

NOT TO SCALE

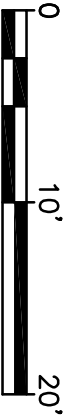
LEGEND		
	PL	EXISTING PROPERTY LINE
	426	EXISTING CONTOUR
	S	EXISTING EDGE OF PAVEMENT
	S	EXISTING SEWER LINE
	W	EXISTING WATER LINE
	W	EXISTING FENCE
		EXISTING HYDRANT
		EXISTING SEWER MANHOLE
		EXISTING WATER GATE VALVE
	X 426	EXISTING LIGHT POST
	A-1	EXISTING SPOT ELEVATION
		WETLAND FLAG
		WETLAND

NOTES:
1. TOPOGRAPHIC AND BOUNDARY SURVEY BY COUNTY LAND SURVEYS, INC., MARCH, 2025.
2. WETLAND FLAGS SET BY SEIKAMP ENVIRONMENTAL CONSULTING, INC., MAY 12, 2025, AND SURVEYED BY BERGMAN & ASSOCIATES, INC., MAY 14, 2025.



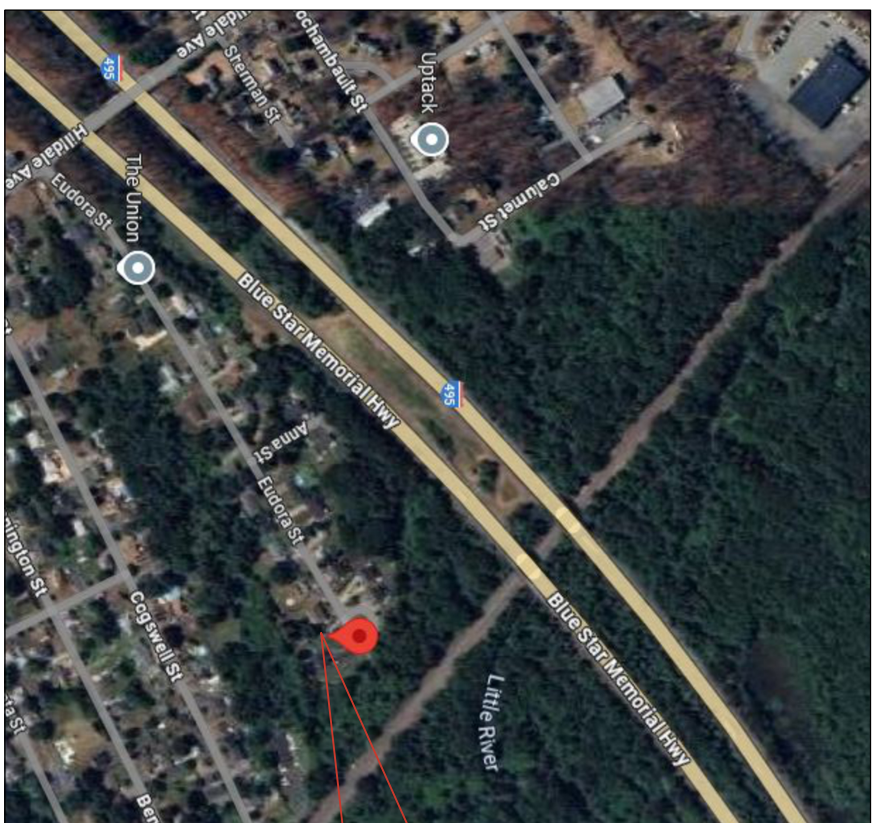
1
EX1
EXISTING PLAN

SCALE: 1" = 10'



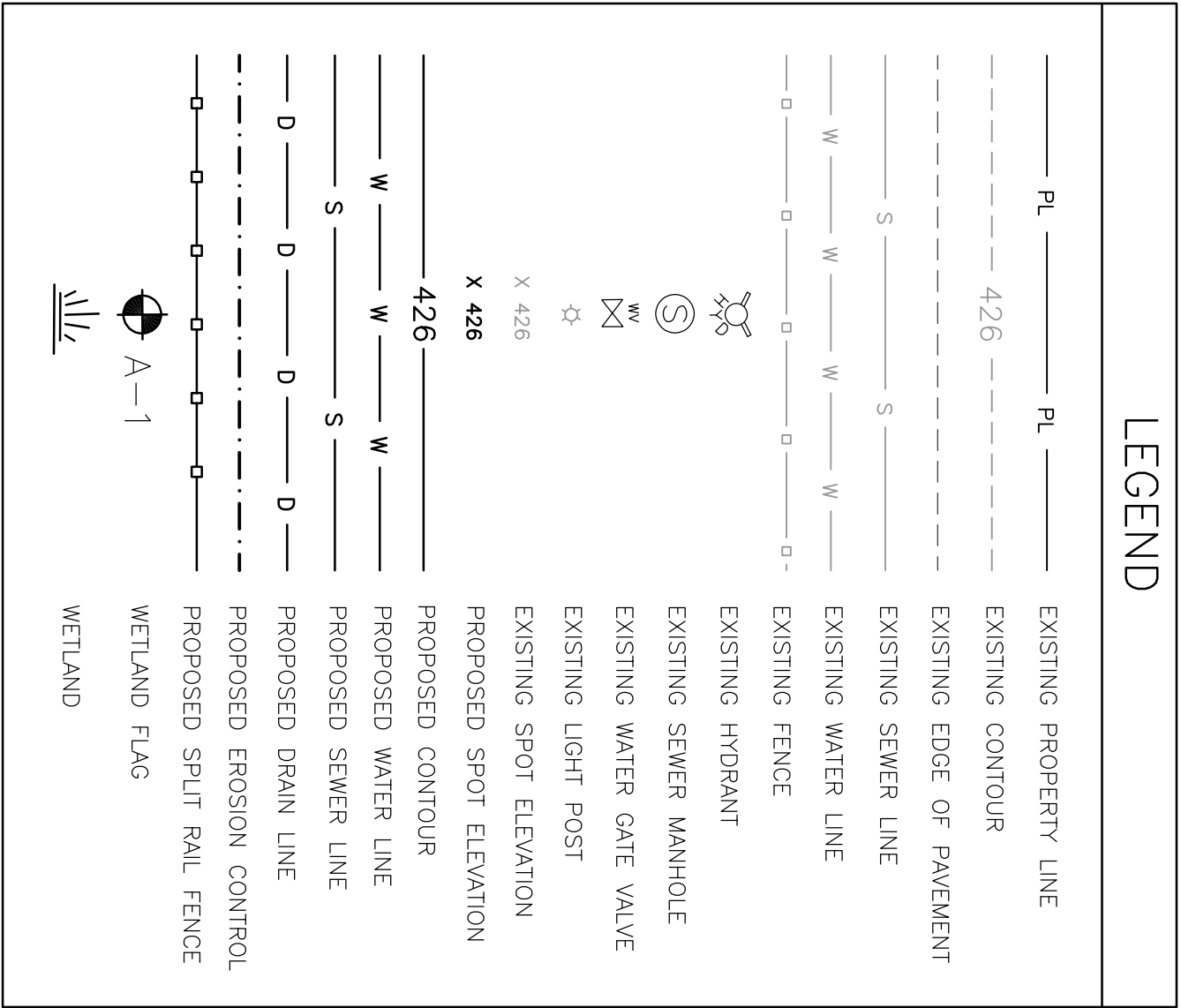
DRAWN BY: T. MOYLAN-HAJJ		CHECKED BY: P. BERGMAN		APPROVED BY: P. BERGMAN		DRAFT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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LOCUS



