DEFINITIVE SUBDIVISION & FLEXIBLE DEVELOPMENT PLAN

GROTON, MA

"HAYES WOODS"

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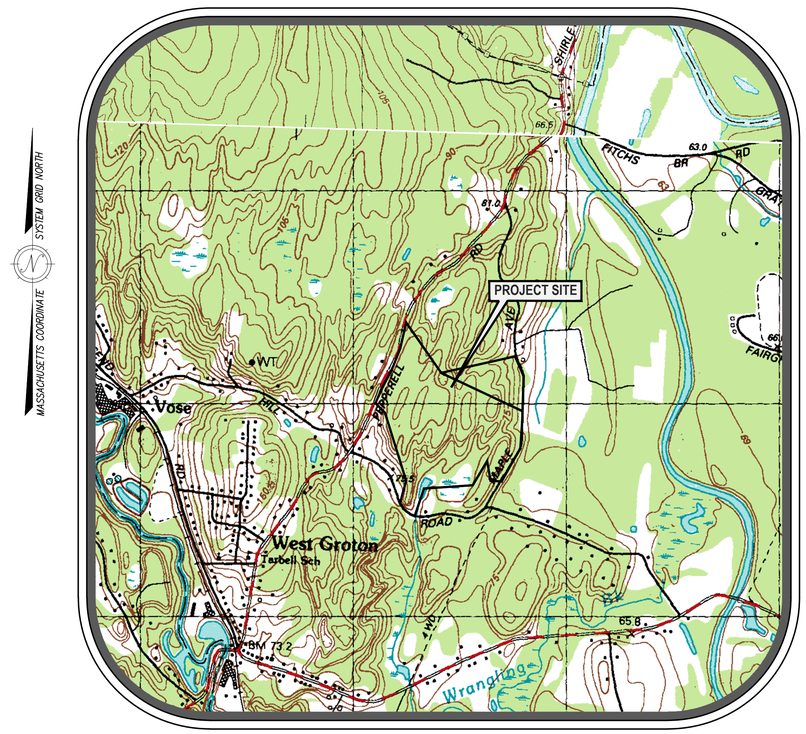

LOCUS MAP

SCALE: 1"=1,000'±

LIST OF WAIVERS:

1. SECTION 381-10 B.(5) – A REQUEST IS BEING MADE TO WAIVE THE CURBING REQUIREMENT.
2. SECTION 381-11 C.(1) – A WAIVER IS BEING REQUESTED TO ALLOW PLASTIC DRAINAGE PIPE IN LIEU OF REINFORCED CONCRETE
3. SECTION 381-13 A. – A WAIVER IS BEING REQUESTED TO REMOVE THE SIDEWALK REQUIREMENT
4. SECTION 381-13 D.– A REQUEST IS BEING MADE TO WAIVE THE CURBING REQUIREMENT.
5. 352-11.C(10) – A WAIVER IS BEING REQUESTED FROM THE EARTH REMOVAL ADVISORY COMMITTEE TO ALLOW UNDERGROUND RECHARGE FROM ROADWAY SURFACES.

NOTE:

THE PROPOSED PROJECT HAS BEEN DESIGNED IN CONFORMANCE WITH "FLXIFIBLE DEVELOPMENT STANDARDS AS DEFINED IN SECTION 218-26 OF THE GROTON ZONING BYLAW AND AS PRESENTED TO THE GROTON PLANNING BOARD DURING THE PRELIMINARY DESIGN PHASE OF THIS PROJECT.

APPLICANT: MAPLE REALTY TRUST
ROBERT P. KILEY TRUSTEE
P.O. BOX #381
GROTON, MASSACHUSETTS

RECORD OWNER: HAYES FAMILY REAL ESTATE TRUST
74 SOUTH STREET
PEPPERELL, MASSACHUSETTS

DEED REFERENCE: BK.8806 PG.269

ASSESSORS REFERENCE: ID 104-30 & 212-13
ZONING CLASSIFICATION: RESIDENTIAL/AGRICULTURAL
LOT SIZE STANDARDS: AREA = 80,000 SF FRONTAGE = 225' (CONVENTIONAL)

ISSUED FOR PERMIT

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
THE SUBDIVISION CONTROL LAW
GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #_____ DATED _____
FOR OPEN SPACE FLEXIBLE DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED BY _____DATED _____ AND TO BE RECORDED HEREWITH

NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED ON ANY LOT WITHOUT A PERMIT FROM THE BOARD OF HEALTH

I MICHAEL BOUCHARD CLERK OF THE TOWN OF GROTON HEREBY CERTIFY THAT THE NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

GROTON TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS STANLEY R. DILLIS No. 33182 PROFESSIONAL LAND SURVEYOR

2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS FRANCIS M. MCPARTLAN CIVIL No. 49572 REGISTERED PROFESSIONAL ENGINEER

2/10/2021

PROFESSIONAL ENGINEER DATE

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

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
TITLE SHEET
HAYES WOODS
MAPLE AVE & PEPPERELL ROAD

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-TITLE	C1.0

LEGEND

EXIST. FEATURE	DESCRIPTION	EXIST. SYM.	DESCRIPTION
	STREAMS/RIVERS		LIGHT POLE
	WETLANDS		TELEPHONE POLE
	LIMIT OF BUFFER ZONE		GUY WIRE
LEDGE	LEDGE		HYDRANT
100' WELL OFFSET	WELL RADIUS		SEWER MANHOLE
	PROPERTY LINE		STORM WATER MANHOLE
	EASEMENT LINE		WELL
X X	WIRE FENCE		MISCELLANEOUS MANHOLE
	WOOD FENCE	WF A1	WETLAND FLAG
	GUARD RAIL		CATCH BASIN
	CHAIN LINK FENCE	WV	WATER GATE VALVE
CONC. WALL	CONCRETE RETAINING WALL	GV	GAS GATE VALVE
STONE WALL	STONE RETAINING WALL	E	ELECTRICAL METER
	STONE WALL	G	GAS METER
W	WATER LINE	TS	TRAFFIC SIGNAL SWITCH
G	GAS LINE		SIGN
E	ELECTRICAL LINE	PT A	PERC TEST
S	SANITARY SEWER	TP 1105-1	TEST PIT
D	STORM DRAIN	T TRANS	ELECTRICAL TRANSFORMER
T	ELEPHONE LINE	T TEL	TELEPHONE BOX
CATV	CABLE LINE	C	CABLE BOX
OW	EXISTING OVER-HEAD WIRES		FLAG POLE
180	EXISTING CONTOUR (INDEX)		WATER SHUT OFF
179	EXISTING CONTOUR (INTERMEDIATE)		SHRUB
	EXISTING SPOT ELEVATION		CLEANOUT
	EXISTING BUILDING/HOUSE	FA	FIRE ALARM
TREE LINE	TREE LINE		VENT PIPE

ABBREVIATIONS

ABB.	DESCRIPTION
ATM	ATMOSPHERIC TANK
UD	UNDERDRAIN
FD	FOUNDATION DRAIN
F.S.	FIRE SERVICE
DOM.	DOMESTIC WATER SERVICE
B.O	WATER BLOW OFF
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
ST	SEPTIC TANK
PC	PUMP CHAMBER
DP1	DRAIN PIPE ID
SP1	SEWER PIPE ID
DB	DISTRIBUTION BOX
SC	STORMCEPTOR CATCH BASIN
GAL	GALLON
TOF	TOP OF FOUNDATION
EL.	ELEVATION
INV.	INVERT
WSO	WATER SHUTOFF
BCCB	BITUMINOUS CAPE COD BERN
RET.	RETAINING WALL
C.O.	CLEAN OUT
INSP.T.	INSPECTION PORT
VCC	VERTICAL CONCRETE CURB
BCCB	BITUMINOUS CAPE COD BERM

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.

LEGEND

PROP. FEATURE	DESCRIPTION	PROP. SYM.	DESCRIPTION
	REPLICATED WETLANDS		PROPOSED LIGHT POLE
	PROPERTY LINE		PROPOSED TELEPHONE POLE
	EASEMENT LINE		PROPOSED HYDRANT
	HAYBALES	SMH-1	PROPOSED SANITARY MANHOLE
	WIRE FENCE	DMH-1	PROPOSED STORM WATER MANHOLE
	WOOD FENCE		PROPOSED TELEPHONE MANHOLE
	GUARD RAIL		PROPOSED ELECTRICAL MANHOLE
	CHAIN LINK FENCE	WSO	PROPOSED WATER SHUTOFF
RET. WALL (CONC.)	POURED CONCRETE RETAINING WALL	B	PROPOSED POST
RET. WALL (BLOCK)	CONC. BLOCK RETAINING WALL	CB-1	PROPOSED CATCH BASIN
RET. WALL (STONE)	STONE RETAINING WALL	DCB-1	PROPOSED DOUBLE CATCH BASIN
W	PROPOSED WATER LINE	GV	PROPOSED WATER GATE VALVE
G	PROPOSED GAS LINE	GV	PROPOSED GAS GATE VALVE
E	PROPOSED ELECTRICAL LINE	T	PROPOSED ELECTRICAL TRANSFORMER
S	PROPOSED SANITARY SEWER	E	PROPOSED ELECTRICAL JUNCTION BOX
D	PROPOSED STORM DRAIN	G	PROPOSED GAS METER
RD	PROPOSED ROOF DRAIN	TS	PROPOSED TRAFFIC SIGNAL SWITCH
UD	PROPOSED UNDER DRAIN	S	PROPOSED SIGN
T	PROPOSED TELEPHONE LINE	B-1	BORING
CATV	PROPOSED CABLE LINE		HANDICAPPED SPACE
BCCB	PROPOSED BACK CAPE COD BERM	FES	PROPOSED FLARED END SECTION
EOP	PROPOSED EDGE OF PAVEMENT		PROPOSED RIPRAP
	PROPOSED UNPAVED ROAD	CB	PROPOSED STONE BOUND
180	PROPOSED CONTOUR (INDEX)		STANDARD TREE
179	PROPOSED CONTOUR (INTERMEDIATE)		PINE TREE
175x5	PROPOSED SPOT ELEVATION		SHRUB
	PROPOSED BUILDING/HOUSE		
TREE LINE	TREE LINE		
	PROPOSED STORMWATER MANAGEMENT AREA		

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. SEED MIX IN THE RAIN GARDENS SHALL CONSIST OF NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DRY SITES AS SPECIFIED BY NEW ENGLAND WETLAND PLANTS, INC. (OR EQUAL).
3. 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.
4. THE TEMPORARY MEASURES WILL NOT BE REMOVED UNTIL PERMANENT STABILIZATION HAS OCCURRED.
5. 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 UNDERGROUND INFILTRATION AREAS.
3. EXCAVATE TO SUBGRADE IN CUT SECTIONS; BRING FILL SECTIONS TO SUBGRADE USING EXCAVATED SOIL.
4. EXCAVATE UNDERGROUND INFILTRATION AREAS TO SUBGRADE USING LIGHT EARTH MOVING EQUIPMENT TO LIMIT SOIL COMPACTION. PREVENT STORMWATER FROM UNSTABILIZED AREAS FROM ENTERING UNDERGROUND INFILTRATION AREAS.
5. INSTALL BUILDING FOUNDATION, UNDERGROUND UTILITIES, AND BUILDING PAD. UTILITIES INCLUDE DRAINAGE SYSTEM, WATER, GAS AND ELECTRICAL UTILITIES.
6. INSTALL UNDERGROUND INFILTRATION AREAS. EXCAVATE AND REPLACE ANY IMPERVIOUS SOILS TO A DEPTH OF TWO (2) FEET BELOW THE INVERT OF THE SYSTEM AND REPLACE WITH PERVIOUS SOILS. SCARIFY SYSTEM INVERT WITH ROTARY TILLER OR DISC HARROWER AND SMOOTH WITH LEVELING DRAG, OR EQUIVALENT GRADING EQUIPMENT, PRIOR TO PLACEMENT OF UNDERGROUND INFILTRATION AREA PER CONSTRUCTION DETAILS.
7. PLACE COMPACTED BASE GRAVEL FOR THE PAVED AREAS; ROUGH GRADE AREAS TO BE LOAMED AND SEEDED.
8. INSTALL PAVEMENT.
9. FINALIZE GRADING. LOAM, SEED AND MULCH DISTURBED AREAS.
10. 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.
2. PROPOSED PLANT MATERIAL MAY BE SUBSTITUTED WITH SIMILAR PLANT PRIOR TO INSTALLATION BASED ON AVAILABILITY.
3. 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.
4. NOTIFY ALL UTILITY COMPANIES PRIOR TO EXCAVATING PLANT PITS. PLANT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID INTERFERENCE WITH UTILITIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT.
6. 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.
7. THE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITION CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
8. QUALITY AND SIZE OF THE PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60 (MOST RECENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
9. 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.
10. TREES SHALL BE LOCATED IN A MANNER WHICH WILL NOT OBSTRUCT ACCESS TO UTILITIES OR VISIBILITY OF STREET OR TRAFFIC SIGNS.
11. 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.
12. 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.

NOTES/REFERENCES:

A. GENERAL NOTES:

1. BASE MAPPING WAS PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP IN 2018.
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. A VEGETATED WETLAND IS LOCATED ON THE PROPERTY AND HAS BEEN SHOWN ON THE SITE PLANS.
5. SOIL TESTING DEPICTED ON THESE PLANS WAS PERFORMED BY DILLIS & ROY CIVIL DESIGN GROUP, INC. AND WITNESSED BY IRA GROSSMAN, NASHOBA ASSOCIATED BOARD OF HEALTH ON 04/06/2020, 04/20/2020, 05/26/2020, & 06/23/2020.
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. DRIVEWAYS SHALL BE 12-FEET IN WIDTH FOR ALL PROPOSED LOTS
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. A WAIVER HAS BEEN REQUESTED TO WAIVE THE CURBING REQUIREMENT FOR THE DEVELOPMENT.
5. THE PROPOSED ROAD WIDTH SHALL BE 18-FEET WIDE MEASURED FROM GUTTER LINE TO GUTTER LINE.
6. CURB ROUNDS AT THE INTERSECTION OF MAPLE AVE AND PEPPERELL ROAD SHALL BE GRANITE.

