



ACCEPTED for FILE
Engineering Review

07/24/2023 2:30:31 PM

Jeff Rice - EPC Engineering

EPC Department of Public Works



June 27, 2023

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

RE: Carriage Meadows South Filing No. 1 (SF 17-011)
Certification Letter

Dear El Paso County PCD,

Based upon information gathered from as-built surveys and periodic visits to the project, Core Engineering Group is of the opinion that the subdivision improvements have been constructed in general conformance with the approved design plans as filed with El Paso County.

The site and adjacent properties (as affected by work performed under the County permit) appear to be stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and the improvements (public improvements, common development improvements, site grading and paving) visually appear to meet or exceed the minimum design requirements. There have been some service line utility trench settlements but that is currently being addressed as part of the punchlist process.

The sanitary and watermain located in the public ROW has also been completed in accordance with Widefield Water and Sanitation Districts criteria.

In addition, Core Engineering Group has verified that the Extended Detention Basin/WQ Pond G1, G2, and G3 have been constructed and certified and meet the volume and elevation requirements and have been constructed in general compliance with the approved construction plans. The outlet structure for Pond G3 did change slightly from the design so the full spectrum spreadsheet was updated for this pond and it meets the design output as shown in the approved final drainage report.

Based on information gathered during construction and post-construction, Core Engineering Group is of the opinion that the public streets and storm sewer have been constructed in general accordance with the approved construction documents.

Sincerely,
Core Engineering Group, LLC

Richard L. Schindler, P.E. 33997

Pond G1/G2, G3 As-builts
Street/storm As-builts

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: Carriage Meadows South at Lorson Ranch
Basin ID: Full Spectrum Pond G3 - asbuilt

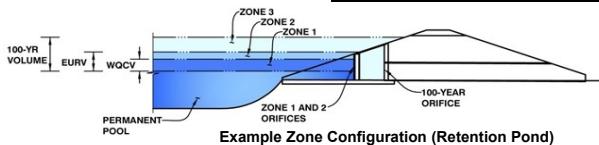
Example Zone Configuration (Retention Pond)

Required Volume Calculation	EDB	0.1	asbit orifice=82.94
Selected BMP Type =	EDB		
Watershed Area =	6.02 acres		
Watershed Length =	790 ft		
Watershed Slope =	0.016 ft/ft		
Watershed Imperviousness =	55.00% percent		
Percentage Hydrologic Soil Group A =	0.0% percent		
Percentage Hydrologic Soil Group B =	100.0% percent		
Percentage Hydrologic Soil Groups C/D =	0.0% percent		
Desired WQCV Drain Time =	40.0 hours		
Location for 1-hr Rainfall Depths = User Input			
Water Quality Capture Volume (WQCV) =	0.111 acre-feet	Optional User Override	
Excess Urban Runoff Volume (EURV) =	0.357 acre-feet	1-hr Precipitation	
2-yr Runoff Volume ($P_f = 1.16 \text{ in.}$) =	0.283 acre-feet	1.16 inches	
5-yr Runoff Volume ($P_f = 1.44 \text{ in.}$) =	0.378 acre-feet	1.44 inches	
10-yr Runoff Volume ($P_f = 1.68 \text{ in.}$) =	0.501 acre-feet	1.68 inches	
25-yr Runoff Volume ($P_f = 1.92 \text{ in.}$) =	0.678 acre-feet	1.92 inches	
50-yr Runoff Volume ($P_f = 2.16 \text{ in.}$) =	0.802 acre-feet	2.16 inches	
100-yr Runoff Volume ($P_f = 2.42 \text{ in.}$) =	0.968 acre-feet	2.42 inches	
500-yr Runoff Volume ($P_f = 0 \text{ in.}$) =	0.000 acre-feet		
Approximate 2-yr Detention Volume =	0.265 acre-feet		
Approximate 5-yr Detention Volume =	0.355 acre-feet		
Approximate 10-yr Detention Volume =	0.463 acre-feet		
Approximate 25-yr Detention Volume =	0.503 acre-feet		
Approximate 50-yr Detention Volume =	0.525 acre-feet		
Approximate 100-yr Detention Volume =	0.580 acre-feet		
Stage-Storage Calculation			
Zone 1 Volume (WQCV) =	0.111 acre-feet		
Zone 2 Volume (EURV - Zone 1) =	0.246 acre-feet		
Zone 3 Volume (100-year - Zones 1 & 2) =	0.223 acre-feet		
Total Detention Basin Volume =	0.580 acre-feet		
Initial Surcharge Volume (ISV) =	user ft ³		
Initial Surcharge Depth (ISD) =	user ft		
Total Available Detention Depth (H_{total}) =	user ft		
Depth of Trickle Channel (H_{trc}) =	user ft		
Slope of Trickle Channel (S_{trc}) =	user ft/ft		
Slopes of Main Basin Sides (S_{main}) =	user H/V		
Basin Length-to-Width Ratio (R_{vw}) =	user		
Initial Surcharge Area (A_{sv}) =	user ft ²		
Surcharge Volume Length (L_{sv}) =	user ft		
Surcharge Volume Width (W_{sv}) =	user ft		
Depth of Basin Floor (H_{flood}) =	user ft		
Length of Basin Floor (L_{flood}) =	user ft		
Width of Basin Floor (W_{flood}) =	user ft		
Area of Basin Floor (A_{flood}) =	user ft ²		
Volume of Basin Floor (V_{flood}) =	user ft ³		
Depth of Main Basin (H_{main}) =	user ft		
Length of Main Basin (L_{main}) =	user ft		
Width of Main Basin (W_{main}) =	user ft		
Area of Main Basin (A_{main}) =	user ft ²		
Volume of Main Basin (V_{main}) =	user ft ³		
Calculated Total Basin Volume (V_{total}) =	user acre-feet		

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project: Carriage Meadows South at Lorson Ranch
Basin ID: Full Spectrum Pond G3 - asbuilt



Zone	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.16	0.111	Orifice Plate
Zone 2 (EURV)	3.52	0.246	Rectangular Orifice
Zone 3 (100-year)	4.45	0.223	Weir&Pipe (Restrict)
	0.580	Total	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a filtration BMP)

Underdrain Orifice Invert Depth = ft (distance below the filtration media surface)
Underdrain Orifice Diameter = inches

Calculated Parameters for Underdrain
Underdrain Orifice Area = ft²
Underdrain Orifice Centroid = feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice = ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate = ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing = inches
Orifice Plate: Orifice Area per Row = sq. inches (diameter = 7/8 inch)

Calculated Parameters for Plate
WQ Orifice Area per Row = ft²
Elliptical Half-Width = feet
Elliptical Slot Centroid = feet
Elliptical Slot Area = ft²

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.70	1.45				
Orifice Area (sq. inches)	0.61	0.61	0.61				
Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)							
Orifice Area (sq. inches)							

User Input: Vertical Orifice (Circular or Rectangular)

Invert of Vertical Orifice = ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice = ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Height = inches
Vertical Orifice Width = inches

Calculated Parameters for Vertical Orifice

Zone 2 Rectangular	Not Selected
0.03	N/A
0.08	N/A

ft²

feet

should be ≥ 4

ft²

feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

Overflow Weir Front Edge Height, Ho = ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length = feet
Overflow Weir Slope = H:V (enter zero for flat grate)
Horiz. Length of Weir Sides = feet
Overflow Grate Open Area % = %, grate open area/total area
Debris Clogging % = %

Calculated Parameters for Overflow Weir

Zone 3 Weir	Not Selected
3.50	N/A
5.00	N/A
7.92	N/A
14.00	N/A
7.00	N/A

feet

feet

should be ≥ 4

ft²

feet

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Zone 3 Restrictor =
Depth to Invert of Outlet Pipe = ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter = inches
Restrictor Plate Height Above Pipe Invert = inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

Zone 3 Restrictor	Not Selected
1.77	N/A
0.75	N/A
3.14	N/A

feet

feet

radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage = ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = feet
Spillway End Slopes = H:V
Freeboard above Max Water Surface = feet

Calculated Parameters for Spillway

Spillway Design Flow Depth	0.30
Stage at Top of Freeboard	5.86
Basin Area at Top of Freeboard	0.32

feet

feet

acres

asbit orifice-82.94

Routed Hydrograph Results

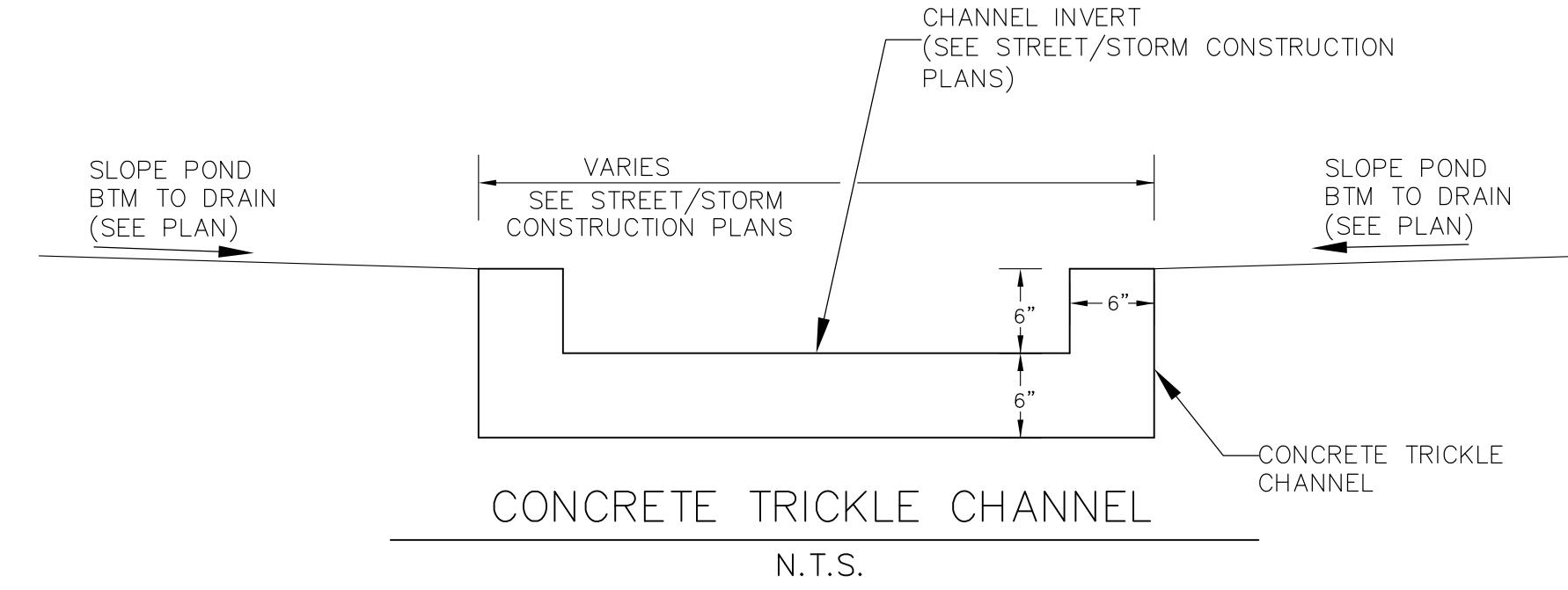
	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period									
One-Hour Rainfall Depth (in)	0.53	1.07	1.16	1.44	1.68	1.92	2.16	2.42	0.00
Calculated Runoff Volume (acre-ft) =	0.111	0.357	0.283	0.378	0.501	0.678	0.802	0.966	0.000
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.110	0.356	0.283	0.377	0.501	0.678	0.802	0.966	#N/A
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.17	0.57	0.80	1.08	0.00
Peak Inflow Q (cfs) =	0.0	0.0	0.1	0.1	1.0	3.5	4.8	6.5	0.0
Peak Outflow Q (cfs) =	1.7	5.4	4.3	5.8	7.6	10.3	12.1	14.6	#N/A
Ratio Peak Outflow to Predevelopment Q =	0.1	0.2	0.2	0.2	2.4	5.5	7.4	10.2	#N/A
Structure Controlling Flow =	N/A	N/A	N/A	2.3	2.3	1.6	1.5	1.6	#N/A
Max Velocity through Grade 1 (fps) =	N/A	N/A	N/A	N/A	0.1	0.4	0.5	0.7	#N/A
Max Velocity through Grade 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	#N/A
Time to Drain 97% of Inflow Volume (hours) =	29	42	39	42	42	40	39	37	#N/A
Time to Drain 99% of Inflow Volume (hours) =	31	46	43	47	47	46	45	44	#N/A
Maximum Pending Depth (ft) =	2.07	3.35	3.01	3.44	3.64	3.76	3.82	3.90	#N/A
Area at Maximum Pending Depth (acres) =	0.13	0.21	0.19	0.21	0.22	0.23	0.23	0.23	#N/A
Maximum Volume Stored (acre-ft) =	0.098	0.320	0.254	0.342	0.385	0.412	0.426	0.445	#N/A



