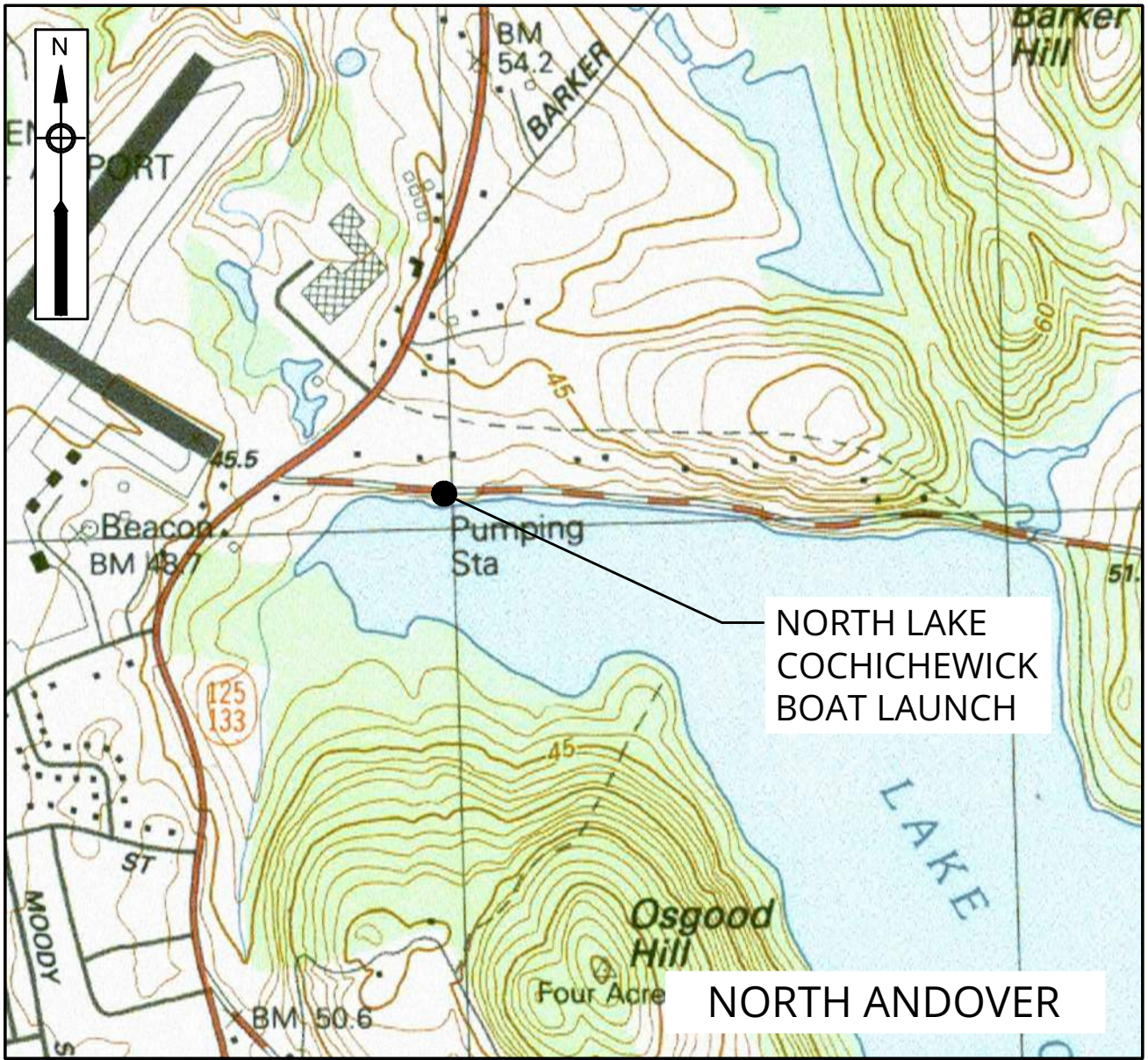
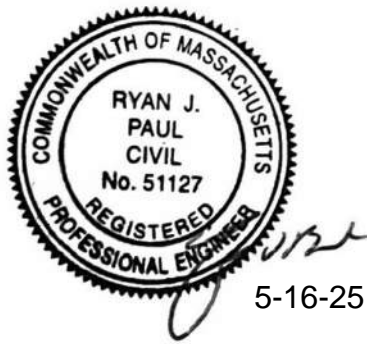


NORTH LAKE COCHICHEWICK BOAT LAUNCH

TOWN OF NORTH ANDOVER, MA MAY 2025 FOR BID

INDEX	
G-1	GENERAL NOTES AND LEGEND
C-1	EXISTING CONDITIONS
C-2	EROSION CONTROL AND DEWATERING PLAN
C-3	DEMOLITION PLAN
C-4	GRADING, DRAINAGE, AND UTILITY PLAN
C-5	SITE PLAN
CD-1 - CD-6	CIVIL DETAILS

- TOWN OF NORTH ANDOVER, MA
- PETER BOYNTON - PLANNING BOARD
 - TED KELLEY - PROJECT PROPONENT
 - JEAN ENRIGHT - DIRECTOR OF PLANNING
 - JOHN BORGESI, PE - TOWN ENGINEER
 - AMY MAXNER - CONSERVATION ADMINISTRATOR



VICINITY MAP
1"= 1000'

GENERAL NOTES:

1. BASE MAP INFORMATION IS FROM A FIELD SURVEY PERFORMED BY ZENITH LAND SURVEYORS, LLC. ON NOVEMBER 17 2022. HORIZONTAL DATUM IN U.S. SURVEY FEET IS REFERENCED TO THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83). VERTICAL DATUM IN U.S. SURVEY FEET REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
2. PROPERTY LINE, STREET LINE AND OWNER INFORMATION WAS COMPILED FROM RECORDS ON FILE AT THE NORTHERN ESSEX COUNTY REGISTRY OF DEEDS OFFICE AND THE NORTH ANDOVER ASSESSING DEPARTMENT. ABUTTING PARCELS COMPILED FROM MASSGIS AND SHOULD BE CONSIDERED APPROXIMATE FOR THE PURPOSE OF THIS PLAN. SUBJECT SITE IS IN A RESIDENTIAL ZONE AS DEPICTED ON THE TOWN OF NORTH ANDOVER ZONING MAP.
3. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
4. DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
5. THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER UNLESS NOTED TO BE ALTERED. THE CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, PARKING METERS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO ADDITIONAL COST TO OWNER.
6. ALL EXISTING STORM DRAIN, SEWER, AND WATER MAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED. THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER SHALL REPAIR ANY EXISTING SEWERS, STORM DRAIN LINES, WATER LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
7. IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE UTILITY COMPANY TO OBTAIN REQUIRED SERVICE. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES OR FOR ANY RELATED DELAYS.
8. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. ALL UTILITIES REQUIRING REPAIR, RELOCATION, OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED BY THE CONTRACTOR, THROUGH THE RESPECTIVE UTILITY AND THE OWNER.
9. THE CONTRACTOR SHALL REMOVE AND REPLACE NEW, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER AND ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
10. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
11. THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN AND THE ENGINEER. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS. NO MATERIAL SHALL BE STORED ON OR WITHIN WETLAND RESOURCE AREAS OR THEIR BUFFER ZONES.
12. THE CONTRACTOR SHALL IDENTIFY AND OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS AND TRENCHES. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF THE WORK.
13. THE CONTRACTOR SHALL SAW CUT ALL PAVEMENT TO ITS FULL DEPTH IN THE PROCESS OF INSTALLING NEW UTILITIES IN ALL PAVED AREAS INCLUDING STREETS, DRIVEWAYS, AND SIDEWALKS.
14. TEST PITS MAY BE ORDERED BY THE ENGINEER TO DETERMINE THE LOCATION OF EXISTING UTILITIES. THE CONTRACTOR MAY REQUEST TEST PITS TO VERIFY EXISTING UTILITIES AT NO ADDITIONAL COSTS TO THE OWNER.
15. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
16. CONCRETE WASHOUT AREAS SHALL BE OUTSIDE THE BUFFER ZONES OF ALL WETLAND RESOURCE AREAS. THE WASHOUT AREA MUST BE INSTALLED WITH AN IMPERMEABLE LINER OR A PREFABRICATED CONCRETE WASHOUT CONTAINER.

SUGGESTED SEQUENCE OF WORK:

1. NO CONSTRUCTION SHALL BEGIN UNTIL ANY AND ALL PERMITS ARE OBTAINED.
2. STAKE PROJECT LIMITS AND LIMITS OF CLEARING, AND MARK TREES FOR REMOVAL
3. INSTALL EROSION CONTROL MEASURES, TURBIDITY CURTAIN, AND COFFERDAM. SCHEDULE INSPECTIONS WITH THE TOWN IN ACCORDANCE WITH THE OOC.
4. COMPLETE CLEARING AND GRUBBING AS SHOWN. PERFORM PAVEMENT DEMOLITION AT DRIVEWAY APRON.
5. INSTALL CONSTRUCTION ENTRANCE.
6. COMPLETE DEMOLITION OF EXISTING STRUCTURES ON OR APPURTENANT TO THE SITE (INCLUDING THE EXISTING RETAINING WALL, BOAT LAUNCH RAMP, ETC.). DISPOSE OF DEBRIS IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
7. COMPLETE EARTHWORK CUT AND FILLS FOR ROUGH GRADE ALONG WATERFRONT.
8. CONSTRUCT RETAINING WALL, REVETMENT, AND BOAT LAUNCH RAMP.
9. REMOVE DEWATERING CONTROLS AND RE-ESTABLISH EROSION CONTROL MEASURES AROUND LIMITS OF WORK AREA.
10. COMPLETE EARTHWORK CUT AND FILLS FOR ROUGH GRADE THROUGHOUT REMAINING WORK AREA.
11. INSTALL UTILITIES AND STORMWATER SYSTEM (INCLUDING DRAINAGE STRUCTURES AND PIPING), PERFORM FINE GRADING, CONSTRUCT RAIN GARDENS, AND PREPARE SUBGRADE FOR DRIVEWAY, PATHWAY, AND PARKING AREA.
12. COORDINATE WITH THE NORTH ANDOVER FIRE CHIEF BEFORE FINALIZING THE PERMEABLE PAVER ACCESS DRIVEWAY LAYOUT TO THE BOAT LAUNCH RAMP. NORTH ANDOVER FIRE DEPARTMENT SHALL TEST DRIVE THE DRIVEWAY ACCESS PRIOR TO INSTALLING THE FINAL PAVER SYSTEM.
13. PERMANENT/ FINAL STABILIZATION.
14. REMOVE CONSTRUCTION ENTRANCE AND PERIMETER EROSION CONTROLS.

ABBREVIATIONS

BIT	BITUMINOUS
BOW	BOTTOM OF WALL
CB	CATCH BASIN
CI	CAST IRON
CONC	CONCRETE
D	DRAIN
DIA	DIAMETER
DMH	DRAIN MANHOLE
EOP	EDGE OF PAVEMENT
EL	ELEVATION
EX	EXISTING
FM	FORCEMAIN
ID	INSIDE DIAMETER
INV	INVERT
LD	LANDSCAPE AREA
LF	LINEAR FEET
MAX	MAXIMUM
MIN	MINIMUM
MSE	MECHANICALLY STABILIZED EARTH
MW	MONITORING WELL
OC	ON CENTER
PROP	PROPOSED
RCP	REINFORCED CONCRETE PIPE
R&D	REMOVE AND DEMOLISH
R&S	REMOVE AND SALVAGE
R&R	REMOVE AND RESET
RET.	RETAINING
S	SEWER
SMH	SEWER MANHOLE
TOB	TOP OF BANK
TOW	TOP OF WALL
TYP.	TYPICAL
W	WATER
WF	WETLAND FLAG
WG	WATER GATE
WPD	WATERSHED PROTECTION DISTRICT
UP	UTILITY POLE

60

55

WL WL

TOP OF BANK

25 25

50 50

75 75

100 100

OHW

FZ FZ

OHW

FZ FZ

OHW

OHW

OHW

W W

D D

S S

G G

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S

W

S


EXISTING


MAJOR CONTOUR
MINOR CONTOUR
PROPERTY LINE
WETLAND
TOP OF BANK
25' NO DISTURB ZONE
50' NO BUILD ZONE
75' WPD CONSERVATION ZONE
100' WETLAND BUFFER
150' WPD NON-DISTURBANCE ZONE
ORDINARY HIGH WATER MARK
100-YEAR FEMA FLOOD ZONE
EDGE OF PAVEMENT
METAL GUARDRAIL
EDGE OF VEGETATION
GRAVEL
ELECTRICAL OVERHEAD WIRE
WATER MAIN
DRAIN LINE
SEWER LINE
GAS MAIN
UTILITY POLE
WATER GATE VALVE
MONITORING WELL
HYDRANT
CATCH BASIN
DRAIN MANHOLE
SEWER MANHOLE
DECIDUOUS TREE
CONIFEROUS TREE
SIGN
BENCHMARK
BORING
TEST PIT
WETLAND FLAG AND NUMBER
TOP OF BANK FLAG AND NUMBER


LEGEND

PROPOSED

CONTOUR
SPOT GRADE
LIMIT OF WORK
SILT FENCE AND FILTER SOCK
TURBIDITY CURTAIN
COFFERDAM
R&D RETAINING WALL
R&R GUARDRAIL, SWING GATE
SAFETY RAILING
ROPED FENCE
STEEL GUARDRAIL
DRAIN PIPE
ELECTRICAL CONDUIT
TREE LINE
TREE CLEARING
R&D SURFACE
CONSTRUCTION ENTRANCE
BITUMINOUS CONCRETE
RIPRAP
REVTMENT
RETAINING WALL
STONE FILLED PAVERS
GRASS FILLED PAVERS
INFILTRATION BASIN
LOAM & SEED
SIGN
BOLLARD
BOULDER
HANDHOLE
FLARED END SECTION
OVERFLOW DRAIN STRUCTURE







MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

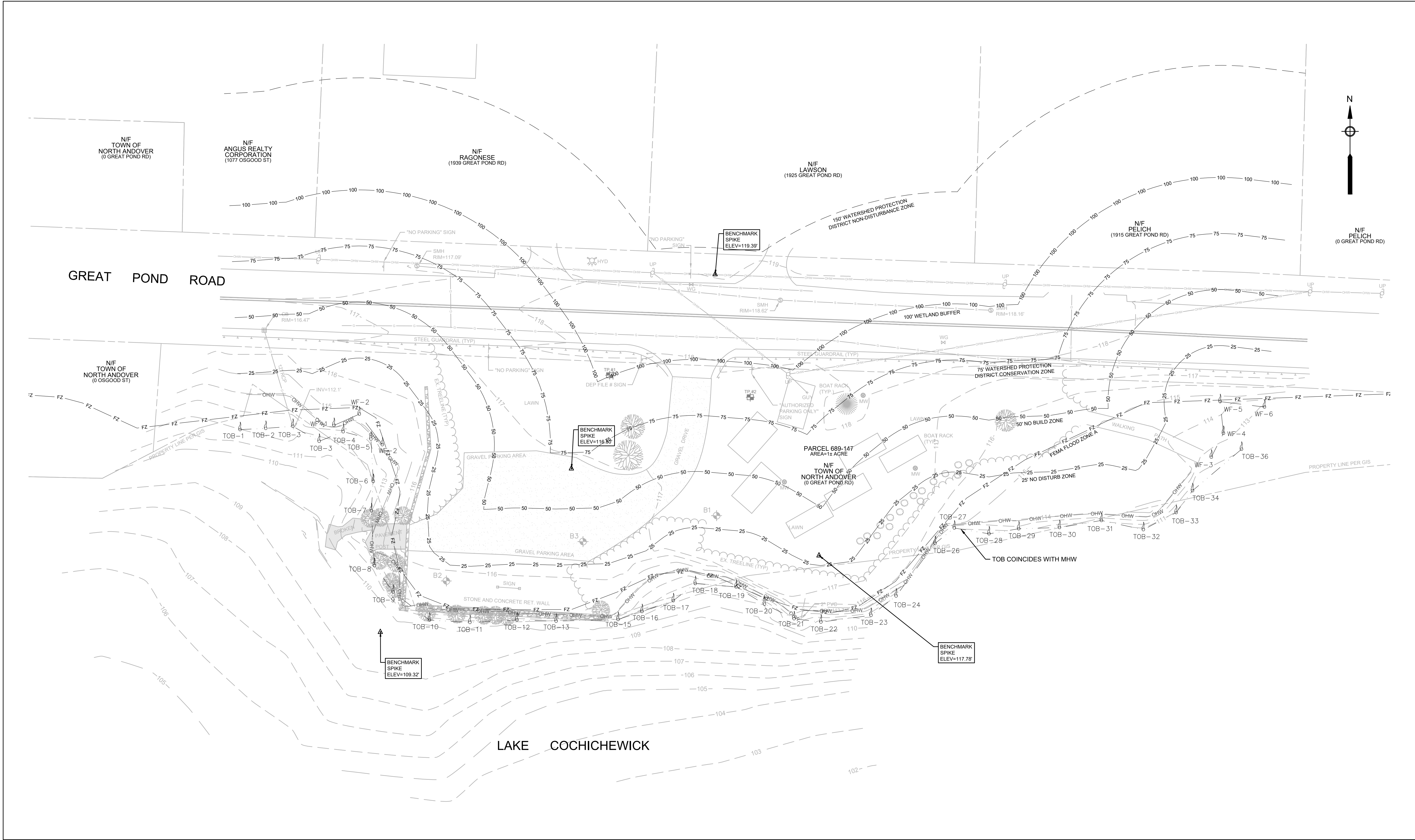
GENERAL NOTES AND LEGEND

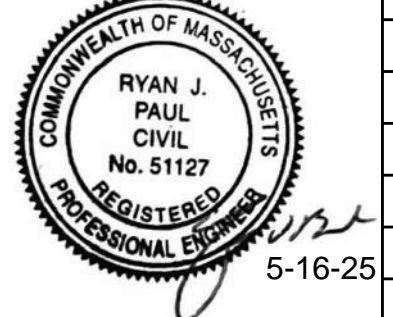


FOR BID

Sheet No.

