



CORE
ENGINEERING GROUP

April 6, 2018

El Paso County
Planning & Community Development
2880 International Circle, Suite 110
Colorado Springs, CO 80910

Attn.: Project Manager

RE: Carriage Meadows South Filing No. 1 (SF 17-011)
Private Detention/Stormwater Quality Pond G1/G2 and G3
As-built Certification

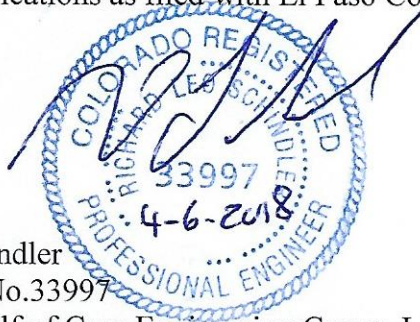
Dear Project Manager:

Per the approved construction drawings for Carriage Meadows South at Lorson Ranch Filing No.1 (SF 17-011), improvements were made to construct three full spectrum detention ponds including water quality facility in compliance with the current El Paso County Drainage Criteria and the approved Final Drainage Report for this project.

Based upon this information and periodic site visits by field personnel to the project during significant/key phases of the stormwater BMP installation, Core Engineering Group, LLC is of the opinion that the detention and stormwater BMPs have been constructed in general compliance with the approved design plans and specifications as filed with El Paso County.

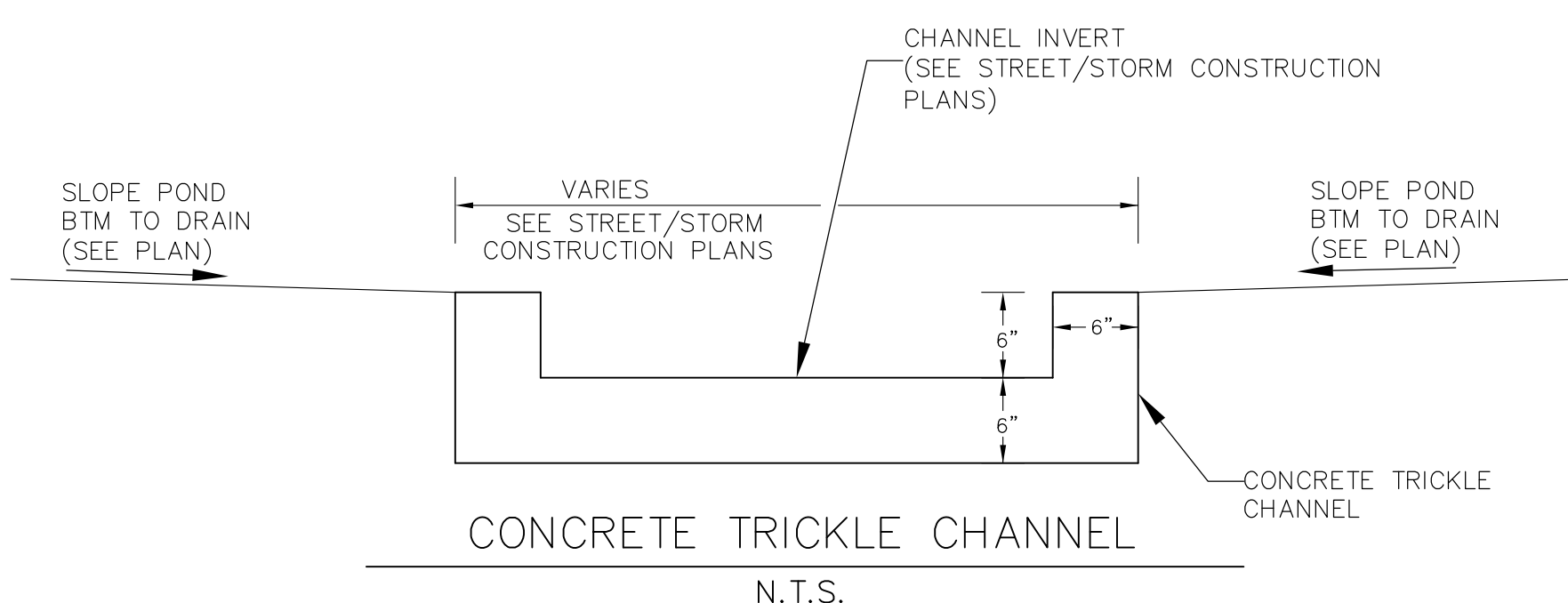
Statement Of Engineer of Record

To the best of my knowledge, information and belief, for the referenced project above, the improvements have been constructed in general compliance with the approved design plans and specifications as filed with El Paso County.



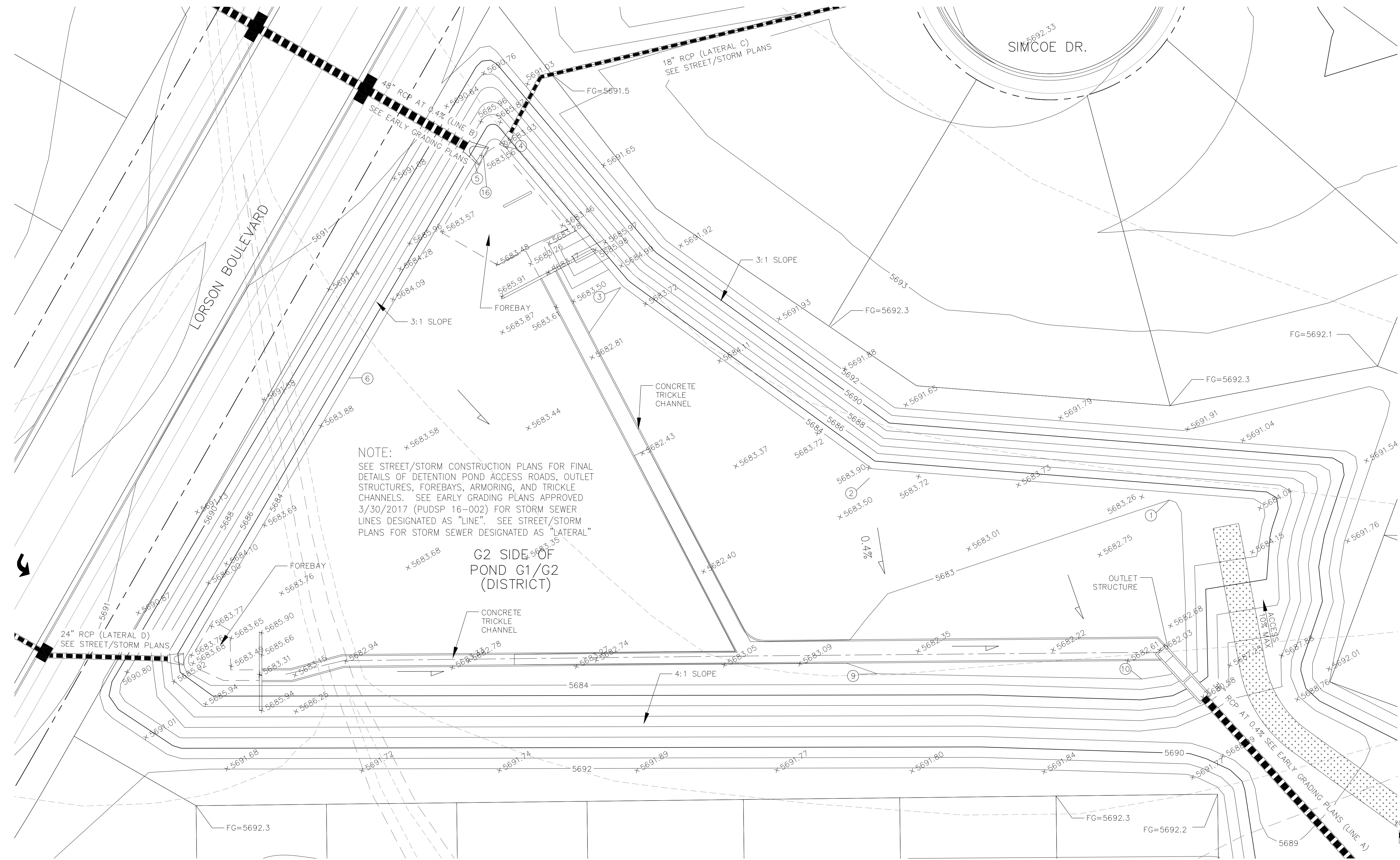
Richard L. Schindler
Colorado P.E. No.33997
For and on behalf of Core Engineering Group, LLC

Attachments: Pond G1/G2 and G3 As-Built Drawings



POINT TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	NOTES
1	20426.91	20695.07	5683.00	POND BOTTOM
2	20435.42	20580.07	5683.19	POND BOTTOM
3	20508.55	20484.61	5683.80	POND BOTTOM
4	20562.75	20440.18	5684.00	POND BOTTOM
5	20556.24	20428.64	5684.00	POND BOTTOM
6	20473.78	20380.35	5684.00	POND BOTTOM
9	20360.30	20583.01	5683.00	POND BOTTOM

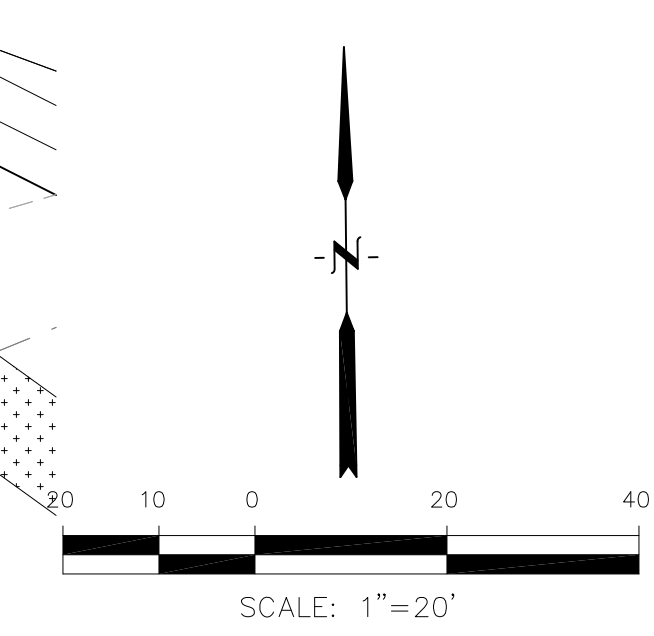
POINT TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	NOTES
10	20358.26	20684.49	5683.00	POND BOTTOM
16	20558.92	20432.02	5683.55	INVERT 48" RCP



NOTE:
SEE STREET/STORM CONSTRUCTION PLANS FOR FINAL DETAILS OF DETENTION POND ACCESS ROADS, OUTLET STRUCTURES, FOREBAYS, ARMORING, AND TRICKLE CHANNELS. SEE EARLY GRADING PLANS APPROVED 3/30/2017 (PUDSP 16-002) FOR STORM SEWER LINES DESIGNATED AS "LINE". SEE STREET/STORM PLANS FOR STORM SEWER DESIGNATED AS "LATERAL"

G2 SIDE OF
POND G1/G2
(DISTRICT)

AS-BUILT
DATE: APRIL 6, 2018



CORE ENGINEERING GROUP
15004 15TH AVE. S. SUITE 305
DENVER, CO 80202
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceeg1.com

DATE: _____
DESCRIPTION: _____
NO. _____

PREPARED FOR:
LORSON, LLC
212 N. WAHSATCH AVE., SUITE 301
COLORADO SPRINGS, COLORADO 80903
(719) 635-3200
CONTACT: JEFF MARK

PROJECT:
CARRIAGE MEADOWS SOUTH
AT LORSON RANCH FILL NO. 1
FONTAINE BLVD. - CARRIAGE MEADOWS DR
EL PASO COUNTY, COLORADO

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

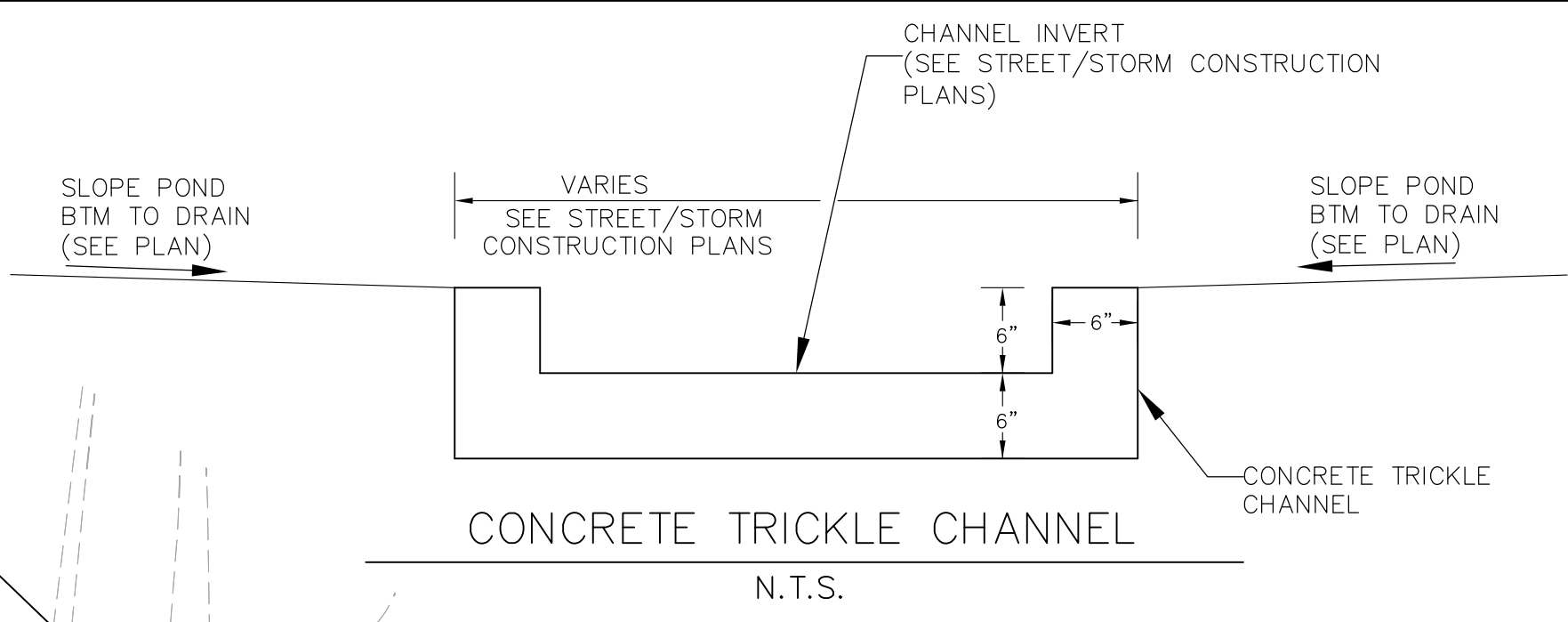
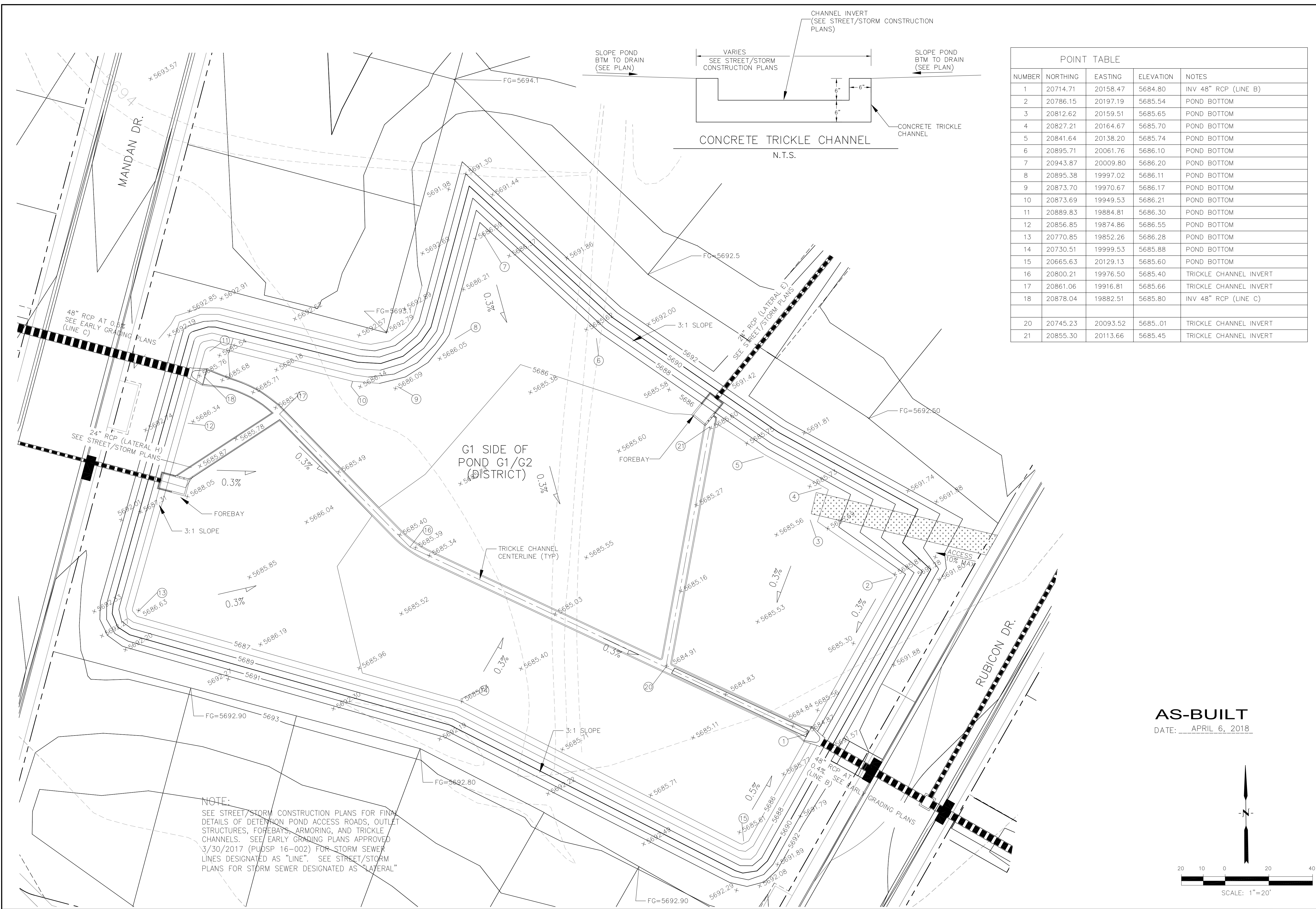
**G2 SIDE OF
DETENTION POND G1/G2 (DISTRICT)
CARRIAGE MEADOWS SOUTH**