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CONTACT: RICHARD L. SCHINDLER, P.E.
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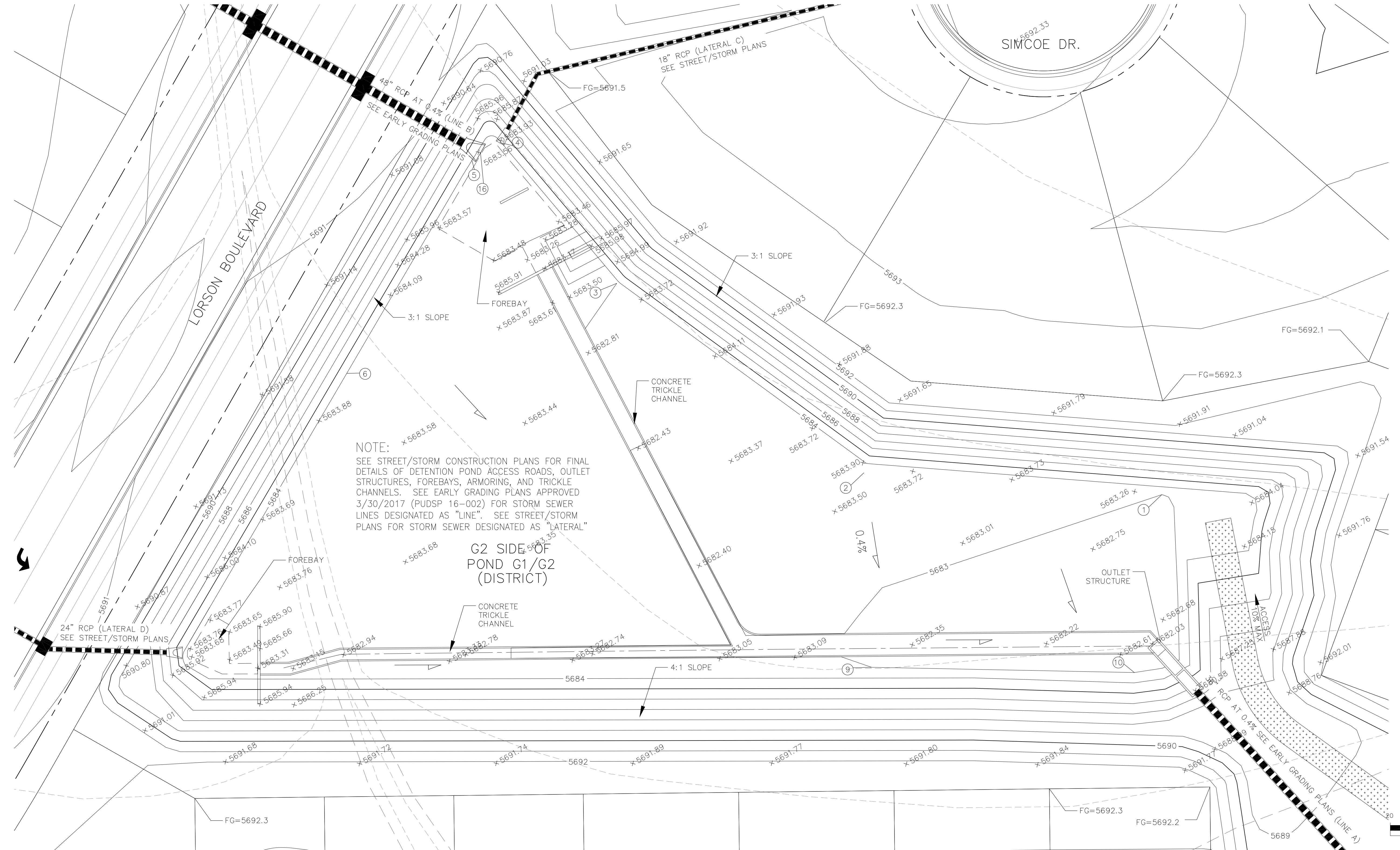
CORE
ENGINEERING

For more information about the study, please contact Dr. Michael J. Koenig at (314) 747-2146 or via email at koenig@dfci.harvard.edu.



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



AS-BUILT

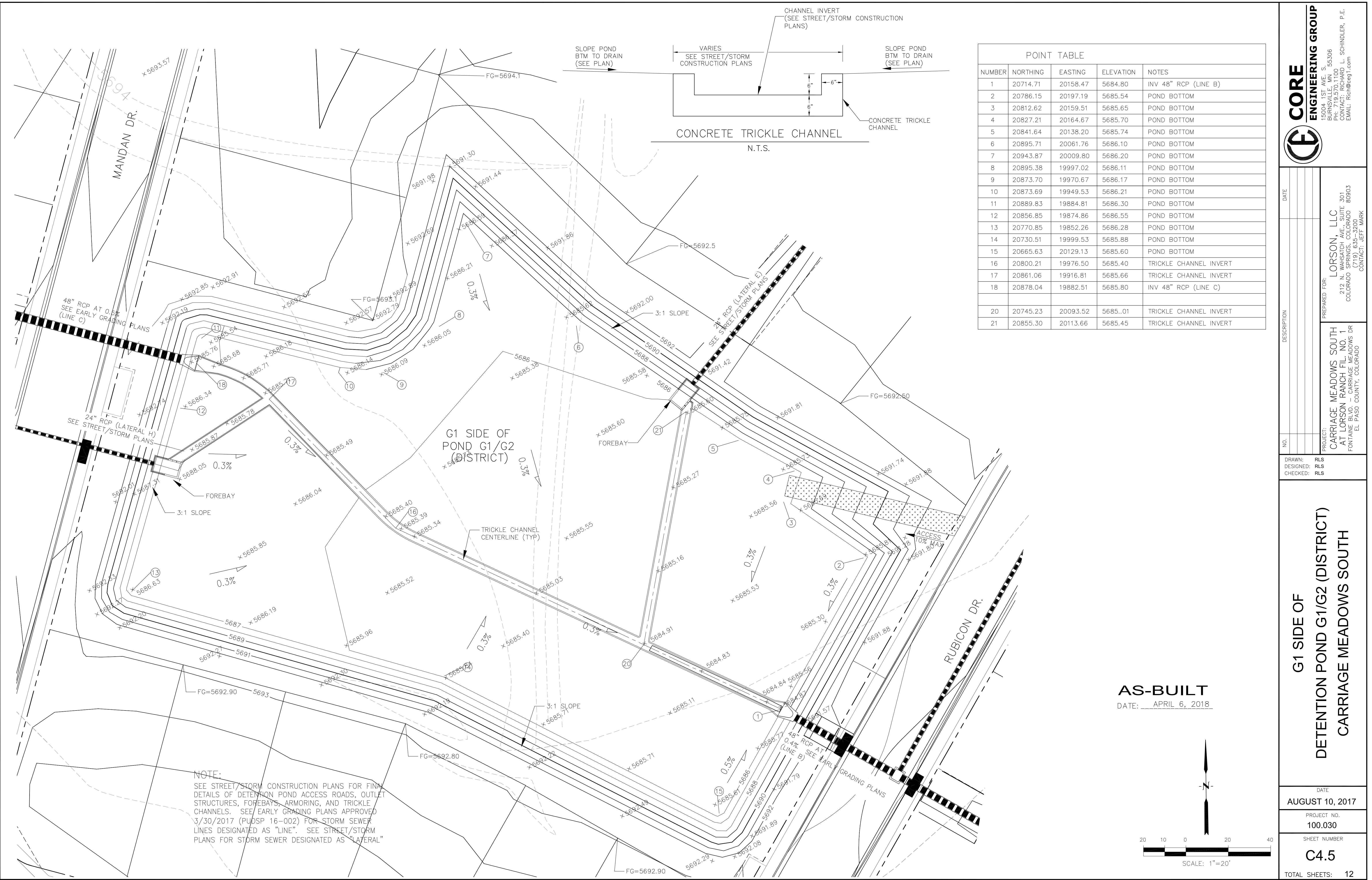
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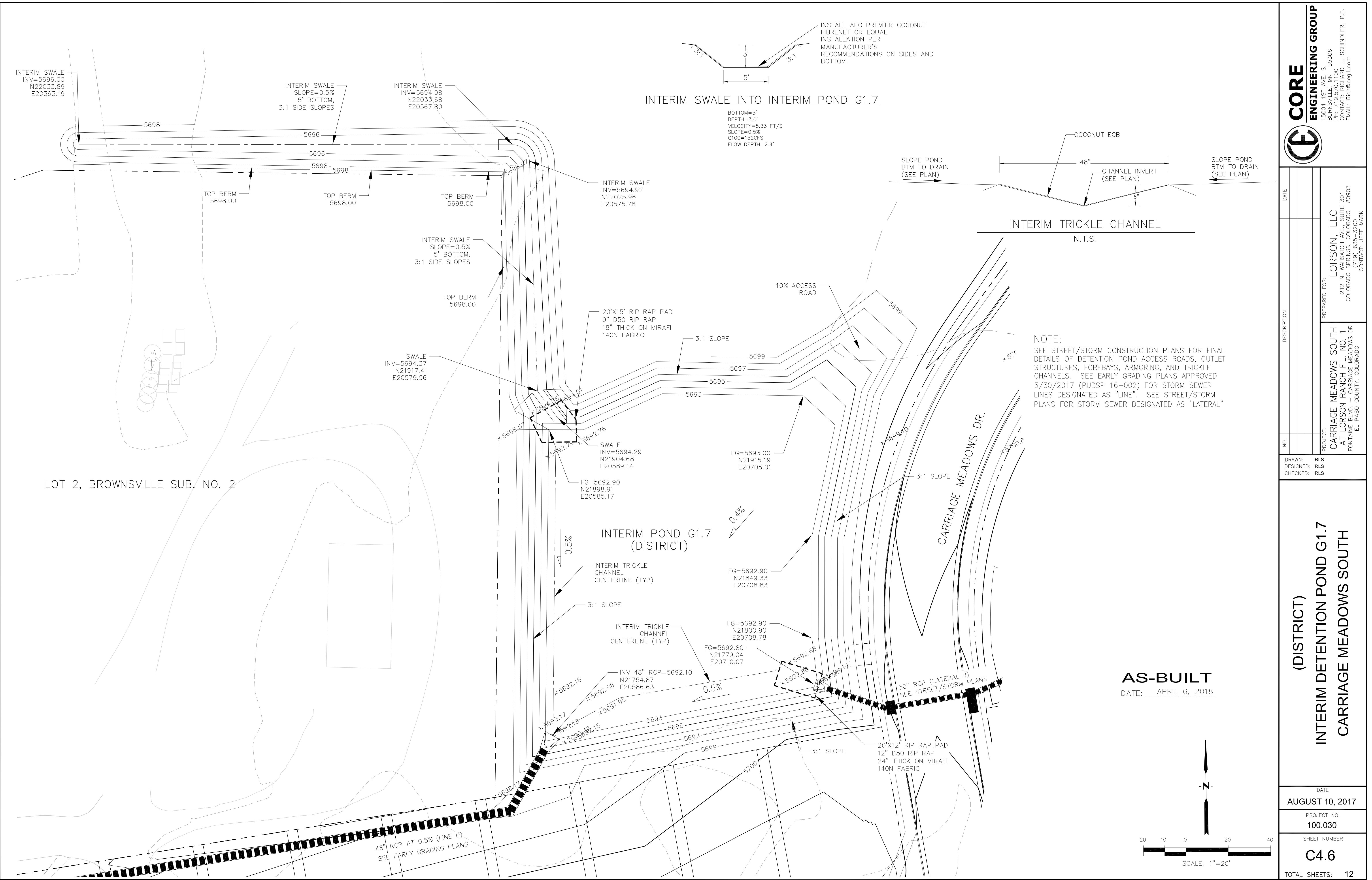
G2 SIDE OF
DETENTION POND G1/G2 (DISTRICT)
CARRIAGE MEADOWS SOUTH

