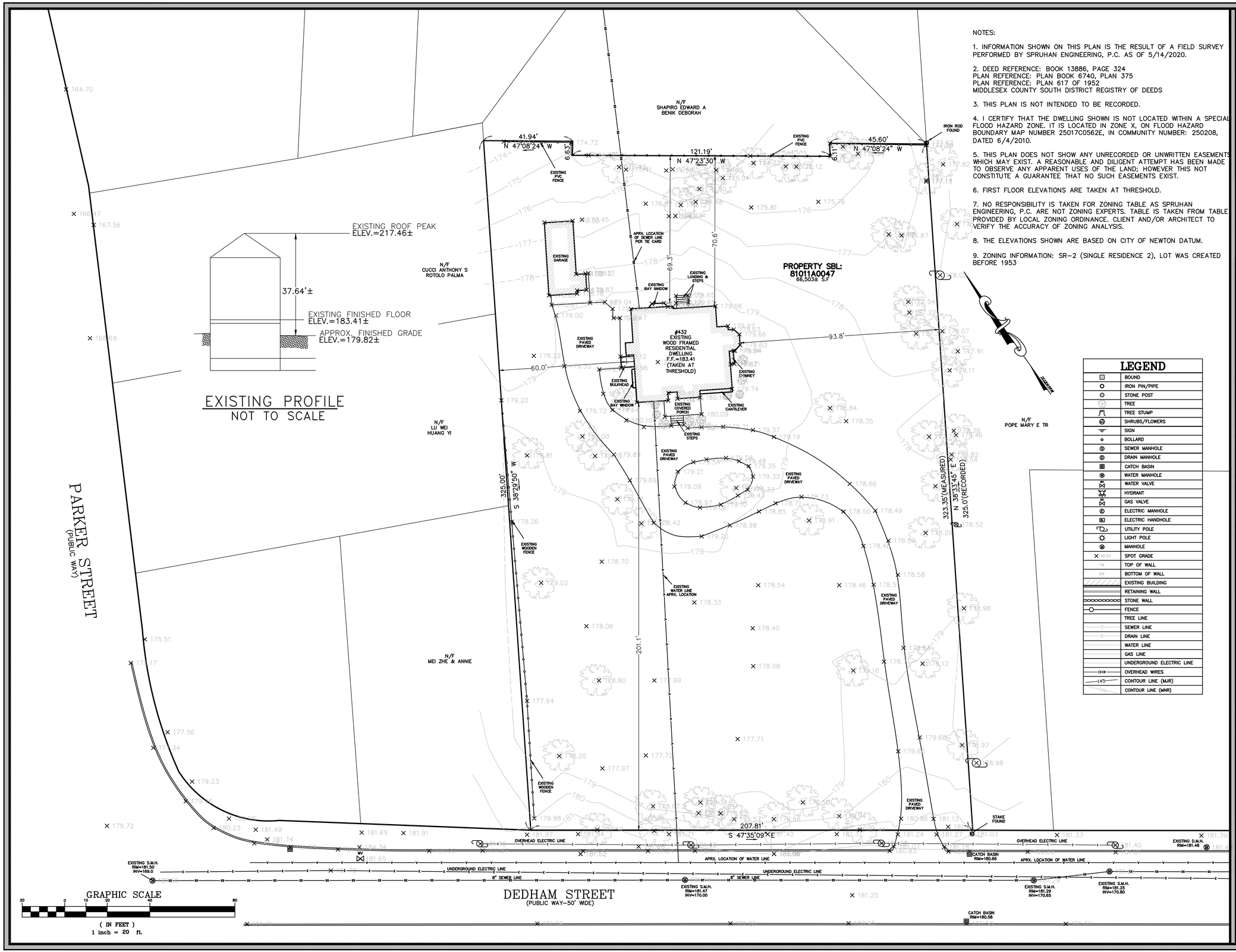

NOTES:

1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY SPRUHAN ENGINEERING, P.C. AS OF 5/14/2020.

2. DEED REFERENCE: BOOK 13886, PAGE 324
PLAN REFERENCE: PLAN BOOK 6740, PLAN 375
PLAN REFERENCE: PLAN 617 OF 1952
MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0562E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010.

5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

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 ELEVATIONS SHOWN ARE BASED ON CITY OF NEWTON DATUM.

9. ZONING INFORMATION: SR-2 (SINGLE RESIDENCE 2), LOT WAS CREATED BEFORE 1953

LEGEND

	BOUND
	IRON PIN/PIPE
	STONE POST
	TREE
	TREE STUMP
	SHRUBS/FLOWERS
	SIGN
	BOLLARD
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASIN
	WATER MANHOLE
	WATER VALVE
	HYDRANT
	GAS VALVE
	ELECTRIC MANHOLE
	ELECTRIC HANDHOLE
	UTILITY POLE
	LIGHT POLE
	MANHOLE
48.00	SPOT GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
	EXISTING BUILDING
	RETAINING WALL
	STONE WALL
	FENCE
	TREE LINE
S	SEWER LINE
D	DRAIN LINE
W	WATER LINE
G	GAS LINE
	UNDERGROUND ELECTRIC LINE
OHW	OVERHEAD WIRES
145	CONTOUR LINE (MJR)
146	CONTOUR LINE (MNR)

SPRUHAN ENGINEERING, P.C.

80 JEWETT ST. (SUITE 1)
NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON
NO. 48649
PROFESSIONAL LAND SURVEYOR

432 DEDHAM STREET NEWTON, MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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SURVEY PLAN

SCALE:	1" = 20'
DATE:	6-10-20
DRAWN BY:	KK
CHECKED BY:	ES
APPROVED BY:	ES

SHEET:

1 OF 8

1. ELEVATIONS REFER TO CITY OF NEWTON DATUM.

2. 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.

3. 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.

4. 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.

5. PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35.

6. PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.

7. THIS PLAN IS THE RESULT OF AN INSTRUMENT SURVEY DONE ON THE GROUND MAY 14th, 2019.

8. ALL WORK SHALL BE SUBJECT TO THE INSPECTION BY AND APPROVAL OF THE CITY ENGINEER.

9. 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.

10. THE CONTRACTOR SHALL PROVIDE CITY OF NEWTON POLICE OFFICERS FOR THE DIRECTION AND CONTROL OF TRAFFIC, AS REQUIRED BY THE CITY ENGINEER.

11. NO WORK SHALL BE PERFORMED UNTIL THE NECESSARY PERMITS ARE OBTAINED FROM THE CITY OF NEWTON PUBLIC WORKS DEPARTMENT.

12. 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.

13. WARNING SIGNS SHALL CONFORM TO PAGE 66 OF THE CITY OF NEWTON GENERAL CONSTRUCTION DETAILS.

14. 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.

15. IN CASES WHERE LEDGE OR BOULDERS ARE ENCOUNTERED, SPRUHAN ENGINEERING, P.C. WILL NOT BE RESPONSIBLE FOR THE AMOUNT OF ROCK ENCOUNTERED.

16. 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.

17. THE ROOF RUNOFF FROM THE ROOF SURFACES SHALL BE COLLECTED BY GUTTERS AND DIRECTED TO THE STORM WATER DRAINAGE SYSTEM.

18. 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.

19. THE APPLICANT WILL HAVE TO APPLY FOR A STREET OPENING & UTILITIES CONNECTION PERMITS AS WELL AS A SIDEWALK CROSSING PERMIT AND A TRENCH PERMIT WITH THE DPW.

20. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE DESIGN ENGINEER FOR INSPECTIONS OR AS-BUILT LOCATIONS. PETER NOLAN & ASSOCIATES, LLC. WILL NOT PROVIDE AS-BUILT CERTIFICATION TO UNINSPECTED BACKFILLED UTILITIES. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED PRIOR TO INSPECTIONS.

21. ANY PROPOSED PVC PIPES UNDER PAVING OR CONCRETE WITH LESS THAN 30" OF COVER MUST MUST BE ENCASED IN CONCRETE. (SEE PAGE 21, CITY OF NEWTON GENERAL CONSTRUCTION DETAILS.)

22. 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.

23. 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.

24. 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 SOIL, 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

25. 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.

26. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.

27. 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.

28. WITH EXCEPTION OF GAS UTILITY SERVICES, ALL UTILITY TRENCHES WITHIN ANY CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL, AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.

29. 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.

30. ALL NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. ALL SEWER MANHOLES SHALL BE VACUUM TESTEN ACCORDANCE TO THE CITY'S CONSTRUCTION STANDARDS & 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, A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED AND A WRITTEN REPORT IS RECEIVED BY THE CITY ENGINEER.

31. 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.

32. 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.

33. 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.

34. 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.

