

LEWIS LANDING

PROPOSED MULTI-UNIT RESIDENTIAL DEVELOPMENT

HUTTLESTON AVE.

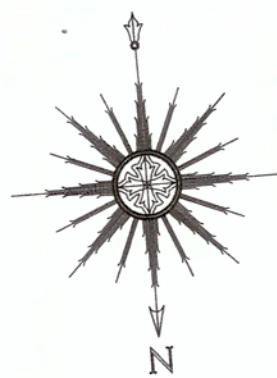
FAIRHAVEN, MASSACHUSETTS

APPLICANT/OWNER:

DANA LEWIS
18 TANNER LANE
FAIRHAVEN, MA 02719

LOCUS:

MAP 31 - LOT 117C AND LOT 115A
HUTTLESTON AVENUE
FAIRHAVEN, MA



SCALE: 1"=100'

SEPTEMBER 9, 2019

REVISED JULY 8, 2020

SCHEDULE OF DRAWINGS

SHEET NUMBER	PLAN TITLE
-	COVER SHEET
1	EXISTING CONDITIONS PLAN
2	SITE LAYOUT AND LANDSCAPING PLAN
3	GRADING & UTILITIES PLAN
4	EROSION CONTROL PLAN
5	DETAIL SHEET-1
6	DETAIL SHEET-2
7	ARCHITECTURALS

PLANNING BOARD WAIVERS REQUESTED FOR
STORMWATER MANAGEMENT REGULATIONS

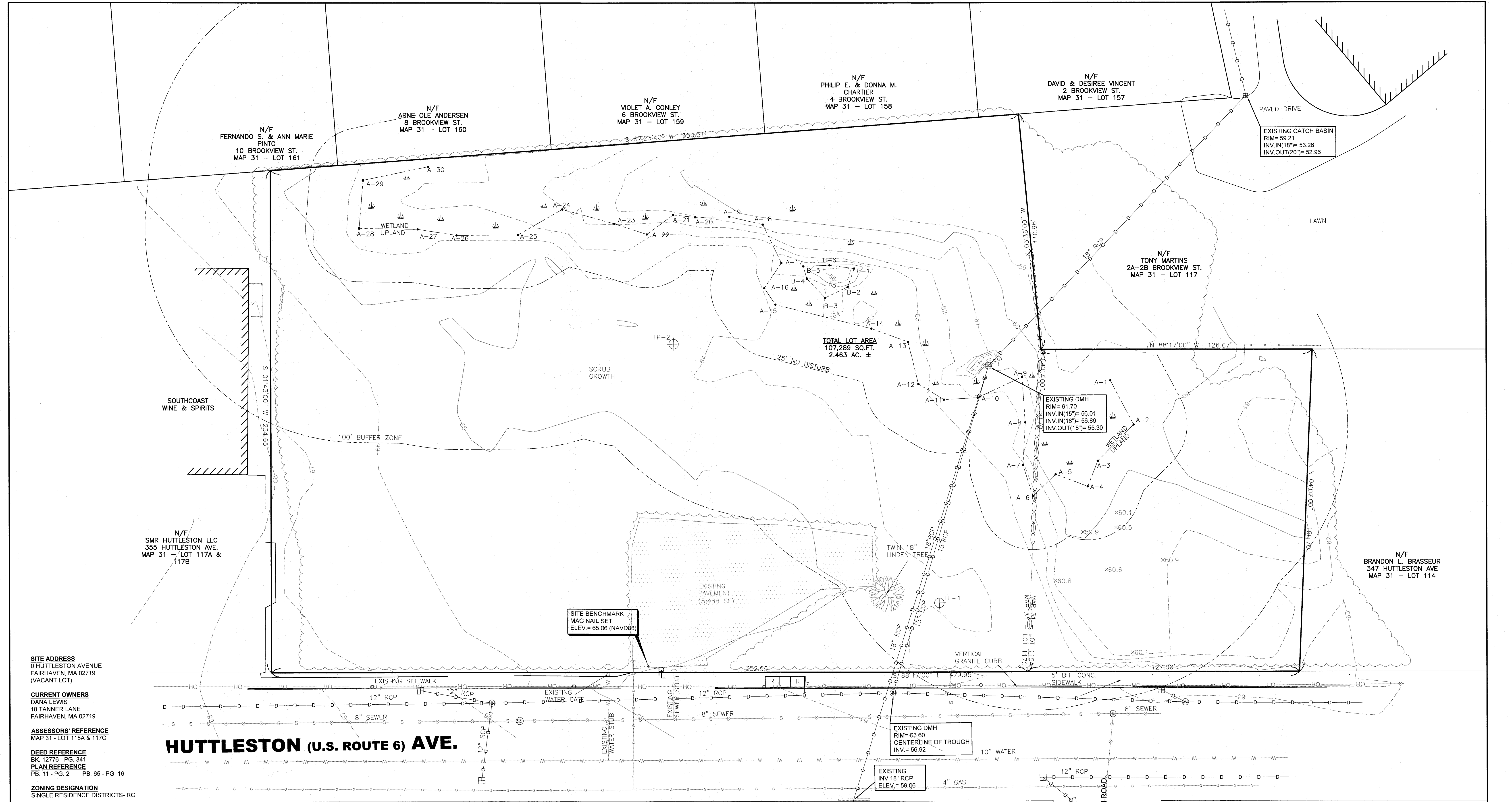
1. FAIRHAVEN ZONING BYLAW 198-31.1 (C)
(2) (g) [6] REQUIRING BASINS AND
PONDS TO HAVE 4:1 SIDE SLOPES AND
SEDIMENT FOREBAYS TO HAVE 3:1 SIDE
SLOPES.
2. FAIRHAVEN ZONING BYLAW 198-31.1 (A)
(1) (a) [2] ALLOWING NO INCREASE IN
THE 10-YEAR STORM RUNOFF VOLUME
DUE TO SOILS UNSUITABLE FOR
INFILTRATION.

PREPARED BY:



CIVIL ENGINEERING—LAND SURVEYING—ENVIRONMENTAL ASSESSMENT
P.O. BOX 1088, 350 BEDFORD STREET, LAKEVILLE, MA 02347
TEL: 508.947.0050 FAX: 508.947.2004





SITE ADDRESS
0 HUTTLESTON AVENUE
FAIRHAVEN, MA 02719
(VACANT LOT)

CURRENT OWNERS
DANA LEWIS
18 TANNER LANE
FAIRHAVEN, MA 02719

ASSESSORS' REFERENCE
MAP 31 - LOT 115A & 117C

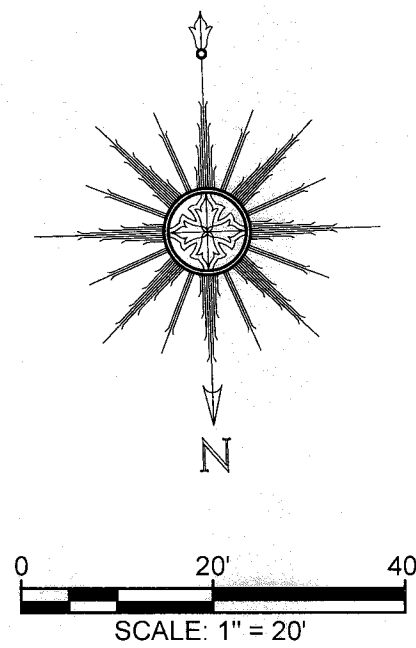
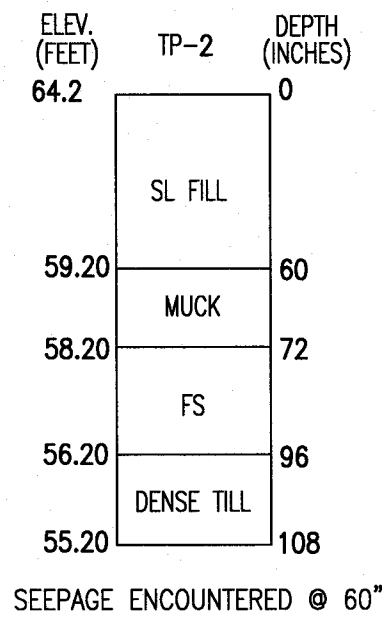
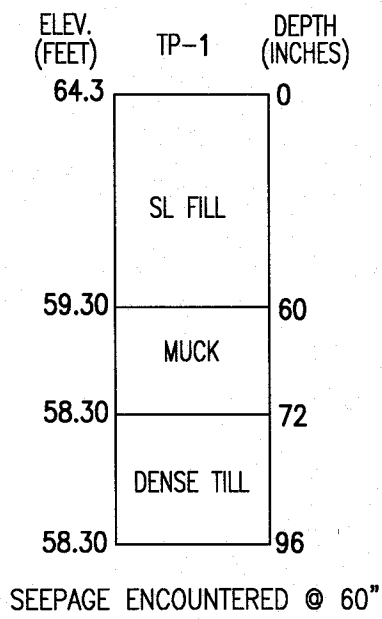
DEED REFERENCE
BK. 12776 - PG. 341
PLAN REFERENCE
PB. 11 - PG. 2 PB. 65 - PG. 16

ZONING DESIGNATION
SINGLE RESIDENCE DISTRICTS- RC

VERTICAL DATUM SHOWN
NAVD88

FEMA FLOODZONE DESIGNATION
ZONE X- AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. AS SCALED FROM FLOOD INSURANCE RATE MAP NUMBER:25005-C-0413F, EFFECTIVE DATE: 7/7/2009

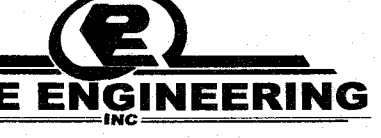
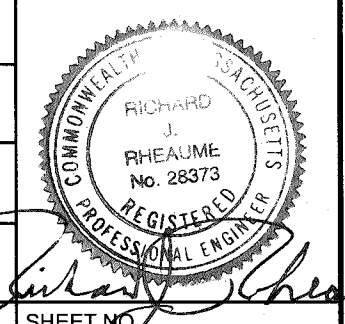
NOTE:
THE WETLAND DELINEATION LINE SHOWN HEREON WAS BASED ON A PLAN BY ALLEN D. QUINTIN, DATED JANUARY 11, 2017 AND WAS NOT FIELD LOCATED BY PRIME ENGINEERING INC. DELINEATION APPROVED BY FAIRHAVEN CONSERVATION COMMISSION.

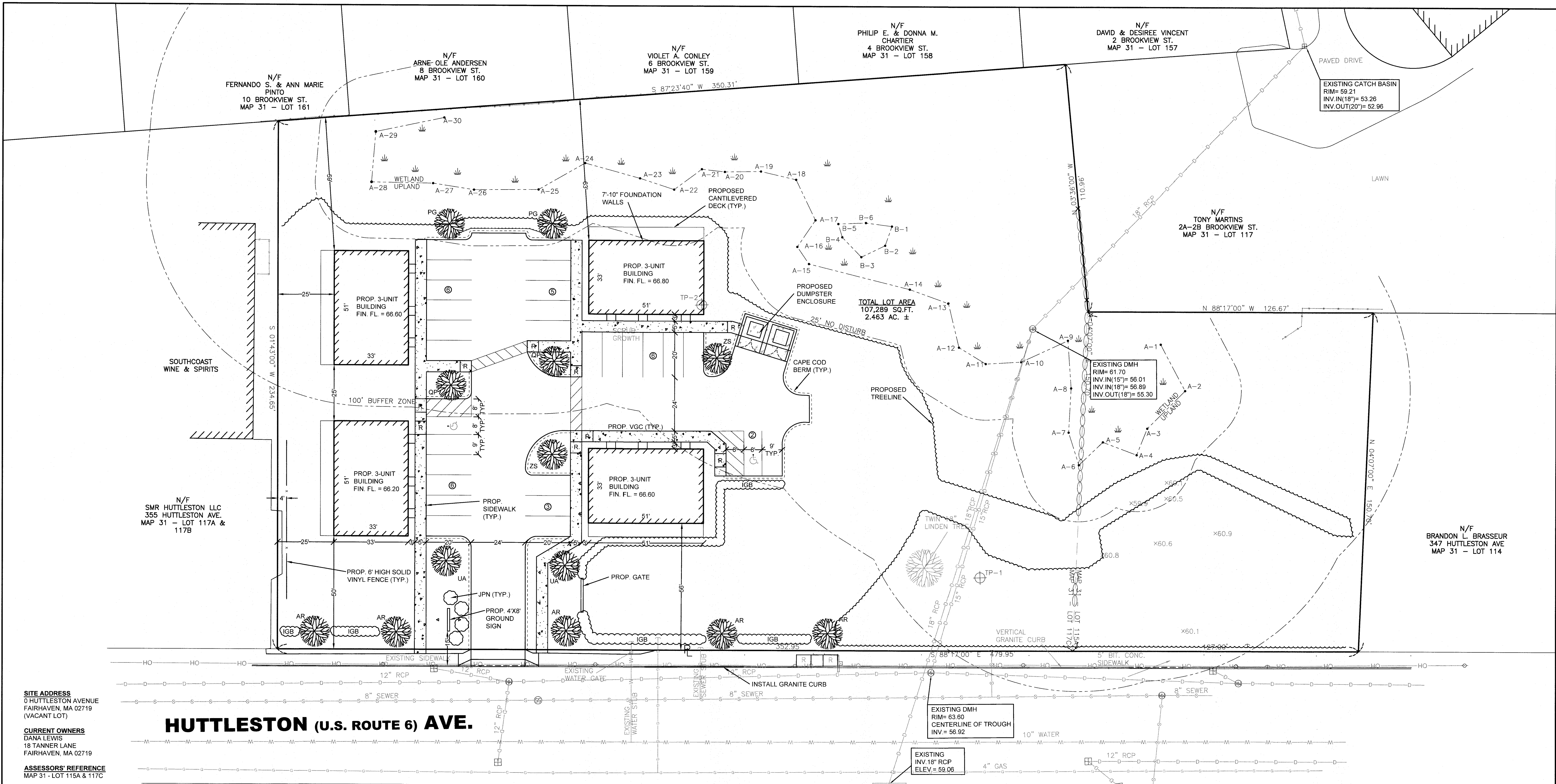


REV.	DATE	DESCRIPTION	BY	APP.
6	7/8/2020	GENERAL REVISIONS	SWL	RJR
5	6/25/2020	RESPONSE TO COMMENTS	SWL	RJR
4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR

DRAWING TITLE	
EXISTING CONDITIONS PLAN	
PROJECT	
MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS	
CLIENT	
DANA LEWIS FAIRHAVEN, MASSACHUSETTS	
CIVIL ENGINEERING	P.O. BOX 1088 360 BEDFORD ST. LAKEVILLE, MA 02347 TEL: 508.947.0050 FAX: 508.947.2004
LAND SURVEYING	
ENVIRONMENTAL ASSESSMENT	

SCALE:	1" = 20'
DATE:	SEPT. 9, 2019
DRAWN BY:	SWL
DESIGNED BY:	RJR
CHECKED BY:	RJR
APPROVED BY:	RJR
PROJECT NO.	2729-01-01
SHEET NO.	1 OF 7





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0 HUTTLESTON AVENUE
FAIRHAVEN, MA 02719
(VACANT LOT)

CURRENT OWNERS
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18 TANNER LANE
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ZONING DESIGNATION
SINGLE RESIDENCE DISTRICTS- RC

VERTICAL DATUM SHOWN
NAVD83

FEMA FLOODZONE DESIGNATION
ZONE X- AREAS DETERMINED TO BE
OUTSIDE THE 0.2% ANNUAL CHANCE
FLOODPLAIN AS SCALED FROM FLOOD
INSURANCE RATE MAP
NUMBER 25005-C-0413F
EFFECTIVE DATE: 7/7/2009

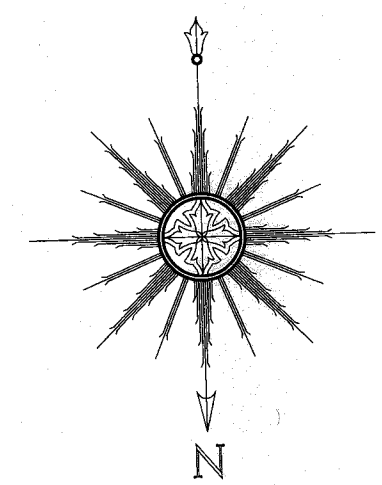
NOTE:
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HEREON WAS BASED ON A PLAN BY ALLEN
D. QUINTIN, DATED JANUARY 11, 2017 AND
WAS NOT FIELD LOCATED BY PRIME
ENGINEERING INC. DELINEATION APPROVED
BY FAIRHAVEN CONSERVATION
COMMISSION.

