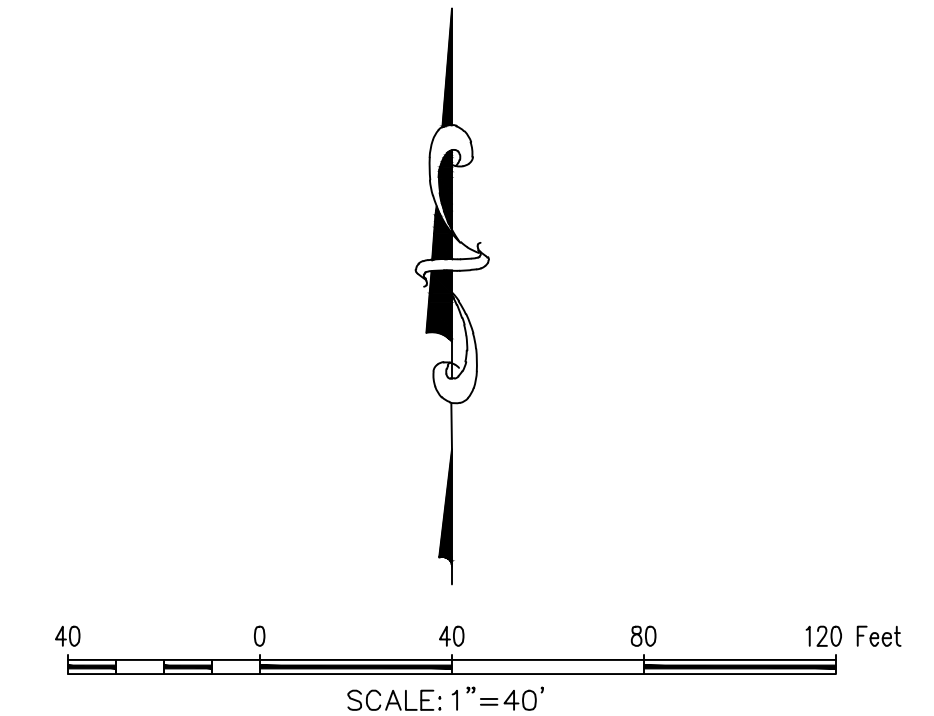
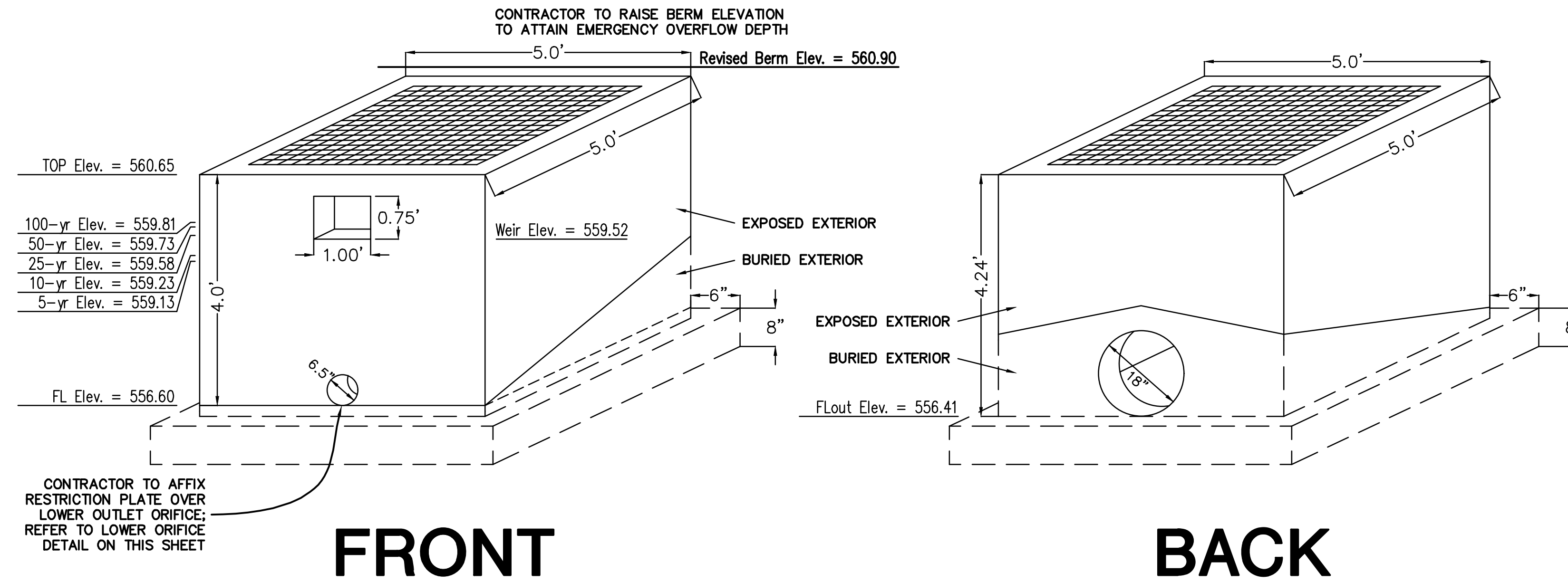


