



CORE
ENGINEERING GROUP

March 15, 2024

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

RE: Ridge at Lorson Ranch Filing No. 1 (SF 224)
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.

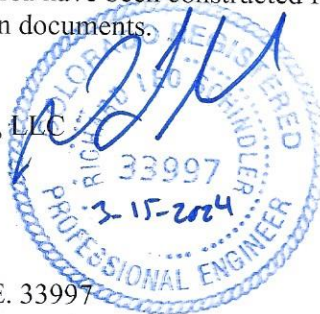
The site and adjacent properties (as affected by work performed under the County permit) appear to be stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and the improvements (public improvements, common development improvements, site grading and paving) visually appear to meet or exceed the minimum design requirements.

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

Extended Detention Basin/WQ Pond C2.1 which serves this project was constructed as part of The Hills at Lorson Ranch (SF2110) and accounts for full buildout of Ridge Filing No. 1 has been verified in a separate certification letter dated May 4, 2023 and WQ Pond F has been verified (April 10, 2023) to meet the volume and elevation requirements and are constructed in general compliance with the approved construction plans. In addition, the runoff reduction area located on the east side of this site has been graded and revegetated.

Based on information gathered during construction and post-construction, Core Engineering Group is of the opinion that the public streets, storm sewer, and Detention Pond C2.1, WQ Pond F, and runoff reduction area have been constructed for full buildout in general accordance with the approved construction documents.

Sincerely,
Core Engineering Group, LLC



Richard L. Schindler, P.E. 33997

Attachments: Pond Certification Letters



May 4, 2023

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

Attn.: Project Manager

RE: The Hills at Lorson Ranch Filing No. 1 (SF 21-010)
Private Detention/Stormwater Quality Ponds C1, C2.1, C2.2, C2.3, C3, & C4
As-built Certification

Dear Project Manager:

Per the approved construction drawings for The Hills at Lorson Ranch Filing No.1 (SF 21-010), improvements were made to construct six 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. The Pond C2.2 ratio peak outflow to predeveloped did exceed allowable limits for the 10-year (ratio=1.2, 25cfs) and 25-year (ratio=1.1, 40.3cfs) flows. Pond C2.2 was designed with a downstream oversized storm sewer overflow conveyance system in Fontaine Boulevard for the 100-year storm event and a modified Type D outlet structure to capture emergency overflows. The exceeded outflows will not negatively impact the oversized downstream storm sewer system for the 10-year and 25-year storms. Pond C2.2 flows downstream (in series) into existing Pond C5 located at the East Tributary of Jimmy Camp Creek. Existing Pond C5 is a large pond and the Pond C2.2 larger outflows for the 10-year and 25-year will not have any negative impact on Existing Pond C5 which flows directly into the East Tributary of Jimmy Camp Creek.

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.

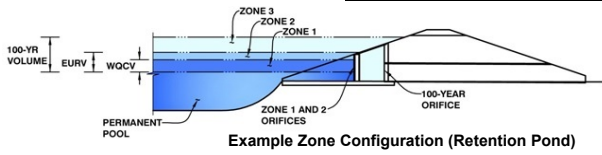
A circular blue seal for a Professional Engineer. The outer ring contains the text 'PROFESSIONAL ENGINEER'. The inner ring contains 'RICHARD L. SCHINDLER'. The center contains the number '33997' and the date '5/4/2023'. A signature is written across the seal.
Richard L. Schindler
Colorado P.E. No. 33997
For and on behalf of Core Engineering Group, LLC

Attachments: Pond C1, C2.1, C2.2, C2.3, C3, & C4 As-Built Drawings

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-*Detention, Version 4.02 (February 2020)*

Project: The Hills at Lorson Ranch
Basin ID: Pond C1-asbuilt



| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 3.70 | 1.240 | Orifice Plate |
| Zone 2 (EURV) | 5.76 | 2.759 | Rectangular Orifice |
| Z3 (100+1/2WQCV) | 7.86 | 3.393 | Weir&Pipe (Restrict) |
| Total (all zones) | | 7.392 | |

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 = 2 inches)

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 | 1.20 | 2.45 | | | | | |
| Orifice Area (sq. inches) | 3.20 | 3.20 | 3.20 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | |
|---|--------------------|--------------|---|
| Invert of Vertical Orifice = | 3.70 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | 5.76 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Height = | 6.00 | N/A | inches |
| Vertical Orifice Width = | 19.75 | | inches |

Calculated Parameters for Vertical Orif
 Vertical Orifice Area =
 Vertical Orifice Centroid =

| Zone 2 Rectangular | Not Selected |
|--------------------|--------------|
| 0.82 | N/A |
| 0.25 | N/A |

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe).

| | Zone 3 Weir | Not Selected | |
|---------------------------------------|-------------|--------------|---|
| Overflow Weir Front Edge Height, Ho = | 6.23 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | 5.66 | N/A | feet |
| Overflow Weir Gate Slope = | 0.00 | N/A | H:V |
| Horiz. Length of Weir Sides = | 3.00 | N/A | feet |
| Overflow Gate Open Area % = | 70% | N/A | % , gate open area/total area |
| Debris Clogging % = | 50% | N/A | % |

Calculated Parameters for Overflow We
 Height of Gate Upper Edge, H_t =
 Overflow Weir Slope Length =
 Gate Open Area / 100-yr Orifice Area =
 Overflow Gate Open Area w/o Debris =
 Overflow Gate Open Area w/ Debris =

| Zone 3 Weir | Not Selected |
|-------------|--------------|
| 6.23 | N/A |
| 3.00 | N/A |
| 9.50 | N/A |
| 11.89 | N/A |
| 5.94 | N/A |

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

| | Zone 3 Restrictor | Not Selected | |
|---|-------------------|--------------|--|
| Depth to Invert of Outlet Pipe = | 0.00 | N/A | ft (distance below basin bottom at Stage = 0 ft) |
| Outlet Pipe Diameter = | 18.00 | N/A | inches |
| Restrictor Plate Height Above Pipe Invert = | 12.00 | | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Pl
 Outlet Orifice Area =
 Outlet Orifice Centroid =
 Half-Central Angle of Restrictor Plate on Pipe =

| Zone 3 Restrictor | Not Selected |
|-------------------|--------------|
| 1.25 | N/A |
| 0.56 | N/A |
| 1.91 | N/A |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|-------------------------------------|-------|---|
| Spillway Invert Stage = | 10.06 | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | 28.00 | feet |
| Spillway End Slopes = | 4.00 | H:V |
| Freeboard above Max Water Surface = | 1.16 | feet |

Calculated Parameters for Spillway
 Spillway Design Flow Depth =
 Stage at Top of Freeboard =
 Basin Area at Top of Freeboard =
 Basin Volume at Top of Freeboard =

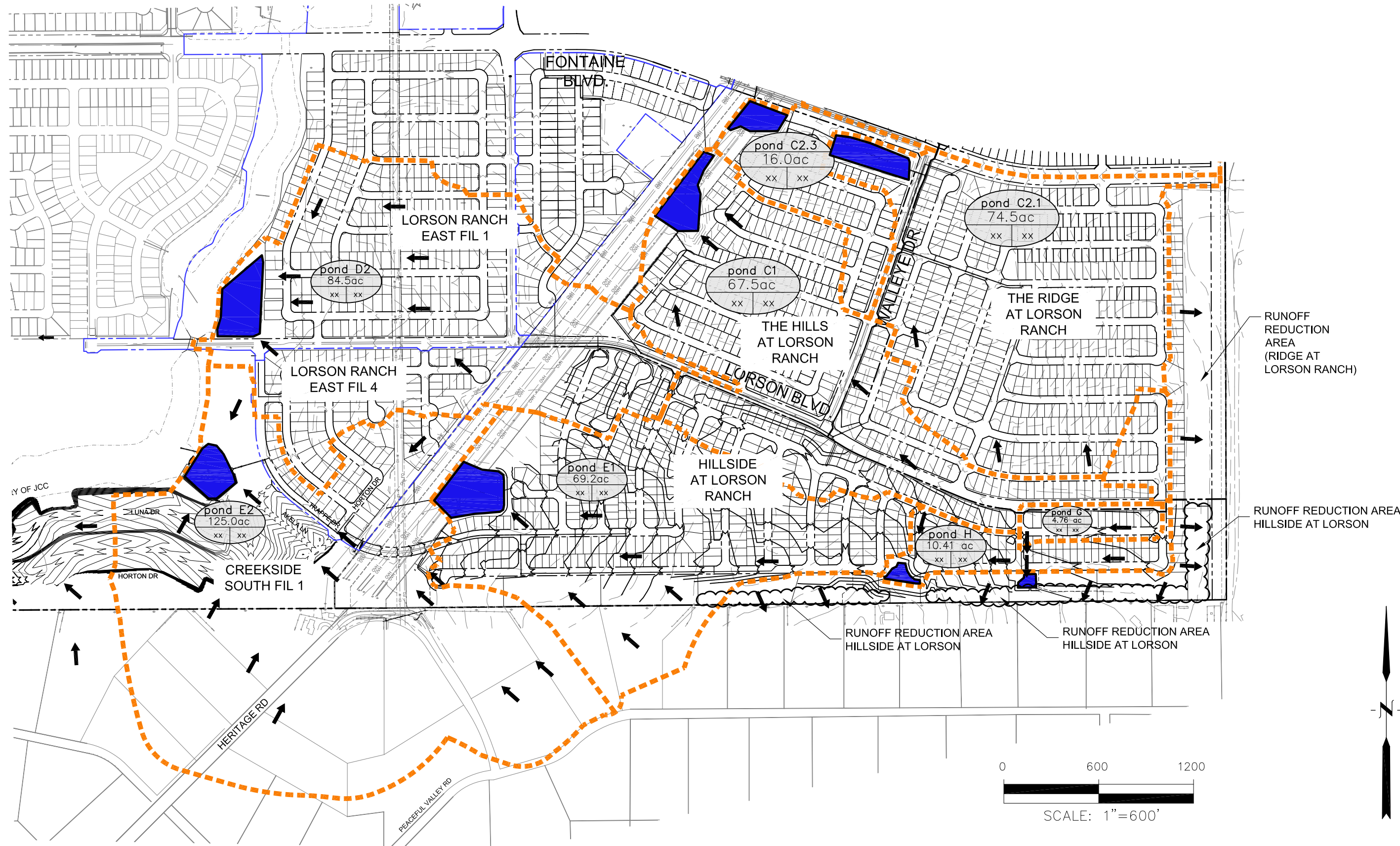
| | |
|-------|---------|
| 1.31 | feet |
| 12.53 | feet |
| 2.28 | acres |
| 16.84 | acre-ft |

