

**NOTE:**  
 THE SURFACE EVIDENCE OF THE UTILITIES SHOWN HAS BEEN LOCATED BY FIELD SURVEY. THE LINWORK REPRESENTING ALL UNDERGROUND STRUCTURES AND PIPES HAS BEEN SHOWN HEREON IN ITS APPROXIMATE LOCATION BASED ON AVAILABLE RECORD PLANS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

ASSESSOR'S MAP 134 NE  
 SECTION 51  
 BLOCK 43  
 LOT 3  
 NEIGHBORHOOD 5A

ZONING - MR1 OLD  
 MINIMUM LOT AREA: 7,000 SF  
 MINIMUM DEPTH OF FRONT YARD: 25 FT  
 MINIMUM WIDTH OF SIDE YARD: 7.5 FT  
 MINIMUM DEPTH OF REAR YARD: 15 FT  
 LOT COVERAGE: 30%  
 OPEN SPACE: 50%

**REFERENCES:**

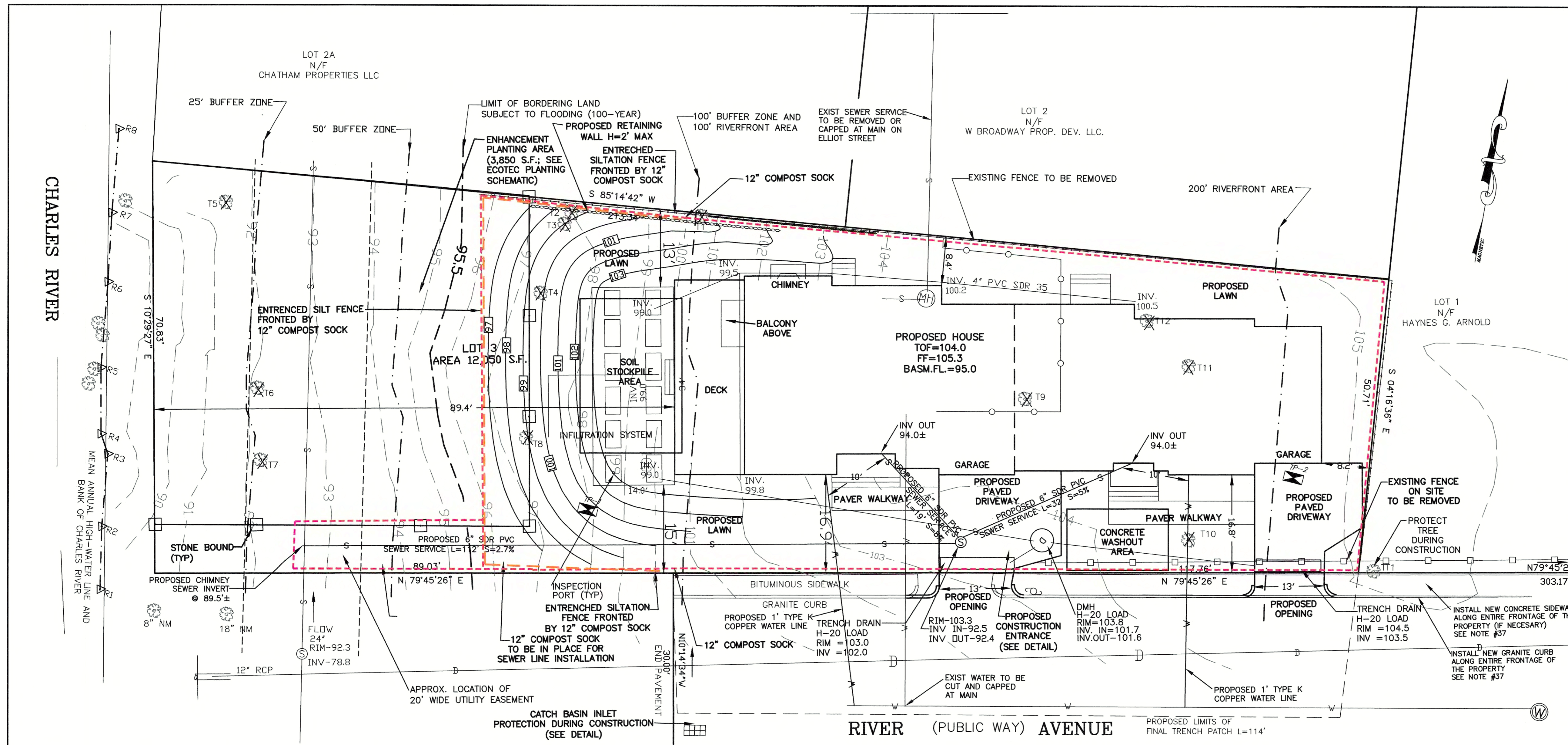
MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS:  
 1. PLAN #427 OF 1985.  
 2. BOOK 17391 PAGE 311.

THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY COMPLETED ON MAY 25, 2022.

**NOTES:**  
 1. THE DATUM IS CITY OF NEWTON BASE.  
 2. SEE ARBORIST REPORT (6/8/2022) FOR TREE INFORMATION.

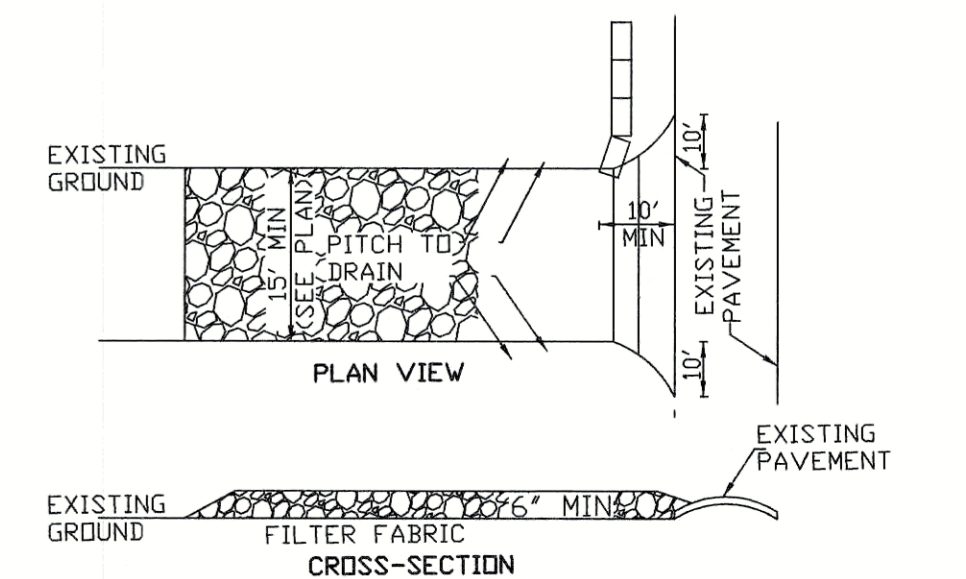
DESIGNED BY:  
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	08/10/22	COMMENTS
	DATE	REVISION
<b>EXISTING CONDITIONS PLAN</b>		
43 RIVER AVENUE NEWTON, MASSACHUSETTS 02464		
<b>RAV</b> & Assoc., Inc. 21 HIGHLAND AVENUE NEEDHAM, MASSACHUSETTS 02021 TELEPHONE: (781) 449-8200		
SCALE: AS NOTED	DATE: 07/20/22	
APPROVED: R.A.V.	DESIGNED BY: M.D. DRAWN BY: M.D.	DRAWING No. S-130 SHEET: 1 OF 4

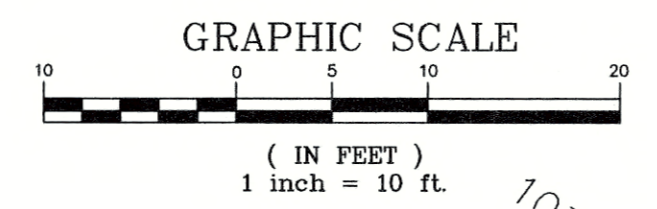


ZONING LEGEND			
ZONING DISTRICT: MR 1 (LOT CREATED BEFORE 12/07/1953)			
	REQUIRED	PROPOSED	COMPLIANCE
MIN. AREA	7,000	12,050 S.F.	YES
MIN. FRONTAGE	70'	206.79'	NO
MIN. FRONT SETBACK	25'	16.8'	NO
SIDE SETBACK	7.5'	8.2'	YES
REAR SETBACK	15'	8.4'	NO
MAX. LOT COV.	30%	23.6%	YES
MIN. OPEN SPACE	50%	70.9% ±	YES
MAX. BLDG. HEIGHT	36'	33.7'±	YES
MAX. STORIES	2.5	2.5±	YES

AVERAGE GRADE PLANE					
SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1&2	MEAN X LENGTH
1	34.1	103.0	103.0	103.0	3,512.3
2	15.0	103.0	103.3	103.2	1,548.0
3	18.8	103.4	104.4	103.9	1,953.3
4	33.1	104.5	104.6	104.6	3,462.3
5	20.6	104.6	104.8	104.7	2,156.8
6	11.5	104.8	104.9	104.8	1,205.2
7	23.5	105.0	105.3	105.2	2,472.2
8	11.5	105.3	105.3	105.3	1,211.0
9	14.8	105.3	104.7	105.0	1,554.0
10	6.9	104.8	104.3	104.6	721.7
11	17.0	104.3	104.1	104.2	1,771.4
12	13.0	104.1	103.8	104.0	1,352.0
13	7.5	103.8	104.0	103.9	779.2
14	10.0	104.0	104.0	104.0	1,040.0
15	15.8	103.3	103.0	103.2	1,630.6
E=253.1'				E=26,370.0	
SUM OF MEAN X LENGTH / SUM OF LENGTHS = AVERAGE GRADE PLANE = 104.19'					