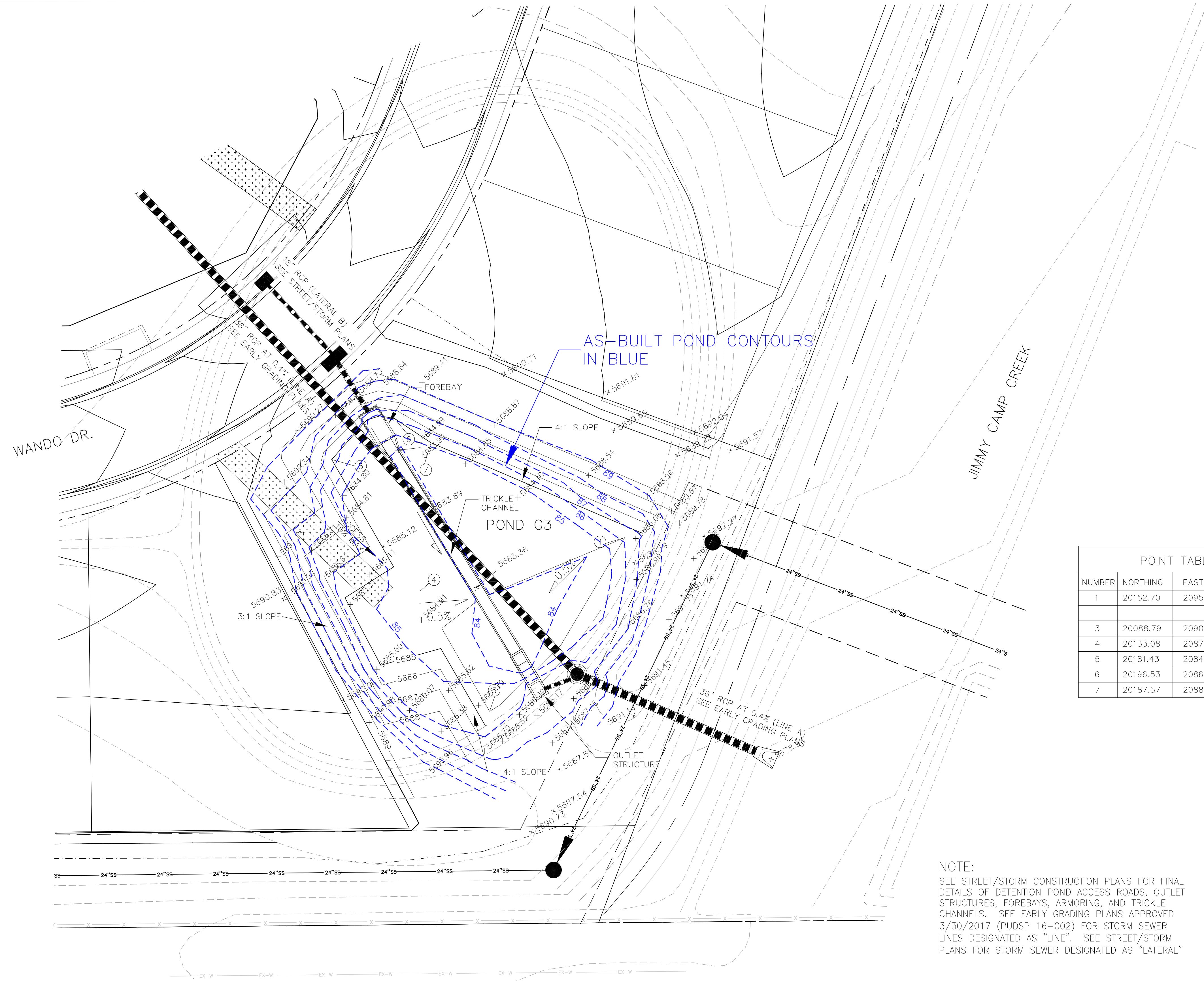
DATE
AUGUST 10, 2017

100.030
SHEET NUMBER
C4.4

TOTAL SHEETS: 12

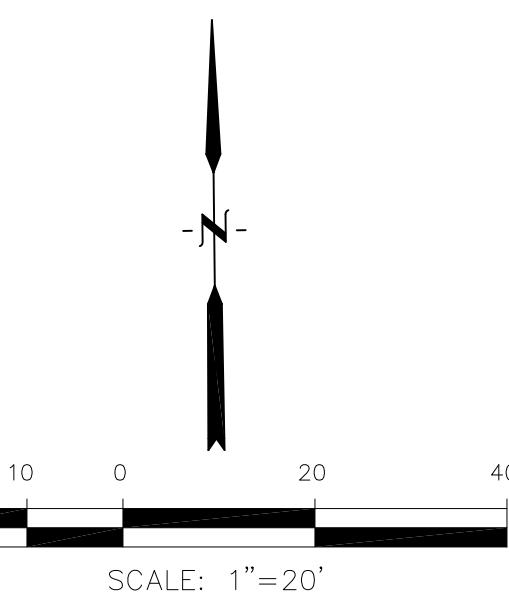






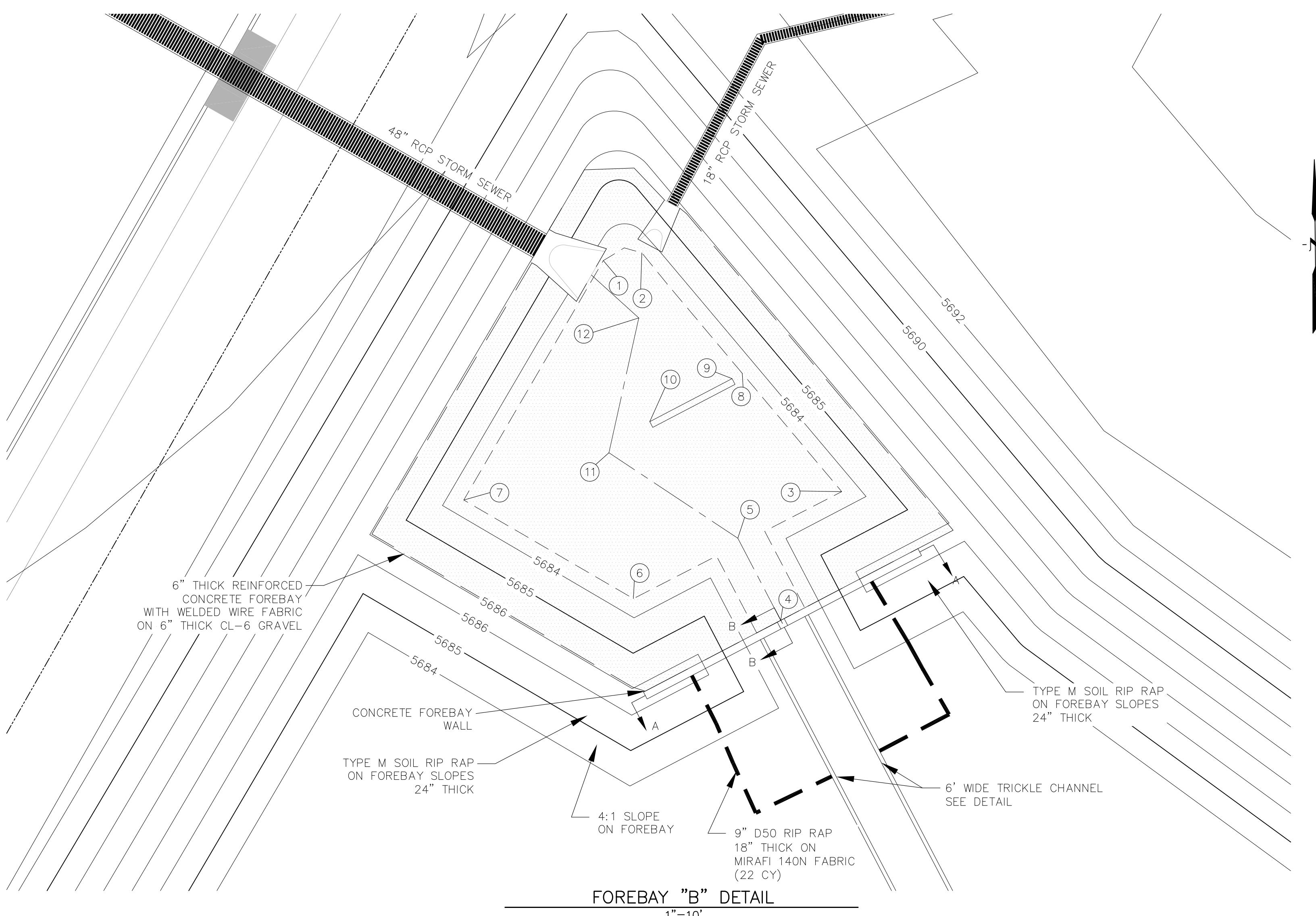
POINT TABLE				
NO.	DESCRIPTION	DATE	DATE	
1	PROJECT: CARRIAGE MEADOWS SOUTH DRAWN: RLS DESIGNED: RLS CHECKED: RLS	PREPARED FOR: LORSON, LLC 212 N. WAHATCH AVE., SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 635-3200 CONTACT: JEFF MARK		
3	20088.79	20901.93	5684	POND BOTTOM
4	20133.08	20876.39	5684.20	POND BOTTOM
5	20181.43	20843.88	5685	POND BOTTOM
6	20186.53	20866.94	5685	POND BOTTOM
7	20187.57	20880.42	5685	POND BOTTOM

