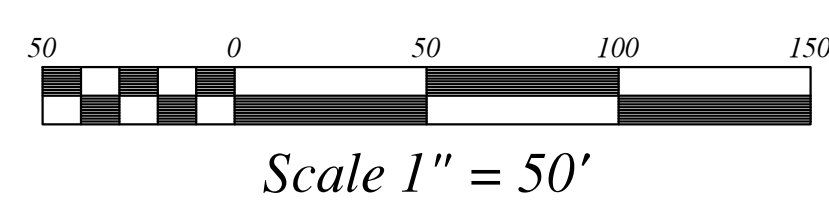


- NOTES:**
- PROPERTY LINE, STREET LINE AND OWNER INFORMATION WAS COMPILED FROM RECORDS ON FILE AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS, THE TOWN OF DUXBURY ASSESSORS DEPARTMENT AND SURVEY BY MILLBROOK SURVEY.
 - TOPOGRAPHY INFORMATION SHOWN ON THIS PLAN IS BASED UPON AN ON THE GROUND SURVEY PERFORMED BY GRADY CONSULTING, L.L.C. IN JULY 2016.
 - ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
 - WETLAND RESOURCE AREAS SHOWN ON THIS PLAN WERE DELINEATED BY BRAD HOLMES, P.W.S. ENVIRONMENTAL CONSULTING & RESTORATION, L.L.C. DECEMBER 2015 AND LOCATED BY MILLBROOK SURVEY.
 - SUBJECT SITE IS LOCATED IN THE RESIDENCE RC AND WPOD ZONING DISTRICTS.
 - BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS LOCATED IN ZONES A AND X OF THE FLOOD INSURANCE RATE MAP, AS DEPICTED ON COMMUNITY PANEL No. 250263 029J, WHICH BEARS AN EFFECTIVE DATE OF JULY 6, 2021. ZONE A IS A SPECIAL FLOOD HAZARD AREA.
 - EXISTING UTILITIES, WHERE SHOWN, HAVE BEEN COMPILED BASED ON OBSERVED ABOVE GROUND EVIDENCE ONLY AND ARE TO BE CONSIDERED APPROXIMATE. GRADY CONSULTING, L.L.C. DOES NOT GUARANTEE THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN OR THAT ALL EXISTING UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN.
 - SEE ZONING BOARD OF APPEALS COMPREHENSIVE PERMIT APPROVAL DECISION NUMBER 2022-10 DATED JULY 3, 2023 RECORDED IN PLYMOUTH COUNTY REGISTRY OF DEEDS BOOK 58126 PAGE 118.
 - PROPOSED WORK SUBJECT TO AN ORDER OF CONDITIONS APPROVAL ISSUED BY DUXBURY CONSERVATION COMMISSION (FILE NUMBER 018-2060)



SITE DATA:

DISTRICT: RC - RESIDENTIAL COMPATIBILITY DISTRICT
WP - WETLANDS PROTECTION OVERLAY DISTRICT
APOD - AQUIFER PROTECTION OVERLAY DISTRICT

LOT AREA (ACRES):	ASSESSORS ID	UPLAND	WETLAND	TOTAL
	023-010-003	5.82	4.27	10.09
	009-010-002	0.92	0.0	0.92
	009-010-001	1.88	0.39	2.27
TOTALS		8.62	4.66	13.28

PROPOSED BUILDING: 16 UNITS

DENSITY: 16 UNITS / 13.28 ACRES = 1.2 UNITS PER ACRE
(16 UNITS / 8.62± ACRES = 1.9 UNITS PER UPLAND ACRE)

BUILDING COVERAGE: (1,763 SF x 4 + 1,818 x 12) / 13.28 ACRES = 5.0% OF TOTAL AREA
(28,868 SF / 8.62± ACRES = 7.7% OF UPLAND AREA)

PARKING PAVED COVERAGE: 36,617± SF / 13.28 ACRES = 6.3% OF TOTAL AREA
(36,617± SF / 8.62± ACRES = 9.8% OF UPLAND AREA)

LOT COVERAGE: BUILDING+DECKS+PAVEMENT+SIDEWALK
(28,868+2,944+36,617+2,349) = 70,778± SF
70,778± SF / 43,560 / 13.28± ACRES = 12.2%

OPEN SPACE: UPLAND (8.62± ACRES - (70,778± / 43,560)) / 13.28 ACRES = 52.7%
WETLAND 4.66± ACRES / 13.28 ACRES = 35.1%

PARKING RATIO: 4 SPACES / UNIT (2 GARAGE PER UNIT)

PROPOSED BUILDING SPACING: 12' (MIN)

ZONING BYLAW:	REQUIRED	PROPOSED
LOT AREA (UPLAND)	40,000 SF	7.88 ACRES
FRONTAGE	200 FT	1,977.31 FT
FRONT SETBACK	25 FT	29.6 FT
SIDE SETBACK	15 FT	27.2 FT
REAR SETBACK	15 FT	57.8 FT
BUILDING HEIGHT	30 FT	30 FT

RECORD OWNER:
ASSESSOR PARCELS 009-010-001
009-010-002
023-030-000
NORTH STREET & KEENE STREET

SUSAN J. CURTIS, TRUSTEE
ZERO NORTH STREET NOMINEE TRUST
110 HIGH STREET
DUXBURY, MA 02332

DEED BOOK 47768 PAGE 342
LOT B - PLAN BOOK 5 PAGE 860 &
LOT 2A - PLAN BOOK 58 PAGE 639

- PLAN REFERENCES:**
- PLAN OF LAND BY GRADY CONSULTING LLC, DATED SEPTEMBER 14, 2016.
 - PLAN BOOK 61 PAGE 574
 - PLAN BOOK 5 PAGE 860
 - PLAN No. 88 OF 1961, BOOK 2833 PAGE 67
 - PLAN No. 355 OF 1977, PLAN BOOK 19 PAGE 447
 - PLAN No. 918 OF 1977, PLAN BOOK 19 PAGE 941

SHEET INDEX

SHEET	DESCRIPTION
1	COVER
2	EXISTING CONDITIONS
3	GRADING
4	DRAINAGE
5	SEPTIC - SOUTH HAMLET
6	SEPTIC - NORTH HAMLET 1-5
7	WATER
8	TEST HOLES
9	WATERSHED
10	DRAINAGE DETAILS
11	DRAINAGE DETAILS
12	DRAINAGE DETAILS
13	DETAILS
14	SEPTIC DETAILS

REVISIONS

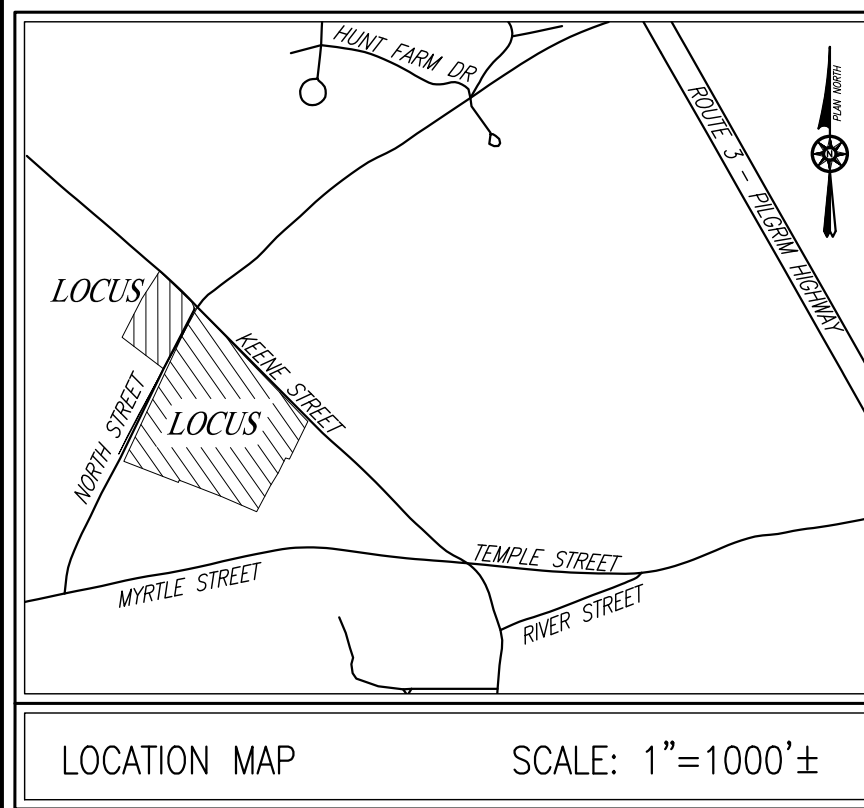
DATE	DESCRIPTION
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

PREPARED FOR:
JOHN BALDWIN
PO BOX 1071
DUXBURY, MA 02331

MAY 16, 2023
SCALE: 1"=50'
JOB No. 16-221

GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300



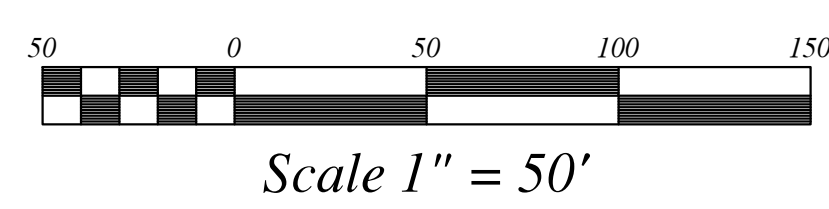
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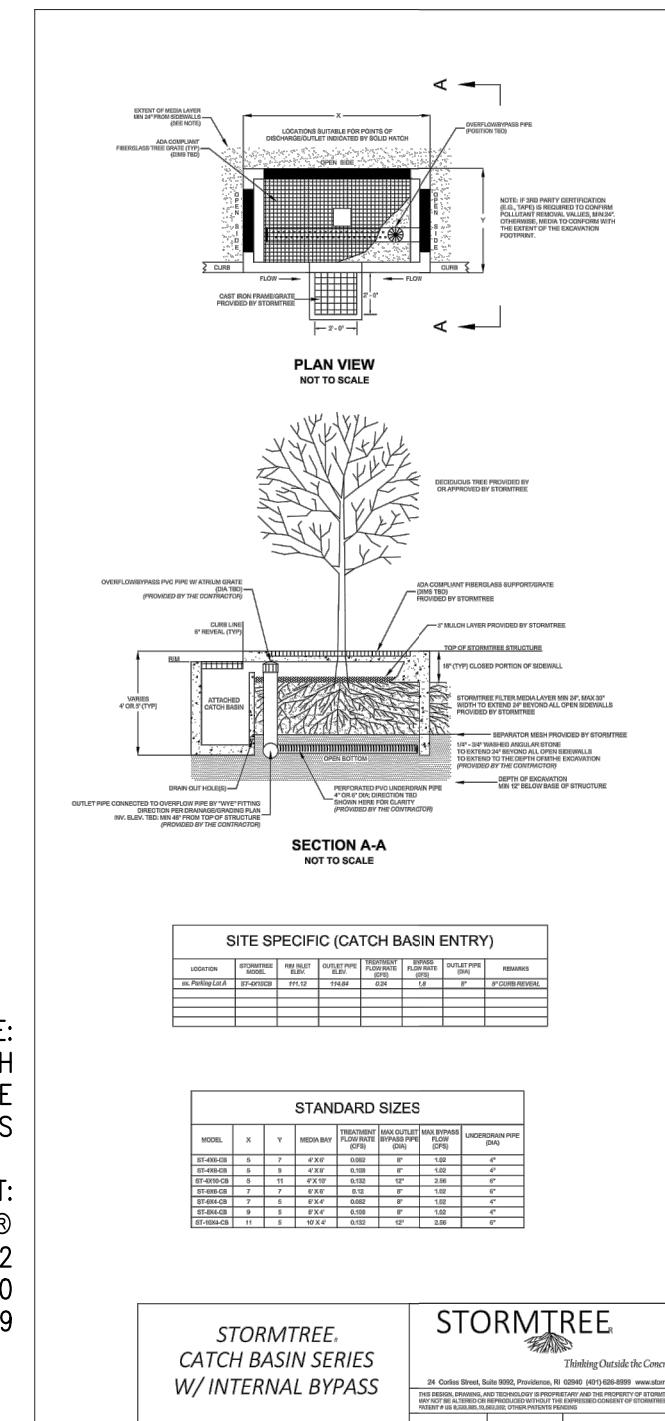
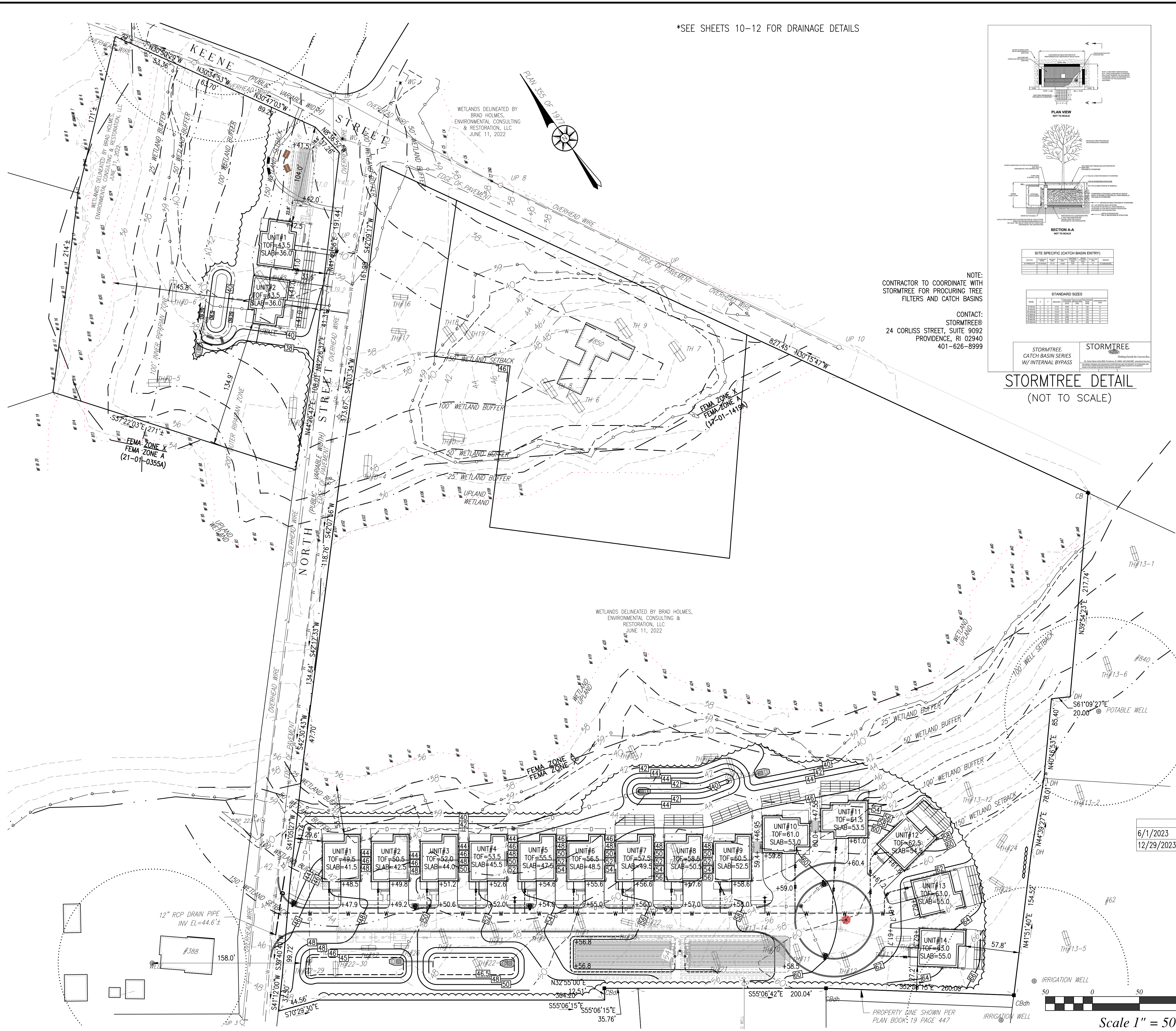
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EXISTING CONDITIONS

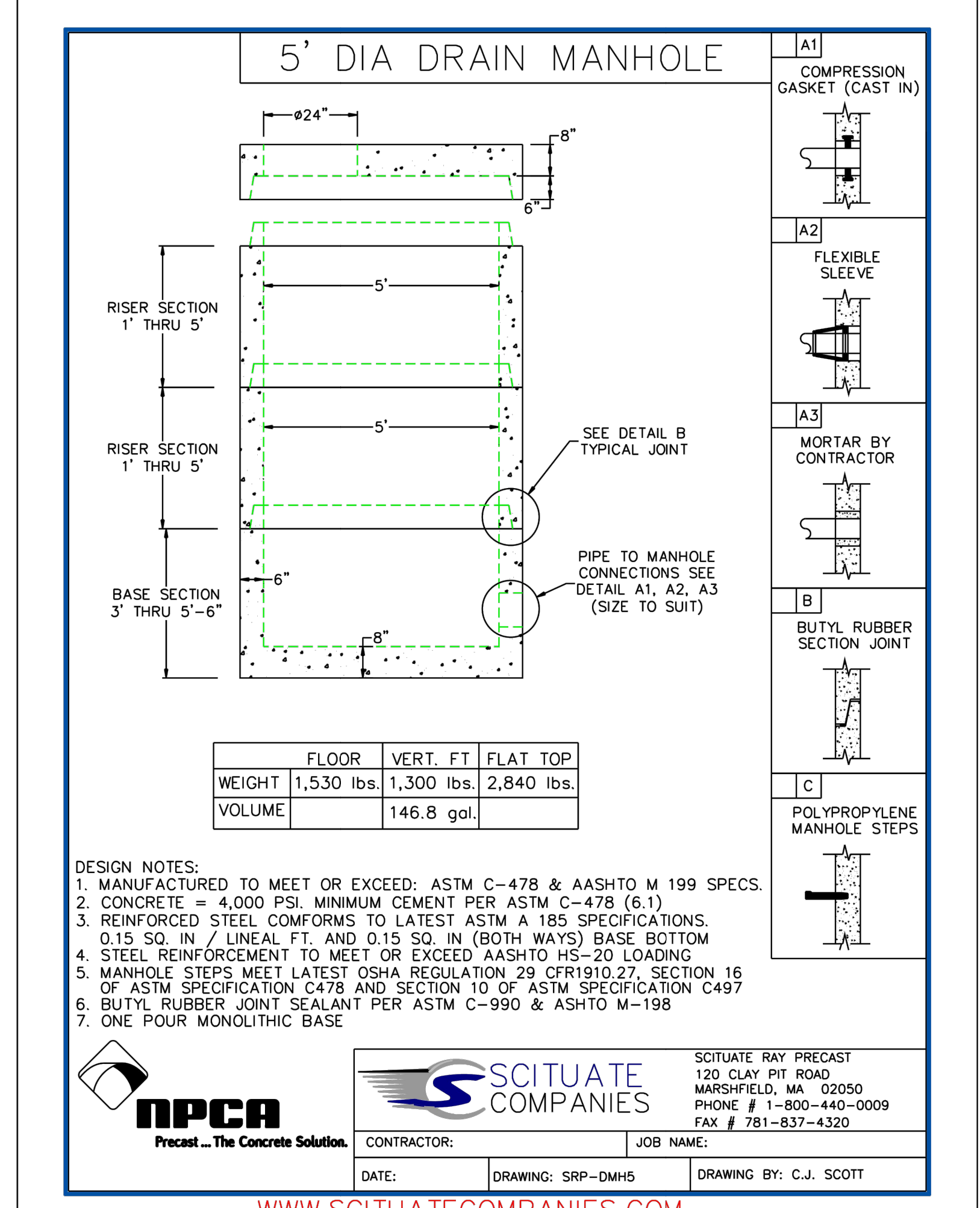
*SEE SHEETS 10-12 FOR DRAINAGE DETAILS



NOTE:
CONTRACTOR TO COORDINATE WITH STORMTREE FOR PROCURING TREE FILTERS AND CATCH BASINS

CONTACT:
STORMTREE®
24 CORLISS STREET, SUITE 9092
PROVIDENCE, RI 02940
401-626-8999

STORMTREE DETAIL
(NOT TO SCALE)



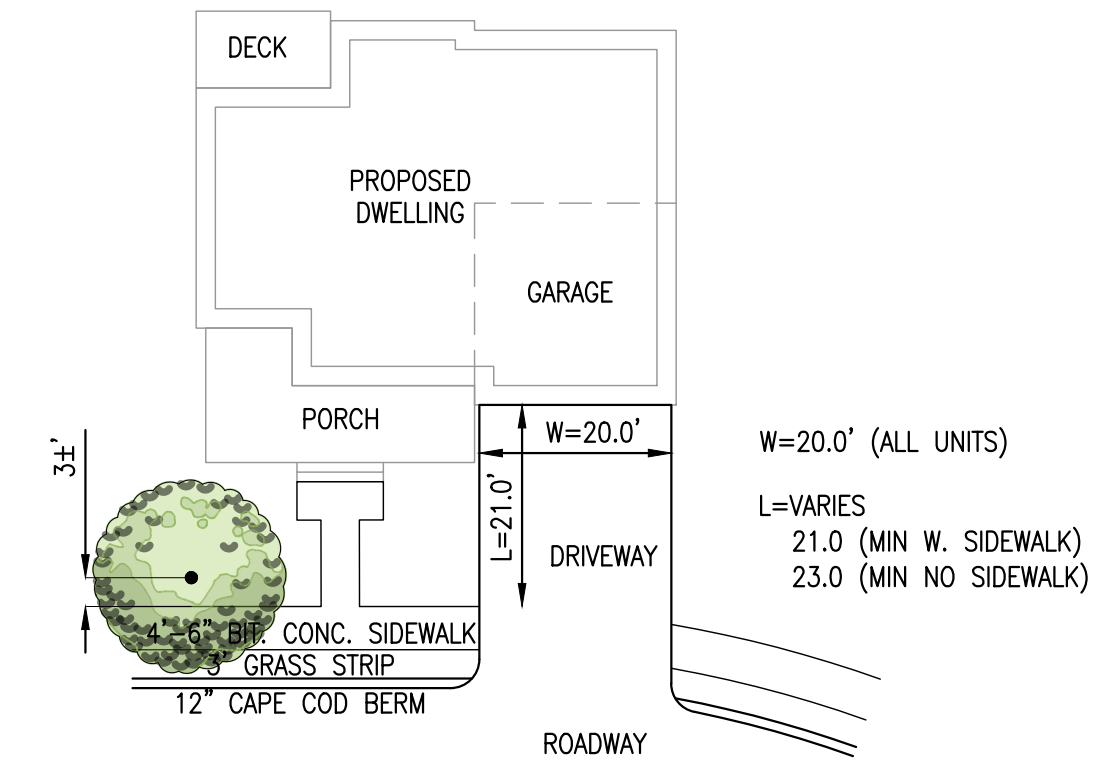
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1. MANUFACTURED TO MEET OR EXCEED: ASTM C-478 & AASHTO M 199 SPECS.
2. CONCRETE = 4,000 PSI. MINIMUM CEMENT PER ASTM C-478 (6.1)
3. REINFORCED STEEL CONFORMS TO LATEST ASTM A 185 SPECIFICATIONS.
0.15 SQ. IN. / LINEAL FT. AND 0.15 SQ. IN. (BOTH WAYS) BASE BOTTOM
4. STEEL REINFORCEMENT TO MEET OR EXCEED AASHTO HS-20 LOADING
5. MANHOLE STEPS MEET LATEST OSHA REGULATION 29 CFR 1910.27, SECTION 16 OF ASTM SPECIFICATION C478 AND SECTION 10 OF ASTM SPECIFICATION C497
6. BUTYL RUBBER JOINT SEALANT PER ASTM C-990 & ASHTO M-198
7. ONE POUR MONOLITHIC BASE

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SCITUATE COMPANIES
SCITUATE RAY PRECAST
120 CLAY PIT ROAD
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PHONE # 1-800-440-0009
FAX # 781-837-4320

CONTRACTOR: _____ JOB NAME: _____
DATE: _____ DRAWING: SRP-DMH5 DRAWING BY: C.J. SCOTT

WWW.SCITUATECOMPANIES.COM
DRAIN MANHOLE DETAIL
(NOT TO SCALE)



TYPICAL DRIVEWAY SCHEMATIC
SCALE: 1"=20'

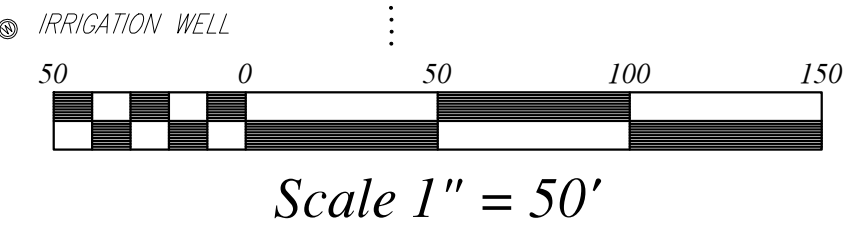
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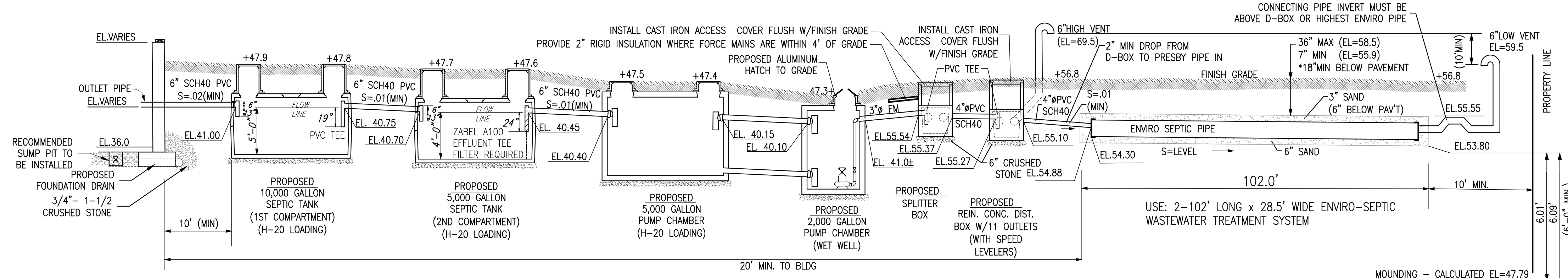
GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 385-2300



*SEE SHEETS 13-14 FOR SEPTIC DETAILS

SOILS TESTING BY RICHARD GRADY, GRADY CONSULTING, WITNESSED BY PAT BRENNAN SEPTEMBER 14, 2022

T.H.#22-28 EL. 49.00	T.H.#22-29 EL. 47.30	T.H.#22-30 EL. 47.80
0'-13" Ap SANDY LOAM 47.92	0'-16" Ap SANDY LOAM 45.97	0'-15" Ap SANDY LOAM 46.55
13'-29" Bw LOAMY SAND 46.58	16'-27" Bw LOAMY SAND 45.05	15'-38" Bw LOAMY SAND 44.63
PERC@ 38"-56" P.R.= 8MIN/IN	PERC@ 38"-56" P.R.= 3MIN/IN	PERC@ 38"-85" C1 LOAMY SAND 40.72
29'-120" C LOAMY SAND 39.00	27'-49" C1 LOAMY SAND 43.22	85'-120" C2 COBBLY LOAMY SAND 37.80
D=10'-0" MOTTLING Ø58" (EL.=44.17)	49'-110" C2 VERY COBBLY LOAMY SAND 38.13	D=10'-0" MOTTLING Ø64" (EL.=42.37)



TOWN OF DUXBURY CHECKLIST NOTES

- NO WETLANDS ARE LOCATED WITHIN 150' OF THE PROPOSED SYSTEM.
- THE PROPOSED SYSTEM IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD HAZARD ZONE.
- THE PROPOSED SYSTEM IS NOT LOCATED WITHIN AN AQUIFER ZONE I OR ZONE II.
- NO KNOWN WELLS ARE LOCATED WITHIN 150' OF THE PROPOSED SYSTEM.
 009-006-010 399 NORTH STREET - TOWN WATER
 023-006-005 120 MYRTLE STREET - WELL WATER
 023-006-006 100 MYRTLE STREET - TOWN WATER
 023-827-004 62 MYRTLE STREET - TOWN WATER
 023-827-005 840 KEENE STREET - WELL WATER
- NO KNOWN IRRIGATION WELLS ARE LOCATED WITHIN 100' OF THE PROPOSED SYSTEM.
- IN THE EVENT OF REPLACEMENT, THE EXISTING SYSTEM WILL BE REMOVED AND REPLACED IN THE SAME LOCATION.
- NO VARIANCES FROM TITLE V OR DUXBURY RULES AND REGULATIONS ARE REQUIRED FOR THE PROPOSED SYSTEM.