G-1


Drawing file: I:\North Andover\3123012245 - N. Lake Cochichewick Boat Launch\05 CAD\Final Design\02 General Notes.dwg Plot Date: May 19, 2025 8:35am





MARK	DATE	DESCRIPTION

Scale	1" = 20'
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP



THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH

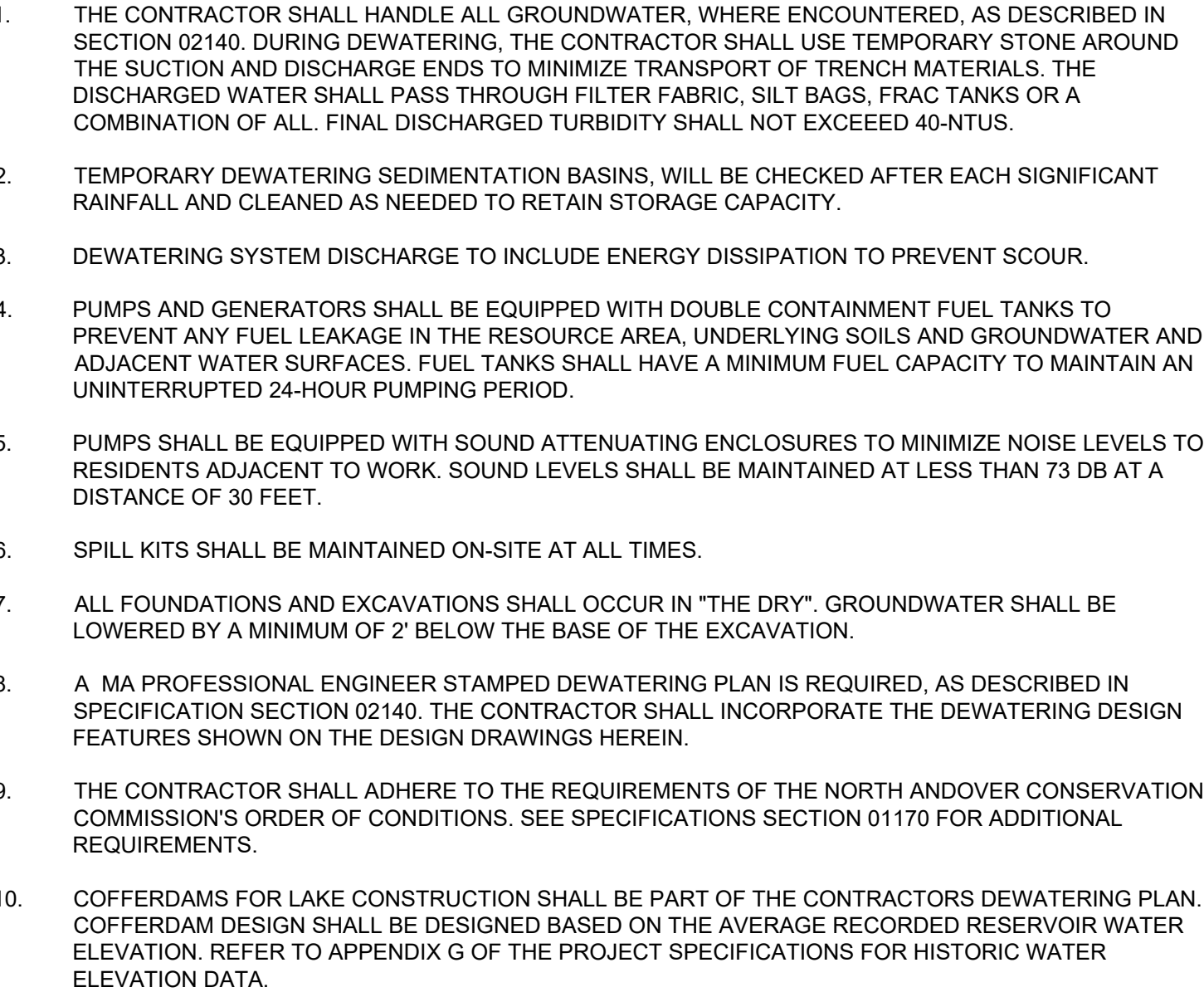
TOWN OF NORTH ANDOVER, MA

EXISTING CONDITIONS

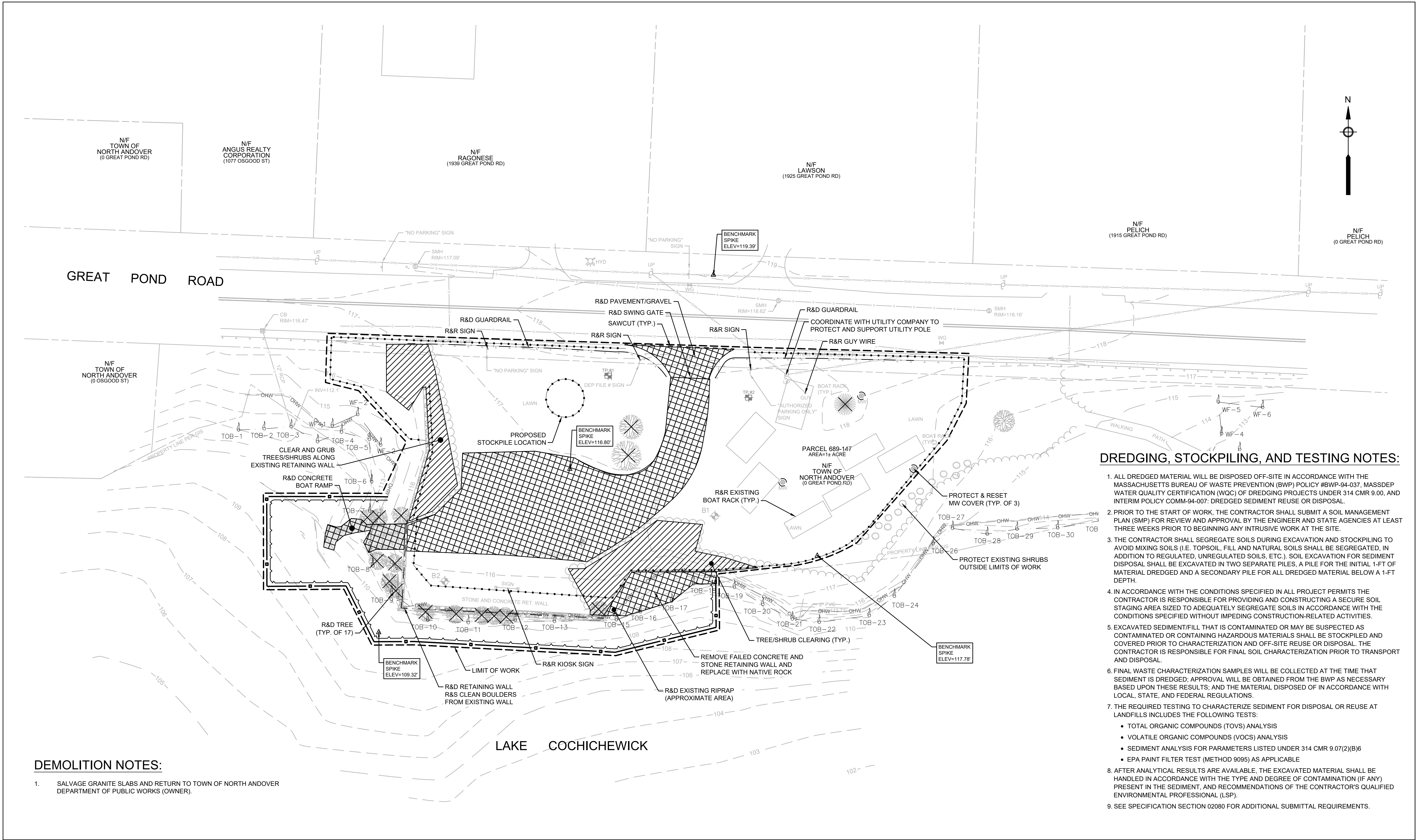
FOR BID

Sheet No.

C-1



Drawing file: I:\North Andover.312\23012245 - N. Lake Cochichewick Boat Launch\05 CAD\Final Design\03 01-03 Civil Sheets.dwg Plot Date: May 19, 2025-8:35am



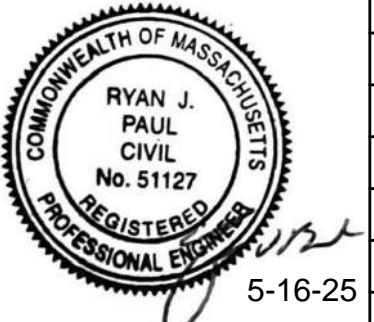



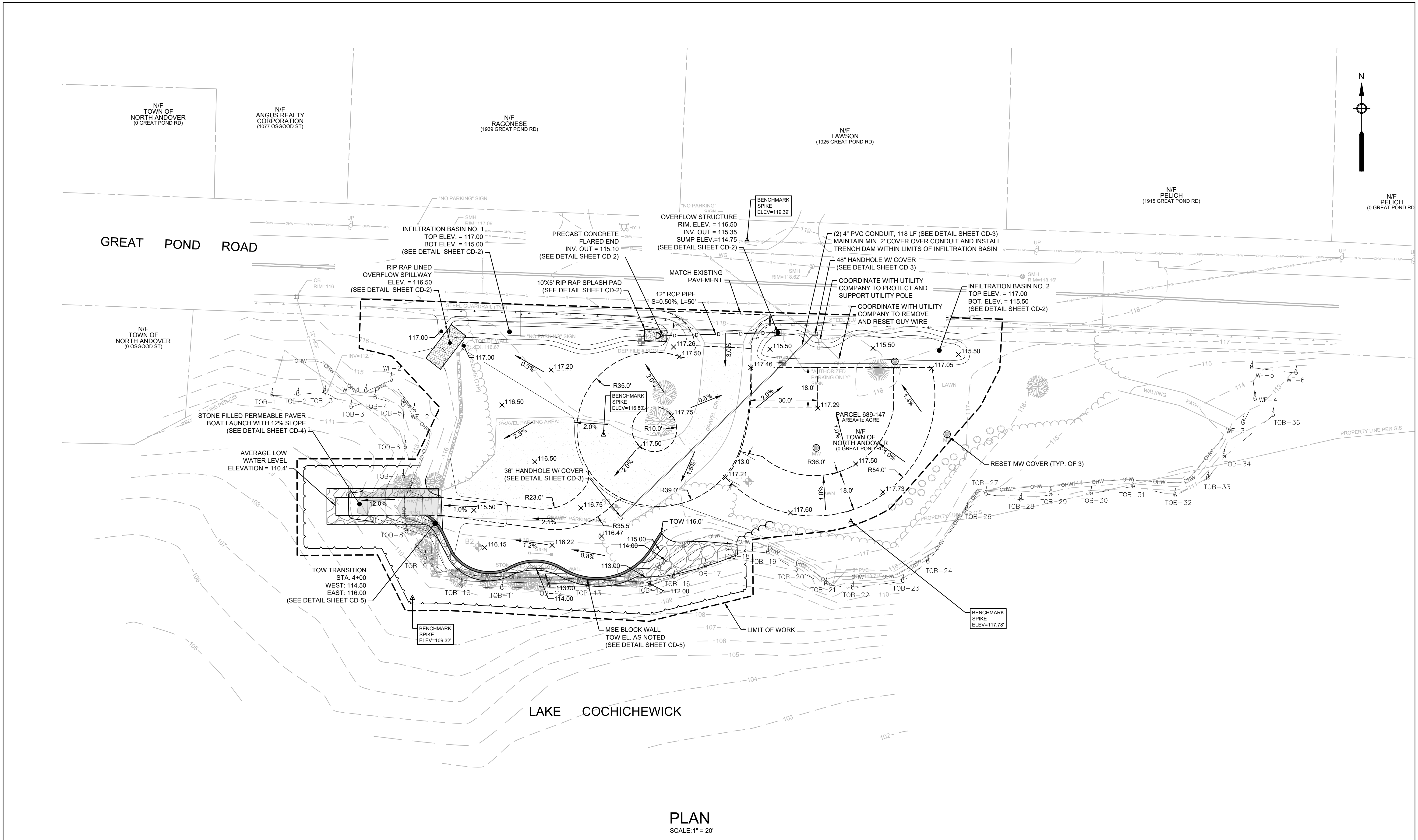
DEMOLITION NOTES:

1. SALVAGE GRANITE SLABS AND RETURN TO TOWN OF NORTH ANDOVER DEPARTMENT OF PUBLIC WORKS (OWNER).



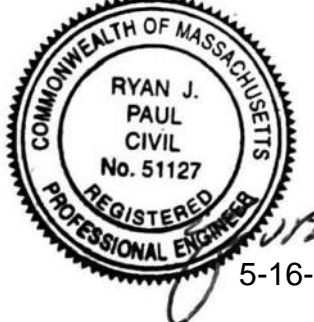

DREDGING, STOCKPILING, AND TESTING NOTES:

- ALL DREDGED MATERIAL WILL BE DISPOSED OFF-SITE IN ACCORDANCE WITH THE MASSACHUSETTS BUREAU OF WASTE PREVENTION (BWP) POLICY #BWP-94-037, MASSDEP WATER QUALITY CERTIFICATION (WQC) OF DREDGING PROJECTS UNDER 314 CMR 9.00, AND INTERIM POLICY COMM-94-007: DREDGED SEDIMENT REUSE OR DISPOSAL.
- PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL SUBMIT A SOIL MANAGEMENT PLAN (SMP) FOR REVIEW AND APPROVAL BY THE ENGINEER AND STATE AGENCIES AT LEAST THREE WEEKS PRIOR TO BEGINNING ANY INTRUSIVE WORK AT THE SITE.
- THE CONTRACTOR SHALL SEGREGATE SOILS DURING EXCAVATION AND STOCKPILING TO AVOID MIXING SOILS (I.E. TOPSOIL, FILL AND NATURAL SOILS SHALL BE SEGREGATED, IN ADDITION TO REGULATED, UNREGULATED SOILS, ETC.). SOIL EXCAVATION FOR SEDIMENT DISPOSAL SHALL BE EXCAVATED IN TWO SEPARATE PILES, A PILE FOR THE INITIAL 1-FT OF MATERIAL DREDGED AND A SECONDARY PILE FOR ALL DREDGED MATERIAL BELOW A 1-FT DEPTH.
- IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN ALL PROJECT PERMITS THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND CONSTRUCTING A SECURE SOIL STAGING AREA SIZED TO ADEQUATELY SEGREGATE SOILS IN ACCORDANCE WITH THE CONDITIONS SPECIFIED WITHOUT IMPEDING CONSTRUCTION-RELATED ACTIVITIES.
- EXCAVATED SEDIMENT/FILL THAT IS CONTAMINATED OR MAY BE SUSPECTED AS CONTAMINATED OR CONTAINING HAZARDOUS MATERIALS SHALL BE STOCKPILED AND COVERED PRIOR TO CHARACTERIZATION AND OFF-SITE REUSE OR DISPOSAL. THE CONTRACTOR IS RESPONSIBLE FOR FINAL SOIL CHARACTERIZATION PRIOR TO TRANSPORT AND DISPOSAL.
- FINAL WASTE CHARACTERIZATION SAMPLES WILL BE COLLECTED AT THE TIME THAT SEDIMENT IS DREDGED; APPROVAL WILL BE OBTAINED FROM THE BWP AS NECESSARY BASED UPON THESE RESULTS; AND THE MATERIAL DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE REQUIRED TESTING TO CHARACTERIZE SEDIMENT FOR DISPOSAL OR REUSE AT LANDFILLS INCLUDES THE FOLLOWING TESTS:
 - TOTAL ORGANIC COMPOUNDS (TOVS) ANALYSIS
 - VOLATILE ORGANIC COMPOUNDS (VOCs) ANALYSIS
 - SEDIMENT ANALYSIS FOR PARAMETERS LISTED UNDER 314 CMR 9.07(2)(B)6
 - EPA PAINT FILTER TEST (METHOD 9095) AS APPLICABLE
- AFTER ANALYTICAL RESULTS ARE AVAILABLE, THE EXCAVATED MATERIAL SHALL BE HANDLED IN ACCORDANCE WITH THE TYPE AND DEGREE OF CONTAMINATION (IF ANY) PRESENT IN THE SEDIMENT, AND RECOMMENDATIONS OF THE CONTRACTOR'S QUALIFIED ENVIRONMENTAL PROFESSIONAL (LSP).
- SEE SPECIFICATION SECTION 02080 FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

			5-16-25	MARK	DATE	DESCRIPTION	Scale 1" = 20'	Date MAY 2025	Job No. 22003302	Designed by JLV	Drawn by JLV	Checked by MEG	Approved by RJP	 THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING	NORTH LAKE COCHICHEWICK BOAT LAUNCH TOWN OF NORTH ANDOVER, MA	FOR BID
																Sheet No. C-3

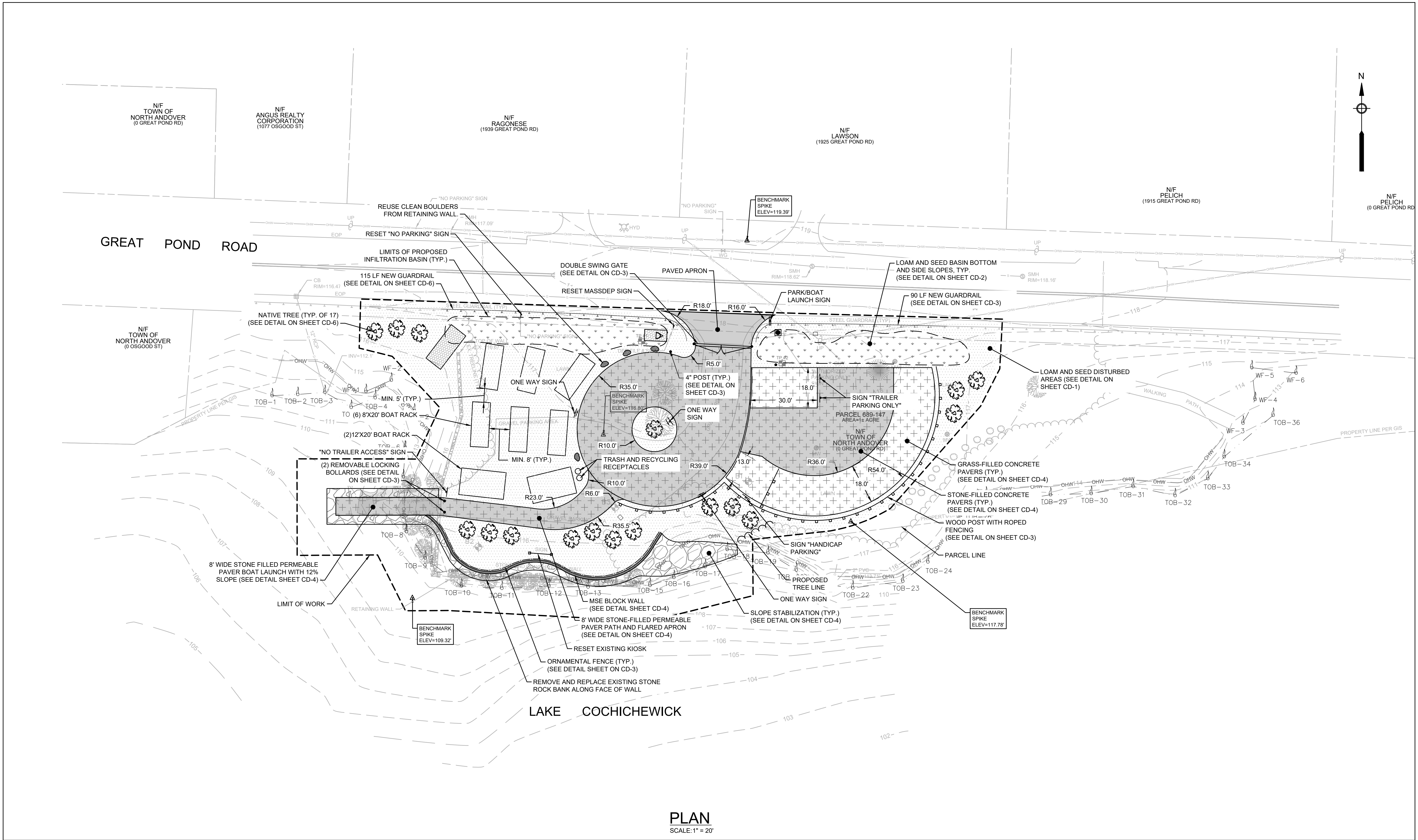


PLAN
SCALE: 1" = 20'





			<table><thead><tr><th>MARK</th><th>DATE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></tbody></table>	MARK	DATE	DESCRIPTION																<table><tr><td>Scale</td><td>1" = 20'</td></tr><tr><td>Date</td><td>MAY 2025</td></tr><tr><td>Job No.</td><td>22003302</td></tr><tr><td>Designed by</td><td>JLV</td></tr><tr><td>Drawn by</td><td>JLV</td></tr><tr><td>Checked by</td><td>MEG</td></tr><tr><td>Approved by</td><td>RJP</td></tr></table>	Scale	1" = 20'	Date	MAY 2025	Job No.	22003302	Designed by	JLV	Drawn by	JLV	Checked by	MEG	Approved by	RJP	<div>THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING</div> 	<div>NORTH LAKE COCHICHEWICK BOAT LAUNCH TOWN OF NORTH ANDOVER, MA</div> <div>GRADING, DRAINAGE, AND UTILITY PLAN</div>	FOR BID
				MARK	DATE	DESCRIPTION																																	
Scale	1" = 20'																																						
Date	MAY 2025																																						
Job No.	22003302																																						
Designed by	JLV																																						
Drawn by	JLV																																						
Checked by	MEG																																						
Approved by	RJP																																						
Sheet No.																																							

C-4

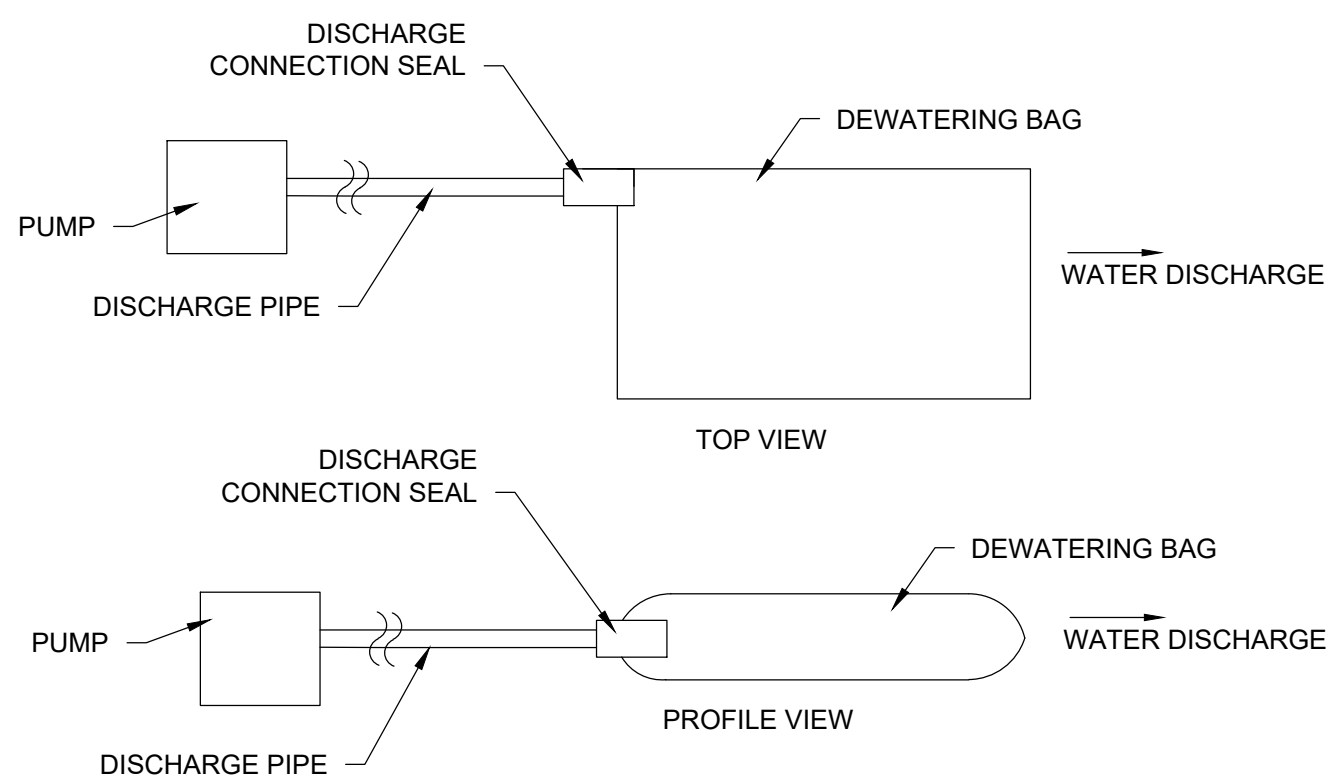
Drawing file: I:\North Andover\3123012245 - N. Lake Cochichewick Boat Launch\05 CAD\Final Design\04 04-05 Civil Sheets.dwg Plot Date: May 19, 2025 9:38am



