

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

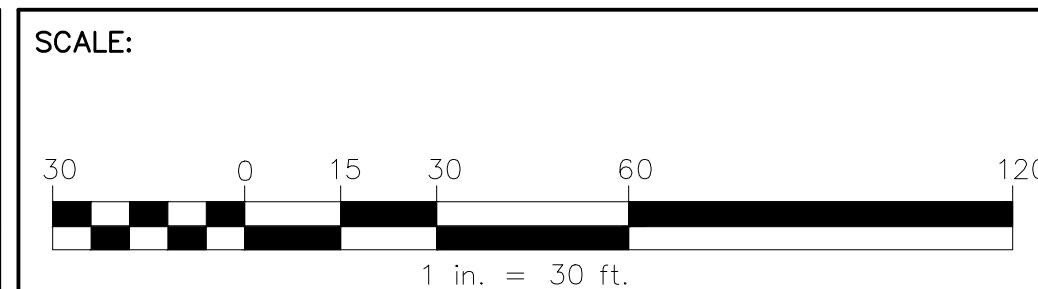


# DILLIS & ROY

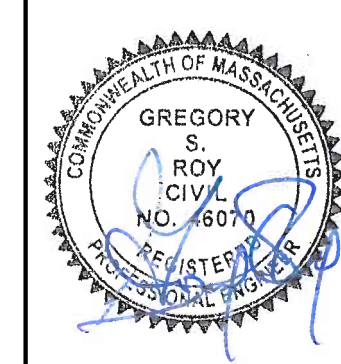
## CIVIL DESIGN GROUP

<p><b>CIVIL ENGINEERS</b></p> <p>CORPORATE OFFICE: 1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462</p>	<p><b>LAND SURVEYORS</b></p> <p>978-779-6091 <a href="http://www.dillisanndroy.com">www.dillisanndroy.com</a></p>	<p><b>WETLAND CONSULTANTS</b></p> <p>CONCORD OFFICE: 100 MAIN ST., SUITE 310 CONCORD, MA 01742</p>
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OWNER:	MICHAEL & HANNAH GRUAR 64 BEAVER BROOK ROAD LITTLETON, MASSACHUSETTS 01460
APPLICANT:	MICHAEL & HANNAH GRUAR 64 BEAVER BROOK ROAD LITTLETON, MASSACHUSETTS 01460



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STAMP DATE: 10/31/2025

DATE:	02/11/2019
DESIGN BY:	RP
DRAWN BY:	RP
CHECKED BY:	GS

SHARED RESIDENTIAL DRIVEWAY PLAN			
BEAVER BROOK RD. (M:R19 P:18)			
LITTLETON, MASSACHUSETTS 01460			
NO.	DATE	DESCRIPTION	BY
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV
3.	9/29/25	REVISED PER CONSERVATION COMMISSION	RPV
4.	10/31/25	REVISED PER ENGINEERING PEER REVIEW	RPV

JOB NO.	7462
DRAWING NO.	7462-SP
SHEET NO.	1 OF 4



NOTES:

A. SPECIFICATIONS

1. REPLICATION AREA SHALL BE STAKED PRIOR TO CONSTRUCTION. NOTIFY THE LITTLETON CONSERVATION COMMISSION FOR INSPECTION AFTER STAKING AND PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION AND EXCAVATED MATERIAL SHALL BE STORED OUTSIDE OF THE RESOURCE AREA.
3. PRIOR TO CONSTRUCTION CONTRACTOR SHALL PLACE SIGN CONTAINING DEP FILE NUMBER WHERE IT CAN BE SEEN FROM THE STREET.
4. CONTRACTOR SHALL PLACE EROSION AND SEDIMENTATION CONTROL BARRIER AS SHOWN HEREON PRIOR TO CONSTRUCTION. NOTIFY LITTLETON CONSERVATION COMMISSION FOR INSPECTION AFTER INSTALLATION AND PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY WETLAND SPECIALIST AFTER TO STAKING AND PLACEMENT OF EROSION CONTROL BARRIERS. WETLAND SPECIALIST TO ESTABLISH PHOTOMETRIC REFERENCE POINTS AT THIS TIME.
6. CONTRACTOR TO EXCAVATE ALL REPLICATION AREAS PRIOR TO EXCAVATING WITHIN THE EXISTING WETLAND FILL AREAS. EXCAVATE ALL REPLICATION AREA TO 12" BELOW FINAL FINISHED GRADES AS SHOWN HEREON. DE-WATER EXCAVATIONS AS REQUIRED.
7. WETLAND SOIL SHALL BE TRANSLOCATED WHEN POSSIBLE. SOILS TO BE USED AT THE REPLICATION SITE SHOULD BE USED IMMEDIATELY IF POSSIBLE OR STOCKPILED FOR AS LITTLE TIME AS POSSIBLE. WHILE STOCKPILED, THE SOILS SHOULD BE KEPT WET AND NOT BE ALLOWED TO DRY OUT. THE METHOD FOR MAINTAINING THE APPROPRIATE MOISTURE LEVEL SHOULD BE DOCUMENTED BY CONTRACTOR AND SUBMITTED TO THE PROJECT ENGINEER. CONTAMINATION OF THESE SOILS SHOULD BE PREVENTED. TRUCKS THAT HAVE PREVIOUSLY BEEN ON OTHER SITES SHOULD BE WASHED PRIOR TO INTRODUCTION TO THE REPLICATION SITE SO THAT MUD/DIRT WITH EXOTIC/INVASIVE SEEDS IS NOT INADVERTENTLY BROUGHT TO THE REPLICATION SITE.
8. PLACE TRANSLOCATED SOIL TO 12" DEPTH IN NEW REPLICATIONS AREAS TO FINAL FINISHED GRADES AS SHOWN HEREON.
9. CONTRACTOR TO PROVIDE ADDITIONAL WETLAND SOIL AS REQUIRED TO ACHIEVE THE 12" MINIMUM DEPTH IN THE REPLICATION AREAS. SUPPLEMENTAL SOIL SHALL CONSIST OF EQUAL VOLUMES OF A GOOD QUALITY LOAM AND WELL COMPOSTED ORGANIC MATERIAL. THE LOAM AND COMPOST SHOULD BE FREE OF LARGE STONES AND DEBRIS. CONTRACTOR TO FURNISH CONSERVATION COMMISSION WITH THE SOURCE OF OFF SITE SOIL ADDITIVES.
10. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE WETLAND SPECIALIST TO INSPECT THE WETLAND AREAS FOR THE PRESENCE OF INVASIVE SPECIES. INVASIVE SPECIES SHALL BE REMOVED PRIOR TO CONSTRUCTION.
11. CONTRACTOR TO PLACE TRANSLOCATED SOIL WITH SIMILAR DENSITY AS OBSERVED WITHIN THE EXISTING WETLAND AREA.
12. ALL PLANTING SHOULD OCCUR AT THE BEGINNING OR END OF THE GROWING SEASON UNLESS A WATERING PLAN IS SUBMITTED AND APPROVED BY THE COMMISSION. FALL PLANTINGS SHULD BE DONE BEFORE THE FIRST FROST. SHRUBS SHALL BE PLANTED IN ACCORDANCE WITH PLANTINGS SHOWN ON PLAN. REFER TO PLANTING DETAIL FOR TREES AND SHRUBS. SEED MIXTURES SHALL BE SOWN IN ACCORDANCE WITH NURSERY SPECIFICATIONS. EXISTING TREES SHALL BE EXCAVATED AROUND IN A MANOR TO MINIMIZE ROOT DAMAGE WHERE APPLICABLE. STABILIZED CANOPY FROM EXISTING TREES WILL FURTHER ENHANCE THE SUCCESS OF NEW PLANTINGS. NEW ENGLAND WETMIX SHALL BE SPREAD THROUGHOUT THE REPLICATION AREAS IN ACCORDANCE WITH NURSERY SPECIFICATIONS. UPON COMPLETION OF PLANTINGS REPLICATION AREAS SHALL BE COVERED WITH CLEAN STRAW HAY AND WATERED..

