PROPOSED COMPREHENSIVE PERMIT PLAN SET

500 MAIN STREET

TITLE SHEET

LOCUS MAP
SCALE: 1" = 1,000'

ZONING INFORMATION

ZONING DISTRICT: GENERAL BUSINESS (GB)
OVERLAY DISTRICT: N/A

DESCRIPTION	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA	40,000 SF	– SF	* (1)
MIN. FRONTAGE	175 FT	110 FT	110 FT
MIN. FRONT YARD	20 FT	>20 FT	>20 FT
MIN. SIDE YARD	15 FT	>15 FT	>15 FT
MIN. REAR YARD	15 FT	>15 FT	>15 FT
MAX. IMPREVIOUS COVERAGE	50%	–%	<50%%
MAX. BUILDING HEIGHT	35 FT	– FT	58.08'
MAX. STORIES	3	3	–
MAX. GSF	–	–	277,788 SF
UNITS PER ACRE	2	–	7.56
MIN. NUMBER OF PARKING SPACES/UNIT	1.5	–	2
MAX. NUMBER OF PARKING SPACES/UNIT	3	–	2
TOTAL PARKING	316	–	404

(1) REFER TO PLAN OF LAND FOR 500 MAIN STREET GROTON MA DATED 2/09/2023

SHEET INDEX

PREPARED BY:
DILLIS & ROY
CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
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PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

APPLICANT:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

SCALE:

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46
PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

TITLE SHEET
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-TITLE
SHEET NO. C1.1

NOTES/REFERENCES:

A. GENERAL NOTES:

1. BASE MAPPING WAS PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP IN 2022.
2. PROPERTY LINE INFORMATION SHOWN ON THIS PLAN IS BASED ON FIELD MEASUREMENT AND RECORD PLANS AND DEEDS.
3. ELEVATIONS REFER TO NGVD 88.
4. SEVERAL BORDERING VEGETATED WETLANDS ARE LOCATED ON AND AJACENT TO THE PROPERTY AND HAVE BEEN SHOWN ON THE SITE PLANS.
5. SOIL TESTING DEPICTED ON THESE PLANS WAS PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP, INC.
6. EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
7. THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION UNLESS IT HAS BEEN ISSUED FOR CONSTRUCTION.

B. LAYOUT AND MATERIAL NOTES:

1. TOWNHOME DRIVEWAYS SHALL BE 10-FEET IN WIDTH FOR EACH PROPOSED UNIT.
2. DRIVEWAYS SHALL BE 1 ½" BITUMINOUS WEARING COURSE OVER, 1 ½" BITUMINOUS BASE COURSE OVER, 8" OF GRAVEL MEETING M1.03.0, TYPE B.
3. REFER TO THE TYPICAL ROAD SECTION FOR REQUIRED GRAVEL AND BITUMINOUS SPECIFICATIONS.
4. THE PROPOSED ROAD WIDTH SHALL BE 24-FEET WIDE MEASURED FROM GUTTER LINE TO GUTTER LINE.
5. CURB ROUNDS AT THE INTERSECTION OF MAIN STREET & THE PROPOSED ROAD SHALL BE GRANITE.
6. CURBING THROUGH THE REMAINDER OF THE DEVELOPMENT SHALL BE VERTICAL BIT. BERM (TYPE II).

C. UTILITY NOTES:

1. SEWER:
   - 1.1. THE ENTIRE DEVELOPMENT WILL BE SERVED BY MUNICIPAL SEWER.
   - 1.2. THE GRAVITY SEWER MAIN SHALL BE 10" HDPE PVC.
   - 1.3. REFER TO THE SEWER MANHOLE DETAIL ON THE CONSTRUCTION DETAILS PAGE FOR SPECIFICATIONS & INSTALLATION REQUIREMENTS.
   - 1.4. ALL SEWER MAIN SHALL BE BACKFILLED WITH MAGNETIC SEWER TAPE.
   - 1.5. CONTRACTOR TO FURNISH ALL APPURTENANCES.
   - 1.6. CONTRACTOR SHALL COORDINATE WITH THE GROTON SEWER DEPARTMENT FOR THE CONNECTION THE EXISTING SEWER MANHOLE IN MAIN STREET.
2. WATER:
   - 2.1. ALL WATER MAINS, VALVES, HYDRANTS, FITTINGS AND OTHER APPURTENANCES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE GROTON WATER DEPARTMENT.
   - 2.2. CONTRACTOR TO OBTAIN ALL REQUIRED APPROVALS AND OBTAIN REQUIRED INSPECTION SCHEDULES PRIOR TO CONSTRUCTION OF THE WATER MAIN.
   - 2.3. CONTRACTOR SHALL COORDINATE WITH THE WATER DEPARTMENT TO DETERMINE THE APPROPRIATE CONNECTION AND VALVE CONFIGURATION AT THE INTERSECTION OF MAIN STREET AND THE PROPOSED ROAD.
   - 2.4. PROPOSED WATER MAIN SHALL BE 8"ø.
   - 2.5. VALVES SHALL BE RESILIENT WEDGE GATE VALVES AS MANUFACTURED BY WATEROUS SERIES 500, OR APPROVED EQUAL. ALL BOLTS SHALL BE STAINLESS STEEL. VALVES SHALL OPEN LEFT.
   - 2.6. FIRE HYDRANTS SHALL BE AS MANUFACTURED BY WATEROUS WB-67, OR CLOW MEDALLION WITH NO SUBSTITUTIONS. HYDRANTS SHALL OPEN LEFT.
   - 2.7. WATER SERVICES SHALL BE 1"ø POLYETHYLENE RATED FOR 200 PSI. EACH SERVICE TO BE EQUIPPED WITH A CORP STOP AT THE MAIN, A CURB STOP AND BOX, WATER METER AND PRESSURE REDUCING VALVE. TRACER WIRE SHALL BE RUN WITH THE SERVICE LINE.
   - 2.8. WATER MAIN SHALL BE TESTED IN ACCORDANCE WITH THE GROTON WATER DEPARTMENT SPECIFICATIONS.
3. ELECTRICAL, TELEPHONE & CABLE:
   - 3.1. CONTRACTOR SHALL COORDINATE WITH THE GROTON ELECTRIC LIGHT DEPARTMENT FOR THE DISCONNECTION OF THE ELECTRIC UTILITIES CURRENTLY SERVING THE PROPERTY (POLES, TRANSFORMERS, ELECTRIC LINE, ETC.)
   - 3.2. CONTRACTOR SHALL COORDINATE WITH THE GROTON ELECTRIC LIGHT DEPARTMENT FOR THE PROPOSED CONNECTION.
   - 3.3. CONTRACTOR TO PROVIDE ALL REQUIRED CONDUITS FOR ELECTRIC, TELEPHONE AND CABLE SERVICE TO THE DEVELOPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY.
   - 3.4. QUANTITY, LOCATION AND SIZE OF PROPOSED TRANSFORMERS, PULL BOXES, SERVICE BOXES, TELEPHONE DISCONNECTS, ETC. SHALL BE SPECIFIED BY THE APPLICABLE UTILITY COMPANY.
   - 3.5. OWNER SHALL PROVIDE THE REQUIRED EASEMENTS TO THE UTILITY COMPANY AS REQUIRED FOR THE INSTALLATION OF THE INFRASTRUCTURE.

D. GRADING NOTES:

1. GRADES SHOWN ON THIS PLAN REFER TO FINAL FINISHED GRADES.
2. REFER TO THE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION PERTAINING TO TYPICAL CROSS SECTIONS AND OTHER PERTINENT DETAILS.
3. ALL DRIVEWAYS SHALL BE GRADED AS DEPICTED ON THE SITE PLANS.
4. REFER TO THE ROAD PROFILE (C6.1, C6.2, C6.3) FOR PROPOSED ROAD ELEVATIONS.

E. DRAINAGE NOTES:

1. STORM DRAIN PIPE TO BE SMOOTH LINED HDPE PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. OR APPROVED EQUAL.
2. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO MINIMIZE COMPACTION OF SOILS IN RECHARGE AREAS BOTH DURING AND AFTER CONSTRUCTION.
3. REFER TO STORMWATER MANAGEMENT NOTES FOR ADDITIONAL INFORMATION RELATIVE TO THE PROPOSED DRAINAGE BASIN.

F. RESTORATION NOTES:

1. ALL DISTURBED AREAS SHALL BE RESTORED WITH A MINIMUM OF 4 INCHES OF TOPSOIL SEED, FERTILIZER AND MULCH.
2. STREET TREES SHALL BE 3-INCH CALIPER MEASURED FOUR FEET FROM THE GROUND LEVEL, TEN FEET IN HEIGHT, AND WARRANTED BY THE NURSERY FOR AT LEAST 1-YEAR.
3. TREES SHALL BE NATIVE TO MASSACHUSETTS.
4. REFER TO TREE PLANTING DETAIL ON THE CONSTRUCTION DETAILS SHEETS PROPOSED STREET TREES.

EROSION CONTROL NOTES:

A. MANAGEMENT STRATEGIES:

1. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY DISTURBANCE ON SITE.
3. AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC. RETAIN EXISTING VEGETATION WHERE FEASIBLE.
4. THERE SHALL BE NO STORAGE OF ANY KIND OF ANY CHEMICALS, PESTICIDES, FUELS AND OTHER POTENTIALLY TOXIC OR HAZARDOUS MATERIALS ON SITE.
5. NO DEBRIS, JUNK, RUBBISH OR OTHER WASTE MATERIALS SHALL BE BURIED ON THE SITE.
6. 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.
7. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

B. MAINTENANCE/ PERFORMANCE STANDARDS:

ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL WITH AN ACCUMULATION OF ½" OR MORE. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

1. THE SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR TEARS, DETERIORATION, AND UNDERMINING.
2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE RESEEDED AS NEEDED.
3. 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.
4. 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.
5. 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.
   - CATCH BASINS SHALL BE INSPECTED WEEKLY TO ENSURE THAT THEY ARE WATER TIGHT, HAVE ADEQUATE SUMP CAPACITY, THAT OIL AND GAS TRAPS ARE IN PLACE. THEY SHALL ALSO BE INSPECTED AFTER EVERY SIGNIFICANT RAINFALL EVENT (I.E. A TWO-YEAR STORM EVENT OR GREATER) DURING THE FIRST THREE (3) MONTHS OF BEING PLACED IN SERVICE TO ENSURE THAT THEY ARE FUNCTIONING IN AN ADEQUATE FASHION. THE BASINS SHALL BE CLEANED WITH A VACUUM TRUCK WHEN ½ OF THE SUMP IS FILLED WITH SEDIMENT BUT NOT LESS THAN TWO (2) TIMES PER YEAR. AFTER THE FIRST THREE (3) MONTHS OF SERVICE THE BASINS SHALL BE INSPECTED NOT LESS THAN ONE (1) TIME PER YEAR TO ENSURE ADEQUATE FUNCTIONALITY. OIL/GAS TRAPS SHALL BE CLEANED WITH A VACUUM TRUCK AND MONITORED FOR HYDROCARBON BUILD UP SEMIANNUALLY
   - 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:

1. PLACE SILT FENCE AND SILT FENCE WITH STRAW BALES AS SHOWN ON THE EROSION CONTROL PLAN.
2. IF LOAM IS PLACED OUTSIDE OF THE NORMAL GROWING SEASON SILT FENCE OR STRAW WADDLES SHALL BE PLACED BETWEEN THE LAWN AREA AND PAVEMENT.
3. CONSTRUCT TEMPORARY STONE PAD AT EXIT TO THE SITE AS SHOWN ON THE EROSION CONTROL PLAN.
4. DURING DRY PERIODS, PROVIDE MEANS FOR MITIGATION OF DUST, SUCH AS WATERING OF EXPOSED AREAS.
5. 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 SEEDED OR COVER WITH PLASTIC SHEETING.
6. 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.
7. 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.
8. 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:

1. 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.
2. 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.
3. THE TEMPORARY MEASURES WILL NOT BE REMOVED UNTIL PERMANENT STABILIZATION HAS OCCURRED.
4. DESIGNATED RECHARGE AREAS SHALL BE PROTECTED FROM COMPACTION OF SOILS DURING AND AFTER CONSTRUCTION.

E. CONSTRUCTION SEQUENCE:

DURING THIS SEQUENCE ALL EROSION CONTROLS SHALL BE INSPECTED AND MAINTAINED. ALL DISTURBED AREAS SHALL BE STABILIZED BY SEEDING OR SODDING AS SOON AS POSSIBLE AFTER GRADING IS COMPLETE. EROSION BARRIERS SHALL BE REMOVED AFTER SLOPE STABILIZATION IS COMPLETE.

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES.
2. DELINEATE AND FENCE STORMWATER MANAGEMENT AREAS.
3. EXCAVATE TO SUBGRADE IN CUT SECTIONS; BRING FILL SECTIONS TO SUBGRADE USING EXCAVATED SOIL.
4. INSTALL BUILDING FOUNDATION, UNDERGROUND UTILITIES, AND BUILDING PAD. UTILITIES INCLUDE DRAINAGE SYSTEM, WATER, GAS AND ELECTRICAL UTILITIES.
5. PLACE COMPACTED BASE GRAVEL FOR THE PAVED AREAS; ROUGH GRADE AREAS TO BE LOAMED AND SEEDED.
6. INSTALL PAVEMENT.
7. FINALIZE GRADING. LOAM, SEED AND MULCH DISTURBED AREAS.
8. PLANT TREES, SHRUBS AND GROUND COVER AS INDICATED ON LANDSCAPE PLAN.

G. DEWATERING:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING OPERATIONS DURING CONSTRUCTION.
2. DEWATERING SHALL BE PREFORMED TO ACHIEVE CONSTRUCTION OF FOOTINGS, FOUNDATIONS, PAVEMENTS, AND OTHER SUBSURFACE UTILITIES AND APPURTENANCES IN DRY CONDITIONS.
3. 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.
4. THE FLOW FROM DEWATERING PUMPS SHALL BE DISCHARGED TO A SEDIMENTATION TRAP OR DEVICE PRIOR TO DISCHARGE TO A RESOURCE AREA. REFER TO THE DETAILS ON THIS PLAN.

H. LANDSCAPE NOTES:

1. GUARANTEE: ALL PLANT MATERIAL SHALL BE GUARANTEED FOR TWELVE (12) MONTHS FROM THE DAY OF FINAL APPROVAL BY THE ARBORIST OR ENGINEER. ANY PLANT MATERIAL TWENTY-FIVE (25%) OR MORE OF WHICH IS DEAD SHALL BE CONSIDERED DEAD. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED OR 25% OF THE CROWN IS DEAD. IF THE PLANT FAILS TO SURVIVE DURING THIS PERIOD, REPLACEMENT SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCESSIVE GROWING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE. ANY DEAD PLANT MATERIAL SHALL BE REPLACED AND INSTALLED BASED ON AVAILABILITY.
7. PROPOSED PLANT MATERIAL MAY BE SUBSTITUTED WITH SIMILAR PLANT PRIOR TO INSTALLATION BASED ON AVAILABILITY.
8. IN THE EVENT THAT ANY DISCREPANCIES BETWEEN THE QUANTITIES OF PLANTS INDICATED ON THE PLANT SCHEDULE AND THOSE INDICATED ON THE PLAN, THE QUANTITIES INDICATED ON THE PLAN SHALL GOVERN.
9. NOTIFY ALL UTILITY COMPANIES PRIOR TO EXCAVATING PLANT PITS. PLANT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID INTERFERENCE WITH UTILITIES.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT.
11. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURY.
12. THE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITION CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
13. QUALITY AND SIZE OF THE PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH "AMERICAN STANDARD FOR NURSERY STOCK" ANSI 260 (MOST RECENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
14. B & B PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY. PLANTS WITH BROKEN, SPLIT OR DAMAGED ROOT BALLS SHALL BE REJECTED.
15. TREES SHALL BE LOCATED IN A MANNER WHICH WILL NOT OBSTRUCT ACCESS TO UTILITIES OR VISIBILITY OF STREET OR TRAFFIC SIGNS.
16. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE. SPRING PLANTING SEASON SHALL BE: MARCH 21 TO MAY 30 FOR DECIDUOUS / APRIL 1 TO JUNE 15 FOR EVERGREEN. FALL PLANTING SEASON SHALL BE: OCTOBER 1 TO DECEMBER 1 FOR DECIDUOUS / AUGUST 15 TO OCTOBER 15 FOR EVERGREEN.
17. SEED MIX IN THE SEDIMENT FOREBAY EARTH SLOPES AND BOTTOMS SHALL CONSIST OF NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES AS SPECIFIED BY NEW ENGLAND WETLAND PLANTS, INC. (OR EQUAL)

I. STORMWATER MANAGEMENT AREAS:

1. THE AREA PLANNED FOR THE STORMWATER MANAGEMENT AREAS SHOULD BE ROPED OFF TO PREVENT HEAVY EQUIPMENT FROM COMPACTING THE UNDERLYING SOILS BEFORE THE DEVELOPMENT SITE IS GRADED.
2. EXCAVATION SHALL BE LIMITED TO WITHIN TWO FEET OF THE FINAL DESIGN ELEVATION OF THE STORMWATER MANAGEMENT AREA FLOOR IF IT IS TO BE USED AS A TEMPORARY SEDIMENT BASIN DURING THE CONSTRUCTION PHASE. THE SEDIMENT THAT ACCUMULATES DURING THE CONSTRUCTION PHASE CAN THEN BE REMOVED BEFORE THE BASIN UNDERGOES FINAL EXCAVATION AT THE COMPLETION OF THE DEVELOPMENT. IF THE BASIN IS NOT INTENDED FOR SEDIMENT CONTROL, DIVERSION BERMS SHALL BE PLACED AROUND ITS PERIMETER DURING ALL PHASES OF CONSTRUCTION TO DIVERT ALL SEDIMENT AND RUNOFF COMPLETELY AWAY FROM THE BASIN. ACTUAL CONSTRUCTION OF THE BASIN SHOULD BEGIN ONLY AFTER THE SITE HAS BEEN COMPLETELY STABILIZED.
3. TO PREVENT COMPACTION OF THE SUBSOIL WHICH WILL REDUCE ITS INFILTRATION CAPACITY, STORMWATER MANAGEMENT AREAS SHALL BE EXCAVATED WITH LIGHT EARTH MOVING EQUIPMENT, PREFERABLY WITH TRACKS OR OVER-SIZED TIRES RATHER THAN THE NORMAL RUBBER TIES. ONCE THE FINAL CONSTRUCTION PHASE IS REACHED, THE FLOOR OF THE BASIN SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW AND SMOOTHED OVER WITH A LEVELING DRAG OR EQUIVALENT GRADING EQUIPMENT.
4. WITHIN A WEEK OF CONSTRUCTION, THE FLOOR AND THE SIDE SLOPES OF ABOVE GROUND STORMWATER MANAGEMENT AREAS SHALL BE SEEDED WITH WATER TOLERANT, LOW MAINTENANCE AND RAPID GERMINATING GRASSES SUCH AS FESCUE. THE CONDITION OF THE NEWLY ESTABLISHED VEGETATION SHALL BE CHECKED SEVERAL TIMES OVER THE FIRST FEW MONTHS, AND, IF NECESSARY, REMEDIAL ACTIONS SUCH AS RE-SEEDING, FERTILIZING AND IRRIGATION SHOULD BE UNDERTAKEN.
5. THE TOP OF THE ABOVE GROUND STORMWATER MANAGEMENT AREAS BERM SHALL BE SEEDED WITH NEW ENGLAND CONSERVATION/WILDLIFE MIX AS SPECIFIED BY NEW ENGLAND WETLAND PLANTS (OR APPROVED EQUAL)
6. THE EXISTING TOPSOIL SHALL BE USED TO RESTORE THE BOTTOM OF THE INFILTRATION BASIN.