NAD 83

NOT TO SCALE



ZONING DIMENSIONAL AND DENSITY REGULATIONS		
ZONE: RESIDENTIAL HIGH DENSITY (RH)		
DESCRIPTION	REQUIRED	PROPOSED
ADU FRONT SETBACK	20'	81'
ADU SIDE SETBACK	10'	10.9'
ADU REAR SETBACK	30'	250'
SQUARE FOOTAGE	650	650

ELEVATION SCHEDULE	
ITEM	DRYWELL
RIM TO GRADE	38.75±
4" INV IN	38.00
4" INV OUT	37.75
SLUMP	36.08

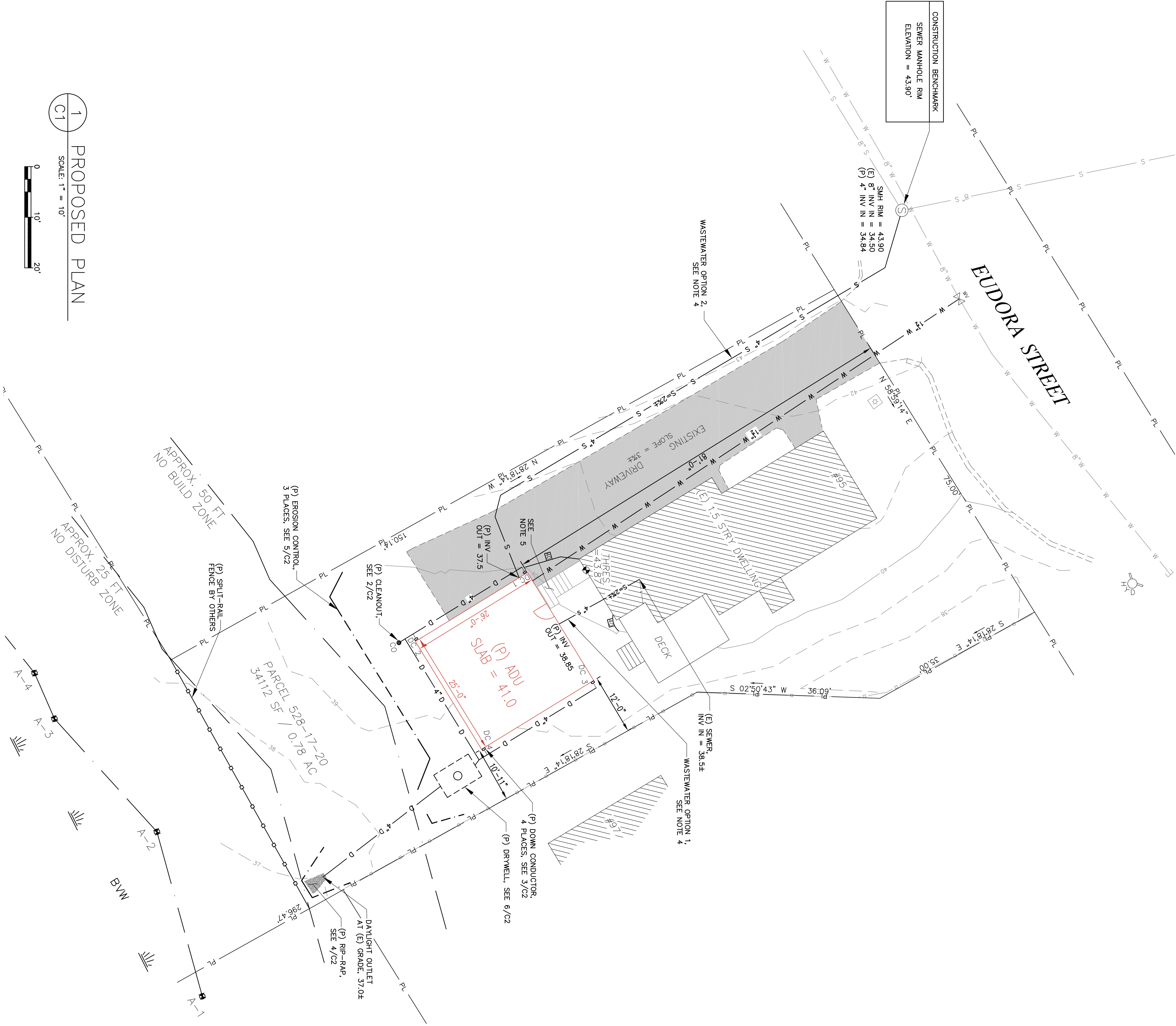
DOWN CONDUCTOR INVERT ELEVATIONS	
DC #	INV.
1	39.13
2	38.62
3	38.57
4	38.08

ROOF RECHARGE CALCS:	
PROPOSED ADU ROOF AREA:	736 SQ FT
TOTAL STORMWATER COLLECTED:	238 GAL
DRYWELL CAPACITY PROVIDED:	500 GAL