### Elevation-Area-Storage Volume

Elev.	Vol yd <sup>3</sup>	Cum yd <sup>3</sup>	Volume ft <sup>3</sup>	Storm Year	Acres-ft
556.80	0.00	0.00	0.00		0
556.70	0.06	0.06	1.62		0
556.60	0.24	0.30	8.10		0
556.50	0.88	1.18	31.86		0
557.00	1.40	2.58	69.66		0.001
557.10	1.91	4.49	121.23		0.002
557.20	2.45	6.94	187.38		0.004
557.30	2.91	9.85	265.95		0.006
557.40	3.26	13.11	353.97		0.008
557.50	3.56	16.67	450.09		0.01
557.60	3.85	20.52	554.04		0.012
557.70	4.13	24.65	665.55		0.015
557.80	4.41	29.06	784.62		0.018
557.90	4.69	33.75	911.25		0.02
558.00	4.98	38.73	1045.71		0.024
558.10	5.25	43.98	1187.46		0.027
558.20	5.55	49.53	1337.31		0.03
558.30	5.40	54.93	1483.11		0.034
558.40	6.60	61.53	1661.31		0.038
558.50	6.45	67.98	1835.46		0.042
558.60	6.77	74.75	2018.25		0.046
558.70	7.08	81.83	2209.41		0.05
558.80	7.41	89.24	2406.48		0.055
558.90	7.74	96.98	2618.46		0.06
559.00	8.07	105.05	2836.35		0.065
559.10	8.42	113.47	3063.69	5-yr (3,125=559.13)	0.07
559.20	8.76	122.23	3300.21	10-yr (3,382=559.23)	0.075
559.30	9.11	131.34	3546.18		0.081
559.40	9.47	140.81	3801.87		0.087
559.50	9.83	150.64	4067.28	25-yr (4,291=559.58)	0.093
559.60	10.22	160.86	4343.22		0.099
559.70	10.60	171.46	4629.42	50-yr (4,712=559.73)	0.106
559.80	11.01	182.47	4926.69	100-yr (4,952=559.81)	0.113
559.90	11.42	193.89	5235.03		0.12
560.00	11.84	205.73	5554.71		0.127

# OUTLET STRUCTURE #2

(N.T.S. - DIMENSIONS SHOWN REFLECT AS-BUILT CONDITION)



CONTRACTOR TO RAISE BERM ELEVATION TO ATTAIN EMERGENCY OVERFLOW DEPTH  
Revised Berm Elev. = 560.90

TOP Elev. = 560.65

100-yr Elev. = 559.81  
50-yr Elev. = 559.73  
25-yr Elev. = 559.58  
10-yr Elev. = 559.23  
5-yr Elev. = 559.13

Weir Elev. = 559.52

EXPOSED EXTERIOR  
BURIED EXTERIOR

FL Elev. = 556.60

FLout Elev. = 556.41

CONTRACTOR TO AFFIX RESTRICTION PLATE OVER LOWER OUTLET ORIFICE; REFER TO LOWER ORIFICE DETAIL ON THIS SHEET

FRONT

BACK

SCALE: 1"=40'

NOTE: "X" CUT ON CURB INLET ALONG NORTHSIDE OF DISCOVERY BLVD. APPROXIMATELY 85' WEST OF THE SOUTHWEST CORNER OF SUBJECT PROPERTY LINE. ELEV. = 564.92

BM: CITY OF ROCKWALL CONTROL MONUMENT "N1495", CALLED ELEV. = 566.71. MEASURED ELEV. = 566.83

NOTE: Detention Outlet Structure to be 6" thick, 3600 psi concrete with #4 bars @ 12" O.C.E.W. for all faces.