SOIL TEST DATA

NAME OF SOIL EVALUATOR: DILLIS & ROY CIVIL DESIGN GROUP STAN DILLIS

	DEPTH	HOR.	TEX.	COLOR	MOTT.
DEEP TEST PIT: 1122-1 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-12"	AP	S.L.	10YR 3/4	NONE
	12-30"	BW	L.S.	10YR 5/6	@ >30"
	30-84"	C	MED SAND	2.5YR 6/4	NONE
(SURFACE ELEV. = 215.3±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 30" (ELEVATION = 212.8)				
DEEP TEST PIT: 1122-2 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-12"	AP	S.L.	10YR 3/4	NONE
	12-30"	BW	L.S.	10YR 5/6	@ >30"
	30-84"	C	MED SAND	2.5YR 6/4	NONE
(SURFACE ELEV. = 215.3±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 30" (ELEVATION = 212.8)				
DEEP TEST PIT: 1122-3 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-12"	AP	S.L.	10YR 3/4	NONE
	12-30"	BW	L.S.	10YR 5/6	@ >30"
	30-84"	C	MED SAND	2.5YR 6/4	NONE
(SURFACE ELEV. = 215.3±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 30" (ELEVATION = 212.8)				
DEEP TEST PIT: 1122-4 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-48"	A	S.L.	10YR 3/4	NONE
	48-66"	BW	L.S.	10YR 5/6	NONE
	66-96"	C	MED SAND	25YR 6/4	@ 66"
(SURFACE ELEV. = 215.9±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 66" (ELEVATION = 210.40)				
DEEP TEST PIT: 1122-5 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-36"	A	S.L.	10YR 3/4	NONE
	36-66"	BW	L.S.	10YR 5/6	NONE
	66-96"	C	MED SAND	25YR 6/4	@ 66"
(SURFACE ELEV. = 215.4±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 66" (ELEVATION = 209.9)				
DEEP TEST PIT: 1122-6 DATE OF TEST: 11/23/22 REFUSAL AT: NONE OBSERVED	0-48"	A	S.L.	10YR 3/4	NONE
	48-66"	BW	L.S.	10YR 5/6	NONE
	66-108"	C	MED SAND	25YR 5/4	@ 66"
(SURFACE ELEV. = 218.0±)					
ESTIMATED SEASONAL HIGH GROUND WATER	AT 66" (ELEVATION = 212.5)				

LEGEND

EXIST. FEATURE	DESCRIPTION	EXIST. SYM.	DESCRIPTION
	STREAMS/RIVERS		TELEPHONE POLE
	WETLANDS		GUY WIRE
	LIMIT OF BUFFER ZONE		HYDRANT
	PROPERTY LINE		SEWER MANHOLE
—x—x—	WIRE FENCE		WELL
—W—	WATER LINE		MISCELLANEOUS MANHOLE
—G—	GAS LINE	WF A1	WETLAND FLAG
—E—	ELECTRICAL LINE		CATCH BASIN
—D—	STORM DRAIN		WATER GATE VALVE
—OW—	EXISTING OVER-HEAD WIRES	S	SIGN
180	EXISTING CONTOUR (INDEX)	PT A	PERC TEST
179	EXISTING CONTOUR (INTERMEDIATE)	TP 1105-1	TEST PIT

LEGEND

PROP. FEATURE	DESCRIPTION	PROP. SYM.	DESCRIPTION
	PROPERTY LINE		PROPOSED TELEPHONE POLE
	EASEMENT LINE		PROPOSED HYDRANT
	STRAWBALES	SMH-1	PROPOSED SANITARY MANHOLE
—x—x—	WIRE FENCE	WSO	PROPOSED WATER SHUTOFF
—W—	PROPOSED WATER LINE		PROPOSED WATER GATE VALVE
—E—	PROPOSED ELECTRICAL LINE	E	PROPOSED ELECTRICAL JUNCTION BOX
—S—	PROPOSED SANITARY SEWER	S	PROPOSED SIGN
EOP	PROPOSED EDGE OF PAVEMENT	B-1	BORING
180	PROPOSED CONTOUR (INDEX)		PROPOSED RIPRAP
179	PROPOSED CONTOUR (INTERMEDIATE)		STANDARD TREE
175x5	PROPOSED SPOT ELEVATION		PINE TREE
	PROPOSED BUILDING/HOUSE		SHRUB
TREE LINE	TREE LINE		
	PROPOSED STORMWATER MANAGEMENT AREA		

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

APPLICANT:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

SCALE:

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

NOTES SHEET
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-NOTES
SHEET NO. C1.2

GENERAL NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN WAS PREPARED BY DILLIS & ROY CIVIL DESIGN GROUP, INC. BASED ON AN ON-THE-GROUND SURVEY.
2. PROPERTY LINE INFORMATION SHOWN ON THIS PLAN WAS PREPARED BY DILLIS & ROY CIVIL DESIGN GROUP, INC. BASED ON AN ON-THE-GROUND SURVEY PERFORM IN GROTON MA AND RECORDED PLANS AND DEEDS.
3. RESOURCE AREAS AS DEFINED BY THE MASSACHUSETTS WETLANDS PROTECTION ACT AND THE TOWN OF GROTON WETLANDS BYLAW WERE DELINEATED BY OXBOW ASSOCIATES, INC. IN JULY & NOVEMBER OF 2021.
4. THE SITE FALLS WITHIN ZONE X (AREA OF MINIMAL FLOOD HAZARD) AS SHOWN ON THE FLOOD INSURANCE RATE MAP 25017C0202E EFFECTIVE 6/4/2010 FOR THE TOWN OF GROTON.
5. EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
6. THE SITE IS NOT LOCATED WITHIN NHESP ESTIMATED HABITATS OF RARE WILDLIFE OR NHESP PRIORITY HABITAT OF RARE SPECIES PER THE 15TH EDITION OF THE NATURAL HERITAGE ATLAS EFFECTIVE AUGUST 1, 2021.
7. THE SITE IS LOCATED WITHIN THE PETAPAWAG ACEC.
8. MASS MAPPER SHOWS THERE ARE NO IWPA, ZONE I, OR ZONE II WELLHEAD PROTECTION AREAS LOCATED ON THE SITE.

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SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46001
REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-EXIST
SHEET NO. C2.1

PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

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APPLICANT:
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WESTFORD, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46040
PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-EXIST
SHEET NO. C2.2

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

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WESTFORD, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 46000 REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

SOIL EROSION & SEDIMENTATION CONTROL PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-SESC
SHEET NO. C3.1

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

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WESTFORD, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46909
PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

SOIL EROSION & SEDIMENTATION CONTROL PLAN

GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-SESC
SHEET NO. C3.2

PARKING TABLE:

PROP. USE	TOTAL SF	UNITS	REQUIRED	PROVIDED
APARTMENTS	--	168	252 (1.5/UNIT)	311 (INC. GAR.)
CLUBHOUSE	--	--	--	20
TOWNHOMES	--	32	64 (2/UNIT)	64
VISTORS	--	--	--	10
		TOTAL		404

PREPARED BY:

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WESTFORD, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 46030 REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

LAYOUT & MATERIALS PLAN

GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-LAYOUT
SHEET NO. C4.1

PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46940
REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

LAYOUT & MATERIALS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-LAYOUT
SHEET NO. C4.2

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

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SCALE:
40 0 20 40 80 160
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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46690
REGISTERED PROFESSIONAL ENGINEER
2/9/23

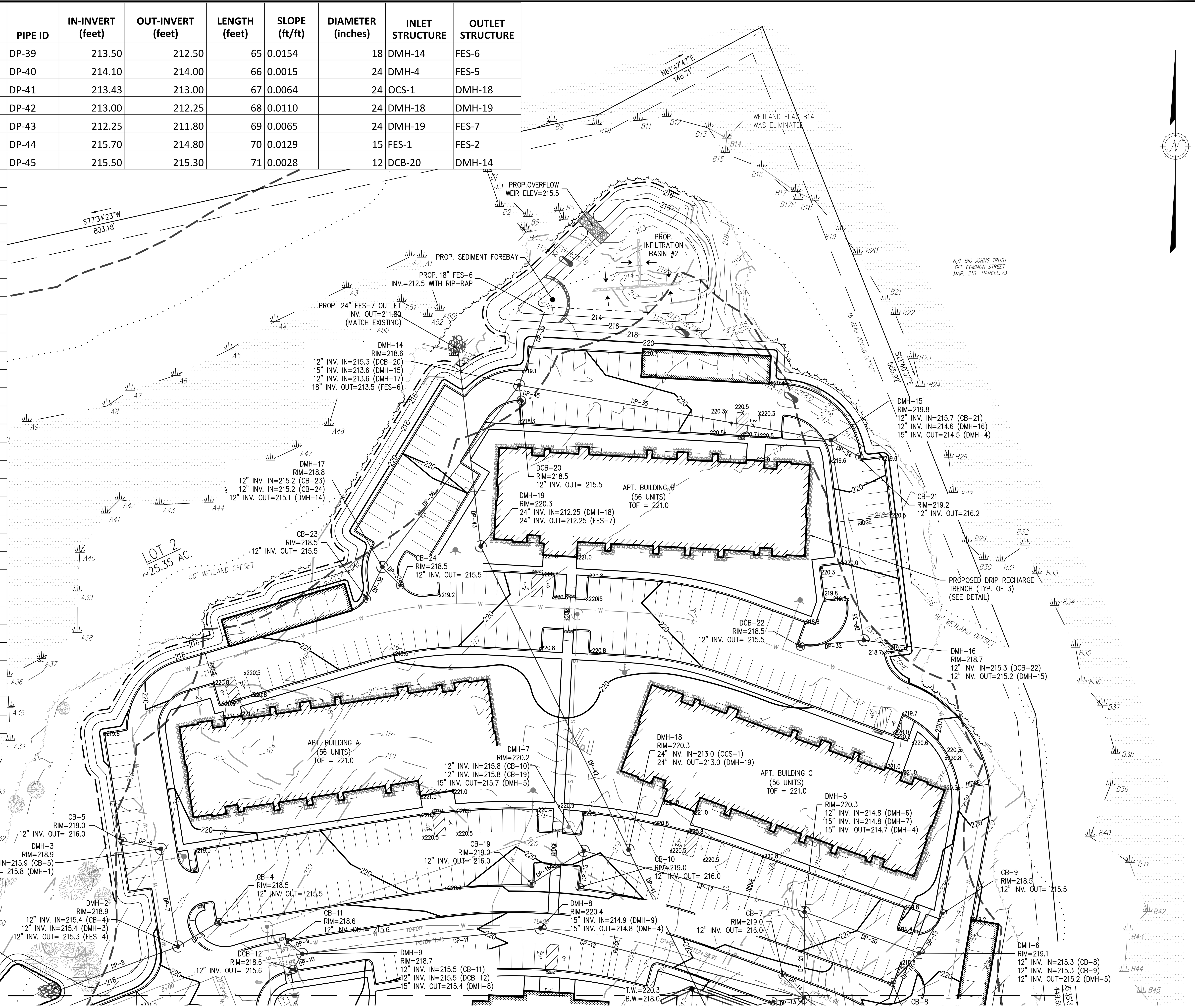
DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

GRADING & DRAINAGE PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-GRD & DRN
SHEET NO. C5.1

PIPE ID	IN-INVERT (feet)	OUT-INVERT (feet)	LENGTH (feet)	SLOPE (ft/ft)	DIAMETER (inches)	INLET STRUCTURE	OUTLET STRUCTURE
DP-1	215.60	215.40	27	0.0074	12	CB-1	DMH-1
DP-2	216.20	215.40	28	0.0286	12	CB-2	DMH-1
DP-3	216.50	215.40	29	0.0379	12	CB-3	DMH-1
DP-4	215.30	214.80	30	0.0167	18	DMH-1	FES-3
DP-5	215.50	215.30	31	0.0065	12	CB-4	DMH-2
DP-6	216.00	215.90	32	0.0031	12	CB-5	DMH-3
DP-7	215.80	215.40	33	0.0121	12	DMH-3	DMH-2
DP-8	215.30	214.80	34	0.0147	12	DMH-2	FES-4
DP-9	215.60	215.50	35	0.0029	12	CB-11	DMH-9
DP-10	215.60	215.50	36	0.0028	12	DCB-12	DMH-9
DP-11	215.40	214.90	37	0.0135	15	DMH-9	DMH-8
DP-12	214.80	214.20	38	0.0158	15	DMH-8	DMH-4
DP-13	216.00	215.50	39	0.0128	12	CB-6	DMH-4
DP-14	216.00	215.50	40	0.0125	12	CB-7	DMH-4
DP-15	216.00	215.80	41	0.0049	15	CB-10	DMH-7
DP-16	216.00	215.80	42	0.0048	12	CB-19	DMH-7
DP-17	215.70	214.80	43	0.0209	15	DMH-7	DMH-5
DP-18	215.50	215.30	44	0.0045	12	CB-8	DMH-6
DP-19	215.50	215.30	45	0.0044	12	CB-9	DMH-6
DP-20	215.20	214.80	46	0.0087	12	DMH-6	DMH-5
DP-21	214.70	214.20	47	0.0106	15	DMH-5	DMH-4
DP-22	218.10	214.50	48	0.0750	15	DMH-10	DMH-4
DP-23	218.90	218.20	49	0.0143	12	CB-13	DMH-10
DP-24	218.90	218.20	50	0.0140	12	CB-14	DMH-10
DP-25	231.60	218.20	51	0.2627	12	DMH-11	DMH-10
DP-26	239.90	231.70	52	0.1577	12	DMH-12	DMH-11
DP-27	232.20	231.70	53	0.0094	12	CB-15	DMH-11
DP-28	232.20	231.70	54	0.0093	12	CB-16	DMH-11
DP-29	246.20	240.00	55	0.1127	12	DMH-13	DMH-12
DP-30	247.40	246.50	56	0.0161	12	CB-17	DMH-13
DP-31	247.40	246.50	57	0.0158	12	CB-18	DMH-13
DP-32	215.50	215.30	58	0.0034	12	DCB-22	DMH-16
DP-33	215.20	214.60	59	0.0102	12	DMH-16	DMH-15
DP-34	216.20	215.70	60	0.0083	12	CB-21	DMH-15
DP-35	214.50	213.60	61	0.0148	15	DMH-15	DMH-14
DP-36	215.10	213.60	62	0.0242	12	DMH-17	DMH-14
DP-37	215.50	215.20	63	0.0048	12	CB-24	DMH-17
DP-38	215.50	215.20	64	0.0047	12	CB-23	DMH-17
DP-39	213.50	212.50	65	0.0154	18	DMH-14	FES-6
DP-40	214.10	214.00	66	0.0015	24	DMH-4	FES-5
DP-41	213.43	213.00	67	0.0064	24	OCS-1	DMH-18
DP-42	213.00	212.25	68	0.0110	24	DMH-18	DMH-19
DP-43	212.25	211.80	69	0.0065	24	DMH-19	FES-7
DP-44	215.70	214.80	70	0.0129	15	FES-1	FES-2
DP-45	215.50	215.30	71	0.0028	12	DCB-20	DMH-14



PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

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APPLICANT:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

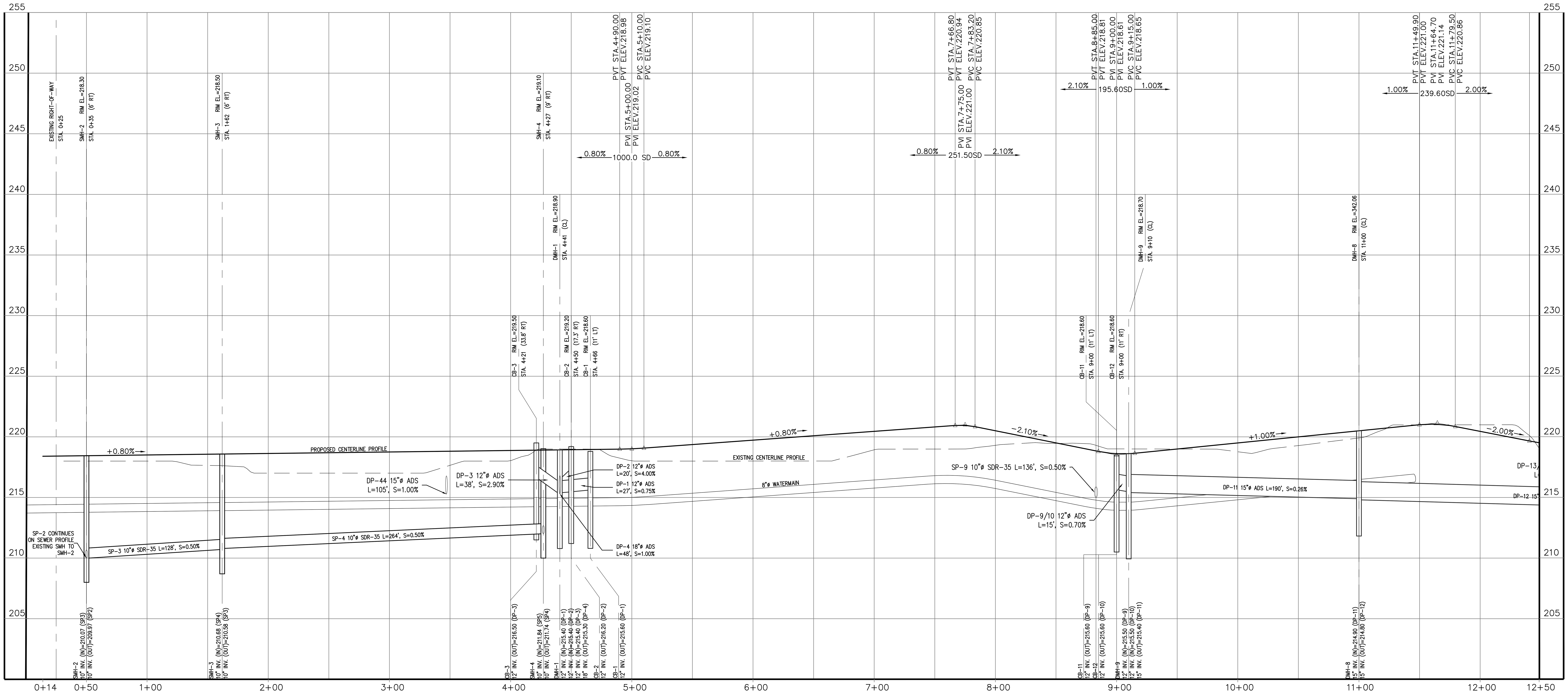
COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 46040 REGISTERED PROFESSIONAL ENGINEER 2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