PLAN
SCALE: 1" = 20'

			<table><tr><th>MARK</th><th>DATE</th><th>DESCRIPTION</th></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>	MARK	DATE	DESCRIPTION										<table><tr><td>Scale</td><td>1" = 20'</td></tr><tr><td>Date</td><td>MAY 2025</td></tr><tr><td>Job No.</td><td>22003302</td></tr><tr><td>Designed by</td><td>JLV</td></tr><tr><td>Drawn by</td><td>JLV</td></tr><tr><td>Checked by</td><td>MEG</td></tr><tr><td>Approved by</td><td>RJP</td></tr></table>	Scale	1" = 20'	Date	MAY 2025	Job No.	22003302	Designed by	JLV	Drawn by	JLV	Checked by	MEG	Approved by	RJP	 <p>THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING</p>	NORTH LAKE COCHICHEWICK BOAT LAUNCH TOWN OF NORTH ANDOVER, MA	FOR BID
				MARK	DATE	DESCRIPTION																											
Scale	1" = 20'																																
Date	MAY 2025																																
Job No.	22003302																																
Designed by	JLV																																
Drawn by	JLV																																
Checked by	MEG																																
Approved by	RJP																																
Sheet No.																																	
						SITE PLAN	C-5																										

Drawing file: I:\North Andover\3123012245 - N. Lake Cochichewick Boat Launch\05 CAD\Final Design\04 04-05 Civil Sheets.dwg Plot Date: May 19, 2025 9:37am

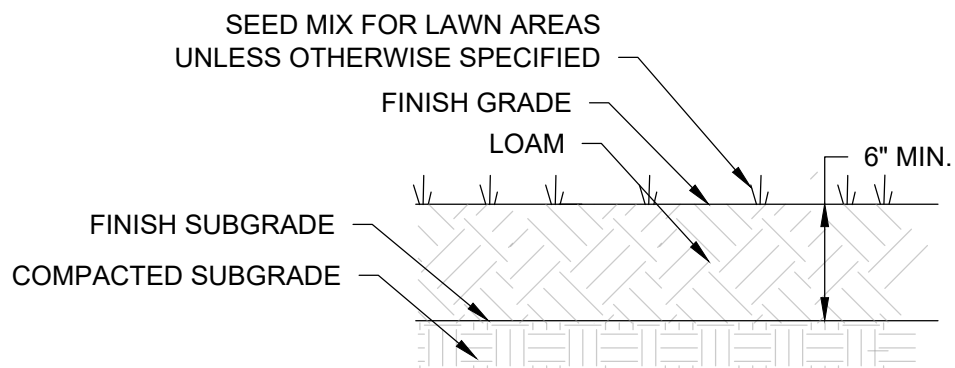


NOTES:

1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

DEWATERING BAGS

SCALE: N.T.S.

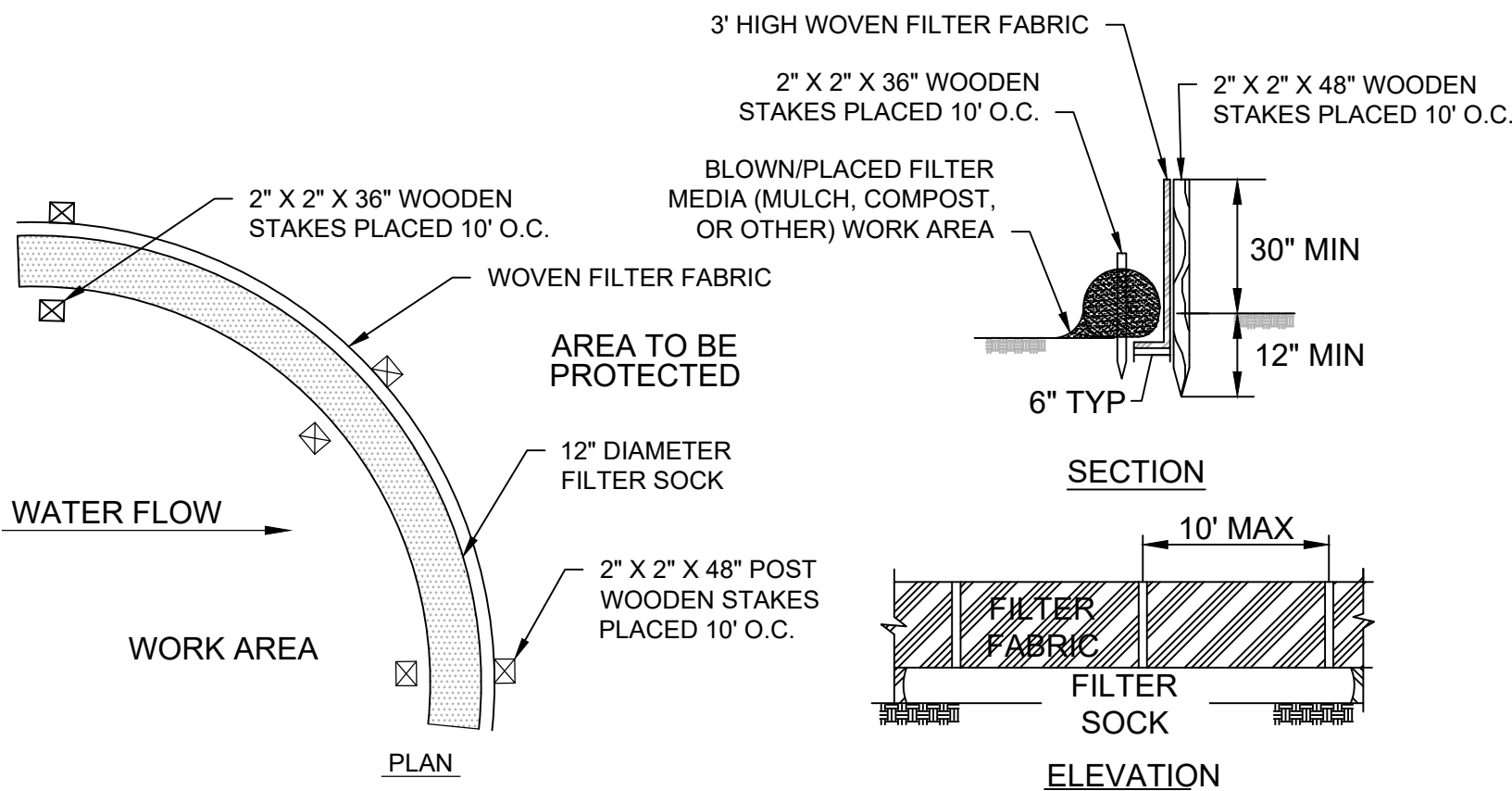


NOTES:

1. FERTILIZERS SHALL BE SLOW-RELEASE, LOW NITROGEN TYPES (>5%), AND SHALL NOT BE USED WITHIN 25-FEET OF A RESOURCE AREA.
2. INSTALL CURLEX CL EROSION CONTROL BLANKET AS MANUFACTURED BY AMERICAN EXCELSIOR COMPANY (OR APPROVED EQUAL) ON ALL LOAM AND SEEDED SLOPES 3:1 OR STEEPER.

LOAM AND SEED (DISTURBED AREAS)

SCALE: N.T.S.

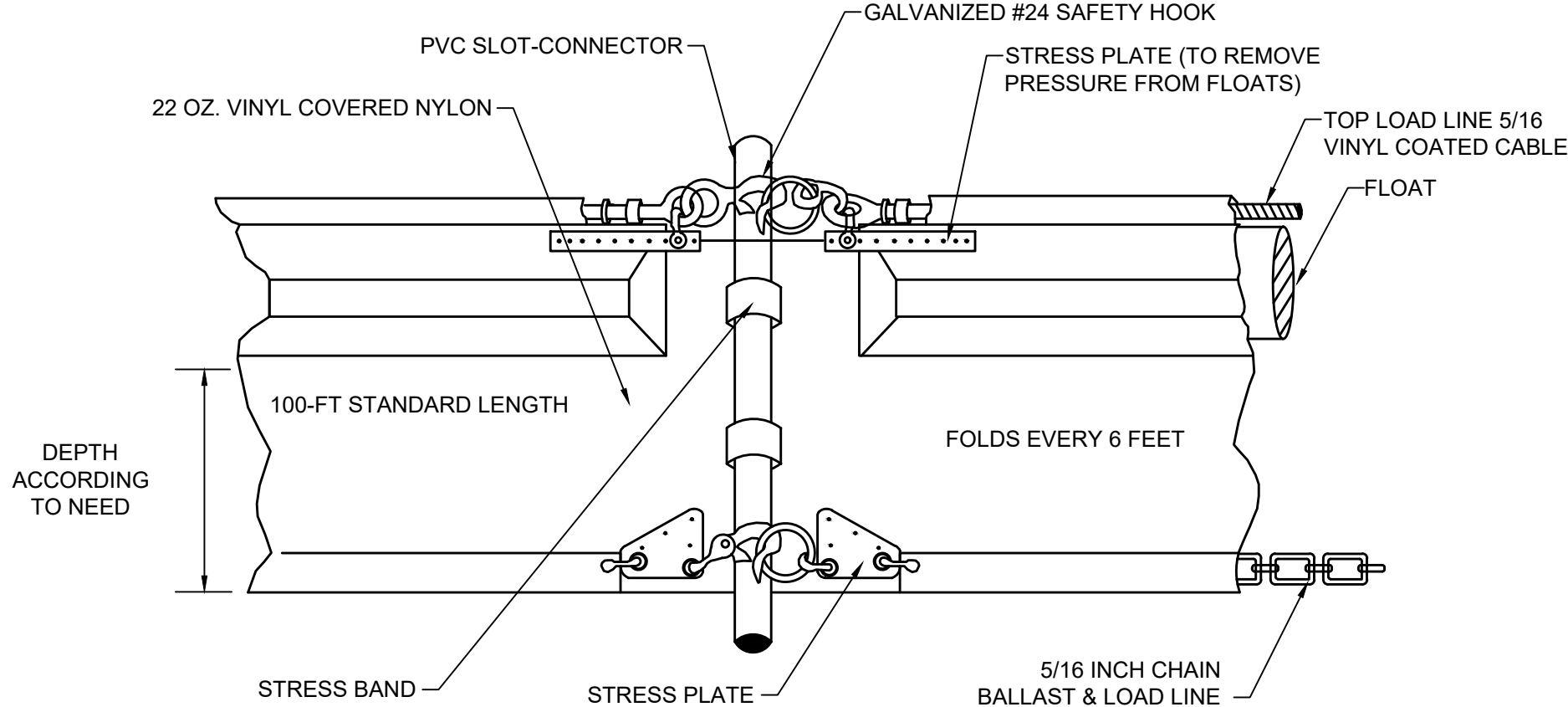


NOTES:

1. FABRIC TO BE ATTACHED TO STAKES WITH STAPLES.
2. FABRIC TO BE UV RESISTANT POLYPROPYLENE WITH A MIN. WEIGHT OF 2.5 OZ./S.Y.
3. USE SILT FENCE WITH FILTER SOCK WHERE INDICATED, OR AS DIRECTED BY THE ENGINEER.

12" DIAMETER FILTER SOCK WITH SILT FENCE

SCALE: N.T.S.

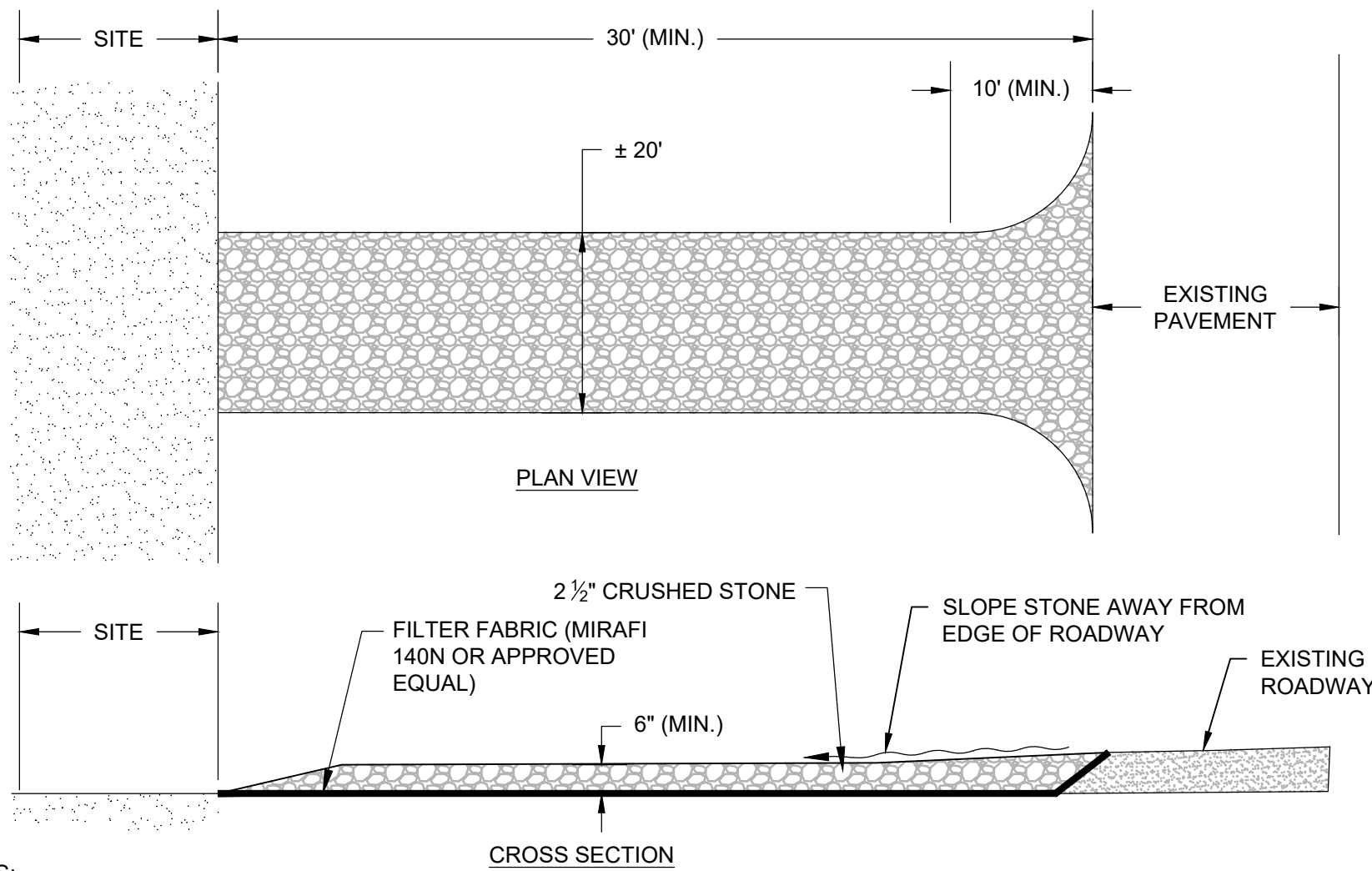


NOTES:

1. THE TURBIDITY CURTAIN SHALL EXTEND THE ENTIRE DEPTH OF THE WATER COURSE.
2. TURBIDITY CURTAIN EXTERNAL ANCHORING SHALL BE ACCOMPLISHED WITH THE USE OF BOTTOM ANCHORS. BOTTOM ANCHORS MUST BE SUFFICIENT TO HOLD THE CURTAIN IN THE SAME POSITION RELATIVE TO THE BOTTOM OF THE WATERCOURSE WITHOUT INTERFERING WITH THE ACTION OF THE CURTAIN. THE ANCHOR MAY DIG INTO THE BOTTOM (GRAPPLING HOOK, PLOW, OR FLUKE-TYPE) OR MAY BE WEIGHTED (MUSHROOM TYPE) AND SHOULD BE ATTACHED TO A FLOATING ANCHOR BUOY VIA AN ANCHOR LINE. THE ANCHOR LINE WOULD THEN RUN FROM THE BUOY TO THE TOP LOAD LINE OF THE CURTAIN. THESE LINES MUST CONTAIN ENOUGH SLACK TO ALLOW THE BUOY AND CURTAIN TO FLOAT FREELY. ANCHOR SPACING WILL VARY WITH CURRENT AND VELOCITY AND POTENTIAL WIND AND WAVE ACTION. MANUFACTURER'S RECOMMENDATIONS ON ANCHORING THE SILT CURTAIN SHOULD BE FOLLOWED AND MEET LOCAL, STATE, AND FEDERAL RULES AND REGULATIONS.
3. THE MINIMUM PHYSICAL PROPERTY REQUIREMENTS FOR THE CURTAIN FABRIC SHALL BE AS FOLLOWS:
THICKNESS = 45 MILS
WEIGHT = 22 OZ./SQ.YD.
GRAB TENSILE STRENGTH = 300 LBS.
UV INHIBITOR IS REQUIRED
4. MIDWEIGHT TURBIDITY CURTAIN SHALL BE USED IN ALL AREAS IDENTIFIED AS TURBIDITY CURTAIN.
5. THE CONTRACTOR SHALL ATTEMPT TO MINIMIZE THE NUMBER OF JOINTS IN THE SILT CURTAIN. A MINIMUM CONTINUOUS SPAN OF 50-FT BETWEEN JOINT SHALL BE MAINTAINED.
6. THE ENDS OF THE CURTAIN, BOTH FLOATING AND WEIGHTED LOWER, SHOULD EXTEND WELL UP INTO THE EDGE OF WATER, ESPECIALLY IF HIGH WATER CONDITIONS ARE EXPECTED. THE ENDS SHOULD BE SECURED FIRMLY TO THE EDGE OF WATER TO FULLY ENCLOSE THE AREA WHERE SEDIMENT MAY ENTER THE WATER.
7. ALL BARRIER HARDWARE AND FITTINGS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED.
8. THE TURBIDITY CURTAIN SHALL BE MAINTAINED IN PLACE AFTER CONSTRUCTION IS COMPLETED, UNTIL ENGINEER PROVIDES DIRECTION TO REMOVE THE CURTAIN.
9. THE TURBIDITY CURTAIN SHALL COMPLETELY ENCLOSE ANY CONSTRUCTION ACTIVITY WITHIN THE WATER BODY AS SPECIFIED.
10. CONTRACTOR SHALL SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH SECTION 01300.

TURBIDITY CURTAIN DETAIL

SCALE: N.T.S.