SUBSURFACE SEWAGE DISPOSAL SYSTEM PROFILE - SOUTH HAMLET (NOT TO SCALE)

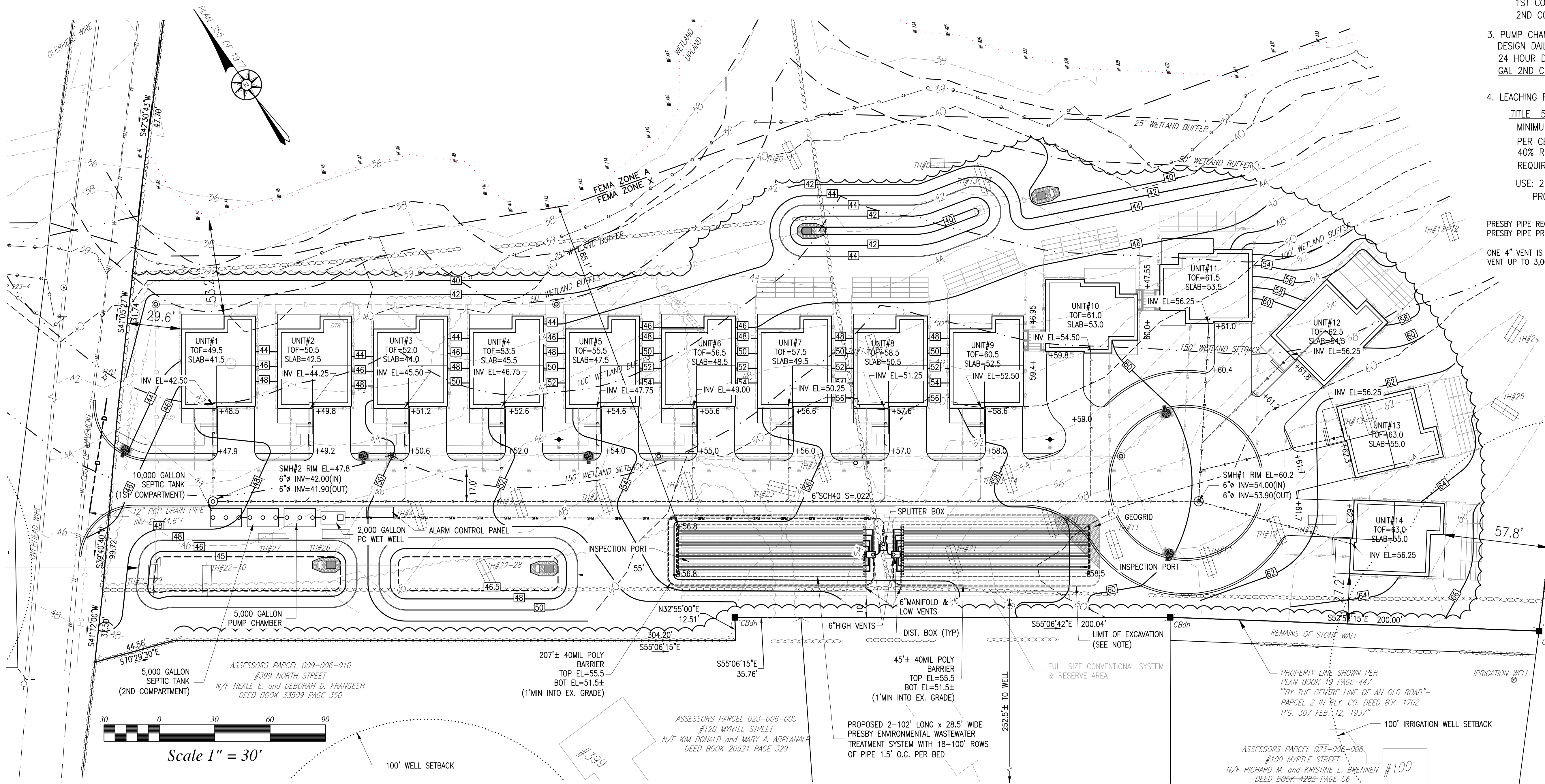
EXCAVATE ALL MATERIAL (A,B LAYERS) TO LOAMY SAND LAYER (36"±), 5' AROUND SYSTEM. REPLACE WITH CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255 (3). EXCAVATION TO BE INSPECTED BY GRADY CONSULTING L.L.C. AND TOWN PRIOR TO SOIL REPLACEMENT. APPROXIMATE PERC SAND VOLUME = 2x112x38.5x(55.5-51.5±(AVG))/27 + 20% = 1,533± C.Y. (INCLUDES 453± C.Y. OF C-33 SAND)

SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

- DESIGN DAILY FLOW: 14 RESIDENTIAL UNITS x 3 BEDROOMS/UNIT = 42 BEDROOMS
42 BEDROOMS x 110 GPD/BR = 4,620 GPD
- SEPTIC TANK:
1ST COMPARTMENT - 48 HOUR DETENTION = 9,240 GALLONS MIN. (USE 10,000 GAL)
2ND COMPARTMENT - 24 HOUR DETENTION = 4,620 GALLONS MIN. (USE 5,000 GAL)
- PUMP CHAMBER:
DESIGN DAILY FLOW: 4,620 GPD
24 HOUR DETENTION = 4,620 GPD USE: 5,000 GAL 1ST COMPARTMENT AND 2,000 GAL 2ND COMPARTMENT (WET WELL)
- LEACHING FIELD: P.R. = 6 MIN/IN CLASS I (E.L.R. = 0.70 GPD/SF)
 TITLE 5
 MINIMUM AREA = 4,620 GPD / 0.70 GPD/S.F. = 6,600 S.F.
 PER CERTIFICATION FOR GENERAL USE SECTION II(7)
 40% REDUCTION IN SOIL ABSORPTION SYSTEM ALLOWED
 REQUIRED AREA = 6,600 S.F. LESS 40% = 3,960 S.F.
 USE: 2-102' LONG x 28.5' WIDE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM
 PROPOSED AREA: 2 x (102 FT x 28.5 FT) = 5,814 S.F. > 3,960 S.F.

PRESBY PIPE REQUIRED = 42 BEDROOMS x 70 LF/BEDROOM = 2,940 LF REQUIRED
 PRESBY PIPE PROPOSED = 3,600 LF > 2,940 LF
 ONE 4" VENT IS REQUIRED FOR EVERY 1,000 FT. OF PIPE. A 6" MANIFOLD AND VENT STACK MAY VENT UP TO 3,000 FT. OF PIPE.

FULL SIZE CONVENTIONAL SEPTIC DESIGN-PER STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS
 LEACHING TRENCHES: P.R. = CLASS I E.L.R.=0.70
 USE: 12-100' LONG x 2' WIDE x 2' DEEP LEACHING TRENCHES
 PROPOSED AREA: 12 x 100' x 6 SF/LF = 7,200 S.F.
 CAPACITY: 7,200 S.F. x 0.70 GPD/S.F. = 5,040 > 4,620 GPD(D.D.F.)

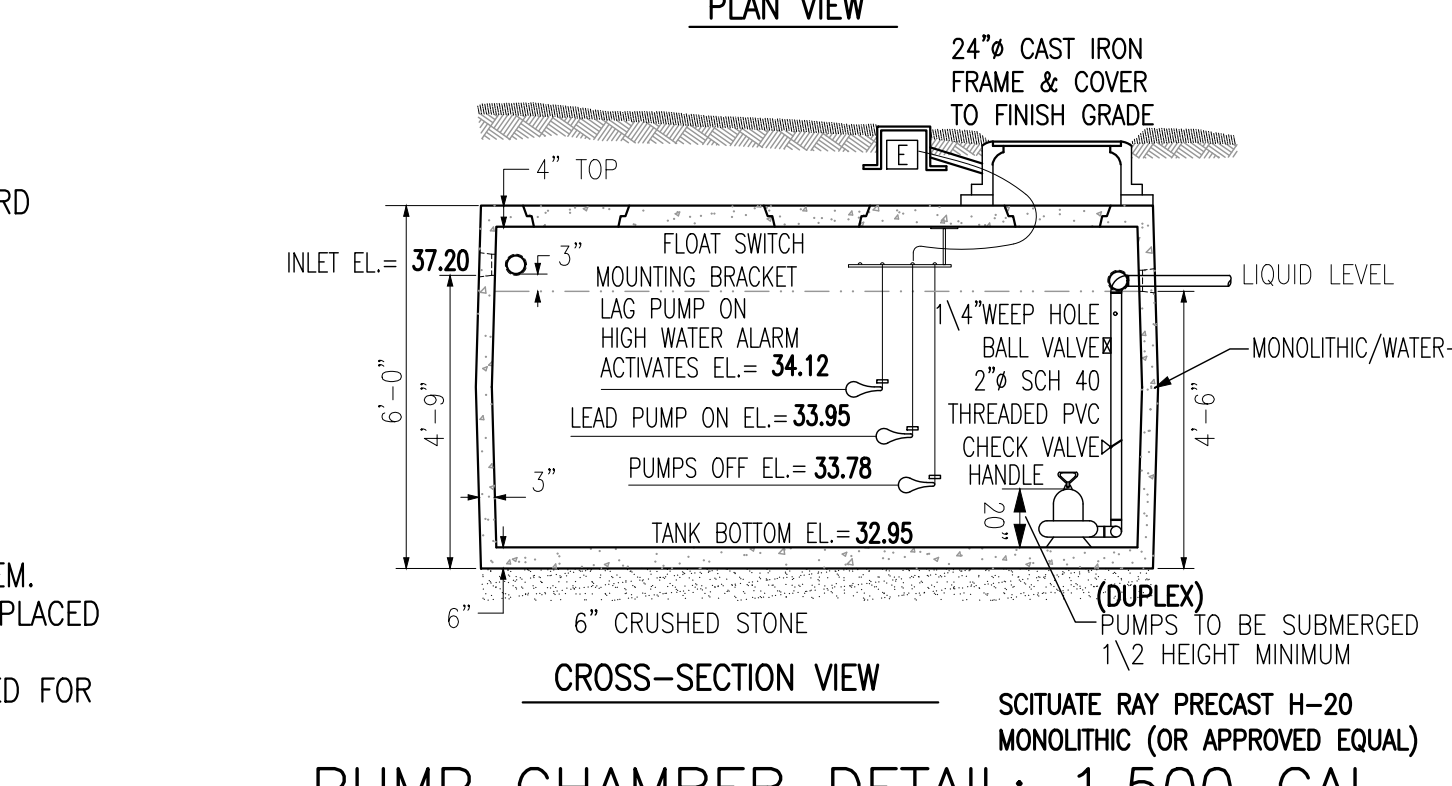
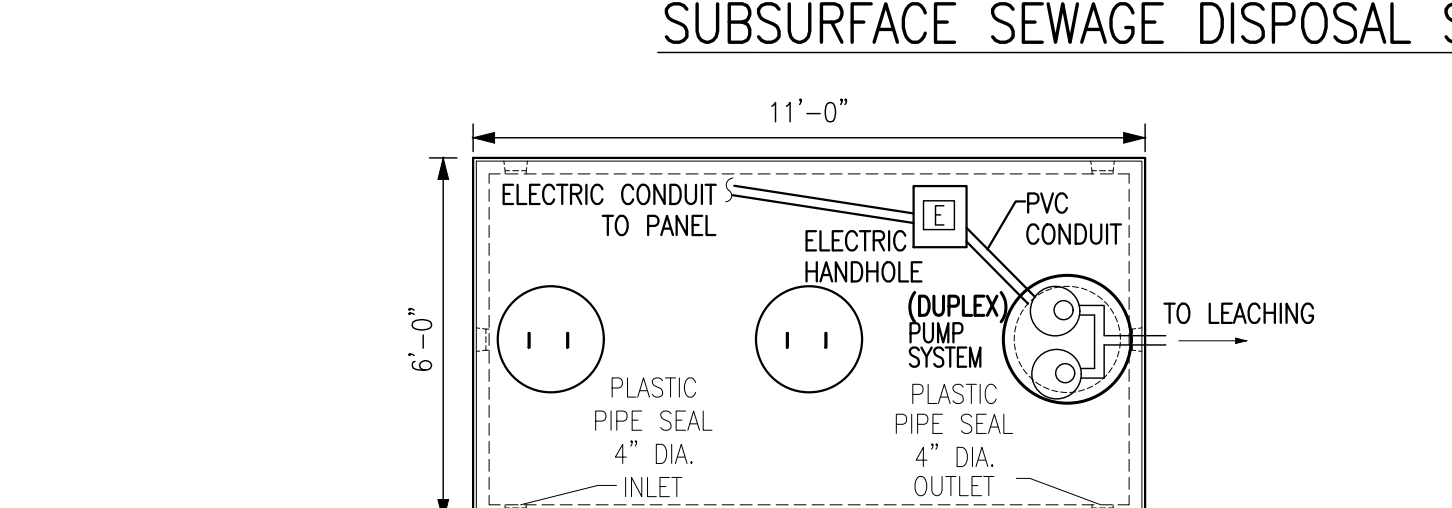
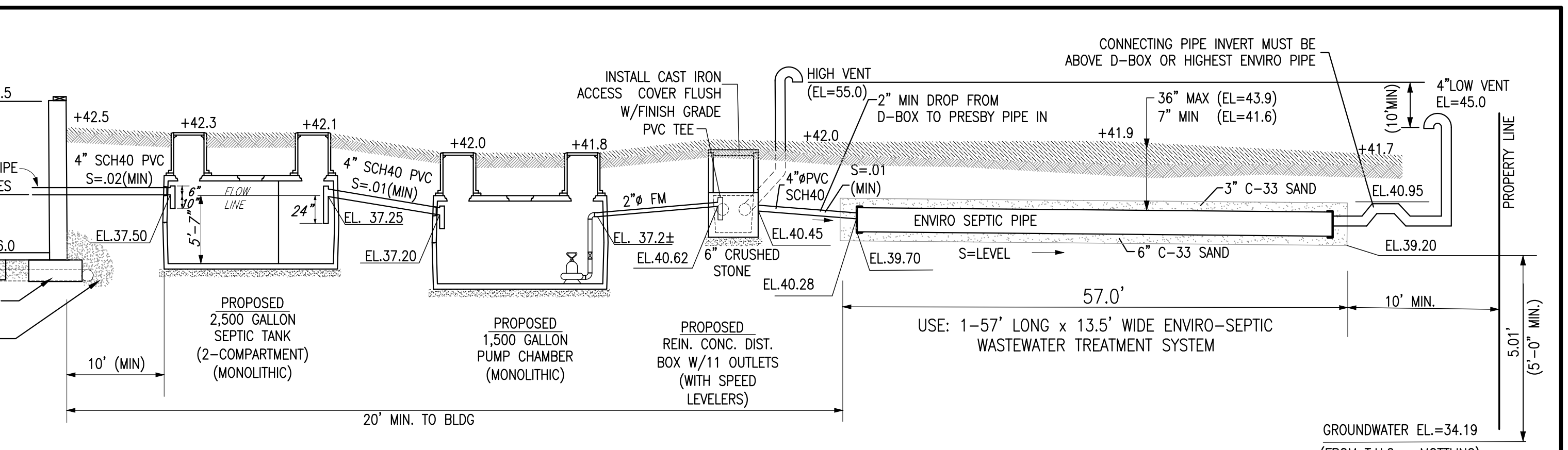
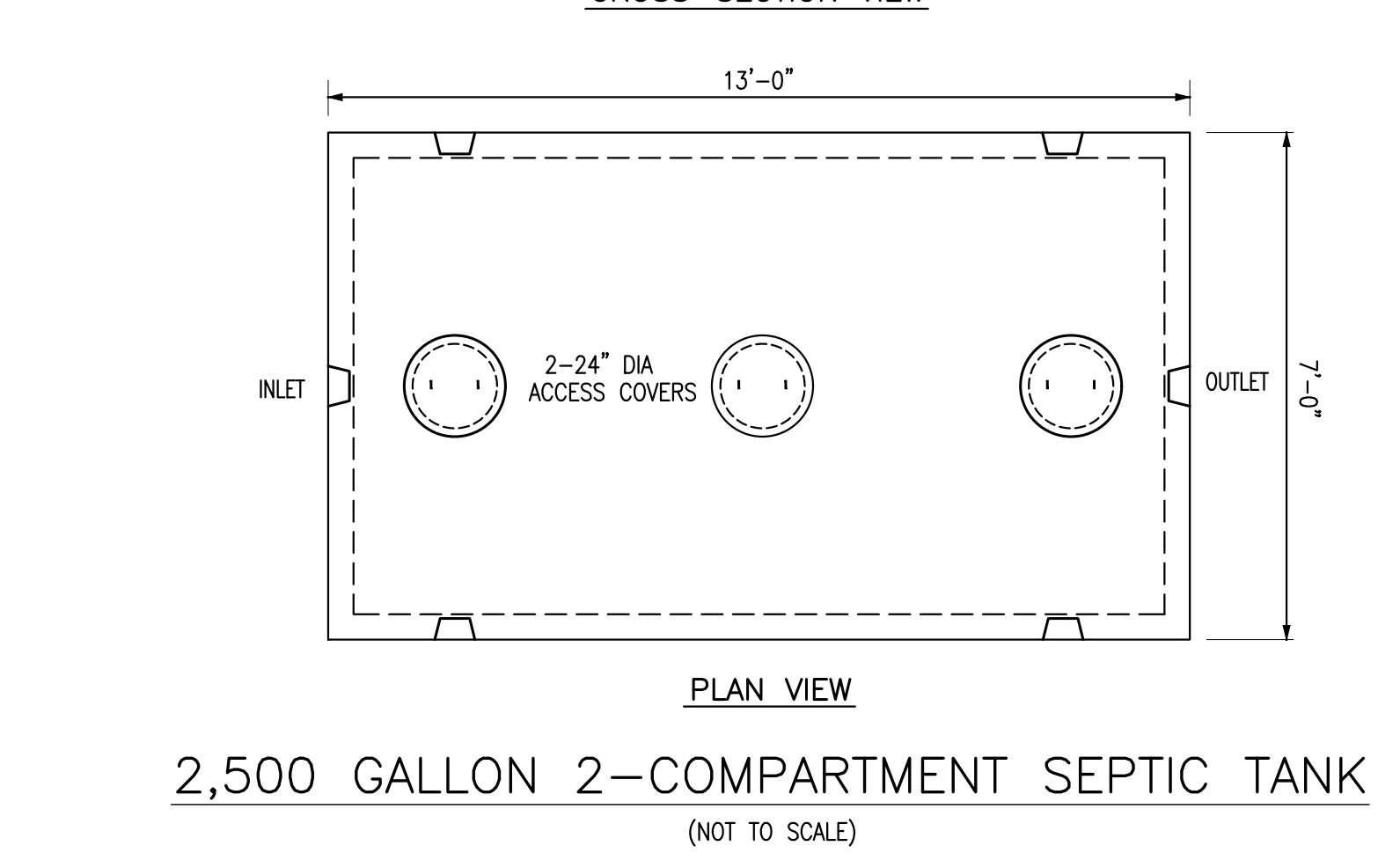
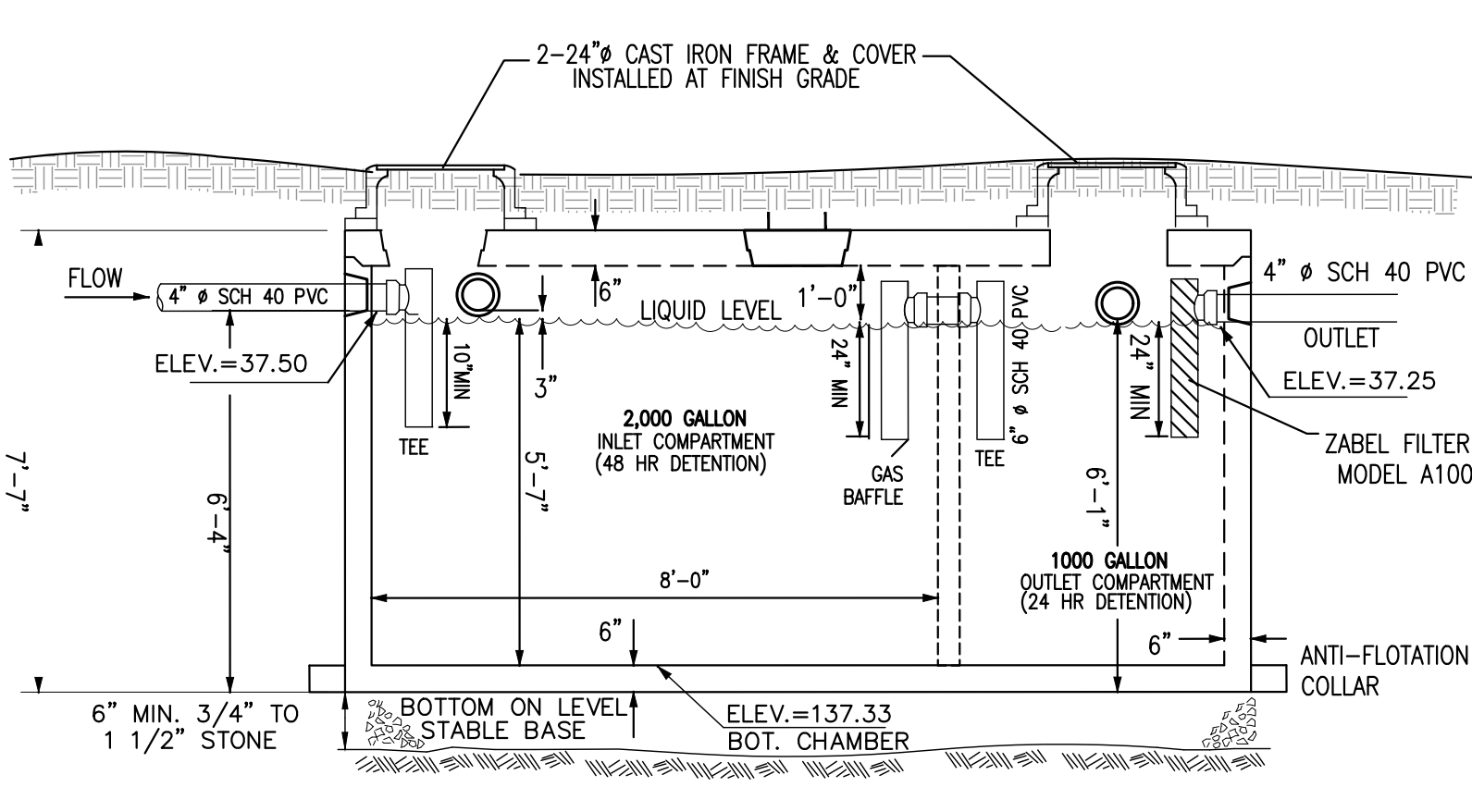
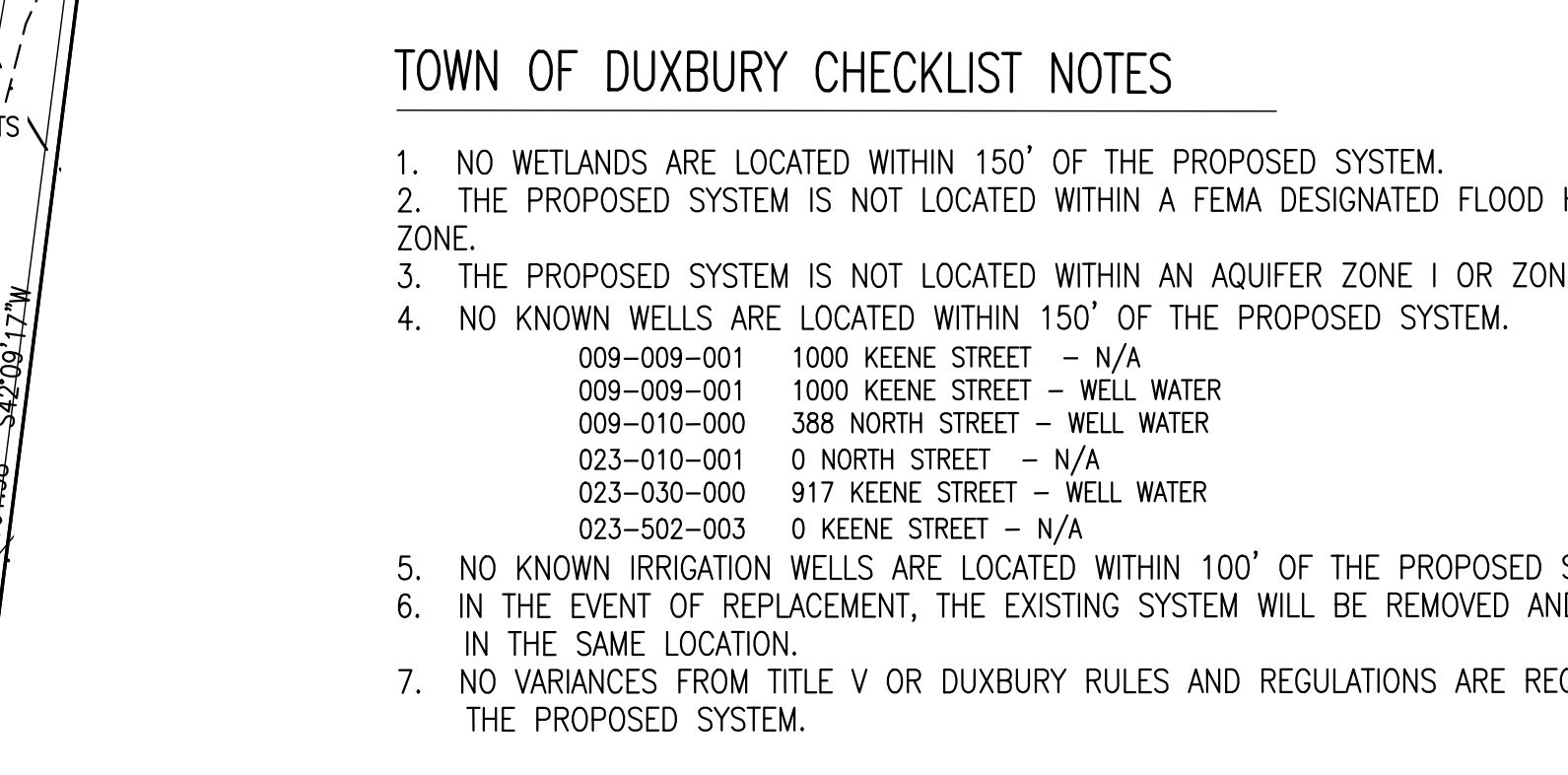
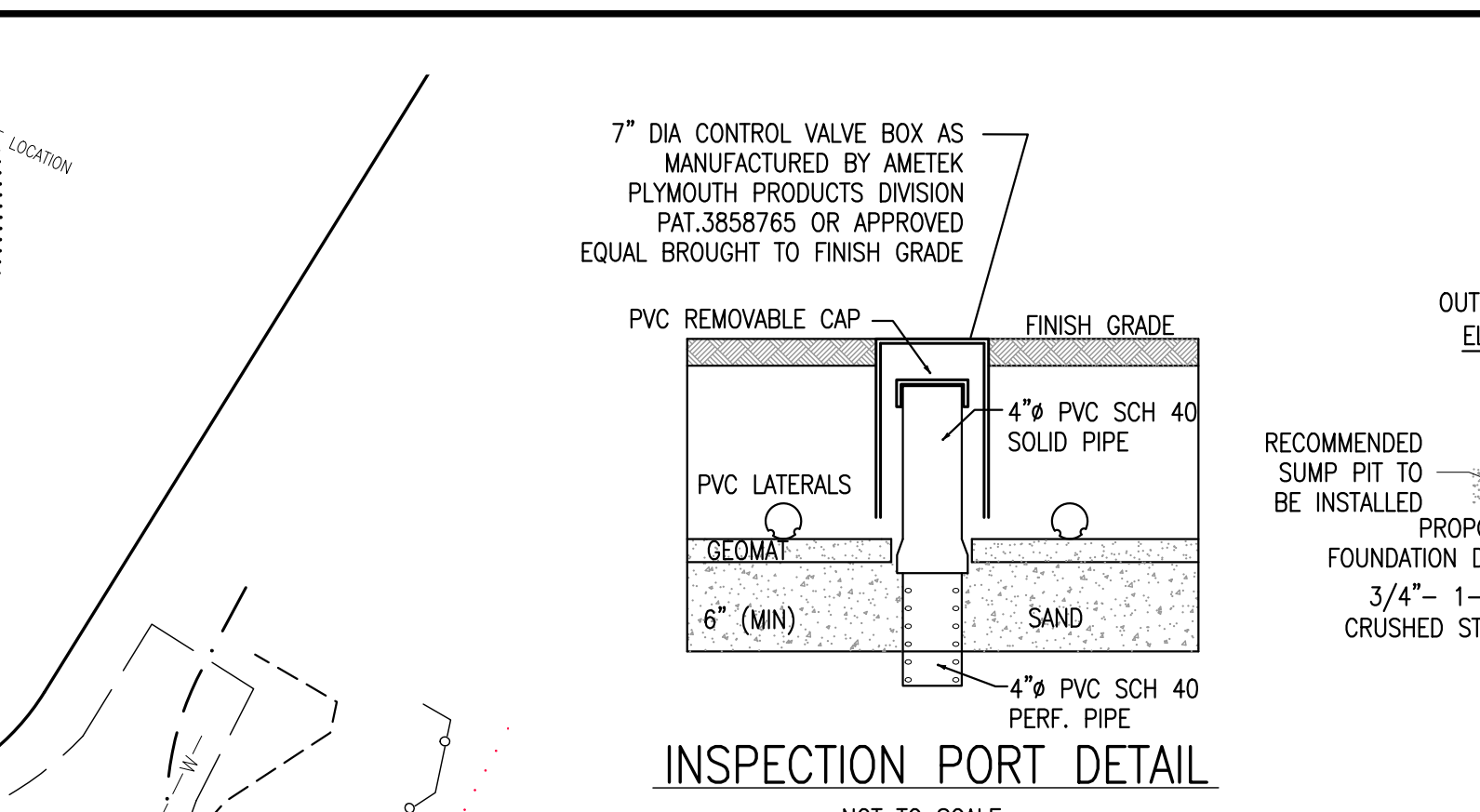
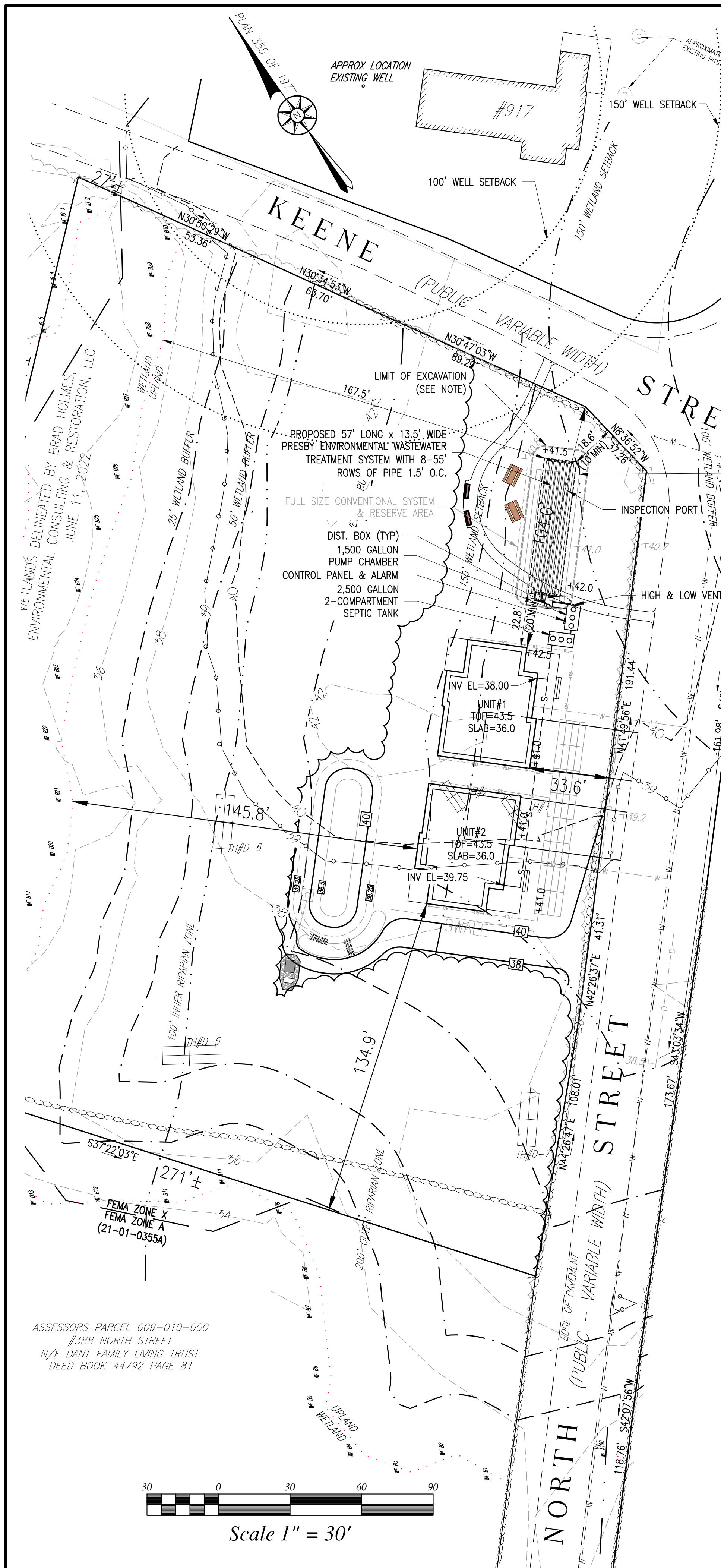


REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
 NORTH STREET and KEENE STREET
 DUXBURY, MASSACHUSETTS

PREPARED FOR:
 JOHN BALDWIN
 PO BOX 1071
 DUXBURY, MA 02331
 MAY 16, 2023
 SCALE: 1"=30'
 JOB No. 16-221

GRADY CONSULTING, L.L.C.
 Civil Engineers, Land Surveyors & Landscape Architects
 71 Evergreen Street, Suite 1, Kingston, MA 02364
 Phone (781) 385-2300



PUMP DESIGN

STATIC HEAD = 17.1 FT
PIPE LENGTH = 365 FT
PIPE DIAMETER = 3 IN

GPM	H _L (ft/100ft)	PIPE H _L (ft)	H _T (total)
20	0.12	0.44	17.54
40	0.43	1.58	18.68
60	0.92	3.34	20.44
80	1.56	5.69	22.79
100	2.36	8.60	25.70
110	2.81	10.26	27.36

REFERENCE: CAMERON HYDRAULIC DATA, PG 3-38 & GOULDS PUMPS WASTEWATER & SEWAGE

CHAMBER STORAGE CAPACITY

PEAK FLOW = 660 GALLONS PER DAY
AVERAGE FLOW = 330 GALLONS PER DAY
6 DOSES PER DAY OF AVERAGE FLOW = 330 / 6 = 55 GALLONS (7.35 CF)
PER DOSE / (13.5x57") = 0.009 FEET OR 0.11 INCHES OVER LEACHING FIELD PER DOSE
10' x 2" FORCE MAIN VOLUME x 0.022 CF/LF x 7.48 = 1.6 GALLONS PROVIDE 55 + 1.6 = 56.6 GALLONS PER DOSE
1,500 GALLON PUMP CHAMBER = 325 GAL/FT OF TANK
56.6 GAL/DOSE / 325 GAL/FT OF TANK = 0.17 FT (MIN)
1,001 GAL EMERGENCY STORAGE CAPACITY > 660 GAL 24 HR REQUIRED CAPACITY

SOILS TESTING BY PAUL BROGNA WITNESSED BY TRACY MAYO OCTOBER 30, 2013

	T.H.#1 EL. 40.58	T.H.#2 EL. 40.77
PERC @ 33"± 51" P.R.=7 MIN/IN	0'-5" A 10YR3/3 40.16	0'-5" O/A 10YR3/3 40.35
	5'-23" B LOAMY SAND 10YR5/8 38.66	5'-24" B LOAMY SAND 10YR5/8 38.35
	23-93" C1 SILT LOAM 2.5Y6/4 32.83	24-79" C LOAMY SAND 2.5Y6/4 34.17
	93-116" C2 SILT LOAM 2.5YR3/4 30.92	79"-101" C2 SILT LOAM 2.5Y3/4 32.36
	D=9"-6" MOTTLING @ 93" (EL.=32.83)	D=10"-0" MOTTLING @ 79" (EL.=34.19)

EXCAVATE ALL MATERIAL (A,B LAYERS) TO LOAMY SAND LAYER (24"±), 5' AROUND SYSTEM. REPLACE WITH CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255 (3). EXCAVATION TO BE INSPECTED BY GRADY CONSULTING L.L.C. AND TOWN PRIOR TO SOIL REPLACEMENT. APPROXIMATE PERC SAND VOLUME = 67'x23.5'x(41.0-38.3±)/27 + 20% = 189± C.Y. (INCLUDES 60± C.Y. OF C-33 SAND)

SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

- DESIGN DAILY FLOW: 2 RESIDENTIAL UNITS x 3 BEDROOMS/UNIT = 6 BEDROOMS
6 BEDROOMS x 110 GPD/BR = 660 GPD
- SEPTIC TANK:
1ST COMPARTMENT - 48 HOUR DETENTION = 1,320 GALLONS MIN.
2ND COMPARTMENT - 24 HOUR DETENTION = 660 GALLONS MIN.
TOTAL = 1,980 GALLONS MIN. (USE 2,500 GAL.-2 COMPARTMENT TANK)
- PUMP CHAMBER:
DESIGN DAILY FLOW: 660 GPD
24 HOUR DETENTION = 660 GPD USE: 1,500 GAL
- LEACHING FIELD: P.R. = 7 MIN/IN CLASS I (E.L.R. = 0.68 GPD/SF)

TITLE 5

MINIMUM AREA = 660 GPD / 0.68 GPD/S.F. = 971 S.F.
PER CERTIFICATION FOR GENERAL USE SECTION II(7)
40% REDUCTION IN SOIL ABSORPTION SYSTEM ALLOWED
REQUIRED AREA = 971 S.F. LESS 40% = 583 S.F.

USE: 57' LONG x 13.5' WIDE ENVIRO-SEPTIC WASTEWATER TREATMENT SYSTEM
PROPOSED AREA: 57 FT x 13.5 FT = 770 S.F. > 583 S.F.

PRESBY PIPE REQUIRED = 6 BEDROOMS x 70 LF/BEDROOM = 420 LF REQUIRED
PRESBY PIPE PROPOSED = (8 ROWS x 55 LF) = 440 LF > 420 LF

FULL SIZE CONVENTIONAL SEPTIC DESIGN-PER STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS

LEACHING TRENCHES: P.R. = CLASS I E.L.R.=0.68
USE: 3'-54" LONG x 3' WIDE x 2' DEEP LEACHING TRENCHES
PROPOSED AREA: 3 x 54' x 6 SF/LF = 972 SF
CAPACITY: 972 S.F. x 0.68 GPD/S.F. = 661 > 660 GPD(D.D.F.)

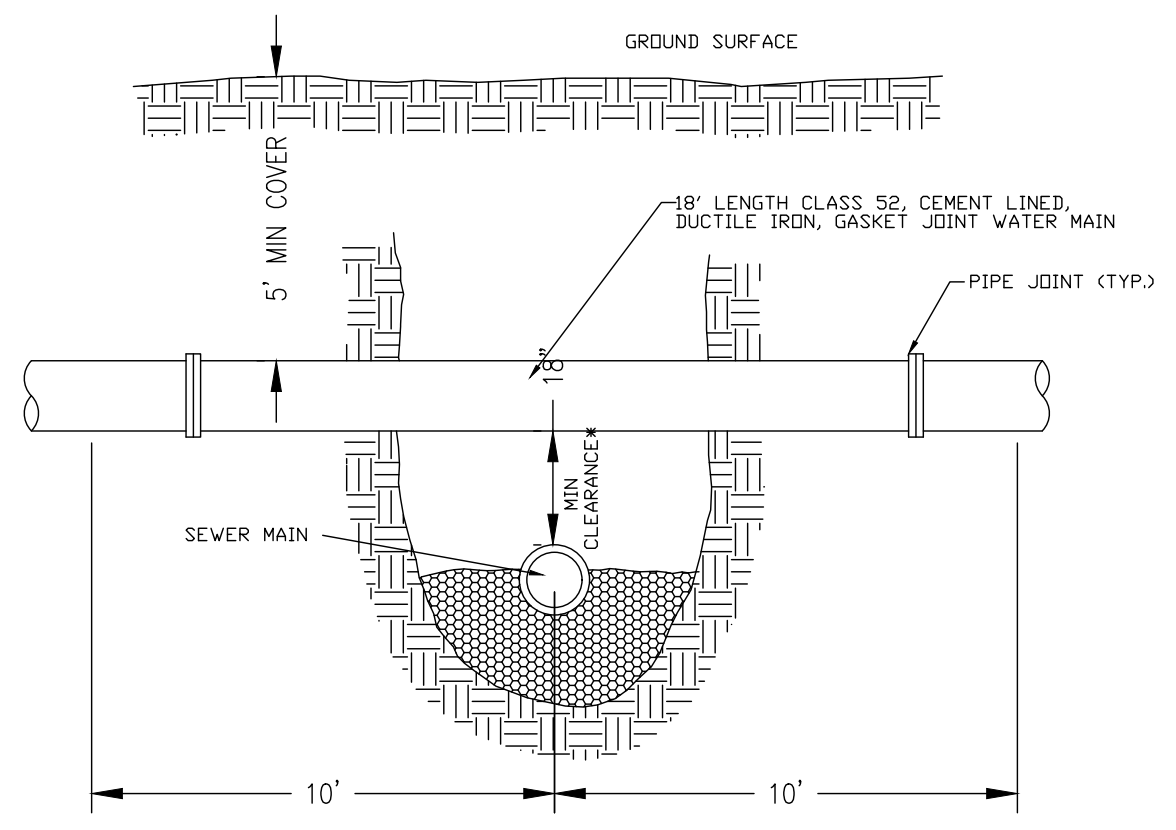
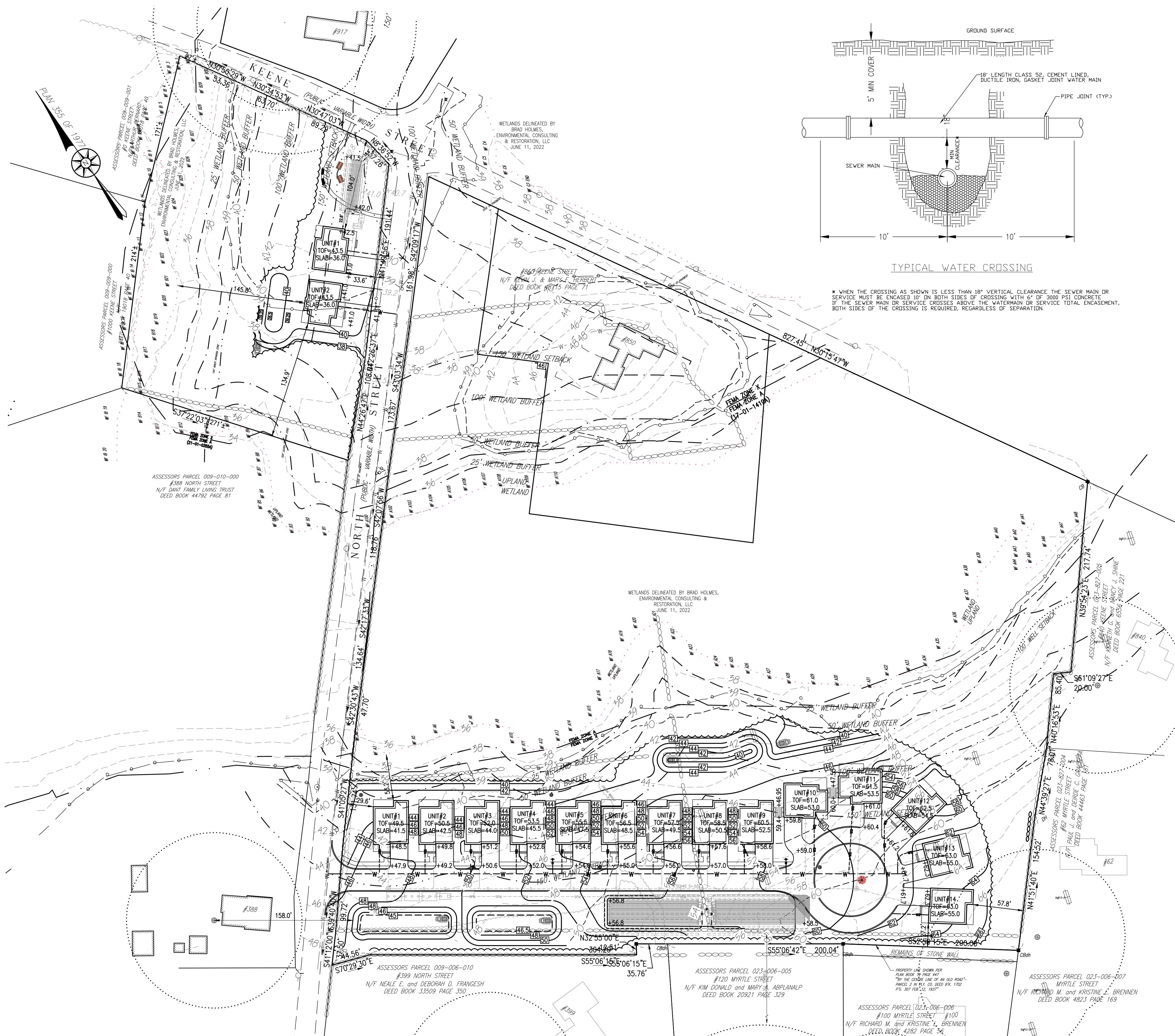
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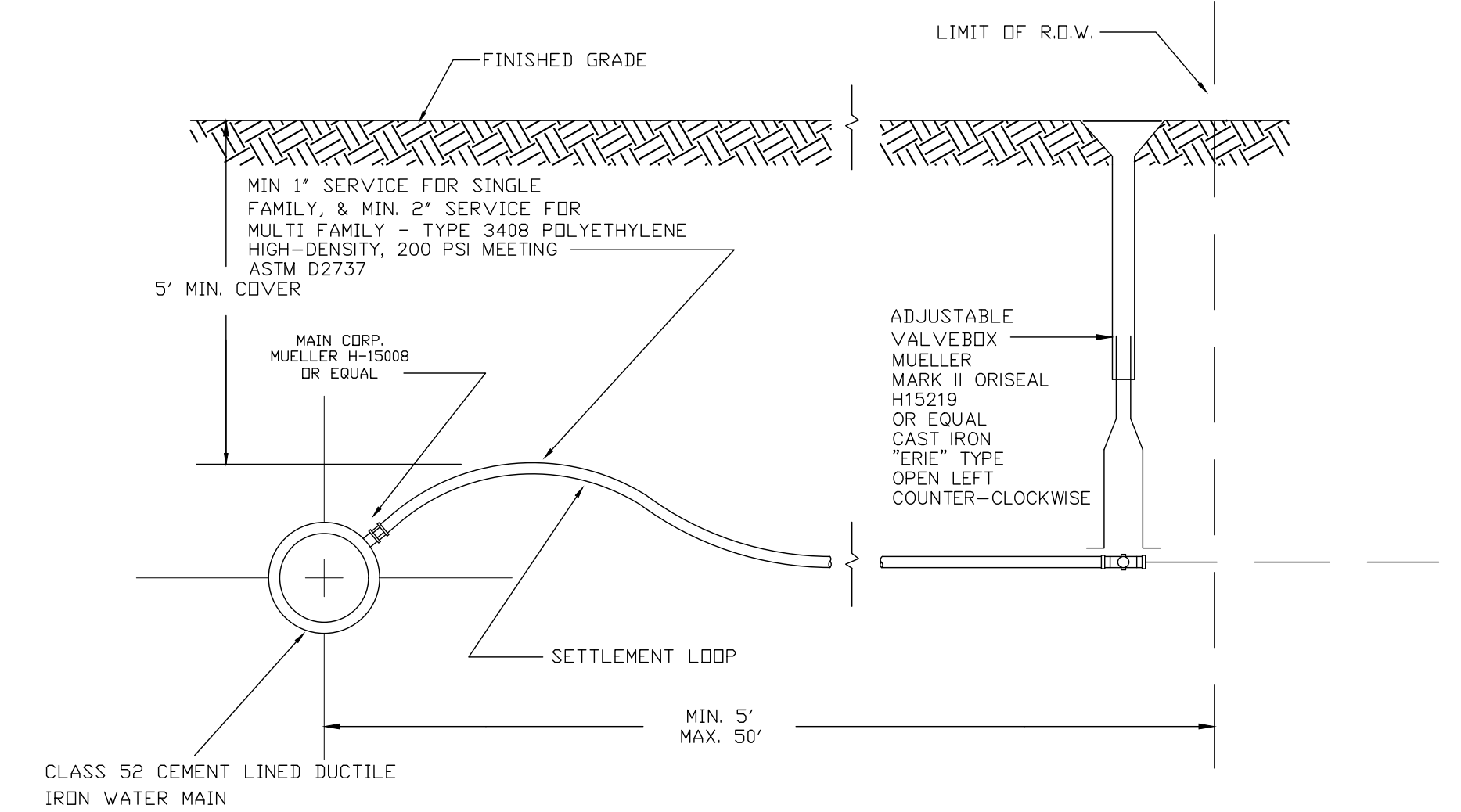
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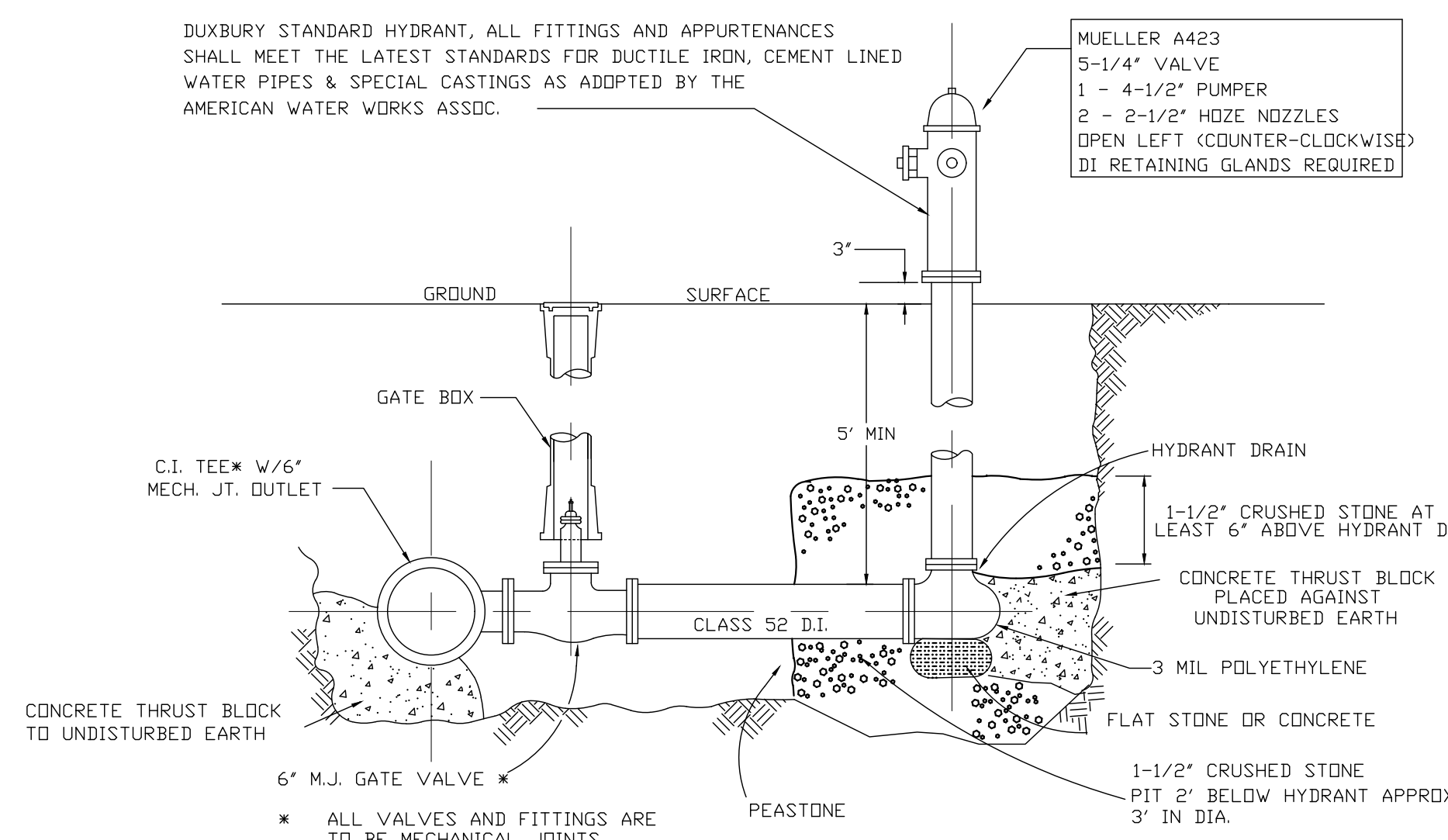
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71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 385-2300



WHEN THE CROSSING AS SHOWN IS LESS THAN 18" VERTICAL CLEARANCE THE SEWER MAIN OR SERVICE MUST BE ENCASED 10" ON BOTH SIDES OF CROSSING WITH 6" OF 3000 PSI CONCRETE. IF THE SEWER MAIN OR SERVICE CROSSES ABOVE THE WATERMAIN OR SERVICE TOTAL ENCASUREMENT BOTH SIDES OF THE CROSSING IS REQUIRED, REGARDLESS OF SEPARATION.



TYPICAL PERMANENT SERVICE CONNECTION (NOT TO SCALE)



STANDARD HYDRANT DETAIL (NOT TO SCALE)

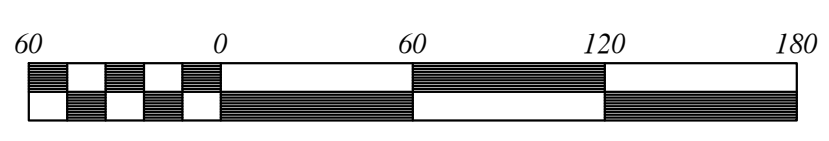
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DUXBURY, MASSACHUSETTS

PREPARED FOR:
 JOHN BALDWIN
 PO BOX 1071
 DUXBURY, MA 02331

MAY 16, 2023
 SCALE: 1"=60'
 JOB No. 16-221

GRADY CONSULTING, L.L.C.
 Civil Engineers, Land Surveyors & Landscape Architects
 71 Evergreen Street, Suite 1, Kingston, MA 02364
 Phone (781) 385-2300



Scale 1" = 60'

SOILS TESTING BY PAUL BROGNA WITNESSED BY TRACY MAYO SEPTEMBER 11, 2013

*SOILS TESTING BY PAUL BROGNA WITNESSED BY TRACY MAYO AUGUST 21, 2013, SEPTEMBER 11, 2013, OCTOBER 16, 2013 & OCTOBER 30, 2013.

*SOILS TESTING BY PAUL BROGNA WITNESSED BY TRACY MAYO OCTOBER 30, 2013

T.H.#6 EL. 46.1	T.H.#7 EL. 42.0	T.H.#8 EL. 48.3	T.H.#9 EL. 45.2	T.H.#1 EL. 50.3	T.H.#2 EL. 48.3	T.H.#3 EL. 47.0	T.H.#4 EL. 46.9	T.H.#10 EL. 57.8	T.H.#11 EL. 61.5	T.H.#12 EL. 62.30	T.H.#13 EL. 63.0	T.H.#1 EL. 40.58	T.H.#2 EL. 40.77
0'-5" A SANDY LOAM 10YR3/3	0'-7" A SANDY LOAM 10YR3/3	0'-5" A SANDY LOAM 10YR3/3	0'-5" A SANDY LOAM 10YR3/3	0'-9" A SANDY LOAM 10YR3/3	0'-9" A SANDY LOAM 10YR3/3	0'-10" A SANDY LOAM 10YR3/3	0'-10" A SANDY LOAM 10YR3/3	0'-7" A ORGANIC 10YR3/3	0'-6" A ORGANIC 10YR3/3	0'-4" A ORGANIC 10YR3/3	0'-3" A ORGANIC 10YR3/3	0'-5" A 10YR3/3	0'-5" O/A 10YR3/3
45.69	41.42	47.89	44.59	49.55	47.55	46.16	46.06	57.21	61.08	61.96	62.75	40.16	40.35
5'-15" B LOAMY SAND 10YR5/8	7'-22" B LOAMY SAND 10YR5/8	5'-20" B LOAMY SAND 10YR5/8	5'-16" B LOAMY SAND 10YR5/8	9'-24" B LOAMY SAND 10YR5/6	9'-25" B LOAMY SAND 10YR5/6	10'-37" B LOAMY SAND 10YR5/6	10'-33" B LOAMY SAND 10YR5/6	7'-26" B LOAMY SAND 10YR5/8	5'-17" B LOAMY SAND 10YR5/8	4'-34" B LOAMY SAND 10YR5/8	3'-22" B LOAMY SAND 10YR5/8	5'-23" B LOAMY SAND 10YR5/8	5'-24" B LOAMY SAND 10YR5/8
44.84	40.17	46.64	43.87	48.30	46.21	43.91	44.15	55.63	60.08	59.46	61.16	38.66	38.35
15'-92" C LOAMY SAND 2.5Y6/4	22'-100" C FINE LOAMY SAND 2.5Y6/4	20'-60" C LOAMY SAND 2.5Y6/4	16'-70" C LOAMY SAND 2.5Y6/4	PERC 44"-62" P.R.=4 MIN/IN	PERC 88"-106" P.R.=2 MIN/IN	PERC 37"-55" P.R.=30 MIN/IN	PERC 46"-64" P.R.=2 MIN/IN	PERC 33"-51" P.R.=5 MIN/IN	PERC 43"-61" P.R.=3 MIN/IN	PERC 37"-55" P.R.=2 MIN/IN	PERC 33"-51" P.R.=7 MIN/IN	PERC 23"-93" C1 LOAMY SAND 2.5Y6/4	PERC 24"-79" C LOAMY SAND 2.5Y6/4
38.44	33.5	43.3	39.37	41.80	40.30	39.00	34.40	47.71	51.50	53.80	56.91	32.83	34.17
102'-140" C2 LOAMY SAND 2.5Y6/3				102'-140" C2 LOAMY SAND 2.5Y6/3	96'-144" C2 LOAMY SAND 2.5Y6/3	96'-146" C2 FINE LOAMY SAND 2.5Y6/3	33'-150" C FINE SILTY SAND 2.5Y6/3	17'-120" C1 LOAMY SAND 2.5Y6/3	120'-144" C2 LOAMY SAND 2.5Y5/6			93'-116" C2 SILT LOAM 2.5YR3/4	79'-101" C2 SILT LOAM 2.5Y3/4
38.63	36.30	34.83	34.40	38.63	36.30	34.83	34.40	47.71	49.50	53.80	56.91	30.92	32.36
D=7'-8" NO WATER (E.S.H.W.G.) (EL.=38.44)	(REFUSAL) D=8'-6" NO WATER (E.S.H.W.G.) (EL.=33.5)	(REFUSAL) D=5'-0" NO WATER (E.S.H.W.G.) (EL.=43.3)	(REFUSAL) D=5'-10" NO WATER (E.S.H.W.G.) (EL.=39.37)	D=11'-8" NO WATER (E.S.H.W.G.) (EL.=38.63)	D=12'-0" MOTTLING 6'-4" (EL.=41.96)	D=12'-2" MOTTLING 5'-2" (EL.=41.84)	D=12'-6" MOTTLING 5'-6" (EL.=41.40)	D=10'-1" NO WATER (E.S.H.W.G.) (EL.=47.71)	D=12'-0" NO WATER (E.S.H.W.G.) (EL.=49.50)	D=8'-6" NO WATER (E.S.H.W.G.) (EL.=53.80)	D=6'-1" NO WATER (E.S.H.W.G.) (EL.=56.91)	D=9'-6" MOTTLING 93" (EL.=32.83)	D=10'-0" MOTTLING 79" (EL.=34.17)

