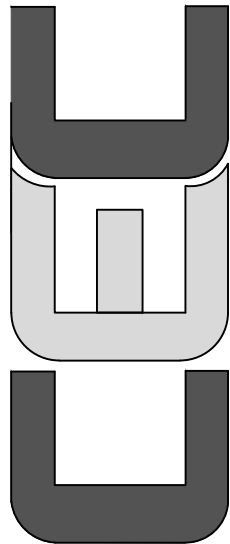




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CIVIL ENGINEERING CONSULTING, INC.
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No: 1

Revisions: PER ToFPB

Date: 07-06-23

DRAINAGE PLAN FOR:
PROPOSED RESIDENCE
206 CARIBBEAN ROAD
PALM BEACH, FL

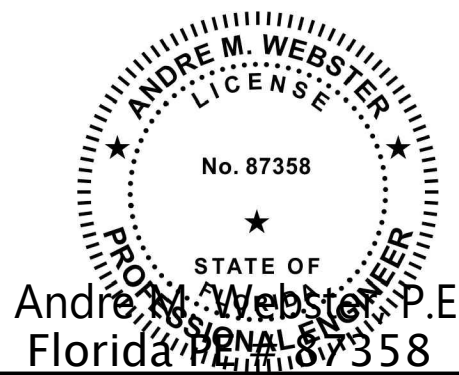
Project #: 22-115

Issue Date: 10/19/22

Drawn By: AMW

Chkd By: AMW

Scale: As Shown



SHEET TITLE

DRAINAGE &
GRADING PLAN

SHEET NUMBER:

C1



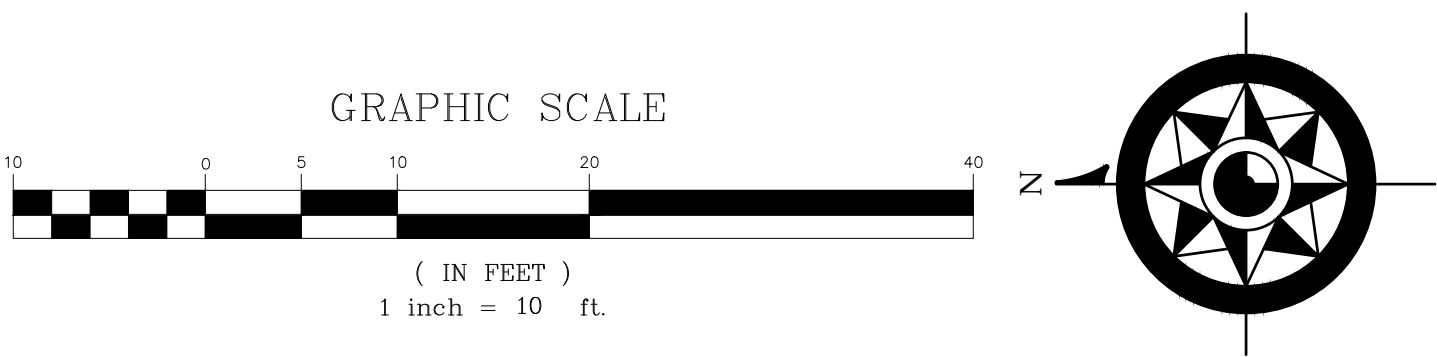
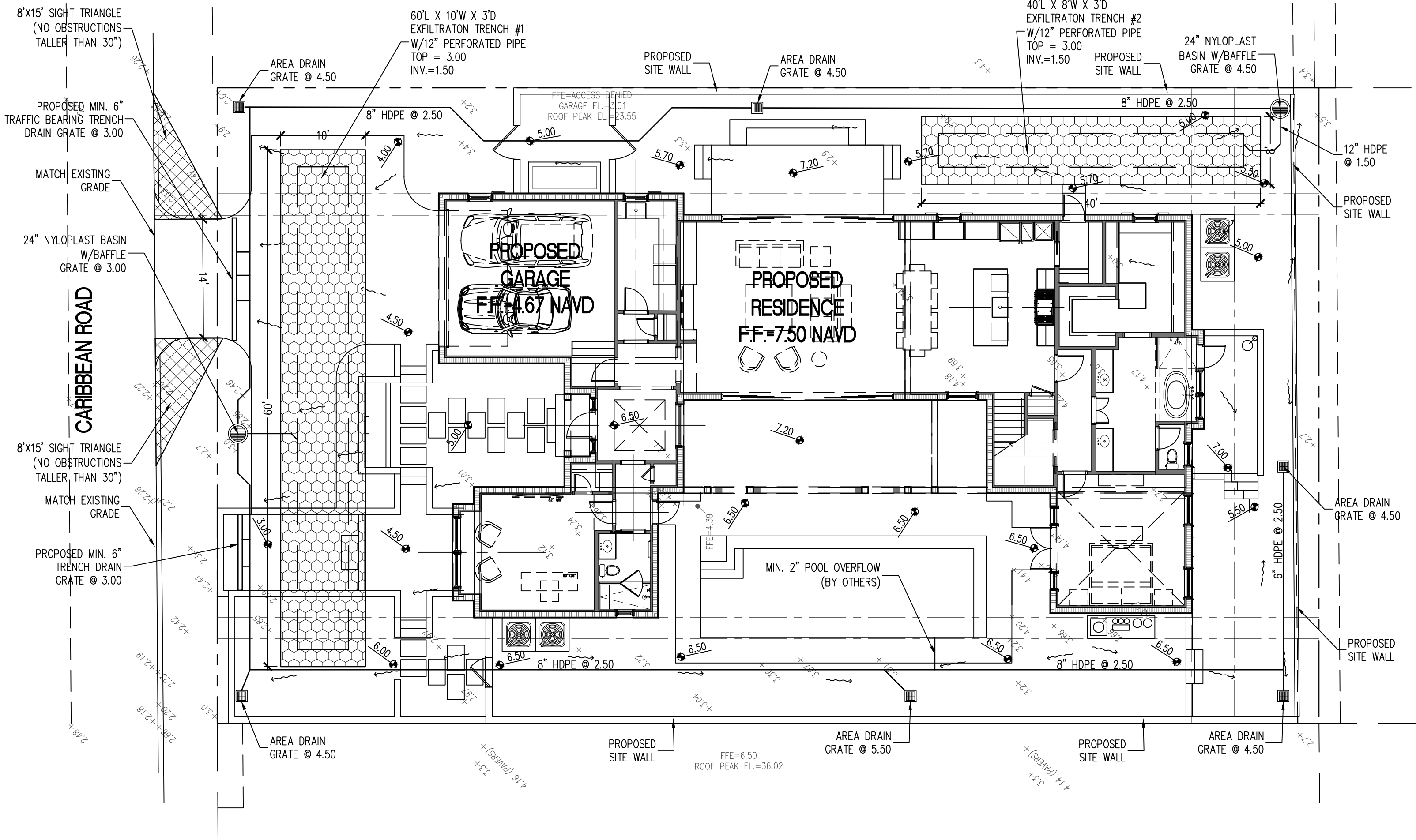
LOCATION MAP
N.T.S.