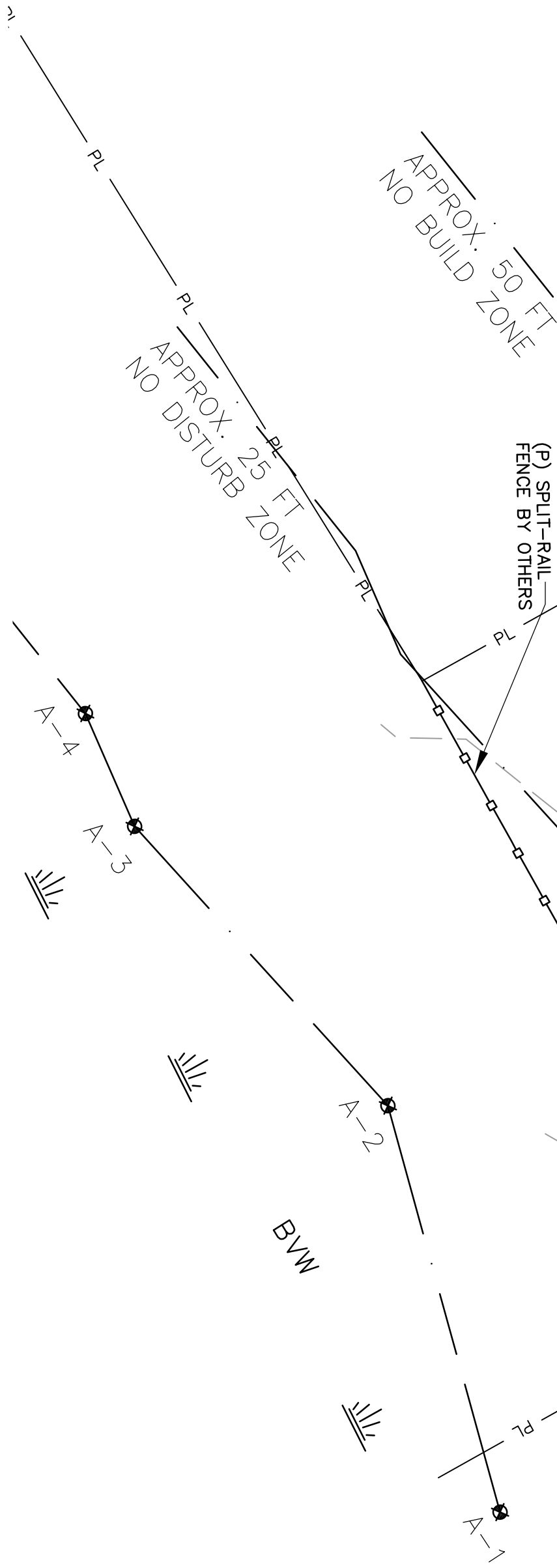
UNDERGROUND UTILITY SCHEDULE		
TYPE	MATERIAL	NOTES
4" DRAIN	AOS N-12	SOLID
1-1/4" WATER LINE	SNR 9	
4" SEWER	SNR 35	

NOTES:

1. TOPOGRAPHIC AND BOUNDARY SURVEY BY COUNTY LAND SURVEYS, INC., MARCH, 2025.
2. WETLAND FLAGS SET BY SEECAMP ENVIRONMENTAL CONSULTING, INC., MAY 12, 2025, AND SURVEYED BY BERGMAN & ASSOCIATES, INC., MAY 14, 2025.
3. COORDINATE WITH CITY OF HAVERHILL WATER DEPARTMENT FOR WATER LINE CONNECTION. WATER SERVICE SHALL BE 1-1/4" SNR-9 POLYETHYLENE TUBING CONFORMING TO ASTM D2737 AND AWWA C901-20.
4. WASTEWATER OPTION 1: THE PROPOSED ADU WASTEWATER LINE INTO EXISTING LINE IN BASEMENT OF EXISTING DWELLING.
5. EXISTING STAIRS TO BE RECONFIGURED AROUND PROPOSED ADU.



1 PROPOSED PLAN
C1
SCALE: 1" = 10'

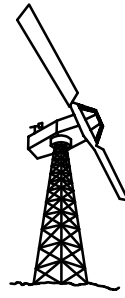


DRAWN BY: T. MOYLAN-HAUJ	CHECKED BY: P. BERGMAN	APPROVED BY: P. BERGMAN
DATE: 10/1/25	ISSUE FOR: APPROVAL	PROJECT NO.: 2444
DRAWING NO.: C1	DRAWING TITLE: PROPOSED SITE PLAN	SHEET 2 OF 4