C. UTILITY NOTES:

1. SEPTIC SYSTEMS:
   - 1.1. ALL SEPTIC SYSTEMS SHOWN ON THE PLANS ARE BASED ON WITNESSED SOIL TESTING.
   - 1.2. SYSTEMS SHOWN ARE SIZED FOR 5-BEDROOMS FOR EACH LOT.
   - 1.3. ALL SEPTIC SYSTEM WILL REQUIRE A SEWAGE DISPOSAL CONSTRUCTION WORKS PERMIT FORM THE BOARD OF HEALTH PRIOR TO CONSTRUCTION.
   - 1.4. CONTRACTOR SHALL REFER TO THE CONSTRUCTION PERMIT AND LOT SEPTIC PLANS FOR ADDITIONAL DETAILS RELATIVE TO THE CONSTRUCTION OF THE PROPOSED SEPTIC SYSTEMS.
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 WEST 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 HILL ROAD, MAPLE AVE, AND THE PROPOSED ROAD.
   - 2.4. PROPOSED WATER MAIN SHALL BE 8"ø, D.I. CLASS 52 MAIN.
   - 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 PROPOSED SERVICE EXTENSION.
   - 3.2. CONTRACTOR TO PROVIDE ALL REQUIRED CONDUITS FOR ELECTRIC, TELEPHONE AND CABLE SERVICE TO THE DEVELOPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY.
   - 3.3. QUANTITY, LOCATION AND SIZE OF PROPOSED TRANSFORMERS, PULL BOXES, SERVICE BOXES, TELEPHONE DISCONNECTS, ETC. SHALL BE SPECIFIED BY THE APPLICABLE UTILITY COMPANY.
   - 3.4. 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 DETAIL SHEET C7.2 FOR ADDITIONAL INFORMATION PERTAINING TO TYPICAL CROSS SECTIONS AND OTHER PERTINENT DETAILS.
3. ALL DRIVEWAYS SHALL BE GRADED AS DEPICTED ON THE SITE PLANS.

E. DRAINAGE NOTES:

1. STORM DRAIN PIPE TO BE SMOOTH LINED HDPE PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. OR APPROVED EQUAL.
2. MANHOLES SHALL BE 4-FOOT DIAMETER PRECAST CONCRETE STRUCTURES FOR H-10 LOADING UNLESS OTHERWISE NOTED. SEE DETAIL ON SHEET C7.2.
3. MANHOLE COVERS SHALL BE 24" DIAMETER TO MEET TOWN DPW STANDARDS.
4. ALL CATCH BASIN GRATES SHALL BE SET AT BINDER ASPHALT GRADES AND RAISED TO FINAL FINISHED GRADES JUST PRIOR TO TOP COAT PAVEMENT PLACEMENT.
5. THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO MINIMIZE COMPACTION OF SOILS IN RECHARGE AREAS BOTH DURING AND AFTER CONSTRUCTION.

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 SHEET C6.3 FOR RAIN GARDENS AND PROPOSED STREET TREES.

ISSUED FOR PERMIT

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER THE SUBDIVISION CONTROL LAW
GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #_____ DATED _____
FOR OPEN SPACE FLEXIBLE DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED BY _____DATED _____ AND TO BE RECORDED HEREWITH

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I MICHAEL BOUCHARD CLERK OF THE TOWN OF GROTON HEREBY CERTIFY THAT THE NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

GROTON TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS — STANLEY R. DILLIS No. 33182 — PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS — FRANCIS M. MCPARTLAN CIVIL No. 49572 — REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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

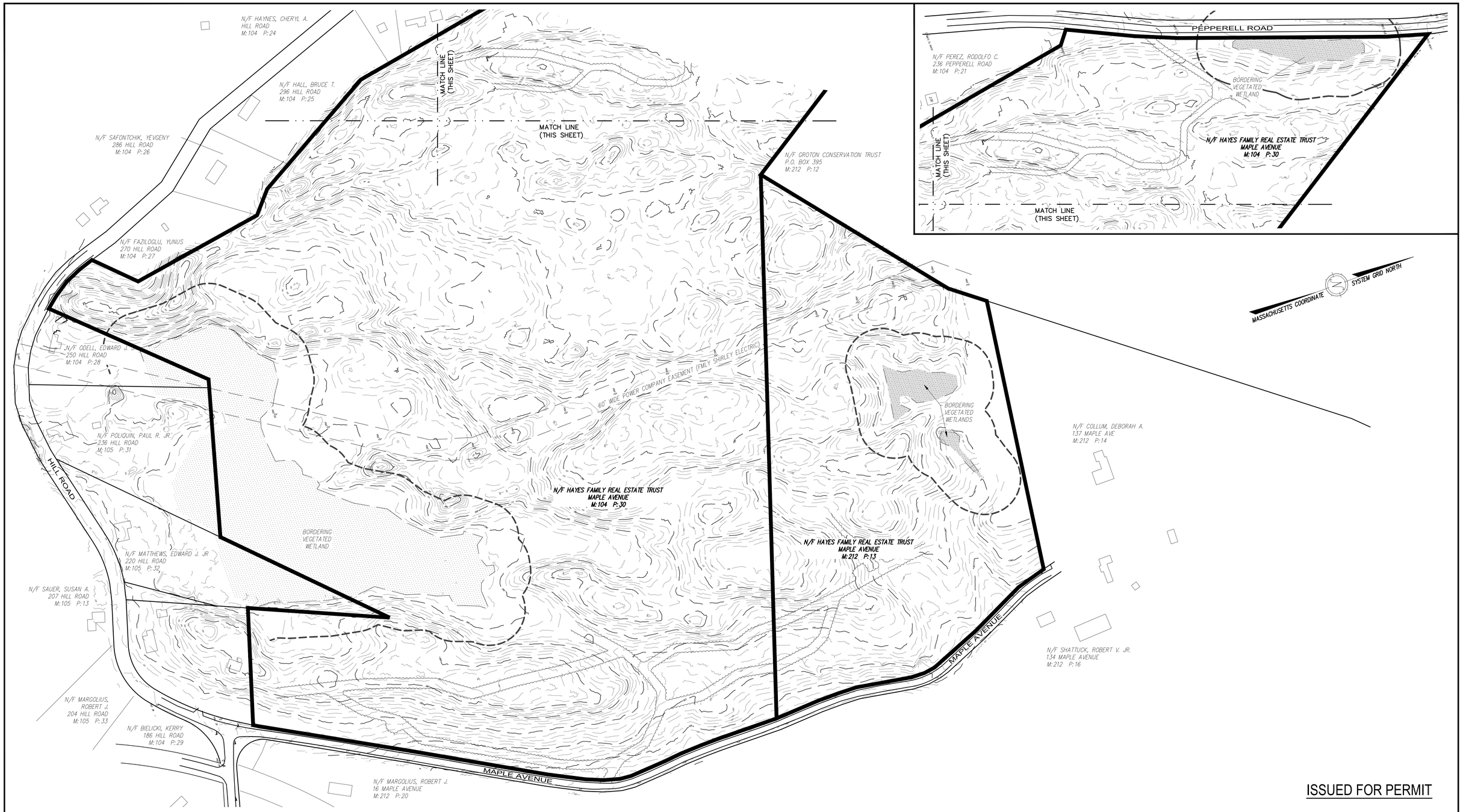
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
NOTES, SYMBOLS & ABBREVIATIONS
HAYES WOODS

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

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	RWP	FMM	C1.1
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-NOTES	



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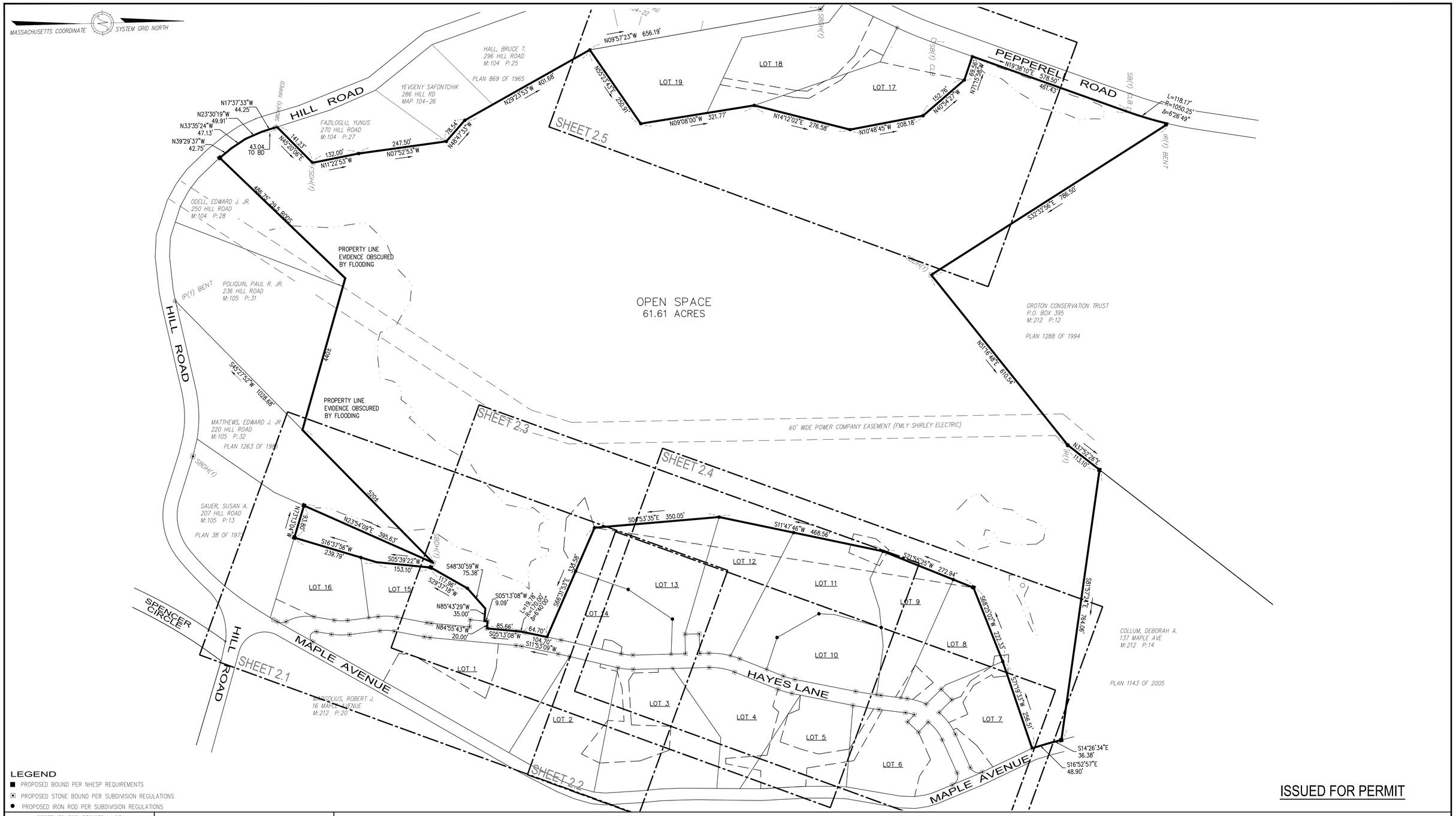
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
EXISTING CONDITIONS PLAN
HAYES WOODS

120 0 60 120 240 480
1 in. = 120 ft.

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO. C1.2
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-EXISTING	



LEGEND

- ■ PROPOSED BOUND PER NHESP REQUIREMENTS
- ▣ PROPOSED STONE BOUND PER SUBDIVISION REGULATIONS
- ● PROPOSED IRON ROD PER SUBDIVISION REGULATIONS

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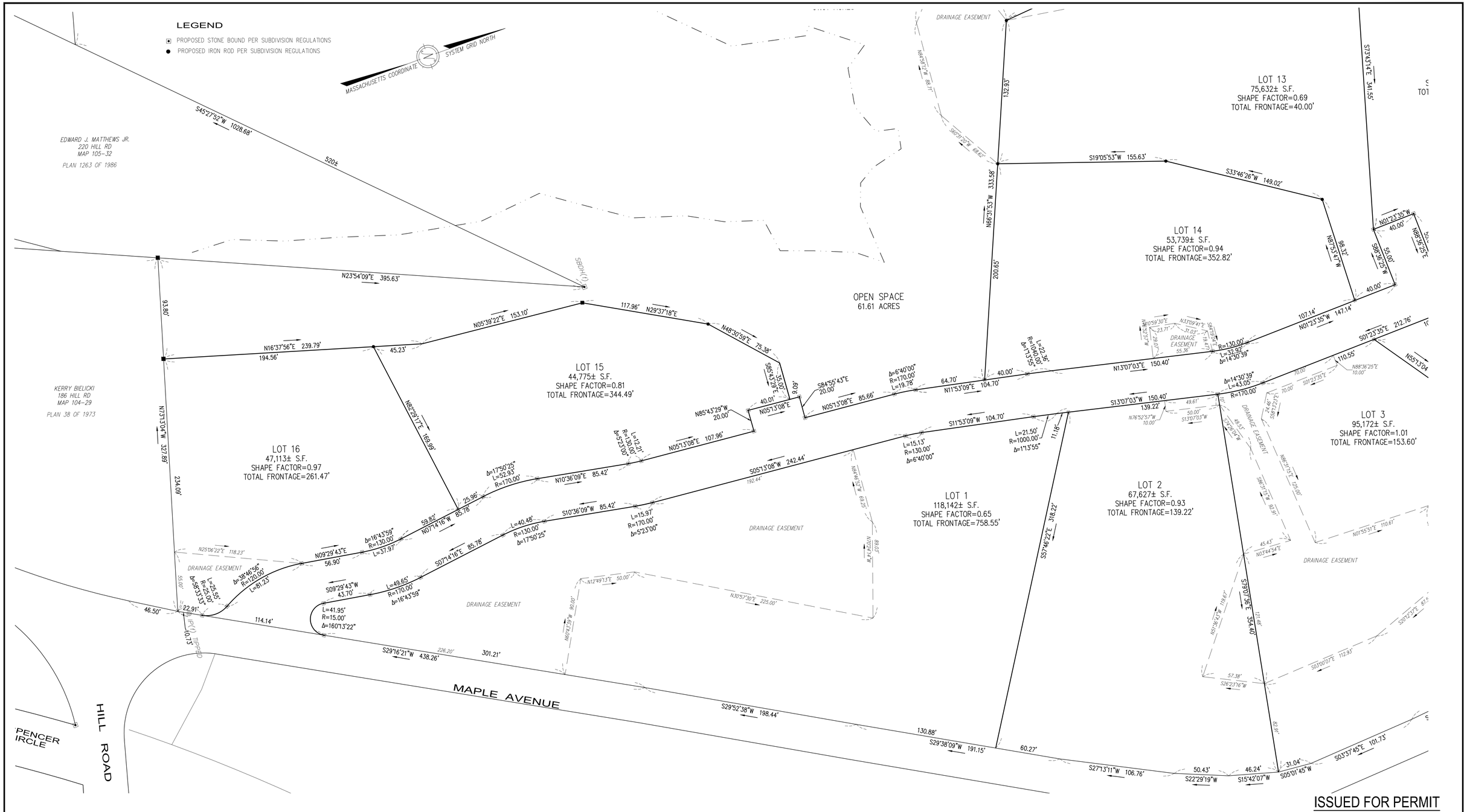
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
LOT LAYOUT PLAN
HAYES WOODS

120 0 60 120 240 480
1 in. = 120 ft.