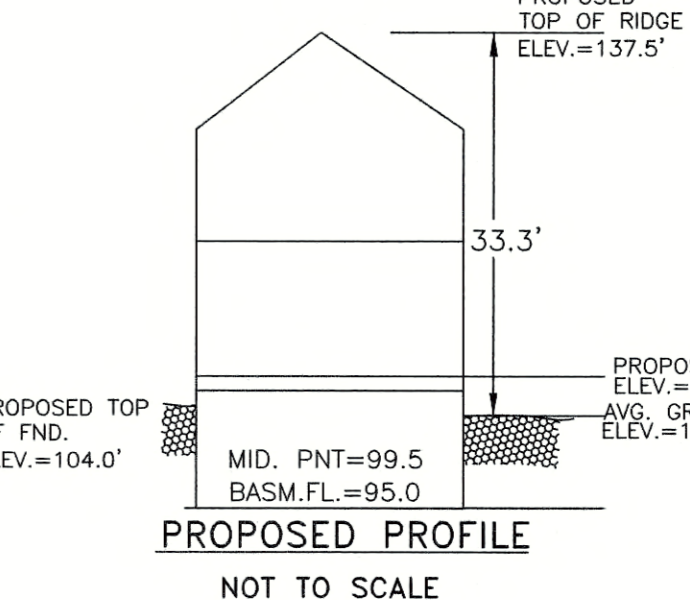
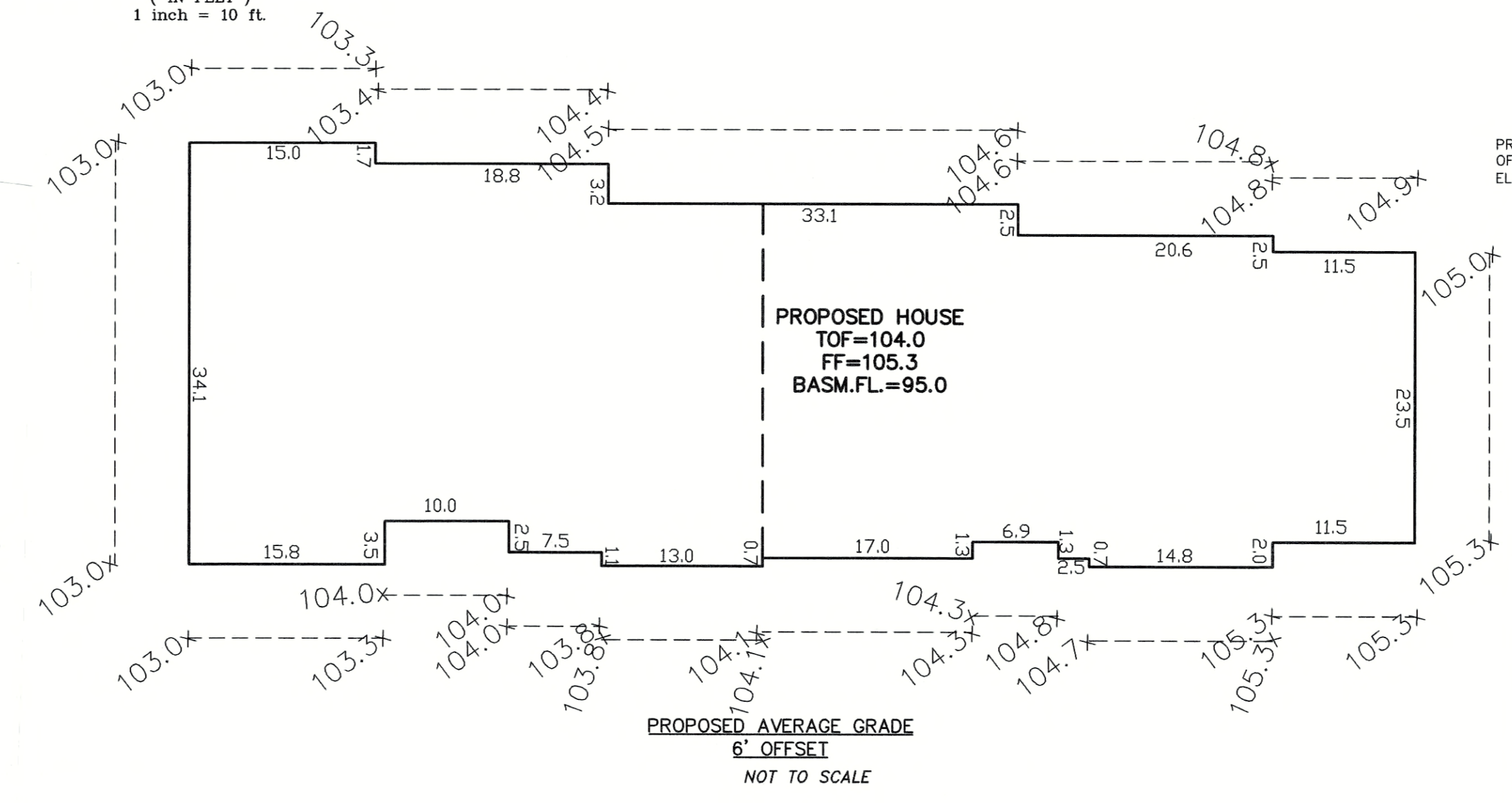
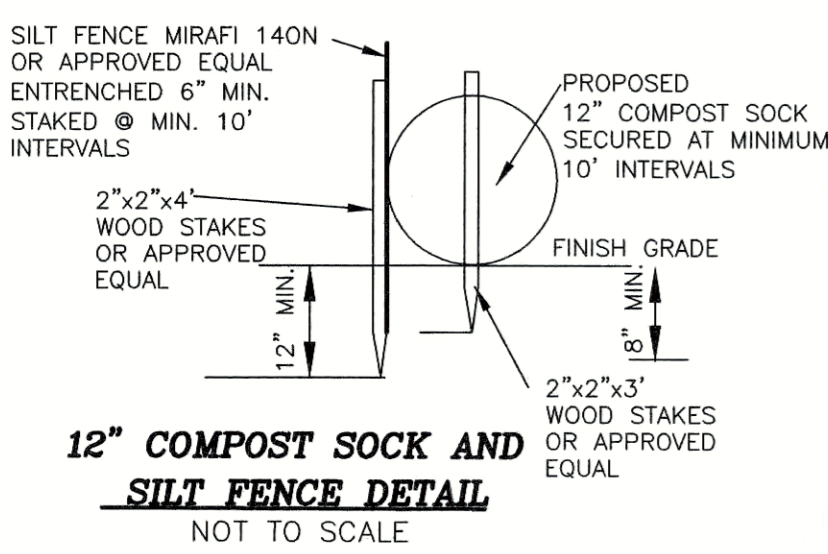
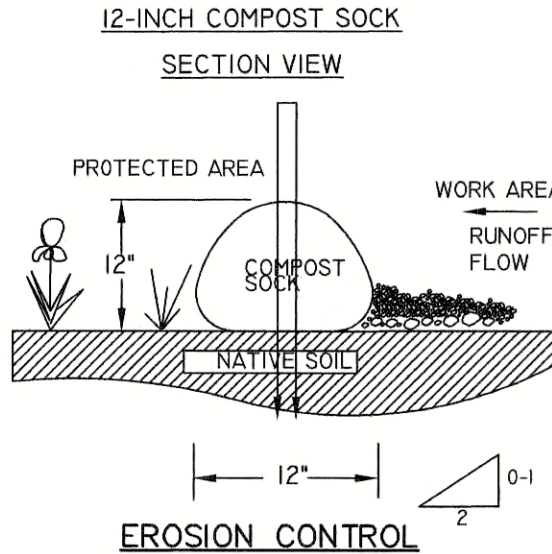
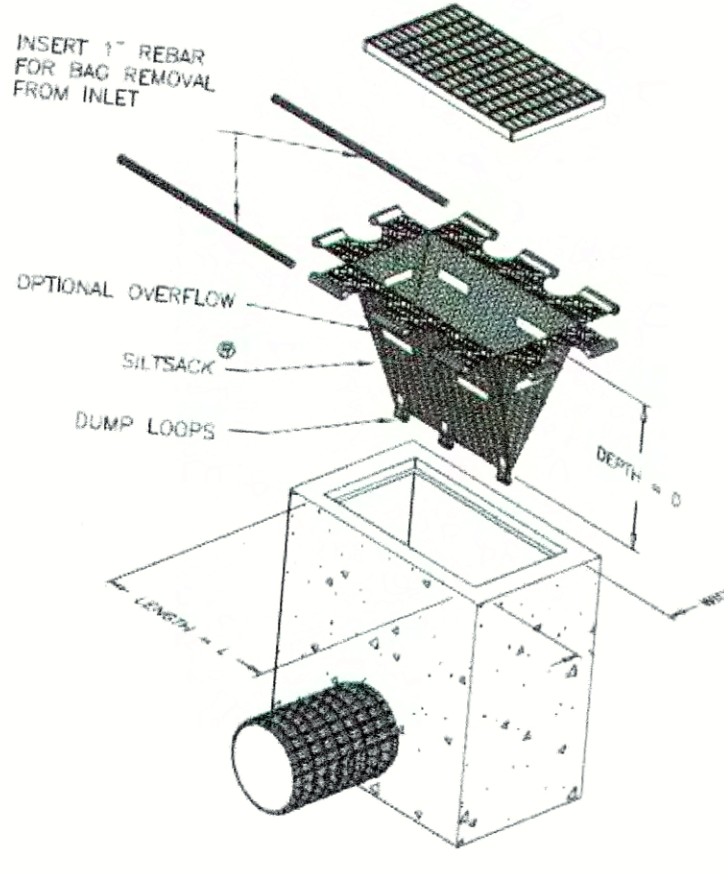


**NOTE:**  
THE SURFACE EVIDENCE OF THE UTILITIES SHOWN HAS BEEN LOCATED BY FIELD SURVEY. THE LINEWORK REPRESENTING ALL UNDERGROUND STRUCTURES AND PIPES HAS BEEN SHOWN HEREON IN ITS APPROXIMATE LOCATION BASED ON AVAILABLE RECORD PLANS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.



**REFERENCES:**  
MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS:  
1. PLAN #427 OF 1985.  
2. BOOK 17391 PAGE 311.  
THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY COMPLETED ON MAY 25, 2022.

**NOTES:**  
1. THE DATUM IS CITY OF NEWTON BASE.  
2. SEE ARBORIST REPORT (6/8/2022) FOR TREE INFORMATION.  
3. X INDICATES TREE TO BE REMOVED.  
4. T5, T6 & T7 TO BE CUT CLOSE TO GROUND SURFACE WITH STUMPS LEFT IN PLACE (I.E., NOT GROUND OR GRUBBED) T6 AND T7 TO BE TREATED BY BLOTTING TO PREVENT SPROUTING.

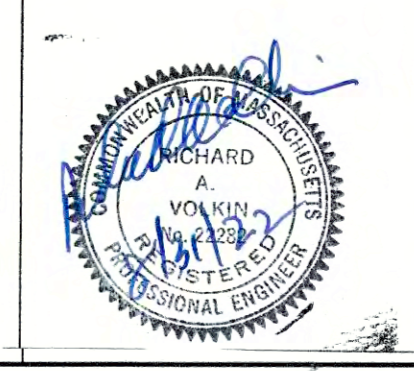
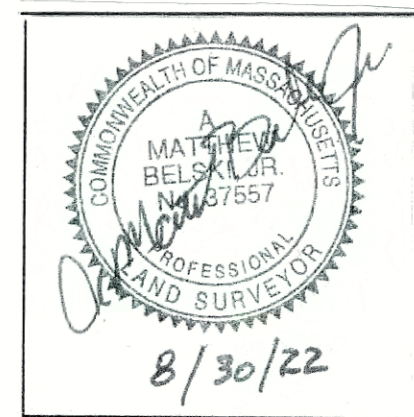


EXISTING FEATURES:  
HOUSE 1,011 S.F.  
DRIVEWAY 280 S.F.  
DECK 290 S.F.  
WALKS, STAIRS AND LANDINGS 277 S.F.  
TOTAL: 1,858 S.F.  
GRASS: 10,192 S.F.

PROPOSED FEATURES:  
HOUSE 2,847 S.F.  
DRIVEWAYS 655 S.F.  
WALKS, STAIRS AND LANDINGS 345 S.F.  
DECK 401 S.F.  
TOTAL: 4,248 S.F.  
GRASS: 7,802 S.F.

DESIGNED BY:  
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INCREASED BY: 2,390 S.F.



08/10/22	COMMENTS
DATE	REVISION
<b>PROPOSED SITE PLAN</b>	
<b>43 RIVER AVENUE</b> <b>NEWTON, MASSACHUSETTS 02464</b>	
<b>RAV &amp; Assoc., Inc.</b> 21 HIGHLAND AVENUE NEEDHAM, MASSACHUSETTS 02021 TELEPHONE: (781) 449-8200	
SCALE: AS NOTED	DATE: 07/20/22
APPROVED: R.A.V.	DESIGNED BY: M.D. DRAWN BY: M.D.
	DRAWING No. S-130 SHEET: 2 OF 4