HUTTLESTON (U.S. ROUTE 6) AVE.

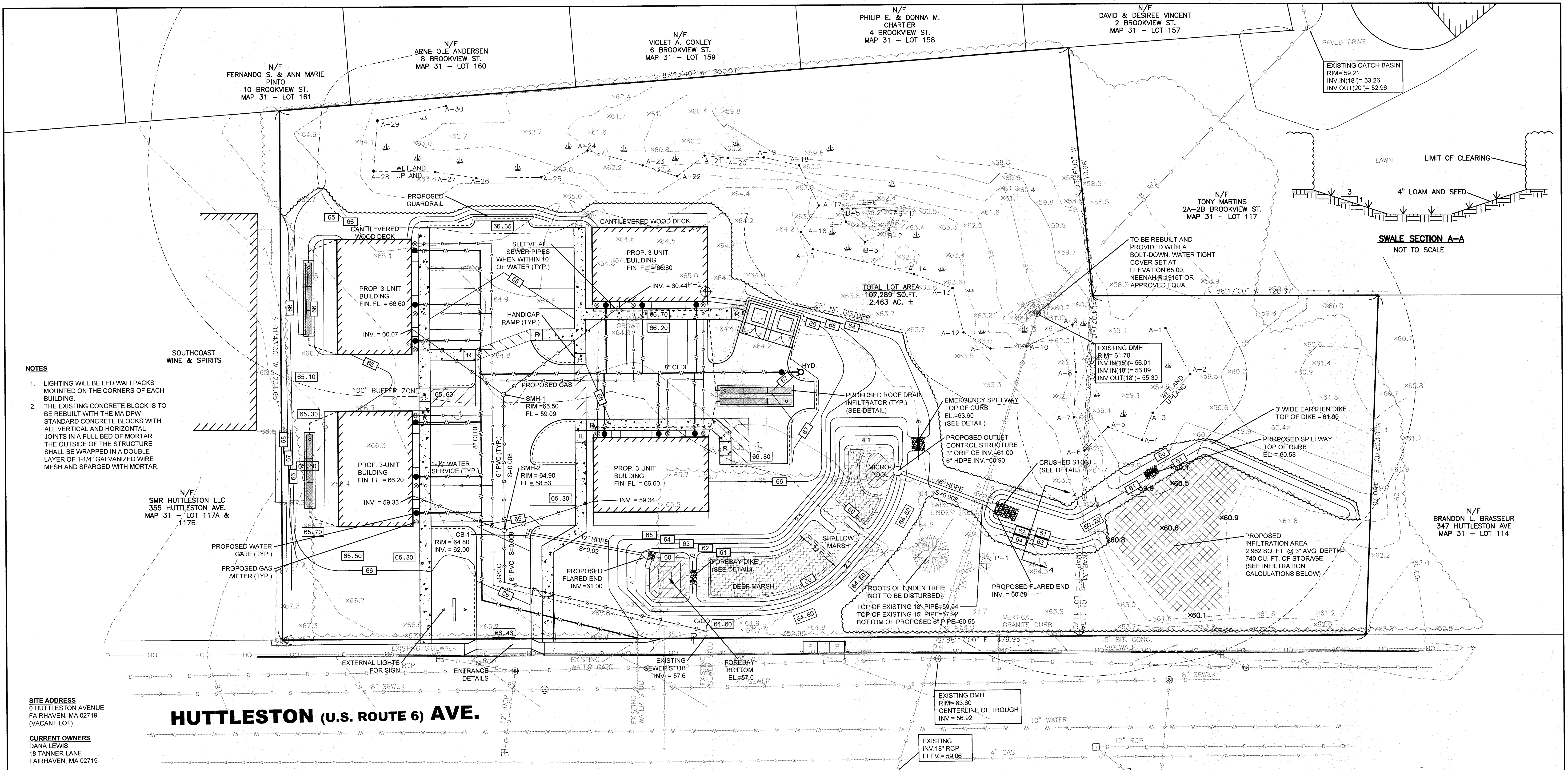
LOT 2 PLANTING SCHEDULE (REQUIRED TREES ONLY)							
DECIDUOUS TREES							
SYMBOL	QUANTITY	% OF TOTAL	BOTANICAL NAME	COMMON NAME	SIZE	MATURE HEIGHT	MATURE WIDTH
AR	5	40%	ACER RUBRUM 'RED SUNSET'	RED MAPLE	2.5"-3" CAL.	60'	40'
QP	2	15%	QUERCUS PALUSTRIS	PIN OAK	2.5"-3" CAL.	65'	50'
UA	2	15%	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	2.5"-3" CAL.	70'	60'
ZS	2	15%	ZELKOVA SERRATA 'VILLAGE GREEN'	JAPANESE ZELKOVA	2.5"-3" CAL.	60'	60'
% DECIDUOUS TREES: 85%							
EVERGREEN TREES							
PG	2	15%	PICEA GLAUCA	BLUE SPRUCE	4'-6' HT.	75'	N/A
DECIDUOUS SHRUBS							
SHRUBS							
IGB	75	-	ILEX GABRA	INKBERRY HOLLY	GAL	4'	4'
JPN	4	-	JUNIPER PROCUMBENS NANA	DWARF JAPANESE JUIPER	GAL	1'	3'

RC ZONING TABLE

REQUIREMENT	REQUIRED	PROVIDED
MINIMUM FRONTAGE	100 L.F.	479.95 L.F.
MINIMUM LOT AREA	15,000 S.F.	107,289 S.F.
MINIMUM SETBACKS:		
FRONT	50 FT	50.0 FT
SIDES	25 FT	25.0 FT
REAR	50 FT	59.4 FT
MINIMUM CONTIGUOUS UPLAND	70,000 S.F.	85,151 S.F.
MAXIMUM LOT COVERAGE	50%	21.9%
MAXIMUM BUILDING COVERAGE	25%	6.3%



DRAWING TITLE				SCALE	
SITE LAYOUT AND LANDSCAPING PLAN				1" = 20'	
PROJECT				DATE:	
MAP 31- LOT 117C				SEPT. 9, 2019	
FAIRHAVEN, MASSACHUSETTS				DRAWN BY:	
DANA LEWIS				SWL	
CLIENT				DESIGNED BY:	
FAIRHAVEN, MASSACHUSETTS				RJR	
CHECKED BY:				RJR	
APPROVED BY:				RJR	
CIVIL ENGINEERING				SHEET NO.	
LAND SURVEYING				2 OF 7	
ENVIRONMENTAL ASSESSMENT				PROJECT NO.	
PRIME ENGINEERING				2729-01-01	



NOTES

1. LIGHTING WILL BE LED WALLPACKS MOUNTED ON THE CORNERS OF EACH BUILDING.
2. THE EXISTING CONCRETE BLOCK IS TO BE REBUILT WITH THE MA DPW STANDARD CONCRETE BLOCKS WITH ALL VERTICAL AND HORIZONTAL JOINTS IN A FULL BED OF MORTAR. THE OUTSIDE OF THE STRUCTURE SHALL BE WRAPPED IN A DOUBLE LAYER OF 1-1/4" GALVANIZED WIRE MESH AND SPARGED WITH MORTAR.

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(VACANT LOT)

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SINGLE RESIDENCE DISTRICTS- RC

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ZONE X- AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SCALED FROM FLOOD INSURANCE RATE MAP
NUMBER 25005-C-0413F
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HUTTLESTON (U.S. ROUTE 6) AVE.

DEEP MARSH PLANTINGS			
BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
NUPHAR LUTEUM	YELLOW WATER LILY	TUBERS	10
NYMPHAEA ODORATA	WHITE WATER LILY	TUBERS	10
PONTERDERIA CORDATA	PICKEREL WEED	2" PLUG	10
POTAMOGETON NODOSUS	LONG LEAF PONDWEED	RHIZOMES	10
POTAMOGETON	SAGO PONDWEED	TUBERS	10
PECTINATUS			
VALLISNERIA AMERICANA	WILD CELERY	TUBERS	10

SHALLOW MARSH PLANTINGS			
BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
ACORUS AMERICANA	SWEET FLAG	2" PLUG	10
ALISMA	WATER PLANTAIN	2" PLUG	10
SUBCORDATUM	SWAMP ASTER	2" PLUG	20
SYMPHYOTRICHUM			
PUNICUM	BLUE JOINT GRASS	2" PLUG	20
CALAMAGROSTIS CANADENSIS			
CAREX COMOSA	BEARDED SEDGE	2" PLUG	20
CAREX STRICTA	TUSsock SEDGE	2" PLUG	20

DETENTION BASIN PLANTING SCHEDULE

ROOF DRAIN CALCULATIONS

ALL ROOF DRAINAGE TO FLOW TO UNDERGROUND INFILTRATORS.

REQUIRED STORM CATCHMENT = 0.25"/SF OF IMP. AREA

INFILTRATION REQUIREMENT = 23,449 SF IMP. X 0.25"/SF = 489 CF

CULTEC 150XLHD INFILTRATOR W/ 12" CRUSHED STONE BOTTOM = 56.8 CF STORAGE

489 CF / 56.8 CF/CHAMBER = 9 CHAMBERS REQUIRED (MIN.)

CHAMBERS PROVIDED = 12. TOTAL STORM CATCHMENT PROVIDED = 682 CF

TOP OF PIPE CALCULATIONS

EXISTING 15" RCP

SLOPE = (56.92 - 56.01) / 159 FT = .0057 SLOPE

INV. AT PIPE CROSSING = 56.92 - (.66 FT TO BASIN X .0057) = 56.54

TOP EL. OF PIPE AT CROSSING = 56.54 + 1.25 FT DIAM. + .21 PIPE THICKNESS = 58.00

EXISTING 18" RCP

SLOPE = (59.06 - 58.89) / 209 FT = .0103 SLOPE

INV. AT PIPE CROSSING = 59.06 - (.119 FT TO BASIN X .0103) = 57.83

TOP EL. OF PIPE AT CROSSING = 57.83 + 1.5 FT DIAM. + .21 PIPE THICKNESS = 59.54

LEGEND

100	EXISTING CONTOURS
x 98.5	EXISTING SPOT ELEVATION
TP-101	OBSERVATION HOLE LOCATION
100	PROPOSED CONTOURS
100.0	PROPOSED SPOT ELEVATION
	PROPOSED WATER
	EXISTING TREELINE
	PROPOSED TREELINE
R	HANDICAP RAMP
	PROPOSED GAS
	PROPOSED SEWER

REV	DATE	DESCRIPTION	BY	APP
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DRAWING TITLE	PROJECT	CLIENT
GRADING AND UTILITIES PLAN	MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS	DANA LEWIS FAIRHAVEN, MASSACHUSETTS