LEGEND

- EXISTING ELEVATION PER WALLACE SURVEYING (NAVD)
- FLOW DIRECTION
- EXFILTRATION TRENCH
- AREA DRAIN W/STORM PIPING
- 24" NYLOPLAST DRAIN BASIN WITH BAFFLE
- PROPOSED FINISH GRADES

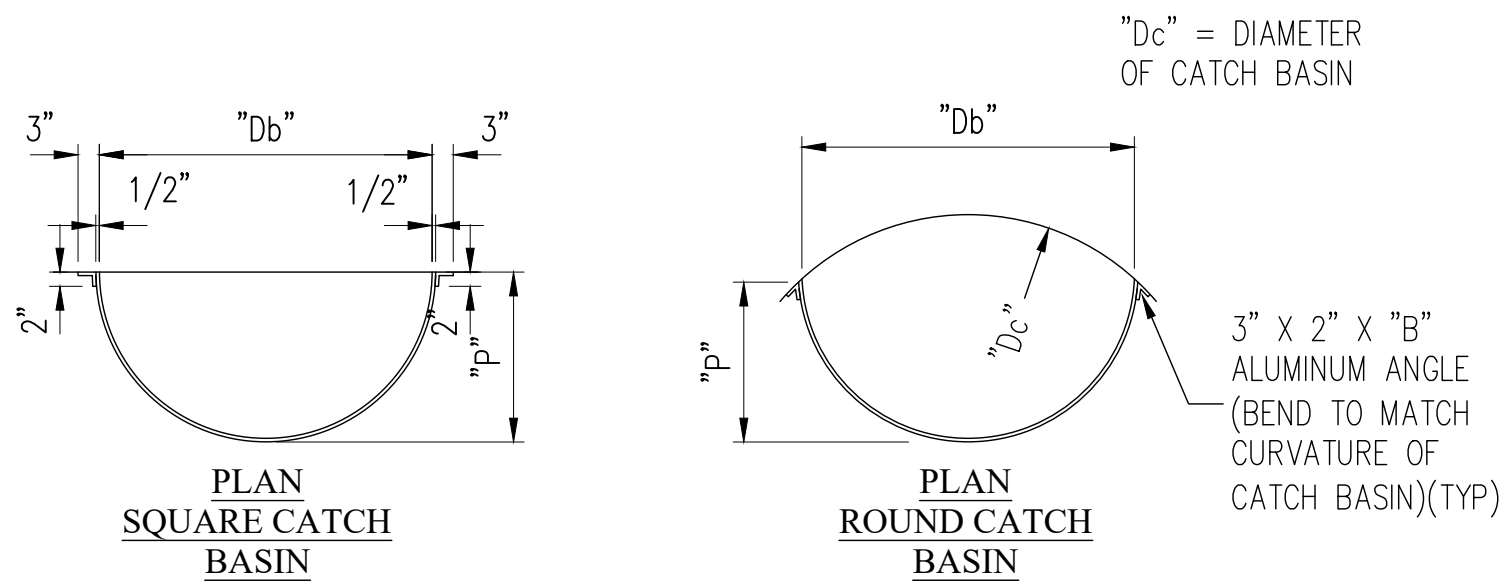
NOTES:

- ALL NEW DRAINAGE TO BE INSTALLED PER PLANS AND EXACT ELEVATIONS WILL BE FIELD DETERMINED PER FIELD CONDITIONS.
- ALL TRENCH DRAINS AT BOTTOM OF STEP LOCATIONS TO BE FLUSH AGAINST BACK OF STEP.
- EXFILTRATION TRENCHES TO BE UPDATED ONCE PERCOLATION TEST IS PERFORMED AND SIZED ACCORDINGLY.
- FURTHER COORDINATION WITH DOWNSPOUTS WILL BE ADDED AND TIED INTO THE PROPOSED DRAINAGE SYSTEM.



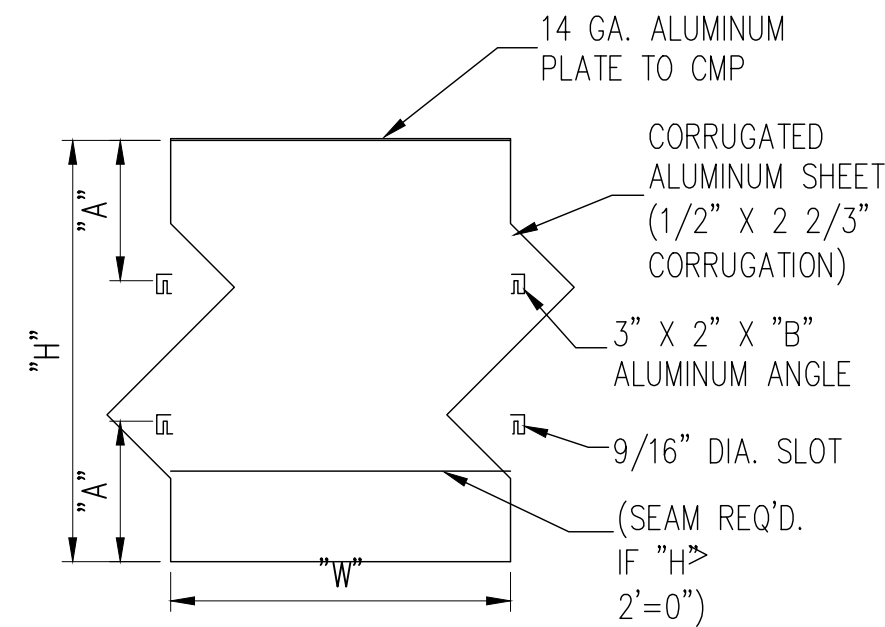
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ARC-23-012