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: SRD	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-LAYOUT DEF	C2.0



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LOT LAYOUT PLAN
HAYES WOODS

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

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SRD	FMM/RWP	FMM	C2.1
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-LLP	

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LEGEND

- PROPOSED STONE BOUND PER SUBDIVISION REGULATIONS
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STANLEY R. DILLIS
No. 33182
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2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

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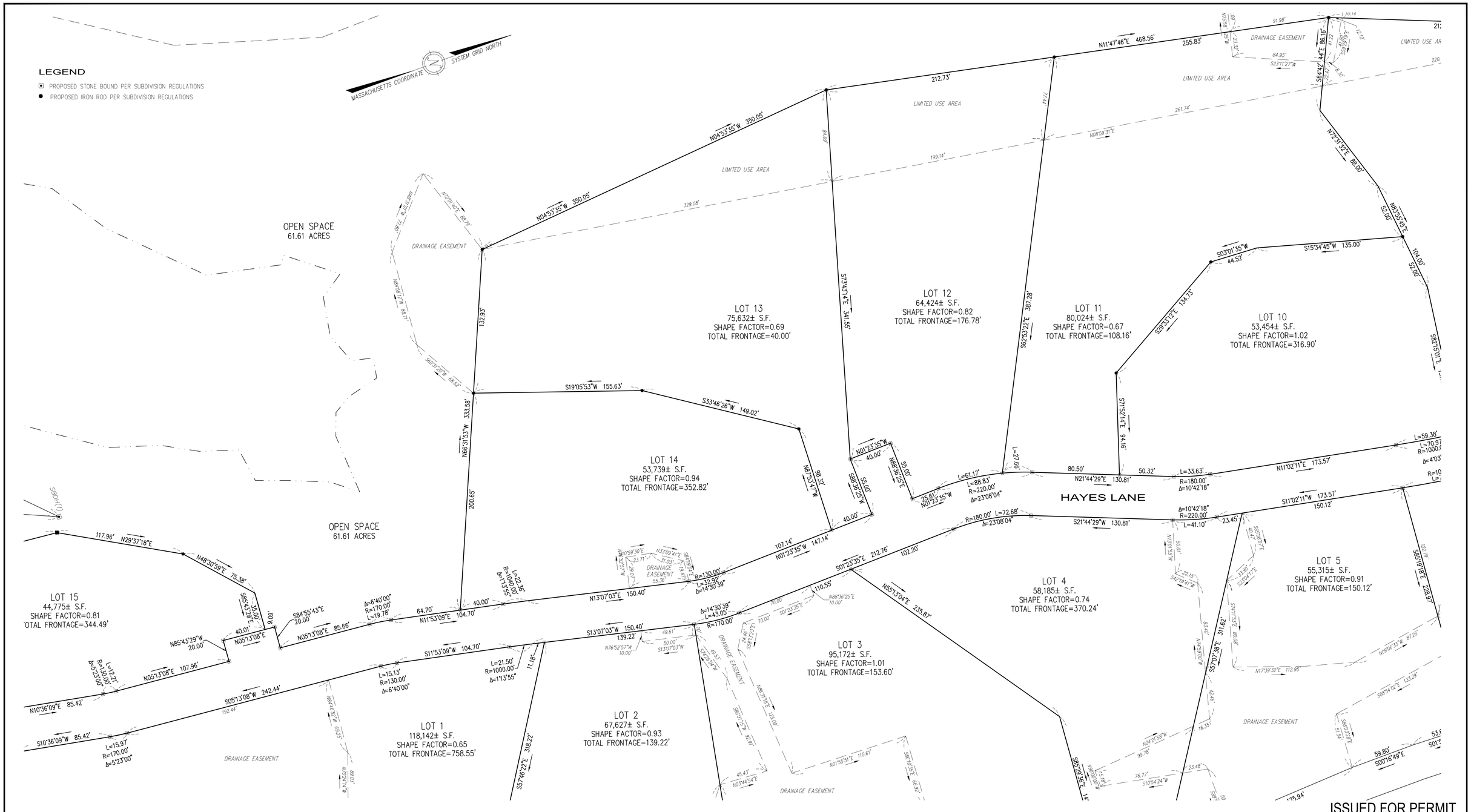
DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
LOT LAYOUT PLAN
HAYES WOODS

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

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-LLP	C2.2



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GROTON, MASSACHUSETTS
LOT LAYOUT PLAN
HAYES WOODS

40 0 20 40 80 160
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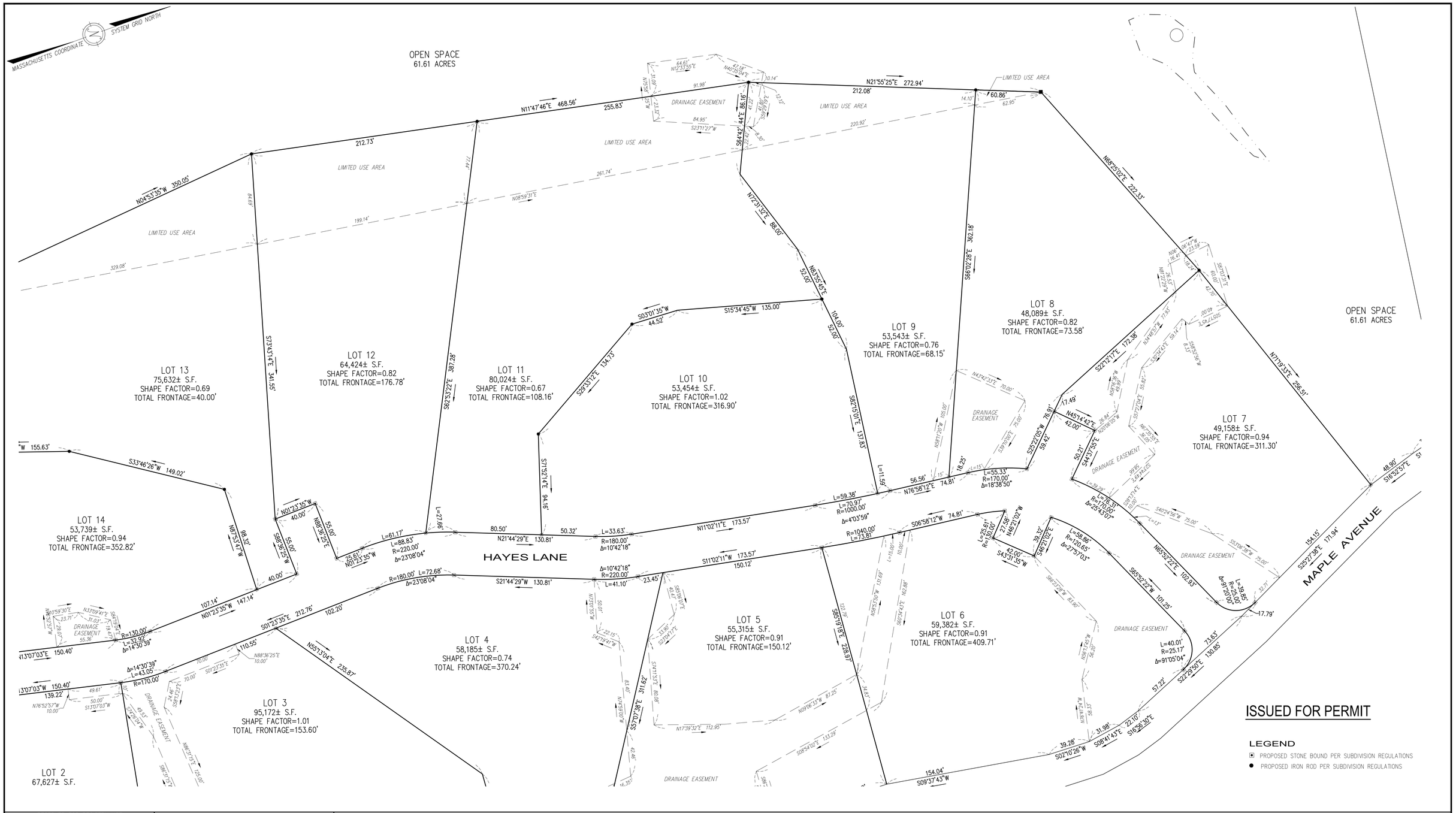
DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C2.3
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-LLP	



ISSUED FOR PERMIT

LEGEND

- PROPOSED STONE BOUND PER SUBDIVISION REGULATIONS
- PROPOSED IRON ROD PER SUBDIVISION REGULATIONS

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2/10/2021

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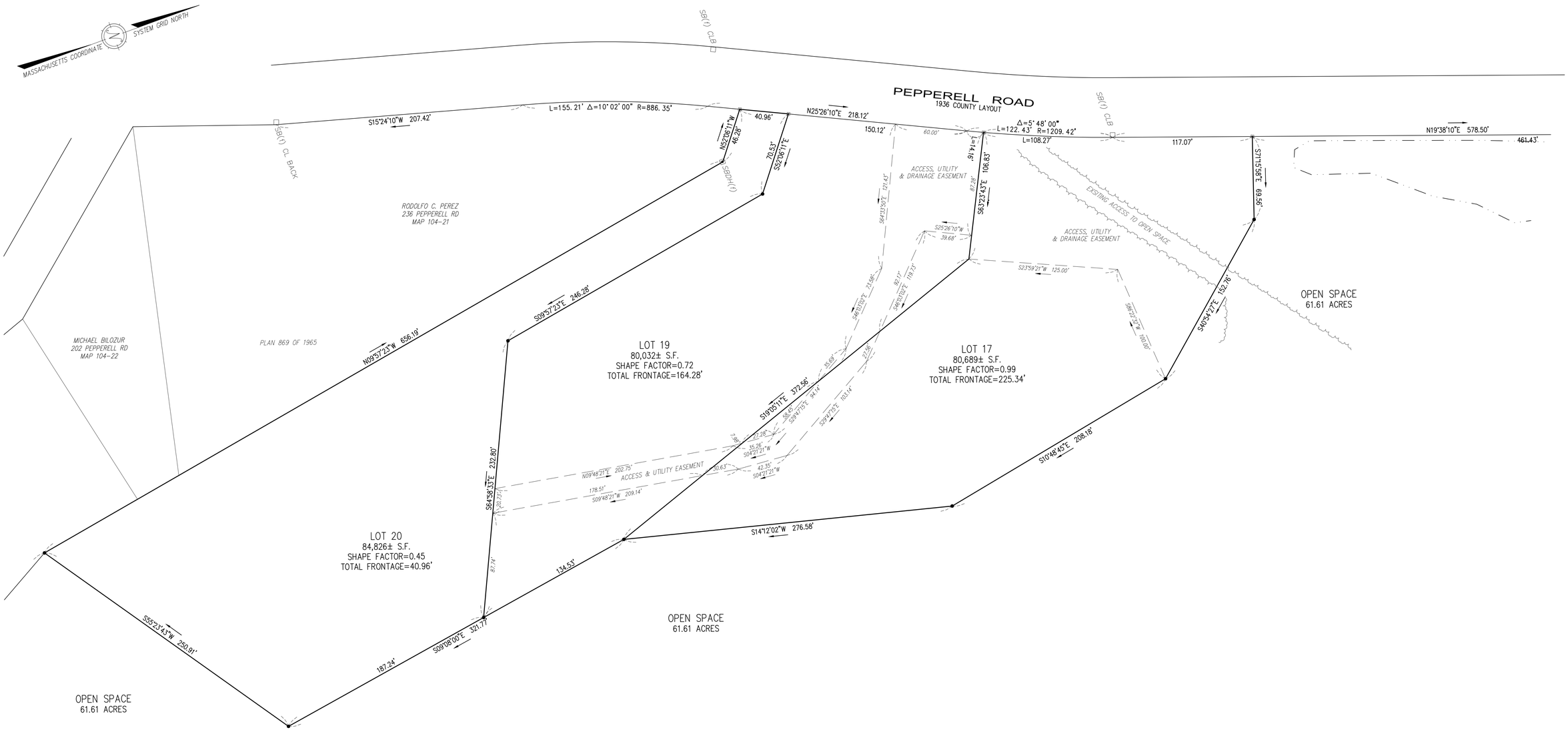
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-LLP	C2.4



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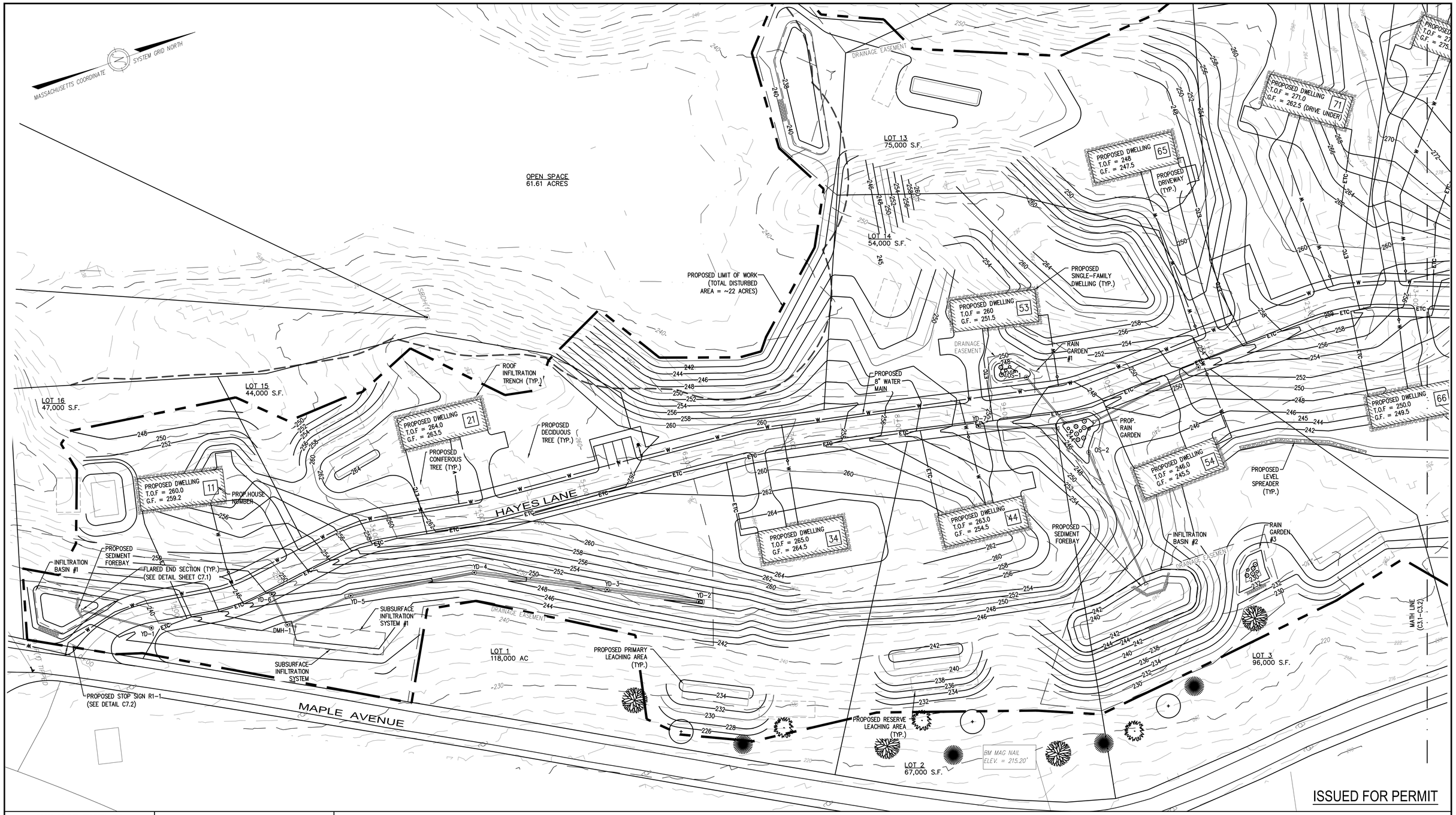