B. OVERSIGHT/MONITORING

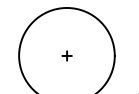
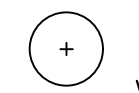


THE PROJECT SUPERVISOR OR MONITOR SHOULD BE PRESENT DURING THE MOST IMPORTANT TASKS IN REPLICATION CONSTRUCTION AS DESCRIBED BELOW.

1. INSPECT SITE FLAGGING BEFORE EXCAVATION OR EROSION CONTROL INSTALLATION BEGINS.
2. DURING EXCAVATION OF THE ALTERED AREA IF VEGETATION IS TO BE TRANSLOCATED TO THE REPLICATION AREA TO ENSURE SURVIVAL OF THE PLANTINGS.
3. BEFORE SOIL TRANSLOCATION OR ADDITION INTO THE REPLICATION AREA TO INSPECT EXCAVATED ELEVATIONS AND LIKELY POST-CONSTRUCTION GROUND WATER ELEVATIONS FOR THE REPLICATION AREA.
4. AFTER EACH STAGE OF GRADING WORK IS COMPLETED TO INSPECT FINISHED ELEVATIONS.
5. DURING PLANTING AND SEEDING AND AFTER THE FIRST MONTH OF THE GROWING SEASON TO INSPECT PROPAGATION TECHNIQUES.
6. AFTER ONE GROWING SEASON TO OBSERVE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE.
7. AFTER TWO GROWING SEASONS TO DETERMINE VEGETATION DEVELOPMENT AND REGULATORY COMPLIANCE.
8. AFTER SUBSEQUENT GROWING SEASONS, IF A GREATER THAN 2-YEAR MONITORING PROGRAM IS REQUIRED.
9. MONITORING SHALL BE PERFORMED IN ACCORDANCE WITH THE LITTLETON WETLAND REGULATIONS.
10. PLANTS SHALL BE REPLACED AS NECESSARY TO ENSURE A 75% SURVIVAL RATE.
11. EROSION CONTROLS SHALL BE REMOVED PRIOR TO ISSUANCE OF A CERTIFICATE OF COMPLIANCE.

C. EROSION CONTROL SPECIFICATIONS

1. WORK SHALL BE PERFORMED DURING A DRY PERIOD TO THE MAX EXTENT POSSIBLE.
2. PLACE EROSION CONTROL BARRIER (SILT FENCE ONLY AROUND REPLICATION AREAS) PRIOR TO CONSTRUCTION. NOTIFY THE BOLTON CONSERVATION COMMISSION AFTER INSTALLATION FOR INSPECTION.

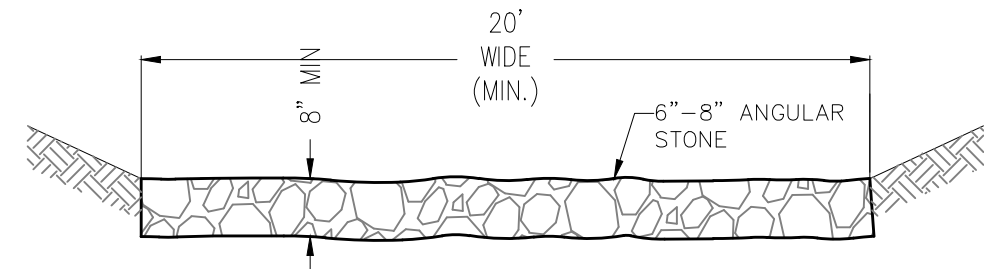
WETLAND PLANTING SCHEDULE

SYMBOL:	COMMON NAME:	BOTANICAL NAME:	SIZE:	SPACING:	QUANTITY:
	RED MAPLE	ACER RUBRUM	B&B 6-8' HEIGHT	AS SHOWN	3
	HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	#3 CONTAINER 18-24" HEIGHT	AS SHOWN	6
	CINNAMON FERN	OSMUNDA CINNAMOMEA	#1 CONTAINER	AS SHOWN	20
	RED OSIER DOGWOOD	CORNUS SERICEA	#3 CONTAINER 18-24" HEIGHT	AS SHOWN	5

NOTE:THE ENTIRE REPLICATION AREA WILL BE SEEDED WITH "NEW ENGLAND WET MIX" (WETLAND SEED MIX) AT AN APPLICATION RATE OF 1 LB./2500 S.F.

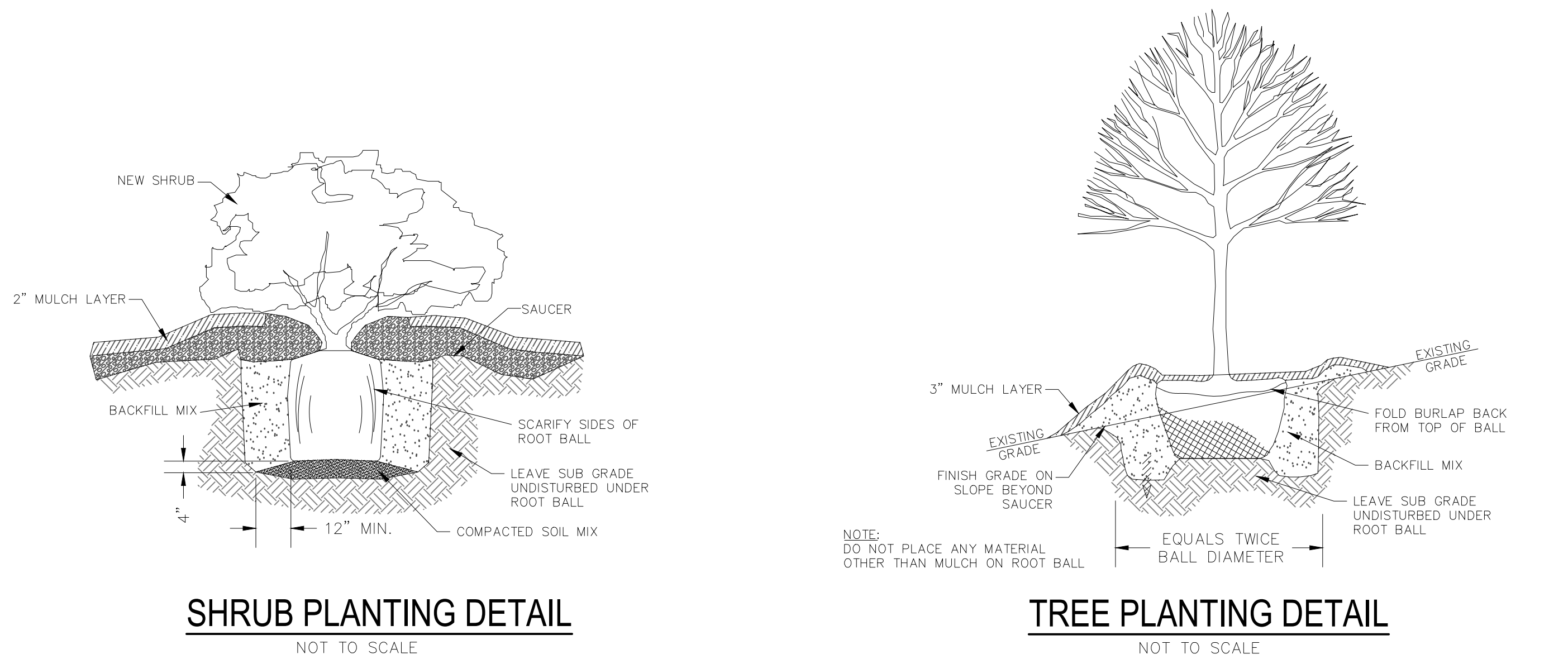
SEEDING:  
THE MIX MAY BE APPLIED BY MECHANICAL SPREADER, OR BY HAND. WHEN APPLYING ON BARE SOIL, RAKE THE SOIL TO CREATE GROOVES, APPLY SEED, THEN LIGHTLY RAKE OVER. IN NEW ENGLAND, THE BEST RESULTS ARE OBTAINED WITH AN EARLY SPRING SEEDING. SUMMER SEEDING CAN BE SUCCESSFUL WITH A LIGHT MULCHING OF WEED FREE STRAW TO CONSERVE MOISTURE. LATE FALL AND WINTER DORMANT SEEDING REQUIRE A SLIGHT INCREASE IN THE SEEING RATE. FERTILIZATION IS NOT REQUIRED UNLESS THE SOIL IS PARTICULARLY INFERTILE.