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"

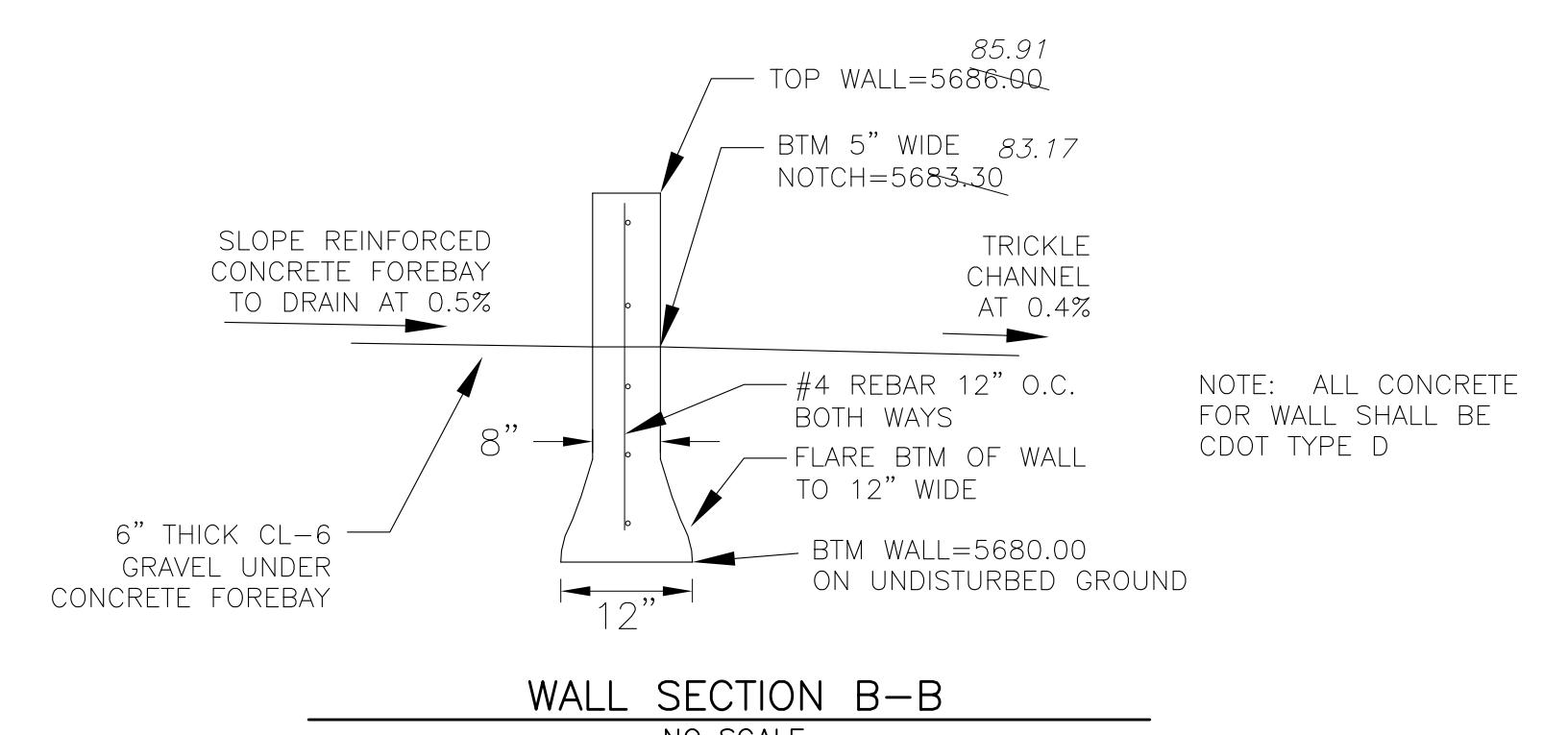
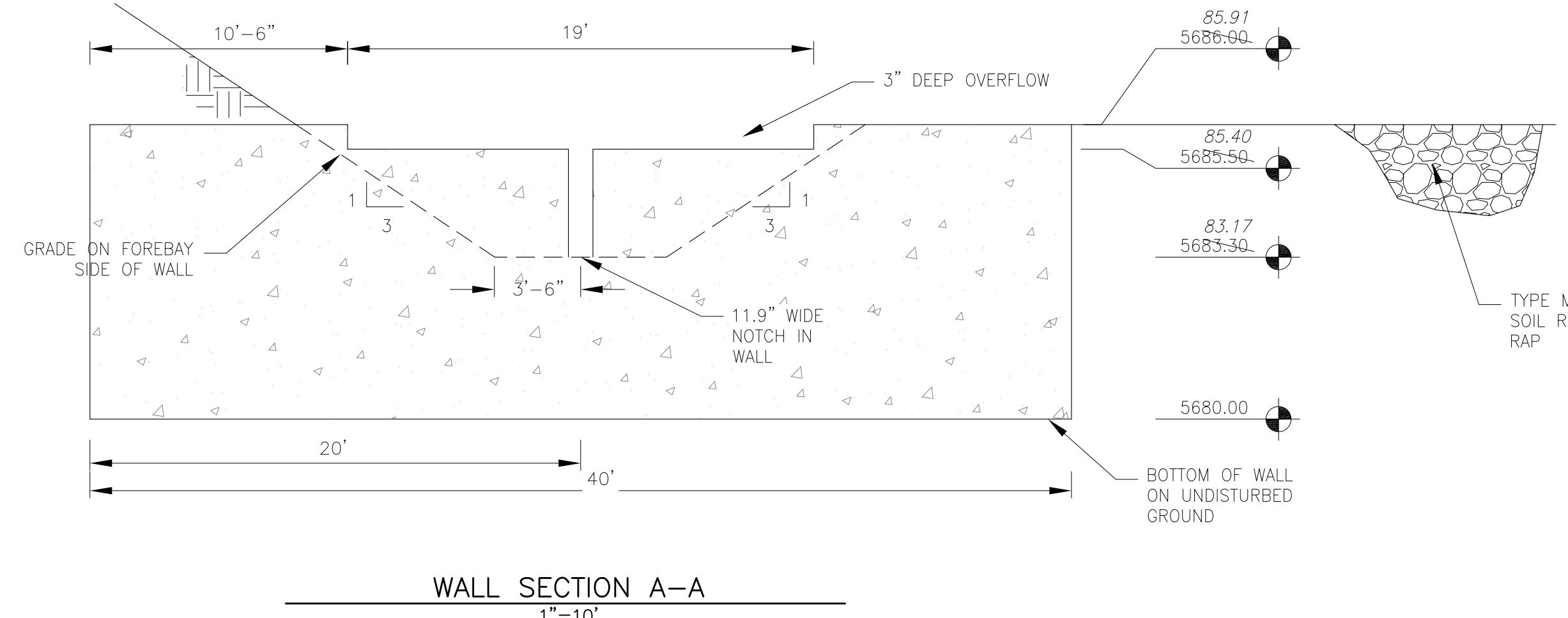
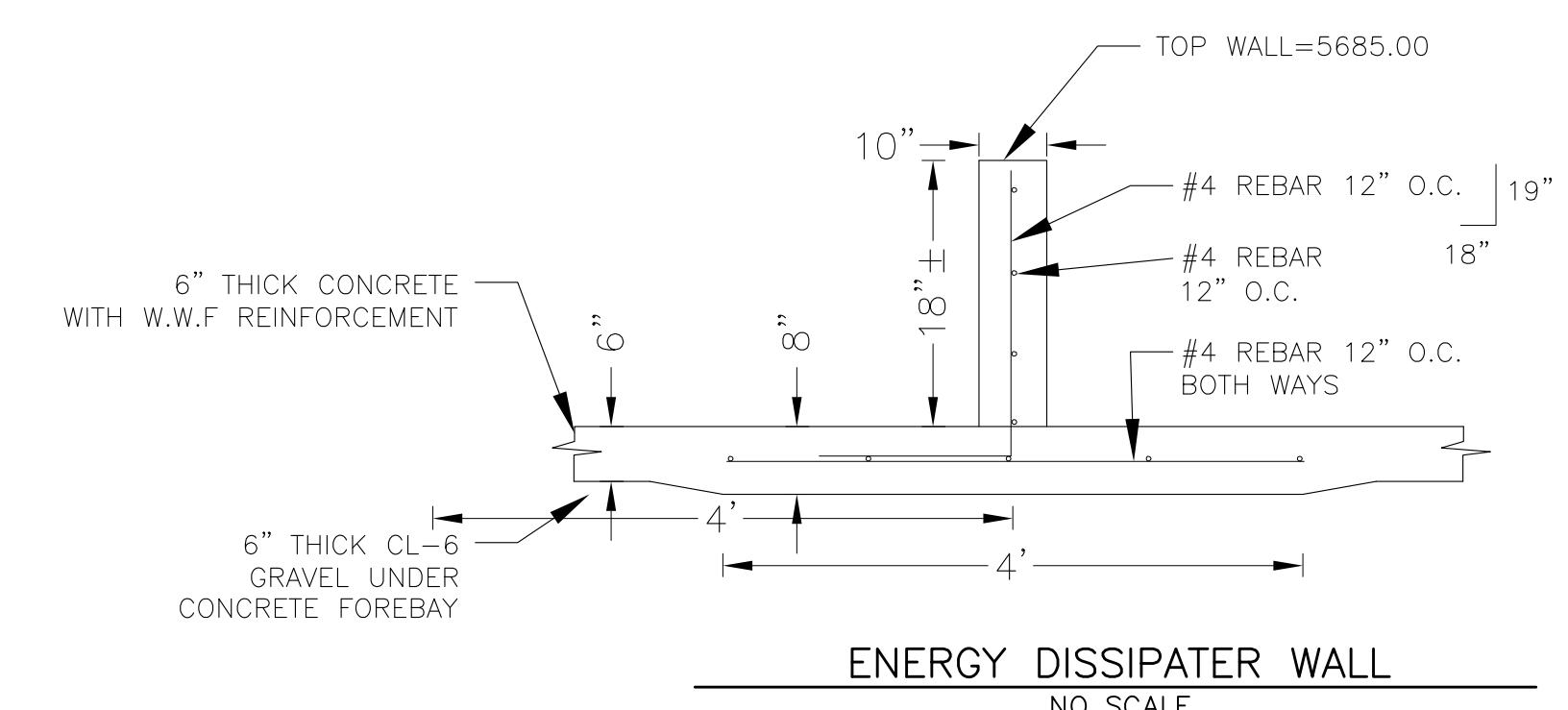