SCALE:	1" = 20'
DATE:	SEPT. 9, 2019
DRAWN BY:	SWL
DESIGNED BY:	RJR
CHECKED BY:	RJR
APPROVED BY:	RJR

PROJECT NO.	2729-01-01
SHEET NO.	3 OF 7

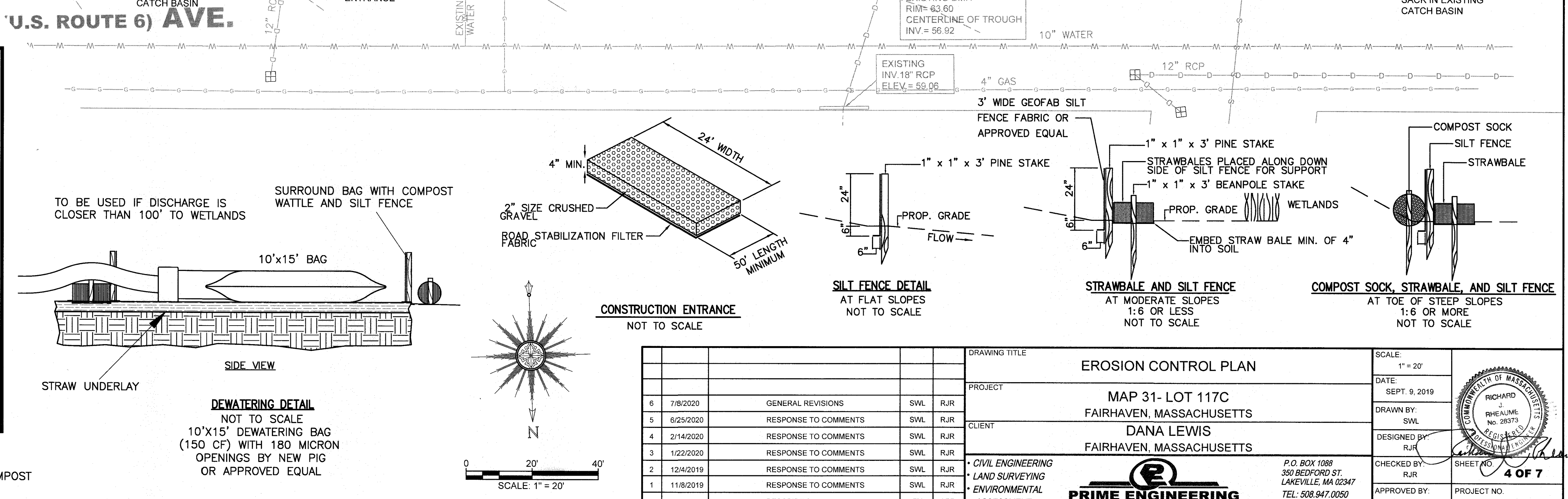
PRIME ENGINEERING	P.O. BOX 1088 350 BEDFORD ST. LAKEVILLE, MA 02347 TEL: 508.947.0050 FAX: 508.947.2004
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REGISTERED PROFESSIONAL ENGINEER	RICHARD J. RHEAUME No. 28373 EXPIRATION DATE 12/31/2021
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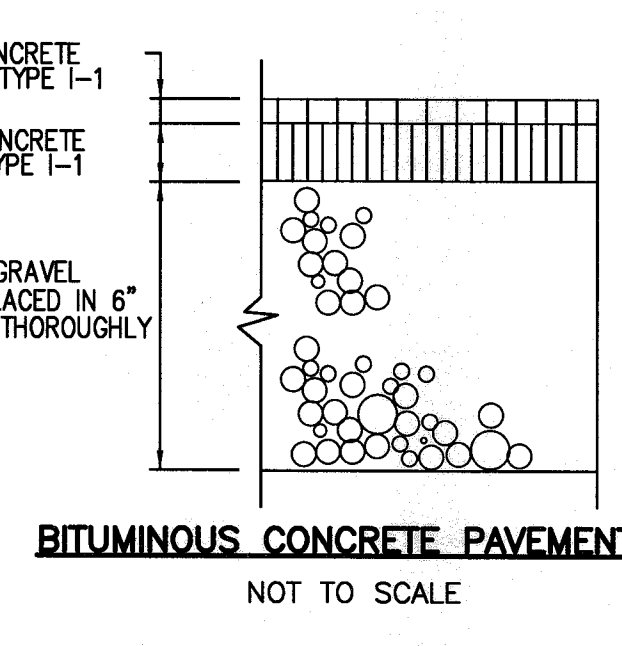
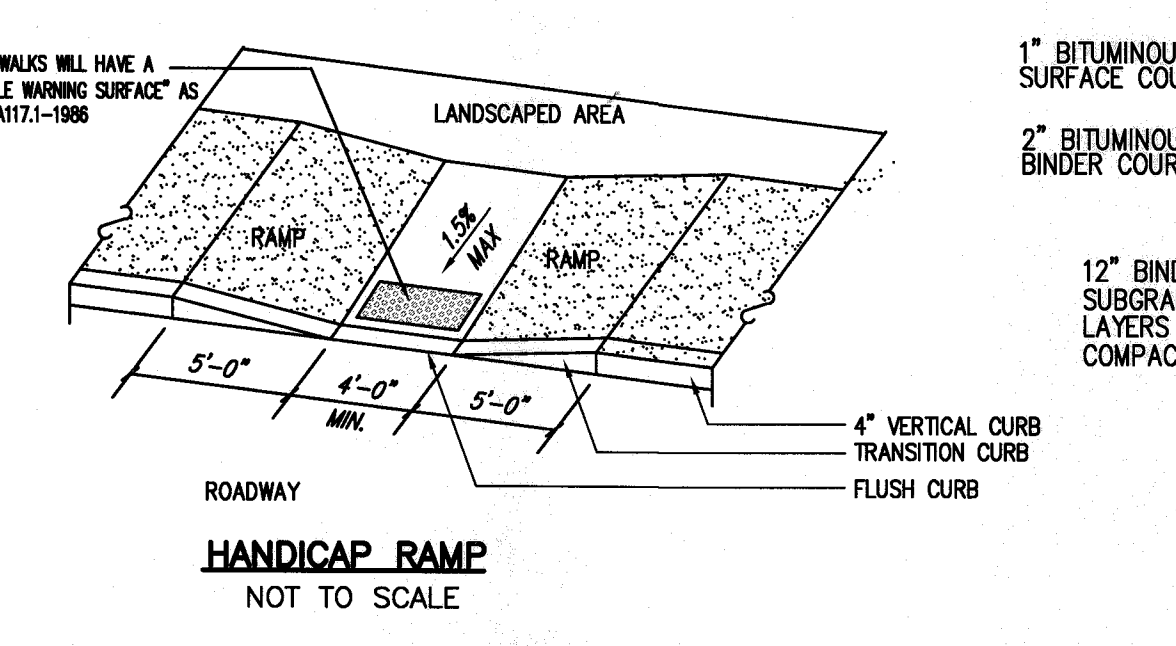
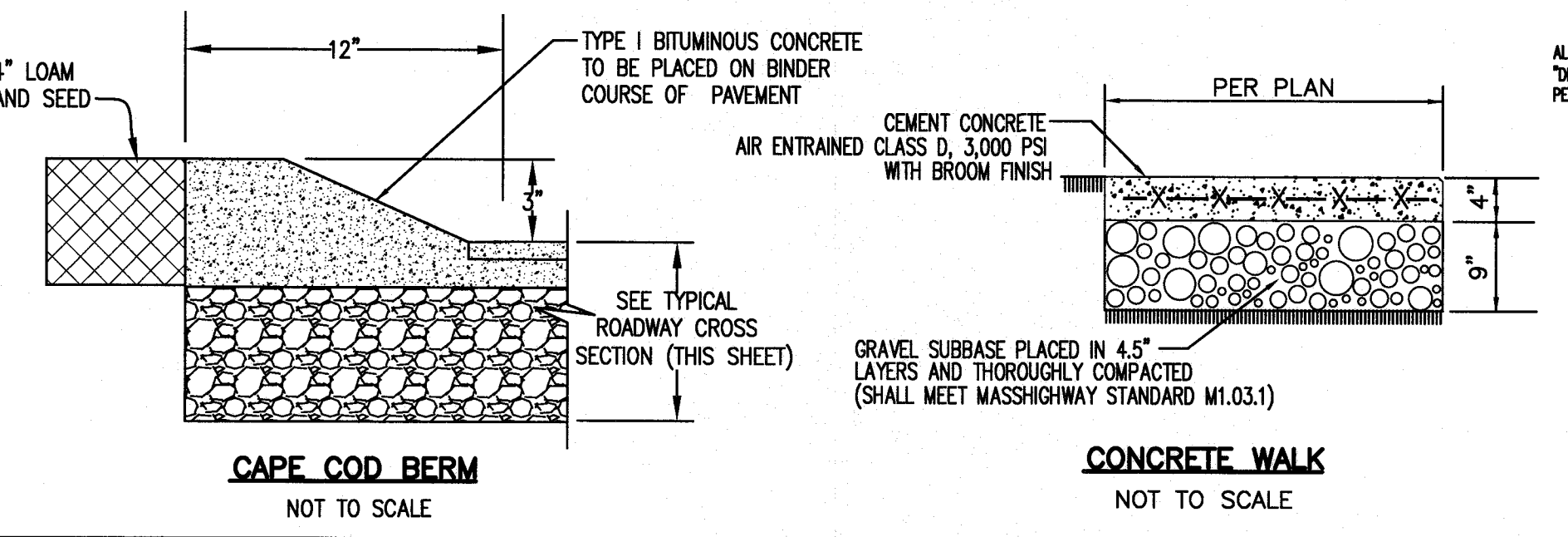
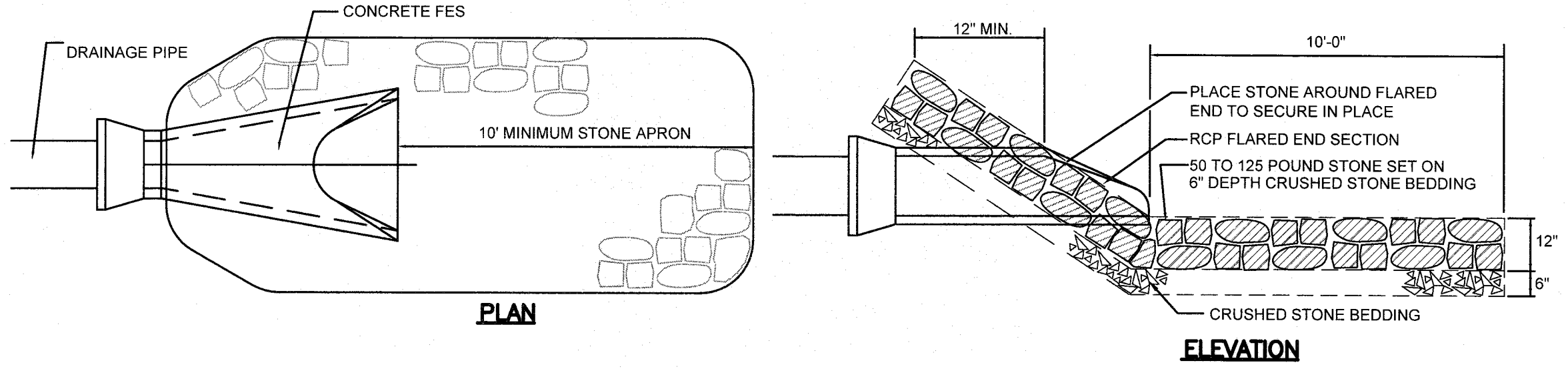
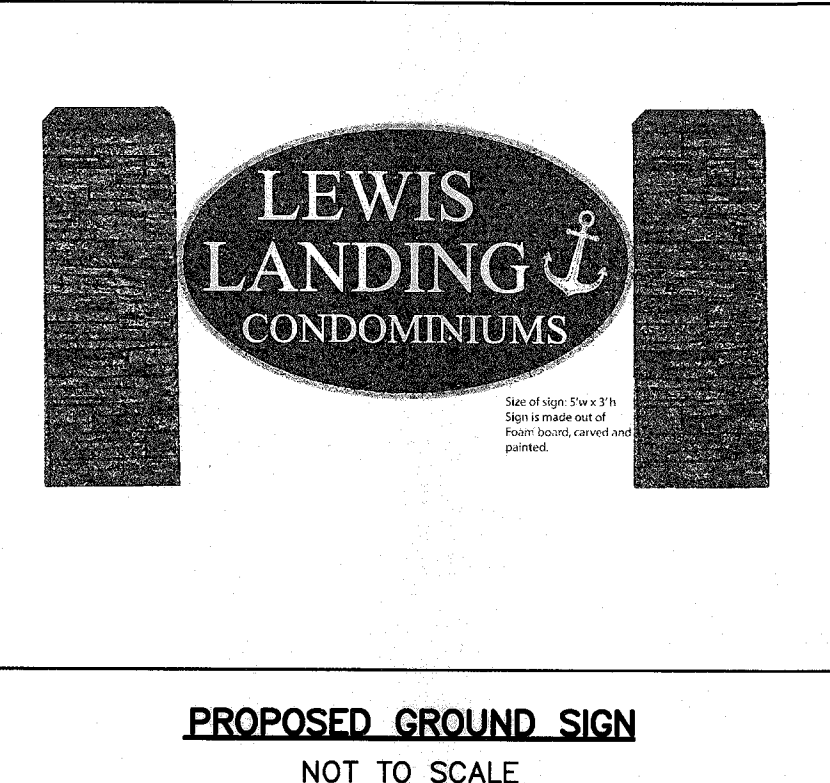
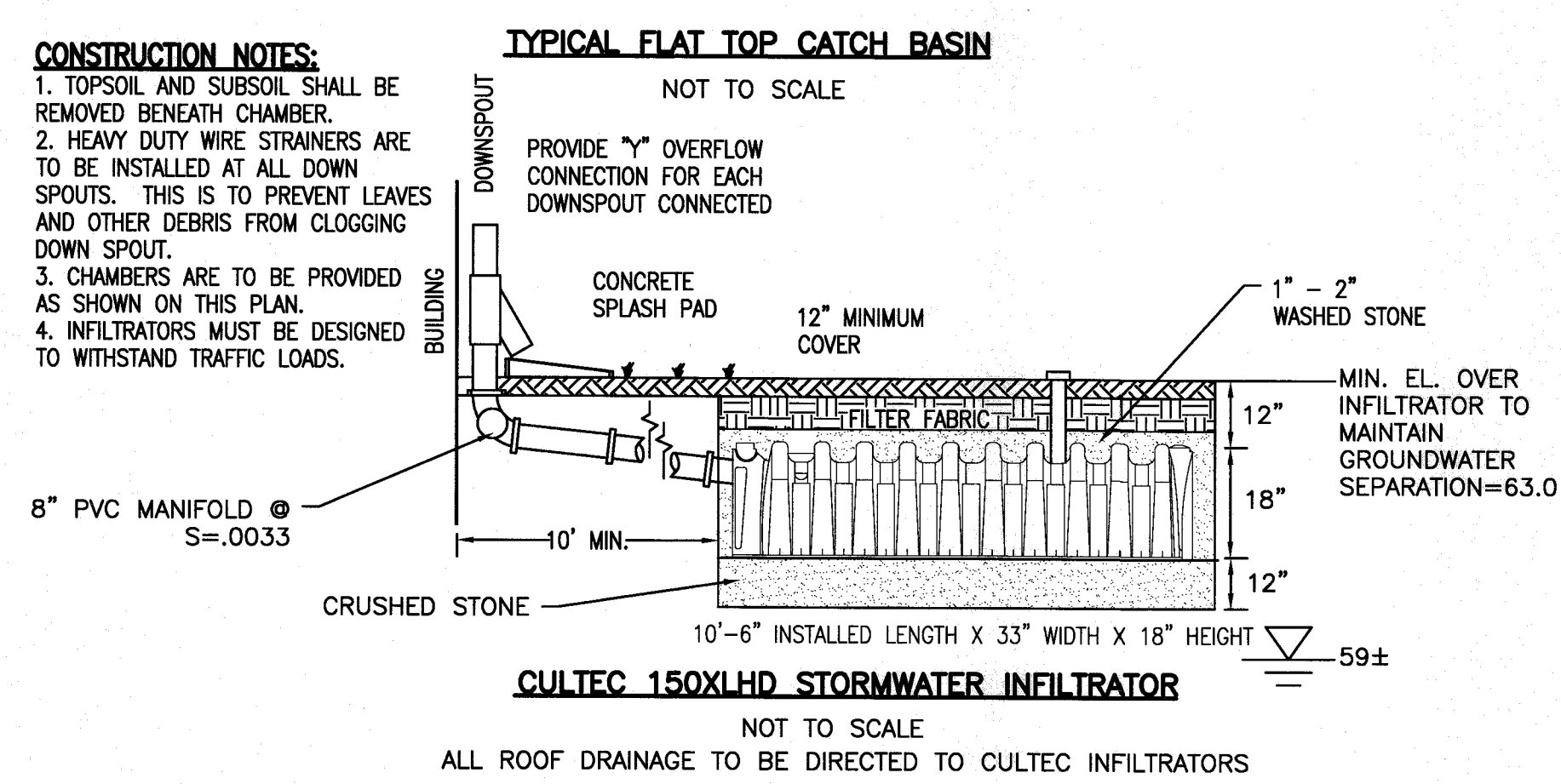