**NOTES:**

- ELEVATIONS REFER TO CITY OF NEWTON DATUM.
- UTILITIES 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.
- 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.
- 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.
- PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35.
- PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.
- THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY DONE ON THE GROUND 05/25/2022.
- ALL WORK SHALL BE SUBJECT TO THE INSPECTION BY AND APPROVAL OF THE CITY ENGINEER.
- NO EXCAVATION SHALL BE MADE BY THE CONTRACTOR IN ANY PUBLIC WAY OR UTILITY EASEMENT UNLESS AT LEAST FORTY-EIGHT (48) HOURS NOTIFICATION FOR A REQUESTED INSPECTION MUST BE EITHER BY PHONE OR IN PERSON TO THE INSPECTOR ASSIGNED TO YOUR PROJECT, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, BEFORE THE PROPOSED EXCAVATION IS TO BE MADE, HE HAS SUBMITTED WRITTEN NOTICE OF THE PROPOSED EXCAVATION TO THE FOLLOWING:
  - SUCH PUBLIC UTILITY COMPANIES AS SUPPLY GAS, ELECTRICITY, AND TELEPHONE SERVICE IN THE CITY.
  - SUCH PRIVATE COMPANIES AS PROVIDE CABLE TELEVISION SERVICE IN THE CITY.
  - 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.
- THE CONTRACTOR SHALL PROVIDE CITY OF NEWTON POLICE OFFICERS FOR THE DIRECTION AND CONTROL OF TRAFFIC, AS REQUIRED BY THE CITY ENGINEER.
- NO WORK SHALL BE PERFORMED UNTIL THE NECESSARY PERMITS ARE OBTAINED FROM THE CITY OF NEWTON PUBLIC WORKS DEPARTMENT.
- ALL TRENCHES IN PAVED STREETS SHALL MATCH EXISTING ASPHALT THICKNESS, LAID HOT AND MAINTAINED UNTIL THE PERMANENT PATCH IS INSTALLED OR AS DIRECTED BY ENGINEERING INSPECTOR.
- WARNING SIGNS SHALL CONFORM REFER TO THE 2020 MUTCD STANDARD HIGHWAY SIGNS.
- ALL TOPSOIL, SUBSOIL OR IMPERVIOUS SOIL MUST BE EXCAVATED AND REMOVED BELOW THE LEACHING SYSTEM AND 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.
- IN CASES WHERE LEDGE OR BouldERS ARE ENCOUNTERED, RAV & ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR THE AMOUNT OF ROCK ENCOUNTERED.
- IF ANY MODIFICATIONS TO THE APPROVED PLAN ARE COMPLETED/UNDERTAKEN WITHOUT A REVISED "STAMPED" DESIGN PLAN BEING RECEIVED FROM THE DESIGN ENGINEER FOR REVIEW BY THE ENGINEERING DIVISION, ALL WORK OF THAT PHASE OF THE PROJECT SHALL STOP. NO ADDITIONAL INSPECTIONS FOR THAT PHASE OF THE PROJECT WILL BE CONDUCTED BY THE ENGINEERING INSPECTOR UNTIL THE REVISED "STAMPED" PLAN IS APPROVED.
- THE ROOF RUNOFF FROM THE ROOF SURFACES SHALL BE COLLECTED BY GUTTERS AND DIRECTED TO THE STORM WATER DRAINAGE SYSTEM.
- 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.)
- THE EXISTING WATER & SEWER SERVICES SHALL BE CUT AND CAPPED AT THE MAIN AND BE COMPLETELY REMOVED FROM THE SITE. REPLACED AS SPECIFIED AND PROPERLY BACKFILLED. THE ENGINEERING DIVISION MUST INSPECT THIS WORK; FAILURE TO HAVE THIS WORK INSPECTED MAY RESULT IN THE DELAY OF ISSUANCE OF THE UTILITY CONNECTION PERMIT.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEERING DIVISION 48 HOURS IN ADVANCE AND SCHEDULE AN APPOINTMENT TO HAVE THE DRAINAGE SYSTEM, WATER & SEWER SERVICES INSPECTED. THE SYSTEM & UTILITIES MUST BE FULLY EXPOSED FOR THE INSPECTOR. ONCE THE INSPECTOR IS SATISFIED, THE SYSTEM & UTILITIES MAY THEN BE BACKFILLED.
- NO WORK IS ALLOWED WITHIN A CITY OF NEWTON RIGHT-OF-WAY BETWEEN NOVEMBER 15TH AND APRIL 15TH. IF AN EMERGENCY EXISTS OR THERE ARE EXTENUATING CIRCUMSTANCES, APPLICANT MAY REQUEST PERMISSION FROM THE CITY ENGINEER. IF ALLOWED, SPECIAL CONSTRUCTION REQUIREMENTS WILL BE REQUIRED, AND AS SUCH IT IS RECOMMENDED THAT THE APPLICANT OR APPLICANT'S REPRESENTATIVE CONTACT THE CITY OF NEWTON ENGINEERING DEPARTMENT PRIOR TO START OF WORK FOR CLARIFICATION.
- AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
- 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.
- WITH EXCEPTION OF GAS UTILITY SERVICES, ALL UTILITY TRENCHES WITHIN ANY CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IIE (EXCAVATABLE) CONTROLLED DENSITY FILL, AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.
- 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.
- THE NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR WIDETAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE ENGINEERING INSPECTOR FROM THE CITY OF NEWTON. ALL SEWER MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH CITY OF NEWTON SPECIFICATIONS. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. ALL TESTING MUST BE WITNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION.
- 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.
- ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MGL CHAPTER B2A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. A TRENCH EXCAVATION PERMIT IS REQUIRED. THIS APPLIES
- CIVIL ENGINEER BASED DESIGN ON PROVIDED SURVEY. ENGINEER NOT RESPONSIBLE FOR ANY DISCREPANCY IN THE PROVIDED SURVEY.
- CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION
- CONTRACTOR TO CONFIRM LOCATION OF DOWNSPOUTS PRIOR TO CARRYING OUT ANY DRAINAGE WORKS
- RAV & ASSOCIATES INC, ACCEPT NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT
- SEWER AND WATER MAIN LOCATION TO BE CONFIRMED BY CONTRACTOR
- SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL
- ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE
- CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL /STRUCTURAL PLANS AND INCORPORATES ALL OVERHANGS, CANTILEVERS AND ANY COMPONENT THAT IS SUBJECT TO ZONING RESTRICTIONS. IF THIS IS FOUND NOT TO BE THE CASE THE CONTRACTOR MUST CONTACT THE ENGINEER /SURVEYOR AND REQUEST A REVISED PLAN WHICH MUST BE RESUBMITTED TO I.S.D. CITY OF NEWTON
- PER CITY OF NEWTON ORDINANCE NO. B-52, COUNCIL ITEM #251-19, BUILDING SEWER, WATER SERVICE PIPE AND SIDEWALK/CURB REPLACEMENT ORDINANCE. THE APPLICANT IS REQUIRED TO INSTALL/REPLACE SIDEWALK AND CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING AND WALKWAYS, INCLUDING ACCESSIBLE CURB CUTS AND OTHER ACCESS AS REQUIRED. THE ENGINEERING CONSTRUCTION INSPECTOR MAKES A DETERMINATION, BASED ON THE MATERIAL AND MANNER OF CONSTRUCTION OF THE EXISTING SIDEWALK AND CURB, IF THE EXISTING SIDEWALK AND CURB HAS THE ABILITY TO BE REUSED WITHOUT REPLACEMENT.
- ANY WALL IN EXCESS OF 4- FEET OR TALLER MUST BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN MASSACHUSETTS.

39. THE ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON-SITE INSPECTION(S) OF ALL SUBSURFACE STRUCTURES. THIS INCLUDES BUT IS 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.

40. PRIOR TO AN OCCUPANCY PERMIT BEING ISSUED, AN AS-BUILT PLAN MUST 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 AND FINAL GRADING.

PRIOR TO THE ENGINEERING DIVISION RECOMMENDING THAT A CERTIFICATE OF OCCUPANCY BE ISSUED, AN AS-BUILT PLAN MUST BE SUBMITTED. THE AS-BUILT PLAN MUST 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.

**THIS NOTE MUST BE ON ALL AS-BUILT PLANS:**  
I CERTIFY THAT THE CONSTRUCTION SO SHOWN WAS INSPECTED PRIOR TO BACKFILL AND THAT ALL WORK CONFORMS WITH APPROVED PLAN AND MEETS OR EXCEEDS THE CITY OF NEWTON CONSTRUCTION STANDARDS.

