NOTES:

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2. DEED REFERENCE: BOOK 82442, PAGE 120
PLAN REFERENCE 1: BOOK 27 PLAN 32
PLAN REFERENCE : END OF BOOK 4869
MIDDLESEX SOUTH REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

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6. FIRST FLOOR ELEVATIONS ARE TAKEN AT THRESHOLD.

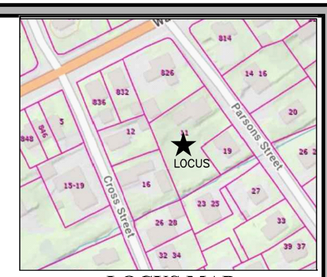
7. NO RESPONSIBILITY IS TAKEN FOR ZONING TABLE AS SPRUHAN ENGINEERING, P.C. ARE NOT ZONING EXPERTS. TABLE IS TAKEN FROM TABLE PROVIDED BY LOCAL ZONING ORDINANCE. CLIENT AND/OR ARCHITECT TO VERIFY THE ACCURACY OF ZONING ANALYSIS.

8. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER VALVES, ETC. AND COMPILED FROM PLANS SUPPLIED BY GOVERNMENT AGENCIES.

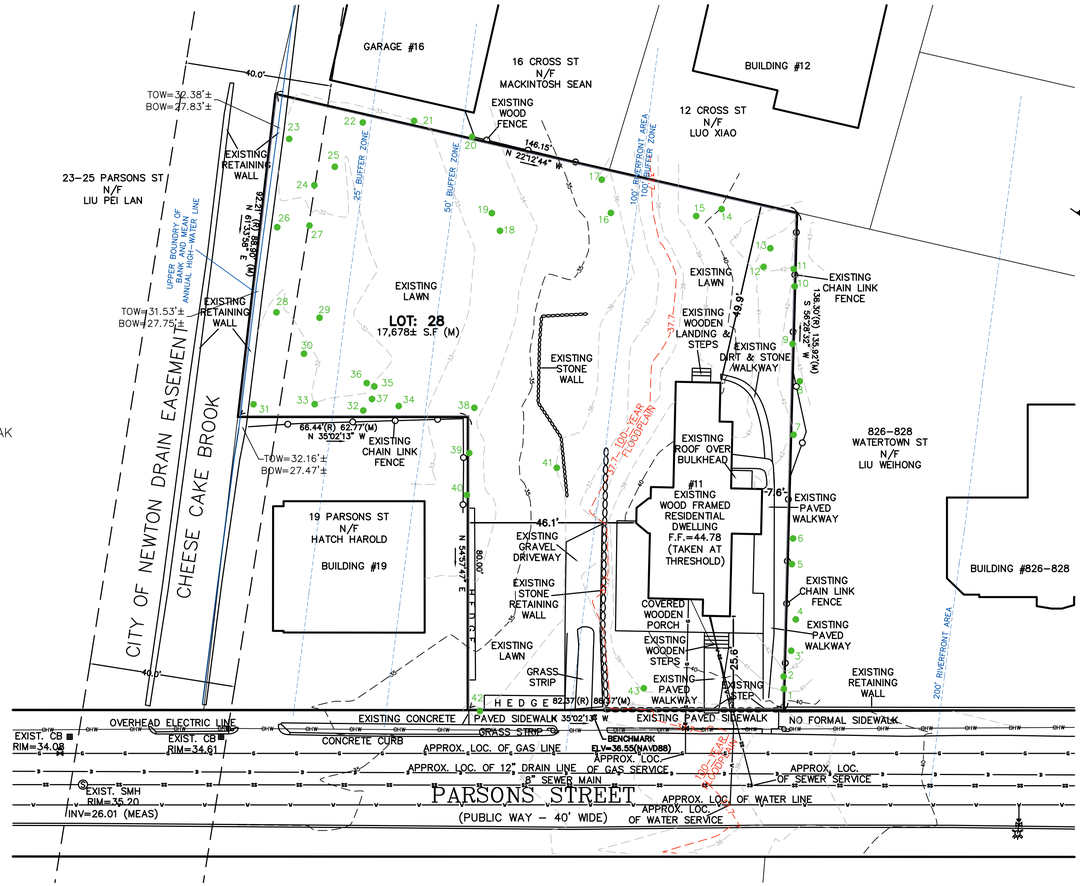
9. THE ELEVATIONS SHOWN ARE BASED NAVD88 DATUM.

10. ZONING INFORMATION: MULTI RESIDENCE -1 , LOT WAS CREATED BEFORE 12/07/1953.

FOR MORE INFORMATION ON THE TREE INVENTORY, PLEASE REFER TO TREE PROTECTION PLAN PREPARED BY SAVATREE CONSULTING GROUP

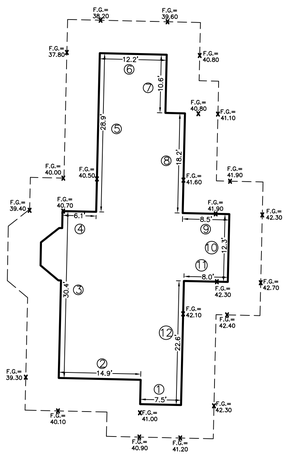


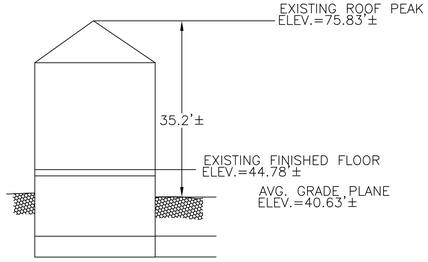
LOCUS MAP
(NOT TO SCALE)



THE GAS LINE SHOWN ON THIS PLAN IS ON AN ASSUMED LOCATION OF EXISTING LINE BASED ON THE INSPECTION OF THE BASEMENT. TIE CARD NOT FOUND AT ENGINEERING DEPARTMENT.

AVERAGE GRADE CALCULATION





EXISTING PROFILE
NOT TO SCALE

AVERAGE GRADE PLANE (ALL UNITS IN FEET)					
SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	7.50	41.20	40.90	41.05	307.88
2	14.90	41.00	40.10	40.55	604.20
3	30.40	39.30	39.40	39.35	1.196.24
4	6.10	40.00	40.50	40.25	245.53
5	28.90	40.70	37.80	39.25	1.134.33
6	12.20	38.20	39.60	38.90	474.58
7	10.60	40.80	40.80	40.80	432.48
8	18.20	41.10	41.90	41.50	755.30
9	8.50	41.60	41.90	41.75	354.88
10	12.30	42.30	42.70	42.50	522.75
11	8.00	42.40	42.10	42.25	338.00
12	22.60	42.30	42.30	42.30	955.98
SUM =	180.20				7.322.13
SUM OF MEAN x LENGTH/ SUM OF LENGTHS = AVERAGE GRADE PLANE =					**40.63**

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

I CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL FIELD SURVEY AND THE LATEST RECORD PLANS, DEEDS AND CERTIFICATES OF TITLE

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON NO. 48549
PROFESSIONAL LAND SURVEYOR

CHRISTOPHER C. CHARLTON, P.L.S

3/12/2025
DATE

Spruhan Engineering, P.C.
80 JEWETT ST, (SUITE 1)
NEWTON, MA 02458
Tel: 617-816-0722
Email:edmond@spruhaneng.com

11 PARSONS STREET
NEWTON
MASSACHUSETTS

SURVEY PLAN

REVISION BLOCK

DESCRIPTION	DATE

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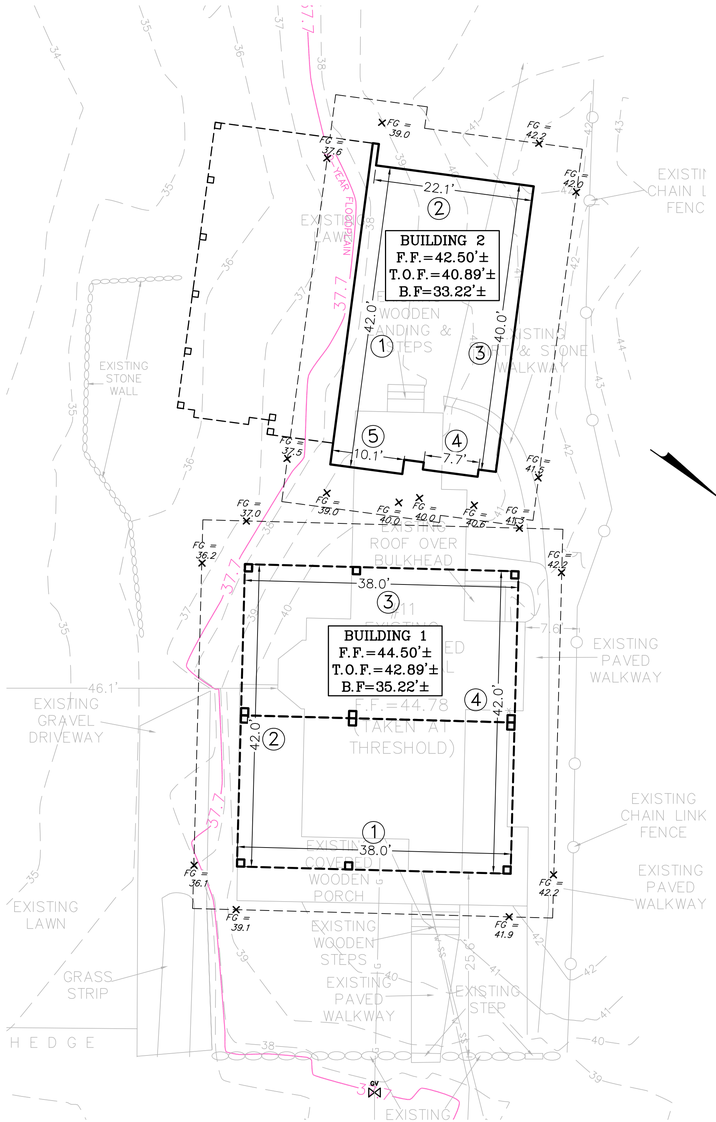
COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON NO. 48549
PROFESSIONAL LAND SURVEYOR

DATE:	3/12/2025
DRAWN BY:	OS
CHECKED BY:	CC
APPROVED BY:	CC

EXISTING CONDITIONS

SHEET 1 OF 1

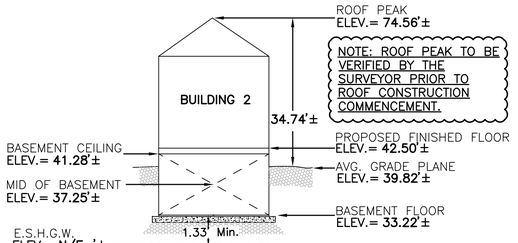


AVERAGE GRADE PLANE (ALL UNITS IN FEET) - BUILDING 2					
ORIGINAL/EXISTING GRADE					
SEGMENT	LEGNTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	42.00	37.50	37.60	37.55	1,577.10
2	22.10	39.00	42.20	40.60	897.26
3	40.00	42.00	41.50	41.75	1,670.00
4	7.70	40.60	40.00	40.30	310.31
5	10.10	40.00	39.00	39.50	398.95
SUM =	121.90				4,853.62
AVERAGE GRADE PLANE = SUM OF MEAN x LENGTH/ SUM OF LENGTHS					39.82

AVERAGE GRADE CALCULATION
BUILDING 2

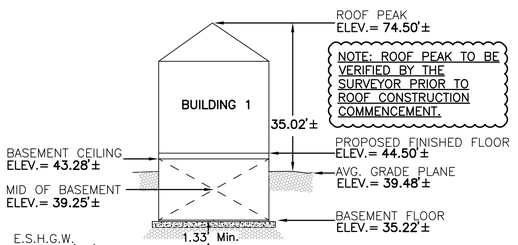
AVERAGE GRADE PLANE (ALL UNITS IN FEET) - BUILDING 1					
ORIGINAL/EXISTING GRADE					
SEGMENT	LEGNTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	38.00	41.90	39.10	40.50	1,539.00
2	42.00	36.10	36.20	36.15	1,518.30
3	38.00	37.00	41.30	39.15	1,487.70
4	42.00	42.20	42.20	42.20	1,772.40
SUM =	160.00				6,317.40
AVERAGE GRADE PLANE = SUM OF MEAN x LENGTH/ SUM OF LENGTHS					39.48

AVERAGE GRADE CALCULATION
BUILDING 1



* MID OF BASEMENT HEIGHT ELEVATION IS LOWER THAN AVERAGE GRADE ELEVATION, THEREFORE PROPOSED BASEMENT MEETS THE DEFINITION OF A BASEMENT

PROPOSED PROFILE
NOT TO SCALE



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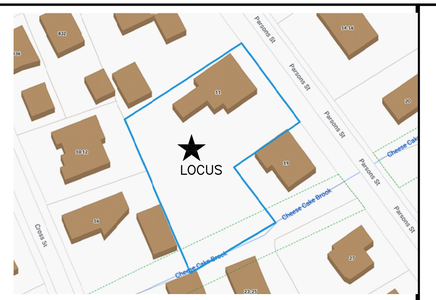
GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.