NOTES:

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PLAN REFERENCE: PLAN BOOK 6740, PLAN 375
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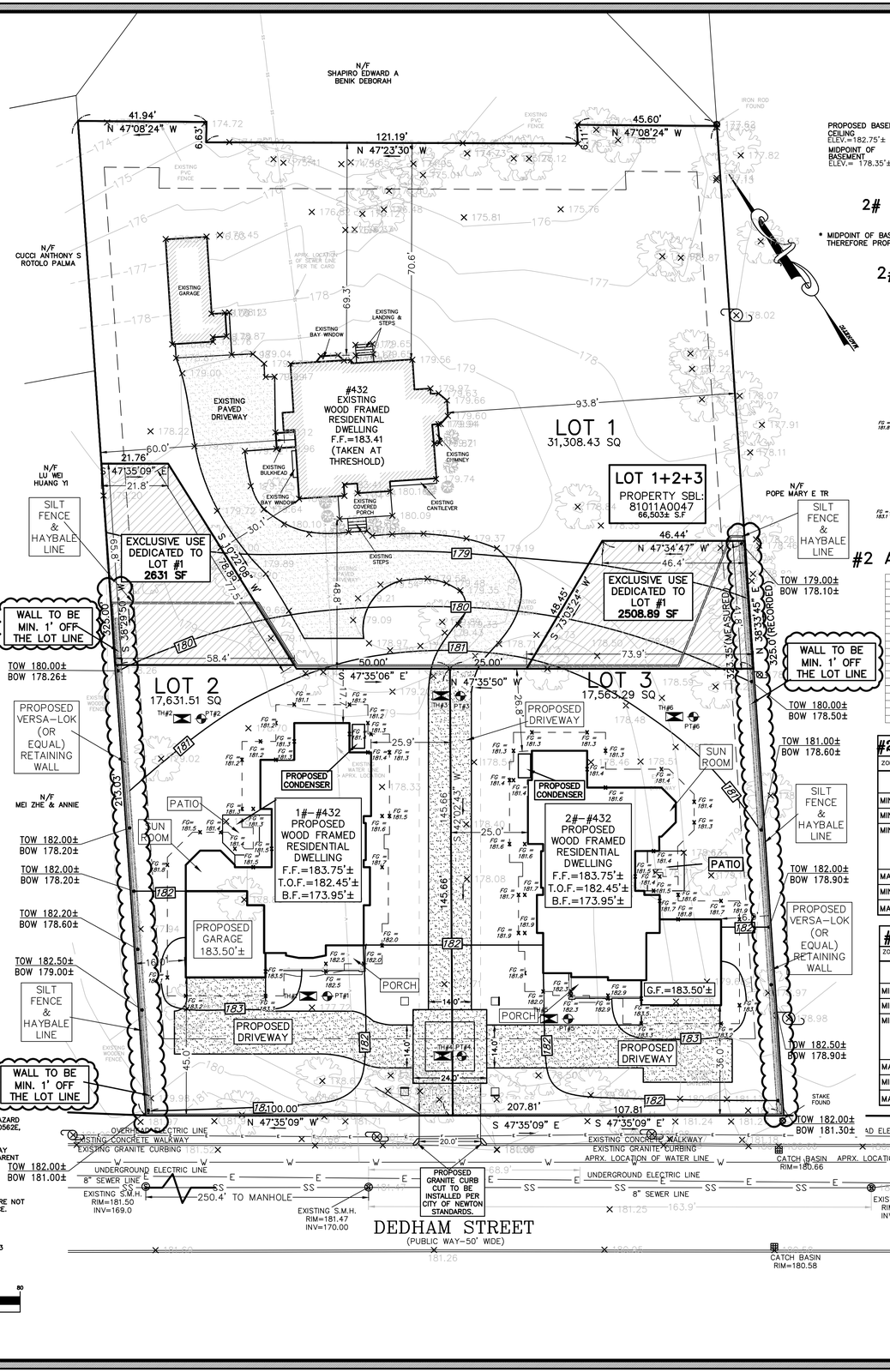
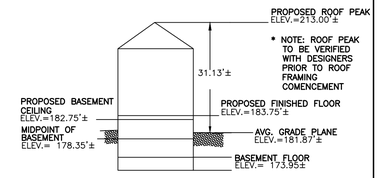
9. ZONING INFORMATION: SR-2 (SINGLE RESIDENCE 2), LOT WAS CREATED BEFORE 1953

GRAPHIC SCALE

20 0 10 20 40 80

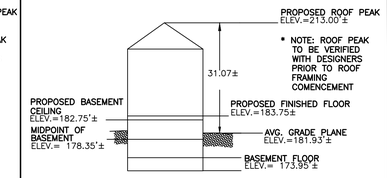
(IN FEET)
1 inch = 20 ft.





2# PROPOSED BUILDING PROFILE
NOT TO SCALE

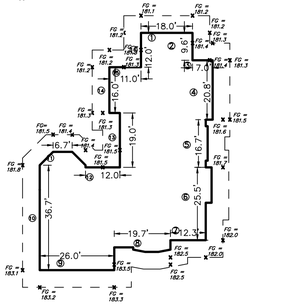
* MIDPOINT OF BASEMENT ELEVATION LOWER THAN AVERAGE GRADE ELEVATION THEREFORE PROPOSED BASEMENT MEETS DEFINITION OF BASEMENT



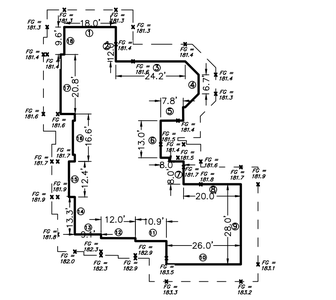
3# PROPOSED BUILDING PROFILE
NOT TO SCALE

* MIDPOINT OF BASEMENT ELEVATION LOWER THAN AVERAGE GRADE ELEVATION THEREFORE PROPOSED BASEMENT MEETS DEFINITION OF BASEMENT

2# AVERAGE GRADE PLANE



3# AVERAGE GRADE PLANE



#2 AVERAGE GRADE CALCULATION

AVERAGE GRADE PLANE (ALL UNITS IN FEET)

SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	18.00	181.10	181.20	181.15	3,260.70
2	9.60	181.30	181.40	181.35	1,740.96
3	7.00	181.40	181.30	181.35	1,269.45
4	20.80	181.30	181.50	181.40	3,773.12
5	16.70	181.60	181.70	181.65	3,033.56
6	25.50	181.70	182.00	181.85	4,637.18
7	12.30	182.00	182.50	182.25	2,241.68
8	19.70	182.50	183.50	183.00	3,605.10
9	26.00	183.30	183.20	183.25	4,764.50
10	36.70	183.10	181.80	182.45	6,695.92
11	6.70	181.50	181.40	181.45	1,215.72
12	12.00	181.40	181.50	181.45	2,177.40
13	19.00	181.50	181.30	181.40	3,446.60
14	16.00	181.30	180.20	180.75	2,892.00
15	11.00	181.20	181.30	181.25	1,993.75
16	12.00	181.30	181.20	181.25	2,175.00
SUM =	269.00				48,922.61
SUM OF MEAN x LENGTH/ SUM OF LENGTHS = AVERAGE GRADE PLANE =					**181.87**

#3 AVERAGE GRADE CALCULATION

AVERAGE GRADE PLANE (ALL UNITS IN FEET)

SEGMENT	LENGTH	POINT 1	POINT 2	MEAN 1 & 2	MEAN x LENGTH
1	18.00	181.30	181.30	181.30	3,263.40
2	12.00	181.30	181.60	181.45	2,177.40
3	24.20	181.40	181.40	181.40	4,389.88
4	6.70	181.40	181.30	181.35	1,215.05
5	7.80	181.40	181.50	181.45	1,415.31
6	13.00	181.40	181.50	181.45	2,358.85
7	8.00	181.60	181.80	181.70	1,453.60
8	20.00	181.70	181.70	181.70	3,634.00
9	28.00	181.90	183.10	182.50	5,110.00
10	26.00	183.20	183.30	183.25	4,764.50
11	10.90	183.50	182.90	183.20	1,996.88
12	12.00	182.90	182.30	182.60	2,191.20
13	9.10	182.30	182.00	182.15	1,657.57
14	13.30	181.80	181.90	181.85	2,418.61
15	12.40	181.90	181.70	181.80	2,254.32
16	16.60	181.70	181.40	181.55	3,013.73
17	20.80	181.60	181.50	181.55	3,775.20
18	9.60	181.40	181.30	181.35	1,740.96
SUM =	268.40				48,830.45
SUM OF MEAN x LENGTH/ SUM OF LENGTHS = AVERAGE GRADE PLANE =					**181.93**

#2 FRONT LOT ZONING LEGEND

ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED AFTER 12/07/1953)

	REQUIRED	PROPOSED
MIN. AREA	15,000 S.F.	17,631.51 ±SQ
MIN. FRONTAGE	100'	100'
MIN. YARD FRONT	30'	45'
SIDE	15'	16'
REAR	15'	17.7'
MAX LOT COVERAGE	20%	19.74%
MIN OPEN SPACE	65%	65.05%
MAX. BLDG. HEIGHT	36'	31.13'

#3 FRONT LOT ZONING LEGEND

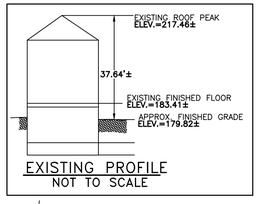
ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED AFTER 12/07/1953)

	REQUIRED	PROPOSED
MIN. AREA	15,000 S.F.	17,563.29 ±S.F.
MIN. FRONTAGE	100'	107.8'
MIN. YARD FRONT	30'	36'
SIDE	15'	16'
REAR	15'	26.8'
MAX LOT COVERAGE	20%	19.01%
MIN OPEN SPACE	65%	66.17%
MAX. BLDG. HEIGHT	36'	31.07'

#1 REAR LOT ZONING LEGEND

ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED BEFORE 12/07/1953)
REAR LOT