Top of structure to be fitted with grate.

Bottom to be 8" thick.

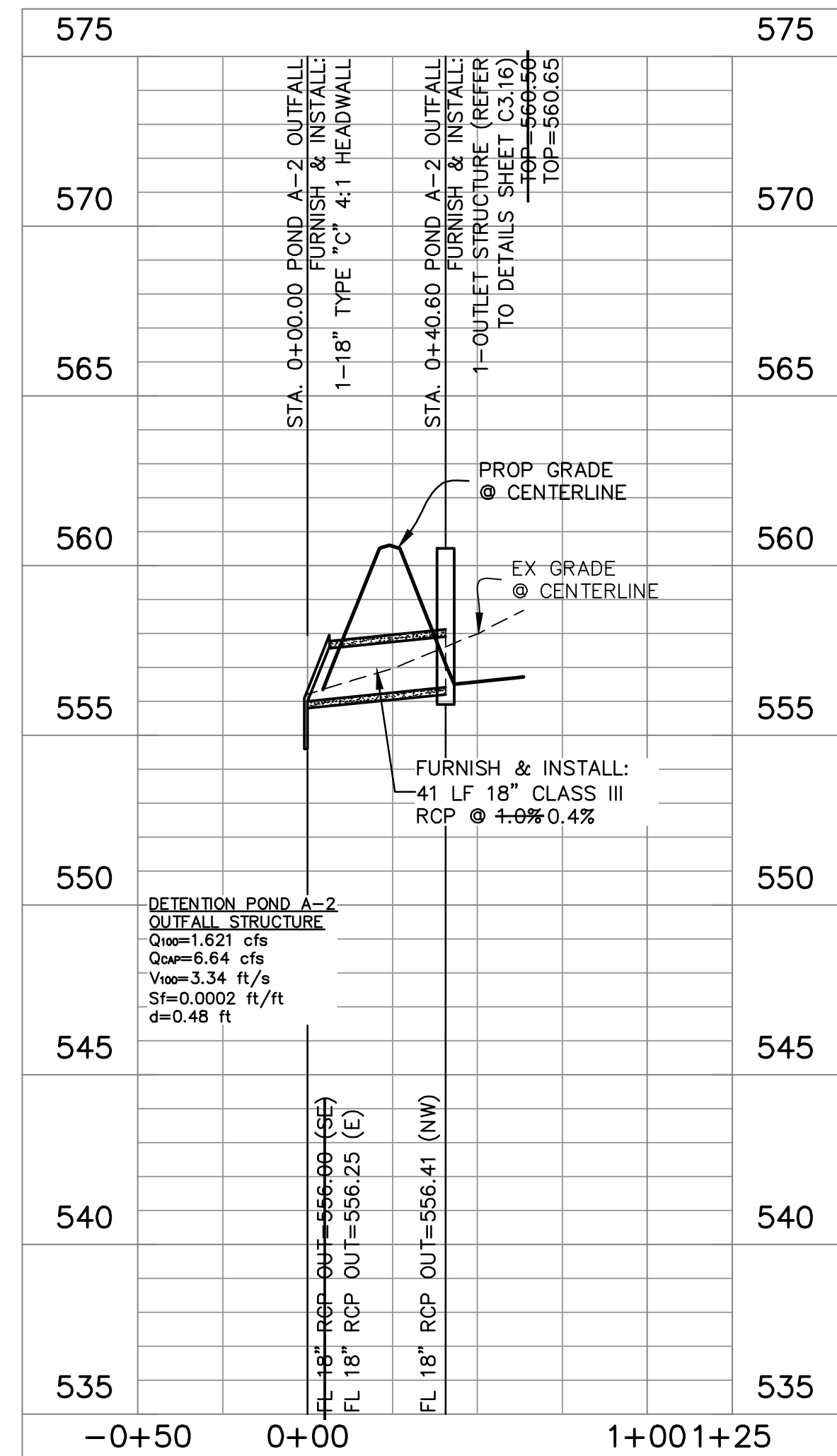
Contractor to grout the bottom of the Outlet Structure, from the Flow Line into box from the Detention Pond to the Flow Line out of the box into the connected RCP