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(NOT TO SCALE)

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SITE PLAN

REVISION BLOCK

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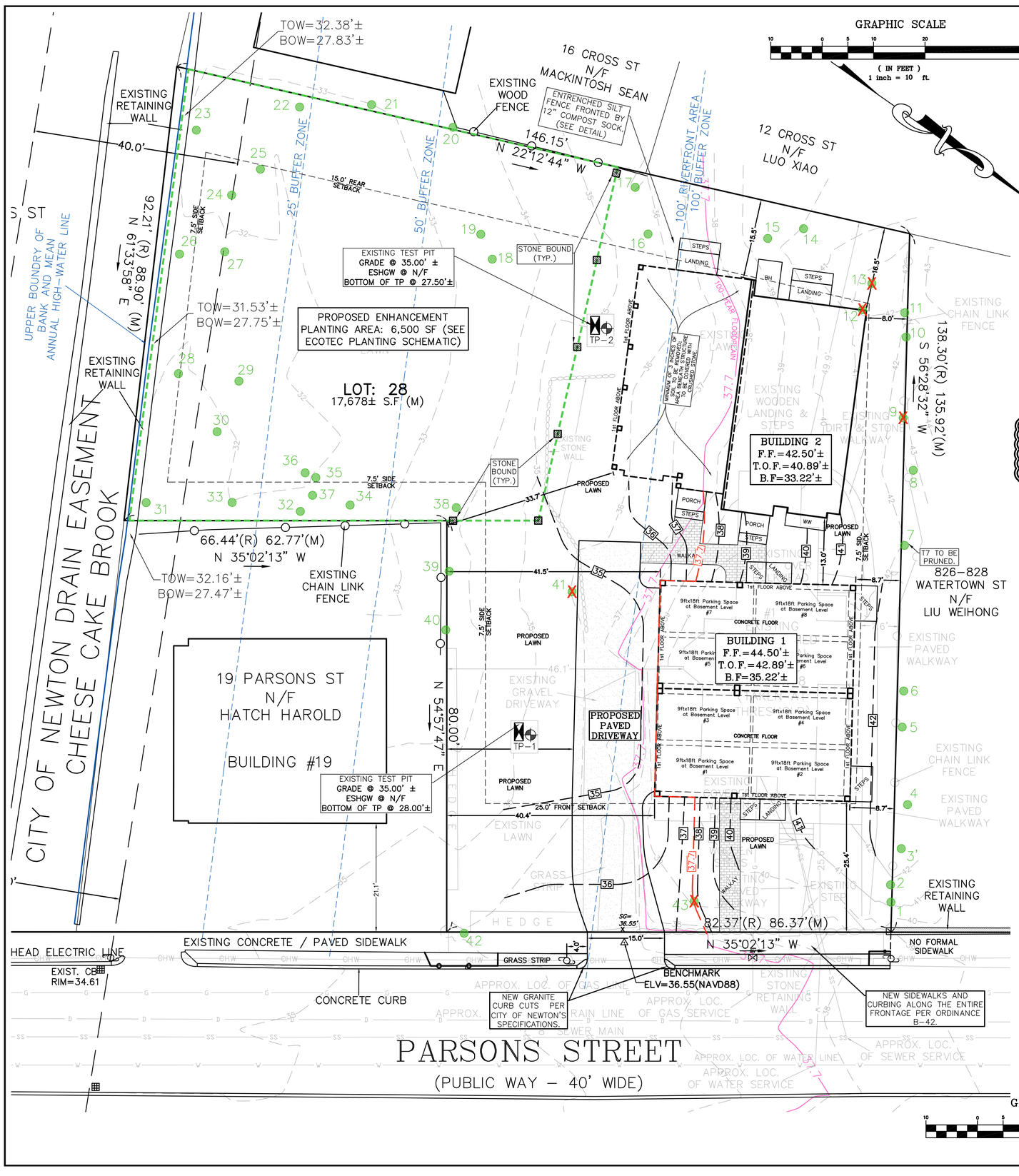
COMMONWEALTH OF MASSACHUSETTS
EDMOND SPRUHAN
No. 49316
REGISTERED PROFESSIONAL ENGINEER
03/12/25

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON
NO. 48949
PROFESSIONAL LAND SURVEYOR
03/12/25

DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

AVERAGE GRADE PLAN

SHEET 1 OF 7



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9. THE ELEVATIONS SHOWN ARE BASED NAVD88 DATUM.

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ZONING LEGEND

ZONING DISTRICT: MULTI-RESIDENCE 1 - LOT CREATED BEFORE 12/07/1953

		REQUIRED	PROPOSED
MIN. AREA		7,000 S.F.	17,678 S.F.±
MAX LOT COVERAGE		30%	19.8%
MIN OPEN SPACE		50%	71.8%
MIN. FRONTAGE		70'	86.37'
SETBACKS	FRONT (MIN)	25.0'	25.4'
	SIDE (MIN.)	7.5'	8.0'
	REAR (MIN)	15.0'	15.5'
MAX. BLDG. HEIGHT		36'	35.02'± (building 1)
			34.74'± (building 2)

NOTE:
1. SHELF FOUNDATION SHALL BE PROVIDED AS REQUIRED.

NOTES:
1. SPRUHAN ENGINEERING, P.C. ACCEPTS NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS OR AS-BUILT LOCATIONS. SPRUHAN ENGINEERING P.C. WILL NOT PROVIDE AS-BUILT CERTIFICATION TO UNINSPECTED BACKFILLED UTILITIES OR DRAINAGE SYSTEM. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO INSPECTIONS.
3. CONTRACTOR TO ENSURE SUMP PUMP DOES NOT DISCHARGE TOWARDS ABUTTERS.
4. CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING PROPERTIES.
5. IF THE CURB-CUT IS PROPOSED WITHIN THE CITY STREET TREE BUFFER ZONE OF (8) FEET, THEN APPROVAL FROM THE CITY OF NEWTON SUPERINTENDENT OF URBAN FORESTRY WILL BE REQUIRED
6. CONTRACTOR TO REGULARLY INSPECT AND MAINTAIN THE EROSION AND SEDIMENT CONTROLS MEASURES.
7. ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE
8. INSTALLATION OF THE RETAINING WALLS CANNOT DAMAGE ABUTTING PROPERTY PLANTINGS OR FENCING.
9. WHEN AN OPEN EXCAVATION IS MADE WHICH REQUIRES A VERTICAL CUT OF SOIL, THAT VERTICAL CUT MUST BE SUPPORTED.
10. RETAINING WALLS WHERE FLOW IS RUNNING PARALLEL TO THE WALL MUST BE A MINIMUM OF 4-INCHES ABOVE ADJACENT SOILS.
11. ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY OTHERS. ALSO, ANY PROPOSED RETAINING WALL IN SETBACK SHALL NOT EXCEED 4 FEET IN HEIGHT IN REFERENCE TO EXISTING GRADES UNLESS BY SPECIAL PERMIT.
12. SEWER/DRAIN PIPES MUST BE ENCASED IN CONCRETE WHERE GROUND COVER IS LESS THAN 3 FT.
13. IF WATER AND SEWER LINES MUST CROSS OR ARE WITHIN 10-FEET HORIZONTALLY, THE SEWER PIPE AND WATER PIPE MUST BE ENCASED. THIS REQUIREMENT STANDS UNLESS THE WATER IS A MINIMUM OF 18-INCHES ABOVE THE SEWER PIPE OR IF THERE IS A MINIMUM OF A 10-FOOT HORIZONTAL SEPARATION.

LEGEND

- BOUND
- TREE
- TREE TO BE REMOVED
- BOLLARD
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- WATER MANHOLE
- WATER VALVE
- GAS VALVE
- UTILITY POLE
- MANHOLE
- SG=XX.XX SPOT GRADE
- FENCE
- S SEWER LINE
- W WATER LINE
- G GAS LINE
- E UNDERGROUND ELECTRIC LINE
- 205 CONTOUR LINE (MJR)
- 195 CONTOUR LINE (MNR)
- 195 PROP CONTOUR LINE
- ## EXISTING 100-YEAR FLOODPLAIN CONTOUR LINE
- ## PROPOSED 100-YEAR FLOODPLAIN CONTOUR LINE
- DS PROPOSED DOWNSPOUT
- TP# TEST PIT #X
- C INSPECTION CLEAOUTS
- SP SUMP PUMP
- FF FIRST FLOOR ELEV.
- TOF TOP OF FOUNDATION ELEV.
- GF GARAGE FLOOR ELEV.
- BF BASEMENT FLOOR ELEV.
- OH OVERHANG
- ENTRENCHED SILT FENCE FRONTED BY 12" COMPOST SOCK
- 12" COMPOST SOCK ONLY
- MITIGATION BOUNDARY LINE

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EDMOND S. SPRUHAN
CIVIL
NO. 49316
REGISTERED PROFESSIONAL ENGINEER
03/12/25

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CHRISTOPHER C. CHARLTON
NO. 48649
PROFESSIONAL LAND SURVEYOR
03/12/25

DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

CIVIL PLAN I
LAYOUT AND TOPOGRAPHY

SHEET 2 OF 7

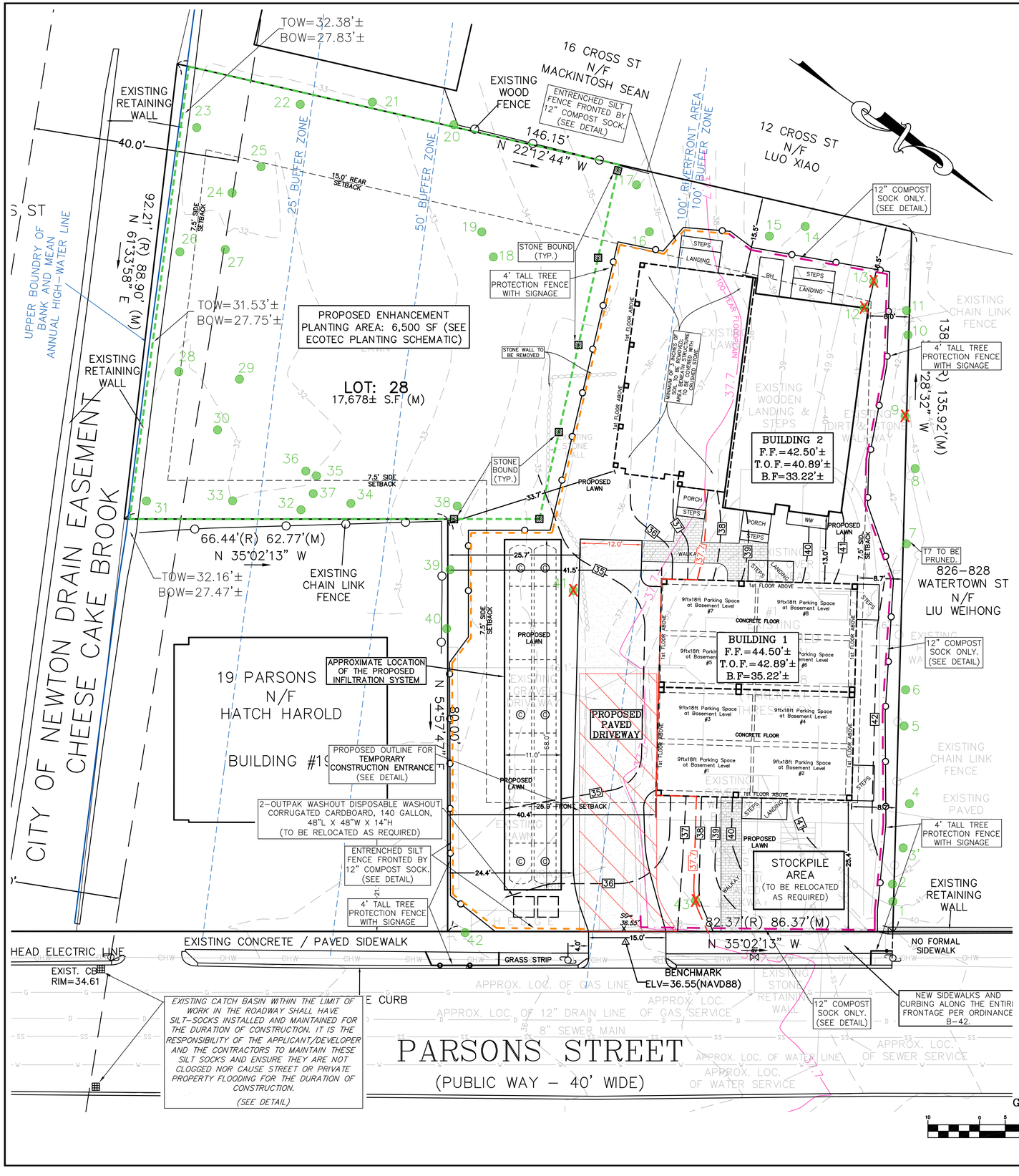

TABLE 1 - FLOODPLAIN IMPACT & MITIGATION SUMMARY

ELEVATION (FT)	FILL IMPACT (CF) -A-	CUT MITIGATION (CF) -B-	CUT - FILL (CF) B-A
34-35	0	1080	1080
35-36	72	1660	1588
36-37	768	1389	621
37-37.7	147	894	747
TOTALS	**986**	**5023**	**4037**

*FILL IMPACT -A-: SUM OF **FILLS** FROM **TABLE 2** FOR EACH AFFECTED 1-FOOT ELEVATION*
*CUT MITIGATION -B-: SUM OF **CUTS** FROM **TABLE 3** FOR EACH AFFECTED 1-FOOT ELEVATION*

TABLE 2 -FILLS

ELEVATION (FT)	FILL AREA (SF)	HEIGHT (FT)	FILL VOLUME (CF)	COMMENT
PROPOSED IMPROVEMENTS				
34-35	0	0	0	-
35-36	68	1	68	DRIVEWAY
36-37	764	1	764	DRIVEWAY, WALK, LANDING,STEPS
37-37.7	204	0.70	143	DRIVEWAY, WALK, LANDING, STEPS, PORCH
TOTAL			**974**	-
NEW PIERS				
34-35	0	0	0	-
35-36	4	1	4	(06) 10"X10" PIERS
36-37	4	1	4	(06) 10"X10" PIERS
37-37.7	6	0.7	4	(08) 10"X10" PIERS
TOTAL			**12**	-
PROPOSED GRADING				
34-35	0	1	0	-
35-36	0	1	0	-
36-37	0	1	0	-
37-37.7	0	0.7	0	-
TOTAL			**0**	-

TABLE 3 -CUTS

ELEVATION (FT)	CUT AREA (SF)	HEIGHT (FT)	CUT VOLUME (CF)	COMMENT
EXISTISTING BUILDING				
34-35	0	0	0	-
35-36	38	1	38	STONE WALL
36-37	335	1	335	STONE WALL, DRIVEWAY
37-37.7	51	0.7	36	STONE WALL, DRIVEWAY
TOTAL			**408**	
PROPOSED GRADING				
34-35	1080	1	1080	-
35-36	1622	1	1622	-
36-37	1054	1	1054	-
37-37.7	1226	0.7	858	-
TOTAL			**4615**	-

EXISTING AREAS	
LOT AREA	17,678 S.F.
IMPERVIOUS & DEGRADED AREAS	
BUILDING	1,256 S.F.
PORCH	627 S.F.
GRAVEL DRIVEWAY	376 S.F.
STONE WALLS	110 S.F.
PAVED WALKWAY	341 S.F.
BULKHEAD	28 S.F.
TOTAL	***2,738 S.F.***
PERVIOUS & DEGRADED AREAS	
WOODEN STEPS & LANDING	47 S.F.
DIRT & STONE WALKWAY	52 S.F.
TOTAL	***99 S.F.***
LANDSCAPE	14,841 S.F.

PROPOSED AREAS	
LOT AREA	17,678 S.F.
IMPERVIOUS & DEGRADED AREAS	
BUILDINGS	3,452 S.F.
PORCHES	44 S.F.
DRIVEWAY	1,128 S.F.
WALKWAYS	243 S.F.
BULKHEAD	33 S.F.
TOTAL	***4,901 S.F.***
PERVIOUS & DEGRADED AREAS	
WOODEN STEPS & LANDINGS	247 S.F.
WINDOW WELL	20 S.F.
TOTAL	***268 S.F.***
LANDSCAPE	12,510 S.F.

IMPERVIOUS AREAS SUMMARY

TOTAL EXISTING IMPERVIOUS AREA = 2,738 S.F.
TOTAL PROPOSED IMPERVIOUS AREA = 4,901 S.F.

TOTAL **INCREASE** IN IMPERVIOUS AREA = **2,163 S.F.**

DEGRADED AREAS SUMMARY

TOTAL EXISTING DEGRADED AREA = 2,837 S.F.
TOTAL PROPOSED DEGRADED AREA = 5,168 S.F.

TOTAL **INCREASE** IN DEGRADED AREA = **2,331 S.F.**

LEGEND

- BOUND
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- TREE TO BE REMOVED
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SITE PLAN

REVISION BLOCK

BY	DESCRIPTION	DATE

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COMMONWEALTH OF MASSACHUSETTS
EDMOND C. SPRUHAN
NO. 49316
REGISTERED PROFESSIONAL ENGINEER
03/12/25

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON
NO. 48849
PROFESSIONAL LAND SURVEYOR
03/12/25

DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

CIVIL PLAN II
FILLS, CUTS AND SITE PREPARATION PLAN

SHEET 3 OF 7

NOTE:
1. *DRAINAGE SYSTEM IS DESIGNED FOR 100 YEAR STORM EVENT FOR ALL RUNOFF FROM PROPOSED IMPERVIOUS AREAS SHOWN.*
2. *ANNUAL INSPECTION LOGS SHALL BE SUBMITTED TO THE DPW ENGINEERING DIVISION AS REQUIRED TO MAINTAIN CERTIFICATION OF COMPLIANCE UNDER NEWTON'S NPDES MS4 PERMIT.*

DEEP OBSERVATION HOLE LOG

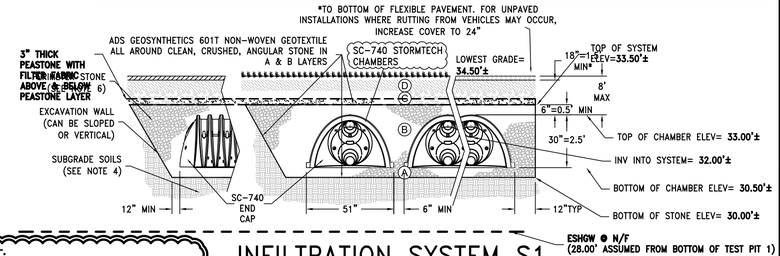
DEEP OBSERVATION HOLE NUMBER:			TP-1			GROUND ELEVATION:					35.00
Depth (in)	Horizon/ Layer	Matrix: Color-Moist	Redoximorphic Features			Texture (USDA)	Coarse Fragments (Percent by Volume)		Structure	Consistence (Moist)	Other
			Depth (in)	Color	Percent		Gravel	Cobbles & Stones			
0-6 34.50	A	10YR 3/2	--	--	--	SANDY LOAM	<5	<5	MASSIVE	FRIABLE	--
6-32 32.33	FILL	--	--	--	--	--	--	--	--	--	6"-14" ASH
32-84 28.00	C	10YR 6/2	NONE	--	--	GRAVELLY LOAMY SAND	25	20	SINGLE GRAINED	LOOSE	--

NOTES:
1. NO WEEPING OR STANDING WATER OBSERVED.
2. NO REDOX. OBSERVED.
3. NO REFUSAL.
4. LOGGED BY MATTHEW MUI, SE14259 ON 10/23/2024.

DEEP OBSERVATION HOLE LOG

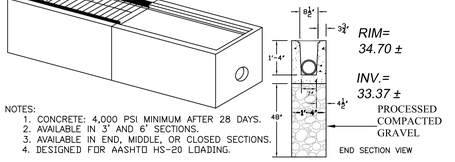
DEEP OBSERVATION HOLE NUMBER:			TP-2			GROUND ELEVATION:					35.00
Depth (in)	Horizon/ Layer	Matrix: Color-Moist	Redoximorphic Features			Texture (USDA)	Coarse Fragments (Percent by Volume)		Structure	Consistence (Moist)	Other
			Depth (in)	Color	Percent		Gravel	Cobbles & Stones			
0-40 31.67	FILL / A	--	--	--	--	--	--	--	--	--	CONSISTING MOSTLY OF LOAM
40-90 27.50	C	10YR 6/2	NONE	--	--	GRAVELLY LOAMY SAND	25	20	SINGLE GRAINED	LOOSE	MANY COBBLES

NOTES:
1. NO WEEPING OR STANDING WATER OBSERVED.
2. NO REDOX. OBSERVED.
3. NO REFUSAL.
4. LOGGED BY MATTHEW MUI, SE14259 ON 10/23/2024.



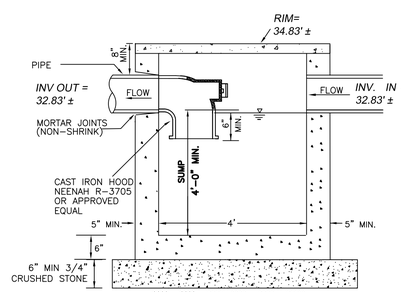
NOTE:
1. *SHELF FOUNDATION SHALL BE PROVIDED AS REQUIRED.*

INFILTRATION SYSTEM S1
STORMTECH SC-740
N.T.S.



NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. AVAILABLE IN 3' AND 6' SECTIONS.
3. AVAILABLE IN END, MIDDLE, OR CLOSED SECTIONS.
4. DESIGNED FOR AASHTO HS-20 LOADING.

TRENCH DRAIN DETAIL
N.T.S.



TYPICAL DRAIN MANHOLE DETAIL
N.T.S.