I CERTIFY THAT THE CONSTRUCTION SHOWN WAS INSPECTED PRIOR TO BACKFILL AND THAT ALL WORK CONFORMS WITH APPROVED PLAN

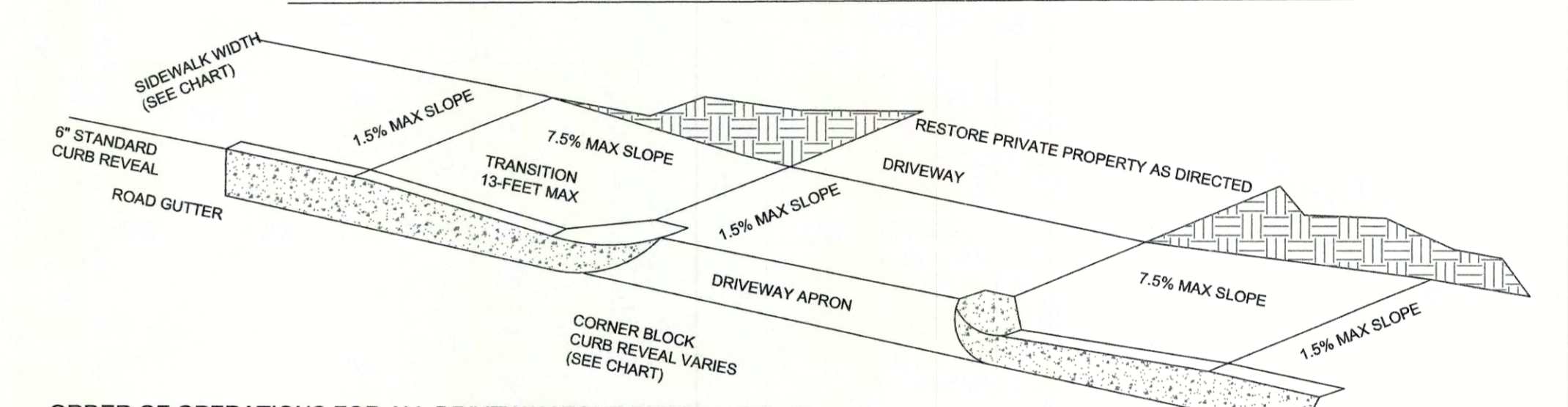
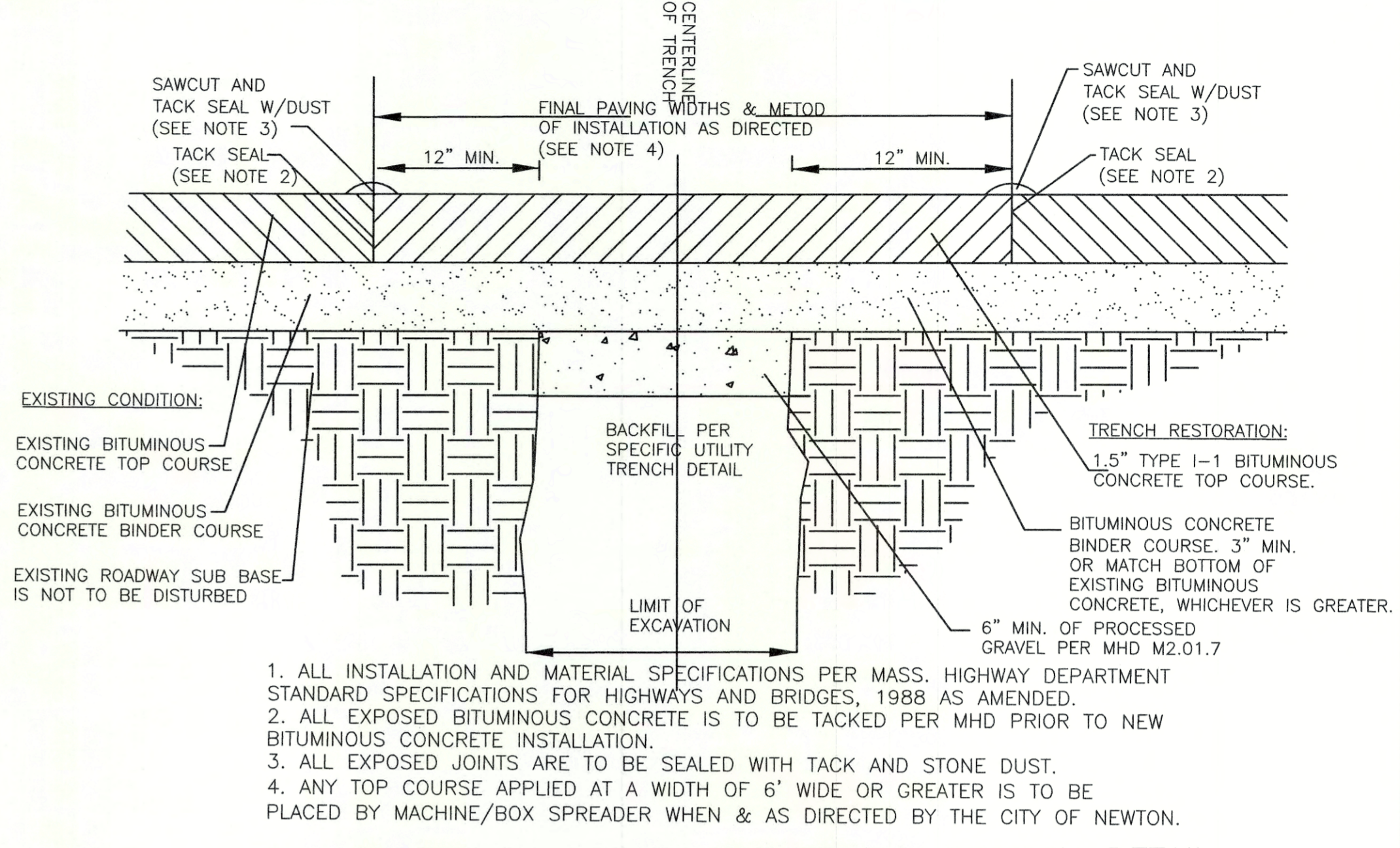
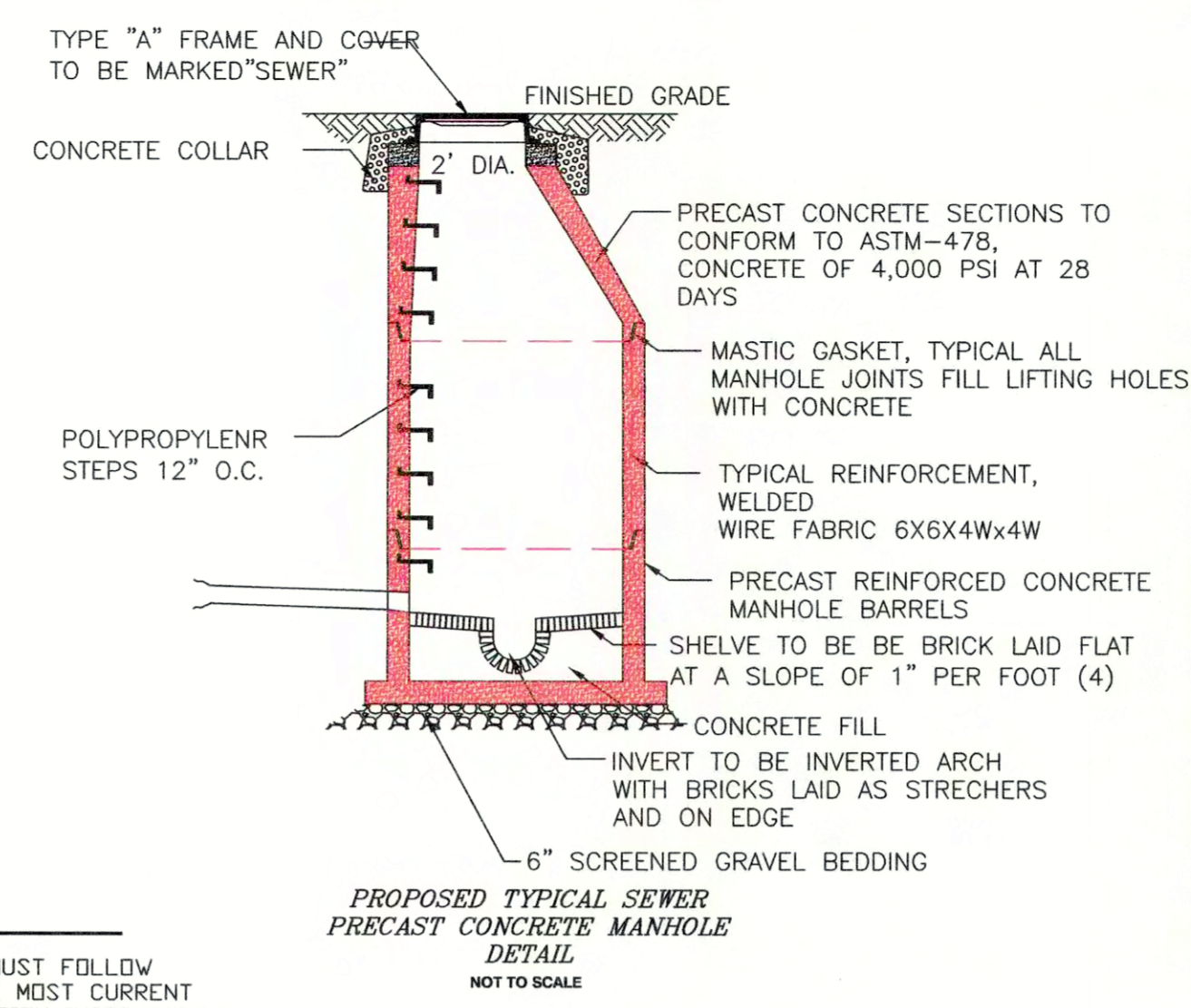
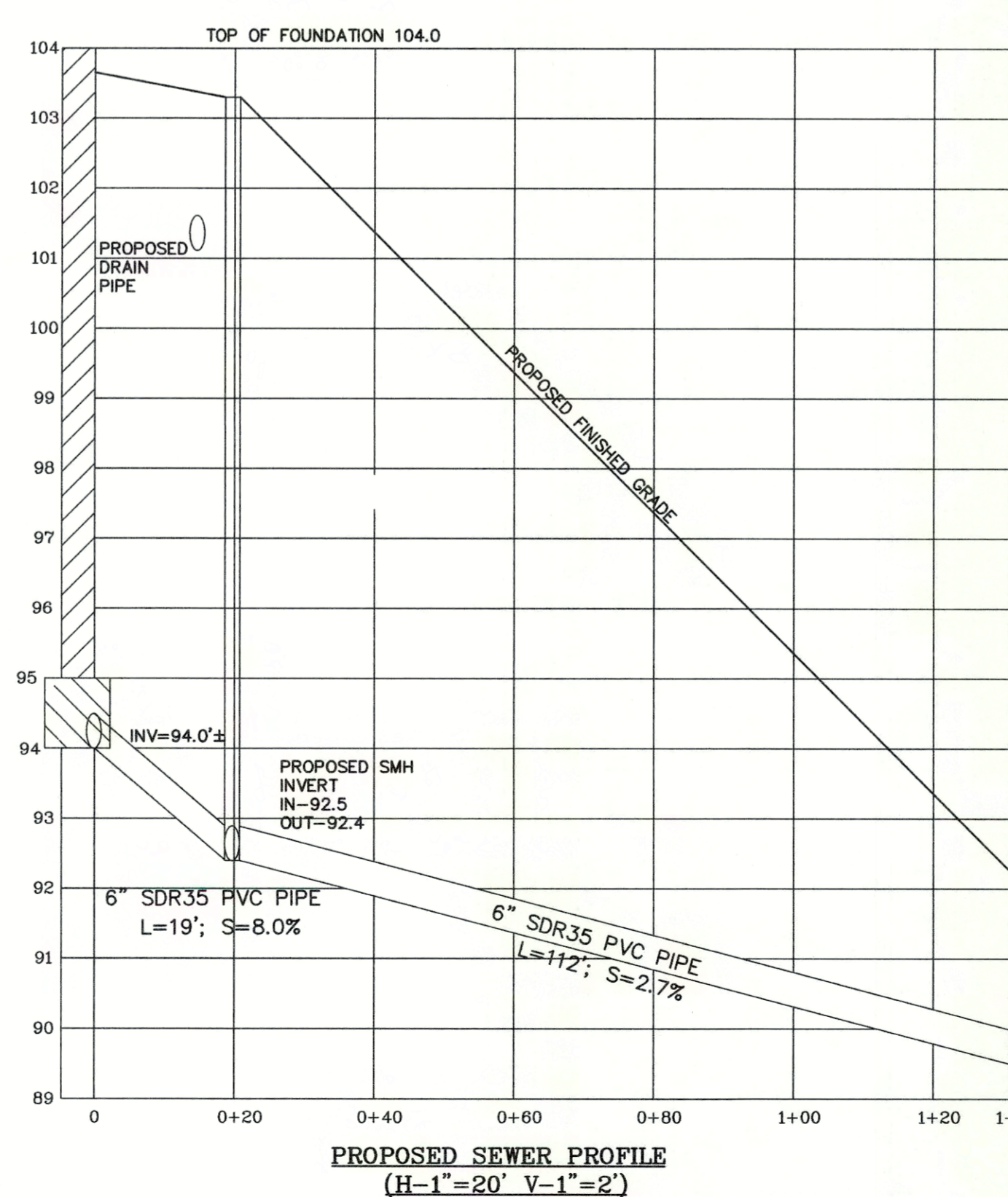
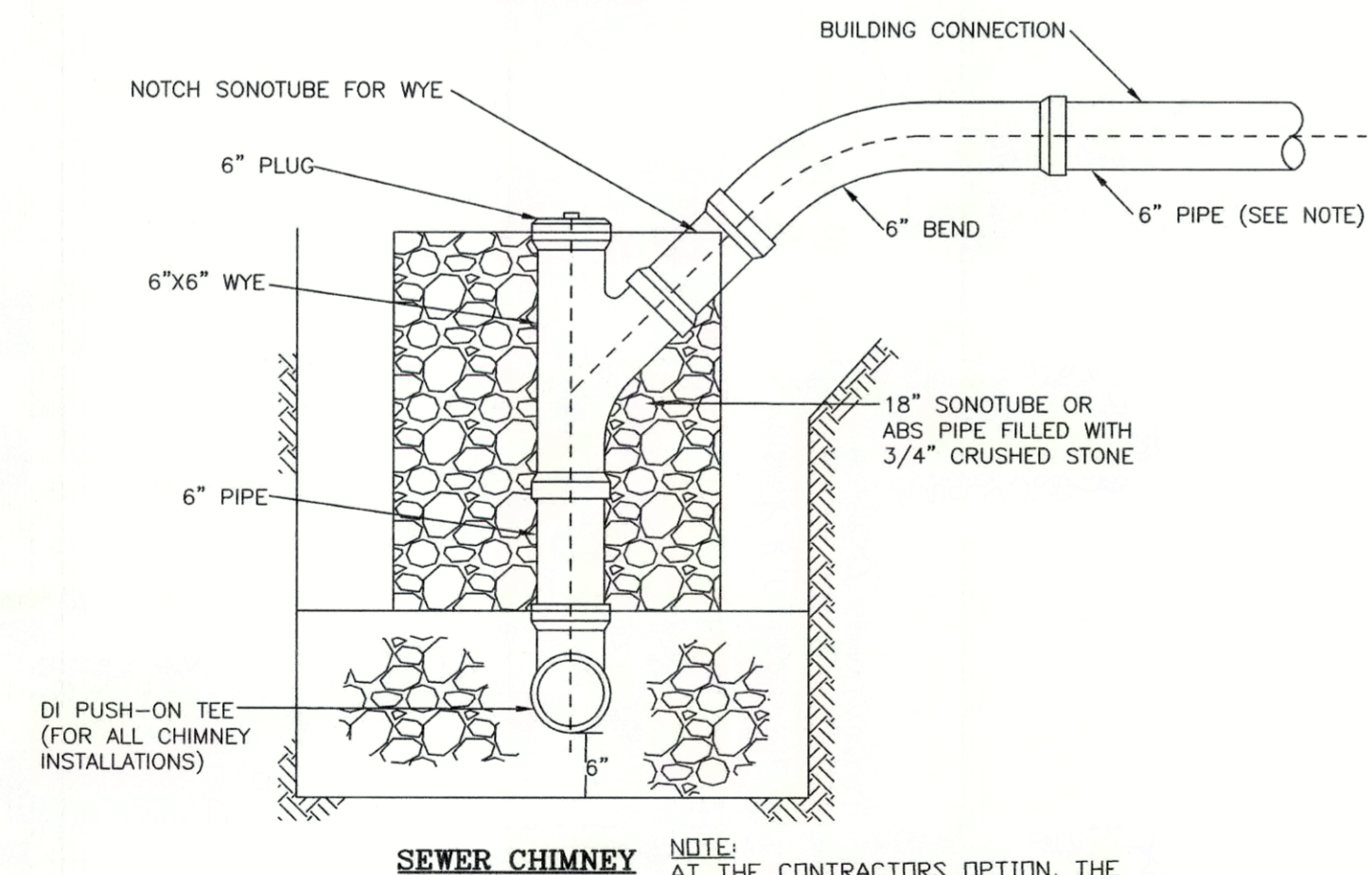
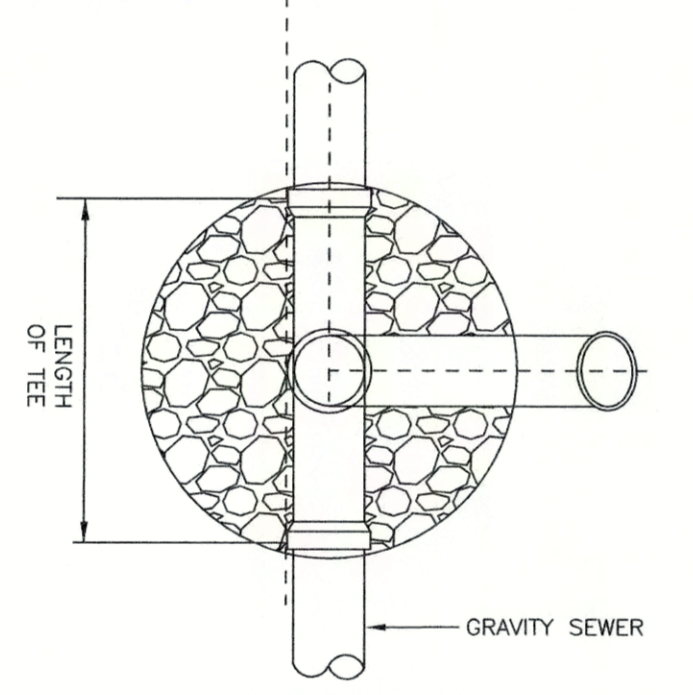
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41. IF AT TIME OF CONSTRUCTION THE ROADWAY FALLS UNDER A 5-YEAR CONSTRUCTION MORATORIUM, THE ROADWAY WILL BE MILLED CURB TO CURB FOR A DISTANCE OF 25 FEET FROM THE OUTER MOST TRENCHES AND PAVED WITH BITUMINOUS CONCRETE.

42. CONTRACTOR HAS TO STABILIZE SLOPE DURING CONSTRUCTION.

**STORMTECH GENERAL NOTES**

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- 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 COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS RDWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- 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: WWW.STORMTECH.COM. THE 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.
- 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.