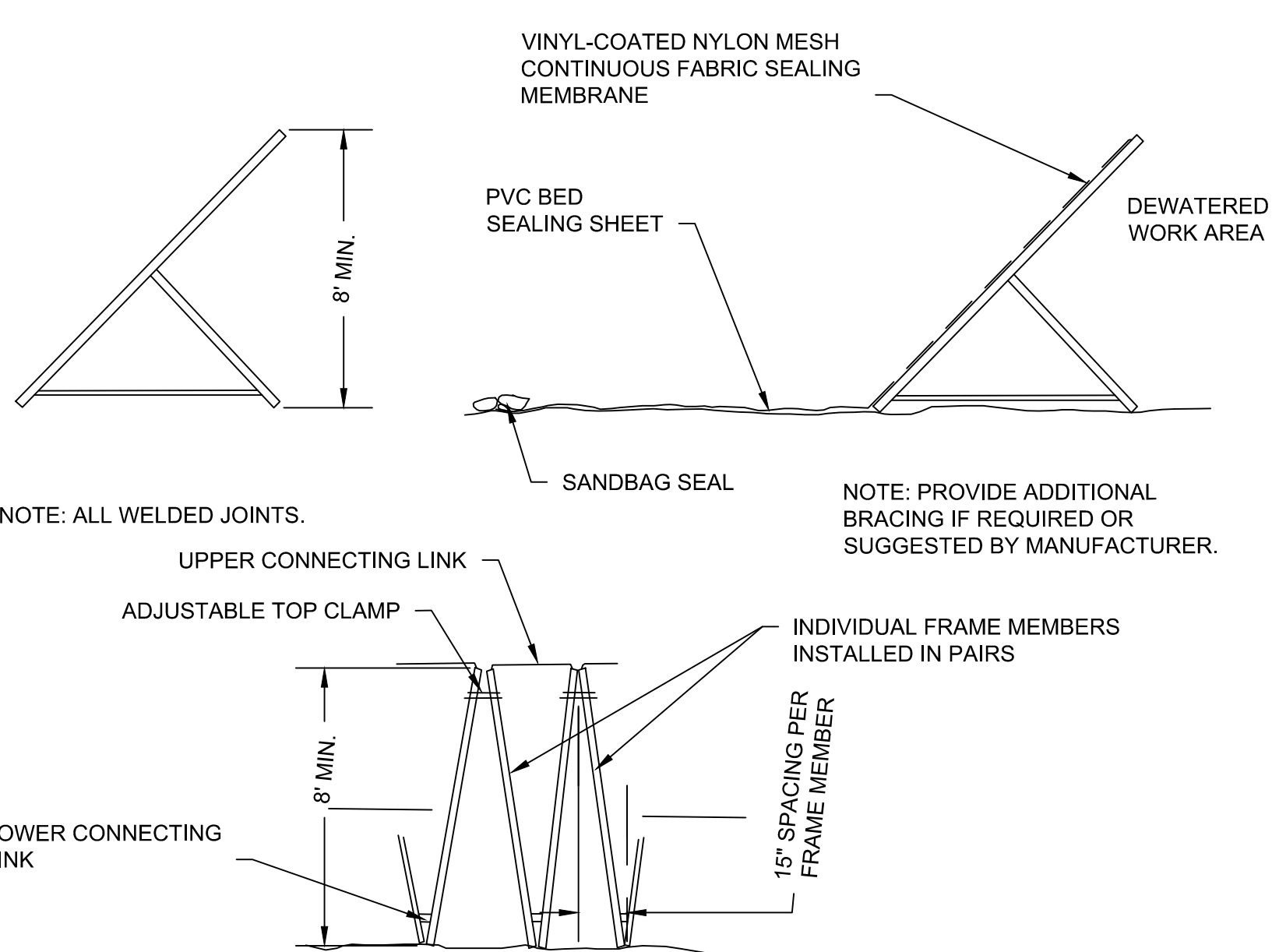


NOTES:

1. STABILIZED CONSTRUCTION ENTRANCE SHALL NOT EXTEND OFF THE PROPERTY
2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO REAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED.
3. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY ENGINEER/OWNER/TOWN.

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

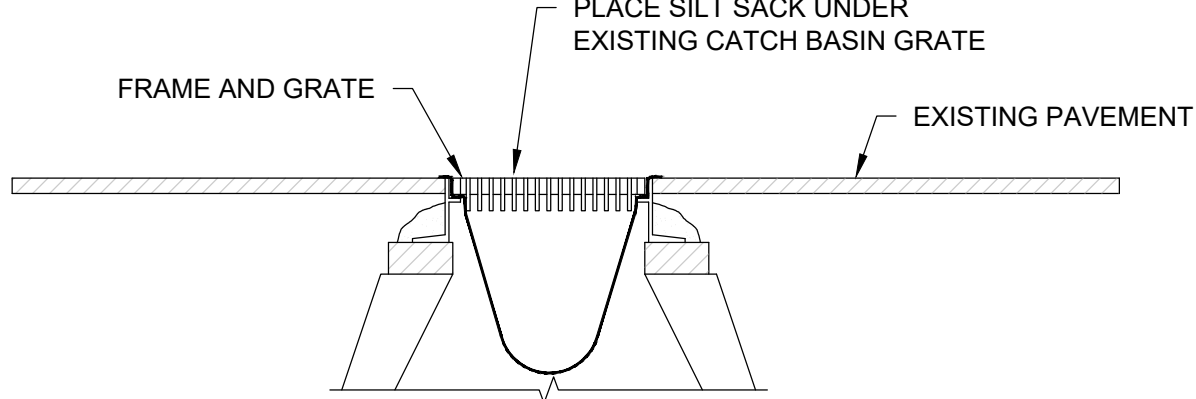


NOTES:

1. CLEARING AND GRUBBING FOR DEWATERING PUMPS, PIPING AND ACCESSORIES SHALL BE COORDINATED WITH THE ENGINEER AND THE TOWN PRIOR TO ANY WORK ACTIVITIES. NO WORK SHALL BEGIN UNTIL AUTHORIZATION IS GRANTED BY ENGINEER OR THE TOWN.
2. TURBIDITY CURTAINS, COFFERDAMS, AND SANDBAG DAMS SHALL BE INSTALLED AND INSPECTED BY THE CONTRACTOR PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES IN THE WATER BODY. TURBIDITY CURTAINS SHALL BE INSPECTED DAILY. SURFACE WATER QUALITY WITHIN THE WORK AREA SHALL BE TESTED FOR TURBIDITY AS DETERMINED BY ENGINEER.
3. COFFER DAM INSTALLATION:
 - 3.1. INSTALL STEEL SUPPORT FRAME IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - 3.2. ASSEMBLE INDIVIDUAL SUPPORT FRAMES INTO PAIR ONSHORE.
 - 3.3. PLACE SUPPORT FRAMES DIRECTLY INTO POSITION ALONG CONFIGURATION PERIMETER LINE.
 - 3.4. MAKE FINAL ELEVATION AND DIRECTION ADJUSTMENTS.
 - 3.5. INSTALL LINER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - 3.6. PLACE ASSEMBLED LINER SECTIONS AROUND PERIMETER OF STEEL SUPPORT FRAME AND SECURE TO TOP OF EACH FRAME.
 - 3.7. LOCATE MINOR LEAKS AND REPAIR AS REQUIRED.
4. THE PUMP INTAKE(S) SHALL BE EQUIPPED WITH A 1/2" SCREEN MESH AND PROPERLY SECURED TO THE LAKE BOTTOM. USE OF TEMPORARY STONE SHALL BE USED TO MINIMIZE UPTAKE OF LAKE BOTTOM SEDIMENT.
5. PUMPS SHALL BE EQUIPPED WITH SOUND ENCLOSURES TO MINIMIZE NOISE LEVELS TO RESIDENTS ADJACENT TO WORK. SOUND LEVELS SHALL BE MAINTAINED AT LESS THAN 73Db AT A DISTANCE OF 30 FEET.
6. DEWATERING PUMPING SYSTEM DISCHARGE TO INCLUDE ENERGY DISSIPATION TO PREVENT SCOUR.
7. CONTRACTOR SHALL TEST THE DEWATERING PUMPING SYSTEM WITH THE PRESENCE OF THE ENGINEER TO ENSURE PROPER OPERATION.
8. DEWATERING PUMPING AND PIPING SHALL BE INSTALLED AND REMOVED PER MANUFACTURER'S INSTRUCTIONS.
9. TEMPORARY FENCING SHALL BE SUPPLIED AROUND ALL DEWATERING PUMP EQUIPMENT. FENCING SHALL BE COMMERCIAL GRADE AND BE A MINIMUM OF SIX FEET IN HEIGHT.

COFFER DAM DETAIL

SCALE: N.T.S.

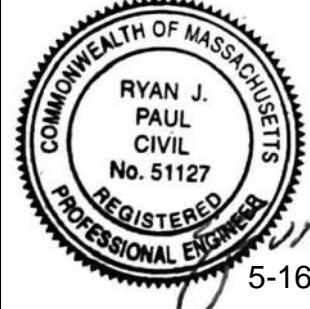


NOTES:

1. SILT SACKS SHALL BE INSPECTED WEEKLY AND ACCUMULATED SILT REMOVED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.
2. SILT SACK AS MANUFACTURED BY ACF ENVIRONMENTAL OR APPROVED EQUAL.

CATCH BASIN SILT SACKS

SCALE: N.T.S.



				Scale	AS NOTED
				Date	MAY 2025
				Job No.	22003302
				Designed by	JLV
				Drawn by	JLV
				Checked by	MEG
				Approved by	RJP
MARK	DATE	DESCRIPTION			

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

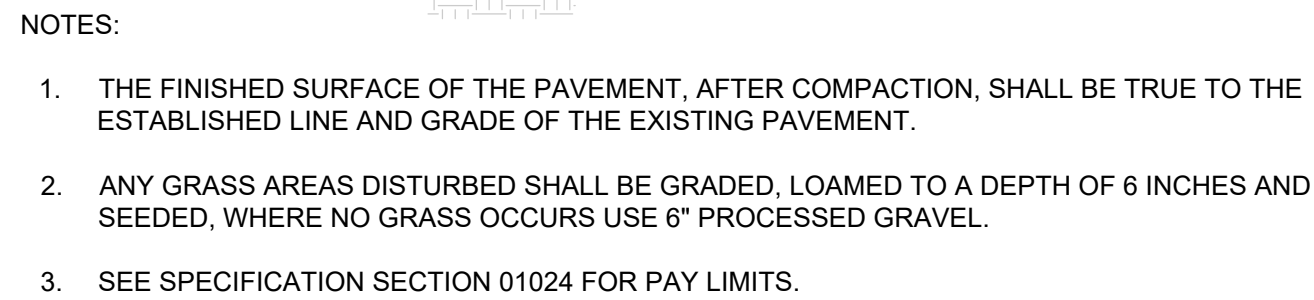
NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

CIVIL CONSTRUCTION DETAILS I

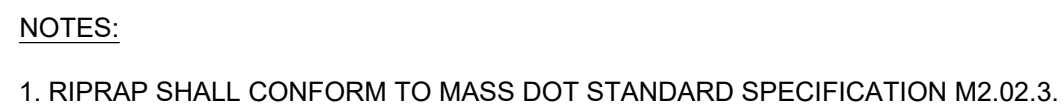
FOR BID

Sheet No.

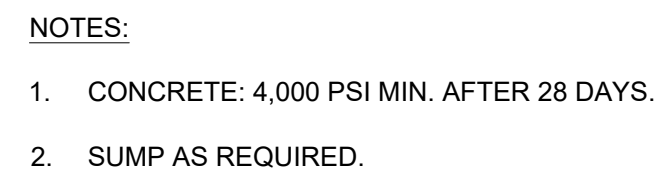
CD-1



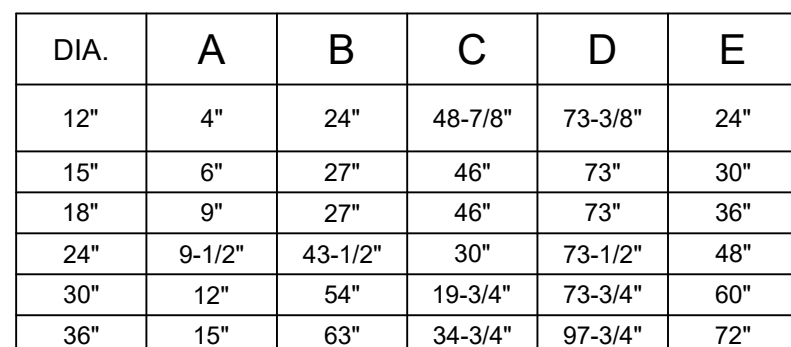
SCALE: N.T.S.



SCALE: N.T.S.

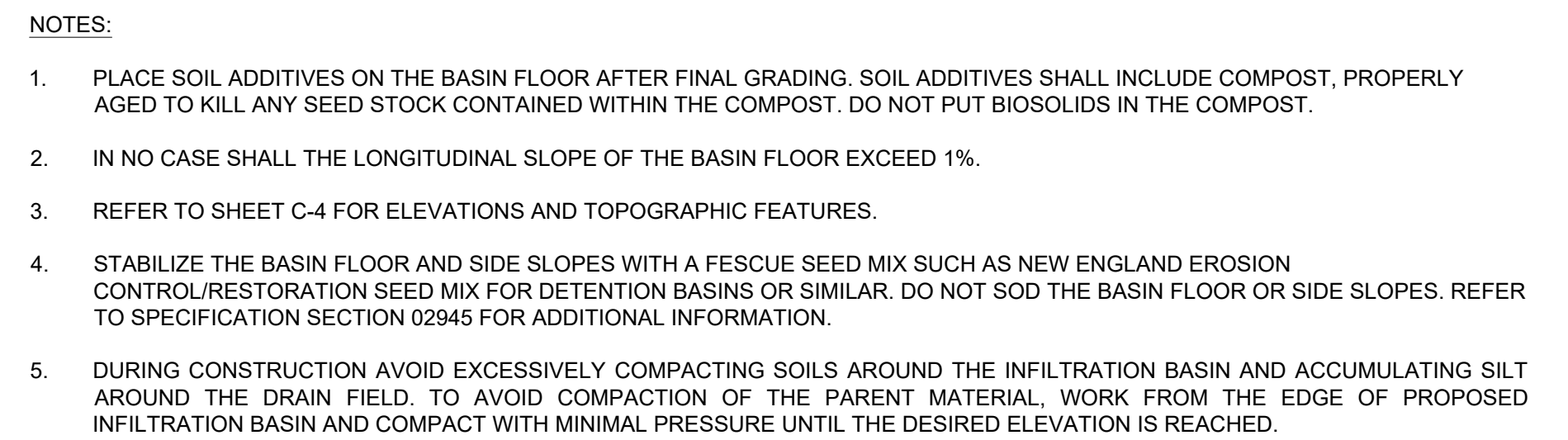


SCALE: N.T.S.

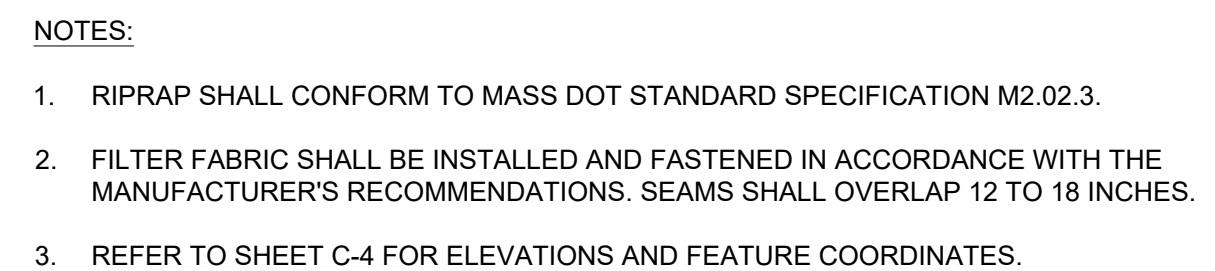


- NOTES:
1. REINFORCED CONCRETE PIPE CONFORMS TO ASTM C-76, ASTM-C-443, AASHTO M-170, AND ASHTO M-198.

SCALE: N.T.S.



SCALE: N.T.S.

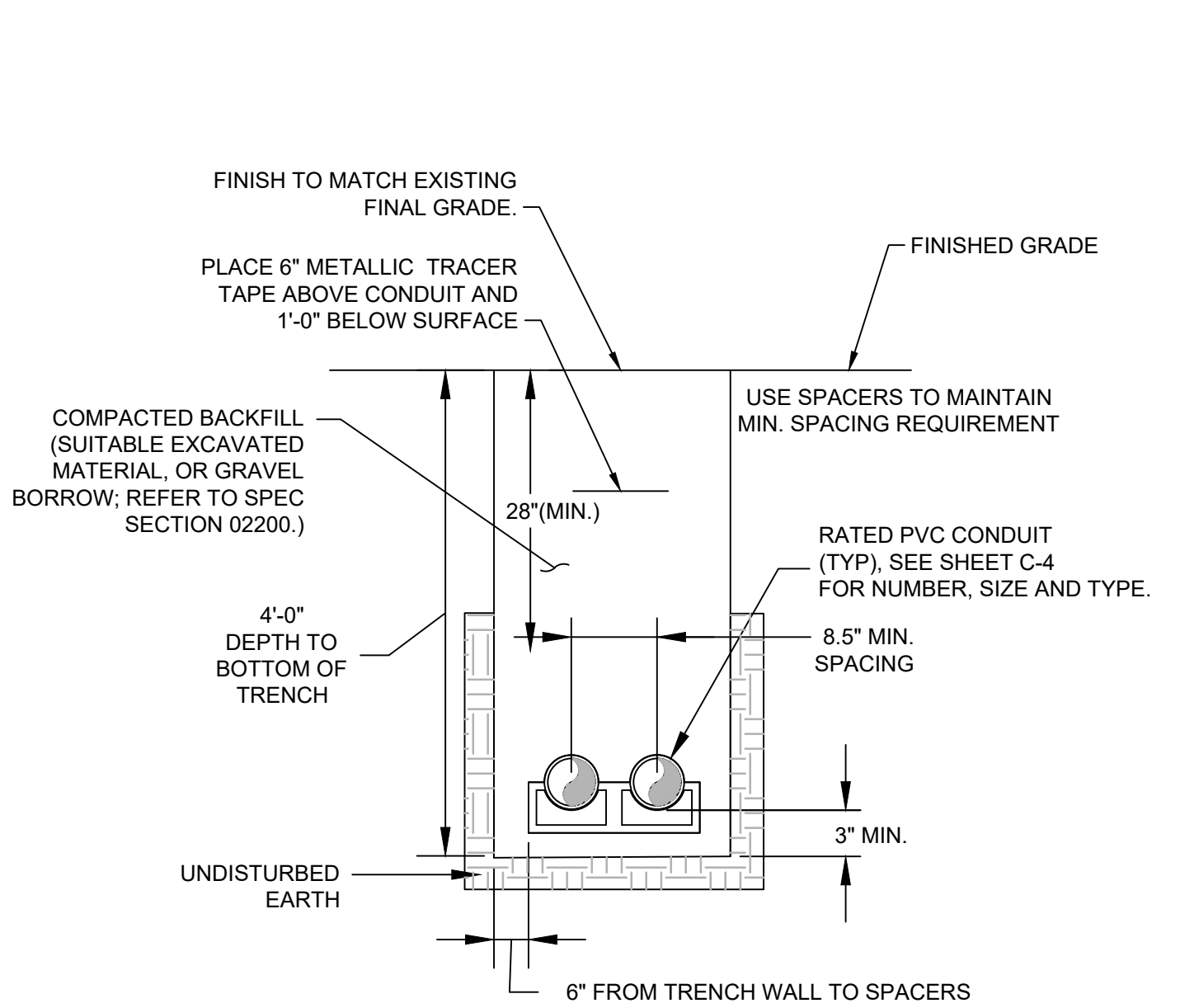


SCALE: N.T.S.