micropool = 0 = 5743.35

Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|---|--------------------|--------------------|--------------------|--------------------|----------------|----------------|----------------|----------------|
| Design Storm Return Period = | | | | | | | | |
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| CUHP Runoff Volume (acre-ft) = | 1.240 | 3.999 | 3.772 | 5.294 | 6.615 | 8.338 | 9.762 | 11.547 |
| Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 3.772 | 5.294 | 6.615 | 8.338 | 9.762 | 11.547 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 4.8 | 13.7 | 21.2 | 39.0 | 49.1 | 63.3 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.07 | 0.20 | 0.31 | 0.58 | 0.73 | 0.94 |
| Peak Inflow Q (cfs) = | N/A | N/A | 45.6 | 64.4 | 78.4 | 105.4 | 123.5 | 145.4 |
| Peak Outflow Q (cfs) = | 0.5 | 6.0 | 5.0 | 6.4 | 14.6 | 15.7 | 16.5 | 17.5 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 0.5 | 0.7 | 0.4 | 0.3 | 0.3 |
| Structure Controlling Flow = | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) = | N/A | N/A | N/A | N/A | 0.6 | 0.6 | 0.6 | 0.6 |
| Max Velocity through Gate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 39 | 48 | 49 | 50 | 49 | 48 | 47 | 46 |
| Time to Drain 99% of Inflow Volume (hours) = | 41 | 52 | 53 | 55 | 55 | 55 | 56 | 56 |
| Maximum Ponding Depth (ft) = | 3.70 | 5.76 | 5.15 | 6.02 | 6.57 | 7.37 | 8.06 | 8.95 |
| Area at Maximum Ponding Depth (acres) = | 1.10 | 1.50 | 1.42 | 1.53 | 1.59 | 1.68 | 1.76 | 1.87 |
| Maximum Volume Stored (acre-ft) = | 1.248 | 4.005 | 3.115 | 4.398 | 5.238 | 6.545 | 7.732 | 9.348 |