DATE
AUGUST 10, 2017

PROJECT NO.
100.030

SHEET NUMBER
C4.4

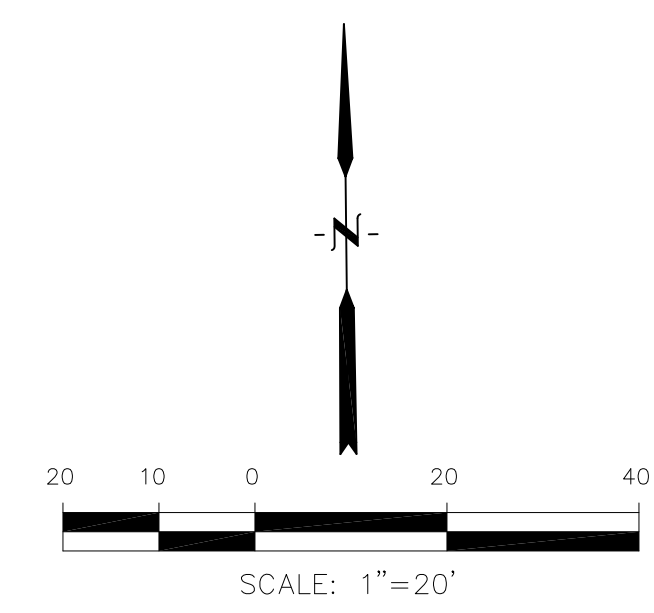
TOTAL SHEETS: **12**

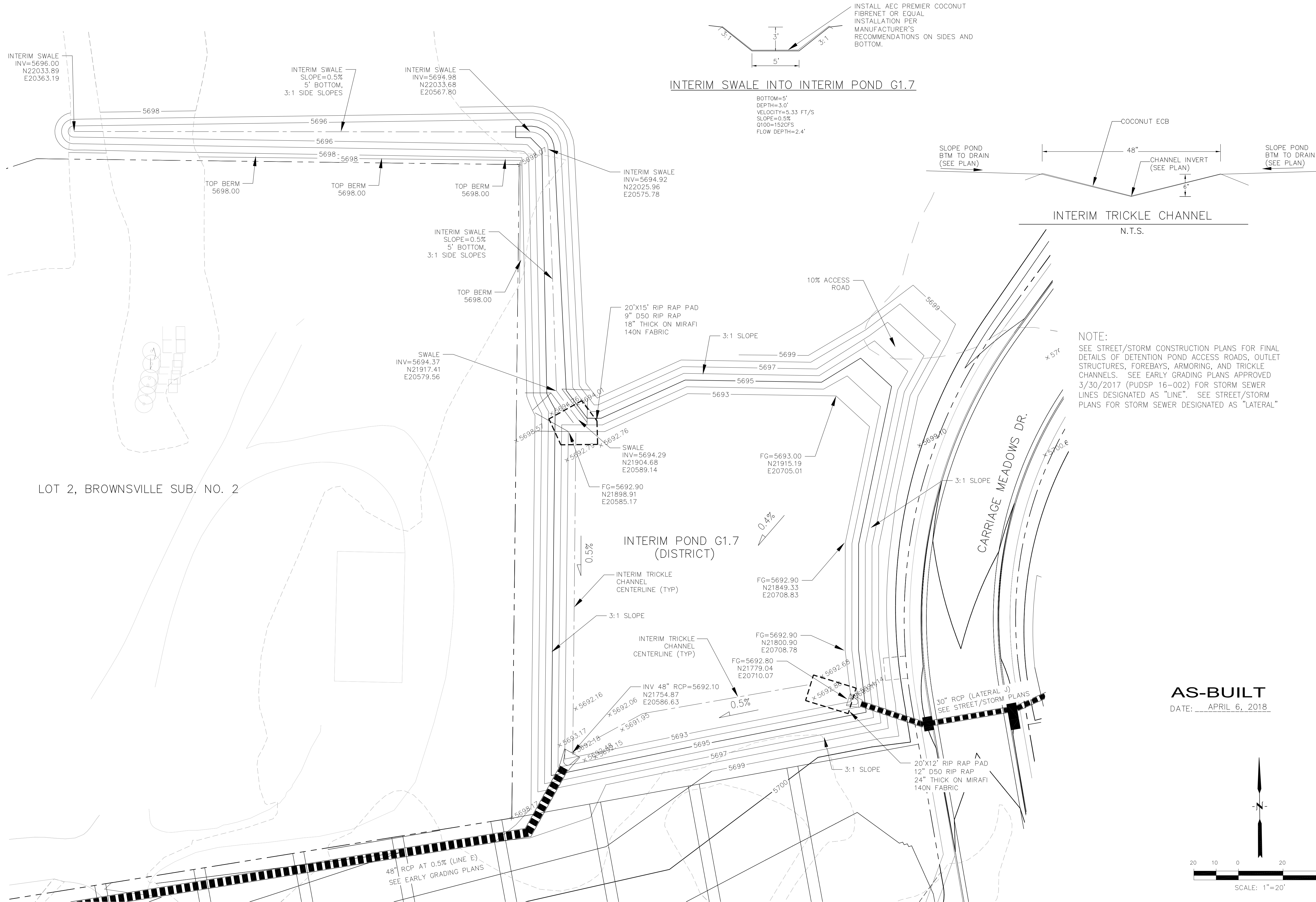


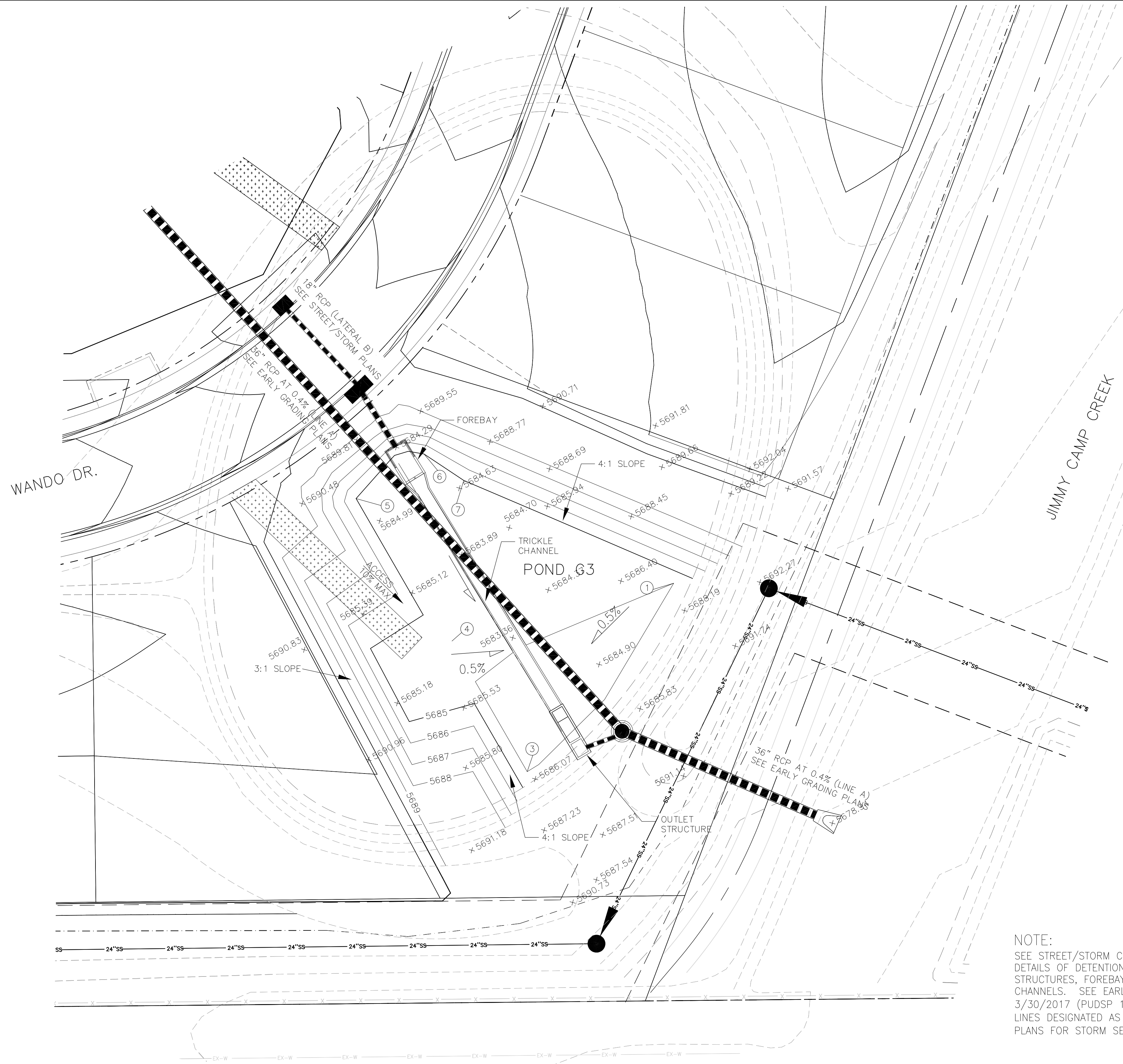
POINT TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	NOTES
1	20714.71	20158.47	5684.80	INV 48" RCP (LINE B)
2	20786.15	20197.19	5685.54	POND BOTTOM
3	20812.62	20159.51	5685.65	POND BOTTOM
4	20827.21	20164.67	5685.70	POND BOTTOM
5	20841.64	20138.20	5685.74	POND BOTTOM
6	20895.71	20061.76	5686.10	POND BOTTOM
7	20943.87	20009.80	5686.20	POND BOTTOM
8	20895.38	19997.02	5686.11	POND BOTTOM
9	20873.70	19970.67	5686.17	POND BOTTOM
10	20873.69	19949.53	5686.21	POND BOTTOM
11	20889.83	19884.81	5686.30	POND BOTTOM
12	20856.85	19874.86	5686.55	POND BOTTOM
13	20770.85	19852.26	5686.28	POND BOTTOM
14	20730.51	19999.53	5685.88	POND BOTTOM
15	20665.63	20129.13	5685.60	POND BOTTOM
16	20800.21	19976.50	5685.40	TRICKLE CHANNEL INVERT
17	20861.06	19916.81	5685.66	TRICKLE CHANNEL INVERT
18	20878.04	19882.51	5685.80	INV 48" RCP (LINE C)
20	20745.23	20093.52	5685.01	TRICKLE CHANNEL INVERT
21	20855.30	20113.66	5685.45	TRICKLE CHANNEL INVERT

NOTE:
 SEE STREET/STORM CONSTRUCTION PLANS FOR FINAL DETAILS OF DETENTION POND ACCESS ROADS, OUTLET STRUCTURES, FOREBAYS, ARMORING, AND TRICKLE CHANNELS. SEE EARLY GRADING PLANS APPROVED 3/30/2017 (PUDSP 16-002) FOR STORM SEWER LINES DESIGNATED AS "LINE". SEE STREET/STORM PLANS FOR STORM SEWER DESIGNATED AS "LATERAL"

AS-BUILT
 DATE: APRIL 6, 2018

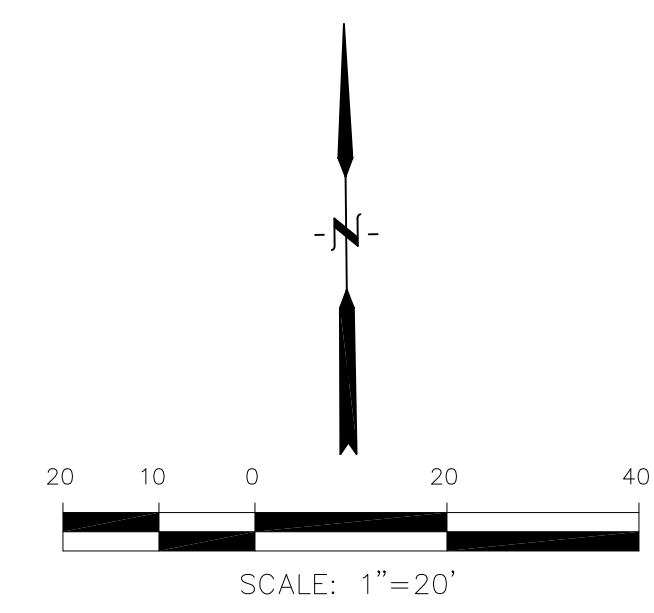






POINT TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	NOTES
1	20152.70	20951.65	5684	POND BOTTOM
3	20088.79	20901.93	5684	POND BOTTOM
4	20133.08	20876.39	5684.20	POND BOTTOM
5	20181.43	20843.88	5685	POND BOTTOM
6	20196.53	20866.94	5685	POND BOTTOM
7	20187.57	20880.42	5685	POND BOTTOM