DETENTION POND G3 (DISTRICT) CARRIAGE MEADOWS SOUTH

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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	20533.38	20438.13	5683.50	FOREBAY BOTTOM

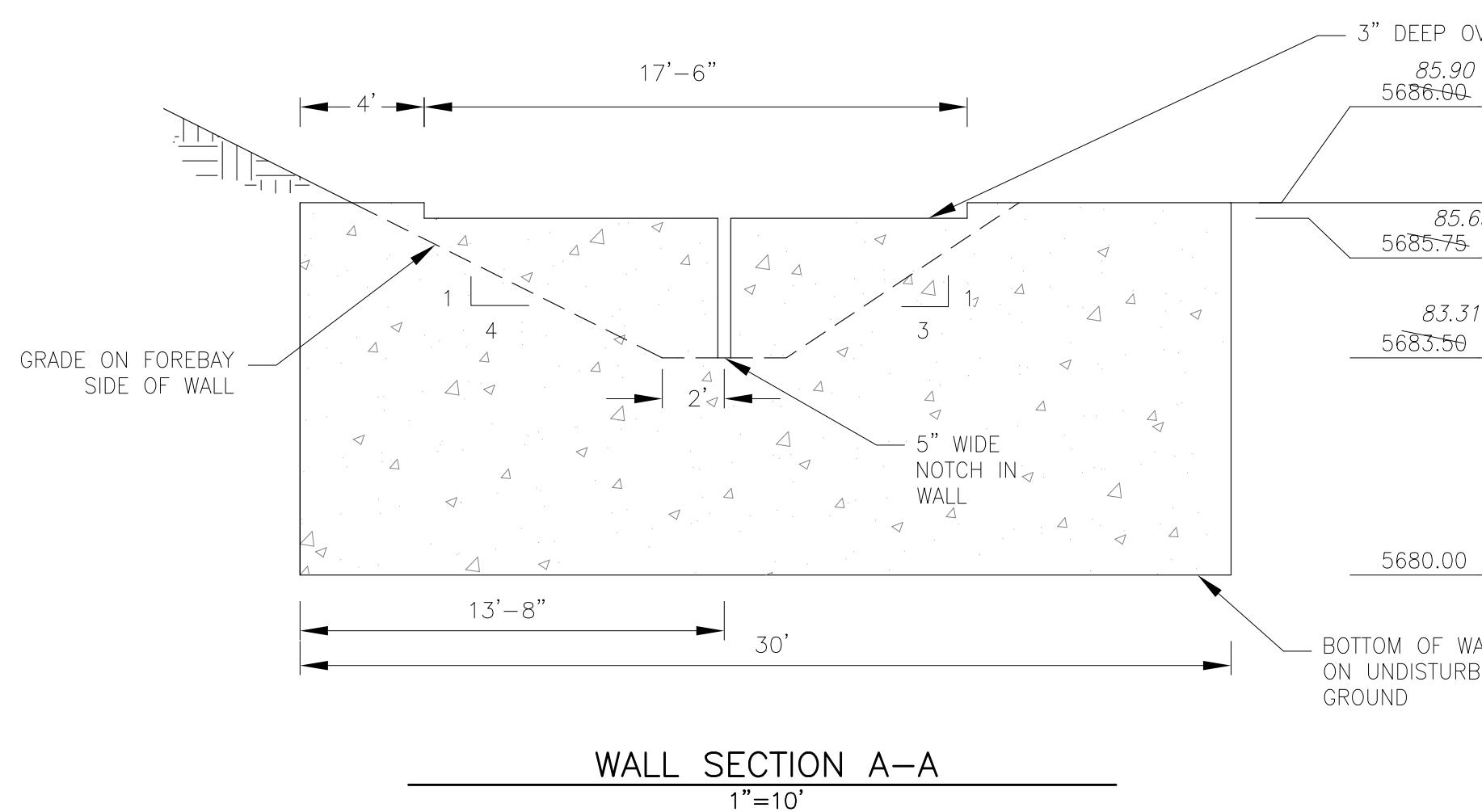
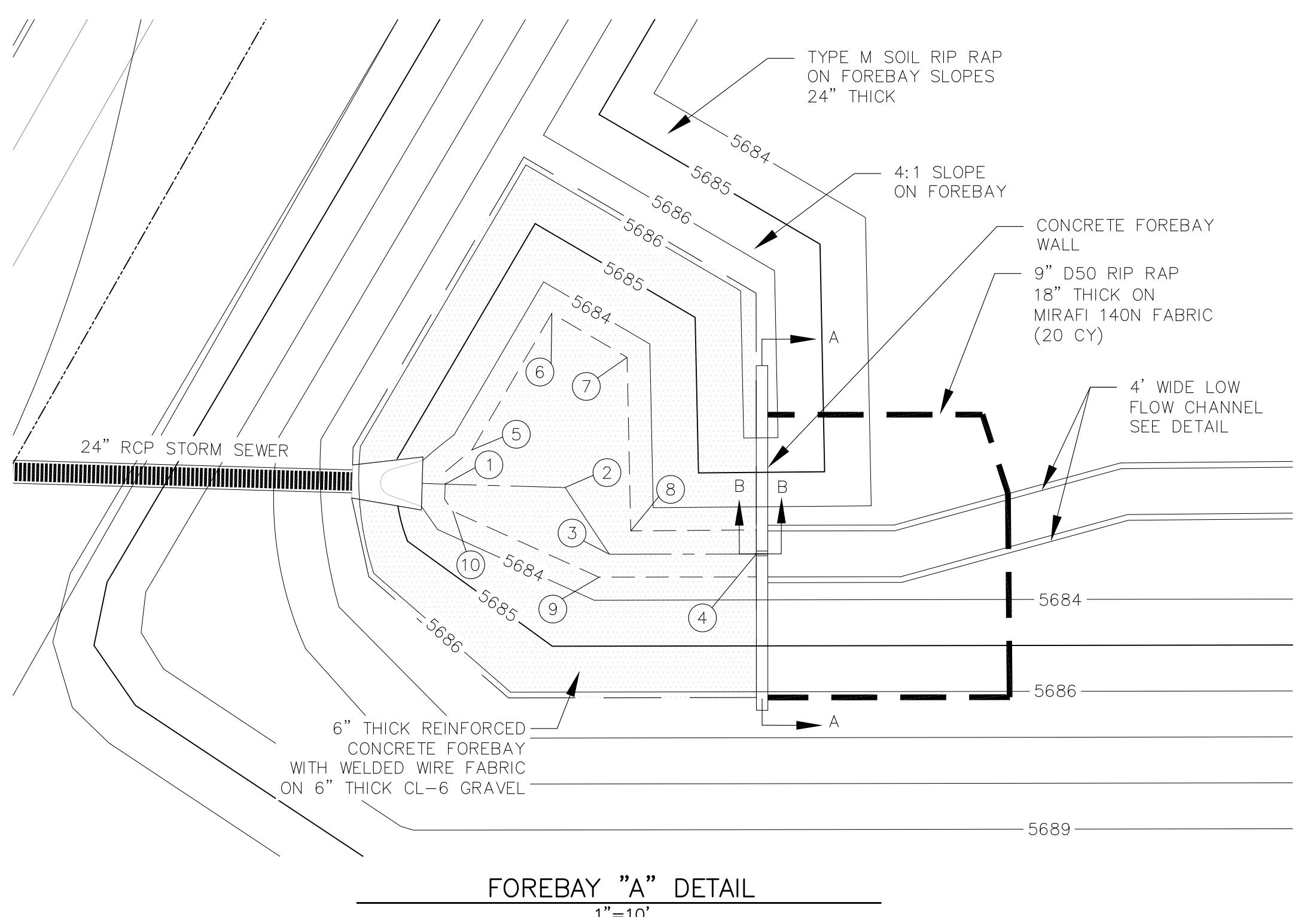
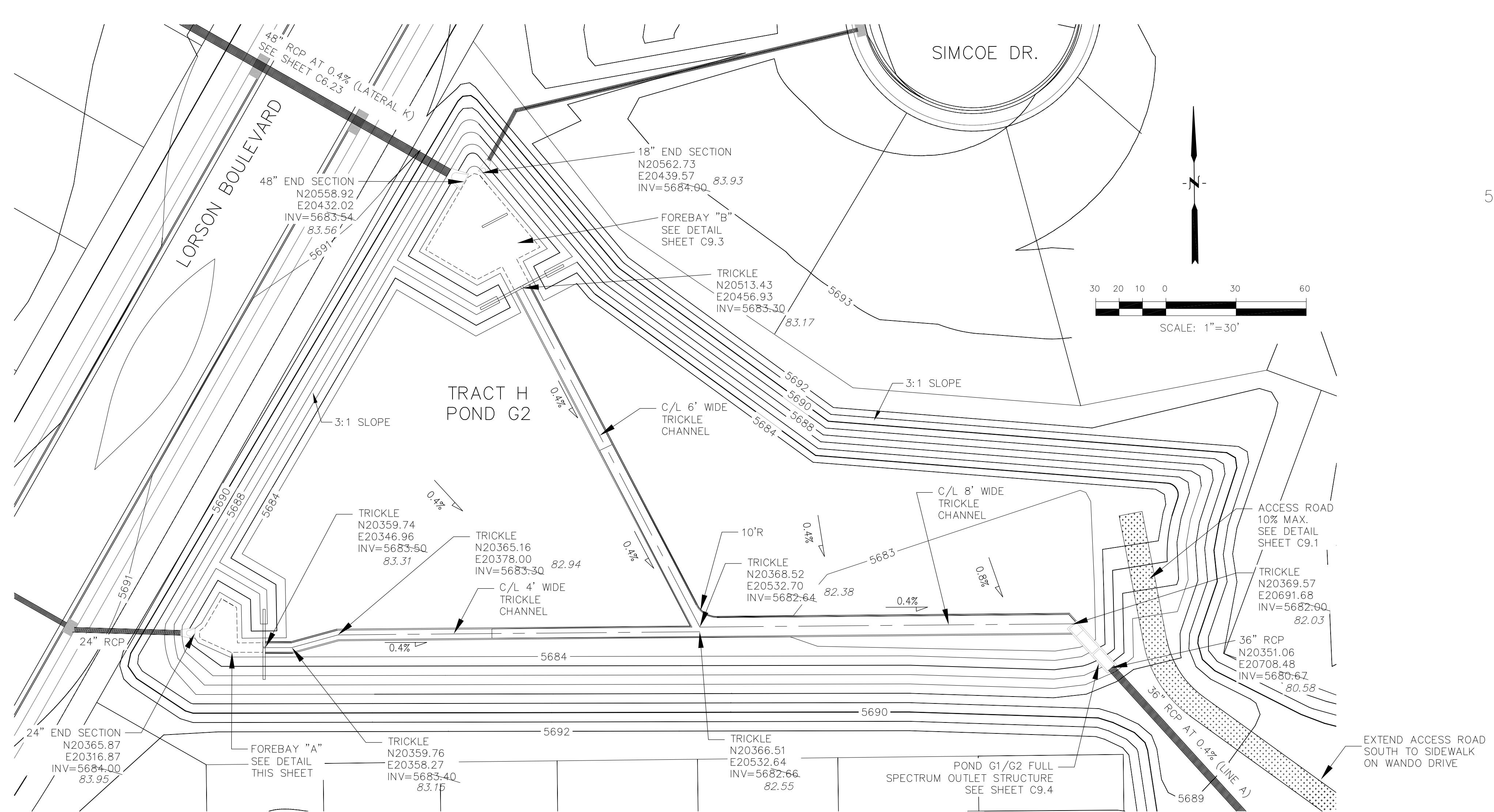


