SHRUBS
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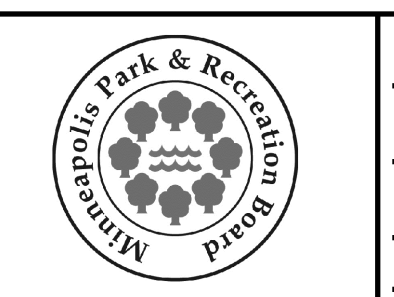
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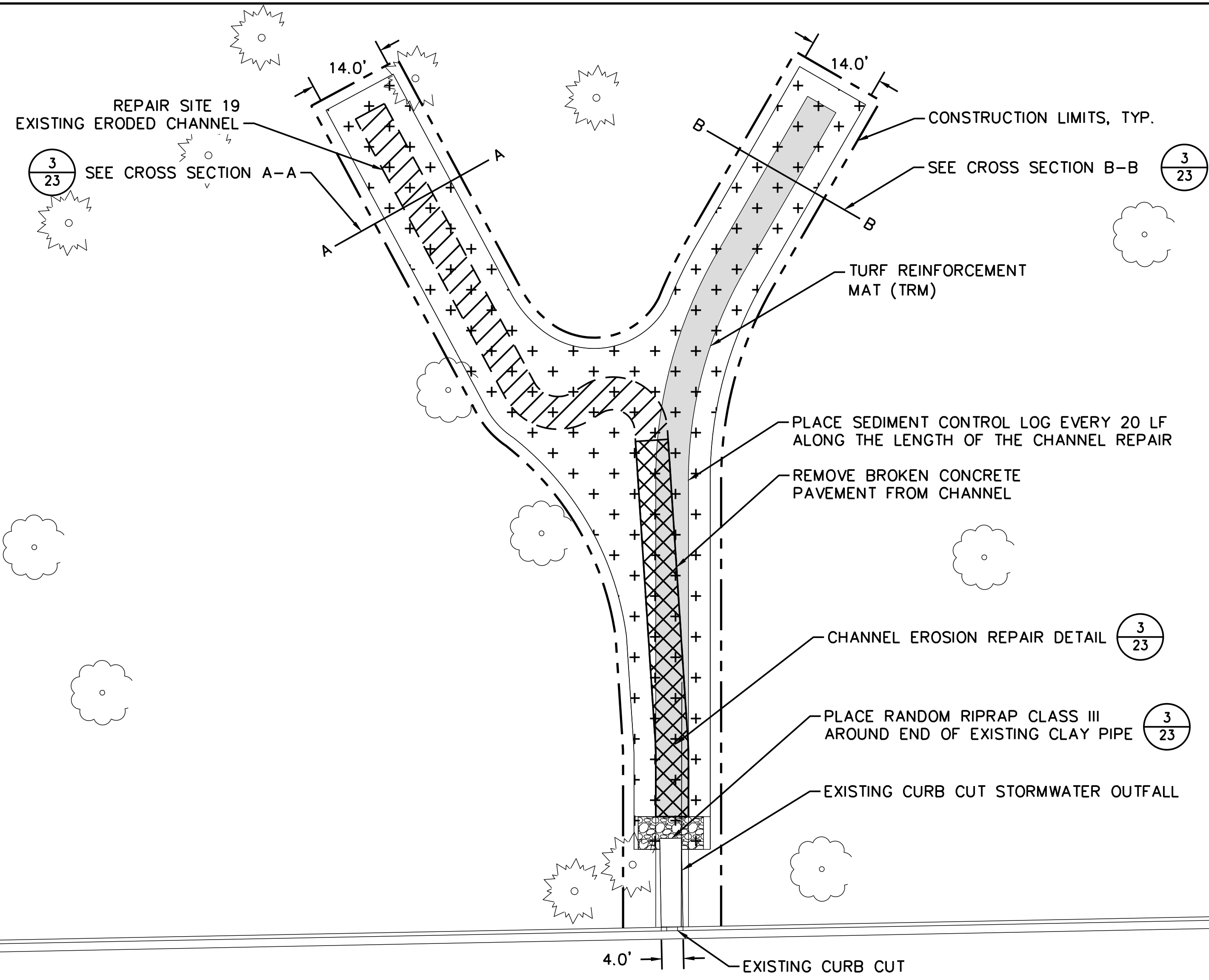


MINNEAPOLIS PARK & RECREATION BOARD

LANDSCAPE PLANS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 17 OF 38



WOODLAWN BLVD

S 19TH AVE

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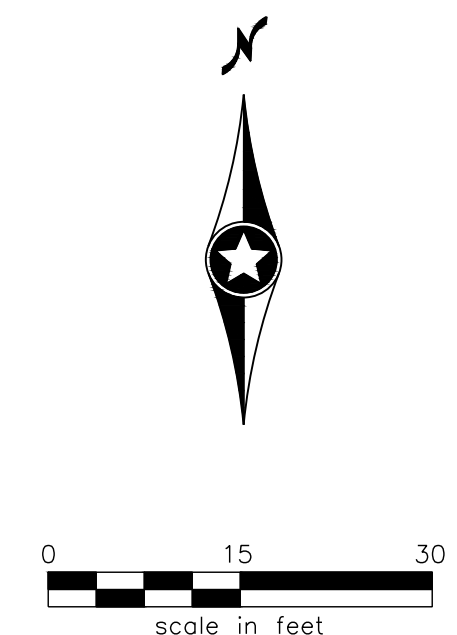
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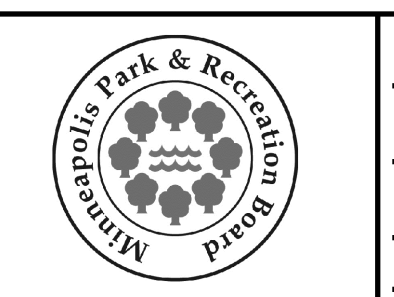
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LEGEND	
	LOW MAINT. TURF (SEED MIX 3)
	EXISTING TREE
	CONSTRUCTION LIMITS
	TURF REINFORCEMENT MAT (TRM) CATEGORY 2
	EXISTING ERODED CHANNEL
	REMOVE CONC. PAVEMENT FROM CHANNEL
	FILL CHANNEL WITH TOPSOIL
	RIP RAP CLASS 3

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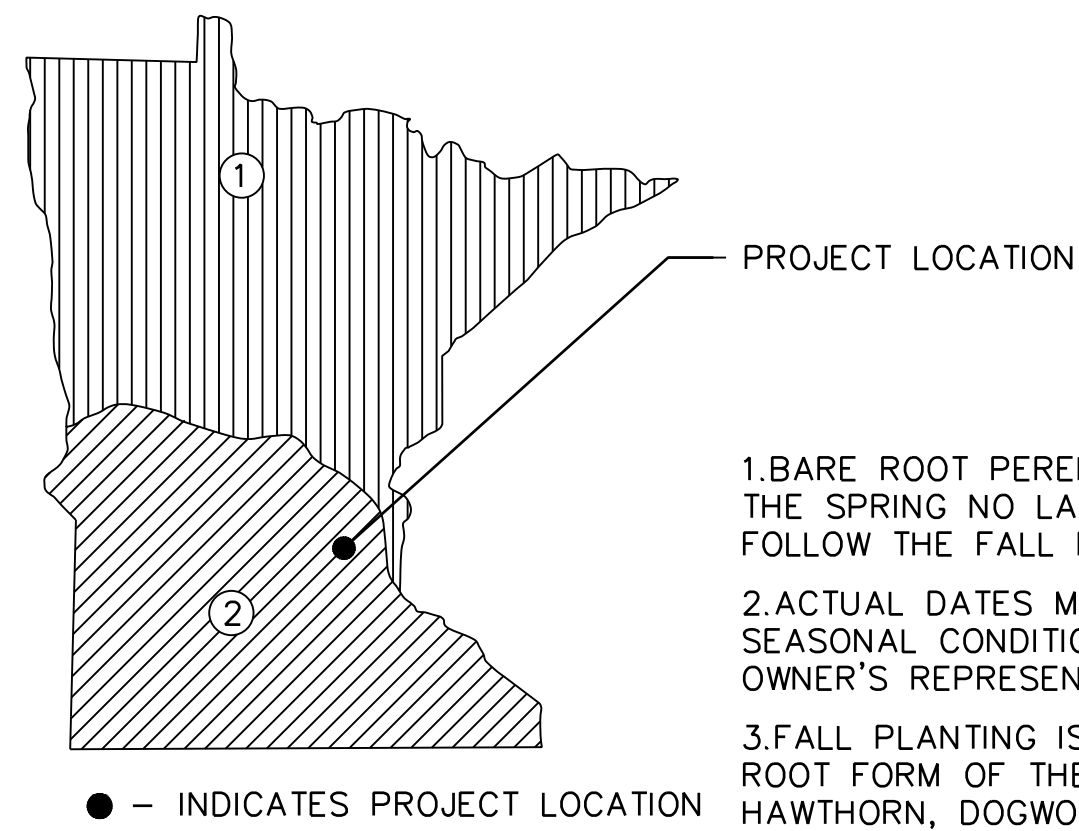


MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE PLANS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 18 OF 38

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GENERAL NOTES		
SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.		
REFER TO Mn/DOT SPECIFICATIONS 2571, 3861, THE "INSPECTION AND CONTRACT ADMINISTRATION MANUAL FOR Mn/DOT LANDSCAPE PROJECTS" FOR GENERAL REQUIREMENTS.		
COMPLETE PREPARATORY WORK BEFORE STARTING INITIAL PLANTING OPERATIONS.		
ACCEPT ALL PLANT STOCK IN ACCORDANCE WITH Mn/DOT 3861 PRIOR TO PLANTING.		
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR SOIL CULTIVATION OPERATIONS AS CALLED FOR IN (Mn/DOT2571.3D2 (STEP 4))		
THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR ALL PLANT INSTALLATION OPERATIONS AS CALL FOR IN (Mn/DOT2571.3F1a)		
RODENT PROTECTION	SEE SPECIAL PROVISIONS	
FERTILIZER	SEE SPECIAL PROVISIONS	
COMPOST	Mn/DOT 3890 TYPE 2 UNLESS OTHERWISE SPECIFIED.	
MULCH MATERIAL	Mn/DOT 3882 TYPE 6 UNLESS OTHERWISE SPECIFIED.	
MASS PLANTING BEDS	PREPARE MASS PLANTING BEDS FOR PLANTS PLACED AT 15' OR LESS, UNLESS OTHERWISE SPECIFIED ON SHEETS. PLANT BEDS IN STAGGERED ROWS ON THE PERIMETER FIRST, THEN UNIFORMLY FILL IN WITH REMAINING PLANTS. USE TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 5' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' CLEAR RADIUS AROUND EACH CONIFER TREE. RADIUS WILL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. MULCH ENTIRE MASS PLANTING BED.	
TREE PAINTING (FROST CRACK PREVENTION)	PAINT OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES AND MOUNTAIN ASH. ONLY UNDILUTED EXTERIOR WHITE LATEX PAINT IS ACCEPTABLE. PAINT TREE CIRCUMFERENCE FROM GROUND LINE TO FIRST MAJOR BRANCH.	
PLANTING PLAN DIMENSIONS	STATED DIMENSIONS SUPERCEDE SCALING FROM PLAN.	
WATERING GUIDELINES (Mn/DOT 2571.G)	PLANT TYPE	AVERAGE GALLONS OF WATER PER APPLICATION PER PLANT
	MACHINE TRANSPLANTED TREES 42" AND UP	50-100
	BALLED & BURLAPPED TREES	20
	BARE ROOT TREES	15
	BALLED & BURLAPPED SHRUBS	10
	BARE ROOT OR CONTAINER SHRUBS	7
	WOODY SEEDLINGS	4
	PERENNIALS AND VINES	3
IT IS THE CONTRACTOR'S RESPONSIBILITY TO MONITOR AND MAINTAIN SOIL MOISTURE AT ADEQUATE BUT NOT EXCESSIVE LEVELS. THE AMOUNTS LISTED ABOVE ARE GUIDELINES, NOT REQUIREMENTS.		

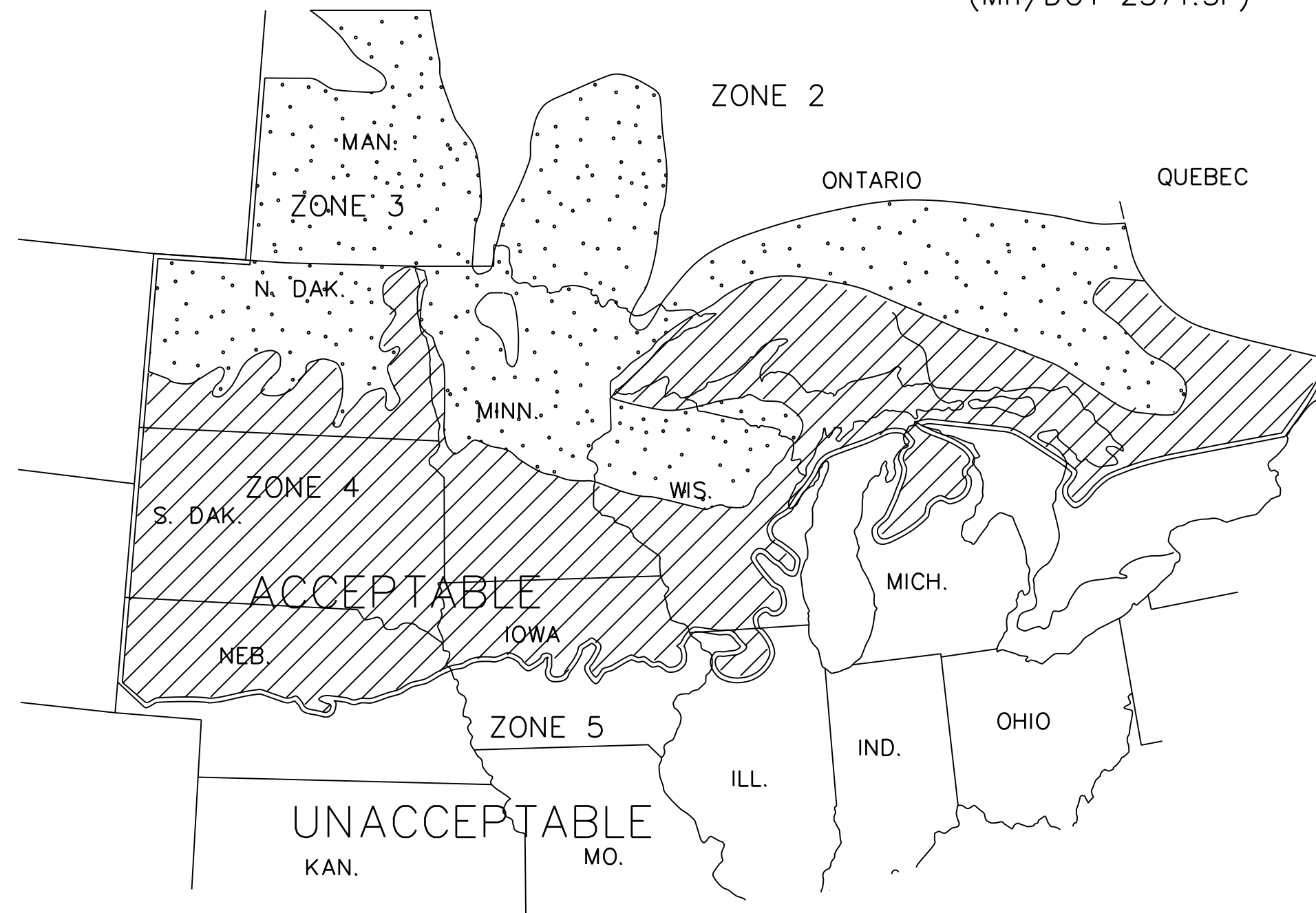


1. BARE ROOT PERENNIALS MUST BE INSTALLED IN THE SPRING NO LATER THAN JUNE 1ST OR FOLLOW THE FALL DECIDUOUS PLANTING DATES.
2. ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS, AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
3. FALL PLANTING IS NOT ALLOWED FOR BARE ROOT FORM OF THE FOLLOWING SPECIES: HAWTHORN, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUM/CHERRY, OAKS, AND SUMAC.
4. ALL REPLACEMENT PLANTS MUST BE INSTALLED DURING THE MONTH OF MAY DURING THE FIRST YEAR OF THE PLANT ESTABLISHMENT PERIOD.

PLANTING DATE BY ZONES						
KEY	SPRING				FALL	
	DECIDUOUS	CONIFEROUS	PERENNIALS	SEEDLINGS	DECIDUOUS	CONIFEROUS
①	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	MAY 1 TO JUNE 15	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 16
②	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	MAY 1 TO JUNE 15	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15

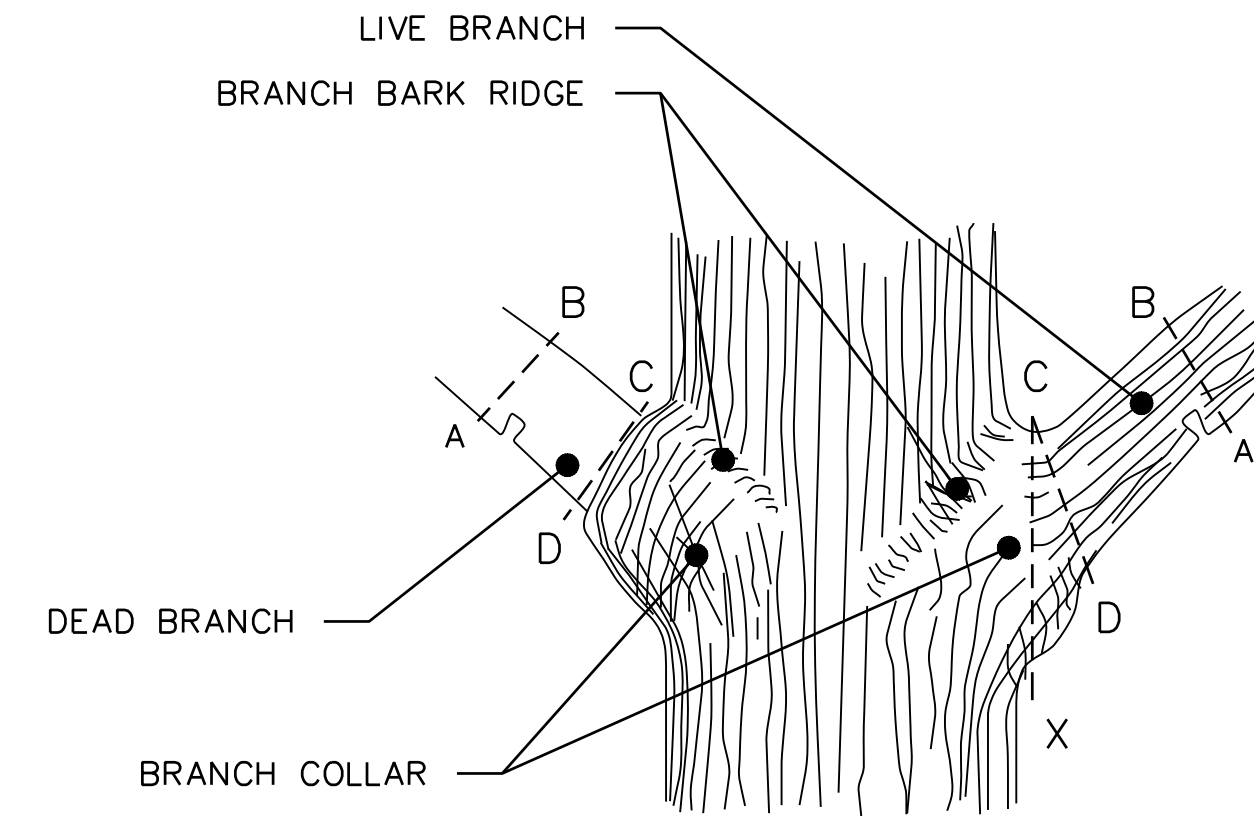
PLANT INSTALLATION PERIOD

(Mn/DOT 2571.3F)



ACCEPTABLE PLANT STOCK GROWING RANGE LIMITS

SOURCE: USDA PLANT HARDINESS ZONE MAP

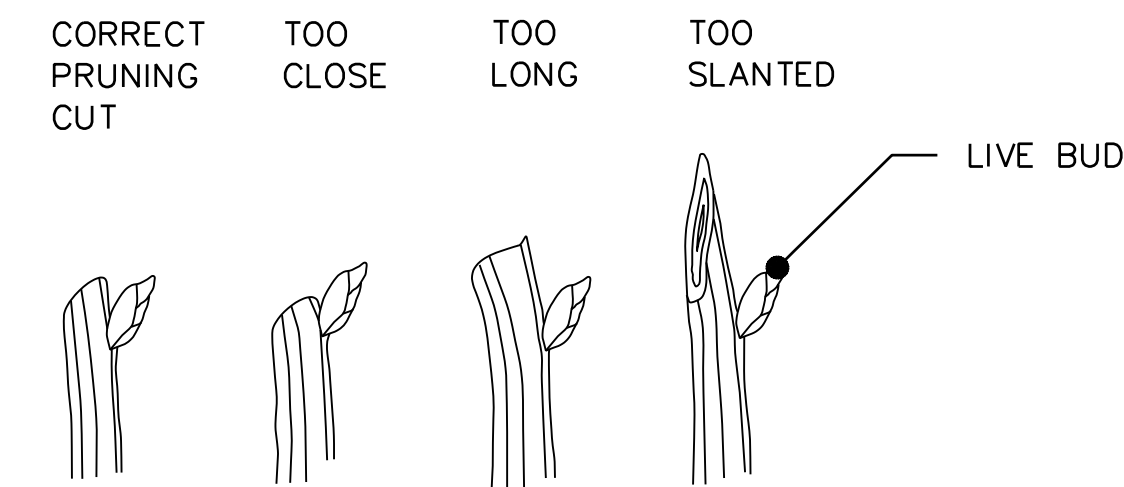


BRANCHES PRUNED AT TRUNK

INCORRECT CUT (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT (LEAVING BRANCH COLLAR BUT NO STUB) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

- STEPS TO PRUNING WITH PRUNING SAW
1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
 2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
 3. CUT FROM POINT C TO D.
 4. LEAVE BRANCH COLLAR (C TO D)
 5. DO NOT FLUSH CUT (C TO X)
 6. DO NOT LEAVE STUBS (B TO A)



BRANCHES PRUNED TO LIVE BUD

- PRUNING NOTES
1. PRUNE USING CLEAN AND SHARP SCISSOR TYPE PRUNER OR PRUNING SAW.
 2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
 3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
 4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

PRUNING

(Mn/DOT 2571.3K2a9)

ZONE MAP		
ZONES	LEGEND	APPROXIMATE MIN. TEMP.
2		-40° TO -50° F
3	•••••	-30° TO -40° F
4	//////	-20° TO -30° F

FOR ALL PLANT STOCK, DOCUMENT ACCEPTABILITY FOR HARDINESS IN THE MINNESOTA ZONE WHERE THE PROJECT SITE IS LOCATED, AS FOLLOWS:

- A. PLANT STOCK CONTINUOUSLY GROWN FOR AT LEAST THE LAST TWO YEARS WITHIN THE ACCEPTABLE LIMITS SHOWN.
- OR
- B. PLANT STOCK, GROWN OUTSIDE THE ACCEPTABLE GROWING RANGE LIMITS, HAVING THE SEED SOURCE OR ROOT AND GRAFT STOCK ORIGINATING FROM THE ACCEPTABLE LIMITS SHOWN.

(Mn/DOT 2571.2D)

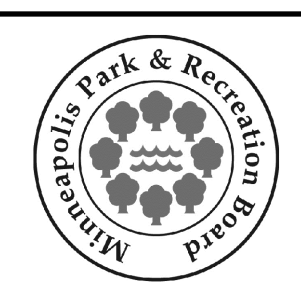
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NO	DATE	BY	CHKD	APPR

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 Landscape Architect under the laws of the State of Minnesota.

Print Name: SEAN C. JERGENS

Date: MARCH 22, 2019 License #: 47256



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DESIGNED BY S. JERGENS
CHECKED BY S. JERGENS
COMM. NO. 10547



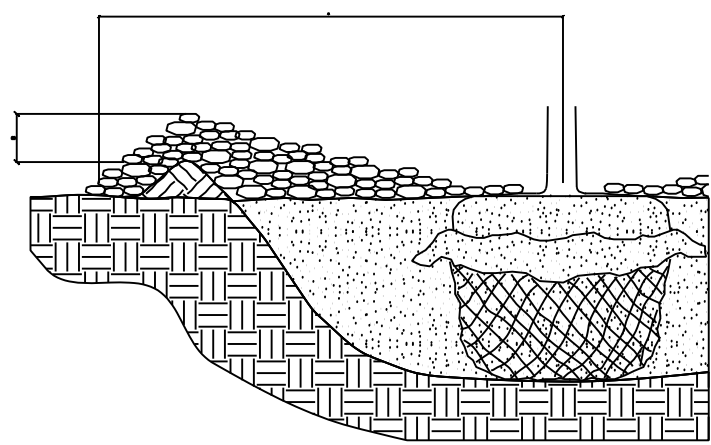
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PLANTING HOLE DIMENSIONS			
HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.			
PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	MINIMUM HOLE WIDTH (A)	APPROXIMATE HOLE DEPTH (B)
DECIDUOUS & ORNAMENTAL TREES	(3') B.R.	(46")	(13")
	(4') B.R.	(46")	(14")
	(5') B.R.	(48")	(14")
	(6') B.R.	(54")	(15")
	(7') B.R.	(60")	(16")
	(8') B.R.	(66")	(19")
	(0.75") B.B.	(48")	(12")
	(1") B.B.	(54")	(14")
	(1.25") B.B.	(60")	(14")
	(1.5") B.B.	(66")	(15")
	(1.75") B.B.	(72")	(16")
	(2") B.B.	(84")	(19")
	(4") B.B.	(42")	(11")
	(5") B.B.	(48")	(12")
	(6") B.B.	(54")	(14")
	(8") B.B.	(56")	(16")
	(10") B.B.	(66")	(16")
	(12") B.B.	(66")	(16")
	(1") B.B.	(48")	(14")
	(1.25") B.B.	(56")	(15")
	(1.5") B.B.	(61")	(15")
	(1.75") B.B.	(66")	(16")
	(2") B.B.	(72")	(16")
	(2.5") B.B.	(84")	(19")
	(3") B.B.	(96")	(20")
	(3.5") B.B.	(114")	(23")
	(4") B.B.	(126")	(25")
	DECIDUOUS SHRUBS, ROSES AND PERENNIALS	(12") B.R.	(24")
(15") B.R.		(28")	(8")
(18") B.R.		(30")	(8")
(2') B.R.		(33")	(9")
(3') B.R.		(42")	(11")
(4') B.R.		(48")	(12")
(5') B.R.		(54")	(14")
(6') B.R.		(60")	(14")
(18") B.B.		(27")	(7")
(2') B.B.		(30")	(8")
(3') B.B.	(36")	(9")	
(4') B.B.	(42")	(11")	
(5') B.B.	(48")	(12")	
(6') B.B.	(54")	(14")	

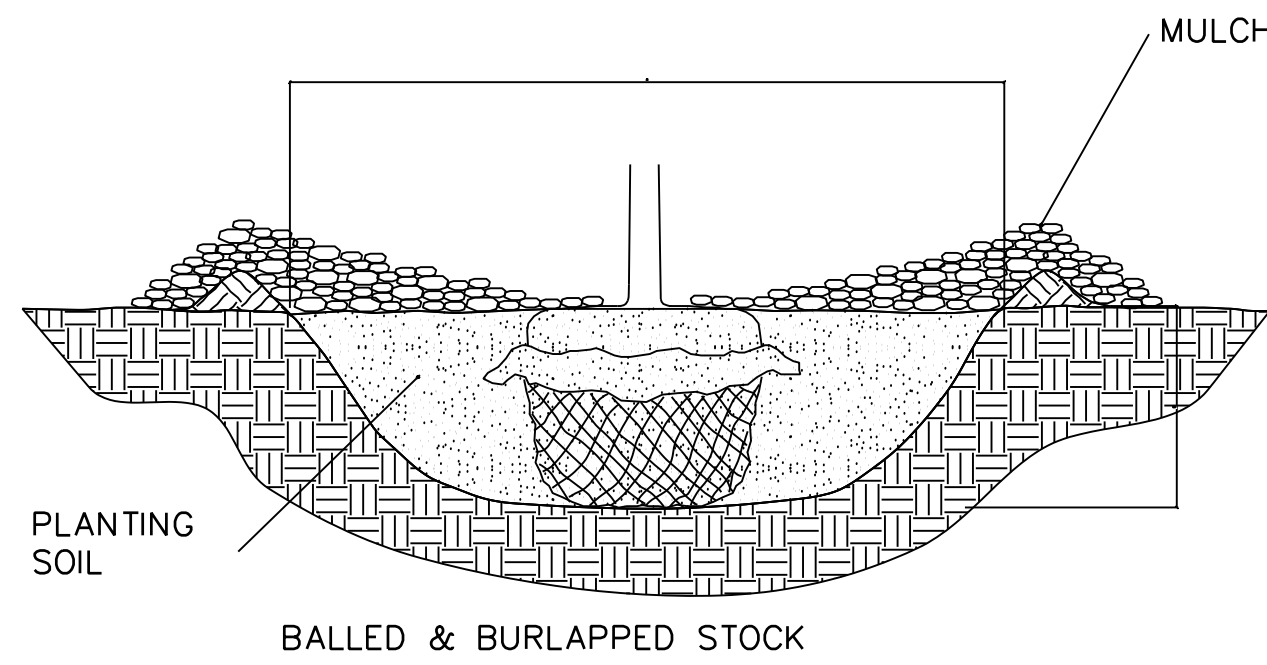
MULCH PLACEMENT		
TYPE OF PLANT	A	B
	FROM CENTER OF PLANT TO OUTSIDE EDGE OF MULCH	DEPTH OF MULCH
CONIFEROUS TREES	3' MIN.	4"-6"
DECIDUOUS TREES	3' MIN.	4"-6"
CONIFEROUS SHRUBS	3' MIN.	4"-6"
DECIDUOUS SHRUBS	3' MIN.	4"-6"
VINES	2' MIN.	4"-6"
PERENNIALS	2" MIN.	3"-4"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE	4"-6"



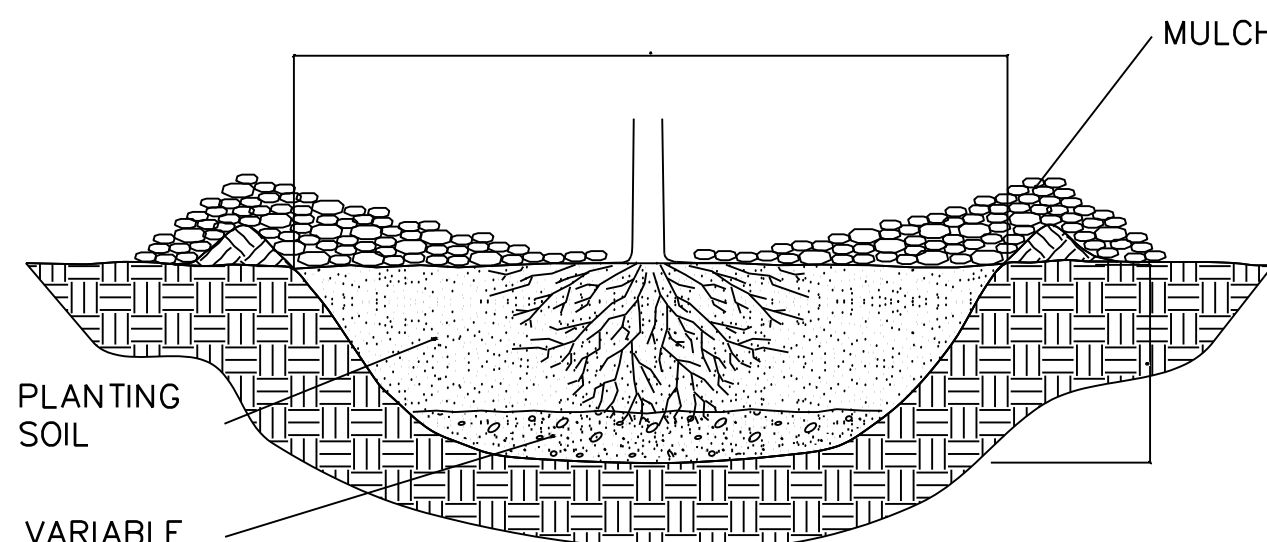
MULCH PLACEMENT

(Mn/DOT 2571.3H2)

- PULL MULCH BACK NO LESS THAN 3" AND NO MORE THAN 6" FROM TREE TRUNKS.
- SUBSIDING OR DETERIORATING MULCH IS ACCEPTABLE THROUGHOUT THE CONTRACT IF THE MULCH DEPTH IS MAINTAINED AT A MINIMUM 3" DEPTH.
- IF THE MULCH DEPTH IS LESS THAN 3" ADDITIONAL MULCH IS REQUIRED TO PROVIDE THE MINIMUM DEPTH SPECIFIED IN CHART BELOW.
- MULCH CONTAMINATED WITH SOIL MUST BE REMOVED AND REPLACED.



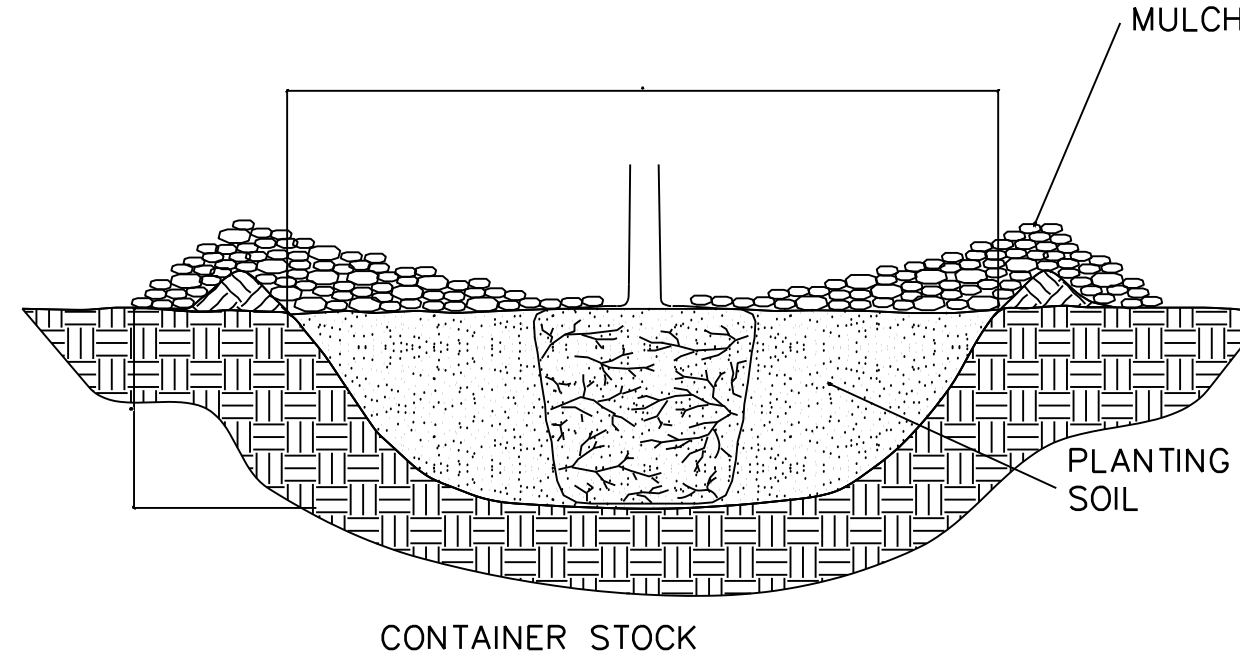
- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING.
- SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE WITH BURLAP AND WIRE BASKET, (IF USED), INTACT.
- SLIT REMAINING TREATED BURLAP AT 6" INTERVALS.
- BACKFILL TO WITHIN APPROXIMATELY 12" OF THE TOP OF THE ROOTBALL, THEN WATER PLANT. REMOVE THE TOP 1/3 OF THE BASKET OR THE TOP TWO HORIZONTAL RINGS WHICHEVER IS GREATER. REMOVE ALL BURLAP AND NAILS FROM THE TOP 1/3 OF THE BALL. REMOVE ALL TWINE. REMOVE OR CORRECT STEM GIRDLING ROOTS.
- PLUMB AND BACKFILL WITH PLANTING SOIL.
- WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
- BACK FILL VOIDS AND WATER SECOND TIME.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.



- SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND ROOTS.
- TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL.
- WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
- BACK FILL VOIDS AND WATER SECOND TIME.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

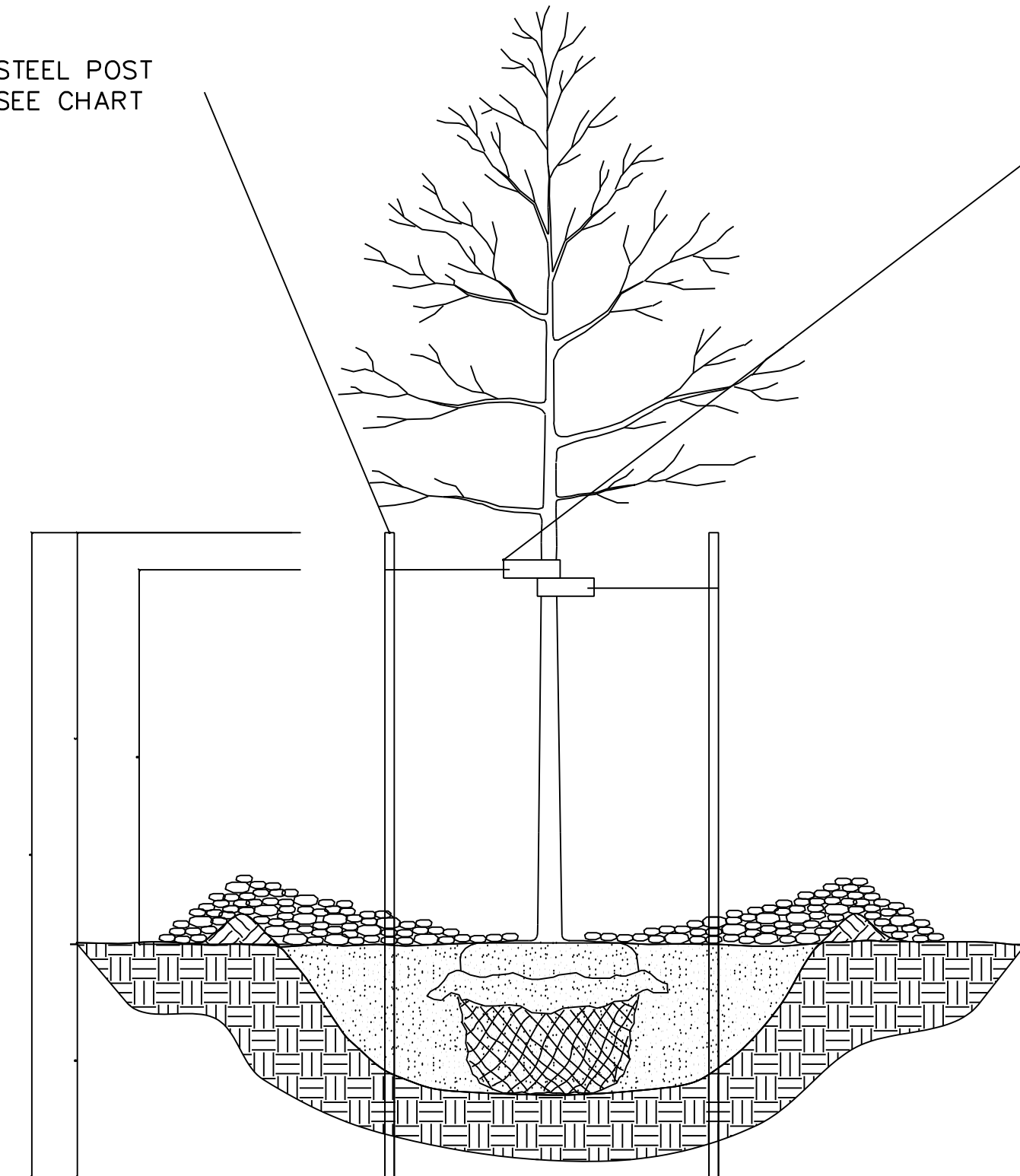
INSTALLATION OF PLANTS

(Mn/DOT 2571.3F)



- SCARIFY SIDES AND BOTTOM OF HOLE.
- PROCEED WITH CORRECTIVE PRUNING OF TOP AND ROOT.
- REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT AND PREVENT CIRCLING FIBROUS ROOTS. REMOVE OR CORRECT STEM GIRDLING ROOTS.
- SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE TOP OF THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE.
- PLUMB AND BACKFILL WITH PLANTING SOIL.
- WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
- BACK FILL VOIDS AND WATER SECOND TIME.
- PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

STEEL POST SEE CHART



16" LONG POLYPROPYLENE OR POLYETHYLENE, 40 MIL. THICK AND 1.5" WIDE STRAPS. ATTACH WITH 10 ga WIRE.

- STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
- REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.
- TREE STAKING IS NOT REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM, OR AS REQUESTED BY THE OWNER'S REPRESENTATIVE.
- REMOVE WITHIN ONE YEAR.

STAKING AND GUYING

(Mn/DOT 2571.3I1)

STEEL POST SIZING					
CALIPER	STEEL POST TYPE	A	B	C	D
LESS THEN 4 INCHES	ROLLED STEEL FENCE POST (Mn/DOT 3403) OR APPROVED EQUAL.	7'-0"	3'-0" MIN.	4'-0"	3'-0"
GREATER THEN 4 INCHES	10', 2.2 LB. FLANGED CHANNEL STEEL SIGN POST (Mn/DOT 3401) OR APPROVED EQUAL.	0'-0"	4'-0" MIN.	6'-0"	5'-0"

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NO	DATE	BY	CHKD	APPR

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 Landscape Architect under the laws of the State of Minnesota.
 Print Name: SEAN C. JERGENS
 Date: MARCH 22, 2019 License #: 47256



DRAWN BY R. BURAND
 DESIGNED BY S. JERGENS
 CHECKED BY S. JERGENS
 COMM. NO. 10547

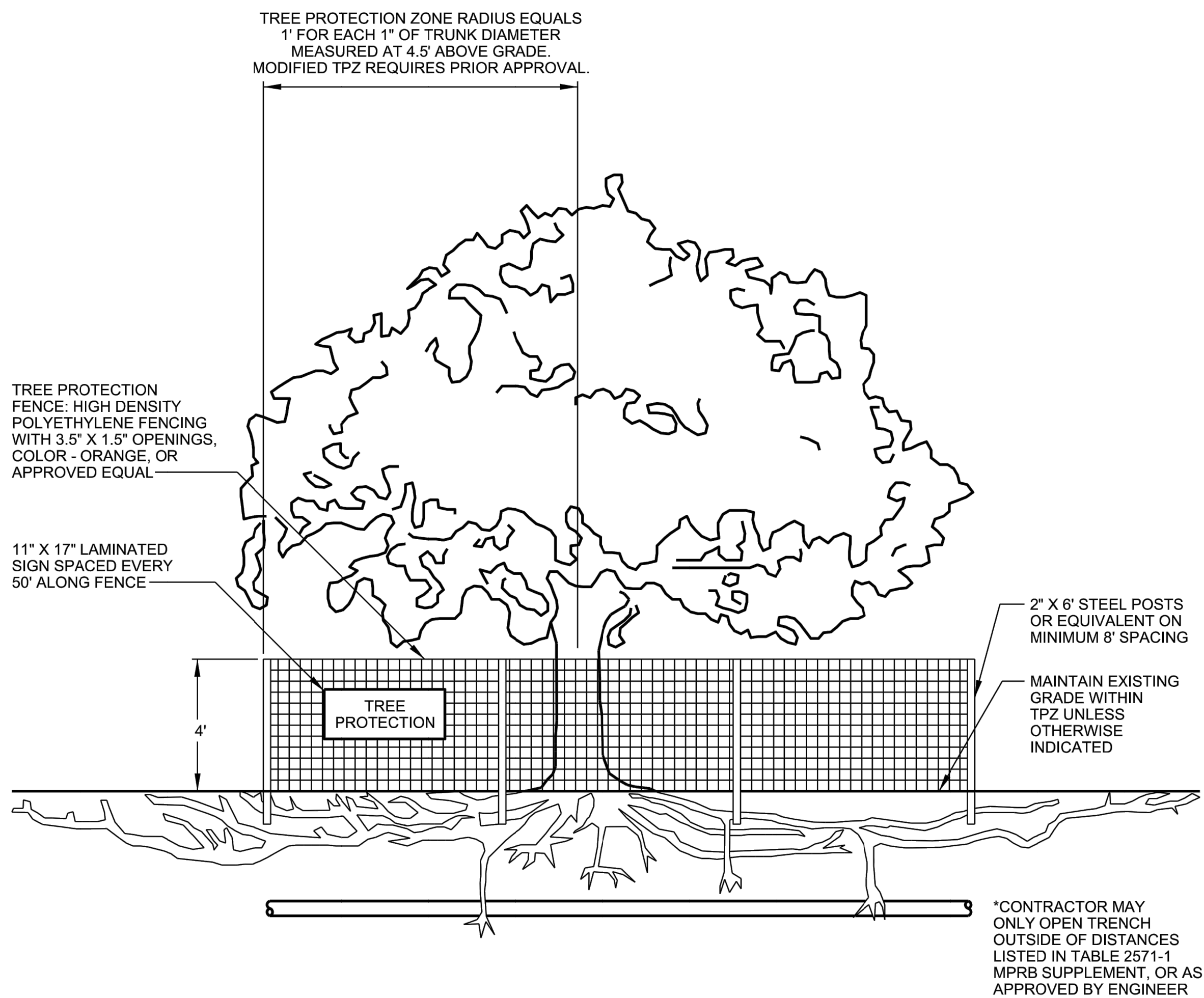


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- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL TREE PROTECTION REQUIREMENTS.
 - TREE PROTECTION FENCE MUST BE MAINTAINED UNTIL COMPLETION OF WORK.
 - NO TREE PRUNING SHALL BE DONE EXCEPT BY MPRB PRUNING PERMIT.
 - NO STORAGE OF MATERIALS OR OPERATION OF EQUIPMENT MAY TAKE PLACE INSIDE TPZ.



	DRW: CP	DATE: 2/19/16	TREE PROTECTION ZONE (TPZ)	STANDARD PLATE NO. FORE-1001
	APP: RCS	DATE: 2/19/16		

PLANT SCHEDULE

SYMBOL	QTY.	SIZE	BOTANICAL NAME	COMMON NAME
DECIDUOUS TREES				
ECO	1	2" CAL. B&B	<i>Populus deltoides</i>	Eastern cottonwood
BLW	5	#15 CONT.	<i>Salix nigra</i>	Black willow
RDM	6	2" CAL. B&B	<i>Acer rubrum</i>	Red maple
SWO	5	2" CAL. B&B	<i>Quercus bicolor</i>	Swamp white oak

SYMBOL	QTY.	SIZE	BOTANICAL NAME	COMMON NAME
UPLAND BUFFER DECIDUOUS SHRUBS				
PRO	13	#2 CONT.	<i>Rosa blanda</i>	Pasture rose
NBV	8	#2 CONT.	<i>Viburnum lentago</i>	Nannyberry viburnum
RDW	35	#2 CONT.	<i>Cornus sericea</i>	Red-osier dogwood
BUB	12	#2 CONT.	<i>Cephalanthus occidentalis</i>	Buttonbush

QTY.	SIZE	BOTANICAL NAME	COMMON NAME
UPLAND BUFFER HERBACEOUS PERENNIALS PLUGS			
Install plugs 2' on center in grid pattern in like species groupings of 3-5, after Seed Mix #1 is applied. See Landscape Plans for locations. Minimum plug container size is 2" wide and 11 cubic inches.			
60	2" PLUG	<i>Asclepias tuberosa</i>	Butterfly milkweed
60	2" PLUG	<i>Coreopsis palmata</i>	Prairie coreopsis
60	2" PLUG	<i>Echinacea angustifolia</i>	Narrow-leaved purple coneflower
60	2" PLUG	<i>Eupatorium perfoliatum</i>	Common boneset
60	2" PLUG	<i>Liatris pycnostachya</i>	Prairie blazing star
60	2" PLUG	<i>Penstemon grandiflorus</i>	Large beardtongue
60	2" PLUG	<i>Symphotrichum laeve</i>	Smooth blue aster
60	2" PLUG	<i>Tradescantia ohiensis</i>	Spiderwort
60	2" PLUG	<i>Verbena hastata</i>	Blue vervain
60	2" PLUG	<i>Zizia aurea</i>	Golden Alexanders
600	TOTAL		

QTY.	SIZE	BOTANICAL NAME	COMMON NAME
SHORELINE HERBACEOUS PERENNIAL PLUGS - MIX 1			
Install plugs 2' on center in grid pattern in like species groupings of 3-5, after Seed Mix #2 is applied. See Landscape Plans for locations. Minimum plug container size is 2" wide and 11 cubic inches.			
60	2" PLUG	<i>Asclepias incarnata</i>	Swamp milkweed
60	2" PLUG	<i>Carex vulpinoidea</i>	Fox sedge
60	2" PLUG	<i>Geranium maculatum</i>	Wild geranium
60	2" PLUG	<i>Hydrophyllum virginianum</i>	Virginia waterleaf
60	2" PLUG	<i>Iris versicolor</i>	Blue flag iris
60	2" PLUG	<i>Juncus torreyi</i>	Torrey's rush
60	2" PLUG	<i>lobelia siphilitica</i>	Blue lobelia
60	2" PLUG	<i>Pycnanthemum virginianum</i>	Virginia mountain mint
60	2" PLUG	<i>Spartina pectinata</i>	Prairie cordgrass
60	2" PLUG	<i>Zizia aurea</i>	Golden Alexanders
600	TOTAL		

QTY.	SIZE	BOTANICAL NAME	COMMON NAME
SHORELINE HERBACEOUS PERENNIAL PLUGS - MIX 2			
Install plugs 2' on center in grid pattern in like species groupings of 3-5, after Seed Mix #2 is applied. See Landscape Plans for locations. Minimum plug container size is 2" wide and 11 cubic inches.			
60	2" PLUG	<i>Carex vulpinoidea</i>	Fox sedge
180	2" PLUG	<i>Spartina pectinata</i>	Prairie cordgrass
240	TOTAL		

QTY.	SIZE	BOTANICAL NAME	COMMON NAME
EMERGENT HERBACEOUS PERENNIALS			
Install plugs 2' on center in triangular pattern in like species groupings of 3-5. See Landscape Plans for locations. Minimum plug container size is 2" wide and 11 cubic inches.			
200	2" PLUG	<i>Bolboschoenus fluviatilis</i>	River bulrush
200	2" PLUG	<i>Carex lacustris</i>	Lake sedge
4307	2" PLUG	<i>Schoenoplectus acutus*</i>	Hard-stem bulrush
200	2" PLUG	<i>Schoenoplectus pungens</i>	Common three-square
200	2" PLUG	<i>Sparganium eurycarpum</i>	Giant bur-reed
5107	TOTAL		

*Note: Schoenoplectus acutus plugs must be > 3' tall.

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NO	DATE	BY	CKD	APPR

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Print Name: SEAN C. JERGENS

Sean C. Jergens

Date: MARCH 22, 2019 License # 47256

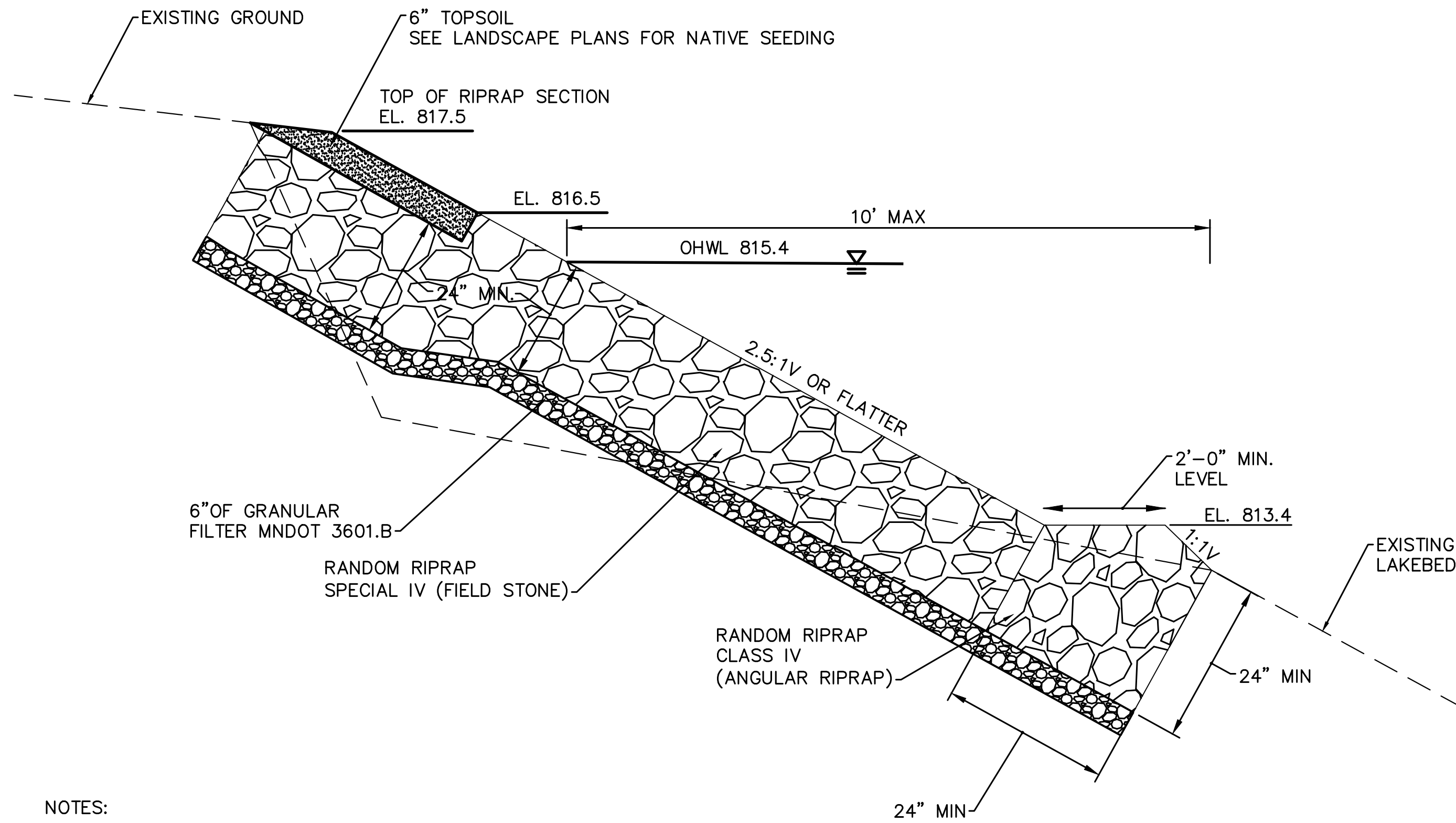
DRAWN BY: R. BURAND
 DESIGNED BY: S. JERGENS
 CHECKED BY: S. JERGENS
 COMM. NO. 10547

APPLIED ECOLOGICAL SERVICES

 SRE Consulting Group, Inc.

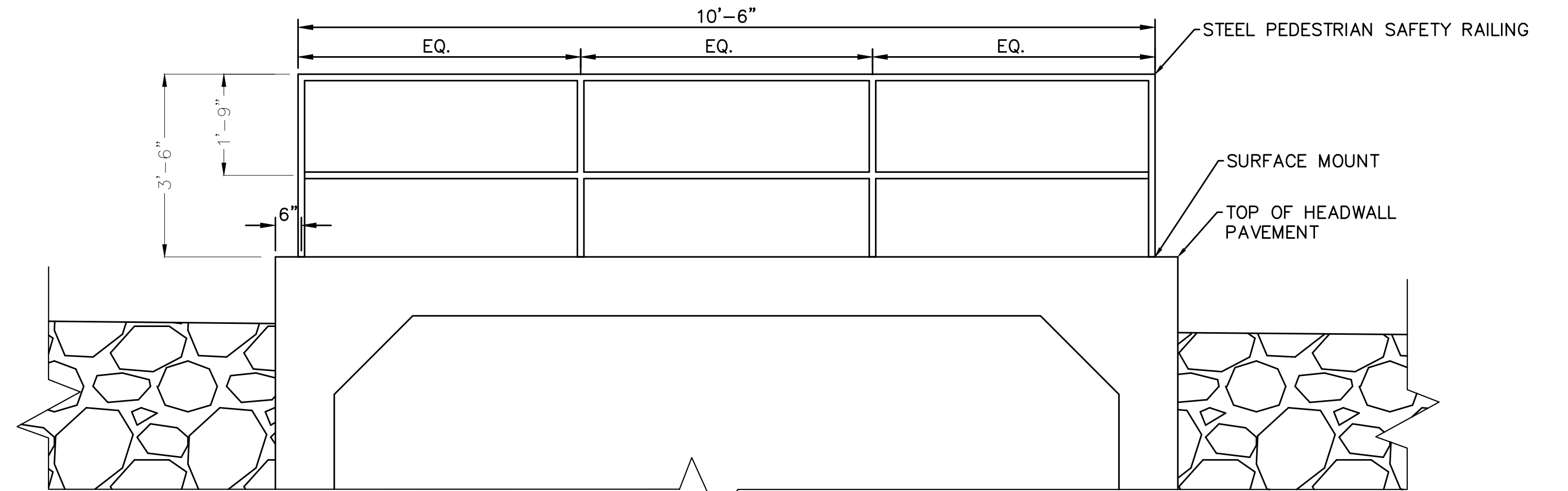
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NOTES:

1. GRADE EXISTING GROUND WITH ONSITE MATERIAL FOR PLACEMENT OF THE RIPRAP SLOPE STABILIZATION. TOP OF THE SLOPE SHOULD BE ROUNDED AND SMOOTHED AS SHOWN IN PLAN VIEW. IF LIMESTONE BLOCKS ARE FOUND, THEY SHOULD BE LEFT IN PLACE.
2. RANDOM RIPRAP CLASS SPECIAL IV AND RANDOM RIPRAP CLASS IV SHALL BE MEASURED BY THE CU. YD. PLACED. SEE SPECIAL PROVISIONS.
3. PLACE RIPRAP STARTING FROM THE BOTTOM OF THE SLOPE. RANDOM RIPRAP CLASS IV SHALL BE AT LEAST 50% BURIED. DO NOT PLACE RIPRAP SPECIAL (FIELD STONE) UNTIL RIPRAP CLASS IV HAS BEEN PLACED.



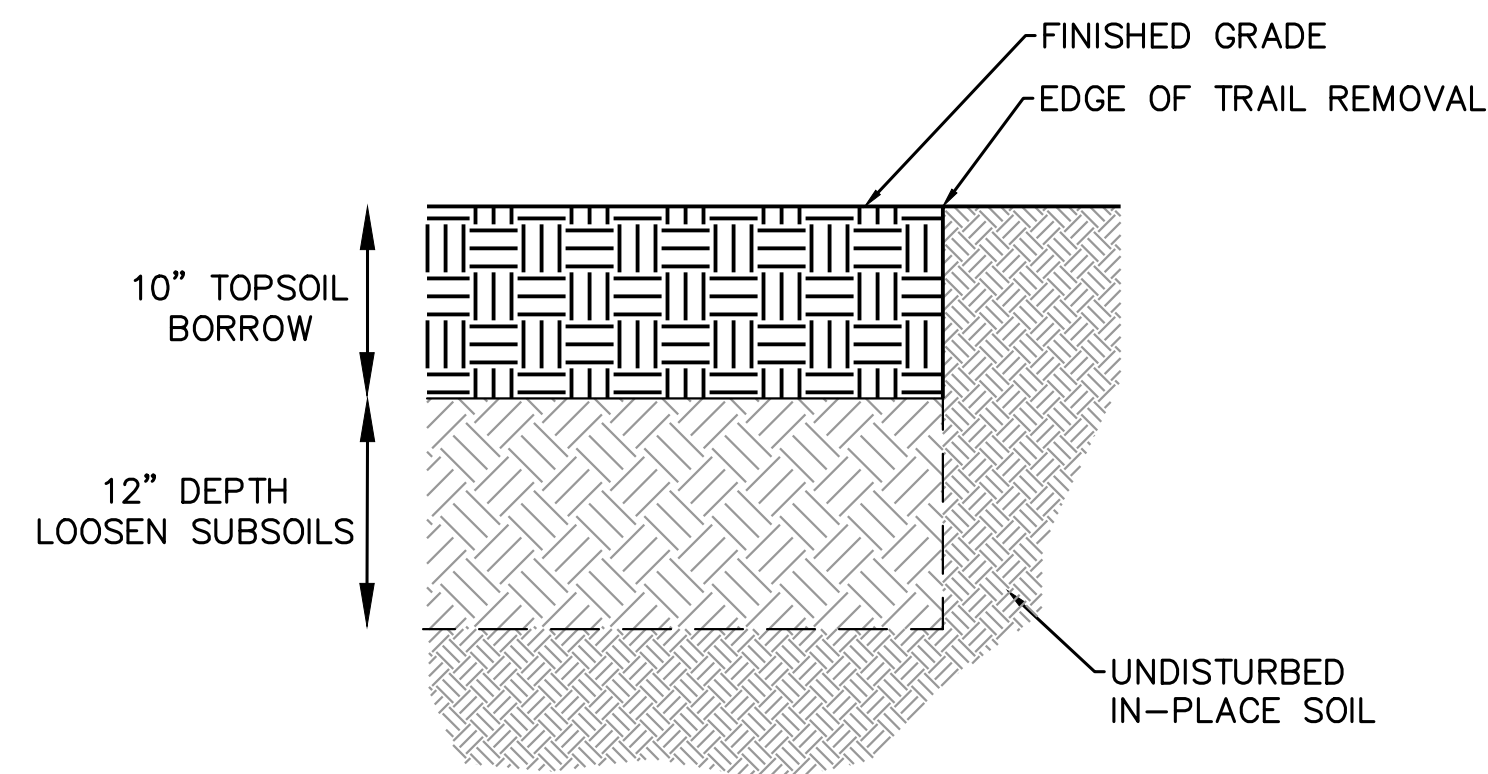
FRONT ELEVATION

NOTES:

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO FABRICATION. SHOP DRAWINGS SHALL INCLUDE MATERIALS LAYOUT, HARDWARE, CONNECTIONS TO OTHER WORK, FINISHES, AND ANCHORAGE DETAILS.
2. ALL FASTENERS SHALL COMPLY WITH MNDOT 3391.A.
3. ALL FASTENERS SHALL BE HOT-DIPPED GALVANIZED AND PAINTED TO MATCH RAILING.
4. ALL WELDS SHALL BE GROUND SMOOTH.
5. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.
6. SEE SPECIFICATIONS FOR MORE INFORMATION.

1
22 SHORELINE RIPRAP STABILIZATION TYPE 1 DETAIL
NOT TO SCALE

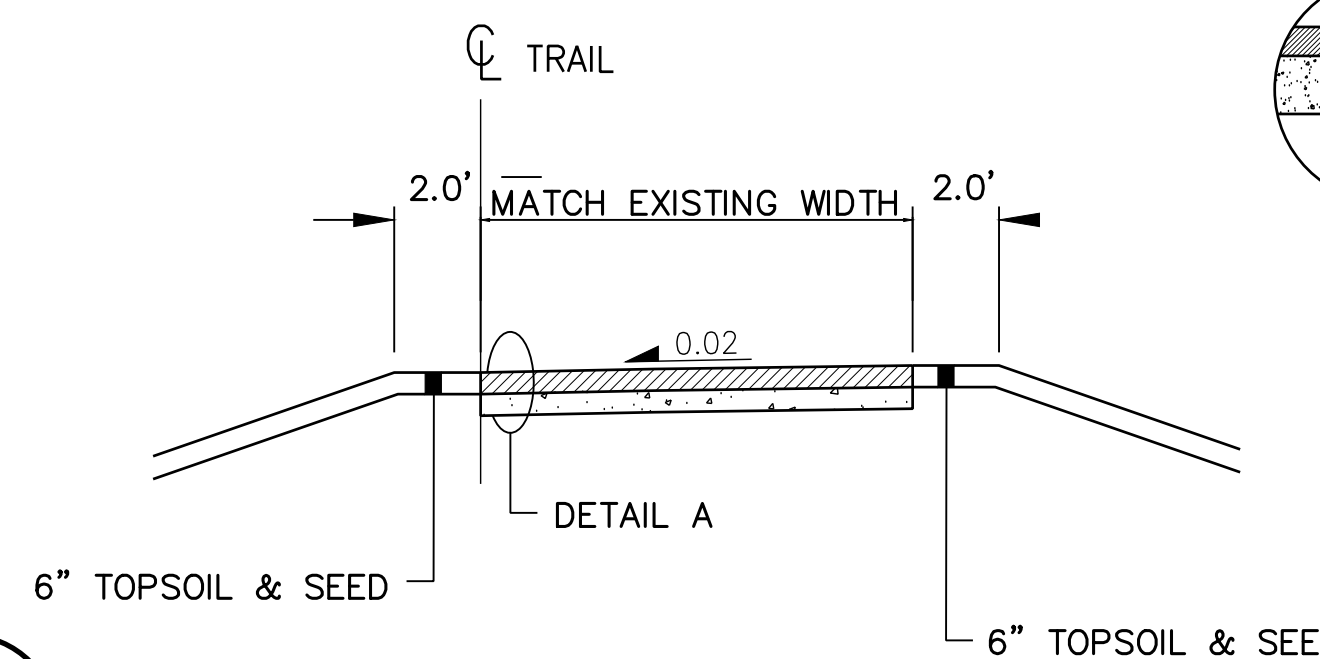
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22 PEDESTRIAN SAFETY RAILING DETAIL
NOT TO SCALE



NOTES:

1. REMOVE EXISTING ASPHALT TRAIL AND COMPACTED AGGREGATE BASE.
2. LOOSEN SUBSOILS TO DEPTH OF 12" WITH FROST RIPPER.
3. PLACE TOPSOIL BORROW AND MATCH EXISTING GRADE AT EDGES.
4. SEE LANDSCAPE PLANS FOR NATIVE SEEDING.

3
22 TRAIL REMOVAL AND SOIL REPAIR DETAIL
NOT TO SCALE



- 3" BITUMINOUS WEARING COURSE MIX
MnDOT SPEC. 2360 SPWEB230B
- 6" AGGREGATE BASE, CLASS 5
MnDOT SPEC. 2211
- COMPACTED SUBGRADE (COST OF SUBGRADE PREPARATION FOR WALKS SHALL BE INCIDENTAL)

NOTES:

1. SAWCUT EXISTING BITUMINOUS TRAIL PERPENDICULAR TO WHERE TRAIL REPAID BEGINS.

4
22 BITUMINOUS TRAIL REPAIR DETAIL
NOT TO SCALE

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NO	DATE	BY	CKD	APPR

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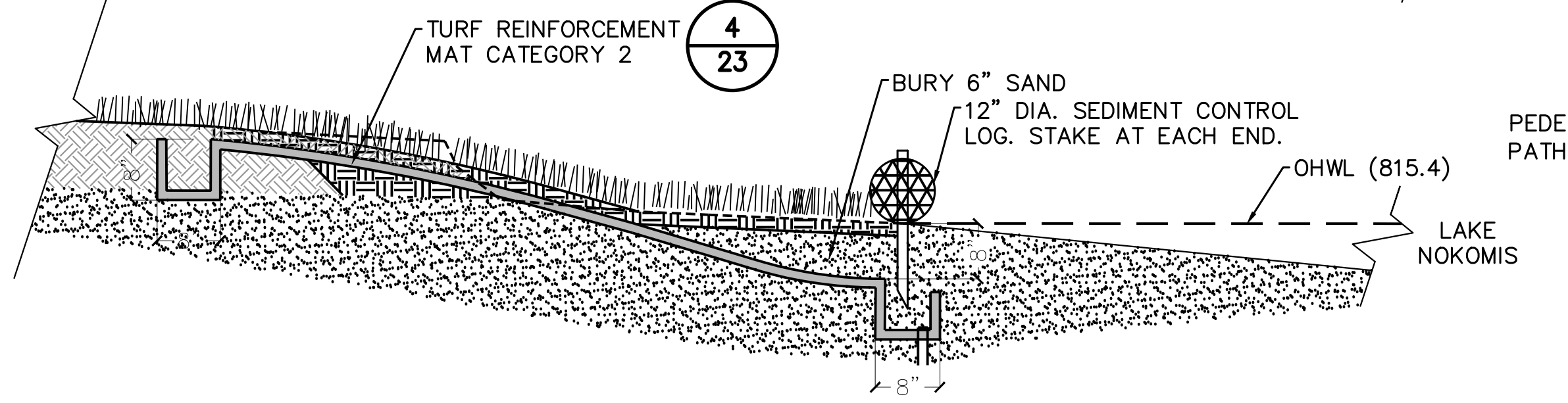
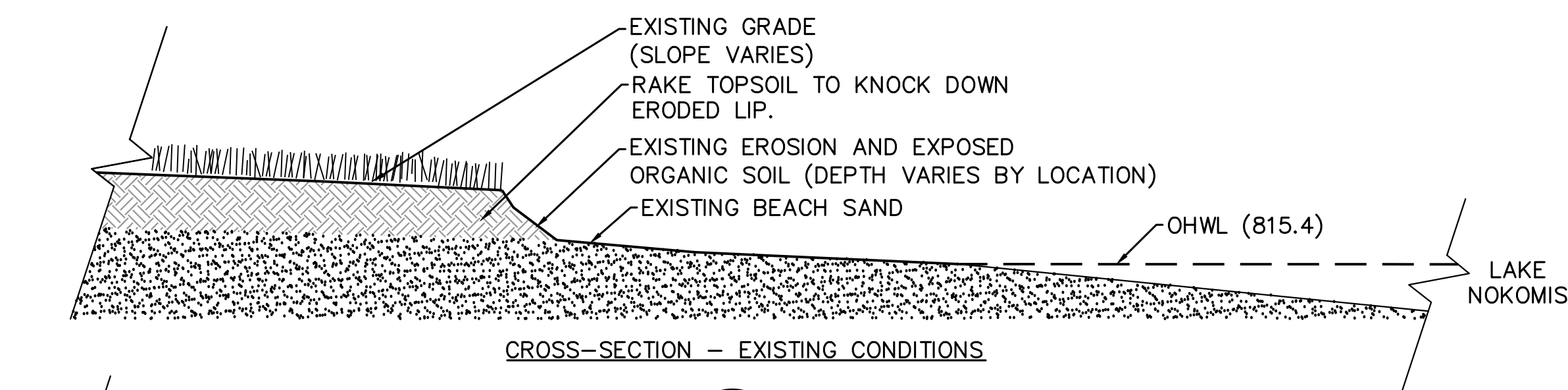