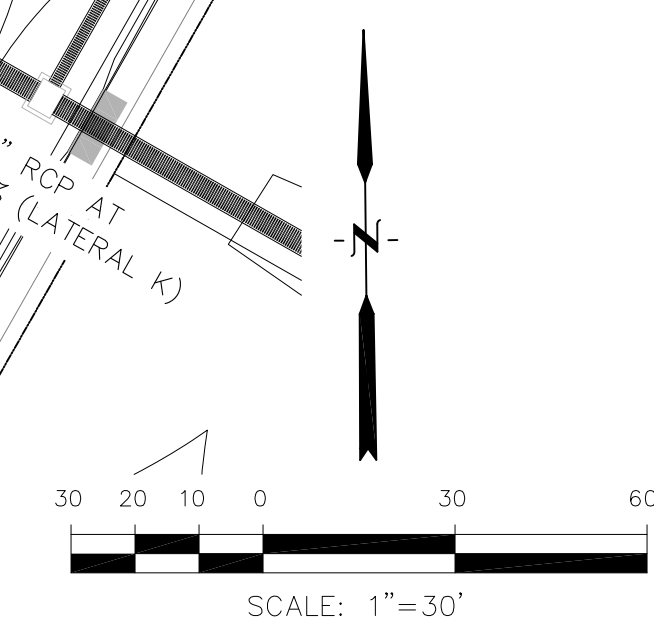
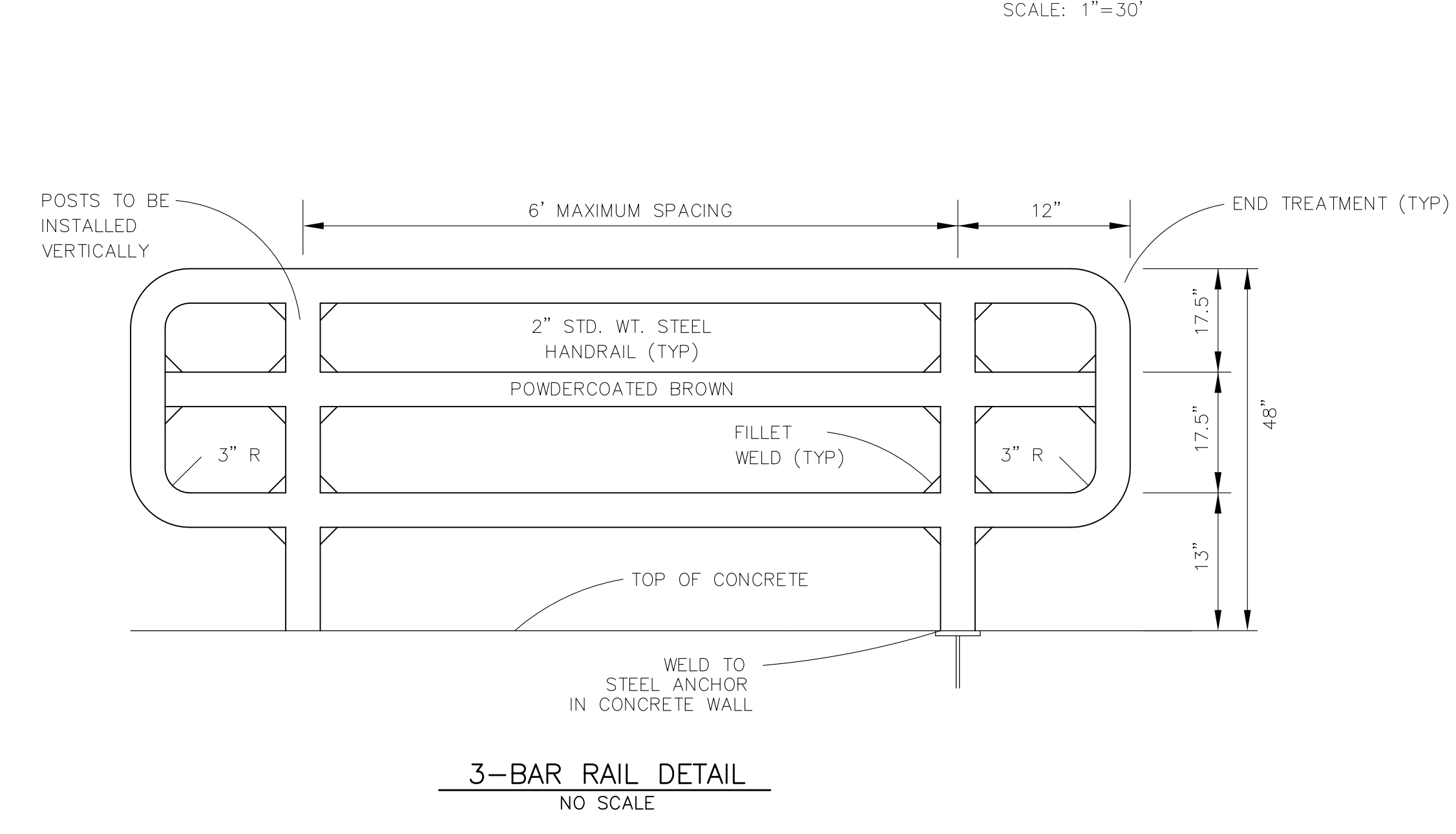
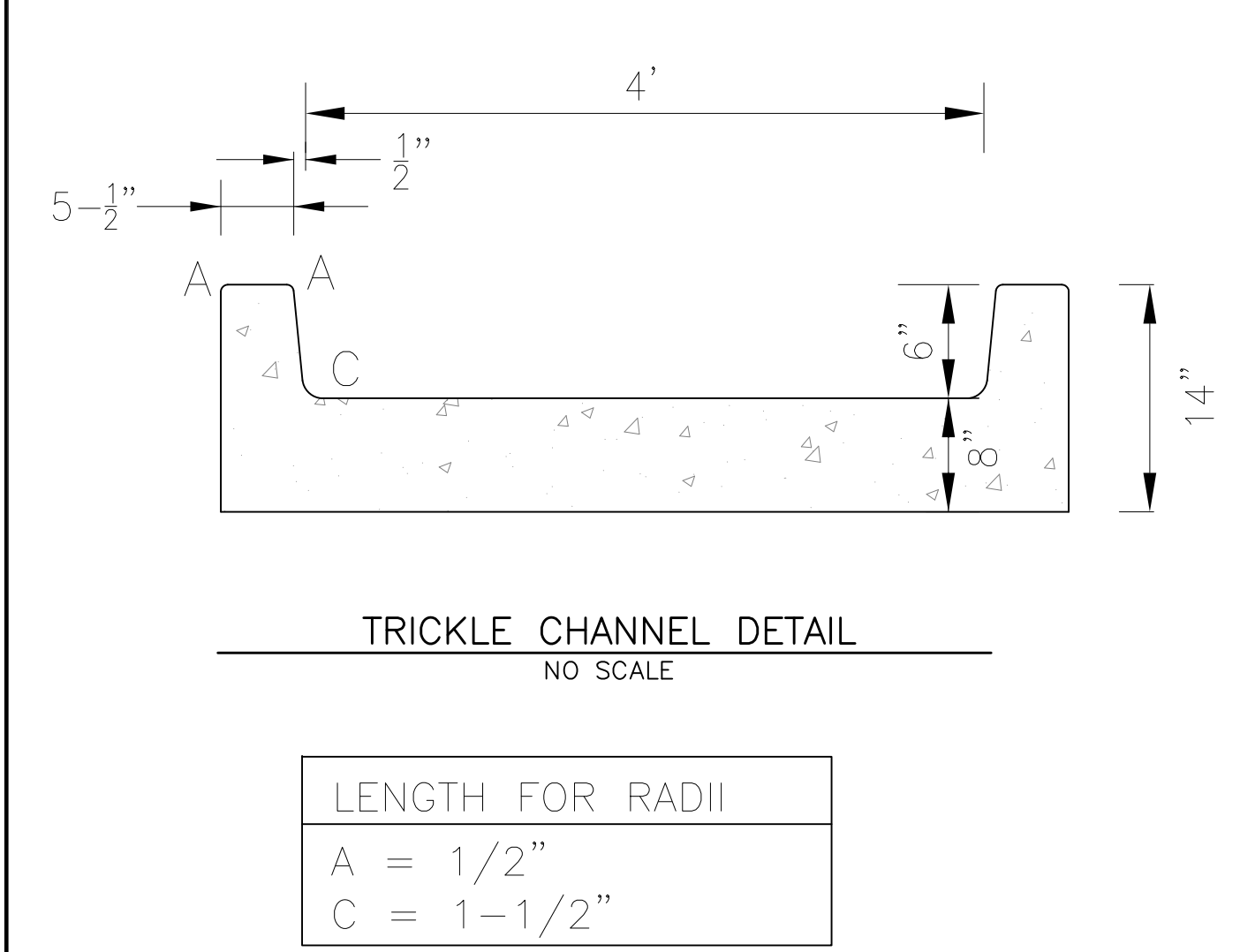
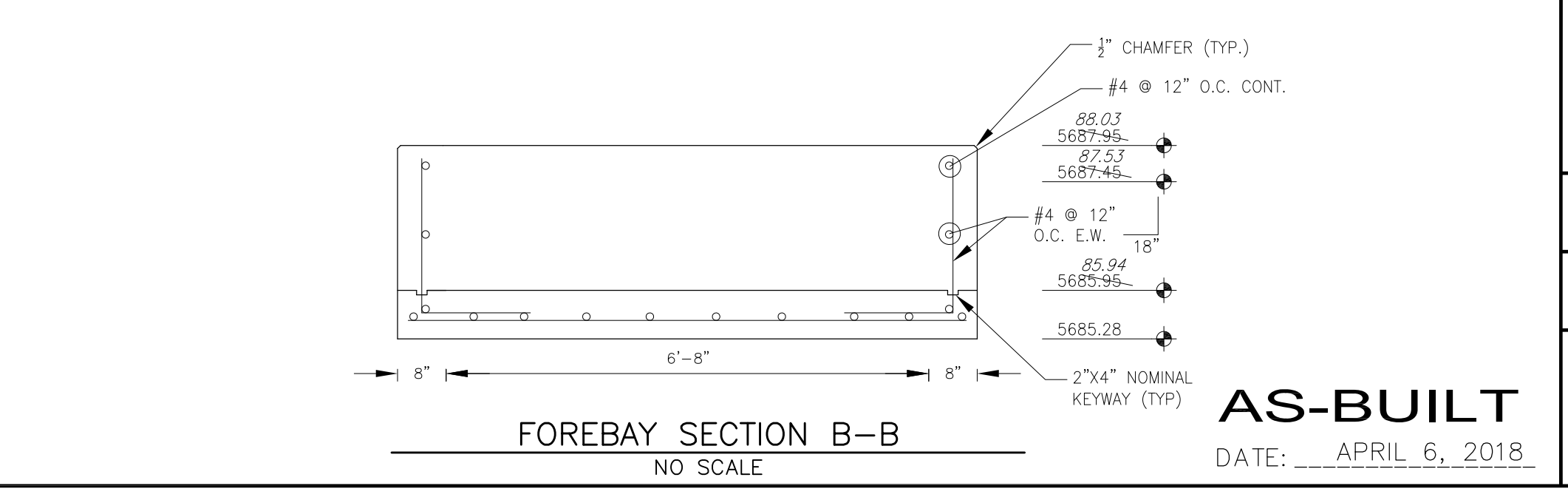
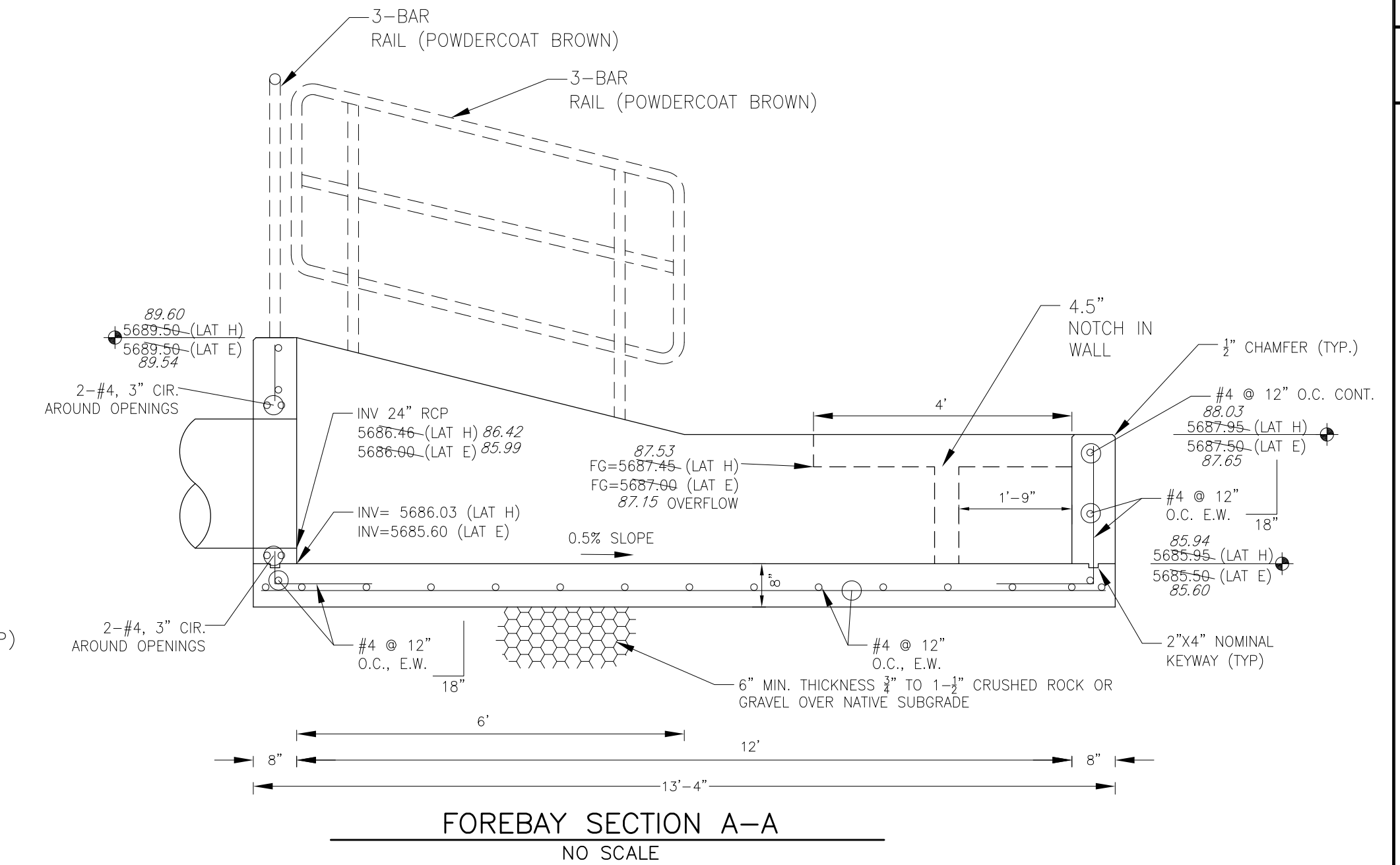
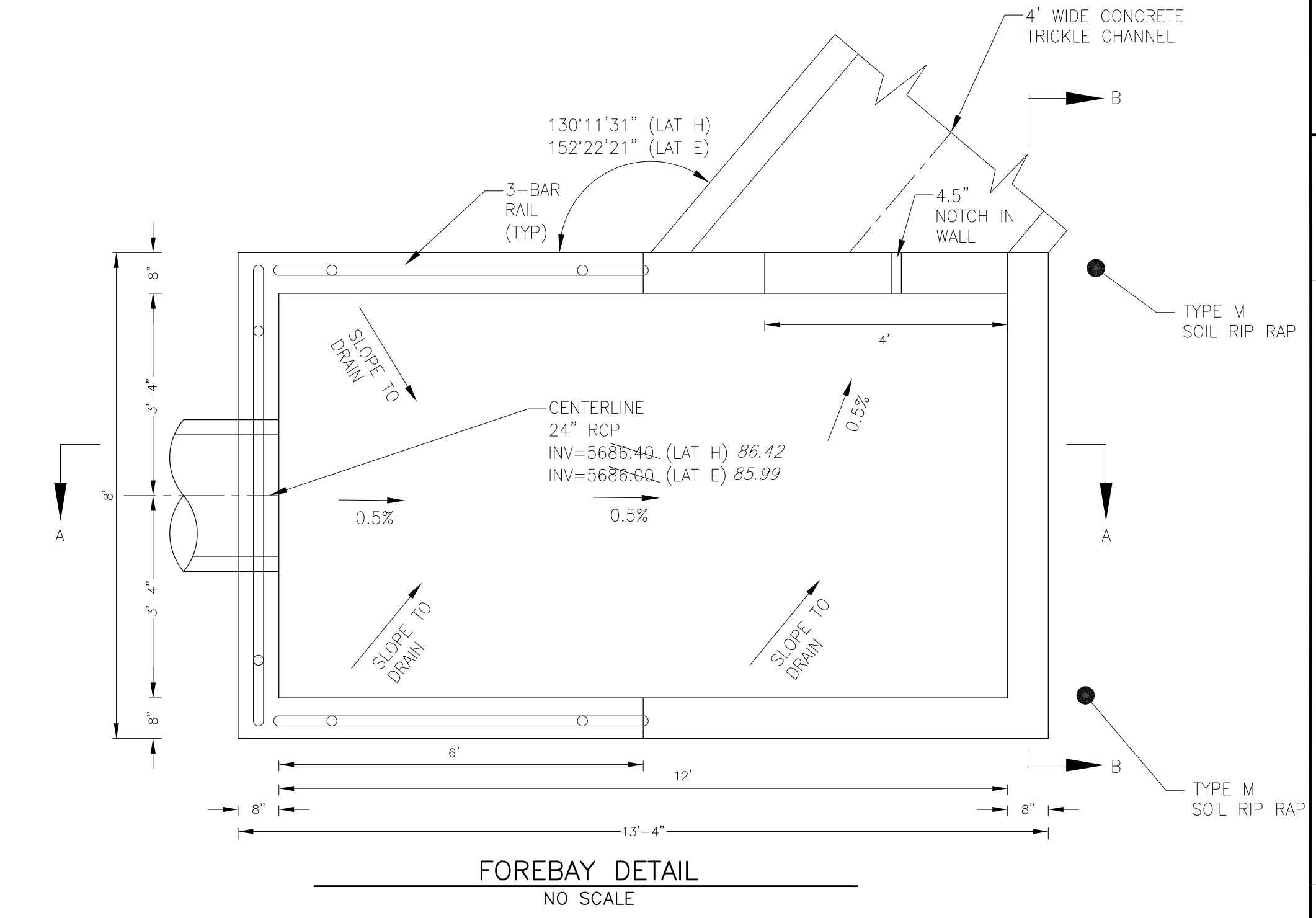
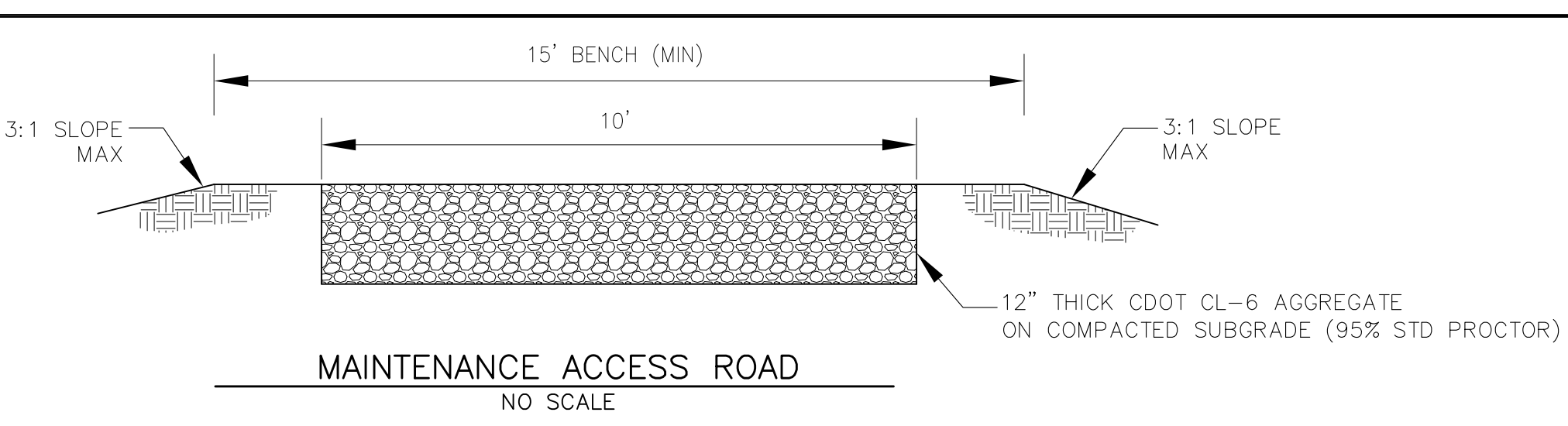
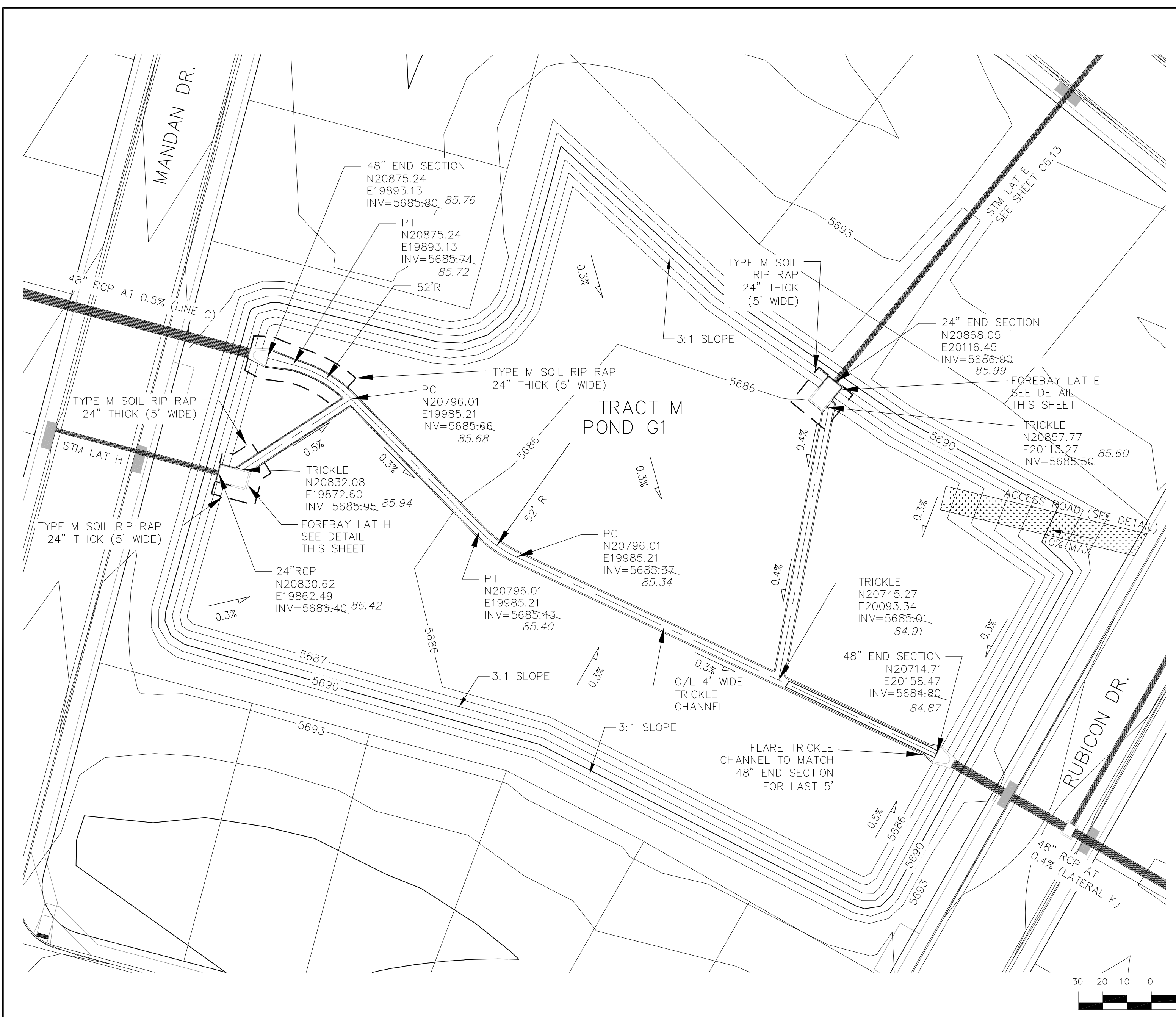
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**DETENTION POND G3 (DISTRICT)
 CARRIAGE MEADOWS SOUTH**

APPLE TREE GOLF COURSE

AS-BUILT
 DATE: APRIL 6, 2018



CORE ENGINEERING GROUP
15004 15TH AVE. S. SUITE 3010
DENVER, CO 80202
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: _____
DESCRIPTION: _____
NO. _____
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