AS-BUILT
DATE: APRIL 6, 2018

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

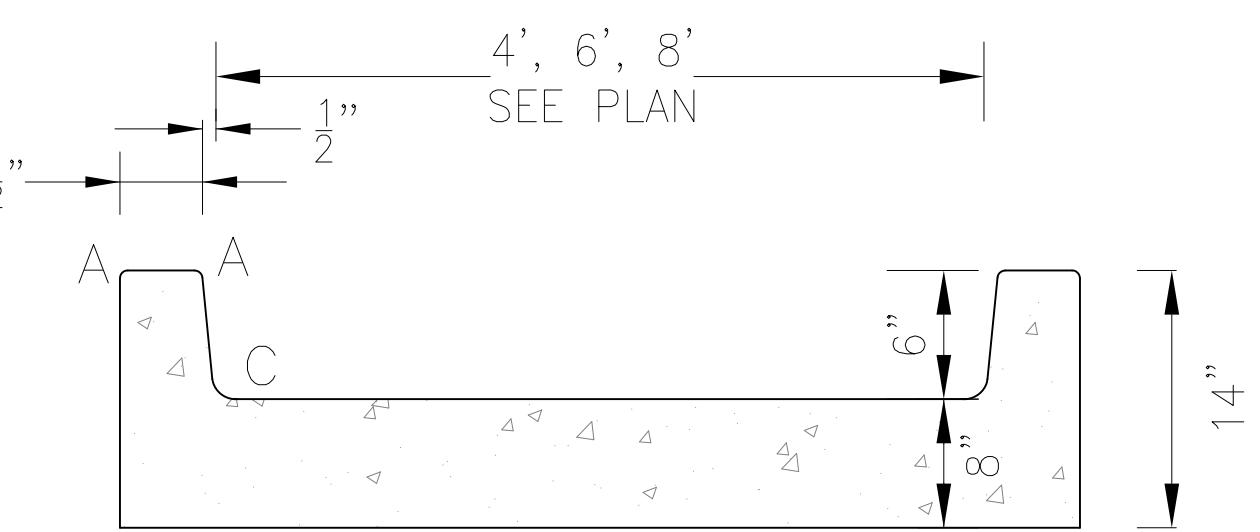
DATE: AUGUST 28, 2017
PROJECT NO. 100.030
SHEET NUMBER C9.3
TOTAL SHEETS: 39

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AS-BUILT

DATE: APRIL 6, 2018



TRICKLE CHANNEL DETAIL

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

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

NOTE: ALL CONCRETE
FOR WALL SHALL BE
COT TYPE D

1

10.000-10.000

C9.2



CONTRAC : RICHARD L. SCHINDLER, P.E.
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OUTLET STRUCTURE DETAILS

FULL SPECTRUM

IND 91/52

SPECTRUM | AND SIGHT

OUTLET STRUCTURE DETAILS

卷之三

DATE:
GUST 28, 2017

PROJECT NO.
100.030
SHEET NUMBER

STREET NUMBER

C9.4

For more information about the study, please contact the study team at 1-800-258-4929 or visit www.cancer.gov.

AS-BUILT

OUTLET STRUCTURE DETAIL – SECTION B-B
NO SCALE

The diagram illustrates a structural connection, likely a flange or cover plate, supported by a C8X11.5 channel. Key components and dimensions labeled include:

- 2- $\frac{3}{4}$ " X 2- $\frac{3}{4}$ " X $\frac{1}{4}$ " ANGLE, CONT. AROUND OPENING**
- 2- $\frac{1}{2}$ " X $\frac{1}{4}$ " BAR**
- GRATE, 2- $\frac{1}{2}$ " X $\frac{1}{4}$ " BAR, 2" O.C., SEE DETAIL**
- 2- $\frac{3}{4}$ " X 2- $\frac{3}{4}$ " X $\frac{1}{4}$ " ANGLE, CONT. AROUND OPENING**
- 2- $\frac{1}{2}$ " X $\frac{1}{4}$ " BAR**
- GRATE, 2- $\frac{1}{2}$ " X $\frac{1}{4}$ " BAR, 2" O.C., SEE DETAIL**
- 1"** FILLET WELD
- 1"** FILLET WELD
- C8X11.5 CHANNEL CONT. AROUND OPENING**
- 1"** DIA STUD, $\frac{1}{2}$ " O.C., 3" LONG
- OUTLET STRUCTURE WALL**

Technical drawing of Detail B showing a structural connection. The drawing illustrates a horizontal bar being connected to a vertical structure wall. Key components labeled include:

- 2- $\frac{1}{2}$ " x $\frac{1}{4}$ " BAR
- GRATE, 2- $\frac{1}{2}$ " x $\frac{1}{4}$ " BAR, 2" O.C., SEE DETAIL
- 2- $\frac{3}{4}$ " x 2- $\frac{3}{4}$ " x $\frac{1}{4}$ " ANGLE, CONT. AROUND OPENING
- $\frac{1}{4}$ " FILLET WELD
- OUTLET STRUCTURE WALL
- 1" DIA STUD, 18" O.C., 3" LO

Arrows point from the text labels to the corresponding parts in the diagram. The drawing shows a cross-section of the connection, featuring a vertical angle plate with a horizontal fillet weld connecting it to a horizontal bar. A vertical outlet pipe is supported by a stud.

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

GRATE 1,2,3
NO SCALE

GRATE 5
NO SCALE

GRATE 4, 6, 7
NO SCALE

Dimensions shown for all grates:

- Width: 3'-7.25"
- Height: 4'-4"
- Top Bar: $\frac{1}{4}$ " x 2- $\frac{1}{2}$ " BAR, 2" O.C.,
ALL WELDS $\frac{1}{4}$ " FILLETS

TRASH RACK DETAIL NO SCALE

OUTLET STRUCTURE CENTER WALL AT WQCV SCREEN AND ORIFICE PLATE

C8X11.5 STRUCTURAL STEEL CHANNEL AROUND OPENING. SECURE TO STRUCTURE WITH $\frac{1}{2}$ " DIA STUD X 3" LONG, 18" O.C. MAX.

STEEL ORIFICE PLATE BOLTED OR WELDED TO STRUCTURE (SEE DETAIL THIS SHEET)

US FILTER STAINLESS STEEL WELL-SCREEN (OR EQUAL) TRASH RACK, WELDED OR BOLTED TO STRUCTURE, SEE DETAIL NEXT SHEET

FLOW →

5'-5" OPENING

SEAL ALL EDGES OF PLATE TO CONCRETE OUTLET STRUCTURE W/ SILICONE CAULK BEAD

C8X11.5 STRUCTURAL STEEL CHANNEL AROUND OPENING.

OUTLET STRUCTURE CENTER WALL AT WQCV SCREEN AND ORIFICE PLATE

ORIFICE PLATE DETAIL NO SCALE

1 COLUMN OF 4.7"x4.7" SQUARE HOLES (TOTAL OF 3 HOLES)

3/8" THICK STEEL PLATE

5684.76

5683.38

5681.67

5679.50

2'-1"

34"

5'-9" STEEL ORIFICE PLATE

OUTLET STRUCTURE DETAIL – PLAN VIEW

NO SCALE

Architectural cross-section diagram of a stormwater drainage system. The diagram shows a low flow channel on the left with dimensions 10' wide by 8' high, containing #5 @ 12" O.C. CONT. and #5 @ 12" O.C., E.W. A vertical wall on the right has a height of 8' and a top elevation of 5686.15. The wall features seven grates (GRATE 1 through GRATE 7) sloping down to the right. Various elevation points are marked along the wall and channel, including EURV EL = 5686.29, W.Q. EL = 5683.93, 100-YR EL = 5687.93, and 100-yr 87.78. A detailed view at the bottom right shows a crushed rock base with a thickness of 12" MIN. THICKNESS 3/4" TO 1-1/2" CRUSHED ROCK OVER NATIVE SUBGRADE.

OUTLET STRUCTURE DETAIL – SECTION A-A
NO SCALE

OUTLET STRUCTURE, FORBAY AND DRAIN CHANNEL NOTES:

- .. 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 SPLICING LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS OTHERWISE NOTED.

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

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 $\frac{1}{2}$ " THICK, SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE AND THE JOINT SHALL BE SEALED, REFER TO DETAILS.

6. ALL EXPOSED CONCRETE CORNERS SHALL HAVE A $\frac{3}{8}$ " CHAMFER UNLESS OTHERWISE NOTED.

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 PRESIDIMENTATION/FOREBAY DESIGN.

9. ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

This architectural drawing shows a rectangular concrete opening with dimensions of 5'-5" by 30". The opening is supported by vertical columns on the left and right. Three horizontal grates labeled GRATE 5, GRATE 6, and GRATE 7 are positioned across the opening. Reinforcement details include #5 bars spaced at 12" O.C. CONT. vertically and #5 bars spaced at 12" O.C. E.W. horizontally. A thickness of 18" is indicated for the concrete walls. A note specifies a 2" x 4" nominal thickness. Chamfer dimensions of 1/2" are shown at the top corners. Elevation levels 5685.08 and 5679.67 are marked near the top and bottom of the opening respectively. Other elevation points like 5686.15, 5687.82, and 5679.17 are also present.