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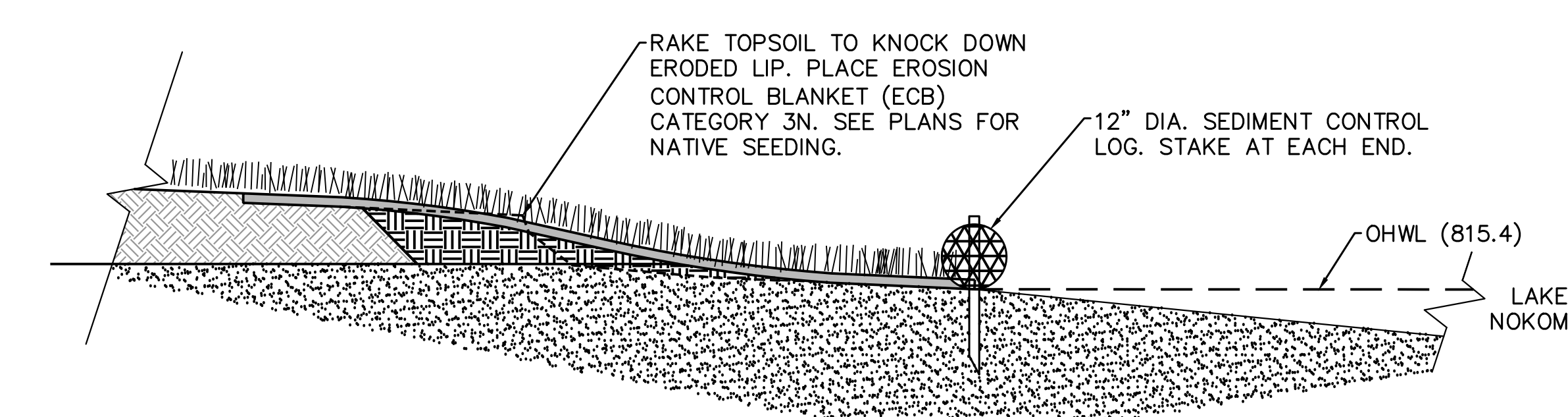
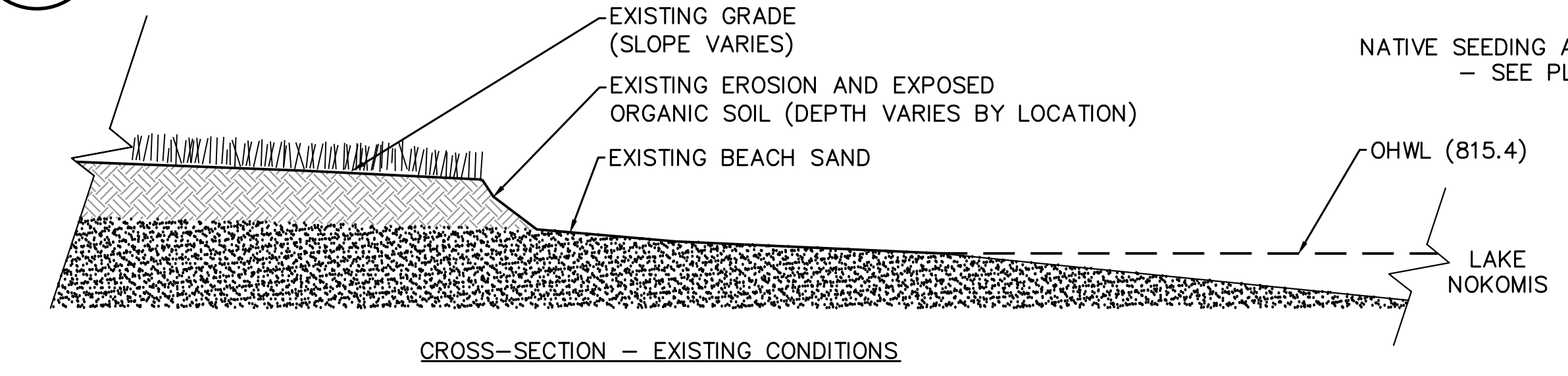
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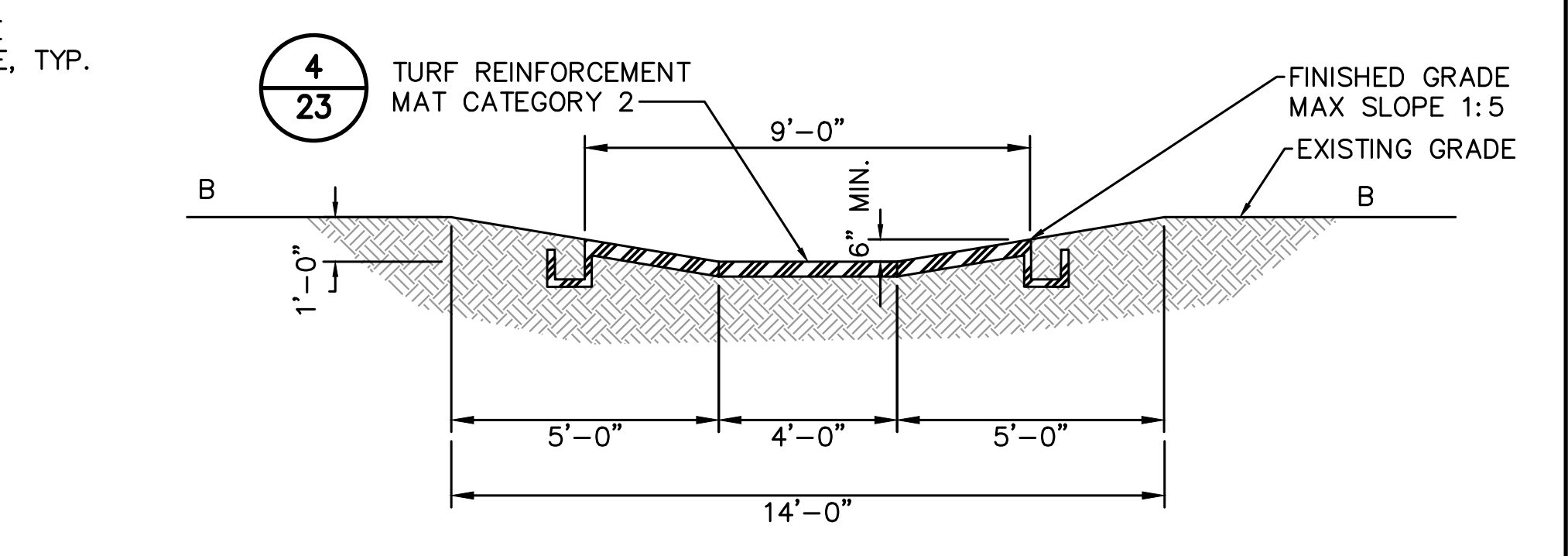
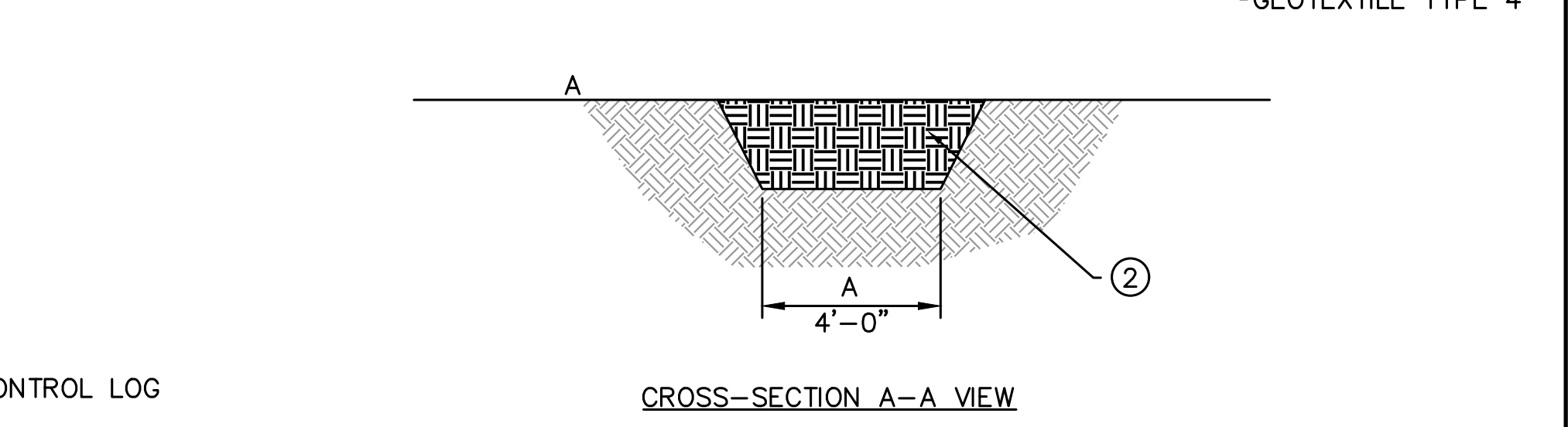
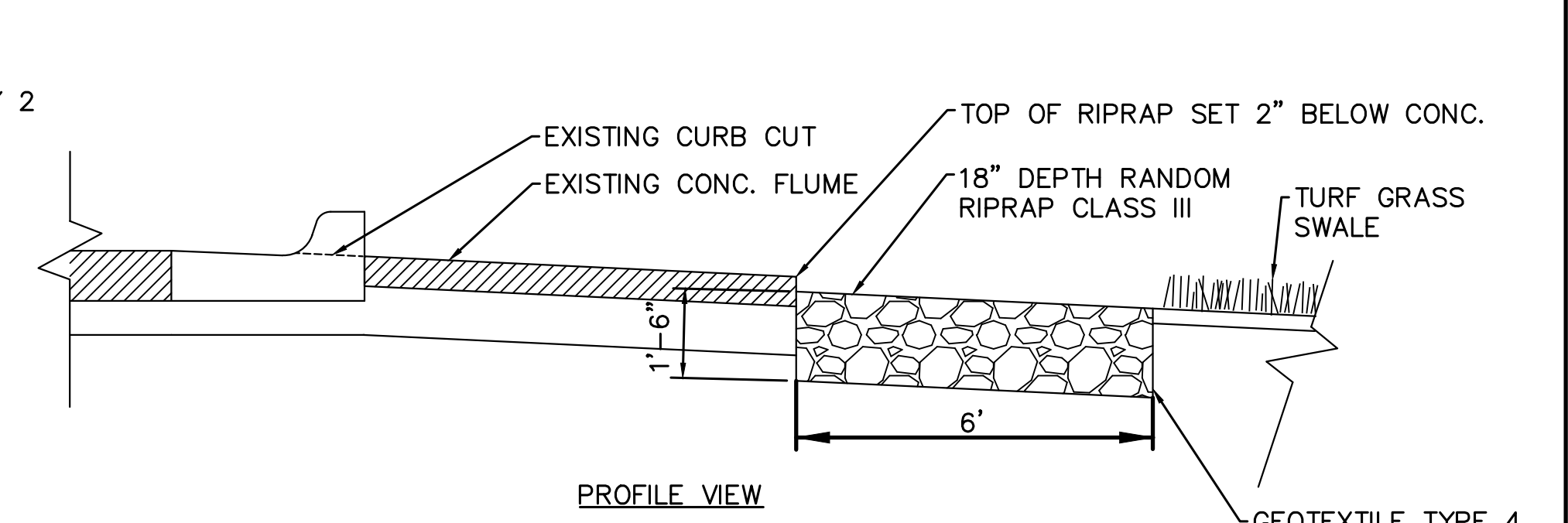
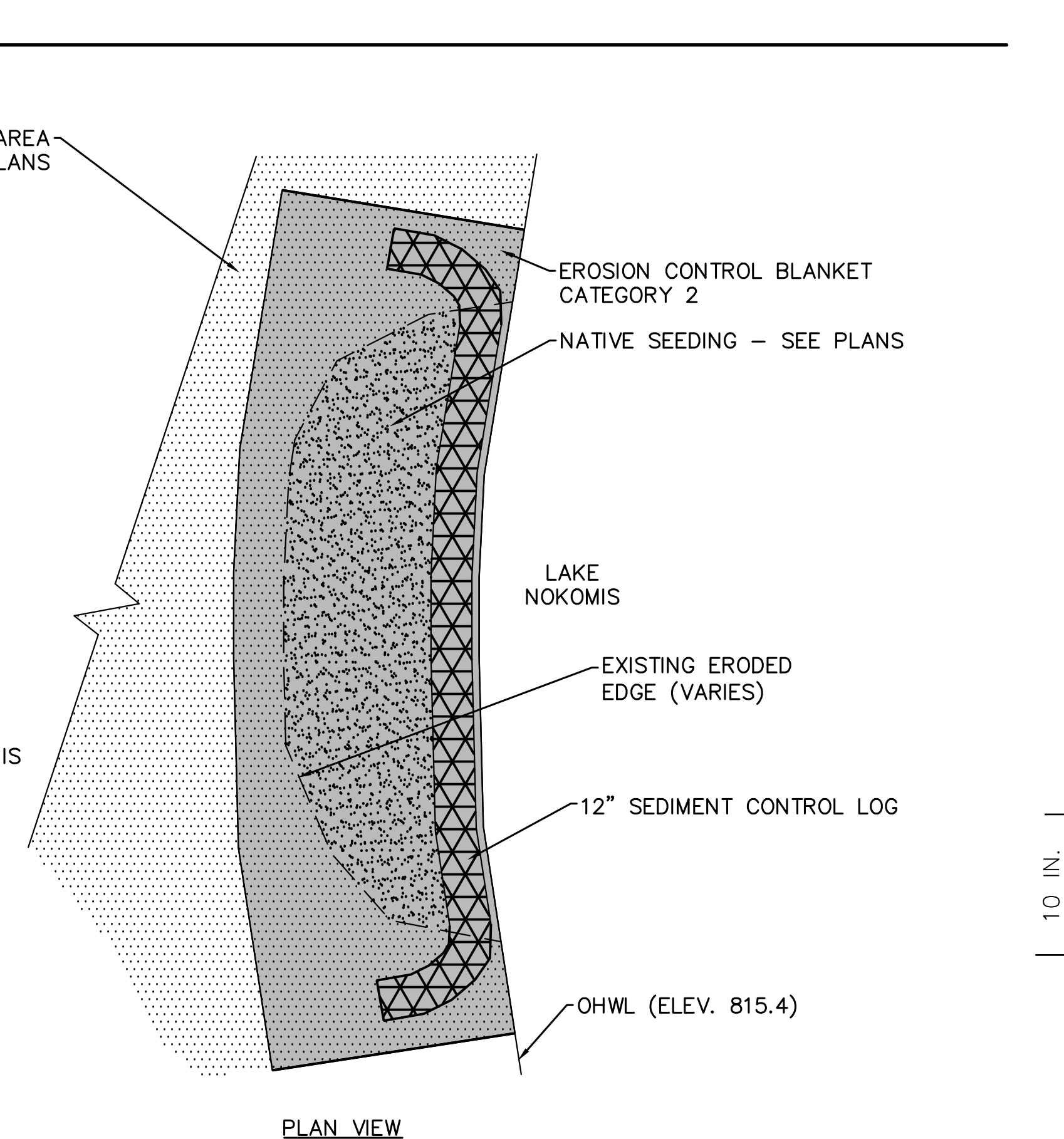
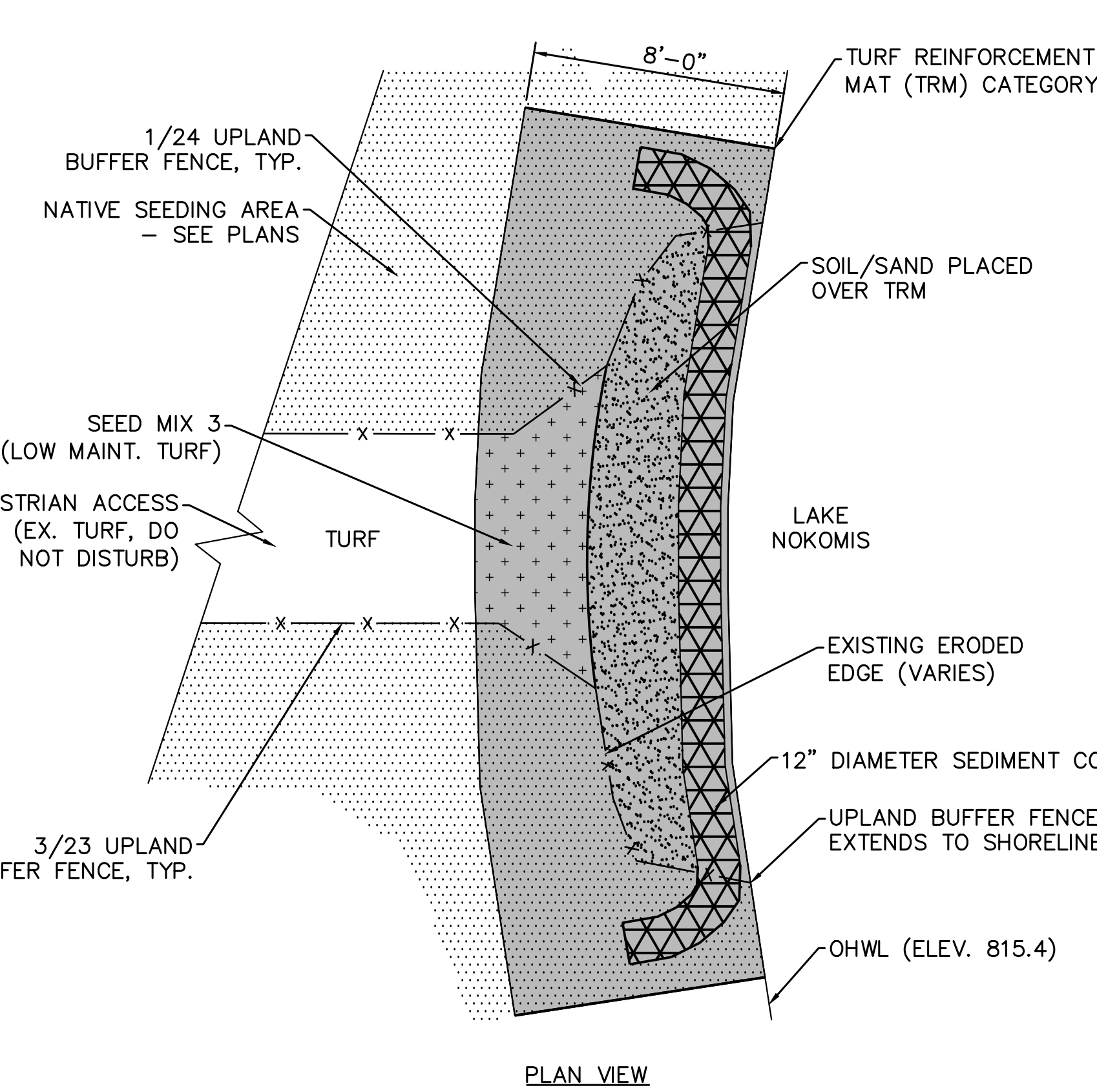
- NOTES:
- CROSS-SECTION - REPAIR DETAIL**
1. KNOCK DOWN ERODED ORGANIC SOIL RIDGE AND SMOOTH INTO FINISHED GRADE. APPLY TURF REINFORCEMENT MAT (TRM) AND ANCHOR WITH MANUFACTURER APPROVED WOODEN STAKES.
 2. FILL TRM WITH 2" TOPSOIL ON PEDESTRIAN ACCESS PATH. COVER WITH ADDITIONAL 1" SANDY CLAY LOAM TOPSOIL AND 6" SAND IN EXISTING BEACH SAND AREAS. APPLY EROSION CONTROL BLANKET AND TURF SEED TO PEDESTRIAN PATH AS SHOWN IN THE LANDSCAPE PLANS.
 3. NO GRADING PERMITTED OUTSIDE OF THE CONSTRUCTION LIMITS. NO FILL PERMITTED AT OR BELOW WETLAND BOUNDARY OR OHWL.

1
23 SHORELINE ACCESS SITE EROSION REPAIR DETAIL
NOT TO SCALE



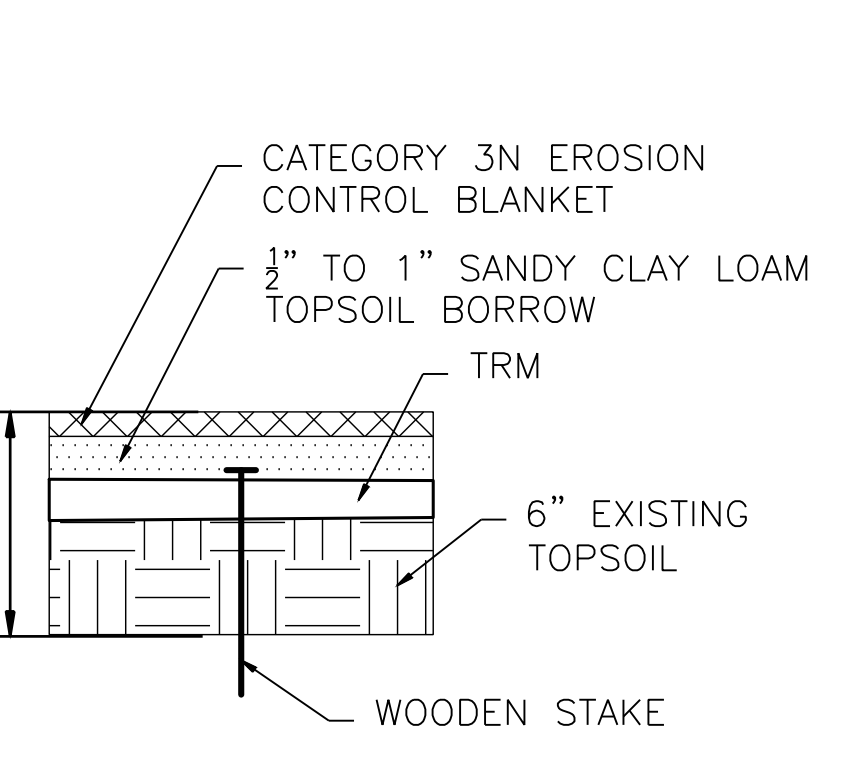
- NOTES:
- CROSS-SECTION - REPAIR DETAIL**
1. KNOCK DOWN ERODED ORGANIC SOIL RIDGE AND SMOOTH INTO FINISHED GRADE.
 2. PLACE EROSION CONTROL BLANKET. APPLY NATIVE SEED TO SHORELINE AND UPLAND ZONES AS SHOWN IN THE LANDSCAPE PLANS.
 3. NO GRADING PERMITTED OUTSIDE OF THE CONSTRUCTION LIMITS. NO FILL PERMITTED AT OR BELOW WETLAND BOUNDARY OR OHWL.

2
23 SHORELINE REVEGETATION SITE EROSION REPAIR DETAIL
NOT TO SCALE



- NOTES:
1. REMOVE BROKEN CONC. PAVEMENT FROM ERODING CHANNEL, BELOW INTACT CONC. FLUME.
 2. FILL TRENCH WITH SALVAGED TOPSOIL AND RE-GRADE ADJACENT SLOPE. FINISHED GRADE SHALL NOT EXCEED 1:6.

3
23 CHANNEL EROSION REPAIR DETAIL
NOT TO SCALE



- TRM CONSTRUCTION NOTES:
1. PREPARE AND SMOOTH SURFACE.
 2. PLACE TOPSOIL, THEN PLACE TRM (SEE SPECIAL PROVISIONS).
 3. USE A MINIMUM OF 8" X 8" ANCHOR TRENCHES TO SECURE ENDS.
 4. MINIMUM OF 3" OVERLAP, PLACE UPSTREAM OVER DOWNSTREAM AND SECURE WITH STAKES.
 5. FOLLOW APPROVED MNDOT SUPPLIER'S MANUFACTURER'S RECOMMENDATIONS FOR STAKING PATTERNS.
 6. FILL TRM WITH SANDY CLAY LOAM TOPSOIL BORROW PER SPEC 3877 TO A DEPTH OF 2 INCHES. BURY WITH 6" SAND IF IN BEACH AREA.
 7. SMOOTH SOIL AND PLACE SEED AND FERTILIZER AS SHOWN IN LANDSCAPE PLANS.
 8. PLACE CATEGORY 3 EROSION CONTROL BLANKET.
 9. WATER TRM PER SPEC 2575, SEE SPECIAL PROVISIONS.

4
23 TURF REINFORCEMENT MAT (TRM) TYPICAL SECTION
NOT TO SCALE

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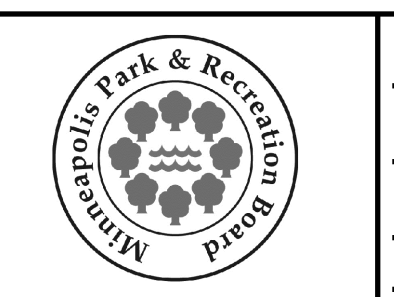
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Print Name: **SEAN C. JERGENS**

Sean Jergens

Date: **MARCH 22, 2019** License # **47256**



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S. JERGENS
CHECKED BY
S. JERGENS
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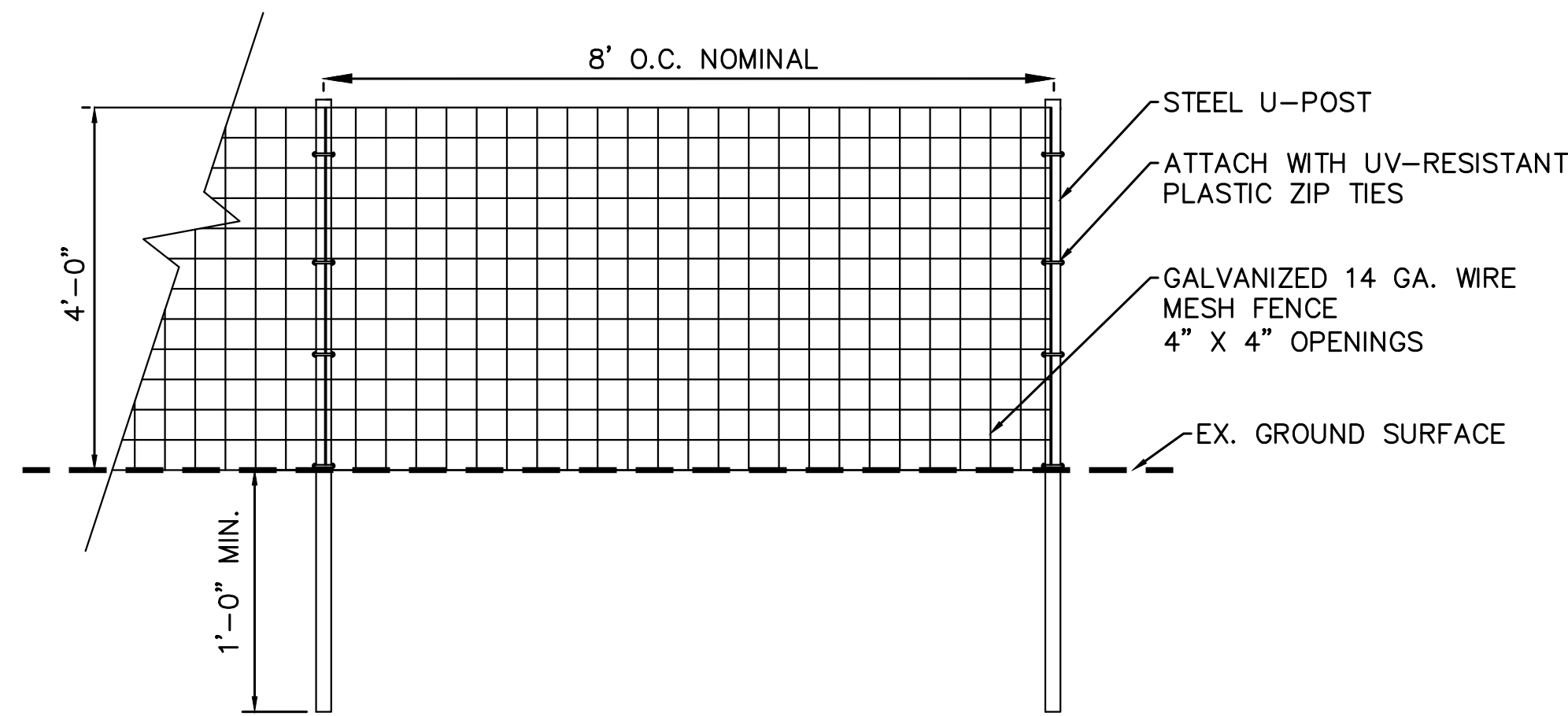


MINNEAPOLIS PARK & RECREATION BOARD

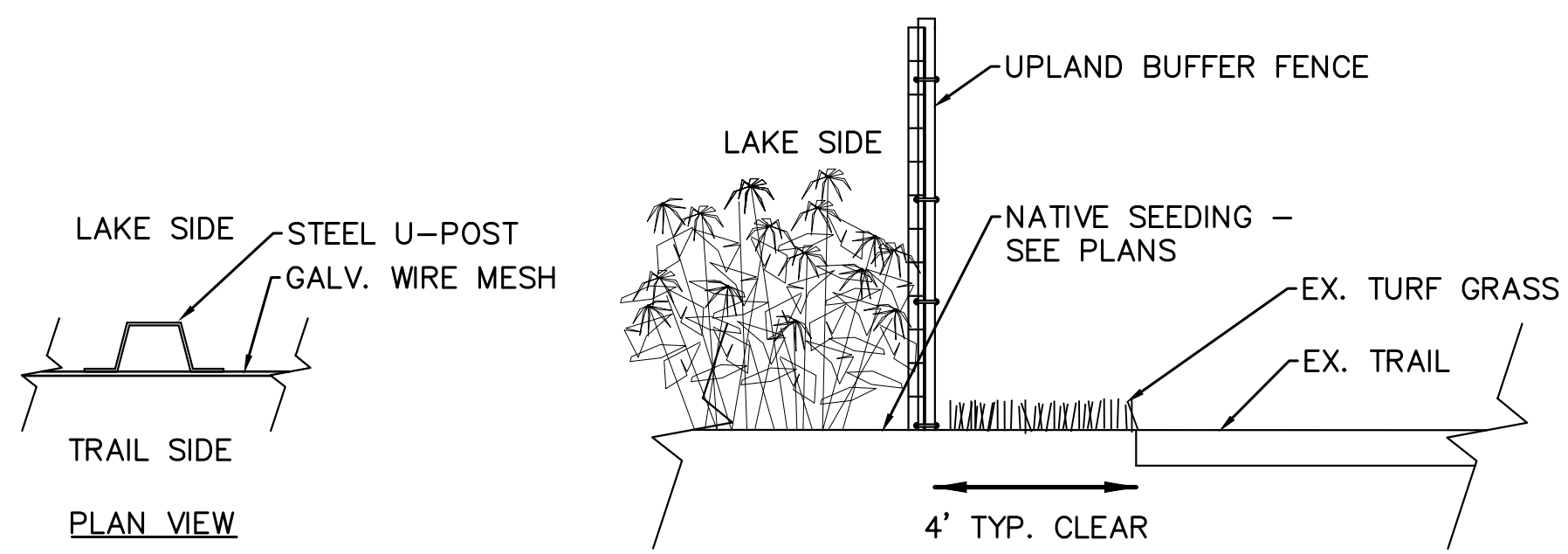
LANDSCAPE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

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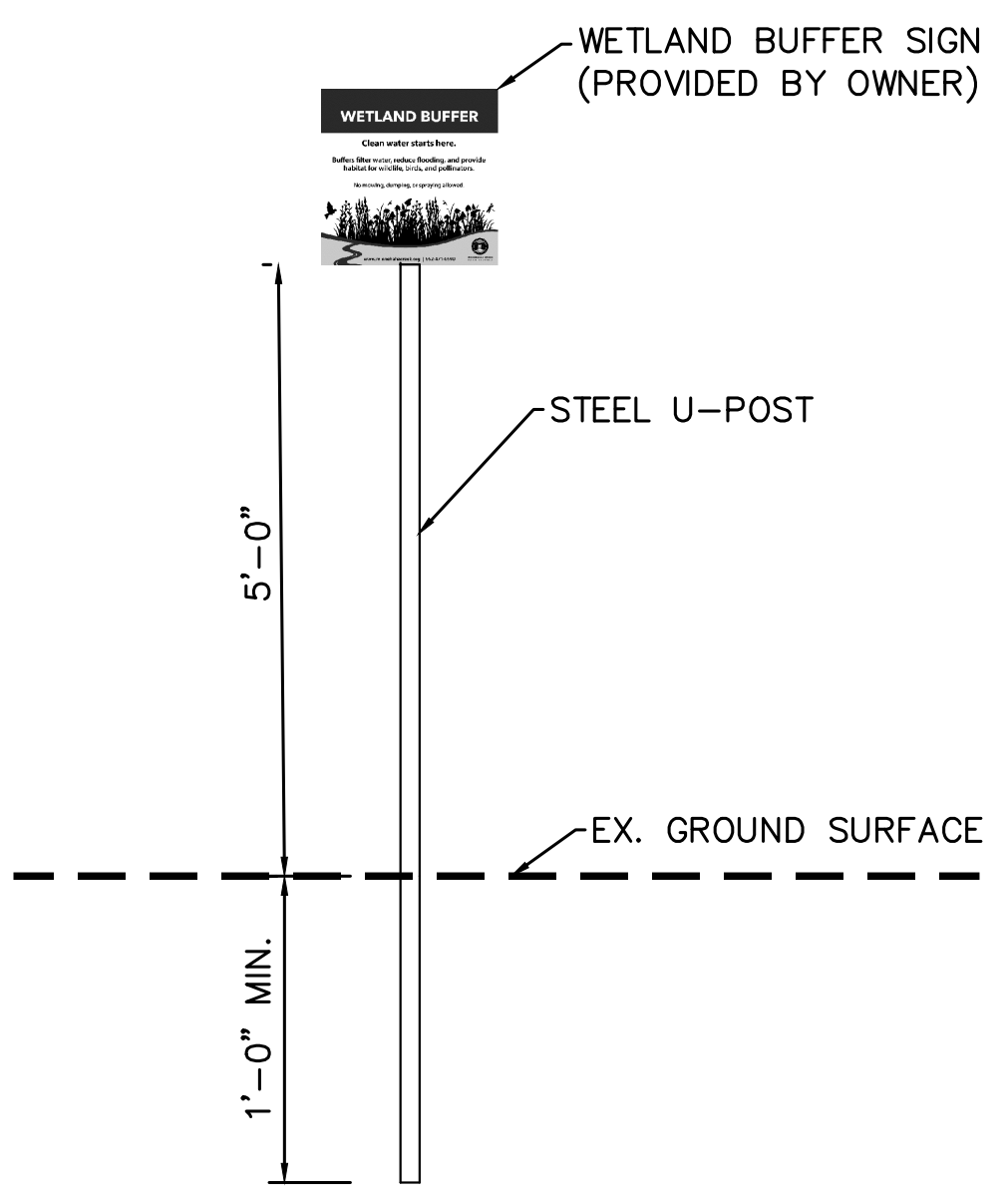


ELEVATION - TYPICAL FENCE SEGMENT



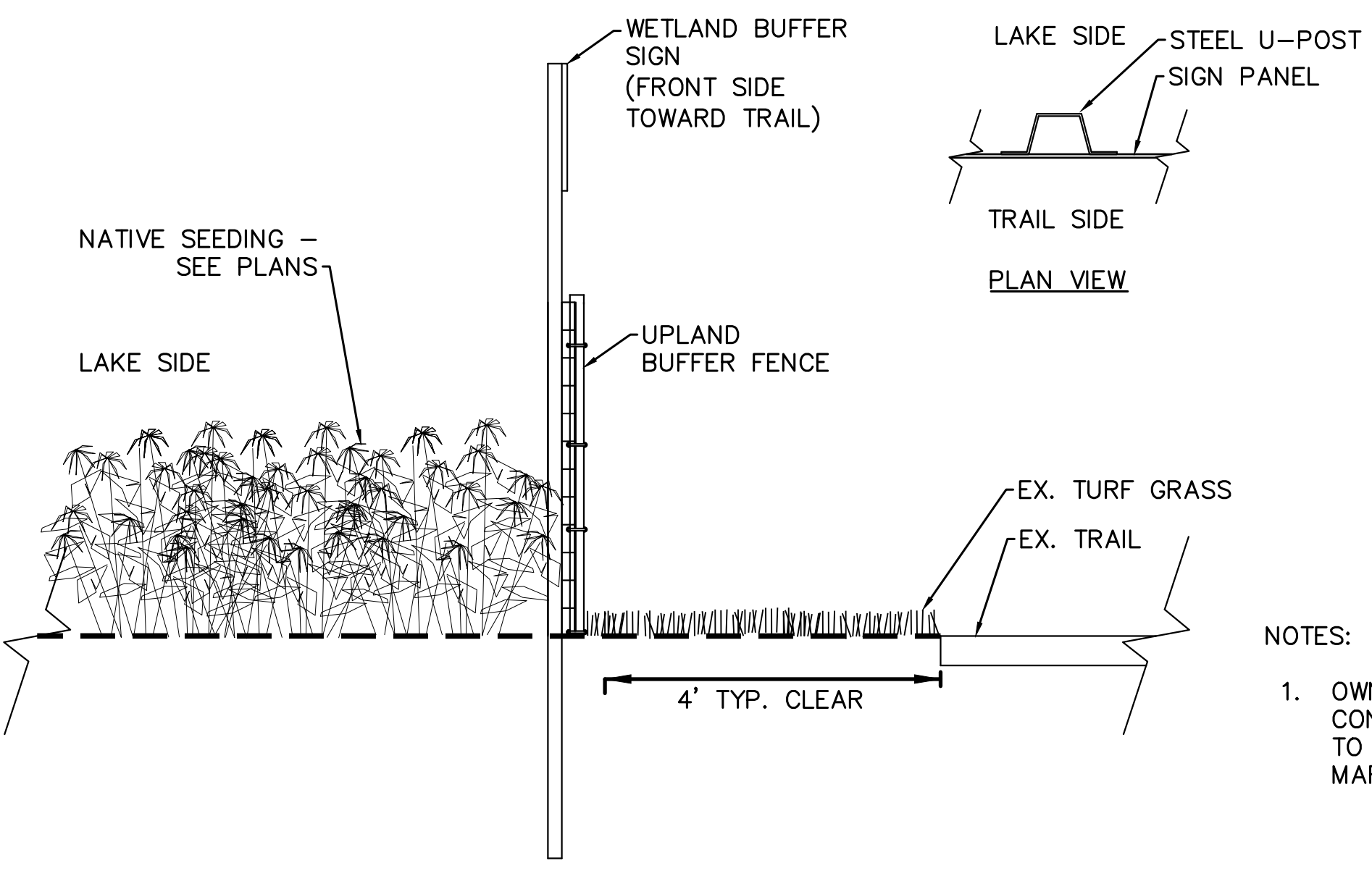
CROSS-SECTION VIEW

1
24 UPLAND BUFFER FENCE DETAIL
NOT TO SCALE



ELEVATION - FRONT VIEW

3
24 WETLAND BUFFER SIGN DETAIL
NOT TO SCALE



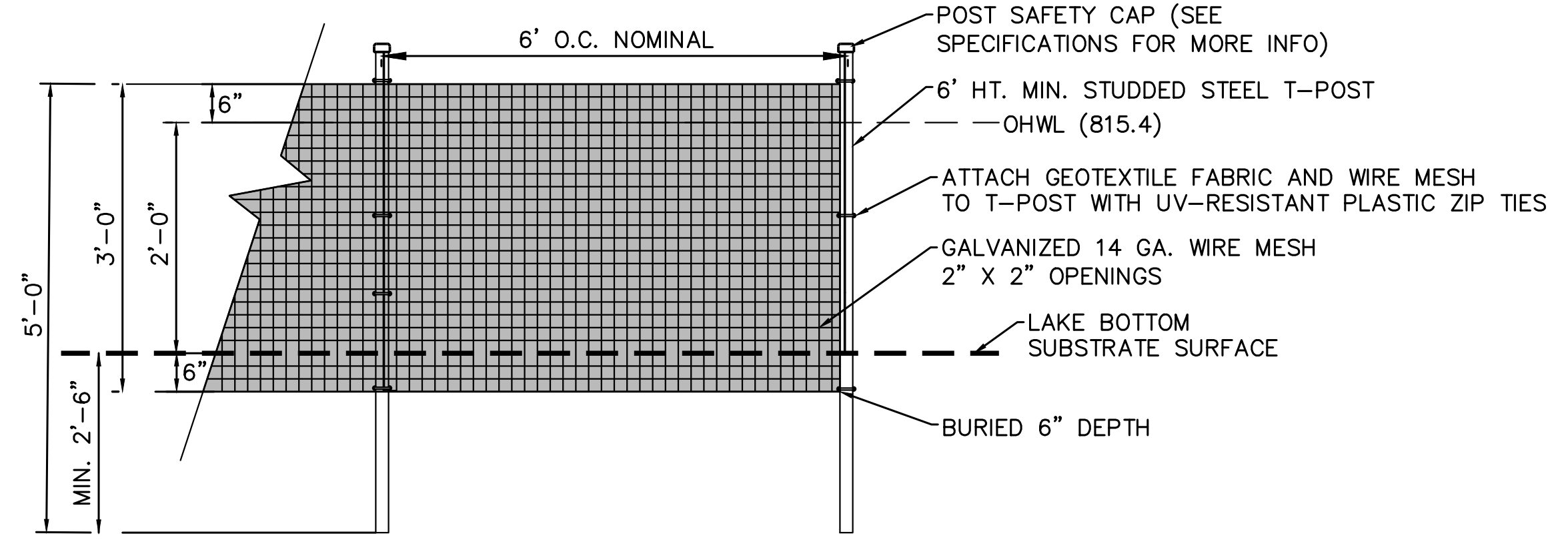
PLAN VIEW

NOTES:

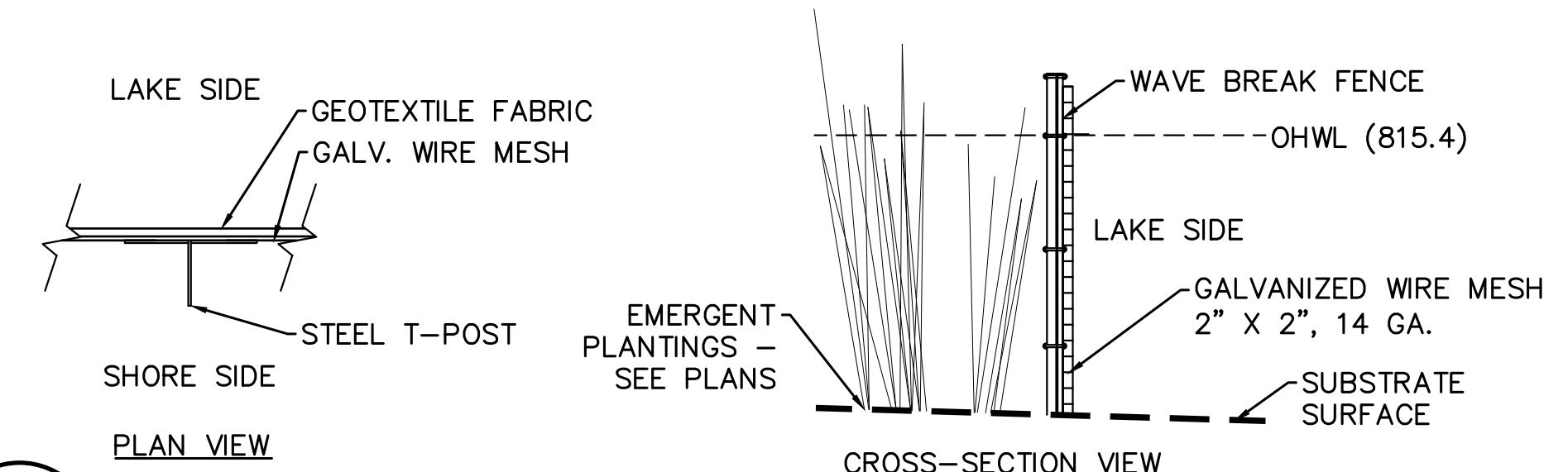
- OWNER TO FURNISH SIGN AND POST. CONTRACTOR TO INSTALL 2 POSTS AND OWNER TO INSTALL SIGNS AND ADDITIONAL WETLAND MARKERS.



WETLAND BUFFER SIGN DETAIL
(PROVIDED BY OWNER)



ELEVATION - TYPICAL FENCE SEGMENT



CROSS-SECTION VIEW

2
24 WAVE BREAK FENCE DETAIL
NOT TO SCALE

NOTES:

- PER MCWD RULES, WAVE BREAK FENCE SHALL BE REMOVED WITHIN 2 YEARS AFTER INSTALLATION.

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 Date: MARCH 22, 2019 License #: 47256



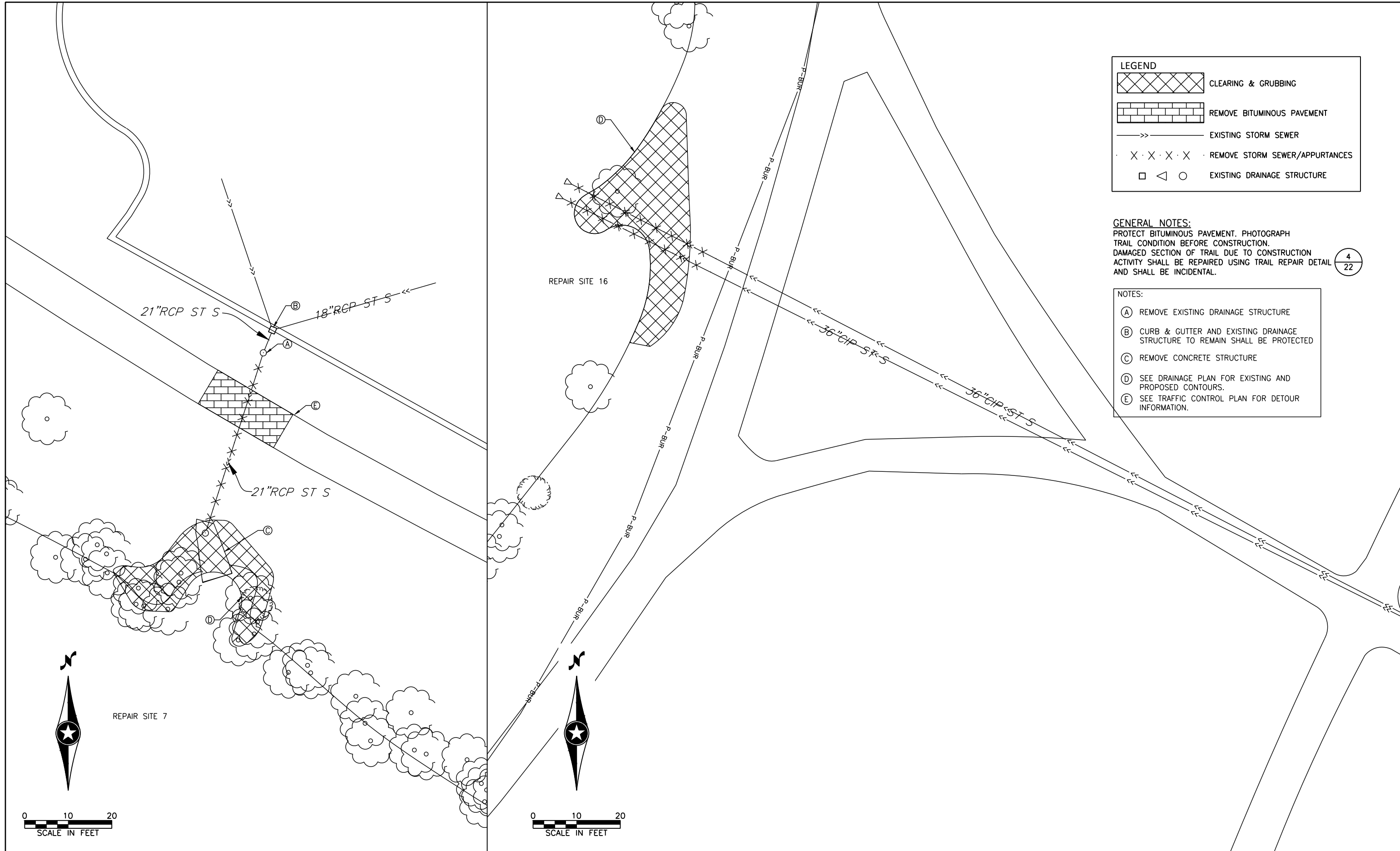
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DESIGNED BY
S. JERGENS
CHECKED BY
S. JERGENS
COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD
 LANDSCAPE DETAILS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

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LEGEND

- CLEARING & GRUBBING
- REMOVE BITUMINOUS PAVEMENT
- EXISTING STORM SEWER
- REMOVE STORM SEWER/APPERTANCES
- EXISTING DRAINAGE STRUCTURE

GENERAL NOTES:
 PROTECT BITUMINOUS PAVEMENT. PHOTOGRAPH TRAIL CONDITION BEFORE CONSTRUCTION. DAMAGED SECTION OF TRAIL DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAIRED USING TRAIL REPAIR DETAIL AND SHALL BE INCIDENTAL.