PREPARED FOR:
LORSON, LLC
212 N. WAHSATCH AVE., SUITE 301
COLORADO SPRINGS, COLORADO 80903
CONTACT: JEFF MARK

PROJECT:
CARRIAGE MEADOWS SOUTH
AT LORSON RANCH FILL NO. 1
FONTAINE BLVD. - CARRIAGE MEADOWS DR
EL PASO COUNTY, COLORADO

POND G1/G2 (DISTRICT)
G1 SIDE OF POND
TRICKLE AND FOREBAY DETAILS

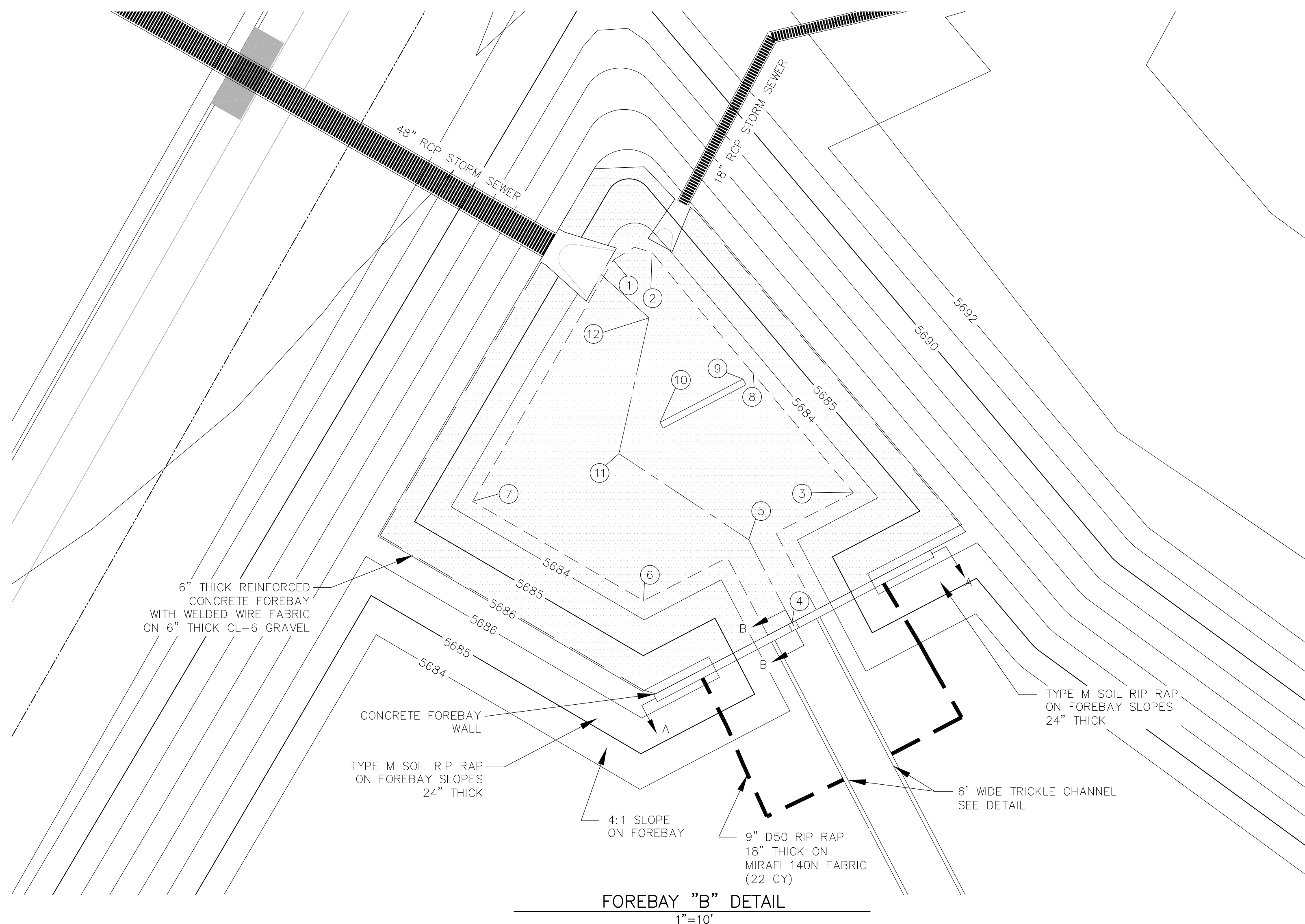
DATE: **AUGUST 28, 2017**

PROJECT NO.
100.030

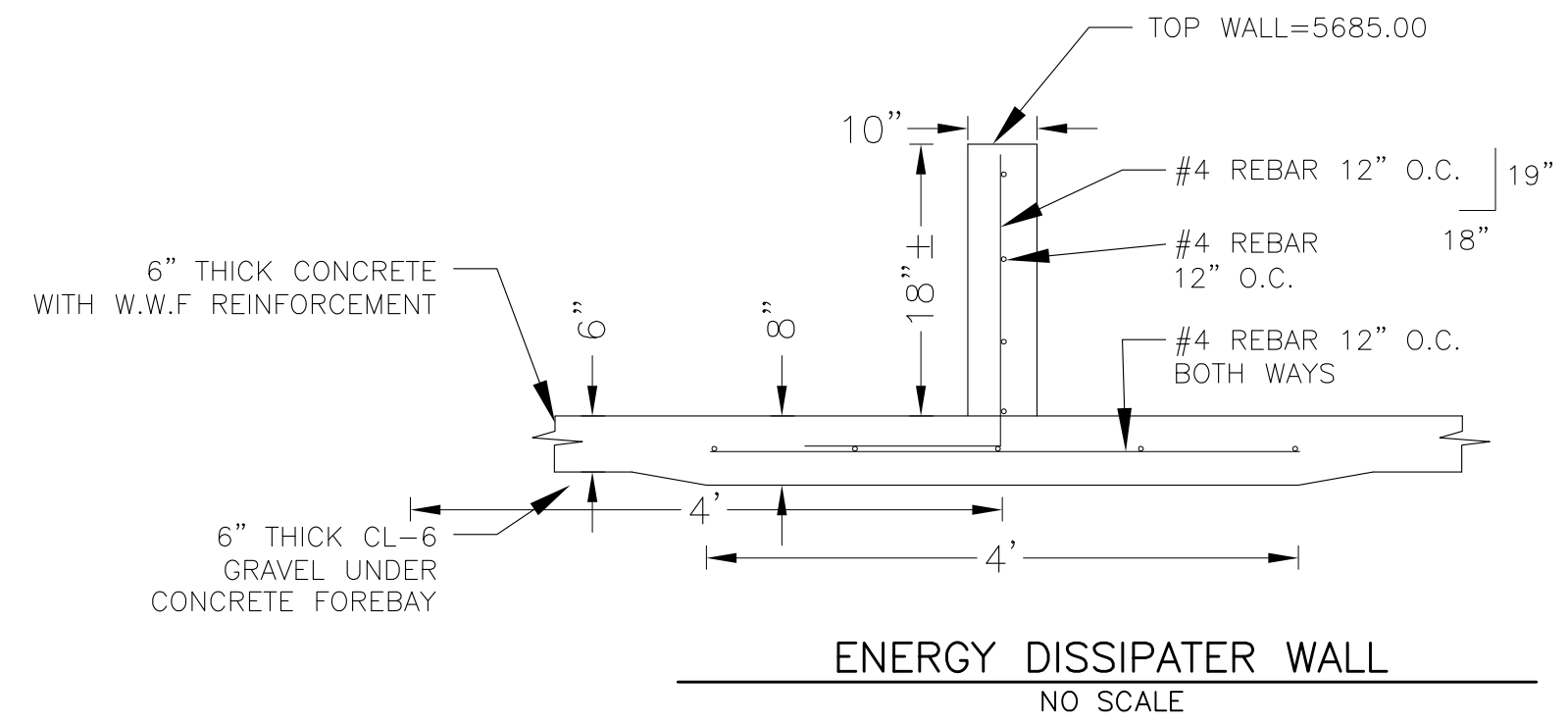
SHEET NUMBER
C9.1

TOTAL SHEETS: **39**

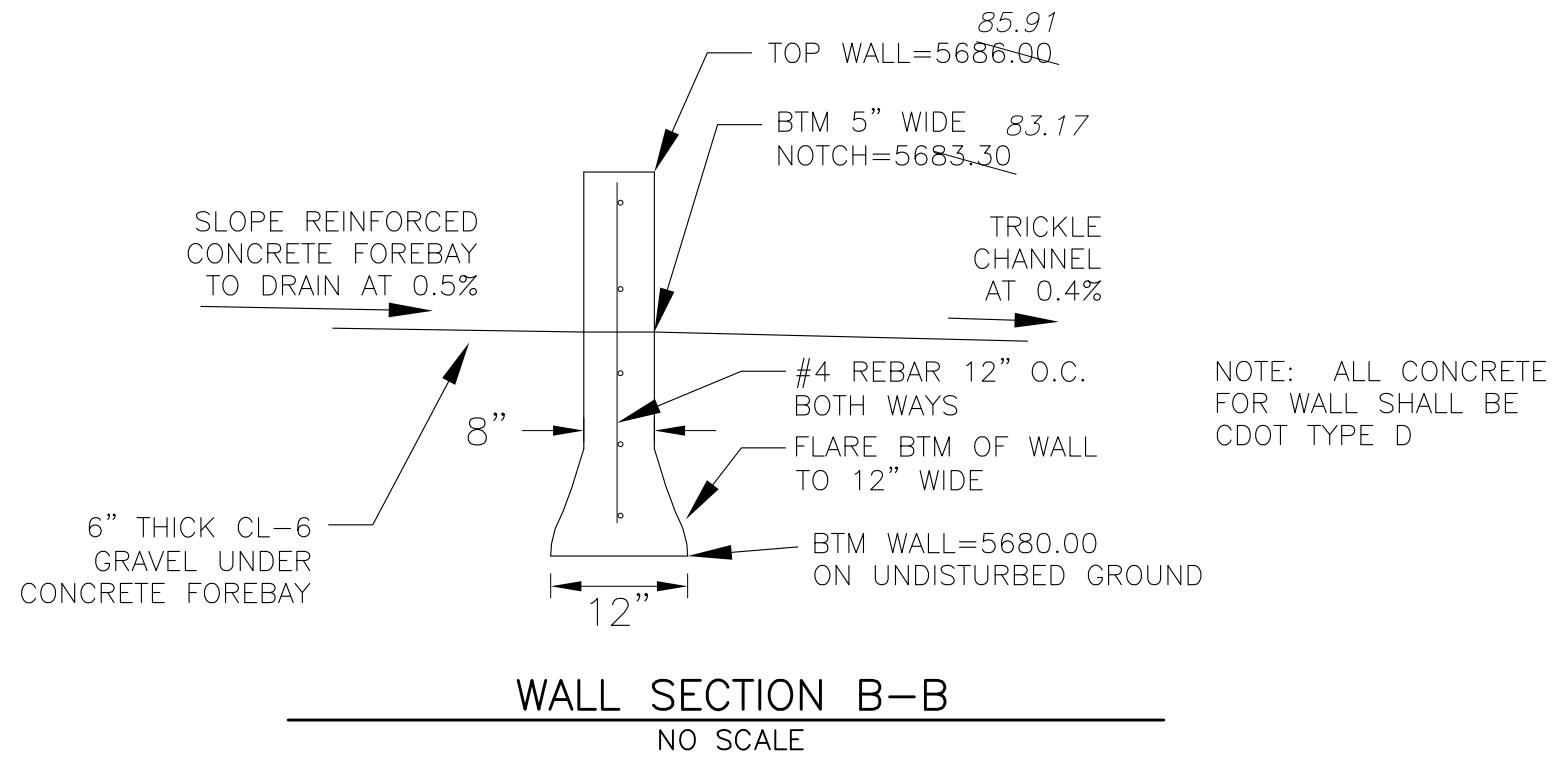
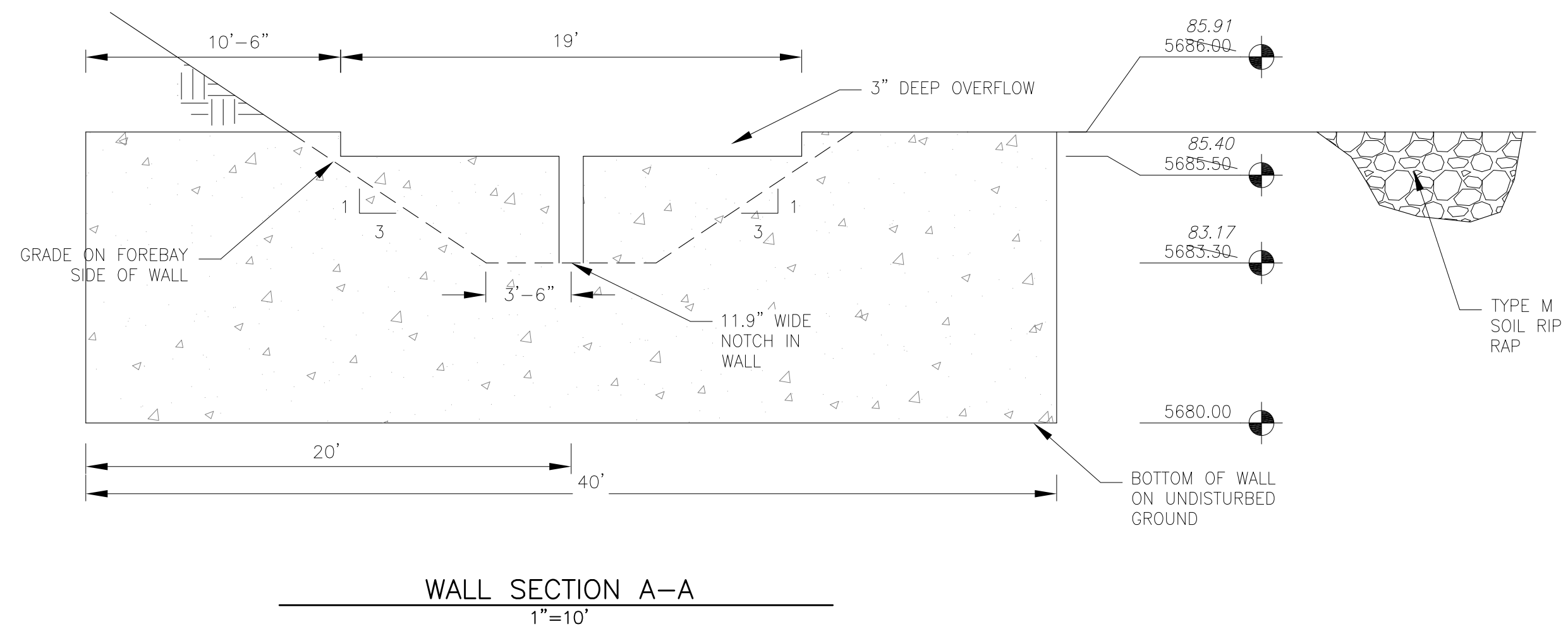
AS-BUILT
DATE: APRIL 6, 2018



POINT TABLE				
NUMBER	NORTHING	EASTING	ELEVATION	NOTES
1	20560.79	20433.55	5683.54	FOREBAY BOTTOM
2	20561.80	20438.53	5683.54	FOREBAY BOTTOM
3	20530.94	20464.35	5683.54	FOREBAY BOTTOM
4	20514.32	20456.47	5683.30	FOREBAY BOTTOM
5	20524.93	20450.92	5683.35	FOREBAY BOTTOM
6	20517.12	20437.44	5683.54	FOREBAY BOTTOM
7	20529.87	20415.52	5683.54	FOREBAY BOTTOM
8	20546.23	20451.50	5683.54	FOREBAY BOTTOM
9	20545.54	20450.19	5683.53	ENERGY DISSIPATER WALL
10	20539.98	20439.55	5683.48	ENERGY DISSIPATER WALL
11	20535.97	20434.28	5683.43	FOREBAY BOTTOM
12	20553.38	20438.13	5683.50	FOREBAY BOTTOM

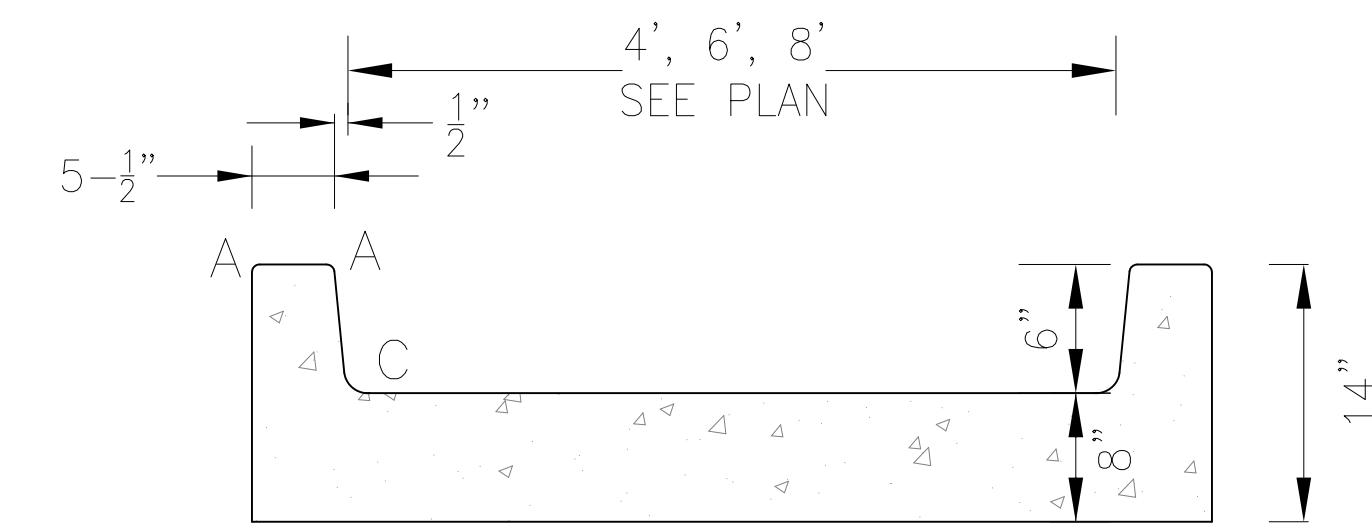
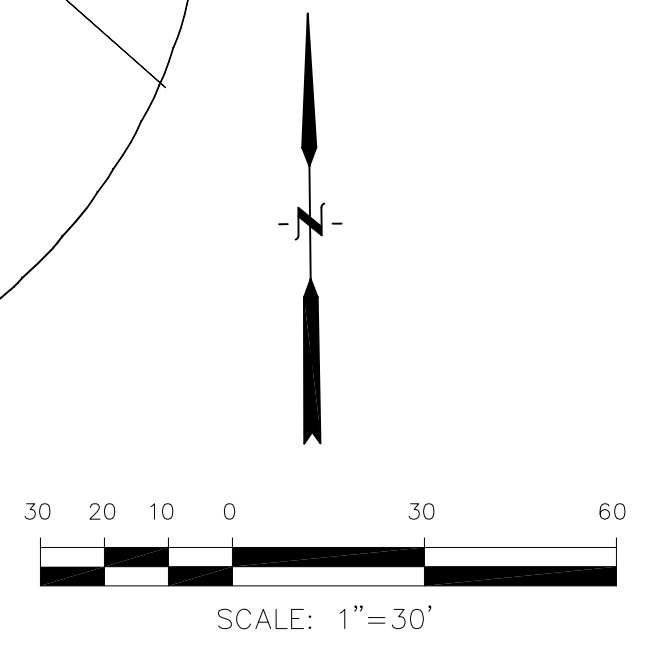
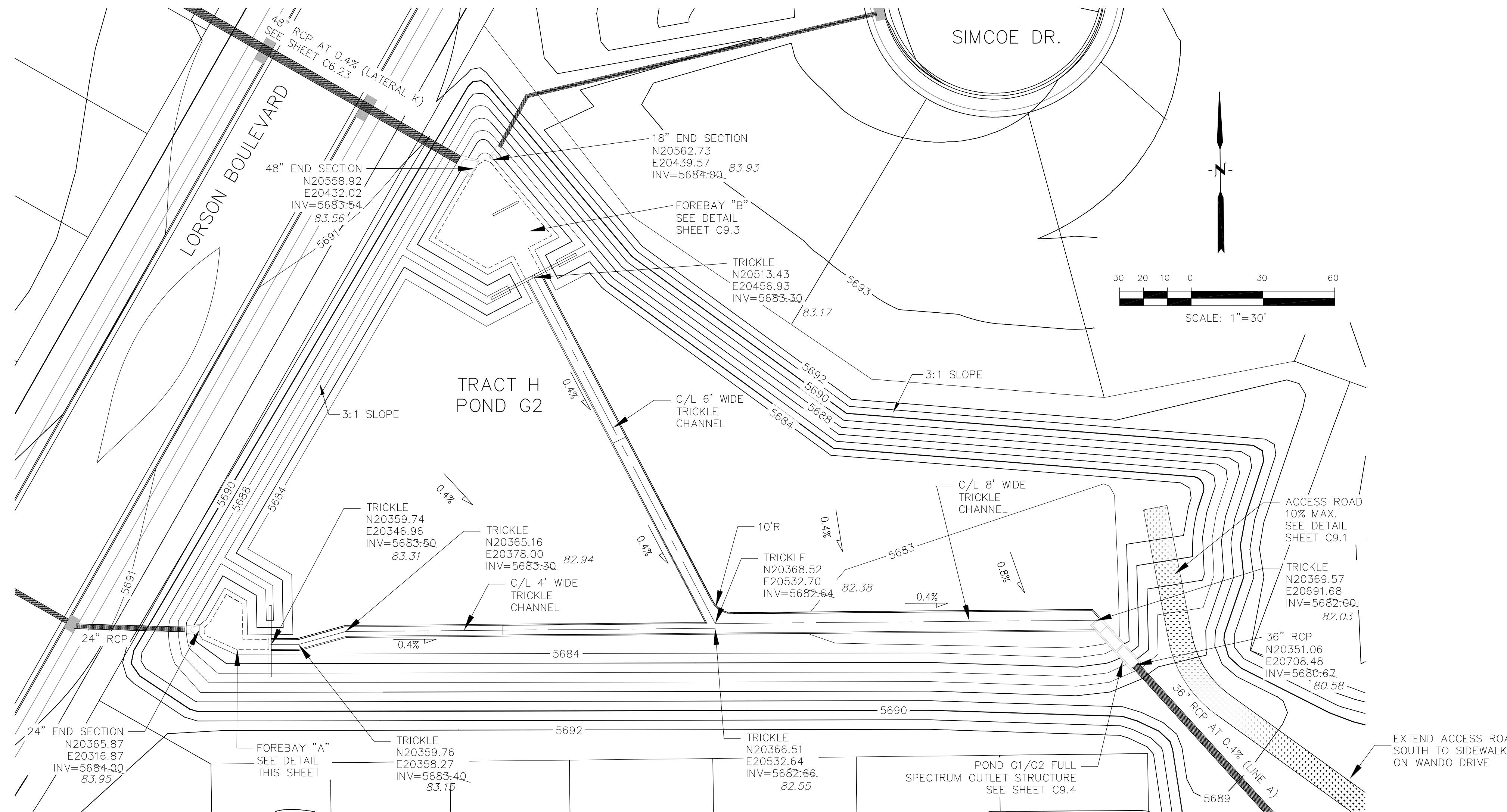


NOTE: ALL CONCRETE FOR WALL SHALL BE CDOT TYPE D



NOTE: ALL CONCRETE FOR WALL SHALL BE CDOT TYPE D

**POND G1/G2 (DISTRICT)
 G2 SIDE OF POND - FOREBAY "B"
 TRICKLE AND FOREBAY DETAILS**



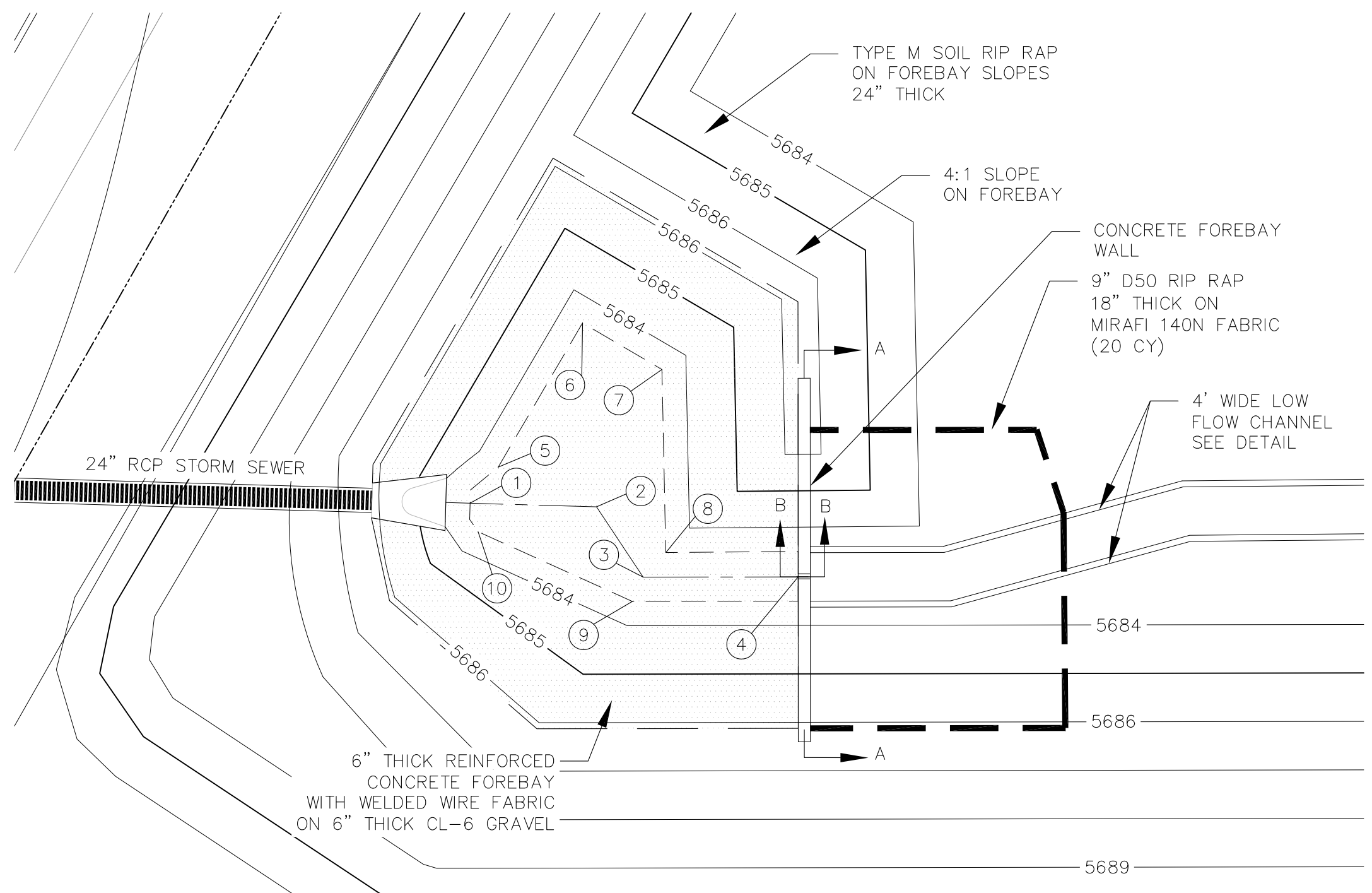
TRICKLE CHANNEL DETAIL
NO SCALE

LENGTH FOR RADII

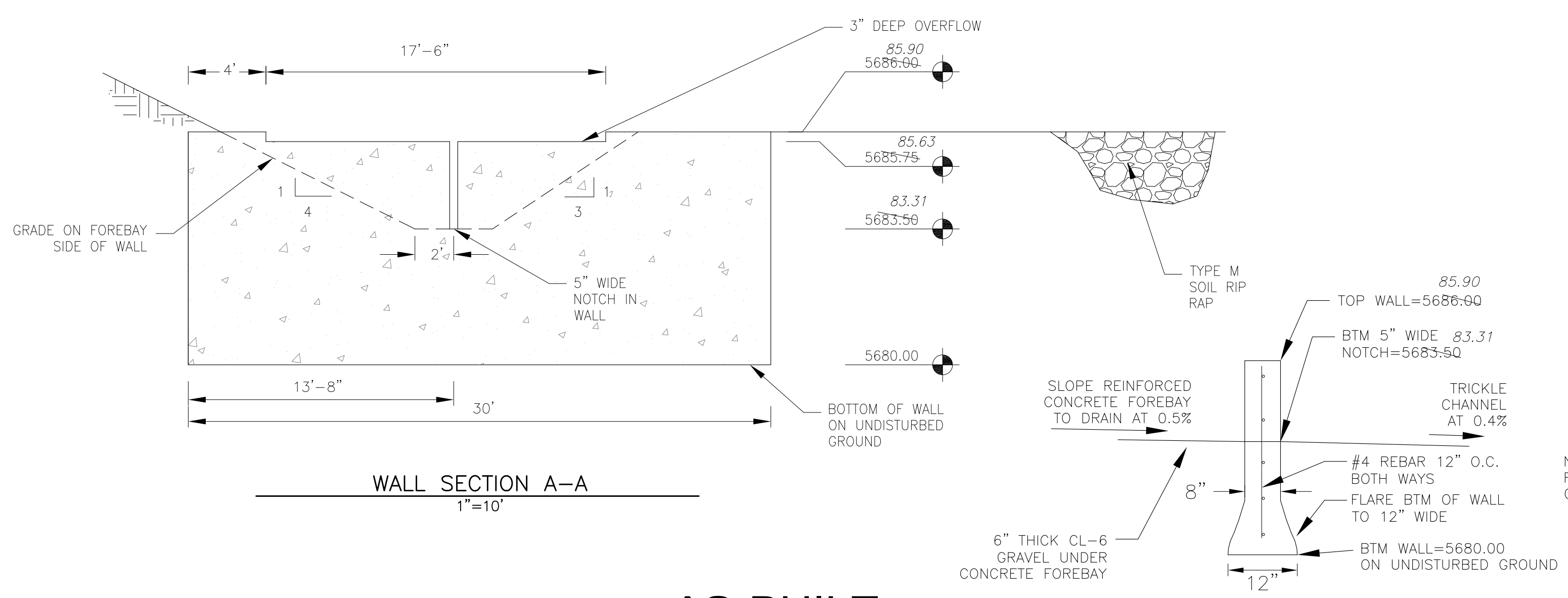
A	= 1/2"
C	= 1-1/2"