**DRIVEWAY TRANSITIONS TO INTERCEPT 6\"/>

DRIVEWAY	CORNER BLOCK REVEAL	DISTANCE TO APRON INTERCEPT	RISE TO APRON INTERCEPT	GUTTER GRADE (2)	HIGH SIDE LENGTH TO TRANSITION CURB INCLUDING THE 2' RADIUS COR. BLK. (3)(4)
4'-6"	3'-8" MAX	1'-0" FIXED	3'-8" MAX	UP TO 0.5	4'-0"
				1	4'-0"
				2	4'-0"
				3	6'-0"
				4	6'-0"
				5	8'-0"
				6	12'-0"
7 & GREATER	12'-0" MAX				

- ORDER OF OPERATIONS FOR ALL DRIVEWAY ZONE INSTALLATIONS**
- DETERMINE SIDEWALK WIDTH
  - SET THE CORNER BLOCK REVEAL TO THE DIMENSIONS SHOWN ON THE CHART BELOW AND INSTALL THE TRANSITION CURB.
  - LOCATE THE INTERCEPT AXIS AND RE-CHECK FOR THE MINIMUM ACCESSIBLE ROUTE WIDTH.
  - SET THE 1.5% GRADIENT TO THE BACK OF THE WALK WITH A 2' SMART LEVEL AND RIGID STRAIGHTEDGE.
  - FINE GRADE THE APRON AREA WHILE MAINTAINING THE INTERCEPT AXIS AND BACK OF SIDEWALK GRADE POINTS.
  - CHECK THE FORMS, HOWEVER, THE CONTRACTOR MUST USE A 2' SMART LEVEL DURING OPERATIONS TO ENSURE THAT THE FINAL LINE AND GRADE COMPLIES WITH THE NOTED DIMENSIONS AND/OR GRADIENTS.
  - DURING THE FINISHING OPERATIONS OF THE CEMENT CONCRETE, THE CONTRACTOR IS TO CHECK THE FINAL PRODUCT(S) TO ENSURE CONTINUED COMPLIANCE WITH THE NOTED STANDARDS.

**DRIVEWAY APRONS**  
IMPORTANT NOTE (APPLICABLE TO ALL CURBS AND DRIVEWAYS)  
ALL DIMENSIONAL INFORMATION IS FOR PLANNING PURPOSES ONLY. THE FINAL PRODUCTS ROUTE CRITERIA PER THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE AMERICAN DISABILITIES ACT.

(1) FINAL PRODUCT(S) MUST NOT EXCEED THE 7.5% GRADIENT OR 1.5% CROSS SLOPE STANDARDS.  
(2) WHEN THE FACTOR FALLS BETWEEN THE LISTED RANGE, USE THE LESSER GRADIENT FACTOR.  
(3) THE MAXIMUM REQUIRED TRANSITION LENGTH OF CURB IS 15'-0"  
(4) SIDEWALKS WITH LOAM BORDERS DO NOT REQUIRE TRANSITION CURBS.

DESIGNED BY:  
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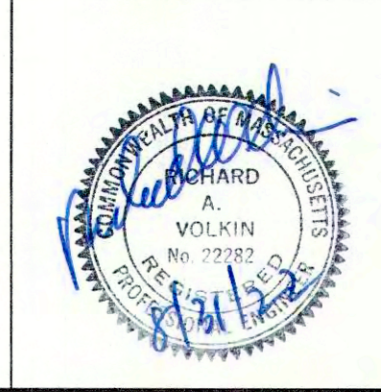
08/10/22	498-0951
DATE	REVISION

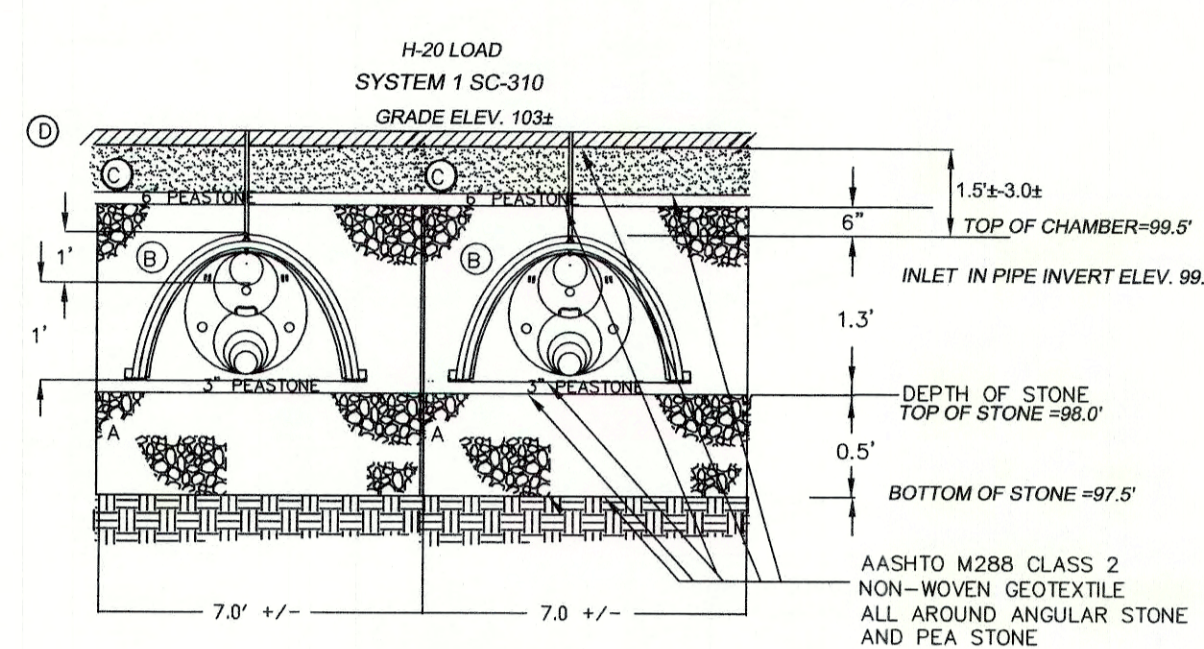
**NOTES, PROFILE, CHIMNEY, DETAILS**

**43 RIVER AVENUE**  
**NEWTON, MASSACHUSETTS 02464**

**RAV & Assoc., Inc.**  
21 HIGHLAND AVENUE  
NEEDHAM, MASSACHUSETTS 02021  
TELEPHONE: (781) 449-8200

SCALE: AS NOTED	DATE: 07/15/22
APPROVED: R.A.V.	DESIGNED BY: M.D. DRAWN BY: M.D.
	DRAWING No. S-130 SHEET: 3 OF 4





HOLE NUMBER: PT-1 (LEFT)

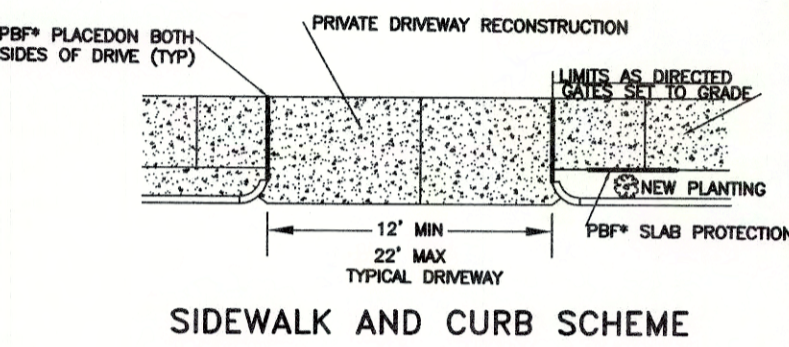
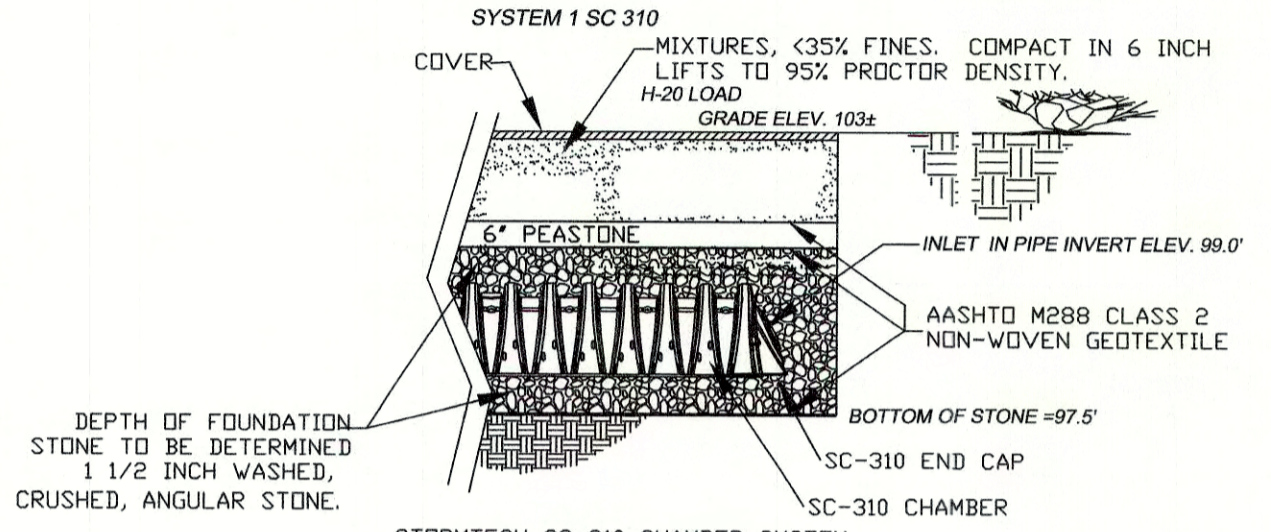
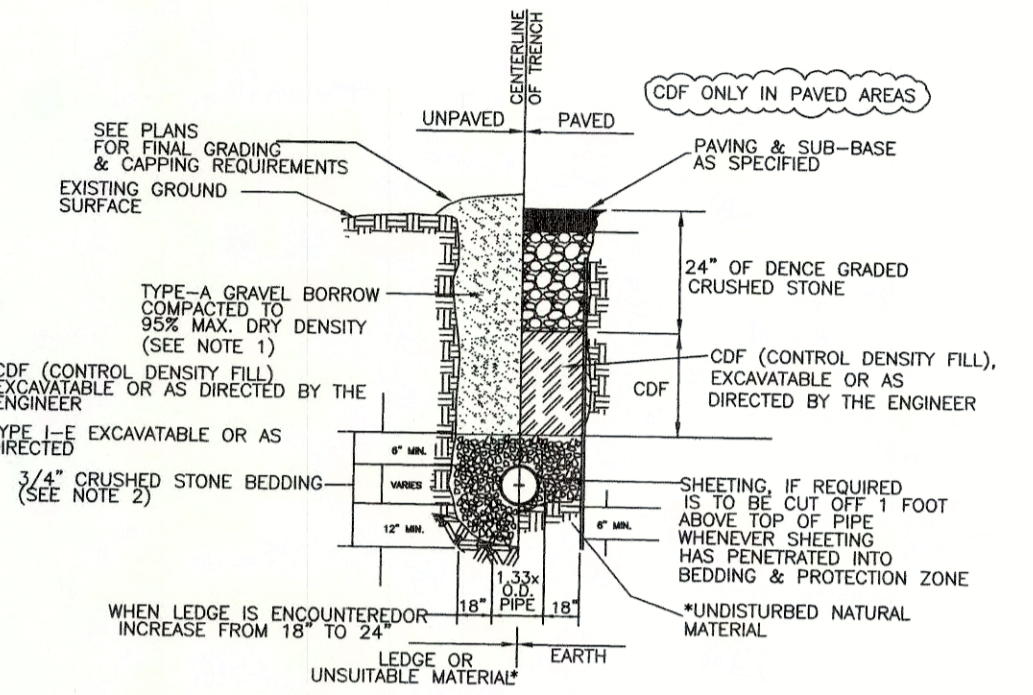
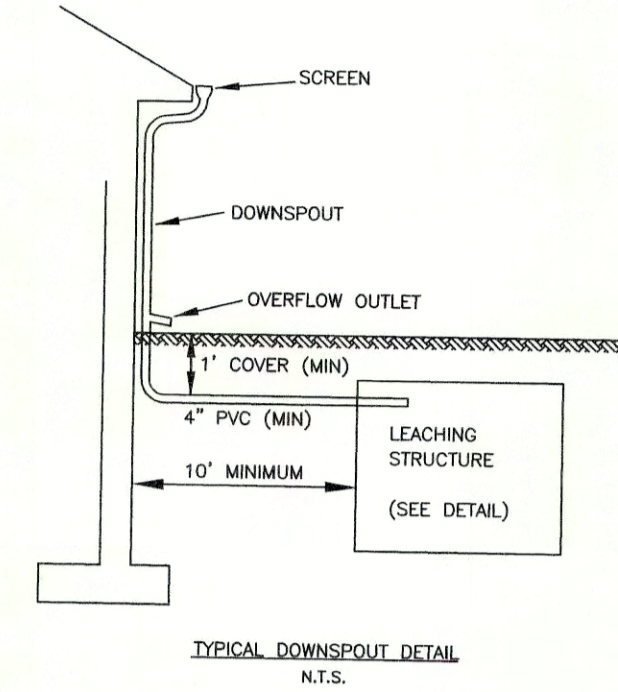
ELEVATION	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
98.5--98.3'	0" - 2"	Ap	SL	10 YR 3/3	NONE	GRANULAR
98.3--97.0'	2" - 18"	Bw	SL	10 YR 8/8	NONE	GRANULAR
97.0--95.5'	18" - 36"	Cr	S	10 YR 8/1	NONE	SINGLE GRAIN
95.5'	36"	R			NONE	WEATHERED ROCK