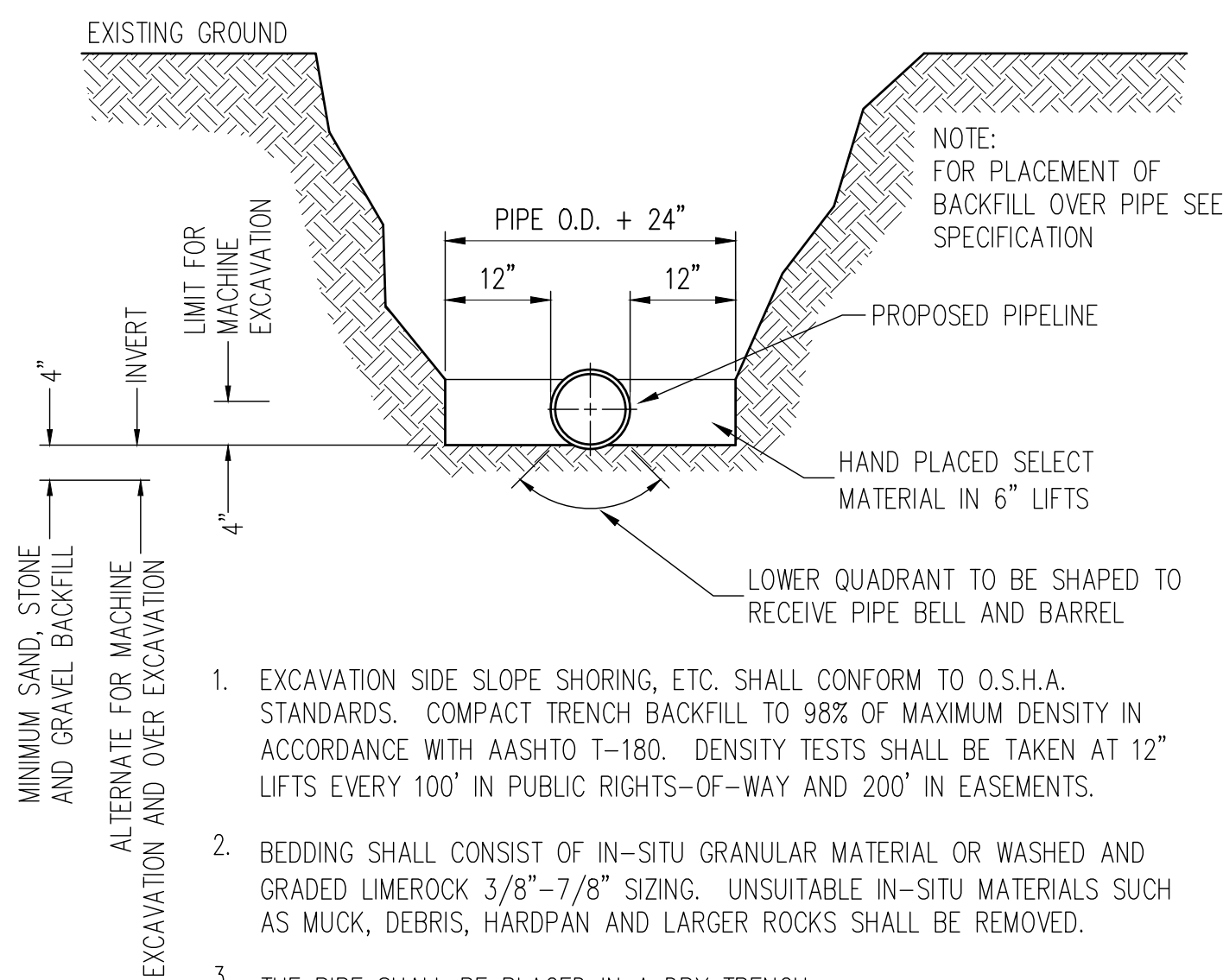


PIPE DIA.	BAFFLE DIA.	QUAGE	HEIGHT	WIDTH	DEPTH	EAR LENGTH	PERCENT OF PIPE AREA
12	24	16	33	31	12.5	8	65.3
15	24	16	33	31	12.5	8	65.3
18	24	16	33	31	12.5	8	65.3
21	24	16	33	31	12.5	8	65.3
24	30	16	36	37	15.5	9	78.1
27	36	16	39	43	18.5	10	88.9
30	36	16	42	43	18.5	11	72.0
36	42	16	48	49	21.5	12	68.1
42	48	16	54	55	24.5	14	65.3
48	54	14	60	61	27.5	15	63.3
54	60	14	66	67	30.5	17	61.7
60	66	14	72	73	33.5	18	60.5
66	72	14	78	79	36.5	20	59.5
72	84	14	84	91	42.5	21	68.1

NOTE: ALL DIMENSIONS ARE IN INCHES. CONTRACTOR TO CONFIRM THAT BAFFLE WILL FIT STRUCTURE I.D.