NOTE:  
LENGTH = 50' MINIMUM  
SEE PLAN FOR LOCATION(S)



TEMP. CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

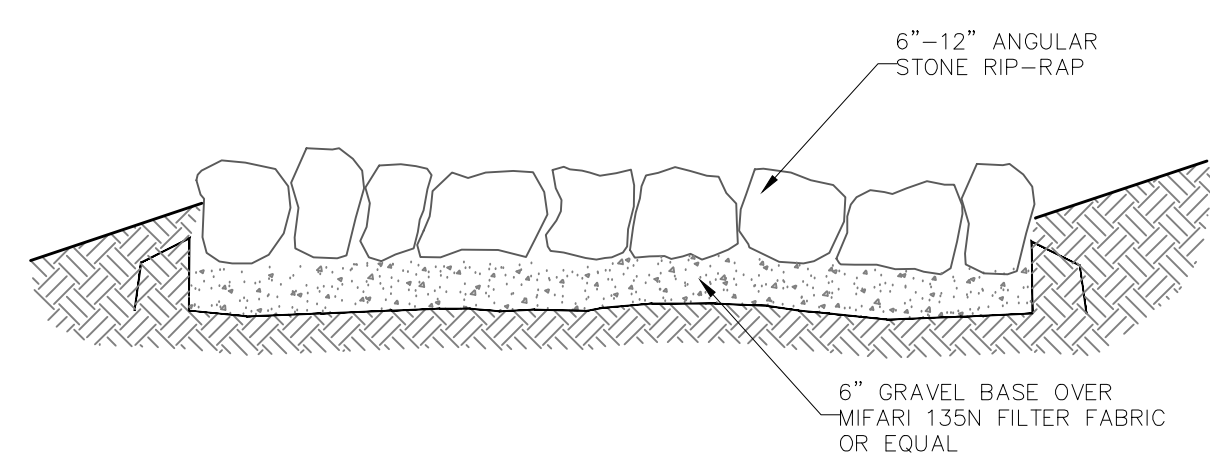


SHRUB PLANTING DETAIL

NOT TO SCALE

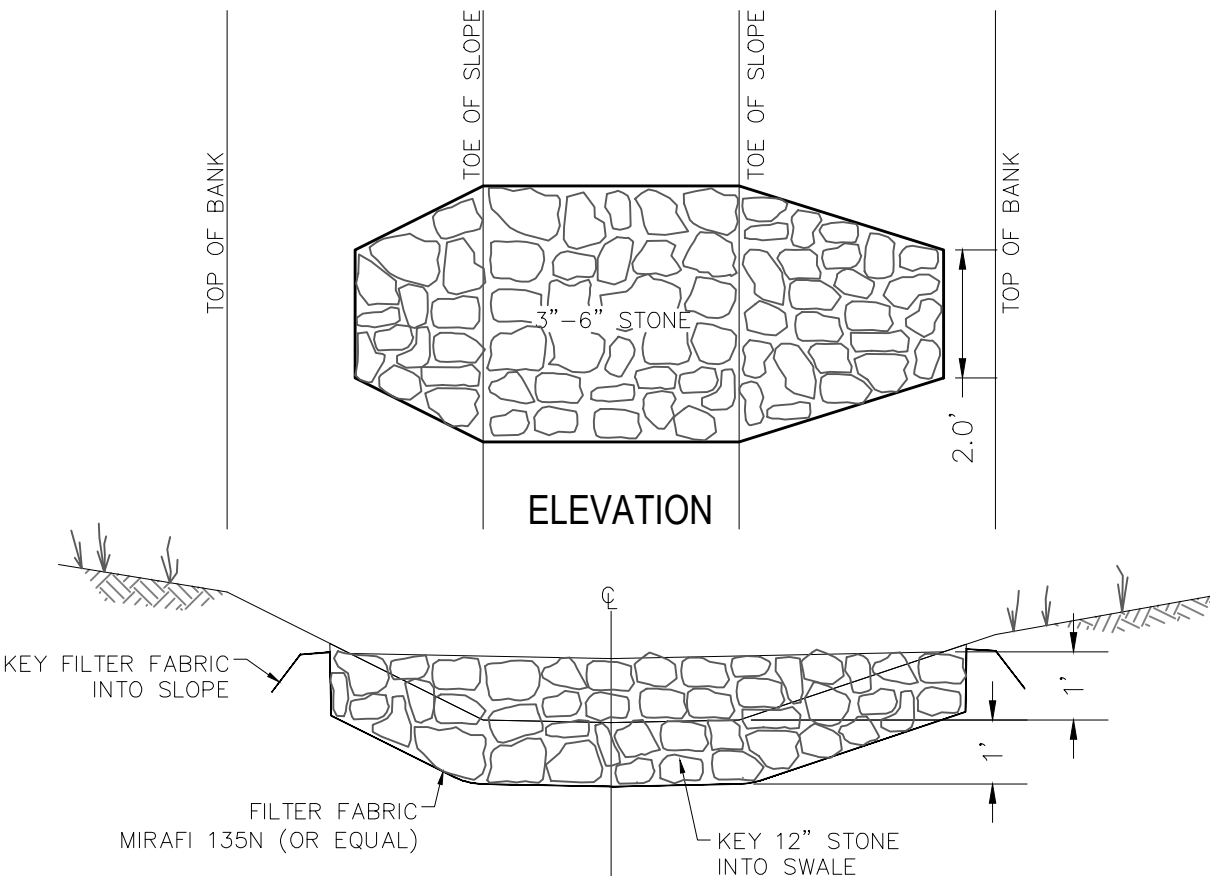
TREE PLANTING DETAIL

NOT TO SCALE



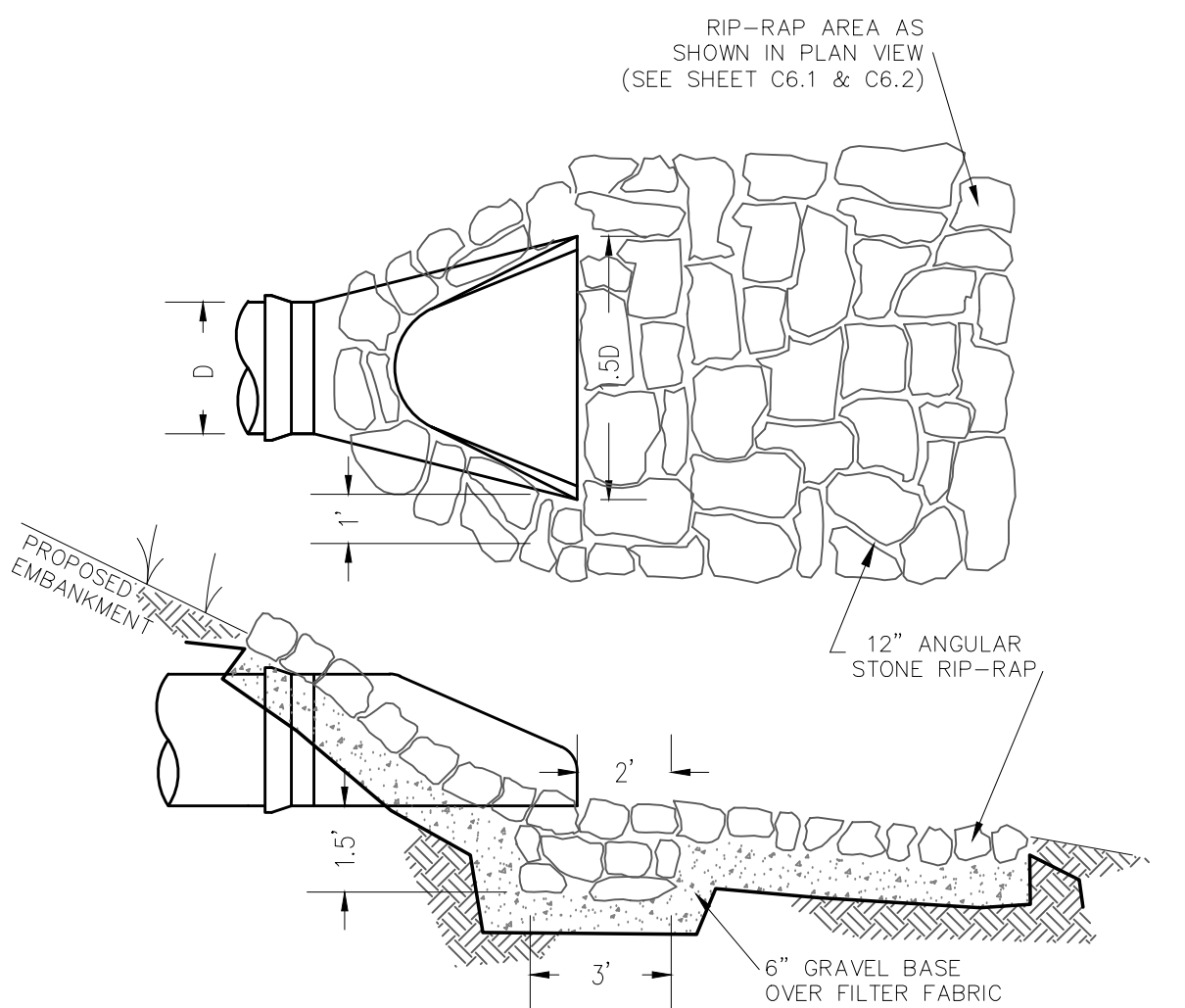
STONE RIP-RAP DETAIL

NOT TO SCALE



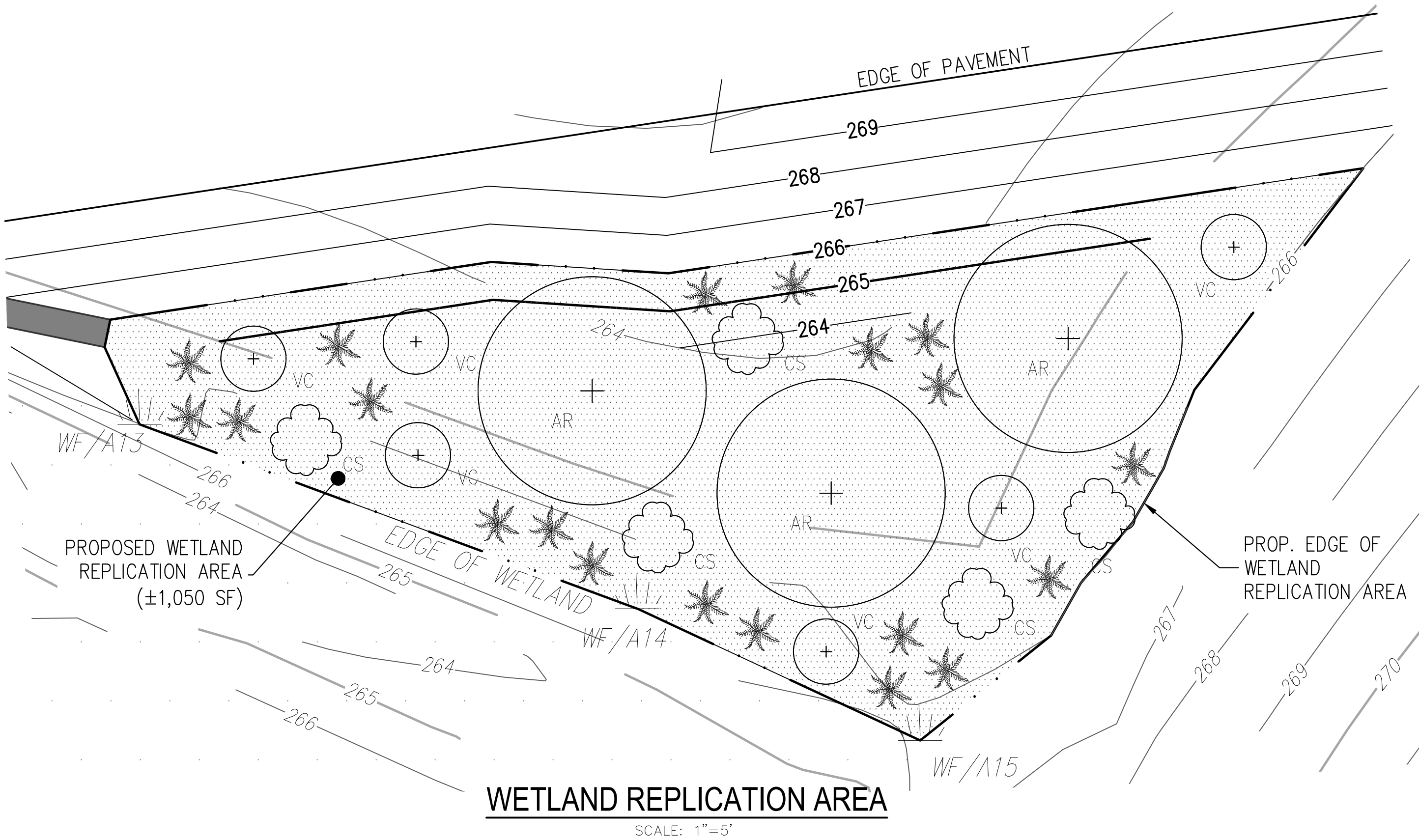
CROSS-SECTION  
CHECK DAM DETAIL

SCALE: 1"=3'



FLARED END SECTION

NOT TO SCALE



WETLAND REPLICATION AREA

SCALE: 1"=5'

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

**DILLIS & ROY**  
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

CORPORATE OFFICE: 1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462 978-779-6091 www.dillisandroy.com