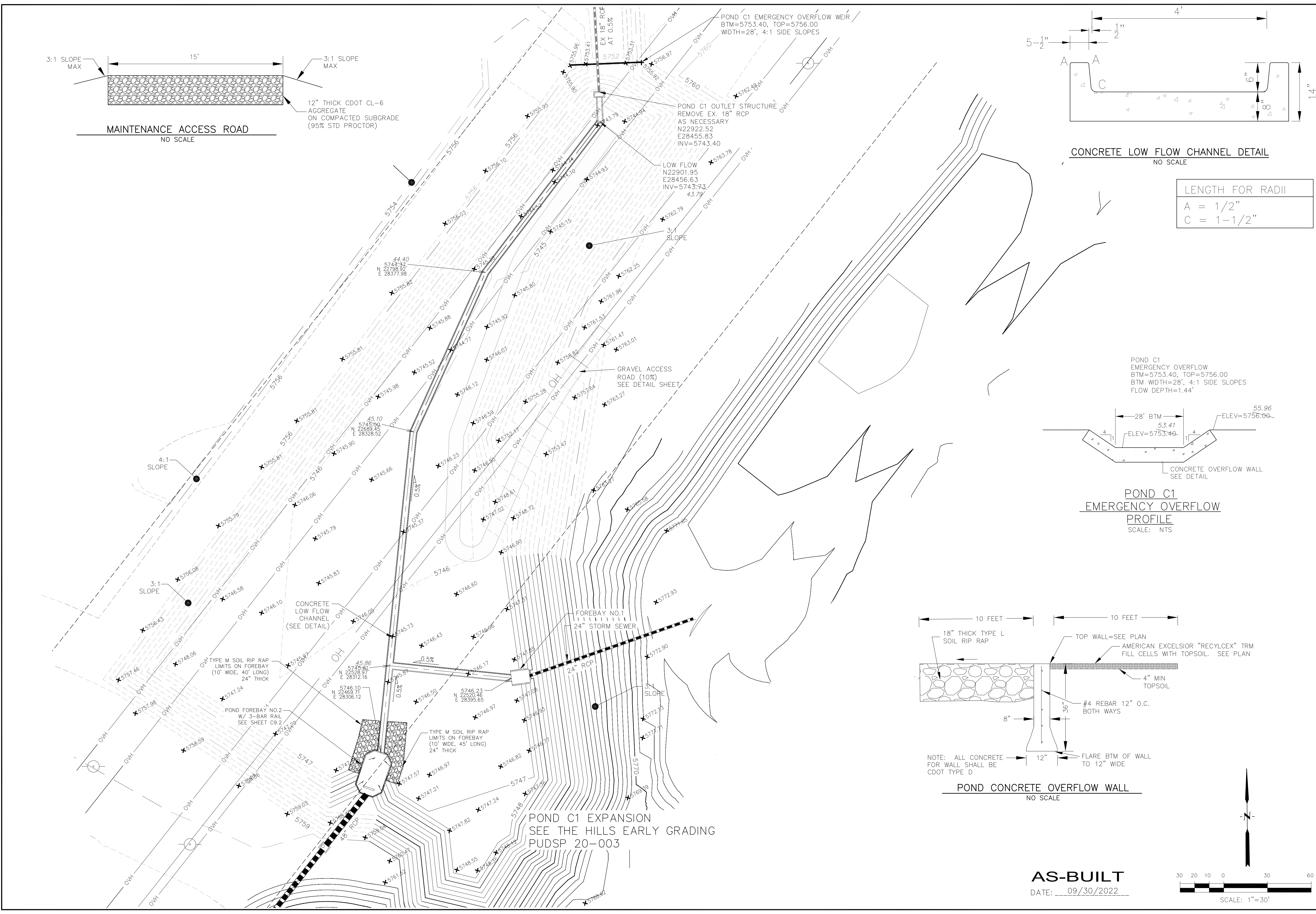
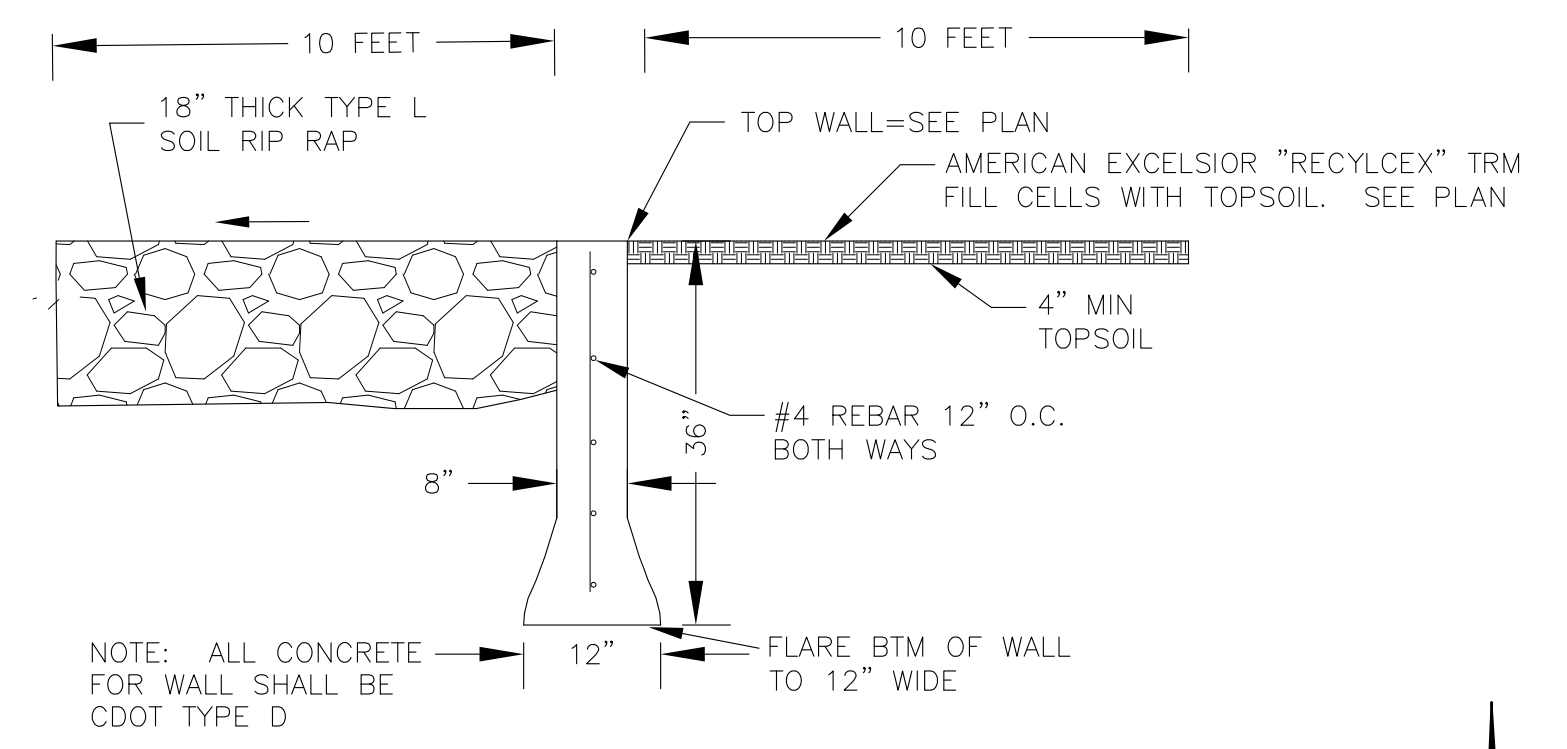
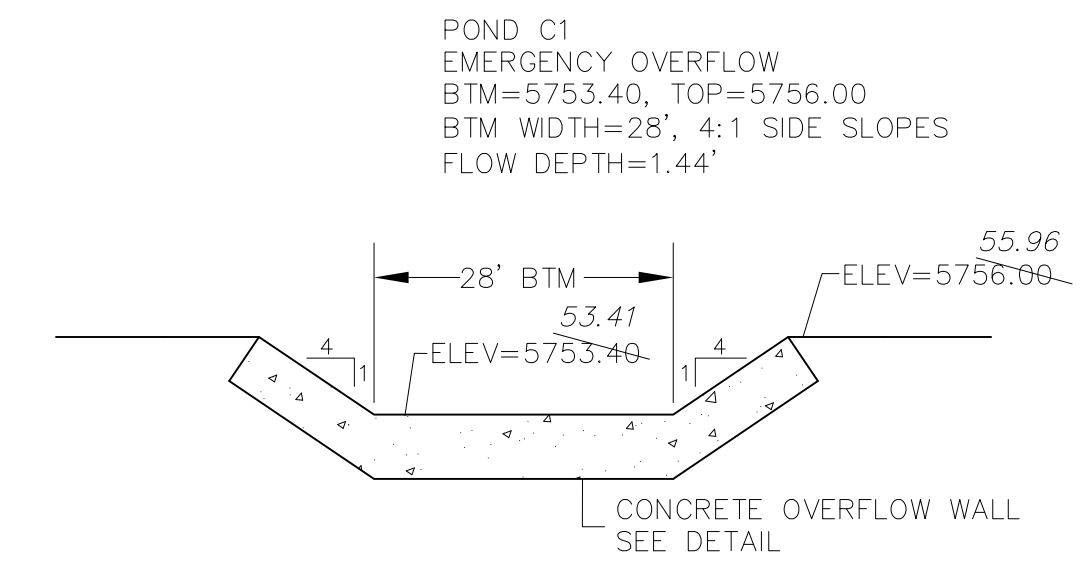
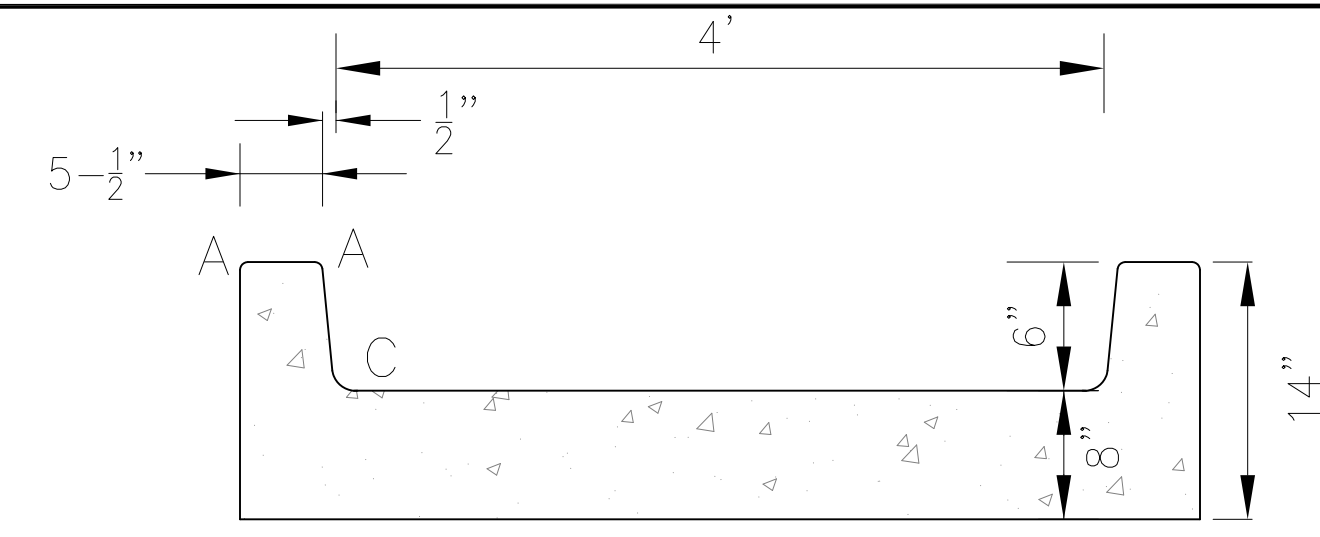
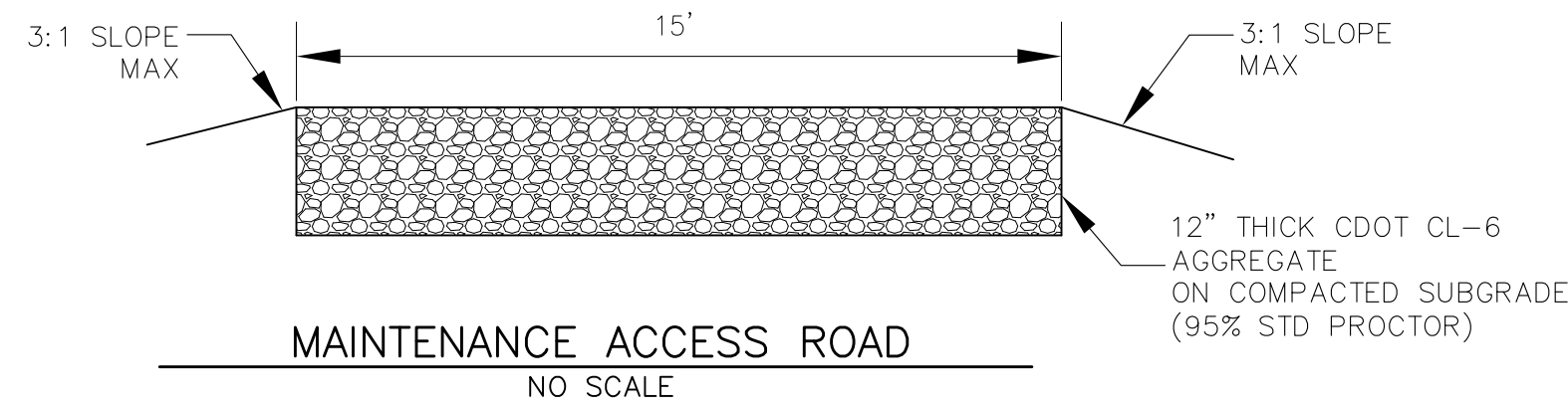


CORE ENGINEERING GROUP

15004 1ST AVENUE S.
 BURNSVILLE, MN 55306
 PH: 719.570.1100
 CONTACT: RICHARD L. SCHINDLER, P.E.
 EMAIL: Rich@ceg1.com

**HILLSIDE AT LORSON RANCH
 WATER QUALITY & POND TRIBUTARY AREAS**

| | | |
|---------------|----------------------|-----------------|
| SCALE: NTS | DATE: APRIL, 2022 | FIGURE NO. 1 |
|---------------|----------------------|-----------------|



CORE ENGINEERING GROUP
19004 1ST AVE. SUITE 3506
DENVER, CO 80202
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

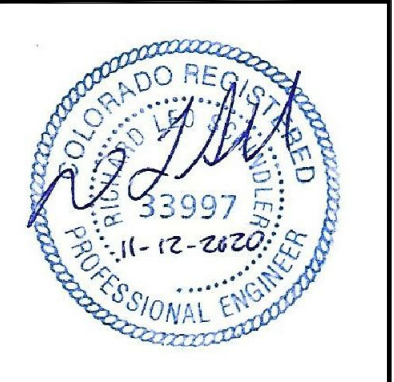
DATE: _____
DESCRIPTION: _____
NO: _____

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

PROJECT:
THE HILLS COLLECTOR STREET CONSTRUCTION
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

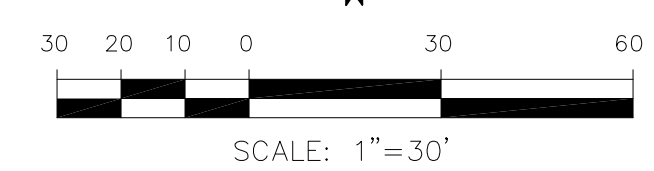
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C1 FOREBAY, LOW FLOW CHANNEL AND OUTLET STRUCTURE LAYOUT