4
22

- NOTES:**
- (A) REMOVE EXISTING DRAINAGE STRUCTURE
 - (B) CURB & GUTTER AND EXISTING DRAINAGE STRUCTURE TO REMAIN SHALL BE PROTECTED
 - (C) REMOVE CONCRETE STRUCTURE
 - (D) SEE DRAINAGE PLAN FOR EXISTING AND PROPOSED CONTOURS.
 - (E) SEE TRAFFIC CONTROL PLAN FOR DETOUR INFORMATION.

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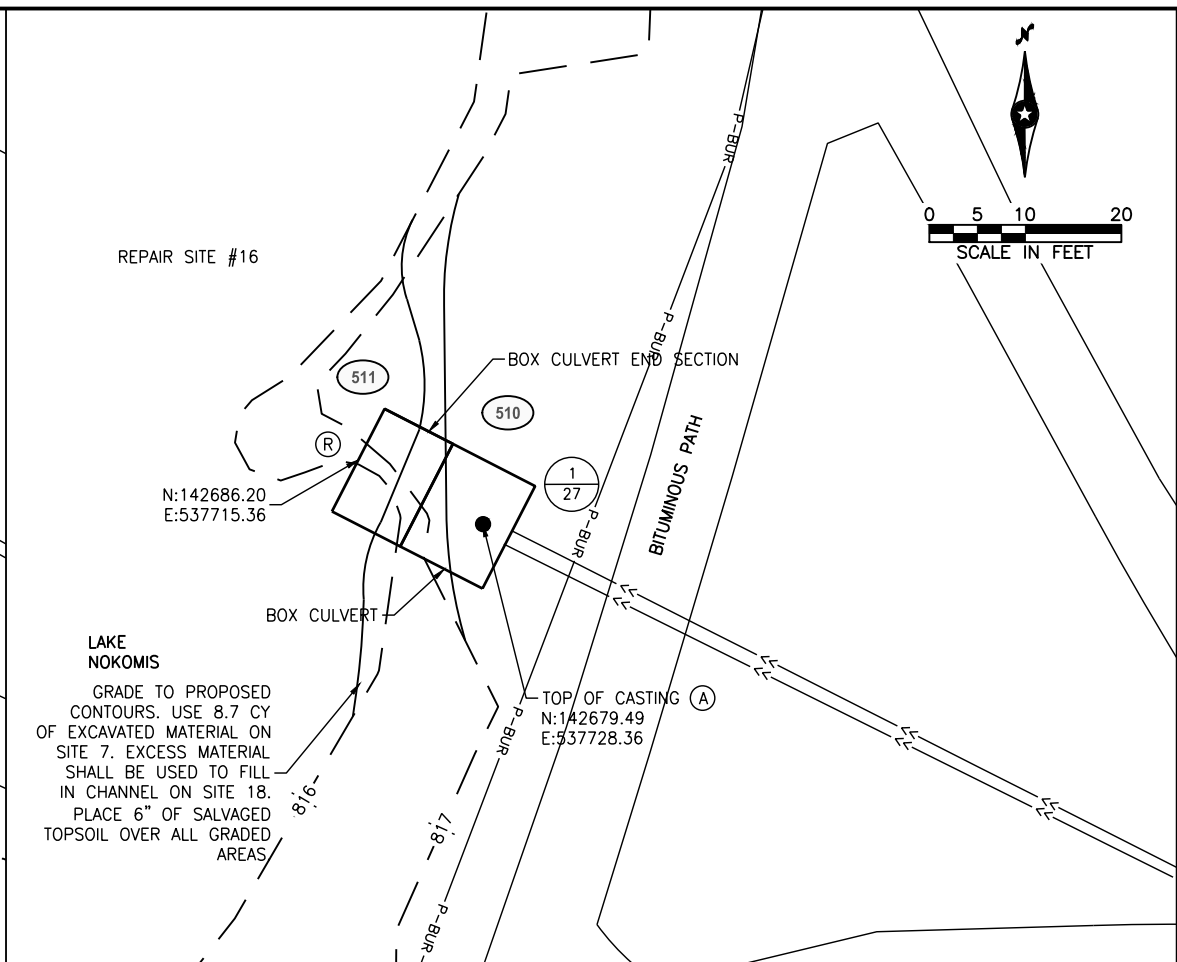
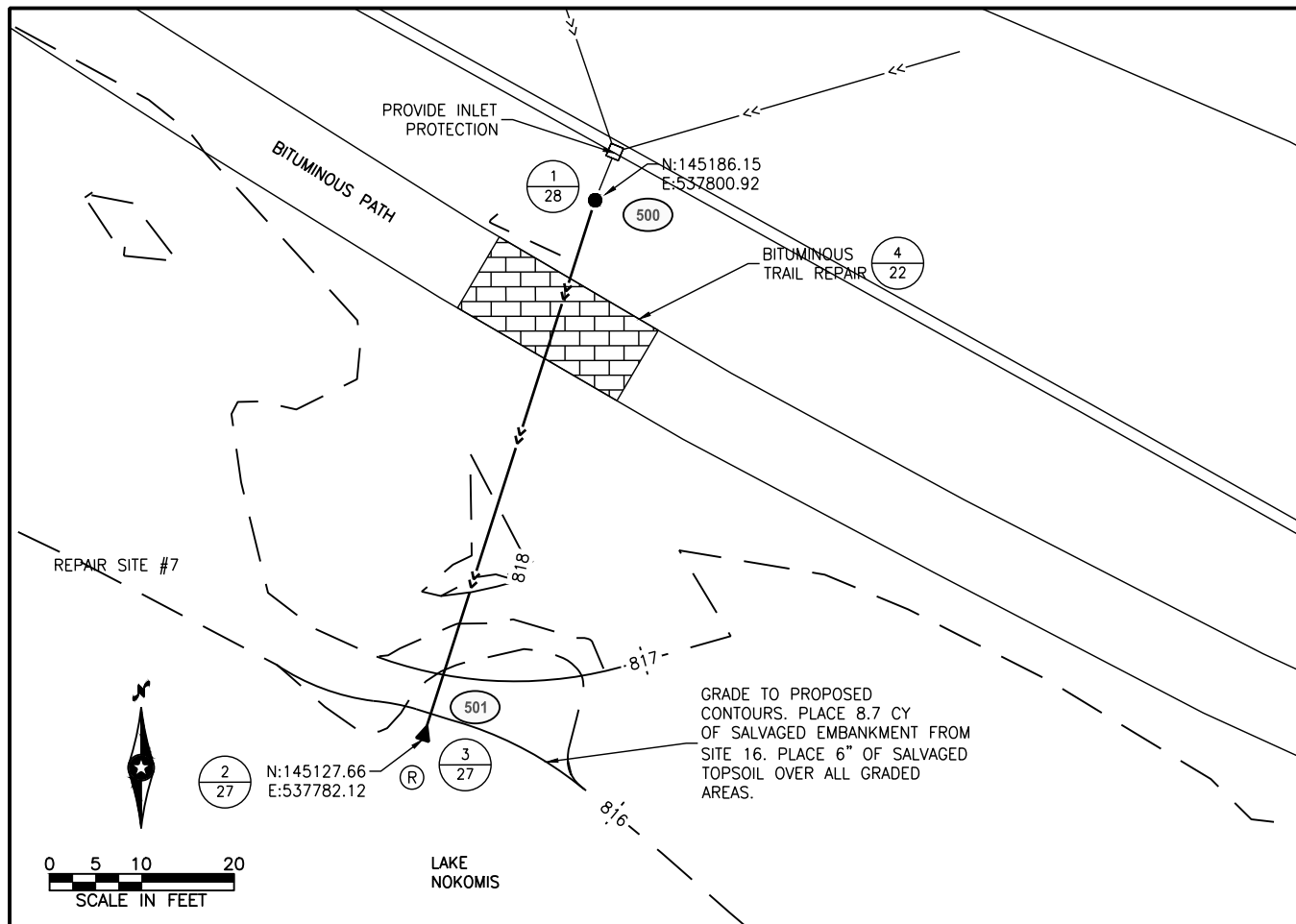


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 DESIGNED BY
L. GIFFORD
 CHECKED BY
CHECKED 10
 COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD
 DRAINAGE REMOVALS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

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LEGEND

- EXISTING CONTOUR
- - - PROPOSED CONTOUR
- >-> EXISTING STORM SEWER
- >-> PROPOSED STORM SEWER
- PROPOSED MANHOLE
- ▲ PROPOSED APRON
- PROPOSED STORM SEWER
- ⊙ RIPRAP

NOTES:
FIELD LOCATE UTILITIES.

SEE SHEETS 27 - 33 FOR DETAIL AND STANDARD PLATES.

INVERT ELEVATIONS ARE GIVEN TO EDGE OF STRUCTURE OR END OF APRON.

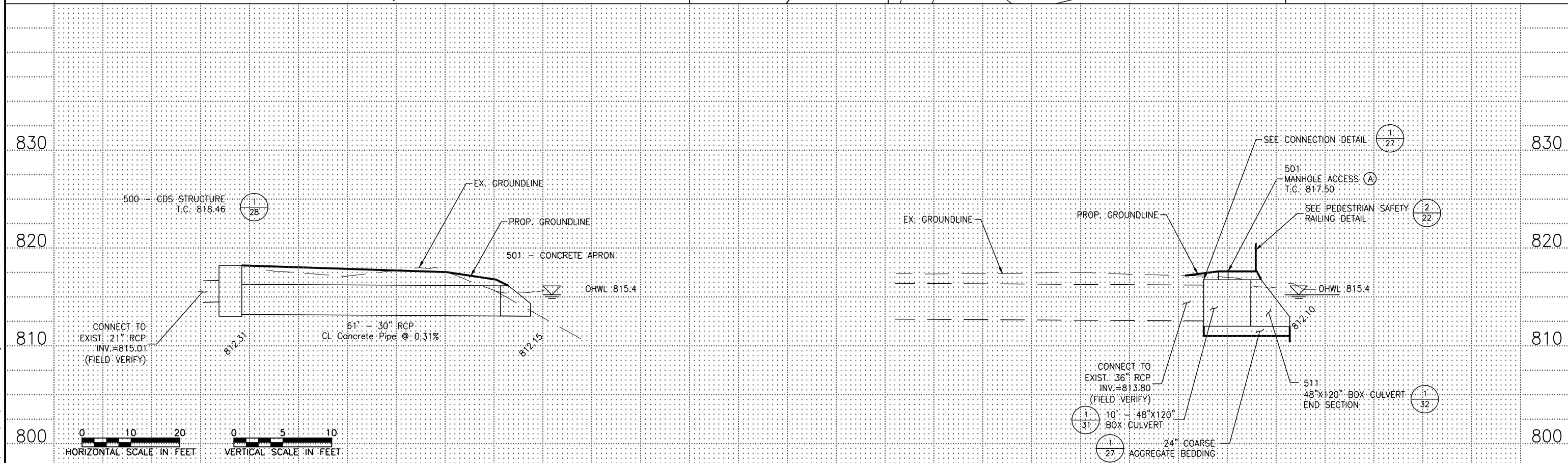
TOP OF CASTING ELEVATIONS ARE CENTER OF CASTING ASSEMBLY.

APRON LENGTH INCLUDED IN LENGTH OF PIPE.

ALL RC PIPES ARE CL II UNLESS NOTED.

TIE LAST THREE PIPE JOINTS TO APRON END.


NOTES:
A SOIL AROUND CASTING SHALL BE GRADED TO MATCH TOP OF CASTING ELEVATION. CASTING ASSEMBLY SHALL BE CENTERED 3FT FROM THE EASTERN EDGE OF THE BOX CULVERT. SEE CITY OF MINNEAPOLIS STANDARD PLATES SEWR-2000 AND SEWR-2004 FOR CASTING AND COVER.



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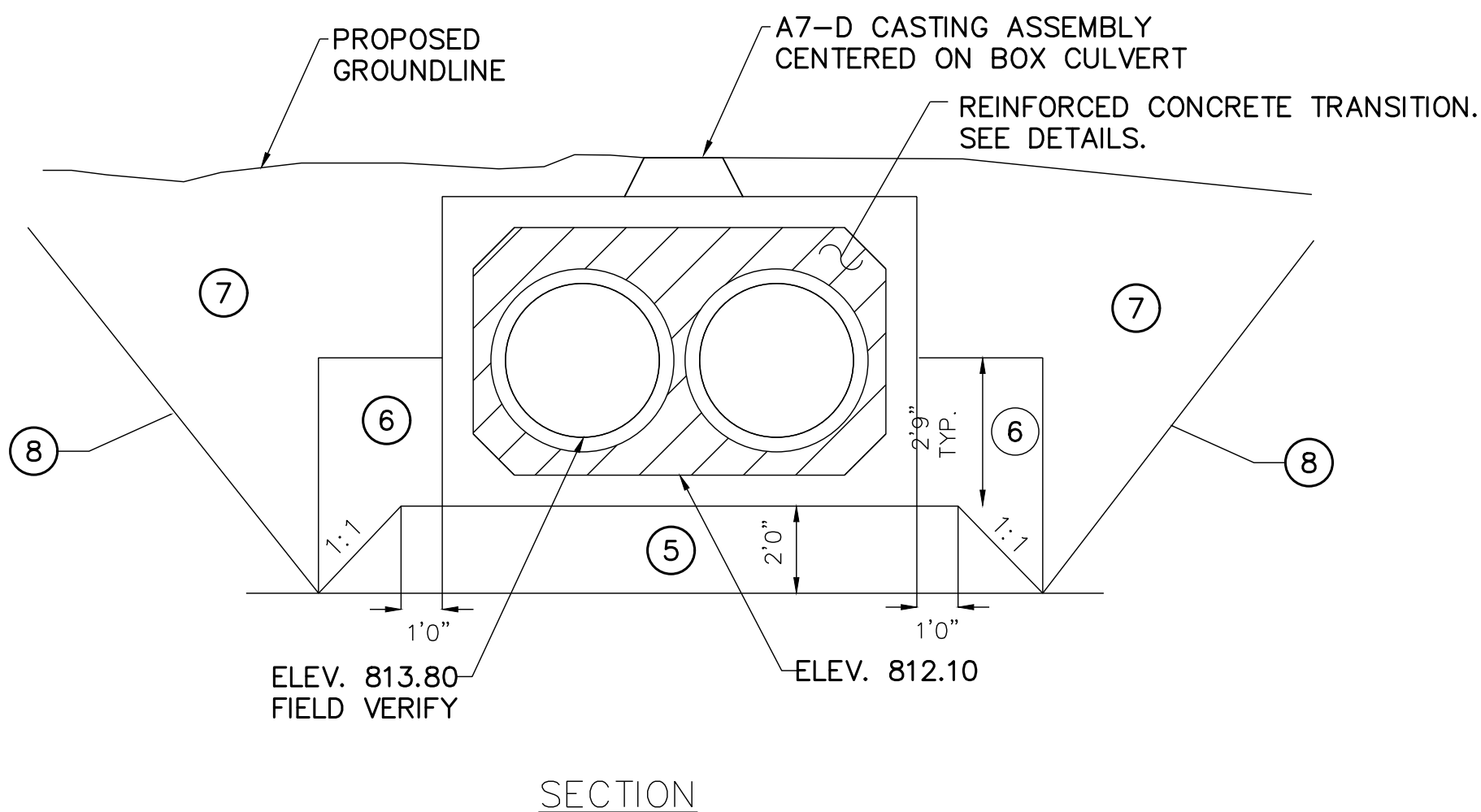
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Leah Gifford
 Date **MARCH 22, 2019** License # **52263**


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M. MCGINN
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L. GIFFORD
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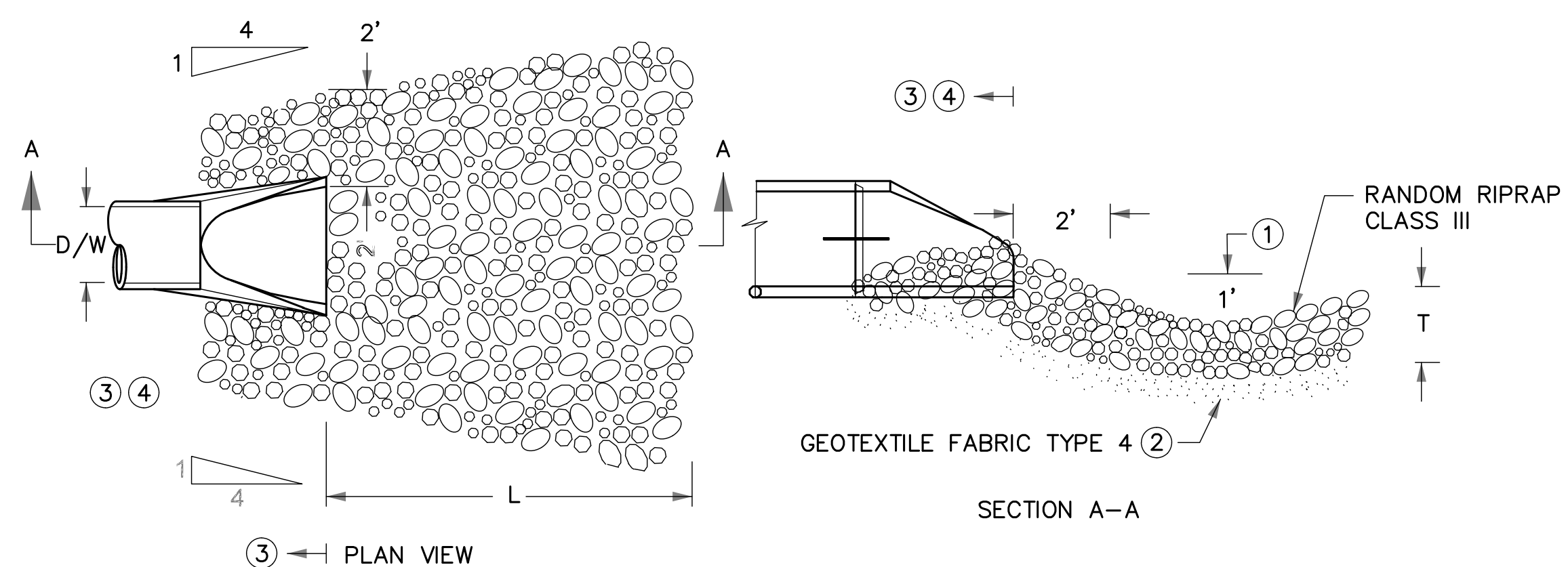
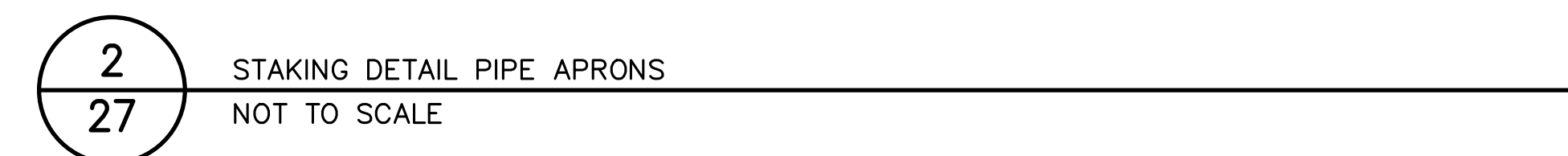
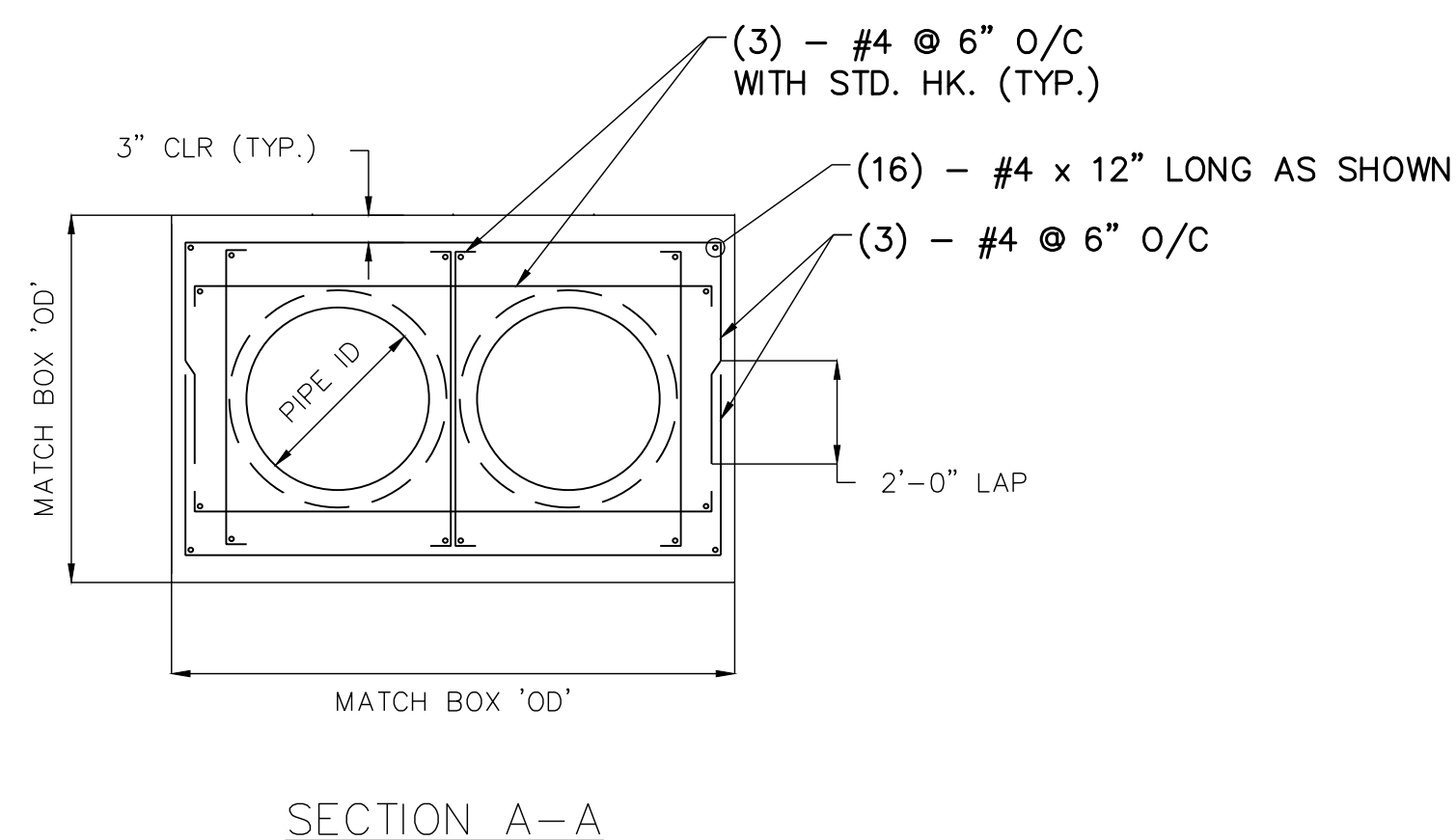
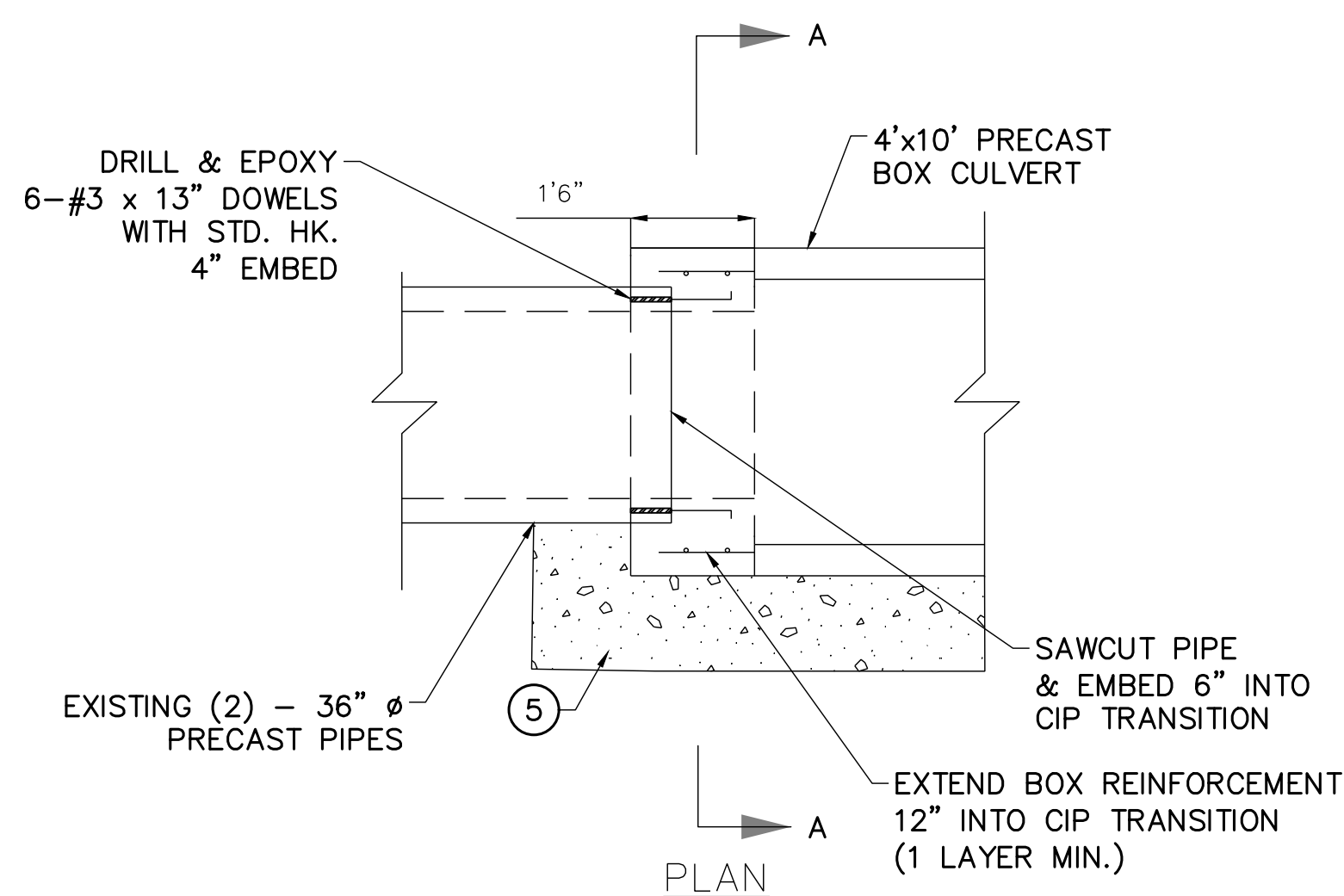
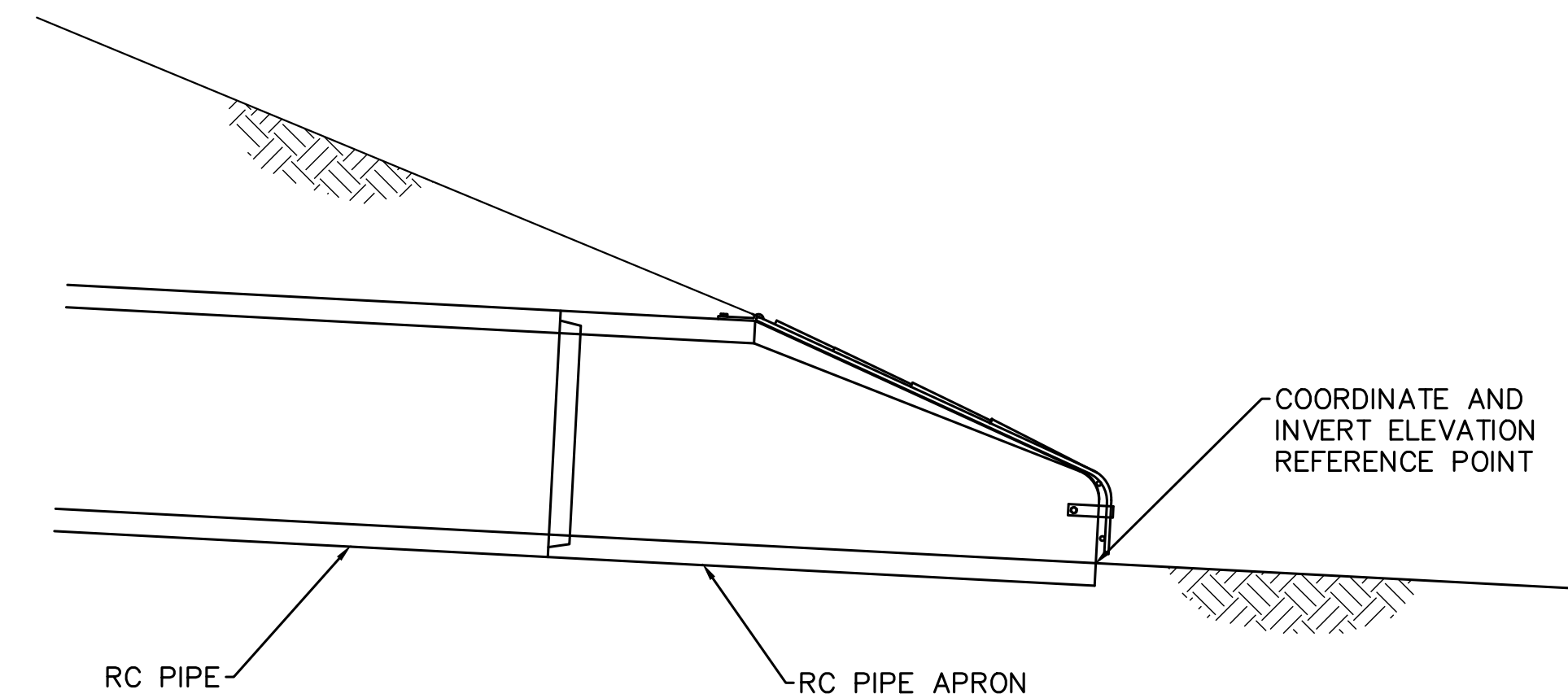



MINNEAPOLIS PARK & RECREATION BOARD
DRAINAGE PLAN & PROFILES
LAKE NOKOMIS SHORELINE ENHANCEMENT

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DESIGN DATA	
2017 AND CURRENT INTERIM AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
LOAD AND RESISTANCE FACTOR DESIGN METHOD	
HL 93 LIVE LOAD	
INSIDE HEIGHT =	4'0"
INSIDE WIDTH =	10'0"
DEPTH OF DROPWALL =	3'2"
HEIGHT OF WINGWALL AT END =	2'0"
SKEW ANGLE =	00°-00'-00"
MINIMUM DESIGN FILL DEPTH =	<3'-0"
MAXIMUM DESIGN FILL DEPTH =	<3'-0"
UNIT WEIGHT FILL =	120.0 LBS./CU. FT.
ANGLE INTERNAL FRICTION =	30°
f_y =	60000 P.S.I. REINFORCEMENT BARS
f_y =	65000 P.S.I. STEEL FABRIC
f'_c =	5000 P.S.I. PRECAST CONCRETE



NOTES:

- SEE STORM SEWER PROFILES.
- SEE STANDARD BOX CULVERT AND END SECTION PLANS.
- SEE STANDARD PLANS FOR EMBANKMENT PROTECTION.
- ALL RIPRAP SHALL BE CLASS III.
- COARSE AGGREGATE BEDDING. SEE SPECIAL PROVISIONS. PLACE GEOTEXTILE FILTER TYPE 5 BELOW BEDDING, INCIDENTAL.
- SELECT GRANULAR BACKFILL PER SPEC 3149.2B2. COMPACT PER SPEC 2106.3F1
- ONSITE GRADING MATERIAL.
- APPROXIMATE LIMIT FOR STRUCTURAL EXCAVATION. ACTUAL EXCAVATION SLOPE IS DETERMINED BY OSHA REGULATIONS AND INSITU SOILS.
- PER SPEC 2412.5, THE CONTRACT UNIT PRICE FOR PRECAST CONCRETE BOX CULVERT AND END SECTIONS WILL INCLUDE THE COST OF PROVIDING AND INSTALLING CULVERTS, END SECTIONS, TRANSITIONS, EXCAVATION, FOUNDATION PREPARATION, CONNECTION MATERIALS AND LABOR, BEDDING MATERIALS AND BACKFILL MATERIALS.
- CIP REINFORCING IS EPOXY COATED GRADE 60 STEEL. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL, INCLUDING FIELD VERIFIED PIPE POSITIONS. COORDINATE LAYOUT WITH PRECAST BOX SUPPLIER.
- CIP CONCRETE SHALL BE AIR ENTRAINED WITH $f_c = 4$ ksi. CONTRACTOR TO SUBMIT MIX DESIGN FOR APPROVAL.

NOTES:

- FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5'.
- GEOTEXTILE FABRIC TYPE 4. FABRIC SHALL COVER THE AREA OF RIPRAP AND EXTEND UNDER THE CULVERT APRON 3 FT. FABRIC SHALL MEET MNDOT SPEC. 3733.
- BURY THE RIPRAP PLACED BESIDE AND ABOVE THE OHWL ELEVATION. 6" OF TOPSOIL, EROSION CONTROL BLANKET TYPE 3N, AND SEED SHALL BE PLACED ON TOP OF RIPRAP AND SHALL MATCH THE SHORELINE SLOPE BESIDE IT. SEE LANDSCAPE PLAN AND SPECIFICATIONS.
- SEE MNDOT STANDARD PLATE FOR EMBANKMENT PROTECTION FOR BOX CULVERTS.