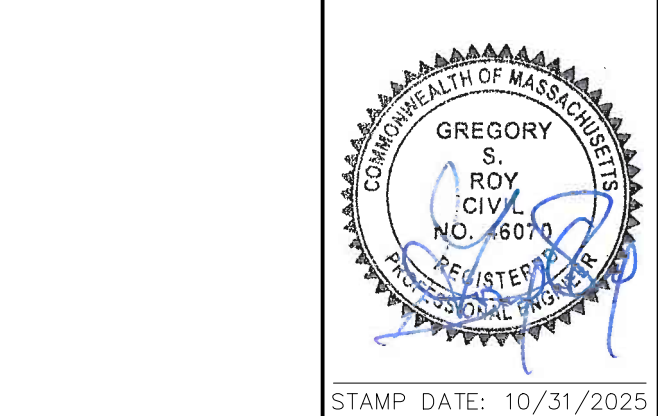
CONCORD OFFICE: 100 MAIN ST., SUITE 310 CONCORD, MA 01742

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SCALE:

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DATE: 02/11/25

DESIGN BY: RPV

DRAWN BY: RPV

CHECKED BY: GSR

CONSTRUCTION DETAILS BEAVER BROOK RD. (M:R19 P:18) LITTLETON, MASSACHUSETTS 01460			
NO.	DATE	DESCRIPTION	BY
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV
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4.	10/31/25	REVISED PER ENGINEERING PEER REVIEW	RPV

JOB NO. 7462

DRAWING NO. 7462-SP

SHEET NO. 2 OF 4



EROSION CONTROL NOTES:

A. MANAGEMENT STRATEGIES:

- CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE ON SITE.
- AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. RETAIN EXISTING VEGETATION WHERE FEASIBLE.
- THERE SHALL BE NO STORAGE OF ANY KIND OF ANY CHEMICALS, PESTICIDES, FUELS AND OTHER POTENTIALLY TOXIC OR HAZARDOUS MATERIALS ON SITE.
- NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED ON THE SITE.
- STUMPS AND OTHER WOOD DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH THE "POLICY ON THE DISPOSAL OF WOODWASTES" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS, DATED AUGUST 14, 1987.
- THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
- USE OF FERTILIZER CONTAINING NITROGEN AND PHOSPHORUS, PESTICIDES & HERBICIDES LOCATED WITHIN THE 100-FOOT AND 50-FOOT BUFFER ZONES IS PROHIBITED.

B. MAINTENANCE/ PERFORMANCE STANDARDS:

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL WITH AN ACCUMULATION OF 1/2" OR MORE. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

- THE SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR TEARS, DETERIORATION, AND UNDERMINING.
- ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE RESEED AS NEEDED.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO THE PUBLIC ROAD. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2 INCH STONE AS CONDITIONS DEMAND AND OR CLEANOUT/REPLACEMENT OF STONE IF CLOGGING OR SEDIMENTATION OCCURS. ALL MATERIALS SPILLED DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO THE TOWN ROAD MUST BE REMOVED DAILY BY SWEEPING OR OTHER SUITABLE MEANS.
- ALL AREAS ON SITE SUBJECT TO EROSION/SEDIMENTATION SHALL BE INSPECTED ON A REGULAR BASIS. ALL ITEMS SPECIFIED ON THIS AND OTHER PLANS SHALL BE INSPECTED TO VERIFY THAT THEY ARE OPERATING AS DESIGNED AND INTENDED. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MAINTAIN AND REPAIR ALL STRUCTURES.
- THE ENTIRE DRAINAGE SYSTEM SHALL BE INSPECTED ON A REGULAR BASIS AND PRIOR TO AND IMMEDIATELY AFTER ANY RAINFALL EVENT WHILE THE SITE IS DISTURBED.
  - DRAINAGE SWALES DURING CONSTRUCTION SHALL BE INSPECTED MONTHLY FOR EROSION, SEDIMENT ACCUMULATION AND LEAF BUILDUP. ALL ERODED AREAS SHALL BE STABILIZED. SEDIMENT SHALL BE REMOVED AND LEAF LITTER REMOVED.
  - DEWATERING OF EXCAVATIONS DURING CONSTRUCTION SHALL BE ADDRESSED ON AN INDIVIDUAL BASIS AS NEEDED. IF TEMPORARY DEWATERING IS REQUIRED ON THE SITE OR IN CLOSE PROXIMITY TO THE 100 FT BUFFER ZONE, SEDIMENT BASINS SHALL BE CONSTRUCTED OR SILT TRAPS SHALL BE UTILIZED. SILT TRAPS AND SEDIMENT BASINS SHALL BE MAINTAINED DURING THE DEWATERING OPERATION.

C. TEMPORARY MEASURES:

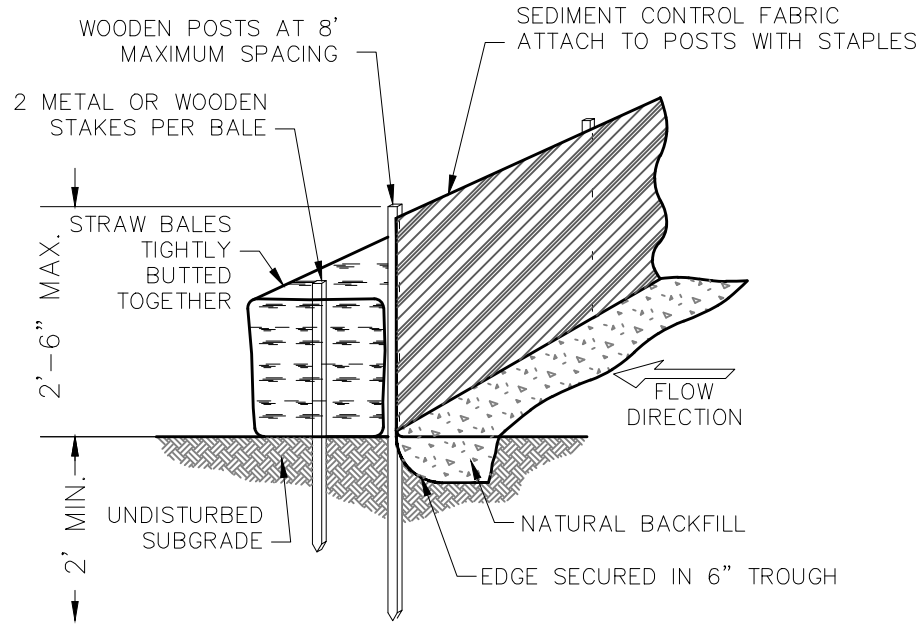
- PLACE SILT FENCE AND SILT FENCE WITH STRAW BALES AS SHOWN ON THE EROSION CONTROL PLAN.
- IF LOAM IS PLACED OUTSIDE OF THE NORMAL GROWING SEASON SILT FENCE OR STRAW WADDLES SHALL BE PLACED BETWEEN THE LAWN AREA AND PAVEMENT.
- CONSTRUCT TEMPORARY STONE PAD AT EXIT TO THE SITE AS SHOWN ON THE APPROVED PLAN. DURING DRY PERIODS, PROVIDE MEANS FOR MITIGATION OF DUST, SUCH AS WATERING OF EXPOSED AREAS.
- STOCKPILE LOCATIONS SHALL BE WITHIN THE PROPOSED LIMIT OF WORK. PLACE SILT FENCE AROUND ALL STOCK PILE AREAS. PILES LEFT FOR 21 DAYS OR MORE SHALL BE SEED OR COVER WITH PLASTIC SHEETING.
- WASTE DISPOSAL RECEPTACLES AND TRAILERS WILL BE USED FOR THE DISPOSAL OF CONSTRUCTION DEBRIS, WHICH WILL BE REMOVED FROM THE SITE ACCORDING TO STATE, LOCAL AND FEDERAL GUIDELINES. CONSTRUCTION DEBRIS WILL INCLUDE PAVEMENT, UTILITY, EARTH AND BUILDING MATERIALS THAT CANNOT BE REUSED. THE RECEPTACLES WILL BE LOCATED ON-SITE AND COVERED.
- PLACE STRAW BALES AROUND CATCH BASINS AND OTHER STORM DRAIN INLETS AFTER CONSTRUCTED. CATCH BASIN INSERTS MAY BE USED IN AREAS WHERE MANEUVERABILITY AROUND APPURTENANCES IS AN ISSUE.
- IN ADDITION TO WHAT IS DEPICTED ON THE PLANS, SILT FENCE SHALL BE PLACED DOWN GRADIENT (UP-GRADIENT OF ANY STORM WATER APPURTENANCES, WETLAND BUFFER ZONES AND AREAS TO BE LEFT UNDISTURBED) TO EACH STRUCTURE DURING THE CONSTRUCTION PROCESS UNTIL THE DISTURBED AREA IS RESTORED.