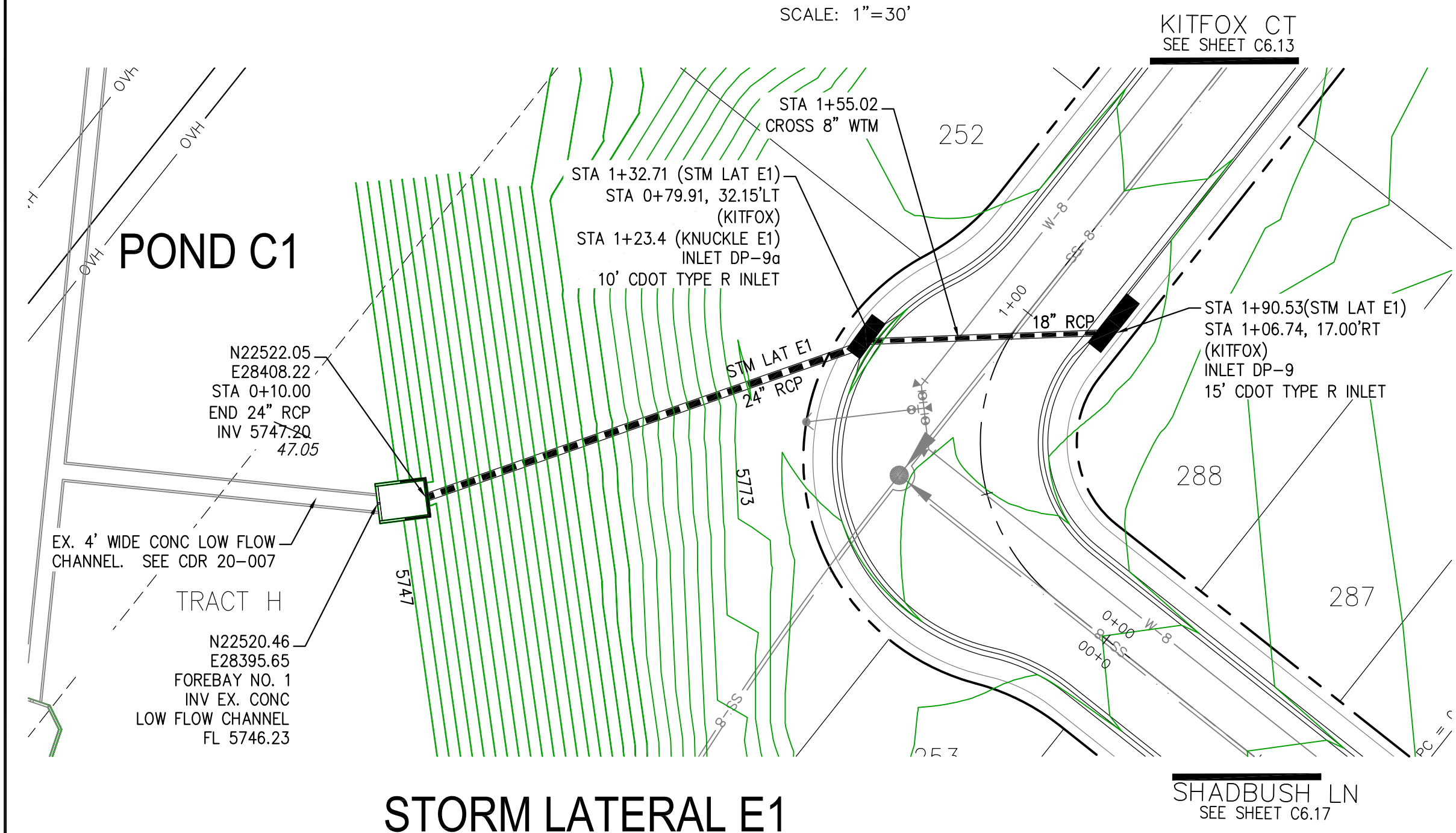
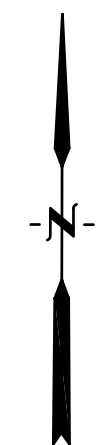
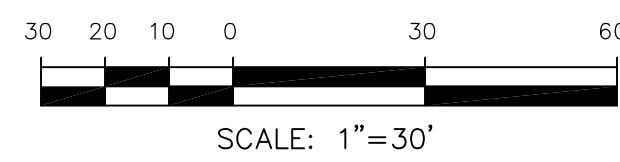
DATE: NOV 12, 2020
PROJECT NO: 100.061
SHEET NUMBER: C9.1
TOTAL SHEETS: 58

AS-BUILT
DATE: 09/30/2022

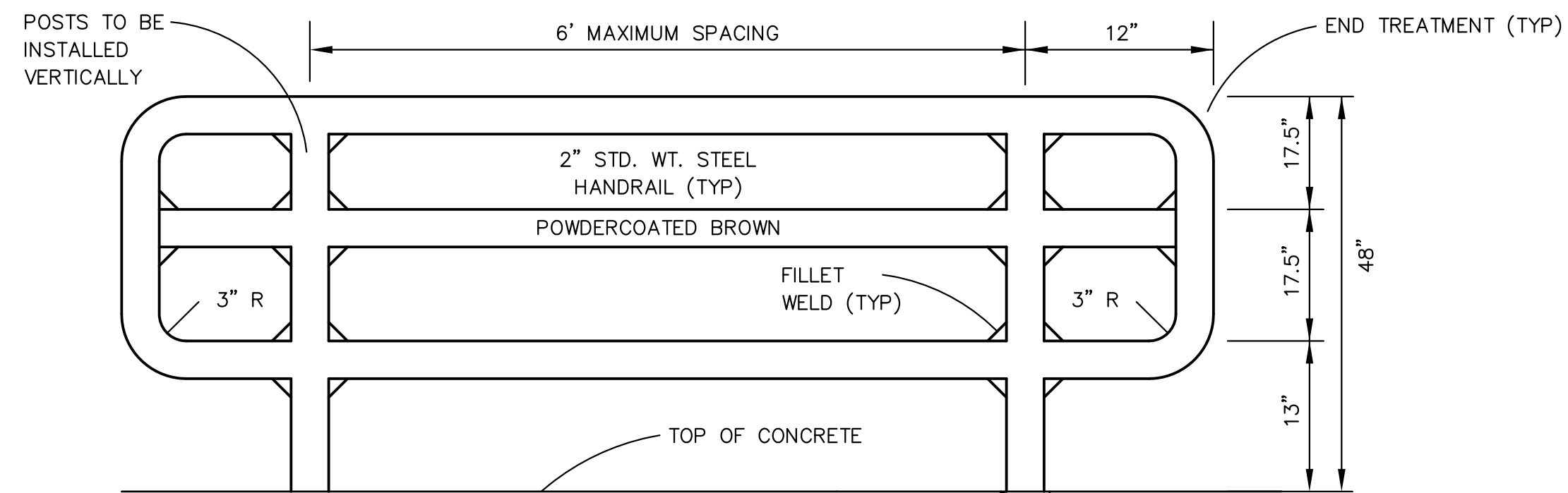


- NOTES**
1. ALL SPOT ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE NOTED.
 2. SEE GRADING PLAN FOR GRADING INFORMATION.
 3. ALL STORM SEWER SHALL BE CLASS III RCP.
 4. ALL MHS SHALL BE TYPE 1 UNLESS OTHERWISE NOTED.