DEEP OBSERVATION HOLE LOG #1  
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 43 RIVER AVENUE  
HOLE NUMBER: 1 DATED: 7/12/2022  
TP - 1 7/12/22  
GENERAL SITE CONDITIONS:  
GRASS, TREES  
PERFORMED BY: TOM RYDER, PE.  
HOLE NUMBER: TP-1

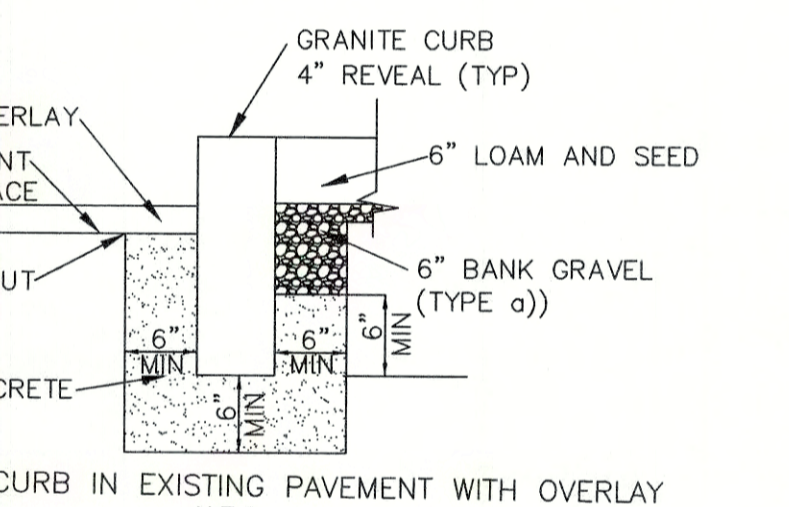
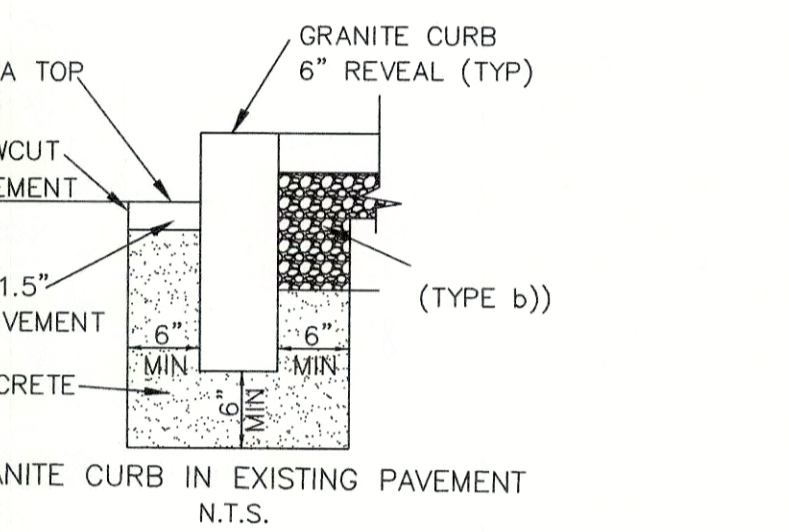
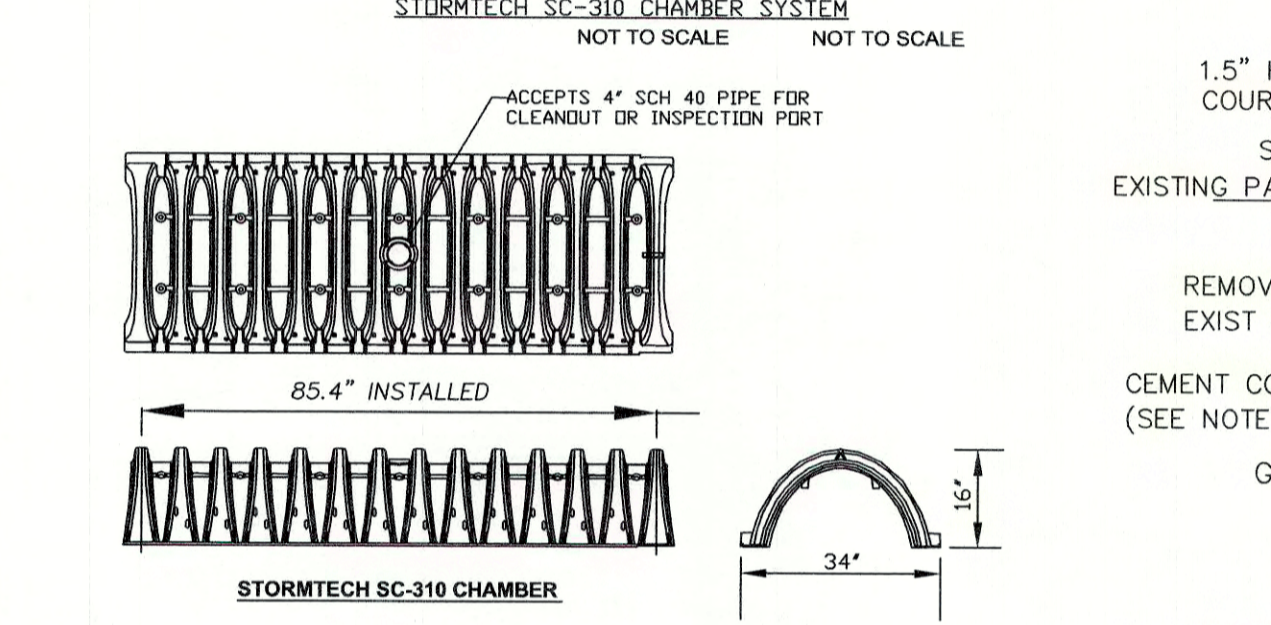
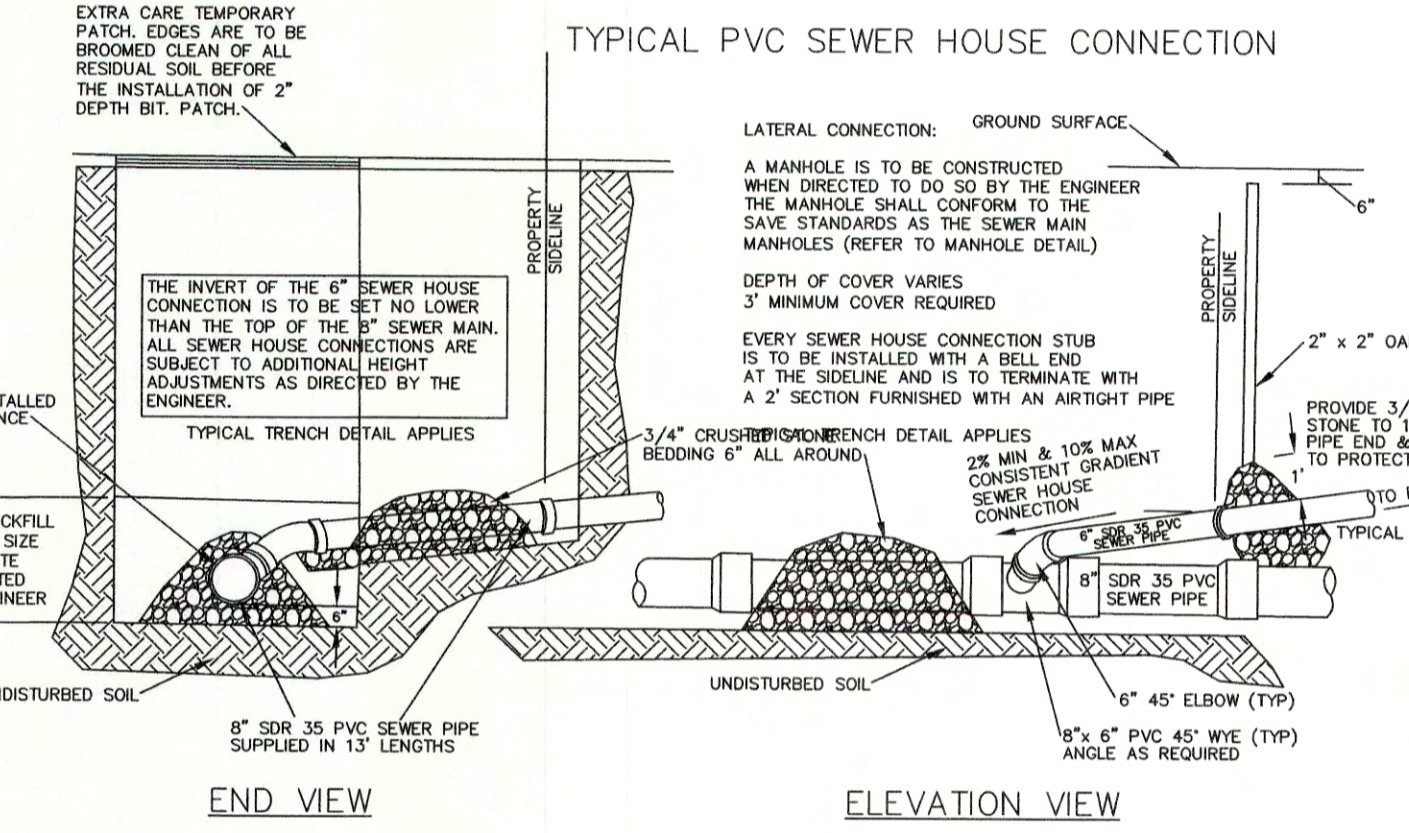
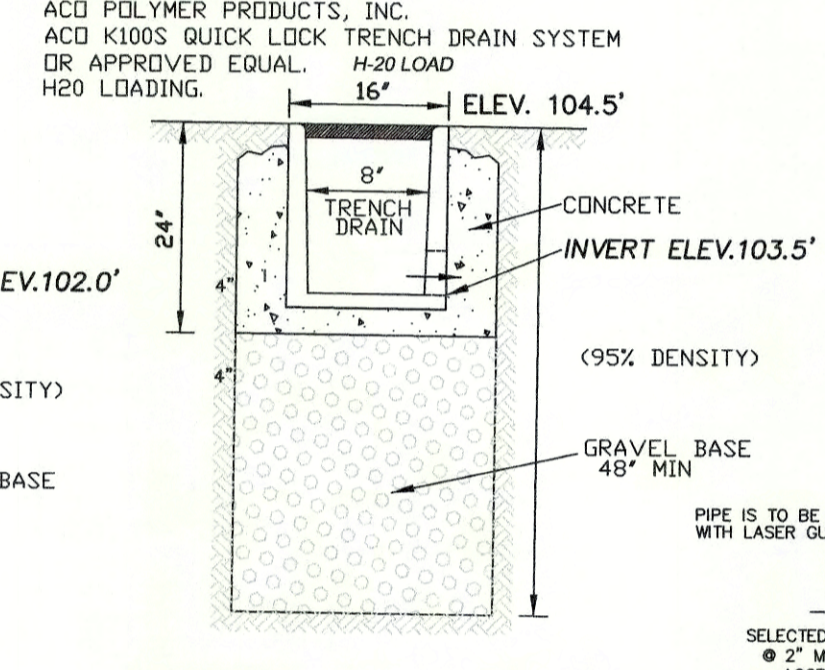
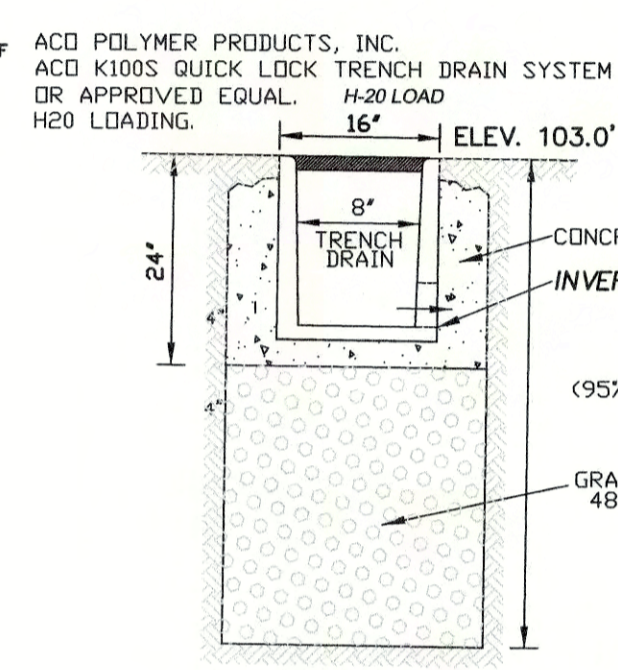
HOLE NUMBER: PT-2 (RIGHT)