SOILS TESTING BY RICHARD GRADY, GRADY CONSULTING, WITNESSED BY PAT BRENNAN SEPTEMBER 14, 2022

T.H.#D-1 EL. 42.50	T.H.#D-2 EL. 42.50	T.H.#D-3 EL. 38.50	T.H.#D-4 EL. 36.50	T.H.#D-5 EL. 37.00	T.H.#D-6 EL. 37.50	T.H.#D-7 EL. 38.60	T.H.#22-28 EL. 49.00	T.H.#22-29 EL. 47.30	T.H.#22-30 EL. 47.80
0'-12" Ap SANDY LOAM	0'-15" Ap SANDY LOAM	0'-8" Ap SANDY LOAM	0'-12" Ap SANDY LOAM	0'-12" Ap SANDY LOAM	0'-12" Ap SANDY LOAM	0'-13" Ap SANDY LOAM	0'-13" Ap SANDY LOAM	0'-16" Ap SANDY LOAM	0'-15" Ap SANDY LOAM
41.50	41.25	37.83	35.50	36.00	36.67	37.52	47.92	45.97	46.55
12'-32" Bw LOAMY SAND	15'-32" Bw LOAMY SAND	8'-33" Bw LOAMY SAND	12'-28" Bw LOAMY SAND	12'-32" Bw LOAMY SAND	10'-24" Bw LOAMY SAND	13'-40" Bw LOAMY SAND	13'-29" Bw LOAMY SAND	16'-27" Bw LOAMY SAND	15'-38" Bw LOAMY SAND
39.83	39.83	35.75	34.17	34.33	35.50	35.27	46.58	45.05	44.63
32'-72" C1 COBBLY LOAMY SAND	32'-108" C COBBLY LOAMY SAND	33'-60" C COBBLY LOAMY SAND	28'-36" C LOAMY SAND	32'-72" C COBBLY LOAMY SAND	24'-36" C COBBLY LOAMY SAND	PERC 38"-56" P.R.=8 MIN/IN	29'-120" C LOAMY SAND	PERC 38"-56" P.R.=3 MIN/IN	38'-85" C1 LOAMY SAND
36.50	33.50	33.50	33.50	31.00	34.50	32.18	39.00	43.22	40.72
72'-120" C2 LOAMY SAND		D=5'-0" (REFUSAL) MOTTLING Ø50" (EL.=34.33)	D=3'-0" (REFUSAL) MOTTLING Ø36" (EL.=33.50)	D=6'-0" MOTTLING Ø42" (EL.=33.50)	D=2'-0" /3'-0" (REFUSAL) MOTTLING Ø36" (EL.=34.50)	D=6'-5" MOTTLING Ø40" (EL.=35.27)	D=10'-0" MOTTLING Ø58" (EL.=44.17)	49'-110" C2 VERY COBBLY LOAMY SAND	85'-120" C2 COBBLY LOAMY SAND
32.50	33.50							38.13	37.80
D=10'-0" MOTTLING Ø96" (EL.=34.50)	D=9'-0" MOTTLING Ø58" (EL.=37.67)							D=9'-2" MOTTLING Ø52" (EL.=42.97)	D=10'-0" MOTTLING Ø64" (EL.=42.37)

SOILS TESTING BY GRADY CONSULTING WITNESSED BY TRACY MAYO SEPTEMBER 28, 2016

*SOILS TESTING BY RICHARD GRADY WITNESSED BY TRACY MAYO OCTOBER 4, 2016

T.H.#16 EL. 38.0	T.H.#17 EL. 37.5	T.H.#18 EL. 39.5	T.H.#19 EL. 40.0	T.H.#20 EL. 63.10	T.H.#21 EL. 55.80	T.H.#22 EL. 51.80	T.H.#23 EL. 51.40	T.H.#24 EL. 62.10	T.H.#25 EL. 64.20	T.H.#26 EL. 46.3	T.H.#27 EL. 45.9
0'-12" A SANDY LOAM 10YR4/2	0'-8" A SANDY LOAM 10YR4/2	0'-8" A SANDY LOAM 10YR4/2	0'-8" A SANDY LOAM 10YR4/2	0'-12" A SANDY LOAM 10YR3/2	0'-12" A SANDY LOAM 10YR3/2	0'-8" A SANDY LOAM 10YR3/2	0'-8" A SANDY LOAM 10YR3/2	0'-15" A SANDY LOAM 10YR3/2	0'-12" A SANDY LOAM 10YR3/2	0'-12" A SANDY LOAM 10YR4/2	0'-12" A SANDY LOAM 10YR4/2
37.00	36.83	38.85	39.35	62.10	56.80	51.13	50.73	60.85	63.20	45.30	44.90
12'-40" B LOAMY SAND 10YR5/4	8'-36" B LOAMY SAND 10YR5/4	8'-30" B LOAMY SAND 10YR5/4	8'-30" B LOAMY SAND 10YR5/4	12'-28" B LOAMY SAND 10YR5/6	12'-28" B LOAMY SAND 10YR5/6	8'-24" B LOAMY SAND 10YR5/6	8'-24" B LOAMY SAND 10YR5/6	15'-30" B LOAMY SAND 10YR5/6	12'-30" B LOAMY SAND 10YR5/6	12'-36" B LOAMY SAND 7.5YR5/3	12'-36" B LOAMY SAND 7.5YR5/3
34.67	34.50	37.0	37.5	60.76	53.47	49.80	49.40	59.60	61.70	43.30	42.90
PERC 46"-64" P.R.<2 MIN/IN	PERC 44"-62" P.R.<2 MIN/IN	PERC 36"-54" P.R.=5 MIN/IN	PERC 30"-126" C FINE TO MED SAND 2.5Y6/2	PERC 28"-46" P.R.<2 MIN/IN	PERC 28"-46" P.R.=2 MIN/IN	PERC 24"-42" P.R.=6 MIN/IN	PERC 24"-108" C LOAMY SAND 2.5Y6/3	PERC 24"-42" P.R.<2 MIN/IN	PERC 30"-68" C LOAMY SAND 2.5Y6/3	PERC 36"-54" P.R.<2 MIN/IN	PERC 36"-54" P.R.=10 MIN/IN
27.50	26.50	29.0	29.0	53.60	46.30	42.80	42.40	57.60	58.53	36.30	35.90
40'-126" C FINE TO MED SAND 2.5Y6/2	36'-132" C FINE TO MED SAND 2.5Y6/2	30'-126" C FINE TO MED SAND 2.5Y6/2	30'-132" C FINE TO MED SAND 2.5Y6/2	28'-114" C LOAMY SAND 2.5Y6/3	28'-114" C LOAMY SAND 2.5Y6/3	24'-108" C LOAMY SAND 2.5Y6/3	24'-108" C LOAMY SAND 2.5Y6/3	30'-54" C LOAMY SAND 2.5Y6/3	30'-68" C LOAMY SAND 2.5Y6/3	36'-120" C LOAMY SAND 5Y5/2	36'-120" C LOAMY SAND 5Y5/2
				(REFUSAL) D=9'-6" NO WATER (E.S.H.W.G.) (EL.=53.60)	(REFUSAL) D=9'-6" NO WATER (E.S.H.W.G.) (EL.=46.30)	(REFUSAL) D=9'-0" NO WATER (E.S.H.W.G.) (EL.=42.80)	(REFUSAL) D=9'-0" NO WATER (E.S.H.W.G.) (EL.=42.40)	(REFUSAL) D=4'-6" NO WATER (E.S.H.W.G.) (EL.=57.60)	(REFUSAL) D=5'-8" NO WATER (E.S.H.W.G.) (EL.=58.53)	D=10'-0" MOTTLING Ø8" (EL.=38.30)	D=10'-0" NO WATER (E.S.H.W.G.) (EL.=35.90)

REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

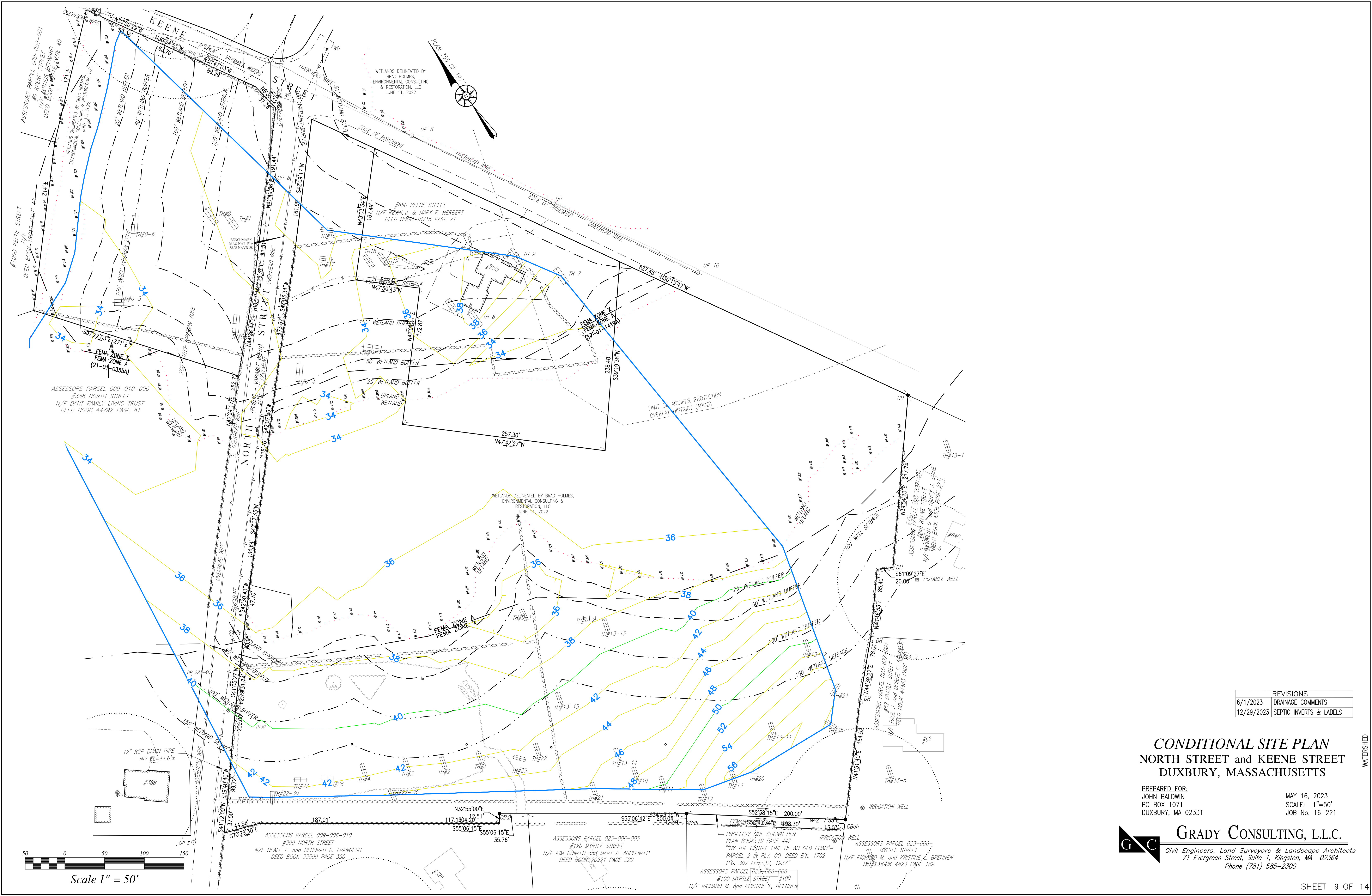
CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

PREPARED FOR:
JOHN BALDWIN
PO BOX 1071
DUXBURY, MA 02331

MAY 16, 2023
SCALE: 1"=50'
JOB No. 16-221

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TEST HOLES



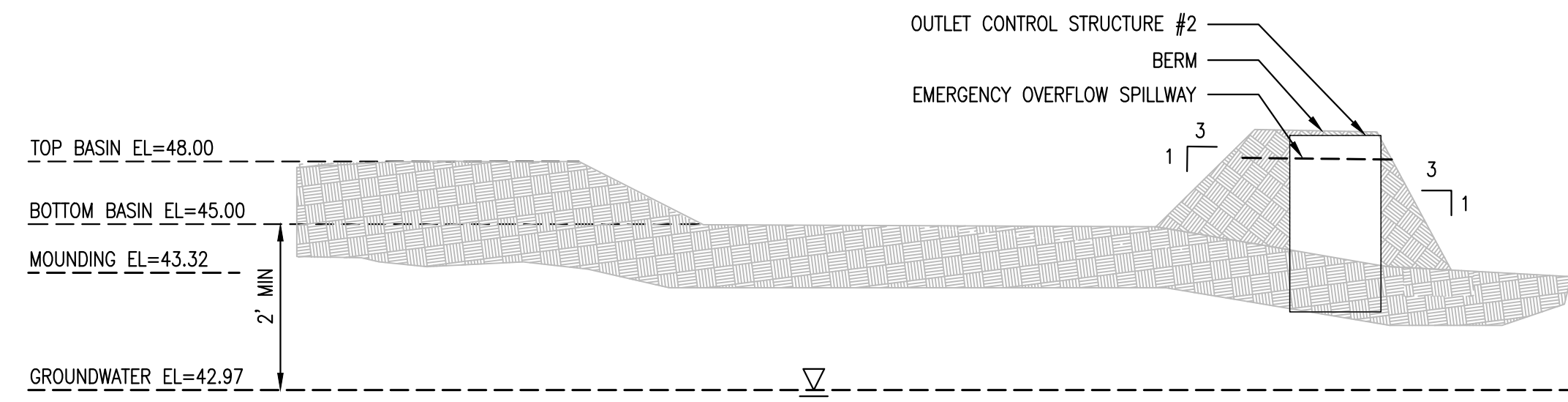
REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

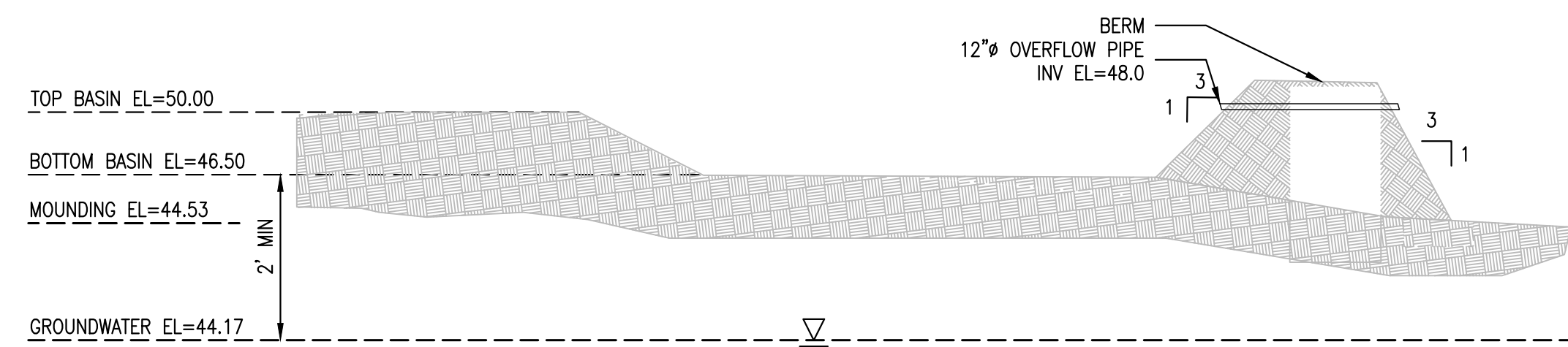
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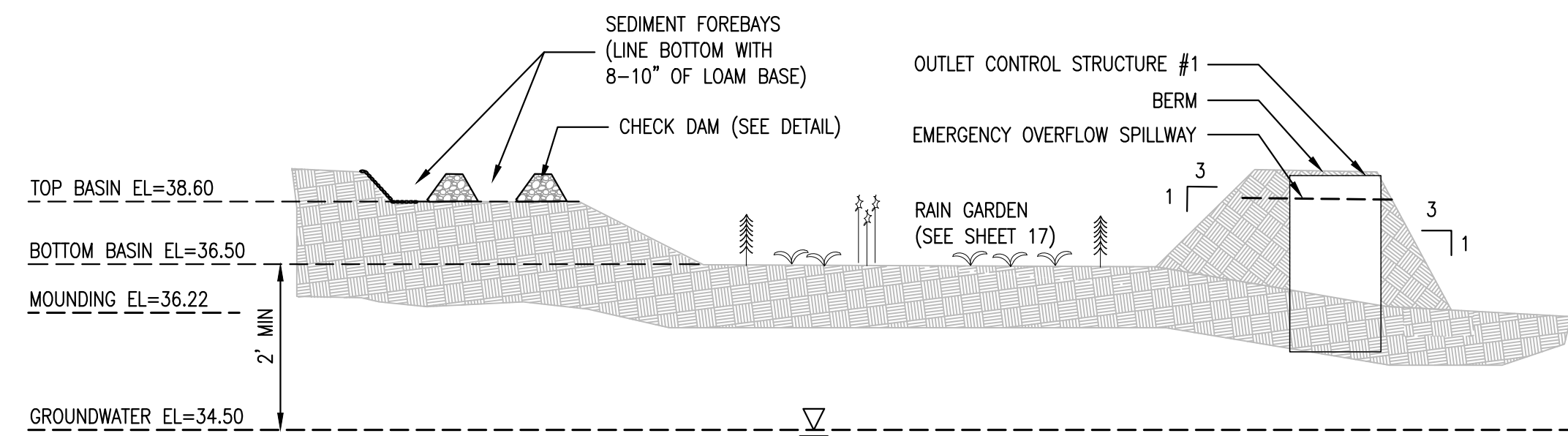
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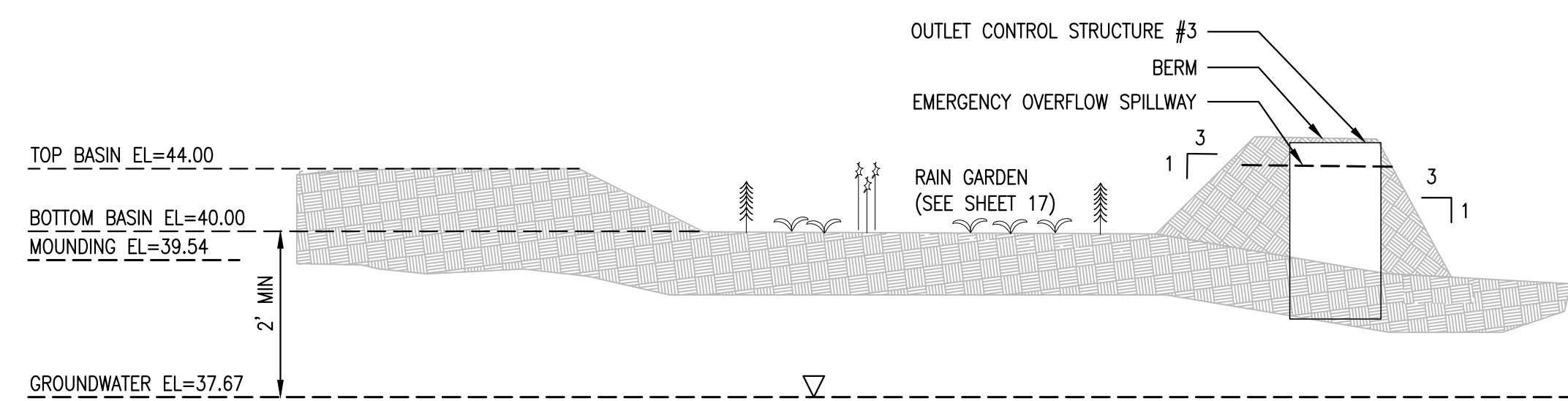
BASIN #1
NOT TO SCALE



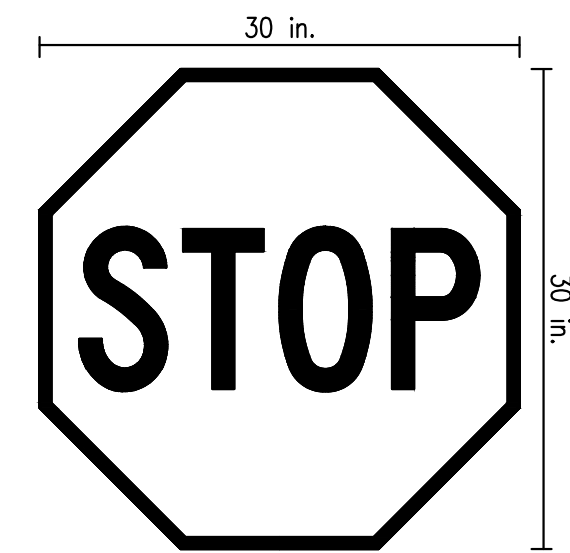
BASIN #2
NOT TO SCALE



DETAIL-RAIN GARDEN #1
NOT TO SCALE

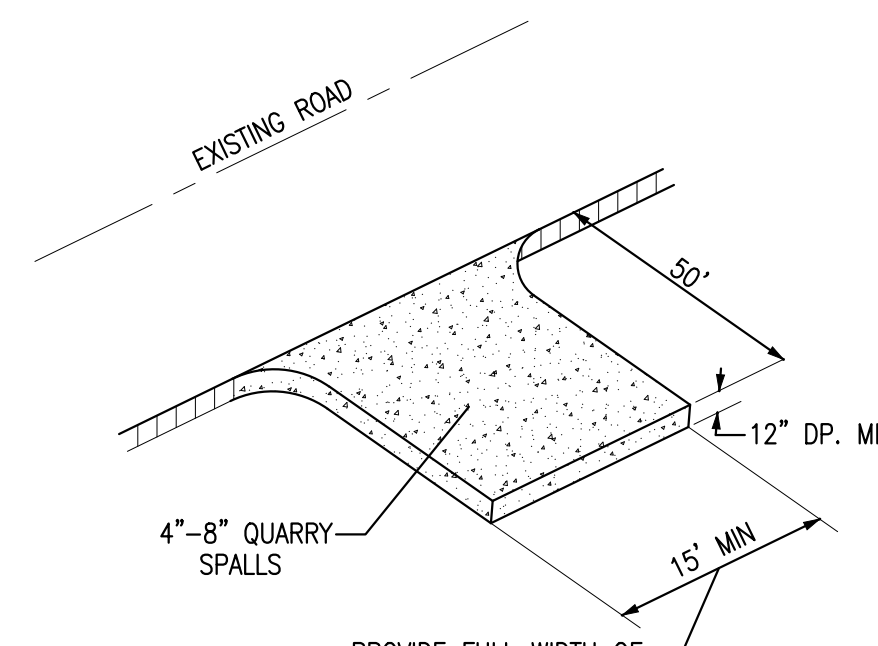


DETAIL-RAIN GARDEN #2
NOT TO SCALE

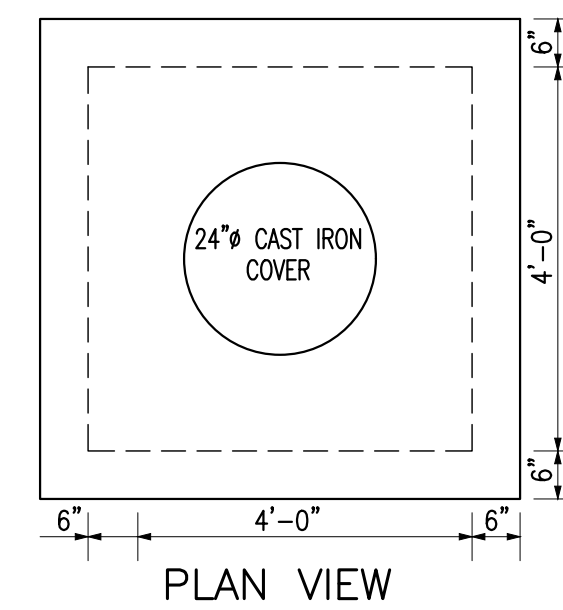


STOP SIGN SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITH THE EXCEPTION OF BEING DIAMOND GRADE.
12" WIDE X 12 FT LONG STOP LINE TO BE PLACED 4 FT IN ADVANCE OF NEAREST CROSSWALK.
IN THE ABSENCE OF MARKED CROSSWALK THE STOP LINE SHALL BE PLACED NO MORE THAN 30 FT NOR LESS THAN 4 FT FROM THE NEAREST EDGE OF THE INTERSECTING TRAVELED WAY.

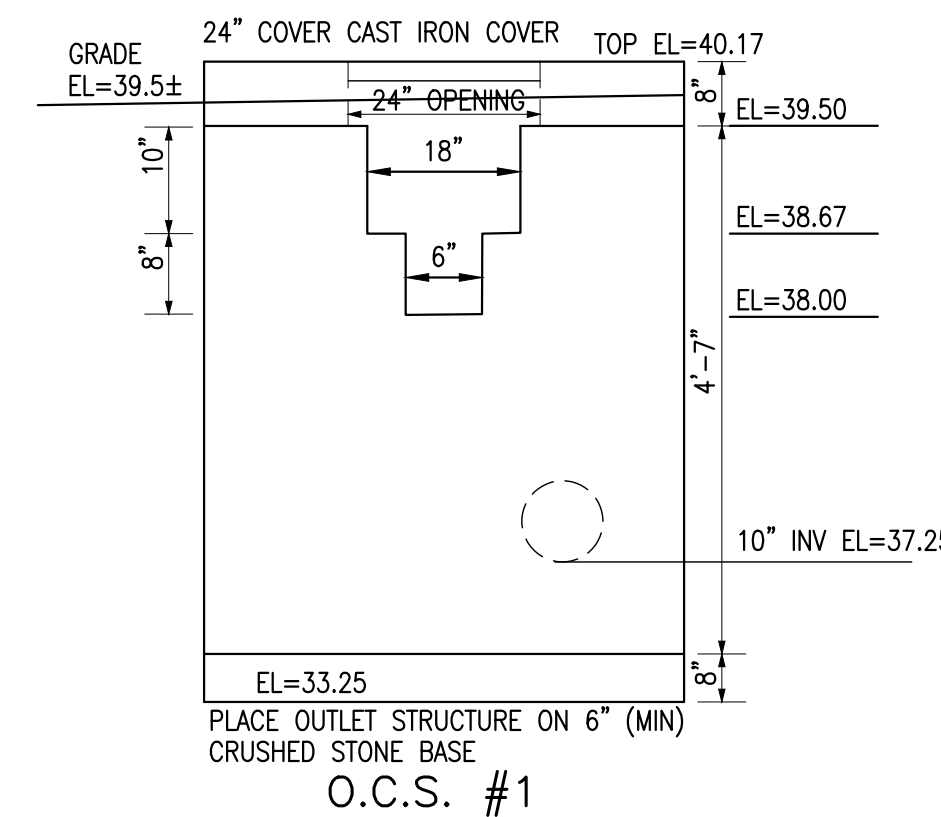
STOP SIGN DETAIL
(NOT TO SCALE)



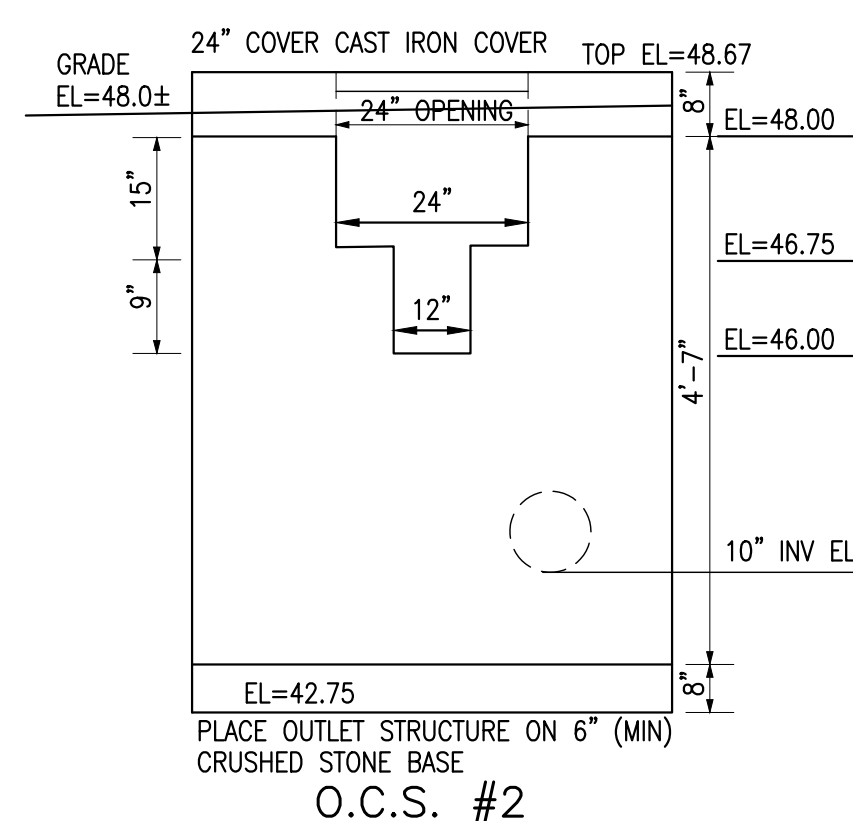
CONSTRUCTION ENTRANCE
(NOT TO SCALE)



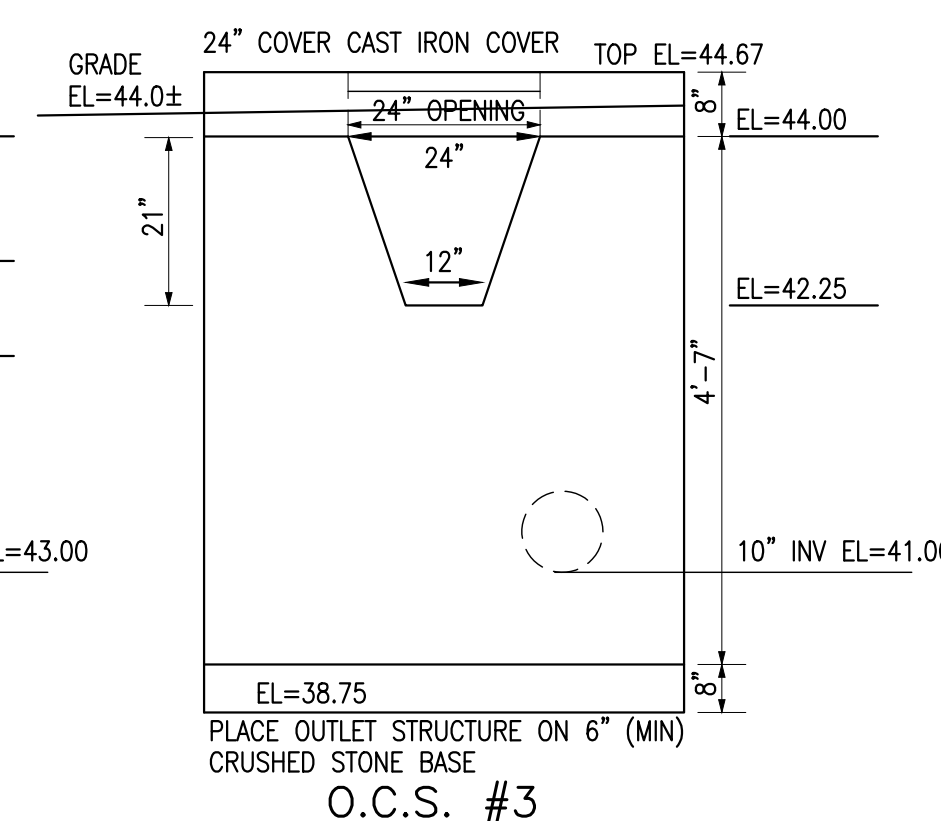
PLAN VIEW



O.C.S. #1



O.C.S. #2

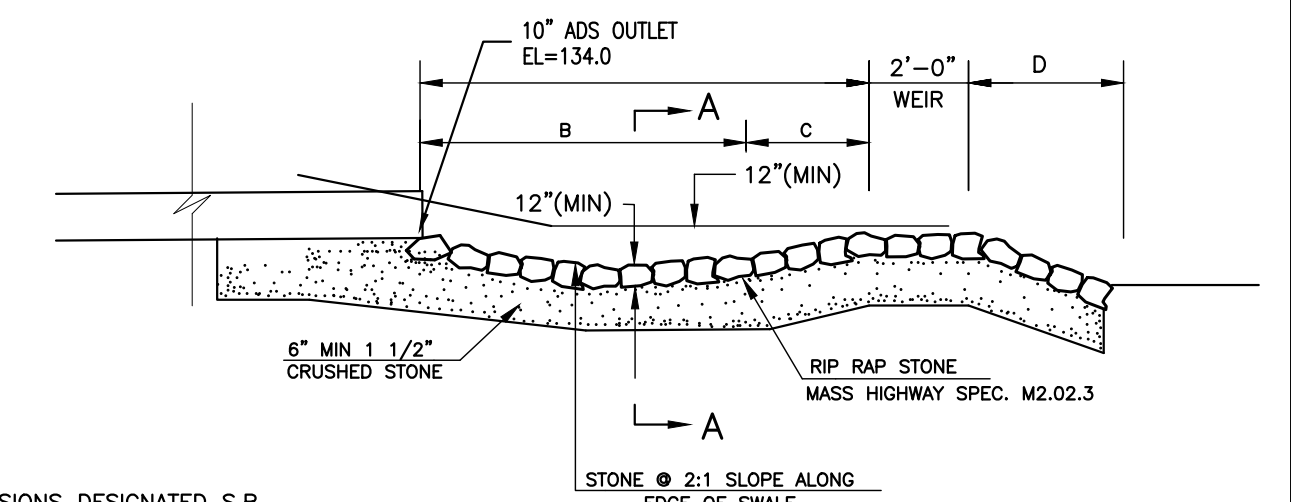


O.C.S. #3

OUTLET CONTROL STRUCTURES
(NOT TO SCALE)