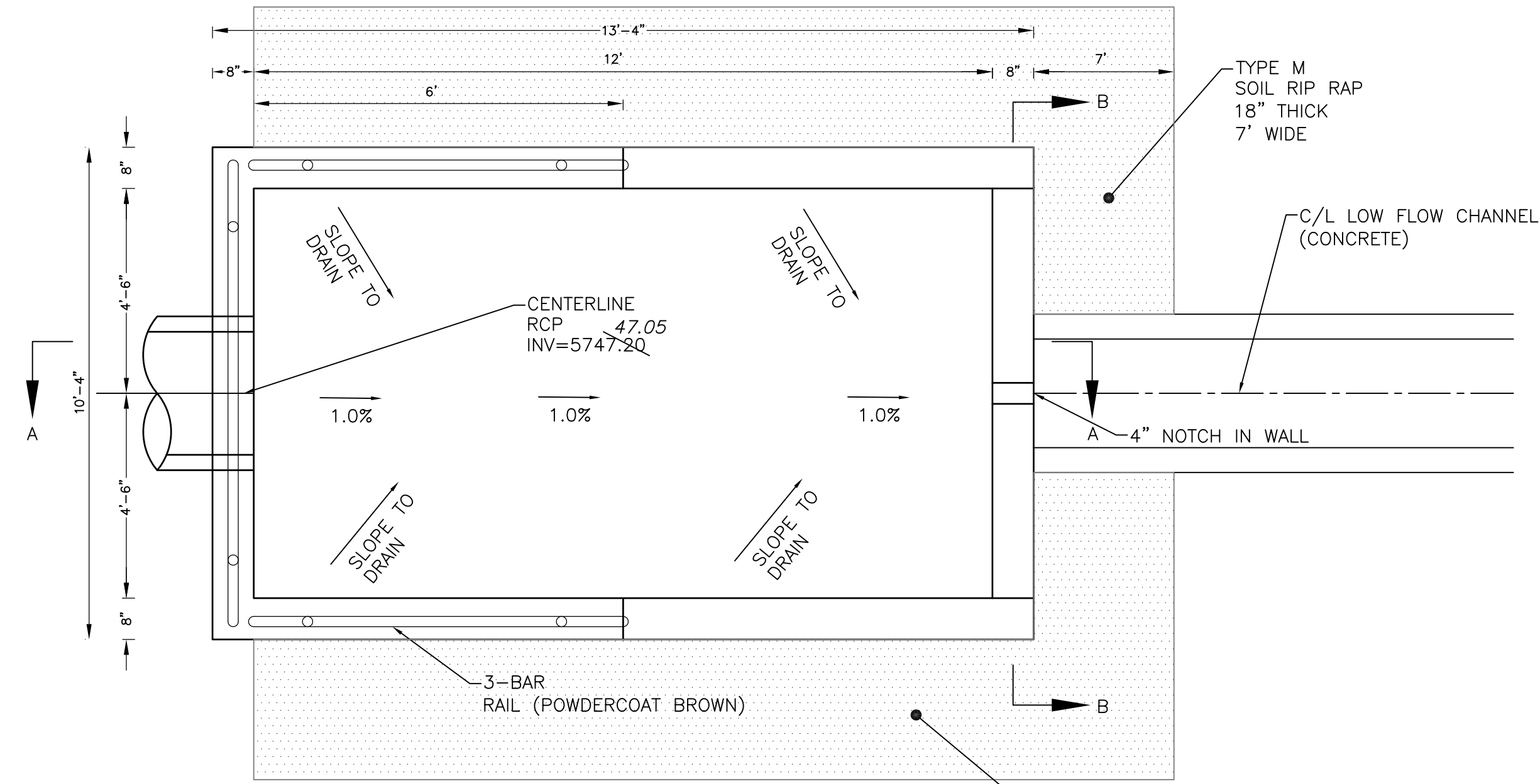
- 1 CURVE DATA ID
- 2 CURB TRANSITIONS
- 3 PEDESTRIAN RAMP, SEE SHEET C10.1



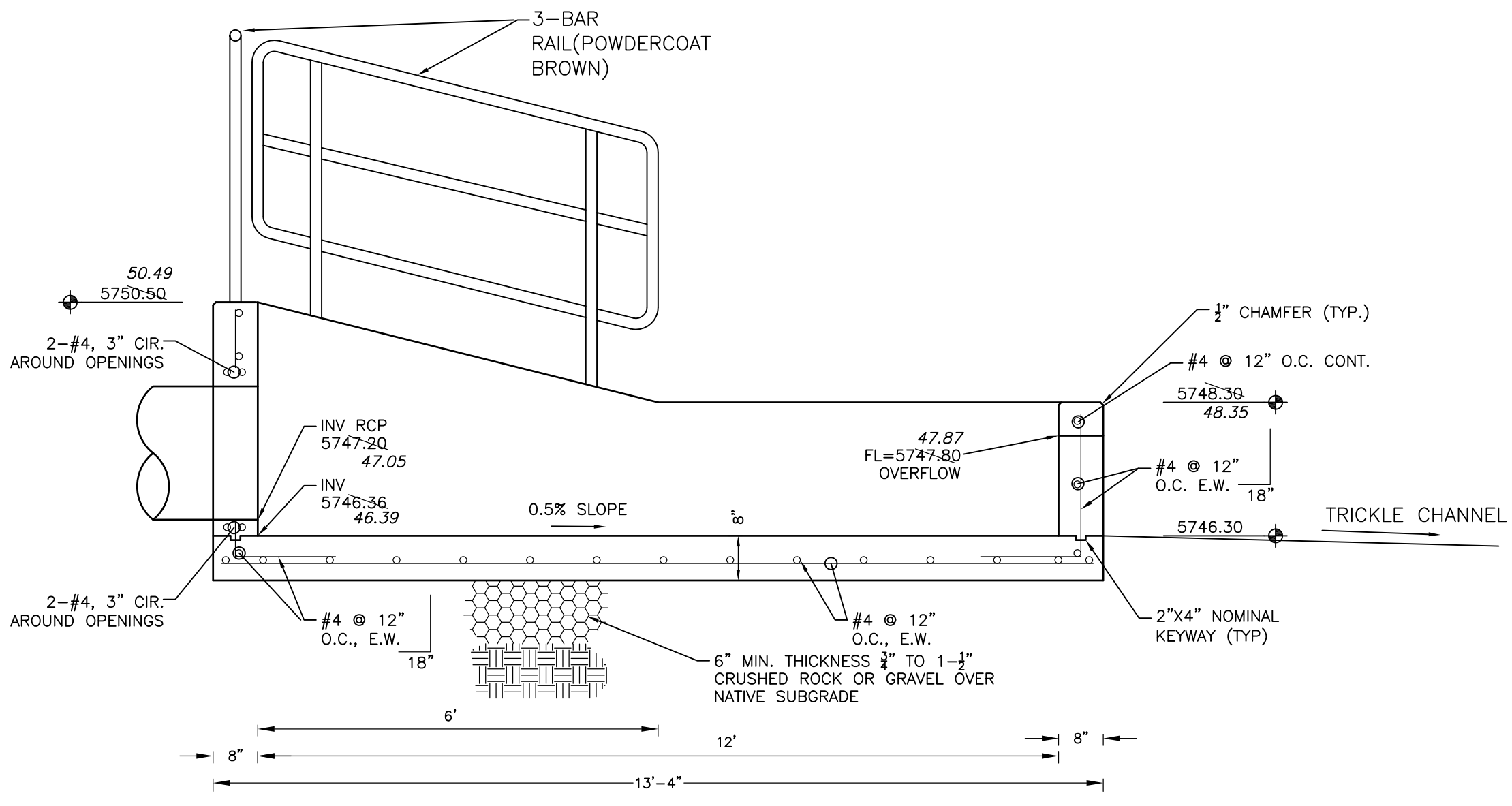
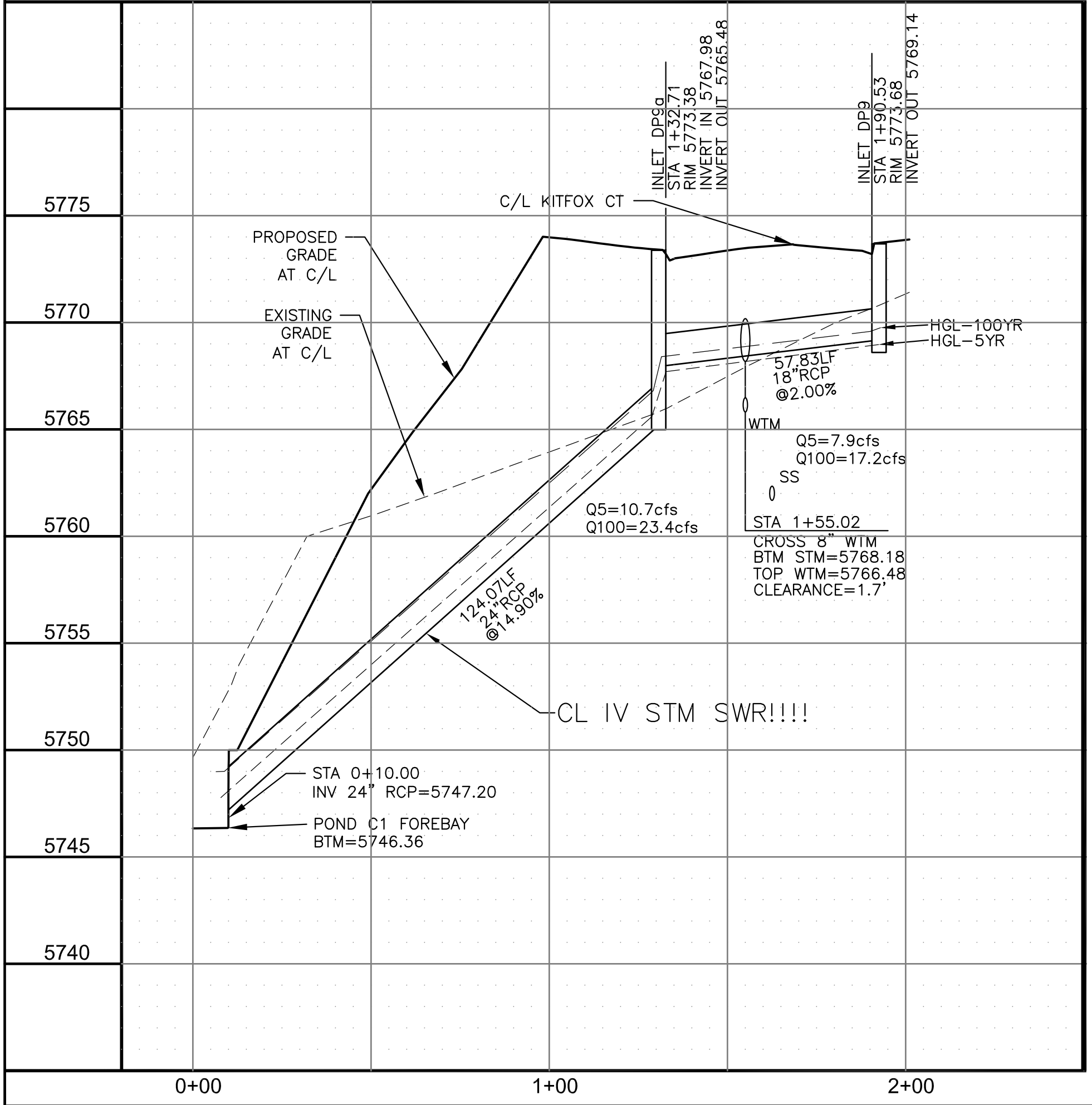
STORM LATERAL E1