	REQUIRED	PROPOSED
MIN. AREA	18,000 S.F.	31,308.43 ±S.F.
MIN. FRONTAGE	80'	DAONV LOT 2: 119.88'
MIN. YARD FRONT	30'	30.1'
SIDE	23'	60'
REAR	23'	69.3'
MAX LOT COVERAGE	17%	8.13%
MIN OPEN SPACE	65%	79.85%
MAX. BLDG. HEIGHT	36'	37.64'



EXISTING PROFILE
NOT TO SCALE

NOTE: CONTRACTOR TO CONFIRM LOCATION OF DOWN SPOUTS PRIOR TO CARRYING OUT ANY DRAINAGE WORKS

NOTE: SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL

NOTE: ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE

NOTE: CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION

NOTE: SPRUHAN ENGINEERING, P.C., ACCEPTS NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT

NOTE: CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING PROPERTIES

NOTE: SEWER AND WATER MAIN LINE LOCATION TO BE CONFIRMED BY CONTRACTOR

NOTE: CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL /STURUCTURAL 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

NOTE: DRAINAGE SYSTEM IS DESIGNED FOR 100 YEAR STORM EVENT FOR ALL RUNOFF FROM PROPOSED IMPERVIOUS AREAS SHOWN. CONTRACTOR SHALL NOT CONNECT SUMP PUMP TO THE SYSTEM WITHOUT APPROVAL FROM ENGINEERING DEPARTMENT.

NOTE: ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY OTHERS.

NOTE: ANY PROPOSED RETAINING WALL IN SETBACK SHALL NOT EXCEED 4 FEET IN HEIGHT IN REFERENCE TO EXISTING GRADES.

LEGEND

	UTILITY POLE
	WATER GATE
	HYDRANT
	GAS GATE
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASIN
	TREE
	LIGHT POLE
	SIGN
TBR	TO BE REMOVED
TBA	TO BE ABANDONED
TOW	TOP OF WALL
BOW	BOTTOM OF WALL
FG	FINISHED GRADE
SG	SPOT GRADE
	DEEP TEST HOLE
	PERCOLATION TEST
71.4 X	SPOT ELEVATION
	PROPOSED CONTOUR
	EXISTING CONTOUR
D	DRAIN LINE
W	WATER LINE
SS	SEWER LINE
G	GAS LINE
X	FENCE

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

COMMONWEALTH OF MASSACHUSETTS CHRISTOPHER C. CHARLTON NO. 48649 PROFESSIONAL LAND SURVEYOR

COMMONWEALTH OF MASSACHUSETTS EDMOND SPRUHAN JR. NO. 43218 REGISTERED PROFESSIONAL ENGINEER

432 DEDHAM STREET NEWTON, MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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ZONING&GRADING PLAN

SCALE: 1" = 20'
DATE: 6-10-20
DRAWN BY: PS
CHECKED BY: ES
APPROVED BY: ES

SHEET:

1. ELEVATIONS REFER TO CITY OF NEWTON DATUM.

2. 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.

3. 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.

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5. PROPOSED SEWER PIPE SHALL BE 6" PVC SDR 35.

6. PROPOSED WATER SERVICE SHALL BE 1" TYPE K COPPER.

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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.

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25. 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.

26. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.

27. 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.

28. WITH EXCEPTION OF GAS UTILITY SERVICES, ALL UTILITY TRENCHES WITHIN ANY CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL, AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.

29. 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.

30. ALL NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. ALL SEWER MANHOLES SHALL BE VACUUM TESTEN ACCORDANCE TO THE CITY'S CONSTRUCTION STANDARDS & SPECIFICATIONS. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. ALL TESTING MUST BE WITHNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION, A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED AND A WRITTEN REPORT IS RECEIVED BY THE CITY ENGINEER.

31. 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.

32. 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.

33. 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.

34. 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 A 5' 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.

NOTES:

1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY SPRUHAN ENGINEERING, P.C. AS OF 5/14/2020.

2. DEED REFERENCE: BOOK 13886, PAGE 324
PLAN REFERENCE: PLAN BOOK 6740, PLAN 375
PLAN REFERENCE: PLAN 617 OF 1952
MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0562E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010.

5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

(S) 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.

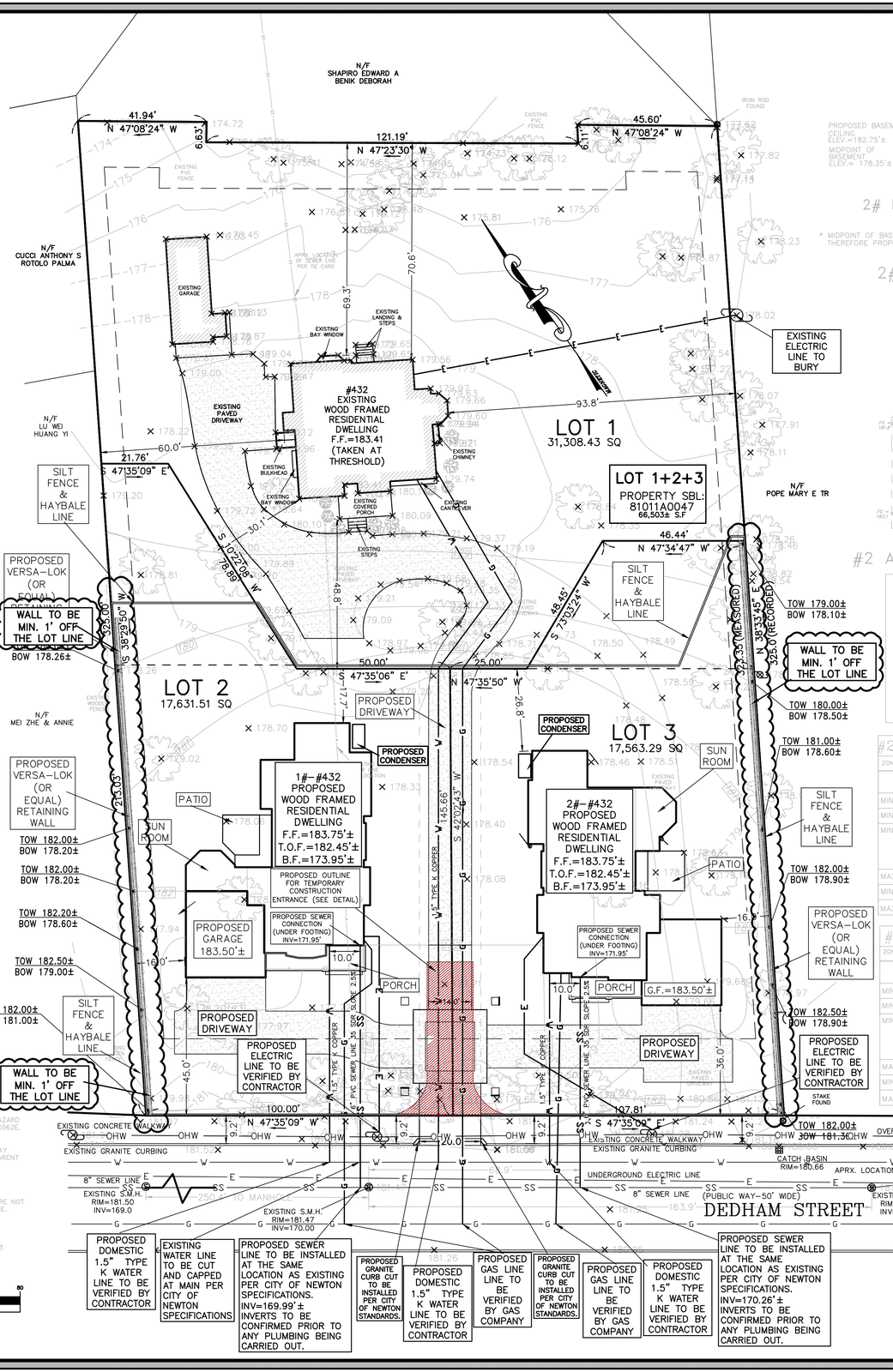
8. THE ELEVATIONS SHOWN ARE BASED ON CITY OF NEWTON DATUM.

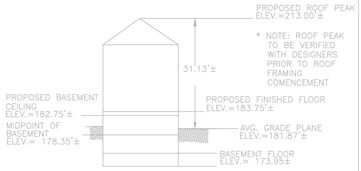
9. ZONING INFORMATION: SR-2 (SINGLE RESIDENCE 2), LOT WAS CREATED BEFORE 1953

GRAPHIC SCALE

20 0 10 20 40 80

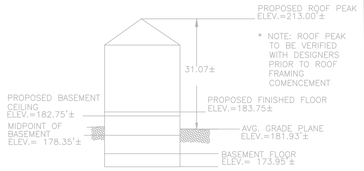
(IN FEET)
1 inch = 20 ft.