D. PERMANENT STABILIZATION:

- SLOPES IN EXCESS OF 3 TO 1 SHALL BE HYDRO-MULCHED. LOAMED (6" MIN.) AND SEEDED SLOPES WILL BE PROTECTED FROM WASHOUT BY MULCHING OR OTHER ACCEPTABLE SLOPE PROTECTION UNTIL VEGETATION IS ESTABLISHED.
- SLOPES STEEPER THAN 3 TO 1 SHALL BE RESTORED WITH 6" OF LOAM (MIN.), SEED, FERTILIZER AND STAKED DOWN EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC 150 BN, OR EQUAL). INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
- THE TEMPORARY MEASURES WILL NOT BE REMOVED UNTIL PERMANENT STABILIZATION HAS OCCURRED.
- DESIGNATED RECHARGE AREAS SHALL BE PROTECTED FROM COMPACTION OF SOILS DURING AND AFTER CONSTRUCTION.

E. DEWATERING:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OPERATIONS DURING CONSTRUCTION.
- DEWATERING SHALL BE PREFORMED TO ACHIEVE CONSTRUCTION OF FOOTINGS, FOUNDATIONS, PAVEMENTS, AND OTHER SUBSURFACE UTILITIES AND APPURTENANCES IN DRY CONDITIONS.
- DEWATERING SHALL BE PERFORMED THROUGH THE USE OF IN TRENCH SUMP PUMPS, WELLS, DRAINS AND OTHER ITEMS NECESSARY FOR CONSTRUCTION. CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, OPERATE AND REMOVE ALL DEWATERING DEVICES AND APPURTENANCES AS REQUIRED FOR CONSTRUCTION. SUCH ACTIVITIES SHALL BE INCLUDED IN THE CONTRACTORS BID.



EROSION CONTROL BARRIER

NOT TO SCALE

BUFFER ZONE CALCULATIONS

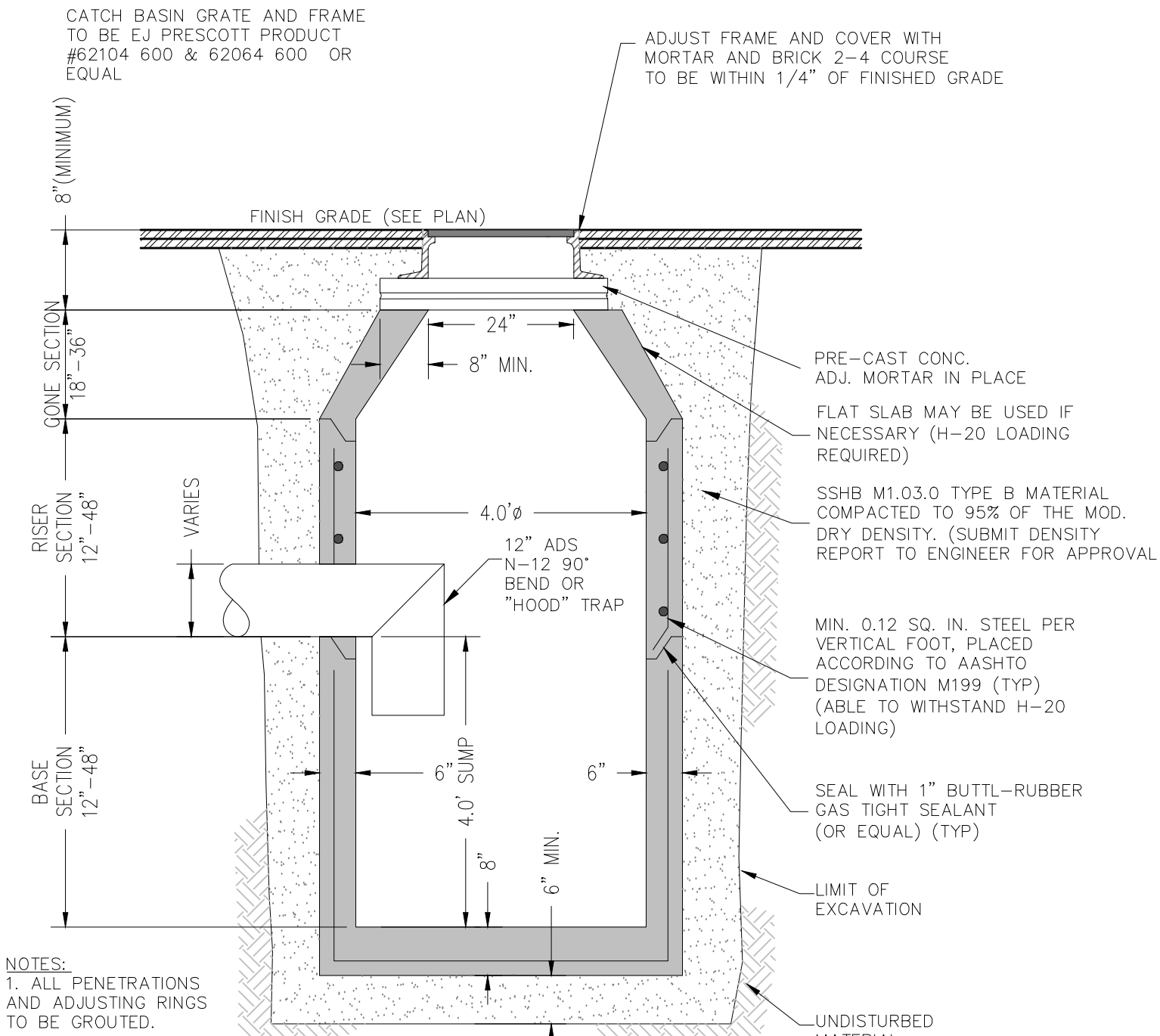
LOT 1 DESCRIPTION	VALUE
100-FOOT BUFFER ZONE	5,540 SF OF DISTURBANCE
50-FOOT BUFFER ZONE	5,524 SF OF DISTURBANCE
BORDERING VEGETATED WETLAND	306 SF OF DISTURBANCE (NO FILL)
PROP. WETLAND REPLICATION	1,050 SF OF MITIGATION

\*100-FOOT BUFFER ZONE INCLUDES 1,756 SF OF AREA DESIGNATED FOR STORMWATER MANAGEMENT

LOT 3 DESCRIPTION	VALUE
100-FOOT BUFFER ZONE	7,425 SF OF DISTURBANCE
50-FOOT BUFFER ZONE	0 SF OF DISTURBANCE
BORDERING VEGETATED WETLAND	0 SF OF DISTURBANCE