GRADING & DRAINAGE PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-GRD & DRN
SHEET NO. C5.2



ROAD PROFILE STA. 0+00 - 12+50

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)

PREPARED BY:

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WESTFORD, MASSACHUSETTS

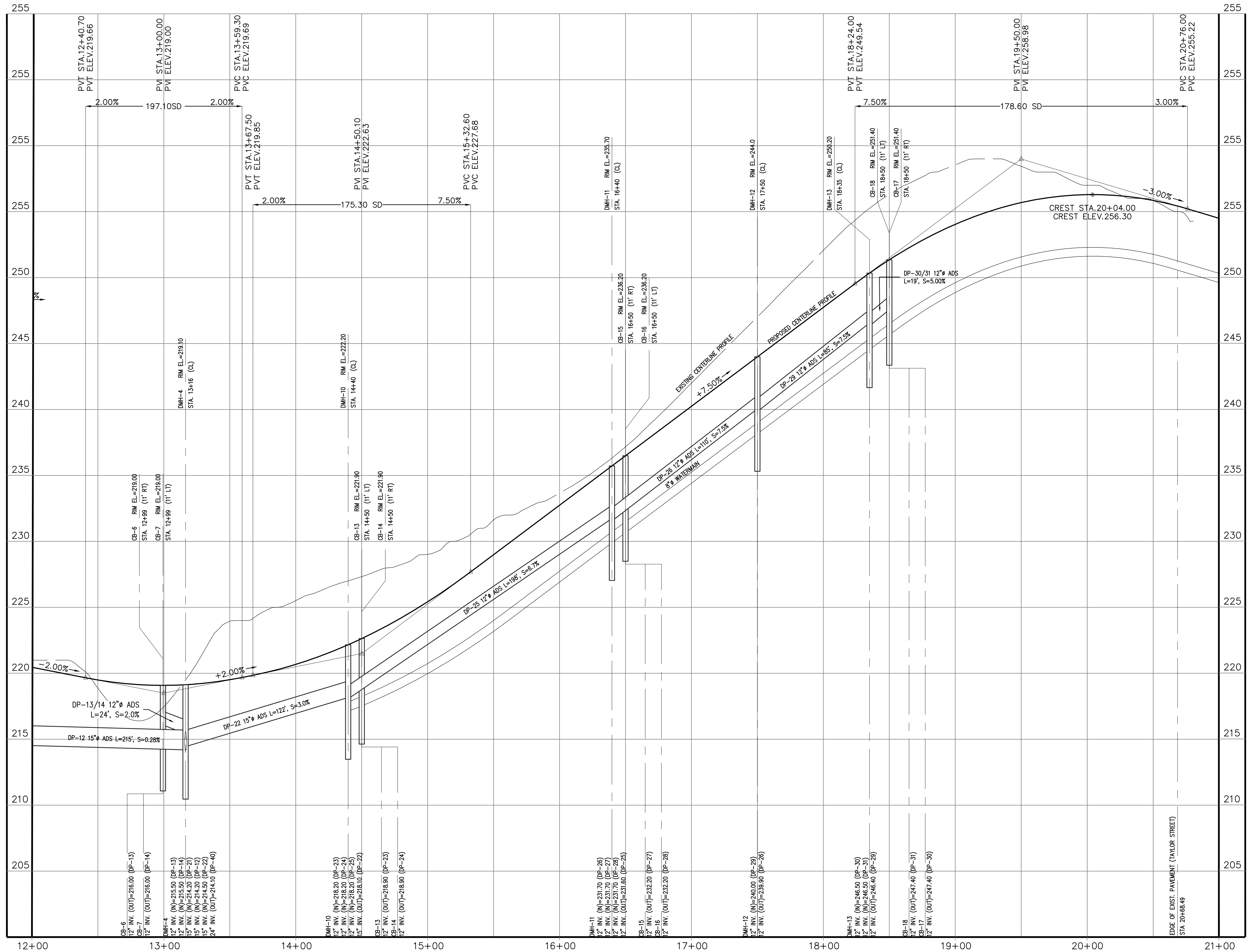
SCALE:

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

PROFILE PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-PROFILE
SHEET NO. C6.1



ROAD PROFILE STA. 12+00 - 21+00

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)

PREPARED BY:

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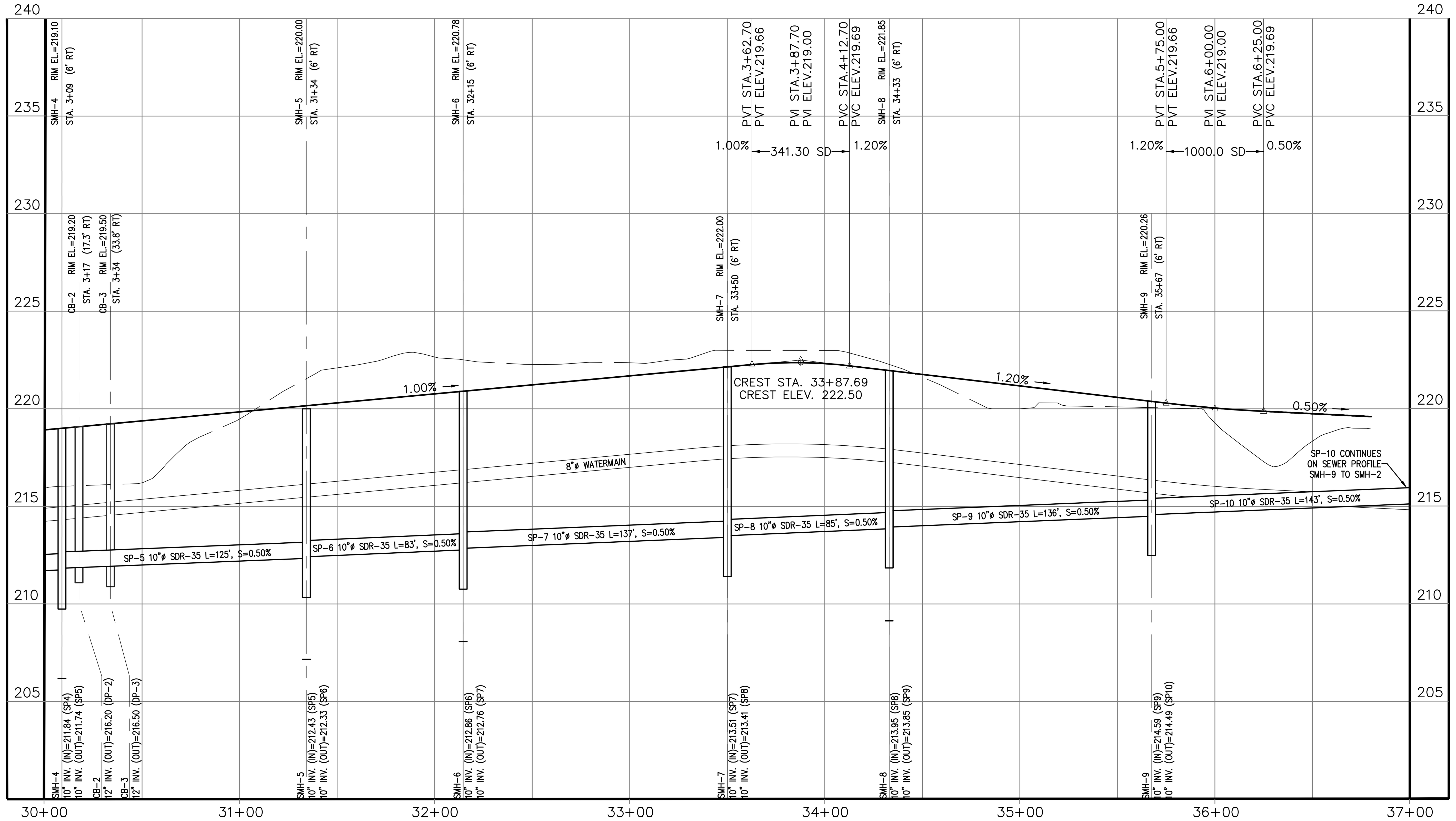
SCALE:

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

PROFILE PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

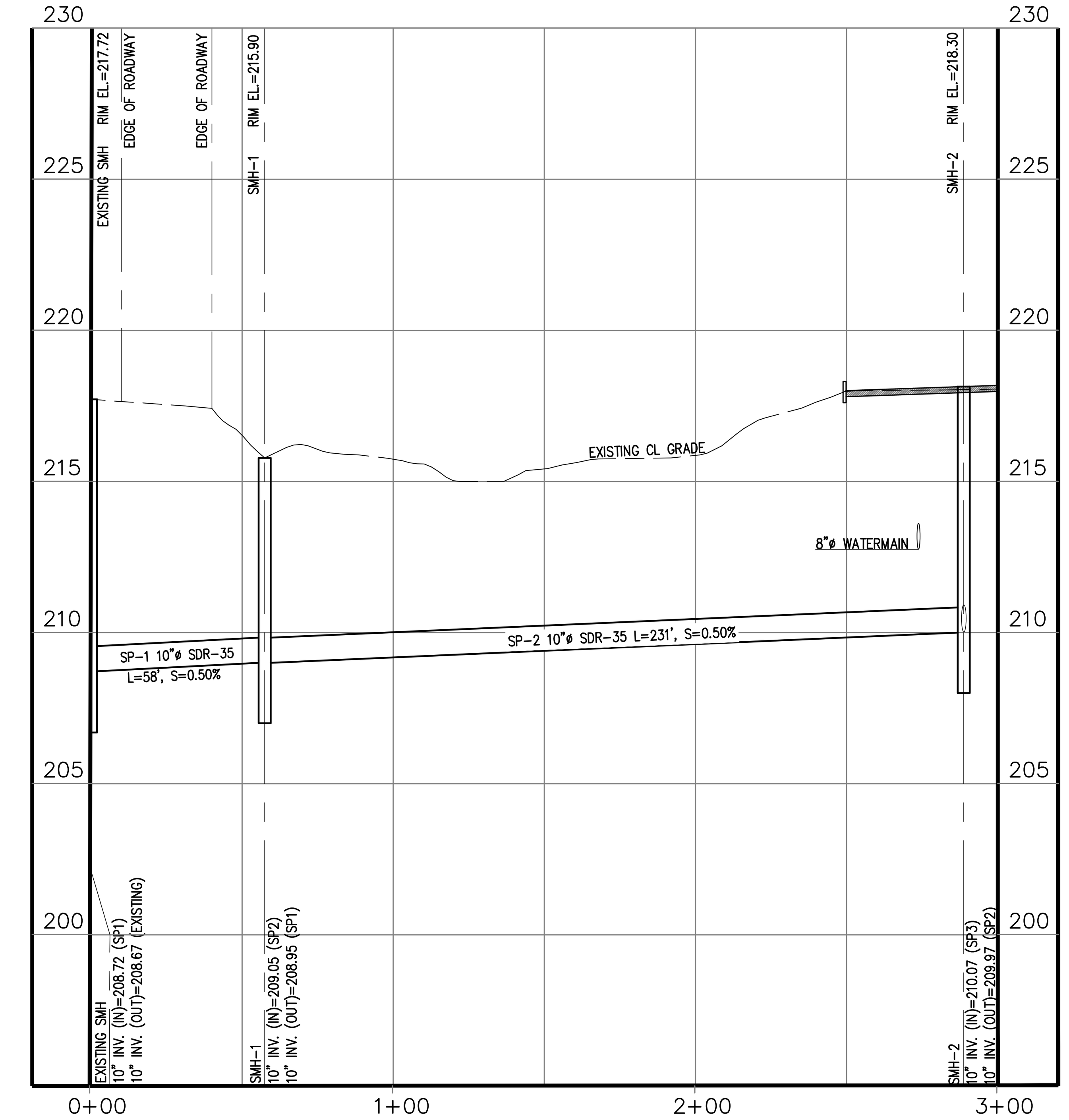
NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-PROFILE
SHEET NO. C6.2



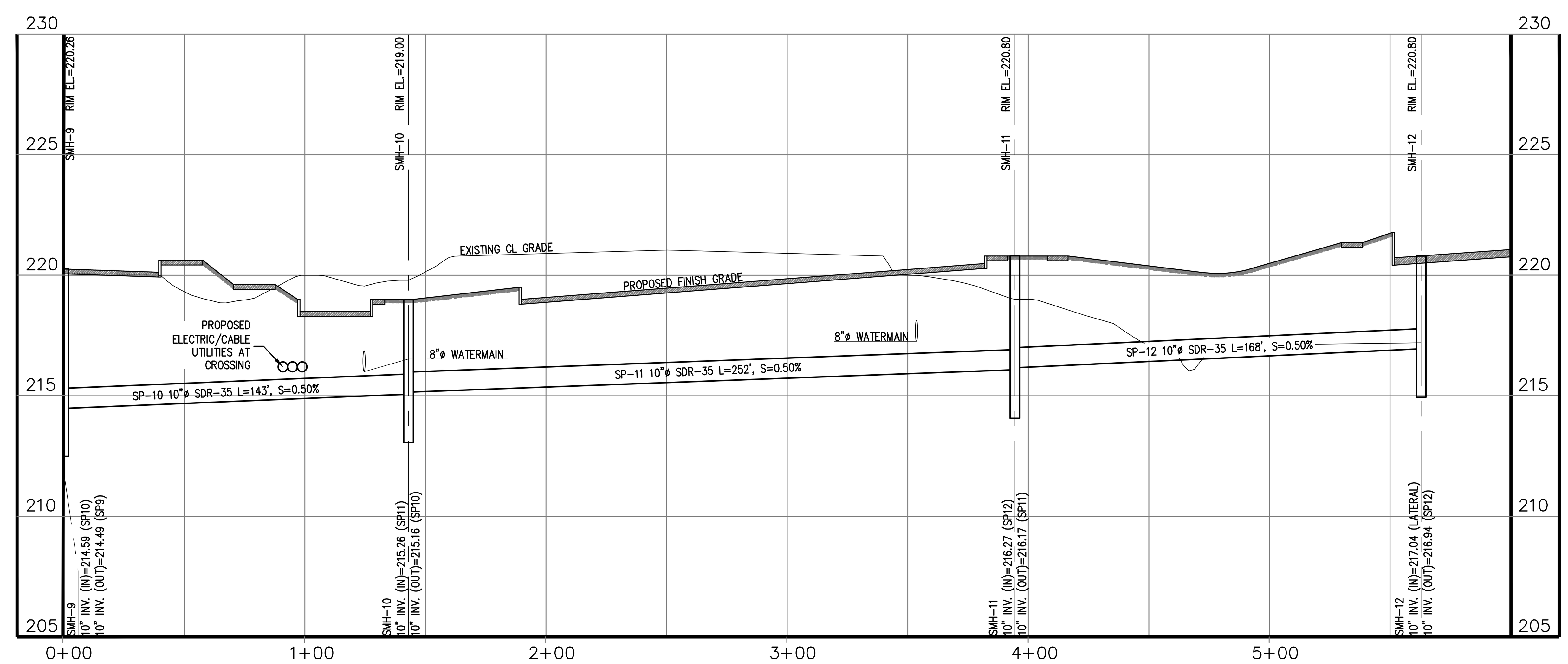
LOOP ROAD PROFILE STA. 30+00 - 36+80.07

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)



SEWER PROFILE - EXISTING SMH 1 - SMH-2

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)



SEWER PROFILE - SMH 9 - SMH-12

SCALE: 1" = 40' (HOR.)
1" = 4' (VERT.)