DRAFT

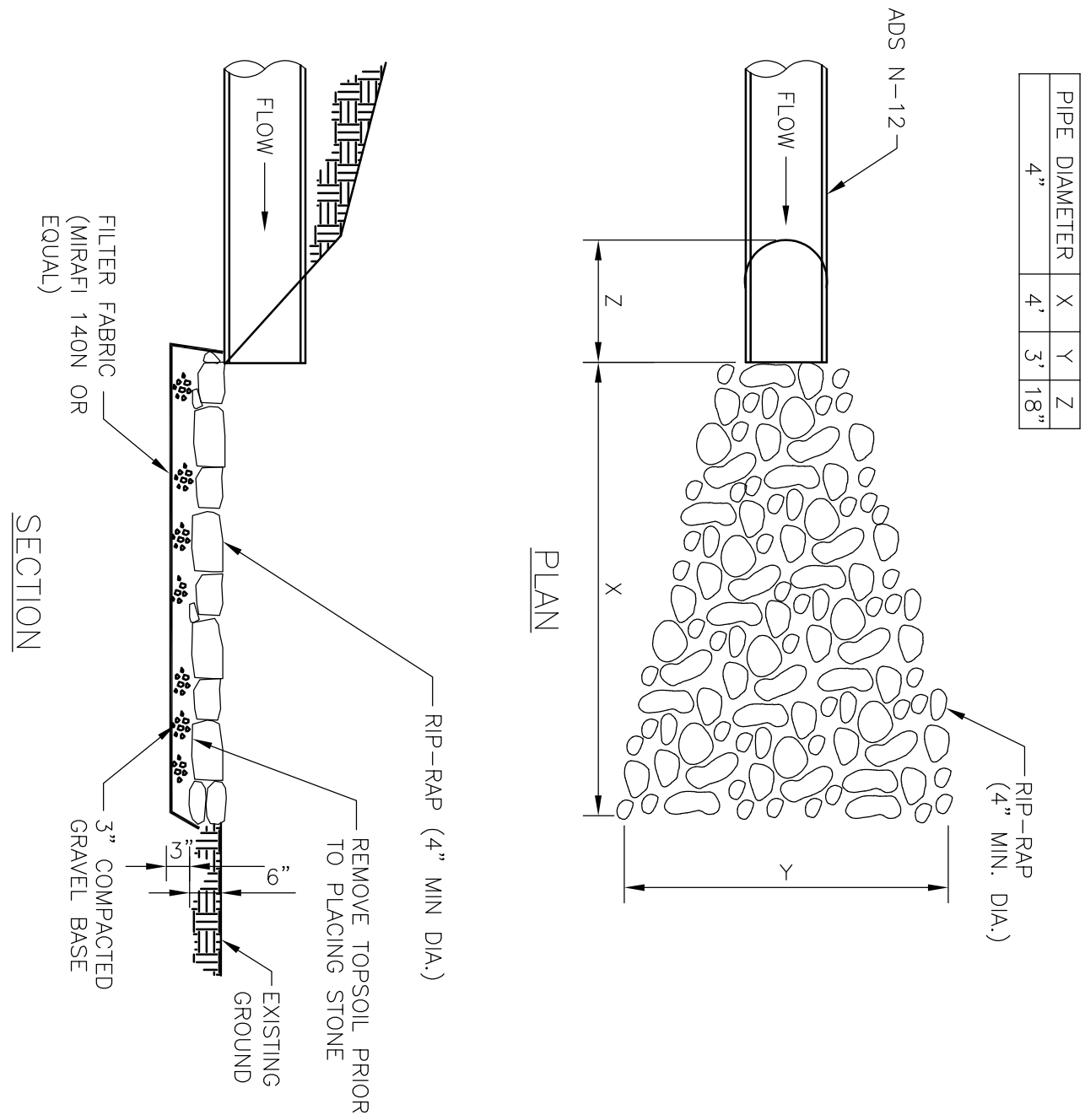
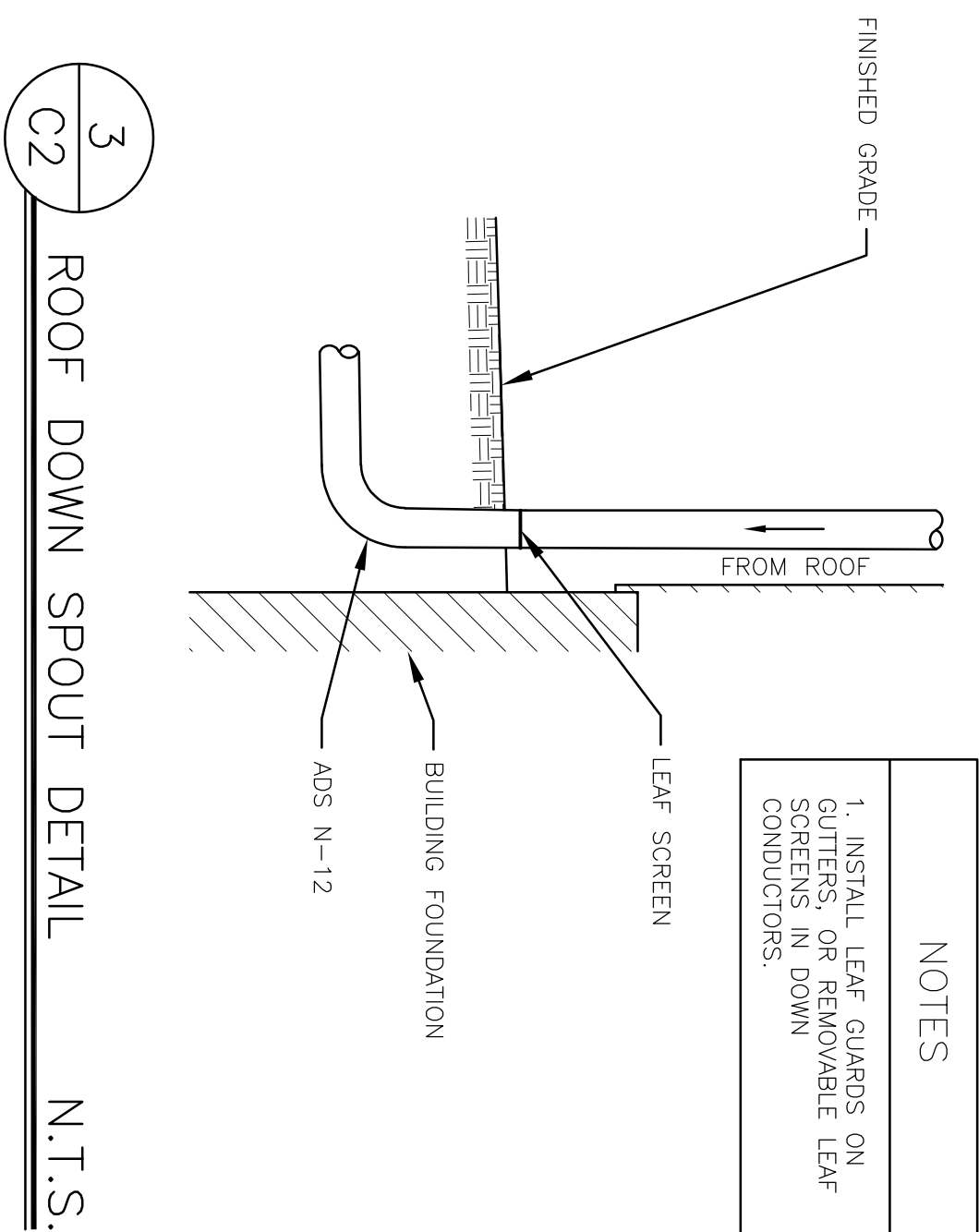
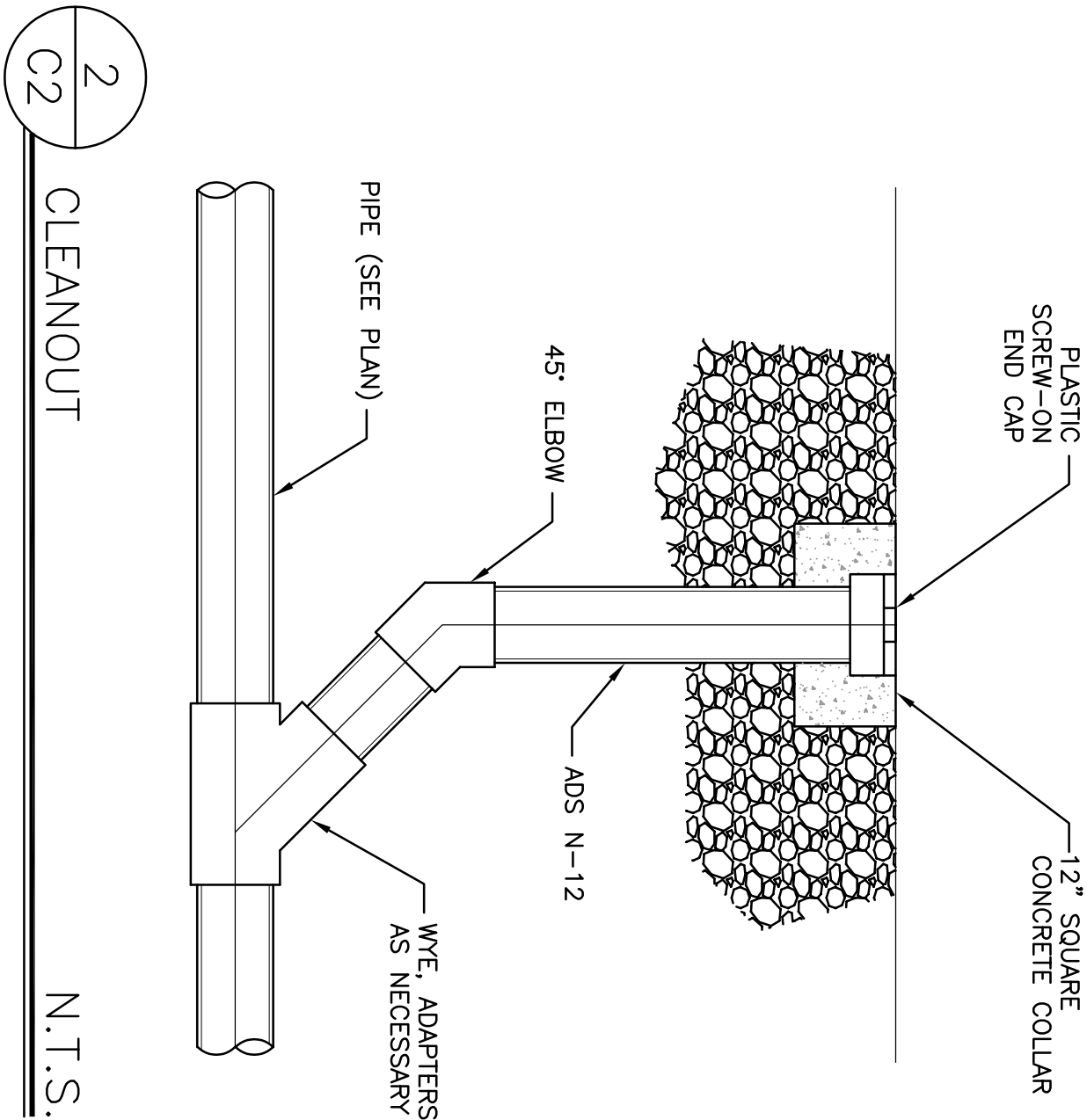
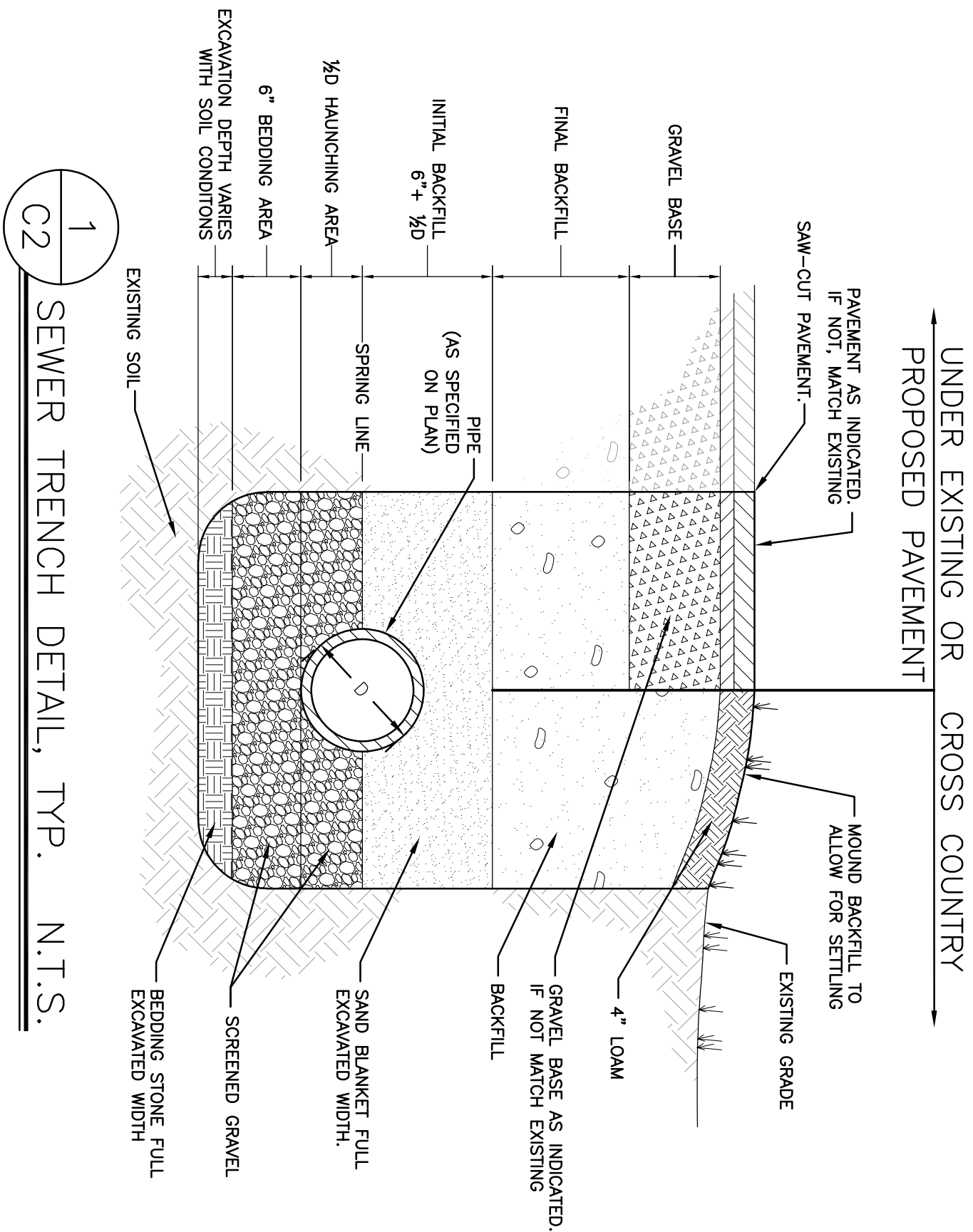
REV. NO.	DATE	REVISION DESCRIPTION	MADE BY	CHKD BY	APVD BY