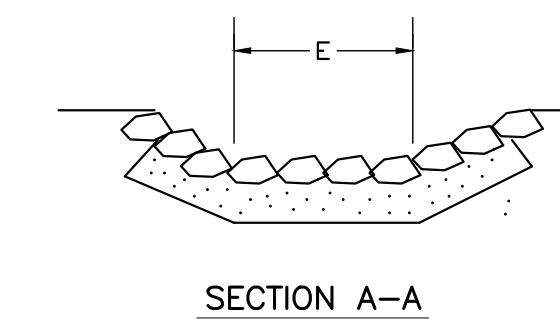
PIPE DIA.	12"
A	5'-0"
B	7'-6"
C	2'-6"
D	3'-0"
E	3'-0"

- NOTES:
1. STONE FOR EROSION CONTROL PADS SHALL COMPLY WITH MDPW MATERIAL SPEC M 2.02.3
2. STONE BERM FOR SILT TRAP SHALL BE CONSTRUCTED AROUND SIDES OF EROSION CONTROL PADS

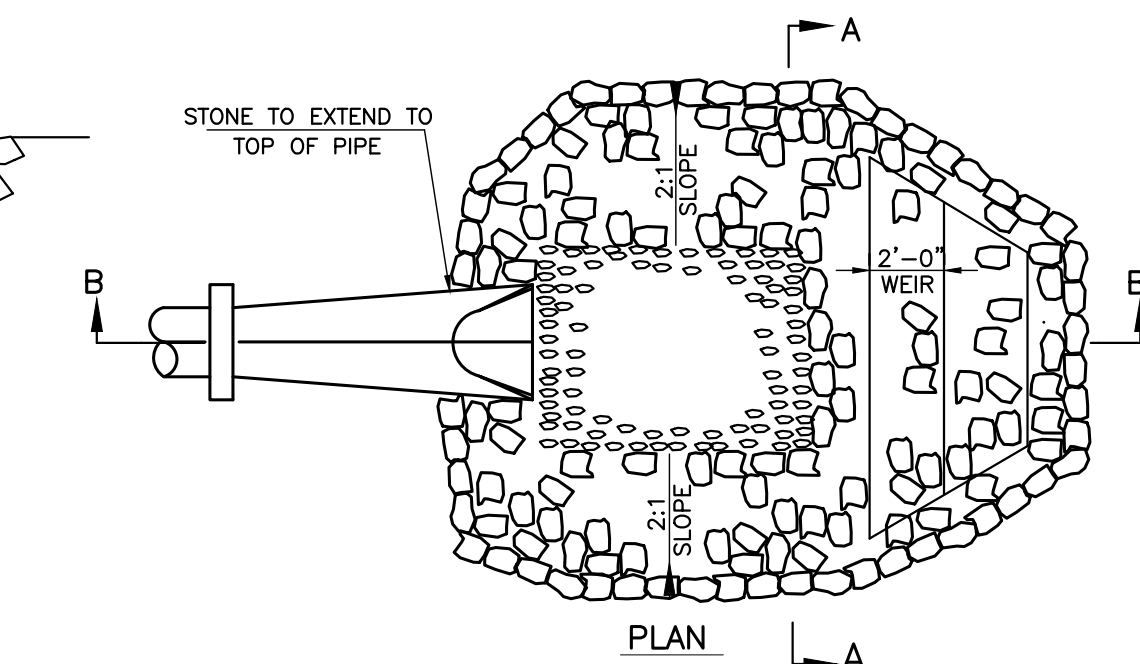


NOTE: DIMENSIONS DESIGNATED S.B. REFER TO SEDIMENTATION BASIN
DIMENSIONS DESIGNATED D.B. REFER TO DETENTION BASIN

SECTION B-B

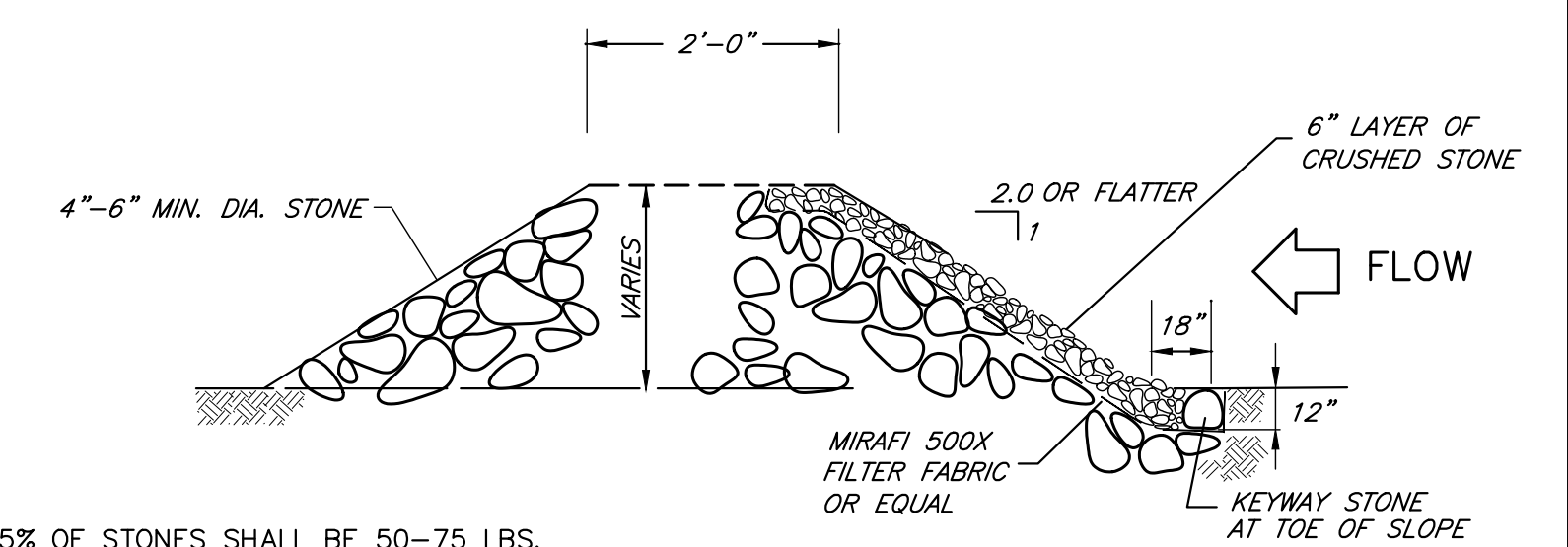


SECTION A-A



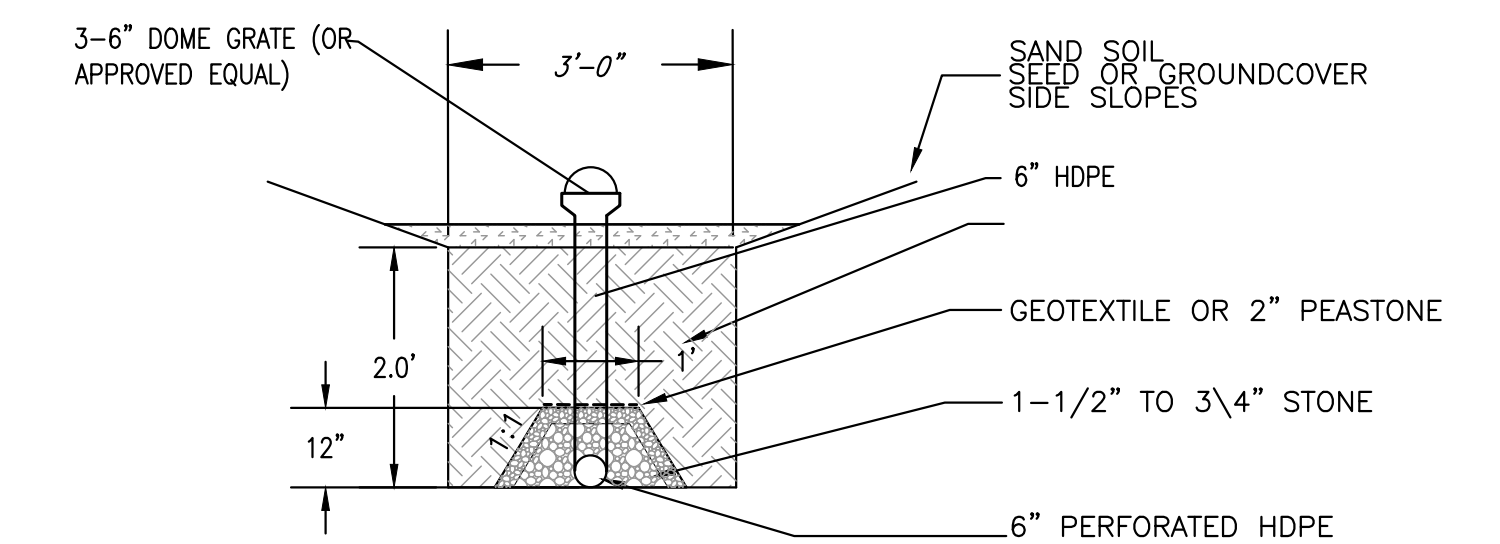
PLAN

SILT TRAP / EROSION CONTROL PAD DETAIL
(NOT TO SCALE)



75% OF STONES SHALL BE 50-75 LBS. AND AS NEARLY RECTANGULAR AS POSSIBLE.

CHECK DAM - X-SECTION
(NOT TO SCALE)



UNDER DRAIN CROSS SECTION DETAIL
(NOT TO SCALE)

REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

PREPARED FOR:
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DRAINAGE DETAILS

C:\COMMUNICATIONS\STORMCEPTOR\STANDARD DRAWINGS\IN PROCESS\STC1200-DTL.DWG 2/15/2019 3:40 PM

PLAN VIEW
TOP SLAB NOT SHOWN

SECTION A-A

STORMCEPTOR DESIGN NOTES

THE STANDARD STC1200 CONFIGURATION IS SHOWN.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs [L/s])			
PEAK FLOW RATE (cfs [L/s])			
RETURN PERIOD OF PEAK FLOW (yrs)			
RIM ELEVATION			
PIPE DATA:			
INLET PIPE 1	INVERT	MATERIAL	DIAMETER
INLET PIPE 2			
OUTLET PIPE			

NOTES / SPECIAL REQUIREMENTS:

FRAME AND COVER
(MAY VARY)
NOT TO SCALE

CONTECH
ENGINEERED SOLUTIONS LLC

STC1200
STORMCEPTOR
STANDARD DETAIL

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
- STORMCEPTOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STORMCEPTOR STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2' (610), AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- STORMCEPTOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 AND AASHTO LOAD FACTOR DESIGN METHOD. ALTERNATE UNITS ARE SHOWN IN MILLIMETERS (mm).

INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMCEPTOR MANHOLE STRUCTURE.
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STORMCEPTOR STC1200 DETAIL
(NOT TO SCALE)

STORMTREE ELEVATION SCHEDULE					
S.T. NO.	A	B	C	D	E
1	45.50'	44.00'	41.50'	42.50'	39.50'
2	49.85'	48.35'	45.85'	46.85'	43.85'
3	53.80'	52.30'	49.80'	50.80'	47.80'
4	59.90'	58.40'	55.90'	56.90'	53.90'
5	59.90'	58.40'	55.90'	56.90'	53.90'

STORMTREE ELEVATION DETAIL
(NOT TO SCALE)

DETAIL-CULTEC SYSTEM
NOT TO SCALE

CULTEC SYSTEM ELEVATION SCHEDULE					
UNIT NO.	A	B	C	D	E
N.H.1&2	40.64'	39.31'	37.77'	37.27'	35.27'
S.H.7-11	44.38'	43.04'	41.50'	41.00'	37.67'
S.H.12	55.38'	54.04'	52.50'	52.00'	46.30'
S.H.13	62.98'	61.64'	60.10'	59.60'	57.60'
S.H.14	65.88'	64.54'	63.00'	62.50'	58.53'

EMERGENCY VEHICLE ACCESS
SCALE: 1"=100'

REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

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Phone (781) 585-2300

DRAINAGE DETAILS

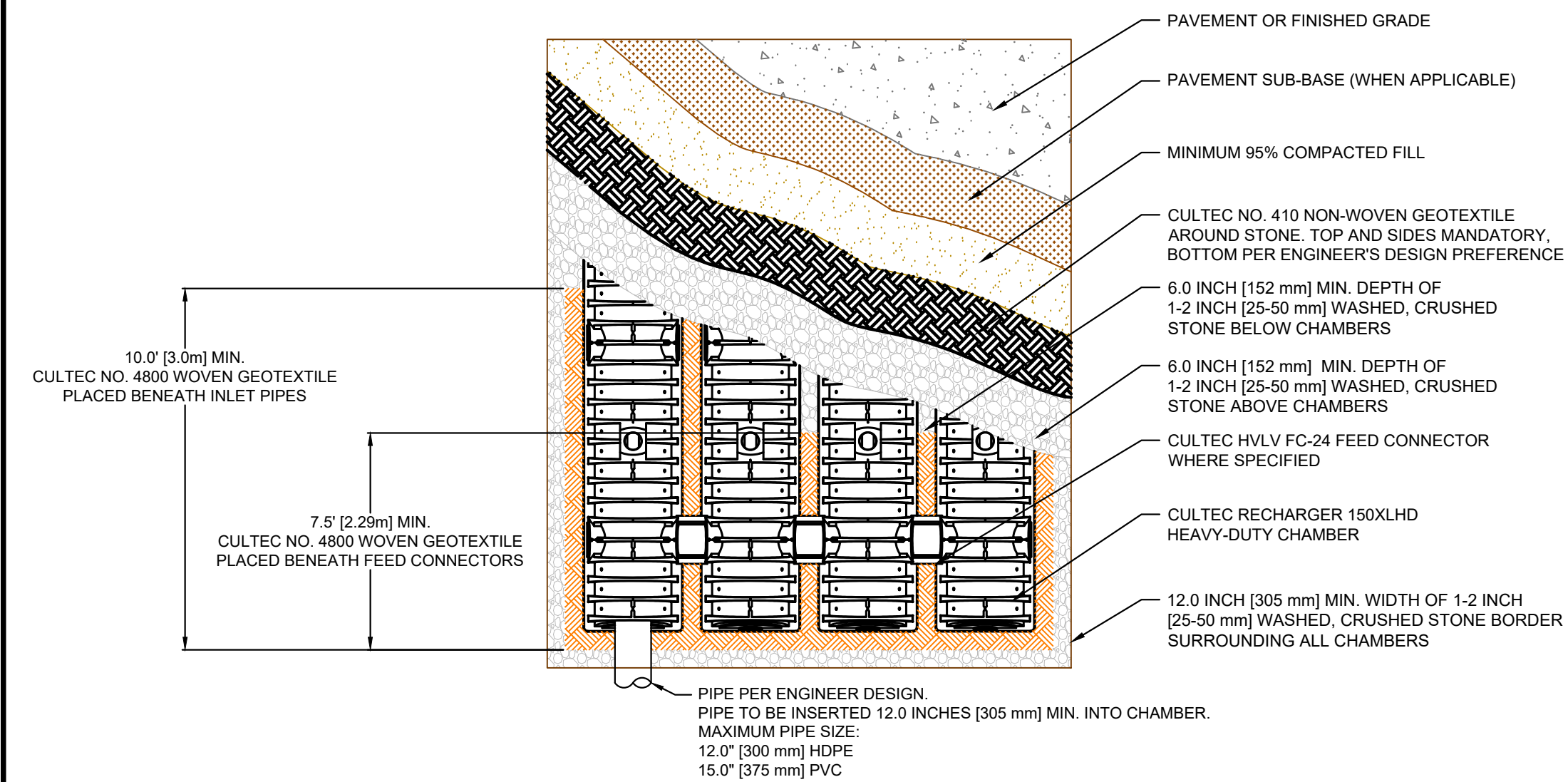
CULTEC RECHARGER® 150XLHD SPECIFICATIONS

GENERAL
CULTEC RECHARGER® 150XLHD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.

CHAMBER PARAMETERS

- THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR
- THE CHAMBER SHALL BE ARCHED IN SHAPE.
- THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE CHAMBER SHALL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS, HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 150XLHD SHALL BE 18.5 INCHES (470 mm) TALL, 33 INCHES (838 mm) WIDE AND 11 FEET (3.35 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 150XLHD SHALL BE 10.25 FEET (3.12 m).
- MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 12 INCHES (300 mm) HDPE OR 15" (375 mm) SMOOTH-WALL PVC.
- THE CHAMBER SHALL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV® FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. THE NOMINAL INSIDE DIMENSIONS OF EACH SIDE PORTAL SHALL BE 8.5 INCHES (216 mm) HIGH BY 12 INCHES (304 mm) WIDE. MAXIMUM ALLOWABLE OUTER DIAMETER (O.D.) PIPE SIZE IN THE SIDE PORTAL IS 10.25 INCHES (260 mm).
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV® FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (615 mm) LONG.
- THE NOMINAL STORAGE VOLUME OF THE RECHARGER 150XLHD CHAMBER SHALL BE 2.650 FT³/ FT (0.246 m³/ m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 150XLHD SHALL BE 27.16 FT³/ UNIT (0.77 m³/ UNIT) - WITHOUT STONE.
- THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT³/ FT (0.085 m³/ m) - WITHOUT STONE.
- THE RECHARGER 150XLHD CHAMBER SHALL HAVE THIRTY DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNITS CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
- THE RECHARGER 150XLHD CHAMBER SHALL HAVE 20 CORRUGATIONS.
- THE ENDWALL OF THE CHAMBER, WHEN PRESENT, SHALL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
- THE RECHARGER 150XLHRD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE ENDWALLS.
- THE RECHARGER 150XLSHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 10 INCHES (254 mm) HIGH X 20.5 INCHES (521 mm) WIDE.
- THE RECHARGER 150XLHD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 10 INCHES (254 mm) HIGH X 20.5 INCHES (521 mm) WIDE.
- THE RECHARGER 150XLEHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
- THE HVLV® FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE RECHARGER 150XLHD AND ACT AS CROSS FEED CONNECTIONS.
- CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
- THE CHAMBER SHALL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
- THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
- THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.
- THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- THE CHAMBER SHALL BE DESIGNED AND MANUFACTURED TO MEET THE MATERIAL AND STRUCTURAL REQUIREMENTS OF IAPMO PS 63-2018, INCLUDING RESISTANCE TO AASHTO H-10 AND H-20 HIGHWAY LIVE LOADS, WHEN INSTALLED IN ACCORDANCE WITH CULTEC'S INSTALLATION INSTRUCTIONS.
- THE CHAMBER SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATION OF NSAI IRISH AGREEMENT BOARD CERTIFICATE FOR CULTEC ATTENUATION AND INFILTRATION.
- MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.65 m).

GENERAL NOTES



CULTEC RECHARGER 150XLHD HEAVY DUTY PLAN VIEW

CULTEC HVLV® FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS

GENERAL
CULTEC HVLV® FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER 150XLHD STORMWATER CHAMBERS.

CHAMBER PARAMETERS

- THE CHAMBERS SHALL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE CHAMBER SHALL BE VACUUM THERMOFORMED OF HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE) WITH A BLACK INTERIOR AND BLUE EXTERIOR
- THE CHAMBER SHALL BE ARCHED IN SHAPE.
- THE CHAMBER SHALL BE OPEN-BOTTOMED.
- THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV® FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (615 mm) LONG.
- THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR SHALL BE 0.913 FT³/ FT (0.085 m³/ m) - WITHOUT STONE.
- THE HVLV FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 3 CORRUGATIONS.
- THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT SHALL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
- THE CHAMBER SHALL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- THE CHAMBERS SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE

CULTEC NO. 410™ NON-WOVEN GEOTEXTILE MAY BE USED WITH CULTEC CONTROLLER® AND RECHARGER® STORMWATER INSTALLATIONS TO PROVIDE A BARRIER THAT PREVENTS SOIL INTRUSION INTO THE STONE.

GEOTEXTILE PARAMETERS

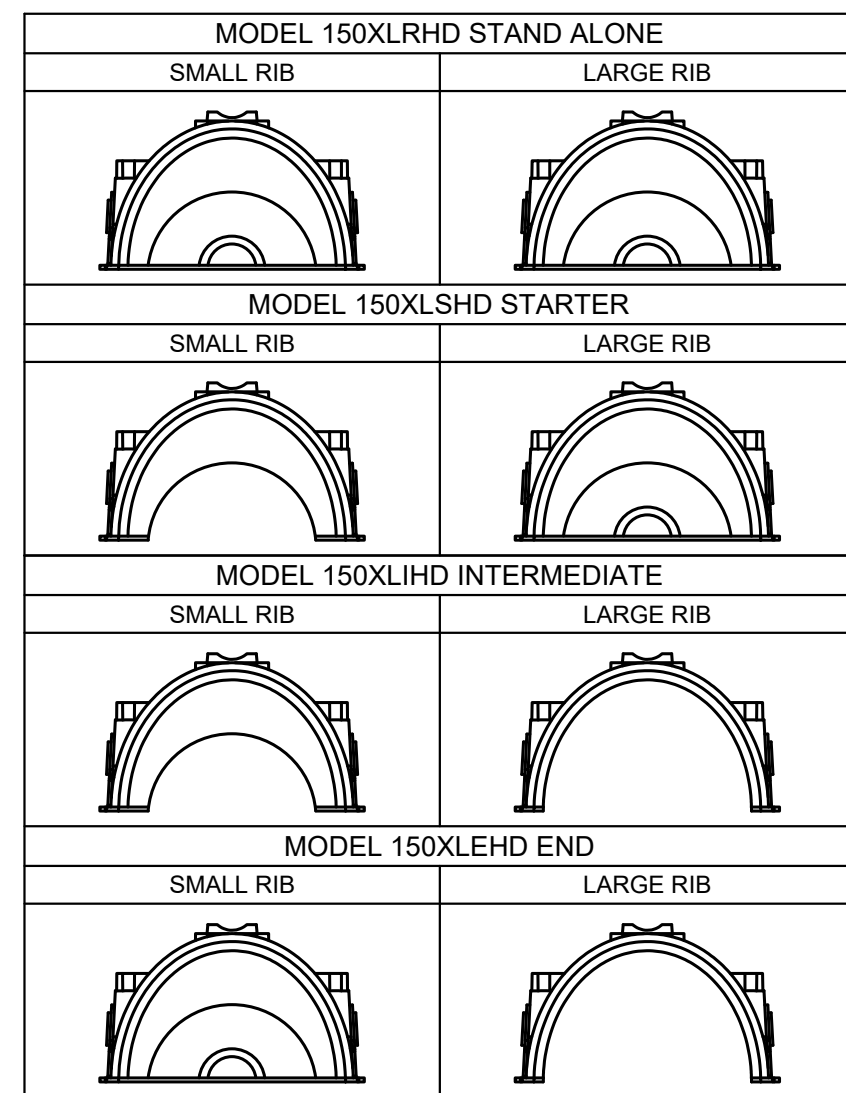
- THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
- THE GEOTEXTILE SHALL HAVE A TYPICAL WEIGHT OF 4.5 OZ/SY (142 G/M).
- THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH VALUE OF 120 LBS (533 N) PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE AN ELONGATION @ BREAK VALUE OF 50% PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A MULLEN BURST VALUE OF 225 PSI (1551 KPA) PER ASTM D3786 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PUNCTURE STRENGTH VALUE OF 65 LBS (289 N) PER ASTM D4833 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE VALUE OF 340 LBS (1513 N) PER ASTM D6241 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A TRAPEZOID TEAR VALUE OF 50 LBS (222 N) PER ASTM D4533 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A AOS VALUE OF 70 U.S. SIEVE (0.212 MM) PER ASTM D4751 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PERMITTIVITY VALUE OF 1.7 SEC-1 PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WATER FLOW RATE VALUE OF 135 GAL/MIN/SF (5500 L/MIN/SM) PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A UV STABILITY @ 500 HOURS VALUE OF 70% PER ASTM D4355 TESTING METHOD.

CULTEC NO. 4800™ WOVEN GEOTEXTILE

CULTEC NO. 4800 WOVEN GEOTEXTILE IS DESIGNED AS AN UNDERLAYMENT TO PREVENT SCOURING CAUSED BY WATER MOVEMENT WITHIN THE CULTEC CHAMBERS AND FEED CONNECTORS UTILIZING THE CULTEC MANIFOLD FEATURE. IT MAY ALSO BE USED AS A COMPONENT OF THE CULTEC SEPARATOR ROW TO ACT AS A BARRIER TO PREVENT SOIL/CONTAMINANT INTRUSION INTO THE STONE WHILE ALLOWING FOR MAINTENANCE.

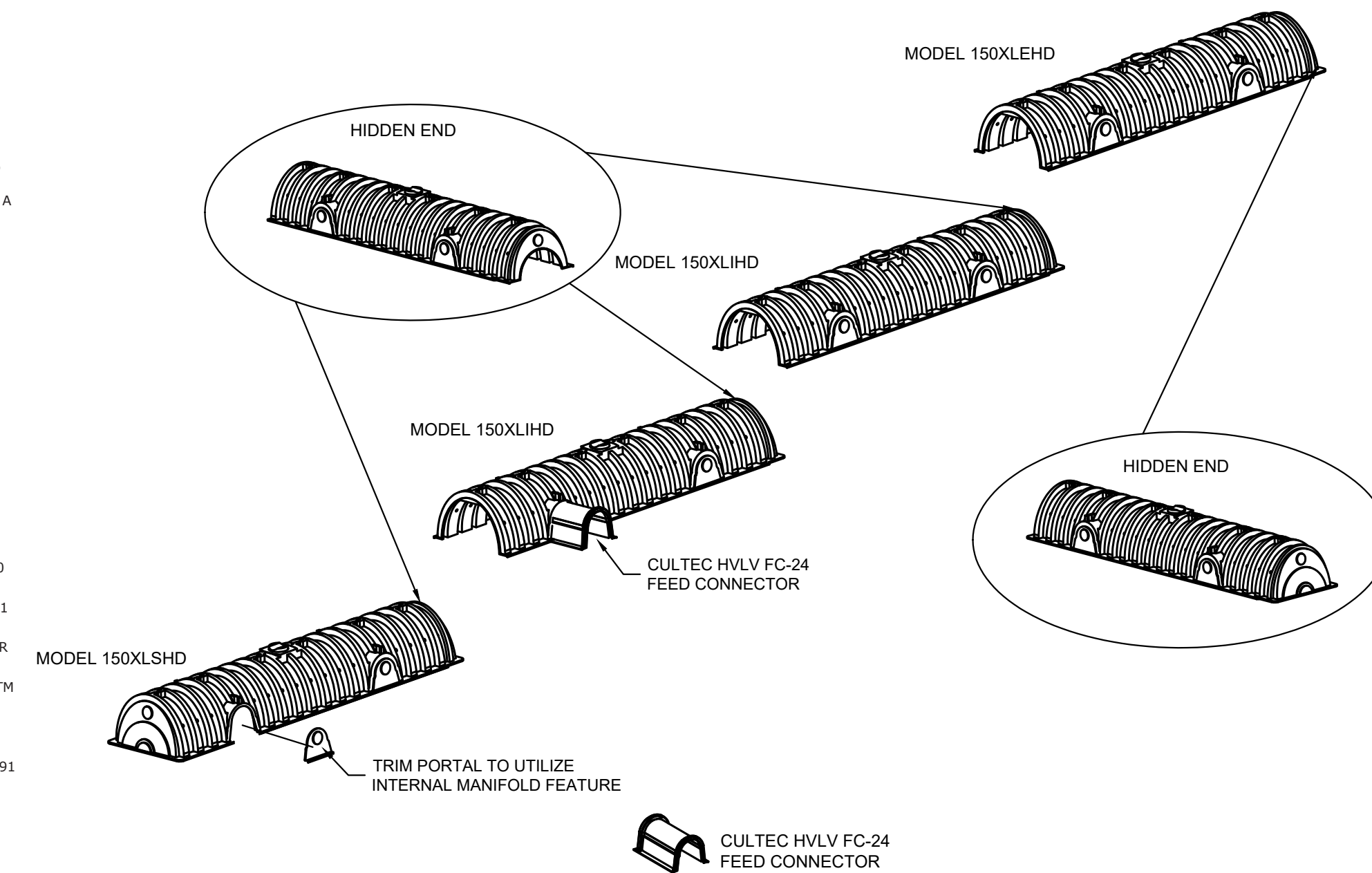
GEOTEXTILE PARAMETERS

- THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
- THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
- THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 550 X 550 LBS (2,448 X 2,448 N) PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A ELONGATION @ BREAK RESISTANCE OF 20 X 20% PER ASTM D4632 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE OF 5,070 X 5,070 LBS/FT (74 X 74 KN/M) PER ASTM D4595 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 2% STRAIN OF 960 X 1,096 LBS/FT (14 X 16 KN/M) PER ASTM D4595 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 5% STRAIN OF 2,740 X 2,740 LBS/FT (40 X 40 KN/M) PER ASTM D4595 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WIDE WIDTH TENSILE RESISTANCE @ 10% STRAIN OF 4,800 X 4,800 LBS/FT (70 X 70 KN/M) PER ASTM D4595 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 1,700 LBS (7,560 N) PER ASTM D6241 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A TRAPEZOIDAL TEAR RESISTANCE OF 180 X 180 LBS (801 X 801 N) PER ASTM D4533 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 MM) PER ASTM D4751 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.15 SEC-1 PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 11.5 GPM/FT² (470 LPM/M²) PER ASTM D4491 TESTING METHOD.
- THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 80% @ 500 HRS. PER ASTM D4355 TESTING METHOD.