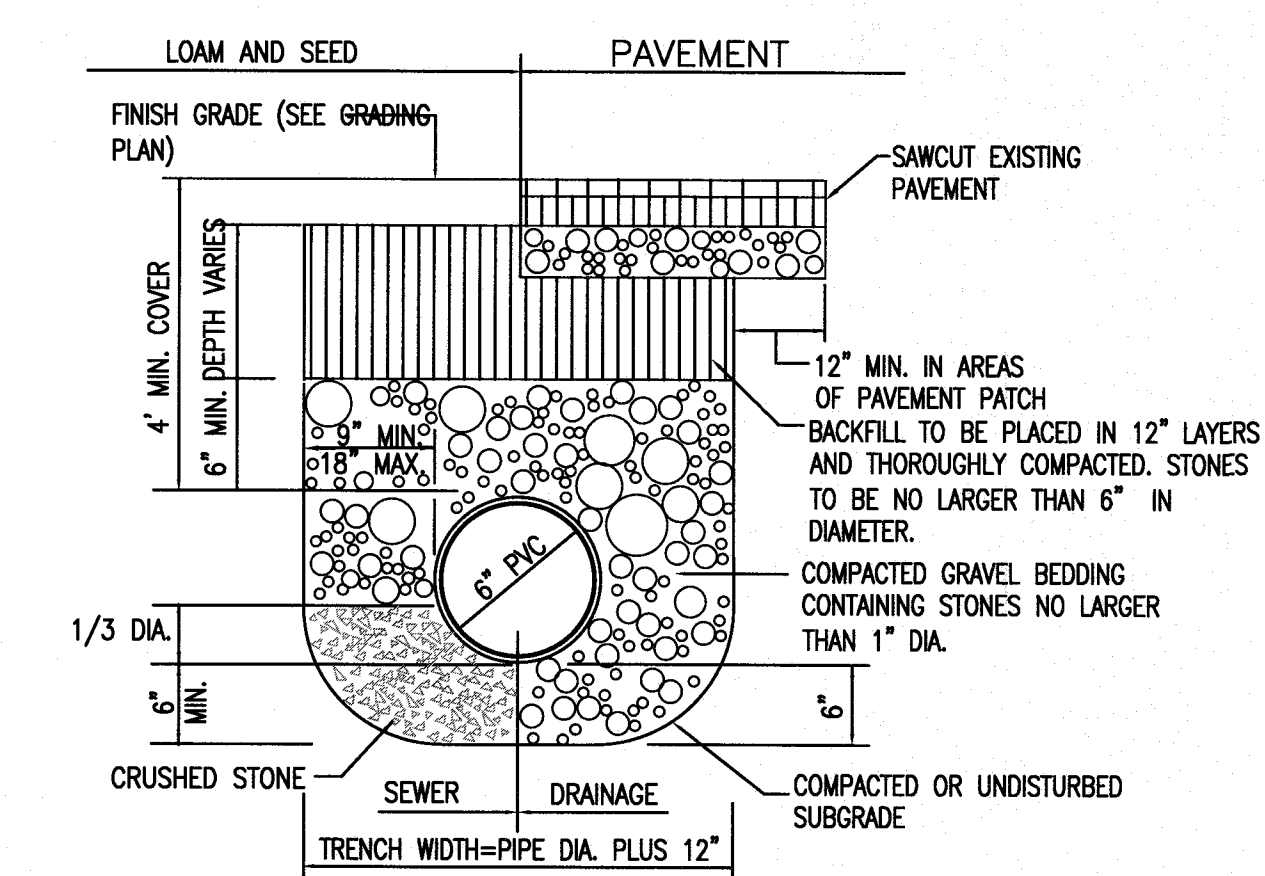
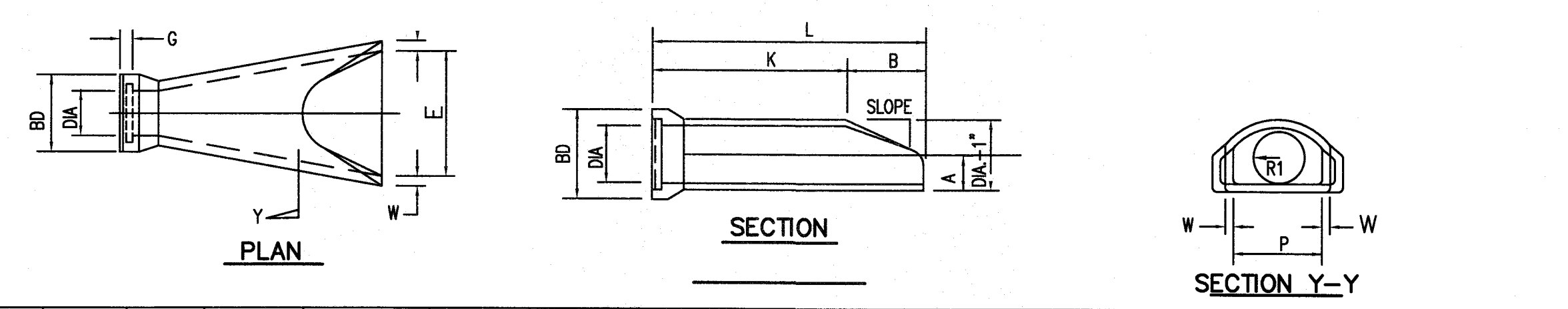
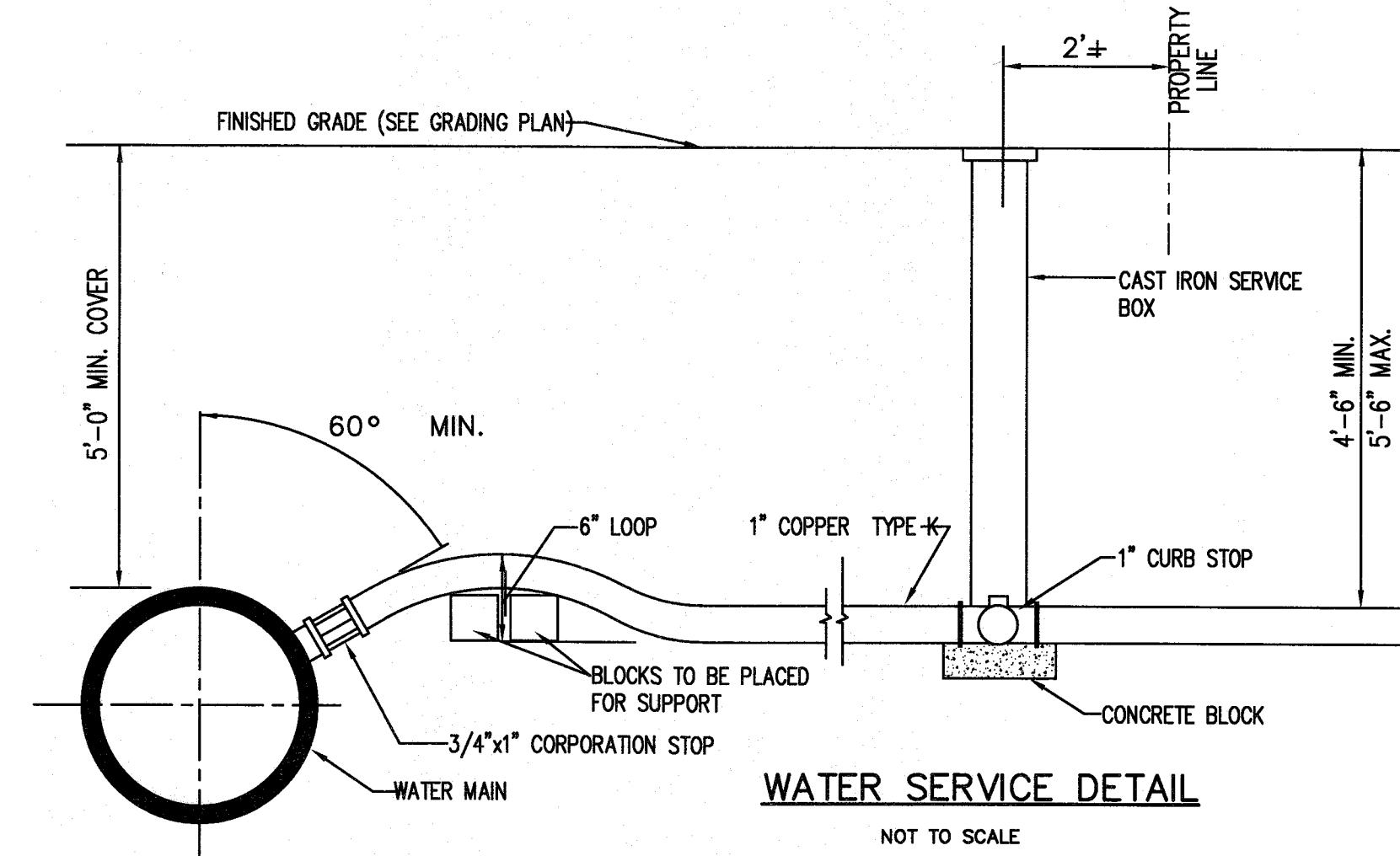
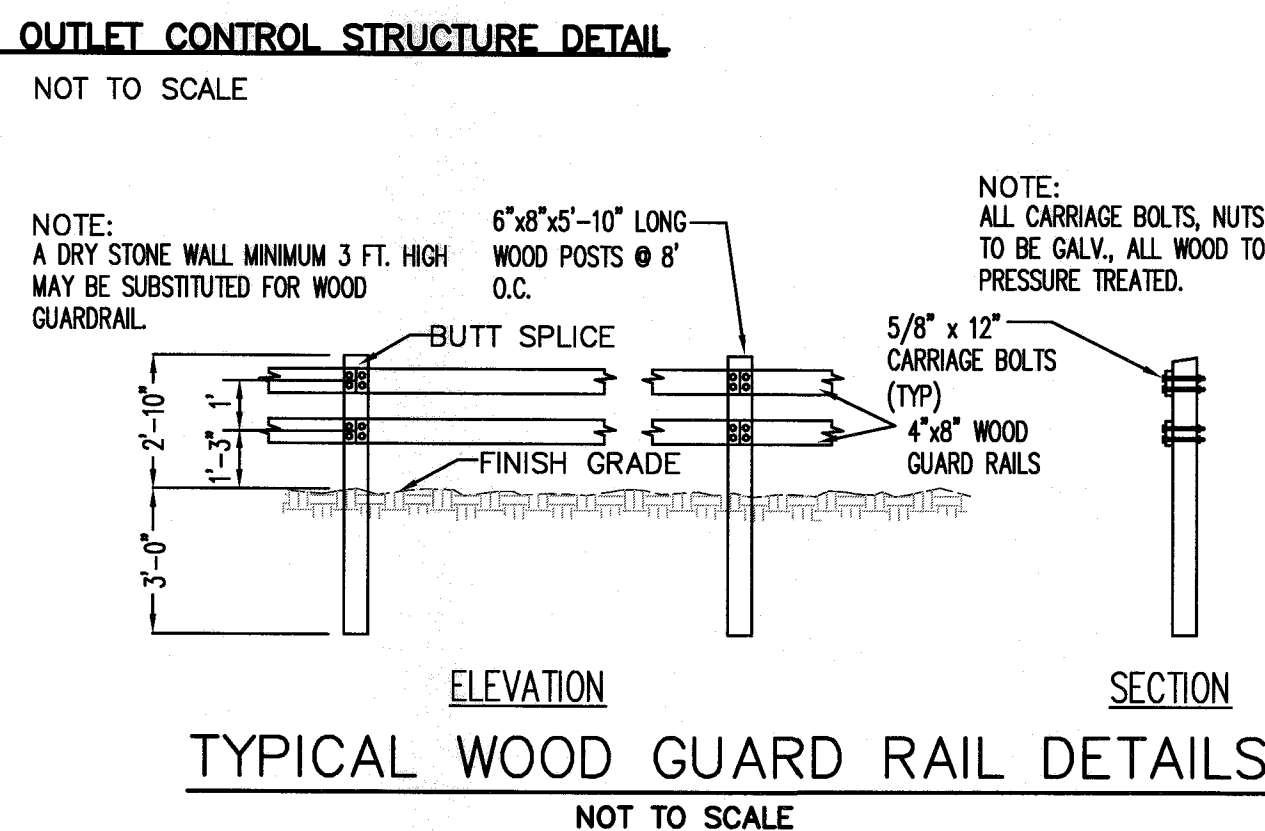
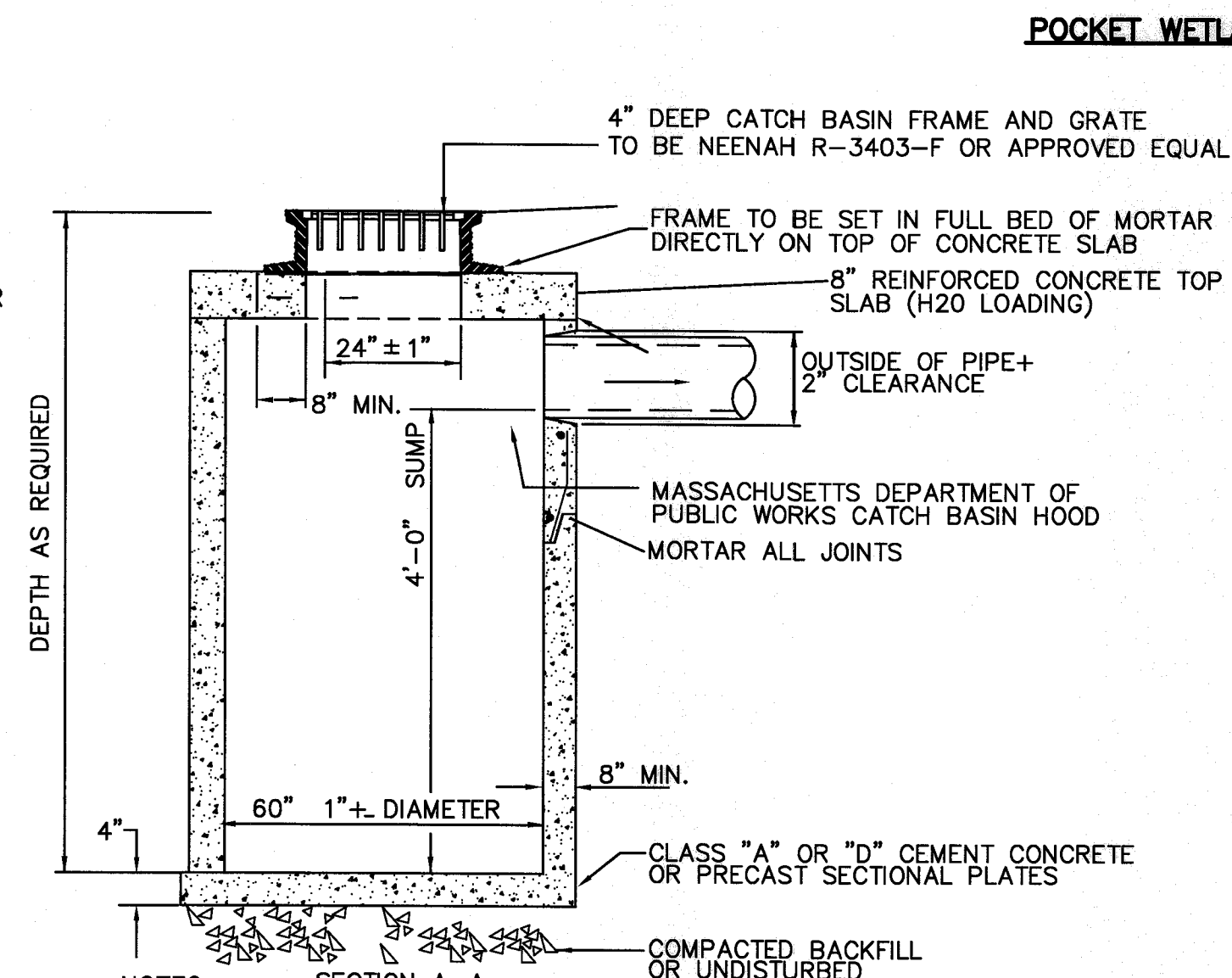
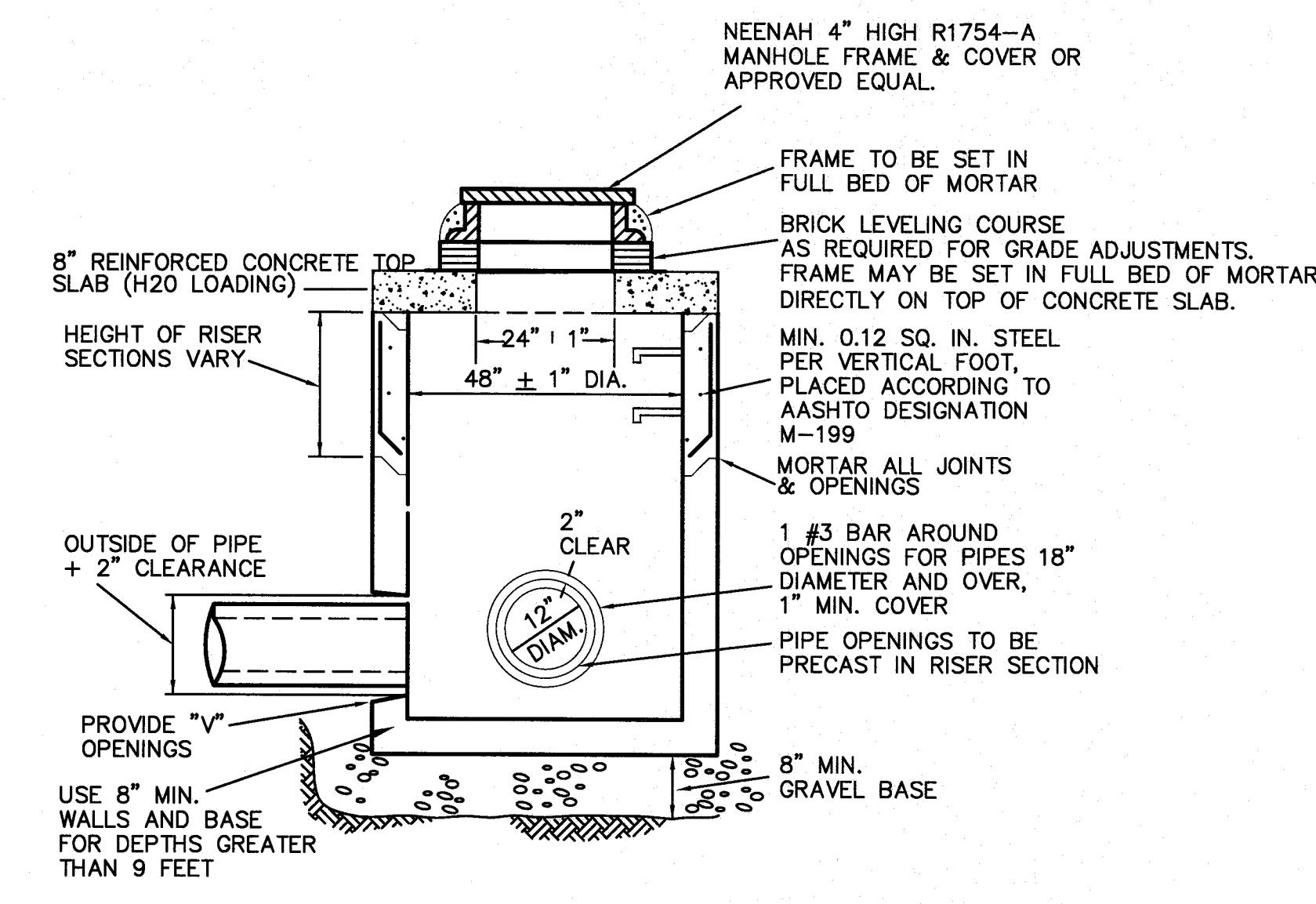
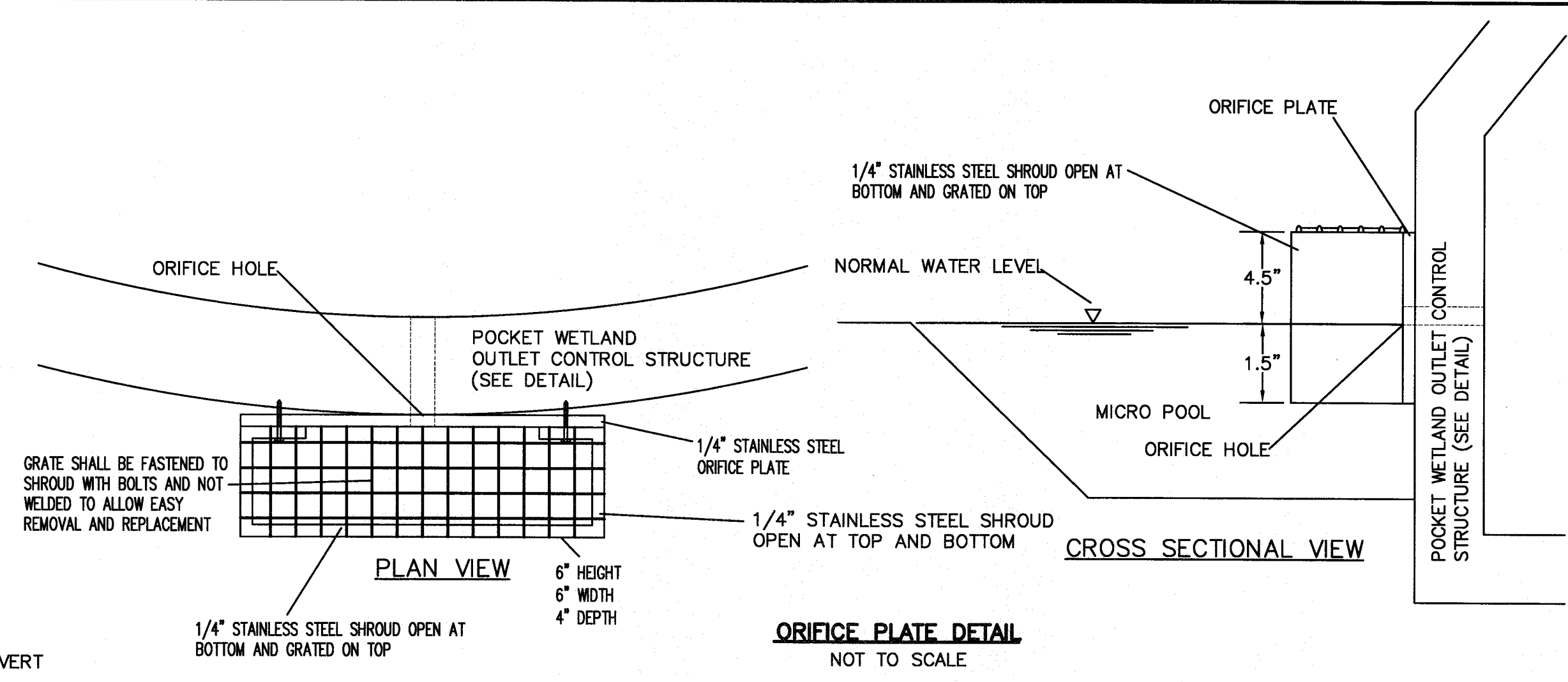
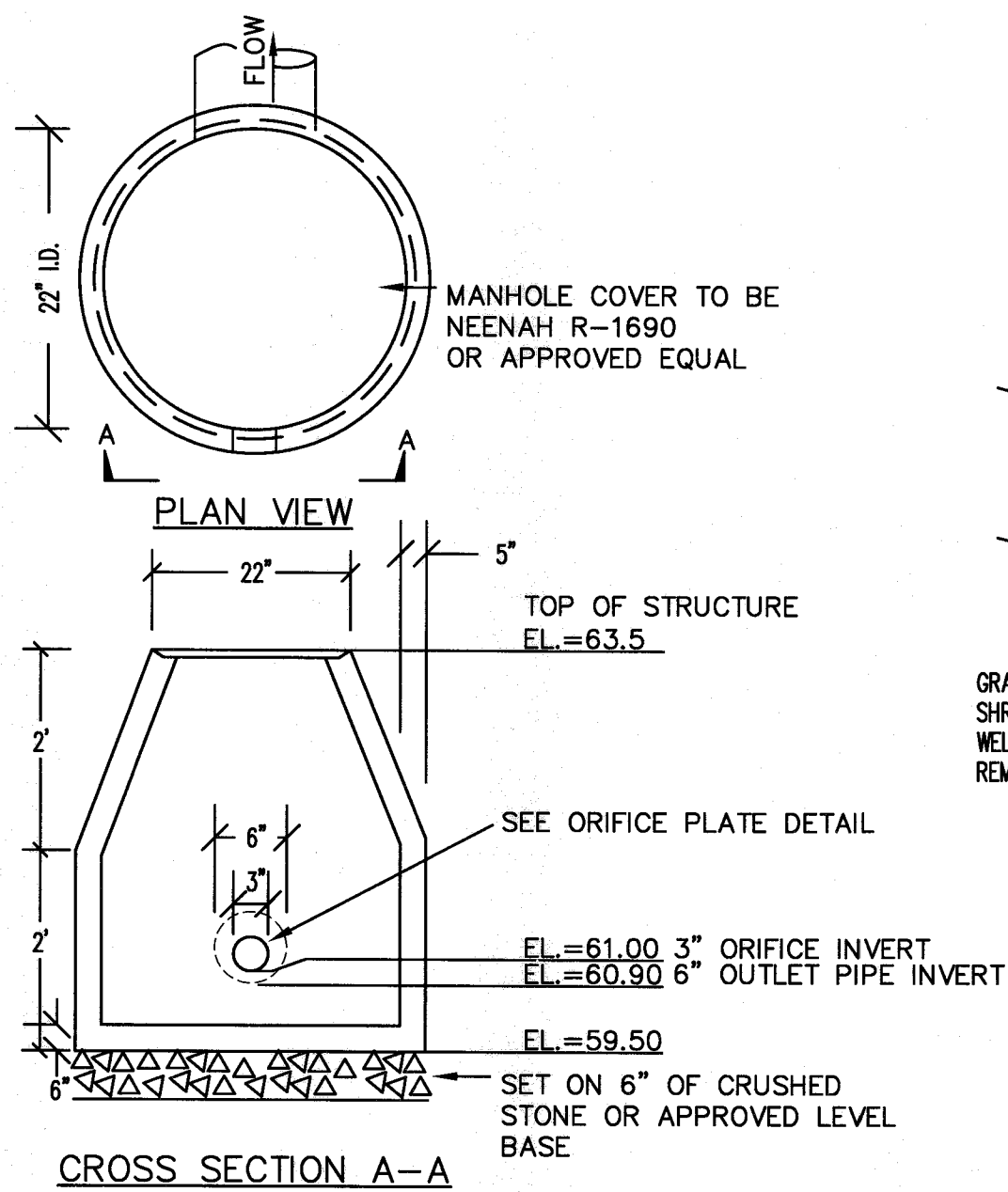
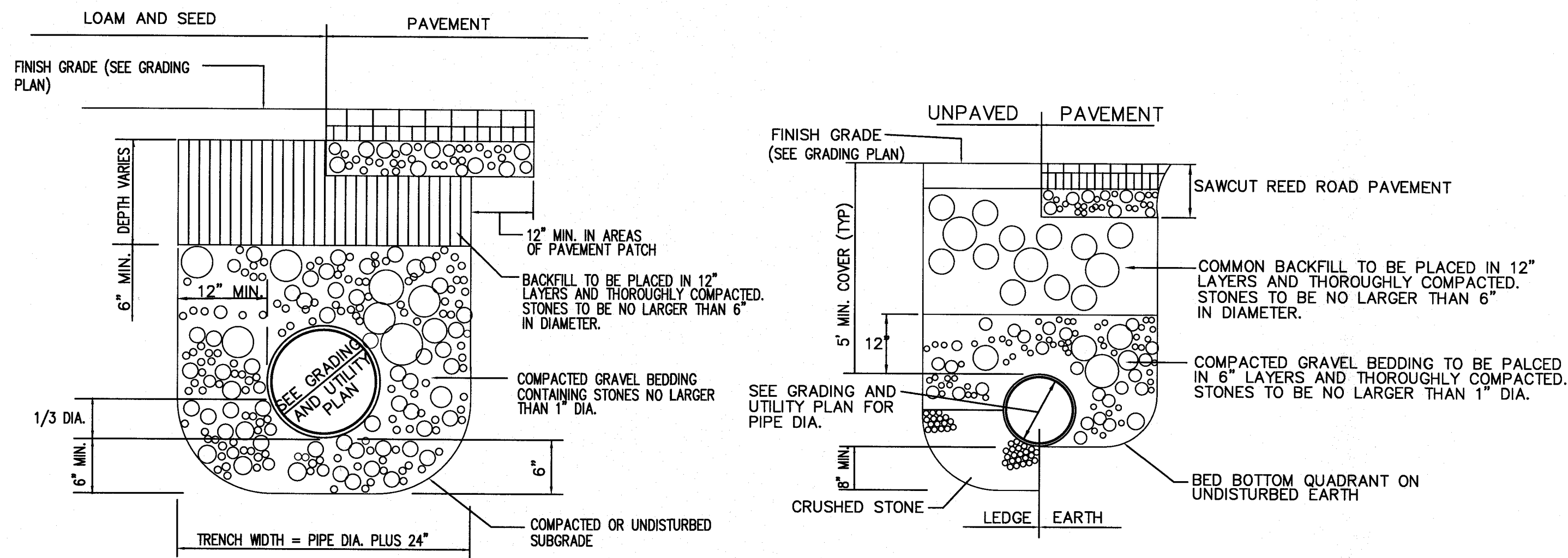
- THE FOLLOWING IS THE MINIMUM REQUIREMENTS THE CONTRACTOR SHALL FOLLOW TO PREVENT IMPACTS CAUSED BY EROSION AND SEDIMENTATION DURING CONSTRUCTION. THE CONTRACTOR MAY, AT HIS DISCRETION, IMPLEMENT ADDITIONAL MEASURES IF NECESSARY.
1. EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO STUMP REMOVAL AND CONSTRUCTION. STABILIZATION OF ALL REGRADED AND SOIL STOCKPILE AREAS WILL BE INITIATED AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL MUNICIPAL REGULATIONS. ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL DURING CONSTRUCTION. A STAKED STRAW BALE DAM SHALL BE INSTALLED DOWN GRADIENT OF ALL DRAINAGE OUTFALLS.
3. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD, IF DEEMED NECESSARY BY THE OWNER OR AGENTS OF THE OWNER.
4. CATCH BASINS WILL BE PROTECTED WITH STRAW BALE FILTERS THROUGHOUT THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS ARE THOROUGHLY STABILIZED. FILTER FABRIC SHOULD BE INSTALLED UNDER GRATE OPENING UNTIL PAVEMENT IS IN PLACE AND GROUND SURFACE IS STABILIZED.
5. SEEDING MIXTURE FOR FINISHED GRASSED AREAS WILL BE AS FOLLOWS:

KENTUCKY BLUE GRASS	45%
CREeping RED FESCUE	45%
PERENNIAL RYEGRASS	10%

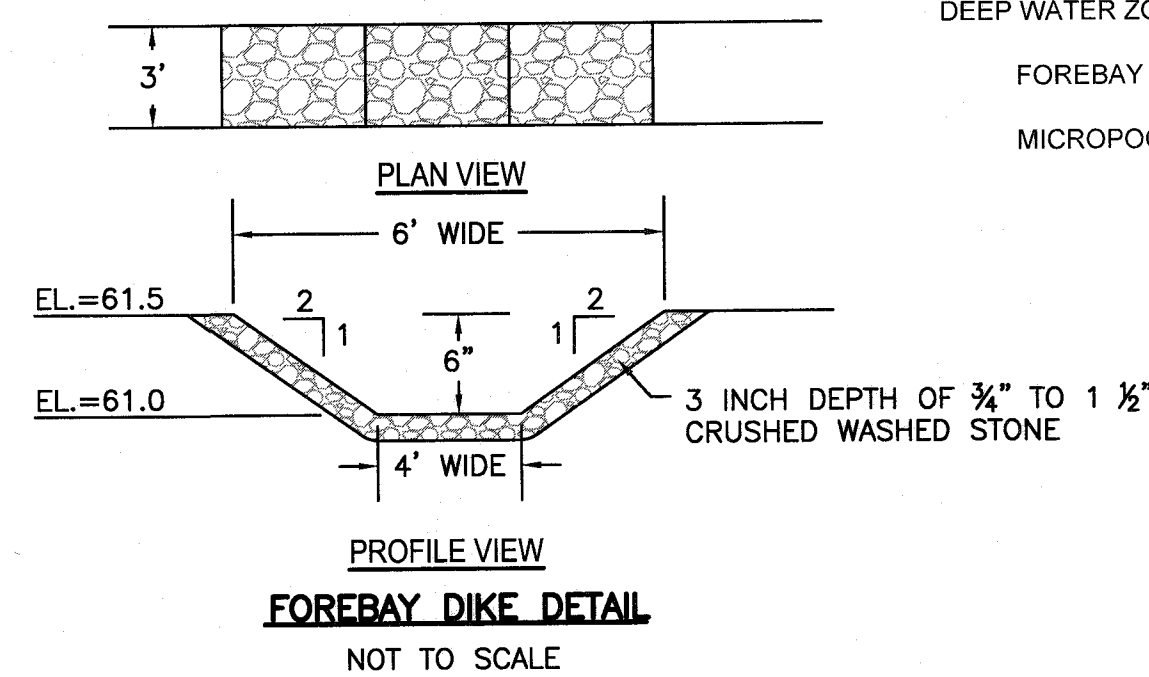
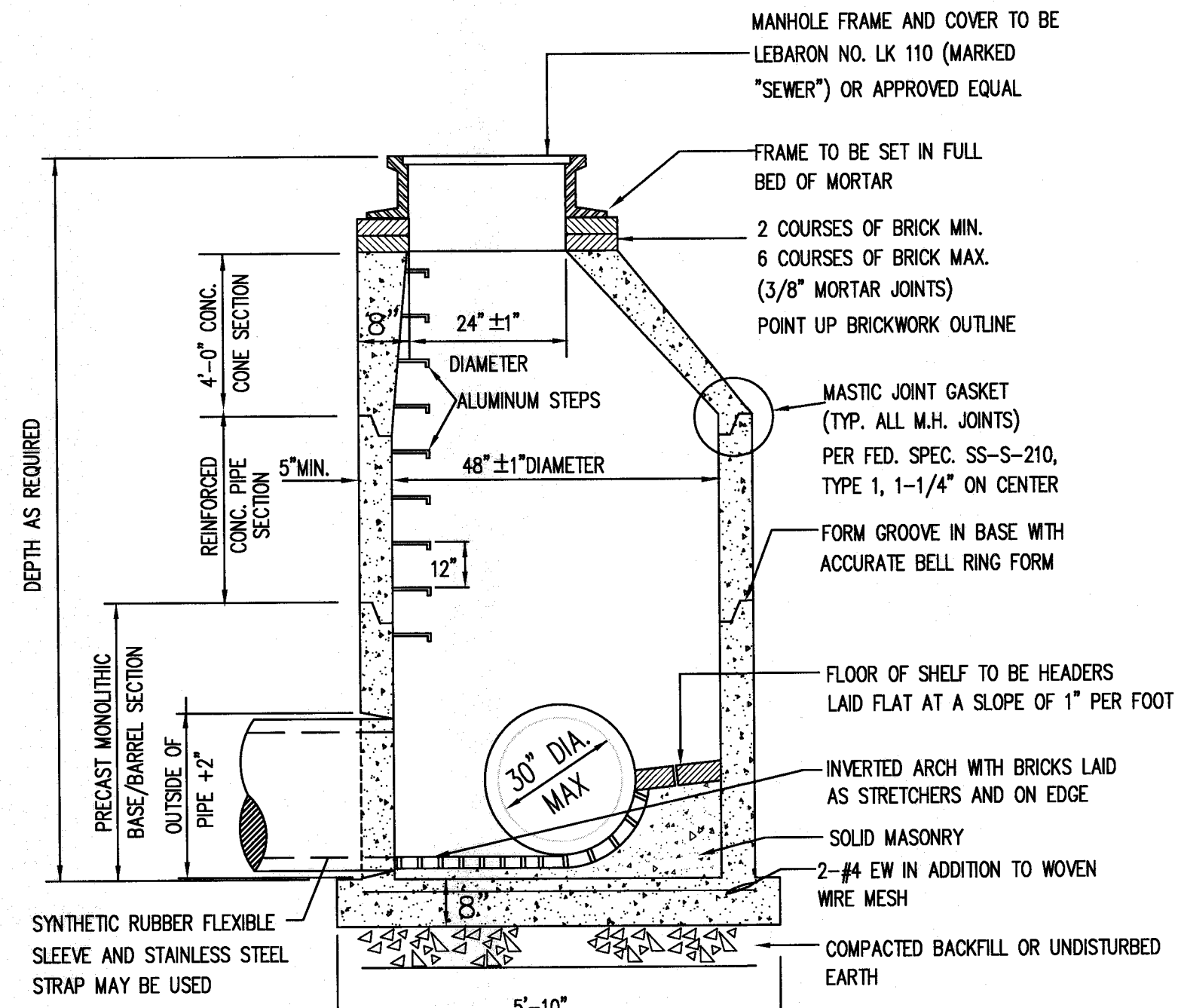
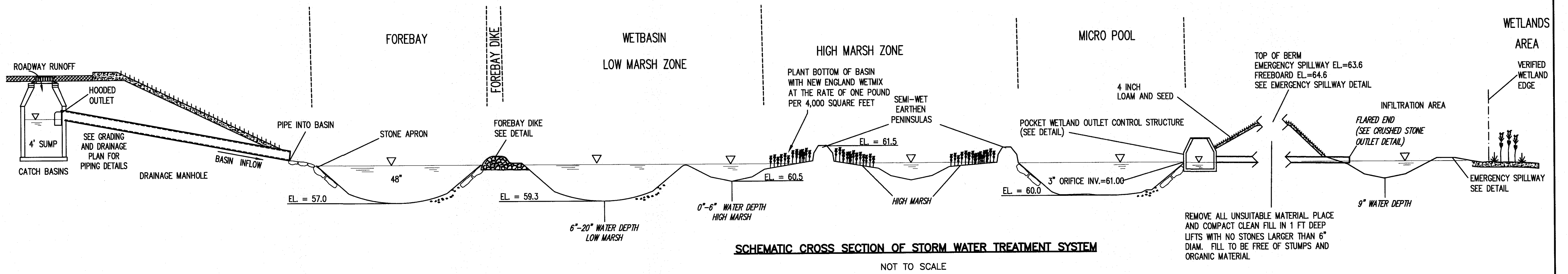
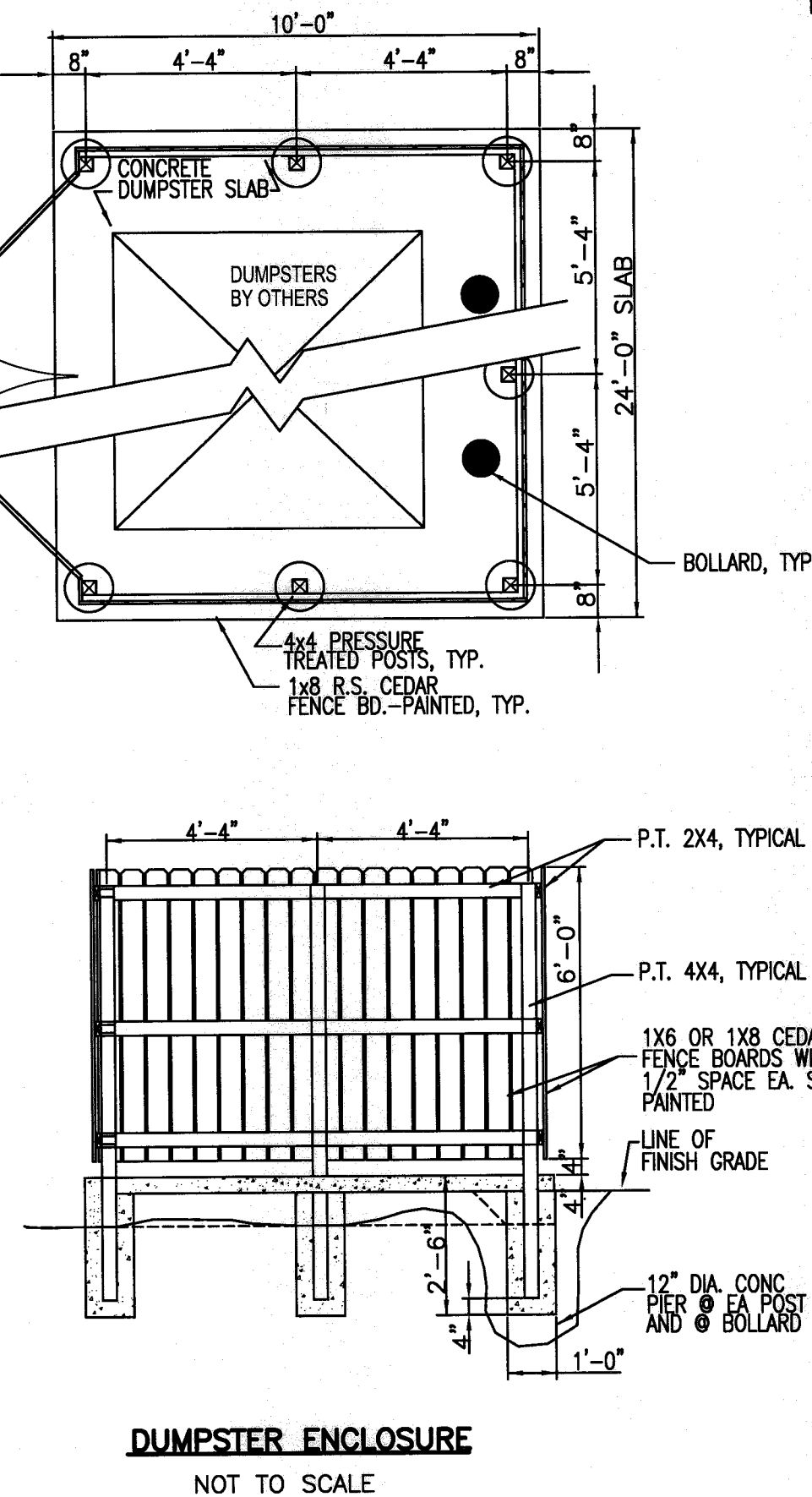
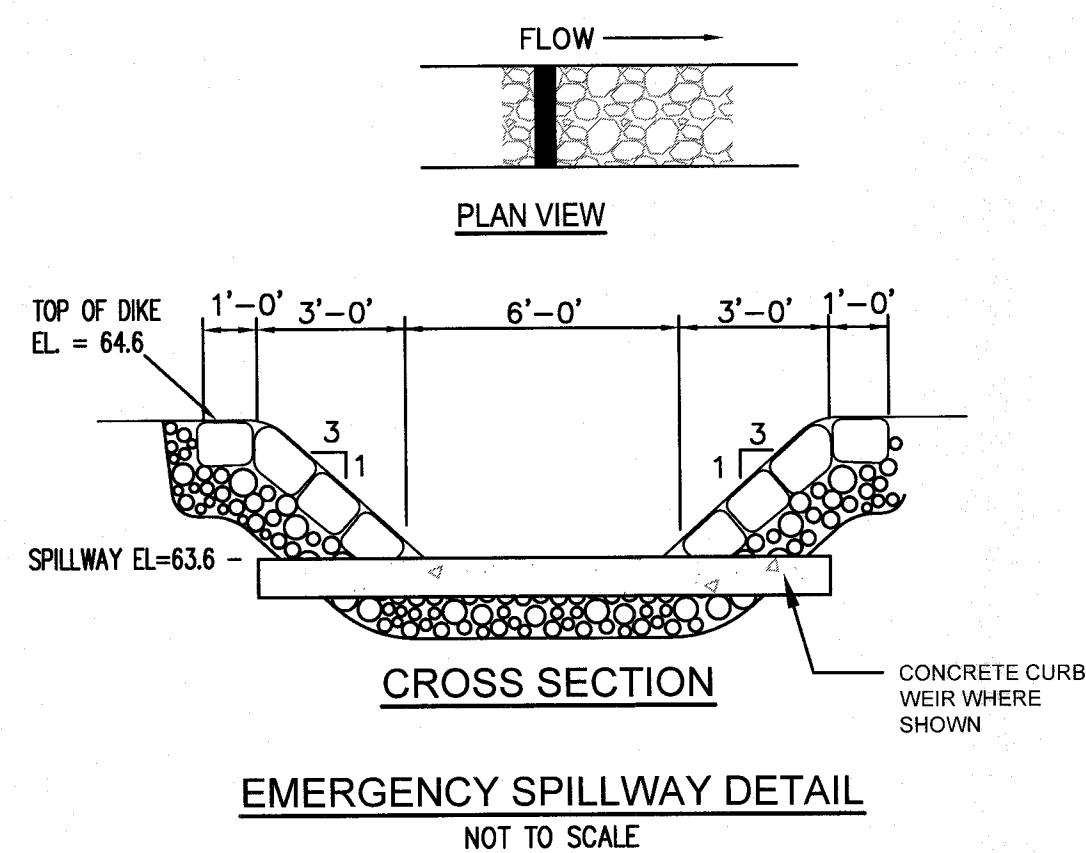
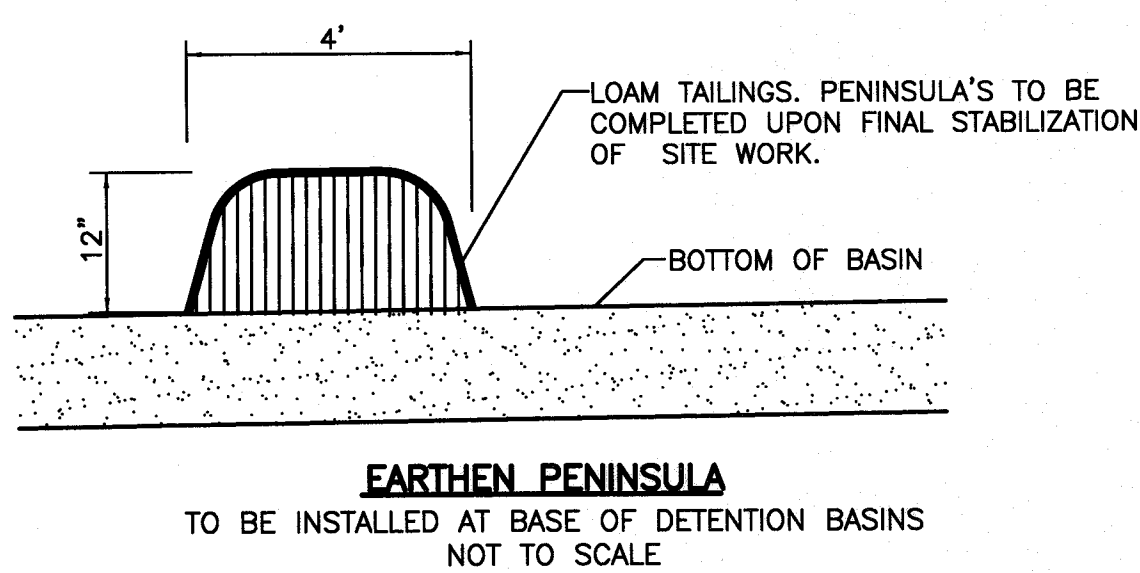
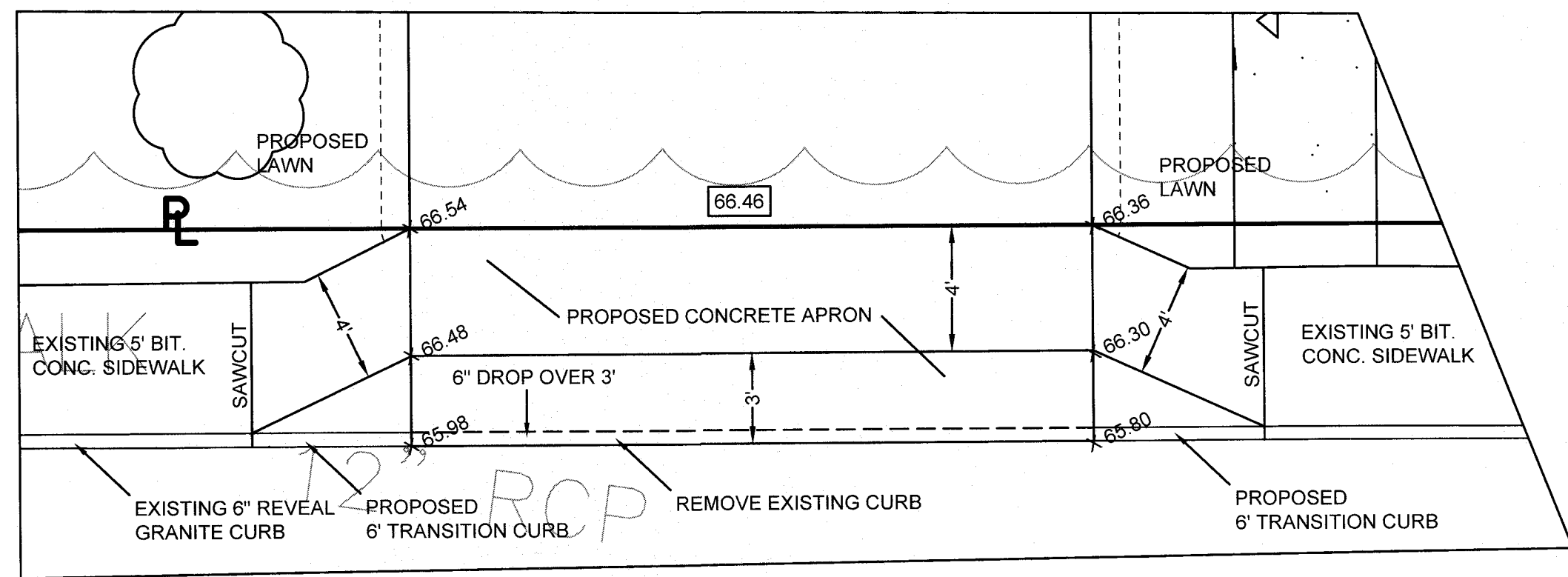
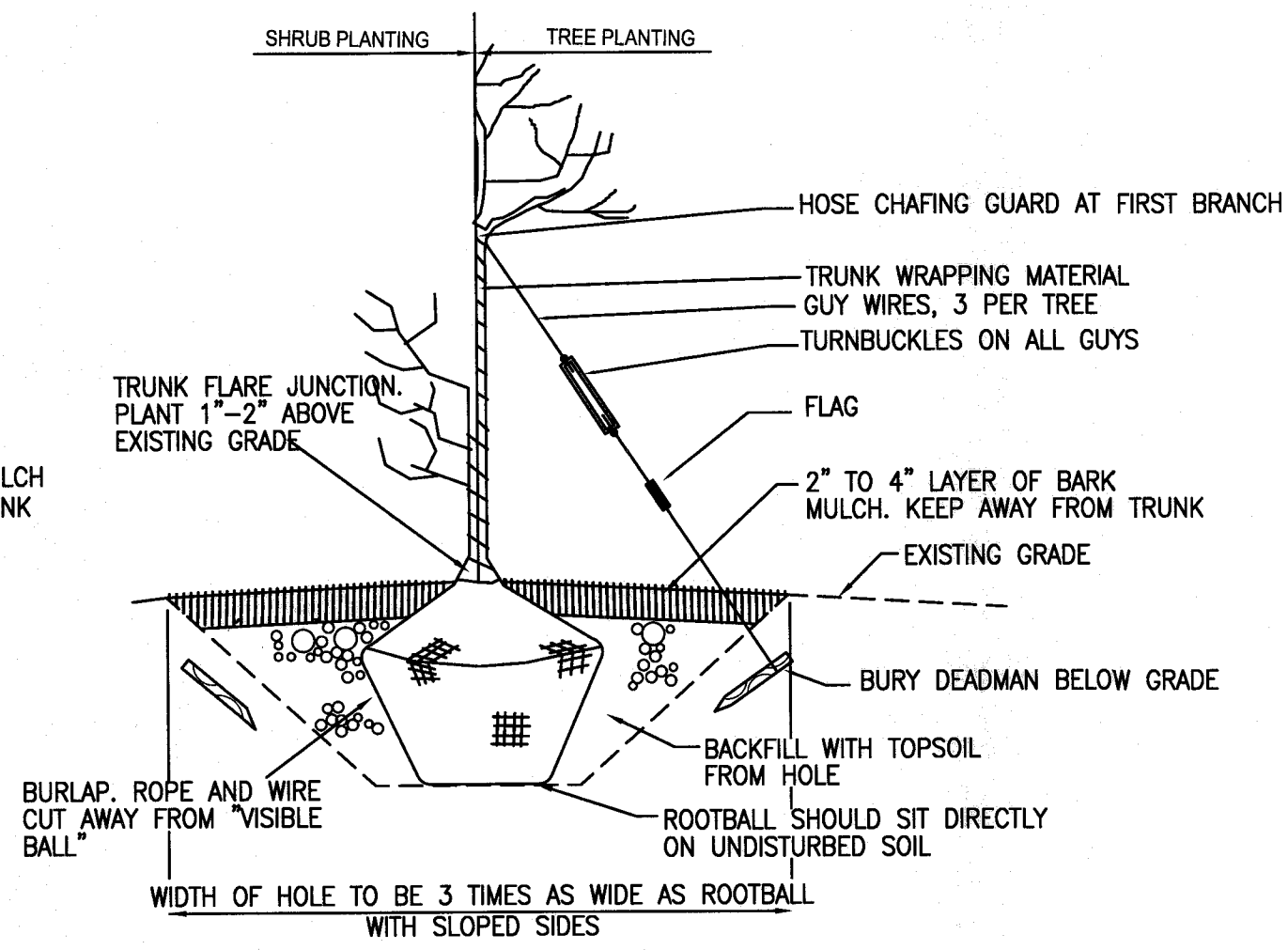
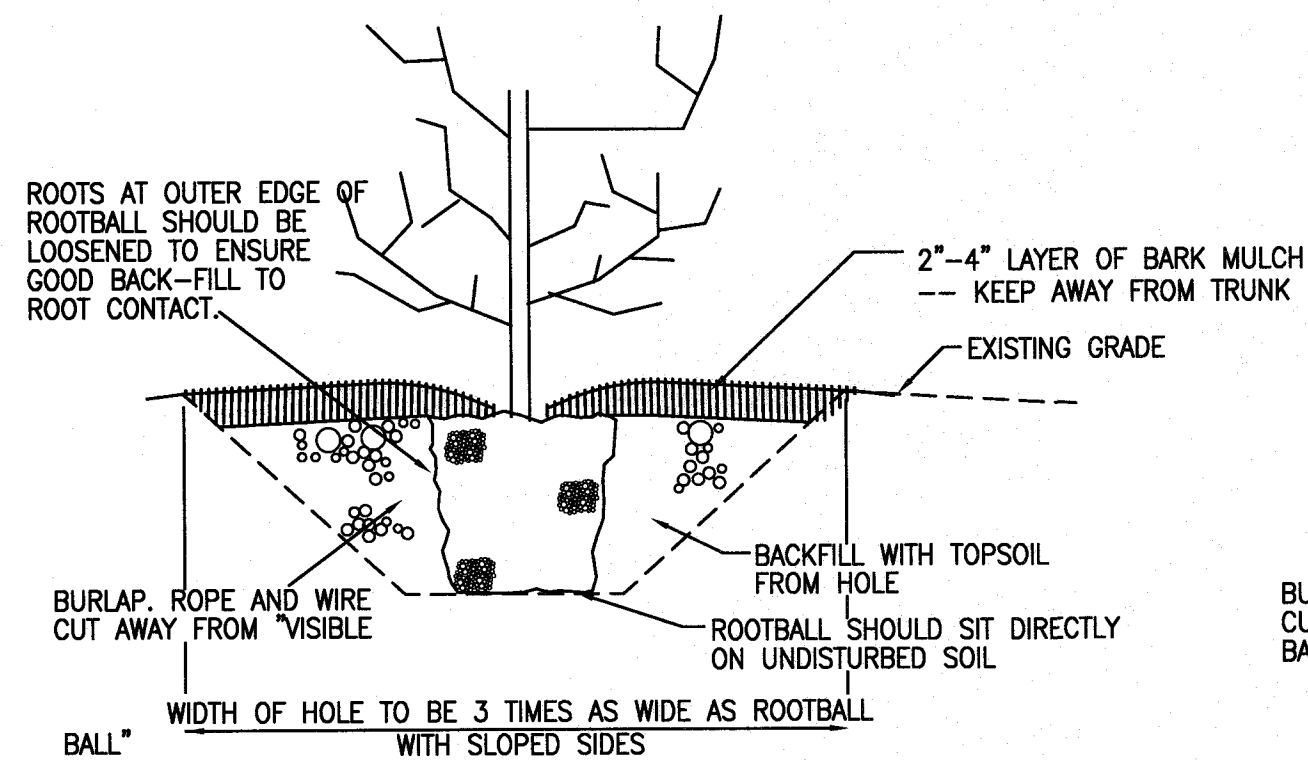
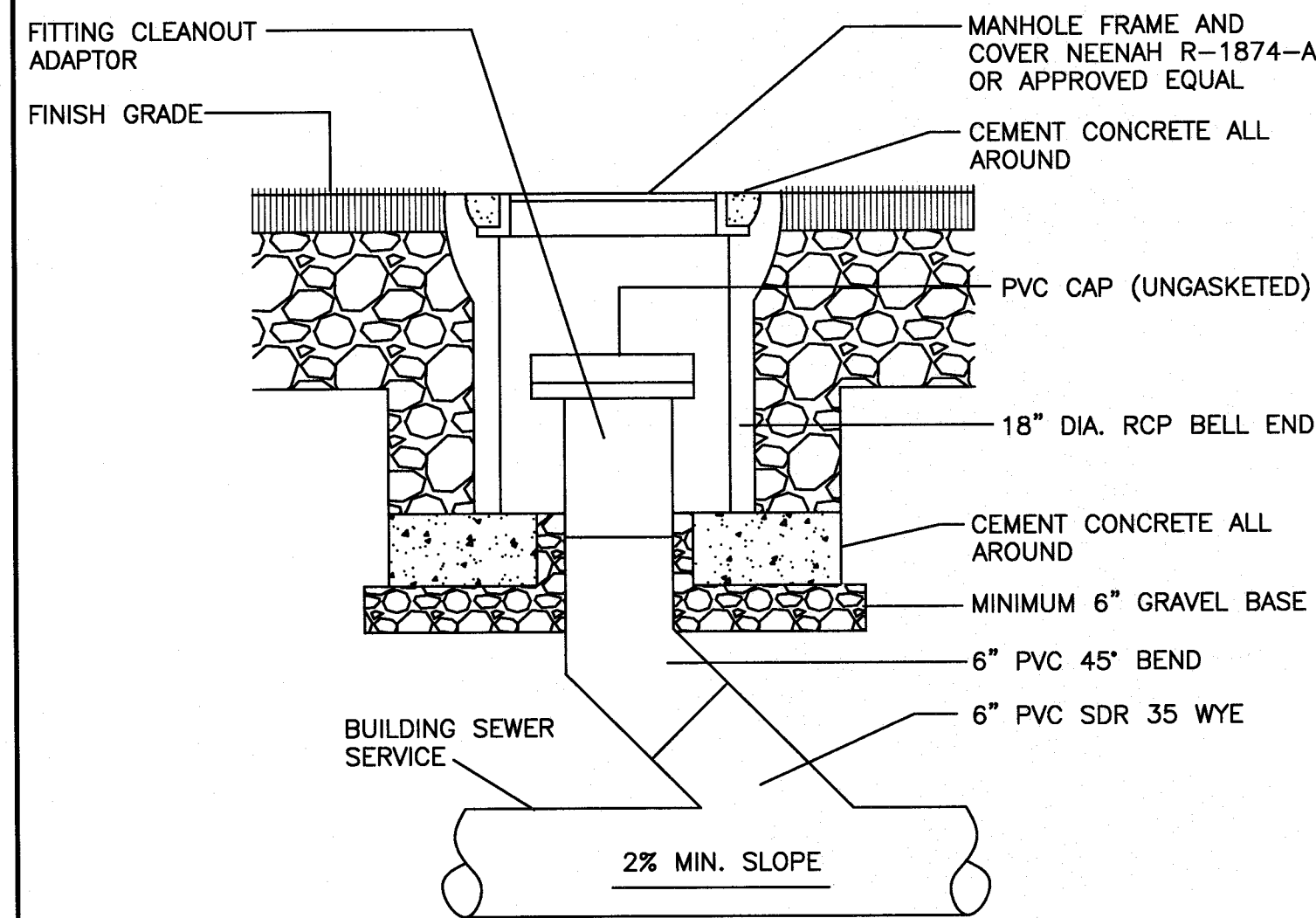
SEED TO BE APPLIED AT A RATE OF 4 LBS./1000 SQ. FT.
FERTILIZER SHALL BE APPLIED AT A RATE OF 2 LBS./1000 SQ. FT.
PLANTING SEASONS SHALL BE APRIL 1, TO JUNE 1 AND AUGUST 1 TO OCTOBER 1. AFTER OCTOBER 1, AREAS WILL BE STABILIZED WITH STRAWBALE CHECK, FILTER FABRIC, OR WOODCHIP MULCH, AS REQUIRED, TO CONTROL EROSION.
6. AREAS TO BE LEFT BARE BEFORE FINISHED GRADING AND SEEDING IS ACHIEVED, SHALL RECEIVE A TEMPORARY SEEDING OF PERENNIAL RYEGRASS APPLIED TO A RATE OF 2 LBS./1,000 SQ. FT. AT A RATE OF 0.12 INCH LIMESTONE EQUIVALENT TO BE 50 PERCENT CALCIUM PLUS MAGNESIUM OXIDE). SHALL BE APPLIED AS SEEDBED PREPARATION AT A RATE OF 90 LBS./1,000 SQ. FT. PLANTING SEASONS SHALL BE APRIL 1 TO JUNE 1 AND AUGUST 1 TO OCTOBER 1. WHERE GRASS PREDOMINATES, FERTILIZE ACCORDING TO A SOIL TEST AT A MINIMUM APPLICATION RATE OF 1 LB. OF NITROGEN PER 1,000 SQ. FT. AREAS TO BE LEFT BARE BEFORE FINISH GRADING AND SEEDING OUTSIDE OF PLANTING SEASONS SHALL RECEIVE AN AIR-DRIED WOOD CHIP MULCH, FREE OF COARSE MATTER, TREATED WITH 1-2 LBS. NITROGEN PER TON, APPLIED AT A RATE OF 185-275 LBS./1,000 SQ. FT.
7. AT ALL PROPOSED PLANT AREAS WHICH ARE NOT CURRENTLY SHOWN ON THESE PLANS, THE SEDIMENT CONTROL PLAN, ESTIMATE AND EROSION CONTROL PLAN (STRAWBALE CHECK OR FILTER FABRIC) ABOUT TEN (10) FEET FROM TOE TO SLOPE OF PROPOSED PLANT AREAS PRIOR TO BEGINNING FILT. INSTALLATION. STABILIZATION OF SLOPES IN FILL AREAS (USING MULCH OR GRASS) SHALL BE INITIATED WITHIN THIRTY (30) DAYS OF COMMENCEMENT OF FILT. INSTALLATION.
8. STABILIZATION OF SLOPES IN CUT AREAS (USING MULCH OR GRASS) AND THE INSTALLATION OF CONTROL LINE (STRAW BALE CHECK OR FILTER FABRIC) AT THE TOE OF SLOPE SHALL BE INITIATED WITHIN THIRTY (30) FEET.
9. SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN. ALL STRAW BALES OR SILT FENCE RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT REMOVED AND ALL DAMAGED EROSION CONTROLS SHALL BE REPAIRED OR REPLACED.
10. CONTRACTOR WILL BE ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER TOWN AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN IF THE TITLE TO THE LAND IS TRANSFERRED.
11. THE CONTRACTOR SHALL SECURE THE SERVICES OF A PROFESSIONAL ENGINEER, WHO SHALL VERIFY IN THE FIELD THAT THE CONTROLS REQUIRED BY THIS PLAN ARE PROPERLY INSTALLED, SHALL MAKE INSPECTION OF SUCH FACILITIES NOT LESS FREQUENTLY THAN EVERY 14 DAYS OR AFTER A RAINFALL IN EXCESS OF 1/4 INCH, WHICHEVER OCCURS FIRST.
12. STOCKPILES OF SOIL SHALL BE SURROUNDED BY A SEDIMENT BARRIER. SOIL STOCKPILES TO BE LEFT BARE FOR MORE THAN THIRTY (30) DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION OR MULCH. IF SOIL STOCKPILES ARE TO REMAIN FOR MORE THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED IN PLACE OF STRAW BALES. SIDE SLOPES SHALL NOT EXCEED 2:1.
13. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE LIFE OF HIS CONTRACT. DUST CONTROL SHALL INCLUDE, BUT IS NOT LIMITED TO SPRINKLING OF WATER ON EXPOSED SOILS AND HAUL ROADS AS NEEDED. CONTRACTOR SHALL CONTROL DUST TO PREVENT A HAZARD TO TRAFFIC.
14. IF FINAL GRADING IS TO BE DELAYED FOR MORE THAN THIRTY (30) DAYS AFTER LAND DISTURBANCES CEASE, TEMPORARY VEGETATION OR MULCH SHALL BE USED TO STABILIZE SOILS.
15. STRAW BALES SHALL BE USED ONLY AS A TEMPORARY MEASURE. WHERE CONTROL MEASURES WILL BE REQUIRED FOR LONGER THAN SIXTY (60) DAYS, FILTER FABRIC SHALL BE USED.
16. WHERE DEWATERING IS NECESSARY, THERE SHALL NOT BE A DISCHARGE DIRECTLY INTO WETLANDS OR WATERCOURSES. PROPER METHODS AND DEVICES SHALL BE UTILIZED TO THE EXTENT PERMITTED BY LAW, SUCH AS PUMPING WATER INTO A TEMPORARY SEDIMENTATION BOWL, PROVIDING SURGE PROTECTION AT THE INLET AND THE OUTLET OF PUMPS, OR FLOATING THE PUMPS IN THE POND, OR OTHER METHODS TO MINIMIZE AND RETAIN THE SUSPENDED SOLIDS; IF A PUMPING OPERATION IS CAUSING TURBIDITY PROBLEMS, SAID OPERATION SHALL CEASE UNTIL SUCH TIME AS FEASIBLE MEANS OF CONTROLLING TURBIDITY ARE DETERMINED AND IMPLEMENTED. SAID DISCHARGE POINTS SHALL BE LOCATED OVER 100 FEET FROM THE DELINEATED WETLANDS AS INDICATED ON THIS PLAN.