PROJECT: ADU PROJECT 95 EUDORA ST. HAVERHILL, MA 01832	CLIENT: DESPINA YANNAKOUREAS 46 BAILEY CT. HAVERHILL, MA 01832
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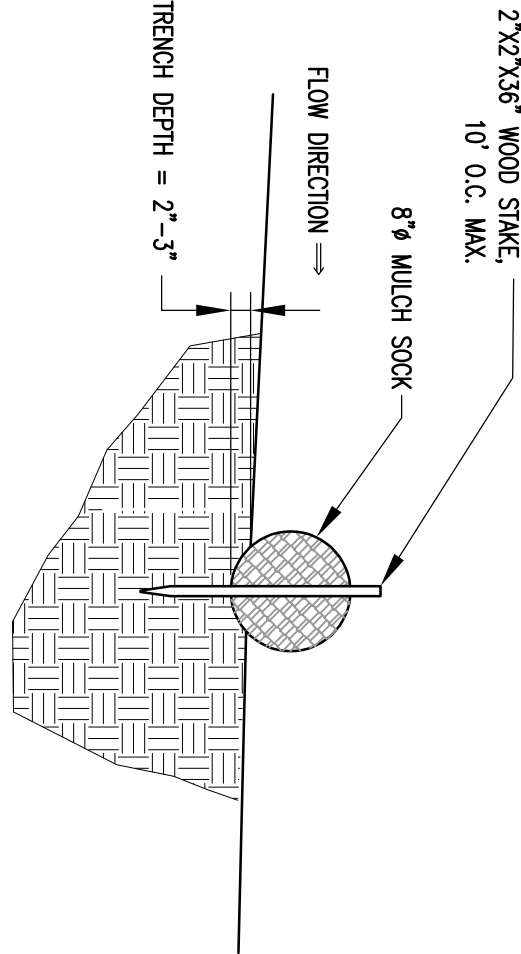
Bergman & Associates, Inc.
Engineers