OUTLET STRUCTURE DETAIL - SECTION B-B

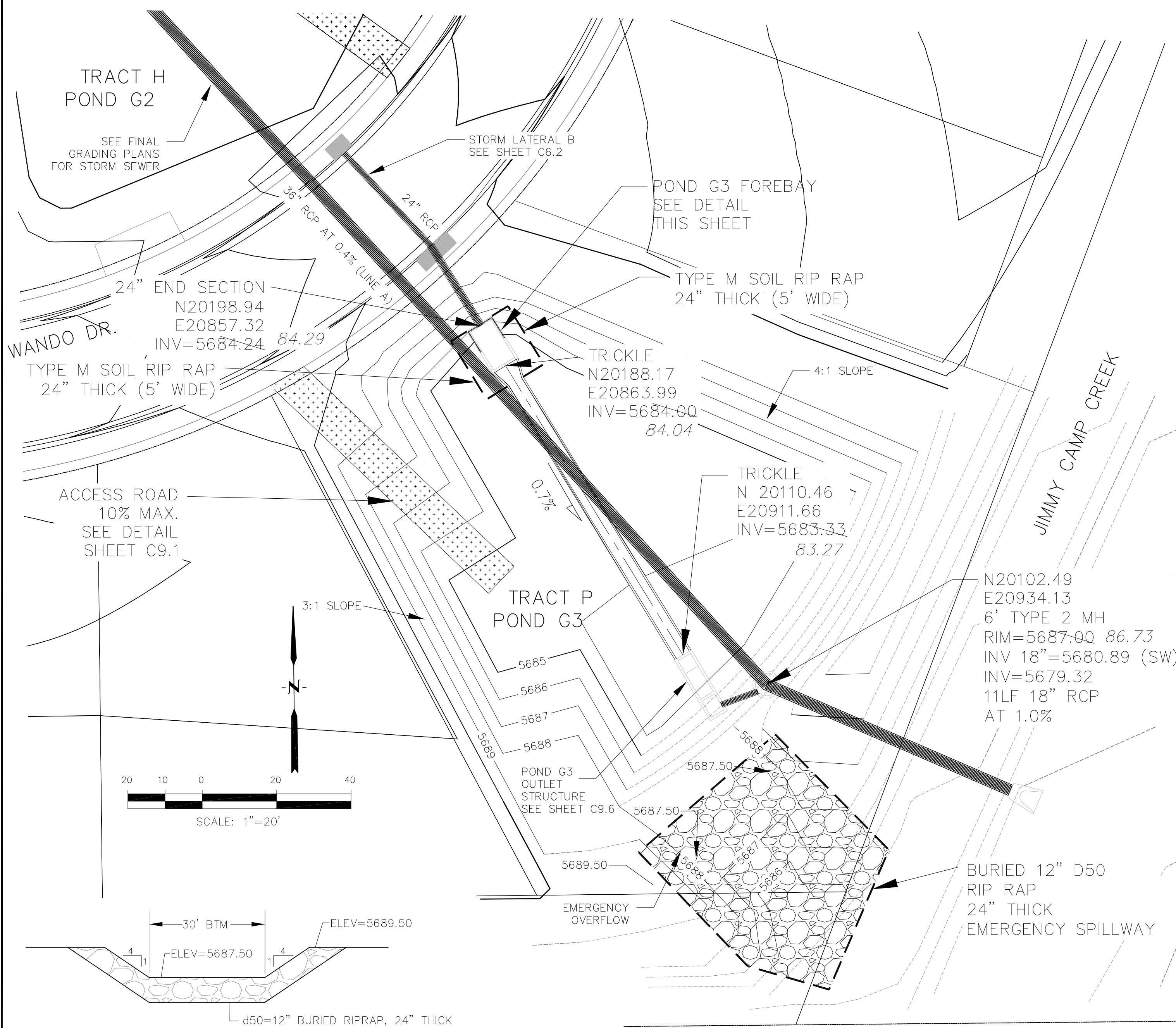
This architectural drawing shows a rectangular opening in a concrete wall. The top horizontal dimension is labeled as 4' (48 inches) with a central 30" section and 9" sections on either side. The left vertical dimension is labeled as 5'-5" (65 inches) with an "OPENING" label. The right vertical dimension is labeled as 6" (6 inches). Elevation points are marked along the left edge at 5685.08, 5679.67, and 5679.17, and along the right edge at 5679.17 and 5678.34. A callout box identifies the "CONCRETE OPENING (5'-5"X30")". Another callout box identifies the "STEEL ORIFICE PLATE (BEHIND) AND WELL-SCREEN (FRONT)". A third callout box identifies the "C8X11.5 CHANNEL". A note at the top right indicates a height of 86.04 above a reference point at 5086.15.