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BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #_____ DATED _____
FOR OPEN SPACE FLEXIBLE DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED
BY _____DATED _____ AND TO BE RECORDED HEREWITH

NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED
ON ANY LOT WITHOUT A PERMIT FROM THE BOARD OF HEALTH

I MICHAEL BOUCHARD CLERK OF THE TOWN OF GROTON HEREBY CERTIFY THAT THE NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

GROTON TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
STANLEY A. DILLIS
No. 33182
PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS
FRANCIS M. MCPARTLAN
CIVIL
No. 49572
REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
GRADING PLAN
HAYES WOODS

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

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	RWP	FMM	C3.1
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-GRADING	

ISSUED FOR PERMIT

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
THE SUBDIVISION CONTROL LAW
GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

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COMMONWEALTH OF MASSACHUSETTS STANLEY R. DILLIS No. 33182 PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

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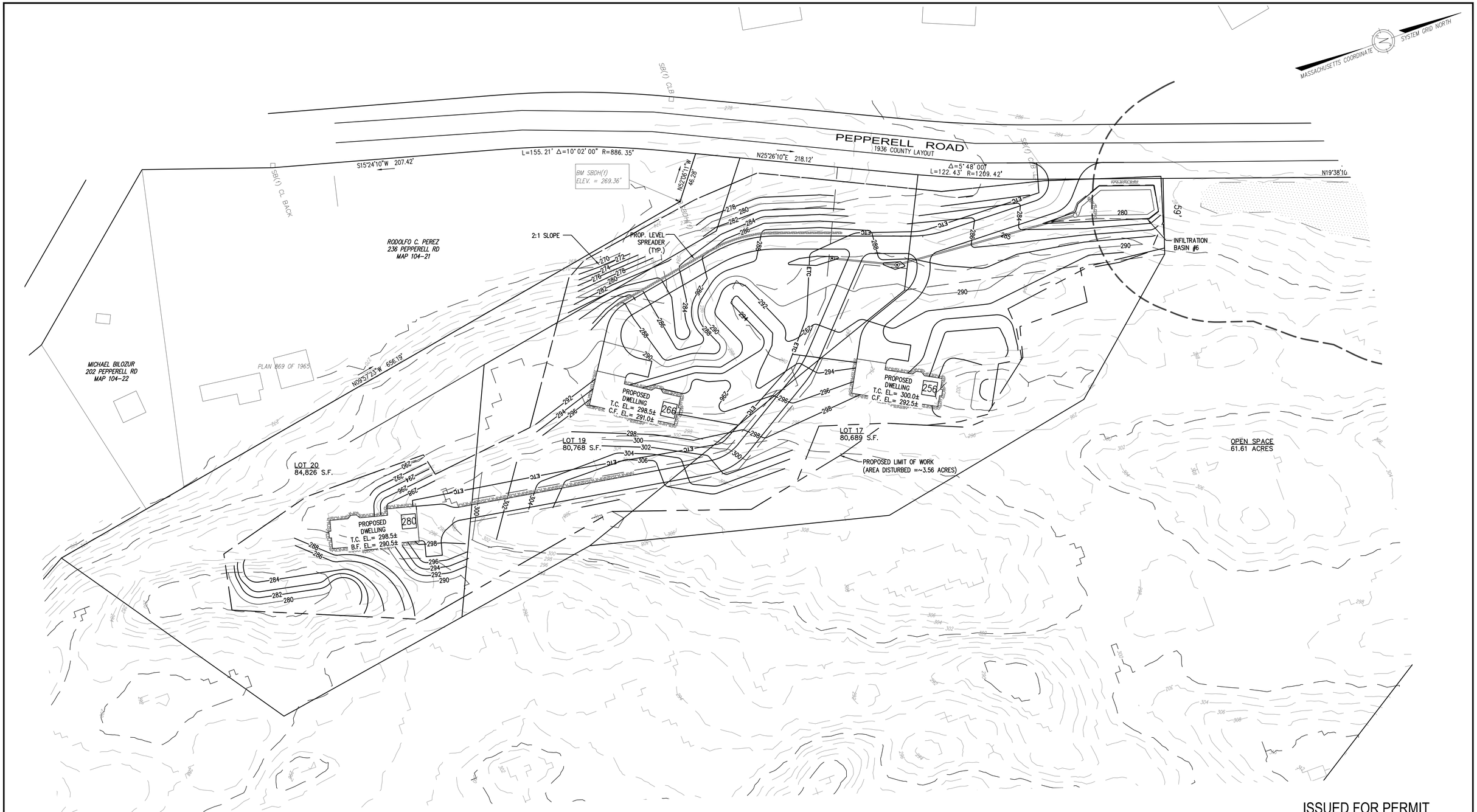
GROTON, MASSACHUSETTS
GRADING PLAN
HAYES WOODS

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

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C3.2
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-GRADING	



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APPROVAL REQUIRED UNDER
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GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____

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COMMONWEALTH OF MASSACHUSETTS
STANLEY R. DILLIS
No. 33182
PROFESSIONAL LAND SURVEYOR

2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS
FRANCIS M. MCPARTLAN
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PROFESSIONAL ENGINEER DATE

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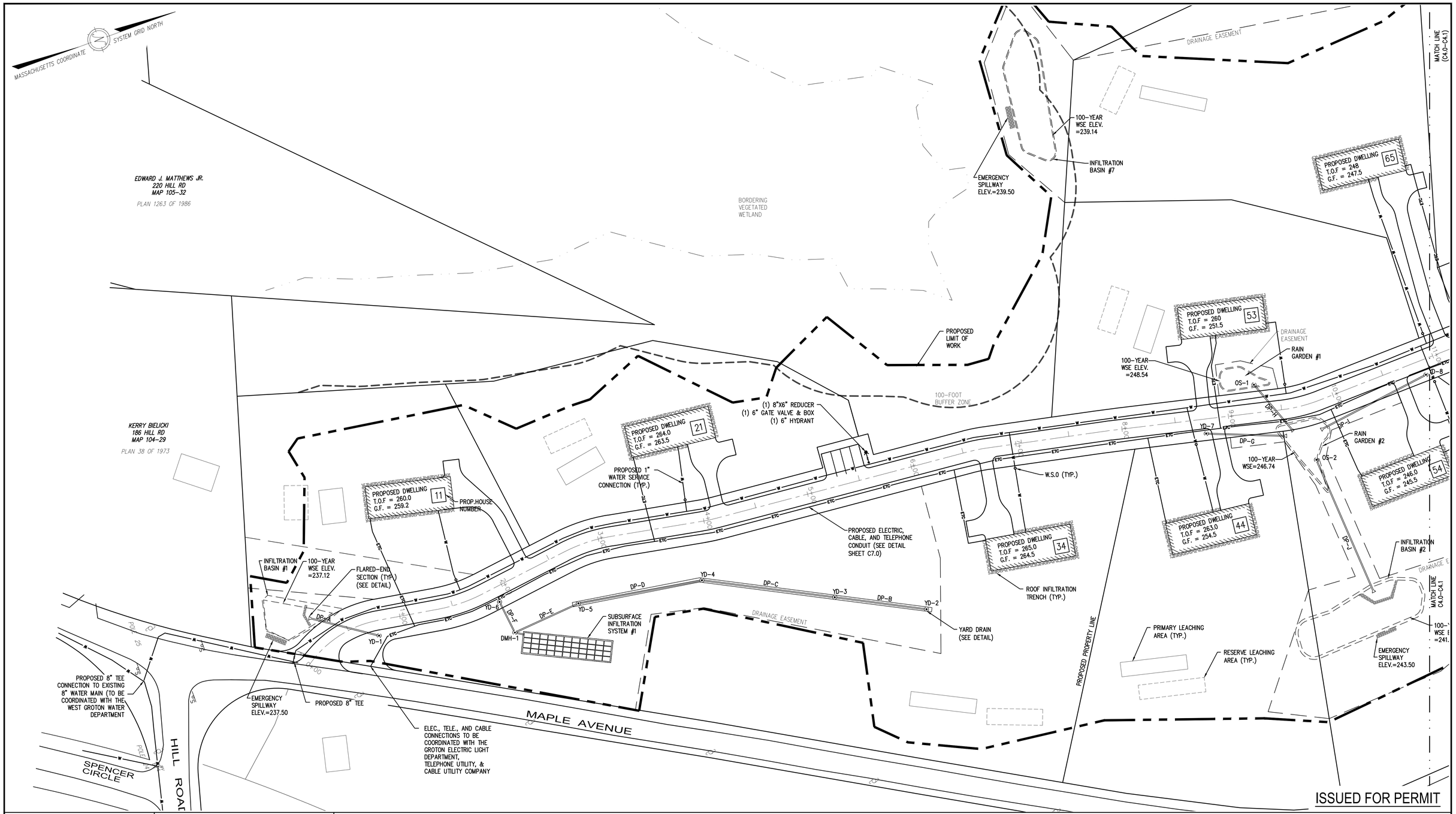
DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
GRADING PLAN
HAYES WOODS

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

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	FMM/RWP	FMM	C3.3
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-GRADING	



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GROTON PLANNING BOARD

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COMMONWEALTH OF MASSACHUSETTS STANLEY R. DILLIS No. 33182 PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS FRANCIS M. MCPARTLAN CIVIL No. 49572 REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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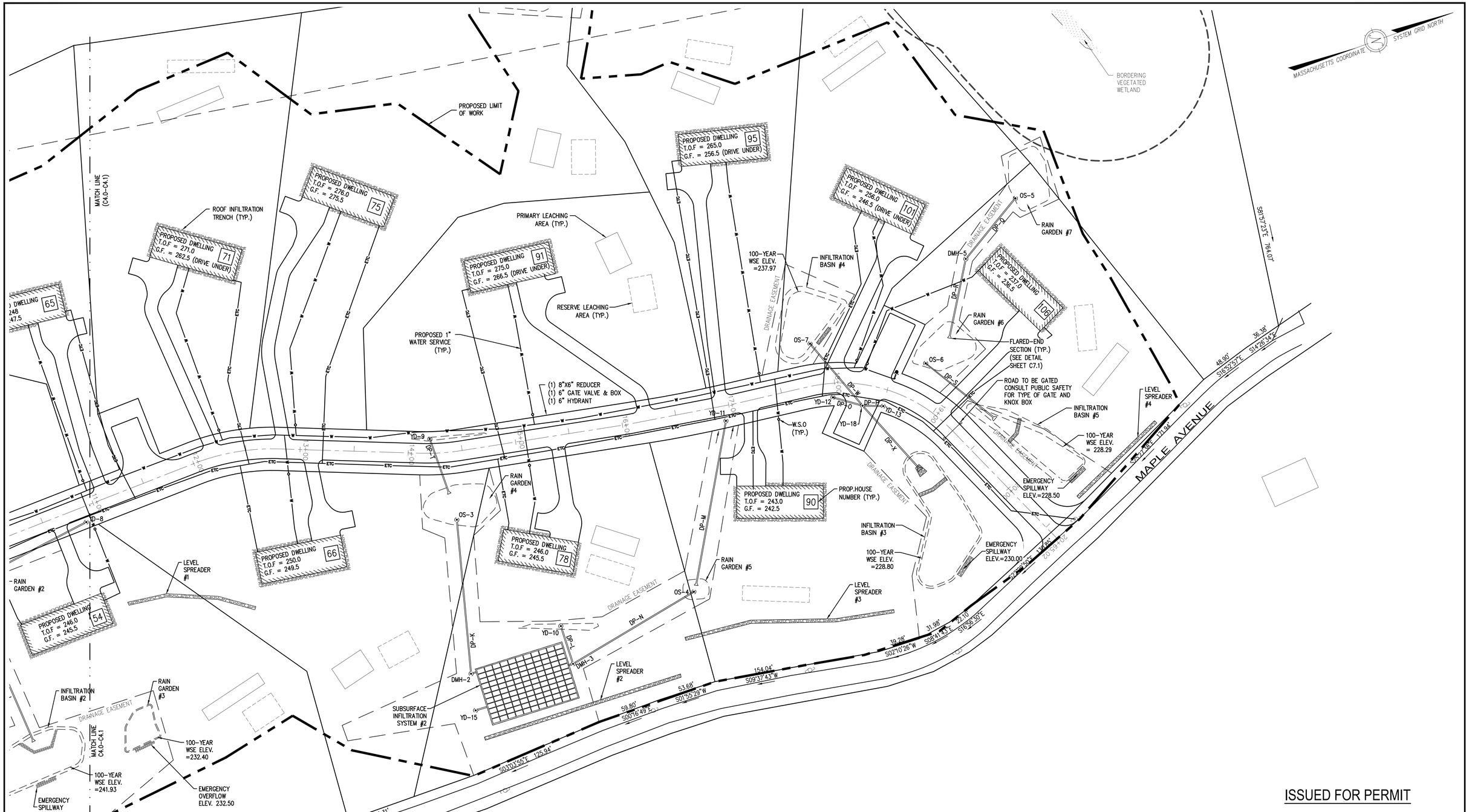
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
DRAINAGE & UTILITY PLAN
HAYES WOODS