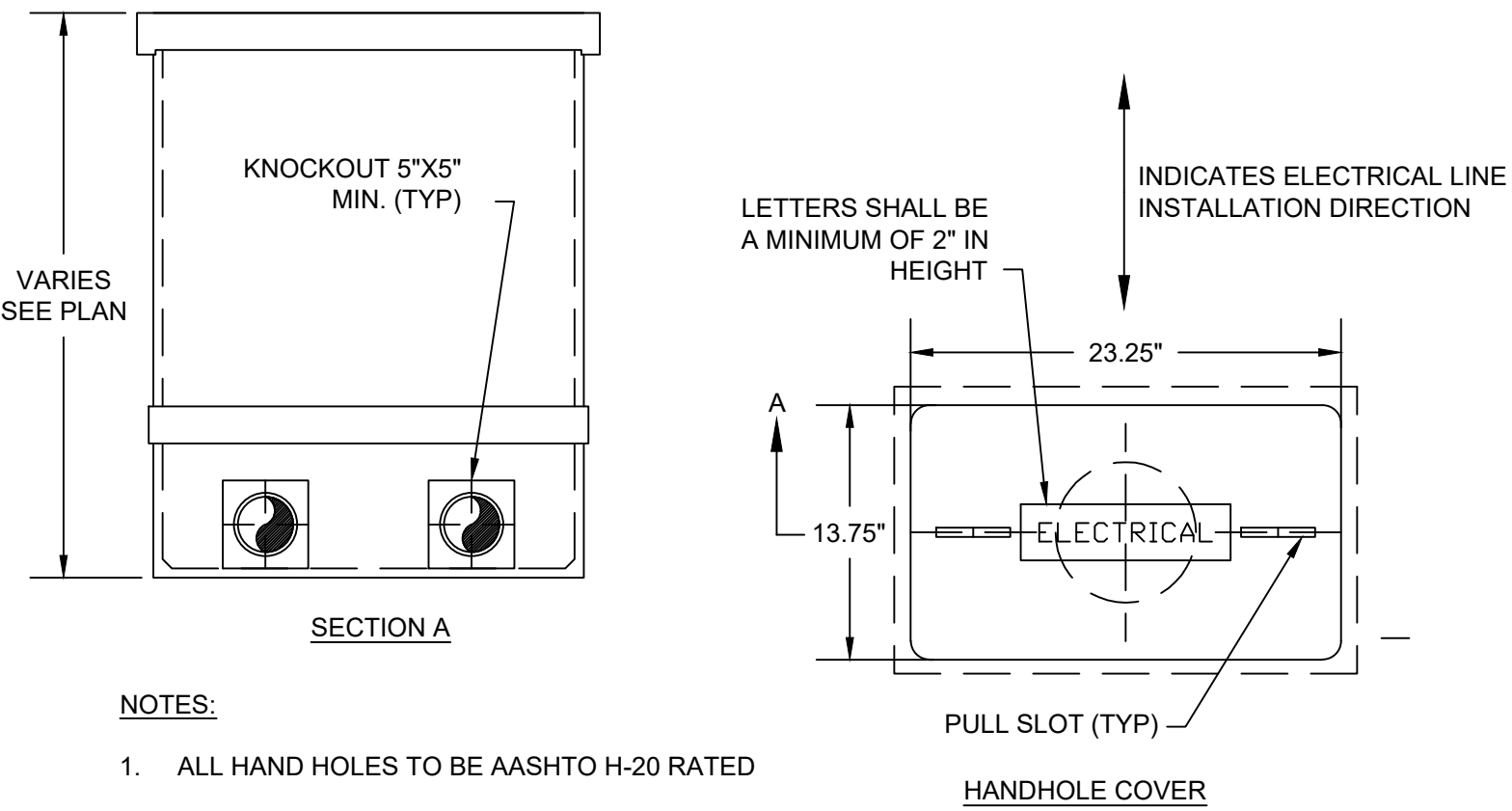
Scale	AS NOTED
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP

CIVIL CONSTRUCTION DETAILS II

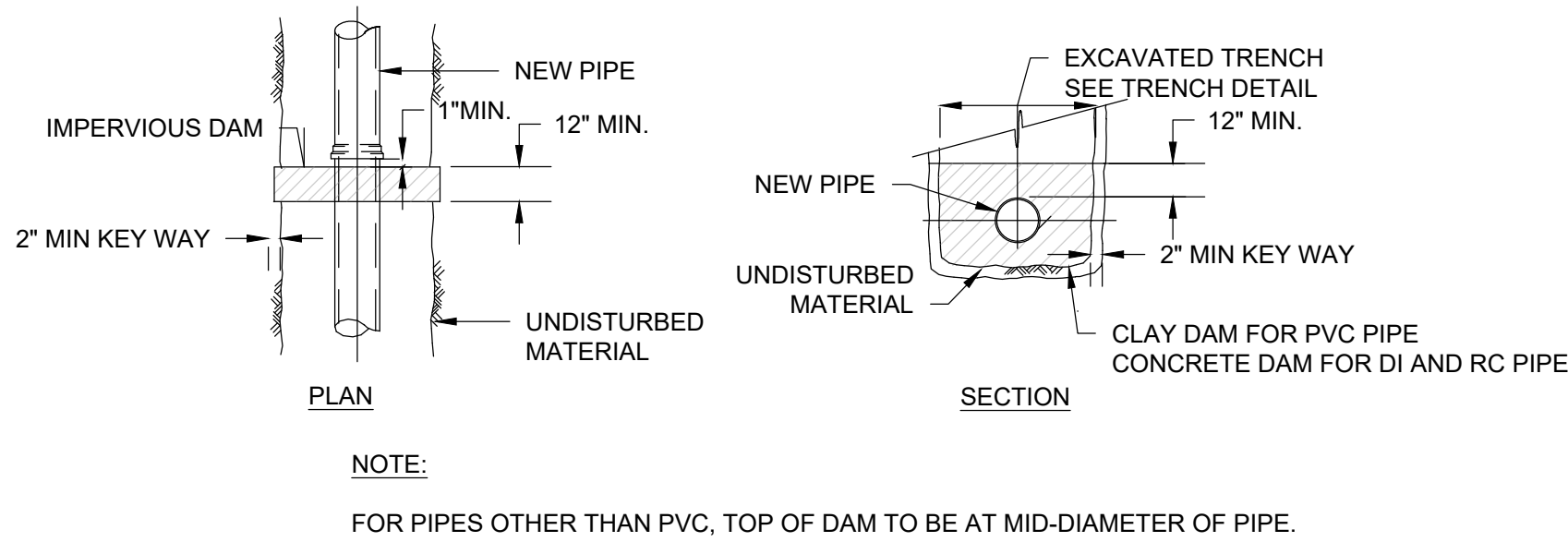
CD-2



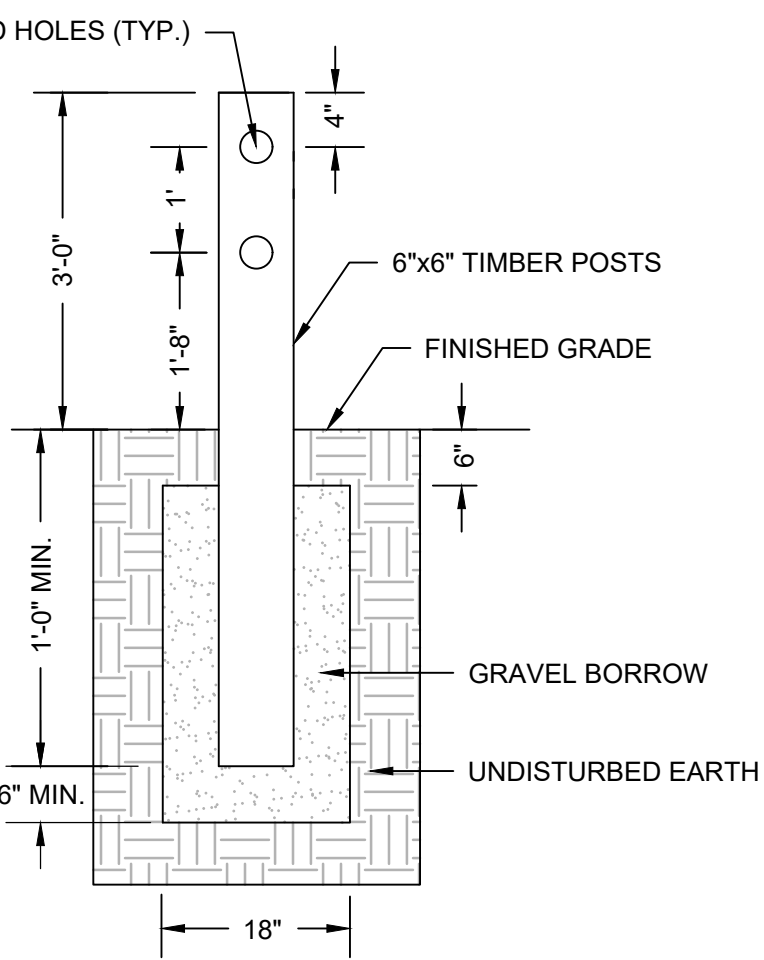
TYPICAL UNDERGROUND CONDUIT DETAIL
SCALE: N.T.S.



TYPICAL HANDHOLE DETAIL
SCALE: N.T.S.



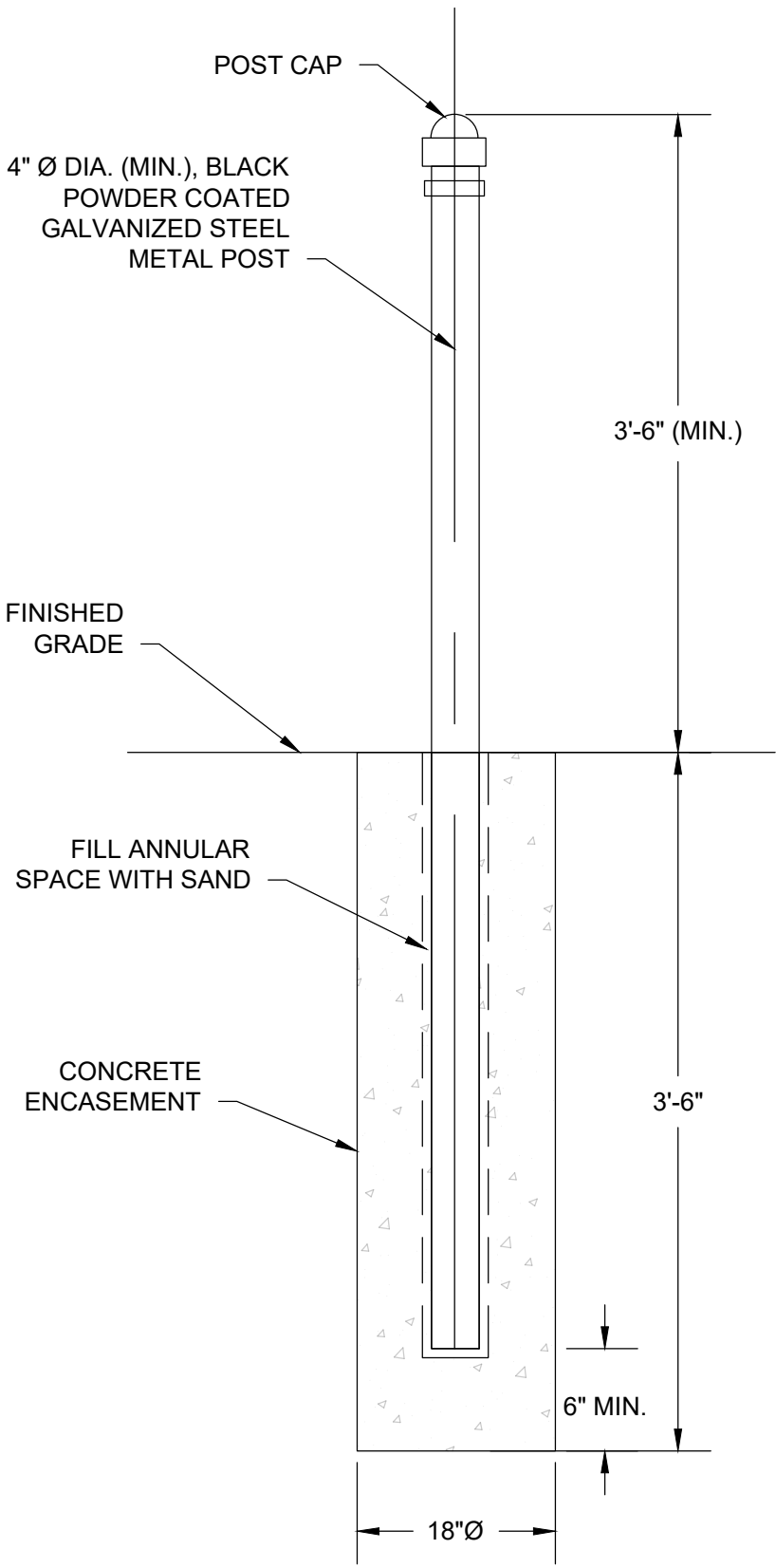
PIPE TRENCH DAM DETAIL
SCALE: N.T.S.



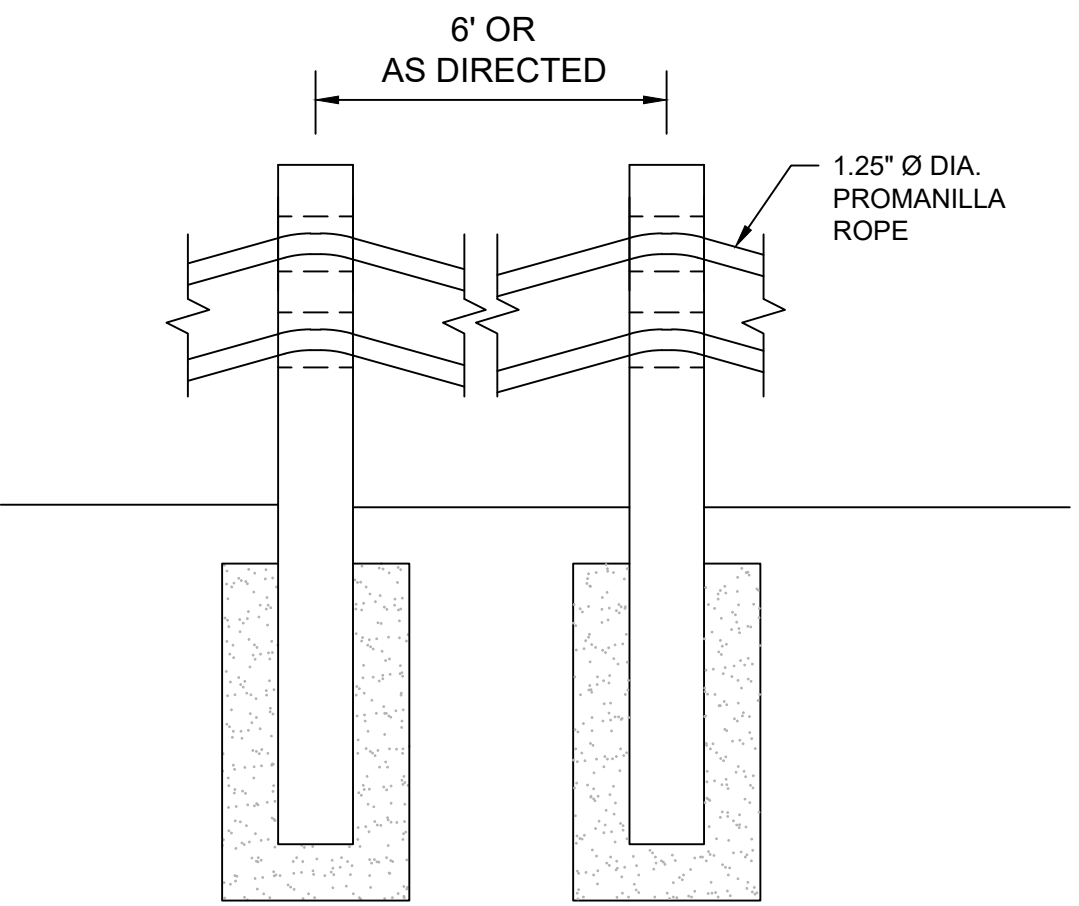
SECTION VIEW
SCALE: N.T.S.

- NOTES:
- ROPES BETWEEN POSTS SHALL NOT SAG MORE THAN 6-INCHES.
 - ROPE SHALL BE PULLED THROUGH DRILLED HOLES AND KNOTTED AT ENDS.
 - POSTS MUST BE SPACED AT LEAST 6-FT APART OR AS DIRECTED.
 - TIMBER POSTS SHALL BE PRESSURE TREATED LUMBER SUITABLE FOR IN GROUND AND ABOVE GROUND APPLICATION.

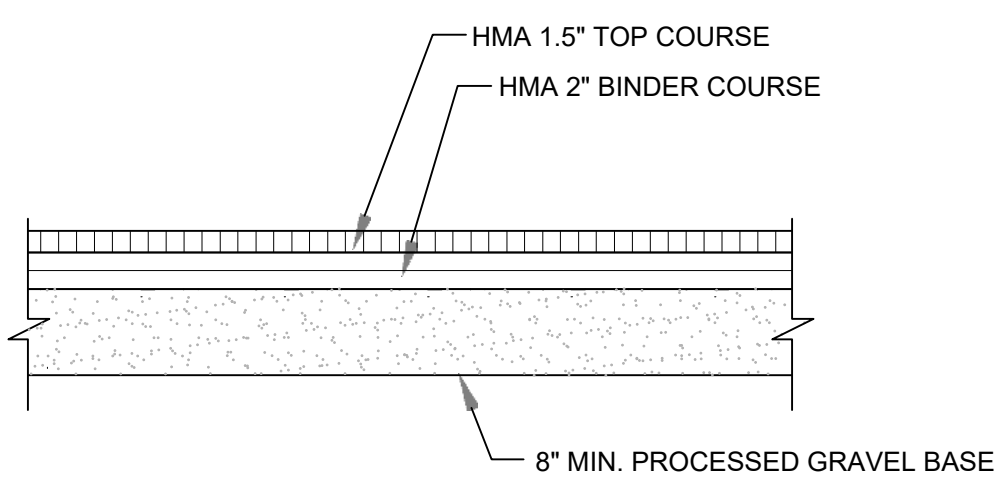
WOOD POST WITH DOUBLED ROPED FENCING
SCALE: N.T.S.



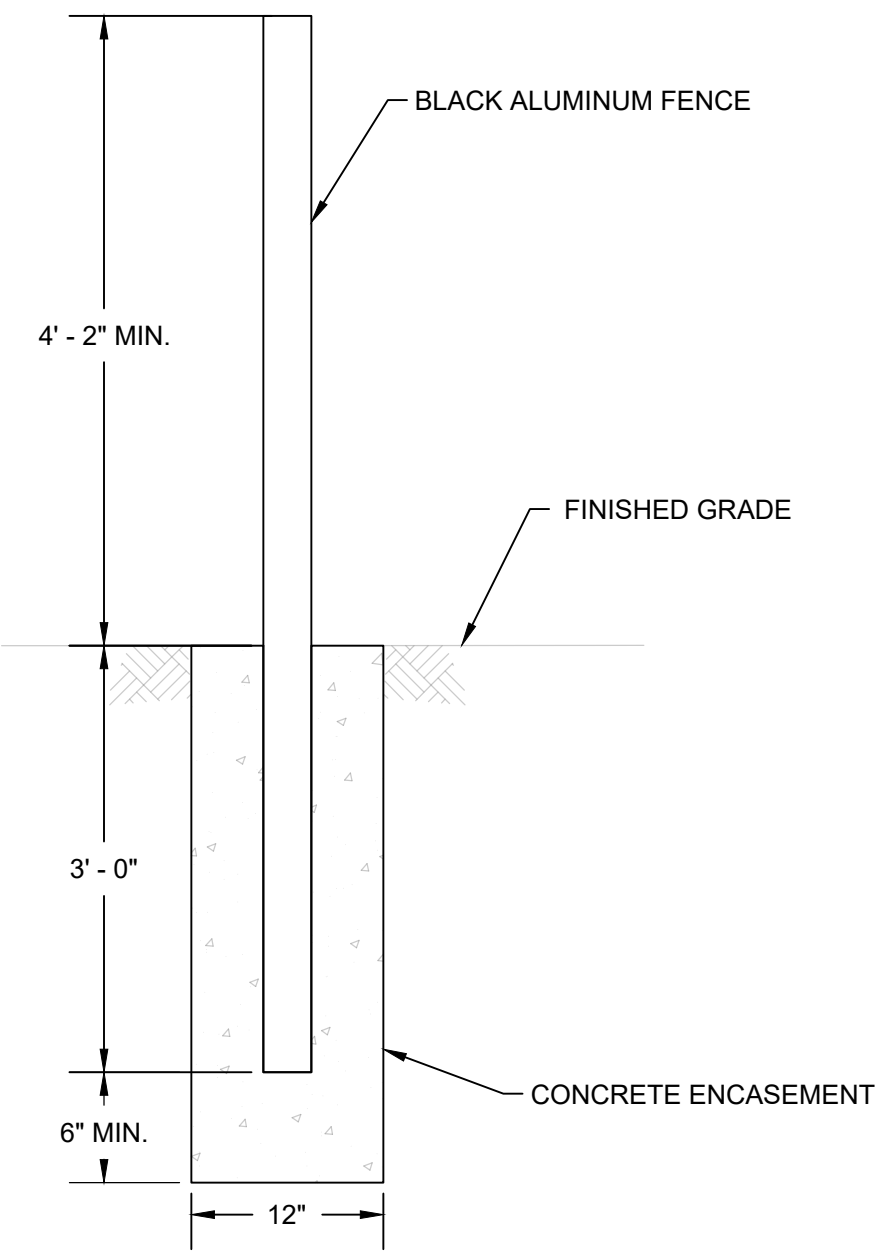
DOUBLE SWING GATE DETAIL
SCALE: N.T.S.