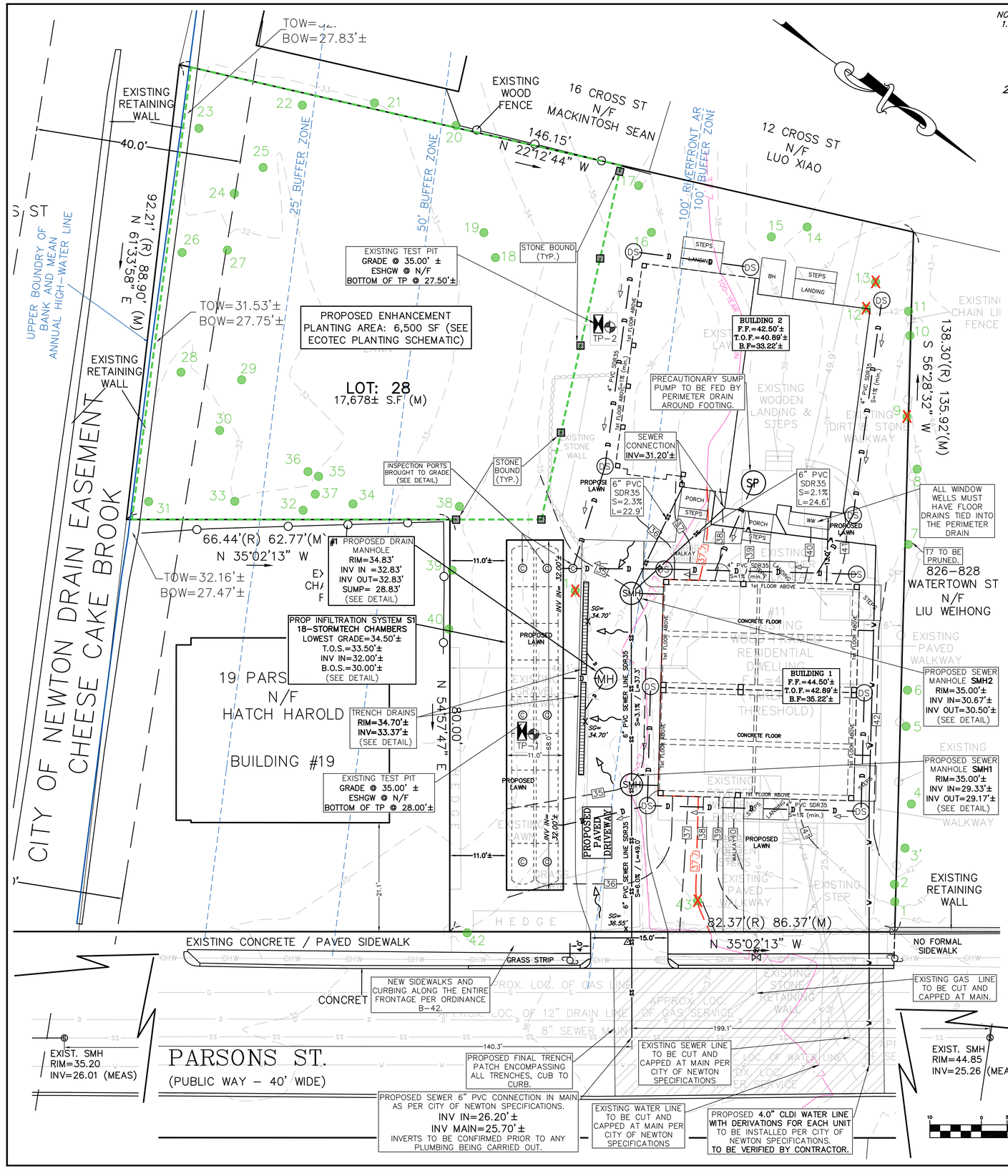
PHOSPHORUS LOAD TABLE	
Existing load =	0.123 lbs/year
Proposed load =	0.221 lbs/year
BMP load (Reduction) =	0.208 lbs/year
Phosphorus reduction =	94.35 % lbs/year
Total impervious area=	0.1125 acres
Total infiltrated/treated area=	0.1062 acres
Total Available BMP Storage=	1,544.00 CF

THE INFILTRATION SYSTEM IS DESIGNED FOR ALL IMPERVIOUS AREAS, HOWEVER ONLY **0.1062 ACRES** WILL BE INFILTRATED/TREATED, AND THIS CAPTURED AREA IS USED IN PHOSPHORUS LOAD CALCULATIONS.

PHOSPHORUS LOAD TABLE

LEGEND

- BOUND
- TREE
- TREE TO BE REMOVED
- BOLLARD
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCH BASIN
- WATER MANHOLE
- WATER VALVE
- GAS VALVE
- UTILITY POLE
- MANHOLE
- SG=XX.XX SPOT GRADE
- FENCE
- SEWER LINE
- WATER LINE
- GAS LINE
- UNDERGROUND ELECTRIC LINE
- 205 CONTOUR LINE (MJR)
- 195 CONTOUR LINE (MNR)
- 195 PROP CONTOUR LINE
- EXISTING 100-YEAR FLOODPLAIN CONTOUR LINE
- PROPOSED 100-YEAR FLOODPLAIN CONTOUR LINE
- DS PROPOSED DOWNSPOUT
- TP# TEST PIT #X
- INSPECTION CLEAOUTS
- SUMP PUMP
- FF FIRST FLOOR ELEV.
- TOF TOP OF FOUNDATION ELEV.
- GF GARAGE FLOOR ELEV.
- BF BASEMENT FLOOR ELEV.
- OH OVERHANG
- ENTRENCHED SILT FENCE FRONTED BY 12" COMPOST SOCK
- 12" COMPOST SOCK ONLY
- MITIGATION BOUNDARY LINE



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11 PARSONS STREET
NEWTON
MASSACHUSETTS

SITE PLAN

REVISION BLOCK

BY	DESCRIPTION	DATE

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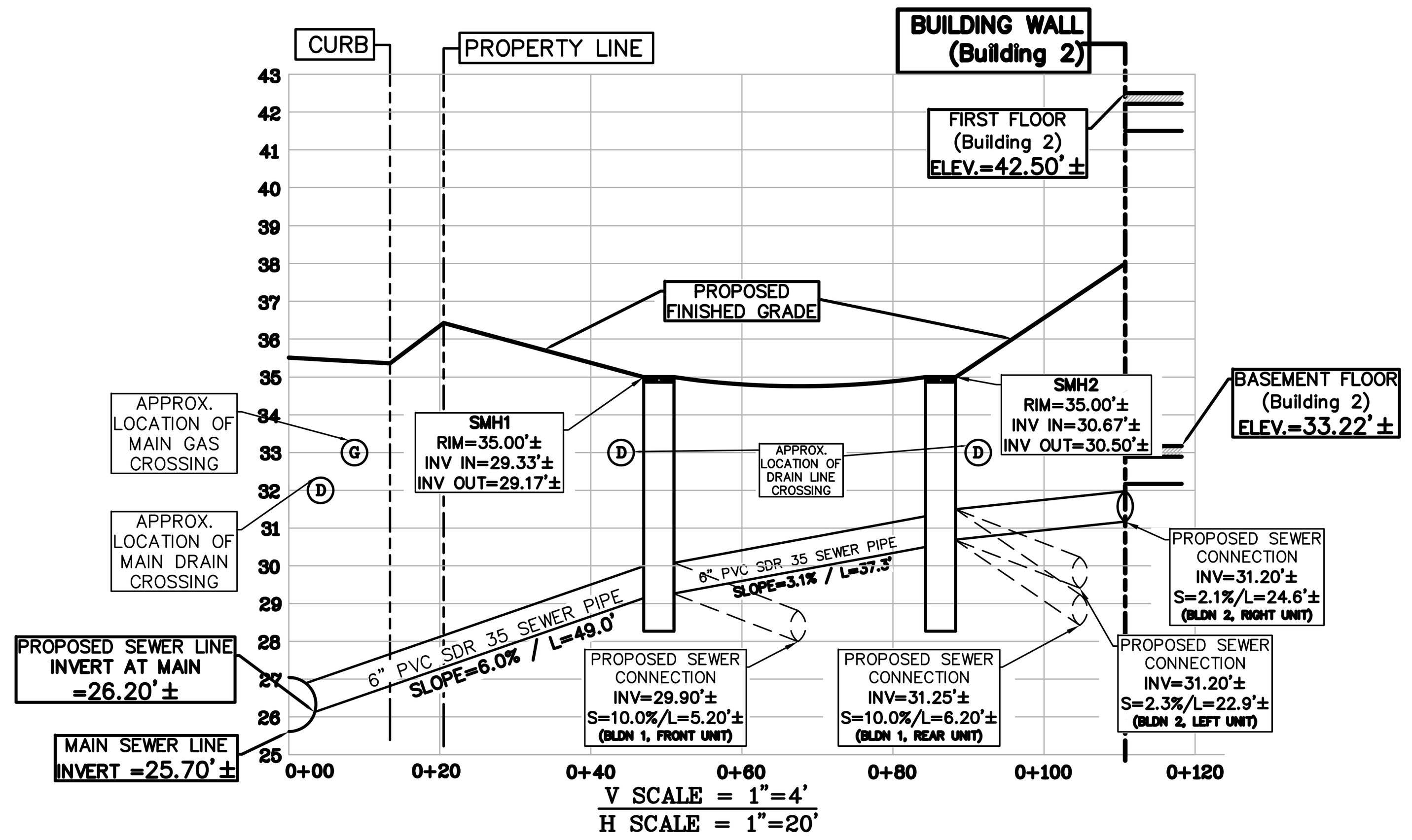
COMMONWEALTH OF MASSACHUSETTS EDMOND C. SPRUHAN JR. NO. 45316 REGISTERED PROFESSIONAL ENGINEER
03/12/25

COMMONWEALTH OF MASSACHUSETTS CHRISTOPHER C. CHARLTON NO. 48649 PROFESSIONAL LAND SURVEYOR
03/12/25

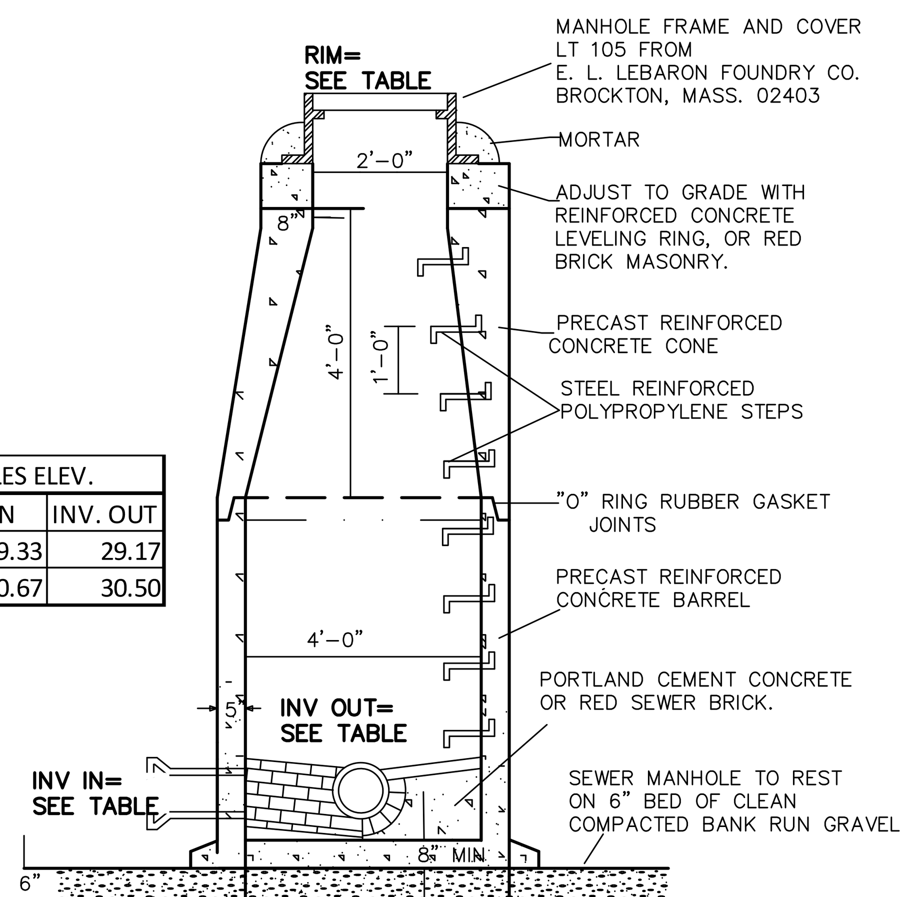
DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

CIVIL PLAN III
DRAINAGE & UTILITIES



PROPOSED SEWER PROFILE

NOTE:
1. *IF WATER AND SEWER LINES MUST CROSS OR ARE WITHIN 10-FEET HORIZONTALLY, THE SEWER PIPE AND WATER PIPE MUST BE ENCASED. THIS REQUIREMENT STANDS UNLESS THE WATER IS A MINIMUM OF 18-INCHES ABOVE THE SEWER PIPE OR IF THERE IS A MINIMUM OF A 10-FOOT HORIZONTAL SEPARATION.*
2. SEWER/DRAIN PIPES MUST BE ENCASED IN CONCRETE WHERE GROUND COVER IS LESS THAN 3 FT.