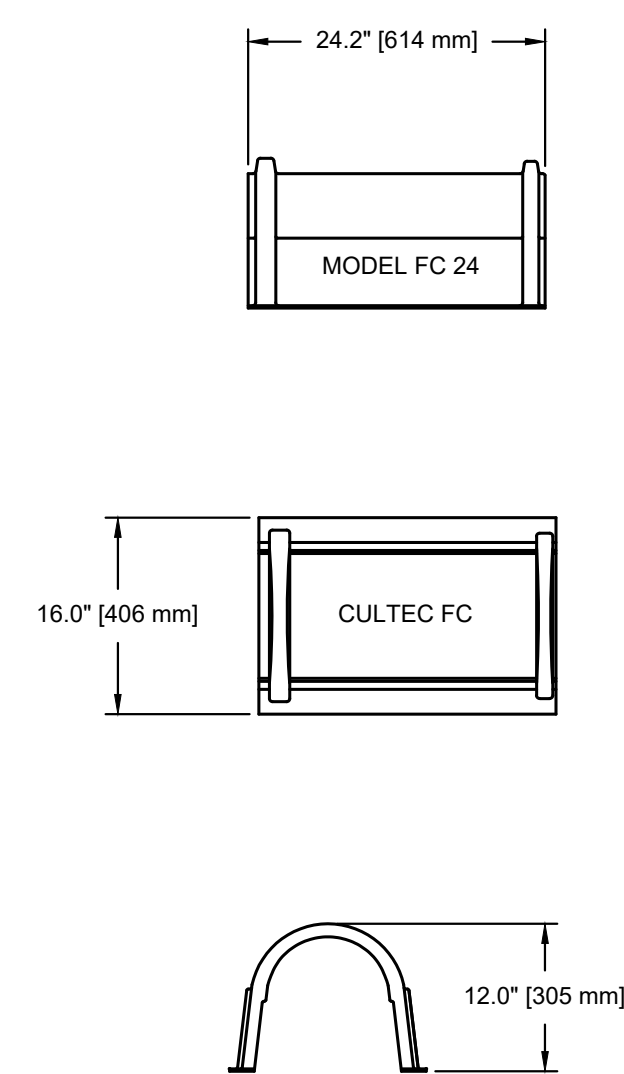


CULTEC RECHARGER 150XLHD CHAMBER STORAGE = 2.65 CF/FT [0.246 m³/m]
INSTALLED LENGTH ADJUSTMENT = 0.75' [0.23 m]

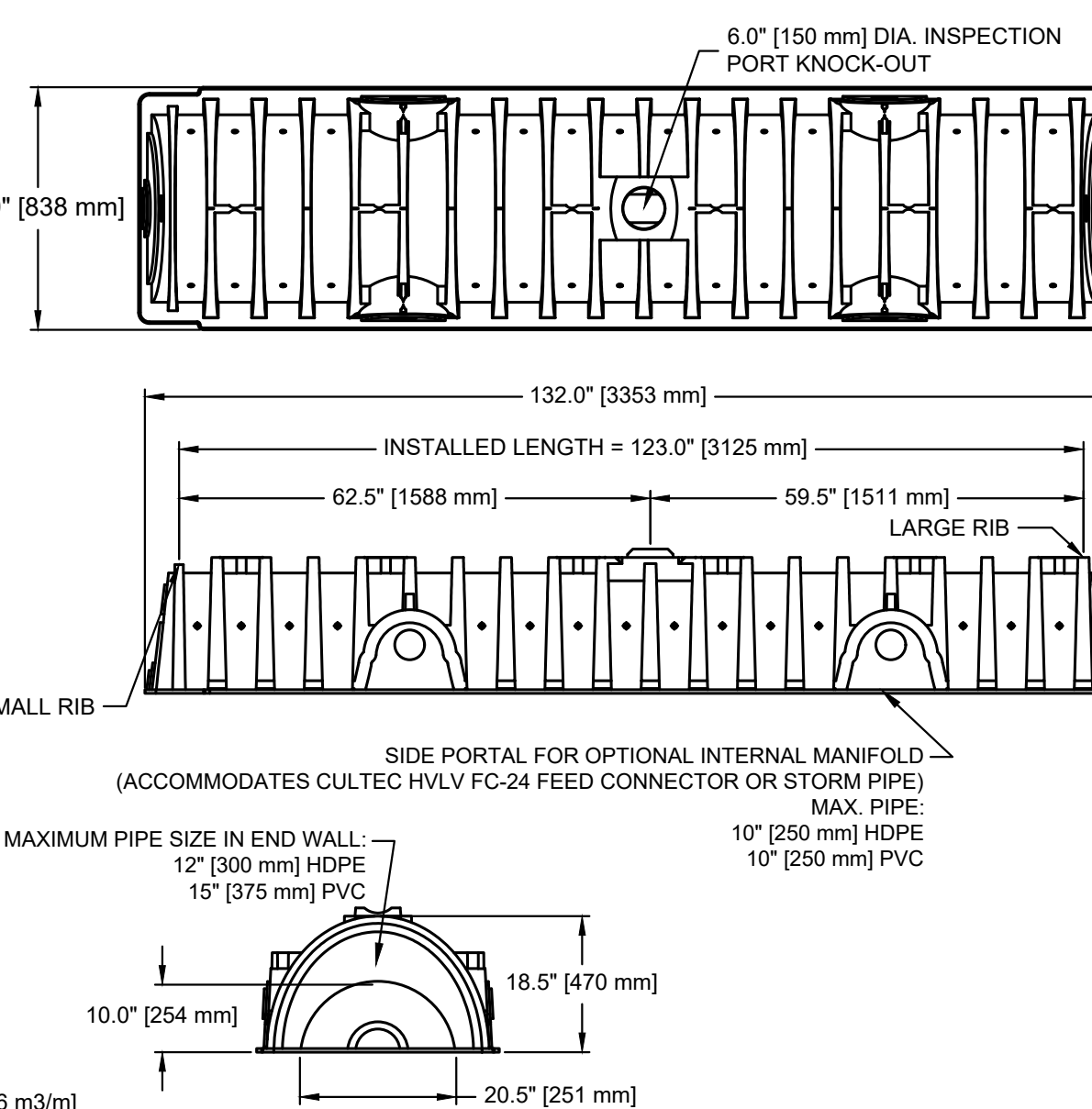
CULTEC RECHARGER 150XLHD HEAVY DUTY THREE VIEW



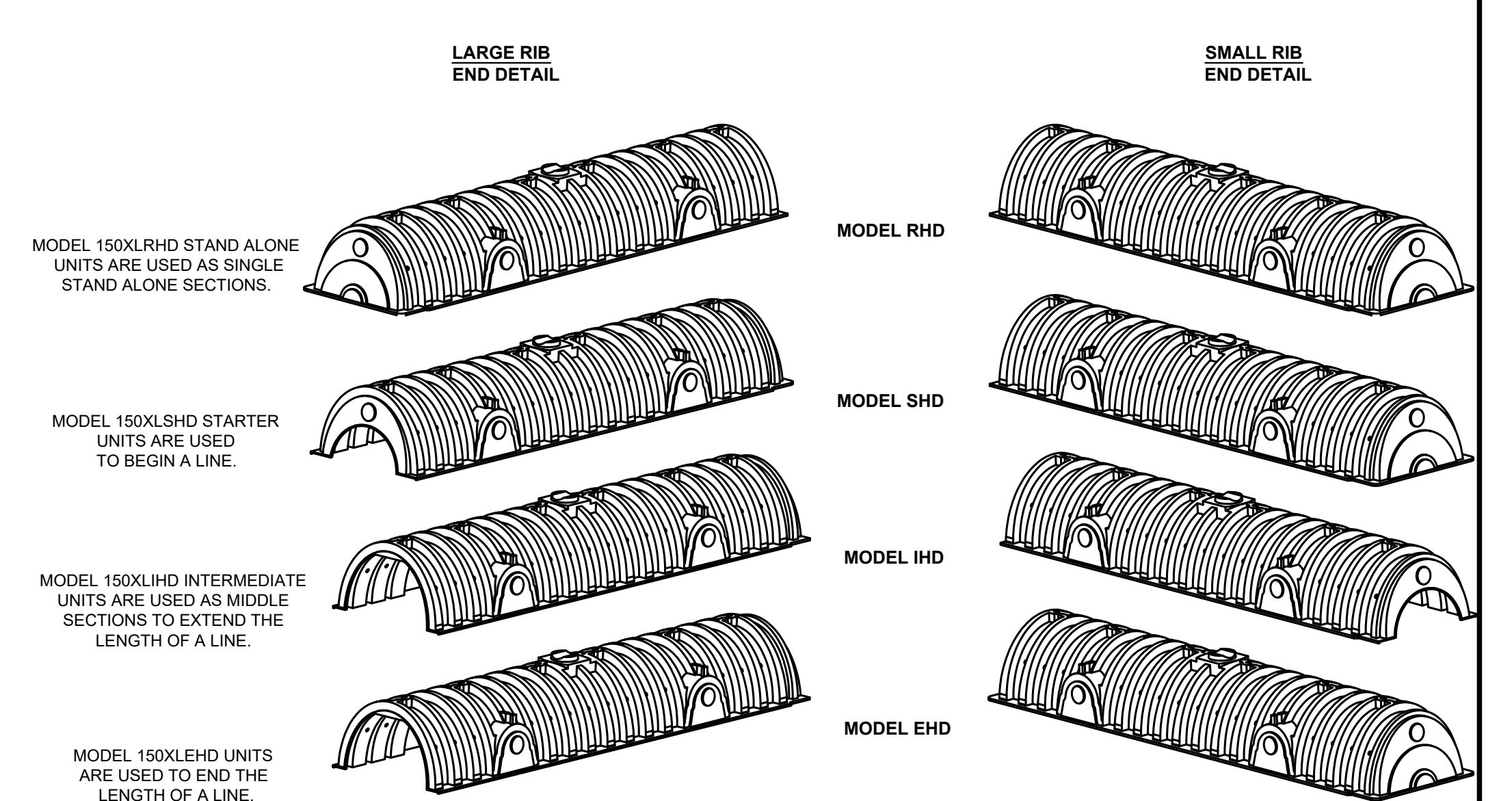
CULTEC RECHARGER 150XLHD HEAVY DUTY TYPICAL INTERLOCK



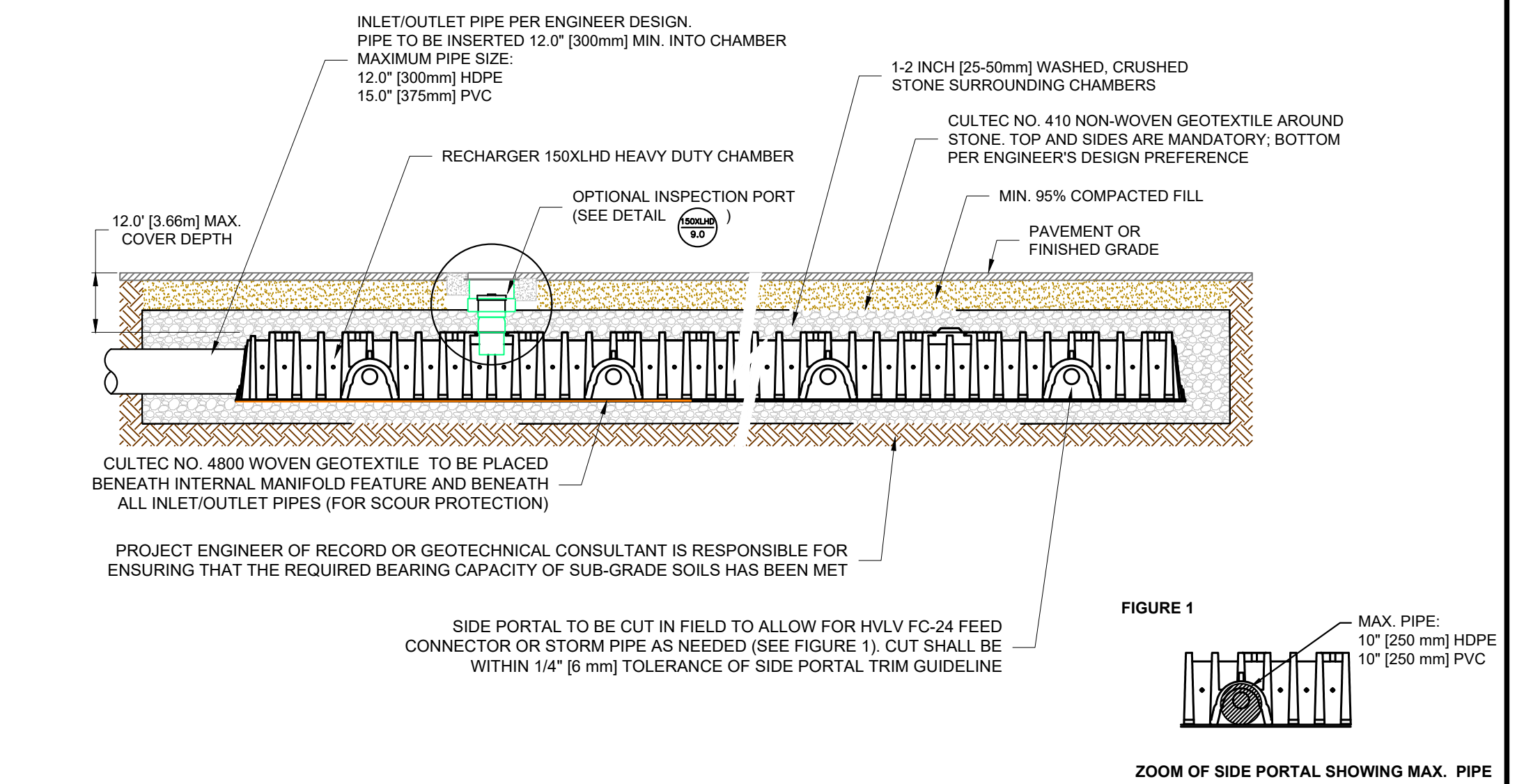
CULTEC HVLV FC-24 FEED CONNECTOR THREE VIEW



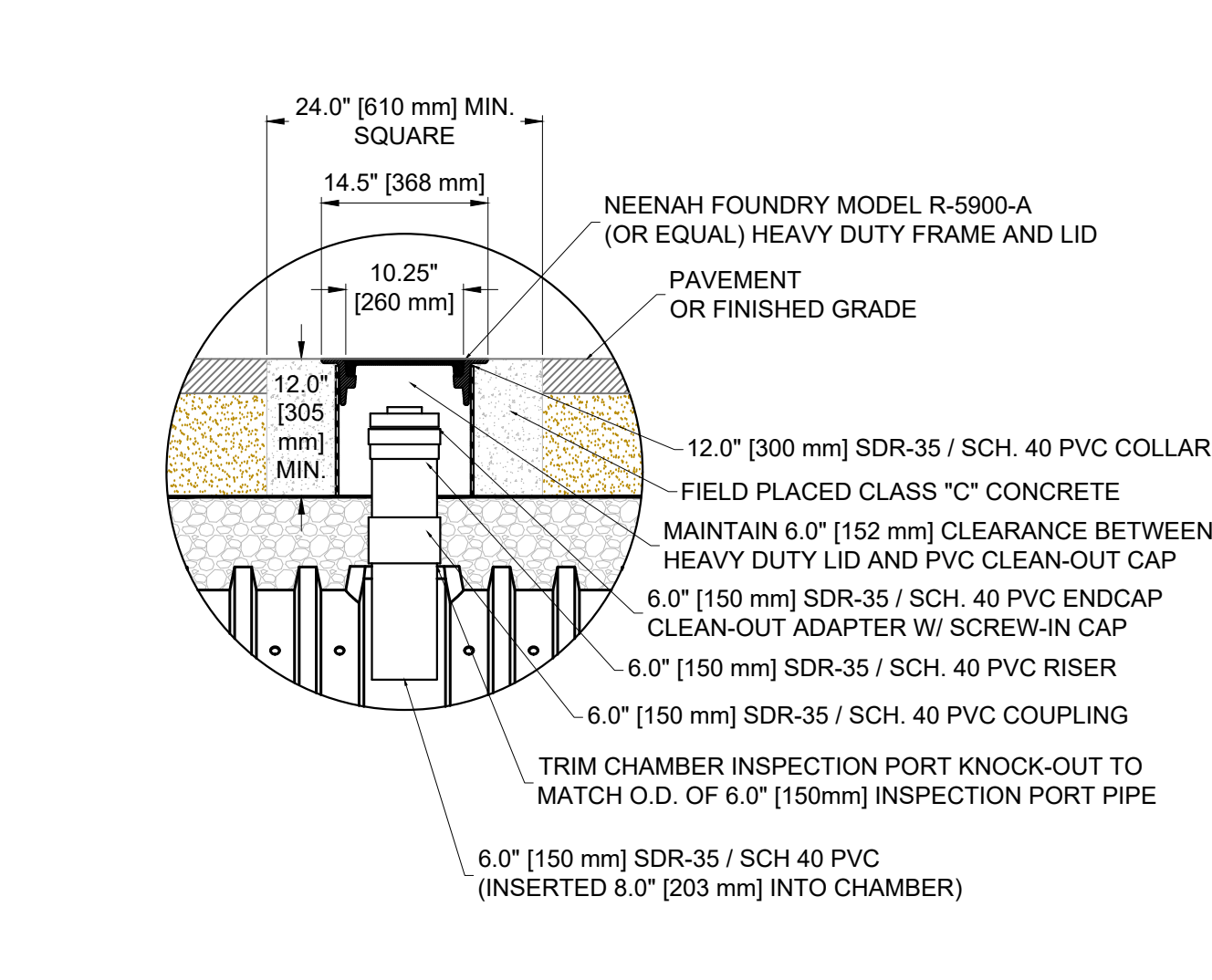
CULTEC RECHARGER 150XLHD HEAVY DUTY END DETAIL INFORMATION



CULTEC RECHARGER 150XLHD HEAVY DUTY END DETAIL INFORMATION



CULTEC INTERNAL MANIFOLD - OPTIONAL INSPECTION PORT DETAIL



OPTIONAL INSPECTION PORT - ZOOM DETAIL

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

PREPARED FOR:
JOHN BALDWIN
PO BOX 1071
DUXBURY, MA 02331

MAY 16, 2023
SCALE: 1"=50'
JOB No. 16-221

GRADY CONSULTING, L.L.C.
Civil Engineers, Land Surveyors & Landscape Architects
71 Evergreen Street, Suite 1, Kingston, MA 02364
Phone (781) 585-2300

PUMP DESIGN

STATIC HEAD = 17.1 FT
 PIPE LENGTH = 365 FT
 PIPE DIAMETER = 3 IN

GPM	H _f (ft/100ft)	PIPE H _f (ft)	H _t (total)
20	0.12	0.44	17.54
40	0.43	1.58	18.68
60	0.92	3.34	20.44
80	1.56	5.69	22.79
100	2.36	8.60	25.70
110	2.81	10.26	27.36

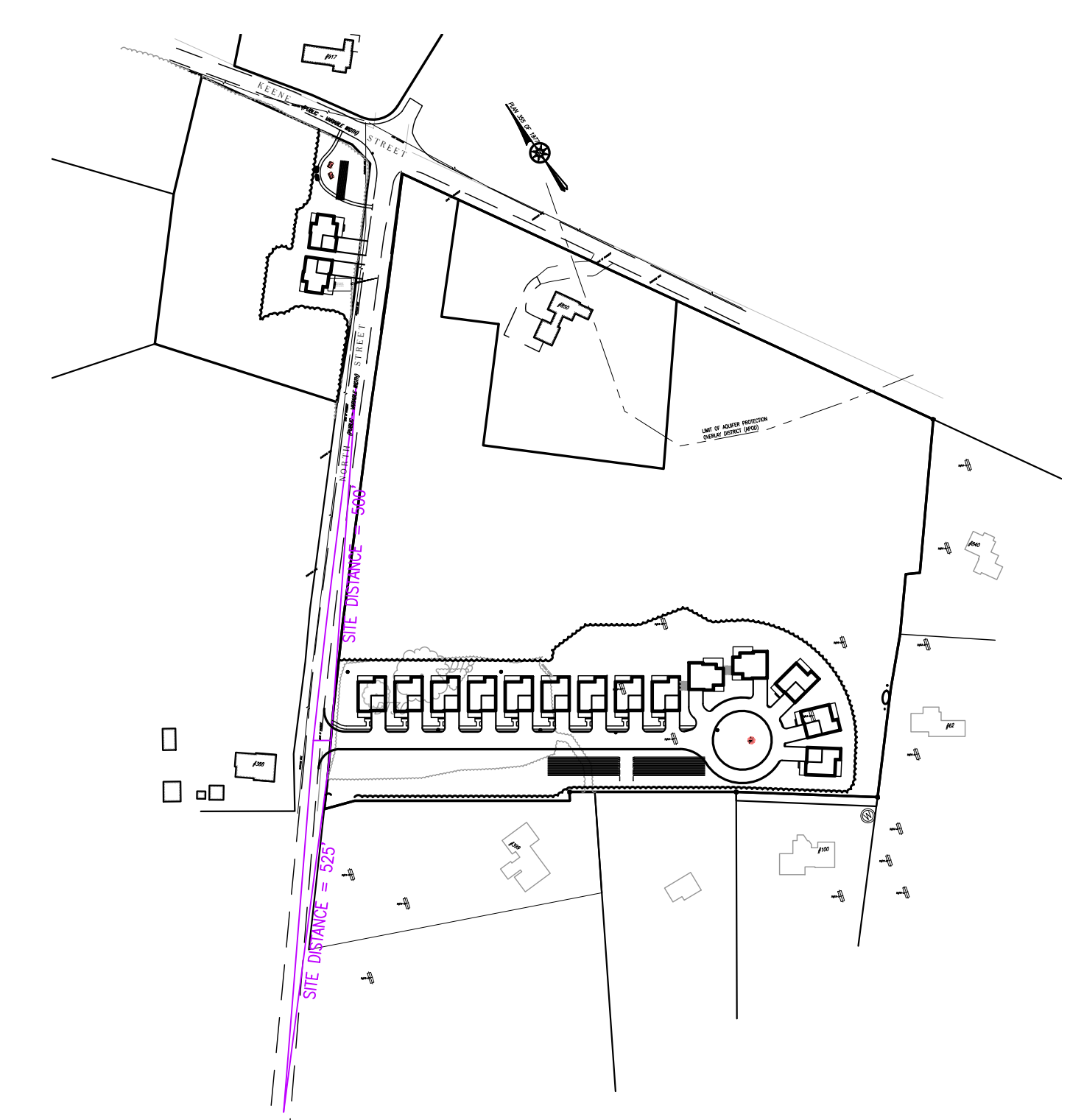
REFERENCE: CAMERON HYDRAULIC DATA, PG 3-38 & GOULDS PUMPS WASTEWATER & SEWAGE

PUMP SPECIFICATIONS:
 TYPE: GOULDS 3887
 WS0532BF, 0.5HP, 3" DISCHARGE (OR APPROVED EQUAL)
 PUMP SPEC. BY APUMP CO (781)826-2341
 RATINGS: 60 G.P.M. @ 20.44 TDH (MIN)
 MOTOR: 0.5 HORSE POWER, 1 PHASE
 VOLTAGE REQUIRED: 230 VOLTS, 3.3A

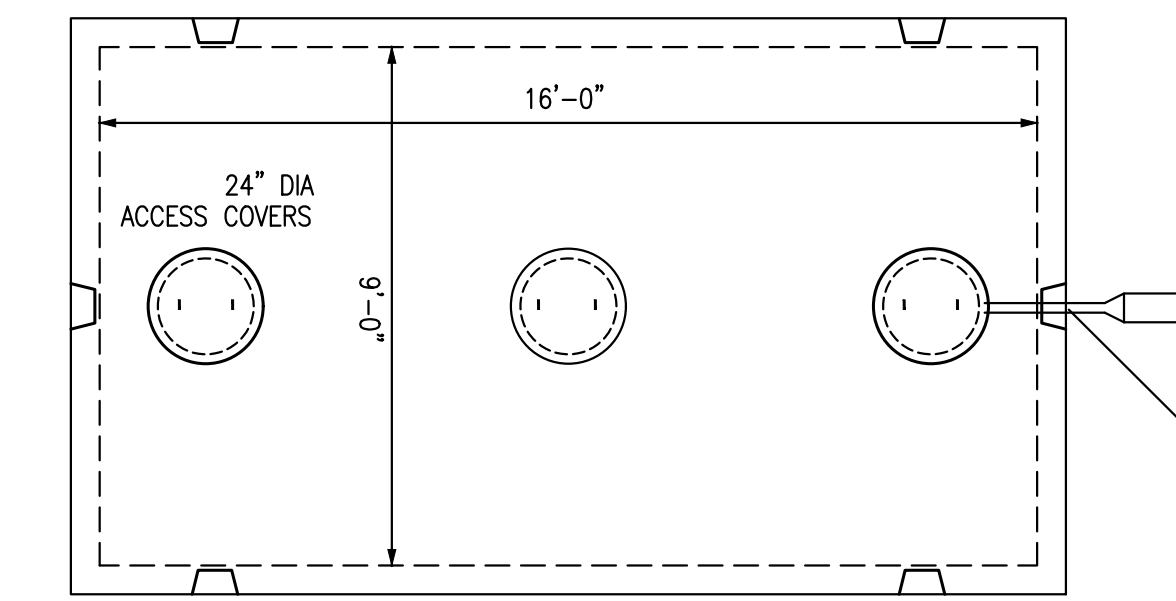
CONTROL PANEL SPECIFICATIONS:
 ALDERON INDUSTRIES FLEX - POWER PAK
 TYPE 4X (EXTERIOR) ENCLOSURE WITH CLEAR DOOR
 SINGLE PHASE DUPLEX ALTERNATING PUMPS
 FLXP10230 (OR APPROVED EQUAL)
 TIME DOSED FOUR FLOAT SYSTEM

CHAMBER STORAGE CAPACITY

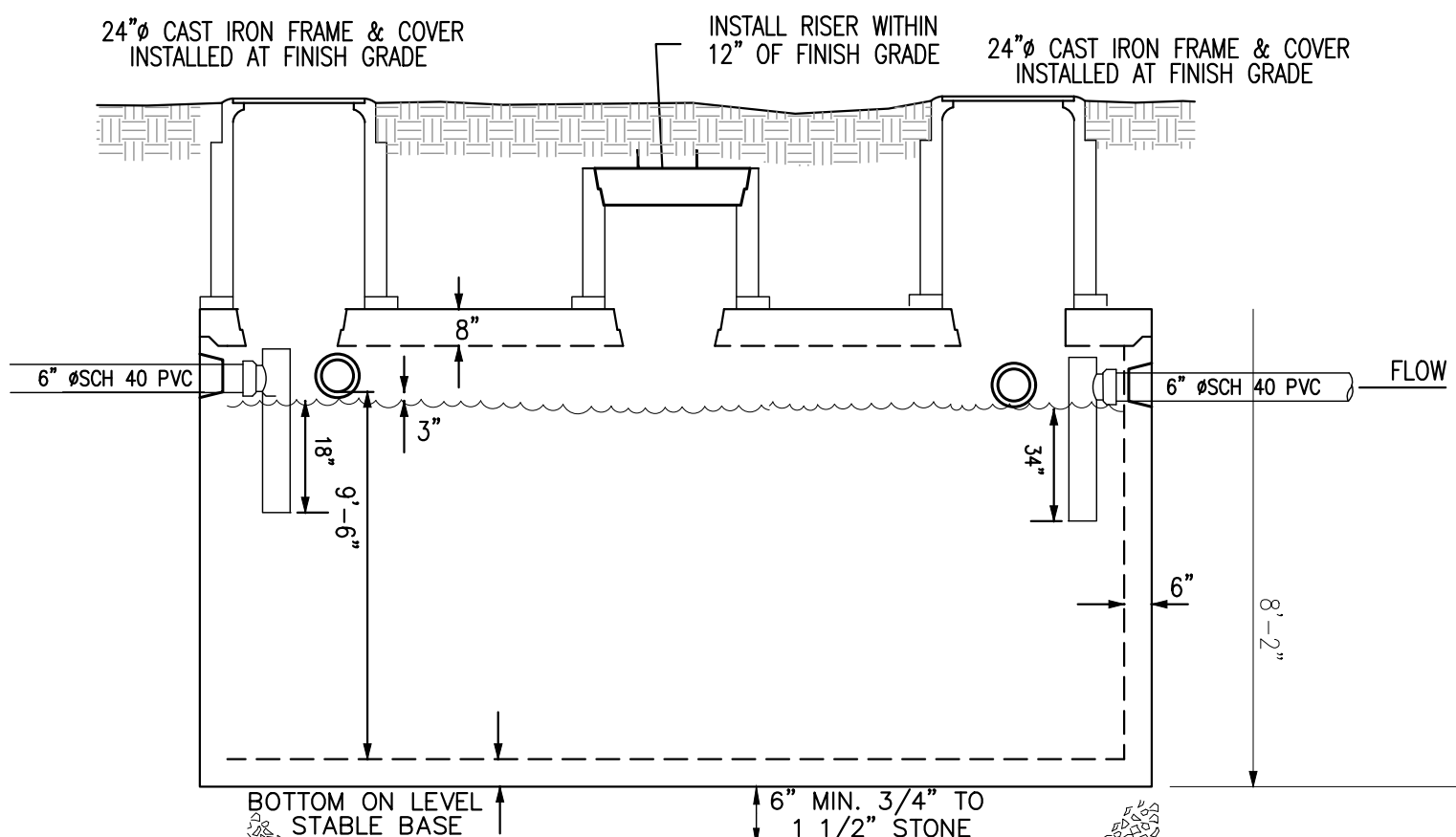
PEAK FLOW = 4,620 GALLONS PER DAY
 AVERAGE FLOW = 2,310 GALLONS PER DAY
 6 DOSES PER DAY OF AVERAGE FLOW = 2,310 / 6 = 385 GALLONS (52 CF) PER DOSE / (2x28.5x102') = 0.009 FEET OR 0.11 INCHES OVER LEACHING FIELD PER DOSE
 390 ± 3" FORCE MAIN VOLUME x 0.049 CF/LF x 7.48 = 143 GALLONS PROVIDE 825 + 143 = 968 GALLONS PER DOSE
 10,000 GALLON PUMP CHAMBER = 1,667 CF/FT OF TANK
 2,000 GALLON PUMP CHAMBER = 522 CF/FT OF TANK
 COMBINED = 2,189 CF/FT OF TANK
 (968 GAL/DOSE - 303 WITHIN 3,000 GALLON TANK) / 2,189 GAL/FT OF TANK = 0.30 FT (MIN) ABOVE BOTTOM OF 10,000 GALLON TANK
 10,526 GAL EMERGENCY STORAGE CAPACITY > 9,900 GAL. 24 HR REQUIRED CAPACITY