GRADING NOTE: Fill for raising the top of berm elevation shall not be taken from within the Detention Pond limits

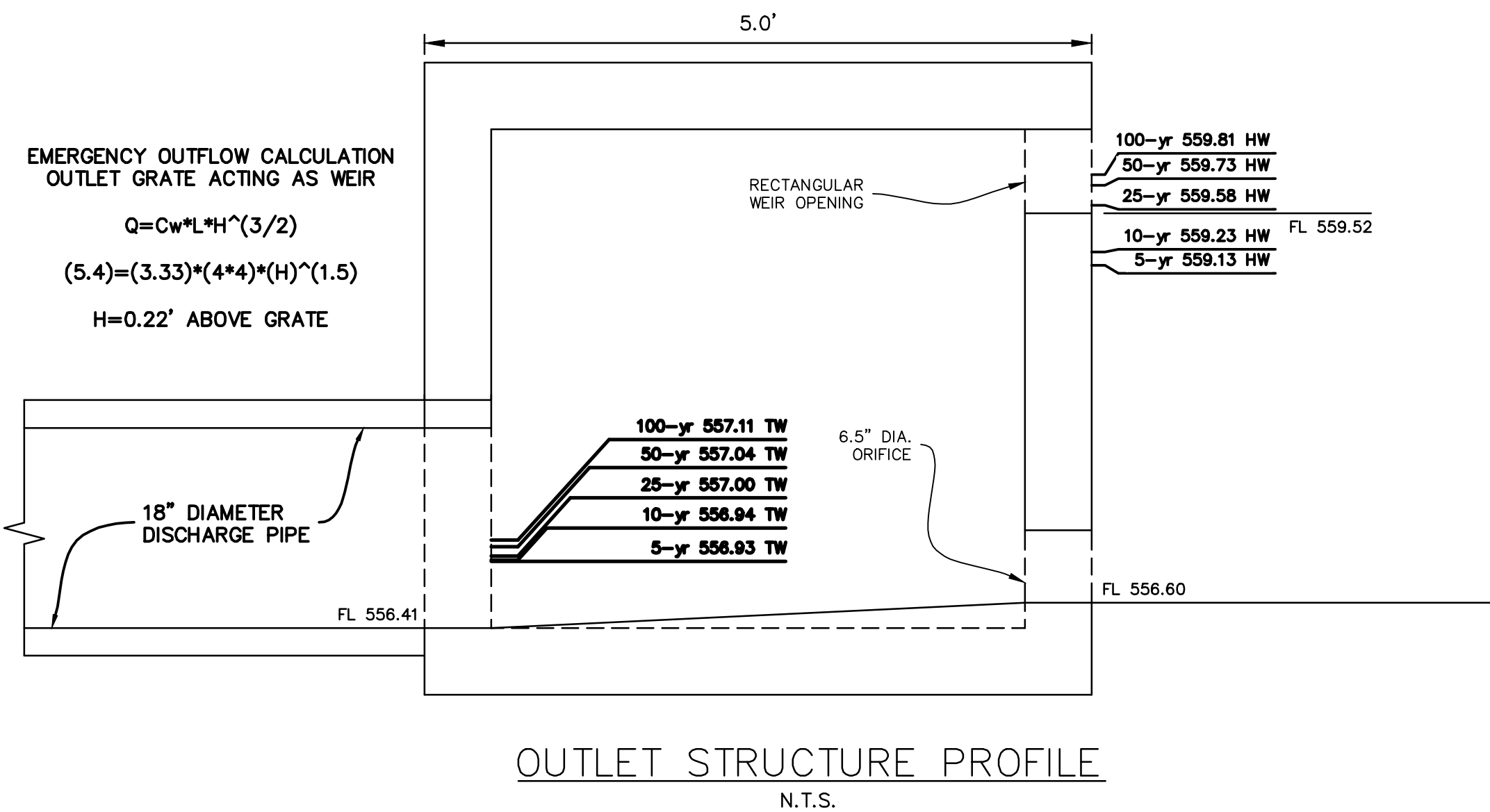