POINT TABLE

NUMBER	NORTHING	EASTING	ELEVATION	NOTES
1	20365.82	20318.86	5683.65	FOREBAY BOTTOM
2	20365.52	20329.30	5683.60	FOREBAY BOTTOM
3	20359.71	20333.16	5683.57	FOREBAY BOTTOM
4	20359.74	20345.96	5683.50	FOREBAY BOTTOM
5	20368.80	20321.19	5683.67	FOREBAY BOTTOM
6	20380.69	20328.16	5683.67	FOREBAY BOTTOM
7	20376.85	20334.70	5683.66	FOREBAY BOTTOM
8	20361.75	20335.03	5683.58	FOREBAY BOTTOM
9	20357.71	20332.26	5683.58	FOREBAY BOTTOM
10	20363.46	20319.53	5683.67	FOREBAY BOTTOM



FOREBAY "A" DETAIL
1"=10'

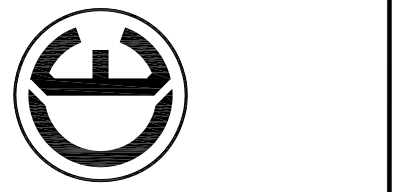


WALL SECTION A-A
1"=10'

WALL SECTION B-B
NO SCALE

NOTE: ALL CONCRETE FOR WALL SHALL BE CDOT TYPE D

AS-BUILT
DATE: APRIL 6, 2018

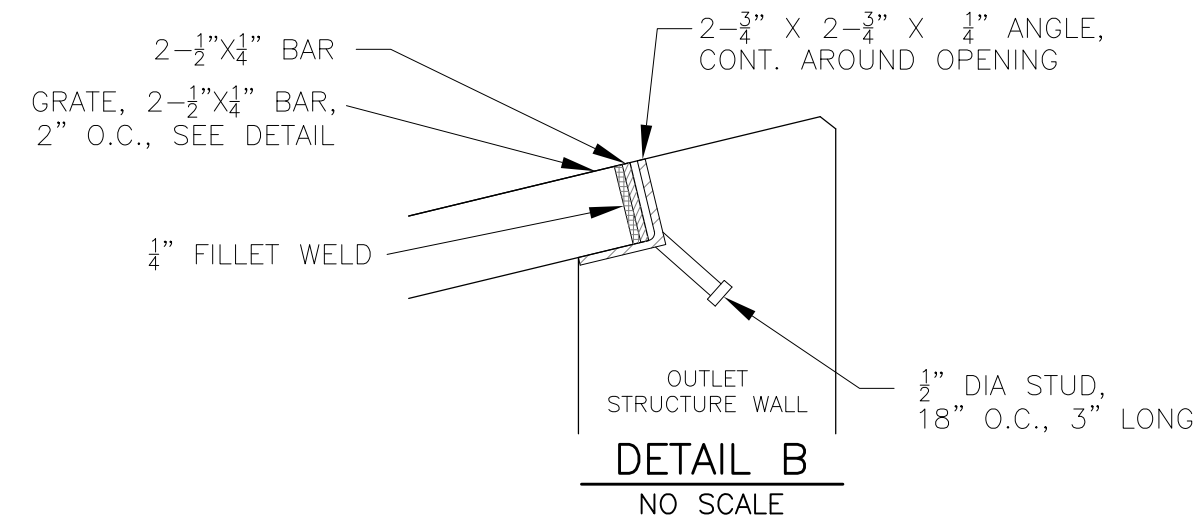
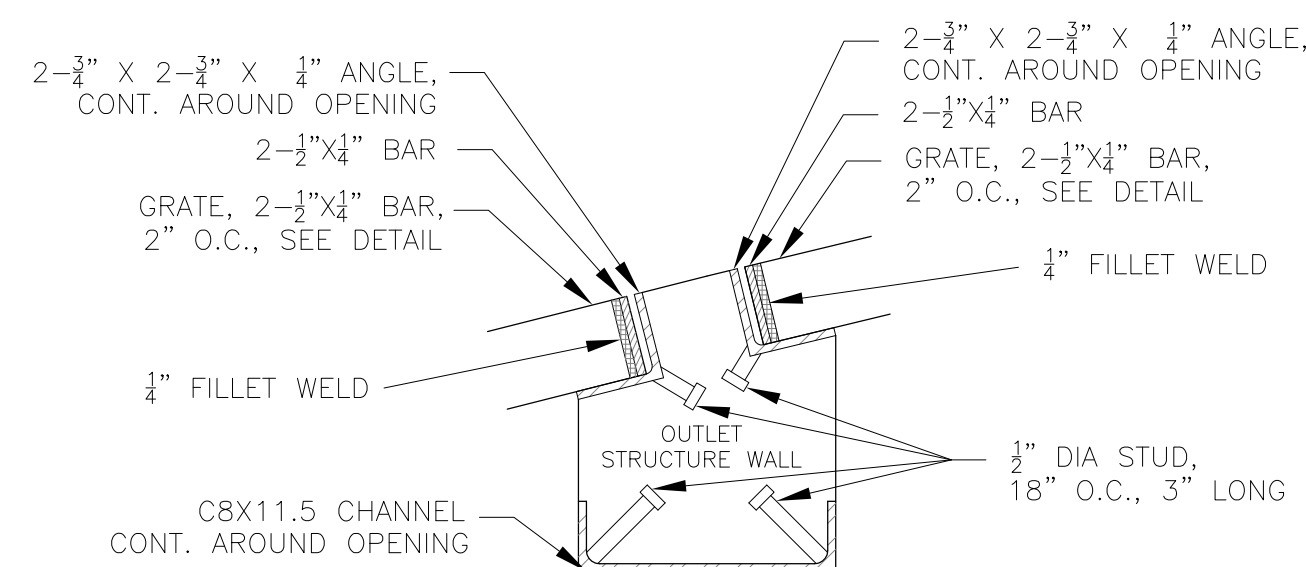


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DESCRIPTION: _____
NO. _____
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

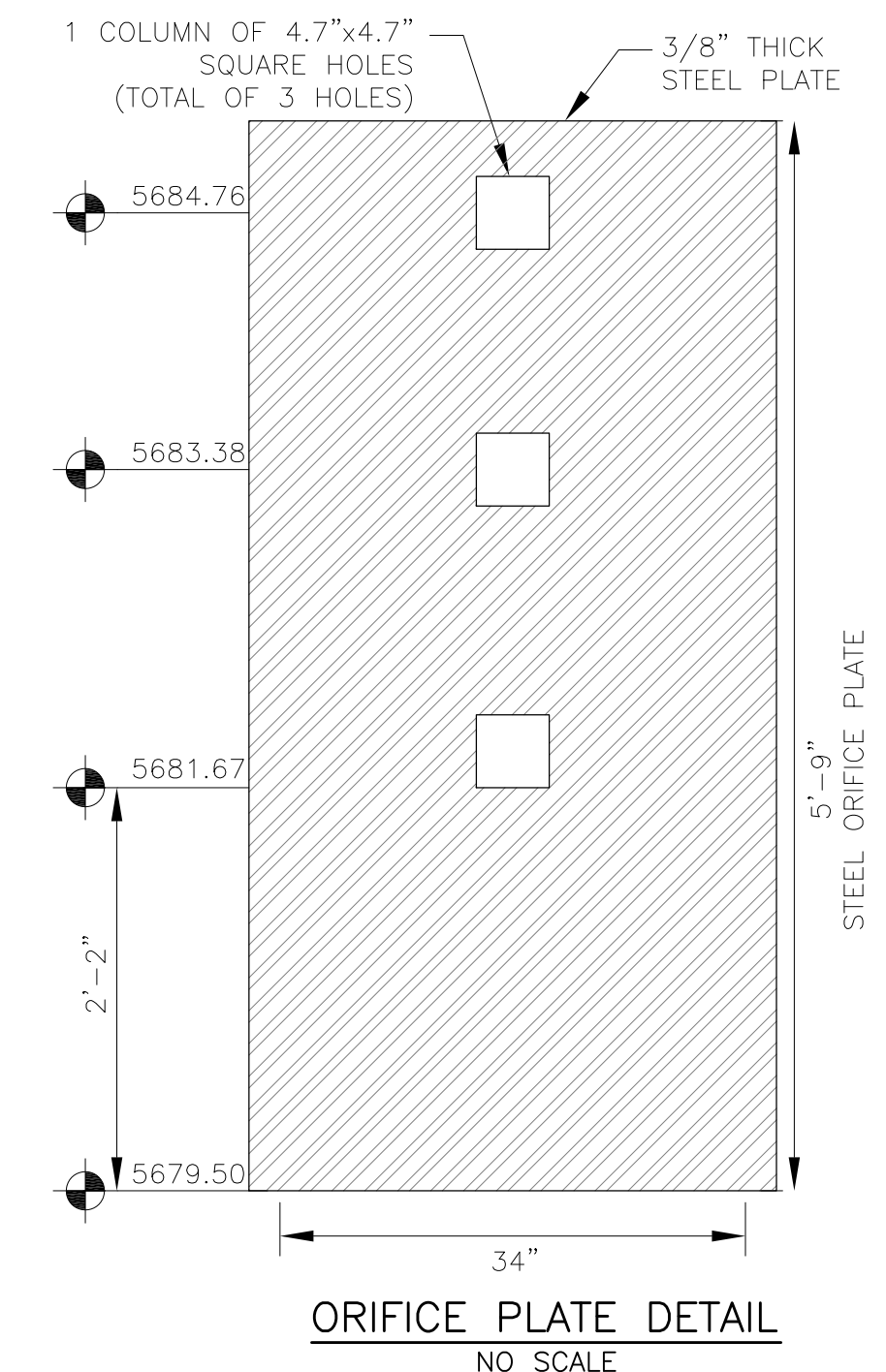
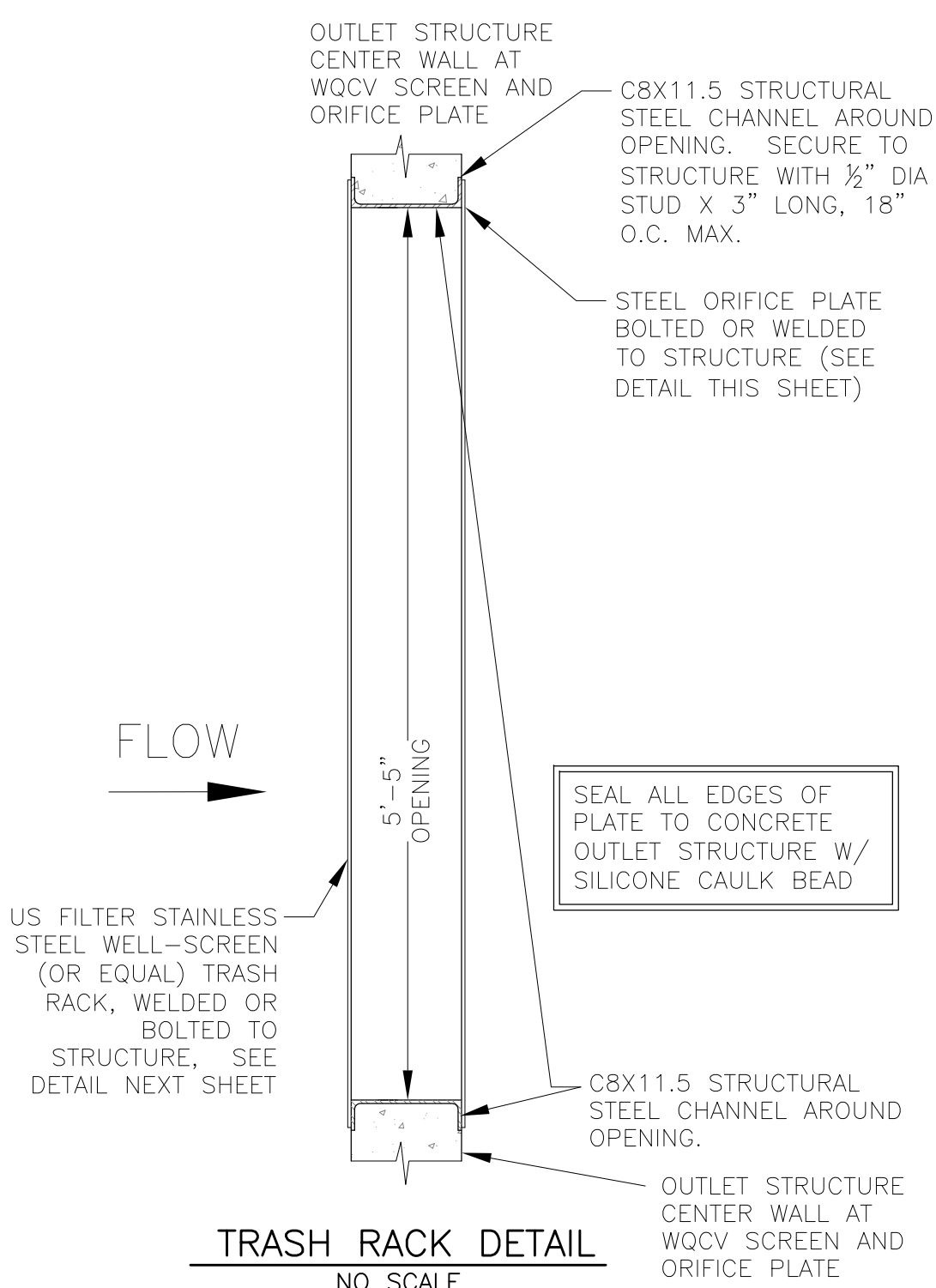
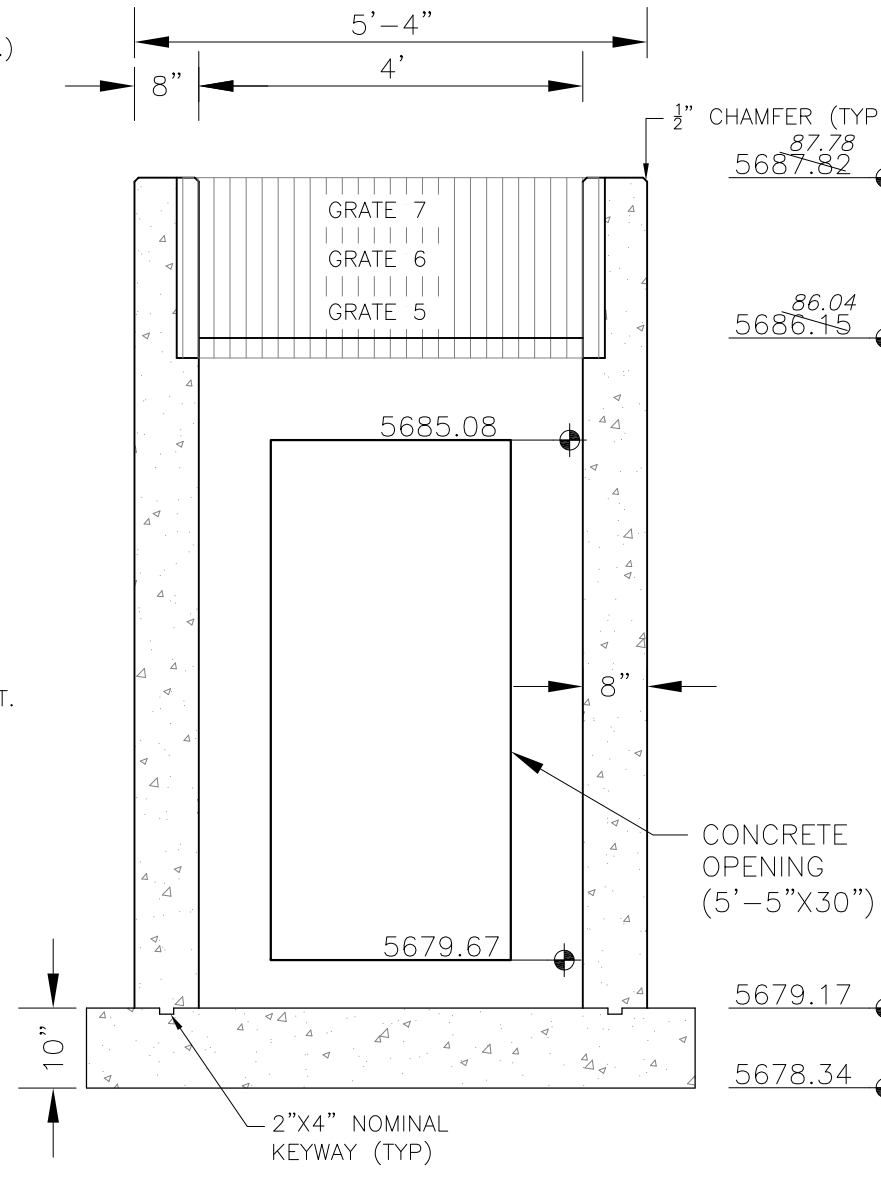
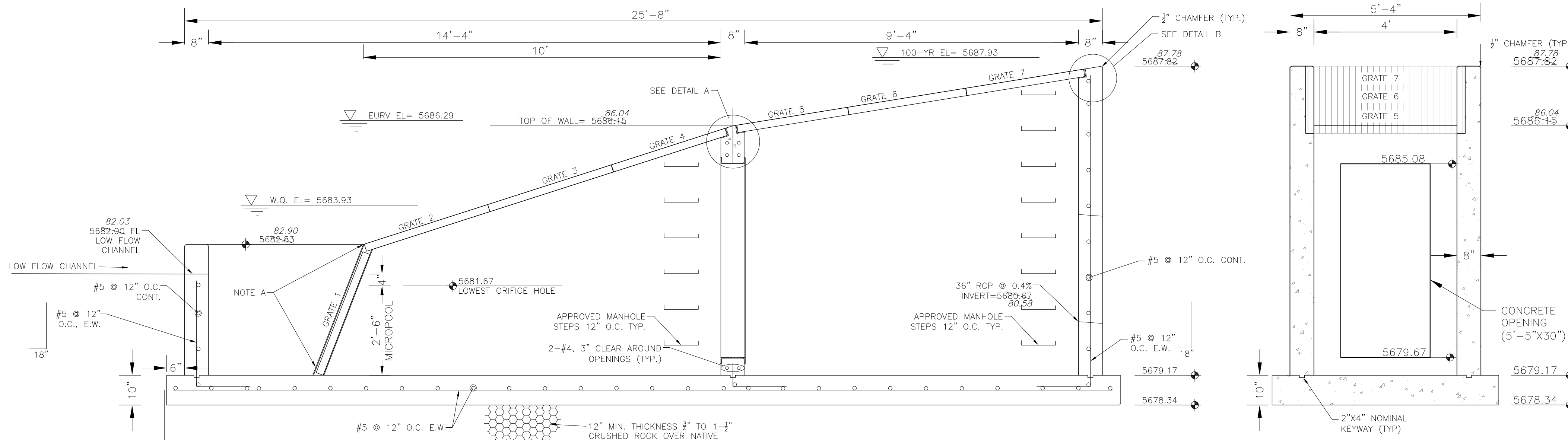
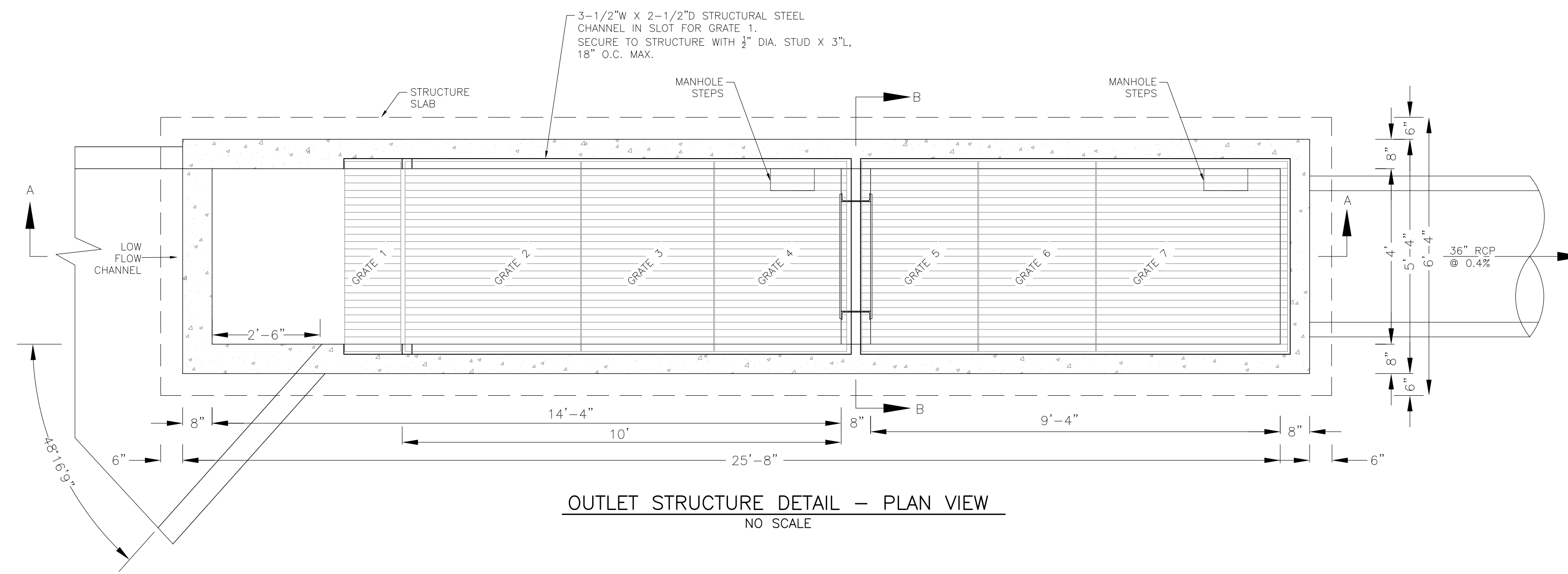
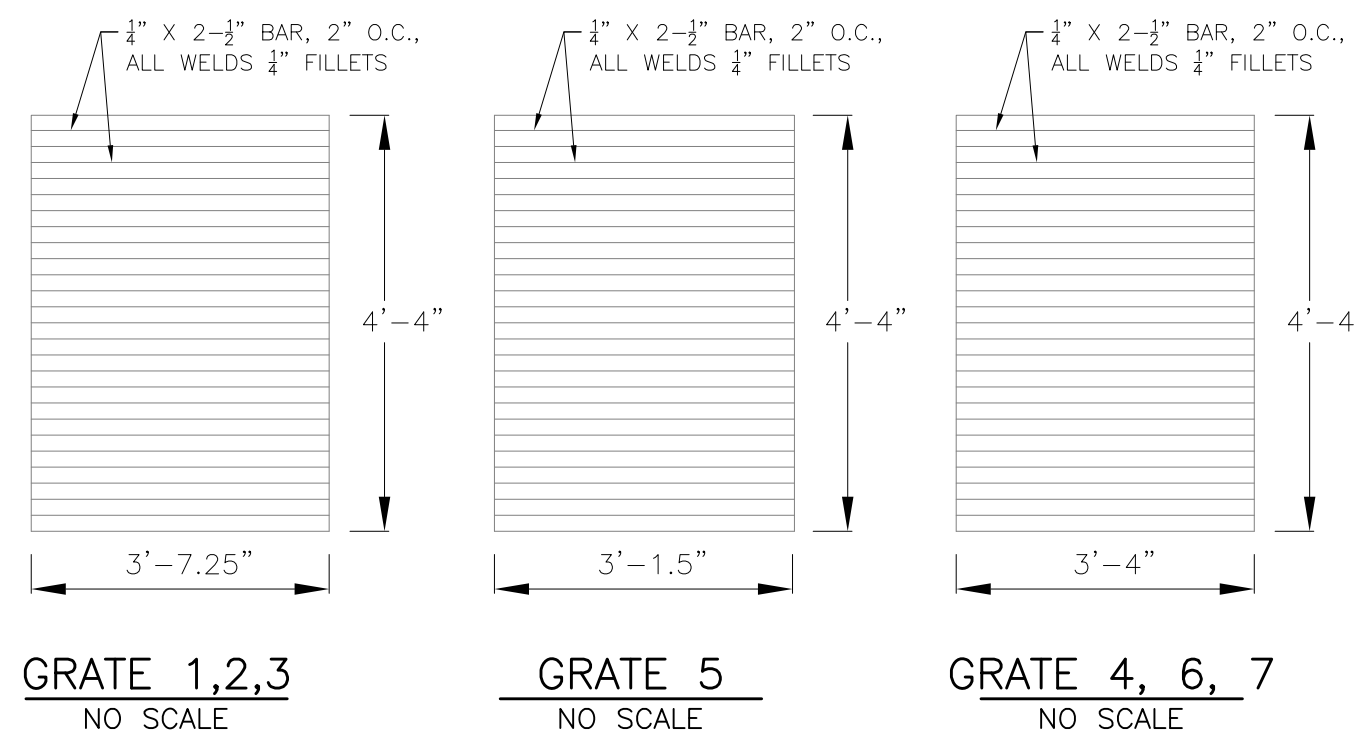
PROJECT: CARRIAGE MEADOWS SOUTH AT LORSON RANCH FILL NO. 1
FONTAINE BLVD. - CARRIAGE MEADOWS DR
EL PASO COUNTY, COLORADO

PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE., SUITE 301
COLORADO SPRINGS, COLORADO 80903
(719) 635-3200
CONTACT: JEFF MARK

**POND G1/G2 (DISTRICT)
G2 SIDE OF POND
TRICKLE AND FOREBAY DETAILS**



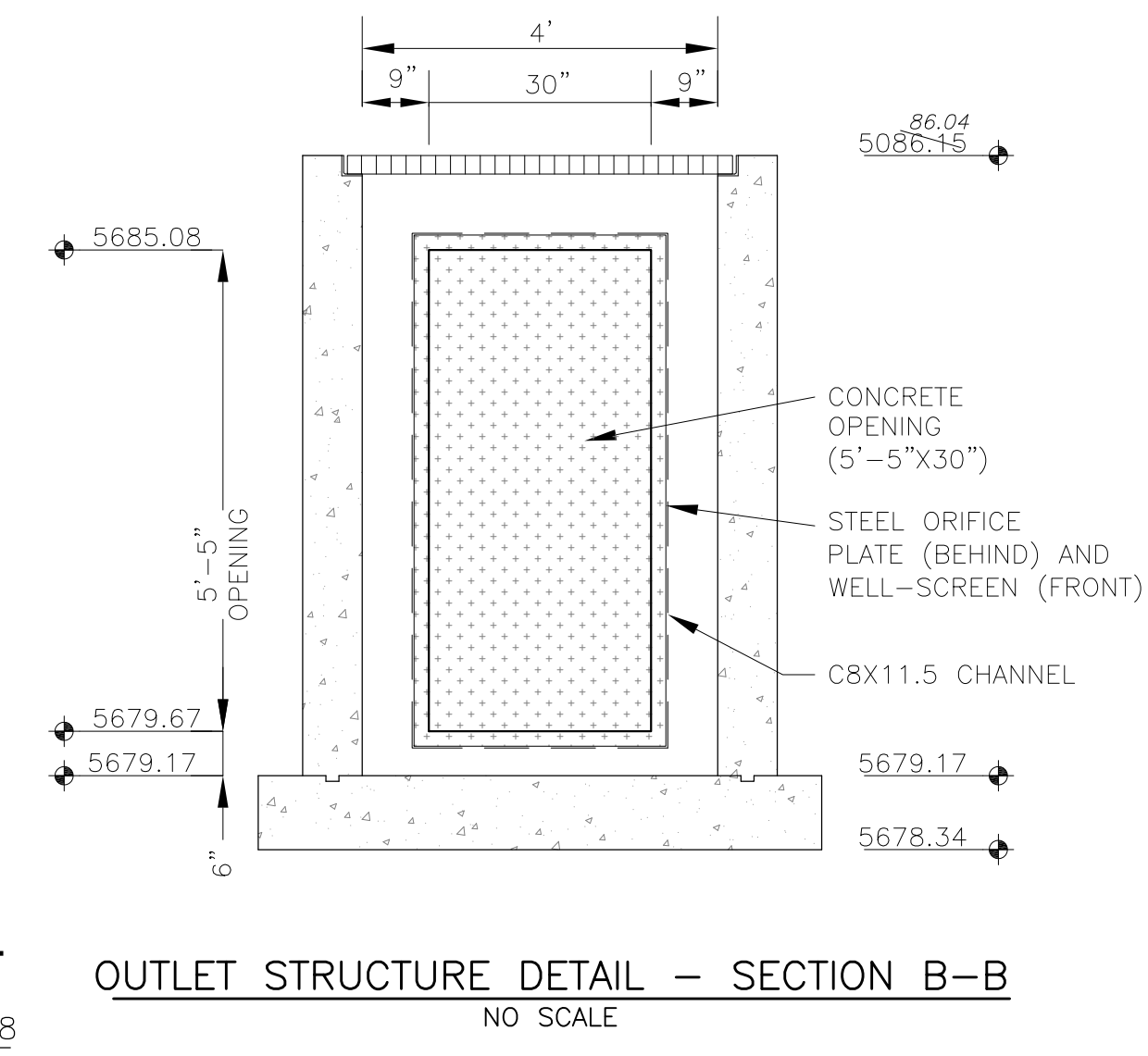
NOTE:
AFTER CONCRETE STRUCTURE HAS BEEN POURED
ALL GRATE DIMENSIONS SHALL BE FIELD VERIFIED
PRIOR TO GRATE CONSTRUCTION



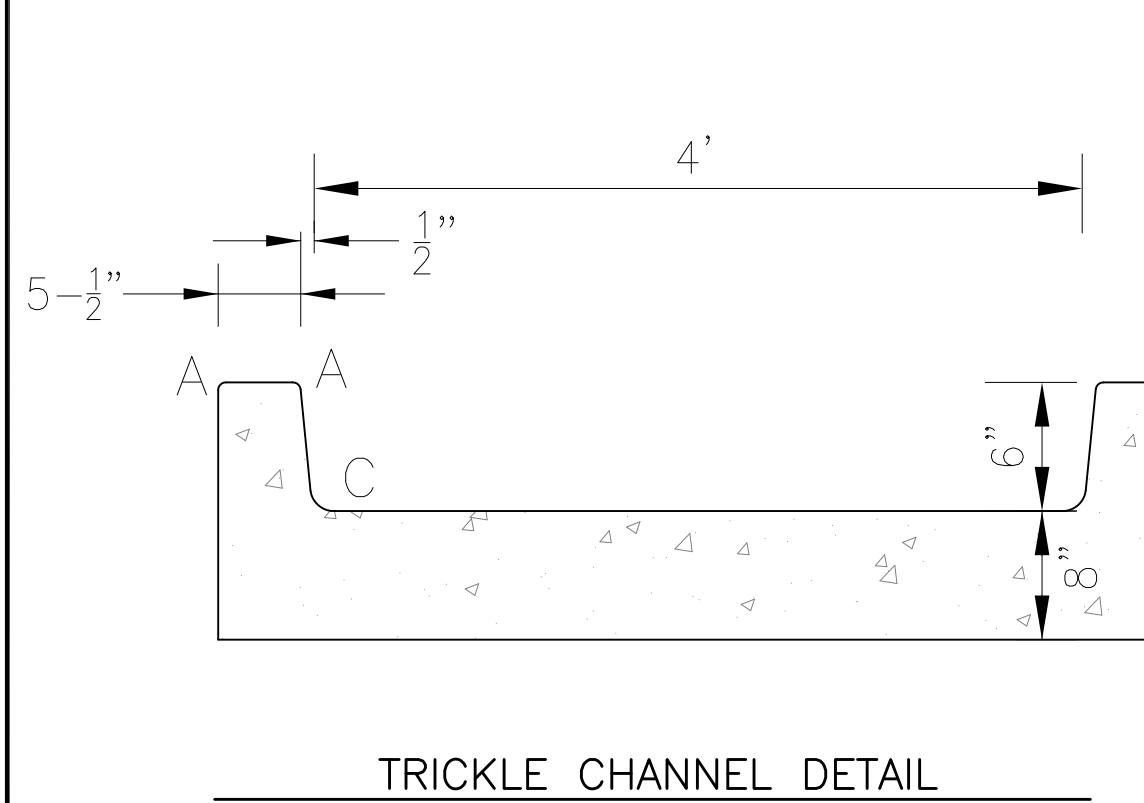
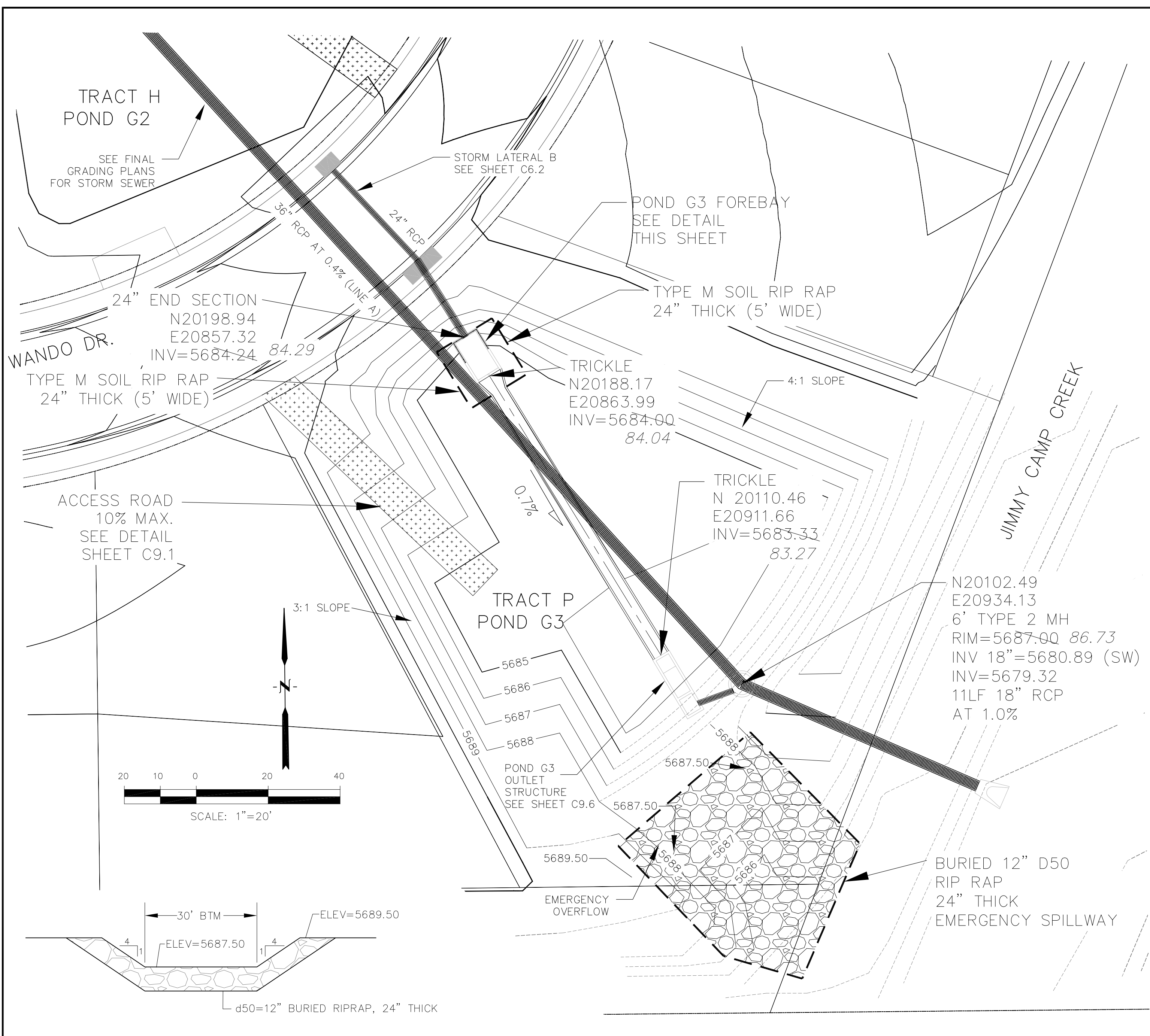
OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
- GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.
- CONCRETE FOR THE OUTLET STRUCTURE AND FOREBAY SHALL BE CDOT CLASS D CONCRETE.
- CONCRETE FOR DRAIN CHANNELS SHALL BE CDOT CLASS B CONCRETE
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK, SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE AND THE JOINT SHALL BE SEALED, REFER TO DETAILS.
- ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/8" CHAMFER UNLESS OTHERWISE NOTED.
- SUBGRADE TO BE 12" THICK CLEAN FILL COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM M698 UNDER STRUCTURE.
- REFER TO SHEET XX FOR PRESEDIMENTATION/FOREBAY DESIGN.
- ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