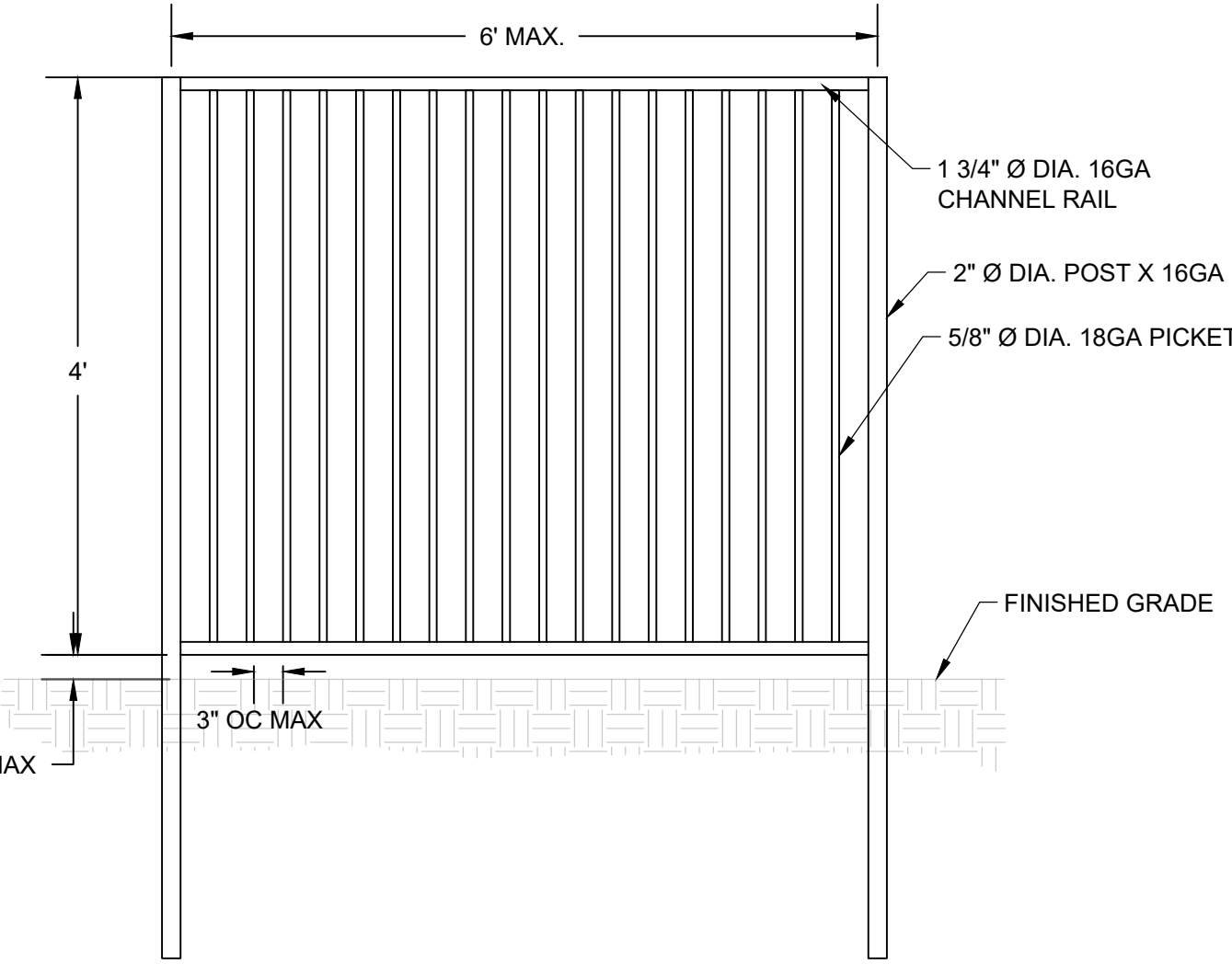
FRONT ELEVATION VIEW
SCALE: N.T.S.



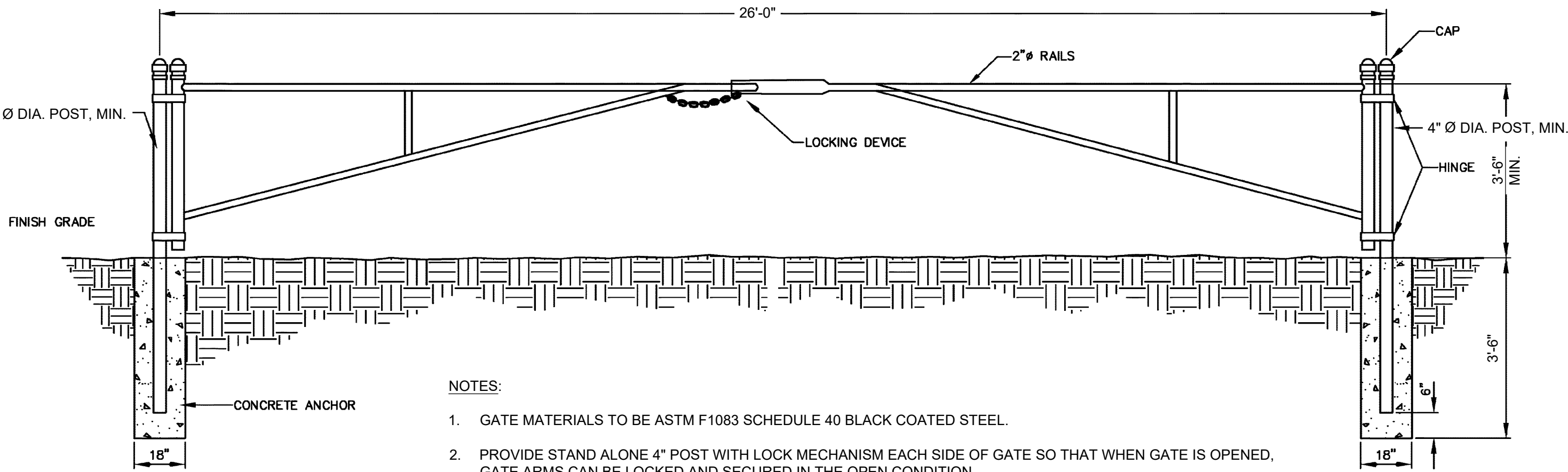
PAVEMENT APRON DETAIL
SCALE: N.T.S.



ORNAMENTAL FENCE DETAIL
SCALE: N.T.S.



- NOTES:
- FENCE SHALL BE BLACK ALUMINUM STYLE FENCE WITH ROUND CHANNEL RAILS.
 - PICKETS SHALL BE SPACED A MAX. OF 3" O.C.
 - FENCE SHALL BE AS MANUFACTURED BY AMERISTAR, OR APPROVED EQUAL.



- NOTES:
- GATE MATERIALS TO BE ASTM F1083 SCHEDULE 40 BLACK COATED STEEL.
 - PROVIDE STAND ALONE 4" POST WITH LOCK MECHANISM EACH SIDE OF GATE SO THAT WHEN GATE IS OPENED, GATE ARMS CAN BE LOCKED AND SECURED IN THE OPEN CONDITION.



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP

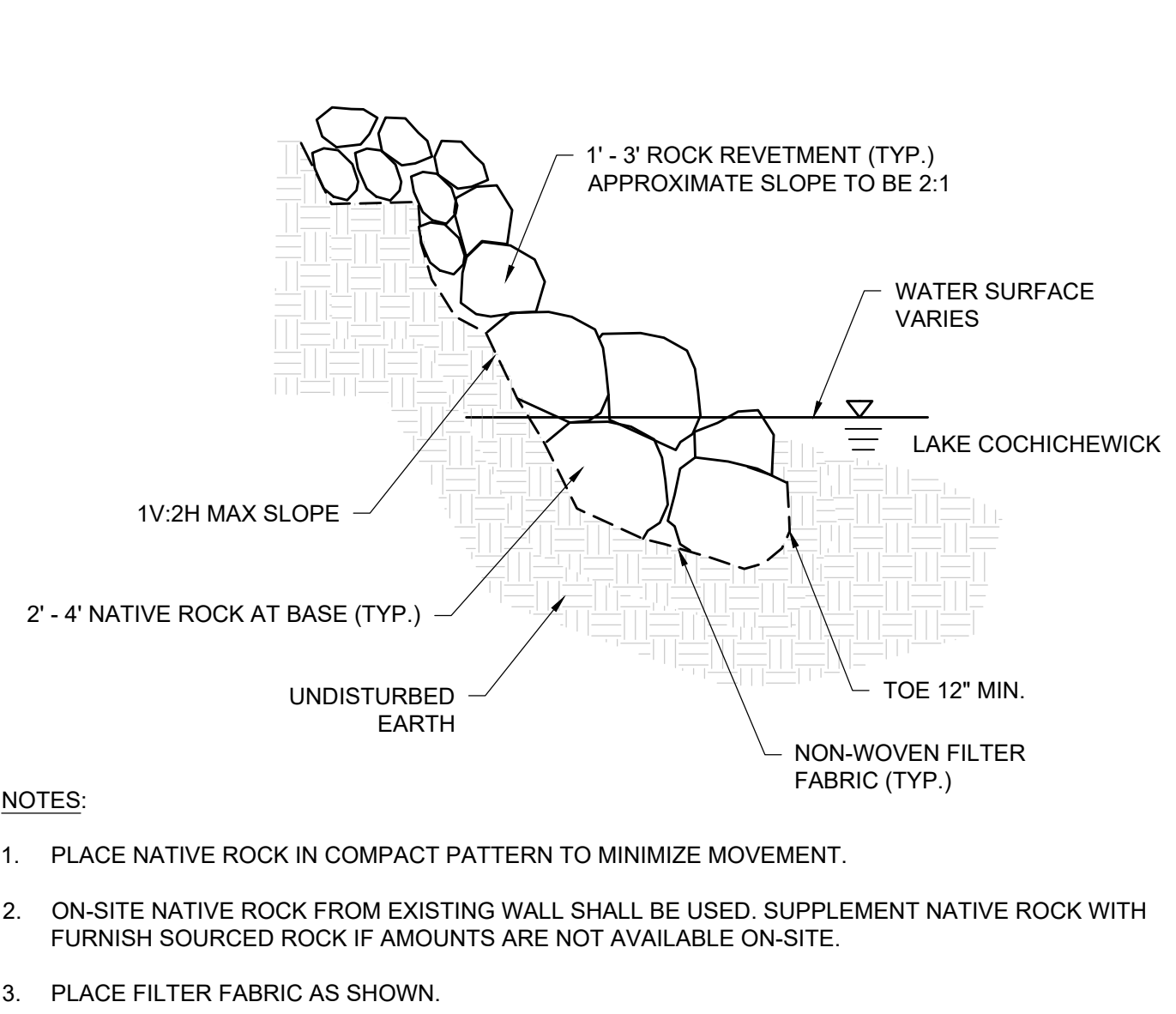
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

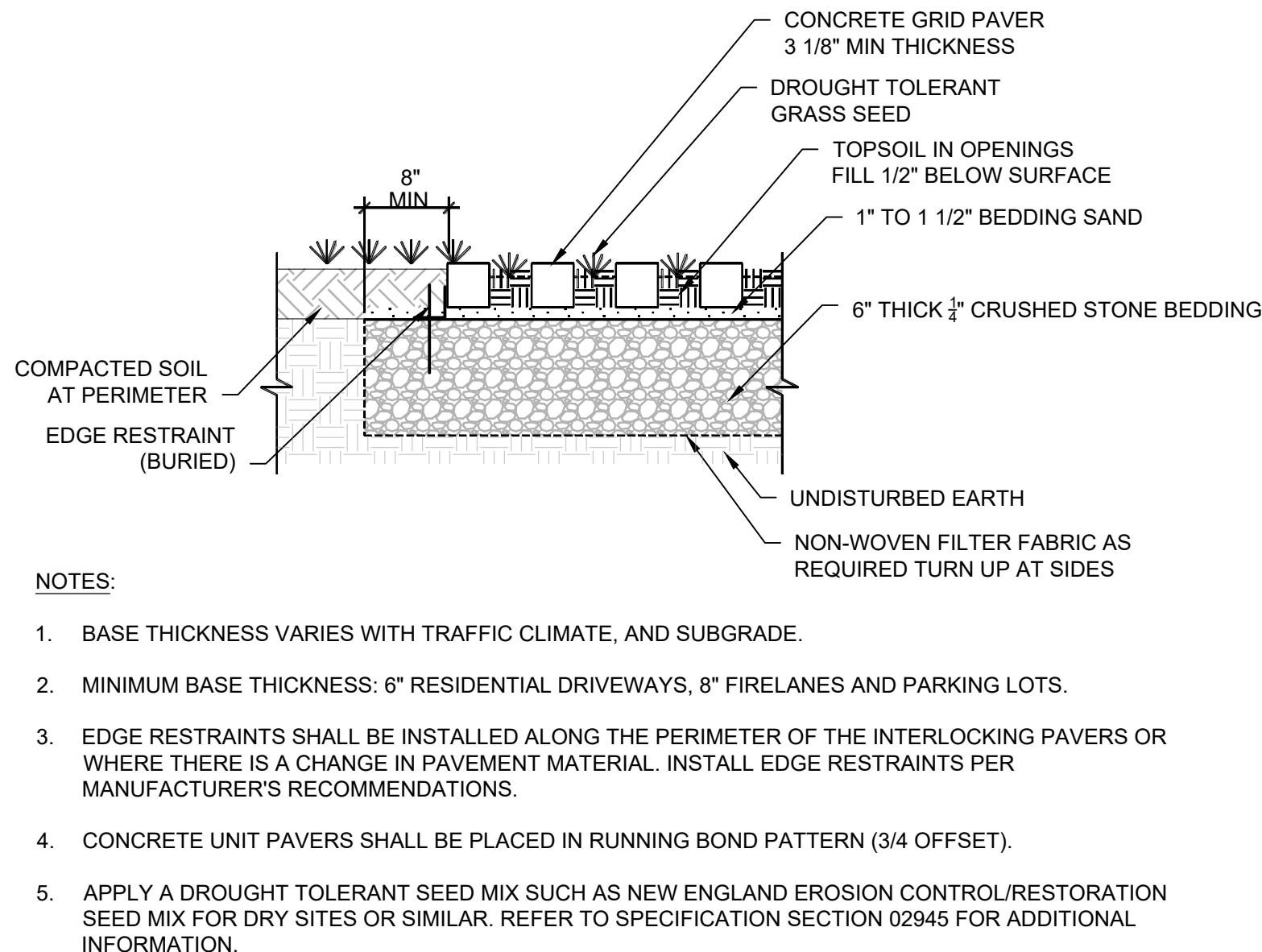
CIVIL CONSTRUCTION DETAILS III

FOR BID
Sheet No.

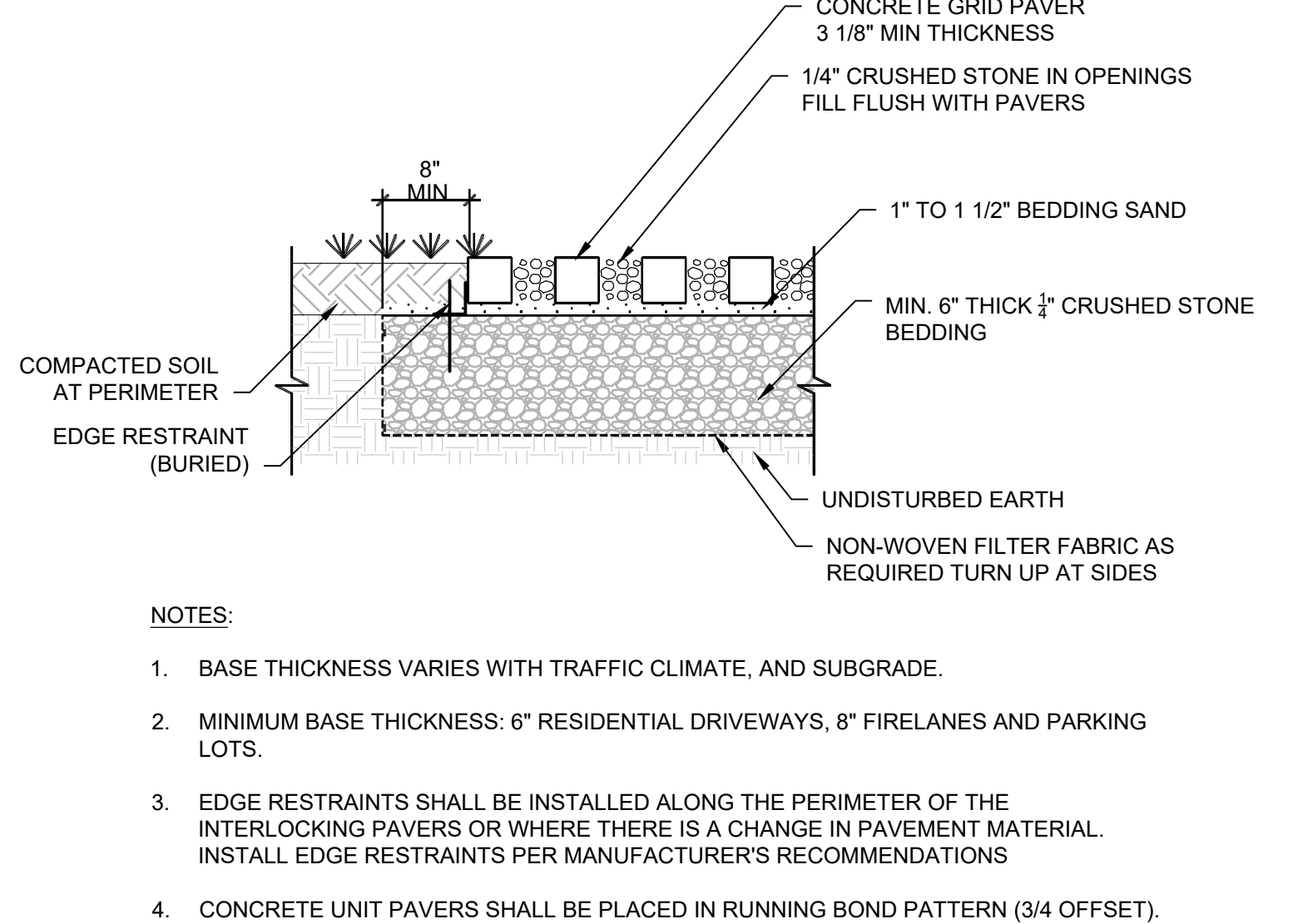
CD-3



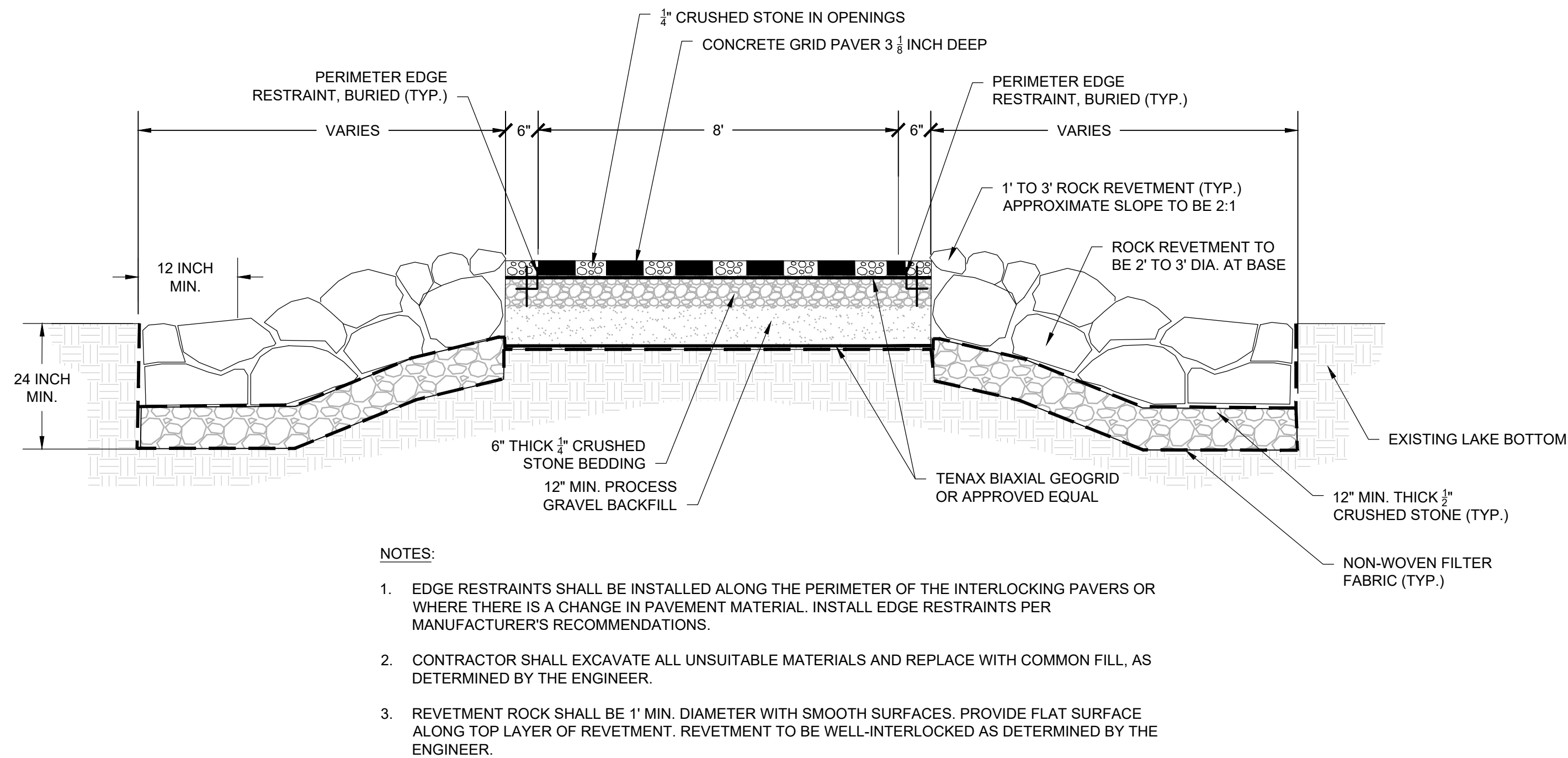
SLOPE STABILIZATION
SCALE: N.T.S.