20 WASHINGTON STREET
HAVERHILL, MA 01832-5524
(978) 200-1700



RIP-RAP NOTES

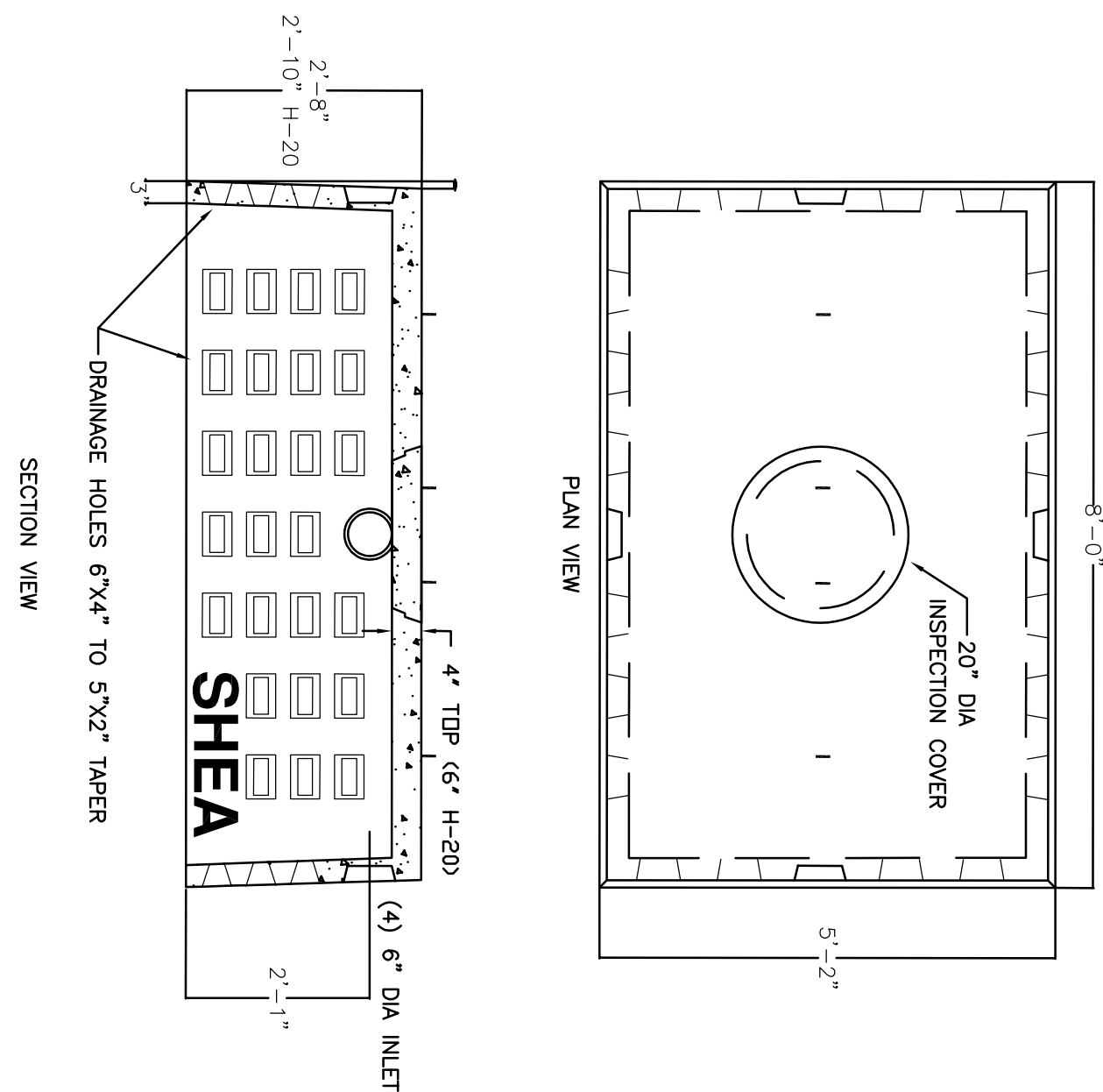
STONES SHALL BE SIZED SO THAT NOT LESS THAN 80 PERCENT SHALL HAVE ONE DIMENSION AS OR MORE (CHUNK BY HAND TO MAKE A NEARLY SMOOTH AND SHARPED SURFACE.