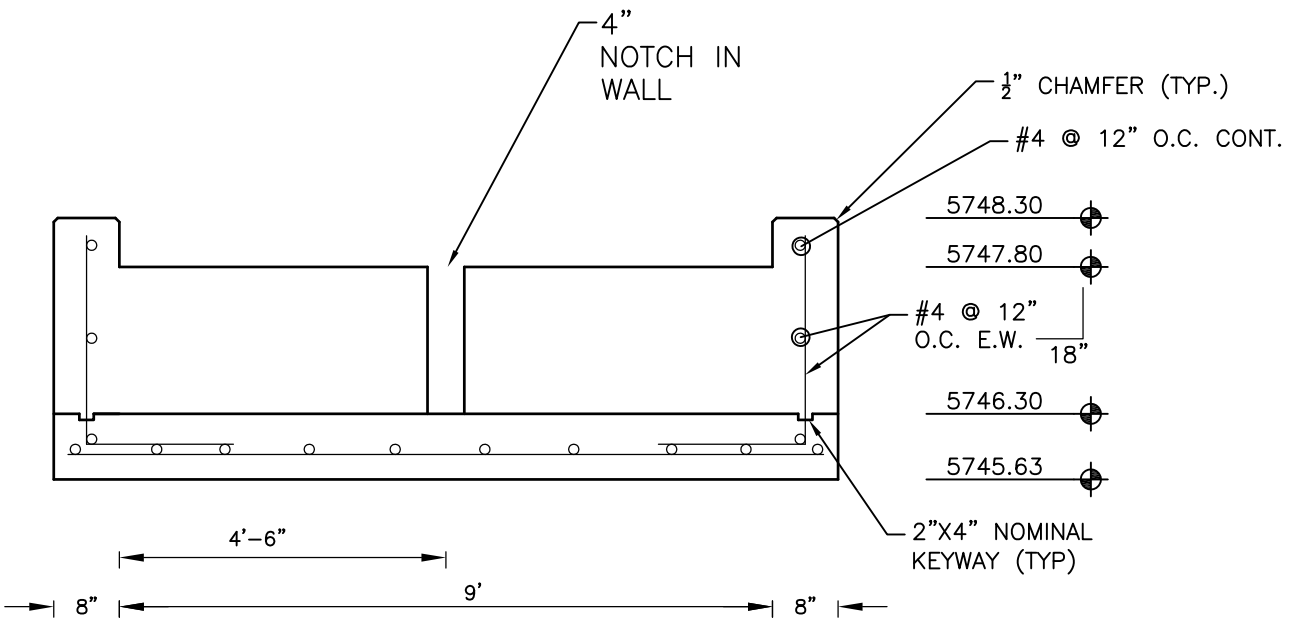
3-BAR RAIL DETAIL
NO SCALE



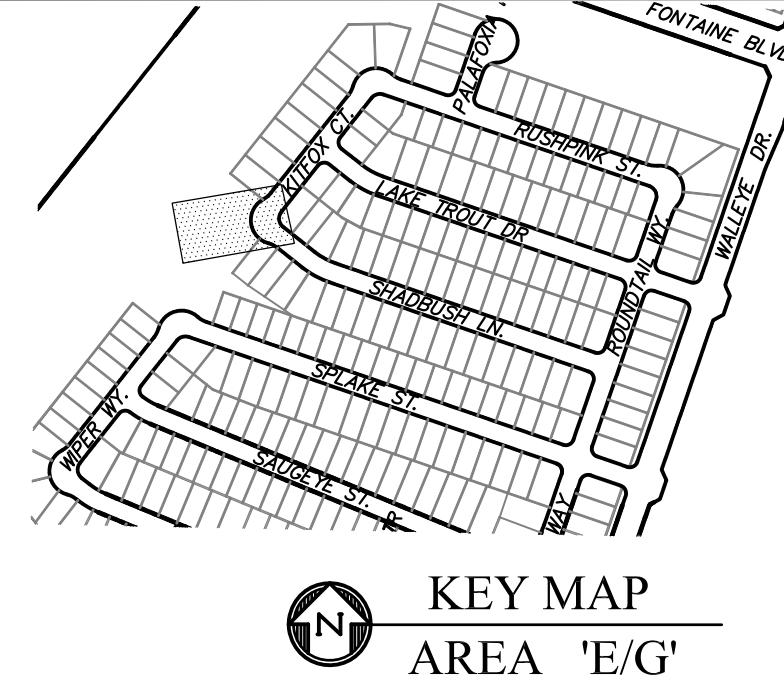
FOREBAY NO. 1 DETAIL
NO SCALE



FOREBAY NO. 1 SECTION A-A
NO SCALE



FOREBAY NO. 1 SECTION B-B
NO SCALE



KEY MAP
AREA 'E/G'

CORE ENGINEERING GROUP
15004 1ST AVENUE S.
BURNING WOOD, CO 80906
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

DATE: JAN 14, 2021

DESCRIPTION: RAISE SITE BY 1' EAST OF POWERLINES

NO. 1

PROJECT: THE HILLS AT LORSON RANCH FILING NO. 1
212 N. WAHSATCH AVE., SUITE 301
COLORADO SPRINGS, COLORADO 80903
FOUNTAIN BLVD. VALLEJO DR
COLORADO SPRINGS, COLORADO
CONTACT: JEFF MARK

PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE., SUITE 301
COLORADO SPRINGS, COLORADO 80903
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