2# PROPOSED BUILDING PROFILE
NOT TO SCALE

* MIDPOINT OF BASEMENT ELEVATION LOWER THAN AVERAGE GRADE ELEVATION THEREFORE PROPOSED BASEMENT MEETS DEFINITION OF BASEMENT



3# PROPOSED BUILDING PROFILE
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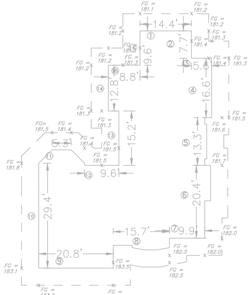
* MIDPOINT OF BASEMENT ELEVATION LOWER THAN AVERAGE GRADE ELEVATION THEREFORE PROPOSED BASEMENT MEETS DEFINITION OF BASEMENT

2# AVERAGE GRADE PLANE



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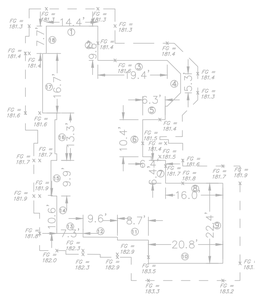


#2 AVERAGE GRADE CALCULATION

#3 AVERAGE GRADE CALCULATION

#2 FRONT LOT ZONING LEGEND

ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED AFTER 12/07/1953)

	REQUIRED	PROPOSED
MIN. AREA	15,000 S.F.	17,631.51 ±SQ
MIN. FRONTAGE	100'	100'
MIN. YARD FRONT	30'	45'
SIDE	15'	16'
REAR	15'	17.7'
MAX LOT COVERAGE	20%	19.74%
MIN OPEN SPACE	65%	65.05%
MAX. BLDG. HEIGHT	36'	31.13'

#3 FRONT LOT ZONING LEGEND

ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED AFTER 12/07/1953)

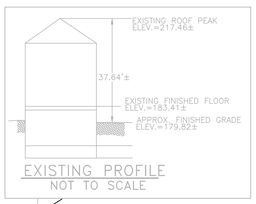
	REQUIRED	PROPOSED
MIN. AREA	15,000 S.F.	17,563.29 ±S.F.
MIN. FRONTAGE	100'	107.8'
MIN. YARD FRONT	30'	36'
SIDE	15'	16'
REAR	15'	26.8'
MAX LOT COVERAGE	20%	19.01%
MIN OPEN SPACE	65%	66.17%
MAX. BLDG. HEIGHT	36'	31.07'

#1 REAR LOT ZONING LEGEND

ZONING DISTRICT: SINGLE RESIDENCE 2 (LOT CREATED BEFORE 12/07/1953)

REAR LOT

	REQUIRED	PROPOSED
MIN. AREA	18,000 S.F.	31,308.43 ±S.F.
MIN. FRONTAGE	80'	(MIN. 50' IN 119.88'
MIN. YARD FRONT	30'	30.1'
SIDE	23'	60'
REAR	23'	69.3'
MAX LOT COVERAGE	17%	8.13%
MIN OPEN SPACE	65%	79.85%
MAX. BLDG. HEIGHT	36'	37.64'



EXISTING PROFILE
NOT TO SCALE

NOTE: CONTRACTOR TO CONFIRM LOCATION OF DOWN SPOUTS PRIOR TO CARRYING OUT ANY DRAINAGE WORKS

NOTE: SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL

NOTE: ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE

NOTE: CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION

NOTE: SPRUHAN ENGINEERING, P.C. ACCEPTS NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT

NOTE: CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING PROPERTIES

NOTE: SEWER AND WATER MAIN LINE LOCATION TO BE CONFIRMED BY CONTRACTOR

NOTE: CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL /STURUCTURAL 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

NOTE: DRAINAGE SYSTEM IS DESIGNED FOR 100 YEAR STORM EVENT FOR ALL RUNOFF FROM PROPOSED IMPERVIOUS AREAS SHOWN. CONTRACTOR SHALL NOT CONNECT SUMP PUMP TO THE SYSTEM WITHOUT APPROVAL FROM ENGINEERING DEPARTMENT.

NOTE: ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY OTHERS.

NOTE: ANY PROPOSED RETAINING WALL IN SETBACK SHALL NOT EXCEED 4 FEET IN HEIGHT IN REFERENCE TO EXISTING GRADES.

LEGEND

UTILITY POLE
WATER GATE
HYDRANT
GAS GATE
SEWER MANHOLE
DRAIN MANHOLE
CATCH BASIN
TREE
LIGHT POLE
SIGN
TO BE REMOVED
TO BE ABANDONED
TOP OF WALL
BOTTOM OF WALL
FINISHED GRADE
SPOT GRADE
DEEP TEST HOLE
PERCOLATION TEST
SPOT ELEVATION
PROPOSED CONTOUR
EXISTING CONTOUR
DRAIN LINE
WATER LINE
SEWER LINE
GAS LINE
FENCE

SPRUHAN ENGINEERING, P.C.

80 JEWETT ST. (SUITE 1)
NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
EDMOND SPRUHAN
CIVIL
No. 33331
REGISTERED PROFESSIONAL ENGINEER

432 DEDHAM STREET
NEWTON,
MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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D

UTILITY PLAN

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25. 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.

26. AT THE END OF CONSTRUCTION, ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.

27. 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.

28. WITH EXCEPTION OF GAS UTILITY SERVICES, ALL UTILITY TRENCHES WITHIN ANY CITY OF NEWTON RIGHT-OF-WAY WILL BE BACKFILLED WITH TYPE IE (EXCAVATABLE) CONTROLLED DENSITY FILL, AS SPECIFIED BY THE CITY OF NEWTON ENGINEERING SPECIFICATIONS.

29. 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.

30. ALL NEW SEWER SERVICE AND/OR STRUCTURES SHALL BE PRESSURE TESTED OR VIDEOTAPED AFTER FINAL INSTALLATION IS COMPLETE. METHOD OF FINAL INSPECTION SHALL BE DETERMINED SOLELY BY THE CONSTRUCTION INSPECTOR FROM THE CITY ENGINEERING DIVISION. ALL SEWER MANHOLES SHALL BE VACUUM TESTEN ACCORDANCE TO THE CITY'S CONSTRUCTION STANDARDS & SPECIFICATIONS. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS STATED ABOVE IS COMPLETED. ALL TESTING MUST BE WITHNESSED BY A REPRESENTATIVE OF THE ENGINEERING DIVISION, A CERTIFICATE OF OCCUPANCY WILL NOT BE RECOMMENDED UNTIL THIS TEST IS COMPLETED AND A WRITTEN REPORT IS RECEIVED BY THE CITY ENGINEER.

31. 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.

32. 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.

33. 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.

34. 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 A NEW SIDEWALK & CURB ALONG THE ENTIRE FRONTAGE. THIS SHALL INCLUDE APPROPRIATE TRANSITION TO ADJOINING CURBING & WALKWAYS, INCLUDING ACCESSIBLE CURB & 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.

NOTES:

1. INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD SURVEY PERFORMED BY SPRUHAN ENGINEERING, P.C. AS OF 5/14/2020.

2. DEED REFERENCE: BOOK 13886, PAGE 324
PLAN REFERENCE: PLAN BOOK 6740, PLAN 375
PLAN REFERENCE: PLAN 617 OF 1952
MIDDLESEX COUNTY SOUTH DISTRICT REGISTRY OF DEEDS

3. THIS PLAN IS NOT INTENDED TO BE RECORDED.

4. I CERTIFY THAT THE DWELLING SHOWN IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE X, ON FLOOD HAZARD BOUNDARY MAP NUMBER 25017C0562E, IN COMMUNITY NUMBER: 250208, DATED 6/4/2010.

5. THIS PLAN DOES NOT SHOW ANY UNRECORDED OR UNWRITTEN EASEMENTS WHICH MAY EXIST. A REASONABLE AND DILIGENT ATTEMPT HAS BEEN MADE TO OBSERVE ANY APPARENT USES OF THE LAND; HOWEVER THIS NOT CONSTITUTE A GUARANTEE THAT NO SUCH EASEMENTS EXIST.

(S) 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.