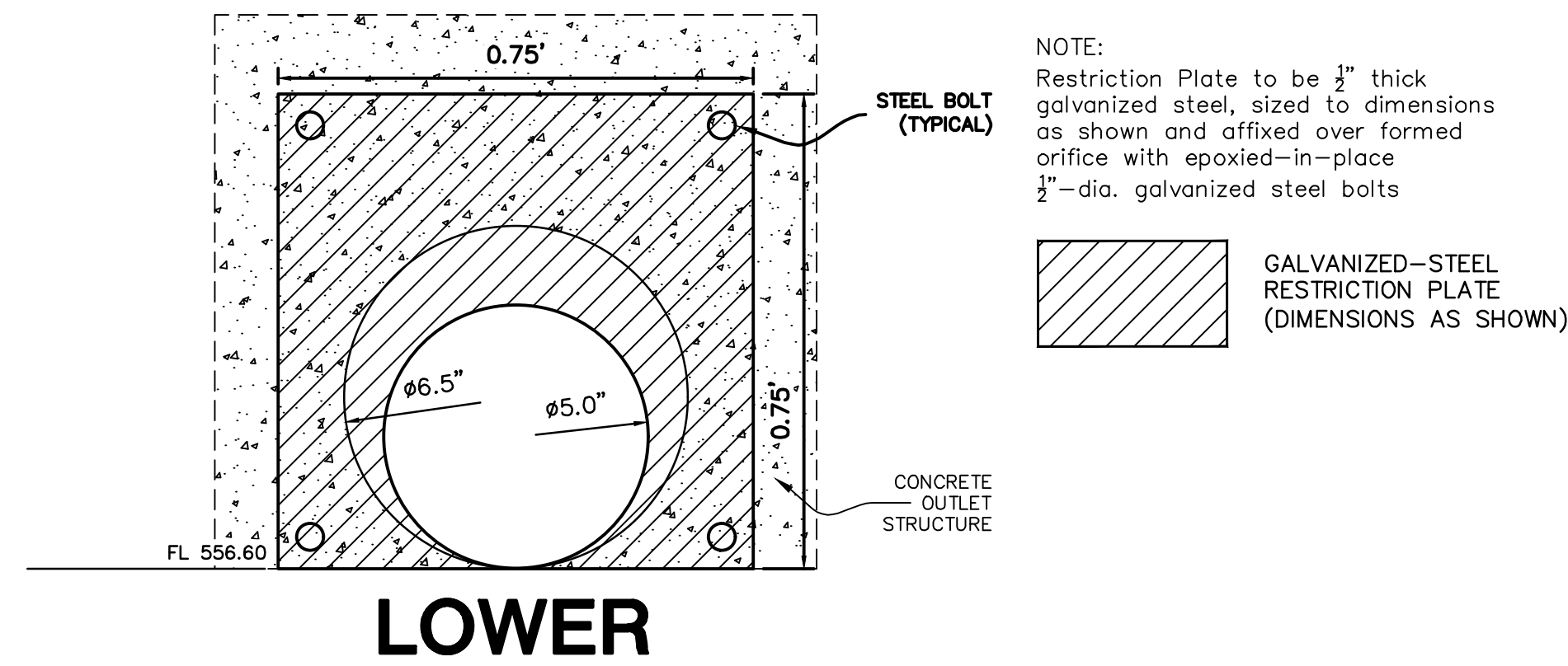
### SWBC ROCKWALL PHASE II POND A-2 OUTLET STRUCTURE - AS-BUILT VERIFICATION