SEWER MANHOLES ELEV.			
ID	RIM	INV. IN	INV. OUT
SMH1	35.00	29.33	29.17
SMH2	35.00	30.67	30.50

PROPOSED SEWER MANHOLE DETAIL
NOT TO SCALE

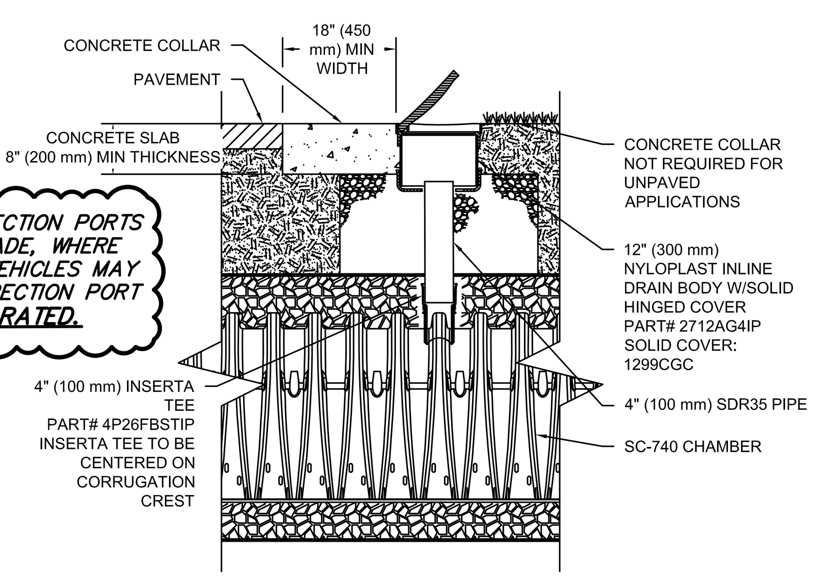
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

NOTES:

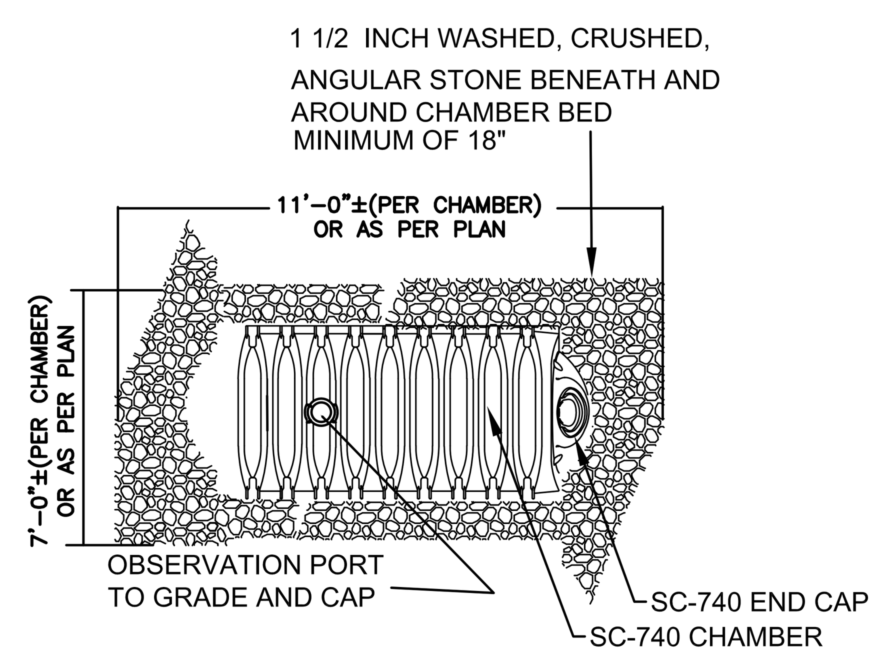
1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

STORMTECH SC-740 DRAINAGE SYSTEM NOTES
N.T.S.

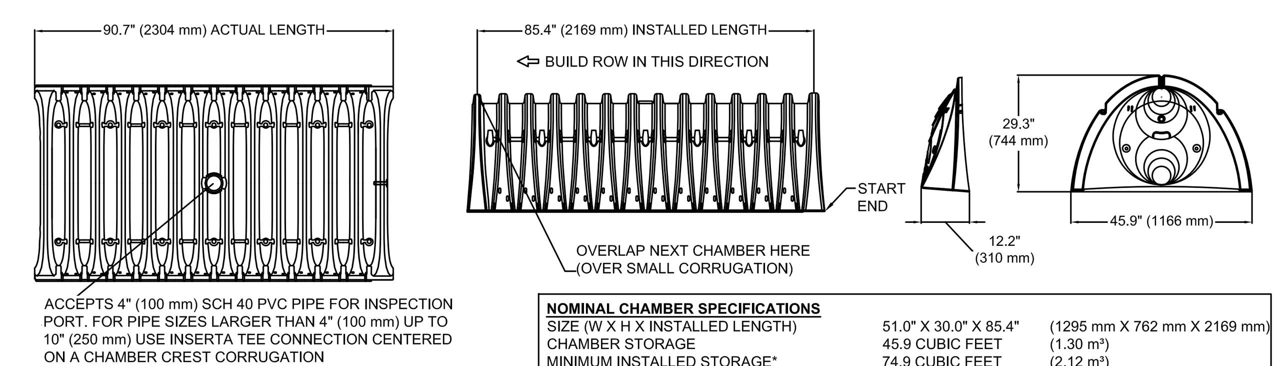
NOTE: FOR INSPECTION PORTS BROUGHT TO GRADE, WHERE ROUTING FROM VEHICLES MAY OCCUR, THE INSPECTION PORT MUST BE H-20 RATED.



SC-740 4" (100 mm) INSPECTION PORT DETAIL
N.T.S.



STORMTECH SC-740 CHAMBER SYSTEM PLAN VIEW DETAIL
N.T.S.



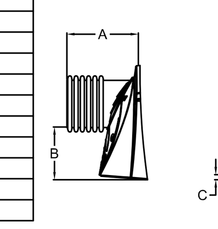
NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)



ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

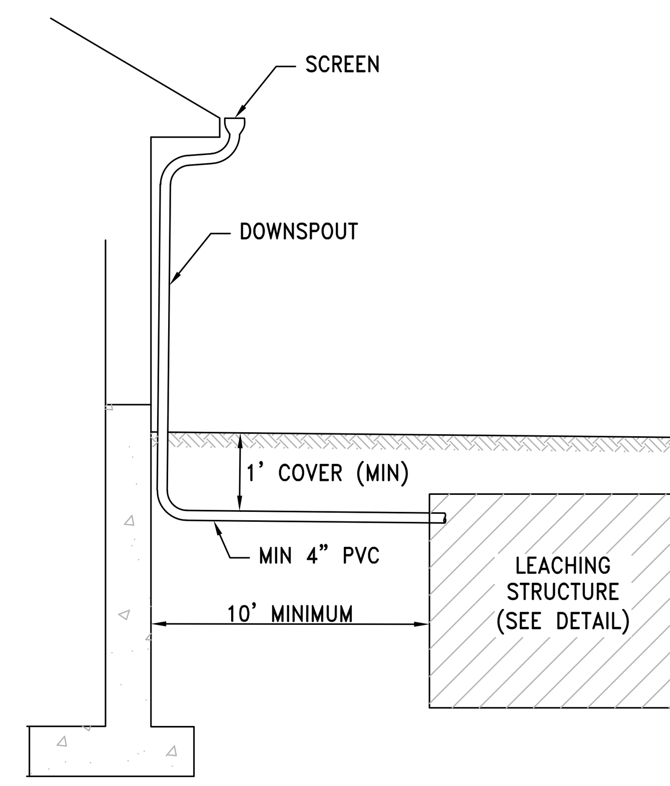
* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

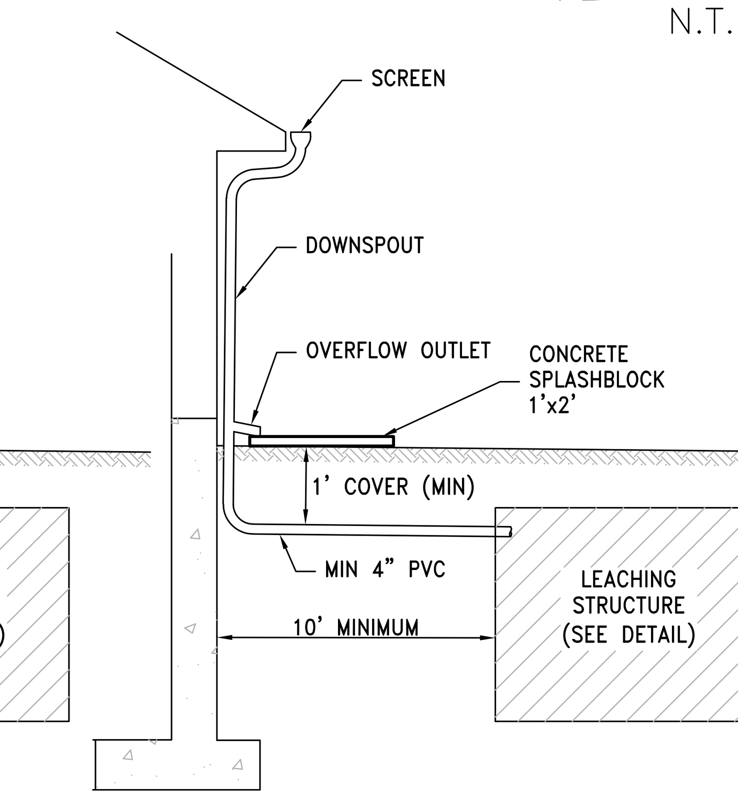
SC-740 TECHNICAL SPECIFICATION
N.T.S.

1. STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
2. STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
3. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
4. AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
5. STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
6. BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
7. THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
8. THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.

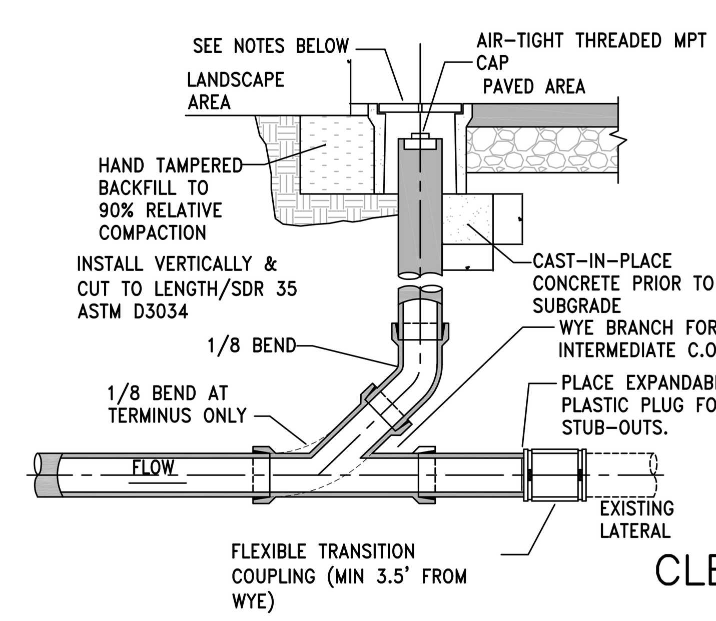
SC-740 TECHNICAL SPECIFICATION



TYPICAL DOWNSPOUT DETAIL
N.T.S.