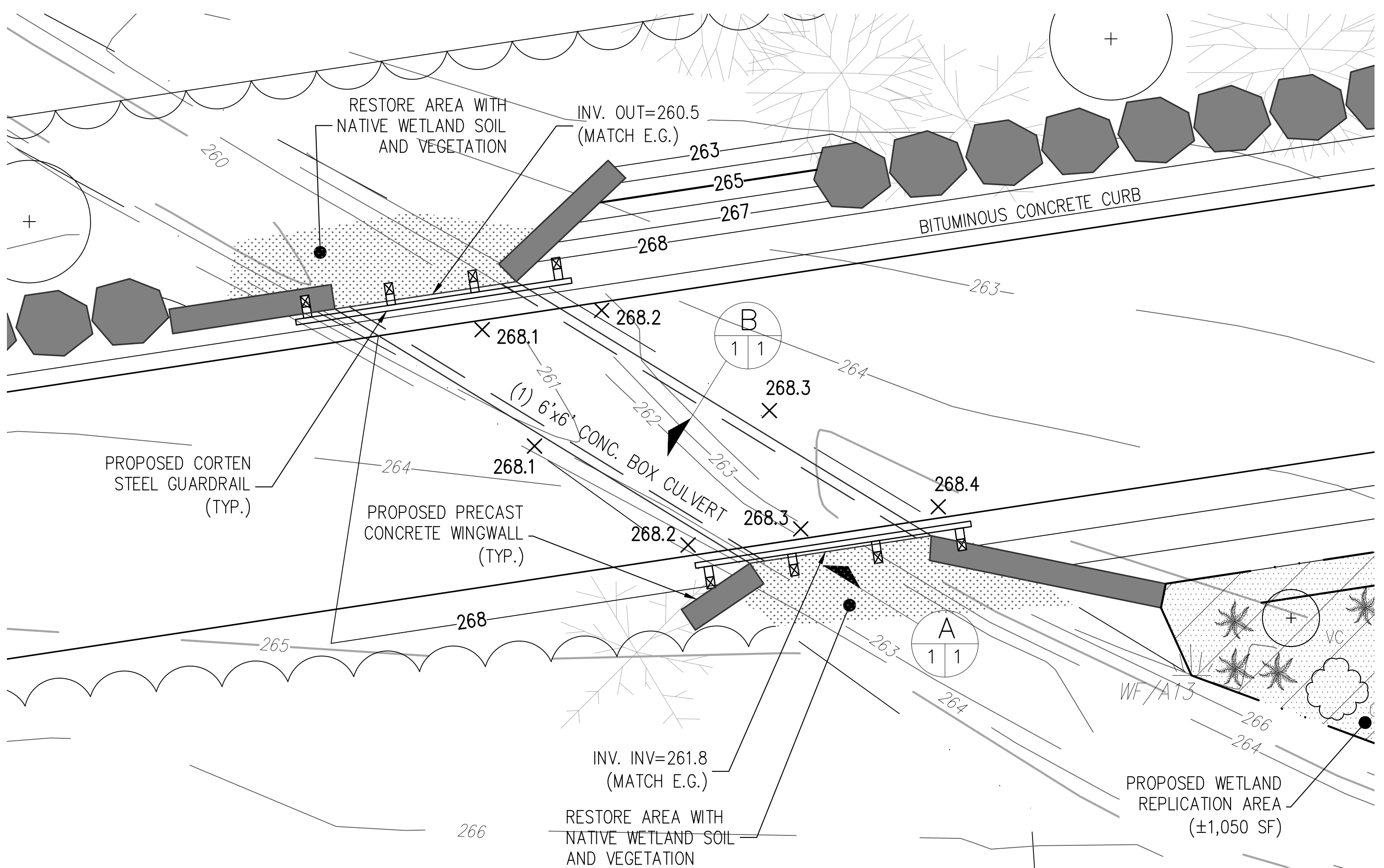
\*100-FOOT BUFFER ZONE INCLUDES 5,526 SF OF AREA DESIGNATED FOR STORMWATER MANAGEMENT

SOIL TEST DATA							NAME OF SOIL EVALUATOR: DILLIS & ROY CIVIL DESIGN GROUP	
							WILLIAM J. "JACK" MALONEY, JR. (SE-13704)	
DEEP TEST PIT: SWTP-1	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-4"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	4-14"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	14-36"	C	L.S.	10YR 7/6	NONE	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 264.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							> 36" (ELEVATION = >261.34)	
DEEP TEST PIT: SWTP-2	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-6"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	6-12"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	12-36"	C	L.S.	10YR 7/6	NONE	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 263.14)								
ESTIMATED SEASONAL HIGH GROUND WATER							> 36" (ELEVATION = >260.14)	
DEEP TEST PIT: SWTP-3	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-4"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	4-11"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	11-32"	C	L.S.	2.5YR 7/3	Ø 29"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 239.14)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 29" (ELEVATION = 236.64)	
DEEP TEST PIT: SWTP-4	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 9/11/25	0-6"	A	S.L.	10YR 4/3	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	6-13"	B	L.S.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	13-34"	C	L.S.	2.5YR 7/3	Ø 31"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 239.24)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 31" (ELEVATION = 236.64)	
DEEP TEST PIT: 724-2	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-36"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 264.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 261.54)	
DEEP TEST PIT: 724-3	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-10"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	10-20"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	20-72"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 260.04)							Ø 108"	
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 262.04)	
DEEP TEST PIT: 724-4	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-72"	C1	L.S.	2.5Y 6/2	Ø 48"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 260.04)							Ø 120"	
ESTIMATED SEASONAL HIGH GROUND WATER							AT 48" (ELEVATION = 256.04)	
DEEP TEST PIT: 724-5	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-30"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	30-84"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 261.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 258.04)	
DEEP TEST PIT: 724-6	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/2	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-20"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	20-108"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 251.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 248.54)	
DEEP TEST PIT: 724-7	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/2	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-36"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 249.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 246.04)	
DEEP TEST PIT: 724-8	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/2	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-24"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	24-108"	C1	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 246.04)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 243.04)	
DEEP TEST PIT: 724-9	DEPTH	HOR.	TEX.	COLOR	MOTT.	G.W.	OTHER	
DATE OF TEST: 7/11/24	0-8"	A	S.L.	10YR 3/4	NONE	NONE	CRUMB, FRABLE	
REFUSAL AT: NONE	8-30"	B	S.L.	10YR 5/6	NONE	NONE	S.A.B., FRABLE	
OBSERVED	30-100"	C	L.S.	2.5Y 6/2	Ø 36"	NONE	GRANULAR, FIRM	
(SURFACE ELEV. = 246.54)								
ESTIMATED SEASONAL HIGH GROUND WATER							AT 36" (ELEVATION = 243.54)	