SITE	D/W	L	T
REPAIR SITE 7	30"	14'	18"
REPAIR SITE 16	10'	20'	18"
REPAIR SITE 18	EX. 8"	8'	18"



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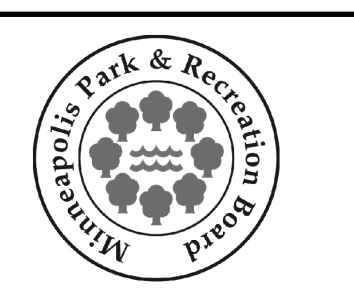
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Leah Gifford

Date: MARCH 22, 2019 License #: 52263



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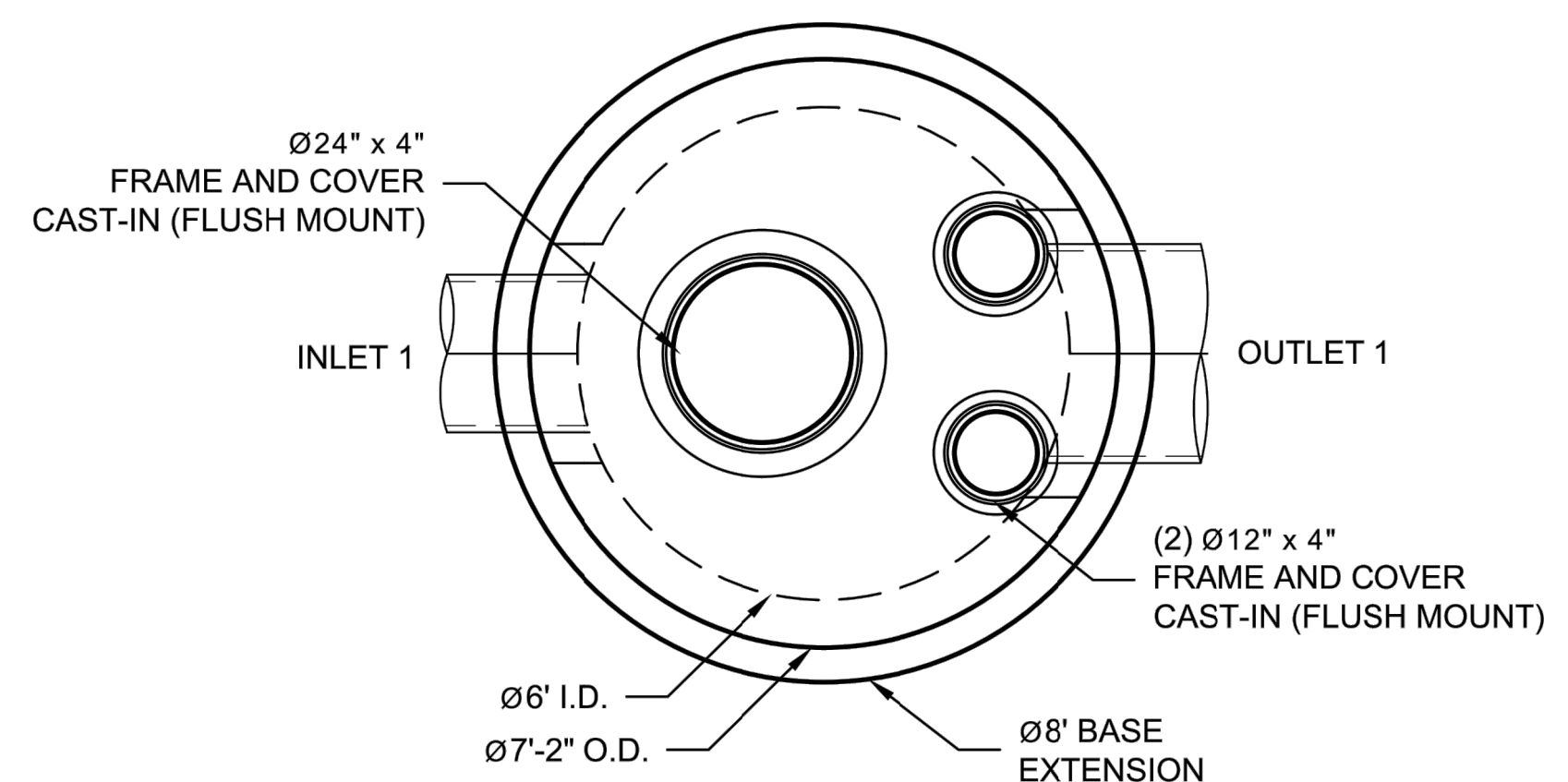


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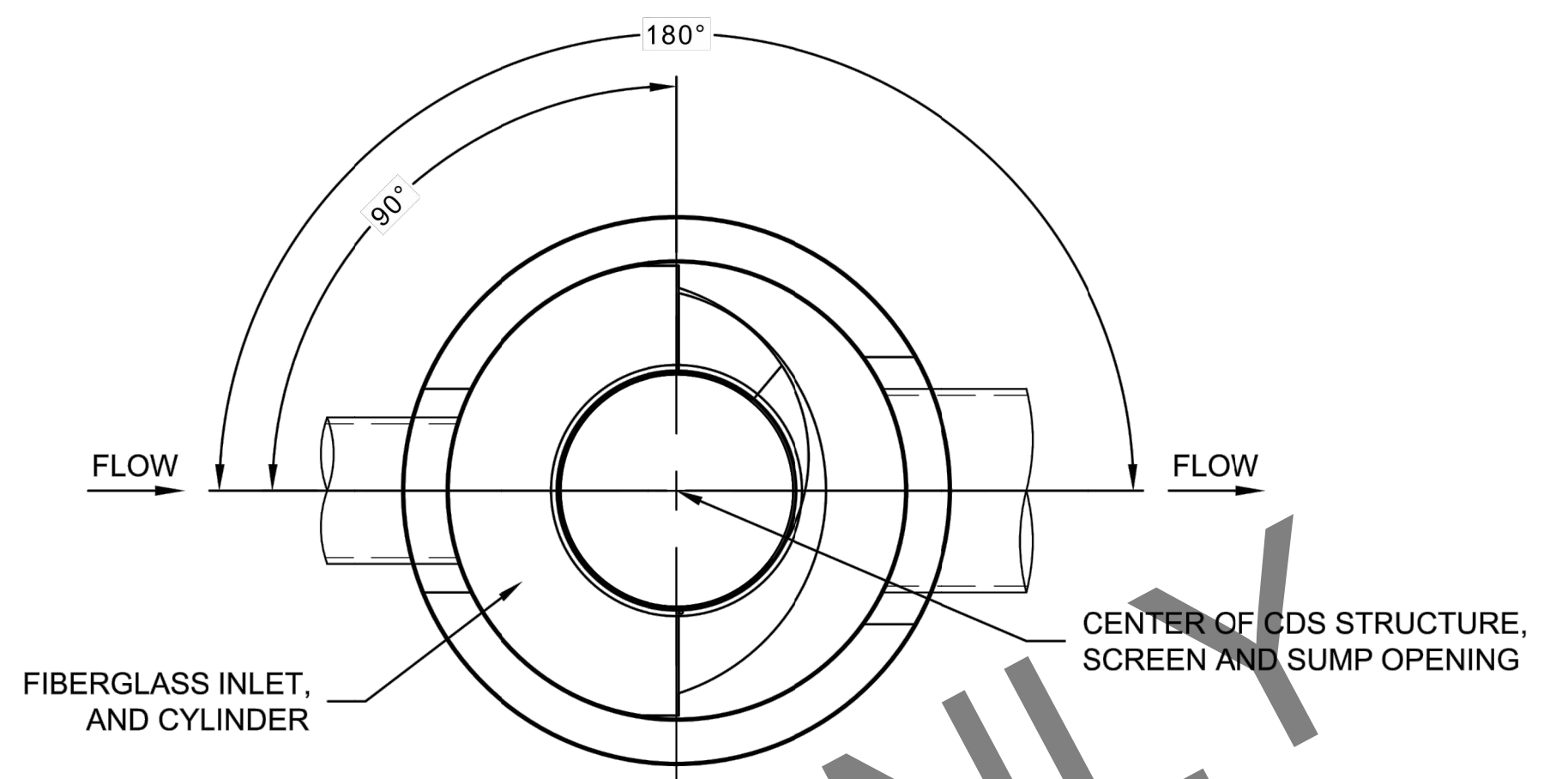
DRAINAGE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

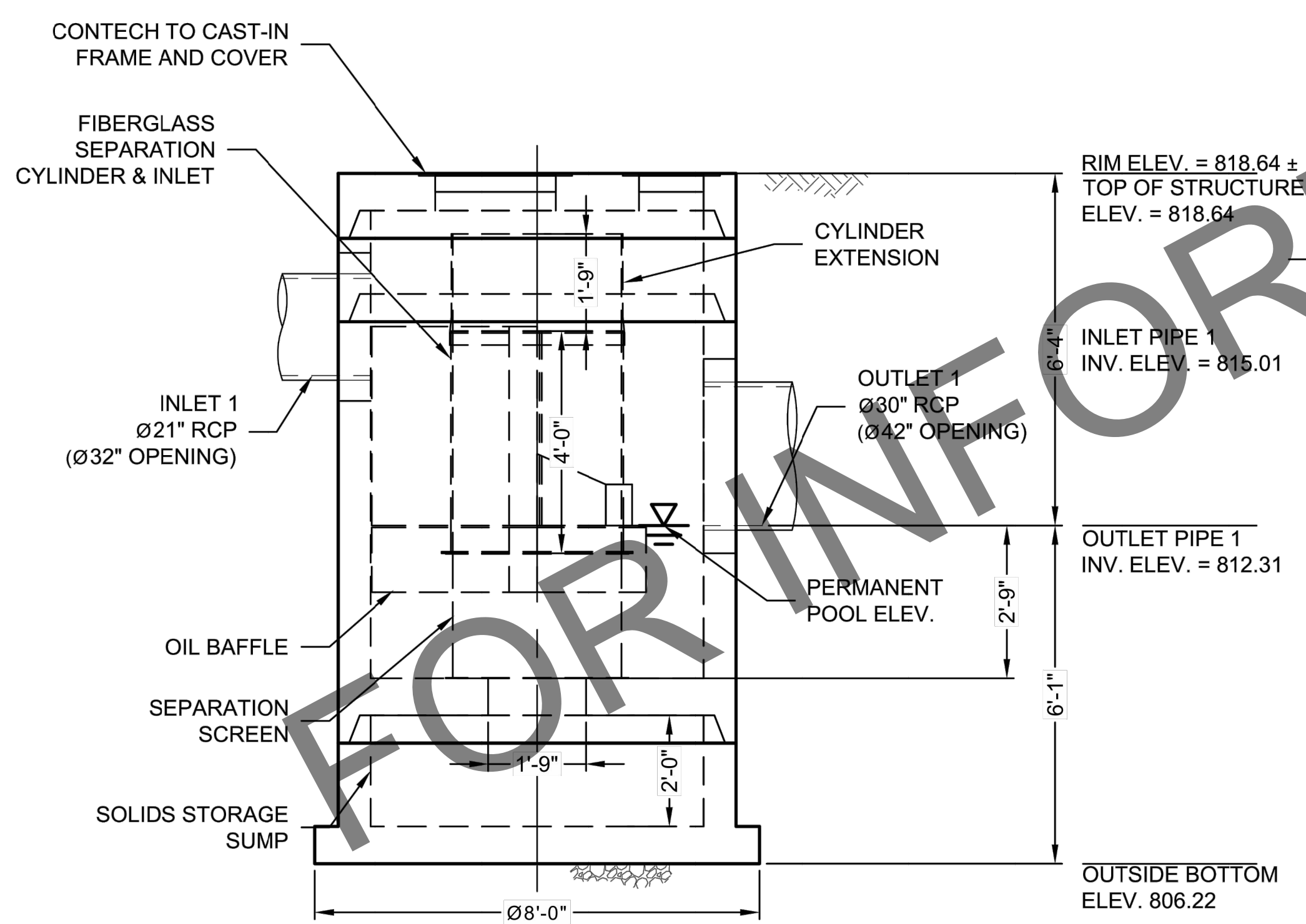
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PLAN VIEW



SECTION A-A



ELEVATION VIEW

MATERIAL LIST (PROVIDED BY CONTECH)

COUNT	DESCRIPTION	INSTALLED BY
1	FIBERGLASS INLET AND CYLINDER	CONTECH
1	2400 micron, 3' O.D. x 2.25' SEP. SCREEN	CONTECH
1	CYLINDER EXTENSION	CONTRACTOR
1	SEALANT FOR JOINTS (BY PRECASTER)	CONTRACTOR
1	Ø24" x 4" FRAME & COVER, EJ#41600389, OR EQUIV.	CONTECH
2	Ø12" x 4" FRAME & COVER, EJ#41610201, OR EQUIV.	CONTECH

SITE DESIGN DATA

WATER QUALITY FLOW RATE	2 CFS
PEAK FLOW RATE	15.9 CFS
RETURN PERIOD OF PEAK FLOW	100 YRS

GENERAL NOTES

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
- CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT

APPROXIMATE HEAVIEST PICK = 16500 LBS.
STRUCTURE IS DELIVERED IN 4 PIECES

MAX FOOTPRINT = Ø8'

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LAKE NOKOMIS SHORELINE
ENHANCEMENT
MINNEAPOLIS, MN
for SYSTEM: 500 - CDS STRUCTURE

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ENGINEERED SOLUTIONS LLC
www.ContechES.com
2201 W. Royal Lane, Suite 200, Irving, TX 75063
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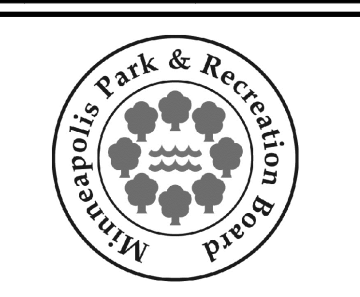
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Leah Gifford
Date: MARCH 22, 2019 License #: 52263



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DESIGNED BY L. GIFFORD
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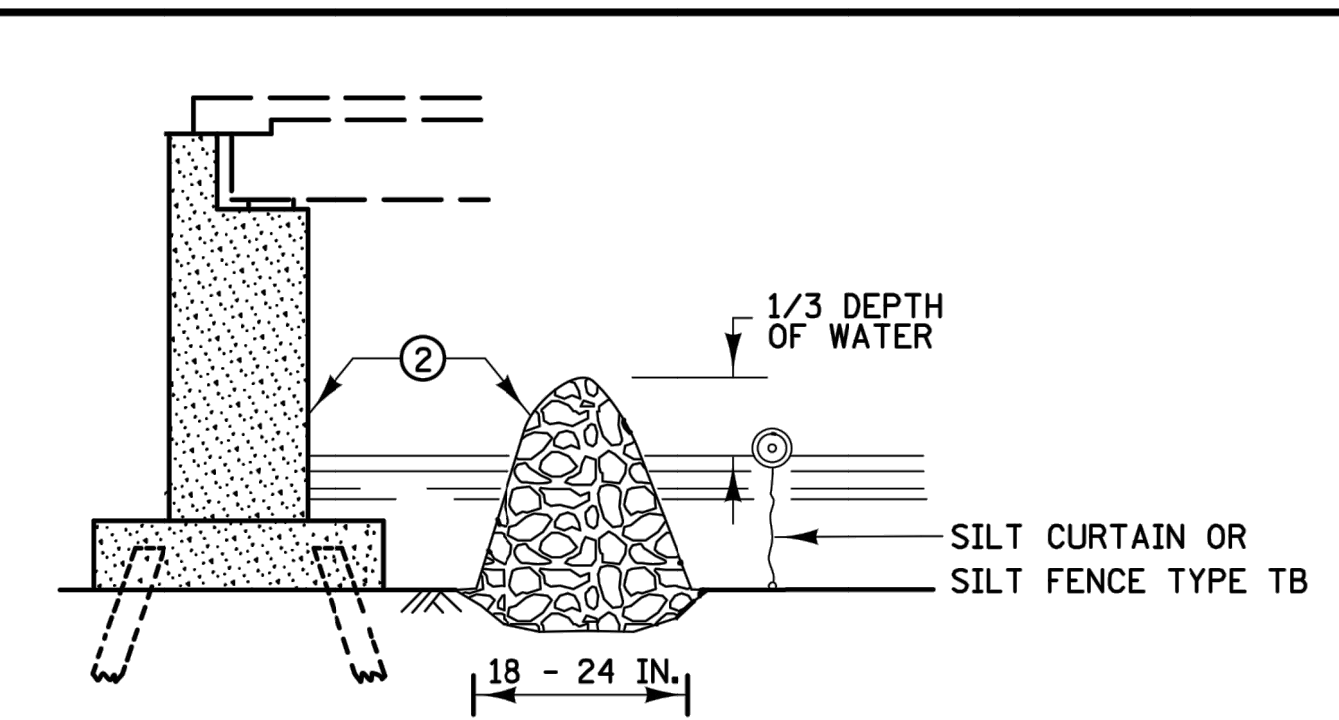
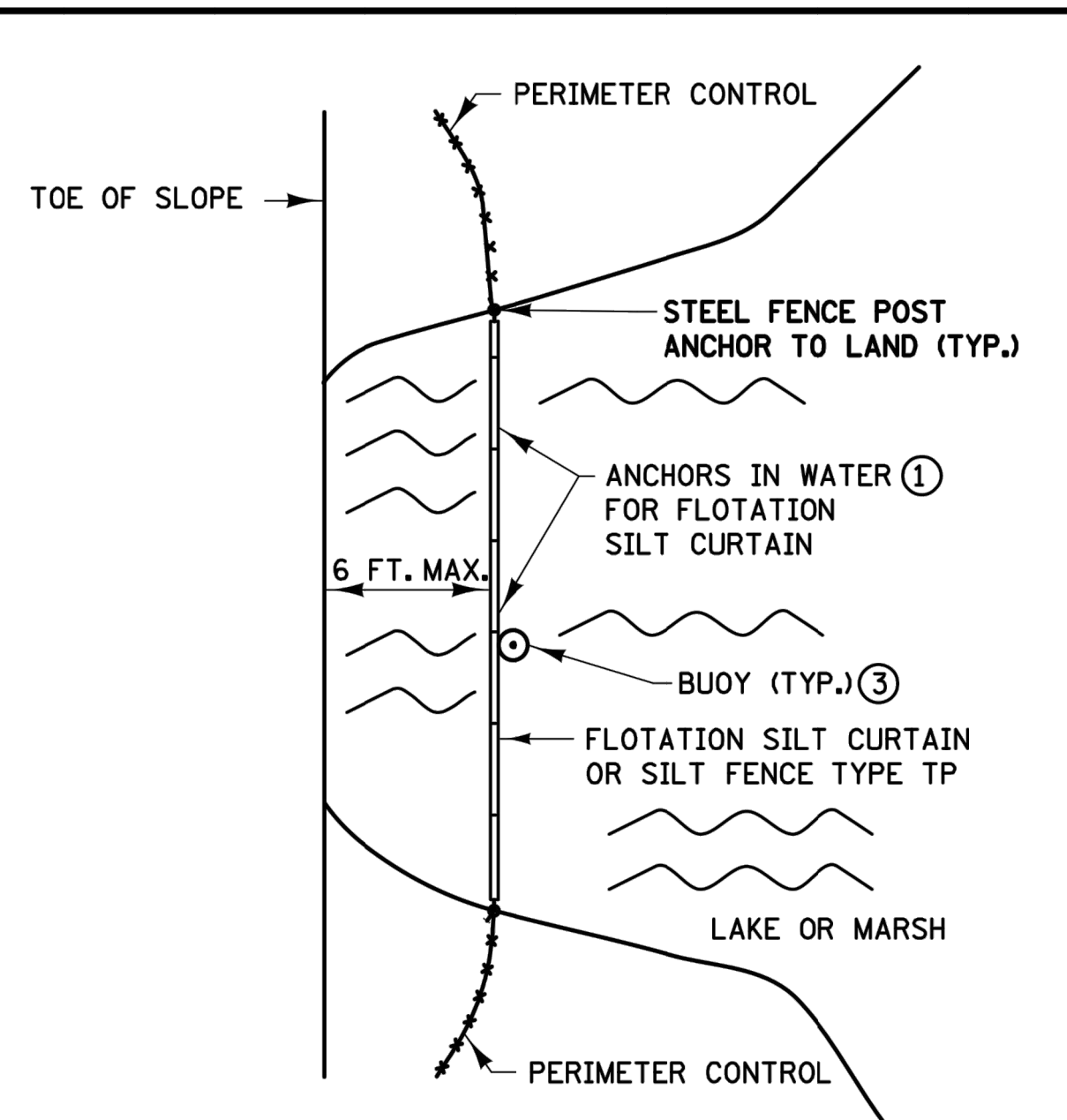
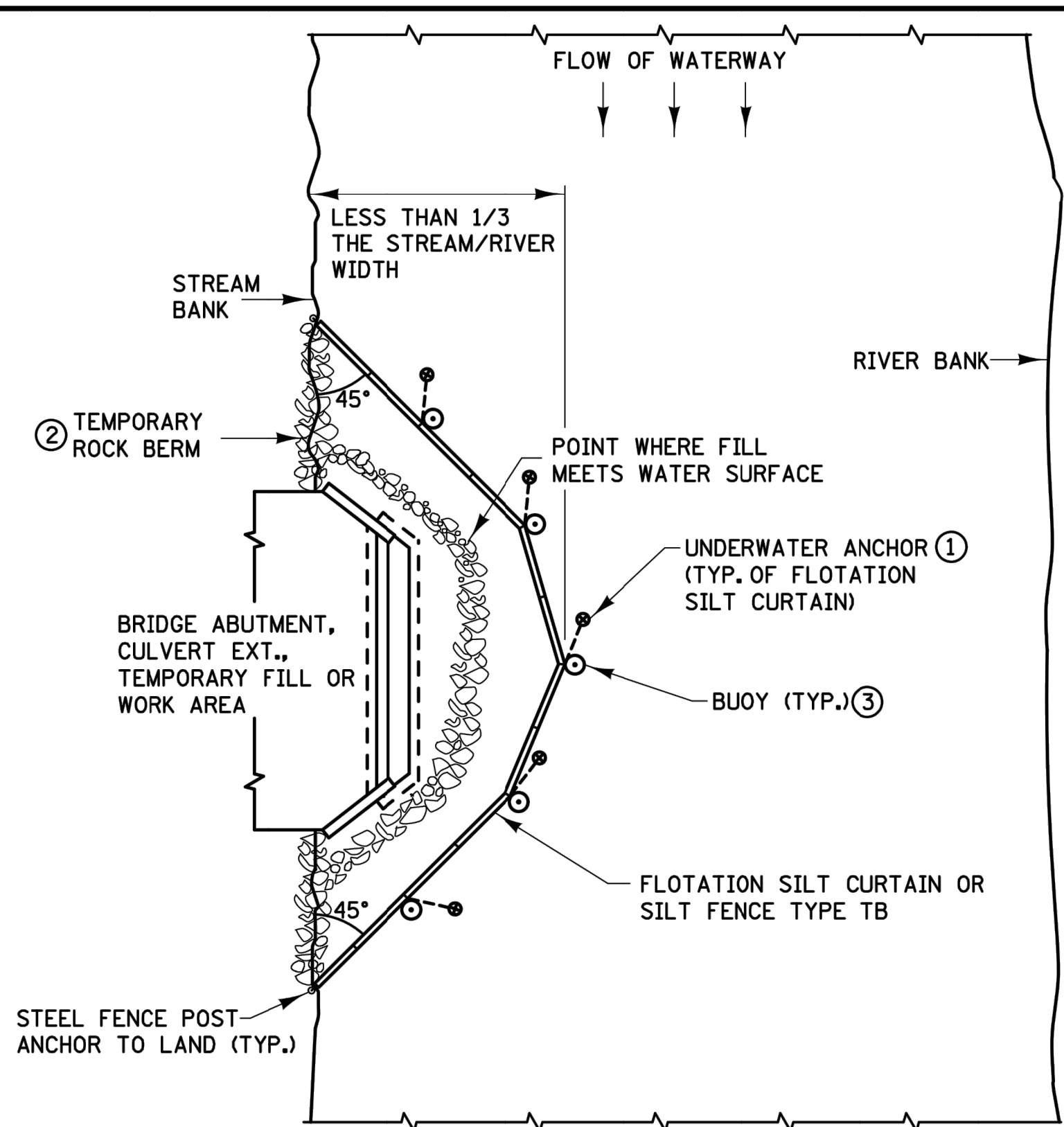
MINNEAPOLIS PARK & RECREATION BOARD
DRAINAGE DETAILS
LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 28 OF 38

PLOTTED/REVISED: 4-APR-2018

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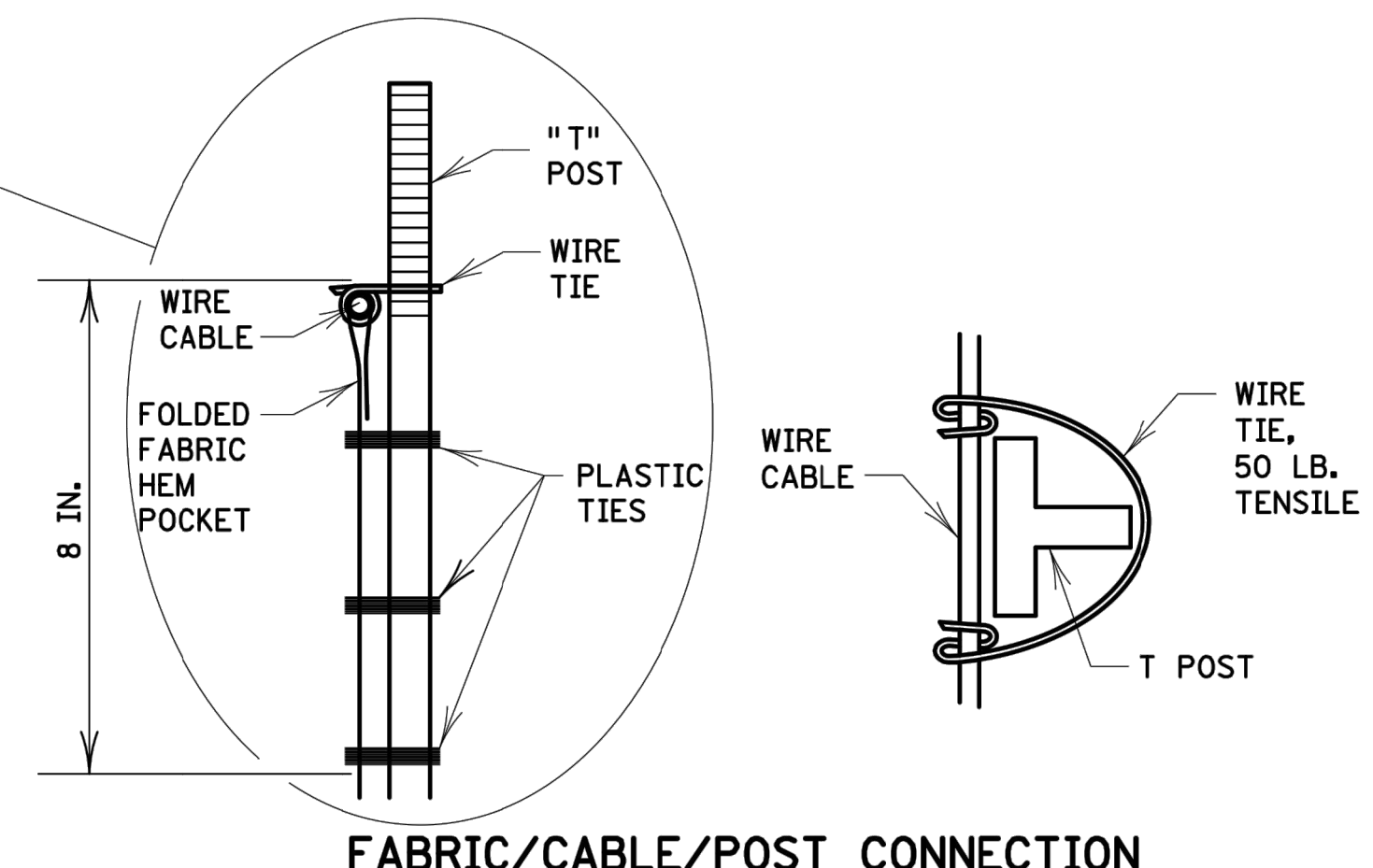
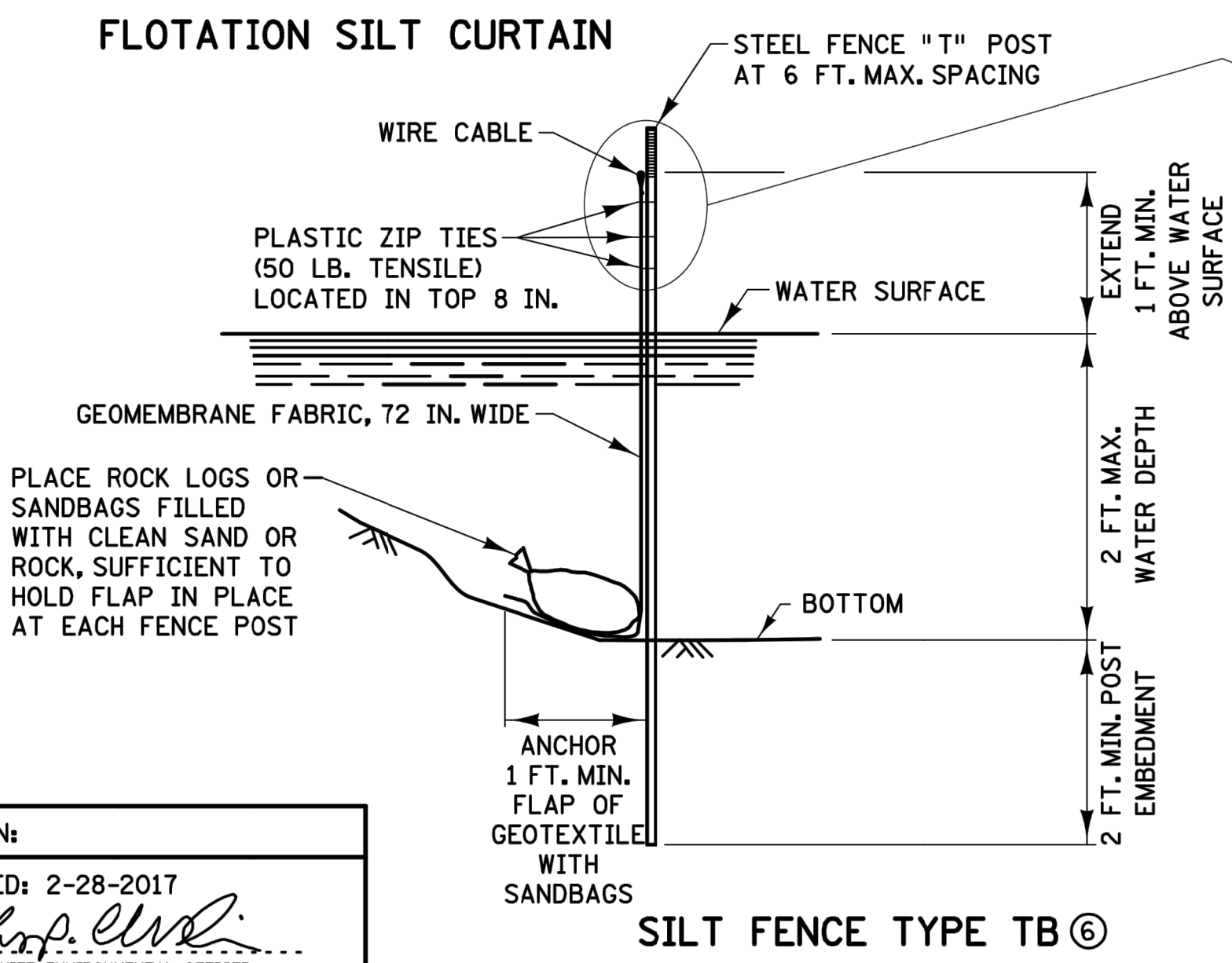
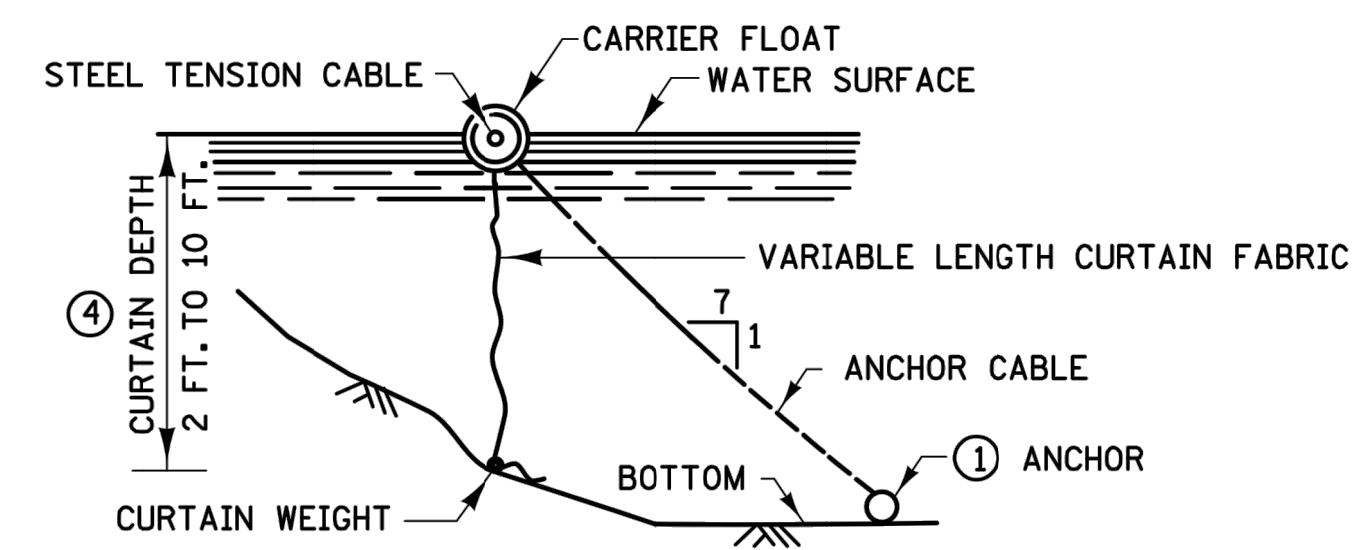
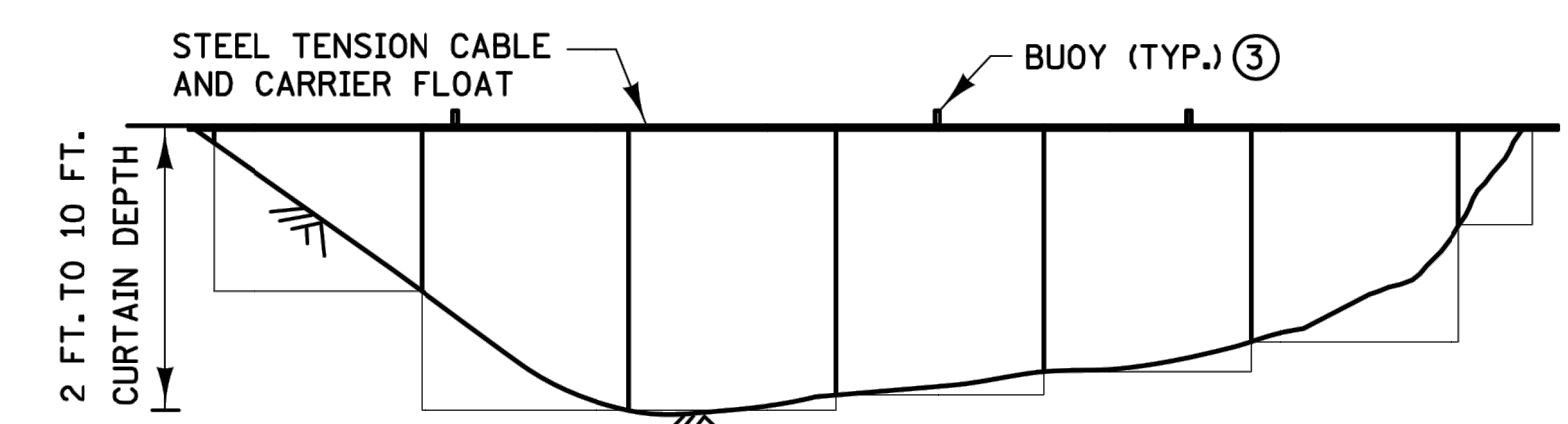
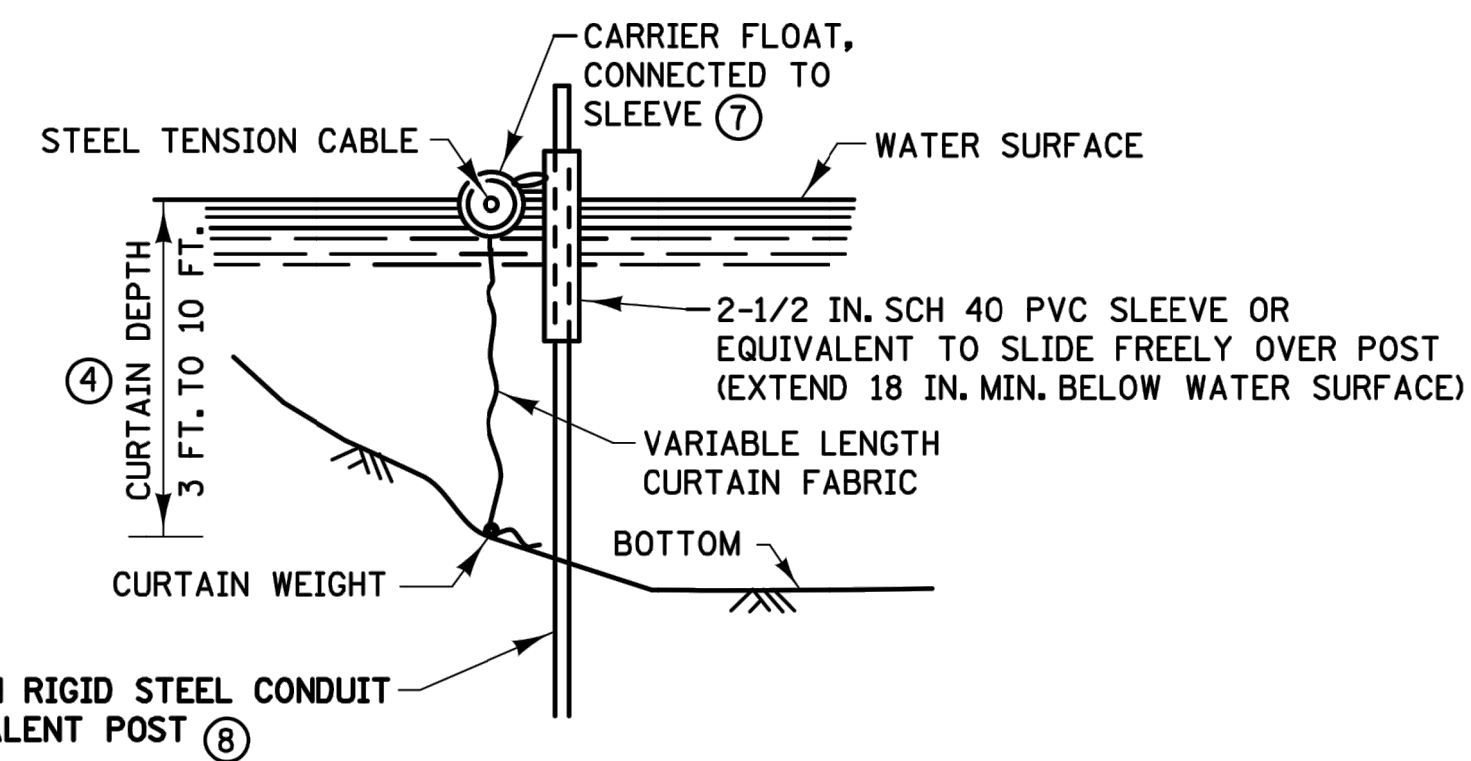
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**INSTALLATION GUIDELINES
SILT FENCE TYPE TB**
 MINIMUM WATER DEPTH: 1 FT.
 MAXIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.

**INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: STILL WATER**
 MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 2 FT./SEC.
 MAXIMUM WAVE HEIGHT: 1 FT

**INSTALLATION GUIDELINES ④
FLOTATION SILT CURTAIN
TYPE: MOVING WATER**
 MINIMUM WATER DEPTH: 3 FT.
 MAXIMUM WATER DEPTH: 10 FT.
 MAXIMUM WATER VELOCITY: 5 FT./SEC.
 MAXIMUM WAVE HEIGHT: 2 FT.