TYPICAL DOWNSPOUT DETAIL
WITH OVERFLOW
N.T.S.



NOTES:

1. RECTANGULAR OR CIRCULAR BOXES ARE PERMITTED.
2. CONCRETE/FIBERLYTE LIDS ARE ACCEPTABLE IN NON-VEHICULAR AREAS. H-20 CAST IRON TRAFFIC LIDS AND BOXES IN VEHICULAR AREAS.
3. ALL CLEANOUT LIDS SHALL BE MARKED WITH AN "S" OR THE WORD "SEWER" FOR SANITARY SEWER CLEANOUTS
4. CLEANOUT PIPE SHALL BE THE SAME DIAMETER AS THE CONNECTED SITE PIPE.
5. TERMINATE C.O. AT CLOSEST JOINT TO SURFACE WITH TEMPORARY PLUG. AFTER ALL BACKFILL IS COMPLETE AND SUB-GRADE MADE IN AREAS TO BE PAVED, THE FINAL RISER PIPE AND BOX SHALL BE INSTALLED AS SHOWN.

CLEANOUT TO GRADE
N.T.S.

NOTES

1. ELEVATIONS REFER TO CITY OF NEWTON DATUM.
2. THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY DONE ON THE GROUND ON **02/28/24.**
3. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ANY CROSSINGS OF PROPOSED AND EXISTING UTILITIES.
4. MASSACHUSETTS STATE LAW REQUIRES UTILITY NOTIFICATION AT LEAST THREE BUSINESS DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL DIG-SAFE AT 1-888-344-7233 IN ORDER TO COMPLY WITH STATE LAW.
5. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS, LATEST EDITION, PREPARED AND ISSUED BY THE NEWTON ENGINEERING DEPARTMENT. COPIES MAY BE OBTAINED AT THE OFFICE OF THE CITY ENGINEER. REFER TO NOTE 29 FOR DETAILS. NOTE: A TRENCH PERMIT MUST BE OBTAINED PRIOR TO ANY EXCAVATION BEING CARRIED OUT.
6. PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35. ***CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION.***
7. PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.
8. ALL WORK SHALL BE SUBJECT TO THE INSPECTION BY AND APPROVAL OF THE CITY ENGINEER.
9. ALL WORK MUST BE DONE IN ACCORDANCE WITH "CITY OF NEWTON STANDARD SPECIFICATIONS" AND "CITY OF NEWTON CONSTRUCTION DETAILS", COPIES OF WHICH MAY BE OBTAINED AT THE ENGINEERING OFFICE. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF NEWTON ENGINEERING DEPARTMENT.
10. AS OF JANUARY 1, 2009, ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. TRENCH EXCAVATION PERMIT REQUIRED. THIS APPLIES TO ALL TRENCHES, BOTH ON PUBLIC AND/OR PRIVATE PROPERTY.
11. NO EXCAVATION SHALL BE MADE BY THE CONTRACTOR IN ANY PUBLIC WAY OR UTILITY EASEMENT UNLESS AT LEAST FORTY-EIGHT (48) HOURS, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND HOLIDAYS, BEFORE THE PROPOSED EXCAVATION IS TO BE MADE, HE HAS SUBMITTED, NOTICE OF THE PROPOSED EXCAVATION TO THE FOLLOWING:
   a. SUCH PUBLIC UTILITY COMPANIES AS SUPPLY GAS, ELECTRICITY, AND TELEPHONE SERVICE IN THE CITY.
   b. SUCH PRIVATE COMPANIES AS PROVIDE CABLE TELEVISION SERVICE IN THE CITY.
   c. CITY OF NEWTON WATER & SEWER DEPARTMENT. SUCH NOTICE SHALL SET FORTH THE STREET NAME AND A REASONABLY ACCURATE DESCRIPTION OF THE LOCATION OF THE EXCAVATION.
12. THE CONTRACTOR MUST PROVIDE POLICE DETAILS, SCHEDULED 48 HOURS IN ADVANCE, FOR THE DIRECTION AND CONTROL OF TRAFFIC, AS REQUIRED BY THE CITY ENGINEER. ALL ROADS AFFECTED BY CONSTRUCTION SHALL ALWAYS REMAIN OPEN TO EMERGENCY VEHICLES. CONTRACTOR IS TO COORDINATE WITH POLICE AND FIRE DEPARTMENT TO ENSURE PUBLIC SAFETY.
13. NO WORK SHALL BE PERFORMED UNTIL THE NECESSARY PERMITS ARE OBTAINED FROM THE CITY OF NEWTON PUBLIC WORKS DEPARTMENT. THE APPLICANT WILL HAVE TO APPLY FOR STREET OPENING, UTILITIES CONNECTION, SIDEWALK CROSSING AND AN INSTALL CURB & SIDEWALK PERMIT WITH THE DPW PRIOR TO START OF WORK.
14. ALL TRENCHES IN PAVED STREETS SHALL BE TEMPORARILY PATCHED WITH PAVEMENT OF EXISTING PAVEMENT THICKNESS OR AS DIRECTED BY THE CITY ENGINEERING INSPECTOR, LAID HOT AND MAINTAINED UNTIL THE PERMANENT PATCH IS INSTALLED.
15. WARNING SIGNS SHALL CONFORM TO 2020 MUTCD STANDARD HIGHWAY SIGNS.
16. ALL TOPSOIL, SUBSOIL OR IMPERVIOUS SOIL MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING SYSTEM AND TO A DISTANCE 5' LATERALLY IN ALL DIRECTIONS BEYOND THE SIDES OF THE GALLEYS. BACKFILL AS REQUIRED WITH A CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND DELETERIOUS SUBSTANCES. THE SAND SHALL HAVE A PERCOLATION RATE OF 2 MINUTES PER INCH OR FASTER.
17. IN CASES WHERE LEDGE OR BOULDERS ARE ENCOUNTERED, SPRUHAN ENGINEERING, P.C. WILL NOT BE RESPONSIBLE FOR THE AMOUNT OF ROCK ENCOUNTERED.
18. IF ANY PART OF THIS DESIGN IS TO BE ALTERED IN ANY WAY, THE DESIGN ENGINEER, AS WELL AS THE APPROVING AUTHORITIES, SHALL BE NOTIFIED IN WRITING BEFORE CONSTRUCTION.
19. THE ROOF RUNOFF FROM THE ROOF SURFACES SHALL BE COLLECTED BY GUTTERS AND DIRECTED TO THE STORM WATER DRAINAGE SYSTEM. ***SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL.***
20. PRIOR TO AN OCCUPANCY PERMIT BEING ISSUED, AN AS-BUILT PLAN SHOULD BE SUBMITTED TO THE ENGINEERING DIVISION IN BOTH DIGITAL FORMAT AND HARD COPY. THE PLAN SHOULD SHOW ALL UTILITIES AND FINAL GRADES, TIES TO ALL GATES, VALVES, CLEAN-OUTS, CONNECTION POINTS AT MAINS, STRUCTURE ACCESS/MAINTENANCE COVERS, ANY EASEMENTS, SHOW DIMENSIONAL TIES FROM FIXED POINTS (FOUNDATION CORNERS) TO ALL SUBSURFACE COMPONENTS AS WELL AS FINAL GRADING. THE AS-BUILT PLAN MUST BE STAMPED, SIGNED, AND DATED BY THE ENGINEER OF RECORD.
21. AFTER ALL ENGINEERING PERMITS ARE OBTAINED, THE CONTRACTOR NEEDS TO NOTIFY THE ENGINEERING DIVISION CONSTRUCTION INSPECTOR A MINIMUM OF 48-HOURS IN ADVANCE AND SCHEDULE AN APPOINTMENT TO HAVE SITE UTILITIES AND STORMWATER COMPONENTS INSPECTED. THE SYSTEM & UTILITIES MUST BE FULLY EXPOSED FOR THE INSPECTOR. ONCE THE INSPECTOR IS SATISFIED, THE SYSTEM & UTILITIES MAY BE BACKFILLED
22. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS OR AS-BUILT LOCATIONS. **SPRUHAN ENGINEERING P.C.** WILL NOT PROVIDE AS-BUILT CERTIFICATION TO UNINSPECTED BACKFILLED UTILITIES. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO INSPECTIONS.
23. ANY PROPOSED PVC PIPES UNDER PAVING OR CONCRETE WITH LESS THAN 30" OF COVER MUST BE ENCASED IN CONCRETE. (SEE PAGE 21, CITY OF NEWTON GENERAL CONSTRUCTION DETAILS.)
24. THE EXISTING WATER SERVICE MUST BE COMPLETELY REMOVED FROM THE DWELLING TO THE CORPORATION AT THE MAIN. THE CORPORATION SHALL BE CAPPED, AND A NEW TAP SHALL BE MADE FOR THE NEW SERVICE. EACH PHASE OF THIS PROCESS MUST BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. FAILURE TO HAVING THIS INSPECTION PERFORMED, MAY RESULT IN THE DELAY OR DENIAL OF A WATER SERVICE PERMIT.
25. THE EXISTING SEWER SERVICE MUST BE COMPLETELY REMOVED FROM THE DWELLING TO THE MAIN. THE REMOVAL, ALONG WITH THE NEW CONNECTION MUST BE INSPECTED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION. FAILURE TO HAVING THESE INSPECTIONS PERFORMED, MAY RESULT IN THE DELAY OR DENIAL OF A SEWER SERVICE PERMIT.
26. THE NEW SEWER SERVICE(S) AND/OR MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH THE DPW STANDARDS. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL ALL PIPING AND STRUCTURES ARE TESTED AND PASS.
27. THE NEW WATER SERVICE SHALL BE INSTALLED IN CONJUNCTION WITH THE CITY OF NEWTON UTILITIES DIVISION. THE OWNER/CONTRACTOR MAY OBTAIN A WATER SERVICE APPLICATION BY CONTACTING THE UTILITIES DIVISION (617) 796-1640 OR BY VISITING THE CITY OF NEWTON WEBSITE AND CLICK THE LINK FOR PUBLIC WORKS / UTILITIES DIVISION. AFTER THE APPLICATION IS PAID IN FULL THE OWNER/CONTRACTOR SHALL FOLLOW THE INSTRUCTIONS PLAN NOTES MENTIONED AND FOLLOWING.
28. THE EXISTING CONTOURS OF THE LAND ARE NOT TO BE ALTERED BY MORE THAN THREE (3) FEET AS A RESULT OF THE PLACEMENT OR REMOVAL OF SOD, LOAM, CLAY, GRAVEL OR STONE, OR OTHER SOLID MATERIAL UNLESS A PROPOSED RETAINING WALL OR SWALE IS INSTALLED AFTER IT IS APPROVED BY BOTH CITY OF NEWTON ENGINEERING DEPARTMENT & CITY OF NEWTON I.S.D
29. NO EXCAVATION IS ALLOWED WITHIN ANY CITY RIGHT-OF-WAY BETWEEN NOVEMBER 15TH AND APRIL 15TH. IF AN EMERGENCY EXISTS OR THERE ARE EXTENUATING CIRCUMSTANCES, APPLICANT MAY SEEK PERMISSION FOR SUCH WORK FROM THE CITY DPW COMMISSIONER VIA THE CITY ENGINEER. IF PERMISSION IS GRANTED, SPECIAL CONSTRUCTION STANDARDS WILL BE APPLIED. APPLICANT OR APPLICANT'S REPRESENTATIVE MUST CONTACT THE CITY OF NEWTON ENGINEERING DEPARTMENT PRIOR TO START OF WORK FOR CLARIFICATION.
30. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
31. DURING CONSTRUCTION, THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE.
32. EXCEPT FOR GAS SERVICES, ALL UTILITY TRENCHES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY WILL BE BACK FILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS. EXCAVATABLE FLOW FILL WITH EXTEND TO WITHIN 18" OF ROADWAY ASPHALT.
33. ALL CONSTRUCTION ACTIVITIES WITHIN THE CITY OF NEWTON RIGHT-OF-WAY MUST FULLY COMPLY WITH ALL OF CITY OF NEWTON CONSTRUCTION SPECIFICATIONS AS WELL AS 521 CMR 21.00 AND 22.00.
34. ALL SILTATION CONTROL NEEDS TO BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER'S OFFICE FOR APPROVAL PRIOR TO COMMENCEMENT.
35. ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MGL CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. A TRENCH EXCAVATION PERMIT IS REQUIRED.
36. APPROVAL OF THIS PLAN BY CITY OF NEWTON ENGINEERING DIVISION IMPLIES THAT THE PLAN MEETS THE MINIMAL DESIGN STANDARDS OF THE CITY OF NEWTON. HOWEVER, THE ENGINEERING DIVISION MAKES NO REPRESENTATION AND ASSUMES NO RESPONSIBILITY FOR THE DESIGN(S) IN TERMS OF SUITABILITY FOR THE PARTICULAR SITE CONDITIONS OR OF THE FUNCTIONABILITY OR PERFORMANCE OF ANY ITEMS CONSTRUCTED IN ACCORDANCE WITH THE DESIGN(S). THE CITY OF NEWTON ASSUMES NO LIABILITIES FOR DESIGN ASSUMPTION, ERRORS OR OMISSIONS BY THE ENGINEER OF RECORD.
37. PER CITY OF NEWTON ORDINANCE NO.B-42, COUNCIL ITEM #251-19, BUILDING SEWER, WATER SERVICE PIPE & SIDEWALK/CURB REPLACEMENT ORDINANCE. THE APPLICANT IS REQUIRED TO INSTALL/REPLACE SIDEWALK & CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING & WALKWAYS, INCLUDING ACCESSIBLE CURB CUTS & OTHER ACCESS AS REQUIRED. THE ENGINEERING CONSTRUCTION INSPECTOR MAKES A DETERMINATION, BASED ON THE MATERIAL & MANNER OF CONSTRUCTION OF THE EXISTING SIDEWALK & CURB, THAT THE EXISTING SIDEWALK & CURB HAS THE ABILITY TO BE RE-SET OR REUSED WITHOUT REPLACEMENT.
38. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS AND AS-BUILT LOCATIONS; THE ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON-SITE INSPECTION(S) OF ALL SUBSURFACE STRUCTURES. THIS INCLUDES BUT NOT LIMITED TO DRAINAGE, UTILITIES (INCLUDING SEWER PIPE SLOPE), ROOF LEADER COLLECTION SYSTEM, TRENCH DRAINS, MANHOLES ETC. ENGINEER OF RECORD MUST ALSO CONDUCT "BOTTOM OF HOLE" INSPECTION(S) PRIOR TO SUBSURFACE DRAINAGE SYSTEM(S) BEING INSTALLED.- CONTRACTOR TO NOTIFY ENGINEER BEFORE BACKFILL OR SIGN OFF CANNOT OCCUR WITHOUT RE-EXCAVATION.
39. PLEASE SEE SECTION 6-C REQUIREMENT #6 OF THE STORMWATER MANAGEMENT AND EROSION CONTROL RULES & REGULATIONS PAGE 11 OF 17, POST CONSTRUCTION OPERATION AND MAINTENANCE PLAN (O&M). THE O & M PLAN MUST BE RECORDED AT THE APPROPRIATE REGISTRY OF DEEDS AND THAT PROOF OF RECORDING MUST BE PROVIDED TO THE ENGINEERING DIVISION PRIOR TO THE RECOMMENDATION OF THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
40. 5 YEAR MORATORIUM - IF AT TIME OF CONSTRUCTION THE ROADWAY IS UNDER A 5 YEAR MORATORIUM, THE ROADWAY MUST BE MILLED & PAVED GUTTER-TO-GUTTER FOR A DISTANCE OF 25 FEET IN EACH DIRECTION FROM THE OUTERMOST TRENCHES OR AS DIRECTED BY THE ENGINEERING INSPECTOR.