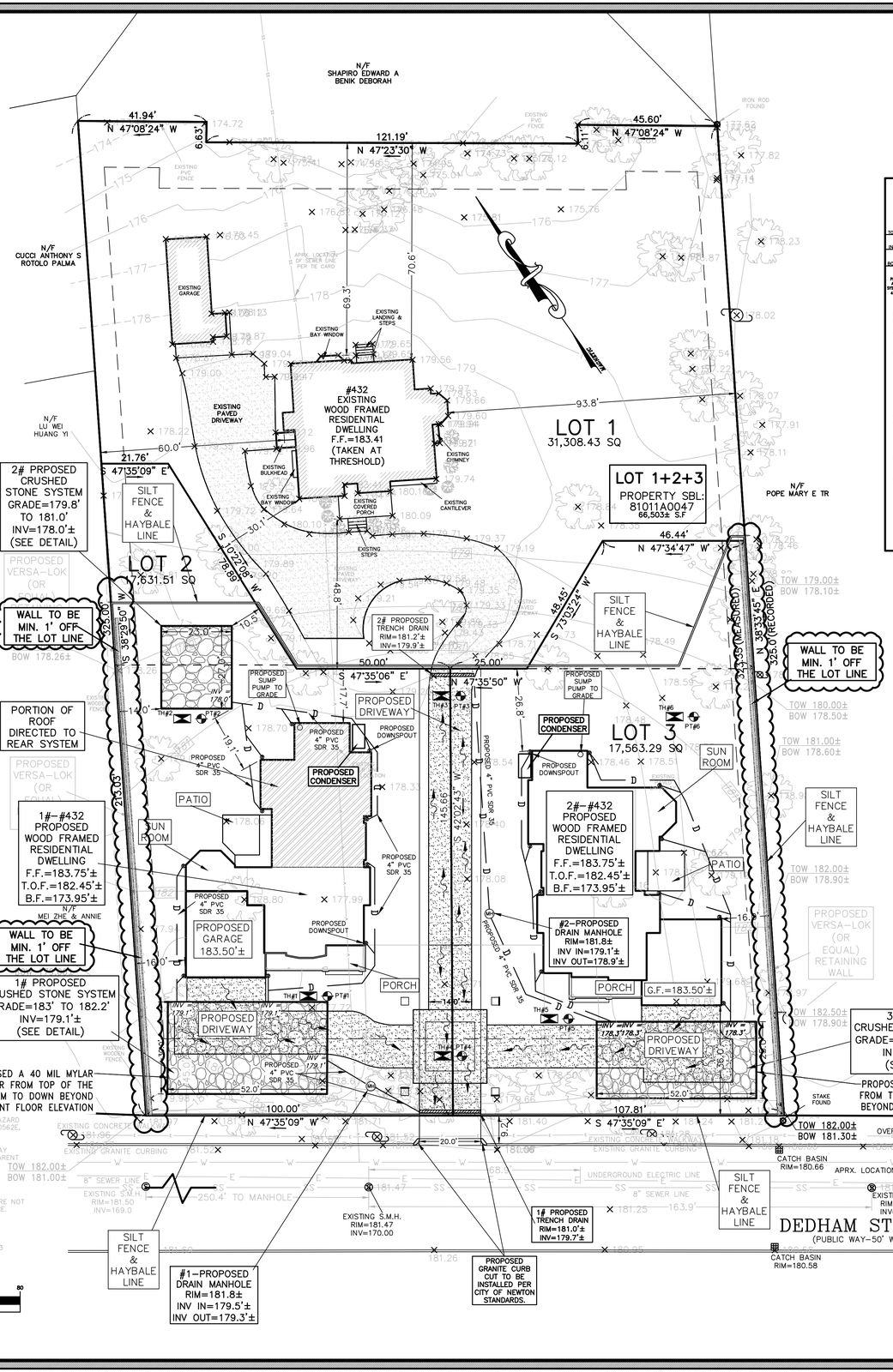
8. THE ELEVATIONS SHOWN ARE BASED ON CITY OF NEWTON DATUM.

9. ZONING INFORMATION: SR-2 (SINGLE RESIDENCE 2), LOT WAS CREATED BEFORE 1953

GRAPHIC SCALE

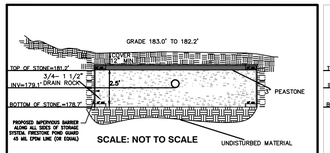
20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.



SYSTEM 1

PROPOSED FRONT PORTION OF ROOF ON LOT 2 & FRONTPORTION OF DRIVEWAY WHOLE VOLUME OF CRUSHED STONE TAKEN INTO ACCOUNT FOR CALCULATION



SCALE: NOT TO SCALE

IMPERVIOUS AREA = 5,965.95 S.F.
DESIGN FOR 100 YEARS STORM EVENT:

STORAGE REQUIRED: (8.78"=0.732 ft)(5,965.95 SQF)=4,367 CF

STORAGE VOLUME OF TRENCH: 52 x 30 x Height = Volume of trench
[1560] x 2.5'= 3,900 CF (volume of trench)

Volume of stone (drain rock) in trench
Vstone = (Vtrench) (Void Factor)
Vstone = (3900) (0.40)
Vstone = 1560 CF

*RULE OF THUMB FOR PERCOLATION CREDIT (5 TIMES SYSTEM CAPACITY)
Vperc = (1,560 CF)(5)
Vperc = 7,800 CF

V1provided = 7,800 CF +1560
V1provided = 9,360 CF

PERCOLATION RATE = 1"/hr (RAWL'S RATE)

V2provided = Area of base (52 x 30 =1560 SF) x infiltration rate per hour (1/12) x 24 hr = 3120 CF +1560 CF
V2provided =4,680 CF

Volume Provided = 4,680 CF (Minimum Vol. Provided Governs)

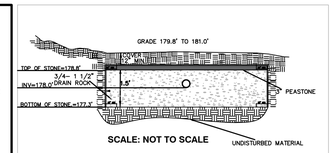
Total Storage Volume Required = 4,367 CF

Total Storage Volume Provided = 4,680 CF (INCLUDING INFILTRATION)

Since Vtotal=4,680 CF > Vr=4,367 CF (OK)

SYSTEM 2

PROPOSED REAR PORTION OF ROOF ON LOT 2 WHOLE VOLUME OF CRUSHED STONE TAKEN INTO ACCOUNT FOR CALCULATION



SCALE: NOT TO SCALE

IMPERVIOUS AREA = 1,390.17 S.F.
DESIGN FOR 100 YEARS STORM EVENT:

STORAGE REQUIRED: (8.78"=0.732 ft)(4,658.45 SQF)=1,017.60 CF

STORAGE VOLUME OF TRENCH: 23 x 27 Height = Volume of trench
[621] x 1.5'= 931.5 CF (volume of trench)

Volume of stone (drain rock) in trench
Vstone = (Vtrench) (Void Factor)
Vstone = (931.5) (0.40)
Vstone = 372.6 CF

*RULE OF THUMB FOR PERCOLATION CREDIT (5 TIMES SYSTEM CAPACITY)
Vperc = (372.6 CF)(5)
Vperc = 1,863 CF

V1provided = 1,863 CF +372.6
V1provided = 2,235.6 CF

PERCOLATION RATE = 1"/hr (RAWL'S RATE)

V2provided = Area of base (23 x 27=621 SF) x infiltration rate per hour (1/12") x 24 hr = 1,242 CF +372.6 CF
V2provided =1,614.6 CF

Volume Provided = 1,614.6 CF (Minimum Vol. Provided Governs)

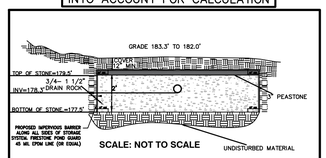
Total Storage Volume Required = 1,017.60 CF

Total Storage Volume Provided = 1,614.6 CF (INCLUDING INFILTRATION)

Since Vtotal=1,614.6 CF > Vr= 1,017.60 CF (OK)

SYSTEM 3

PROPOSED FRONT PORTION OF ROOF ON LOT 3 & REAR PORTION OF DRIVEWAY WHOLE VOLUME OF CRUSHED STONE TAKEN INTO ACCOUNT FOR CALCULATION



SCALE: NOT TO SCALE

IMPERVIOUS AREA = 4,655 S.F.
DESIGN FOR 100 YEARS STORM EVENT:

STORAGE REQUIRED: (8.78"=0.732 ft)(4,655 SQF)=3,407.46 CF

STORAGE VOLUME OF TRENCH: 52 x 25 Height = Volume of trench
[1300] x 2'= 2600 CF (volume of trench)

Volume of stone (drain rock) in trench
Vstone = (Vtrench) (Void Factor)
Vstone = (2600) (0.40)
Vstone = 1040 CF

*RULE OF THUMB FOR PERCOLATION CREDIT (5 TIMES SYSTEM CAPACITY)
Vperc = (1040 CF)(5)
Vperc = 5,200 CF

V1provided = 5,200 CF +1040
V1provided = 6,240 CF

PERCOLATION RATE = 1"/hr (RAWL'S RATE)

V2provided = Area of base (52 x 25=1300 SF) x infiltration rate per hour (1/12) x 24 hr = 2,600 CF +1040 CF
V2provided =3,640 CF

Volume Provided = 3,640 CF (Minimum Vol. Provided Governs)

Total Storage Volume Required = 3,407.46 CF

Total Storage Volume Provided = 3,640 CF (INCLUDING INFILTRATION)

Since Vtotal=3,640 CF > Vr= 3,407.46 CF (OK)

NOTE: CONTRACTOR TO CONFIRM LOCATION OF DOWN SPOUTS PRIOR TO CARRYING OUT ANY DRAINAGE WORKS

NOTE: SURFACE WATER TO BE DIVERTED FROM ALL SIDES OF FOUNDATION WALL

NOTE: ANY TREE BEING REMOVED SHALL COMPLY WITH CITY OF NEWTON TREE ORDINANCE

NOTE: CONTRACTOR TO ENSURE SEWER LINE IS PITCHED AT AN EQUAL SLOPE OF BETWEEN 2% AND 10% FROM HOUSE TO MAIN CONNECTION

NOTE: SPRUHAN ENGINEERING, P.C. ACCEPTS NO LIABILITY FOR GROUND WATER OR OTHER SURFACE WATER IN BASEMENT

NOTE: CONTRACTOR TO ENSURE ALL RAIN WATER FROM SPLASH BLOCKS (IF ANY) IS DIVERTED AWAY FROM BUILDING FOUNDATION AND DIVERTED AWAY FROM NEIGHBORING PROPERTIES

NOTE: SEWER AND WATER MAIN LINE LOCATION TO BE CONFIRMED BY CONTRACTOR

NOTE: CONTRACTOR TO ENSURE THAT THE BUILDING FOOTPRINT REPRESENTED ON THIS PLAN IS THE SAME AS THE PROPOSED ARCHITECTURAL /STURUCTURAL 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.