						DRAWING TITLE	EROSION CONTROL PLAN		SCALE: 1" = 20'	
						PROJECT	MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS		DATE: SEPT. 9, 2019	
6	7/8/2020	GENERAL REVISIONS	SWL	RJR	CLIENT	DANA LEWIS FAIRHAVEN, MASSACHUSETTS		DRAWN BY: SWL		
5	9/23/2020	RESPONSE TO COMMENTS	SWL	RJR		DESIGNED BY: RJR				
4	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR		CHECKED BY: RJR				
3	1/22/2020	RESPONSE TO COMMENTS	SWL	RJR		APPROVED BY: RJR				
2	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR		SHEET NO. 4 OF 7				
1	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR	<div><div><div>• CIVIL ENGINEERING</div><div>• LAND SURVEYING</div><div>• ENVIRONMENTAL ASSESSMENT</div></div><div> PRIME ENGINEERING</div></div> <div><div>P.O. BOX 1088 350 BEDFORD ST. LAKEVILLE, MA 02347 TEL.: 508-947-0080 FAX: 508-947-2000</div></div>	PROJECT NO. 2729-01-01				
REV.	DATE	DESCRIPTION	BY	APP.						



REV	DATE	DESCRIPTION	BY	APP	DRAWING TITLE	SCALE	CHECKED BY	APPROVED BY	PROJECT NO.
1	7/8/2020	GENERAL REVISIONS	SWL	RJR	DETAIL SHEET-1	1" = 20'	RJR	RJR	2729-01-01
2	6/25/2020	RESPONSE TO COMMENTS	SWL	RJR	MAP 31- LOT 117C		RJR	RJR	
3	2/14/2020	RESPONSE TO COMMENTS	SWL	RJR	FAIRHAVEN, MASSACHUSETTS		RJR	RJR	
4	12/4/2019	RESPONSE TO COMMENTS	SWL	RJR	DANA LEWIS		RJR	RJR	
5	11/8/2019	RESPONSE TO COMMENTS	SWL	RJR	FAIRHAVEN, MASSACHUSETTS		RJR	RJR	
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FOREBAY SIZING CALCULATIONS

CONTRIBUTING IMPERVIOUS AREA: 23,449 SQ. FT.
(23,449 SQ. FT.) X (0.25 IN.) X (1 FT./12 IN.) = 489 CU. FT.
VOLUME PROVIDED = ((275 SQ. FT. @ EL. 61)+ (22 SQ. FT. @ EL. 57/2) X 4 FT. DEPTH = 594 CU. FT.)

INFILTRATION REQUIREMENTS

INFILTRATION REQUIREMENT = 23,449 SF IMP. X 65% = 15,242 SF
MINUS ROOF AREA (100% INFILTRATED) = 15,242 - 6,732 = 8,510 SF
REQUIRED
VOLUME = .25" RAINFALL X 8,510 SF = 178 CF REQUIRED
740 CF PROVIDED > 178 CF REQUIRED

WATER QUALITY CALCULATIONS

16,717** SQ. FT. X 1.25 IN. X 1 FT./12 IN. = 1,742 CU. FT.
**DOES NOT INCLUDE ROOF AREAS AS THEY WILL BE INFILTRATED

PROVIDED (DEPTHS RELATIVE TO 3" ORIFICE INV. AT 61.00):

LOW MARSH: 1,218 SQ. FT. X 1.7 FT. = 2,070 CU. FT.
HIGH MARSH: 1,082 SQ. FT. X 1.5 FT. = 541 CU. FT.
MICROPOOL: 135 SQ. FT. X 1 FT. = 135 CU. FT.
FOREBAY: 594 CU. FT.

TOTAL: 2,070 + 541 + 135 + 594 = 3,340 CU. FT.

3,340 CU. FT. STORAGE > 1,742 CU. FT. WATER QUALITY VOLUME

FEATURE	REQUIRED %	% OF VOL. STORED
FOREBAY	5%	34%
HIGH MARSH	25%	62%
LOW MARSH	55%	119%
MICROPOOL	5%	8%

CONSTRUCTED POCKET WETLANDS CALCULATIONS

DETENTION BASIN AREA REQUIREMENTS (SQ. FT.):

SEMI-WET AREA = 5% (135 SQ. FT.)

HIGH MARSH ZONE = 40% (1,082 SQ. FT.)

LOW MARSH ZONE = 45% (1,218 SQ. FT.)

DEEP WATER ZONE = 10%

FOREBAY = 5% (135 SQ. FT.)

MICROPOOL = 5% (135 SQ. FT.)

AREA PROVIDED (OUT OF 2,705 SQ. FT.):

SEMI-WET AREA = 135 SQ. FT.

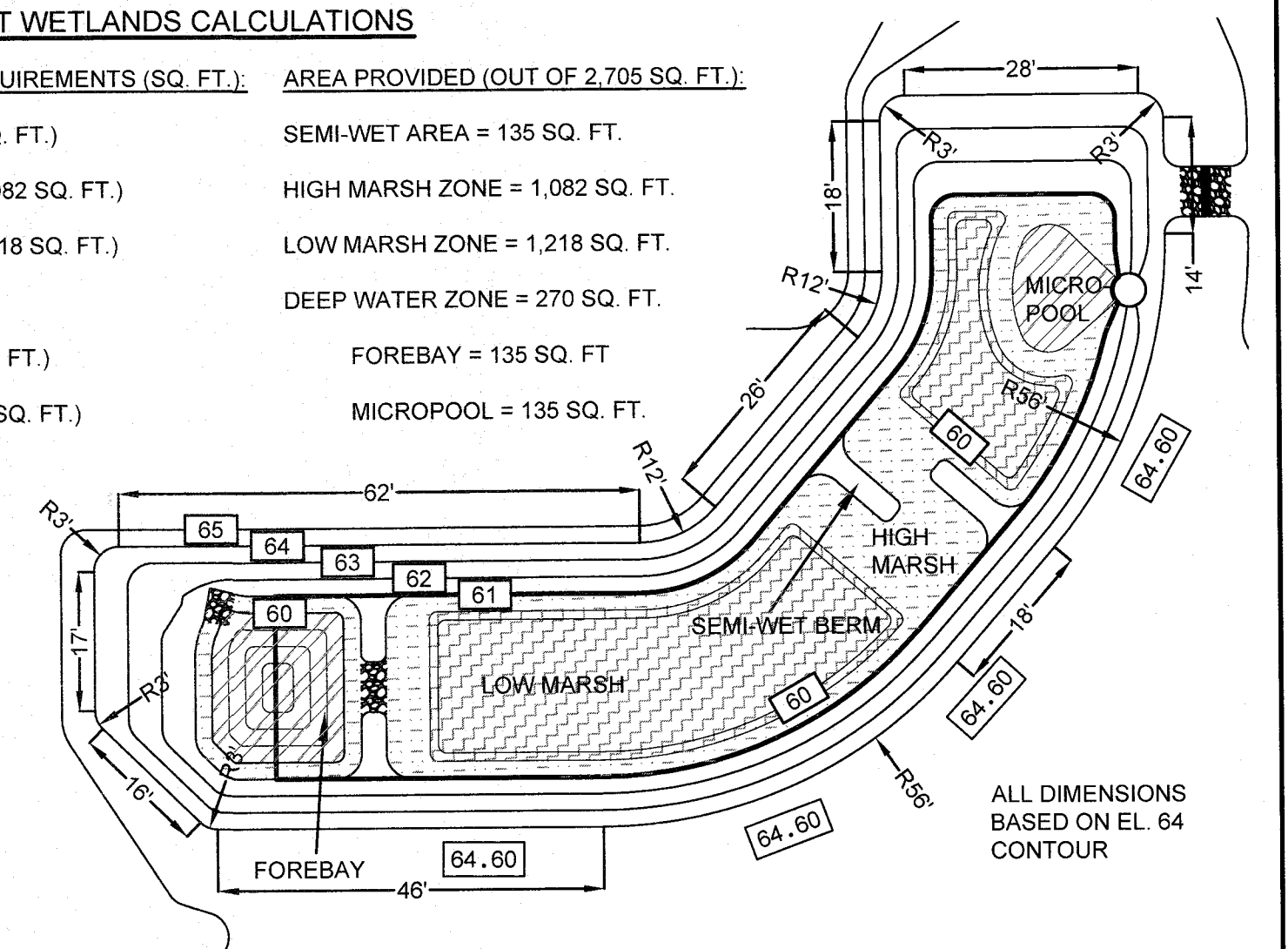
HIGH MARSH ZONE = 1,082 SQ. FT.

LOW MARSH ZONE = 1,218 SQ. FT.

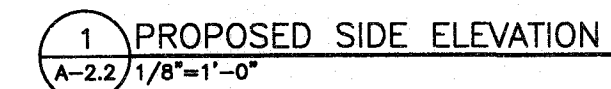
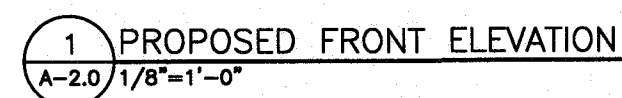
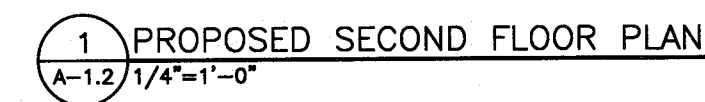
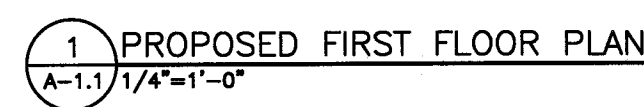
DEEP WATER ZONE = 270 SQ. FT.


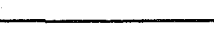
FOREBAY = 135 SQ. FT.

MICROPOOL = 135 SQ. FT.



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					DRAWING TITLE		ARCHITECTURALS		SCALE: 1" = 20'			
					PROJECT		MAP 31- LOT 117C FAIRHAVEN, MASSACHUSETTS		DATE: SEPT. 9, 2019			
					CLIENT		DANA LEWIS FAIRHAVEN, MASSACHUSETTS		DRAWN BY: SWL			
									DESIGNED BY: RJR			
					• CIVIL ENGINEERING • LAND SURVEYING • ENVIRONMENTAL ASSESSMENT		 PRIME ENGINEERING INC.		P.O. BOX 1088 350 BEDFORD ST. LAKEVILLE, MA 02347 TEL: 508.947.0050 FAX: 508.947.2004		SHEET NO. 7 OF 7	
REV	DATE	DESCRIPTION			BY	APP.			APPROVED BY: RJR		PROJECT NO. 2729-01-01	