- NOTES:
- BEGIN AT THE LOCATION WHERE THE SOCK IS TO BE INSTALLED BY EXCAVATING A 2'-3" DEEP X 8" WIDE TRENCH ALONG THE CONTOR OF THE SLOPE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE FROM THE ANCHOR TRENCH.
 - PLACE THE SOCK IN THE TRENCH SO THAT IT CONTOURS TO THE SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UPHILL SIDE. ADJACENT SOCKS SHOULD TIGHTLY ADJUT. 1-2' OF OVERLAP BETWEEN SOCKS RECOMMENDED ON SLOPE.
 - SECURE THE SOCK WITH 36" STAKES EVERY 10' AND WITH A STAKE ON EACH END. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2'-3" OF STAKE EXTENDING ABOVE THE SOCK. STAKES SHOULD BE DRIVEN PERPENDICULAR TO SLOPE FACE.
 - MULCH SOCK SHALL BE TUREX SUT SOX OR APPROVED EQUAL. FILTER FABRIC SHALL BE TEWAX POLYPROPYLENE OR APPROVED EQUAL.

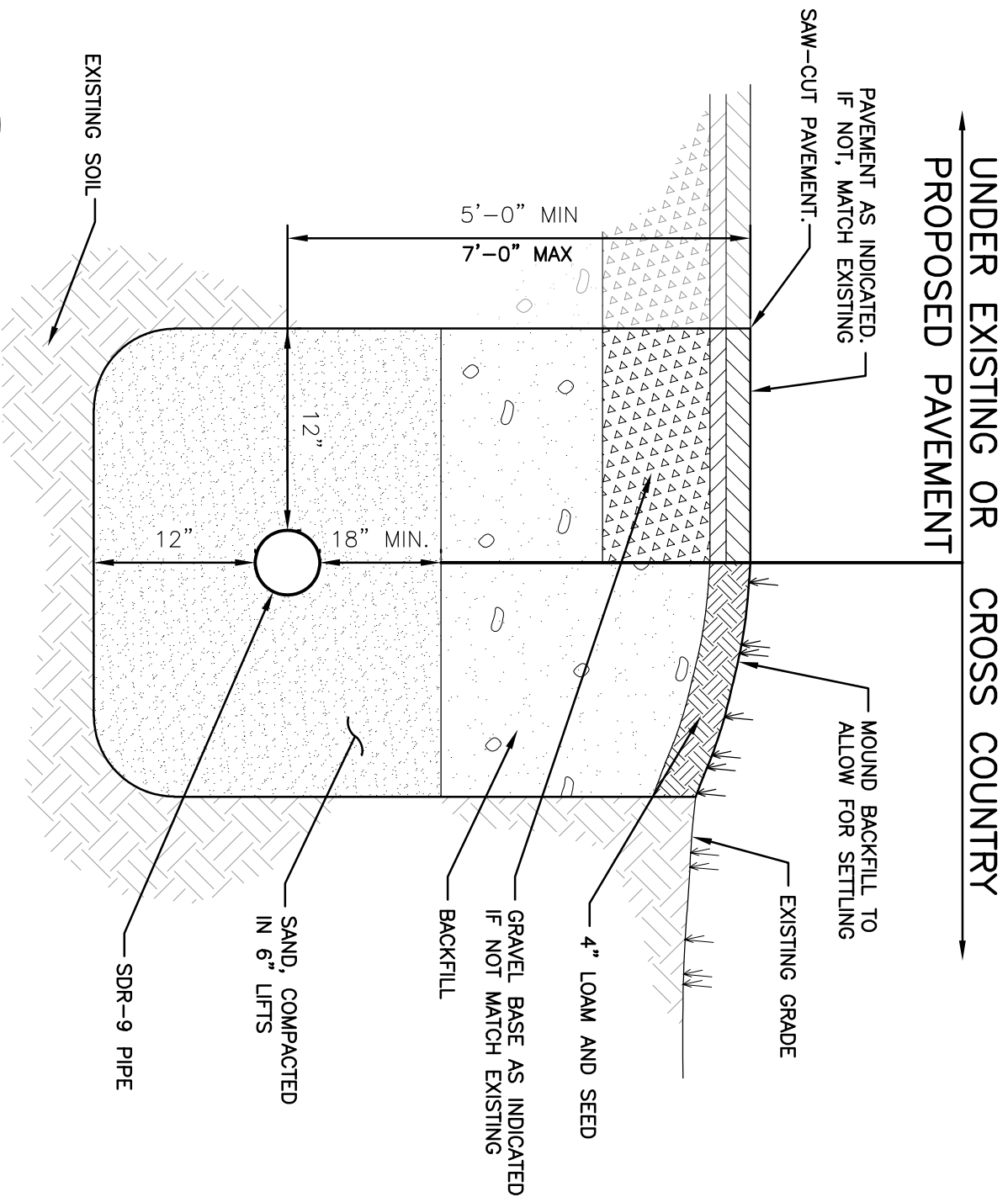
5 C2

EROSION CONTROL – MULCH SOCK N.T.S.



6 C2

SHEA 500 GALLON DRYWELL N.T.S.