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11 PARSONS STREET
NEWTON
MASSACHUSETTS

SITE PLAN

REVISION BLOCK

BY	DESCRIPTION	DATE

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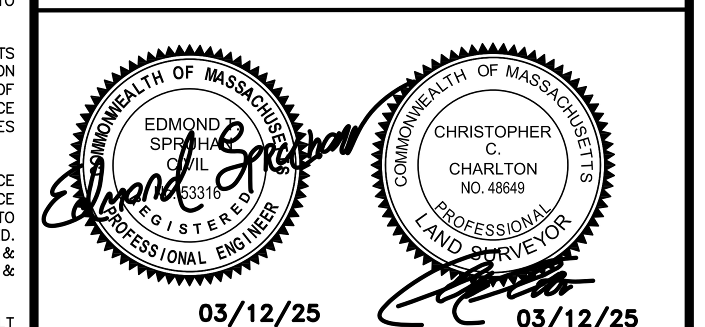

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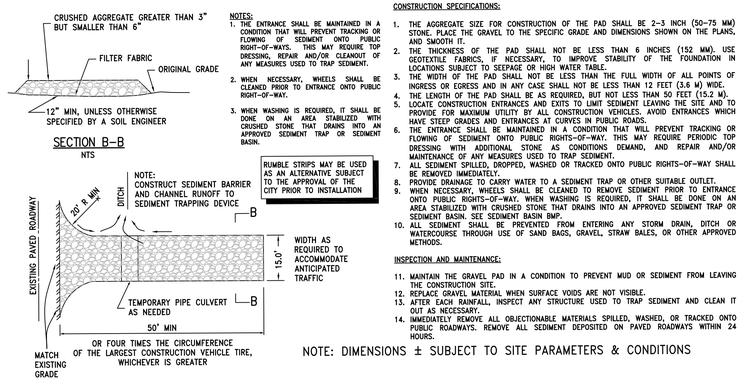
CHECKED BY:	E.S.
APPROVED BY:	E.S

DETAILS I



NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

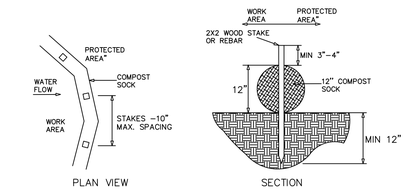
RUMBLE STRIPS MAY BE USED AS AN ALTERNATIVE SUBJECT TO THE APPROVAL OF THE CITY PRIOR TO INSTALLATION

CONSTRUCTION SPECIFICATIONS:
1. THE AGGREGATE SIZE FOR CONSTRUCTION OF THE PAD SHALL BE 2-3 INCH (50-75 MM) STONE. PLACE THE GRAVEL TO THE SPECIFIC GRADE AND DIMENSIONS SHOWN ON THE PLANS, AND SMOOTH IT.
2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES (152 MM). USE GEOTEXTILE FABRICS, IF NECESSARY, TO IMPROVE STABILITY OF THE FOUNDATION IN LOCATIONS SUBJECT TO SEEPAGE OR HIGH WATER TABLE.
3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS AND IN ANY CASE SHALL NOT BE LESS THAN 12 FEET (3.6 M) WIDE.
4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET (15.2 M).
5. LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT LEAVING THE SITE AND TO PROVIDE FOR MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID ENTRANCES WHICH HAVE STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR MAINTENANCE OF ANY MEASURES USED TO TRAP SEDIMENT.
7. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP OR OTHER SUITABLE OUTLET.
9. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. SEE SEDIMENT BASIN BMP.
10. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, STRAW BALES, OR OTHER APPROVED METHODS.

INSPECTION AND MAINTENANCE:
11. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
12. REPLACE GRAVEL MATERIAL WHEN SURFACE VOIDS ARE NOT VISIBLE.
13. AFTER EACH RAINFALL, INSPECT ANY STRUCTURE USED TO TRAP SEDIMENT AND CLEAN IT OUT AS NECESSARY.
14. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS WITHIN 24 HOURS.

NOTE: DIMENSIONS ± SUBJECT TO SITE PARAMETERS & CONDITIONS

STABILIZED CONSTRUCTION ENTRANCE DETAIL
N.T.S.

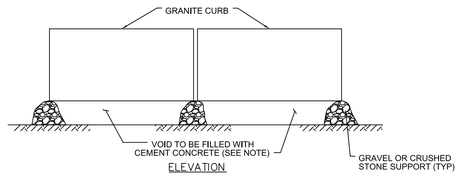


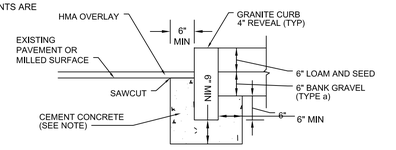
COMPOST SOCK SHOULD BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS AND WHERE SHOWN ON THE PLAN.

NOTES:
1. ALL MATERIALS TO MEET SPECIFICATION.
2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
3. SILT SOCK DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE AS DETERMINED BY ENGINEER.

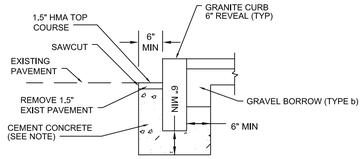
COMPOST SOCK DETAIL
N.T.S.

NOTES:
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

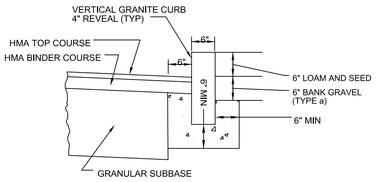




GRANITE CURB IN EXISTING PAVEMENT WITH OVERLAY

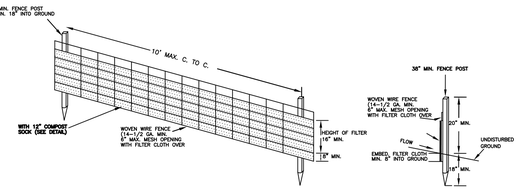


GRANITE CURB IN EXISTING PAVEMENT



GRANITE CURB IN FULL DEPTH PAVEMENT

VERTICAL CURB

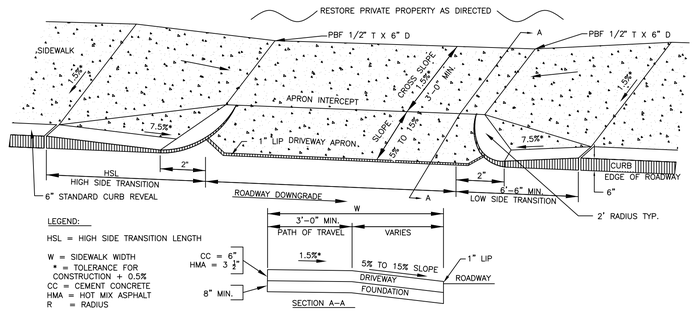


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

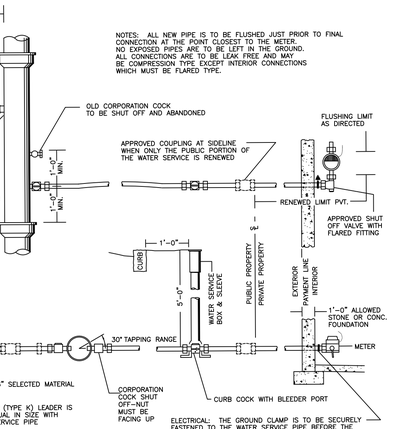
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14-1/2 GA. 6" MAX. MESH OPENING.
FILTER CLOTH: FILTER X, MIRAFI 100X, STABLINKA T140N OR APPROVED EQUAL.
PREFABICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE DETAIL
N.T.S.