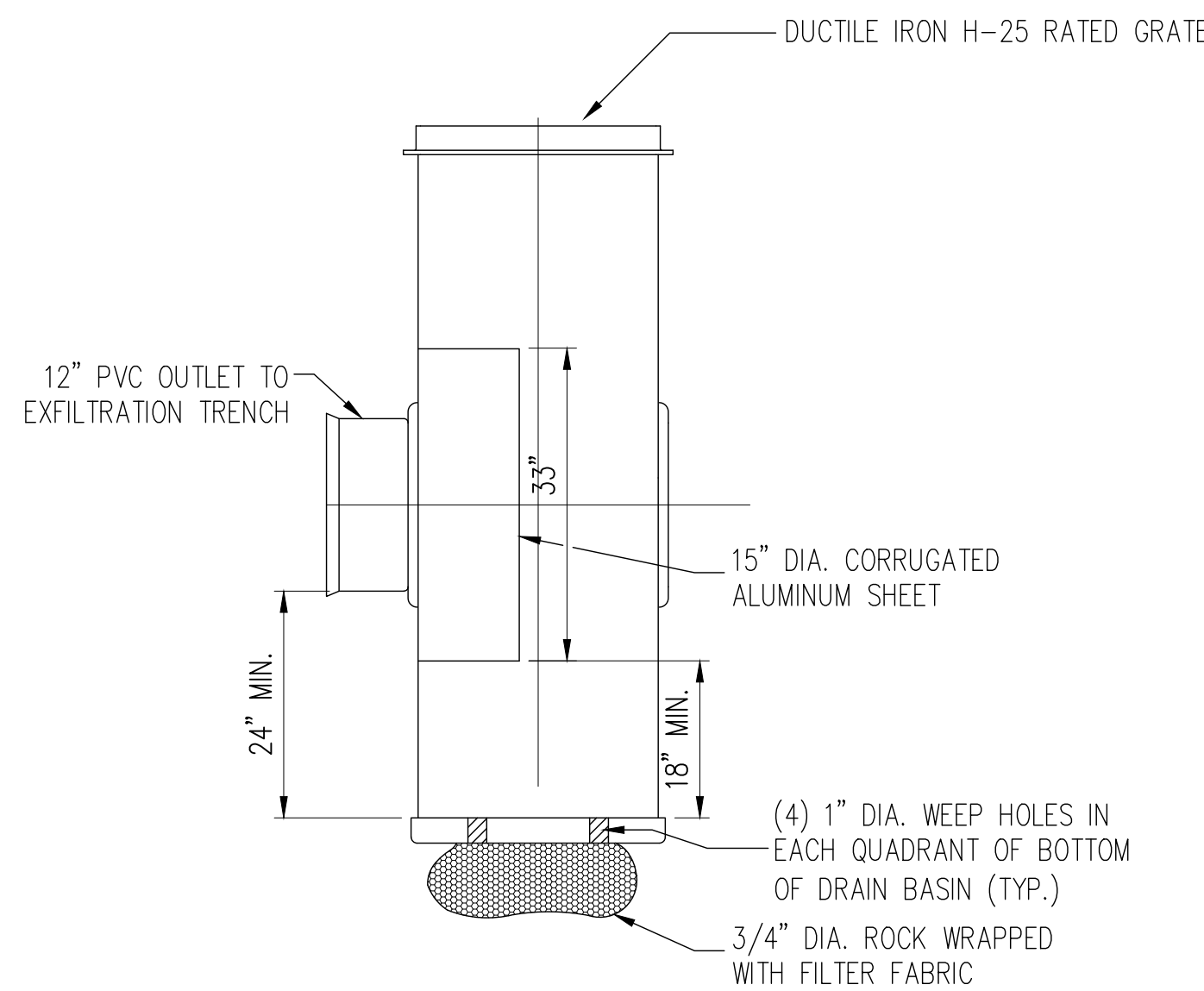
BAFFLE DETAIL
N.T.S.



- EXCAVATION SIDE SLOPE SHORING, ETC. SHALL CONFORM TO O.S.H.A. STANDARDS. COMPACT TRENCH BACKFILL TO 98% OF MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180. DENSITY TESTS SHALL BE TAKEN AT 12" LIFTS EVERY 100' IN PUBLIC RIGHTS-OF-WAY AND 200' IN EASEMENTS.
- BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS, HARDPAN AND LARGER ROCKS SHALL BE REMOVED.
- THE PIPE SHALL BE PLACED IN A DRY TRENCH.
- BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, MUCK, HARDPAN AND DEBRIS.
- SEE SEPARATE DETAIL FOR "PIPE INSTALLATION UNDER EXISTING PAVEMENT-OPEN CUT.
- THE AFFECTED AREA SHALL BE RESTORED TO EQUAL OR BETTER CONDITION OR AS SPECIFIED IN PERMIT/CONTRACT DOCUMENTS.