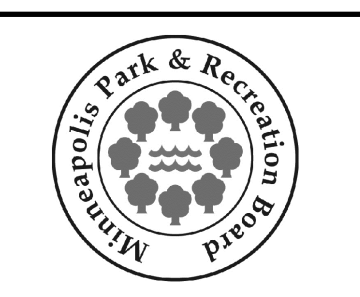
NOTES:

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

REVISIONS:
 APPROVED: 2-28-2017
 [Signature]
 CHIEF ENVIRONMENTAL OFFICER

	STANDARD PLAN 5-297.405	1 OF 8	TEMPORARY SEDIMENT CONTROL SILT CURTAIN OR SILT FENCE TYPE TB	
	STATE DESIGN ENGINEER	STATE PROJ. NO.	(T.H.)	SHEET NO. OF SHEETS

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.
 Print Name: LEAH GIFFORD
 [Signature]
 Date: MARCH 22, 2019 License #: 52263



DRAWN BY J. SWANSON
 DESIGNED BY L. GIFFORD
 CHECKED BY S. JERGENS
 COMM. NO. 10547



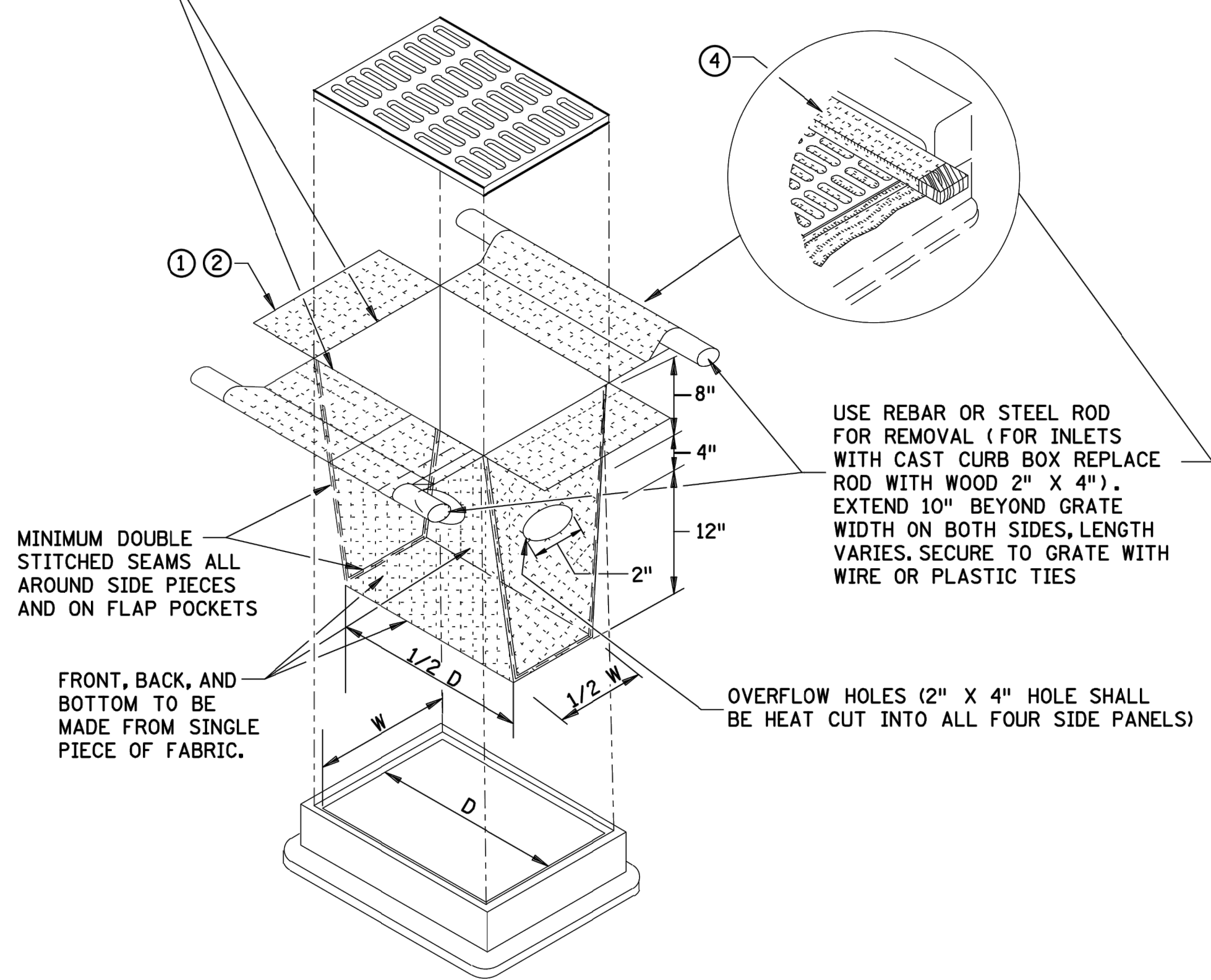
MINNEAPOLIS PARK & RECREATION BOARD
 DRAINAGE DETAILS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 29 OF 38

PLOTTED/REVISED: 4-APR-2018

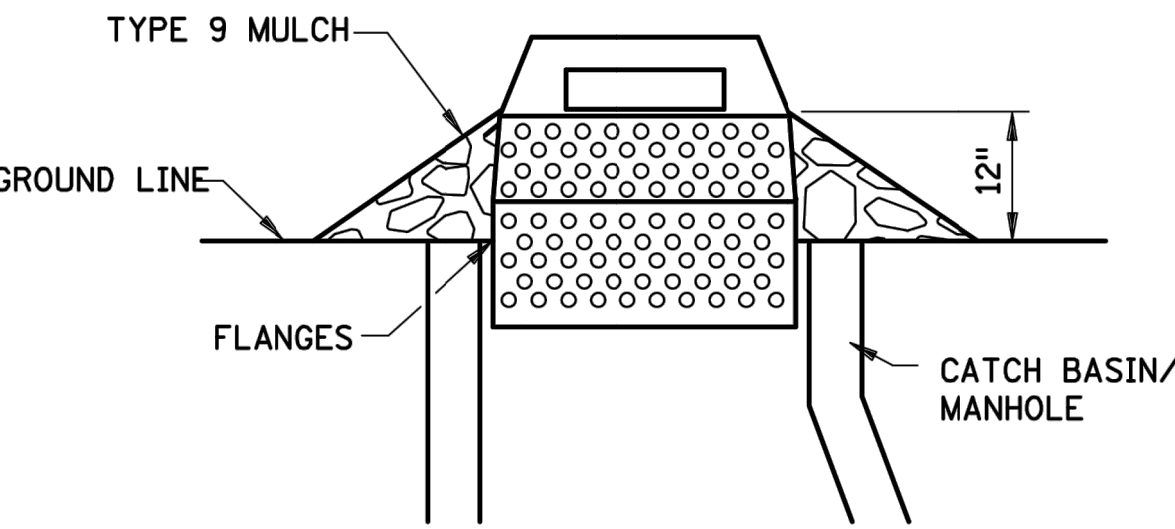
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INLET SPECIFICATIONS AS PER THE PLAN
DIMENSION LENGTH AND WIDTH TO MATCH
FLAP POCKET



FILTER BAG INSERT ③

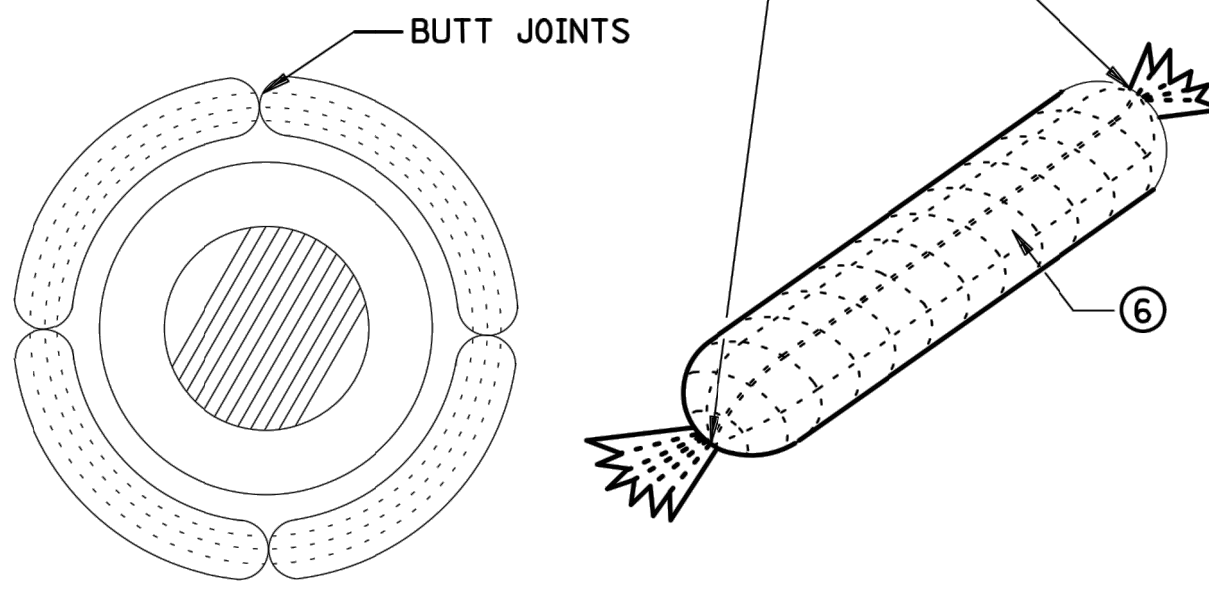
(CAN BE INSTALLED IN ANY INLET TYPE
WITH OR WITHOUT A CURB BOX)



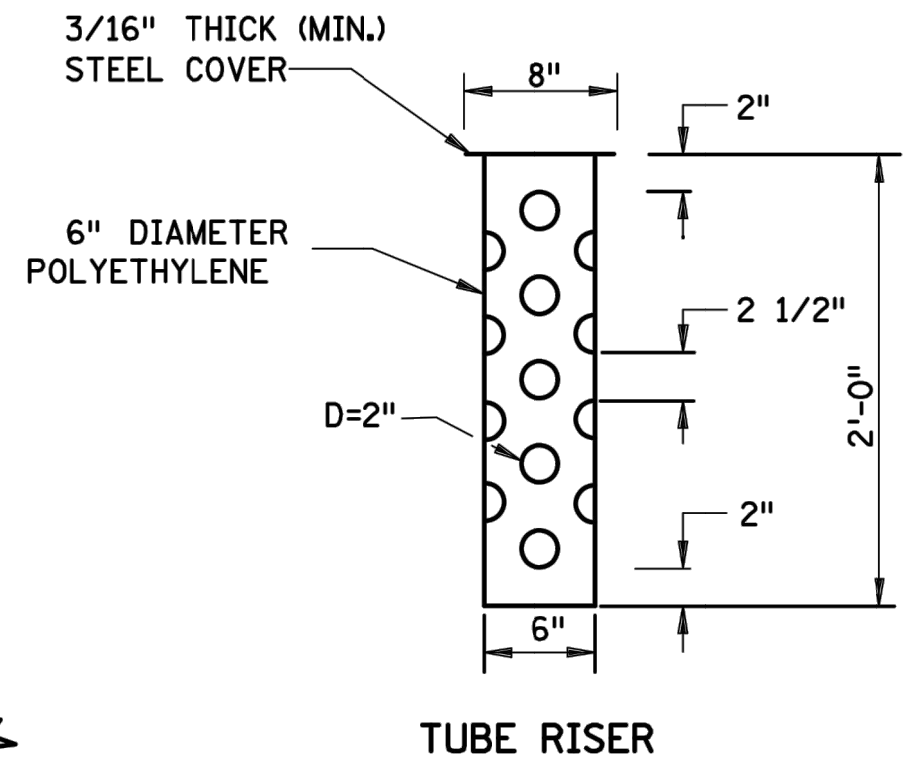
SEDIMENT CONTROL INLET HAT

NOTE:
THE SEDIMENT CONTROL BARRIER SHALL BE A METAL
OR PLASTIC/POLYETHYLENE RISER SIZED TO FIT INSIDE
THE CATCH BASIN/MANHOLE; HAVE PERFORATIONS TO ALLOW
FOR WATER INFILTRATION; HAVE AN OVERFLOW OPENING,
FLANGES AND A LID/COVER.

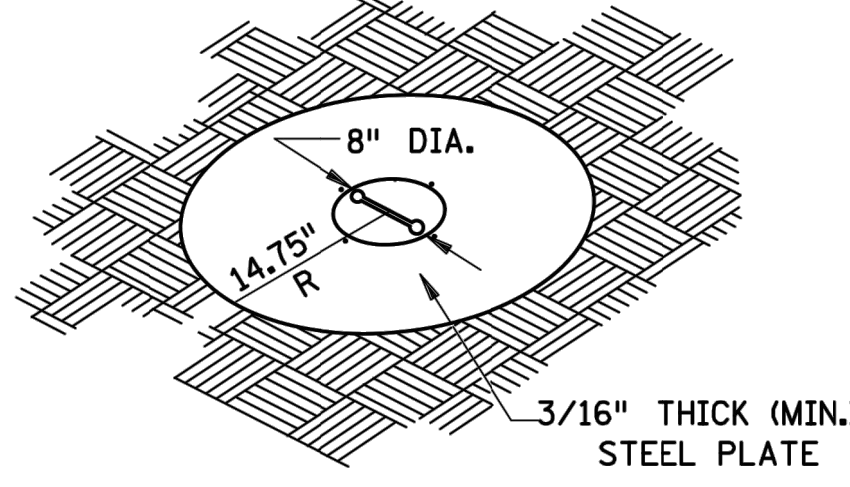
ENDS SECURELY CLOSED TO
PREVENT LOSS OF OPEN GRADED
AGGREGATE FILL. SECURED WITH
50 PSI. ZIP TIE.



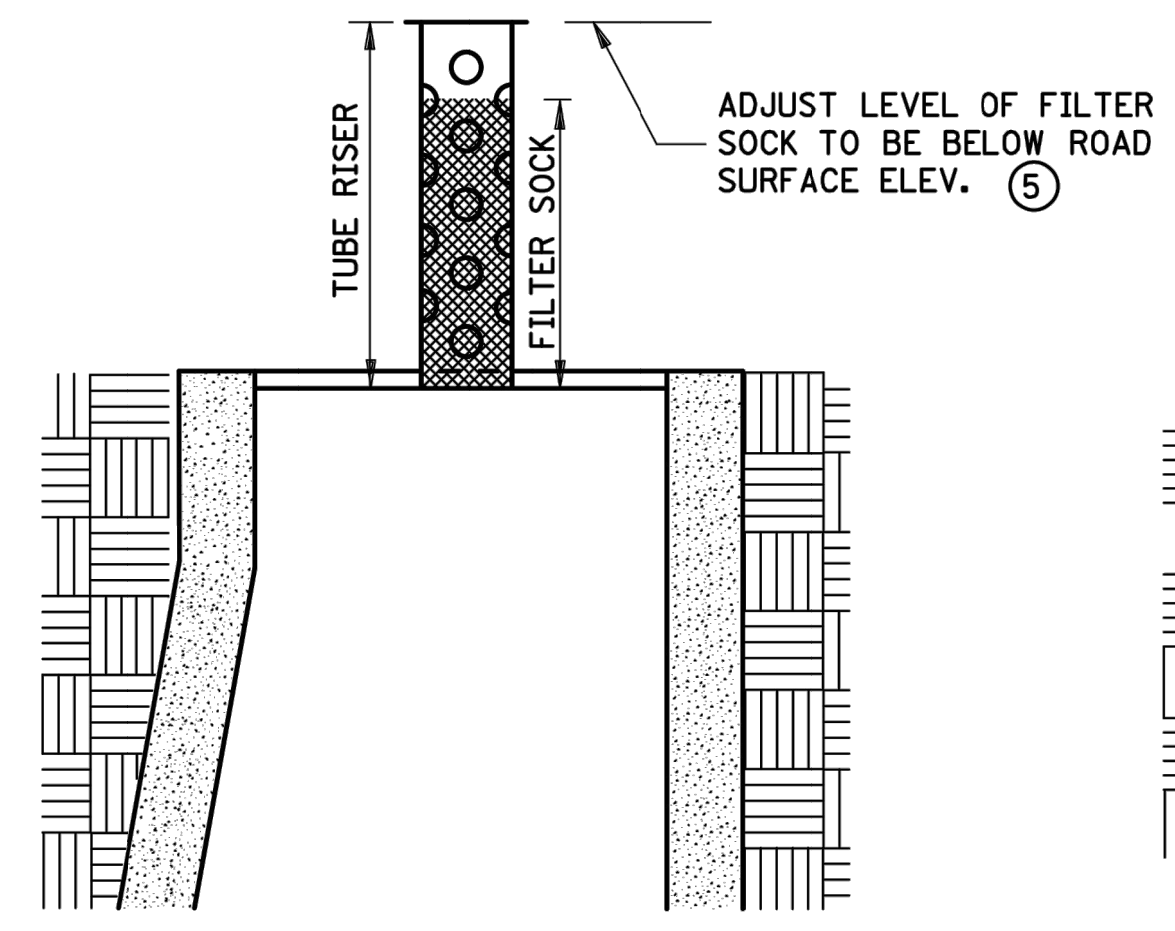
ROCK LOG/COMPOST LOG



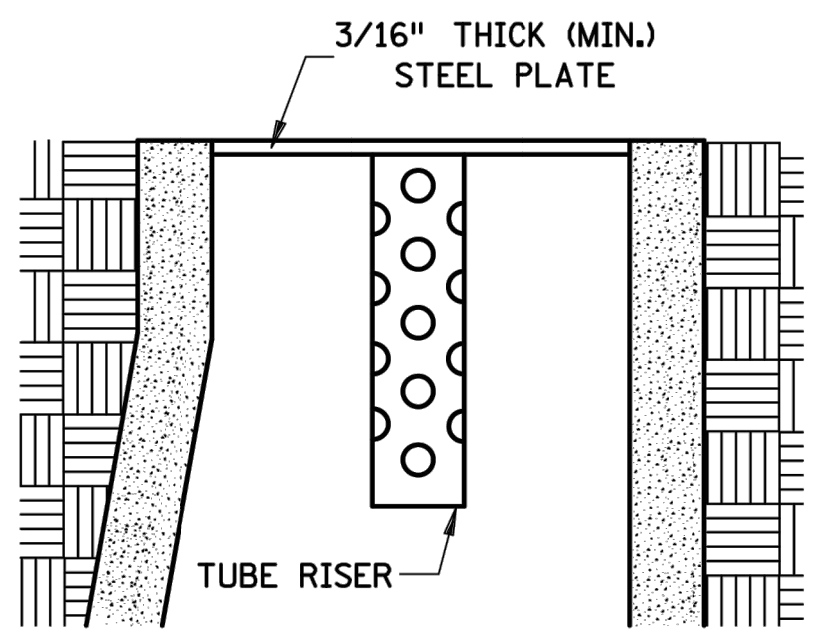
TUBE RISER



PERSPECTIVE VIEW

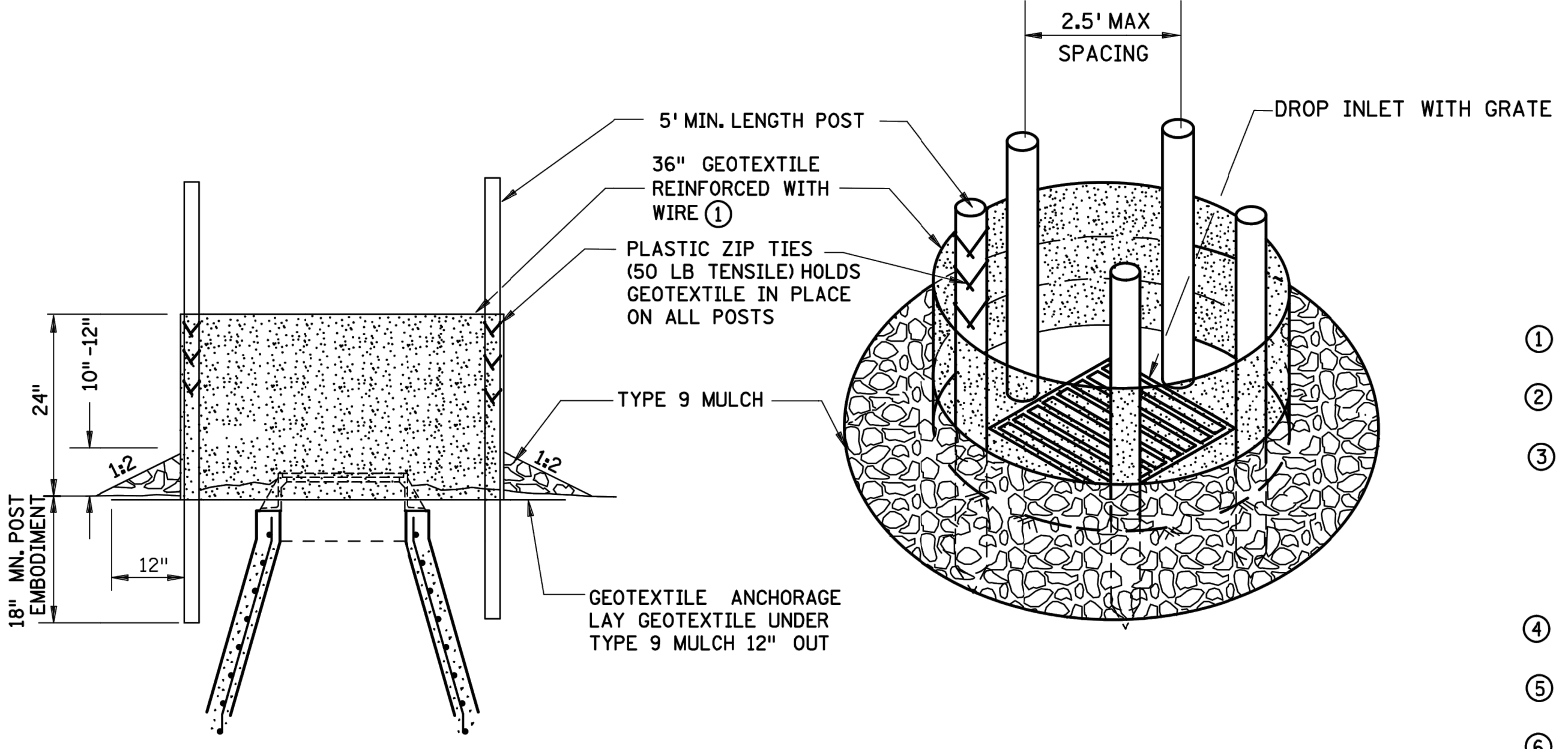


**SECTION
(UP POSITION)**



**SECTION
(DOWN POSITION)**

POP-UP HEAD



SILT FENCE RING AND ROCK FILTER BERM

USE WHERE INLET DRAINS IN AN AREA WITH SLOPES AT 1:3 OR LESS

NOTES:

- SEE SPECS. 2573, 3137, & 3886.
- DEVICES MUST BE ADJUSTED ACCORDINGLY AS TO NOT CAUSE FLOODING ON ROADWAY THAT WOULD IMPEDE TRAFFIC FLOW.
- ① ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS, MEETING SPEC. 3886.
- ② FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ③ INSTALLATION NOTES:
DO NOT PLACE FILTER BAG INSERT IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. THE PLACED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE OF 3 INCHES BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES. WHERE NECESSARY THE CONTRACTOR SHALL CLINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCH SIDE CLEARANCE.
- ④ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH OR USE A ROCK SOCK OR SAND BAGS IN PLACE OF THE FLAP POCKETS.
- ⑤ SOCK HEIGHT MUST NOT BE SO HIGH AS TO SLOW DOWN WATER FILTRATION TO CAUSE FLOODING OF THE ROADWAY.
- ⑥ GEOTEXTILE SOCK BETWEEN 4-10 FEET LONG AND 4-6 INCH DIAMETER. SEAM TO BE JOINED BY TWO ROWS OF STITCHING WITH A PLASTIC MESH BACKING OR PROVIDE A HEAT BONDED SEAM (OR APPROVED EQUIVALENT). FILL ROCK LOG WITH OPEN GRADED AGGREGATE CONSISTING OF SOUND DURABLE PARTICLES OF COARSE AGGREGATE CONFORMING TO SPEC. 3137 TABLE 3137-1; CA-3 GRADATION.

REVISIONS:				
APPROVED: 2-28-2017				
<i>[Signature]</i>	CHIEF ENVIRONMENTAL OFFICER			



STANDARD PLAN 5-297.405 4 OF 8

APPROVED: 2-28-2017
REVISID:

[Signature]
STATE DESIGN ENGINEER

STATE PROJ. NO. (T.H.) SHEET NO. OF SHEETS

TEMPORARY SEDIMENT CONTROL

STORM DRAIN INLET PROTECTION

SEAN JERGENS 3/22/2019 12:07:46 PM H:\PROJECTS\10000\10547\CAD_BIM\PLAN\10547_STM-DTL.DWG: 007

NO	DATE	BY	CKD	APPR

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.

Print Name: LEAH GIFFORD

[Signature]

Date MARCH 22, 2019 License # 52263



DRAWN BY J. SWANSON
DESIGNED BY L. GIFFORD
CHECKED BY S. JERGENS
COMM. NO. 10547

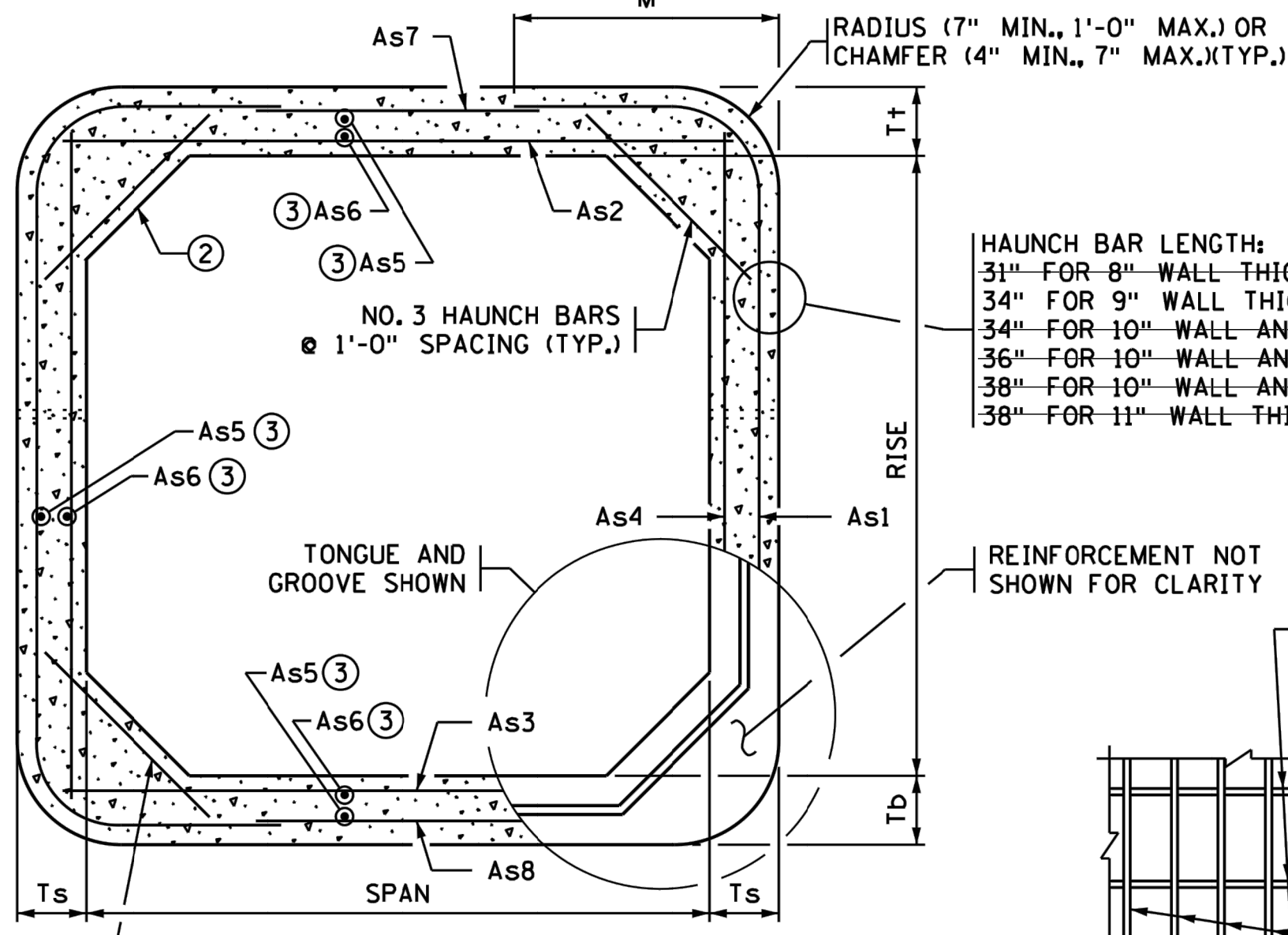
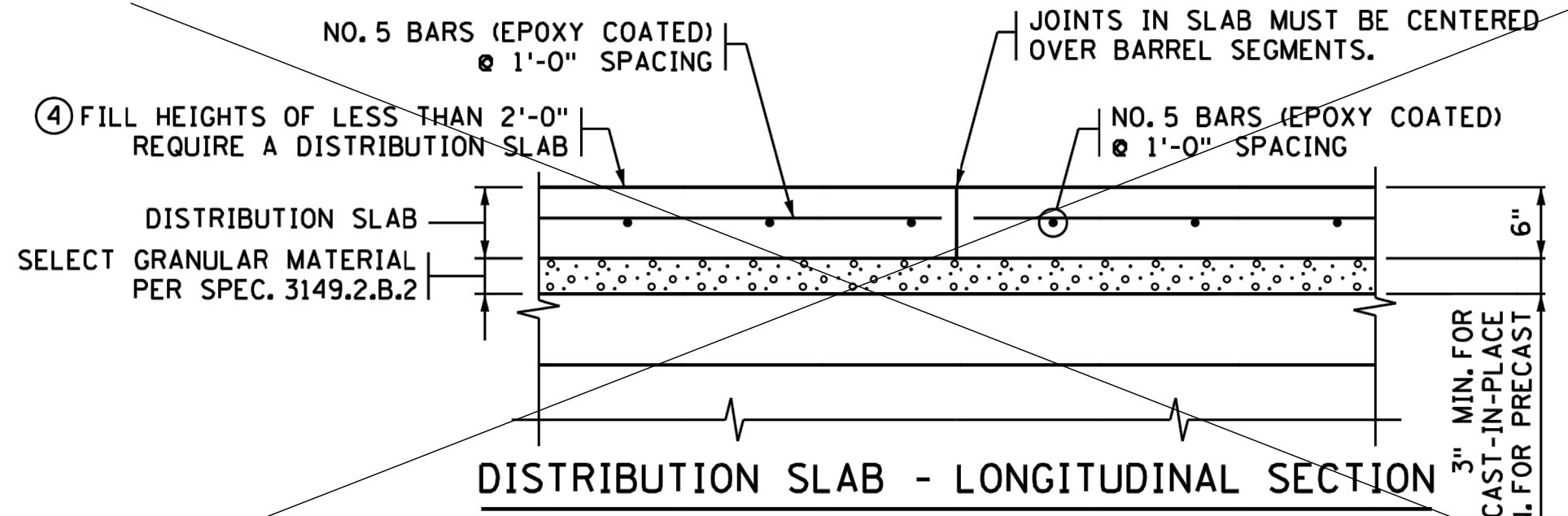
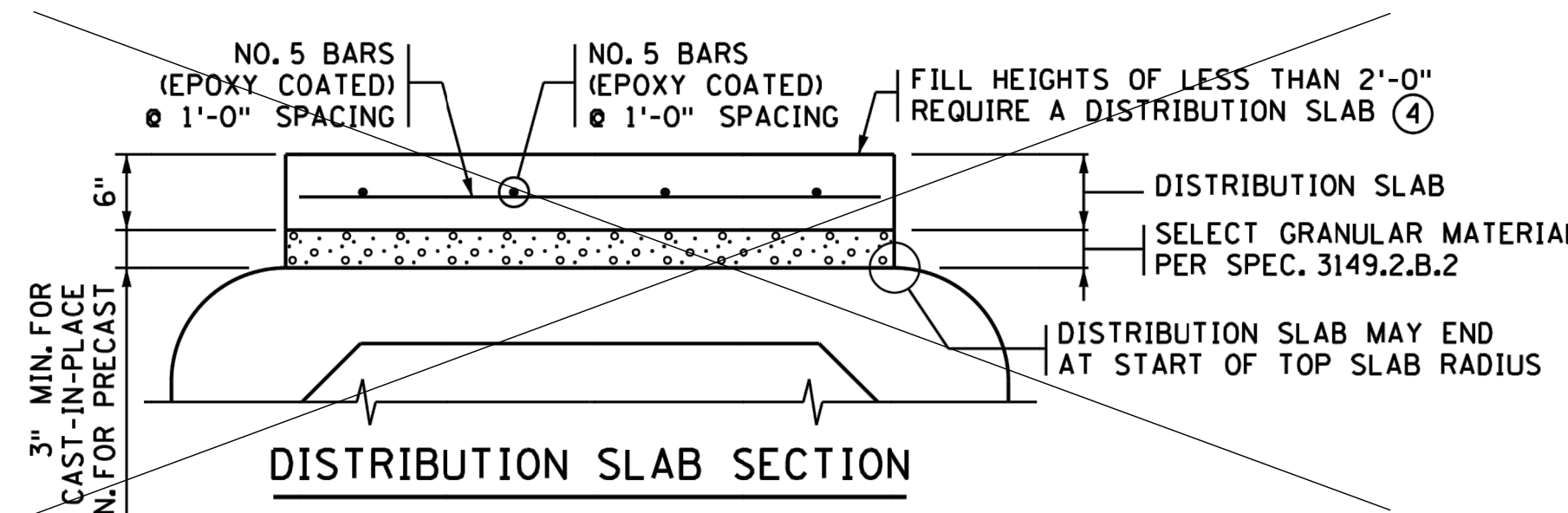


MINNEAPOLIS PARK & RECREATION BOARD

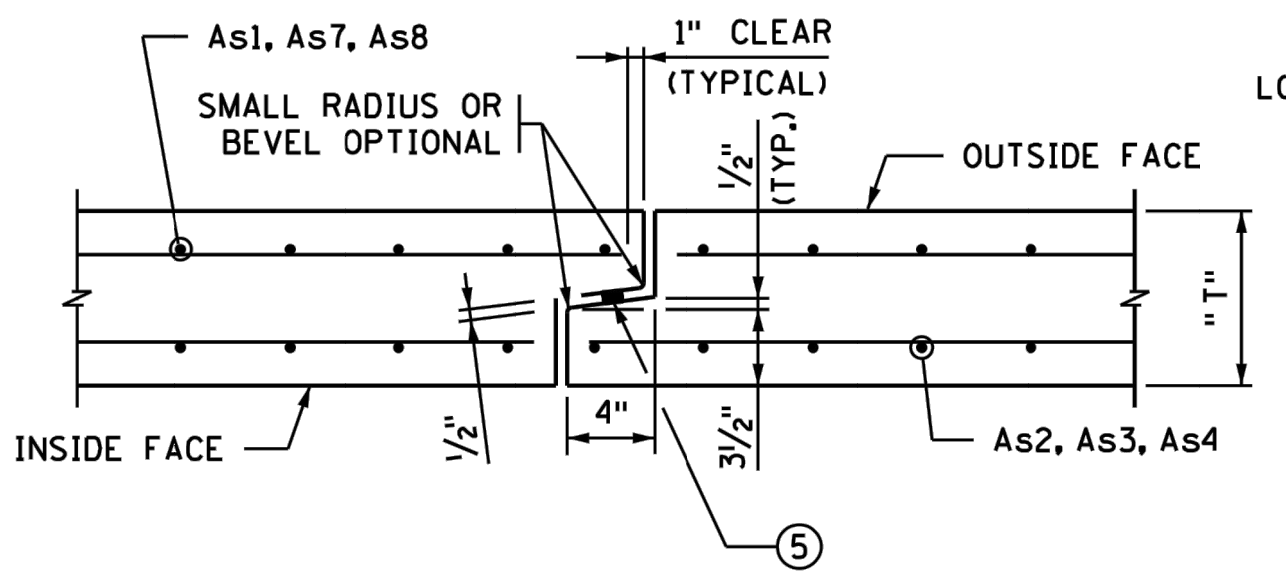
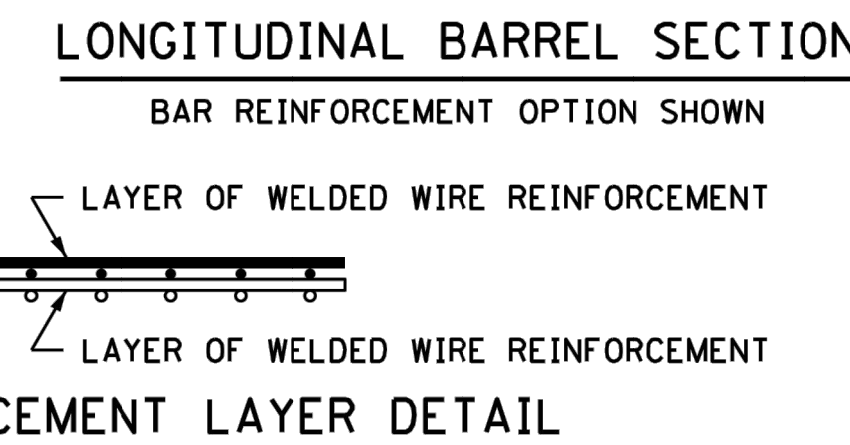
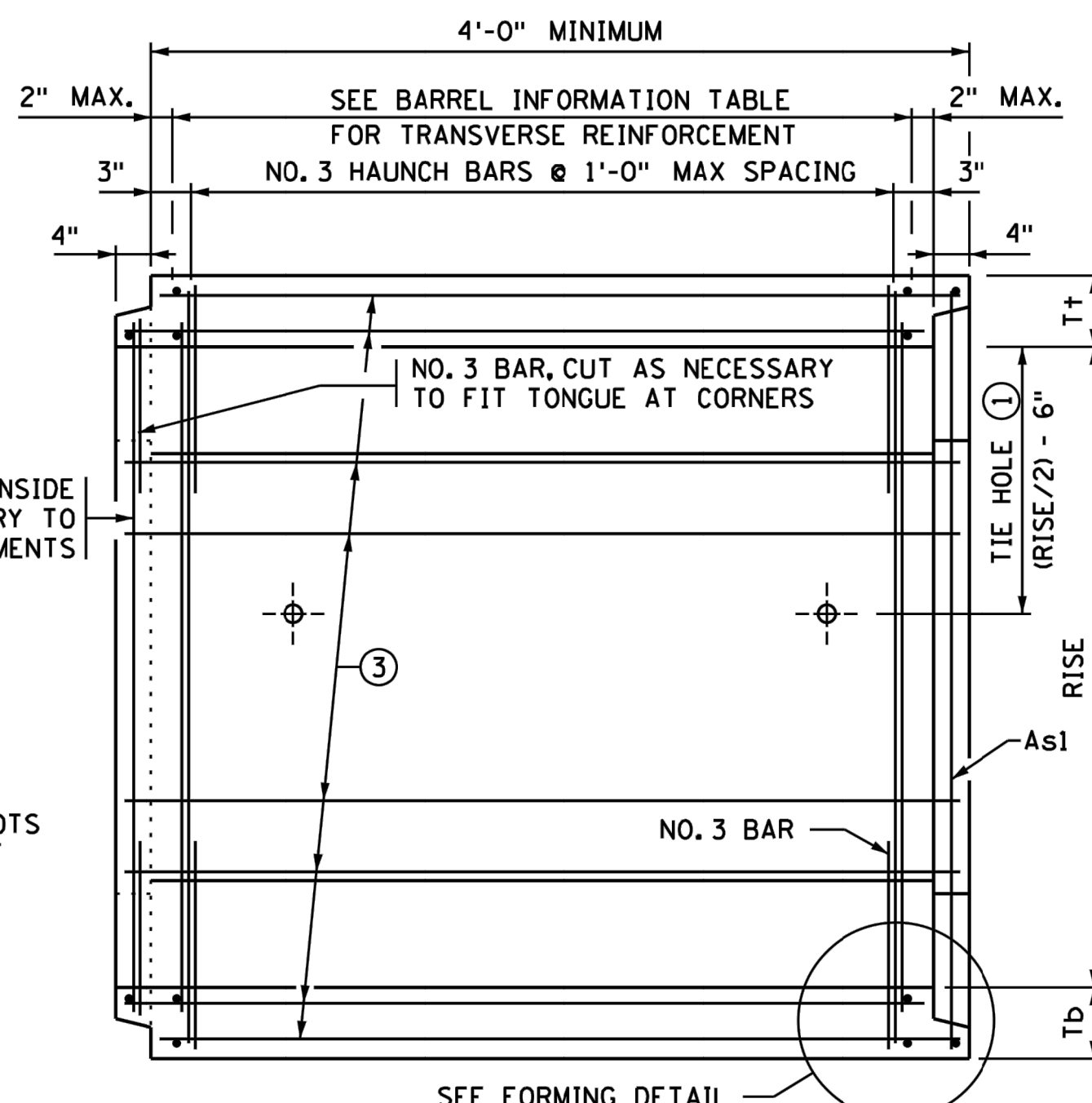
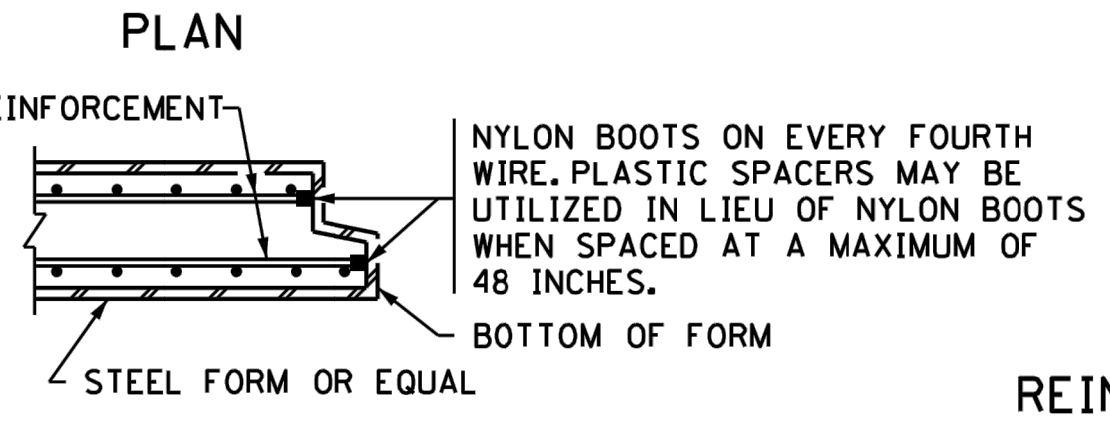
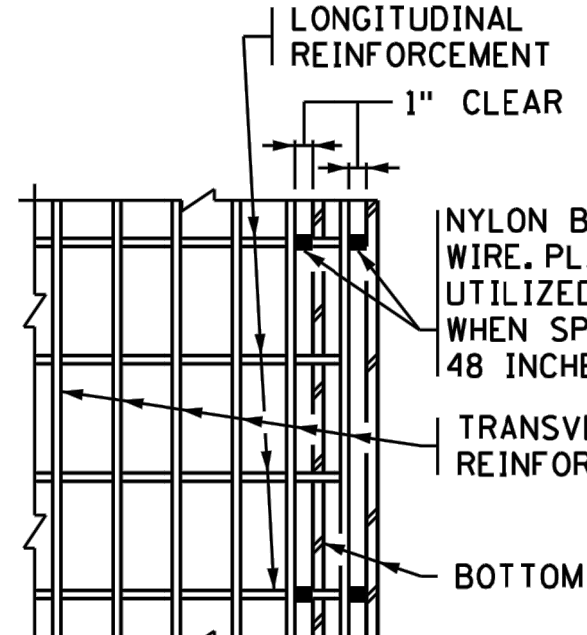
DRAINAGE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 30 OF 38



HAUNCH BAR LENGTH:
 31" FOR 8" WALL THICKNESS
 34" FOR 9" WALL THICKNESS
 34" FOR 10" WALL AND 10" SLAB
 36" FOR 10" WALL AND 11" SLAB
 38" FOR 10" WALL AND 12" SLAB
 38" FOR 11" WALL THICKNESS



CONSTRUCTION NOTES

CONSTRUCT CULVERTS PER SPEC. 2412 EXCEPT AS NOTED.