ELEVATION	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
104.5--104.2'	0" - 4"	Ap	SL	10 YR 3/3	NONE	GRANULAR
104.2--103.0'	4" - 18"	Bw	SL	10 YR 8/8	NONE	GRANULAR
103.0--99.0'	18" - 66"	Cr	S	10 YR 8/1	NONE	SINGLE GRAIN
99.0'	66"	R			NONE	WEATHERED ROCK

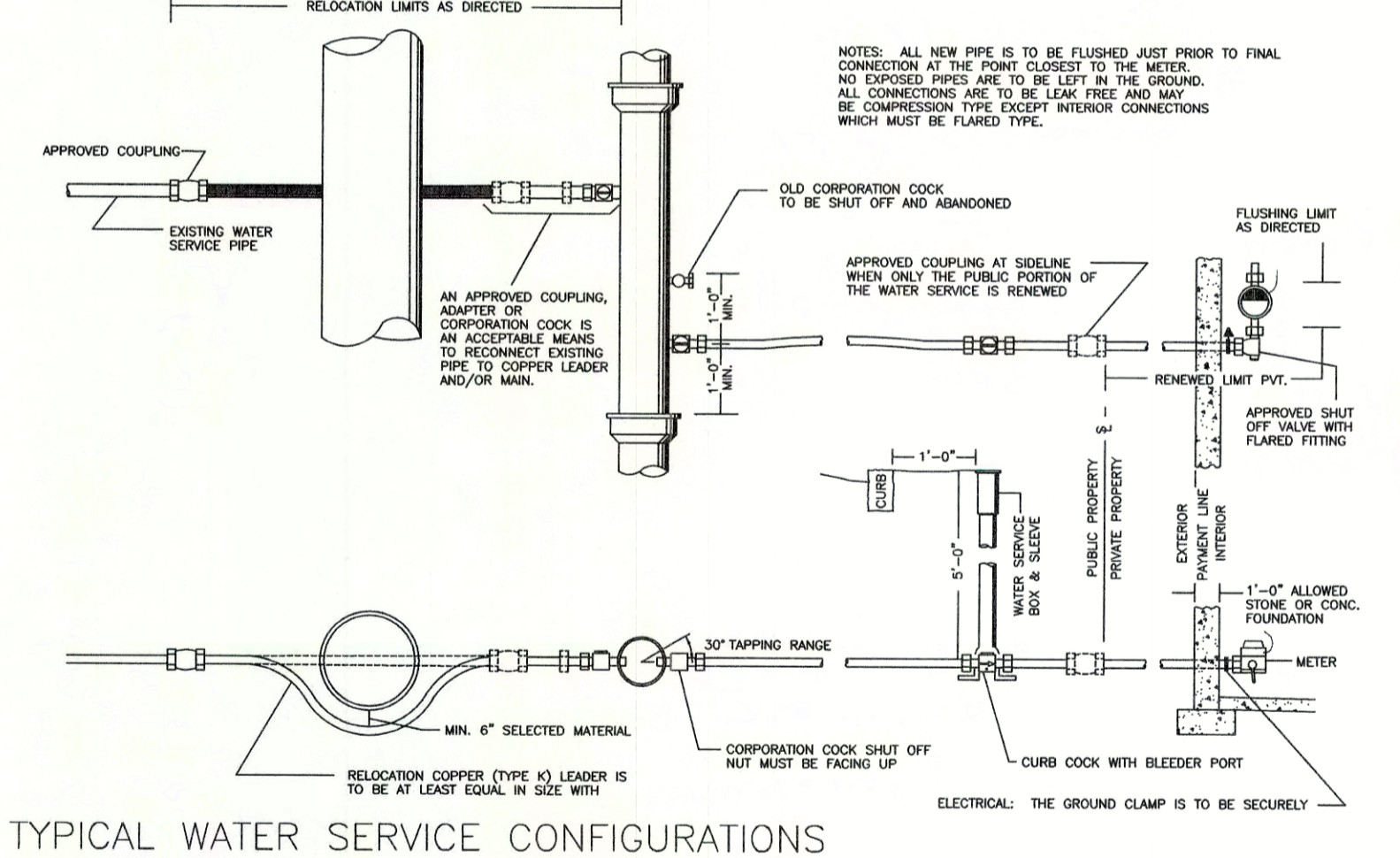
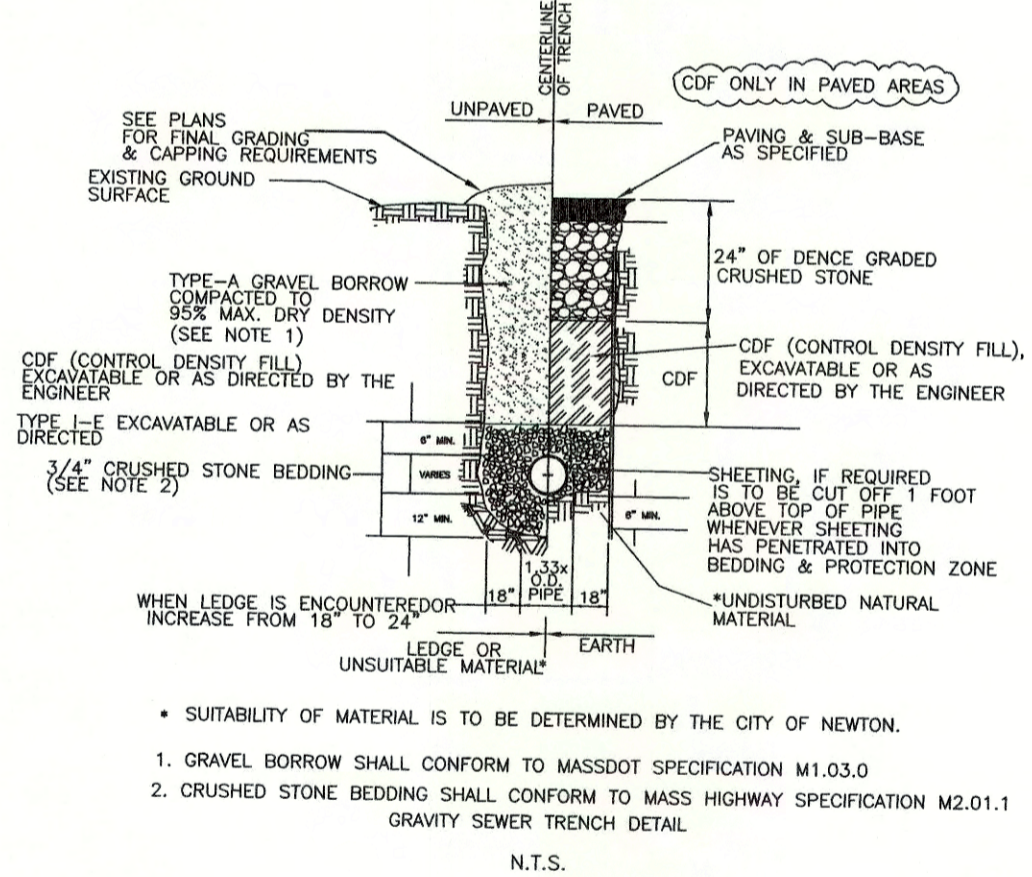
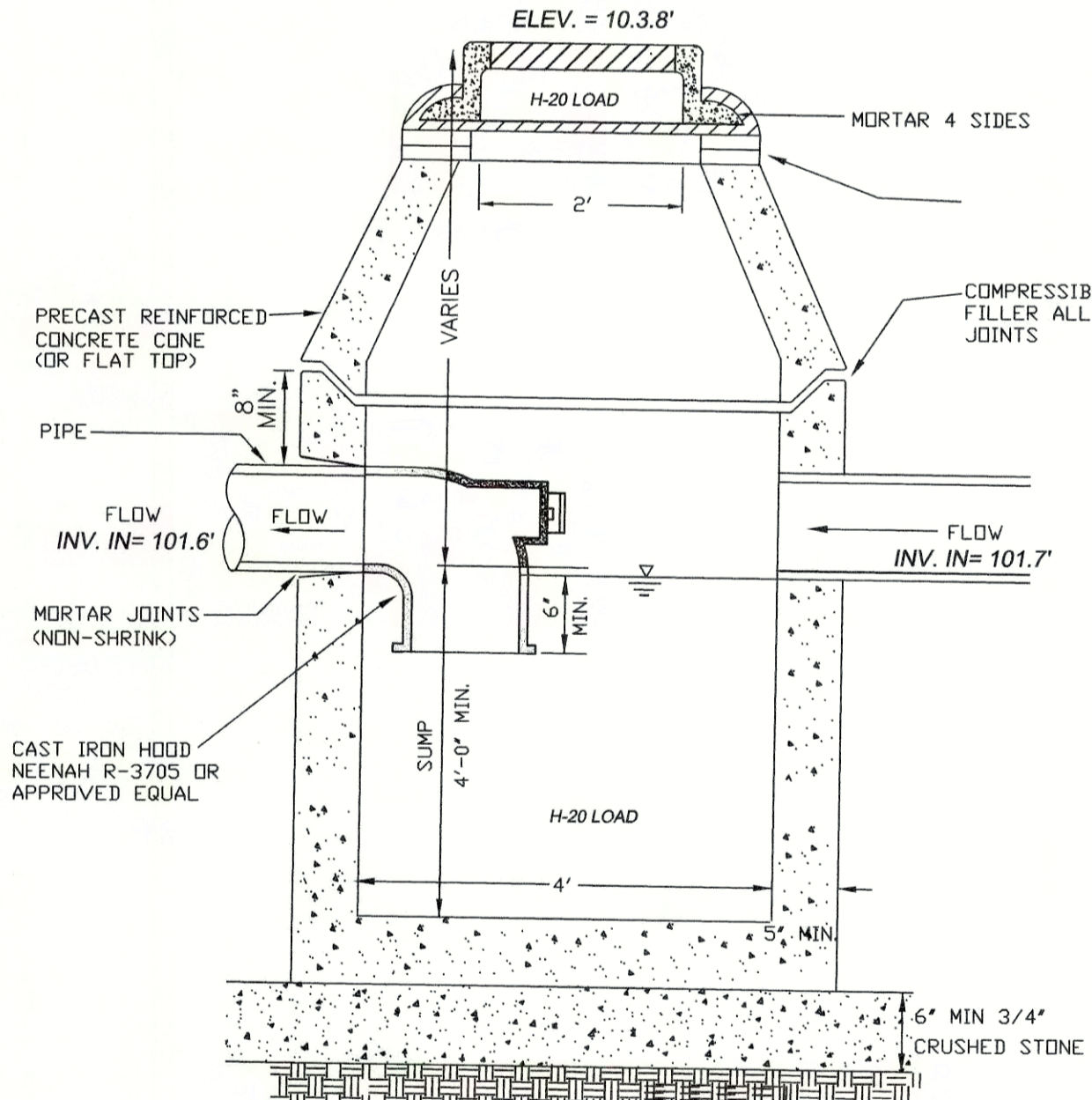
DEEP OBSERVATION HOLE LOG #2  
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED AT 43 RIVER AVENUE  
HOLE NUMBER: 2 DATED: 7/12/2022  
TP - 2 7/12/22  
GENERAL SITE CONDITIONS:  
GRASS, BUSHES  
PERFORMED BY: TOM RYDER, PE.  
HOLE NUMBER: TP-2



IMPORTANT NOTES:  
CEMENT CONCRETE IS SHOWN SCHEME APPLIES TO BITUMINOUS CONCRETE ALSO HOWEVER, ALL JOINTS AND SCORE MARKS ARE ELIMINATED & TACK ABUTTING ADJACENT BITUMINOUS CONCRETE PAVEMENTS SHALL BE USED.  
2" RADIUS CORNER BLOCKS THROUGHOUT UNLESS OTHERWISE SPECIFIED.  
ALL CEMENT CONCRETE IS TO BE BROOM FINISHED.  
ALL DRIVEWAY APPROX. TO REMAIN 1" ABOVE ADJACENT GUTTER.  
DEPTH 4" FOR SIDEWALK; 6" FOR DRIVEWAY APPROX.; 8" FOR PEDESTRIAN RAMPS.  
RESET CURB INCLUDES ANY CURB THAT, AT THE DIRECTION OF THE ENGINEER, MUST BE RELOCATED WITHIN THE PROJECT LIMITS.  
ALL CONCRETE IS TO BE FINISHED FLUSH WITH THE TOP BACK AND ENDS OF ALL CURBING AND CORNER BLOCKS.  
NO MORE THAN TWO PIECES OF CURBING LESS THAN SIX FEET LONG WILL BE ALLOWED TO BE PLACED WITHIN THE SAME "CURB RUN" AND THEY SHALL NOT BE SET SIDE BY SIDE.  
ALL CURB JOINTS SHALL NOT BE GREATER THAN 1/2". SHALL BE POINTED BEFORE THE WEARING COURSE IS PLACED, IF NOT SOONER, AND SHALL BE WIPED CLEAN WITH A CLOTH IMMEDIATELY AFTER POINTING.