STORM SEWER LATERAL - AREA 'E / G'
STORM LATERAL E1
STA 0+00 TO 1+90



DATE: JUNE 7, 2021

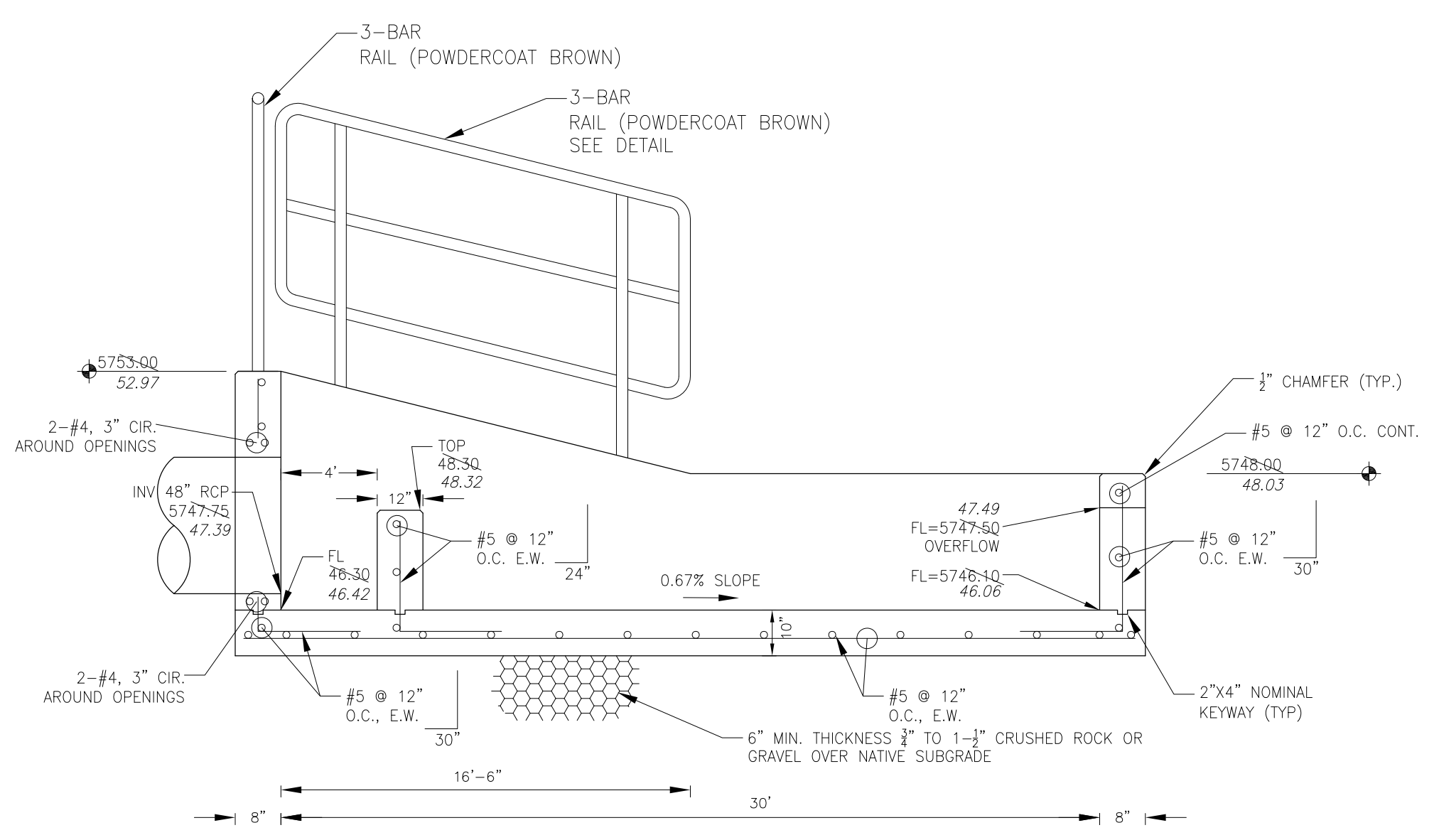
PROJECT NO. 100.062

SHEET NUMBER C7.1

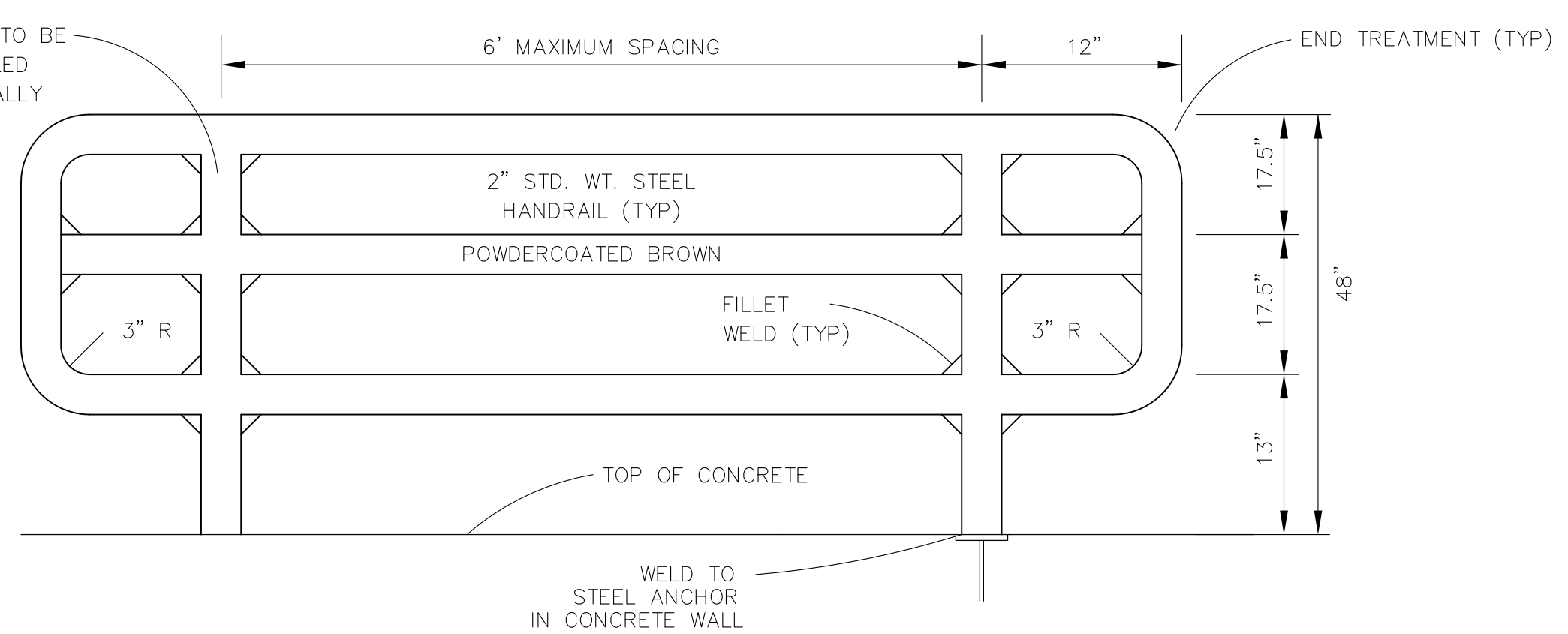
TOTAL SHEETS: 42

AS-BUILT
DATE: 09/30/2022

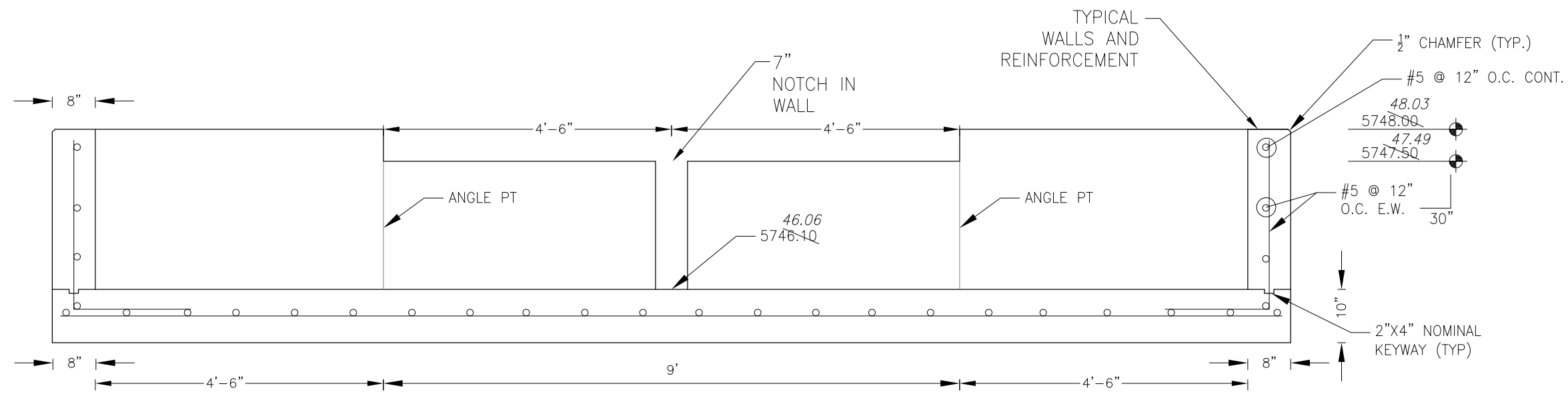
**POND C1
 FOREBAY NO. 2
 FOREBAY DETAILS**



FOREBAY SECTION A-A
NO SCALE

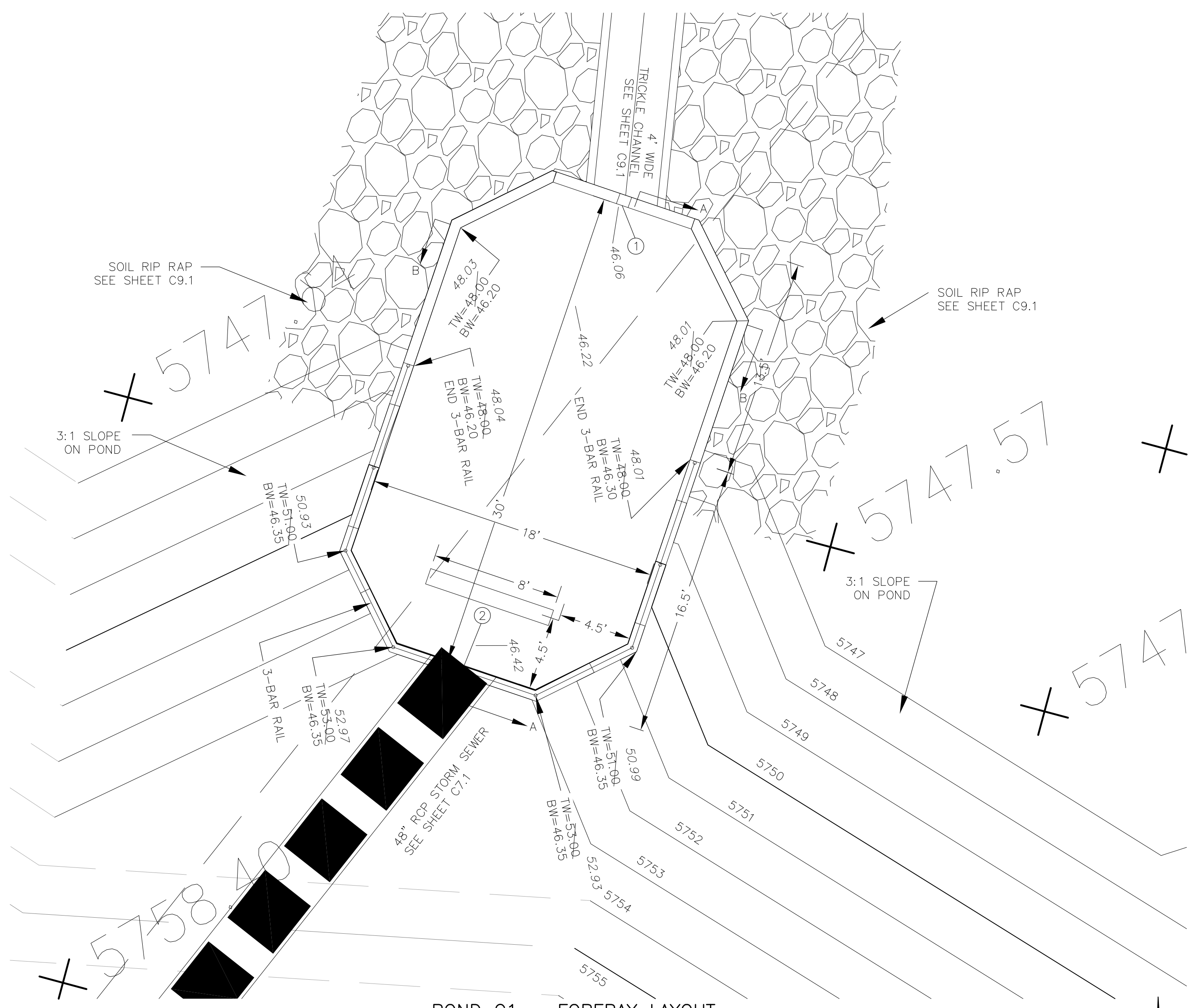


3-BAR RAIL DETAIL
NO SCALE

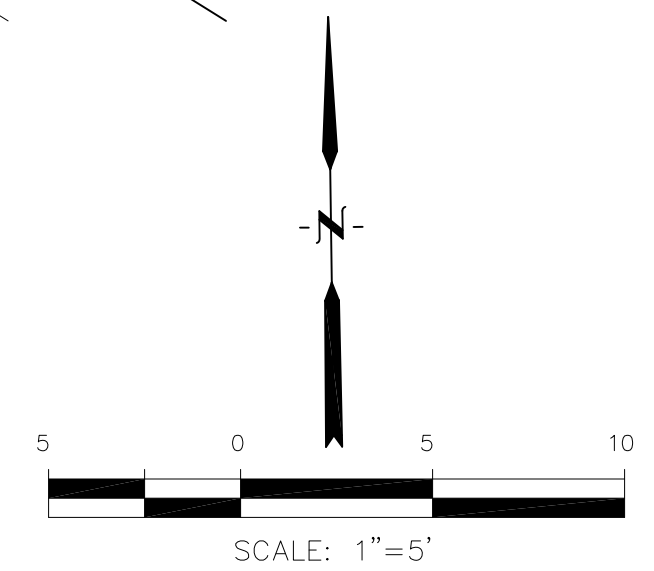


FOREBAY SECTION B-B
NO SCALE

NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D



POND C1 - FOREBAY LAYOUT
SCALE: 1"=5'