REFER TO THE GENERAL PLAN AND ELEVATION SHEET FOR THE DISTANCE BETWEEN BARRELS OF ADJACENT BOXES AND TO STANDARD FIGURE 5-395.115 FOR MATERIAL REQUIREMENTS FOR FILL BETWEEN ADJACENT BOXES.

PROVIDE WELDED WIRE REINFORCEMENT, SHEAR REINFORCEMENT AND REINFORCEMENT BARS PER THE APPLICABLE REQUIREMENTS OF AASHTO M259.

1/2" MIN. AND 2" MAX. CONCRETE COVER ON ALL REINFORCEMENT, INCLUDING SHEAR REINFORCEMENT, EXCEPT FOR TONGUE AND GROOVE DETAIL.

ANY OF THE FOLLOWING COMBINATIONS OF STEEL REINFORCEMENT MAY BE USED:
 (a) 1 OR 2 LAYERS OF WELDED WIRE REINFORCEMENT OR
 (b) 1 LAYER OF WELDED WIRE REINFORCEMENT AND 1 LAYER OF REINFORCEMENT BARS OR
 (c) 1 LAYER OF REINFORCEMENT BARS.

DEVELOP REINFORCEMENT IN ACCORDANCE WITH AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS". IF BAR REINFORCEMENT IS SUBSTITUTED FOR WELDED WIRE REINFORCEMENT, INCREASE THE AREA OF REINFORCEMENT BY 8%, AND SUBMIT DESIGN CALCULATIONS VERIFYING COMPLIANCE WITH AASHTO 5.7.3.4. "CONTROL OF CRACKING BY DISTRIBUTION OF REINFORCEMENT".

MAXIMUM SIZE OF REINFORCEMENT BARS IS NO. 6. THE MAXIMUM WELDED WIRE REINFORCEMENT SIZE IS W23 PER LAYER (MAXIMUM OF 2 LAYERS).

SPACE CENTER TO CENTER OF TRANSVERSE WIRES NOT LESS THAN 2" NOR MORE THAN 4". SPACE CENTER TO CENTER OF LONGITUDINAL WIRES NOT MORE THAN 8".

WHEN USING As1, As7, AND As8 REINFORCEMENT AS ONE CONTINUOUS CAGE WITH SPLICES OCCURRING IN THE CENTER OF THE TOP AND BOTTOM OF THE BOX SECTION, THE MIN. LAP LENGTH FOR THE As7 AND As8 IS 15".

WELDING IS NOT PERMITTED ON REINFORCEMENT BARS OR WELDED WIRE REINFORCEMENT, EXCEPT THAT THE ORIGINAL WELDING REQUIRED TO MANUFACTURE WIRE REINFORCEMENT IS ACCEPTABLE.

WHEN REINFORCEMENT IS CUT, PLACE ADDITIONAL REINFORCEMENT ON BOTH SIDES OF THE CUT MEMBER TO REPLACE OR EXCEED THE CUT STEEL.

USE CONCRETE MIX NO. 3W82 WITH NO CALCIUM CHLORIDE ALLOWED.

SHOP DRAWING APPROVAL PER SPEC. 3238.2.A IS NOT REQUIRED UNLESS OPENINGS OR ATTACHMENTS ARE PLACED ON A BARREL SEGMENT.

COMPACT THE FIRST 1.5' (LOOSE) OF FILL ABOVE THE BOX WITH LIGHT COMPACTION EQUIPMENT SUCH AS PLATE COMPACTORS OR WALK BEHIND ROLLERS.

TRANSVERSE REINFORCEMENT IS PARALLEL TO THE CULVERT SPAN. LONGITUDINAL REINFORCEMENT IS PERPENDICULAR TO THE CULVERT SPAN.

① USE 1" DIAMETER CULVERT TIES. SEE STANDARD PLATE NO. 3145 FOR DETAILS.
 ② USE 12" VERTICAL, 12" HORIZONTAL HAUNCHES ON ALL BOX SIZES.
 ③ PLACE LONGITUDINAL REINFORCEMENT DENOTED AS As5 AND As6 IN ALL SLABS AND WALLS WITH A MINIMUM OF 0.06 SQ. IN./FT.
 ④ ROADWAY OR SHOULDER FILL HEIGHTS OF LESS THAN 2'-0" REQUIRE A 6" THICK DISTRIBUTION SLAB WITH CONCRETE MIX 3S52.

PLACE CAST-IN-PLACE DISTRIBUTION SLABS WITH 3" MIN. SELECT GRANULAR MATERIAL PER SPEC. 3149.2.B.2 BETWEEN BARREL AND DISTRIBUTION SLAB.

PRECAST DISTRIBUTION SLABS MAY BE USED FOR FILL HEIGHTS OVER 1'-0". PROVIDE 6" MINIMUM SELECT GRANULAR MATERIAL PER SPEC. 3149.2.B.2 BETWEEN BARREL AND SLAB.

EXTEND THE WIDTH OF THE DISTRIBUTION SLAB TO THE OUTSIDE EDGES OF THE ROADWAY SHOULDERS UNLESS DIRECTED BY THE ENGINEER.

REDESIGN THE DISTRIBUTION SLAB PER THE MNDOT PAVEMENT DESIGN MANUAL IF IT IS USED AS PAVEMENT SURFACE.

PAYMENT FOR THE DISTRIBUTION SLAB AND SELECT GRANULAR MATERIAL BENEATH THE SLAB IS CONSIDERED INCIDENTAL.

⑤ REFER TO SPEC. 2412 FOR SEALANT REQUIREMENTS.

BARREL INFORMATION TABLE ***

LOCATION	SIZE	CLASS	f'c (P.S.I.)	FILL HEIGHT RANGE (FT.)	DISTRIBUTION SLAB REQUIRED *	RECESSED TIE RODS REQUIRED **	DIMENSIONS					WEIGHT (LBS./FT.)	WELDED WIRE REINFORCEMENT												
							SPAN (FT.)	RISE (FT.)	T+ (IN.)	Tb (IN.)	Ts (IN.)		As1		As2		As3		As4		As7		As8		
													AREA (IN. ² /FT.)	LENGTH (FT.)	M (FT.)	AREA (IN. ² /FT.)	LENGTH (FT.)	AREA (IN. ² /FT.)	LENGTH (FT.)	AREA (IN. ² /FT.)	LENGTH (FT.)	AREA (IN. ² /FT.)	LENGTH (FT.)	AREA (IN. ² /FT.)	LENGTH (FT.)
N: 142686.20 E: 537715.36	10' X 4'	1	5000	<3	YES	NO	10	4	9	10	8	3800	.66	10'-8"	2'-10'	0.50	10'-6"	0.48	8'-6"	0.20	4'-6"	0.24	6'-3"	0.24	8'-3"
					YES	NO																			

* ALL CLASS 1 CULVERTS WITH FILL HEIGHTS OF LESS THAN 2'-0" REQUIRE A DISTRIBUTION SLAB. IF A DISTRIBUTION SLAB IS NOT REQUIRED, INDICATE "NO" IN THIS BOX.

** FOR PEDESTRIAN CULVERT APPLICATIONS HIDE-AWAY OR RECESSED TIE CONNECTIONS ARE REQUIRED, SEE STANDARD PLATE 3145. IF REQUIRED, INDICATE "YES" IN THIS BOX.

*** BOX CULVERTS WITH SPANS FROM 6 TO 14 FT. ARE DESIGNED FOR HL-93 LIVE LOADS (AASHTO LRFD 3.6.2.1) NOT INCLUDING THE DESIGN LANE LOAD. BOXES WITH SPANS OF 16 FT. ARE DESIGNED FOR HL-93 LIVE LOADS INCLUDING THE DESIGN LANE LOAD.

REVISION: FEBRUARY 22, 2018
 APPROVED: MARCH 24, 2011
 Nancy Dubenberger
 STATE BRIDGE ENGINEER

STATE PROJ. NO _____ (T.H.) STA. + _____

FIG. 5-395.101(A)

CERTIFIED BY _____ LICENSED PROFESSIONAL ENGINEER DATE _____

NAME: _____ LIC. NO. XXXXX

DESIGNED BY: L. GIFFORD
 CHECKED BY: S. JERGENS
 COMM. NO. 10547

DESIGNED BY: J. SWANSON
 CHECKED BY: L. GIFFORD
 COMM. NO. 10547

APPLIED ECOLOGICAL SERVICES

SRE Consulting Group, Inc.

DESIGNED BY: L. GIFFORD
 CHECKED BY: S. JERGENS
 COMM. NO. 10547

MINNEAPOLIS PARK & RECREATION BOARD

DRAINAGE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET NO. _____ OF _____ SHEETS

BRIDGE NO. _____

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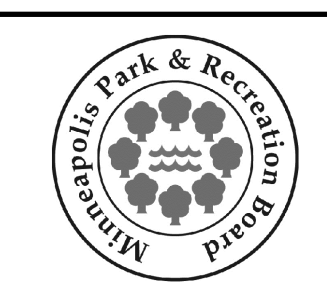
NO	DATE	BY	CKD	APPR

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.

Print Name: LEAH GIFFORD

Jean Gifford

Date: MARCH 22, 2019 License # 52263



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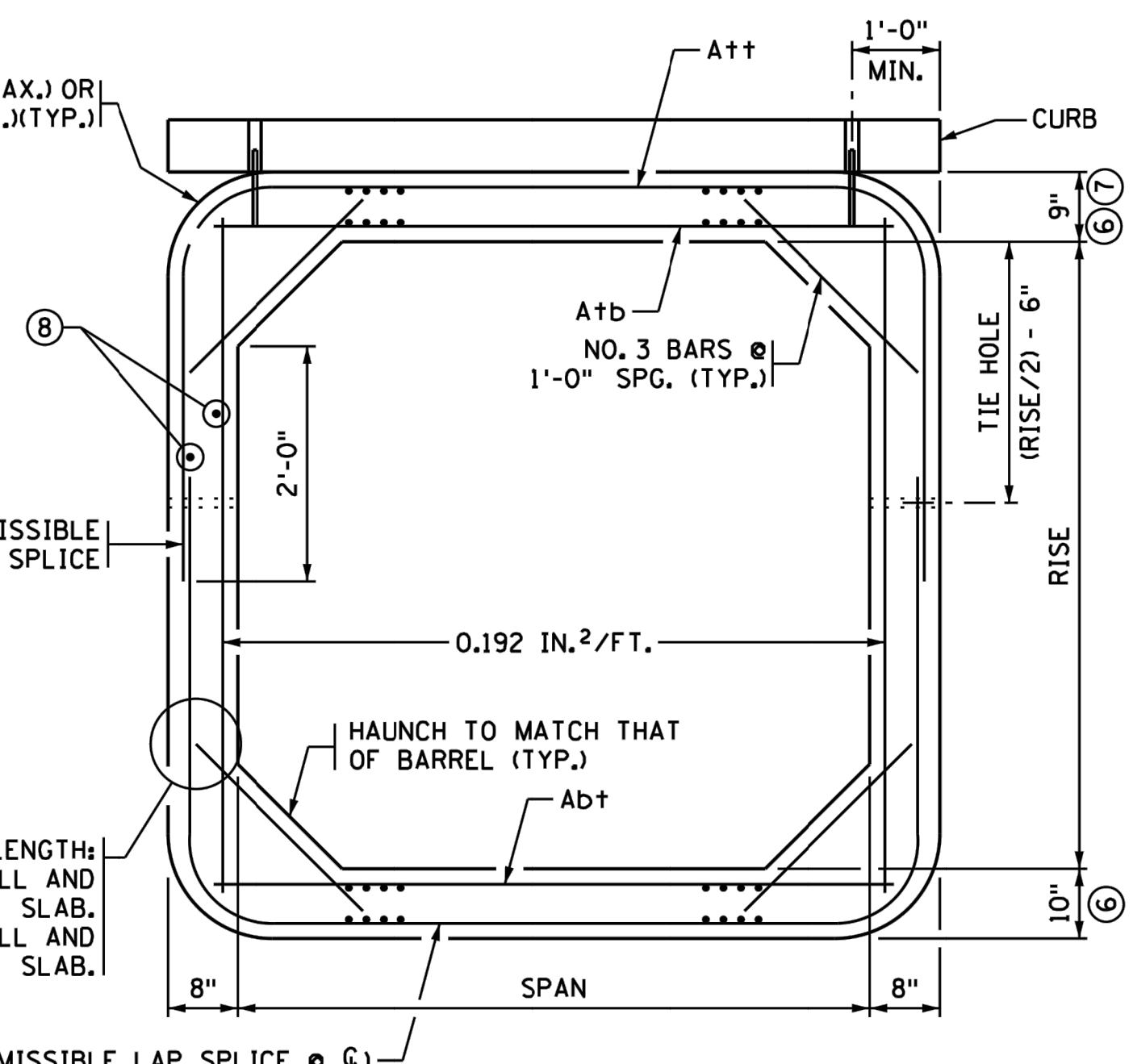
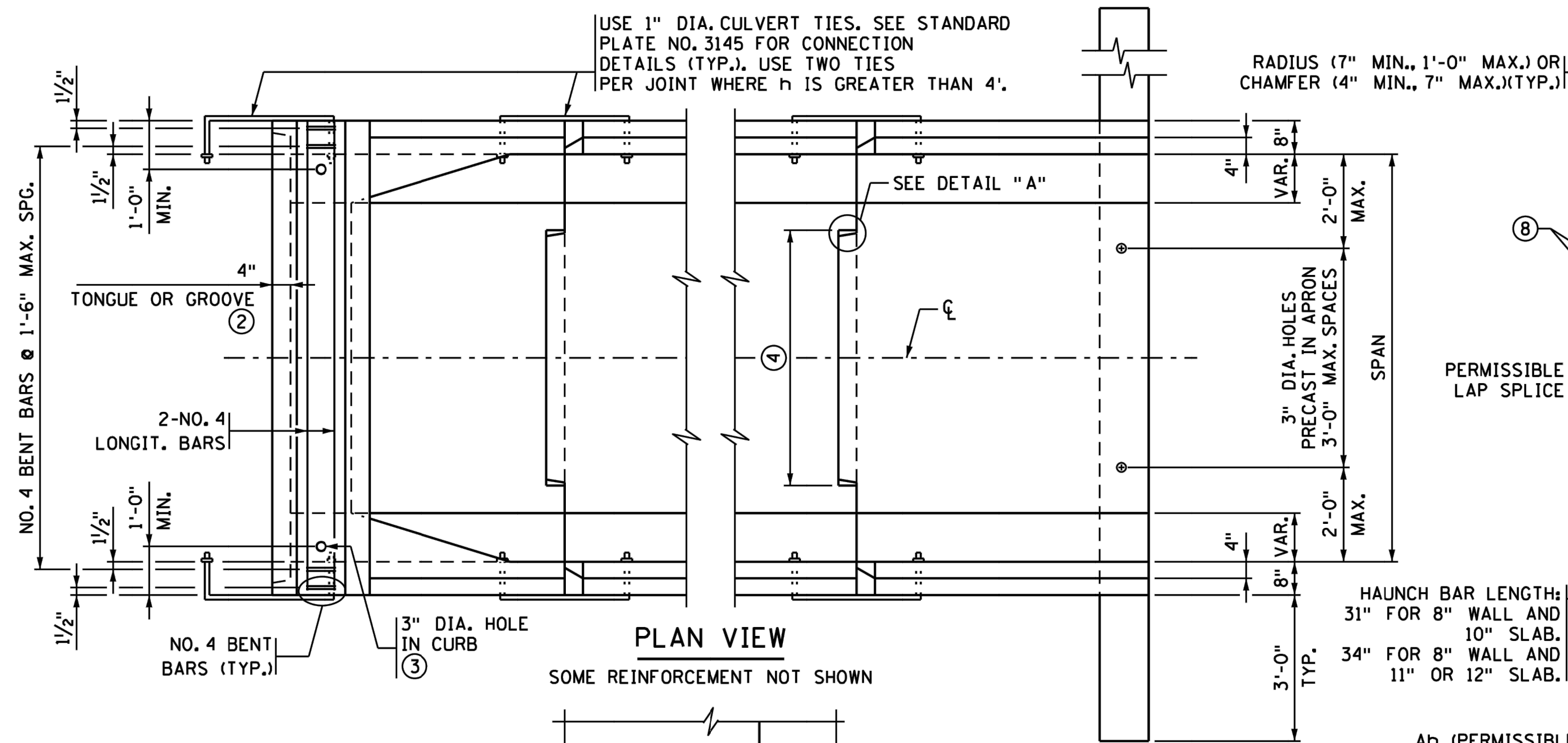


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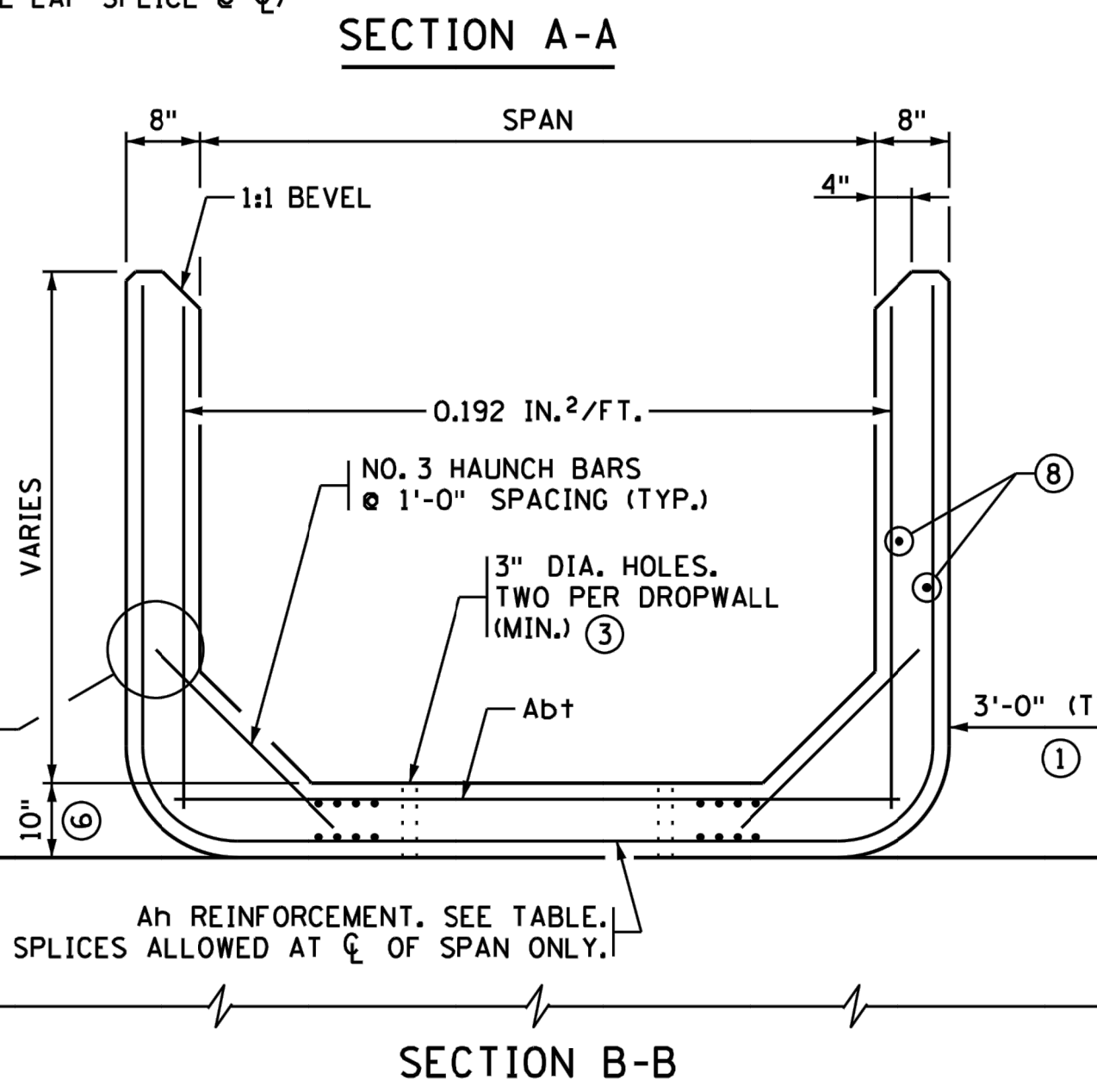
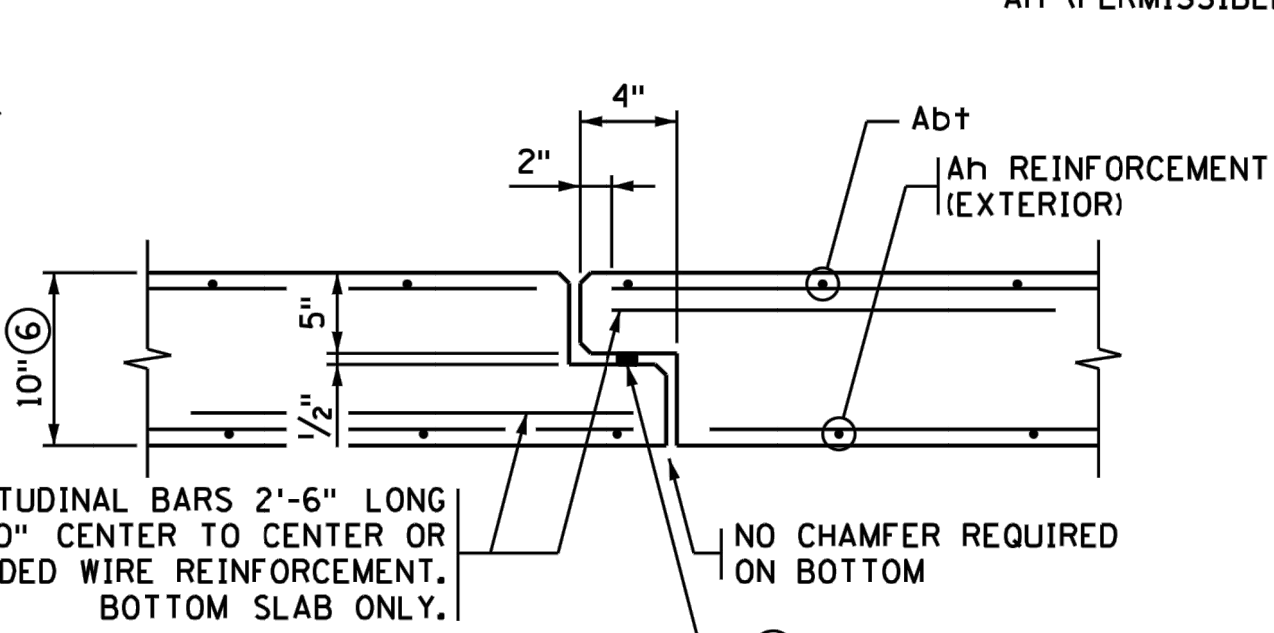
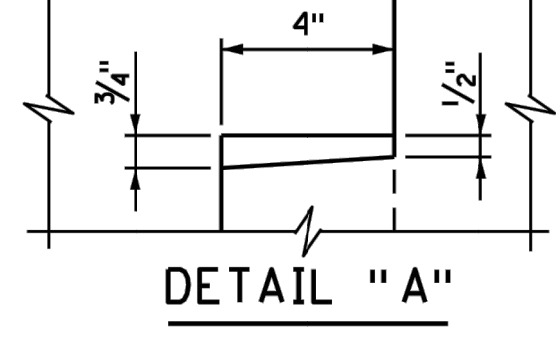
DRAINAGE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 31 OF 38



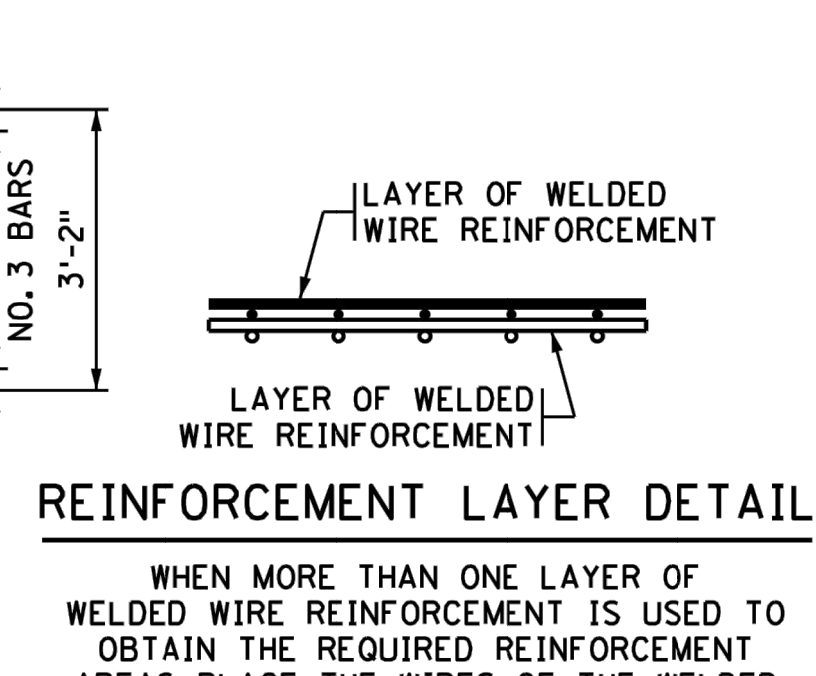
- ### CONSTRUCTION NOTES
- SEE STANDARD FIG. 5-395.101(A) AND FIG. 5-395.101(B) FOR ADDITIONAL DIMENSIONS AND CONSTRUCTION NOTES.
- USE CONCRETE MIX NO. 3W82 WITH NO CALCIUM CHLORIDE ALLOWED.
- ALL END SECTIONS REQUIRE CURB ON LINTEL BEAM.
- ON ALL END SECTIONS FOR WATERWAYS, USE DROPWALLS ON INLET AND OUTLET ENDS.
- SEE STANDARD FIG. 5-395.115 FOR EMBANKMENT PROTECTION.
- FINISH ALL EXPOSED EDGES OF CONCRETE WITH 1/2" OR 3/4" CHAMFER OR RADIUS UNLESS OTHERWISE NOTED.
- MAXIMUM SIZE OF REINFORCEMENT BARS IS NO. 6, EXCEPT NO. 7 OR 8 BARS MAY BE USED FOR A+t ON SPANS GREATER THAN 14'. THE MAXIMUM WELDED WIRE REINFORCEMENT SIZE IS W23 PER LAYER (MAXIMUM OF 2 LAYERS).
- WITH DOUBLE BOXES LOCATE DROPWALL JOINTS BETWEEN END SECTIONS. SEE STANDARD FIG. 5-395.111 FOR ALTERNATE DROPWALLS. LIMITS OF EXCAVATION FOR DROPWALL ARE APPROXIMATELY THE SAME AS DROPWALL DIMENSIONS. DROPWALL CONCRETE MIX IS 3S52, OR 3Y82 IF PRECAST. FURNISHING AND INSTALLATION OF DROPWALL TO BE INCLUDED IN PRICE BID FOR END SECTIONS. DROPWALL NOT REQUIRED FOR NON-WATERWAY USE.
 - CHECK LOCATION TO DETERMINE WHETHER A TONGUE OR A GROOVE IS USED.
 - FILL HOLE WITH GROUT. GROUT CONSISTS OF 1 PART CEMENT AND 2 PARTS SAND. USE TYPE 1A AIR ENTRAINED PORTLAND CEMENT. GROUT MIX MAXIMUM SLUMP IS 4".
 - 3'-6" MIN. TONGUE AND 3'-7" MIN. GROOVE FOR CULVERTS WITH 6'-0" SPANS, 5'-0" MIN. TONGUE AND 5'-1" MIN. GROOVE FOR CULVERTS WITH SPANS GREATER THAN 6'-0". CENTER TONGUE AND GROOVE ON C OF EACH APRON JOINT, TONGUE AND GROOVE JOINT ON ALL THREE SIDES OF APRON IS PERMISSIBLE.
 - WELDED WIRE REINFORCEMENT OF EQUAL AREA MAY BE SUBSTITUTED FOR REBAR.
 - APRON TOP AND BOTTOM SLAB THICKNESS MAY BE 8" FOR CULVERTS WITH 6' SPANS ONLY. BOTTOM SLAB THICKNESS MAY BE INCREASED UP TO 2" MAX. PROVIDED CONCRETE COVER IS 1 1/2" MIN., 2" MAX.
 - 10" MINIMUM TOP SLAB FOR 14' AND 16' SPANS.
 - PLACE LONGITUDINAL REINFORCEMENT PERPENDICULAR TO THE CULVERT SPAN WITH A MINIMUM OF 0.06 SQUARE INCHES PER PERIPHERAL FOOT ON ALL FACES OF THE BARREL.
 - REFER TO SPEC. 2412 FOR SEALANT REQUIREMENTS.



A+t, A+b REINFORCEMENT		
SPAN (FT.)	A+t (IN ² /FT.)	A+b (IN ² /FT.)
6	0.27	0.44
8	0.47	0.60
10	0.62	0.74
12	0.88	1.06
14	1.20	1.58
16	1.52	2.09

A+b REINFORCEMENT	
SPAN (FT.)	A+b (IN ² /FT.)
6-10	0.20
12	0.30
14	0.39
16	0.39

RISE FT.	L	APRON DIMENSIONS & A _h REINFORCEMENT														
		SECTION 1	SECTION 2		SECTION 3		SECTION 4		SECTION 5		h6					
X	A _h	h2	Y	A _h	h3	Z	A _h	h4	ZZ	A _h		ZZZ	A _h			
4	8	8' (4')	0.192	1'-9" (3'-9")	(4')	(0.192)	(1'-9")									
5	10	6'	0.192	3'-9"	4'	0.192	1'-9"									
6	12	6'	0.192	4'-9"	6'	0.192	1'-9"									
7	14	6'	0.192	5'-9"	8' (4')	0.192	1'-9" (3'-9")	(4')	(0.192)	(1'-9")						
8	16	6'	0.20	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"						
9	18	6'	0.29	7'-9"	6'	0.20	4'-9"	6'	0.192	1'-9"						
10	20	6'	0.42	8'-9"	6'	0.29	5'-9"	8' (4')	0.192	1'-9" (3'-9")	(4')	(0.192)	(1'-9")			
11	22	6'	0.60	9'-9"	6'	0.42	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"			
12	24	6'	0.78	10'-9"	6'	0.60	7'-9"	6'	0.20	4'-9"	6'	0.192	1'-9"			
13	26	6'	1.03	11'-9"	6'	0.78	8'-9"	6'	0.28	5'-9"	8' (4')	0.192	1'-9" (3'-9")	(4')	(0.192)	(1'-9")
14	28	6'	1.38	12'-9"	6'	1.03	9'-9"	6'	0.40	6'-9"	6'	0.192	3'-9"	4'	0.192	1'-9"



REVISION: FEBRUARY 22, 2018
 APPROVED: MARCH 24, 2011
 Nancy J. Swanson
 STATE BRIDGE ENGINEER

STATE PROJ. NO. - (T.H.) STA. + .

DESIGNED BY: L. GIFFORD
 CHECKED BY: S. JERGENS
 COMM. NO. 10547

FIG. 5-395.102

APPROVED: _____
 BRIDGE NO. _____

SHEET NO. OF SHEETS

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NO	DATE	BY	CKD	APPR

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Print Name: LEAH GIFFORD
 Date: MARCH 22, 2019 License #: 52263

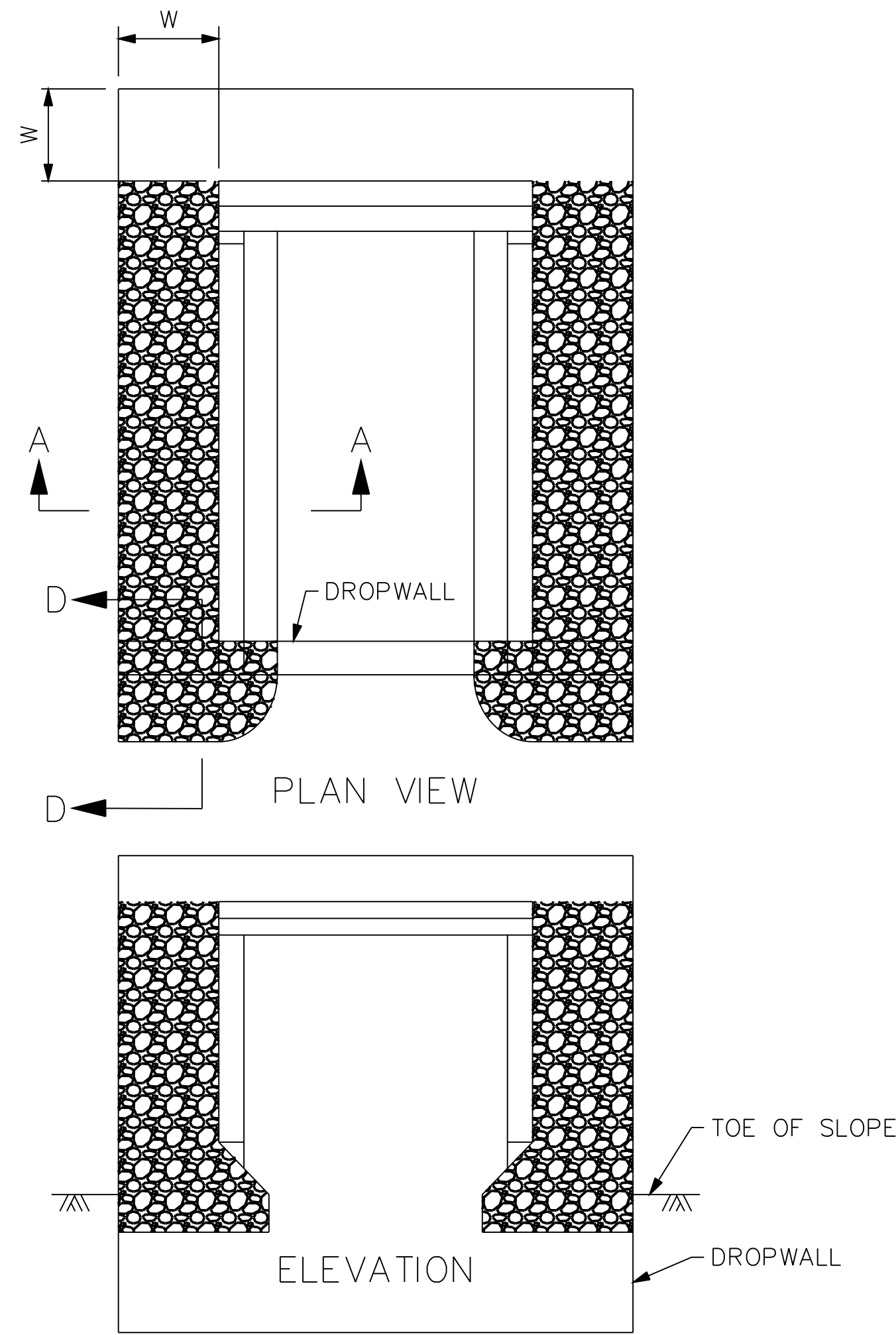


DRAWN BY: J. SWANSON
 DESIGNED BY: L. GIFFORD
 CHECKED BY: S. JERGENS
 COMM. NO. 10547



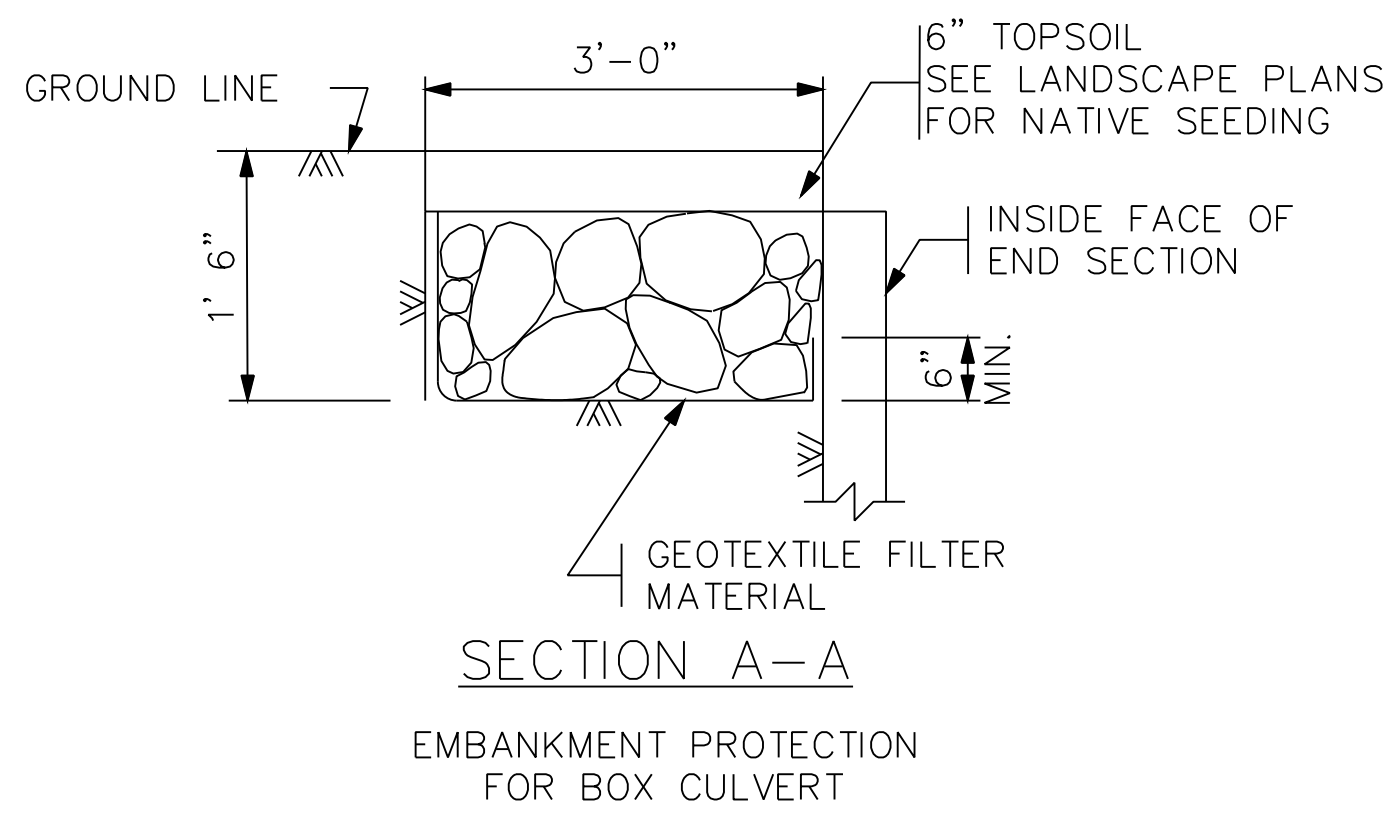
MINNEAPOLIS PARK & RECREATION BOARD
 DRAINAGE DETAILS
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET 32 OF 38



SINGLE BARREL

CLASS III OR IV SHOWN
FOR SKEWS UP TO 7°

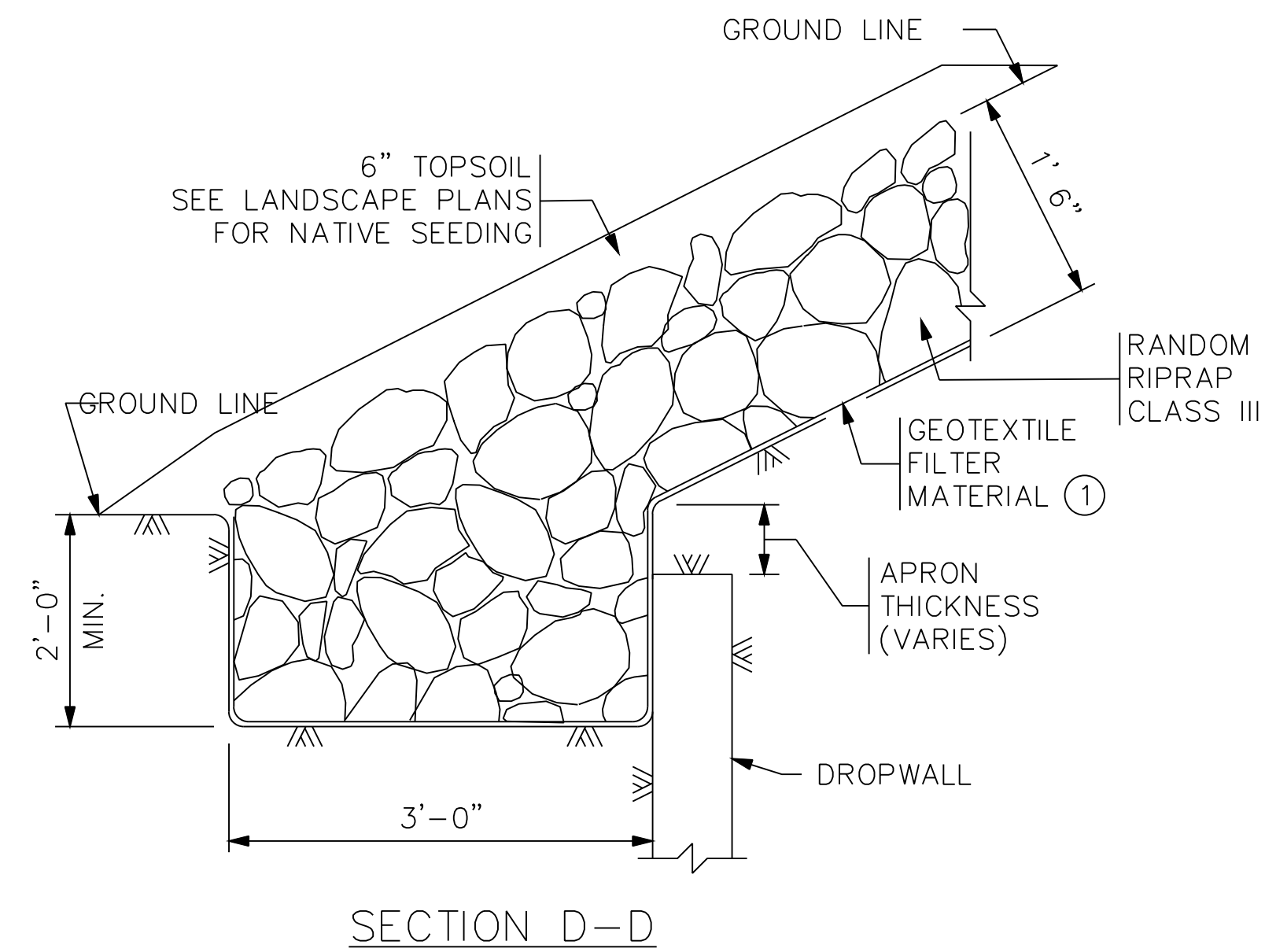


CONSTRUCTION NOTES

THIS DETAIL IS FOR CULVERT EMBANKMENT PROTECTION ONLY. REFER TO THE GRADING PLANS FOR ADDITIONAL RIPRAP OR OTHER SCOUR PROTECTION MEASURES.