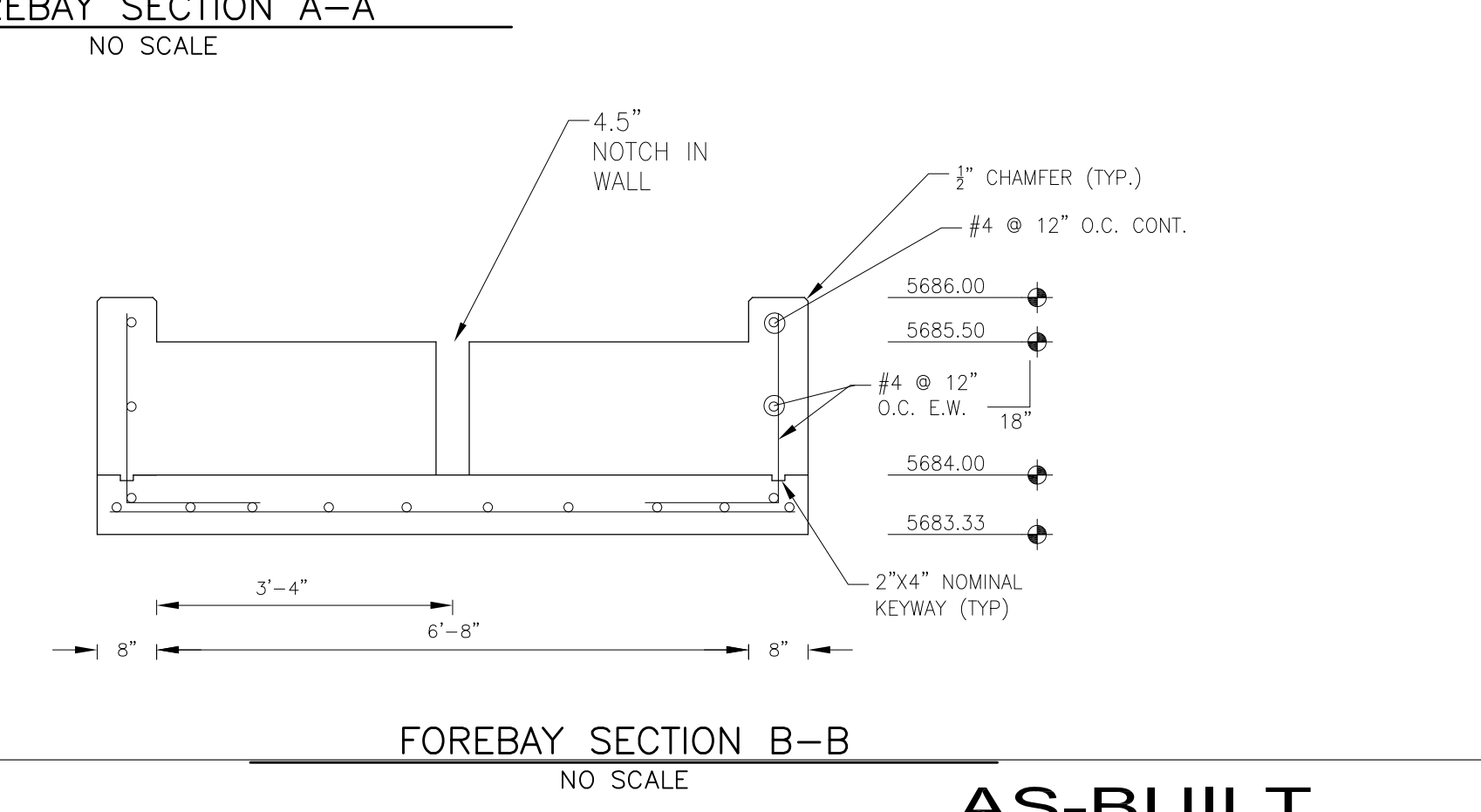
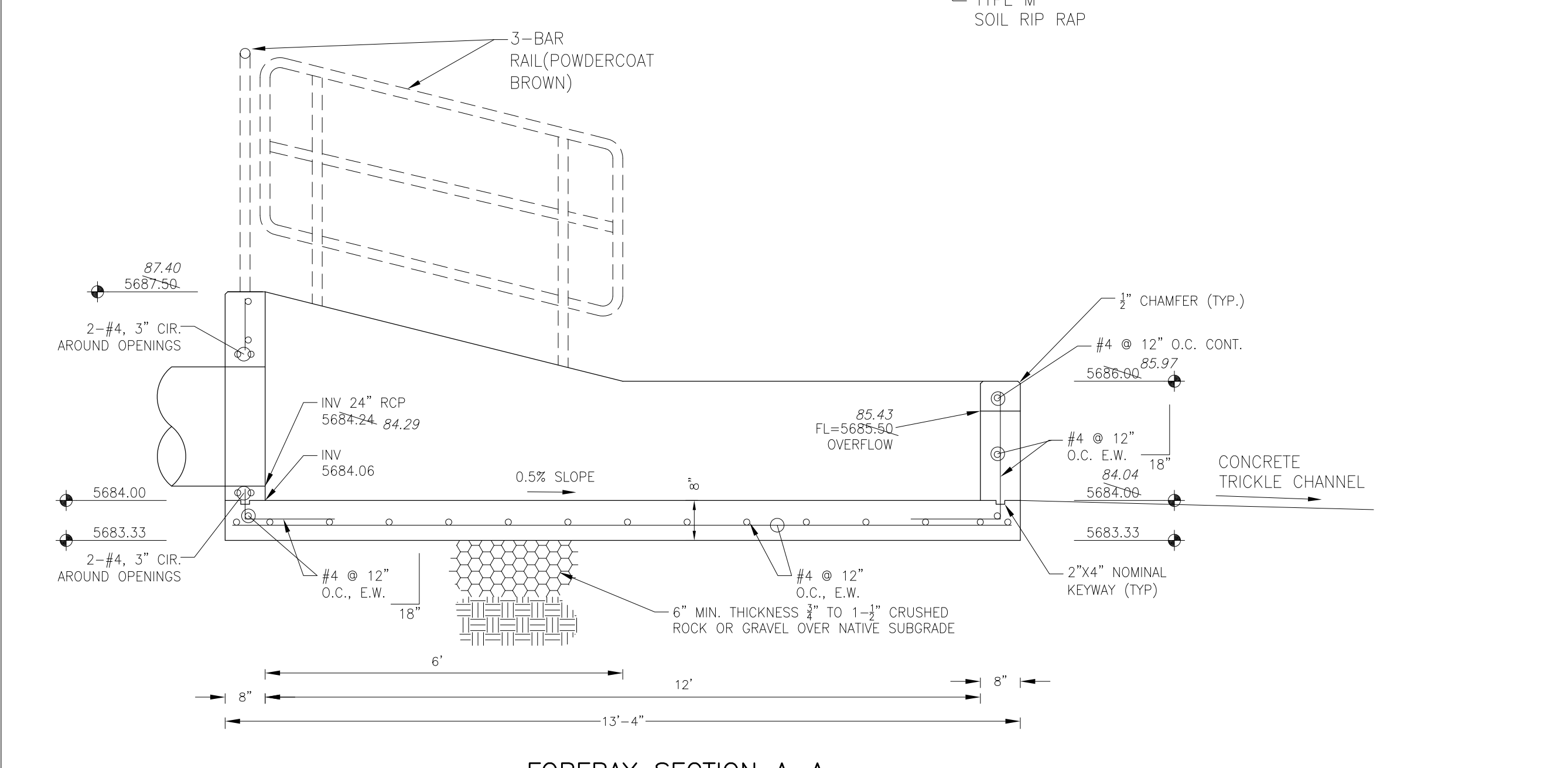
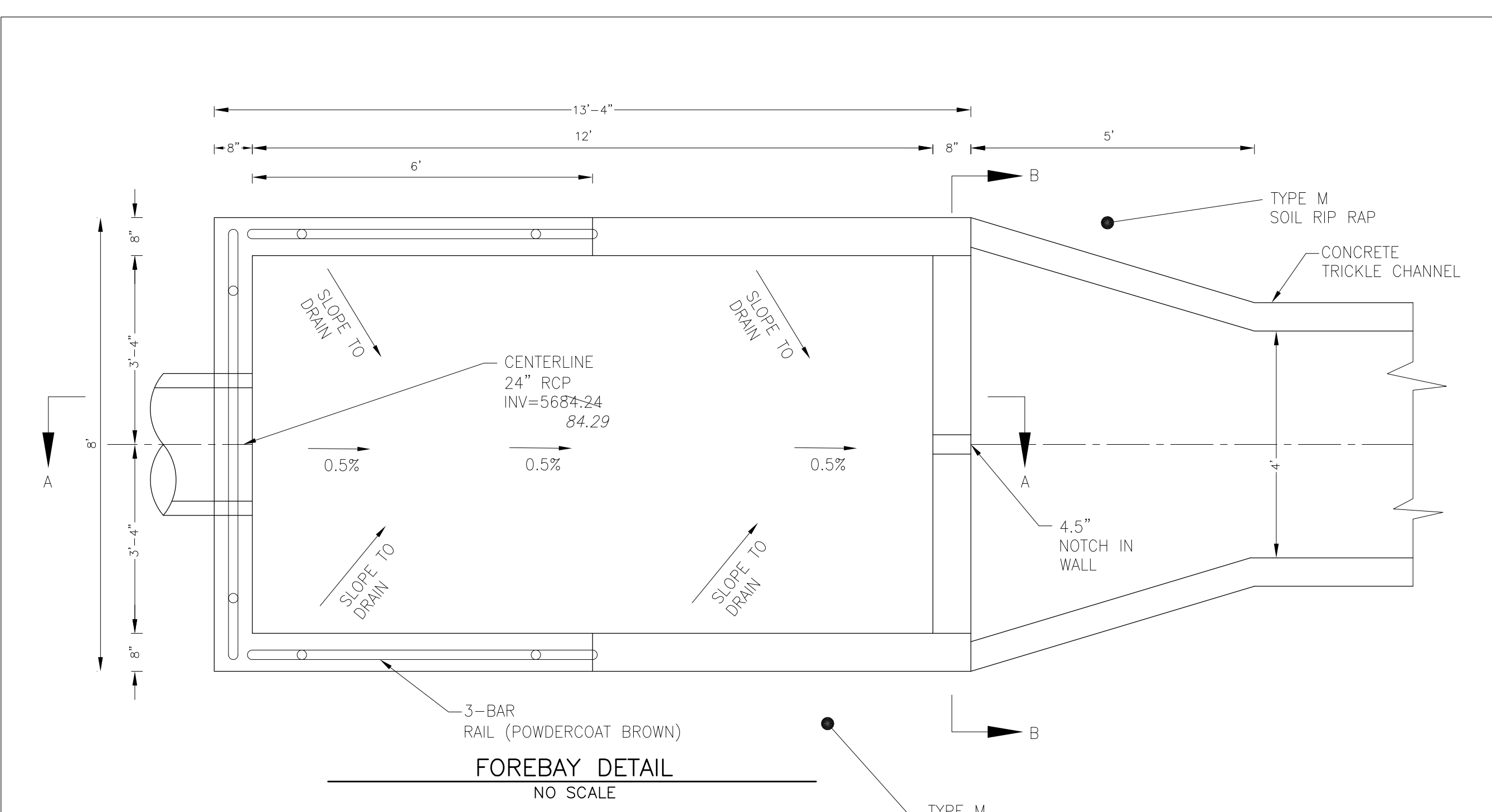
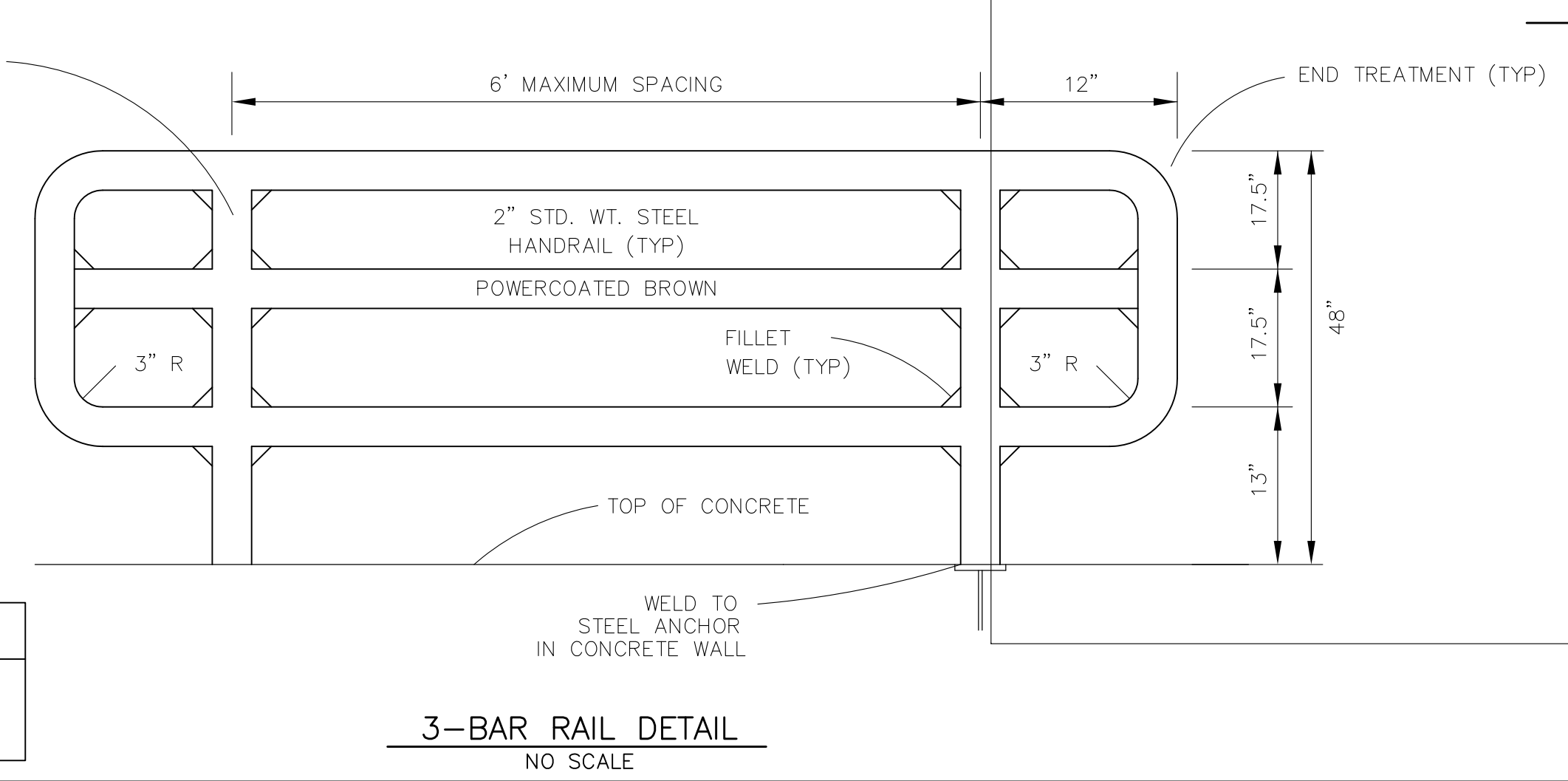
BAR SIZE	#4	#5	#6
MIN. SPLICE LENGTH	1'-3"	1'-7"	2'-0"



AS-BUILT
DATE: APRIL 6, 2018



LENGTH FOR RADII	
A	= 1/2"
C	= 1-1/2"



AS-BUILT
DATE: APRIL 6, 2018

CORE ENGINEERING GROUP
 15004 15th AVE. S. SUITE 301
 BURNING WOODS, CO 80016
 PH: 719.970.1100
 CONTACT: RICHARD L. SCHINDLER, P.E.
 EMAIL: Rich@ceg1.com

DATE

DESCRIPTION

NO.

PREPARED FOR:

LORSON, LLC
 212 N. WAHSATCH AVE., SUITE 301
 COLORADO SPRINGS, COLORADO 80903
 CONTACT: JEFF MARK

PROJECT:

**CARRIAGE MEADOWS SOUTH
 CAT LORSON RANCH FIL. NO. 1**
 FONTAINE BLVD. - CARRIAGE MEADOWS DR
 EL PASO COUNTY, COLORADO

DRAWN: RLS
 DESIGNED: RLS
 CHECKED: RLS

**POND G3 (DISTRICT)
 TRICKLE AND FOREBAY DETAILS**

DATE

AUGUST 28, 2017

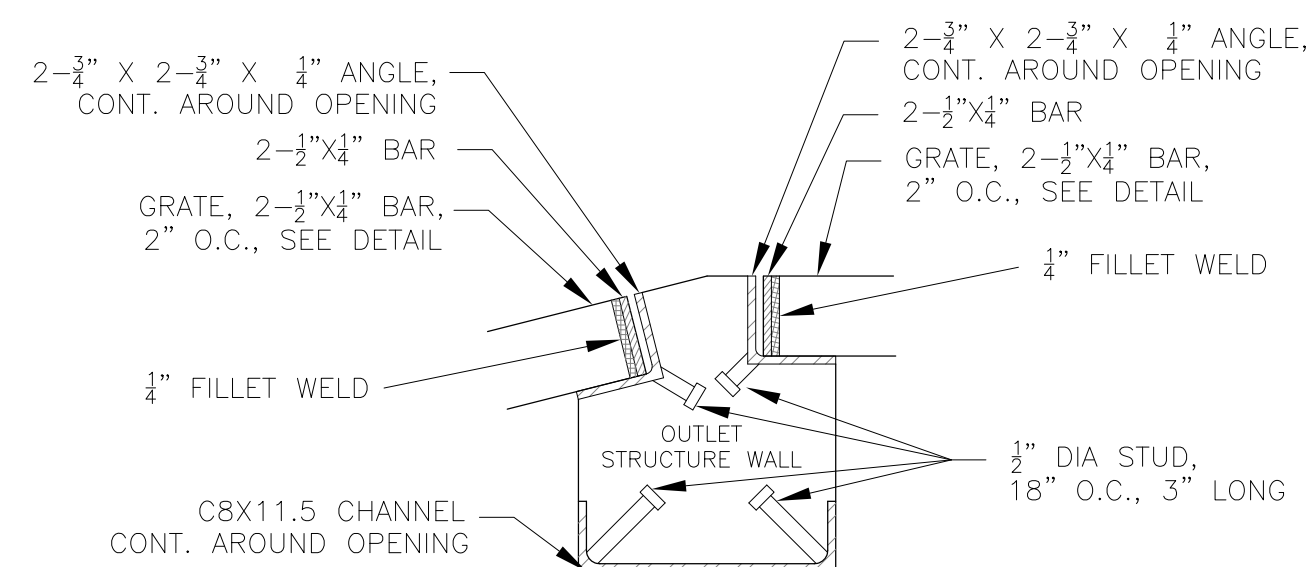
PROJECT NO.

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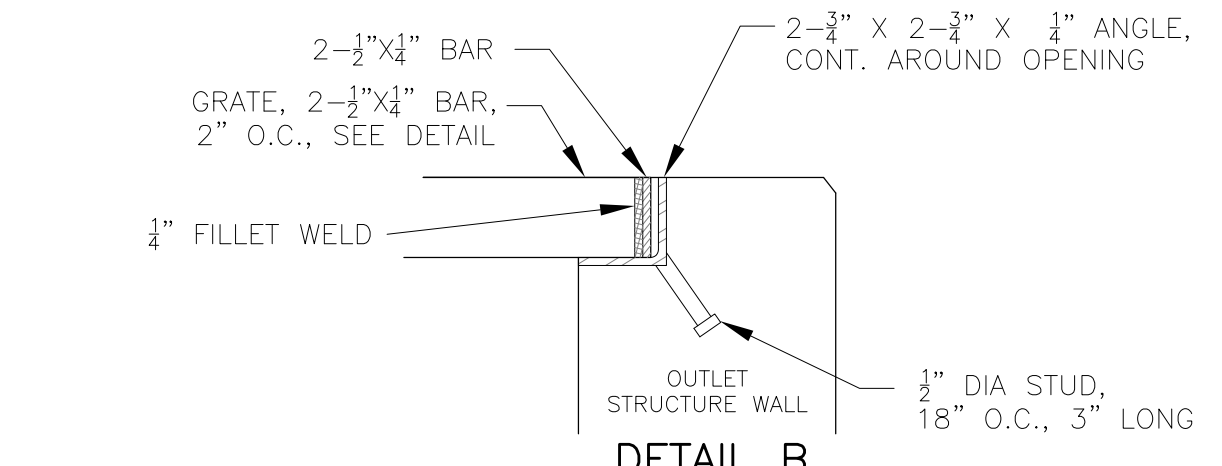
SHEET NUMBER

C9.5

TOTAL SHEETS: 39

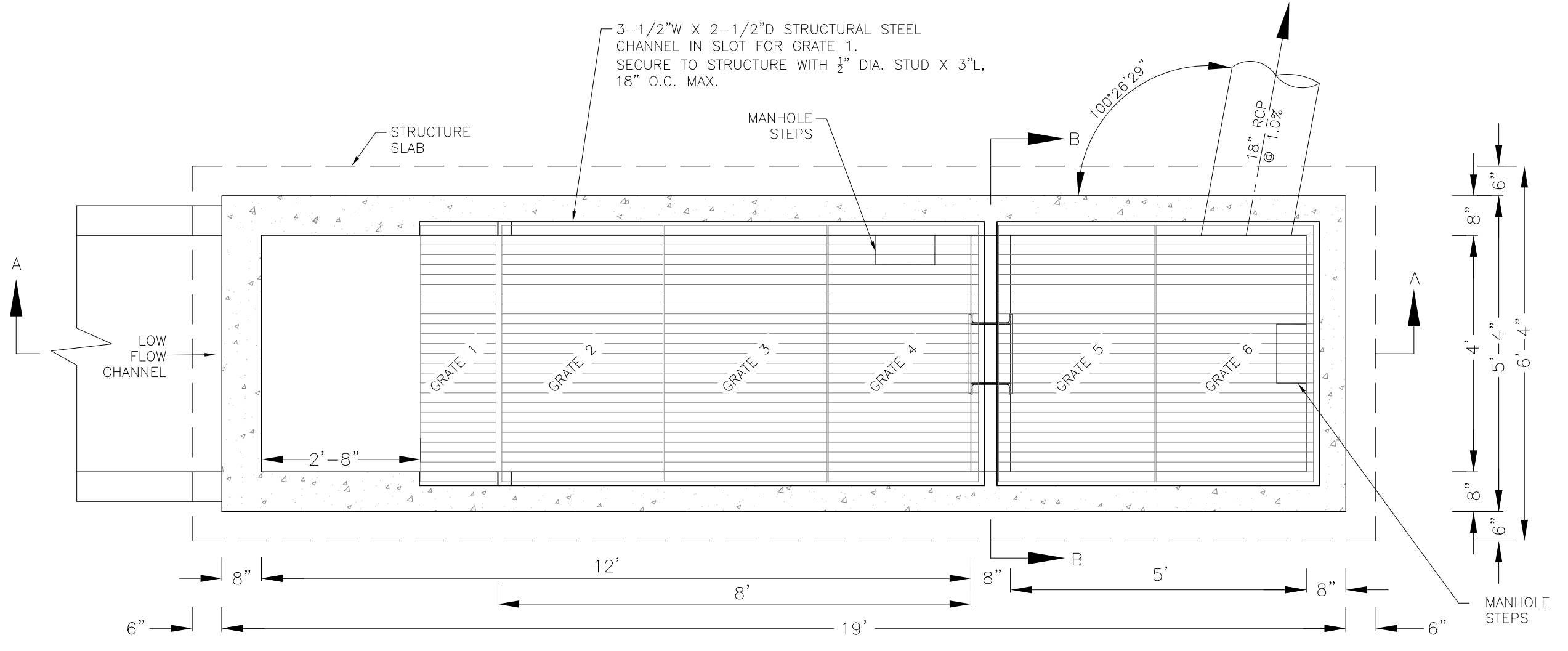
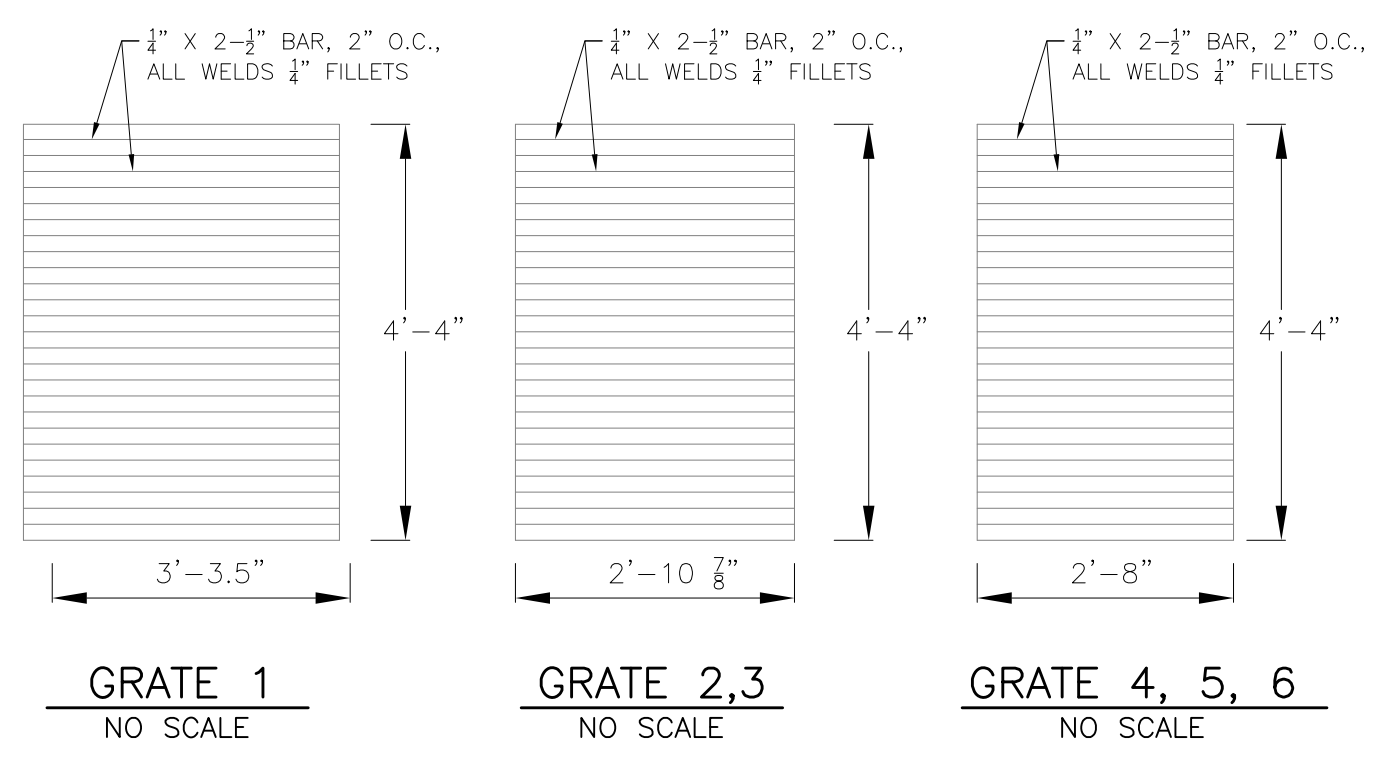