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

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-UTILITY	C4.1



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COMMONWEALTH OF MASSACHUSETTS STANLEY R. DILLIS No. 33182 PROFESSIONAL LAND SURVEYOR

2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS FRANCIS M. MCPARTLAN CIVIL No. 49572 REGISTERED PROFESSIONAL ENGINEER

2/10/2021

PROFESSIONAL ENGINEER DATE

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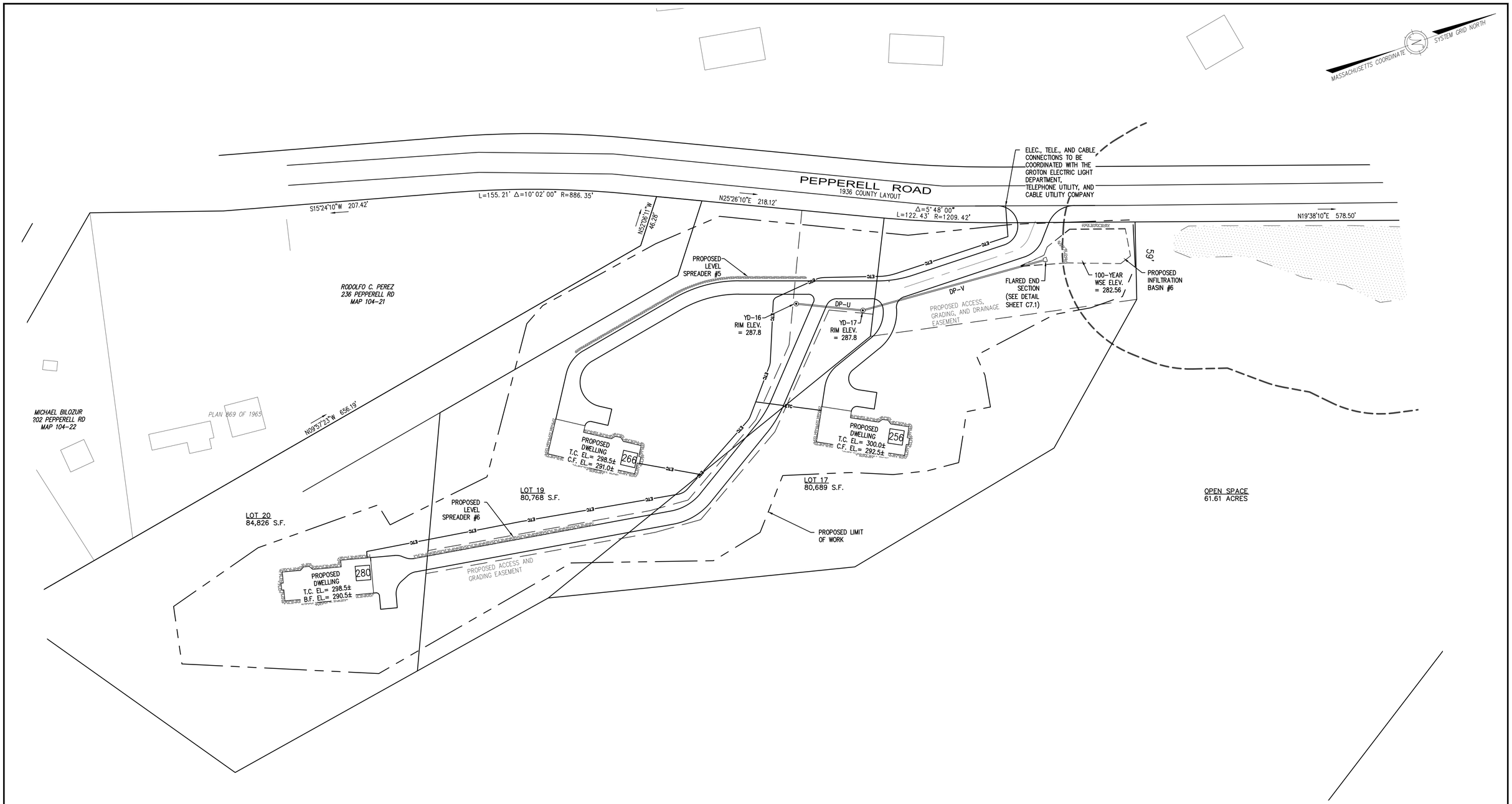
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
DRAINGE & UTILITY PLAN
HAYES WOODS

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

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	FMM/RWP	FMM	C4.2
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-UTILITY	



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2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

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PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
DRAINGE & UTILITY PLAN
HAYES WOODS

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

DESIGN BY:	DRAWN BY:	CHECKED BY:	SHEET NO.
SRD	FMM/RWP	FMM	C4.3
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-UTILITY	

DRAINAGE STRUCTURE SCHEDULE:

YD-1 2'ø
ADS N-12
RIM =239.90
INV. OUT = 236.90 (12-INCH ø HDPE SD)

YD-2 2'ø
ADS N-12
RIM =252.0
INV. OUT = 247.90 (12-INCH ø HDPE)

YD-3 2'ø
ADS N-12
RIM =251.0
INV. IN = 247.0 (12-INCH ø HDPE IN)
INV. OUT = 246.90 (12-INCH ø HDPE OUT)

YD-4 2'ø
ADS N-12
RIM =247.0
INV. IN = 243.00 (12-INCH ø HDPE IN+OUT)
INV. OUT = 242.90

YD-5 2'ø
ADS N-12
RIM =245.0
INV. IN = 240.73 (12-INCH ø HDPE)
INV. OUT = 240.63 (12-INCH ø HDPE)

YD-6 2'ø
ADS N-12
RIM =248.0
INV. OUT = 240.00 (12-INCH ø HDPE OUT)

YD-7 2'ø
ADS N-12
RIM =249.80
INV. OUT = 246.80 (12"-INCH ø HDPE)

YD-8 2'ø
ADS N-12
RIM =252.80
INV. OUT = 249.80 (12-INCH ø HDPE OUT)

YD-9 2'ø
ADS N-12
RIM = 248.5
INV. OUT = 245.5 (12-INCH ø HDPE OUT)

YD-10 2'ø
ADS N-12
RIM =248.50
INV. = 245.50 (12-INCH ø HDPE OUT)

YD-11 2'ø
ADS N-12
RIM =249.8
INV. OUT = 247.80 (12-INCH ø HDPE OUT)

YD-12 2'ø
ADS N-12
RIM =237.9
INV. = 234.90 (12-INCH ø HDPE OUT)

YD-13 2'ø
ADS N-12
RIM =232.9
INV. = 230.40 (12-INCH ø HDPE OUT)

YD-14 2'ø
ADS N-12
RIM =257.8
INV. = 230.40 (12-INCH ø HDPE OUT)

YD-15 2'ø
ADS N-12
RIM =233.80
INV. OUT= 228.00 (12-INCH ø HDPE)

YD-16 2'ø
ADS N-12
RIM =287.8
INV. = 285.3 (12-INCH ø HDPE OUT)

YD-17 2'ø
ADS N-12
RIM =287.8
INV. IN = 284.18 (12-INCH ø HDPE)
INV. OUT= 284.08 (12-INCH ø HDPE)

YD-18 2'ø
ADS N-12
RIM =287.8
INV. IN = 232.00 (12-INCH ø HDPE)
INV. IN = 230.20 (12-INCH ø HDPE)
INV. IN = 230.20 (12-INCH ø HDPE)
INV. OUT = 230.10 (12-INCH ø HDPE)

DMH-1 4'ø
PRECAST RC
RIM =241.0
INV. IN = 237.03 (12-INCH ø HDPE) (YD-5)
INV. IN = 237.03 (12-INCH ø HDPE) (YD-6)
INV. OUT = 236.93 (12-INCH ø HDPE SD)

DMH-2 4'ø
PRECAST RC
RIM =230.0
INV. IN = 227.75 (12-INCH ø HDPE) (OS-3)
INV. OUT = 227.50 (12-INCH ø HDPE)

DMH-3 4'ø
PRECAST RC
GRATE =236.0
INV. IN= 230.10 (12-INCH ø HDPE) (OS-4)
INV. OUT= 230.0 (12-INCH ø HDPE)

OS-1 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =248.5
INV. OUT = 246.0 (12-INCH ø HDPE)

OS-2 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =246.0
INV. OUT = 243.5 (12-INCH ø HDPE)

OS-3 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =244.7
INV. OUT= 241.70 (12-INCH ø HDPE)

OS-4 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =235.5
INV. OUT = 232.00 (12-INCH ø HDPE)

OS-5 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =236.5
INV. OUT= 233.5 (12-INCH ø HDPE)

OS-6 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =236.5
INV. OUT= 233.5 (12-INCH ø HDPE)

OS-7 2'ø
NYLOPLAST COVER WITH BEEHIVE GRATE
GRATE =238.5
INV. OUT= 235.5 (12-INCH ø HDPE)

DRAINAGE PIPE SCHEDULE:

DP-A 12"ø
ADS N-12
SLOPE = 1.0%
LENGTH = 65'±
YD-1 TO INFIL. BASIN #1

DP-B 12"ø
ADS N-12
SLOPE = 1.05%
LENGTH = 86'±
YD-2 TO YD-3

DP-C 12"ø
ADS N-12
SLOPE = 3.1%
LENGTH = 125'±
YD-3 TO YD-4

DP-D 12"ø
ADS N-12
SLOPE = 1.90%
LENGTH = 115'±
YD-4 TO YD-5

DP-E 12"ø
ADS N-12
SLOPE = 5.0%
LENGTH = 72'±
YD-5 TO DMH-1

DP-F 12"ø
ADS N-12
SLOPE = 9.3%
LENGTH = 32'±
YD-6 TO DMH-1

DP-G 12"ø
ADS N-12
SLOPE = 1.5%
LENGTH = 71'±
YD-7 TO RAIN GARDEN #2

DP-H 12"ø
ADS N-12
SLOPE = 2.7%
LENGTH = 56'±
RAIN GARDEN #1 TO RAIN GARDEN #2

DP-I 12"ø
ADS N-12
SLOPE = 3.8%
LENGTH = 100'±
YD-8 TO RAIN GARDEN #2

DP-J 12"ø
ADS N-12
SLOPE = 1.0%
LENGTH = 150'±
OS-2 TO INFILTRATION BASIN #2

DP-K 12"ø
ADS N-12
SLOPE = 9.96%
LENGTH = 140'±
OS-3 TO DMH-2

DP-L 12"ø
ADS N-12
SLOPE = 2.0%
LENGTH = 50'±
YD-10 TO DMH-4

DP-M 12"ø
ADS N-12
SLOPE = 2.9%
LENGTH = 71'±
YD-11 TO RAIN GARDEN #5

DP-N 12"ø
ADS N-12
SLOPE = 4.44%
LENGTH = 45'±
OS-4 TO DMH-4

DP-O 12"ø
ADS N-12
SLOPE = 6.6%
LENGTH = 44'±
YD-12 TO YD-18

DP-P 12"ø
ADS N-12
SLOPE = 1.1%
LENGTH = 18'±
YD-13 TO YD-18

DP-Q 12"ø
ADS N-12
SLOPE = 1.0%
LENGTH = 150'±
RAIN GARDEN #7 TO RAIN GARDEN #6

DP-R 12"ø
ADS N-12
SLOPE = 1.0%
LENGTH = 71'±
YD-14 TO RAIN GARDEN #6

DP-S 12"ø
ADS N-12
SLOPE = 2.5%
LENGTH = 80'±
OS-6 TO INFIL. BASIN #5

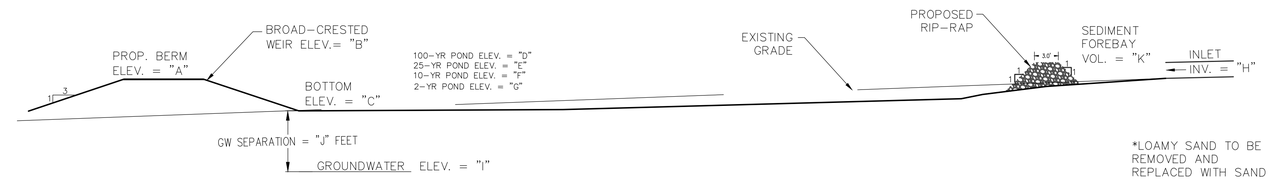
DP-T 12"ø
ADS N-12
SLOPE = 2.0%
LENGTH = 50'±
YD-9 TO RAIN GARDEN #4

DP-U 12"ø
ADS N-12
SLOPE = 2.0%
LENGTH = 56'±
YD-16 TO YD-17

DP-V 12"ø
ADS N-12
SLOPE = 1.5%
LENGTH = 166'±
YD-17 TO INFIL. BASIN #6

DP-W 12"ø
ADS N-12
SLOPE = 5.8%
LENGTH = 91'±
OS-7 TO YD-18

DP-X 12"ø
ADS N-12
SLOPE = 1.1%
LENGTH = 66'±
YD-18 TO INFIL. #3

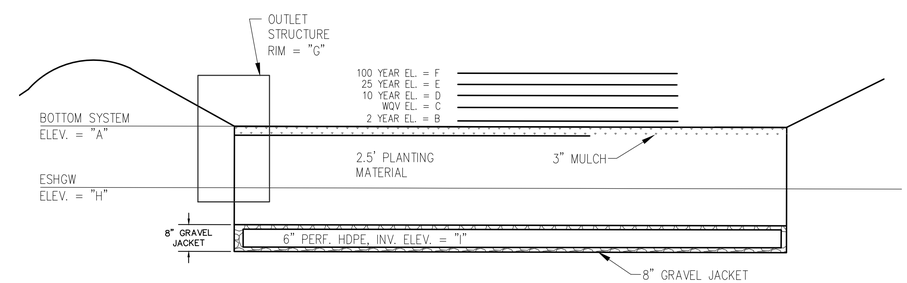


*LOAMY SAND TO BE REMOVED AND REPLACED WITH SAND

INFILTRATION BASIN #	A	B	C	D	E	F	G	H	I	J	K (CF)	ESHGW DETERMINED FROM TEST HOLE(S):
1	238.0	237.50	235.0	237.12	235.87	235.36	235.01	236.25	232.00	3.0'	461	D-527
2	244.0	243.50	240.0	241.94	240.58	240.07	240.00	242.0	235.67	4.33'	759	420-10
3	231.0	230.50	228.0	228.80	228.36	228.21	228.02	229.40	221.00	7.0'	1,397	520-45B, 420-44, 420-43
4	241.0	240.5	236.0	238.34	236.80	236.20	236.00	N/A	227.00	9.0'	----	520-44B, 420-52
5	229.0	228.5	226.0	228.29	227.32	226.95	226.17	228.5	223.34	2.66'	595	420-47
6	283.0	282.5	279.0	282.36	281.22	280.18	279.02	281.59	278.00	1.0'	342	420-5
7	240.0	239.5	237.0	239.14	237.45	237.02	237.00	N/A	235.00	2.0'	----	620-64
8	264.0	N/A	261.0	261.28	261.03	261.00	261.00	N/A	258.00	3.0'	----	620-68