DRAWN BY: T. MOYLAN-HAUJ	CHECKED BY: P. BERGMAN	APPROVED BY: P. BERGMAN
DATE: 10/1/25	ISSUE FOR: APPROVAL	PROJECT NO.: 2444
DRAWING NO.: C2	DRAWING TITLE: SHEET 3 OF 4	DETAILS

DRAFT

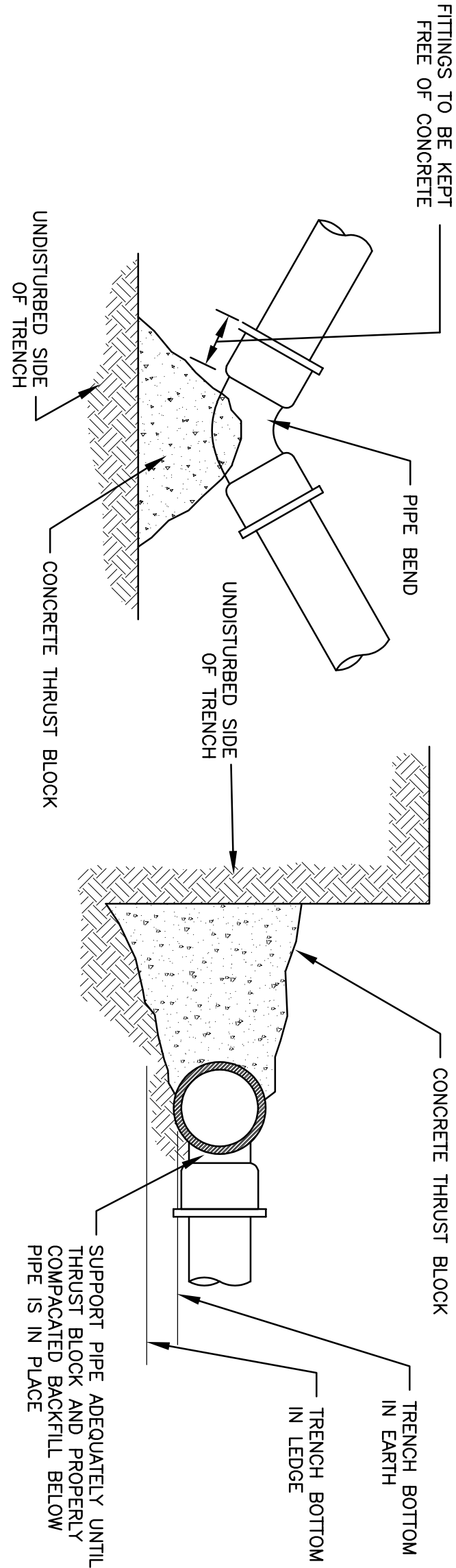
REV. NO.	DATE	REVISION DESCRIPTION	MADE BY	CHKD BY	APVD BY

PROJECT:	ADU PROJECT 95 EUDORA ST. HAVERHILL, MA 01832
CLIENT:	DESPINA YANNAKOUREAS 46 BAILEY CT. HAVERHILL, MA 01832



Bergman & Associates, Inc.
Engineers

20 WASHINGTON STREET
HAVERHILL, MA 01832-5524
(978) 200-1700



PLAN – BEND

TYPICAL SECTION
(FOR TEES, BENDS & DEAD ENDS)

1
C3 THRUST BLOCK DETAIL N.T.S.

PROJECT NOTES:

1. TOPO AND BOUNDARY SURVEY DONE BY COUNTY LAND SURVEYS, INC., MARCH, 2025.
2. THE CONTRACTOR SHALL HAVE THE EXPERTISE TO EXECUTE WORK INDICATED ON THE DRAWINGS OR SHALL HIRE QUALIFIED HELP.
3. THE CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS RELATED TO THIS PROJECT.
4. REQUESTS FOR CHANGES TO THE DRAWINGS FROM CLIENT, THE CONTRACTORS, ETC., OR ANY OTHER PARTY MUST BE MADE IN WRITING TO THE ENGINEER, OR ANY OTHER CHANGES TO DRAWINGS MADE ON THE SITE MUST BE FOLLOWED UP IN WRITING TO THE ENGINEER.
5. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THESE DRAWINGS. LOCATIONS AND/OR ELEVATIONS OF UNDERGROUND UTILITIES ARE FROM PLANS BY OTHERS AND/OR LIMITED SITE SURVEY LOCATIONS. TRENCHES, ETC., SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND MARKING ALL UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF SUCH UTILITIES, AND, IF DAMAGED DURING THE COURSE OF THE WORK, SHALL REPAIR TO THE SATISFACTION OF THE OWNER.
6. REMOVE AND PROPERLY DISPOSE OF TRASH AND DEBRIS GENERATED BY THE CONSTRUCTION.
7. WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE "MASSACHUSETTS STATE BUILDING CODE" (CMR 780) AND THE CONTRACT DOCUMENTS. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
8. RESTORE AND REPAIR ANY DAMAGED OR DISTURBED AREAS TO EXISTING CONDITIONS.
9. HAND-DIG IN AREAS OF EXISTING UNDERGROUND UTILITIES.
10. TAKE NECESSARY PRECAUTIONS TO CONTROL DUST AND NOISE.
11. INSTALL WARNING TAPE 6"± BELOW GROUND LEVEL OVER PROPOSED UNDERGROUND UTILITY LINES.
12. CONTRACTOR SHALL VERIFY THE LOCATION AND RELATIVE ELEVATIONS OF THE BENCH MARKS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER.
13. BACKFILL AND COMPACT MATERIAL IN 8 INCH LIFTS.
14. NEATLY SAW-CUT PAVEMENT IN AFFECTED AREA. REPAIR PAVEMENT TO MATCH EXISTING. CONCRETE AND ASPHALT SIDEWALKS AND STREET.
15. CONTRACTOR SHALL NOTIFY ENGINEER, IF, DURING THE COURSE OF CONSTRUCTION, OR DEMOLITION, CONDITIONS ARE DISCOVERED WHICH ARE UNANTICIPATED OR OTHERWISE APPEAR TO PRESENT A DANGEROUS CONDITION.
16. TIGHT JOINT PIPING SHALL CONSIST OF PVC SCH 40 UNLESS OTHERWISE NOTED.
17. ON PROPOSED DRAINAGE SYSTEM, PROVIDE SCREEN GUARDS AS NECESSARY TO PREVENT LEAVES AND DEBRIS FROM ENTERING.
18. UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE TO CITY OF HAVERHILL STANDARDS.

DRAFT

DRAWN BY: T. MOYLAN-HAJJ	CHECKED BY: P. BERGMAN	APPROVED BY: P. BERGMAN
DATE: 10/1/25	ISSUE FOR: APPROVAL	PROJECT NO.: 2444
DRAWING NO.: C3	DRAWING TITLE: DETAILS AND NOTES SHEET 4 OF 4	

REV. NO.	DATE	REVISION DESCRIPTION	MADE BY	CHKD BY	APVD BY

PROJECT:	ADU PROJECT 95 EUDORA ST. HAVERHILL, MA 01832
CLIENT:	DESPINA YANNAKOUREAS 46 BAILEY CT. HAVERHILL, MA 01832



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Engineers**

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