NOTE: DRAINAGE SYSTEM IS DESIGNED FOR 100 YEAR STORM EVENT FOR ALL RUNOFF FROM PROPOSED IMPERVIOUS AREAS SHOWN. CONTRACTOR SHALL NOT CONNECT SUMP PUMP TO THE SYSTEM WITHOUT APPROVAL FROM ENGINEERING DEPARTMENT.

NOTE: ANY PROPOSED RETAINING WALLS SHALL BE DESIGNED BY OTHERS.

NOTE: ANY PROPOSED RETAINING WALL IN SETBACK SHALL NOT EXCEED 4 FEET IN HEIGHT IN REFERENCE TO EXISTING GRADES.

LEGEND

	UTILITY POLE
	WATER GATE
	HYDRANT
	GAS GATE
	SEWER MANHOLE
	DRAIN MANHOLE
	CATCH BASIN
	TREE
	LIGHT POLE
	SIGN
TBR	TO BE REMOVED
TBA	TO BE ABANDONED
TOW	TOP OF WALL
BOW	BOTTOM OF WALL
FG	FINISHED GRADE
SG	SPOT GRADE
	DEEP TEST HOLE
	PERCOLATION TEST
71 x X	SPOT ELEVATION
71	PROPOSED CONTOUR
71	EXISTING CONTOUR
D	DRAIN LINE
W	WATER LINE
SS	SEWER LINE
G	GAS LINE
E	FENCE

SPRUHAN ENGINEERING, P.C.

80 JEWETT ST. (SUITE 1)
NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
EDMOND SPRUHAN
No. 43331
REGISTERED PROFESSIONAL ENGINEER

432 DEDHAM STREET NEWTON, MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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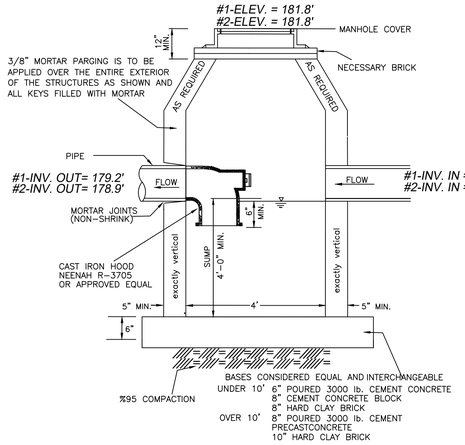
D

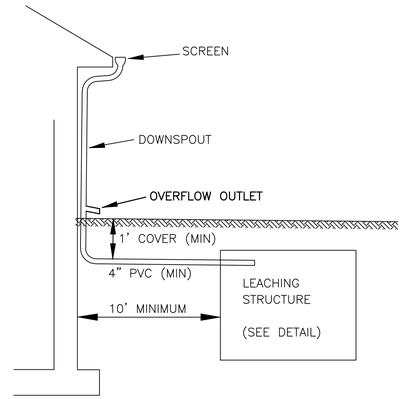
DRAINAGE SYSTEM PLAN

SCALE:	1" = 20'
DATE:	6-10-20
DRAWN BY:	PS
CHECKED BY:	ES
APPROVED BY:	ES

SHEET:

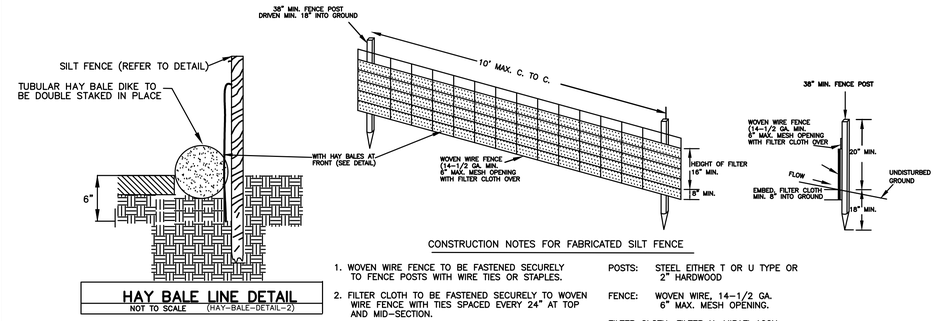


DRAIN MANHOLE DETAIL



TYPICAL DOWNSPOUT DETAIL

N.T.S.



HAY BALE LINE DETAIL

NOT TO SCALE (HAY-BALE-DETAIL-2)

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

1# SOIL LOG FRONT LEFT

DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 1 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 1
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
177.7"-176.7"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
176.7"-175.7"	12" - 24"	B_W	S_{LM}	10 YR 5/6	@24"	NONE
175.7"-167.7"	24" - 120"	C_1	S_{LM}	7.5 YR 7/1	YES	NONE

STANDING WATER @BOTTOM OF HOLE

2# SOIL LOG BACK LEFT

DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 2 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 2
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
178.0"-177.0"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
177.0"-175.5"	12" - 26"	B_W	S_{LM}	10 YR 5/6	@26"	NONE
175.5"-168.0"	26" - 120"	C_1	S_{LM}	7.5 YR 7/1	YES	NONE

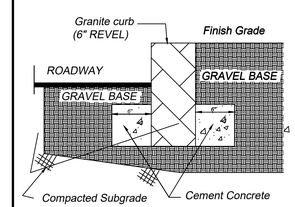
NO STANDING WATER

5# SOIL LOG FRONT RIGHT

DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 5 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 5
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
178.5"-177.5"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
177.5"-175.0"	12" - 30"	B_W	S_{LM}	10 YR 5/6	NO	NONE
175.0"-168.5"	30" - 120"	C_1	S_{LM}	7.5 YR 7/1	@32"	NONE

NO STANDING WATER



GRANITE CURB DETAIL

N.T.S.

3# SOIL LOG BACK MIDDLE

DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 3 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 3
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
178.9"-176.7"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
176.7"-175.7"	12" - 24"	B_W	S_{LM}	10 YR 5/6	NO	NONE
175.7"-167.7"	24" - 120"	C_1	S_{LM}	7.5 YR 7/1	@30"	NONE

NO STANDING WATER

4# SOIL LOG MIDDLE FRONT

DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 4 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 4
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
178.8"-177.8"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
177.8"-175.3"	12" - 30"	B_W	S_{LM}	10 YR 5/6	@24"	NONE
175.3"-168.8"	30" - 120"	C_1	S_{LM}	7.5 YR 7/1	YES	NONE

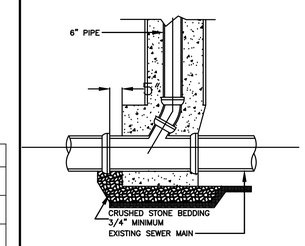
NO STANDING WATER

6# SOIL LOG BACK RIGHT

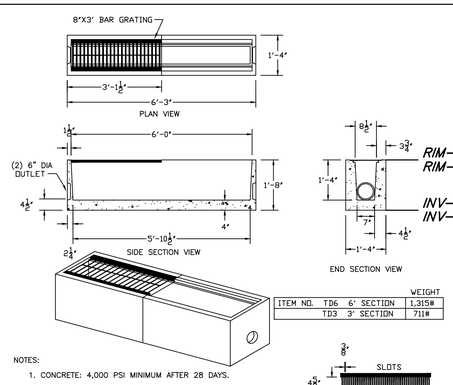
DEEP OBSERVATION HOLE LOG
GENERAL SOIL CONDITIONS FOR THE AREA PERFORMED
AT 432 DEDHAM STREET, NEWTON BY
PETER NOLAN & ASSOCIATES, LLC. AND SPRUHAN ENGINEERING, P.C.
HOLE NUMBER: TP - 6 DATED: 5/20/19
GENERAL SITE CONDITIONS: GRASS AND TREES.
PERCOLATION TEST HOLE PT - 6
PERCOLATION RATE : 1"/Hr USING RAWL'S RATE

GRADE	DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	OTHER
178.6"-177.6"	0" - 12"	A_P	S_{LM}	10 YR 5/4	NO	NONE
177.6"-175.3"	12" - 28"	B_W	S_{LM}	10 YR 5/6	@24"	NONE
175.3"-168.6"	28" - 120"	C_1	S_{LM}	7.5 YR 7/1	YES	NONE

TIGHT MATERIAL
NO STANDING WATER



TYPICAL SEWER CONFIGURATION

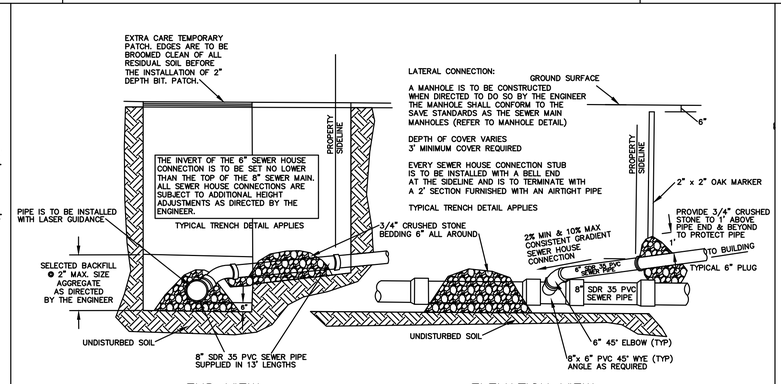


		WEIGHT
ITEM NO. TD6	6' SECTION	1,315#
TD3	3' SECTION	711#

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.