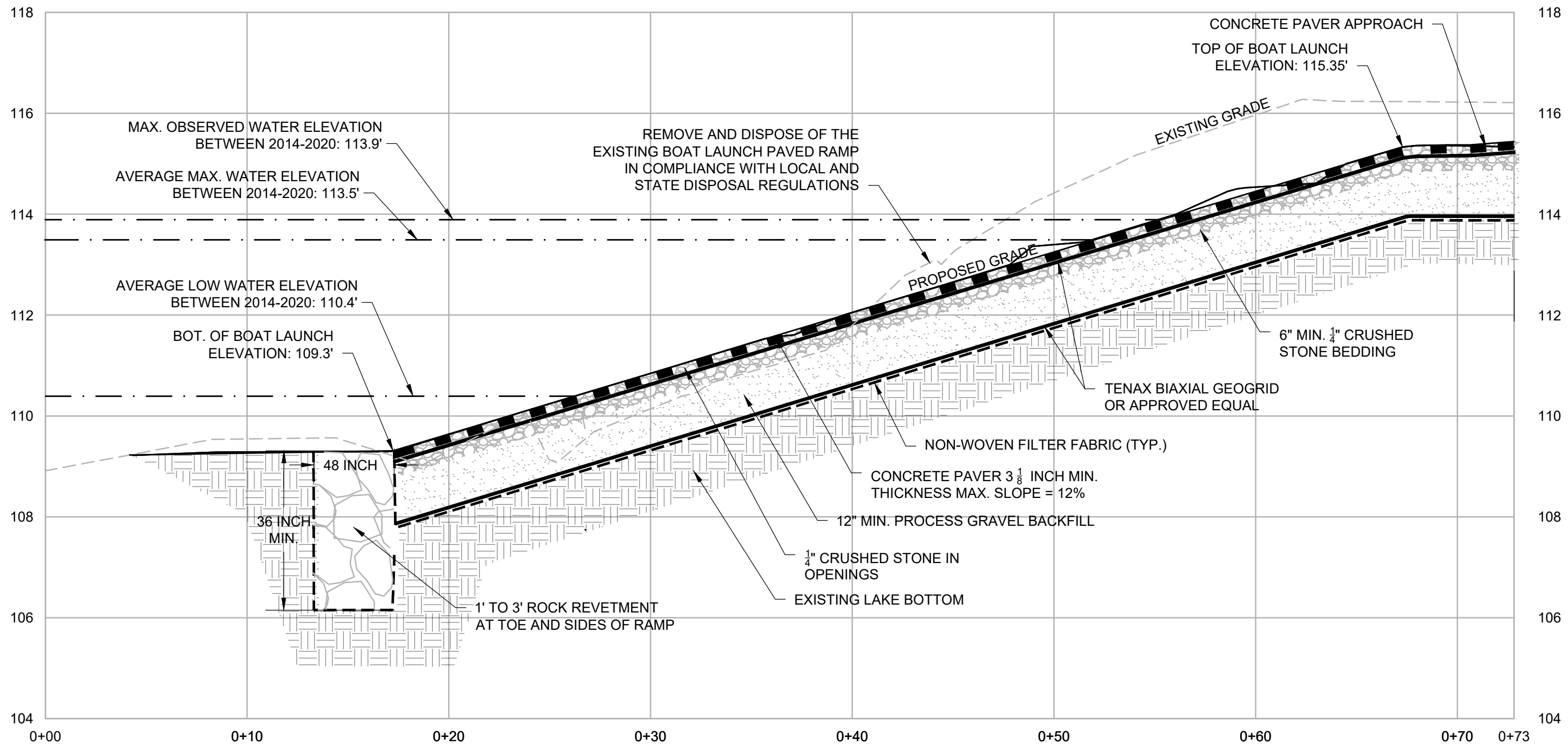
GRASS-FILLED CONCRETE PAVERS
SCALE: N.T.S.



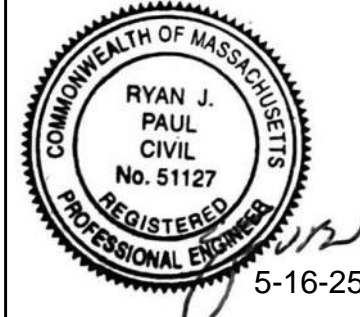


STONE-FILLED CONCRETE PAVERS
SCALE: N.T.S.



TYPICAL BOAT LAUNCH CROSS-SECTION
SCALE: N.T.S.



BOAT LAUNCH PROFILE
HORIZONTAL SCALE: 1"=5'
VERTICAL SCALE: 1"=2'



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

CIVIL CONSTRUCTION DETAILS IV

FOR BID

Sheet No.

CD-4

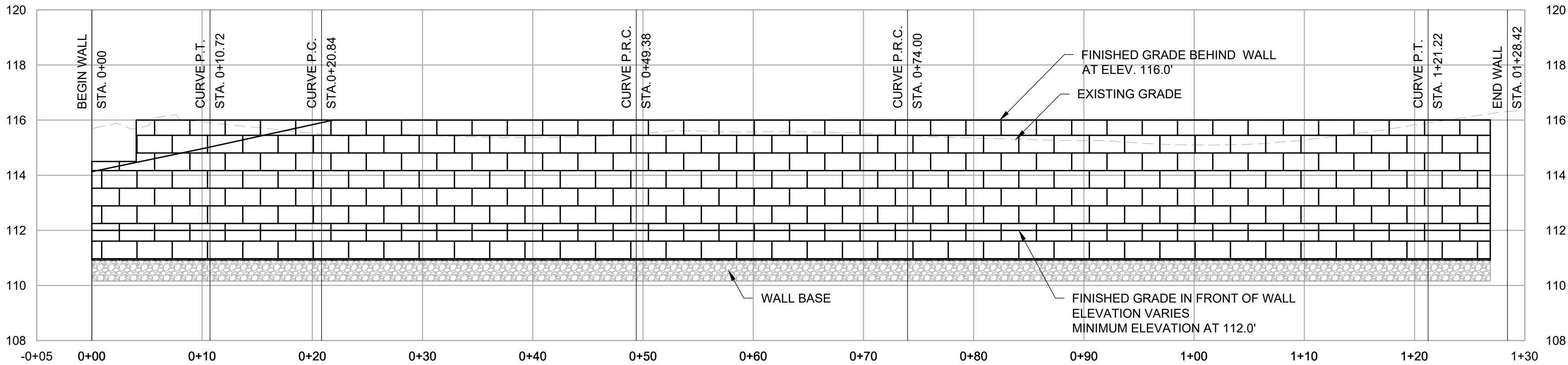
Drawing file: I:\North Andover\3123012245 - N. Lake Cochichewick Boat Launch\05 CAD\Final Design\05 Civil Site Details.dwg Plot Date: May 19 2025 8:51am

NOTES:

1. CONTRACTOR SHALL SUBMIT MA PROFESSIONAL ENGINEER STAMPED SUBMITTAL FOR THE MECHANICALLY STABILIZED EARTH (MSE) BLOCK WALL AS MANUFACTURED BY STONE STRONG OR APPROVED EQUAL AS DETERMINED BY THE ENGINEER.
2. ASSUME CONDITIONS BELOW THE BASE OF THE PROPOSED WALL INCLUDE LOOSE TO DENSE POORLY GRADED COHESIONLESS SANDY SOILS WITH SOME SILT. BORING LOGS ARE PROVIDED IN THE APPENDICES OF THE PROJECT SPECIFICATIONS.
3. THE CONTRACTOR SHALL BASE THE MSE WALL DESIGN ON THE FOLLOWING IN-SITU SOIL PROPERTIES:

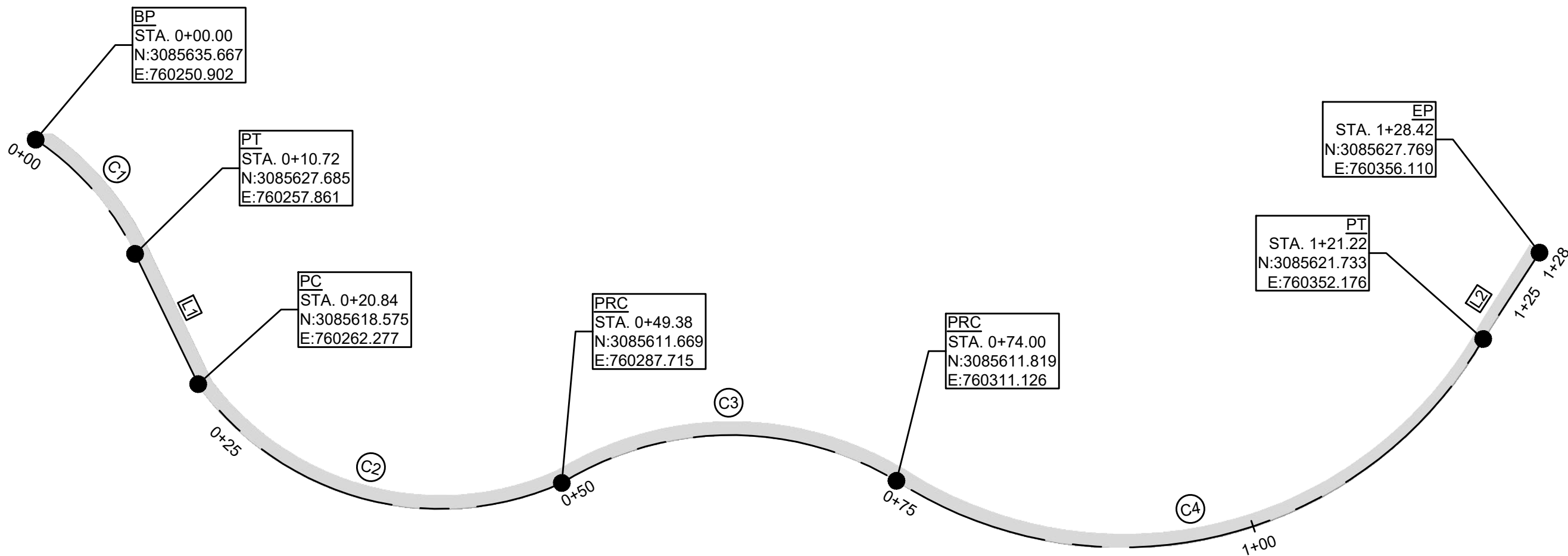
PARAMETER	VALUE
FRICTION ANGLE - ϕ	29°
UNIT WEIGHT - γ	120 PCF
COHESION - c	0
SOIL TYPE	SAND

4. THE WALL BASE DESIGN ASSUMES A MIN. ALLOWABLE BEARING PRESSURE OF 1,500 PSF. PRIOR TO SUBGRADE PREPARATION, EXISTING TOPSOIL AND OTHER UNSUITABLE SOIL SHALL BE REMOVED FROM BENEATH THE PROPOSED WALL AND BACKFILL LIMITS. THE CONTRACTOR'S GEOTECHNICAL ENGINEER SHOULD REVIEW SOIL CONDITIONS AND ADJUST THE THICKNESS OF THE GRANULAR BASE TO ACCOMMODATE UNFORSEEN SOIL CONDITIONS NOT SIMILAR TO THE CHARACTERIZATION DESCRIBED IN THESE NOTES, IF NECESSARY.
5. SOIL AMENDMENTS AND GEOGRID ARE ANTICIPATED BELOW AND BEHIND THE MSE WALLS. THE CONTRACTOR SHALL SPECIFY ON THE STAMPED SUBMITTAL THE TYPE OF MATERIALS TO BE USED.
6. THE WALL BASE SHALL CONSIST OF A COMPACTED CRUSHED STONE AGGREGATE, AS SPECIFIED IN SPECIFICAION SECTION 02200. THE WALL BASE SHALL BE PLACED AS SHOWN ON THE DRAWINGS AND AS SPECIFIED BY THE CONTRACTOR'S GEOTECHNICAL ENGINEER. THE ABSE SHALL BE COMPACTED SO AS TO PROVIDE A LEVEL AND HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. GRANULAR BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM 95 PERCENT OF STANDARD PROCTOR (ASTM D698). FOOTING SHALL BE SMOOTHED TO ENSURE COMPLETE CONTACT OF RETAINING WALL UNIT WITH THE BASE. SURFACE OF GRANULAR BASE MAY BE DRESSED WITH FINER AGGREGATE TO AID LEVELING.
7. THE WALL SHALL BE DESIGNED TO DRAIN GROUNDWATER AWAY FROM THE BACK OF THE WALL. ASSUME A 4" PERFORATED PVC DRAIN PIPE WILL BE REQUIRED WITH PIPE PENETRATIONS.
8. STATIONS AND LAYOUT DIMENSIONS ARE MEASURED ALONG THE FACE OF THE WALL AT THE BOTTOM COURSE.
9. ENSURE EACH COURSE IS COMPLETELY FILLED AND BACKFILL IS PLACED TO THE SAME LEVEL PRIOR TO PROCEEDING TO NEXT COURSE. ENSURE ADJACENT UNITS ARE IN CONTACT SO THAT UNIT FILL MAY NOT ESCAPE THROUGH THE JOINT BETWEEN UNITS. GAPS GREATER THAN 1/4" BETWEEN THE UNITS SHALL NOT BE ALLOWED. AT INTERSECTIONS WITH STRUCTURES, CUT UNITS TO OBTAIN A NEAT FIT. PULL BLOCK UNITS FORWARD TO ENGAGE THE ALIGNMENT LOOPS ON THE UNIT BELOW.
10. MAINTAIN TEMPORARY GRADES TO DIVERT SURFACE WATER AWAY FROM THE RETAINING WALL EXCAVATION. SLOPE FINAL BACKFILL TO PROVIDE POSITIVE DRAINAGE AND TO ELIMINATE PONDING.
11. SEE SPECIFICATION SECTION 03501 FOR ADDITIONAL DESIGN AND SUBMITTAL REQUIREMENTS.



MSE BLOCK WALL PROFILE

HORIZONTAL SCALE: 1"=8'
VERTICAL SCALE: 1"=4'

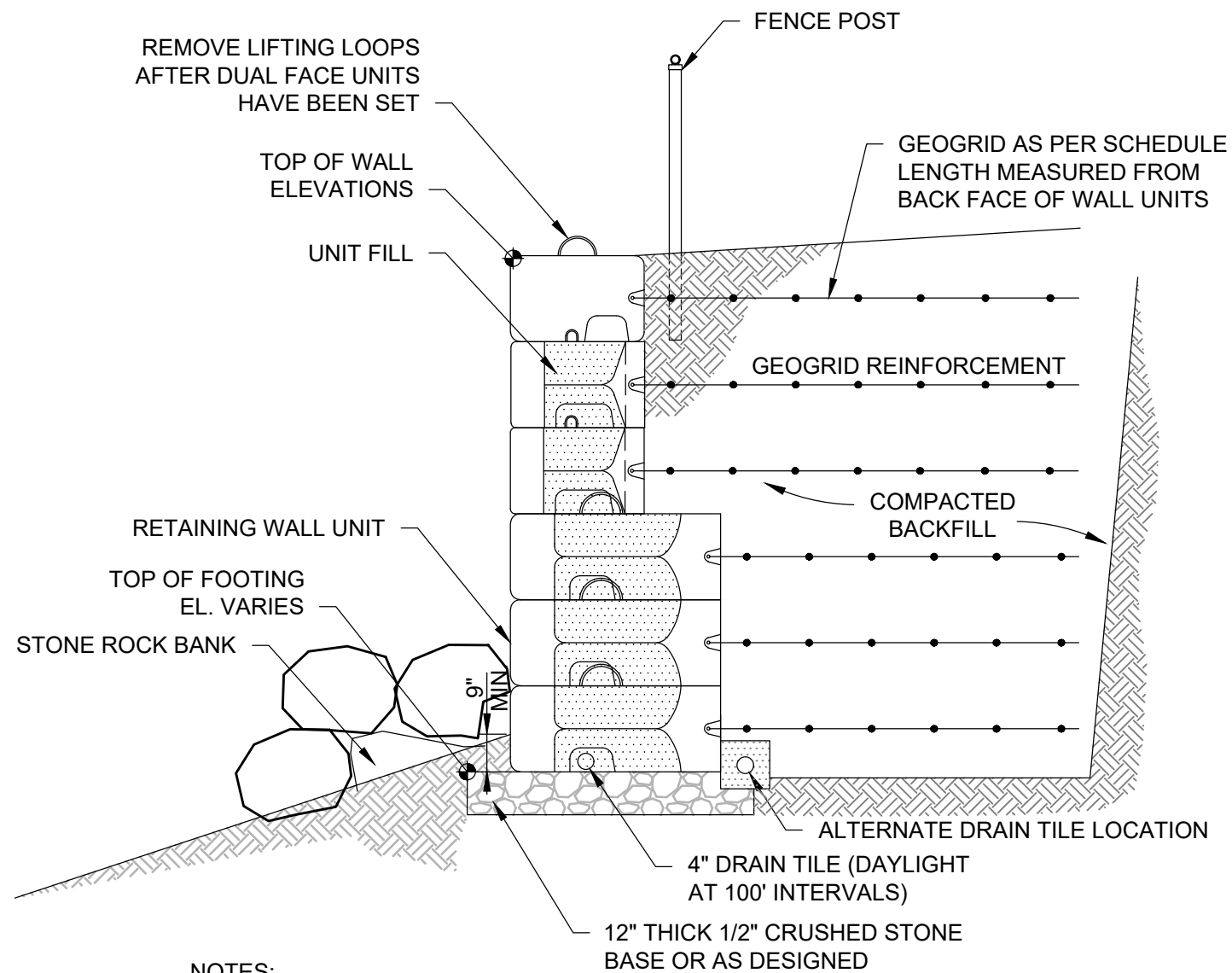


CURVE DATA					
CURVE #	RADIUS	TANGENT	ARC	CHORD LENGTH	DELTA ANGLE
C1	19.960'	5.491'	10.718'	10.589'	30°45'53"
C2	20.834'	17.017'	28.538'	26.359'	78°29'05"
C3	22.555'	13.694'	24.615'	23.411'	62°31'45"
C4	29.157'	30.618'	47.225'	42.230'	92°47'57"

LINE DATA				
LINE #	LENGTH	DIRECTION	START POINT	END POINT
L1	10.12'	S25° 51' 39.34"E	N:3085627.685 E:760257.861	N:3085618.575 E:760262.277
L2	7.20'	N33° 05' 42.51"E	N:3085621.733 E:760352.176	N:3085627.769 E:760356.110

MSE BLOCK WALL PLAN VIEW

HORIZONTAL SCALE: 1"=8'
VERTICAL SCALE: 1"=4'



NOTES:

1. THE CONTRACTOR SHALL SUBMIT MSE BLOCK WALL SHOP DRAWINGS STAMPED BY A LICENSED MA PROFESSIONAL ENGINEER.

MSE BLOCK WALL CROSS SECTION

SCALE: N.T.S.



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2025
Job No.	22003302
Designed by	JLV
Drawn by	JLV
Checked by	MEG
Approved by	RJP

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

CIVIL CONSTRUCTION DETAILS V

FOR BID

Sheet No.