SIGHT DISTANCE TRIANGLES
 SCALE: 1"=200'



PLAN VIEW

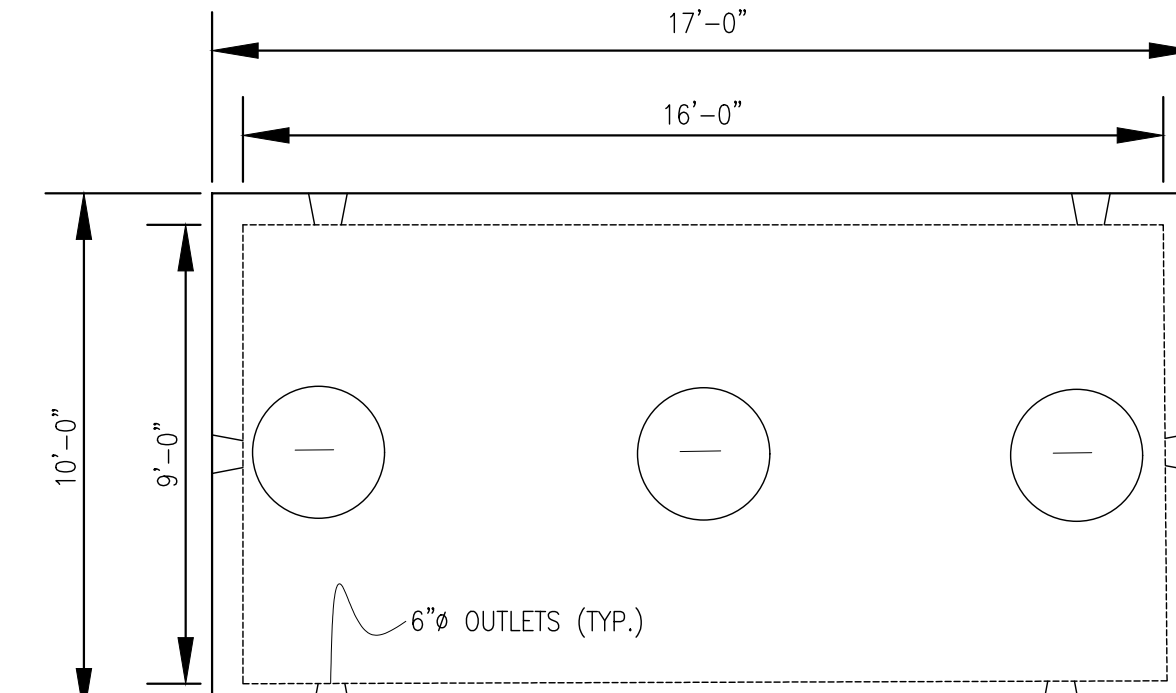


CROSS-SECTION VIEW SCITUATE RAY PRECAST SEPTIC TANK

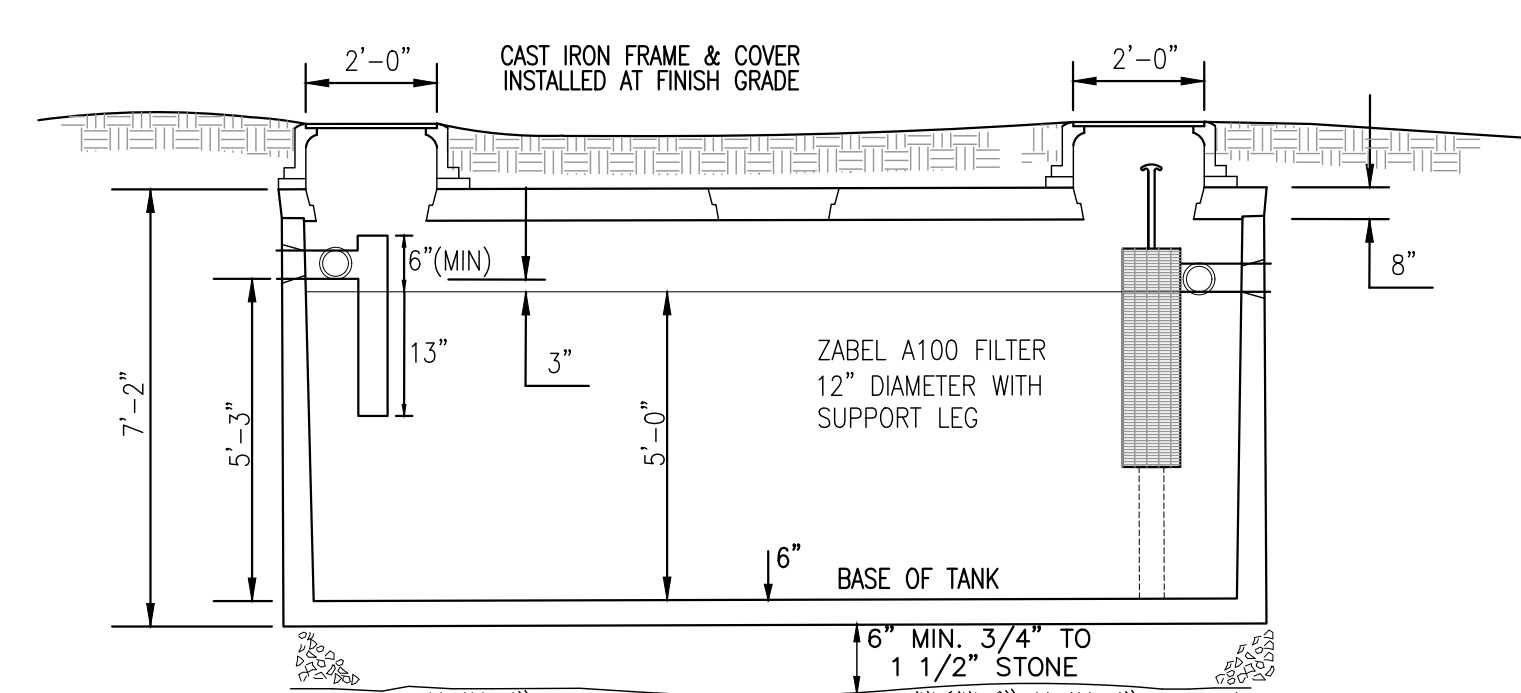
10,000 GALLON SEPTIC TANK

(NOT TO SCALE)

ALL TANKS MUST BE INSPECTED AND CERTIFIED TO BE WATERTIGHT.
 ALL UNUSED KNOCKOUTS MUST BE FILLED WITH HYDRAULIC CEMENT.



SCITUATE RAY PRECAST (OR APPROVED EQUAL)
 H-20 LOADING
 CONCRETE MINIMUM STRENGTH 5,000 P.S.I. @ 28 DAYS



5,000 GALLON SEPTIC TANK
 (NOT TO SCALE)

SEPTIC NOTES

1. TOPOGRAPHY INFORMATION SHOWN ON THIS PLAN IS BASED UPON AN ON THE GROUND SURVEY PERFORMED BY GRADY CONSULTING, L.L.C.
2. SOILS TESTING AS NOTED ON TEST HOLE SOIL LOGS.
3. CALL DIG SAFE 1-888-344-7233 AT LEAST 4 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. NOTIFY TOWN AND GRADY CONSULTING PRIOR TO BACKFILLING OF SYSTEM.
5. OTHER THAN THOSE SHOWN NO KNOWN WELLS EXIST WITHIN 200' OF THE PROPOSED SYSTEM.
6. THE SITE IS NOT LOCATED IN AN AQUIFER PROTECTION ZONE II.
7. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED (310 CMR 15.221(12)).
8. NO STREAMS, SURFACE & SUBSURFACE DRAINS AND WETLANDS EXIST WITHIN 100 FT OF THE PROPOSED SYSTEMS.
9. THE SITE IS NOT LOCATED IN A FLOOD PLAIN DISTRICT.
10. NO KNOWN EASEMENTS ARE IN THE AREA OF THE PROPOSED SYSTEM.

REQUIRED INSPECTIONS

1. AFTER EXCAVATION OF LEACHING AREA PRIOR TO INSTALLING SAND
 2. AFTER SYSTEM CONSTRUCTION PRIOR TO BACKFILLING.
 3. AFTER INSTALLATION OF THE PUMPS, VALVES, AND ELECTRICAL/MECHANICAL CONTROLS WITHIN THE PUMP CHAMBER THE SYSTEM IS TO BE TESTED.
 4. AFTER FINAL GRADING IS COMPLETED.
- (ADDITIONAL INSPECTIONS MAY BE REQUIRED BY THE BOARD OF HEALTH)

REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

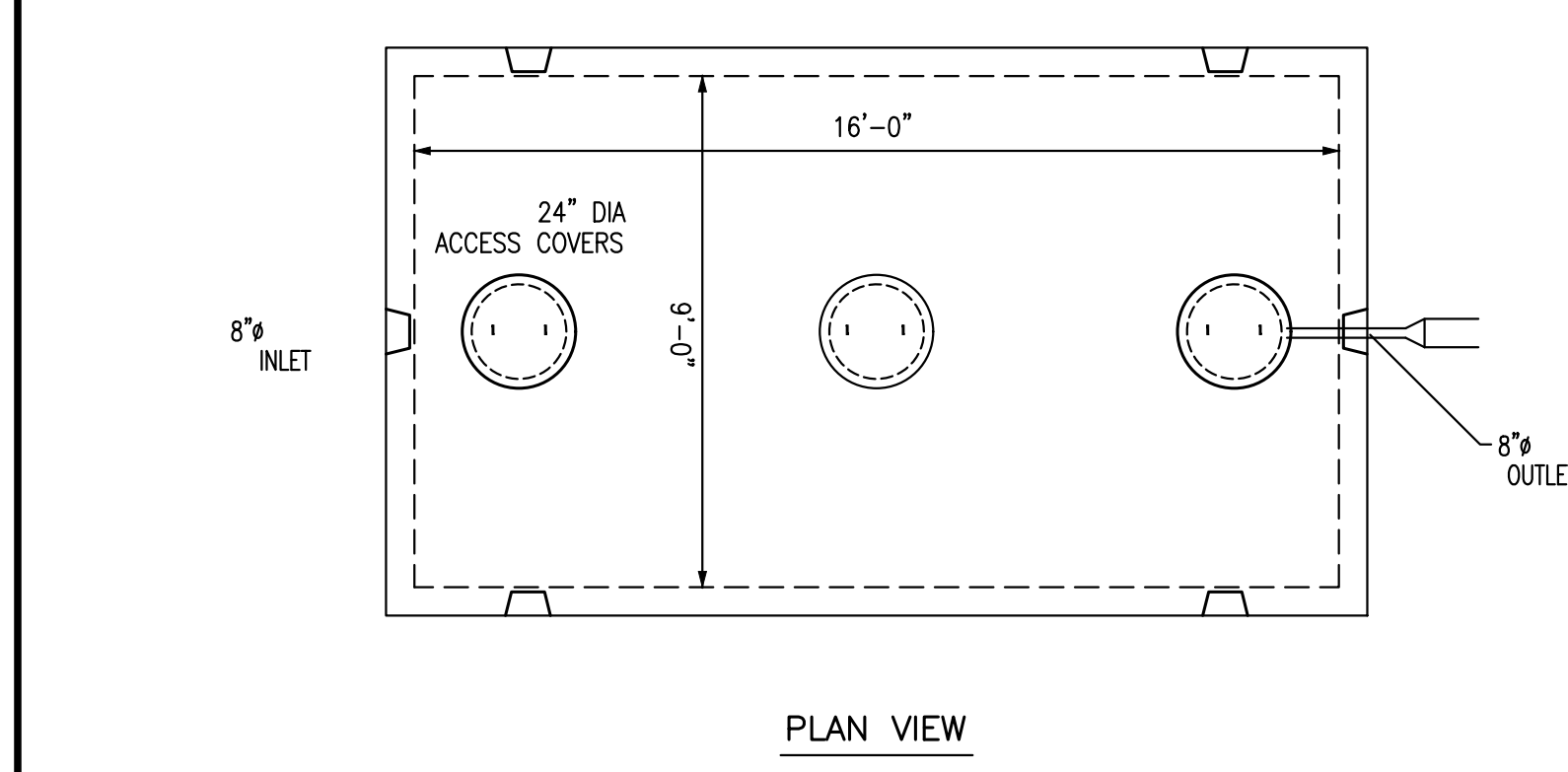
CONDITIONAL SITE PLAN
 NORTH STREET and KEENE STREET
 DUXBURY, MASSACHUSETTS

PREPARED FOR:
 JOHN BALDWIN
 PO BOX 1071
 DUXBURY, MA 02331

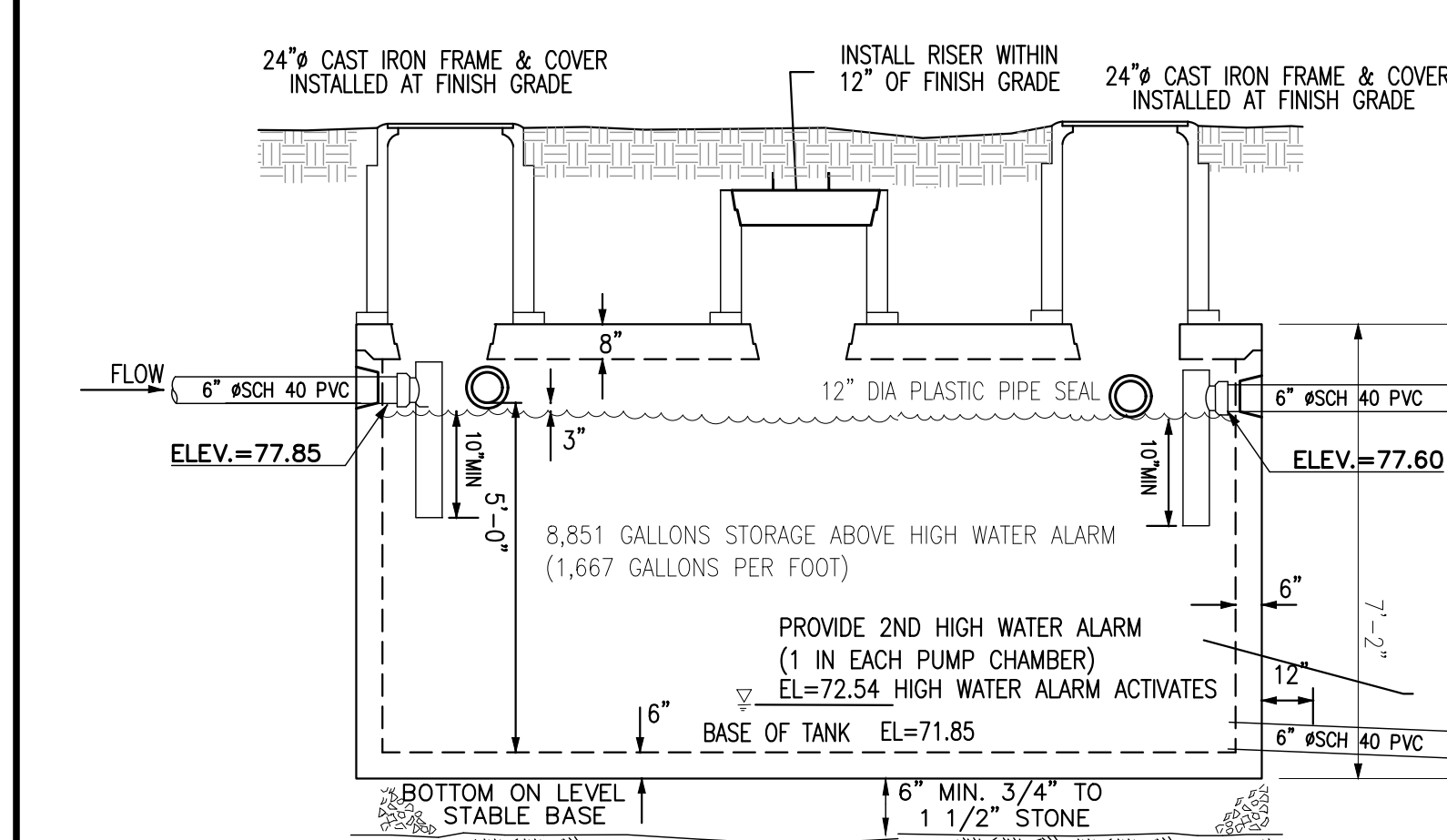
MAY 16, 2023
 SCALE: 1"=50'
 JOB No. 16-221

GRADY CONSULTING, L.L.C.
 Civil Engineers, Land Surveyors & Landscape Architects
 71 Evergreen Street, Suite 1, Kingston, MA 02364
 Phone (781) 585-2300

SEPTIC DETAILS



PLAN VIEW



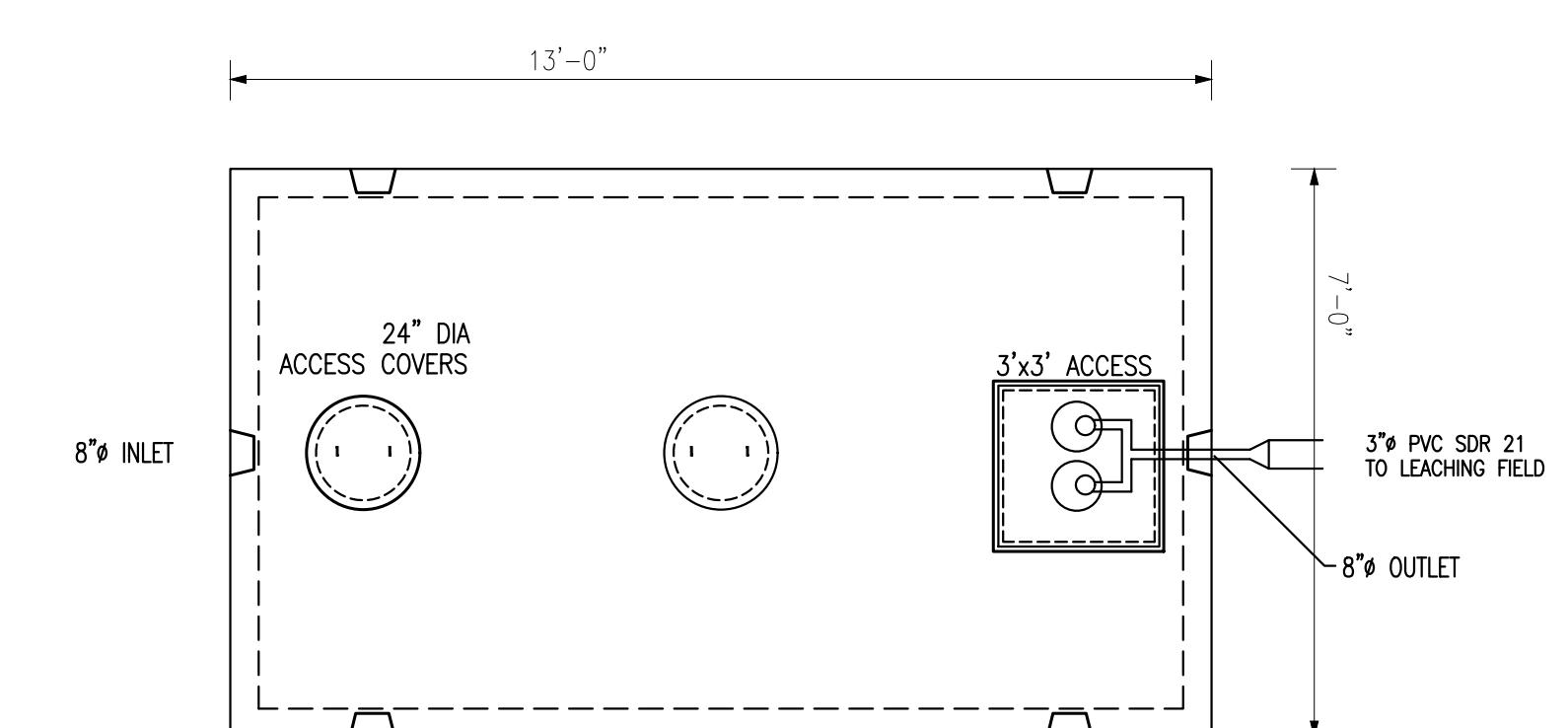
CROSS-SECTION VIEW SCITUATE RAY PRECAST SEPTIC TANK

5,000 GALLON PUMP CHAMBER

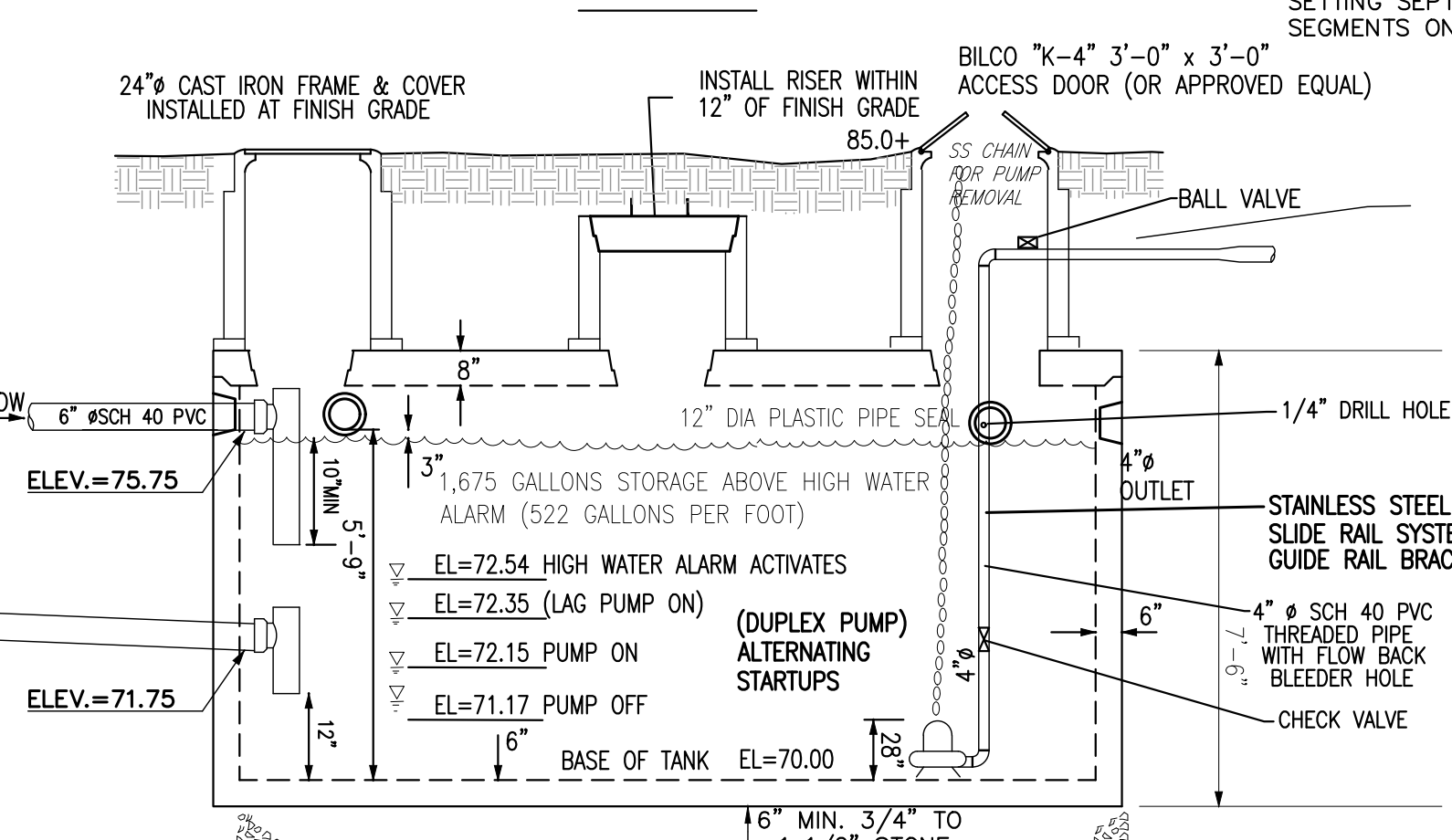
(NOT TO SCALE)

PROVIDE ALARM LOCATED IN THE BUILDING AND POWERED BY A CIRCUIT SEPARATE FROM CIRCUIT TO THE PUMP. PUMP CONTROL PANEL SHALL HAVE ALL SWITCHES LOCATED WITHIN THE BOX & THE ALARM SILENCE BUTTON ON OUTSIDE OF BUILDING.

ALL TANKS MUST BE INSPECTED AND CERTIFIED TO BE WATERTIGHT.



PLAN VIEW



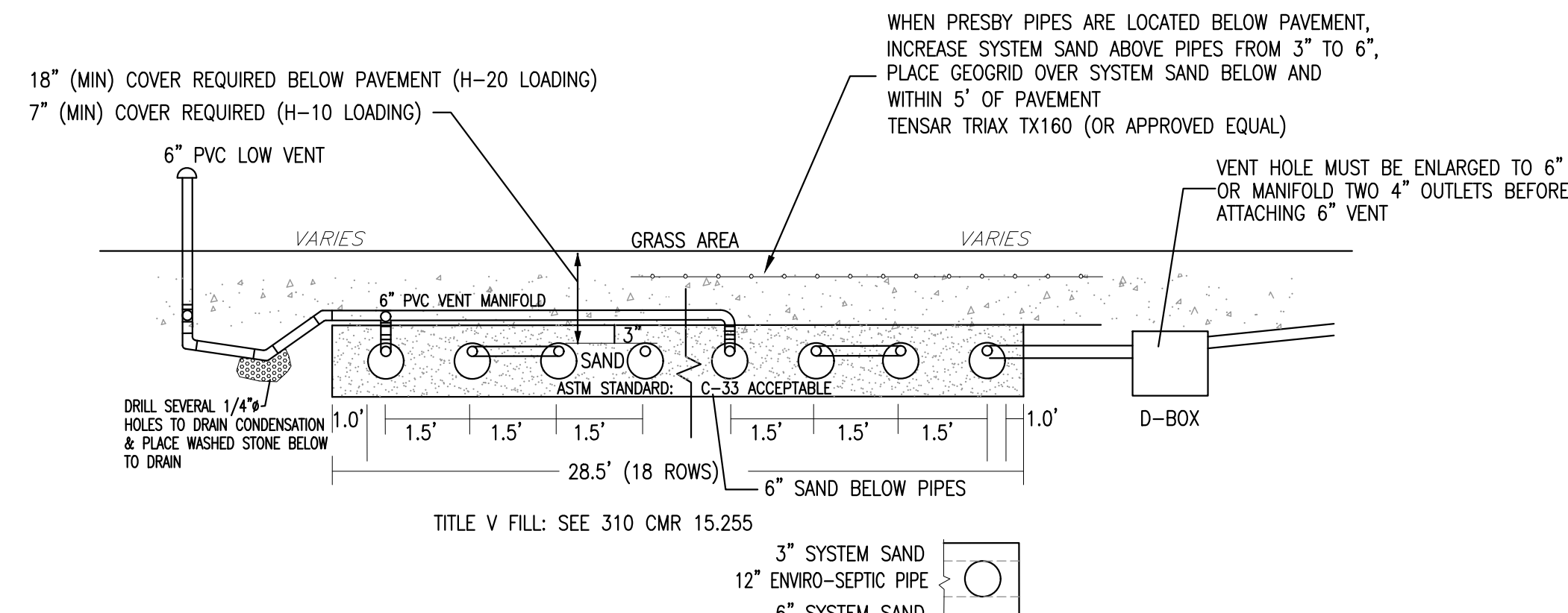
CROSS-SECTION VIEW SCITUATE RAY PRECAST SEPTIC TANK

2,000 GALLON PUMP CHAMBER

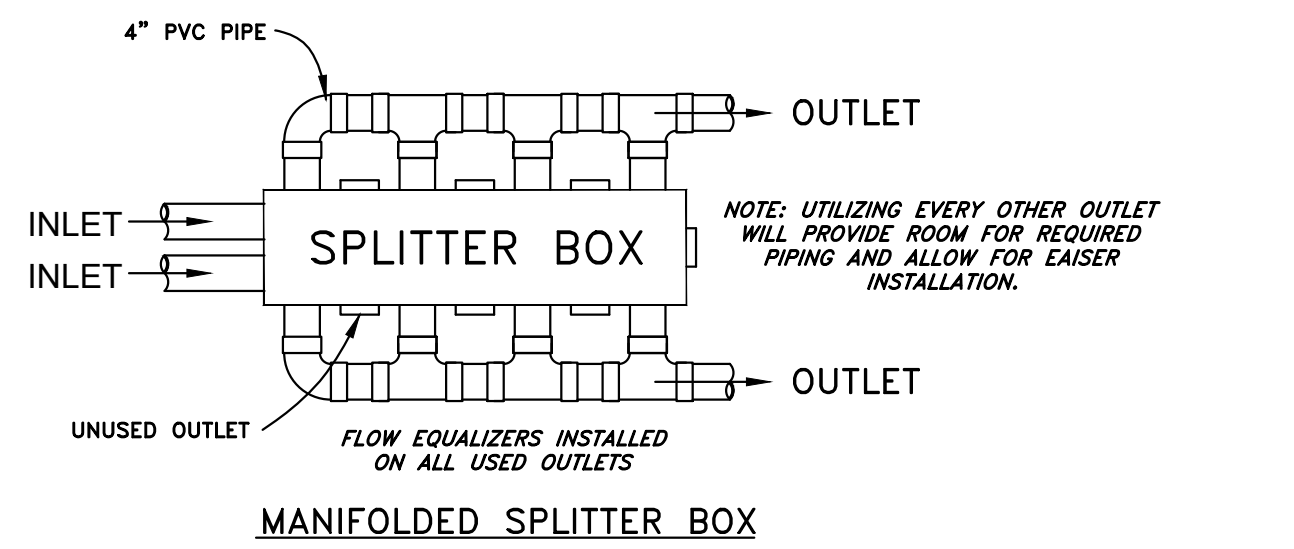
(NOT TO SCALE)

PROVIDE ALARM LOCATED IN THE BUILDING AND POWERED BY A CIRCUIT SEPARATE FROM CIRCUIT TO THE PUMP. PUMP CONTROL PANEL SHALL HAVE ALL SWITCHES LOCATED WITHIN THE BOX & THE ALARM SILENCE BUTTON ON OUTSIDE OF BUILDING.