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SCALE:

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 48 PROFESSIONAL ENGINEER 2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

PROFILE PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-PROFILE
SHEET NO. C6.3

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

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SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

COMMONWEALTH OF MASSACHUSETTS GREGORY S. ROY CIVIL NO. 46040 PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

UTILITY PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-UTILITY
SHEET NO. C7.1

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

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SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

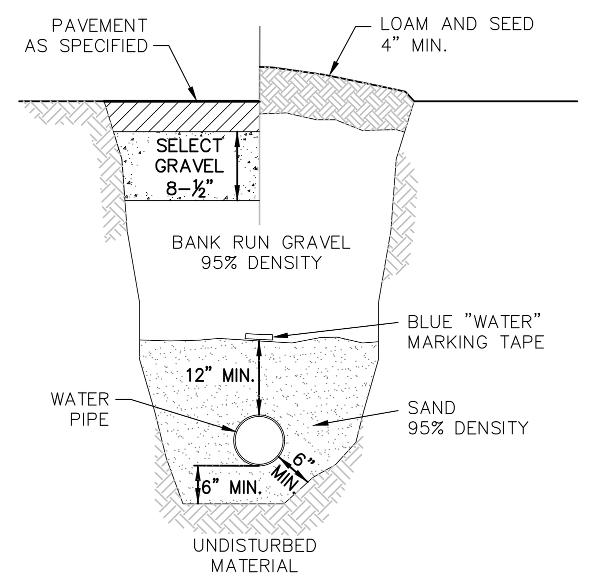
GREGORY S. ROY CIVIL NO. 46000 — COMMONWEALTH OF MASSACHUSETTS PROFESSIONAL ENGINEER
2/9/23

DATE:	2/09/2023
DESIGN BY:	GSR
DRAWN BY:	RPV
CHECKED BY:	GSR

UTILITY PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

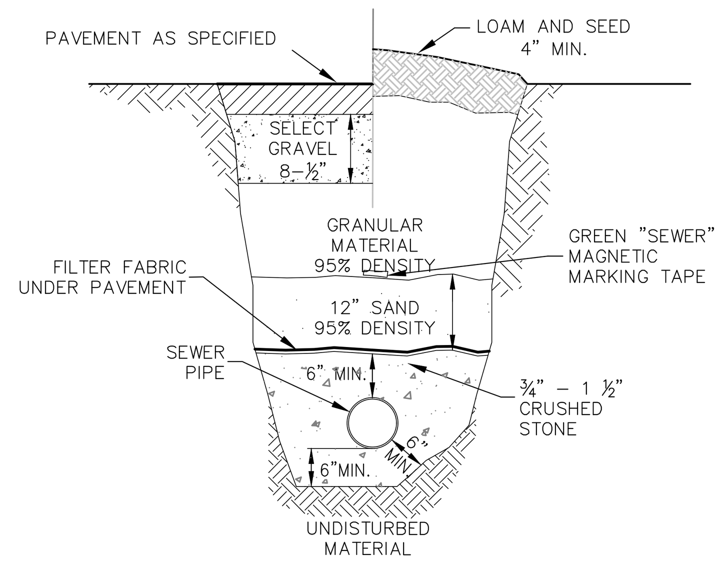
NO.	DATE	DESCRIPTION	BY

JOB NO.	6842
DRAWING NO.	6842-UTILITY
SHEET NO.	C7.2



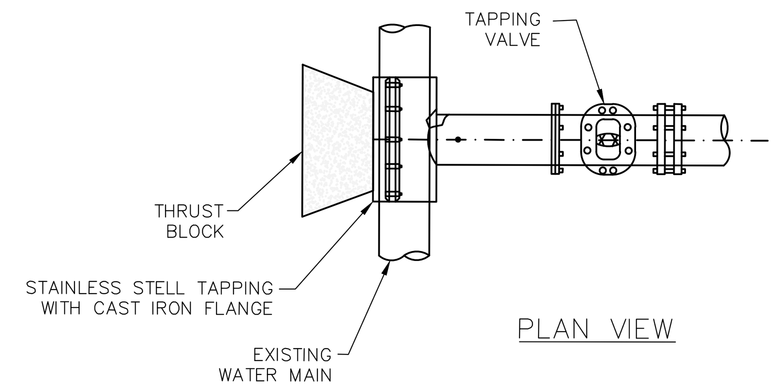
WATER MAIN IN TRENCH DETAIL

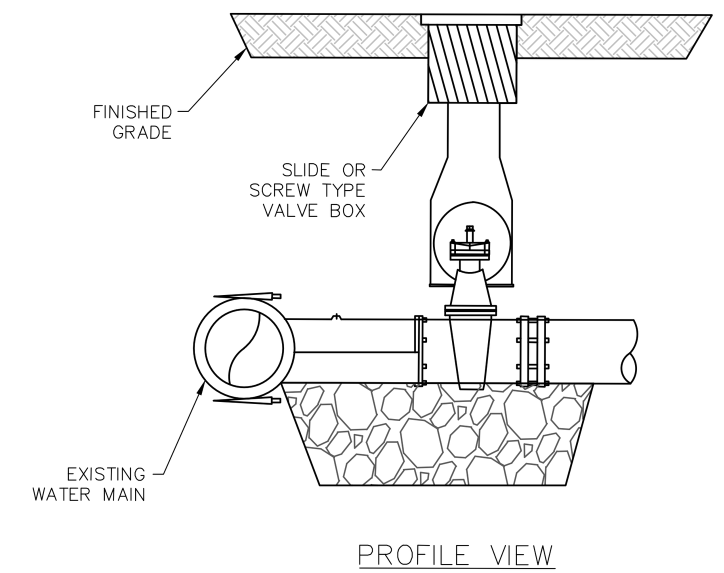
NOT TO SCALE



SEWER LINE TRENCH DETAIL

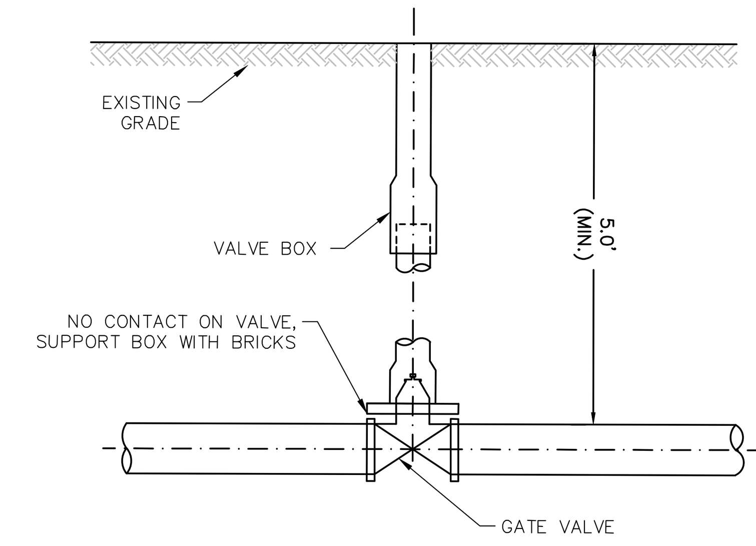
NOT TO SCALE





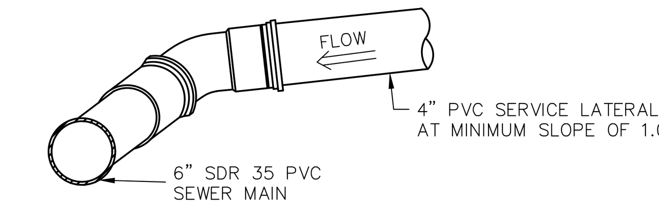
TAPPING SLEEVE AND VALVE DETAIL

NOT TO SCALE

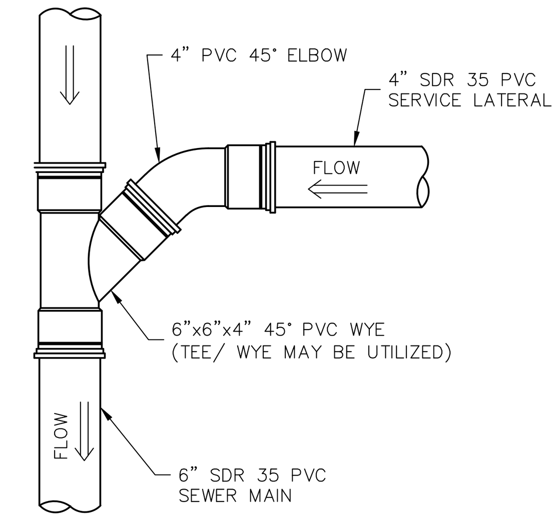


GATE VALVE DETAIL

NOT TO SCALE

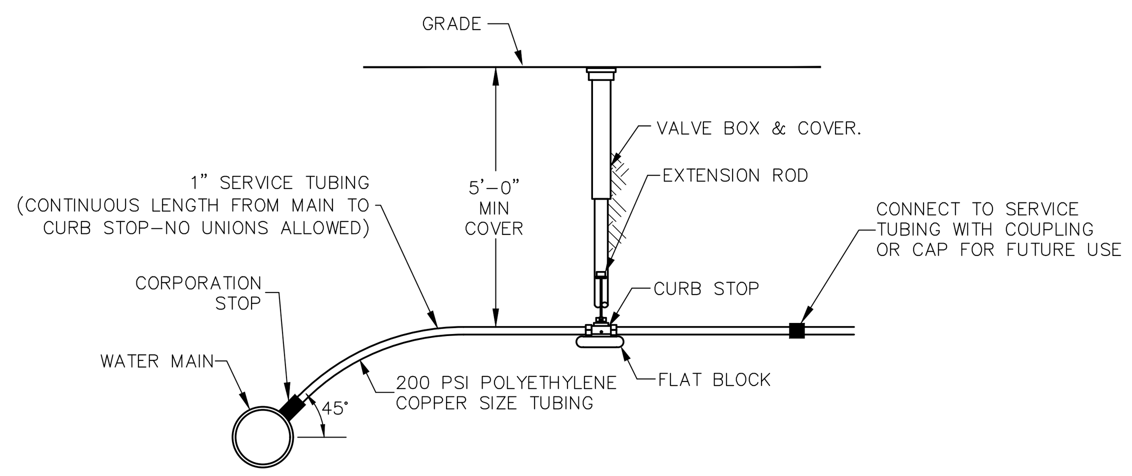


CROSS-SECTION



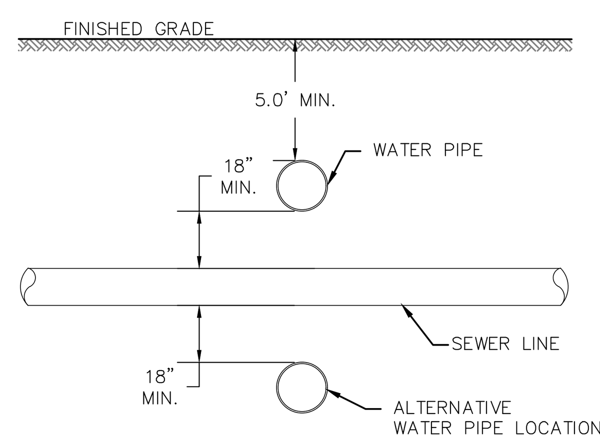
SEWER SERVICE CONNECTION

NO SCALE



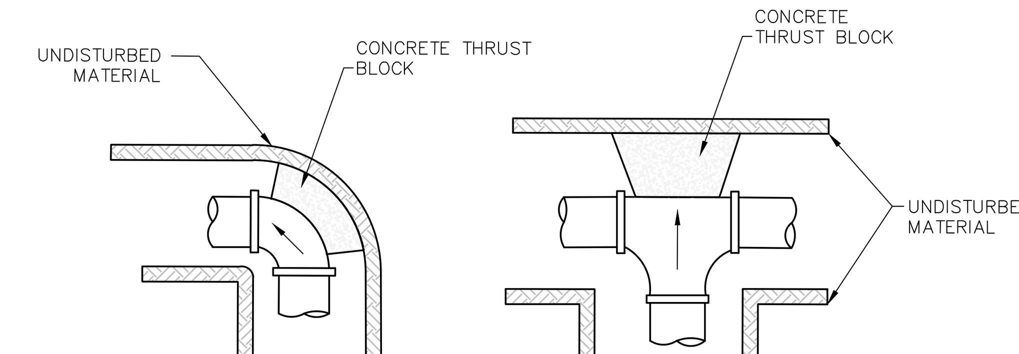
WATER SERVICE DETAIL

NOT TO SCALE



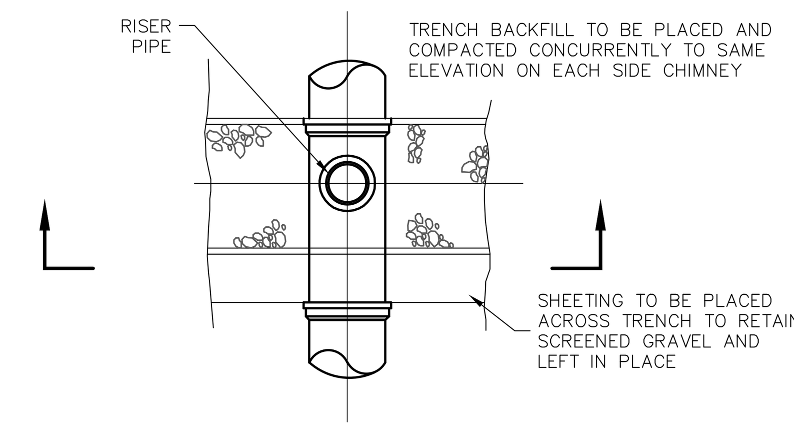
WATER AND SEWER LINE CROSSING

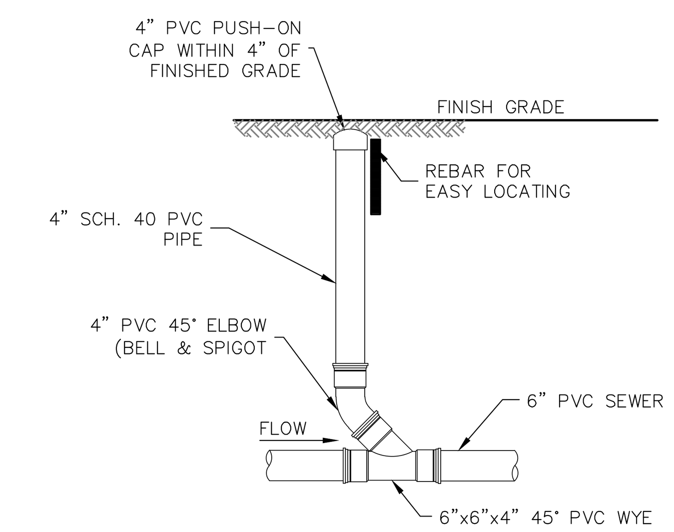
NOT TO SCALE



THRUST BLOCK DETAIL

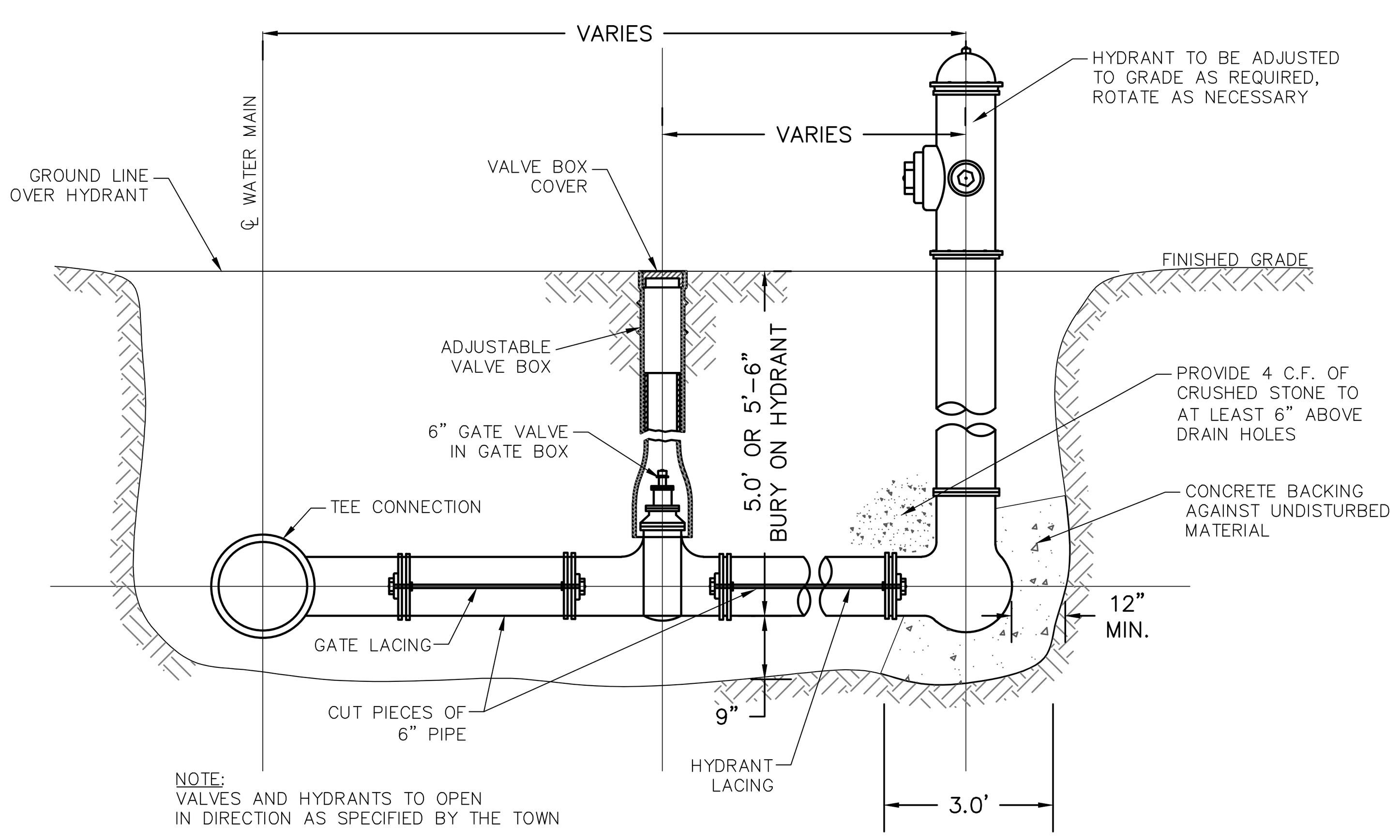
NOT TO SCALE





SEWER CLEANOUT DETAIL (GRASS/GARDEN AREAS)