TRENCH DRAIN 8" x 16"

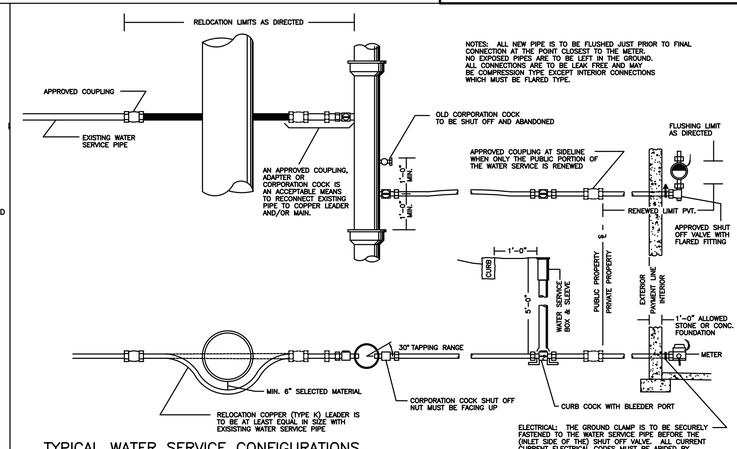


END VIEW

ELEVATION VIEW

TYPICAL PVC SEWER HOUSE CONNECTION

N.T.S.



TYPICAL WATER SERVICE CONFIGURATIONS

SPRUHAN ENGINEERING, P.C.

80 JEWETT ST. (SUITE 1)
NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
EDMOND J. SPRUHAN
CIVIL
No. 33316
REGISTERED PROFESSIONAL ENGINEER

432 DEDHAM STREET
NEWTON,
MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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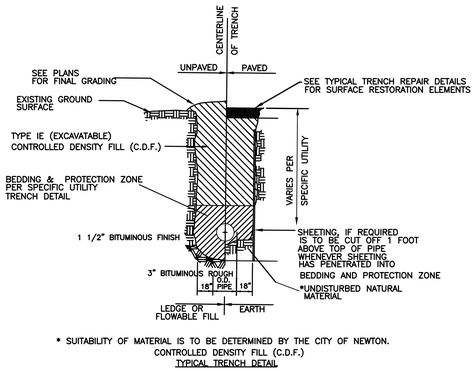
D

DETAILS

SCALE:	1" = 20'
DATE:	6-10-20
DRAWN BY:	PS
CHECKED BY:	ES
APPROVED BY:	ES

SHEET:

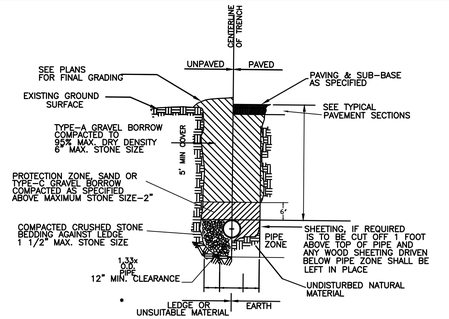
5 OF 8



* SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.
CONTROLLED DENSITY FILL (C.D.F.)
TYPICAL TRENCH DETAIL

TYPICAL WATER TRENCH DETAIL

N.T.S.

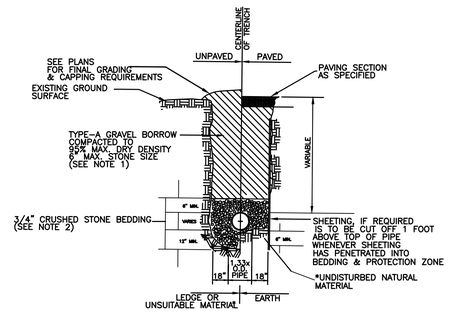


SUITABILITY OF MATERIAL IS TO BE DETERMINED BY THE CITY OF NEWTON.

1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

TYPICAL TRENCH DETAIL

N.T.S.



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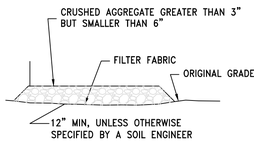
1. GRAVEL BORROW SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M1.03.0
2. CRUSHED STONE BEDDING SHALL CONFORM TO MASS HIGHWAY SPECIFICATION M2.01.1

GRAVITY SEWER TRENCH DETAIL

N.T.S.



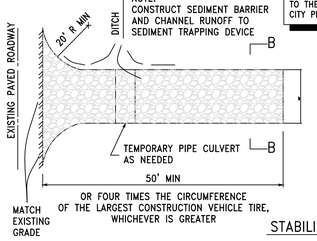
SECTION B–B

NTS

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



STABILIZED CONSTRUCTION ENTRANCE DETAIL

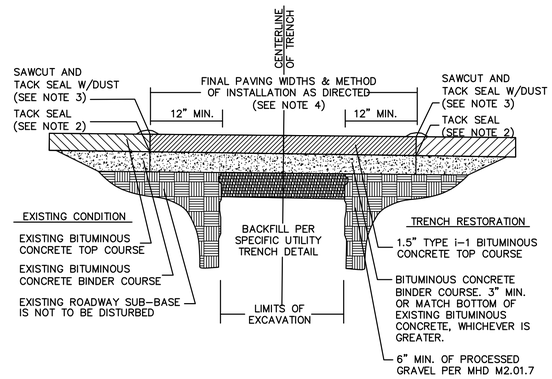
N.T.S.

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.

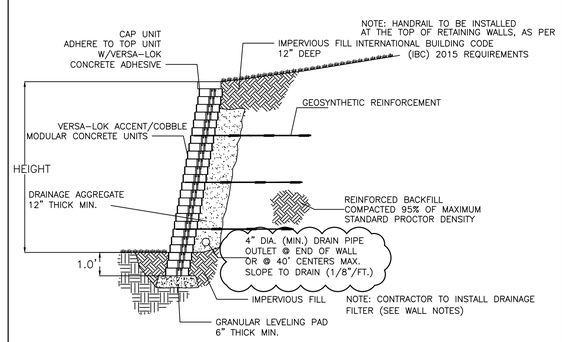
INSPECTION AND MAINTENANCE:

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.



TYPICAL TRENCH REPAIR & PAVEMENT SECTION DETAIL

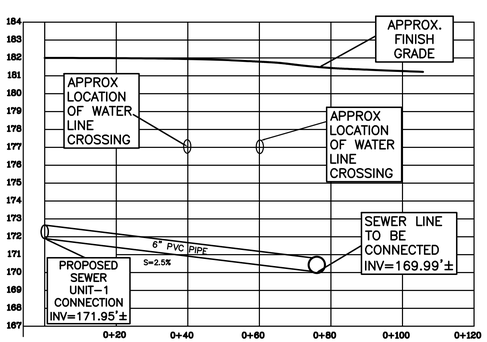
1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASS. HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 AS AMENDED.
2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATIONS.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6' WIDE OR GREATER IS TO BE
5. PLACED BY MACHINE/BAX SPREADER WHEN & AS DIRECTED BY THE CITY OF NEWTON.



TYPICAL SECTION–REINFORCED RETAINING WALL

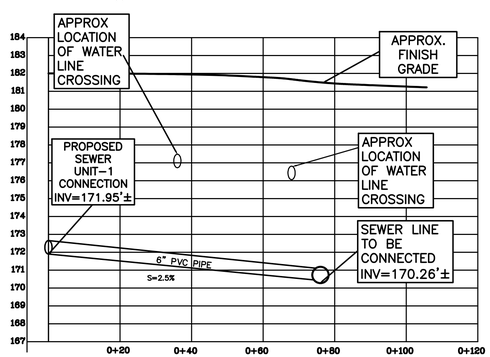
SCALE: NONE

2# SEWER PROFILE

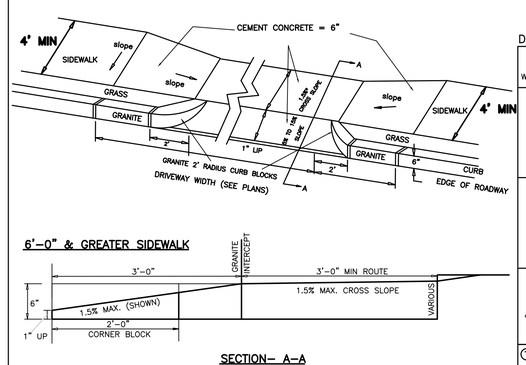


PROPOSED SEWER PROFILE
V SCALE = 1"=4'
H SCALE = 1"=20'

3# SEWER PROFILE



PROPOSED SEWER PROFILE
V SCALE = 1"=4'
H SCALE = 1"=20'



DRIVEWAY APRON WITH CORNER BLOCKS

DRIVEWAY TRANSITIONS TO INTERCEPT 6" STD CURB REVEAL (TARGET VALUES ONLY) ①

WALK WIDTH	CORNER BLOCK REVEAL	DISTANCE TO APRON INTERCEPT	RISE TO APRON INTERCEPT	GUTTER GRADE ②	HIGH SIDE LENGHT OF TRANSITION CURB INCLUDING THE 2' RADIUS COR. BLK. ③④
4'–6"	3 5/8" MAX	1'–6" FIXED	3 5/8" MAX	UP TO 5	4'–0"
				1	4'–0"
				2	4'–0"
				3	5'–0"
				4	6'–0"
				5	8'–0"
				6	13'–6"
				7 & GREATER	15'–0" MAX
5'–0"	4 1/2" MAX	2'–0" FIXED	4 1/2" MAX	0–.5	4'–0"
				1	4'–0"
				2	4'–0"
				3	4'–0"
				4	4'–0"
				5	5'–6"
				6	8'–5"
				7 & GREATER	15'–0" MAX
6'–0" & GREATER	6' STANDARD	3'–0" FIXED	6 1/2" MAX	ALL GRADES	NO TRANSITION

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

SPRUHAN ENGINEERING, P.C.