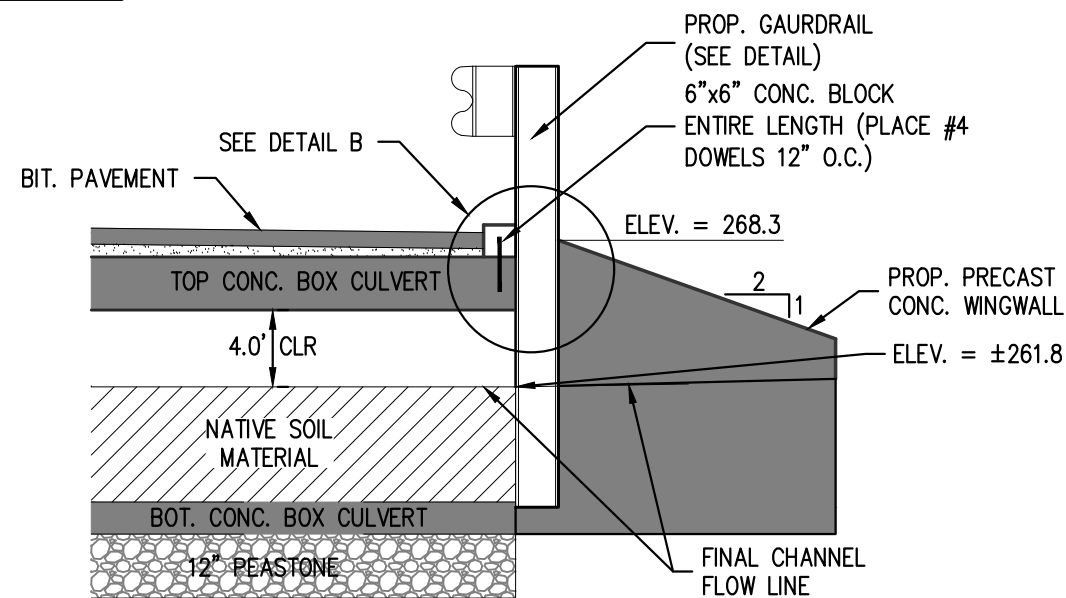
DEEP SUMP CONCRETE CATCH BASIN

NOT TO SCALE

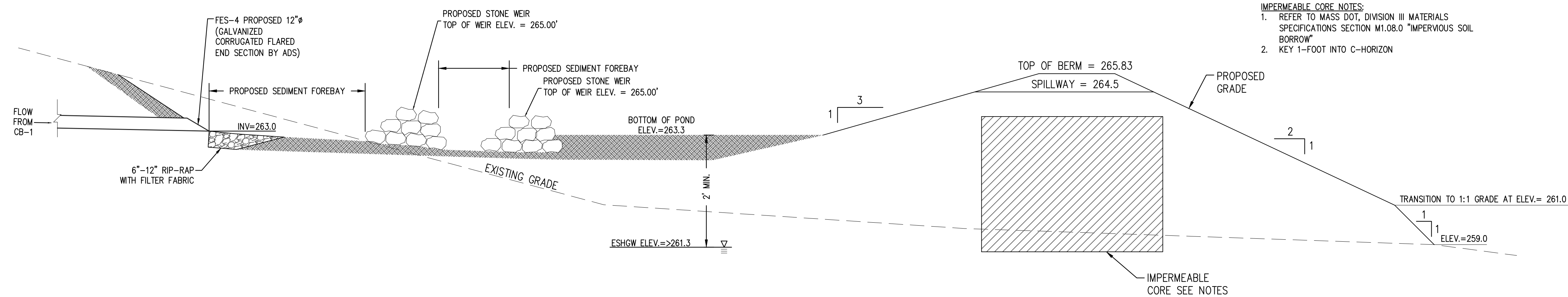


WETLAND CROSSING INSET "A"

SCALE: 1"=5'

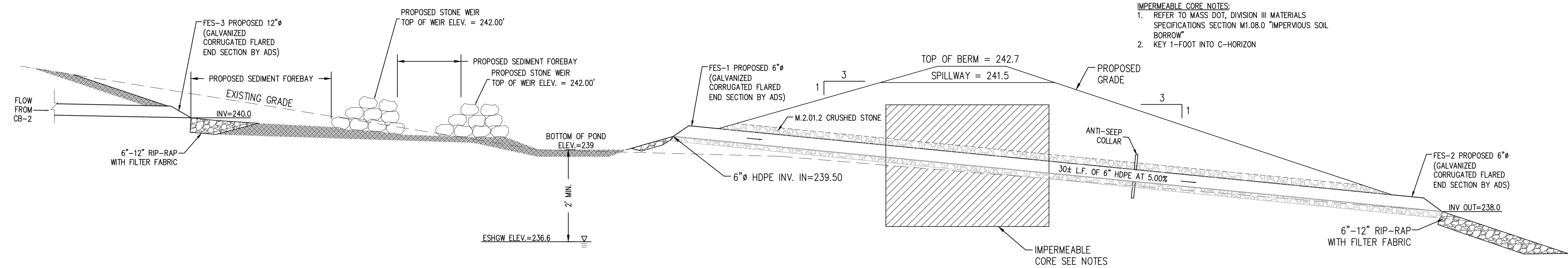






INFILTRATION BASIN #1 BERM CROSS-SECTION DETAIL

NOT TO SCALE



INFILTRATION BASIN #2 BERM CROSS-SECTION DETAIL

NOT TO SCALE

ISSUED FOR PERMIT - NOT CONSTRUCTION

PREPARED BY:

**DILLIS & ROY**  
CIVIL DESIGN GROUP

CIVIL ENGINEERS   LAND SURVEYORS   WETLAND CONSULTANTS

CORPORATE OFFICE:  
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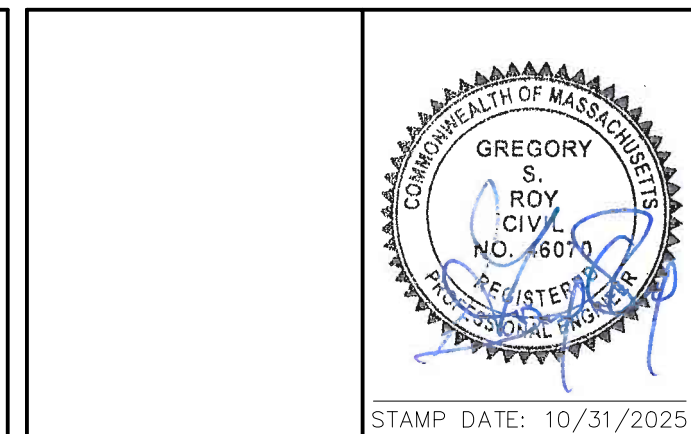
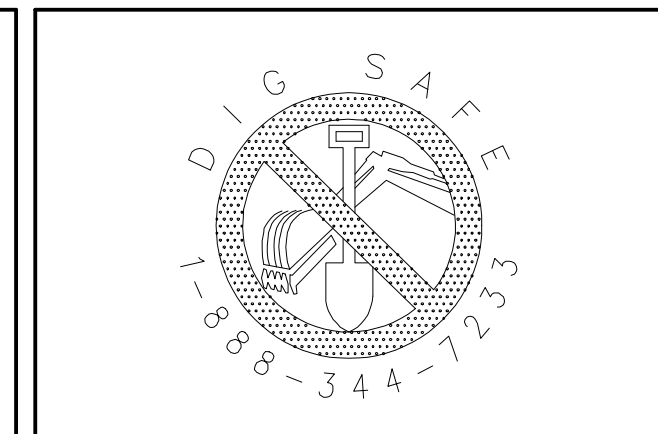
CONCORD OFFICE:  
100 MAIN ST., SUITE 310  
CONCORD, MA 01742

OWNER:  
**MICHAEL & HANNAH GRUAR**  
64 BEAVER BROOK ROAD  
LITTLETON, MASSACHUSETTS 01460

APPLICANT:  
**MICHAEL & HANNAH GRUAR**  
64 BEAVER BROOK ROAD  
LITTLETON, MASSACHUSETTS 01460

SCALE:

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DATE:	02/11/25
DESIGN BY:	RPV
DRAWN BY:	RPV
CHECKED BY:	GSR

CONSTRUCTION DETAILS BEAVER BROOK RD. (M:R19 P:18) LITTLETON, MASSACHUSETTS 01460				
NO.	DATE	DESCRIPTION	BY	
1.	6/18/25	REVISED PER CONSERVATION COMMISSION & DEP	RPV	
2.	9/15/25	REVISED PER ENGINEERING PEER REVIEW	RPV	
3.	9/29/25	REVISED PER CONSERVATION COMMISSION	RPV	
4.	10/31/25	REVISED PER ENGINEERING PEER REVIEW	RPV	

JOB NO. 7462

DRAWING NO. 7462-SP

SHEET NO. **4** OF 4