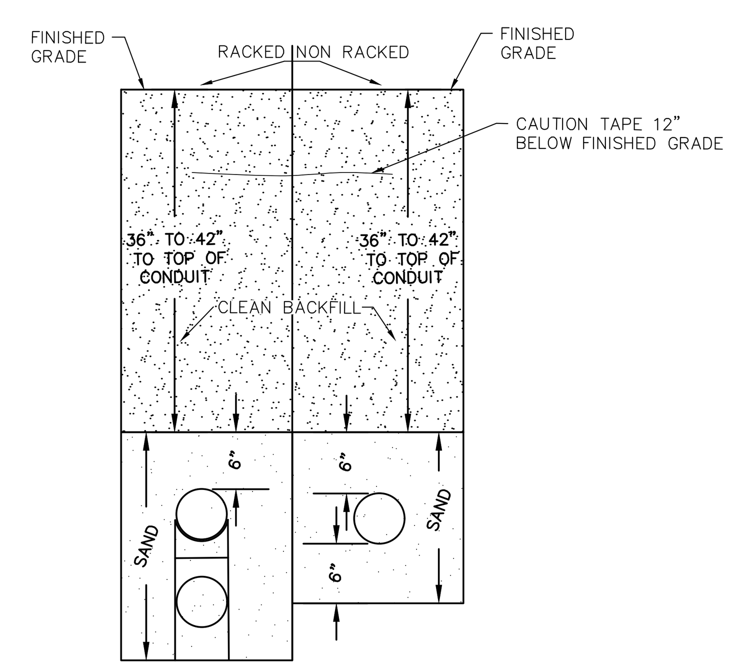
NOT TO SCALE



HYDRANT

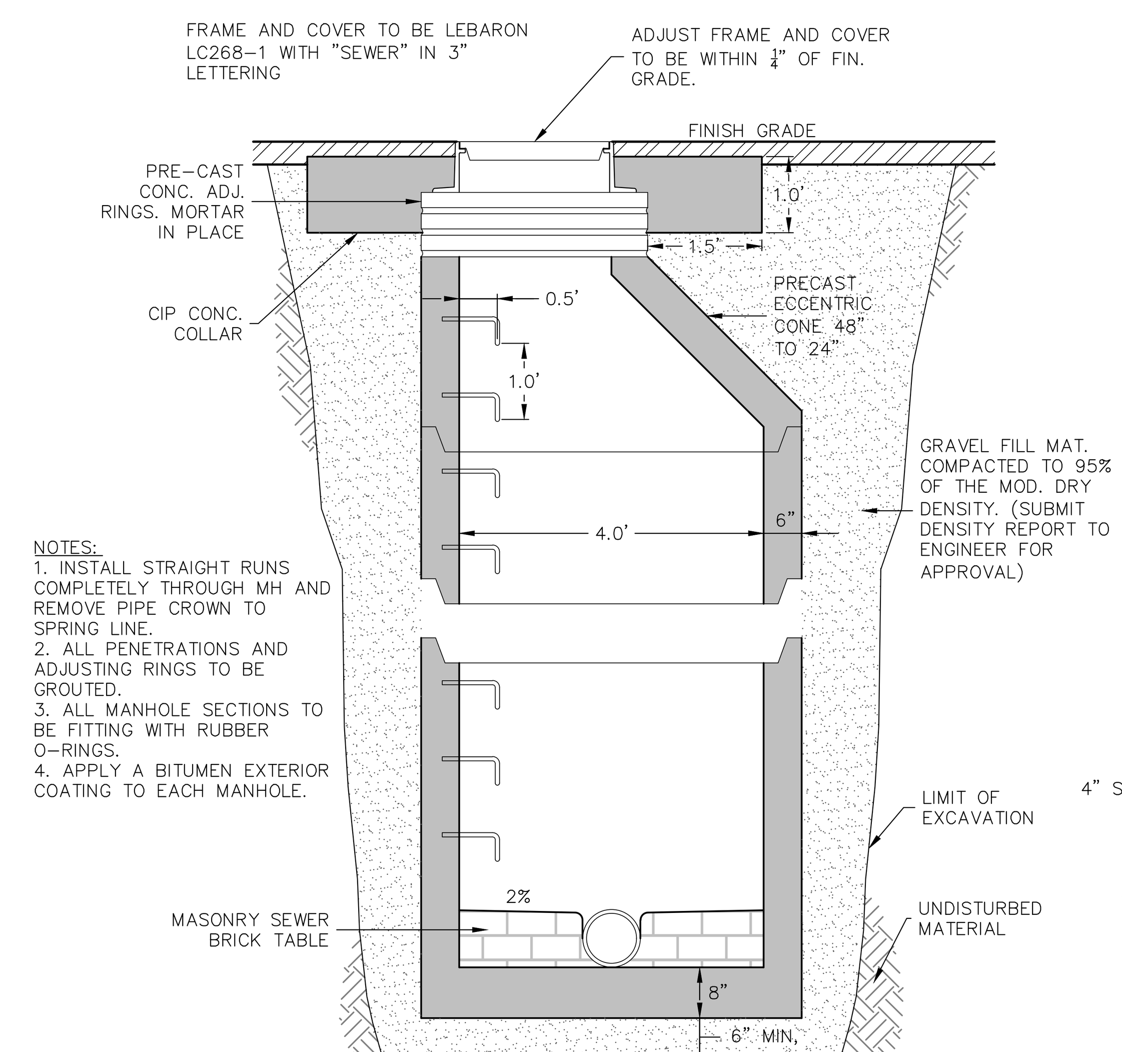
NOT TO SCALE

NOTES:
1. 5" CONDUIT TO BE USED FOR THREE PHASE PRIMARY
2. 4" CONDUIT TO BE USED FOR SINGLE PHASE PRIMARY
3. 2.5" CONDUIT TO BE USED FOR GELD OWNED SECONDARY
4. 10' STEEL CONDUIT WITH LONG RADIUS 90 STEEL SWEEP TO BE USED AT RISER POLE FOR ALL PRIMARY.
5. ALL PRIMARY RUNS ARE TO BE UNDER 650'
6. TOTAL OF ALL BENDS FOR A SINGLE RUN ARE TO BE LESS THAN 270°
7. ALL ROAD AND DRIVEWAY CROSSINGS ARE TO BE GALVANIZED, SCHEDULE 80 OR SCHEDULE 40 ENCASED IN CONCRETE.



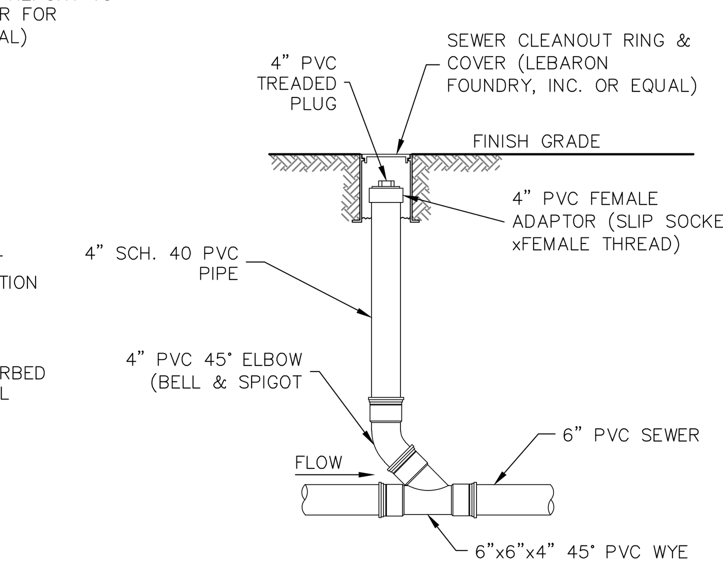
UNDERGROUND CONDUIT DETAIL

NOT TO SCALE



SEWER MANHOLE DETAIL

NOT TO SCALE



SEWER CLEANOUT DETAIL (PAVED AREAS)

NOT TO SCALE

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APPLICANT:
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WESTFORD, MASSACHUSETTS

SCALE:

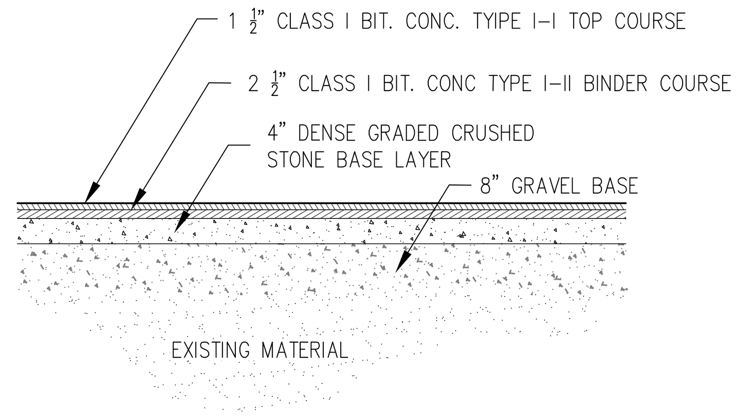
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46940
REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

CONSTRUCTION DETAILS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

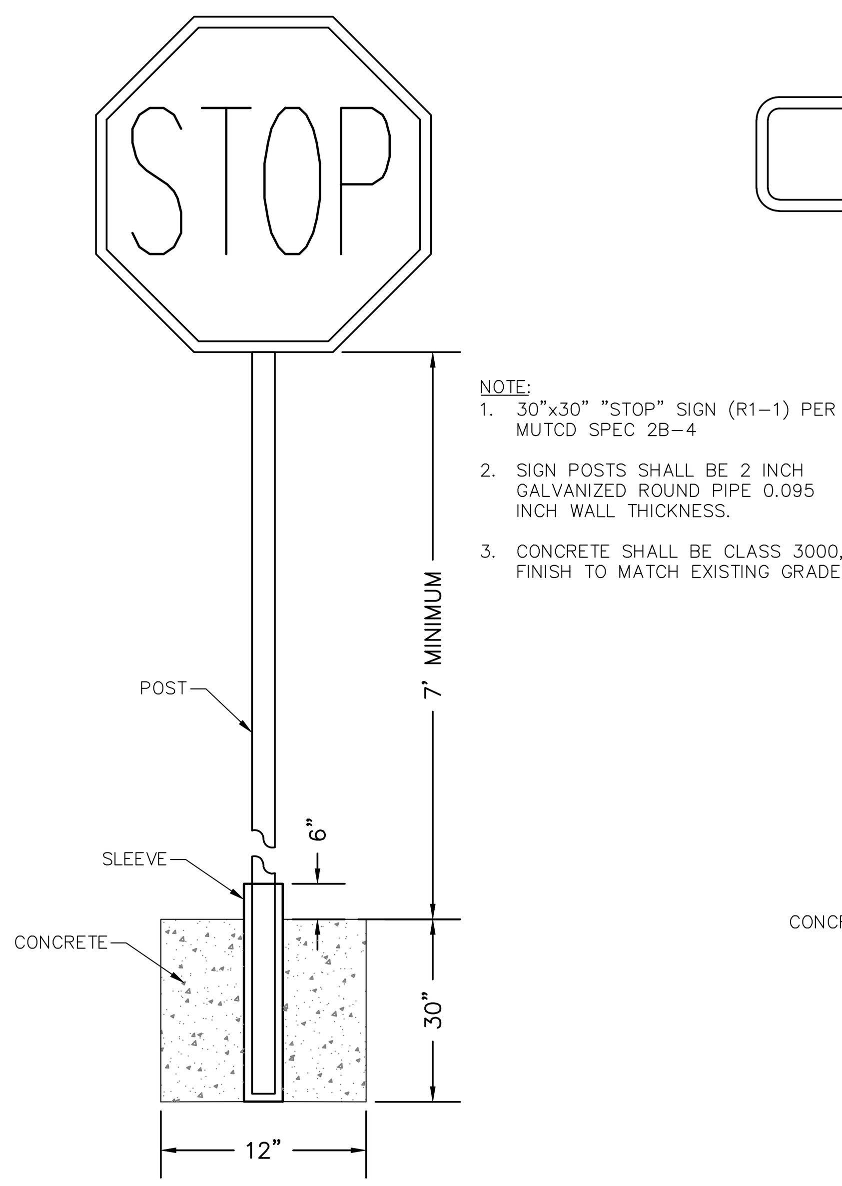
NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842–DETAILS
SHEET NO. C8.1



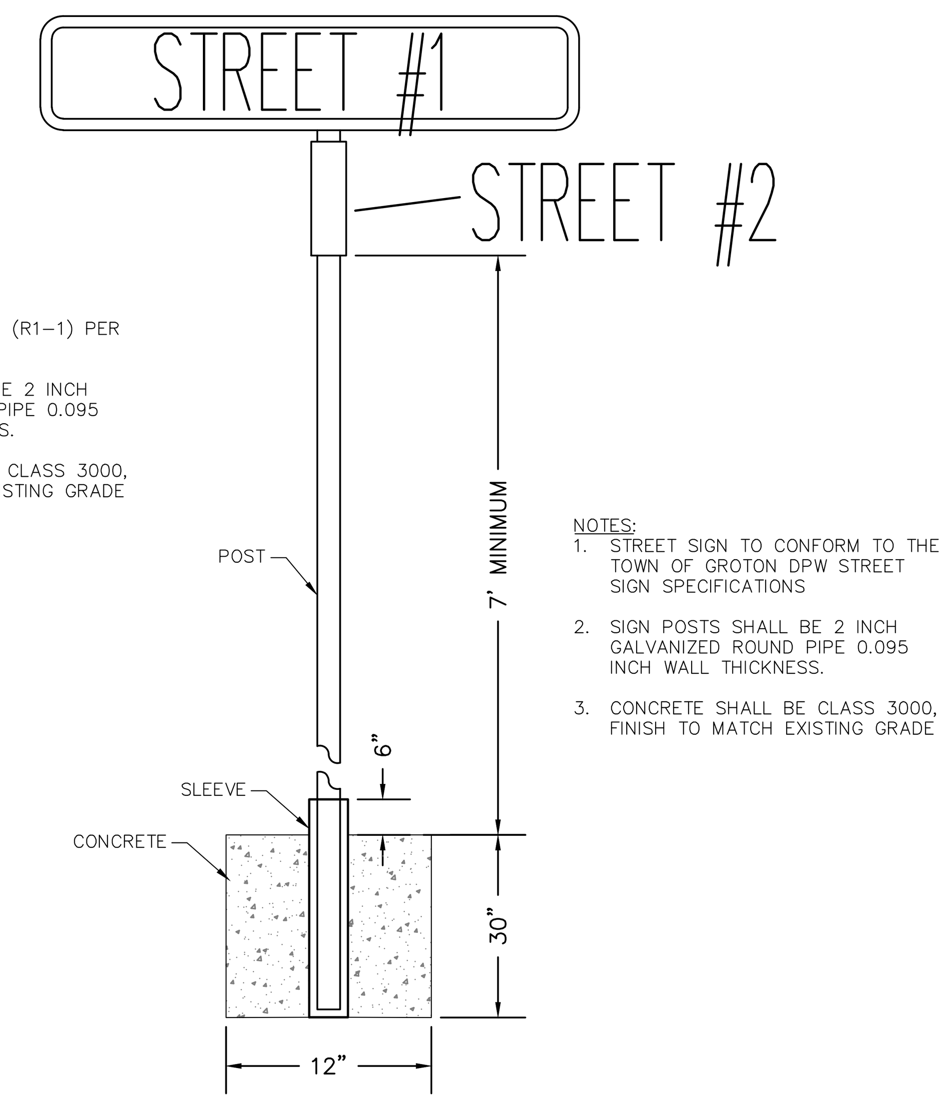
PAVEMENT CROSS-SECTION (PARKING AREAS)

SCALE: 1"=3'



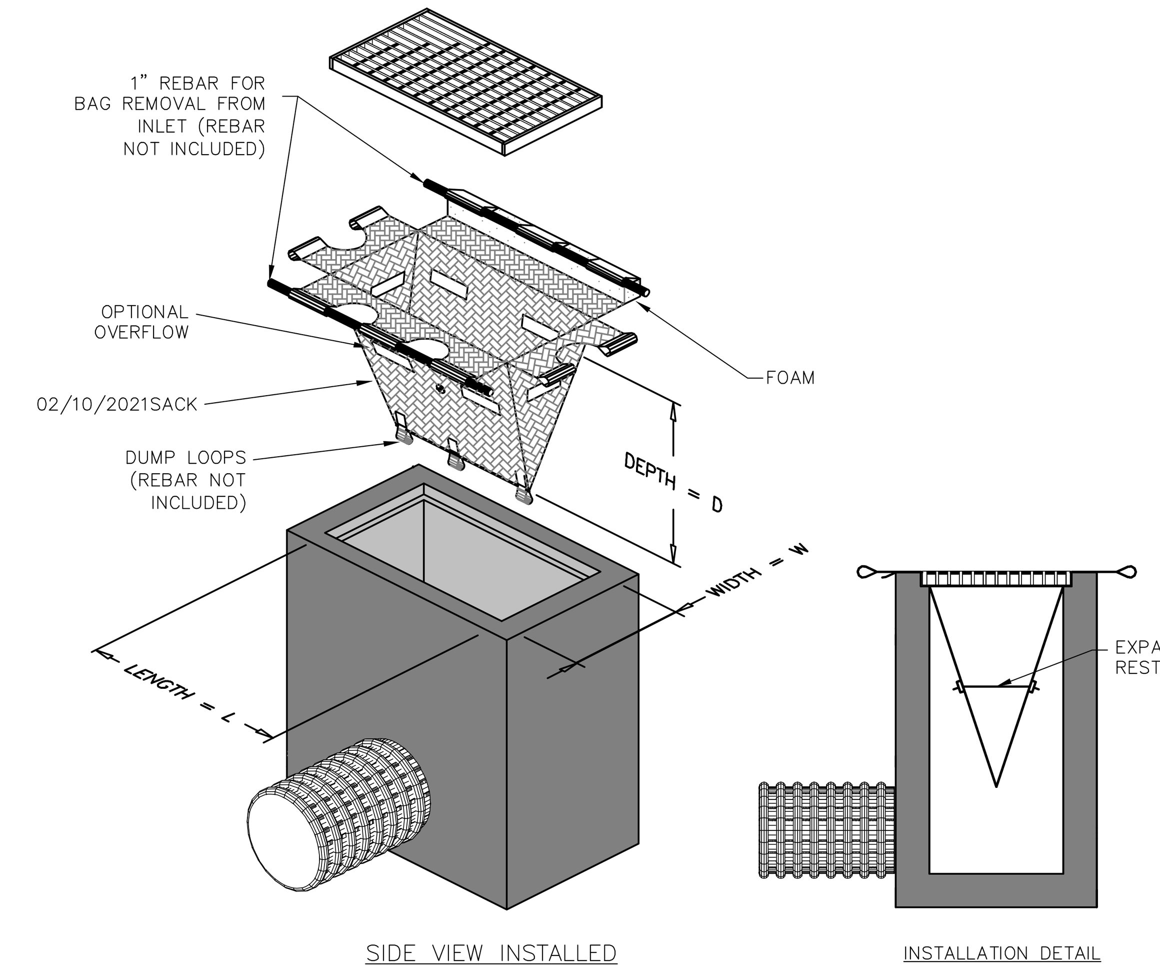
TYPICAL STOP SIGN (R1-1)