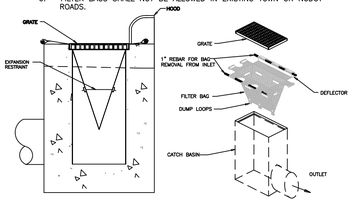
SIDEWALK THROUGH DRIVEWAYS WITH CURB RETURNS 2' CURB CORNERS



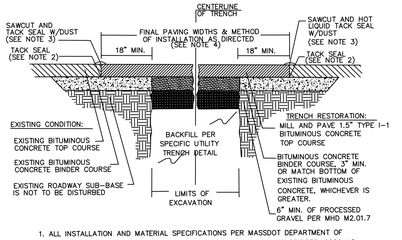
NOTES: ALL NEW PIPE IS TO BE FLUSHED JUST PRIOR TO FINAL CONNECTION AT THE POINT CLOSEST TO THE METER. NO EXPOSED PIPES ARE TO BE LEFT IN THE GROUND. ALL CONNECTIONS ARE TO BE LEAK FREE AND MAY BE COMPRESSION TYPE EXCEPT INTERIOR CONNECTIONS WHICH MUST BE FLARED TYPE.

TYPICAL WATER SERVICE CONFIGURATIONS
N.T.S.

NOTES
1. INLET MAINTENANCE SHALL BE DOCUMENTED IN PROJECT
2. FILTER TYPES SHALL BE APPROVED BY THE INSPECTOR P TO INSTALLATION.
3. FILTER BAGS MAY BE REMOVED WHEN SITE IS STABILIZED AI THE DIRECTION OF THE ENGINEER.
4. FILTER BAGS SHALL BE REMOVED PRIOR TO STREET ACCEPTANCE.
5. FILTER BAGS SHALL BE CLEANED OR REPLACED ON A REGULAR BASIS (NOT BE MORE THAN HALF FULL AT ANY TIME).
6. FILTER BAGS SHALL NOT BE ALLOWED IN EXISTING TOWN OR NCDOT ROADS.

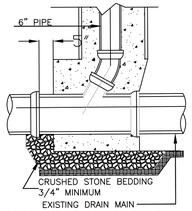


CATCH BASIN INLET PROTECTION
N.T.S.

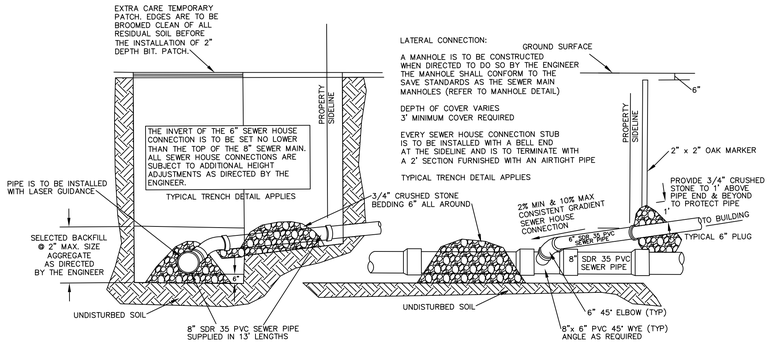


1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASSDOT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2020 AS AMENDED.
2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MASSDOT PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH HOT LIQUID TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE PLACED BY MACHINE/BOX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.
5. SUPERPAVE FOR PAVEMENT

TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL
N.T.S.



TYPICAL SEWER & DRAIN CONNECTION TO MAIN
N.T.S.



TYPICAL PVC SEWER HOUSE CONNECTION
N.T.S.

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11 PARSONS STREET
NEWTON
MASSACHUSETTS

SITE PLAN

REVISION BLOCK

BY	DESCRIPTION	DATE

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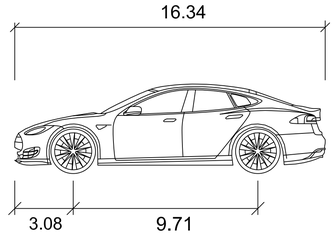
COMMONWEALTH OF MASSACHUSETTS — EDMOND C. SPRUHAN — CIVIL — 49316 — REGISTERED PROFESSIONAL ENGINEER
03/12/25

COMMONWEALTH OF MASSACHUSETTS — CHRISTOPHER C. CHARLTON NO. 48649 — PROFESSIONAL LAND SURVEYOR
03/12/25

DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

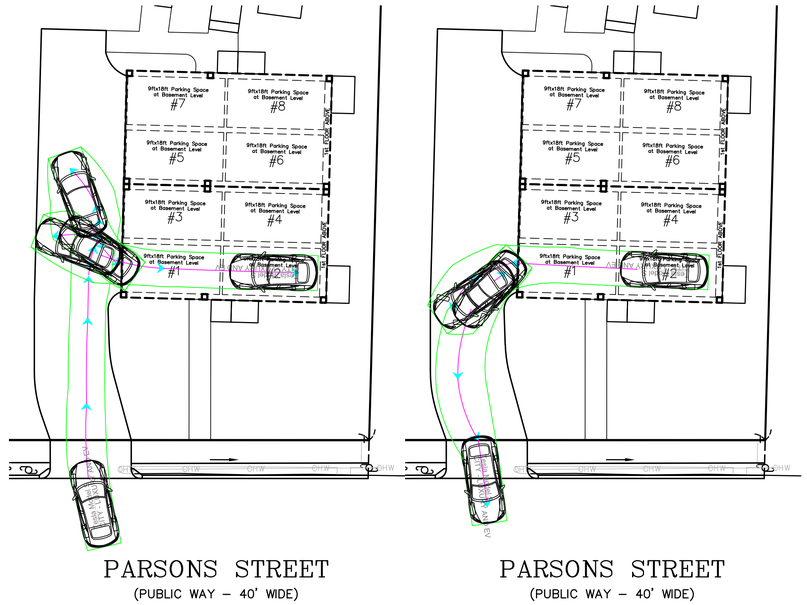
DETAILS II

TURNING ANALYSIS

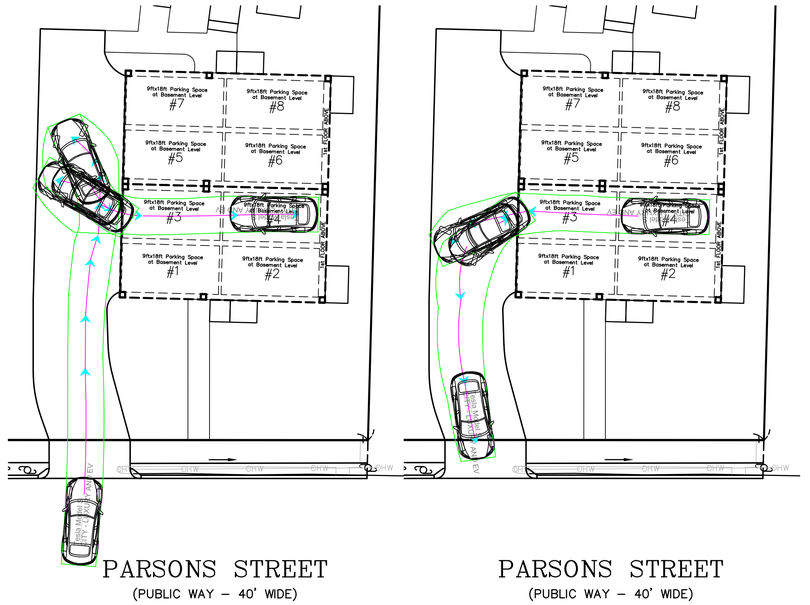


Tesla Model S

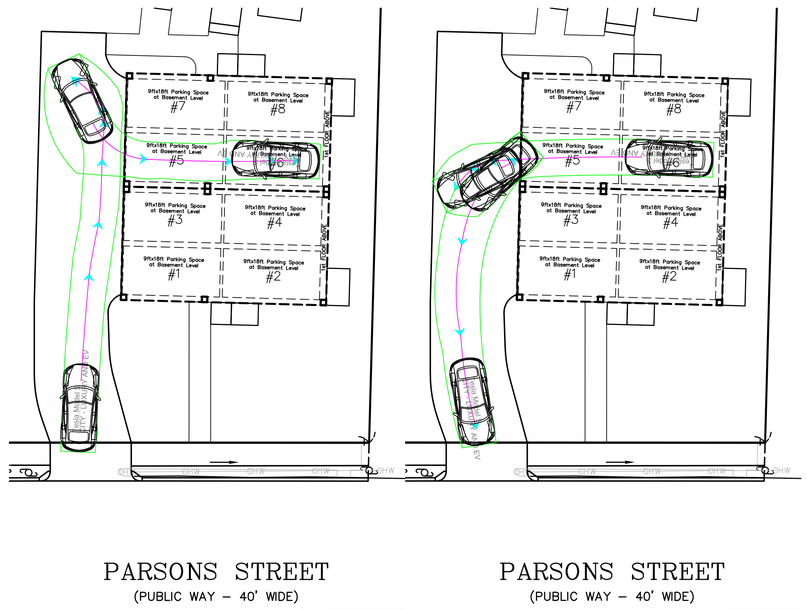
		Feet
Width	:	6.43
Track	:	6.36
Lock to Lock Time	:	6.0 s
Steering Angle	:	33.4 deg



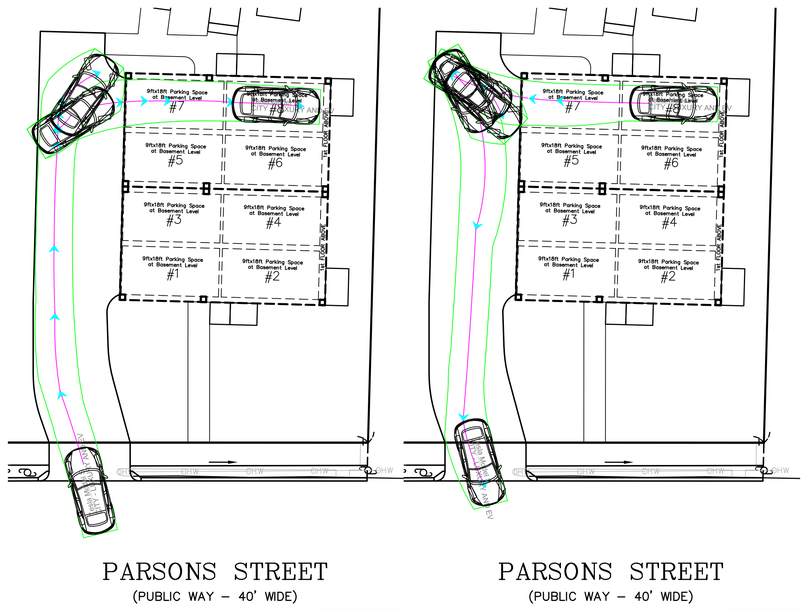
– Parking Spaces 1&2 –



– Parking Spaces 3&4 –



– Parking Spaces 5&6 –



– Parking Spaces 7&8 –

N.T.S.

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MASSACHUSETTS

SITE PLAN

REVISION BLOCK

BY	DESCRIPTION	DATE

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COMMONWEALTH OF MASSACHUSETTS
EDMOND SPRUHAN
No. 49316
REGISTERED PROFESSIONAL ENGINEER

03/12/25

DATE:	03/12/25
DRAWN BY:	H.M.S.
CHECKED BY:	E.S.
APPROVED BY:	E.S

TURNING ANALYSIS