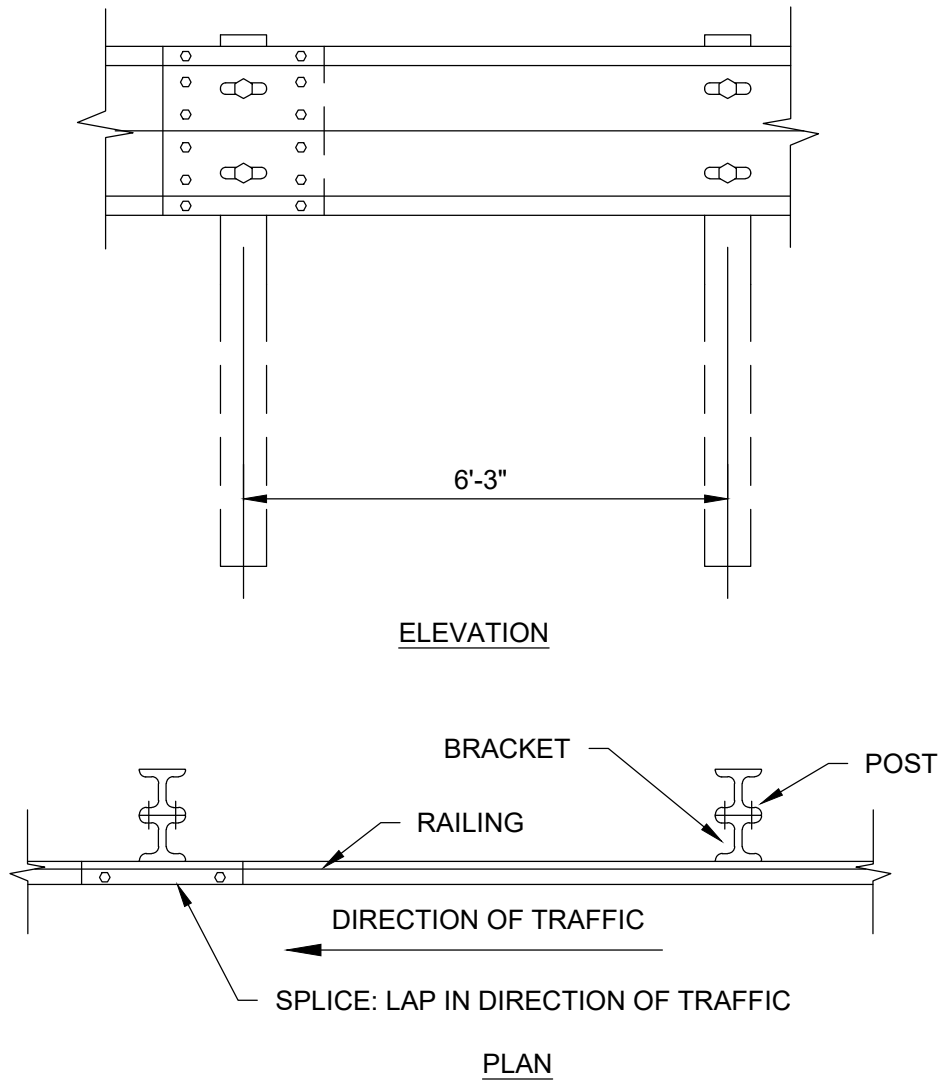
CD-5

TRAFFIC SIGN SUMMARY

IDENTIFI- CATION NUMBER	SIZE OF SIGN (INCHES)		TEXT	TEXT DIMENSIONS (INCHES)		NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING		BACK- GROUND	LEGEND	BORDER			
R6-1L	36	12		MUTCD STANDARD		1	MUTCD STANDARD			P5 (1)	3.00	3.00
R6-1R	36	12				1				P5 (1)	3.00	6.00
R6-1(PBS)	36	12				2				P5 (2)	3.00	6.00
R7-8 (MOD)	12	18				1				P5 (1)	1.50	1.50
R7-7 (MOD)	12	18				2				P5 (2)	1.50	3.00
R5-3 (MOD)	24	24				1				P5 (1)	4.00	4.00

NOTES:

- SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2009 EDITION WITH LATEST REVISION AND MASSACHUSETTS AMENDMENTS FOR LATEST SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR.
- HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. THE 2009 "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE 1990 MDPW "STANDARD DRAWINGS FOR SIGNS AND SUPPORTS", AND ALL AMENDMENTS WILL GOVERN.
- PRIOR TO ORDERING SIGNAGE, THE CONTRACTOR SHALL FIELD VERIFY SIGNAGE TO BE REPLACED WITH THE TOWN AND SUBMIT SHOP DRAWINGS FOR ALL PROPOSED SIGNAGE FOR REVIEW AND APPROVAL BY THE TOWN.

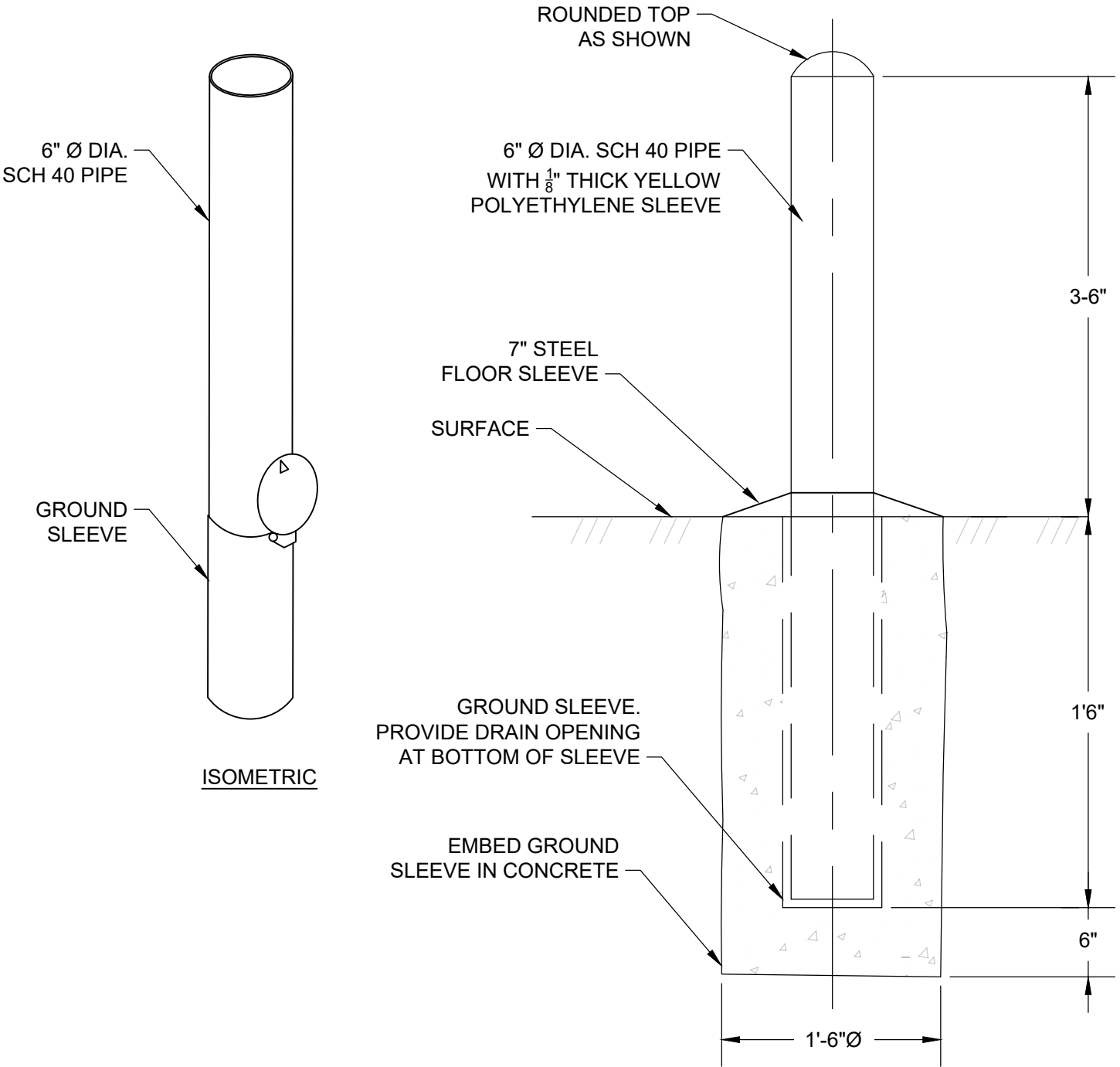


NOTES:

- GUARD RAIL SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST MASSDOT, HIGHWAY DIVISION CONSTRUCTION DETAILS. CONTRACTOR'S BID PRICE SHALL INCLUDE THIS REQUIREMENT.
- GUARD RAIL TO BE INSTALLED A MINIMUM OF 24" FROM THE EDGE OF ROADWAY.
- GUARD RAIL POSTS INSTALLED IN THE GROUND SHALL BE DRIVEN TO A MINIMUM DEPTH OF FIVE FEET BELOW THE GROUND SURFACE.
- THE UNDERSIDE OF THE GUARD RAIL SHALL BE SET A MINIMUM OF 8" ABOVE THE FINISHED ROAD SURFACE.

MHD STEEL HIGHWAY GUARD RAIL DETAIL

SCALE: N.T.S.

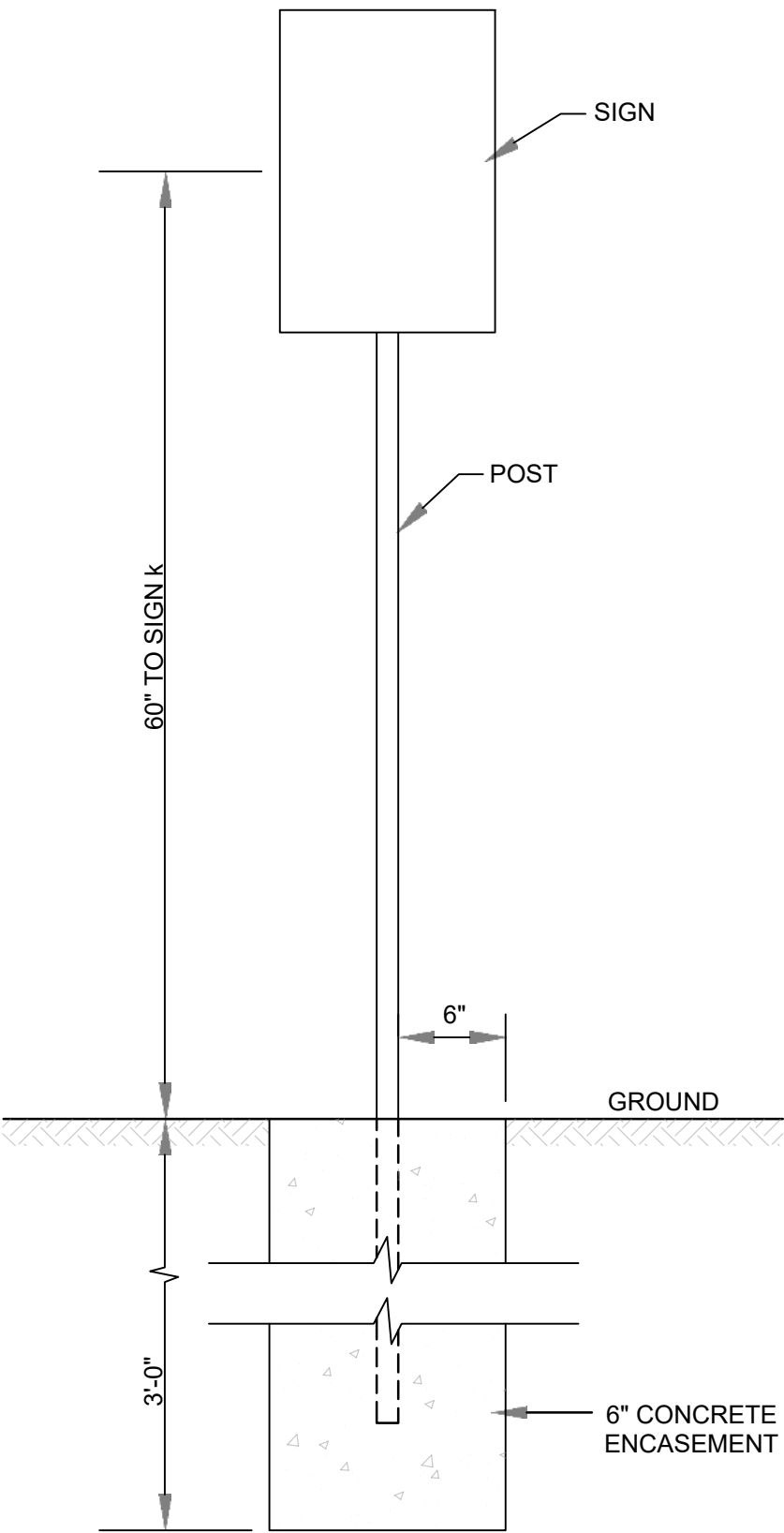


NOTES:

- CONCRETE STRENGTH SHALL BE 5,000 PSI AFTER 28 DAYS.
- POLYETHYLENE SLEEVE SHALL BE UV RESISTANT.

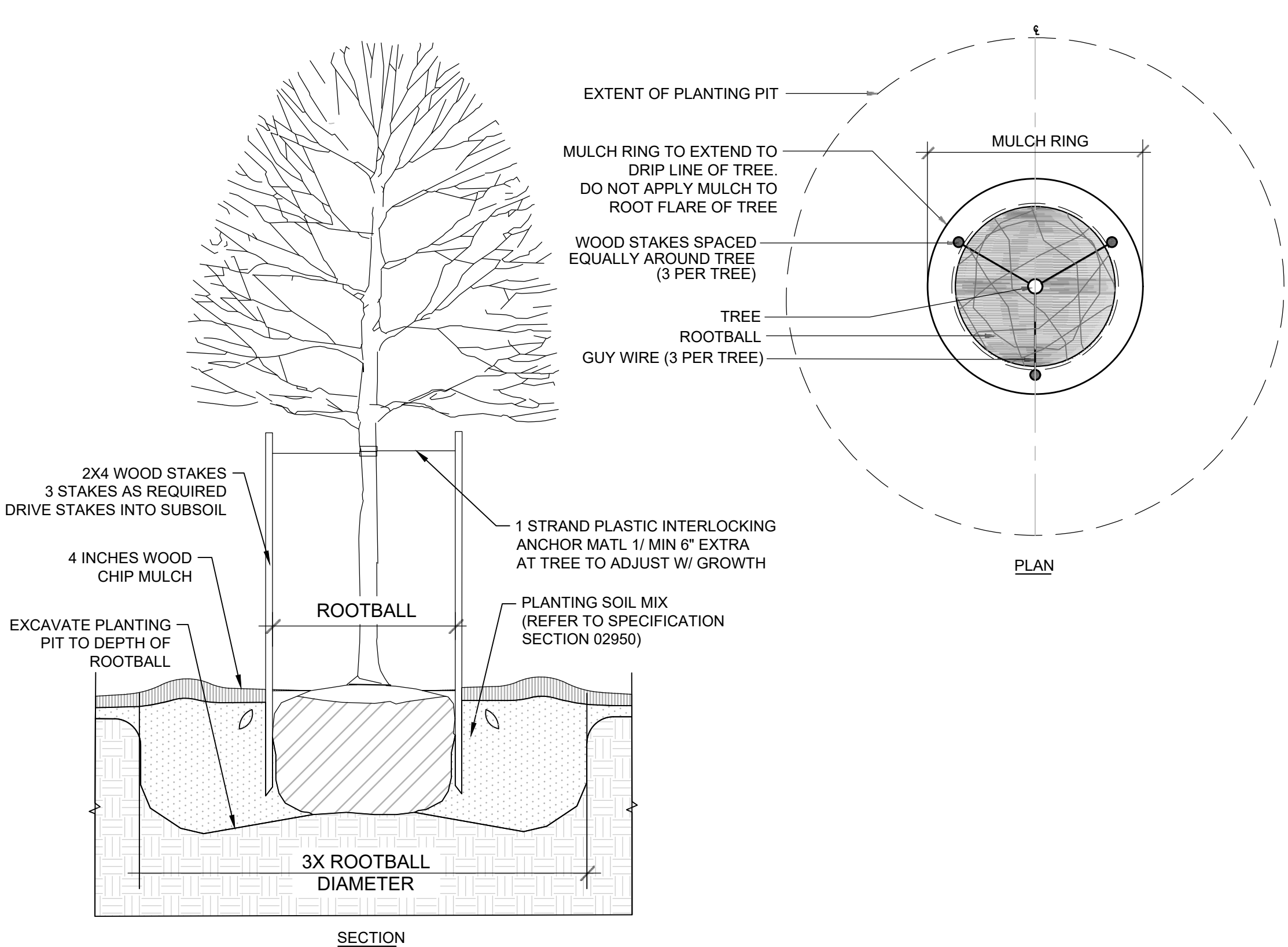
REMOVABLE LOCKING BOLLARD DETAIL

SCALE: N.T.S.



TYPICAL SIGNPOST

SCALE: N.T.S.



TREE PLANTING (TYP.)

SCALE: N.T.S.

GENERAL TREE PLANTING NOTES:

- THE CONTRACTOR SHALL VERIFY TREE REMOVALS WITH REPRESENTATIVES OF THE CONSERVATION COMMISSION PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL STAKE OUT PROPOSED LOCATIONS FOR REVIEW AND APPROVAL BY THE CONSERVATION COMMISSION OR ITS AGENT PRIOR TO FINAL PLANTING. NO PLANTING SHALL BE INSTALLED BEFORE ACCEPTANCE OF ROUGH GRADING.
- THERE SHALL BE NO SUBSTITUTION OF PLANT SPECIES WITHOUT AUTHORIZATION BY THE CONSERVATION COMMISSION OR ITS AGENT.
- THE CONTRACTOR SHALL PROTECT ALL TREES 6-INCHES IN DIAMETER OR LARGER. TREE SPECIES SHALL BE SELECTED FROM THE LIST BELOW AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PURCHASING AND INSTALLING PLANTINGS. ALL TREES SHOWN TO BE REMOVED ON SHEET C-3 SHALL BE REPLACED AS FOLLOWS:
4.1 SIZE: 2+ GALLON(S) OR 4'-5' OR LARGER
4.2 MINIMUM SPACING 10'-15' ON CENTER
4.3 TYPE: TREES SHALL BE GROWN NATIVE FROM THE FOLLOWING LIST:
A. BRANDYWINE MAPLE
B. AMERICAN HORNBEAM CARPINUS CAROLINIANA
C. AMERICAN MOUNTAIN ASH SORBUS AMERICANA
D. PAPER BIRCH BETULA Papyrifera
- PLACE BARK MULCH TO A DEPTH OF 3-INCHES AROUND THE TREE PLANTINGS AS SPECIFIED IN THE DETAILS. MULCH SHALL NOT COVER BASE OF TREE TRUNK.
- PRUNE BROKEN, CROSSING OR RUBBING BRANCHES.
- SET TREE TRUNK PLUMB VERTICAL.
- ALL PLANTINGS SHALL BE REMOVED FROM BURLAP SACKS, WIRE CAGES AND PLASTIC CONTAINERS PRIOR TO PLANTING.

NATIVE PLANTS MONITORING PLAN NOTES:

- MONITORING AND REPORTING ASSOCIATED WITH THE COMPLETED NATIVE PLANTING AREA SHOULD FOLLOW AND BE IN COMPLIANCE WITH THE ORDER OF CONDITIONS ISSUED BY THE CONSERVATION COMMISSION AND ANY OTHER RELEVANT PERMIT THAT APPLIES.
- ANNUAL REPORTING AND ANY DELIVERABLES WILL BE SUBMITTED TO THE APPLICABLE PERMITTING AUTHORITIES.
- POST PLANTING, THE AREA WILL BE MONITORED AS REQUIRED BY THE ORDER OF CONDITIONS FOR A PERIOD OF TWO YEARS, TO CONDUCT VISUAL ASSESSMENT TO DETERMINE IF FURTHER ACTION IS NECESSARY TO REMOVE AND REPLACE DEAD PLANTS, REMOVE ACCUMULATED DEBRIS, AND TO REMOVE ANY UNWANTED AND COMPETING INVASIVE PLANTS.
- SHOULD THE AREA EXPERIENCE AN UNUSUAL FLOOD EVENT, AN ADDED SITE VISIT WILL BE CONDUCTED TO ASSESS ANY DAMAGE AND TO TAKE RADIATION ACTION.
- THE INTENT IS TO HAVE THE PLANTED AREAS ACHIEVE 75% GROWTH IN COVER AND MATURITY AT THE END OF THE TWO-YEAR MONITORING PERIOD.
- EVERY OPPORTUNITY WILL BE TAKEN TO REMOVE INVASIVE PLANTS SO THEY ARE WEAKENED ALLOWING THE INDIGENOUS PLANTINGS TO TAKE OVER AND THRIVE.
- IF THE PLANTS GET DISTRESSED DURING THE MONITORING PERIOD, AN EXAMINATION OF THE SOIL SHALL DETERMINE IF THE SOIL PH BALANCE NEEDS ADJUSTMENT OR PLANT FERTILIZATION IS NEEDED.



			Scale	AS NOTED
			Date	MAY 2025
			Job No.	22003302
			Designed by	JLV
			Drawn by	JLV
			Checked by	MEG
			Approved by	RJP
MARK	DATE	DESCRIPTION		

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

NORTH LAKE COCHICHEWICK BOAT LAUNCH
TOWN OF NORTH ANDOVER, MA

CIVIL CONSTRUCTION DETAILS VI

FOR BID

Sheet No.

CD-6