NOT TO SCALE



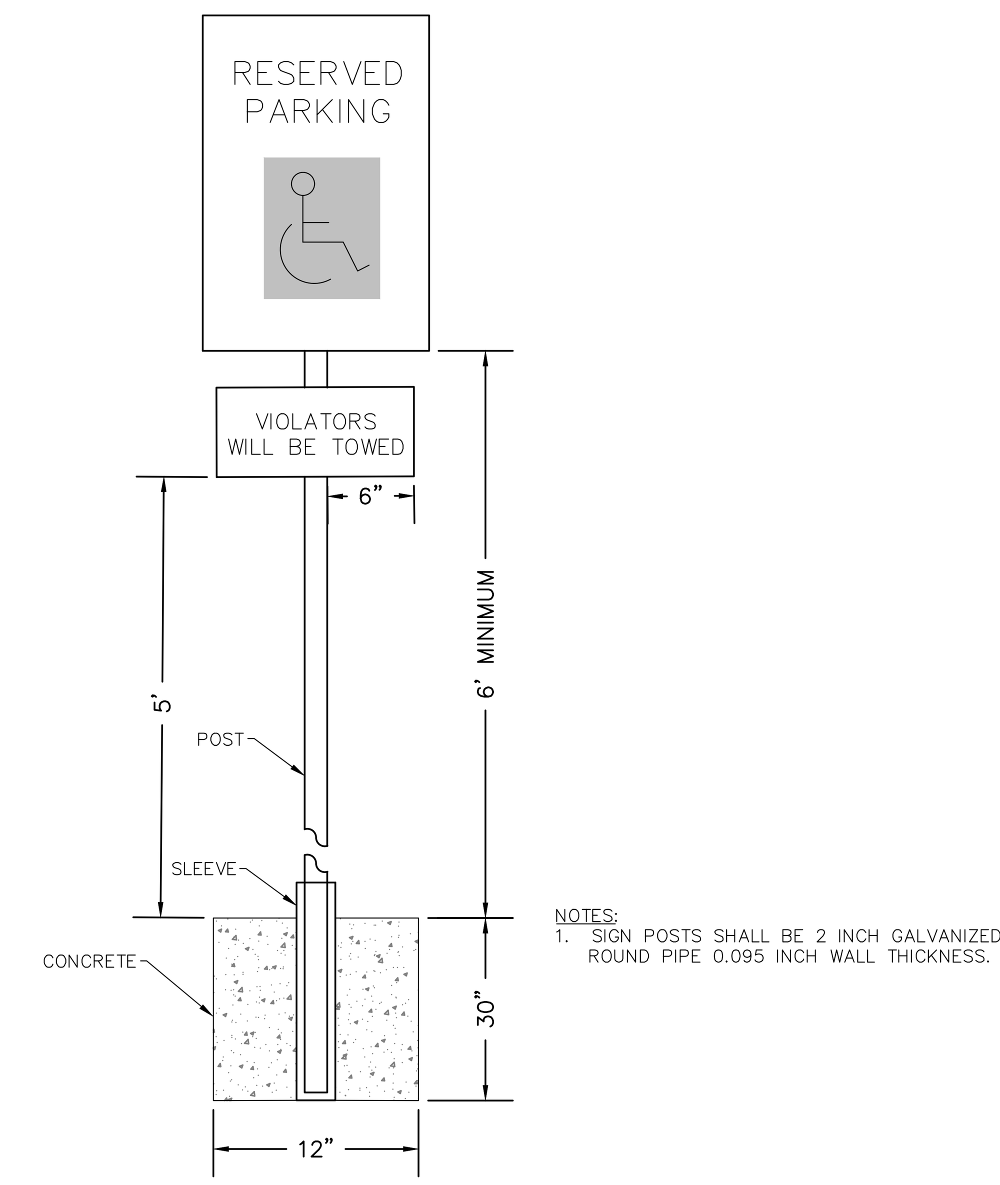
TYPICAL STREET SIGN

NOT TO SCALE



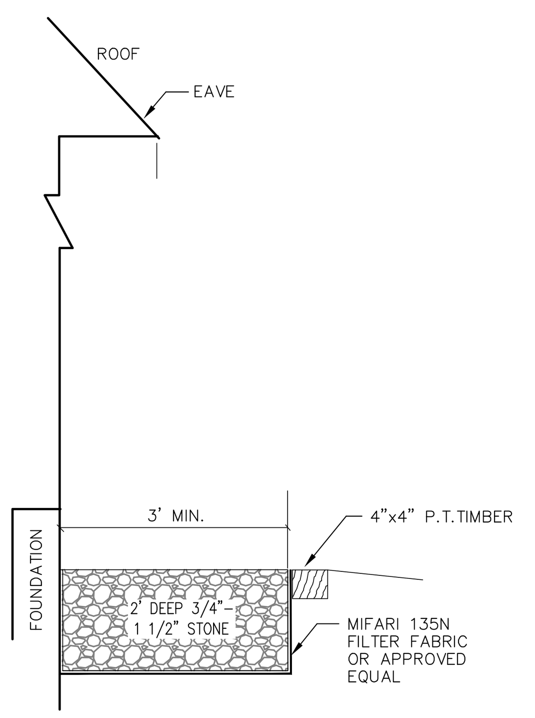
SILT SACK DETAIL

NOT TO SCALE



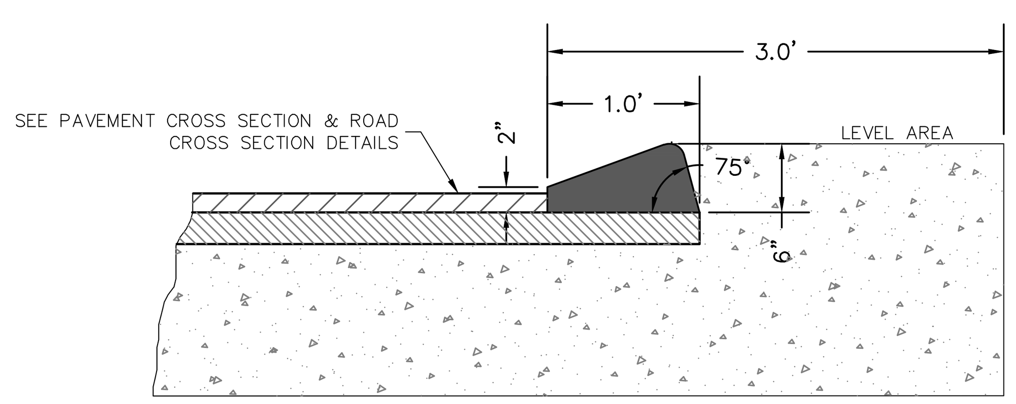
ACCESSIBLE PARKING SPACE SIGN(R7-8A)

NOT TO SCALE



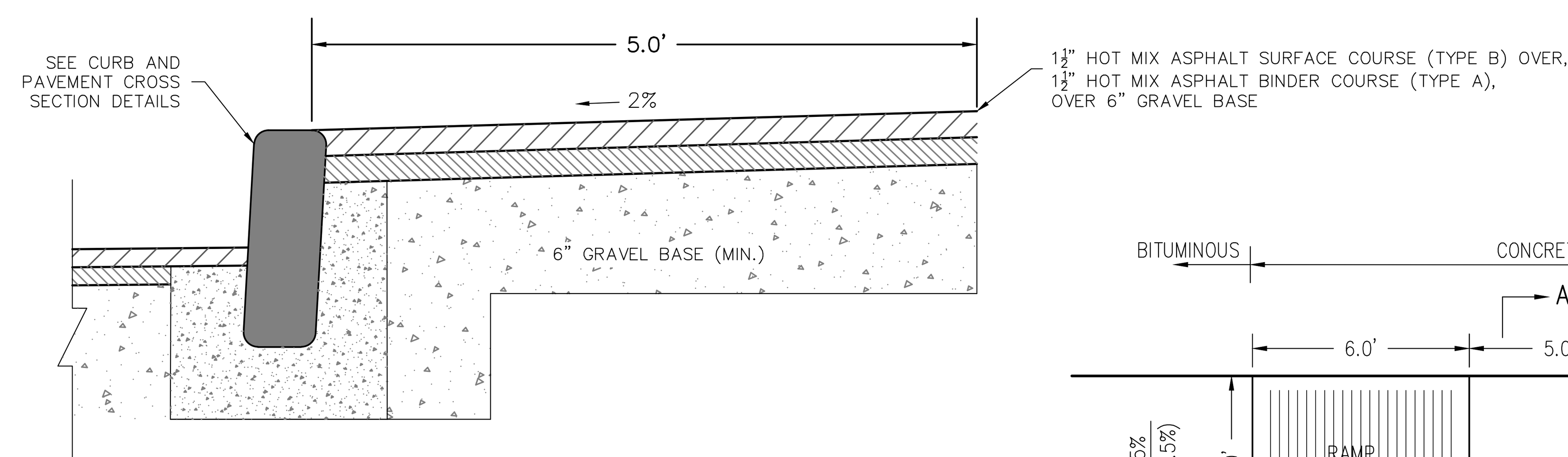
STONE RECHARGE DETAIL

NOT TO SCALE



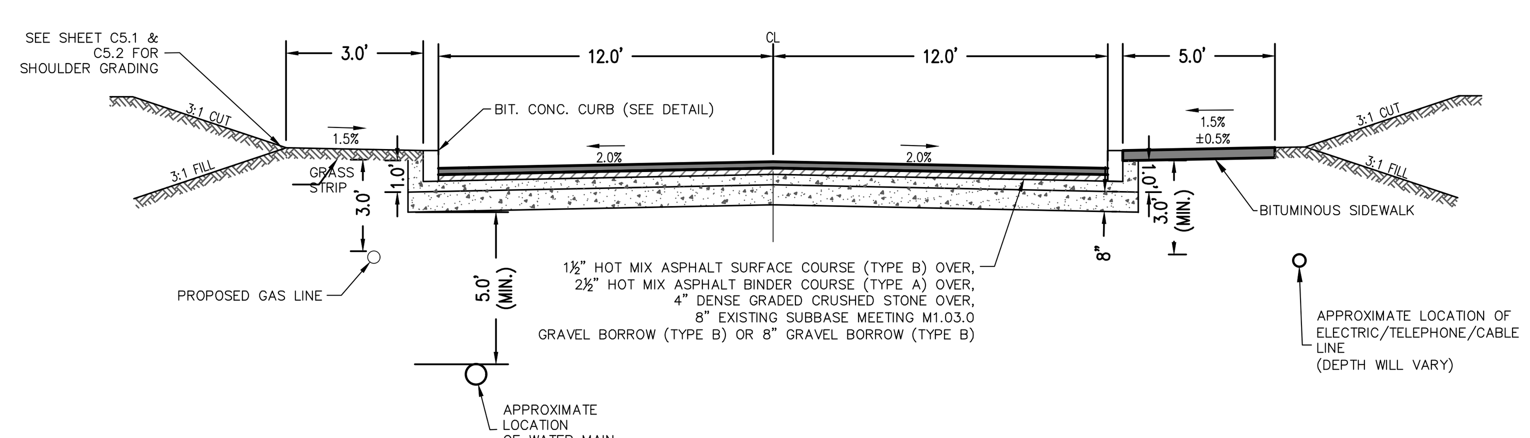
BIT. CAPE COD CURB BERM DETAIL

NOT TO SCALE



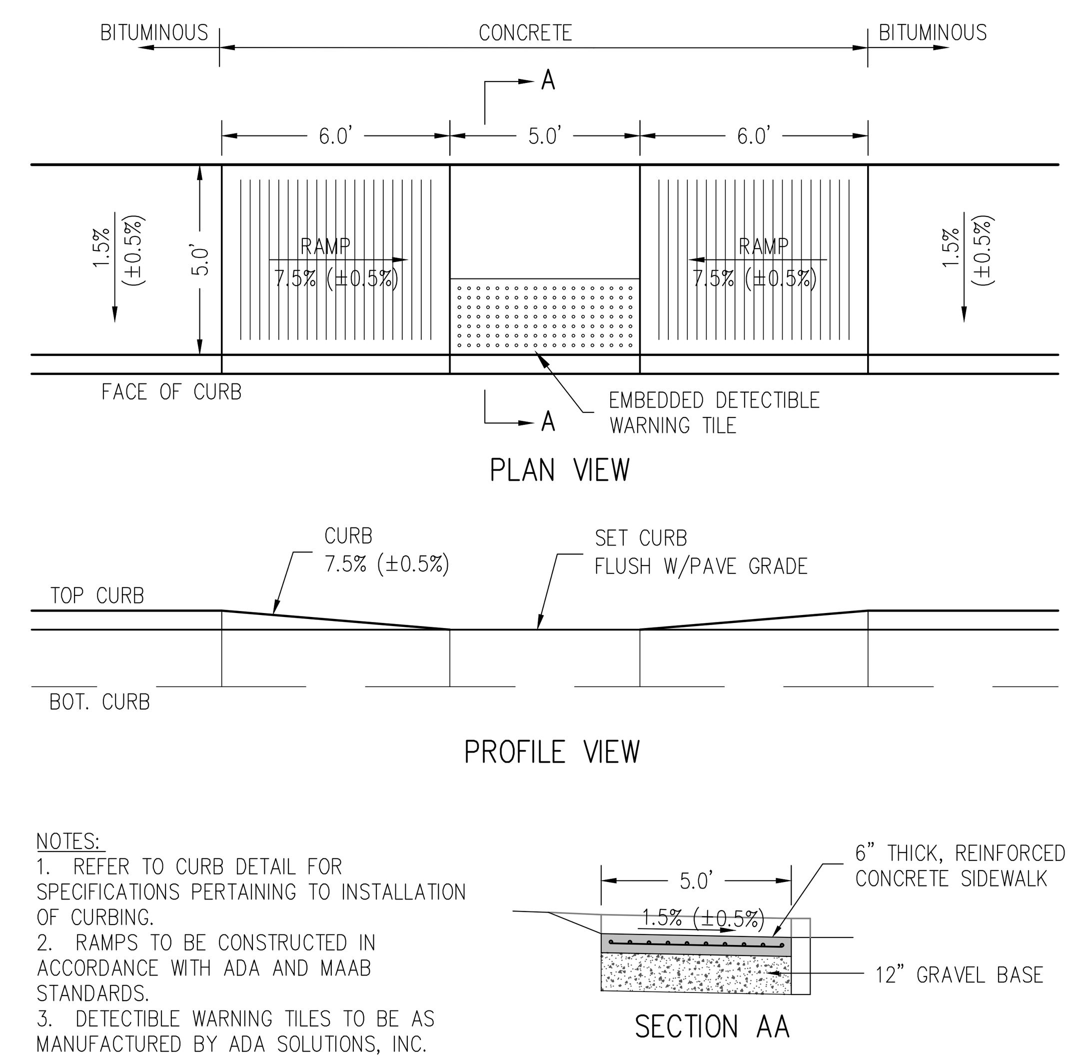
BITUMINOUS SIDEWALK DETAIL

NOT TO SCALE



TYPICAL ROAD CROSS-SECTION: STA 0+00-21+00 & STA 30+00-36+80

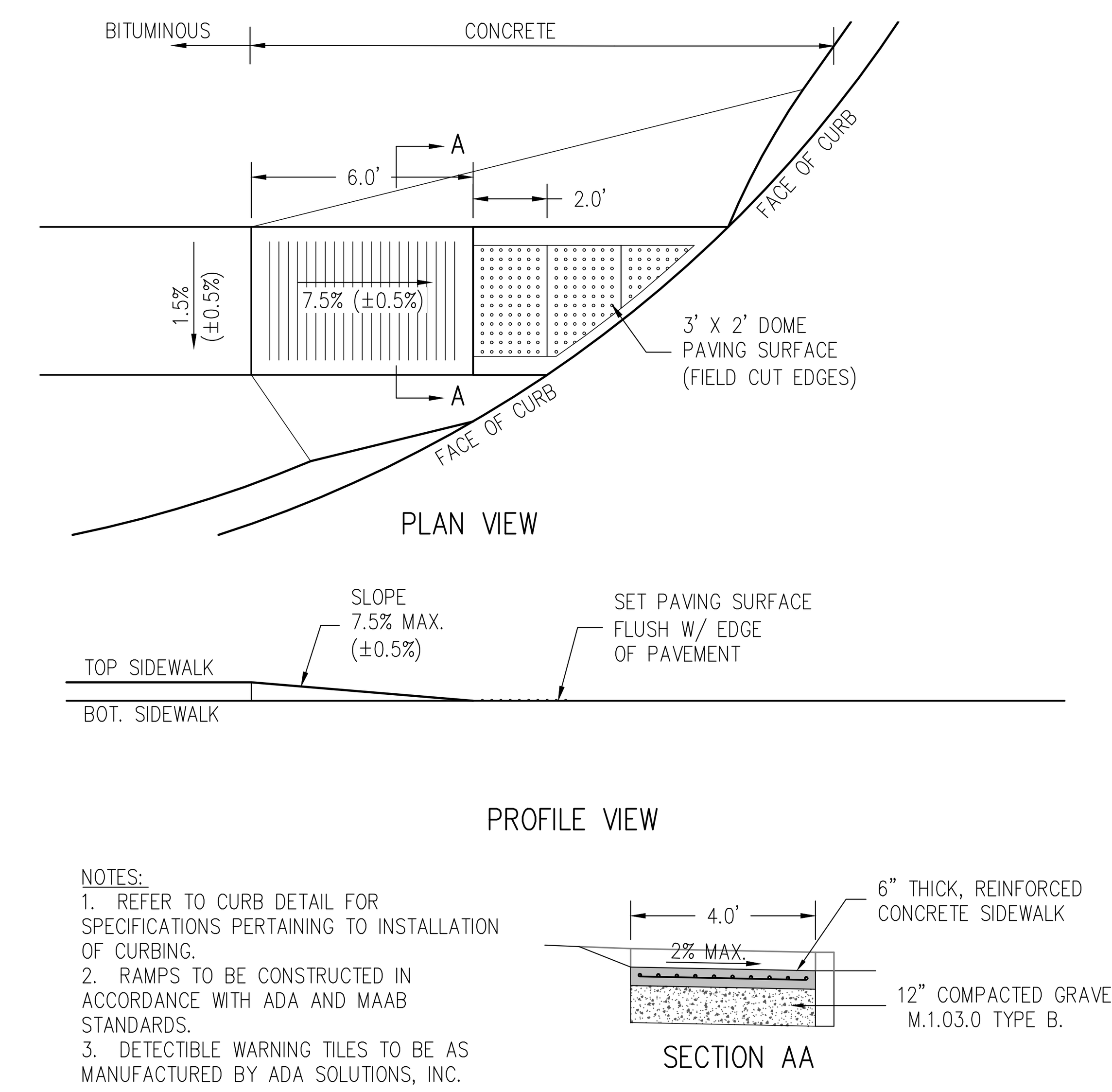
SCALE 1"=5'



NOTES:
1. REFER TO CURB DETAIL FOR SPECIFICATIONS PERTAINING TO INSTALLATION OF CURBING.
2. RAMPS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND MAAB STANDARDS.
3. DETECTIBLE WARNING TILES TO BE AS MANUFACTURED BY ADA SOLUTIONS, INC.

ACCESSIBLE RAMP DETAIL #1

SCALE: 1"=4'



NOTES:
1. REFER TO CURB DETAIL FOR SPECIFICATIONS PERTAINING TO INSTALLATION OF CURBING.
2. RAMPS TO BE CONSTRUCTED IN ACCORDANCE WITH ADA AND MAAB STANDARDS.
3. DETECTIBLE WARNING TILES TO BE AS MANUFACTURED BY ADA SOLUTIONS, INC.