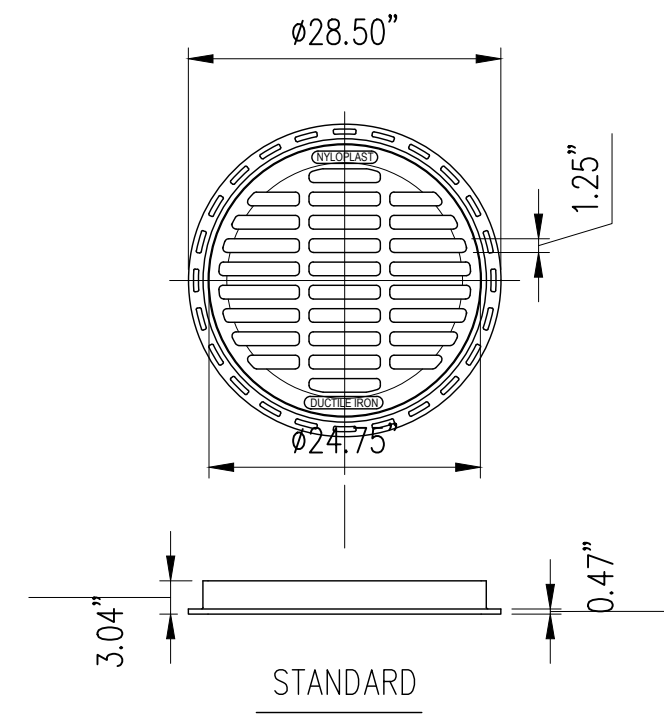
TRENCH AND BACKFILL DETAIL
N.T.S.

24" NYLOPLAST DRAIN BASIN



NOTE:
INLET TO HAVE MIN. 24" SUMP AND MIN. 18" CLEARANCE BETWEEN BOTTOM OF BAFFLE AND BOTTOM OF INLET

24" DUCTILE IRON GRATE

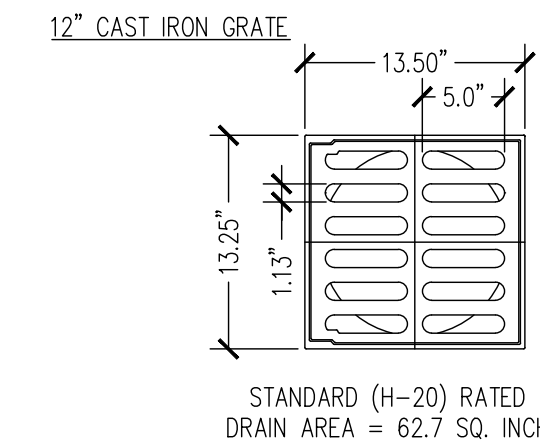


APPROX. DRAIN AREA = 194.60 SQ.IN.
APPROX. WEIGHT WITH FRAME = 124.00 LBS.

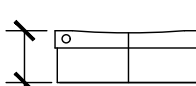
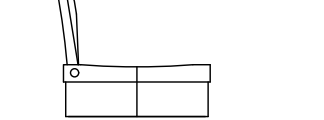
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05

MATERIAL: DUCTILE IRON

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT LOCKING DEVICE AVAILABLE UPON REQUEST PRICE INCLUDES FRAME & GRATE/COVER



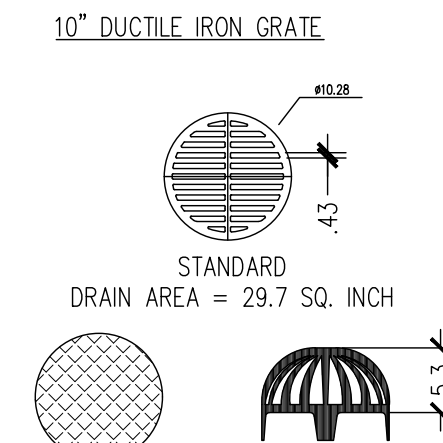
HINGED GRATE COVER FOR EASY ACCESS



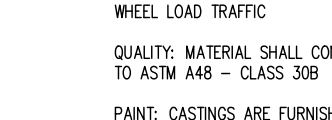
NOTE:

TYPE OF GRATES & INLETS TO BE COORDINATED WITH ENGINEER & LANDSCAPE ARCHITECT

PIPE MATERIAL MAY BE PVC, ADS, NDS, OR APPROVED EQUAL



SOLID



CASTINGS ARE RATED FOR LIGHT WHEEL LOAD TRAFFIC

QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

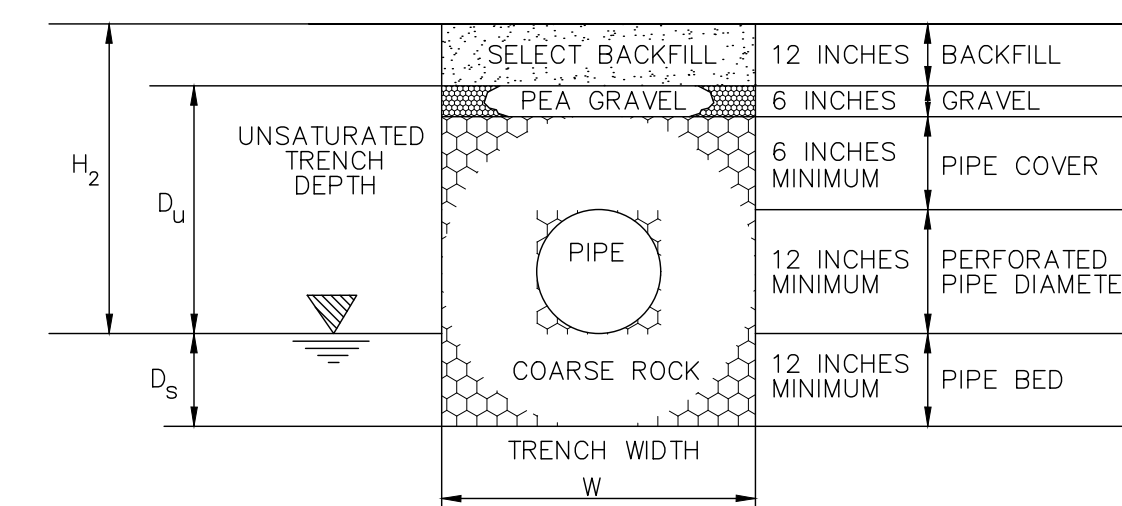
MATERIAL: CAST IRON

QUALITY: MATERIAL SHALL CONFORM TO ASTM A48 - CLASS 30B

PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT

AREA DRAIN DETAIL

TYPICAL EXFILTRATION TRENCH



$$L = \frac{V}{K(H_2W + 2H_2D_u - D_u^2 + 2H_2D_s) + (1.39 \times 10^{-4})WD_u}$$

L = LENGTH OF TRENCH REQUIRED (FEET)
V = VOLUME TREATED (ACRE-INCHES)
W = TRENCH WIDTH (FEET)
K = HYDRAULIC CONDUCTIVITY (CFS/FT.² - FT.HEAD)
H₂ = DEPTH TO WATER TABLE (FEET)
D_u = NON-SATURATED TRENCH DEPTH (FEET)
D_s = SATURATED TRENCH DEPTH (FEET)

PROPOSED RESIDENCE
206 CARIBBEAN ROAD
PALM BEACH, FLORIDA

EXISTING STORMWATER MANAGEMENT CALCULATIONS

SITE PLAN DATA

Total Lot Area = 9,750 sq.ft. ±

Impervious Area = 5,566 sq.ft. ±

Pervious Area = 4,184 sq.ft. ±

ESTIMATED RUNOFF VOLUME

Impervious Runoff Volume:
2" x 5,566 sq.ft. x 1 ft./12 in. = 928 cu.ft.

Pervious Runoff Volume:
0.4" x 4,184 sq.ft. x 1 ft./12 in. = 140 cu.ft.

Total Basin Volume to be Retained = 1,068 cu.ft.

EXFILTRATION TRENCH CALCULATIONS (SFWM ANALYSIS)

Exfiltration Trench #1	
L = Total Length of Trench Provided	= 60 ft
W = Trench Width	= 10.00 ft
K = Hydraulic Conductivity	= 0.00005 cfs/sq.ft. per ft. of head
H ₂ = Depth to Water Table	= 1.50 ft
D _U = Non-Saturated Trench Depth	= 1.50 ft
D _S = Saturated Trench Depth	= 1.50 ft
V = Volume Treated	= 691 cu.ft.

Exfiltration Trench #2	
L = Total Length of Trench Provided	= 40 ft
W = Trench Width	= 8.00 ft
K = Hydraulic Conductivity	= 0.00005 cfs/sq.ft. per ft. of head
H ₂ = Depth to Water Table	= 1.50 ft
D _U = Non-Saturated Trench Depth	= 1.50 ft
D _S = Saturated Trench Depth	= 1.50 ft
V = Volume Treated	= 378 cu.ft.
VT = Total Volume	= 1,069 cu.ft.