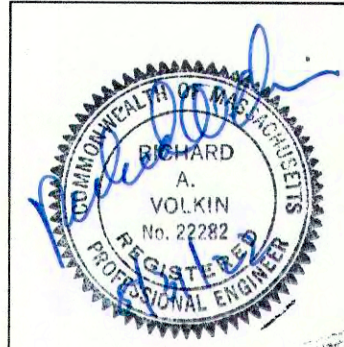
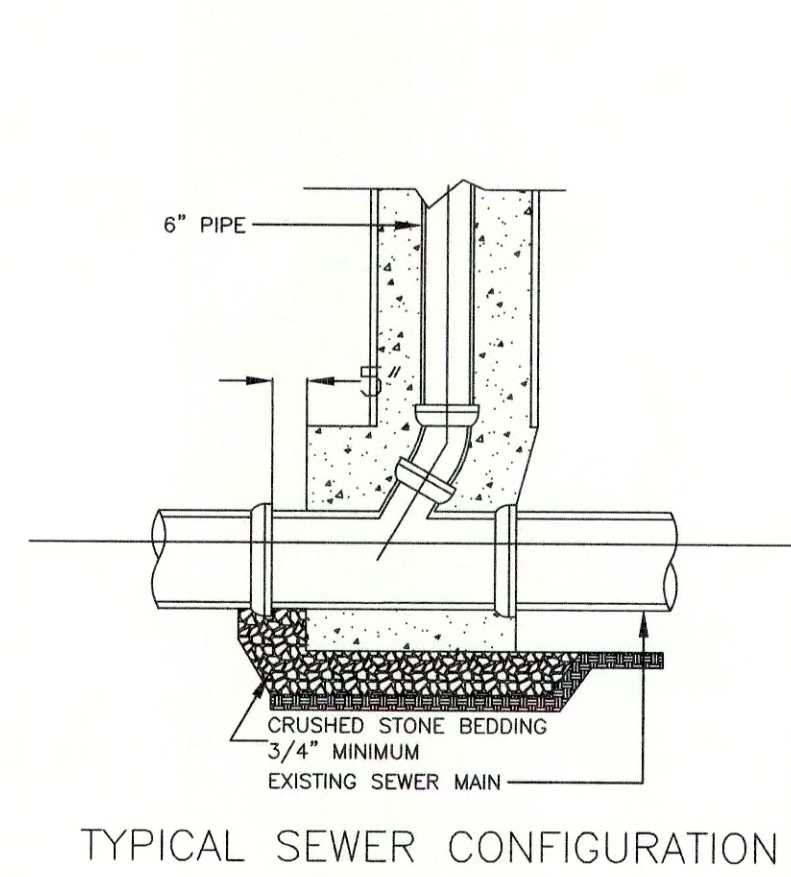
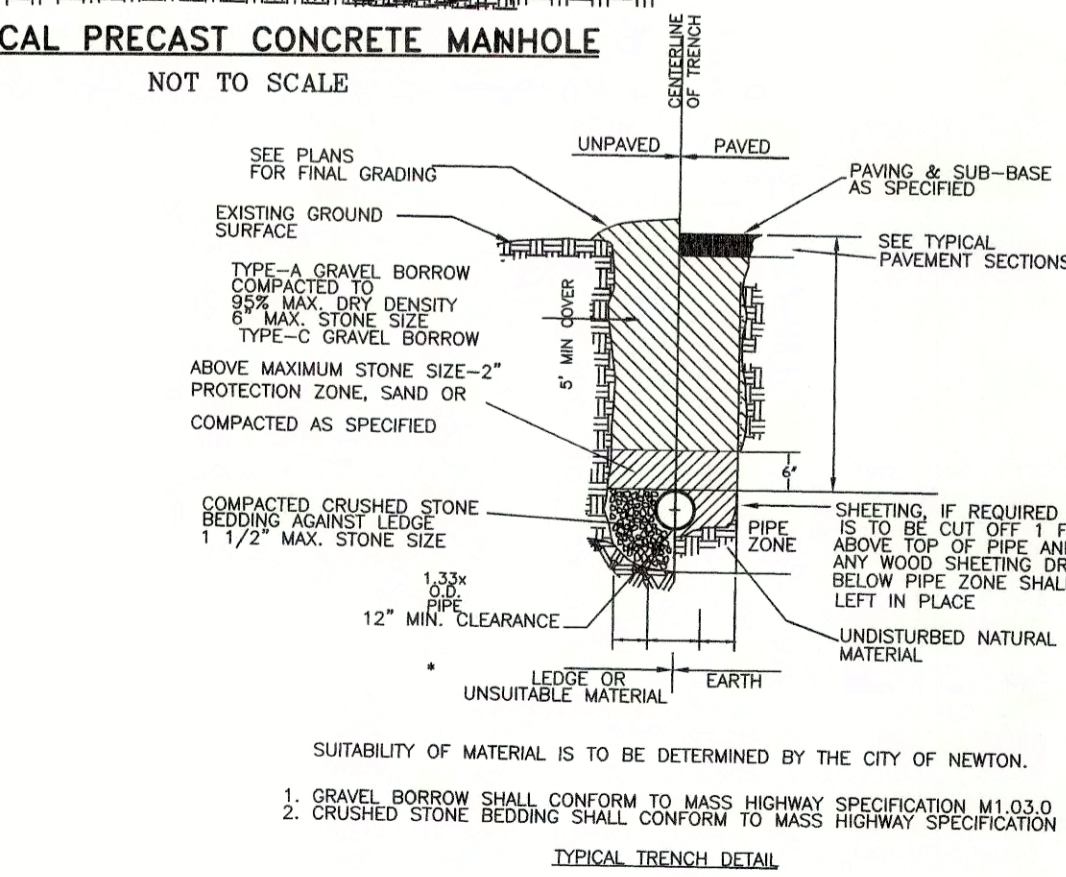
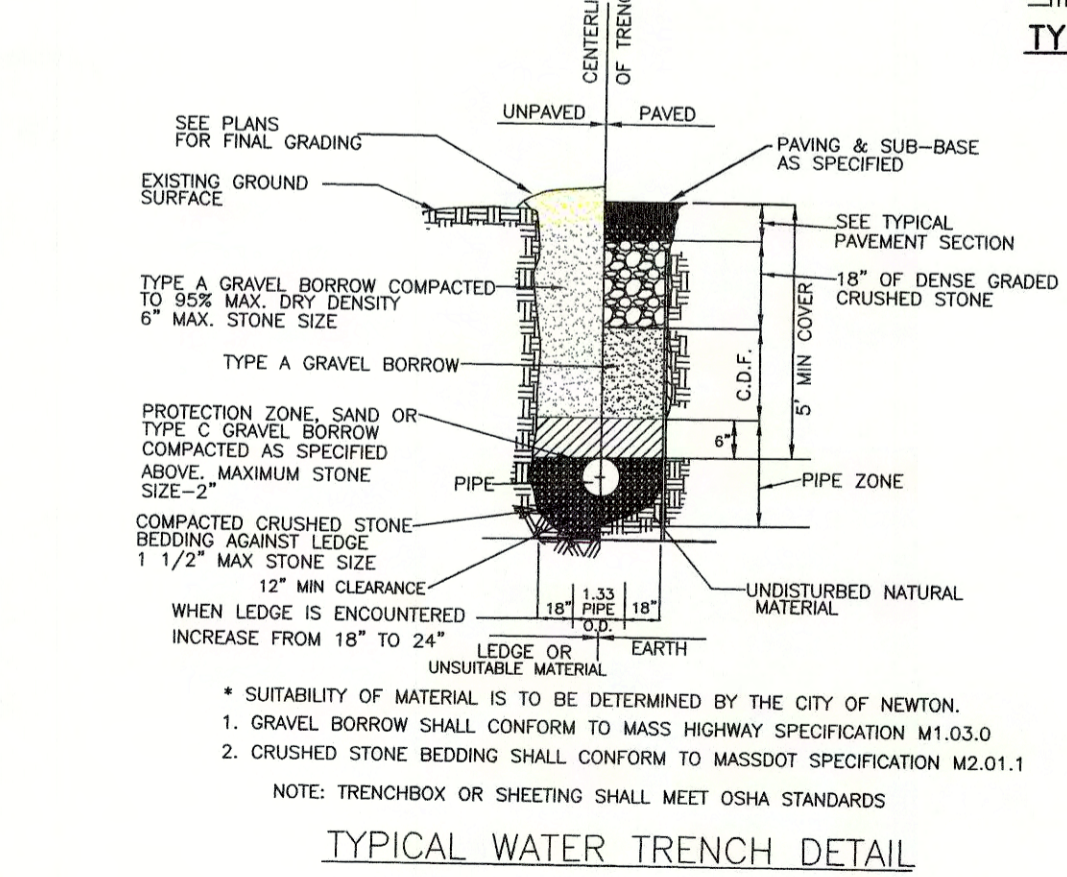
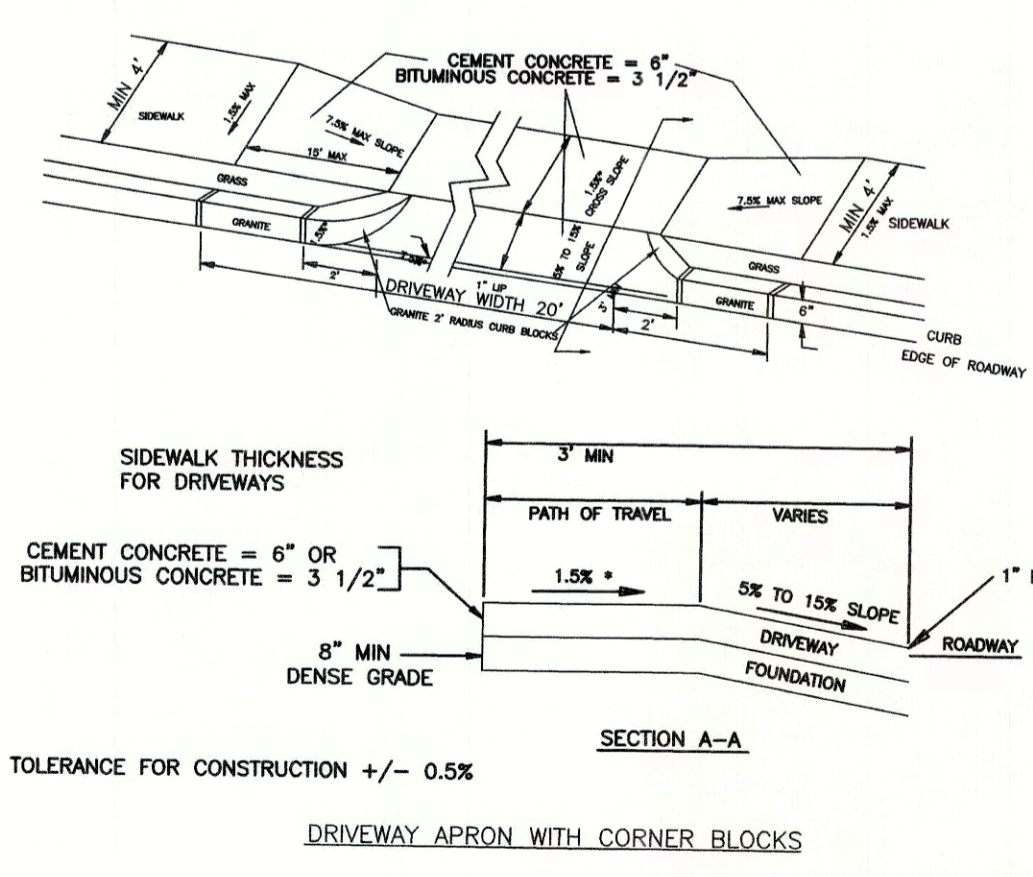


NOTES:  
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN THE PLACE PRIOR TO BINDER AND TOP PLACEMENT.  
2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATION ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.



ACCEPTABLE FILL MATERIALS  
STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION	AASHTO M145 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
① FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SOIL/ROCK MATERIALS, NATIVE SOILS OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
② FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1, A-2, A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
③ EMBEDMENT STONE SURROUNDINGS AND TO A 6" ELEVATION ABOVE CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4" - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	NO COMPACTION REQUIRED
④ FOUNDATION STONE BELOW CHAMBERS	WASHED ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 3/4" - 2 INCH	3, 357, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY



DESIGNED BY:  
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08/10/22	COMMENTS
DATE	REVISION

DETAILS

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SCALE: AS NOTED DATE: 07/20/22

APPROVED: R.A.V. DESIGNED BY: M.D. DRAWING No. S-130 SHEET: 4 OF 4