ACCESSIBLE RAMP DETAIL #2

SCALE: 1"=4'

PREPARED BY:
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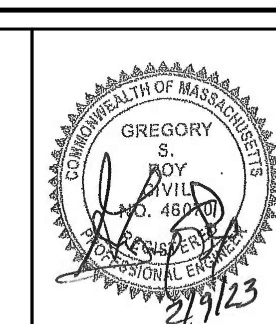
APPLICANT:
500 MG LLC
6 LYBERTY WAY
WESTFORD, MASSACHUSETTS

SCALE:

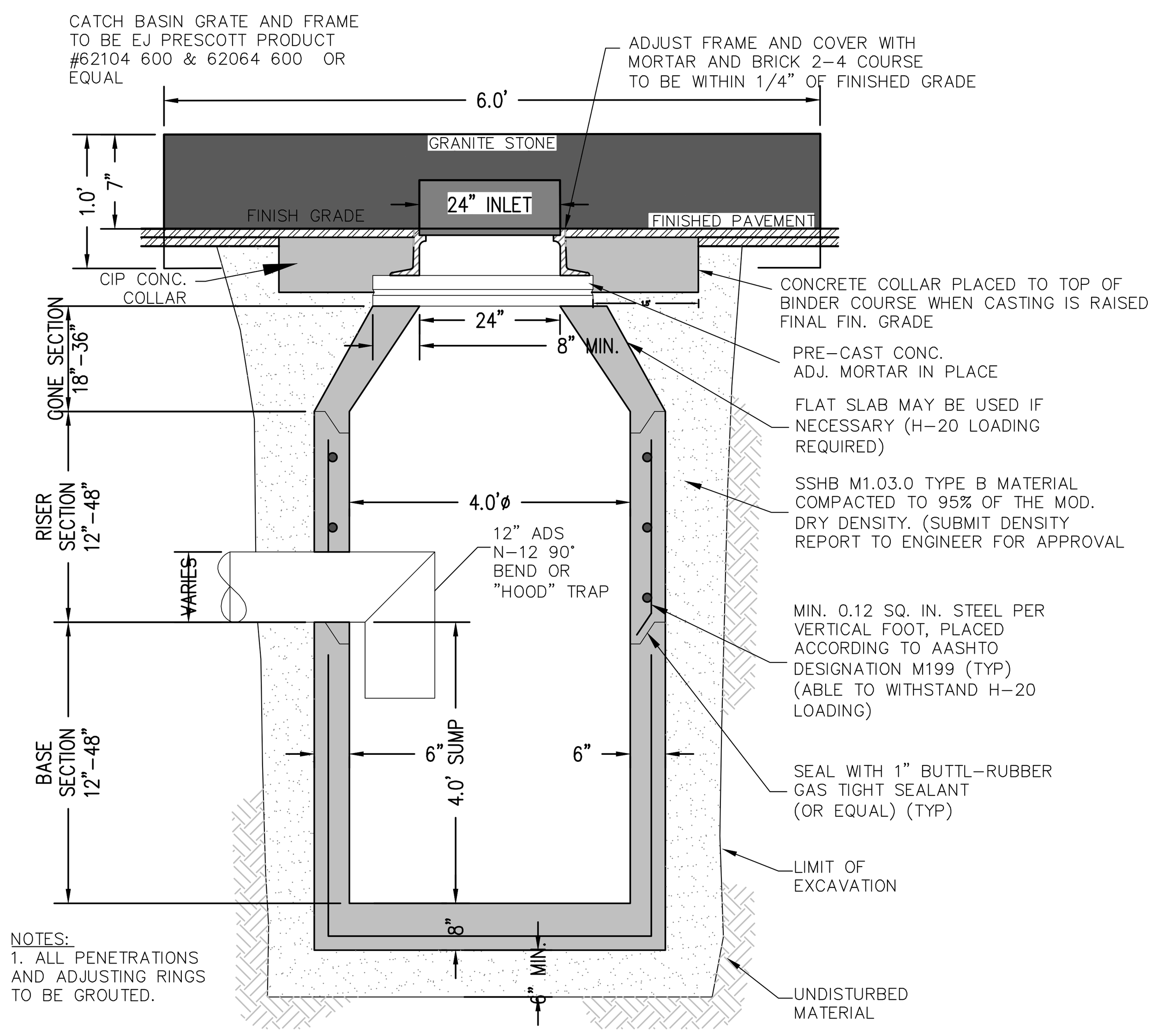


DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

CONSTRUCTION DETAILS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

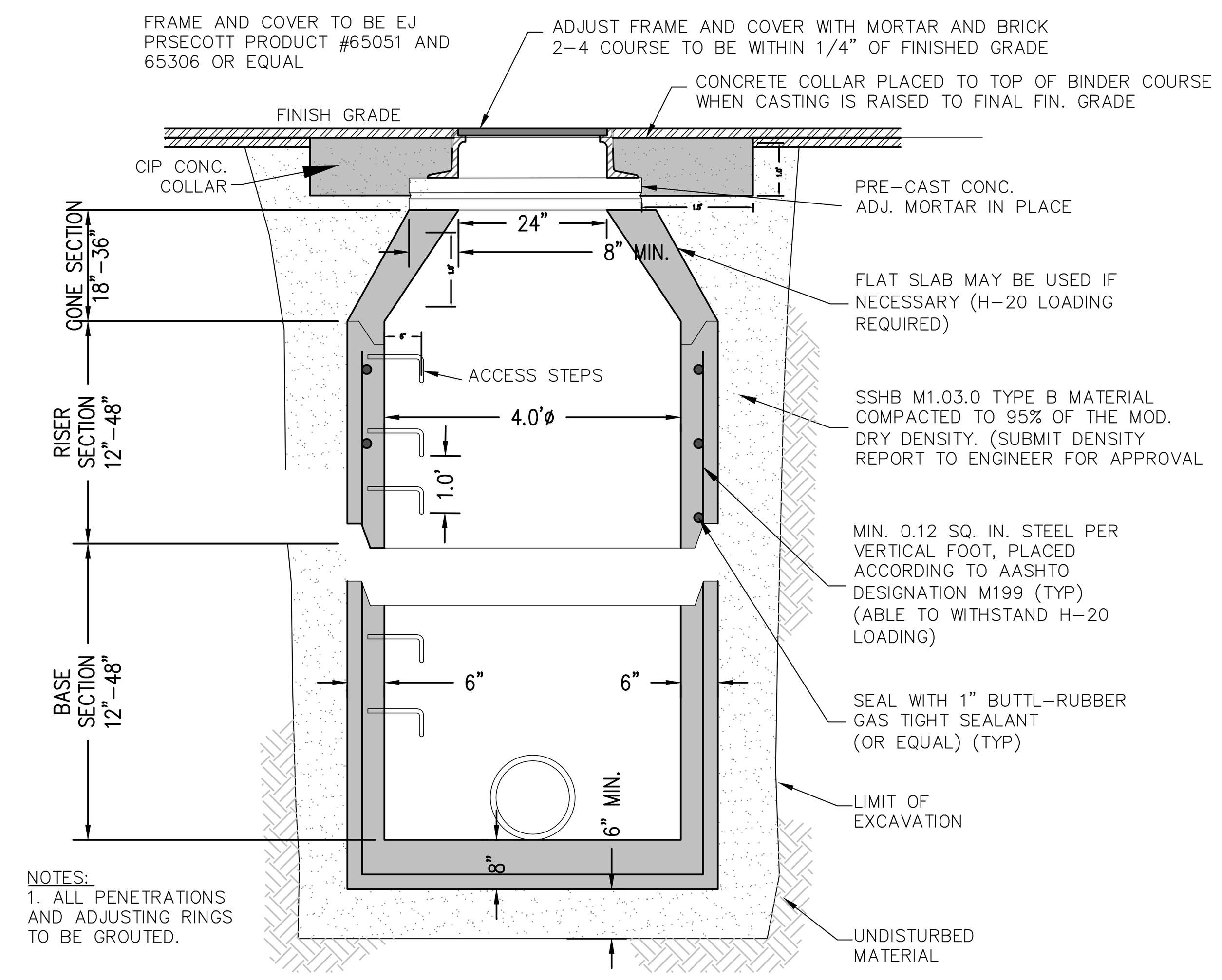
NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-DETAILS
SHEET NO. C8.2



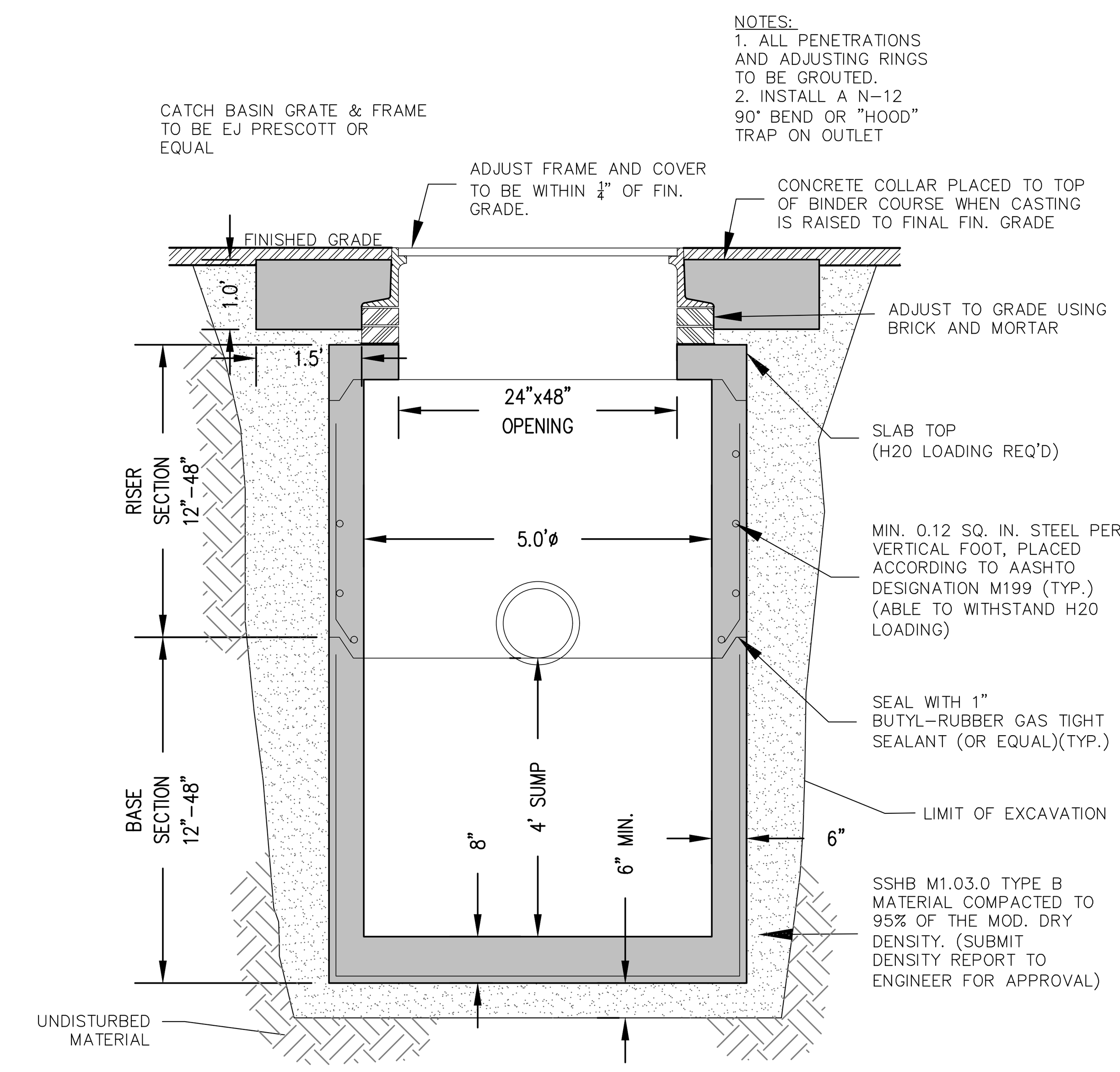
DEEP SUMP CONCRETE CATCH BASIN

NOT TO SCALE

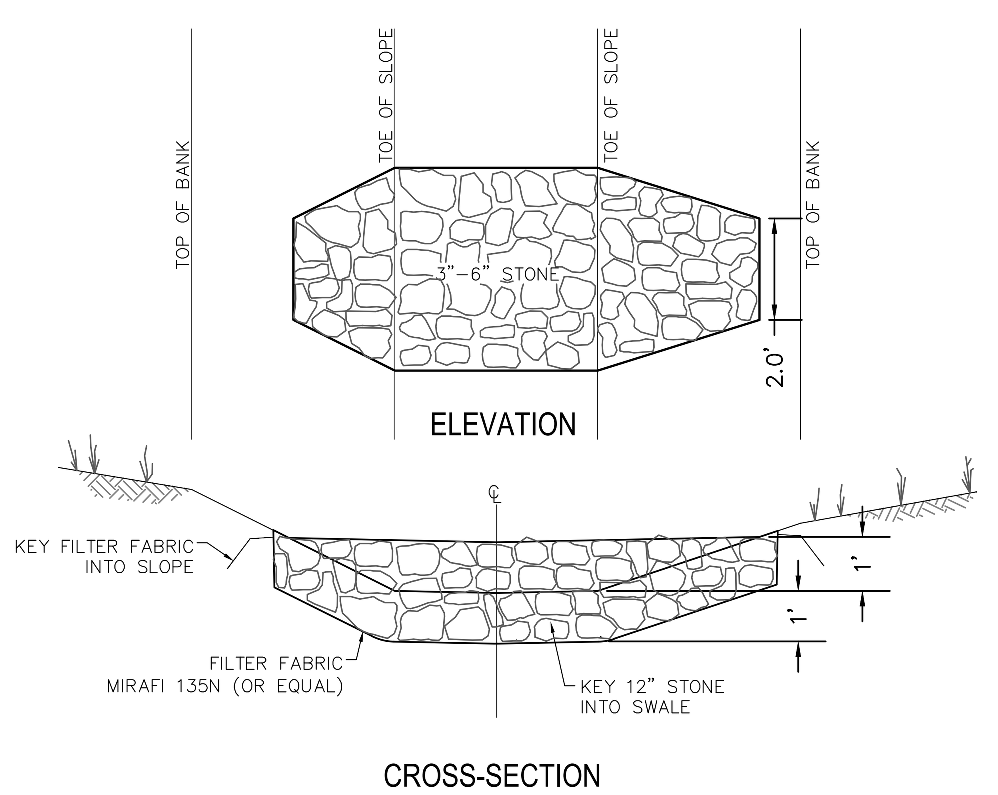


DRAIN MANHOLE DETAIL

NOT TO SCALE

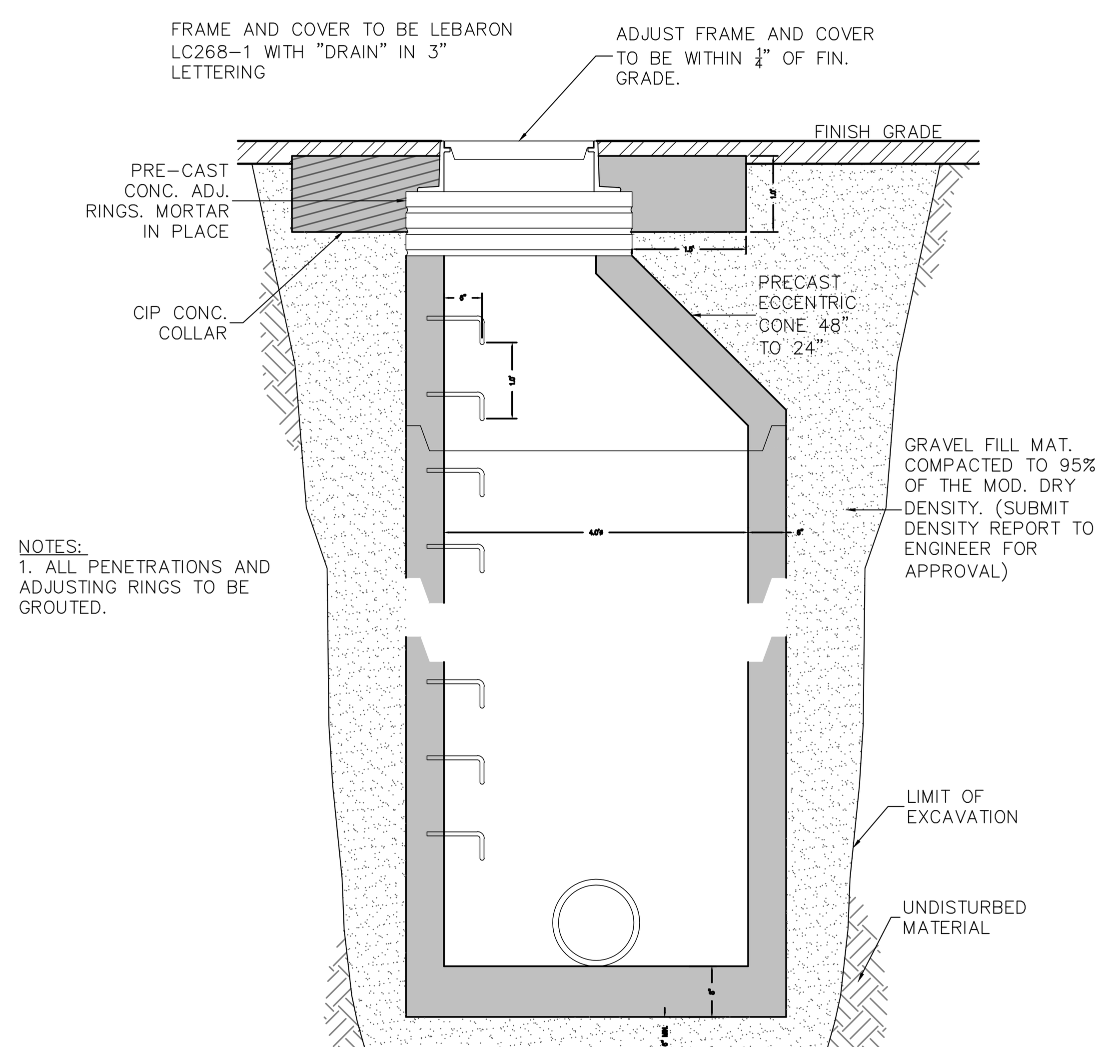


DEEP SUMP CONC. DOUBLE CATCH BASIN



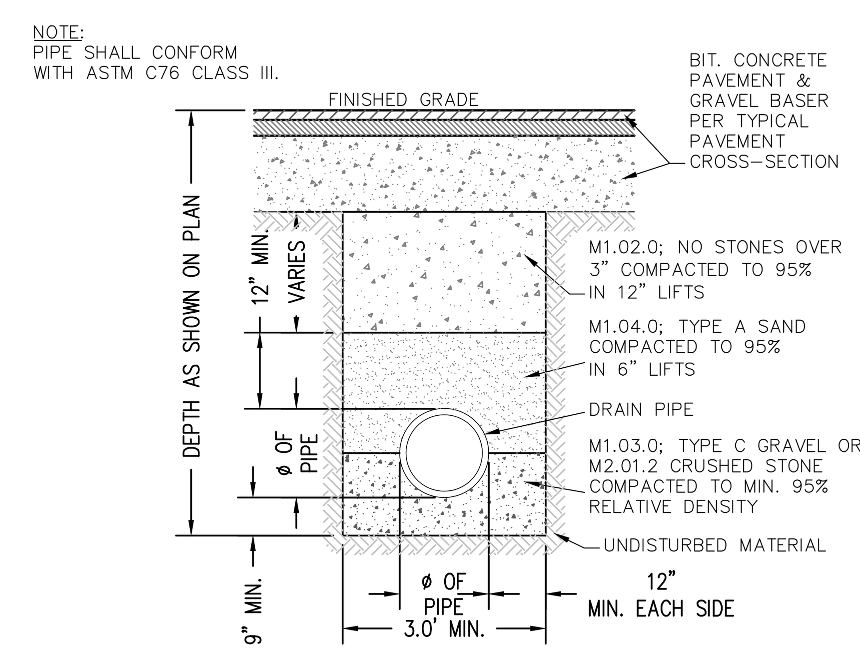
CHECK DAM DETAIL

SCALE: 1"=3'