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No:	Revisions:	Date:
1	PER TOPFB	07-06-23

DRAINAGE PLAN FOR:
PROPOSED RESIDENCE
206 CARIBBEAN ROAD
PALM BEACH, FL

Project #:	22-115
Issue Date:	10/19/22
Drawn By:	AMW
Chkd By:	AMW
Scale:	As Shown

ANDRE M. WEBSTER, P.E.
No. 87358
STATE OF FLORIDA
Professional Engineer License

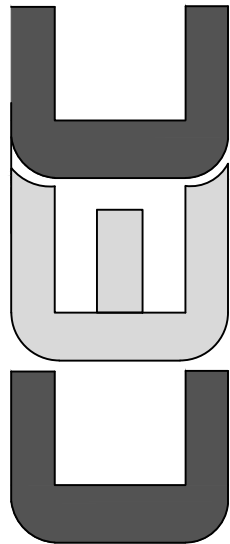
SHEET TITLE
DRAINAGE & GRADING DETAILS

SHEET NUMBER:
C2

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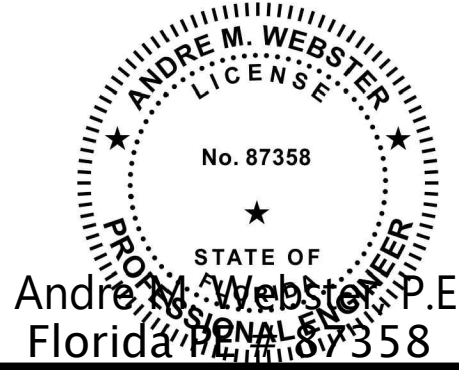
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No:	Revisions:	Date:

EROSION CONTROL PLAN FOR:
PROPOSED RESIDENCE
206 CARIBBEAN ROAD
PALM BEACH, FL

Project #:	22-115
Issue Date:	11/07/22
Drawn By:	AMW
Chkd By:	AMW
Scale:	As Shown



SHEET TITLE
**EROSION CONTROL
PLAN**

SHEET NUMBER:

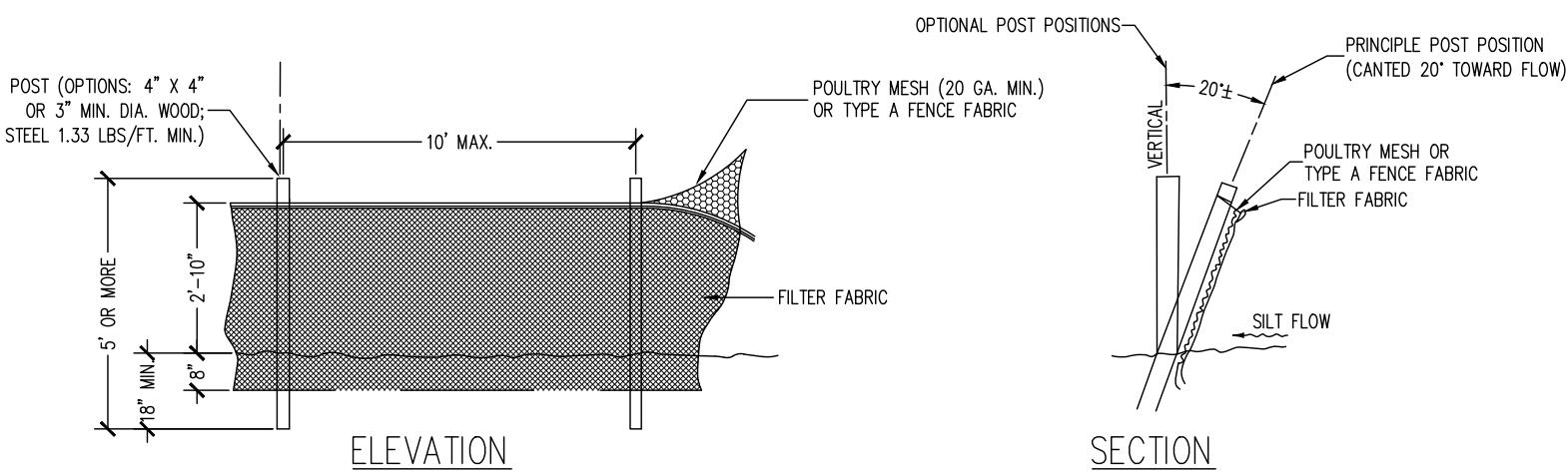
EC1



LOCATION MAP
N.T.S.

LEGEND

- EXISTING ELEVATION PER WALLACE SURVEYING (NAVD)
- CONSTRUCTION STAGING AREA
- SILT — SILT FENCE



SILT FENCE DETAIL
N.T.S.