PROVIDE RIPRAP PER SPECS. 2511 AND 3601.

- ① FOR TYPE OF GEOTEXTILE FILTER MATERIAL REQUIRED, SEE SPEC. 3733. PROVIDE GEOTEXTILE STRIPS CONTINUOUS WITHOUT OVERLAPS, EXCEPT FOR THE TOP STRIP, WHICH SHOULD SHINGLE VERTICAL STRIPS. BURY THE TOP EDGE TO PREVENT UNDERMINING.



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Print Name: LEAH GIFFORD

Leah Gifford

Date: MARCH 22, 2019 License # 52263



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J. SWANSON

DESIGNED BY
L. GIFFORD

CHECKED BY
S. JERGENS

COMM. NO. 10547



MINNEAPOLIS PARK & RECREATION BOARD

DRAINAGE DETAILS

LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
33
OF
38

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 1 OF 3)

PROJECT DESCRIPTION/LOCATION AND SCOPE

SEE COVER SHEET FOR LOCATION MAP, PROJECT NUMBERS AND DESCRIPTION OF PROJECT SCOPE.

PERMANENT STORMWATER BEST MANAGEMENT PRACTICES (BMPs) UTILIZED ON THE PROJECT INCLUDE RIPRAP BELOW THE ORDINARY HIGH WATER LEVEL AT RECONSTRUCTED OUTLETS. TEMPORARY BMPs UTILIZED ON THE PROJECT INCLUDE, BUT ARE NOT LIMITED TO, FLOATATION SILT CURTAIN, PERIMETER CONTROL FOR WORK ON THE SHORELINE AND BELOW THE WATERLINE AND CHIP SACK ROLLS FOR WORK THAT IS TO OCCUR AT OR ABOVE THE ORDINARY HIGH WATER LEVEL.

SPECIAL AND IMPAIRED WATERS

THE FOLLOWING SPECIAL/IMPAIRED WATERS ARE LOCATED WITHIN ONE MILE OF THE PROJECT LIMITS AND RECEIVE RUNOFF FROM THE PROJECT SITE.

LAKE NOKOMIS IS IMPAIRED FOR NUTRIENTS, AQUATIC CONSUMPTION, AND AQUATIC RECREATION AND IS A DESIGNATED INFESTED WATER LISTED FOR EUASIAN WATER MILFOIL AND ZEBRA MUSSELS.

MINNEHAHA CREEK IS IMPAIRED FOR CHLORIDES, DISSOLVED OXYGEN, FECAL COLIFORM, AQUATIC LIFE, AND AQUATIC RECREATION.

LAKE HIAWATHA IS IMPAIRED FOR AQUATIC RECREATION.

ENVIRONMENTALLY SENSITIVE AREAS

ALL ENVIRONMENTALLY SENSITIVE AREAS, INCLUDING WETLANDS, ARE LABELED AS "DELINEATED WETLAND BOUNDARY" IN THE PLANS.

LONG TERM MAINTENANCE AND OPERATION

MAINTENANCE STAFF FROM THE CITY OF MINNEAPOLIS ARE RESPONSIBLE FOR THE LONG TERM MAINTENANCE AND OPERATION OF THE PERMANENT STORMWATER SYSTEMS.

SWPPP DEVELOPMENT AND MAINTENANCE

THIS SWPPP WAS PREPARED BY PERSONNEL WHO ARE CERTIFIED IN THE DESIGN OF CONSTRUCTION SWPPPS. COPIES OF THE CERTIFICATIONS ARE AVAILABLE UPON REQUEST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CERTIFIED EROSION AND SEDIMENT CONTROL SUPERVISOR WHO SHALL BE RESPONSIBLE FOR FINALIZING, CERTIFYING, AND MAINTAINING THE SWPPP DOCUMENT AND OVERSEEING THE IMPLEMENTATION OF THE SWPPP. SEE PAGE 2 OF THE SWPPP NARRATIVE FOR ADDITIONAL REQUIREMENTS.

SWPPP AMENDMENTS

THE SWPPP SHALL BE AMENDED WHEN:

- A. THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE, WEATHER OR SEASON HAVING A SIGNIFICANT EFFECT ON DISCHARGE OF POLLUTANTS.
- B. INSPECTIONS INDICATE THE SWPPP IS NOT EFFECTIVE.
- C. A WATER QUALITY STANDARD CHANGES AND THE MPCA DETERMINES THE SWPPP SHALL BE AMENDED TO COMPLY.

A DESCRIPTION OF ANY CHANGE TO THE SWPPP, ALONG WITH THE DATE AND NAME OF THE REVISION SHALL BE RECORDED AND INCLUDED WITH THE SWPPP AND RETAINED ON SITE. THE OWNER SHALL RETAIN ALL RECORDS AFTER COMPLETION OF THE PROJECT.

SITE PLANS

THE CONTRACTOR SHALL PREPARE AND SUBMIT A SITE MANAGEMENT PLAN FOR CONCRETE MANAGEMENT, CONCRETE SLURRY APPLICATION AREAS, WORK IN AND NEAR AREAS OF ENVIRONMENTAL SENSITIVITY, DEWATERING AREAS, AREAS IDENTIFIED AS "SITE MANAGEMENT PLAN AREAS" AND AS REQUESTED BY THE OWNER'S REPRESENTATIVE. SUBMIT ALL SITE MANAGEMENT PLANS IN WRITING AND ALLOW A MINIMUM OF 7 DAYS FOR REVIEW BY THE OWNER'S REPRESENTATIVE. WORK SHALL NOT BE ALLOWED TO COMMENCE IF A SITE MANAGEMENT PLAN IS REQUIRED UNTIL ACCEPTANCE HAS BEEN GRANTED BY THE OWNER'S REPRESENTATIVE.

ENVIRONMENTAL REVIEW

THE REQUIREMENTS OF MINNEHAHA CREEK WATERSHED DISTRICT AND THE MINNEAPOLIS PARK AND RECREATION BOARD ARE SATISFIED BY THE PERMANENT BMPs LISTED ABOVE AND THE TEMPORARY MEASURES INCLUDED. THERE ARE NO ADDITIONAL STORMWATER MITIGATION MEASURES REQUIRED AS A RESULT OF AN ENVIRONMENTAL, ARCHAEOLOGICAL OR AGENCY REVIEW.

DRINKING WATER SOURCE MANAGEMENT AREA (DWSMA), EMERGENCY RESPONSE AREA (ERA) AND KARST REGIONS

THE PROJECT IS LOCATED IN A DWSMA THAT IS CLASSIFIED AS MODERATELY VULNERABLE.

SOIL TYPES

SOIL TYPES FOUND ON SITE ARE PREDOMINATELY LOAMY SAND AND URBAN FILL.

SEE SPECIAL PROVISIONS FOR ADDITIONAL WATER RELATED PERMITS SUCH AS WATERSHED DISTRICT PERMITS, WETLAND PERMITS, ARMY CORPS OF ENGINEERS OR DNR PUBLIC WATERS WORK PERMIT.

FOR PUBLIC WATERS IN WHICH THE DNR HAS PROMULGATED "WORK IN WATER RESTRICTIONS" NO WORK SHALL OCCUR IN LAKES FROM APRIL 1 - JUNE 30, IN NON-TROUT STREAMS FROM MARCH 15 - JUNE 15 OR IN TROUT STREAMS FROM SEPTEMBER 1 - APRIL 1. SEE DNR PERMIT FOR ADDITIONAL INFORMATION.

LAND FEATURE CHANGES

TOTAL DISTURBED AREA: 3.80 ACRES

TOTAL EXISTING IMPERVIOUS SURFACE AREA: 0.01 ACRES

TOTAL PROPOSED IMPERVIOUS SURFACE AREA: 0.00 ACRES

TOTAL PROPOSED NET CHANGE IN IMPERVIOUS SURFACE AREA: -0.01 ACRES

PROJECT CONTACTS

THE OWNER AND CONTRACTOR ARE RESPONSIBLE FOR THE IMPLEMENTATION OF THE SWPPP AND INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPs BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION HAS BEEN FILED.

ORGANIZATION	CONTACT NAME	PHONE
MINNEAPOLIS PARK AND RECREATION BOARD	JON DUESMAN	612-230-6471
MINNEHAHA CREEK WATERSHED DISTRICT	ELIZABETH SHOWALTER	952-641-4518
MINNESOTA DEPARTMENT OF NATURAL RESOURCES	PETER LEETE	651-366-3634
MINNESOTA POLLUTION CONTROL AGENCY	AMY DALBECQ	651-757-2446
SRF WATER RESOURCES	LEAH GIFFORD	763-475-0010
MNDNR AREA HYDROLOGIST	JASON SPIEGEL	651-259-5822
MNDNR-AIS SPECIALIST	KEEGAN LUND	651-259-5826

MPCA DUTY OFFICER 24 HOUR EMERGENCY NOTIFICATION: 651-649-5451
800-422-0798

LOCATION OF SWPPP REQUIREMENTS

THE REQUIRED SWPPP ELEMENTS MAY BE LOCATED IN MANY PLACES WITHIN THE PLAN SET AS WELL AS IN THE SPECIAL PROVISIONS, MNDOT SPEC BOOK (2018 EDITION), CONSTRUCTION DIARIES OR ON FILE WITH THE PROJECT OWNER. THE NOTES AND TABLE BELOW ARE INTENDED TO BE A QUICK REFERENCE FOR THE CONTRACTOR AND OWNER'S REPRESENTATIVE TO USE IN THE FIELD. THERE MAY BE ADDITIONAL REQUIRED SWPPP ELEMENTS INCLUDED ON THE PROJECT THAT ARE NOT LISTED ON THIS SHEET. IN ADDITION, THE MINNESOTA NPDES/SDS CONSTRUCTION STORMWATER GENERAL PERMIT (NPDES PERMIT) SHOULD BE REVIEWED AND CONSULTED BY THE EROSION AND SEDIMENT CONTROL SUPERVISOR.

LOCATION OF SWPPP REQUIREMENTS IN PROJECT PLAN

DESCRIPTION	LOCATION
PERMANENT EROSION AND SEDIMENT CONTROL MEASURES	SHEET NOS. 4 TO 18
FINAL STABILIZATION	SHEET NOS. 4 TO 18
SOILS AND CONSTRUCTION NOTES	SHEET NOS. 2
DRAINAGE STRUCTURES	SHEET NOS. 26
STORM SEWER PROFILE SHEETS	SHEET NOS. 26
EROSION AND SEDIMENT CONTROL DETAILS	SHEET NOS. 22 TO 23

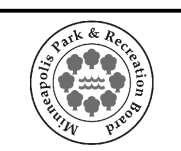
SITE MAPS AND DESIGN CALCULATIONS

IN ADDITION TO WHAT IS LOCATED WITHIN THIS PLAN, SITE MAPS AND QUANTITIES ARE AVAILABLE UPON REQUEST. PLEASE CONTACT THE OWNER'S REPRESENTATIVE WITH ANY QUESTIONS REGARDING THE SITE MAPS OR CALCULATIONS.

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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.
Print Name: LE-H GIFFORD
Date M-RCH 22, 2019 License # 52263



DR-WN BY
M. MCGINN
DESIGNED BY
M. MCGINN
CHECKED BY
L. GIFFORD
COMM. NO. 10547



MINNE-POLIS P-RK & RECRE-TION BO-RD
SWPPP
L-KE NOKOMIS SHORELINE ENH-NCEMENT

SHEET
34
OF
38

STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NARRATIVE (SHEET 2 OF 3)

GENERAL SWPPP NOTES FOR CONSTRUCTION ACTIVITY

1. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION STORMWATER PERMIT AT ALL TIMES UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA (FORM IS AVAILABLE FROM MPCA WEBSITE). THE CONTRACTOR SHALL DEVELOP A CHAIN OF COMMAND WITH ALL OPERATORS ON THE SITE TO ENSURE THAT THE SWPPP SHALL BE IMPLEMENTED AND STAY IN EFFECT UNTIL THE CONSTRUCTION PROJECT IS COMPLETE, THE ENTIRE SITE HAS UNDERGONE FINAL STABILIZATION, AND THE NOTICE OF TERMINATION (NOT) HAS BEEN SUBMITTED TO THE MPCA.
2. THE CONTRACTOR SHALL PREPARE A WRITTEN, NOT ORAL, WEEKLY SCHEDULE OF PROPOSED EROSION CONTROL ACTIVITIES FOR THE OWNER'S REPRESENTATIVE APPROVAL AS PER MNDOT SPEC. 1717.2.
3. BURNING OF ANY MATERIAL IS NOT ALLOWED WITHIN PROJECT BOUNDARY.
4. THE CONTRACTOR SHALL PLACE STABILIZED CONSTRUCTION EXITS, AS NECESSARY, TO PREVENT TRACKING OF SEDIMENT ONTO PAVED SURFACES AND IN COMPLIANCE WITH THE NPDES PERMIT. STABILIZED CONSTRUCTION EXITS SHALL BE SUFFICIENTLY SIZED AND MAINTAINED TO PREVENT TRACK OUT. STABILIZED CONSTRUCTION EXITS SHALL BE INCIDENTAL.
5. ALL TOPSOIL IN DISTURBED AREAS SHALL BE REMOVED AND STOCKPILED FOR LATER PLACEMENT. AVOID COMPACTION AS MUCH AS IS FEASIBLE IN ALL AREAS WHERE COMPACTION IS NOT REQUIRED FOR CONSTRUCTION. COMPACTION SHALL BE AVOIDED IN ALL AREAS DESIGNATED FOR INFILTRATION.
6. DO NOT DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS. DELINEATE AREAS NOT TO BE DISTURBED PRIOR TO STARTING GROUND DISTURBING ACTIVITIES. IF IT BECOMES NECESSARY TO DISTURB AREAS OUTSIDE OF THE CONSTRUCTION LIMITS OBTAIN WRITTEN PERMISSION PRIOR TO PROCEEDING. PRESERVE ALL BUFFERS (IF ANY) SHOWN ON THE PLANS.
7. DIRECT DISCHARGES FROM BMPS TO VEGETATED AREAS AND ROUTE STORMWATER AROUND UNSTABILIZED AREAS OF THE SITE WHENEVER POSSIBLE. PROVIDE EROSION CONTROL AND VELOCITY DISSIPATION DEVICES AS NEEDED TO PREVENT EROSION AND NUISANCE CONDITIONS.
8. PROVIDE STABILIZATION IN ANY TRENCHES CUT FOR DEWATERING OR SITE DRAINING PURPOSES.
9. TEMPORARY DEWATERING ACTIVITIES MAY BE REQUIRED. THEREFORE, IT IS POSSIBLE THAT A PERMIT FOR THE TEMPORARY APPROPRIATION OF WATERS OF THE STATE FROM MNDNR SHALL BE REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THIS PERMIT (FORMS ARE AVAILABLE FROM THE MNDNR WEBSITE). ALL TEMPORARY DEWATERING SHALL BE DISCHARGED TO AN APPROVED LOCATION FOR TREATMENT PRIOR TO DISCHARGE TO THE RECEIVING WATER. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SITE MANAGEMENT PLANS TO THE OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO COMMENCING WORK ACCORDING TO SPEC 1717.2. TEMPORARY DEWATERING SHALL BE INCIDENTAL.
10. BASIN DRAINING ACTIVITIES OF TURBID OR SEDIMENT LADEN WATER SHALL BE DISCHARGED TO TEMPORARY SEDIMENT BASINS WHENEVER POSSIBLE. IN THE EVENT THAT IT IS NOT POSSIBLE TO DISCHARGE THE SEDIMENT LADEN WATER TO A TEMPORARY SEDIMENT BASIN THE WATER SHALL BE TREATED SO THAT IT DOES NOT CAUSE A NUISANCE CONDITION IN THE RECEIVING WATERS OR TO DOWNSTREAM LANDOWNERS.
11. IT IS NOT ANTICIPATED THAT POLYMERS, FLOCCULANTS OR OTHER SEDIMENTATION TREATMENT CHEMICALS SHALL BE USED. HOWEVER, IF THE USE OF SUCH CHEMICALS BECOMES NECESSARY TO COMPLY WITH PERMIT REQUIREMENTS, IT SHALL BE IN ACCORDANCE WITH THE NPDES PERMIT.

POLLUTION PREVENTION NOTES

1. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS REGARDING POLLUTION PREVENTION MANAGEMENT DURING CONSTRUCTION, WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING THE FOLLOWING (ITEMS LISTED ARE INCIDENTAL):
 - A. WASHOUT AREAS FOR CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS FOR USE BY ALL SUBCONTRACTORS AND MATERIAL TESTING PERSONNEL. LOCATION OF WASHOUT AREAS SHALL BE IDENTIFIED BY SIGNAGE AND SHALL BE AT LEAST 200 FT FROM SITE MANAGEMENT PLAN REQUIREMENT AREAS (IF APPLICABLE) OR ENVIRONMENTALLY SENSITIVE AREAS, AND UTILIZE A LEAK-PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER THAT PREVENTS RUNOFF ONTO ADJACENT SOILS. AN ENGINEERED COLLECTION SYSTEM CAN ALSO BE USED IF IT IS APPROVED BY THE OWNER'S REPRESENTATIVE.
 - B. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE FOR A CHEMICAL STORAGE AREA AND SHALL DESIGNATE AN AREA FOR FUELING AND MINOR MAINTENANCE OF CONSTRUCTION VEHICLES (INCLUDING WASHING) WITH MEANS TO CAPTURE ANY FUEL SPILLS. RUNOFF SHALL BE CONTAINED IN A TEMPORARY SEDIMENT BASIN OR OTHER EFFECTIVE CONTROL AND ALL WASTE GENERATED SHALL BE PROPERLY DISPOSED OF. NO ENGINE DEGREASING IS ALLOWED ON SITE.
 - C. SOLID WASTE COLLECTION AND REMOVAL.
 - D. SECONDARY CONTAINMENT FOR STORAGE OF HAZARDOUS MATERIALS.
 - E. SECURED HAZARDOUS WASTE STORAGE CONTAINERS.
 - F. CHEMICAL SPILL KITS (SHALL BE PROVIDED AT EACH LOCATION WHERE CHEMICALS ARE USED OR STORED AND ANY LOCATION WHERE VEHICLES ARE FUELED OR MAINTAINED).
 - G. PORTABLE RESTROOM FACILITIES THAT ARE ANCHORED TO PREVENT TIPPING.

POLLUTION PREVENTION NOTES (CONT.)

2. CHEMICALS SHALL BE KEPT IN A SECURE STORAGE AREA WITH RESTRICTED ACCESS IN SEALED CONTAINERS WHEN NOT IN USE. RETURN ALL CHEMICALS TO THE DESIGNATED STORAGE AREA BY THE END OF THE DAY UNLESS INFEASIBLE. CHEMICAL STORAGE CONTAINERS SHALL HAVE SECONDARY CONTAINMENT WHEN BEING USED OR STORED ON THE PROJECT SITE, AND PRODUCTS OR CHEMICALS THAT MAY LEACH POLLUTANTS SHALL BE UNDER COVER (PLASTIC SHEETING OR TEMPORARY ROOF). CHEMICAL SPILLS OF ANY KIND (OIL, FUEL, FERTILIZER, ETC.) SHALL BE CLEANED UP AND REMOVED FROM THE SITE IMMEDIATELY. THE CONTRACTOR SHALL HAVE A SPILL KIT ON SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING AND FOLLOWING A WRITTEN DISPOSAL PLAN FOR ALL HAZARDOUS WASTE MATERIALS. THE PLAN SHALL INCLUDE HOW THE MATERIAL SHALL BE DISPOSED OF AND THE LOCATION OF THE DISPOSAL SITE AND SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO WORK ON SITE. LEAKS, SPILLS, OR OTHER RELEASES SHALL BE RESPONDED TO IN ACCORDANCE WITH MPCA SPILL CONTAINMENT AND REMEDIAL ACTION PROCEDURES.
4. THE CONTRACTOR SHALL USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT DISCHARGE OR PLACEMENT OF BITUMINOUS GRINDINGS, CUTTINGS, MILLINGS, AND OTHER BITUMINOUS WASTES FROM AREAS OF EXISTING OR FUTURE VEGETATED SOILS, AND ALL WATER CONVEYANCE SYSTEMS, INCLUDING INLETS, DITCHES AND CURB FLOW LINES.
5. THE CONTRACTOR SHALL USE METHODS AND OPERATIONAL PROCEDURES THAT PREVENT CONCRETE DUST, PARTICLES, SAW CUT SLURRY, PLANING WASTE AND OTHER CONCRETE WASTES FROM LEAVING PUBLIC RIGHT OF WAY, DEPOSITING IN EXISTING OR FUTURE VEGETATED AREAS OR ENTERING STORMWATER CONVEYANCE SYSTEM INCLUDING INLETS AND CURB FLOW LINES. ONSITE RELEASE OF CONCRETE SLURRY IS PERMISSIBLE IF MINNESOTA POLLUTION CONTROL GUIDANCE FOR ROAD CONSTRUCTION CONCRETE SLURRY AND THE REQUIREMENTS OF THE SPECIAL PROVISIONS ARE FOLLOWED.

EROSION CONTROL SUPERVISOR, INSPECTIONS AND MAINTENANCE NOTES

1. IN ACCORDANCE WITH SPEC. 2573.3 A1, THE CONTRACTOR SHALL PROVIDE A CERTIFIED EROSION CONTROL SUPERVISOR IN GOOD STANDING WHO IS KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS. PROVIDE PROOF OF CERTIFICATION (UNIVERSITY OF MINNESOTA - CONSTRUCTION SITE MANAGEMENT) AT THE PRECONSTRUCTION MEETING. WORK SHALL NOT BE ALLOWED TO COMMENCE UNTIL PROOF OF CERTIFICATION HAS BEEN PROVIDED. THE EROSION CONTROL SUPERVISOR IS INCIDENTAL.
2. THE EROSION CONTROL SUPERVISOR SHALL WORK WITH THE OWNER'S REPRESENTATIVE TO OVERSEE THE IMPLEMENTATION OF THE SWPPP AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE, DURING AND AFTER CONSTRUCTION UNTIL THE NOTICE OF TERMINATION (NOT) HAS BEEN FILED WITH THE MPCA.
3. THE EROSION CONTROL SUPERVISOR IS RESPONSIBLE FOR COMPLYING WITH ALL THE INSPECTION AND MAINTENANCE REQUIREMENTS STATED IN THE NPDES PERMIT. INSPECTIONS OF THE ENTIRE CONSTRUCTION SITE SHALL OCCUR A MINIMUM OF ONCE EVERY SEVEN DAYS (3 DAYS FOR PROHIBITED WATERS) DURING ACTIVE CONSTRUCTION AND WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS (IN NO CASE SHALL THE TIME BETWEEN INSPECTIONS EXCEED 7 DAYS; 3 DAYS FOR PROHIBITED WATERS). RAINFALL AMOUNTS SHALL BE OBTAINED USING A PROPERLY MAINTAINED RAIN GAUGE ONSITE OR BY A WEATHER STATION THAT IS WITHIN ONE MILE. THE EROSION CONTROL SUPERVISOR SHALL THOROUGHLY INSPECT ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPS TO ENSURE INTEGRITY AND EFFECTIVENESS OF EACH BMP.
4. ALL INSPECTIONS AND MAINTENANCE CONDUCTED DURING CONSTRUCTION SHALL BE RECORDED IN WRITING WITHIN 24 HOURS AND THESE RECORDS SHALL BE RETAINED WITH THE SWPPP. INSPECTION REPORTS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE AND SWPPP DESIGNER IN A FORMAT APPROVED BY THE ENGINEER. INSPECTION RECORDS SHALL INCLUDE:
 - A. DATE AND TIME OF INSPECTIONS;
 - B. NAME OF PERSONS CONDUCTING INSPECTIONS;
 - C. FINDINGS OF INSPECTIONS, INCLUDING RECOMMENDATIONS FOR CORRECTIVE ACTIONS;
 - D. CORRECTIVE ACTIONS TAKEN INCLUDING DATES, TIMES, AND THE PARTY COMPLETING MAINTENANCE ACTIVITIES;
 - E. DATE AND AMOUNT OF ALL RAINFALL EVENTS GREATER THAN 0.5 INCH IN 24 HOURS;
 - F. LOCATION, DESCRIPTION AND PHOTO OF ANY DISCHARGES OFF THE PROJECT SITE.
 - G. DOCUMENTS AND CHANGES MADE TO THE SWPPP.

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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.
 Print Name: LE-H. GIFFORD
 Date M-RCH 22, 2019 License # 52263



DR-WN BY
M. MCGINN
 DESIGNED BY
M. MCGINN
 CHECKED BY
L. GIFFORD
 COMM. NO. 10547



MINNEAPOLIS P-RK & RECREATION BO-RD
SWPPP
L-KE NOKOMIS SHORELINE ENH-NCEMENT

SHEET
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GENERAL TRAFFIC CONTROL


1. THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
2. ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES, ETC., SHALL CONFORM WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
3. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THIS LAYOUT AS DEEMED NECESSARY BY THE FIELD ENGINEER. MAINTAIN EROSION CONTROL MEASURES UNTIL FIELD ENGINEER DETERMINES THEY ARE NO LONGER NEEDED.
4. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THE TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE FIELD ENGINEER.
5. CONTRACTOR SHALL COORDINATE ALL EXCAVATION AND GRADING OPERATION WITH UTILITY COMPANIES.
6. ALL DISTANCES ARE APPROXIMATE.
7. THE CONTRACTOR SHALL MAINTAIN A 2 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICES(DRUMS, BARRICADES, BARRIERS, ETC.) UNLESS OTHERWISE NOTED.
8. RAPID STABILIZATION SHALL BE APPLIED IN AREAS NEEDED PER MNDOT SPEC. 2575.15. PLACE PERMANENT TURF ESTABLISHMENT AND EROSION CONTROL MEASURES ALONG THE PERMANENT CONSTRUCTION.



SIGNING




1. THE CONTRACTOR SHALL REMOVE, SALVAGE, OR COVER, AS APPROPRIATE, ALL EXISTING SIGNING THAT CONFLICTS WITH THIS DETOUR PLAN TO THE SATISFACTION OF THE FIELD ENGINEER. THE CONTRACTOR SHALL RESTORE ALL APPROPRIATE ORIGINAL SIGNING AFTER APPROVAL TO DO SO BY THE FIELD ENGINEER. REMOVAL AND SALVAGE OF SIGNS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM. COVERING AND UNCOVERING OF SIGNS SHALL BE INCIDENTAL.
2. WHEN SIGNS ARE PLACED THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MN MUTCD. IF THIS IS NOT POSSIBLE THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE FIELD ENGINEER. WHEN THE SIGNS ARE REMOVED THE SIGN POSTS SHALL ALSO BE REMOVED AS SOON AS POSSIBLE.
3. ALL ORANGE SIGNS SHALL BE MADE OF "HIGH PERFORMANCE FLUORESCENT SIGN SHEETING."


CONSTRUCTION INFORMATION SIGNING



1. THE CONTRACTOR SHALL USE CONSTRUCTION INFORMATION SIGNING AS SHOWN IN THE PLAN AND WHICH ARE TO BE USED AS FOLLOWS:
G20-X1 CLOSURE NOTICE SIGNS TO DISPLAY THE CORRECT START DATE AS APPROVED BY THE PROJECT ENGINEER.

"G SERIES"			
SIGN	SIGN NO.	COLOR	SIZE
	G20-X1	BLACK ON ORANGE	30 X 24

DEVICES			
ITEM	SIGN NO.	COLOR	SIZE
	TYPE II	ORANGE ON WHITE	4' MIN
	FLASHER		

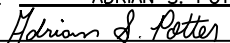
"W SERIES"			
SIGN	SIGN NO.	COLOR	SIZE
	W11-15	BLACK ON YELLOW	30 X 30
	W20-2 (MOD)	BLACK ON YELLOW	30 X 30
	W20-3A	BLACK ON YELLOW	30 X 30

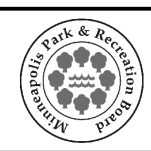
"R SERIES"			
SIGN	SIGN NO.	COLOR	SIZE
	R9-9A	BLACK ON WHITE	36 X 24

"M SERIES"			
SIGN	SIGN NO.	COLOR	SIZE
	M4-9mbR	BLACK ON ORANGE	30 X 24
	M4-9mbL	BLACK ON ORANGE	30 X 24

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NO	DATE	BY	CHKD	APPR

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.
 Print Name: ADRIAN S. POTTER

 Date _____ License # 42785







DRAWN BY
B. BETTS
DESIGNED BY
B. BETTS
CHECKED BY
A. POTTER
COMM. NO.

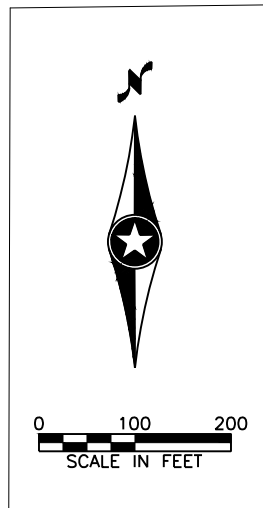
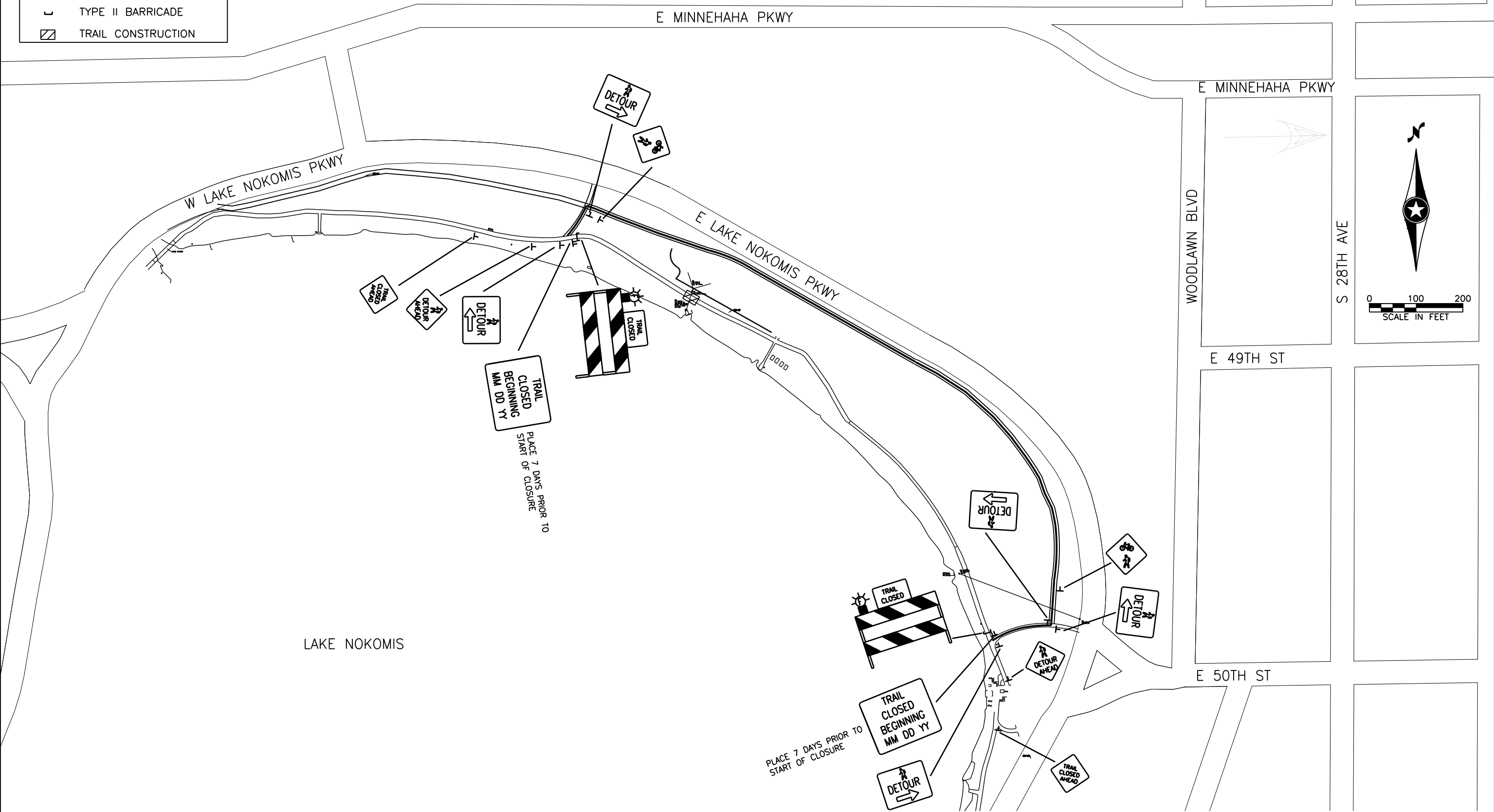


MINNEAPOLIS PARK & RECREATION BOARD
 DETOUR PLAN
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
37
OF
38

LEGEND

-  DETOUR ROUTE
-  SIGN
-  TYPE II BARRICADE
-  TRAIL CONSTRUCTION



SEAN JERGENS | 3/22/2019 10:23:44 AM
 2:19: (C:\MSDC\10000\10547\CAD_BIM\PLAN\10547_DTR01.DWG) (Drawing: Minnehaha_CSD_2017) (User: S.J.)
 H:\PROJECTS\10000\10547\CAD_BIM\PLAN\10547_DTR01.DWG: DTR01-02

NO	DATE	BY	CKD	APPR

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.
 Print Name: **ADRIAN S. POTTER**
Adrian S. Potter
 Date _____ License # **42785**



DRAWN BY
B. BETTS
 DESIGNED BY
B. BETTS
 CHECKED BY
A. POTTER
 COMM. NO.



MINNEAPOLIS PARK & RECREATION BOARD
 DETOUR PLAN
 LAKE NOKOMIS SHORELINE ENHANCEMENT

SHEET
38
 OF
 38