TYPICAL INFILTRATION BASIN CROSS-SECTION (SEE TABLE FOR ELEVATIONS)

NOT TO SCALE



RAIN GARDEN #	A	B	C	D	E	F	G	H	I	ESHGW DETERMINED FROM TEST HOLE(S):
1	246.0	246.00	246.95	246.83	247.42	248.54	248.50	240.00	242.67	420-22, 420-23
2	244.0	244.72	246.30	246.15	246.35	246.74	246.0	242.00	240.67	420-16, 420-22
3	230.0	230.00	NO IMP.	230.69	231.24	232.40	232.5	228.00	226.67	620-11A
4	242.0	242.00	242.60	242.53	243.02	244.26	244.70	238.00	238.67	520-36A
5	234.0	235.10	235.37	235.72	235.81	235.97	235.50	225.00	230.67	520-46B
6	230.0	230.48	230.48	230.77	230.88	231.06	233.50	229.00	226.67	520-52C
7	235.0	235.00	NO IMP.	235.31	235.84	237.70	236.50	233.00	231.67	520-49C

TYPICAL RAIN GARDEN DETAIL (SEE TABLE FOR ELEVATIONS)

NOT TO SCALE

RESERVED FOR REGISTRY USE

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BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #_____ DATED _____
FOR OPEN SPACE FLEXIBLE DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED BY _____DATED _____ AND TO BE RECORDED HEREWITH

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I MICHAEL BOUCHARD CLERK OF THE TOWN OF GROTON HEREBY CERTIFY THAT THE NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

GROTON TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS
STANLEY R. DILLIS
No. 33182
PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS
FRANCIS M. MCPARTLAN
CIVIL
No. 49572
REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
DRAINAGE STRUCTURE TABLE
HAYES WOODS

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C4.4
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-UTILITY	

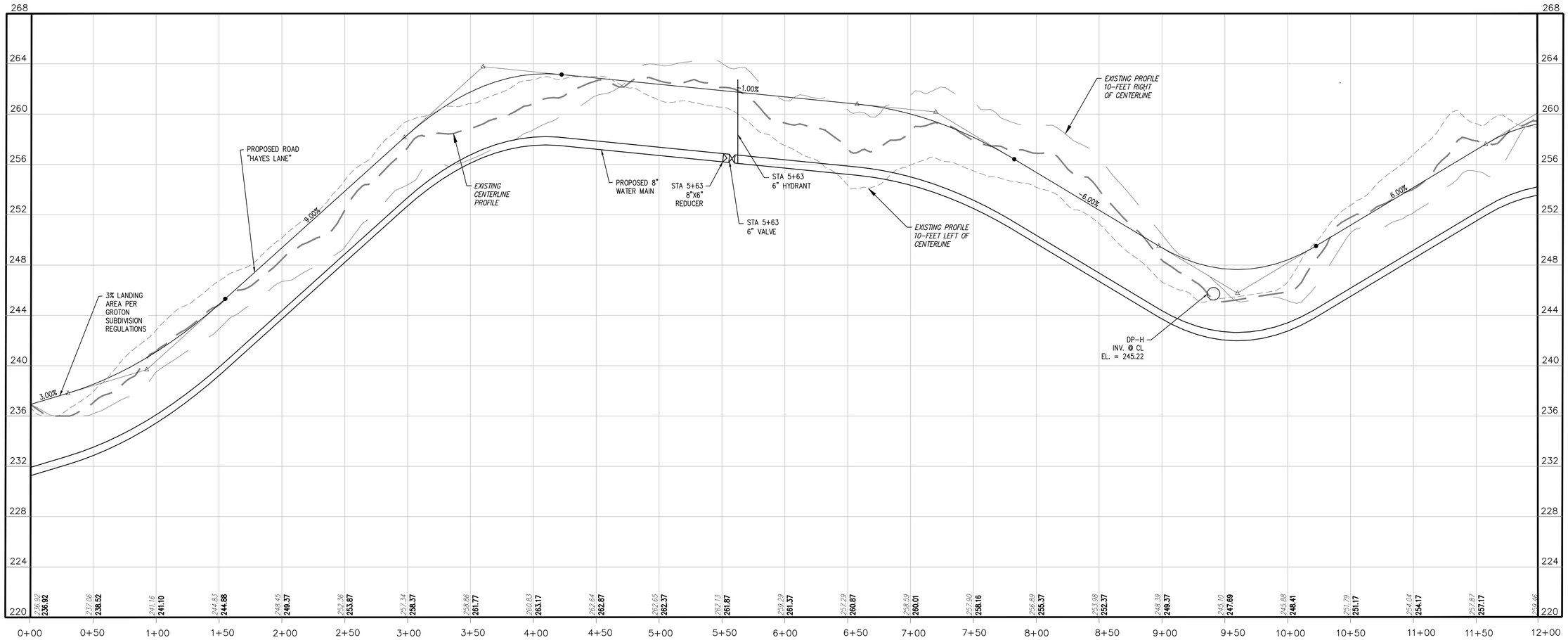
PVC STA.0+30.00 PVC ELEV.237.82 — PVI STA.0+92.50 PVI ELEV.239.70 — PVT STA.1+55.00 PVT ELEV.245.32
3.00% — 125.00VC 135.29SD — 9.00%

PVC STA.2+97.50 PVC ELEV.258.15 — PVI STA.3+60.00 PVI ELEV.263.77 — PVT STA.4+22.50 PVT ELEV.263.15
9.00% — 125.00VC 128.96SD — −1.00%

PVC STA.6+57.50 PVC ELEV.260.80 — PVI STA.7+20.00 PVI ELEV.260.17 — PVT STA.7+82.50 PVT ELEV.256.42
−1.00% — 125.00VC 195.42SD — −6.00%

PVC STA.8+97.50 PVC ELEV.249.52 — PVI STA.9+60.00 PVI ELEV.245.77 — PVT STA.10+22.50 PVT ELEV.249.52
−6.00% — 125.00VC 85.30SD — 6.00%

PVC STA.11+57.50 PVC ELEV.257.62
6.00% —



PROFILE OF HAYES LANE (STA 0+00 TO 12+00)

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

ISSUED FOR PERMIT

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER THE SUBDIVISION CONTROL LAW
GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

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COMMONWEALTH OF MASSACHUSETTS — STANLEY R. DILLIS No. 33182 — PROFESSIONAL LAND SURVEYOR

2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS — FRANCIS M. MCPARTLAN CIVIL No. 49572 — REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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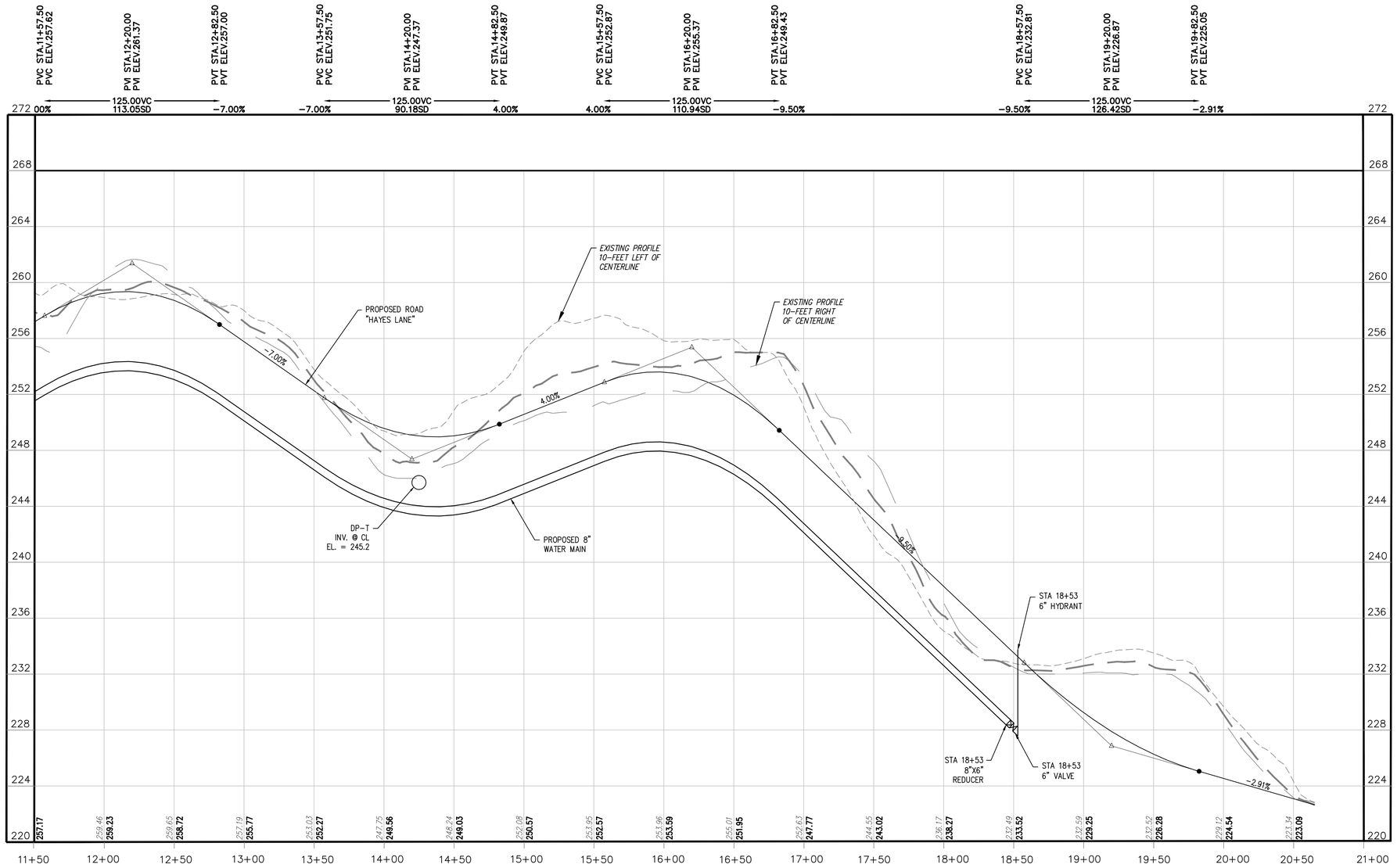
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
PROFILE
HAYES WOODS

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

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO. C5.1
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-PROFILE	



PROFILE OF HAYES LANE (STA 11+50 TO 21+00)

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

ISSUED FOR PERMIT

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2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

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2/10/2021

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PROFILE
HAYES WOODS

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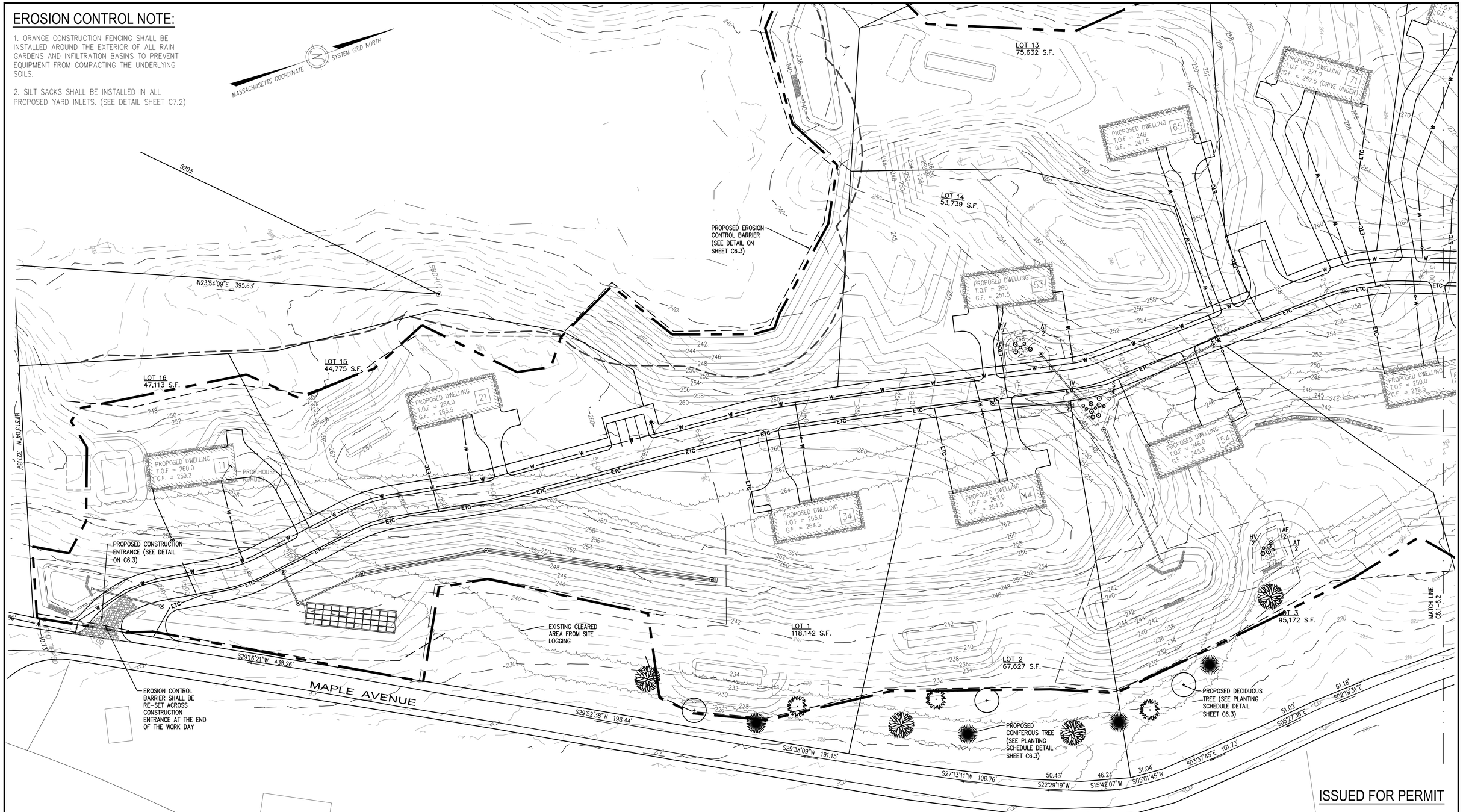
DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-PROFILE	C5.2

EROSION CONTROL NOTE:

1. ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED AROUND THE EXTERIOR OF ALL RAIN GARDENS AND INFILTRATION BASINS TO PREVENT EQUIPMENT FROM COMPACTING THE UNDERLYING SOILS.