80 JEWETT ST. (SUITE 1)
NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
EDMOND SPRUHAN
CIVIL
No. 33316
REGISTERED PROFESSIONAL ENGINEER

432 DEDHAM STREET
NEWTON,
MASSACHUSETTS

REVISION BLOCK

DESCRIPTION	DATE
REVISED RETAINING WALL HEIGHT	8/3/2020
REVISED DETAILS & WALL LOCATION	9/14/2020

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DETAILS

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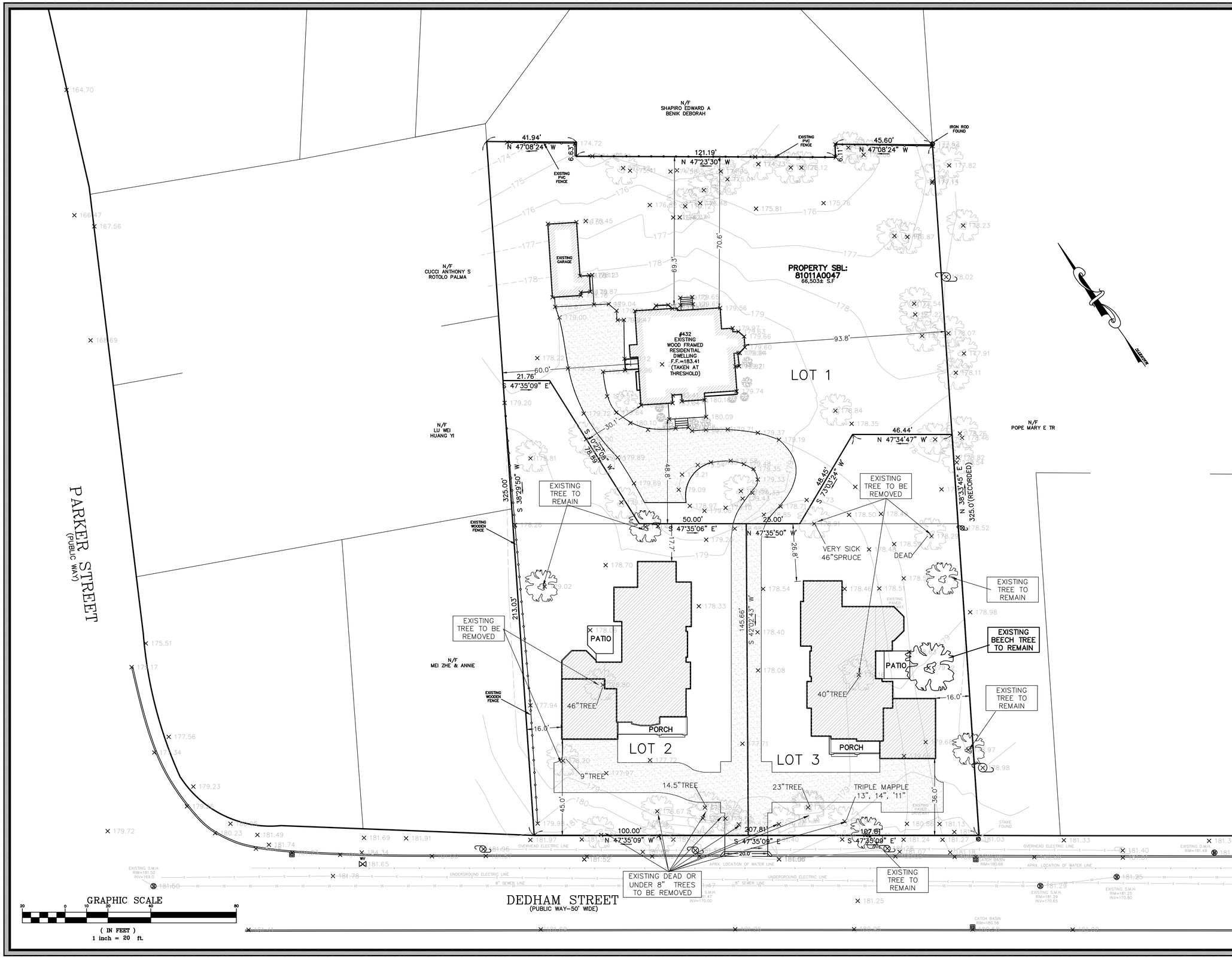

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NEWTON, MA 02458

Tel: 617-816-0722
Email:edmond@spruhaneng.com

COMMONWEALTH OF MASSACHUSETTS
CHRISTOPHER C. CHARLTON
NO. 48649
PROFESSIONAL LAND SURVEYOR

432 DEDHAM STREET NEWTON, MASSACHUSETTS

REVISION BLOCK

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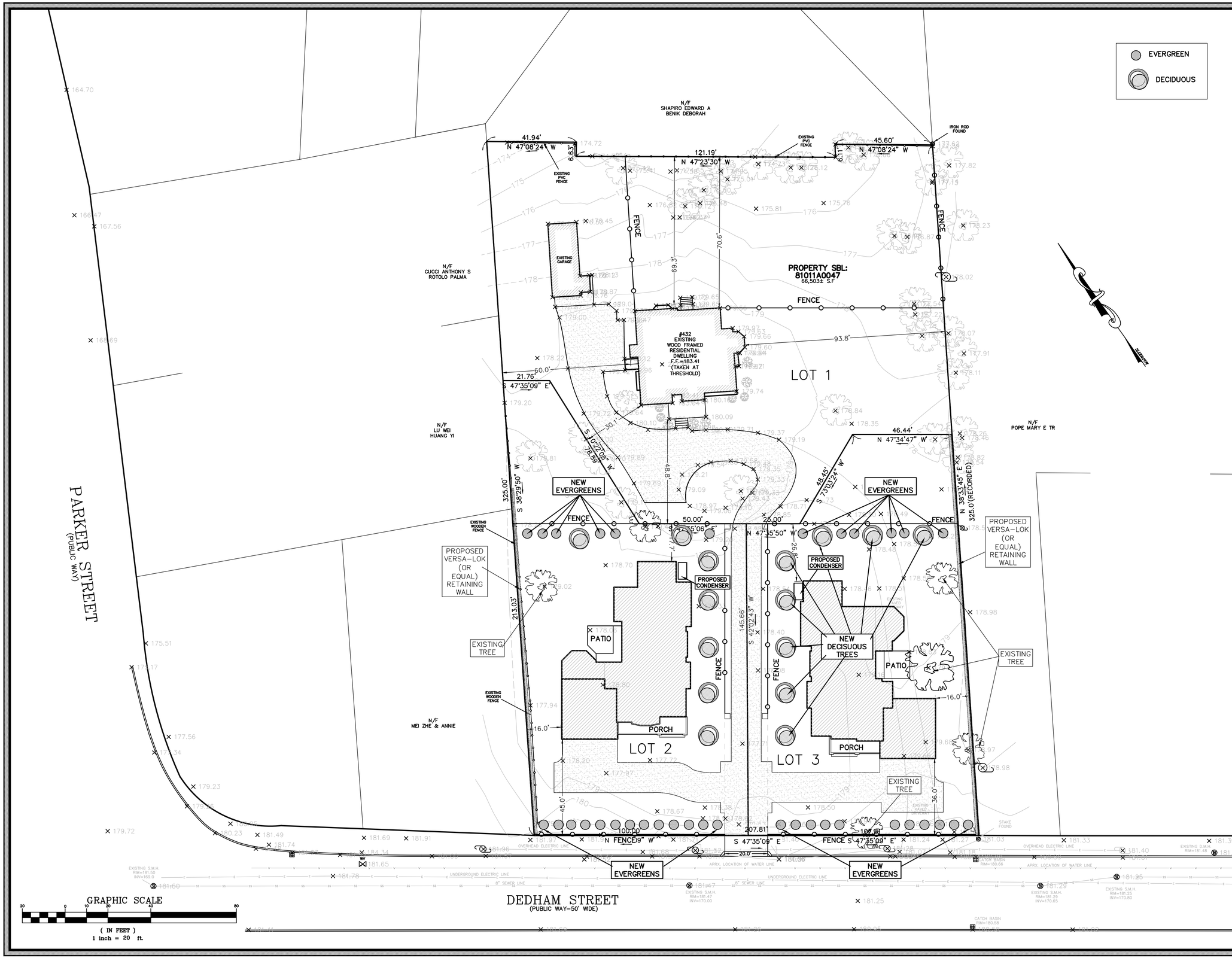
TREE PLAN

SCALE:	1" = 20'
DATE:	9-2-20
DRAWN BY:	PS
CHECKED BY:	ES
APPROVED BY:	ES

SHEET:

7 OF 8



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LANDSCAPE PLAN

SCALE:	1" = 20'
DATE:	9-2-20
DRAWN BY:	PS
CHECKED BY:	ES
APPROVED BY:	ES

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