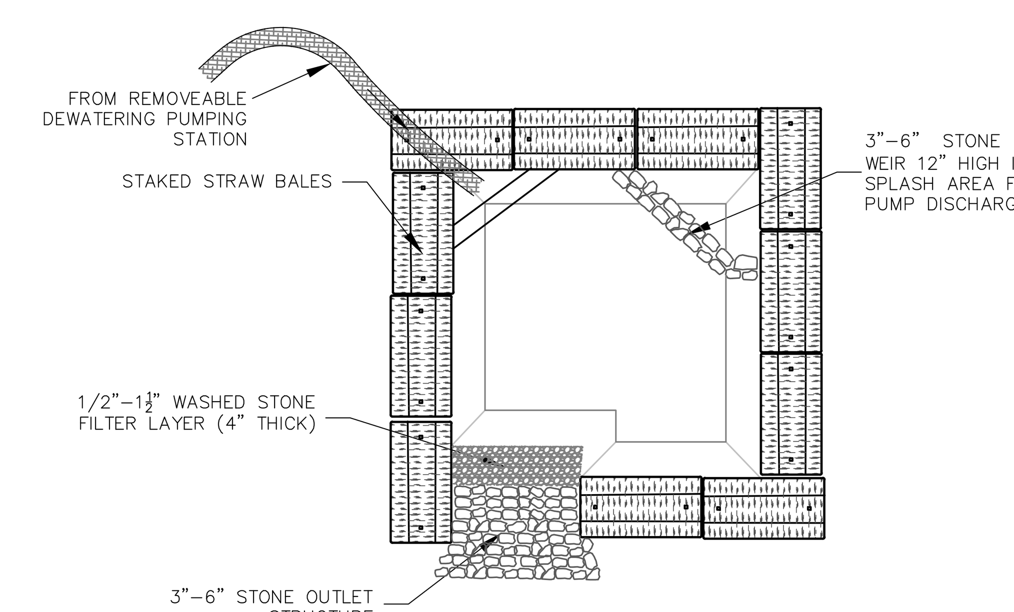
DRAIN MANHOLE DETAIL

NOT TO SCALE

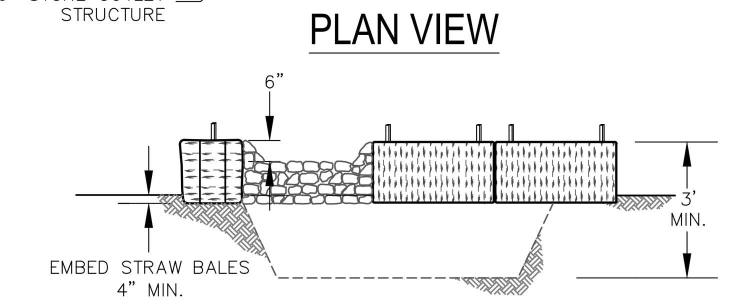


DRAIN PIPE TRENCH DETAIL

NOT TO SCALE



PLAN VIEW



SECTION

SEDIMENT TRAP

NOT TO SCALE

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

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WESTFORD, MASSACHUSETTS

APPLICANT:
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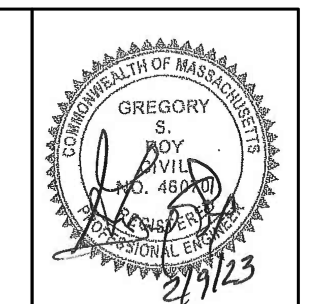
WESTFORD, MASSACHUSETTS

SCALE:



DATE: 2/09/2023

DESIGN BY: GSR

DRAWN BY: RPV

CHECKED BY: GSR

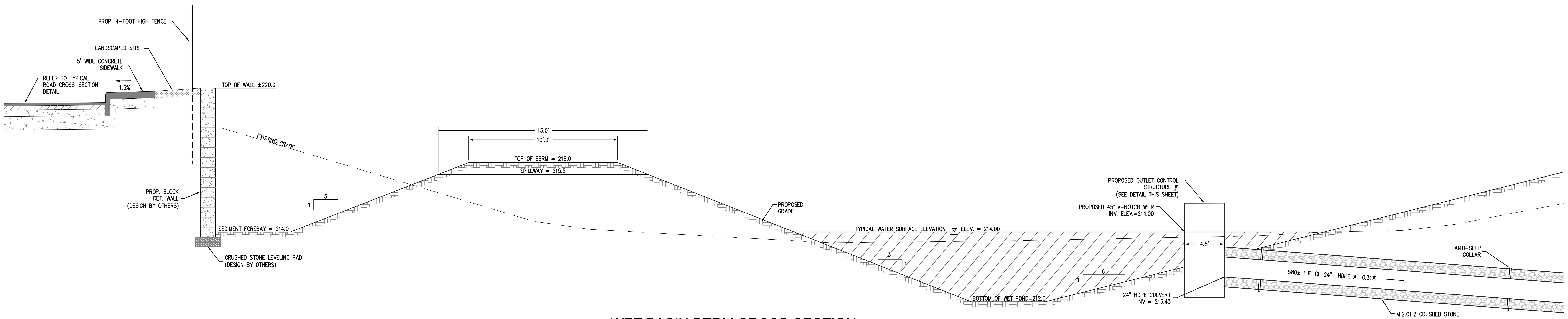
CONSTRUCTION DETAILS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842

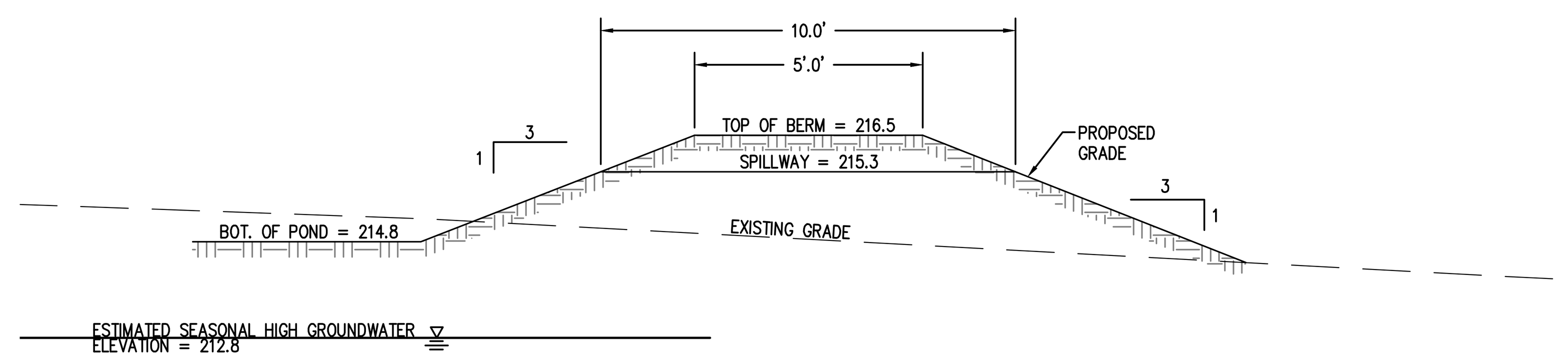
DRAWING NO. 6842-DETAILS

SHEET NO. C8.3



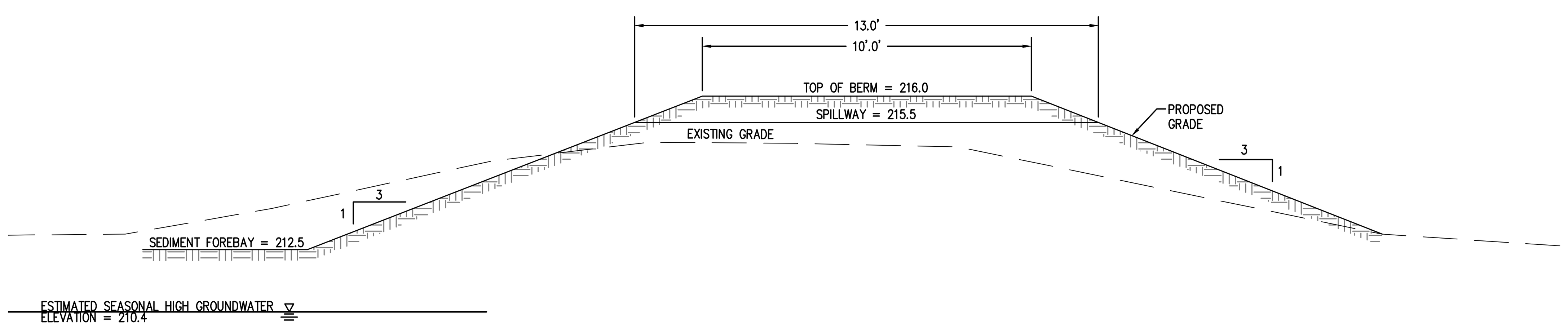
WET BASIN BERM CROSS-SECTION

NOT TO SCALE



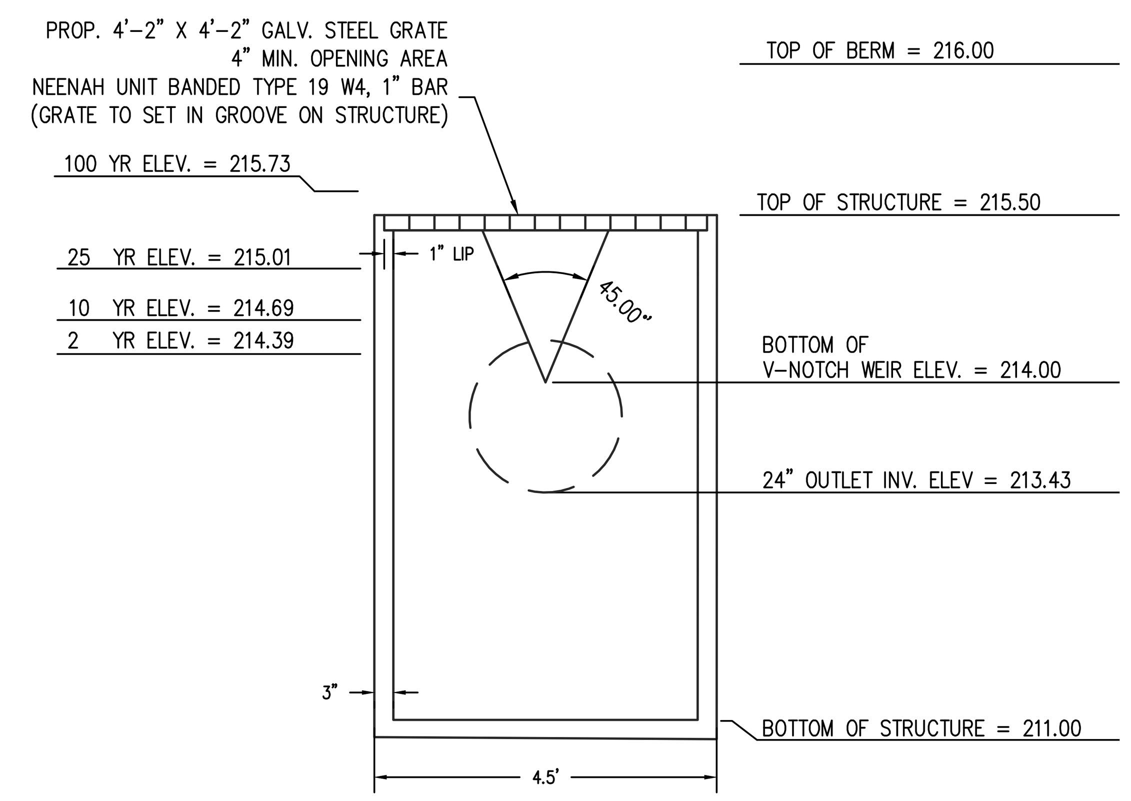
INFILTRATION BASIN #1 BERM CROSS-SECTION

NOT TO SCALE



INFILTRATION BASIN #2 BERM CROSS-SECTION

NOT TO SCALE



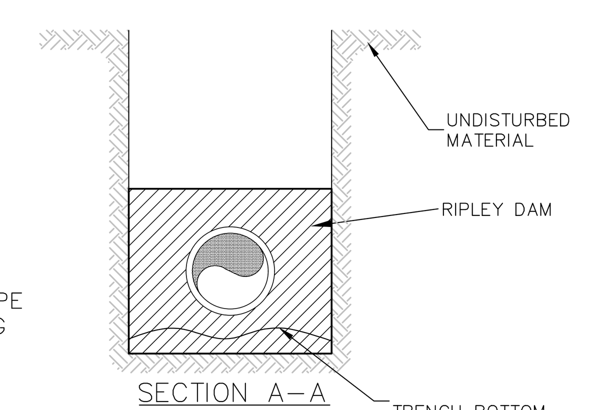
OUTLET CONTROL STRUCTURE #1 DETAIL

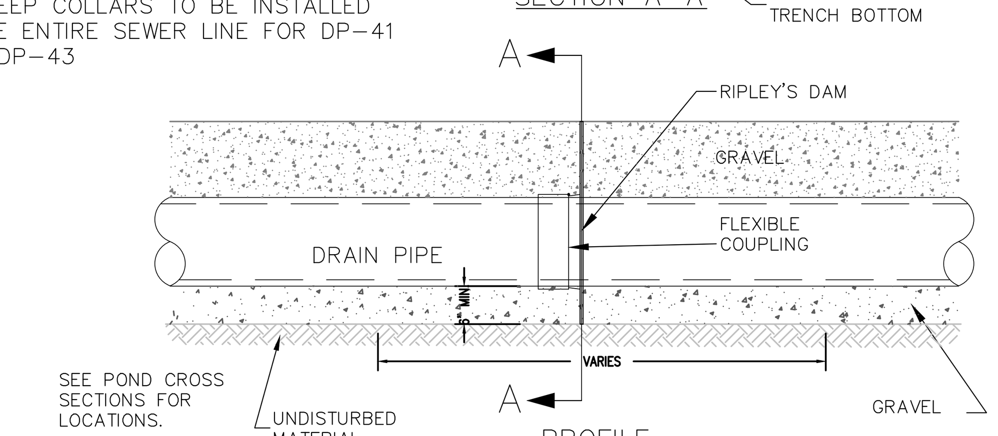
SCALE: 1"=2'

ANTI-SEEP COLLAR NOTES:

1. ANTI-SEEP COLLARS TO BE INSTALLED EVERY 100' ALONG SEWER AND DRAINAGE LINES IN LOCATIONS WHERE PROPOSED PIPE IS GREATER THAN 5 FEET BELOW EXISTING GRADE.

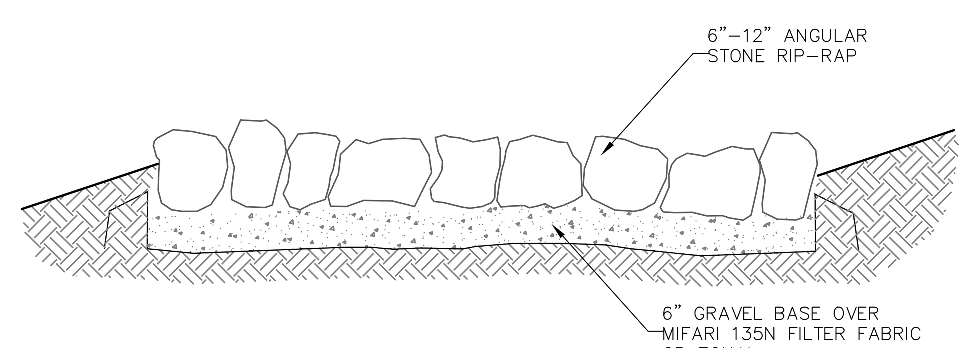
2. ANTI-SEEP COLLARS TO BE INSTALLED ALONG THE ENTIRE SEWER LINE FOR DP-41 THROUGH DP-43





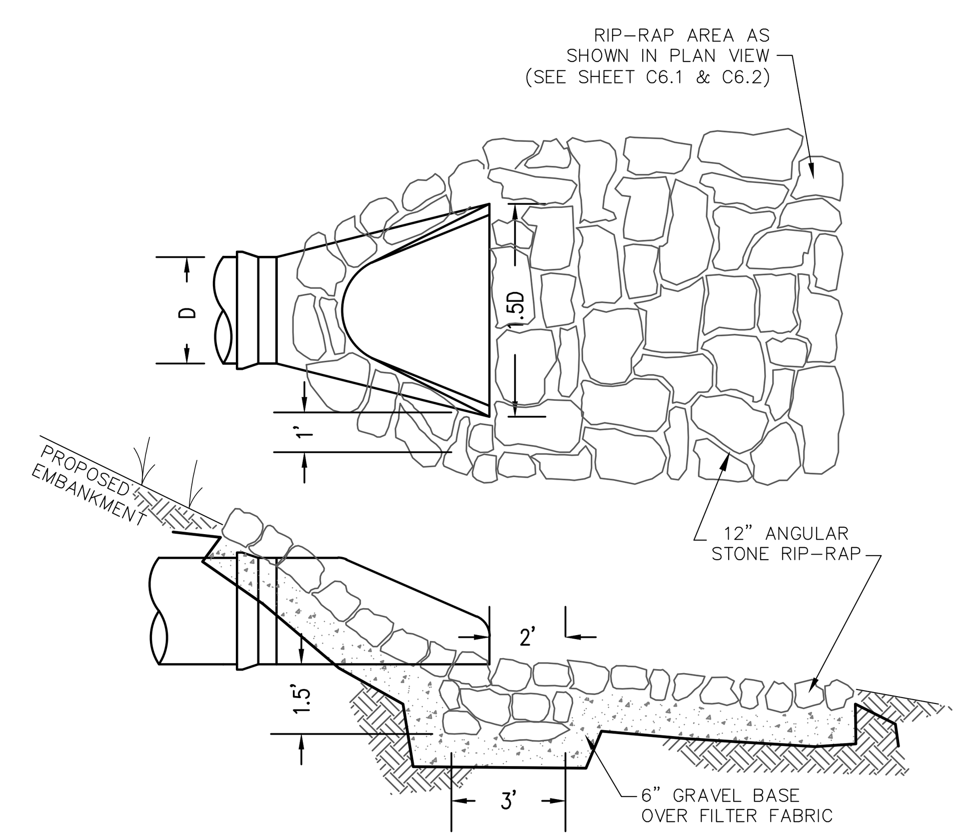
ANTI-SEEP COLLAR DETAIL

NOT TO SCALE



STONE RIP-RAP DETAIL

NOT TO SCALE



FLARED END SECTION

NOT TO SCALE

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SCALE:

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46980
REGISTERED PROFESSIONAL ENGINEER
2/9/23

DATE: 2/09/2023
DESIGN BY: GSR
DRAWN BY: RPV
CHECKED BY: GSR

CONSTRUCTION DETAILS PLAN
GROTON FARMS
500 MAIN STREET
GROTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 6842
DRAWING NO. 6842-DETAILS
SHEET NO. C8.4