2. SILT SACKS SHALL BE INSTALLED IN ALL PROPOSED YARD INLETS. (SEE DETAIL SHEET C7.2)



RESERVED FOR REGISTRY USE

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2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

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GROTON, MASSACHUSETTS
SEDIMENTATION & EROSION CONTROL PLAN
HAYES WOODS

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1 in. = 40 ft.

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-EROSION	C6.1

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40 0 20 40 80 160
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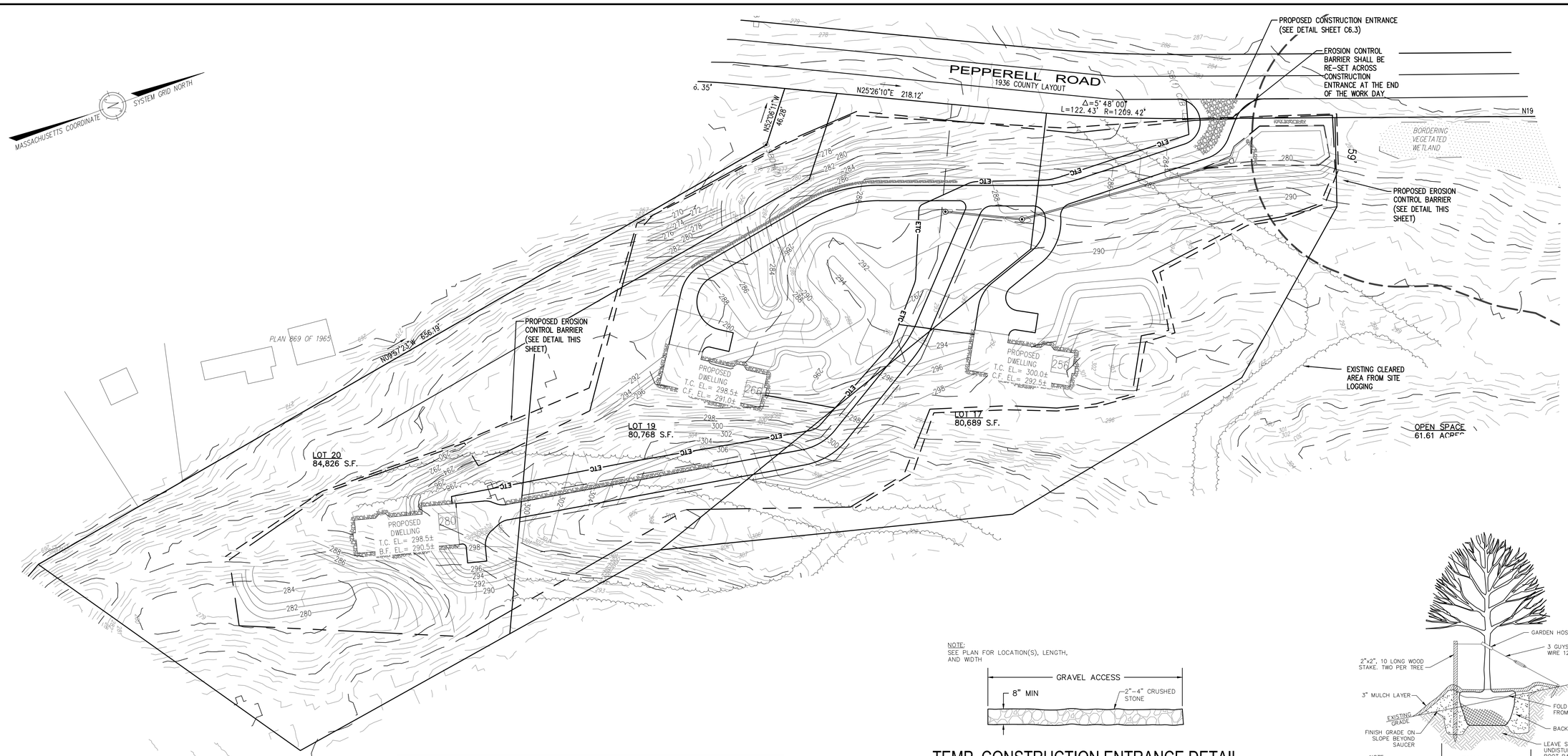
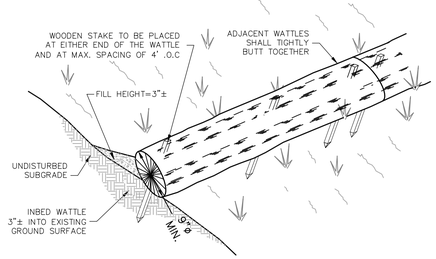
DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C6.2
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-EROSION	





EROSION CONTROL BARRIER (STRAW WATTLE)

NOT TO SCALE

SYMBOL:		COMMON NAME:	BOTANICAL NAME:	SIZE:	SPACING:	QUANTITY:
	AR	RED MAPLE	ACER RUBRUM	3" CALIPER	AS SHOWN	4
	FG	AMERICAN BEECH	FAGUS GRANDIFOLIA	3" CALIPER	AS SHOWN	5
	TA	AMERICAN LINDEN	TILIA AMERICANA	3" CALIPER	AS SHOWN	4
	GT	THORNLESS HONEY LOCUST	GLEDITSIA TRIACANTHOS	3" CALIPER	AS SHOWN	4

NOTE: NATURALIZED SCRUB/SHRUB HABITAT AND RESOURCE AREA MITIGATION SHALL BE PLANTED AND MAINTAINED IN ACCORDANCE WITH THE TOWN OF GROTON SUBDIVISION RULES AND REGULATIONS

PLANTINGS TABLE

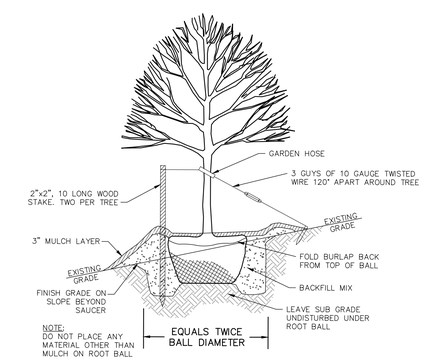
NOTE:
SEE PLAN FOR LOCATION(S), LENGTH, AND WIDTH

TEMP. CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

RAIN GARDEN PLANTING SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
HV	HAMAMELIS VIRIGINIANA	WITCH HAZEL	#3 POT	12
IV	ITEA VIRIGINIANA	VIRGINIA SWEETSPIRE	#3 POT	8
S	SALVIA	SALVIA	#3 POT	12
AT	ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	#3 POT	13
LB	LINDERA BENZOIN	SPICEBUSH	#3 POT	8
AF	AGESTACHE FOENICULUM	LAVENDER HYSSOP	#3 POT	7



TREE PLANTING DETAIL

NOT TO SCALE

ISSUED FOR PERMIT

LEGEND

- ⊡ PROPOSED STONE BOUND PER SUBDIVISION REGULATIONS
- ● PROPOSED IRON ROD PER SUBDIVISION REGULATIONS

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2/10/2021

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PLAN REVISIONS

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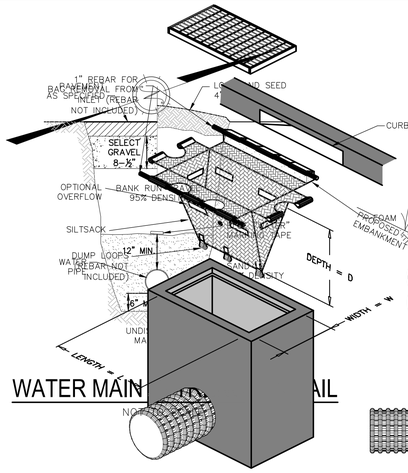
SEDIMENTATION & EROSION CONTROL PLAN
HAYES WOODS

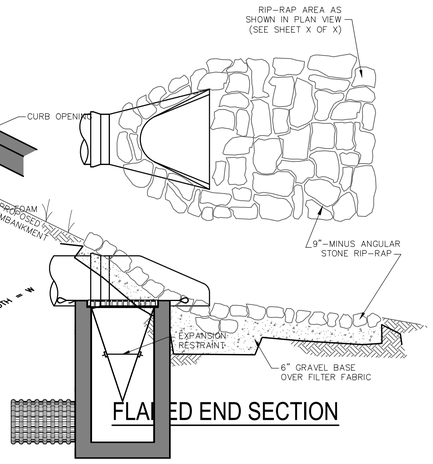
40 0 20 40 80 160
1 in. = 40 ft.

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO.
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-EROSION	C6.3



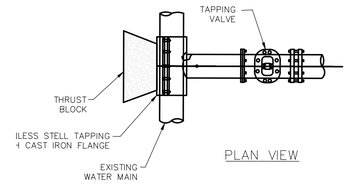
WATER MAIN DETAIL

NOT TO SCALE

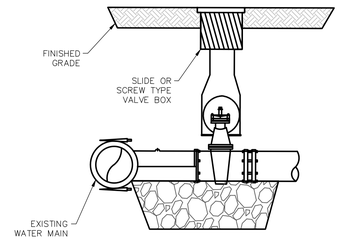


FLARED END SECTION

INSTALLATION DETAIL



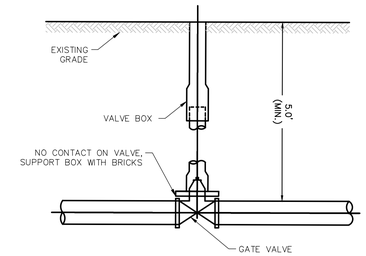
PLAN VIEW



PROFILE VIEW

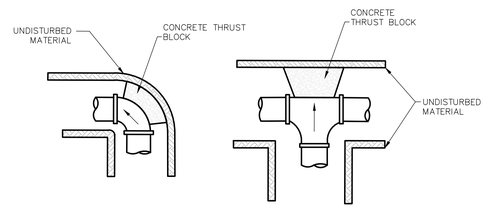
TAPPING SLEEVE AND VALVE DETAIL

NOT TO SCALE



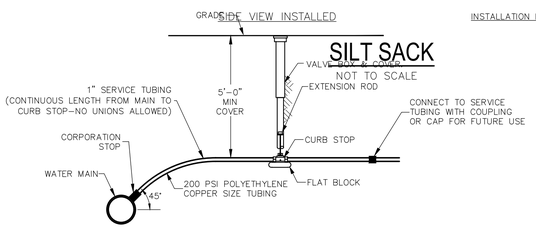
GATE VALVE DETAIL

NOT TO SCALE



THRUST BLOCK DETAIL

NOT TO SCALE

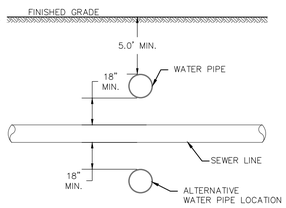


SILT SACK

NOT TO SCALE

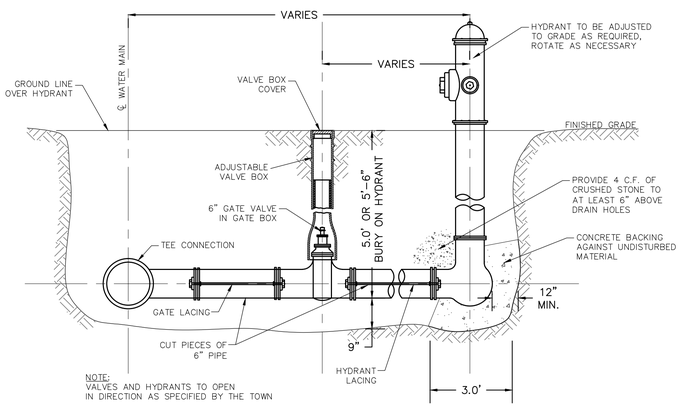
WATER SERVICE DETAIL

NOT TO SCALE



WATER AND SEWER LINE CROSSING

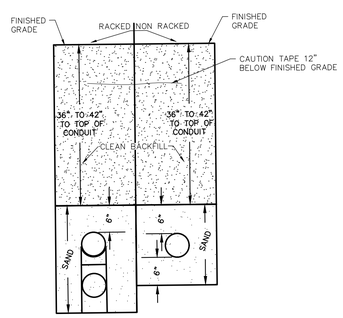
NOT TO SCALE



HYDRANT

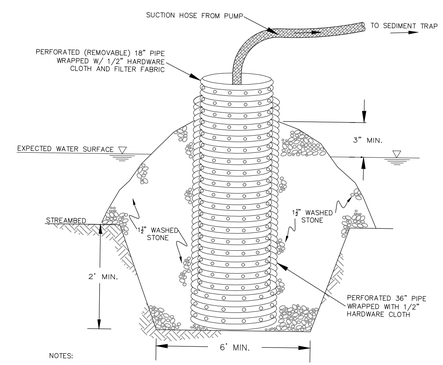
NOT TO SCALE

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



NOTES:
1. THE OUTER PIPE SHALL BE A 30" DIA. CORRUGATED METAL OR HDPE PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS. AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 1½" WASHED STONE.
2. THE INSIDE STANDPIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING AN 18" CORRUGATED METAL, HDPE OR PVC PIPE. THE PERFORATIONS SHALL BE 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH FILTER FABRIC (MIRAFI 140N OR EQUAL).
3. THE CENTER PIPE SHOULD EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.