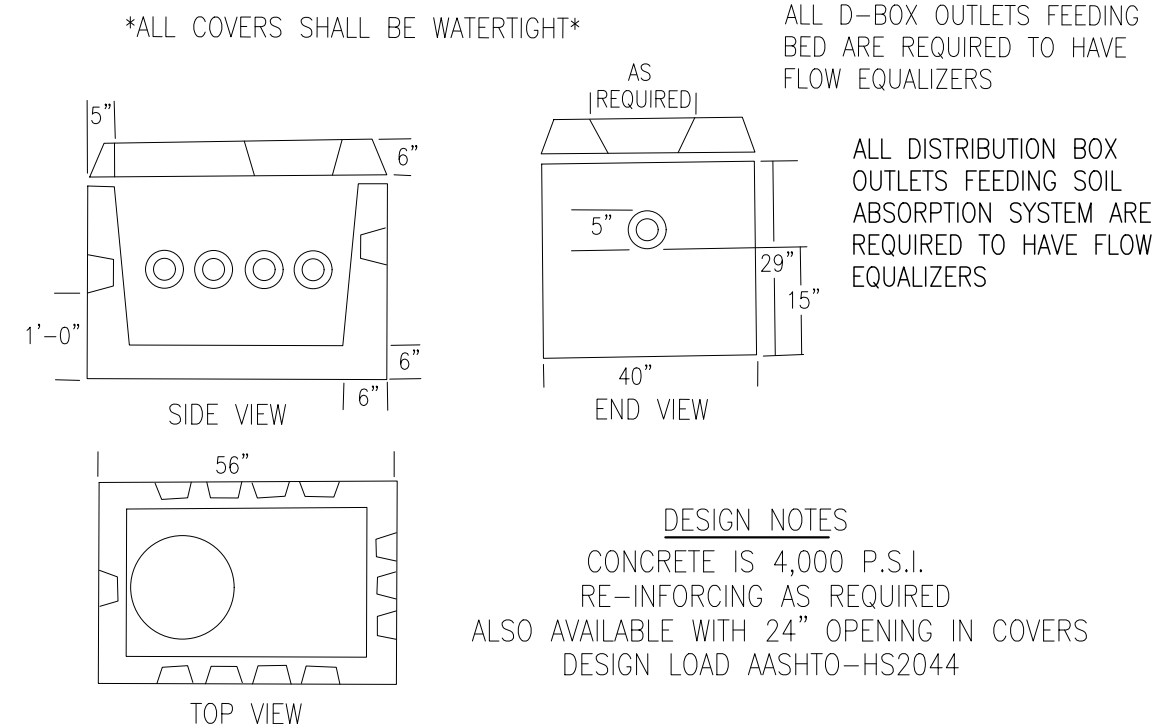
ALL TANKS MUST BE INSPECTED AND CERTIFIED TO BE WATERTIGHT.



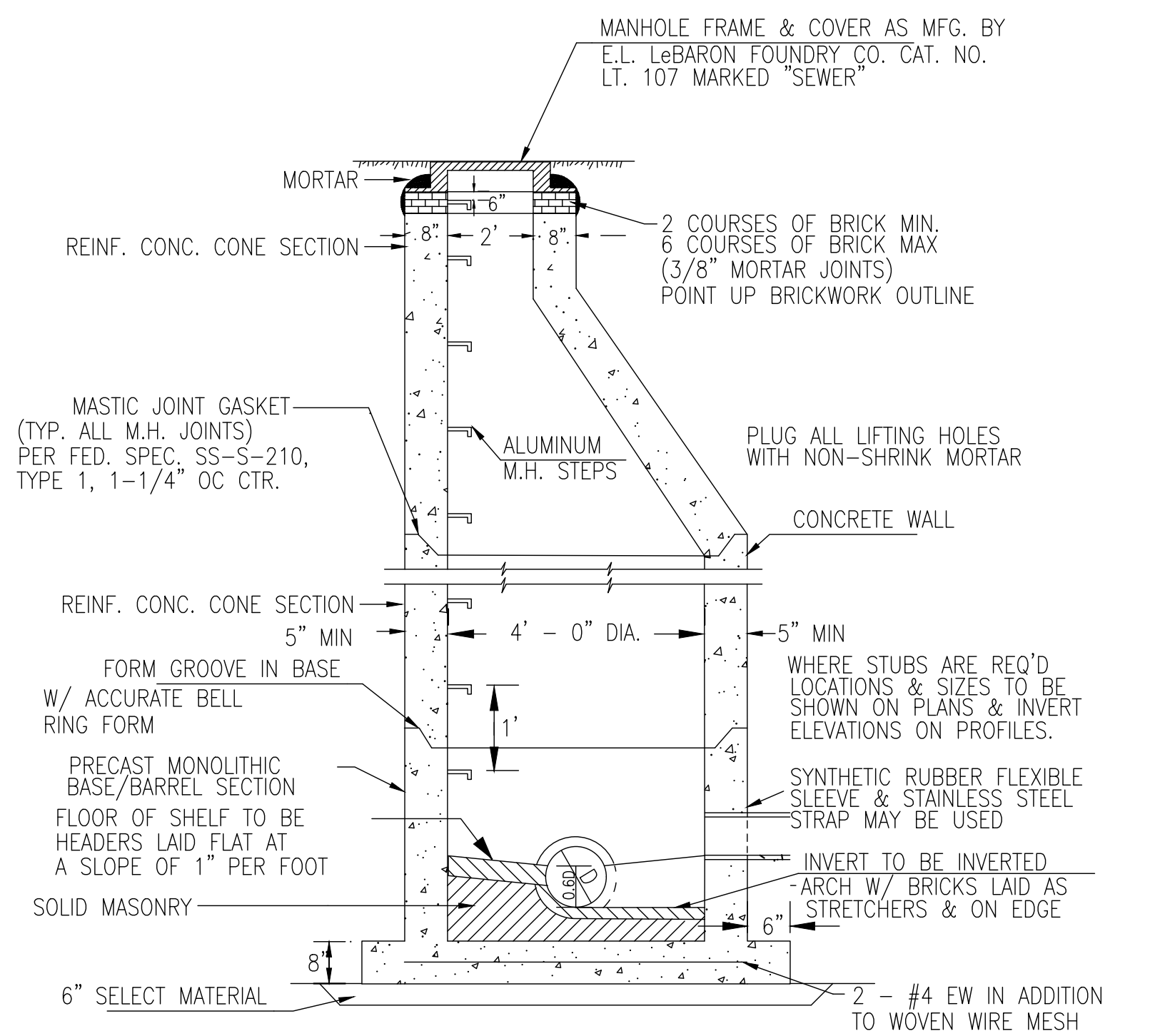
LEACHING FIELD X-SECTION
NOT TO SCALE



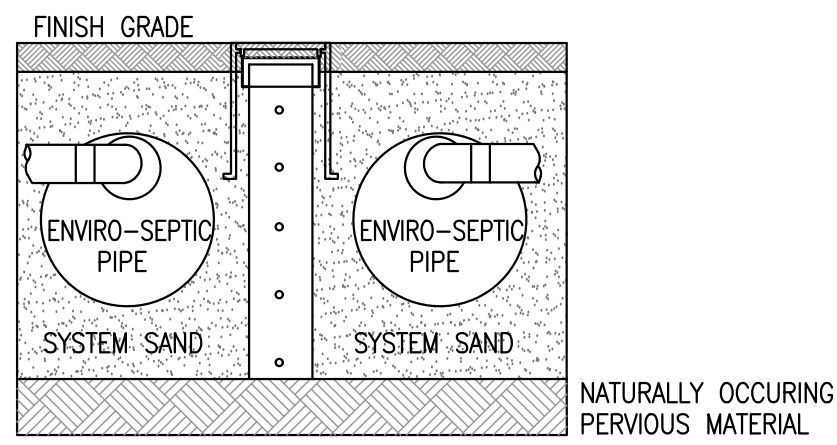
MANIFOLDED SPLITTER BOX
FOR THREE SIDE MANIFOLD SPLITTER BOX USE A 21 OUTLET D-BOX FROM SHEA CONCRETE PRODUCTS OR EQUAL
SPLITTER DETAIL
NOT TO SCALE



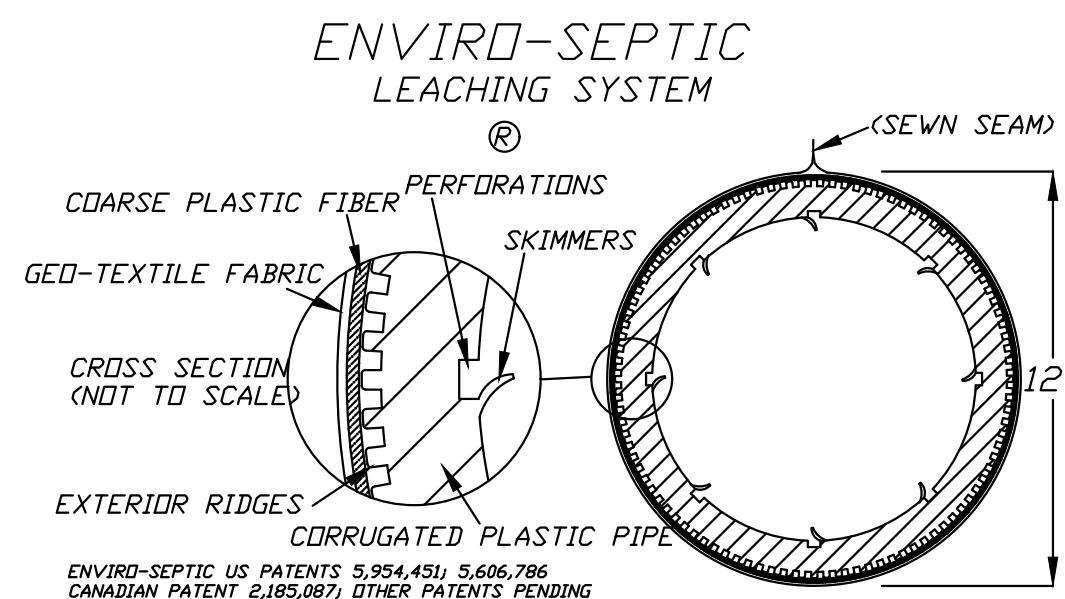
D-BOX DETAIL (H-20 LOADING)
NOT TO SCALE



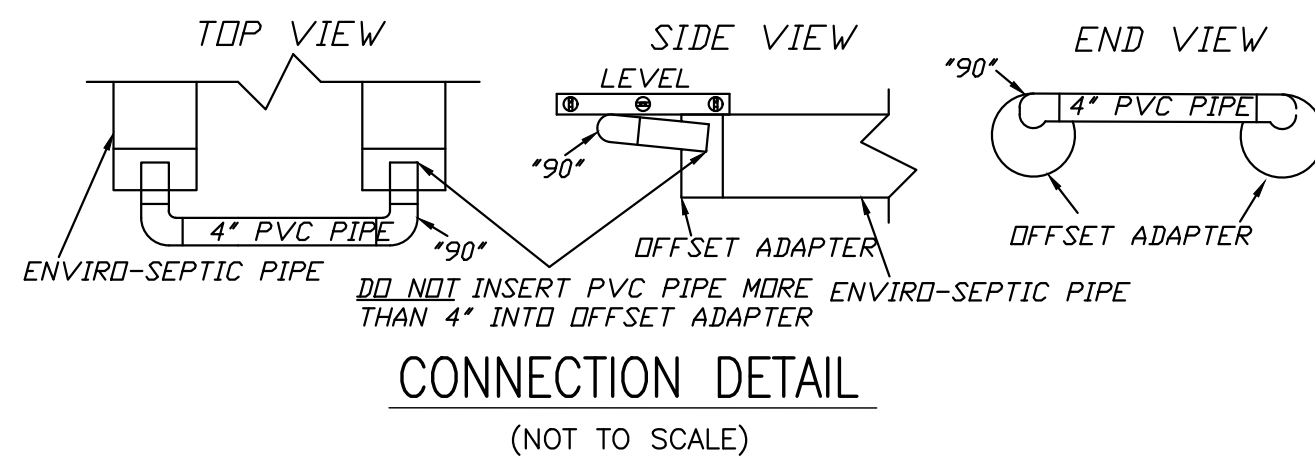
SANITARY SEWER MANHOLE
(NOT TO SCALE)



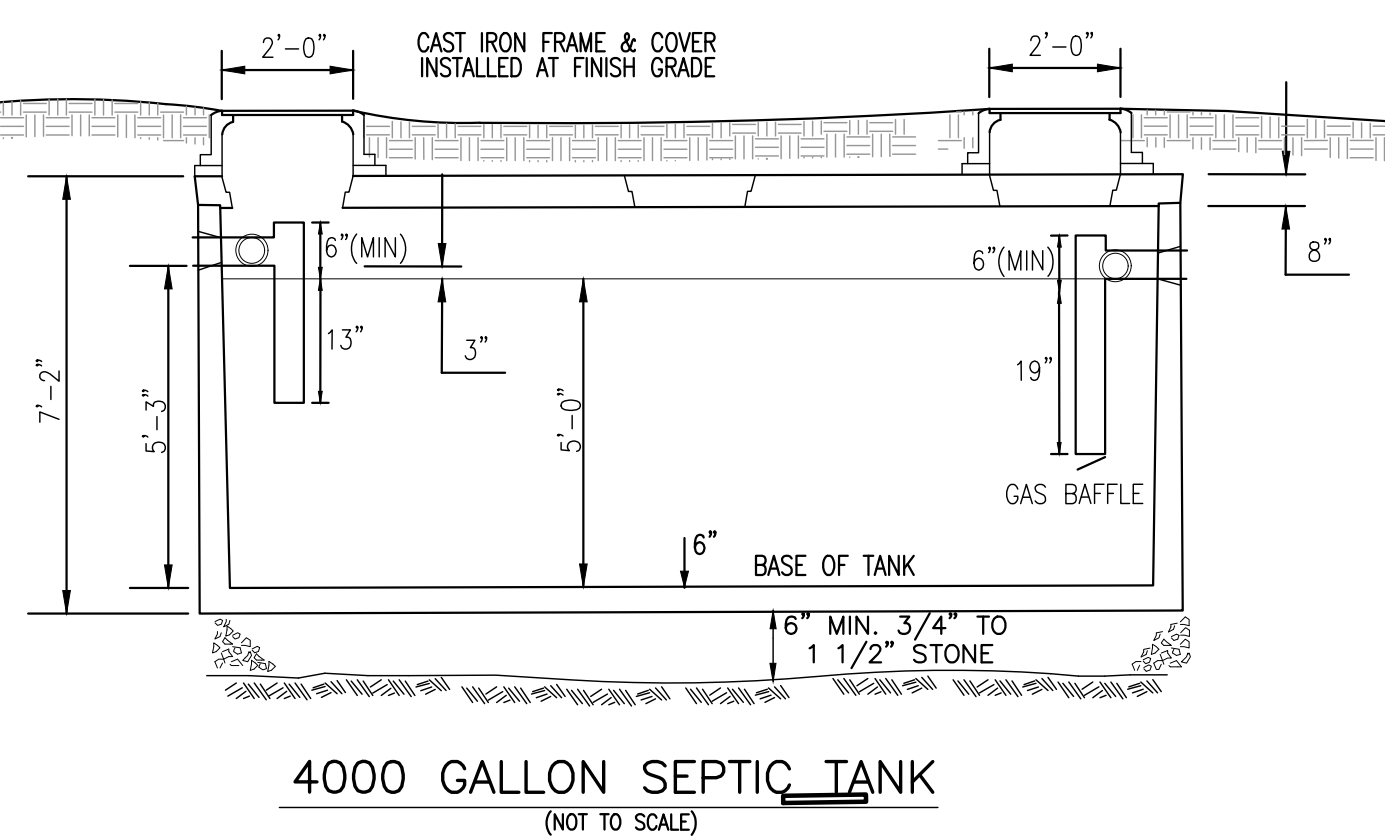
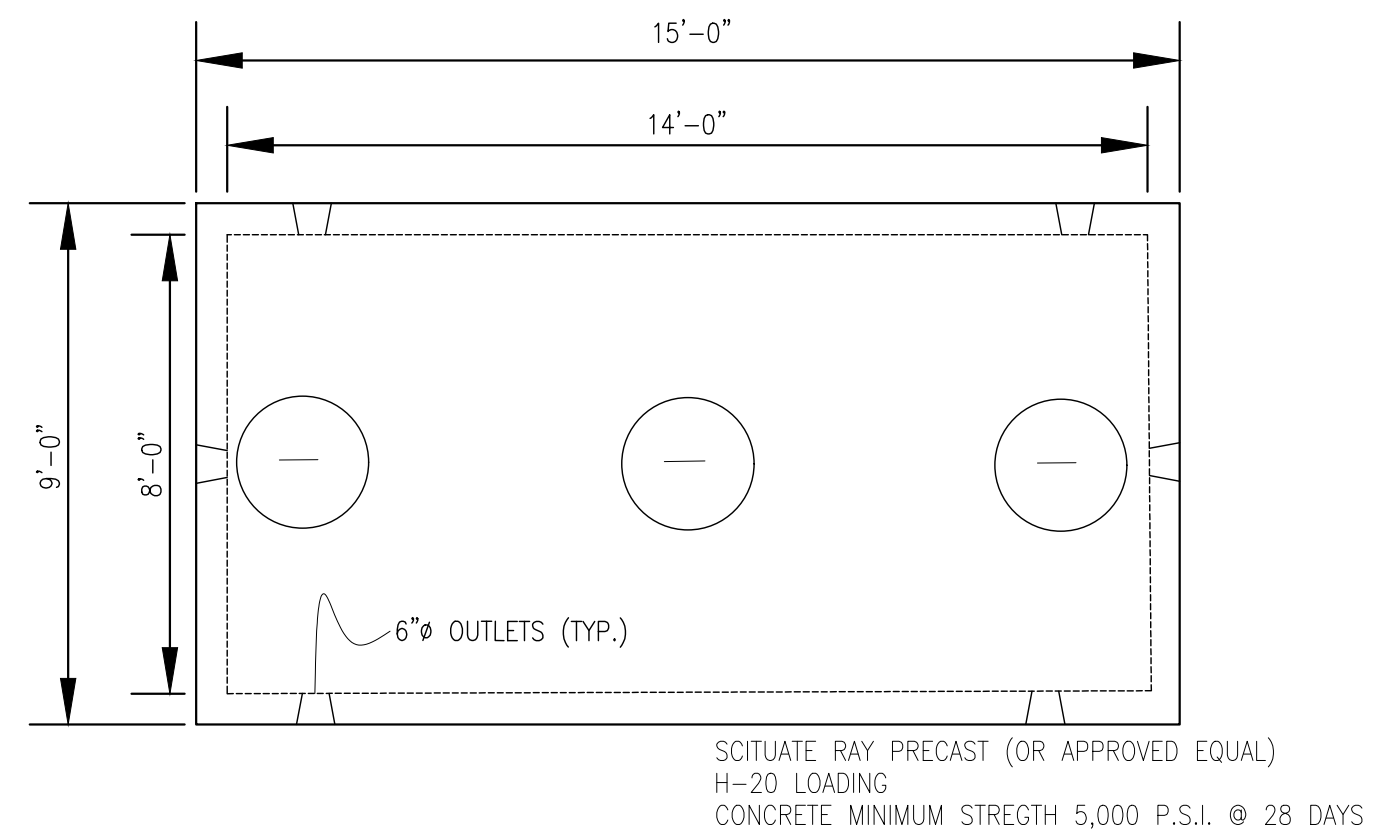
INSPECTION PORT DETAIL
NOT TO SCALE



ENVIRO-SEPTIC PIPE CROSS-SECTION
NOT TO SCALE



CONNECTION DETAIL
(NOT TO SCALE)



4000 GALLON SEPTIC TANK
(NOT TO SCALE)

SYSTEM NOTES

- 1) SYSTEM TO BE INSTALLED IN ACCORDANCE WITH PRODUCT DESIGN AND INSTALLATION MANUAL, STATE AND LOCAL REGULATIONS. FOR PRODUCT INFORMATION OR THE NEAREST DEALER CONTACT PRESBY ENVIRONMENTAL, INC., 143 AIRPORT ROAD, WHITEFIELD, NEW HAMPSHIRE 03598 - PHONE 1-800-473-5298 - WWW.PRESBYENVIRONMENTAL.COM
- 2) MINIMUM OF 6" OF MEDIUM TO COARSE SAND WITH LESS THAN 2% PASSING A # 200 SIEVE REQUIRED AROUND CIRCUMFERENCE OF ENVIRO-SEPTIC PIPES. (SEE ENVIRO-SEPTIC & SIMPLE-SEPTIC LEACHING SYSTEMS DESIGN AND INSTALLATION MANUAL FOR COMPLETE SAND AND FILL SPECIFICATIONS.)
- 3) DO NOT INSTALL SYSTEM ON FROZEN GROUND OR LEAVE SYSTEM UNCOVERED FOR EXTENDED PERIODS OF TIME.
- 4) NO VEHICLE TRAFFIC, SNOW REMOVAL, OR DEEP ROOTED VEGETATION IS PERMITTED OVER SYSTEM COMPONENTS UNLESS OTHERWISE SPECIFIED.
- 5) NO DRAINS, HOT TUBS, SAUNAS, GARBAGE DISPOSALS, WATER SOFTENERS, ETC., SHALL BE INCORPORATED INTO THIS SYSTEM UNLESS OTHERWISE SPECIFIED.
- 6) THE SYSTEM OWNER SHALL RECORD AT THE APPROPRIATE REGISTRY OF DEEDS, A NOTICE DISCLOSING THE EXISTENCE OF THE ALTERNATIVE SEPTIC SYSTEM ON THE PROPERTY AND D.E.P.'S APPROVAL OF THE SYSTEM. WHEN THE PROPERTY IS UNREGISTERED LAND THE NOTICE SHALL BE marginally REFERENCED ON THE OWNER'S DEED TO THE PROPERTY. WITHIN 30 DAYS OF RECORDING THE NOTICE, THE SYSTEM OWNER SHALL SUBMIT TO THE DEPARTMENT AND THE LOCAL APPROVING AUTHORITY (i) A CERTIFIED REGISTRY COPY OF THE NOTICE BEARING THE BOOK AND PAGE AND (ii) A REGISTRY COPY OF THE OWNER'S DEED TO THE PROPERTY, BEARING THE MARGINAL REFERENCE.
- 7) INSTALLER SHALL BE CERTIFIED BY PRESBY ENVIRONMENTAL INC.

SYSTEM SAND

ALL CONFIGURATIONS OF ENVIRO-SEPTIC REQUIRE A MINIMUM OF 6" OF SYSTEM SAND SURROUNDING THE CIRCUMFERENCE OF THE PIPE WITH A MINIMUM OF 12" OF SAND BELOW THE PIPE.

PERCENTAGE RESTRICTIONS: 35% OR LESS OF THE TOTAL SAND MAY BE GRAVEL 40%-90% OF THE TOTAL SAND IS TO BE COARSE AND VERY COARSE SAND.

GRAVEL QUALITY RESTRICTIONS: NO GRAVEL IS TO EXCEED 3/4" DIAMETER. NO GRAVEL IS SMALLER THAN 2MM/.787" IN DIAMETER. (IT MUST NOT PASS THROUGH A #10 SIEVE.)

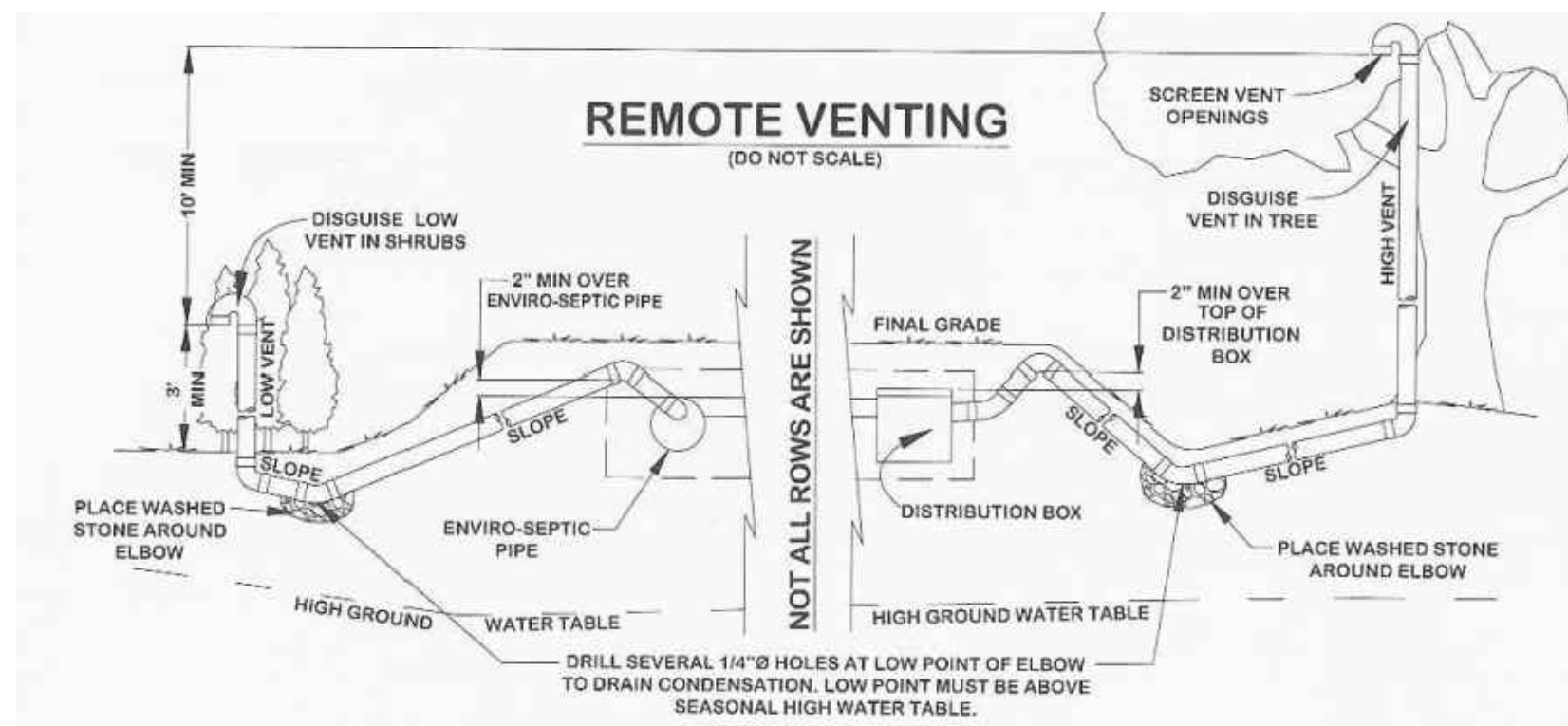
COARSE AND QUALITY SAND RESTRICTIONS: NO COARSE SAND IS SMALLER THAN 0.5MM/.0196" IN DIAMETER. (IT MUST NOT PASS THROUGH A #35 SIEVE.)

FINES QUALITY RESTRICTIONS: NO MORE THAN 2% OF THE TOTAL SAND MAY PASS THROUGH A #200 SIEVE.

ASTM STANDARD: C-33 (CONCRETE SAND) MEETS THE ABOVE REQUIREMENTS.

SURROUNDING SAND

SURROUNDING SAND SHOULD BE EITHER SYSTEM SAND OF TITLE 5 FILL, 310 CMR 15.255 (3). ONLY SURROUNDING SAND MAY BE PLACED UNDER RAISED SYSTEMS OR WHERE TOP SOIL AND SOIL HORIZONS WITH ORGANIC MATTER HAVE BEEN REMOVED.



VENTING DETAIL
(NOT TO SCALE)

REVISIONS	
6/1/2023	DRAINAGE COMMENTS
12/29/2023	SEPTIC INVERTS & LABELS

CONDITIONAL SITE PLAN
NORTH STREET and KEENE STREET
DUXBURY, MASSACHUSETTS

PREPARED FOR:
JOHN BALDWIN
PO BOX 1071
DUXBURY, MA 02331

MAY 16, 2023
SCALE: 1"=50'
JOB No. 16-221

GRADY CONSULTING, L.L.C.
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