DETAIL A
NO SCALE

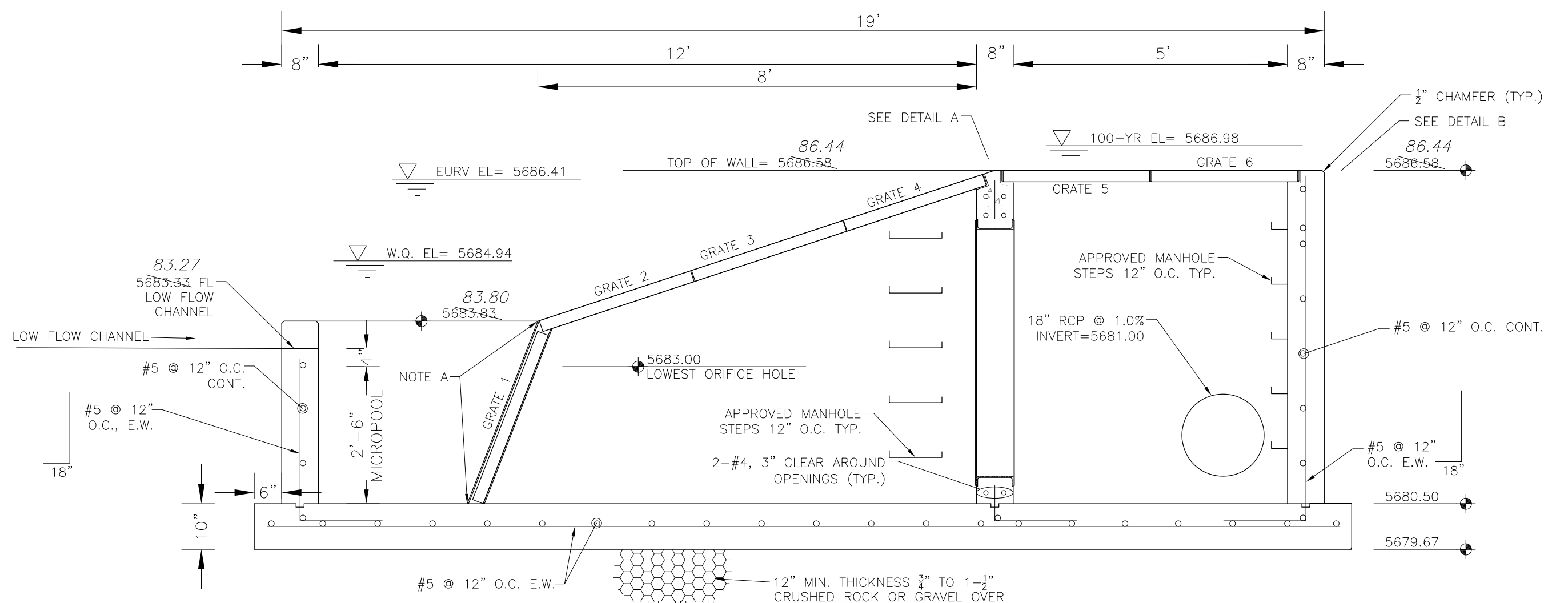


DETAIL B
NO SCALE

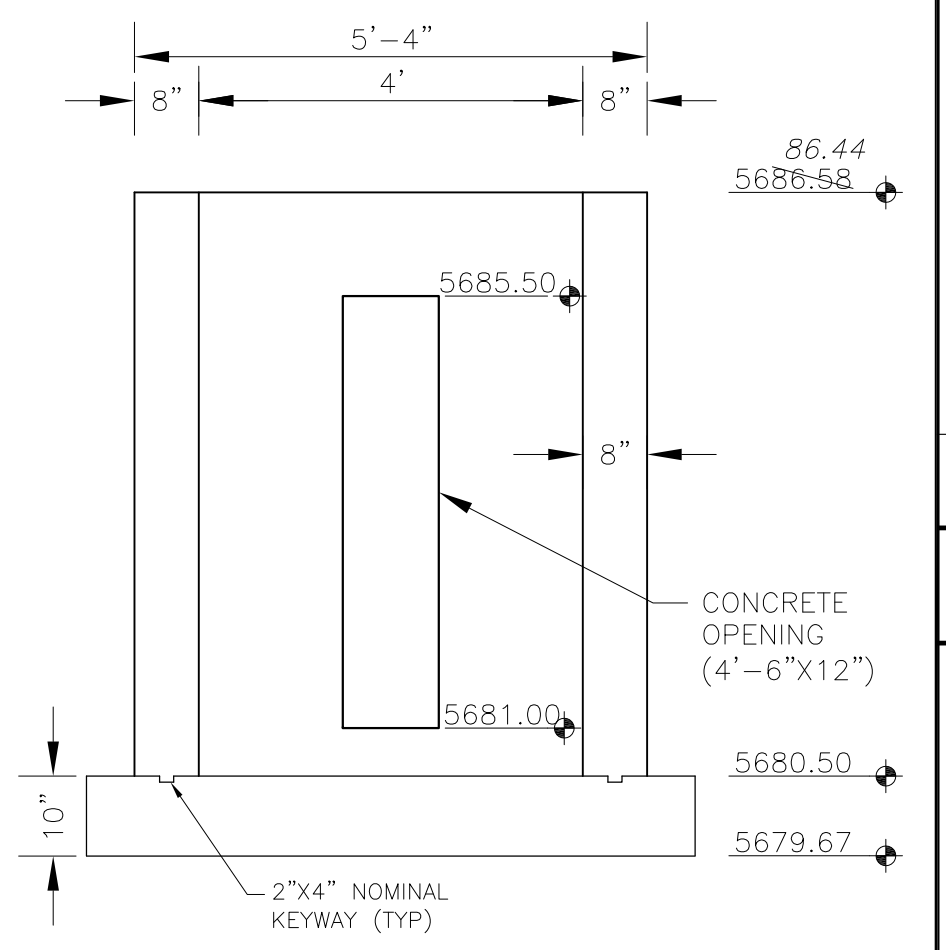
NOTE:
AFTER CONCRETE STRUCTURE HAS BEEN POURED
ALL GRATE DIMENSIONS SHALL BE FIELD VERIFIED
PRIOR TO GRATE CONSTRUCTION



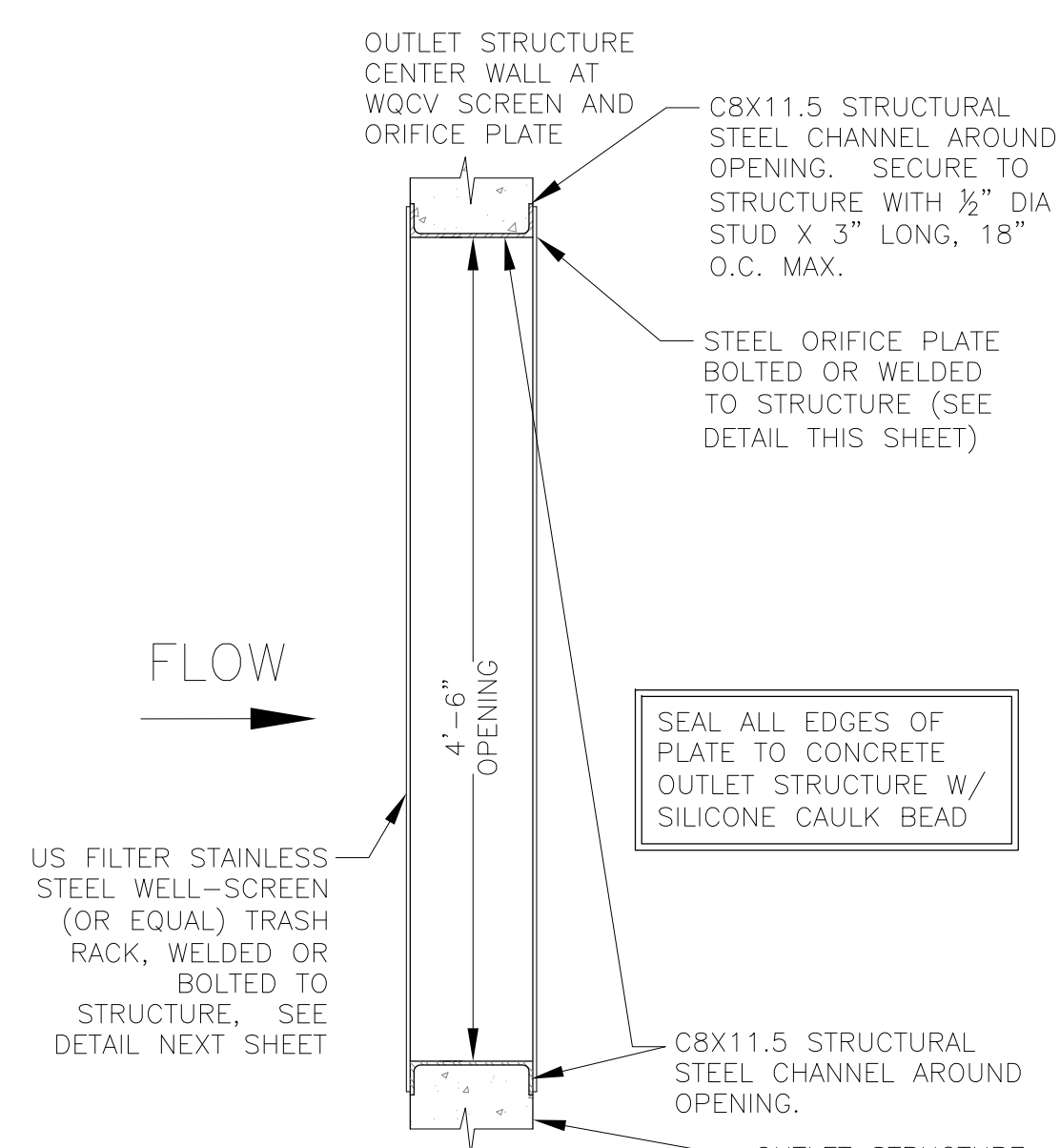
OUTLET STRUCTURE DETAIL - PLAN VIEW
NO SCALE



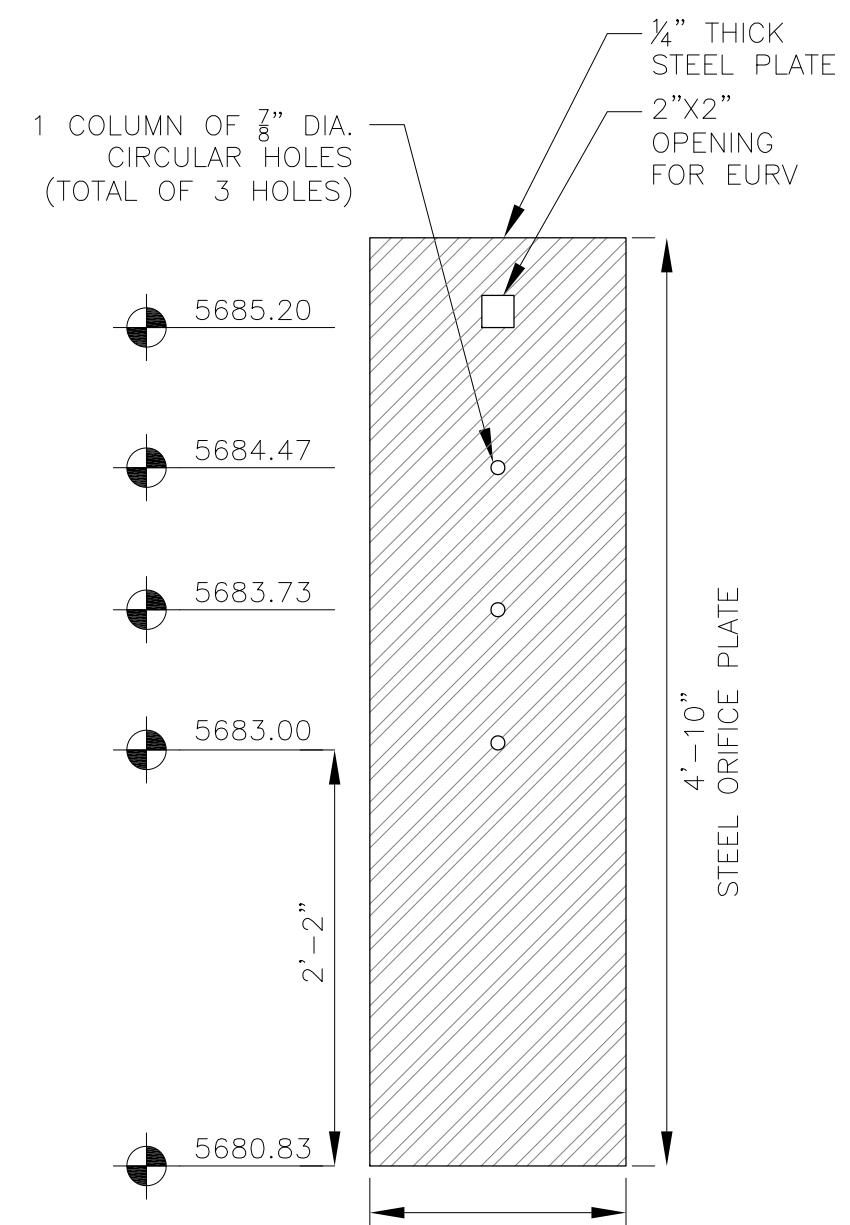
OUTLET STRUCTURE DETAIL - SECTION A-A
NO SCALE



OUTLET STRUCTURE DETAIL - SECTION B-B
NO SCALE



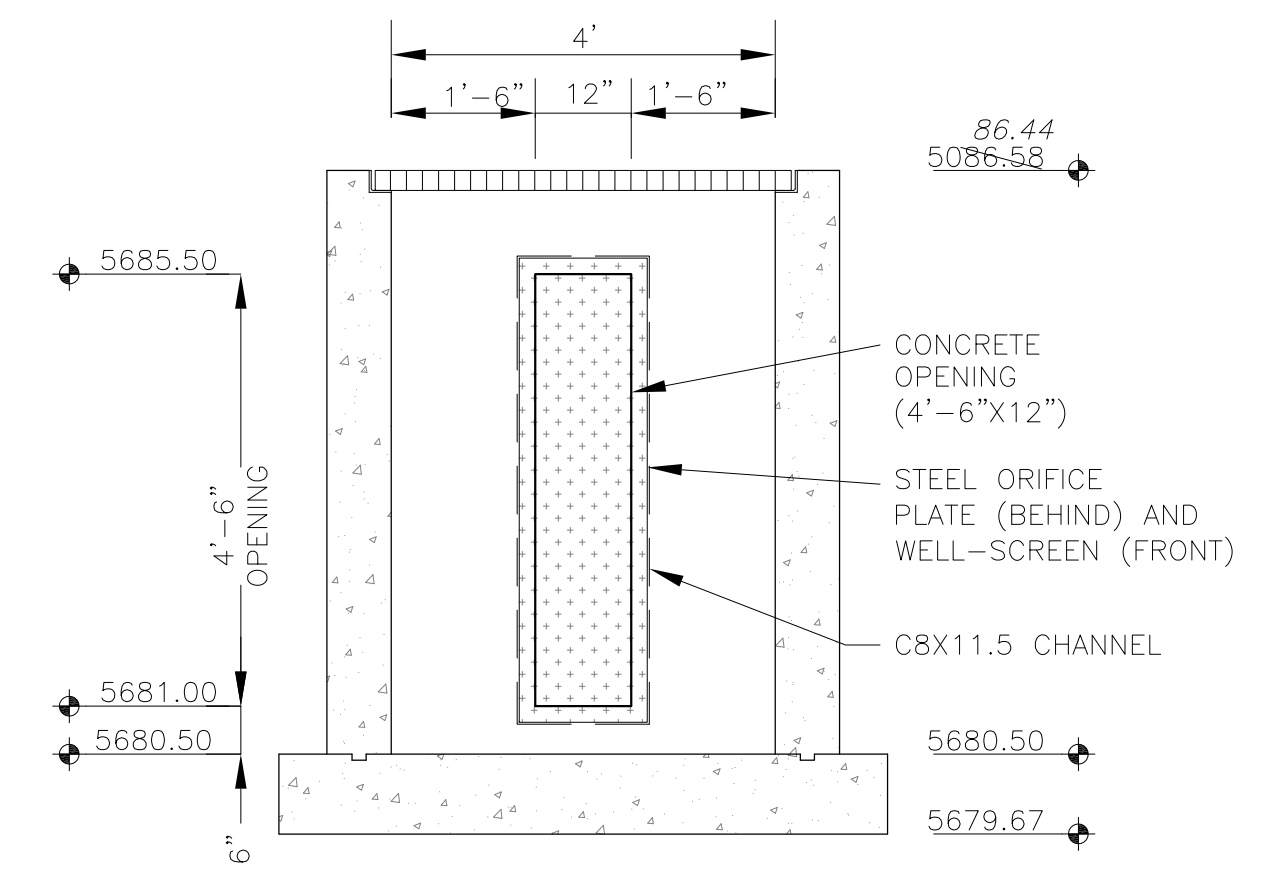
TRASH RACK DETAIL
NO SCALE



ORIFICE PLATE DETAIL
NO SCALE

OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
 2. GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.
 3. CONCRETE FOR THE OUTLET STRUCTURE AND FOREBAY SHALL BE CDOT CLASS D CONCRETE.
 4. CONCRETE FOR DRAIN CHANNELS SHALL BE CDOT CLASS B CONCRETE
 5. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213. EXPANSION JOINT MATERIAL SHALL BE 1/2\"/>
- | BAR SIZE | #4 | #5 | #6 |
|--------------------|-------|-------|-------|
| MIN. SPLICE LENGTH | 1'-3" | 1'-7" | 2'-0" |
7. SUBGRADE TO BE 12" THICK CLEAN FILL COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM M698 UNDER STRUCTURE.
 8. REFER TO SHEET XX FOR PRESEDIMENTATION/FOREBAY DESIGN.
 9. ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.



OUTLET STRUCTURE DETAIL - SECTION B-B
NO SCALE