REMOVABLE DEWATERING PUMPING STATION (IF NECESSARY)

NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS — STANLEY R. DILLIS No. 33182 — PROFESSIONAL LAND SURVEYOR

2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS — FRANCIS M. MCPARTLAN CIVIL No. 49572 — REGISTERED PROFESSIONAL ENGINEER

2/10/2021

PROFESSIONAL ENGINEER DATE

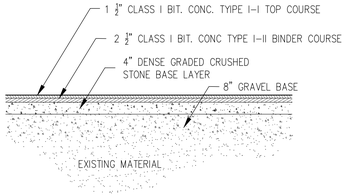
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

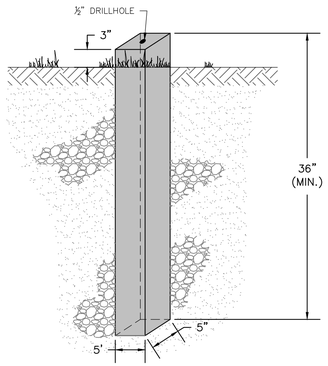
DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
CONSTRUCTION DETAILS
HAYES WOODS

DESIGN BY: SRD	DRAWN BY: RWP	CHECKED BY: FMM	SHEET NO. C7.1
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-DETAILS	



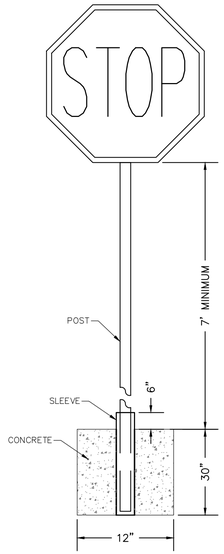
PAVEMENT CROSS-SECTION (TYP.)

SCALE: 1"=3'



GRANITE BOUND WITH DRILLHOLE

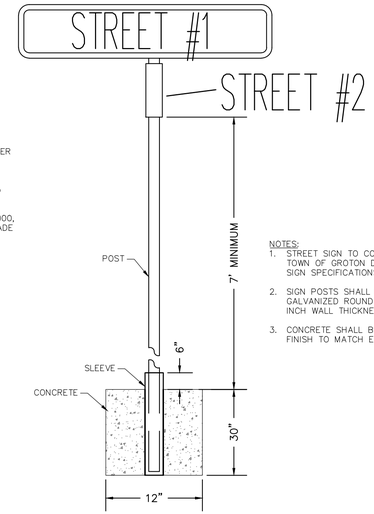
NO SCALE



NOTE:
1. 30"x30" "STOP" SIGN (R1-1) PER MUTCD SPEC 2B-4
2. SIGN POSTS SHALL BE 2 INCH GALVANIZED ROUND PIPE 0.095 INCH WALL THICKNESS.
3. CONCRETE SHALL BE CLASS 3000, FINISH TO MATCH EXISTING GRADE

TYPICAL STOP SIGN (R1-1)

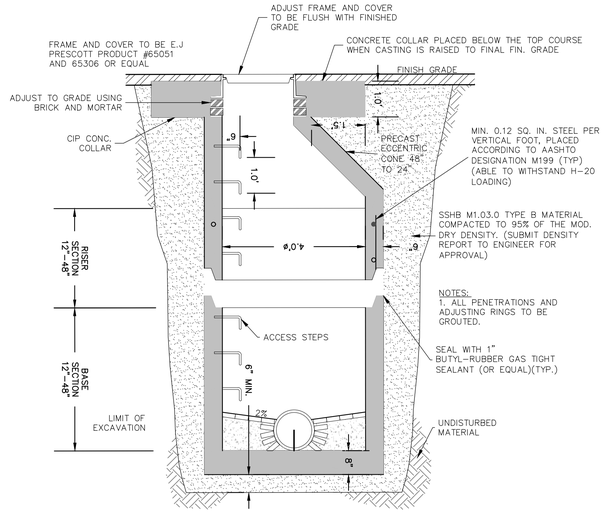
NOT TO SCALE



NOTES:
1. STREET SIGN TO CONFORM TO THE TOWN OF GROTON DPW STREET SIGN SPECIFICATIONS
2. SIGN POSTS SHALL BE 2 INCH GALVANIZED ROUND PIPE 0.095 INCH WALL THICKNESS.
3. CONCRETE SHALL BE CLASS 3000, FINISH TO MATCH EXISTING GRADE

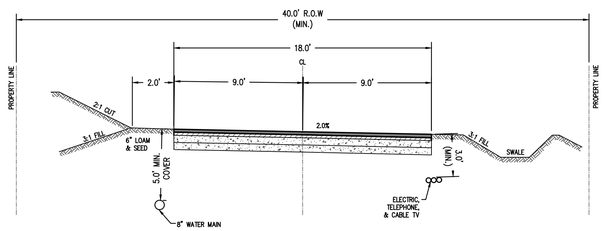
TYPICAL STREET SIGN

NOT TO SCALE



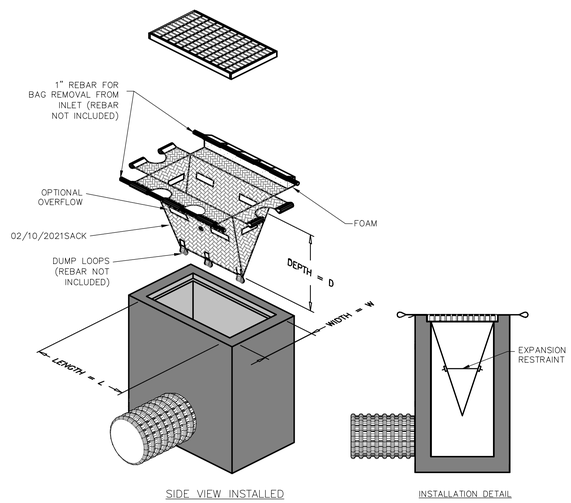
DRAIN MANHOLE DETAIL

NOT TO SCALE



TYPICAL ROAD CROSS-SECTION

NOT TO SCALE



02/10/2021 SACK

NOT TO SCALE

ISSUED FOR PERMIT

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER THE SUBDIVISION CONTROL LAW
GROTON PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____

REFER TO SPECIAL PERMIT #_____ DATED _____ FOR OPEN SPACE FLEXIBLE DEVELOPMENT

APPROVED SUBJECT TO CONDITIONS SET FORTH IN A COVENANT EXECUTED BY _____DATED _____ AND TO BE RECORDED HEREWITH

NO BUILDING OR STRUCTURE SHALL BE BUILT OR PLACED ON ANY LOT WITHOUT A PERMIT FROM THE BOARD OF HEALTH

I MICHAEL BOUCHARD CLERK OF THE TOWN OF GROTON HEREBY CERTIFY THAT THE NOTICE OF THE APPROVAL OF THIS PLAN BY THE PLANNING BOARD HAS BEEN RECEIVED AND RECORDED BY THIS OFFICE AND NO APPEAL WAS RECEIVED DURING THE TWENTY (20) DAYS NEXT AFTER RECEIPT AND RECORDING OF NOTICE.

GROTON TOWN CLERK DATE

I CERTIFY THAT THIS PLAN CONFORMS TO THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

COMMONWEALTH OF MASSACHUSETTS — STANLEY A. DILLIS No. 33182 — PROFESSIONAL LAND SURVEYOR

2/10/2021

PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS — FRANCIS M. MCPARTLAN CIVIL No. 49572 — REGISTERED PROFESSIONAL ENGINEER

2/10/2021

PROFESSIONAL ENGINEER DATE

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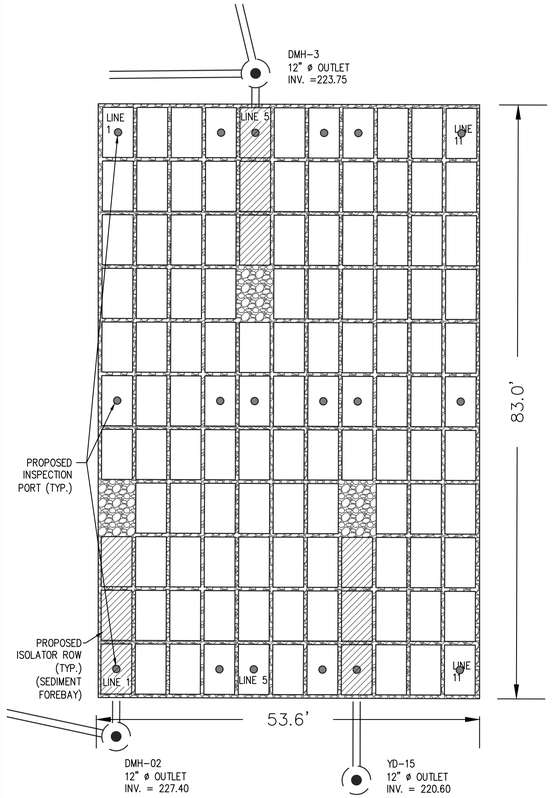
PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

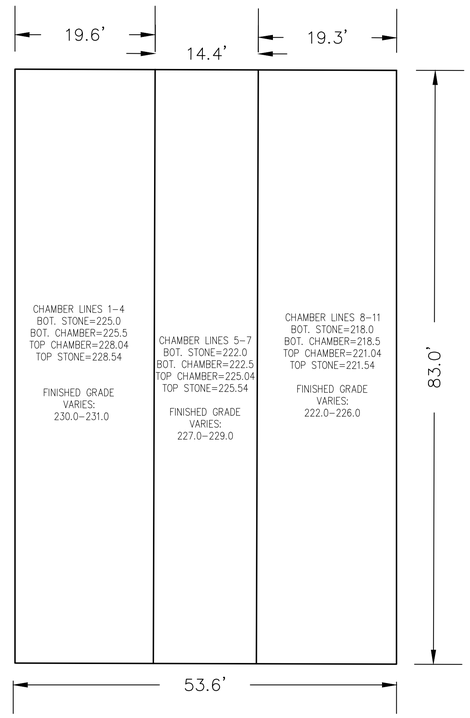
DEFINITIVE SUBDIVISION PLAN
GROTON, MASSACHUSETTS
CONSTRUCTION DETAILS
HAYES WOODS

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C7.2
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-DETAILS	



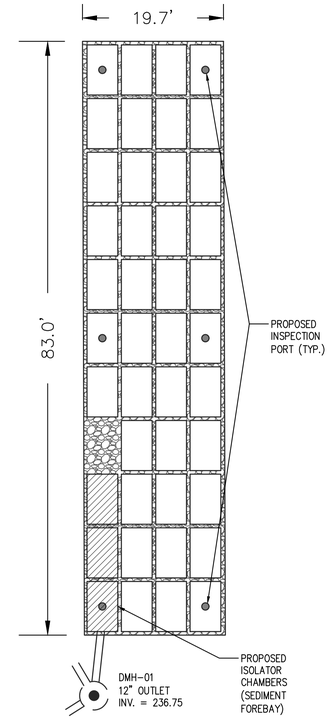
SUBSURFACE INFILTRATION AREA #2 (PLAN VIEW)

SCALE: 1"=10'



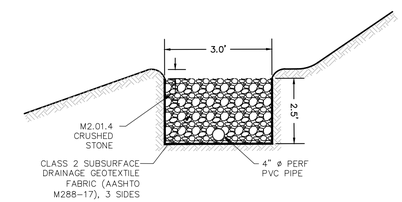
SUBSURFACE INFILTRATION AREA #2 (SCHEMATIC)

SCALE: 1"=10'



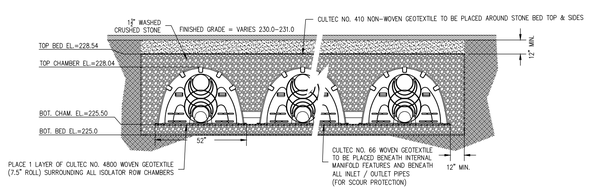
SUBSURFACE INFILTRATION AREA #1 (PLAN VIEW)

SCALE: 1"=10'



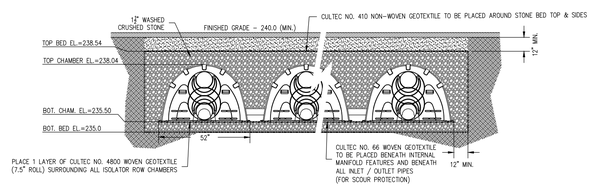
LEVEL SPREADER DETAIL

NOT TO SCALE



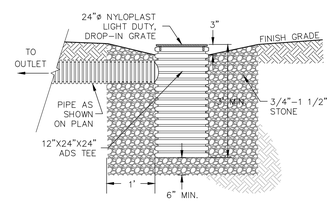
SUBSURFACE INFILTRATION SYSTEM #2 LINES 1-4 CROSS SECTION

SCALE: 1"=5'



SUBSURFACE INFILTRATION #1 CROSS SECTION

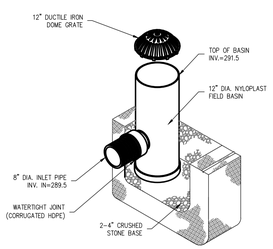
SCALE: 1"=5'



TYPICAL YARD DRAIN DETAIL

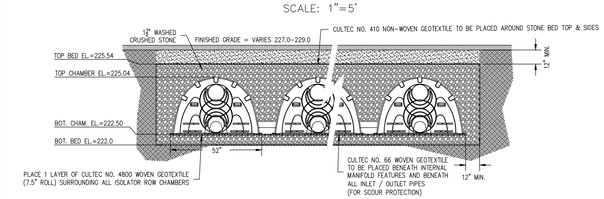
NOT TO SCALE

1. YARD DRAINS SHALL BE CONSTRUCTED OF A 24-INCH ø ADS TEE WITH A NYLOPLAST COVER SET AT THE SPECIFIED ELEVATION. FIELD CUT VERTICAL ADS TEE, OR ADD A SECTION OF 24-INCH ø PIPE TO ACCOMMODATE THE REQUIRED RIM TO INVERT DIMENSION.
2. UNLESS OTHERWISE NOTED, ALL YARD DRAINS SHALL BE EQUIPPED WITH A 24" DOMED GRATE PRODUCT NUMBER 2499CGD



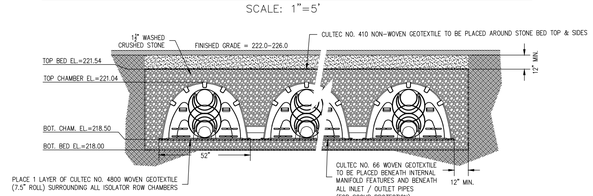
DOME GRATE OUTLET

NOT TO SCALE



SUBSURFACE INFILTRATION SYSTEM #2 LINES 5-7 CROSS SECTION

SCALE: 1"=5'



SUBSURFACE INFILTRATION SYSTEM #2 LINES 8-11 CROSS SECTION

SCALE: 1"=5'

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2/10/2021
PROFESSIONAL LAND SURVEYOR DATE

COMMONWEALTH OF MASSACHUSETTS FRANCIS M. MCPARTLAN CIVIL No. 49572 REGISTERED PROFESSIONAL ENGINEER

2/10/2021
PROFESSIONAL ENGINEER DATE

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HAYES WOODS

DESIGN BY: SRD	DRAWN BY: FMM/RWP	CHECKED BY: FMM	SHEET NO. C7.3
DATE: 02/10/2021	JOB NUMBER: 5454	DRAWING NO. 5454-DETAILS	