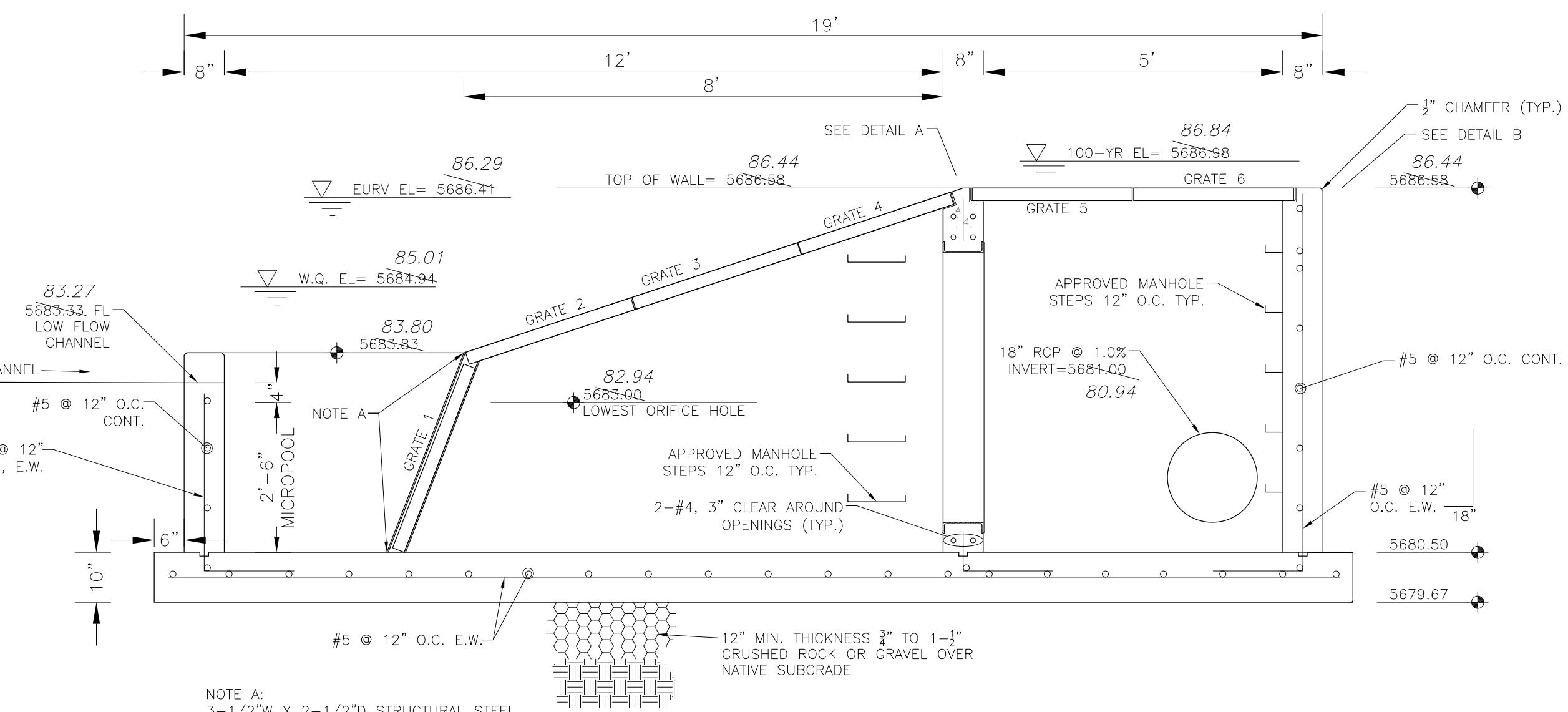
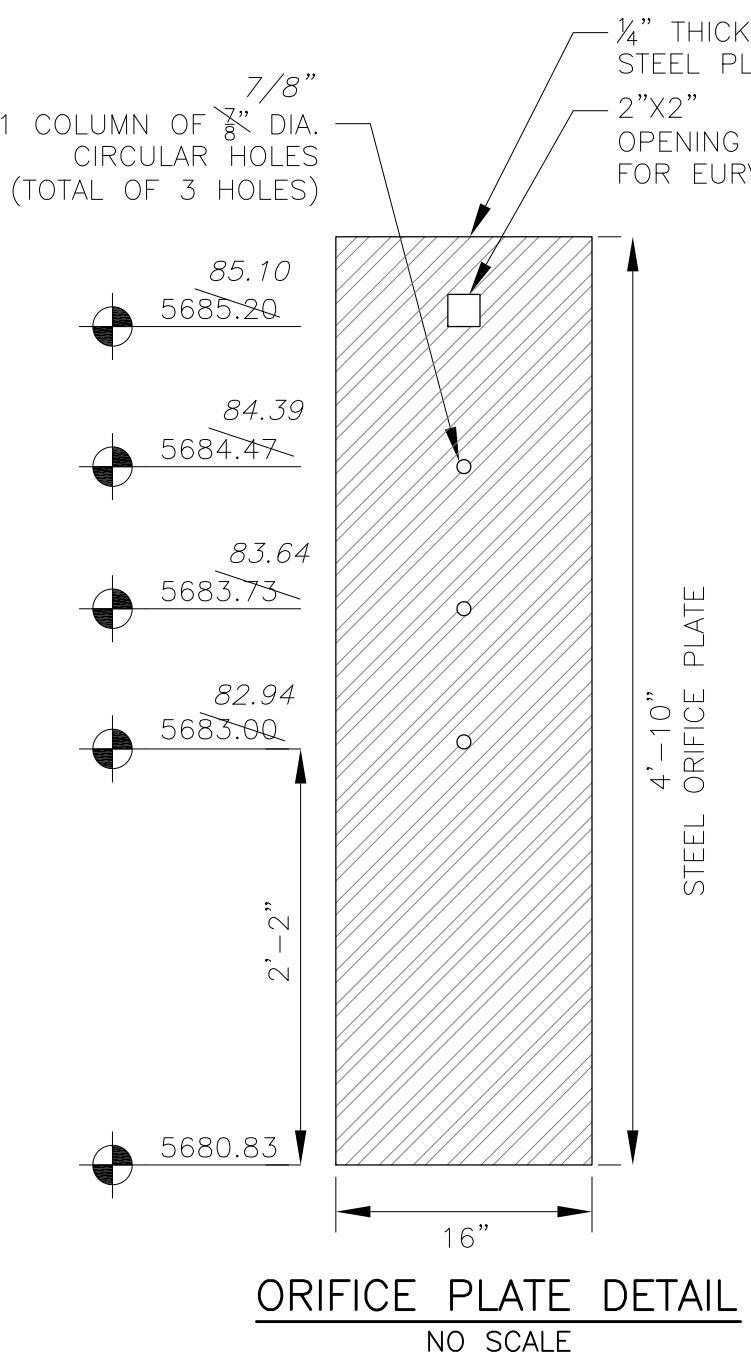
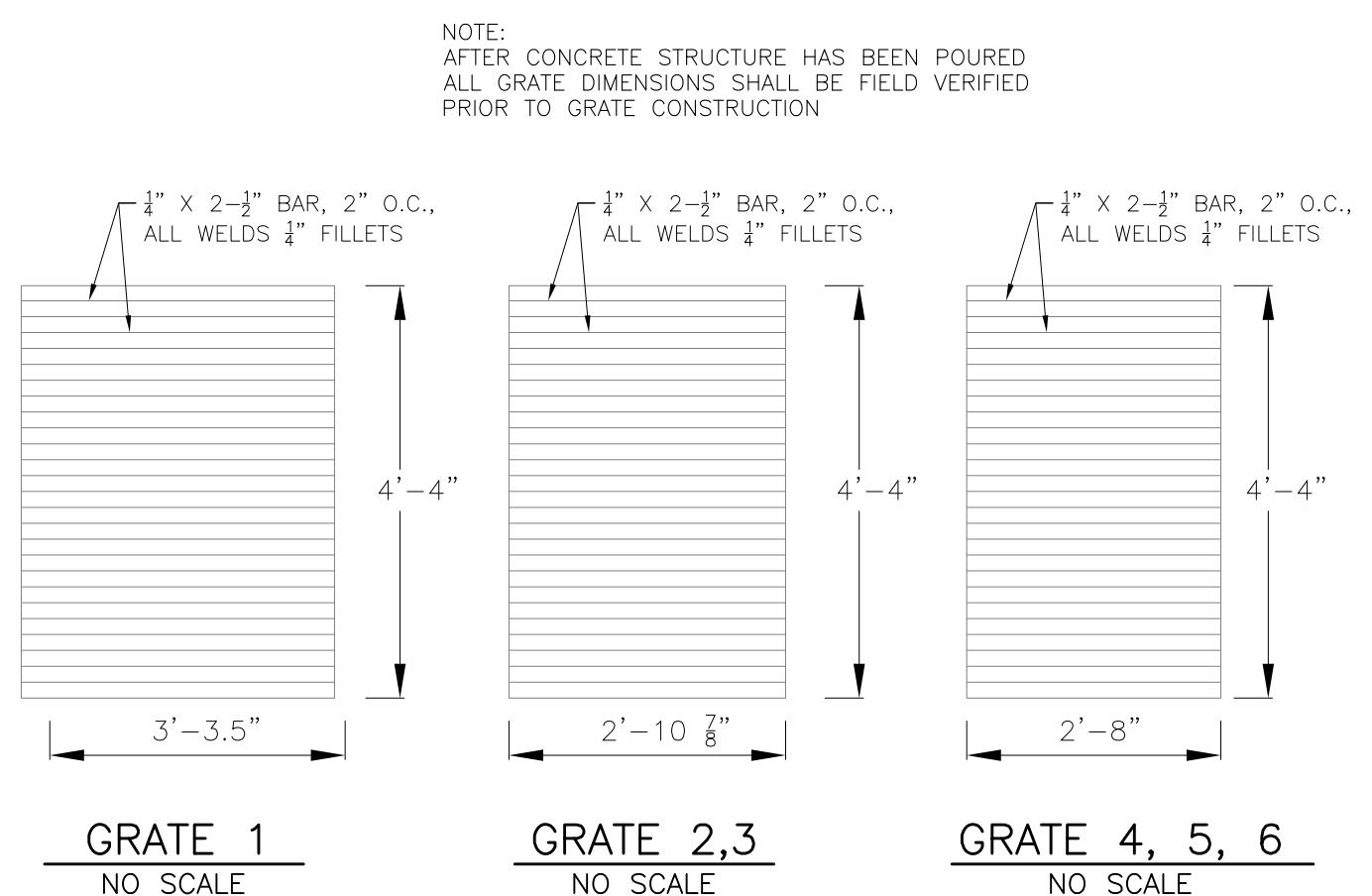
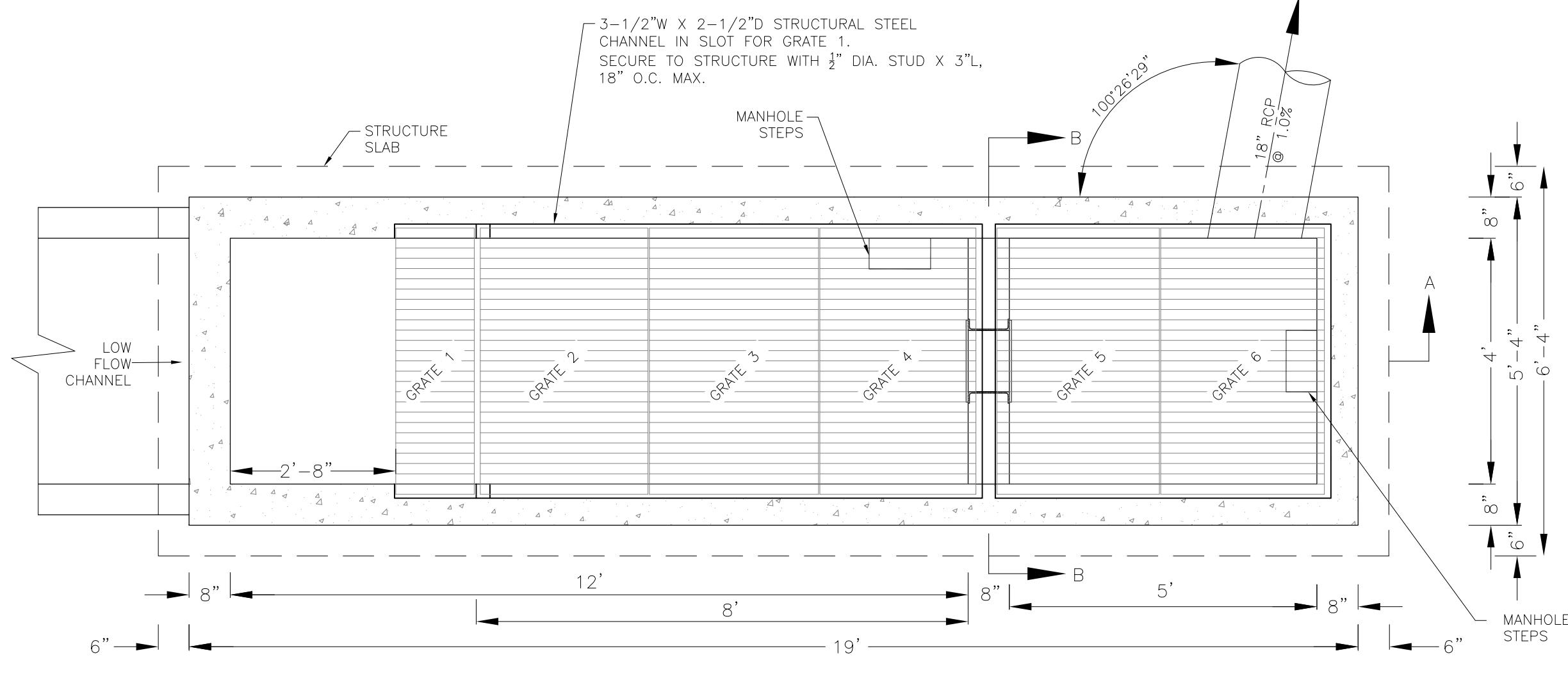
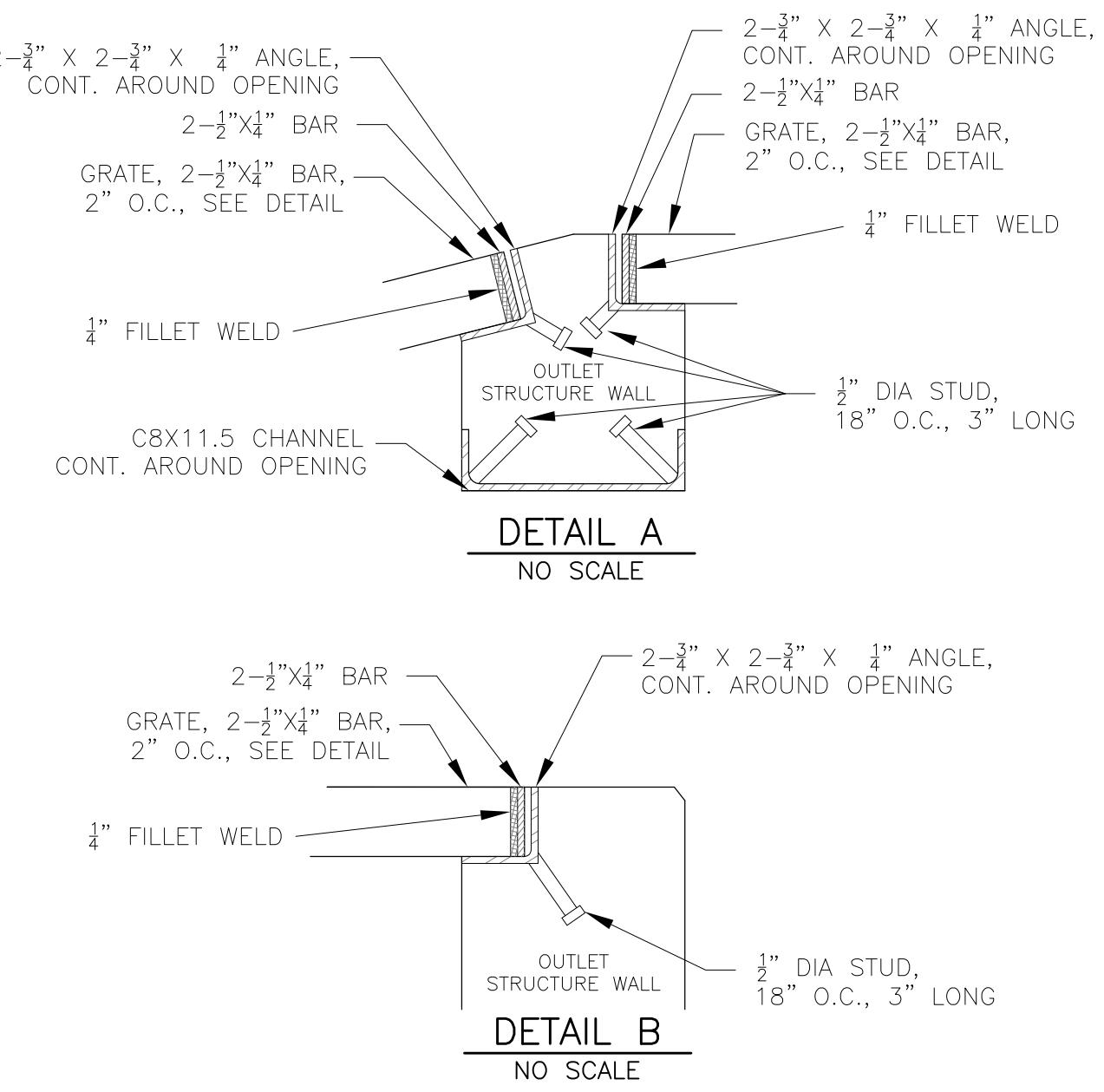
OUTLET STRUCTURE DETAIL – SECTION B-B
NO SCALE



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POND G3 (DISTRICT) TRICKLE AND FOREBAY DETAILS





OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

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- BAR SIZE

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AS-BUILT
DATE: APRIL 6, 2018