Year	Ex. Q (cfs)	Ult. Q (cfs)	Pond Elev. (ft.)	Outlet Elev. (ft.)	Height (ft.)	Storage (c.f.)	Outlet (cfs)	Outlet actual (c.f.)
5	1.90	3.40	559.13	556.60	2.53	3,160	1.10	0.99
10	2.30	3.90	559.23	556.60	2.63	3,382	1.30	1.01
25	2.60	4.60	559.58	556.60	2.98	4,291	1.40	1.13
50	2.90	5.00	559.73	556.60	3.13	4,712	1.70	1.42
100	3.20	5.40	559.81	556.60	3.21	4,952	1.90	1.62

C = Orifice Coefficient	C = 0.61
A = Area	A = $\pi \cdot r^2$
r = Orifice Radius	r = 0.208 ft = 2.5 in
hu = Upstream Head	A = 0.136 ft <sup>2</sup>
hd = Downstream Head	Qorif = C * A * (2gh) <sup>0.5</sup>
hc = Centroid Head	
ha = Upstream Head over Centroid	
hz = Downstream Head over Centroid	
hn = Net Head over Centroid	
Cw = Weir Coefficient	Cw = 3.33
L = Crest Length	L = 1.00
H = Weir Head	Qweir = Cw * L * H <sup>1.5</sup>
<b>5-YR Storm</b>	
hu = 2.53	hd = 0.31
hc = 0.27	
ha = 2.26	
hz = 0.04	
hn = 2.22	
	Qorif = 0.991 ≤ 1.10
<b>10-YR Storm</b>	
hu = 2.63	hd = 0.32
hc = 0.23	
ha = 2.40	
hz = 0.09	
hn = 2.31	
	Qorif = 1.011 ≤ 1.30
<b>25-YR Storm</b>	
hu = 2.98	hd = 0.35
hc = 0.27	
ha = 2.71	
hz = 0.08	
hn = 2.63	
H = 0.06	
	Qorif = 1.079
	Qweir = 0.049
	Qtot = 1.128 ≤ 1.40
<b>50-YR Storm</b>	
hu = 3.13	hd = 0.42
hc = 0.27	
ha = 2.86	
hz = 0.15	
hn = 2.71	
H = 0.21	
	Qorif = 1.095
	Qweir = 0.32
	Qtot = 1.415 ≤ 1.70
<b>100-YR Storm</b>	
hu = 3.21	hd = 0.47
hc = 0.27	
ha = 2.94	
hz = 0.20	
hn = 2.74	
H = 0.29	
	Qorif = 1.101
	Qweir = 0.52
	Qtot = 1.621 ≤ 1.90



STORM SEWER POND A-2 OUTFALL



EMERGENCY OUTFLOW CALCULATION  
OUTLET GRATE ACTING AS WEIR

$$Q = C_w \cdot L \cdot H^{3/2}$$

$$(5.4) = (3.33) \cdot (4 \cdot 4) \cdot (H)^{1.5}$$

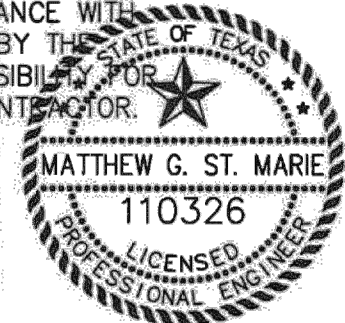
$$H = 0.22' \text{ ABOVE GRATE}$$

AS-BUILT RECORD DRAWING

THE INFORMATION ON THESE PLANS HAS BEEN REVIEWED TO REFLECT CHANGES TO PUBLIC IMPROVEMENTS MADE DURING CONSTRUCTION. UNLESS OTHERWISE NOTED, THE CONSTRUCTION OF THE PUBLIC IMPROVEMENTS IS IN GENERAL CONFORMANCE WITH THESE PLANS, BASED UPON INFORMATION PROVIDED BY THE CONTRACTOR AND FIELD VERIFICATIONS. THE RESPONSIBILITY FOR ACCURACY AND COMPLETENESS BELONGS TO THE CONTRACTOR.

*Matthew G. St. Marie*  
THE JOHN R. MCADAMS COMPANY, INC.  
Date: 09/25/2023

## DETENTION POND A-2 OUTFALL CALCULATIONS



Drawn By: CMK
Date: 12/30/2020
Scale: H 1"=40'; V 1"=4'
Revisions:
02/11/2021
03/11/2021
05/07/2021
07/12/2021
09/25/2023 - AS-BUILTS

### WBC20000

C3.16

OWNER/DEVELOPER  
SWBC ROCKWALL LP  
6949 SHERRY LANE, SUITE 750  
DALLAS, TEXAS 75225  
Ph. (214) 987-0700  
Contact: Spencer Byington

SWBC ROCKWALL PHASE II  
Lot 1, Block A  
SWBC ROCKWALL ADDITION, PHASE II  
21275 Acres  
in the  
J.M. ALLEN SURVEY ABSTRACT NO. NO. 2  
CITY OF ROCKWALL,  
ROCKWALL COUNTY, TEXAS



### SWBC ROCKWALL PHASE II

File: \\p\proj\WBC20000\04-Production\As-Built\Drawings\WBC20000-Sub-303.dwg  
Printed: 9/26/2023 11:10 AM by Matthew G. St. Marie, 8/25/2023 1:38 PM, 1/1