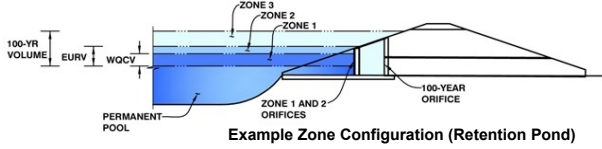
| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 22469.08 | 28305.90 | 5746.10 | FOREBAY BOTTOM |
| 2 | 22440.71 | 28296.15 | 5746.30 | FOREBAY BOTTOM, INV 48"=5747.75 |

AS-BUILT
 DATE: 09/30/2022

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.02 (February 2020)

Project: The Hills at Lorson Ranch
Basin ID: Pond C2.1-asbuilt



| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 3.32 | 1.368 | Orifice Plate |
| Zone 2 (EURV) | 6.18 | 3.045 | Rectangular Orifice |
| Z3 (100+1/2WQCV) | 8.98 | 3.745 | Weir&Pipe (Restrict) |
| Total (all zones) | | 8.159 | |

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

| | | |
|-----------------------------------|-----|--|
| Underdrain Orifice Invert Depth = | N/A | ft (distance below the filtration media surface) |
| Underdrain Orifice Diameter = | N/A | inches |

Calculated Parameters for Underdrain

| | | |
|-------------------------------|-----|-----------------|
| Underdrain Orifice Area = | N/A | ft ² |
| Underdrain Orifice Centroid = | N/A | 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 = | 0.00 | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Orifice Plate = | 3.32 | ft (relative to basin bottom at Stage = 0 ft) |
| Orifice Plate: Orifice Vertical Spacing = | N/A | inches |
| Orifice Plate: Orifice Area per Row = | 4.00 | sq. inches (use rectangular openings) |

Calculated Parameters for Plate

| | | |
|----------------------------|-----------|-----------------|
| WQ Orifice Area per Row = | 2.778E-02 | ft ² |
| Elliptical Half-Width = | N/A | feet |
| Elliptical Slot Centroid = | N/A | feet |
| Elliptical Slot Area = | N/A | ft ² |

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 | 0.95 | 2.05 | | | | | |
| Orifice Area (sq. inches) | 4.00 | 4.00 | 4.00 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | |
|---|--------------------|--------------|---|
| Invert of Vertical Orifice = | 3.20 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | 6.18 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Height = | 6.00 | N/A | inches |
| Vertical Orifice Width = | 14.59 | | inches |

Calculated Parameters for Vertical Orif

| | Zone 2 Rectangular | Not Selected |
|-----------------------------|--------------------|--------------|
| Vertical Orifice Area = | 0.61 | N/A |
| Vertical Orifice Centroid = | 0.25 | N/A |

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe).

| | Zone 3 Weir | Not Selected | |
|---------------------------------------|-------------|--------------|---|
| Overflow Weir Front Edge Height, Ho = | 6.11 | N/A | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | 8.00 | N/A | feet |
| Overflow Weir Gate Slope = | 0.00 | N/A | H:V |
| Horiz. Length of Weir Sides = | 6.00 | N/A | feet |
| Overflow Gate Open Area % = | 70% | N/A | % , gate open area/total area |
| Debris Clogging % = | 50% | N/A | % |

Calculated Parameters for Overflow Weir

| | Zone 3 Weir | Not Selected |
|---|-------------|--------------|
| Height of Gate Upper Edge, H _t = | 6.11 | N/A |
| Overflow Weir Slope Length = | 6.00 | N/A |
| Gate Open Area / 100-yr Orifice Area = | 6.84 | N/A |
| Overflow Gate Open Area w/o Debris = | 33.60 | N/A |
| Overflow Gate Open Area w/ Debris = | 16.80 | N/A |

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

| | Zone 3 Restrictor | Not Selected | |
|---|-------------------|--------------|--|
| Depth to Invert of Outlet Pipe = | 0.43 | N/A | ft (distance below basin bottom at Stage = 0 ft) |
| Outlet Pipe Diameter = | 30.00 | N/A | inches |
| Restrictor Plate Height Above Pipe Invert = | 30.00 | | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

| | Zone 3 Restrictor | Not Selected |
|--|-------------------|--------------|
| Outlet Orifice Area = | 4.91 | N/A |
| Outlet Orifice Centroid = | 1.25 | N/A |
| Half-Central Angle of Restrictor Plate on Pipe = | 3.14 | N/A |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|-------------------------------------|-------|---|
| Spillway Invert Stage = | 9.18 | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | 25.00 | feet |
| Spillway End Slopes = | 4.00 | H:V |
| Freeboard above Max Water Surface = | 1.01 | feet |

Calculated Parameters for Spillway

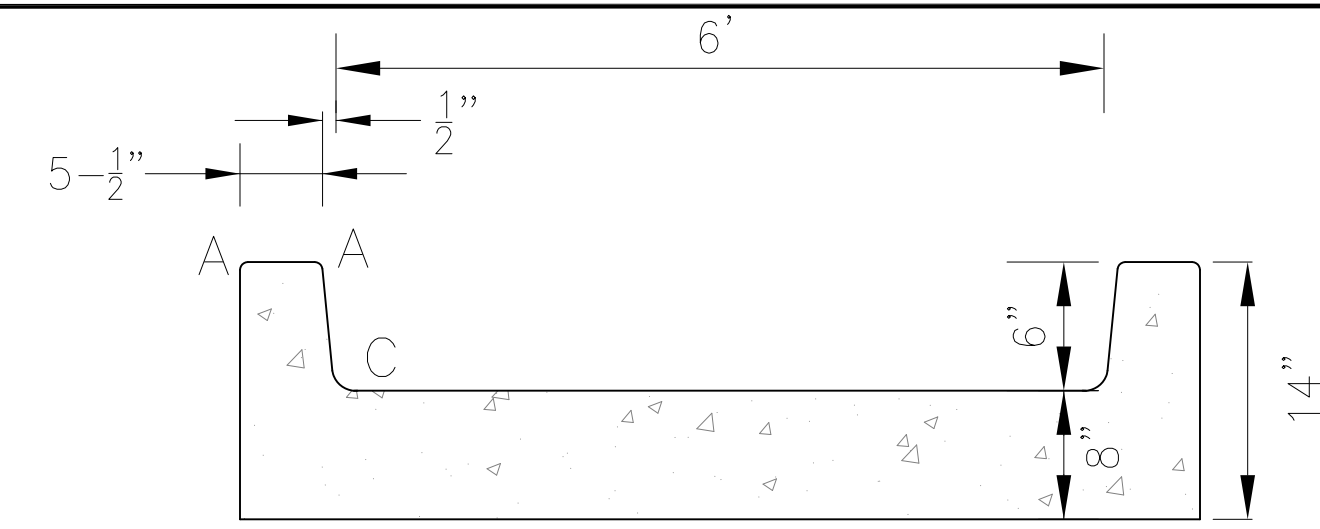
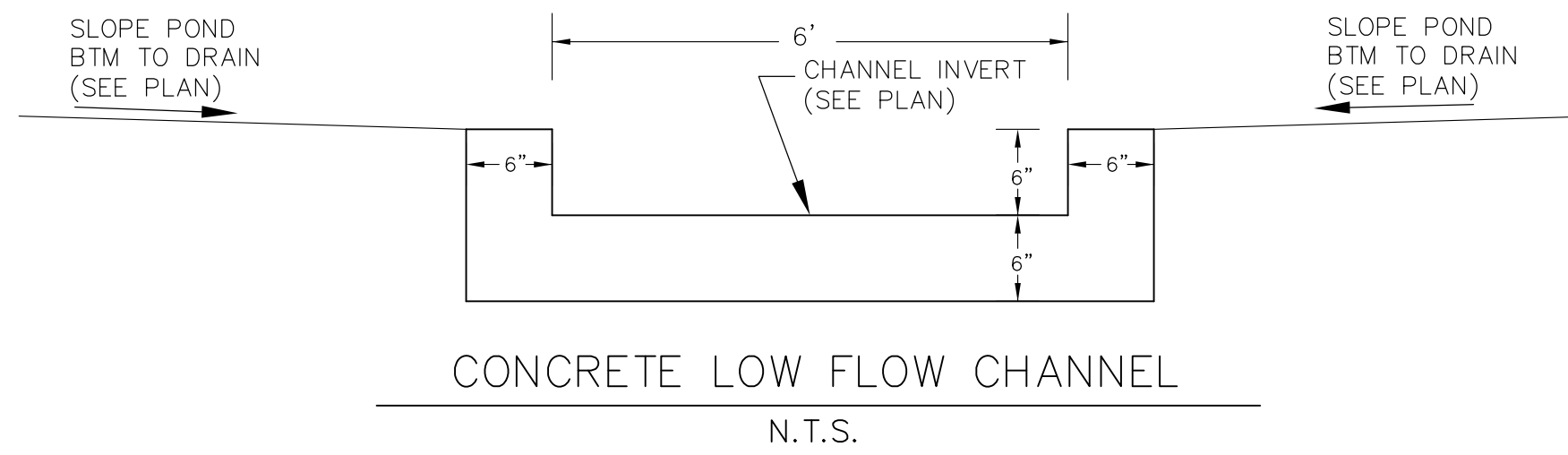
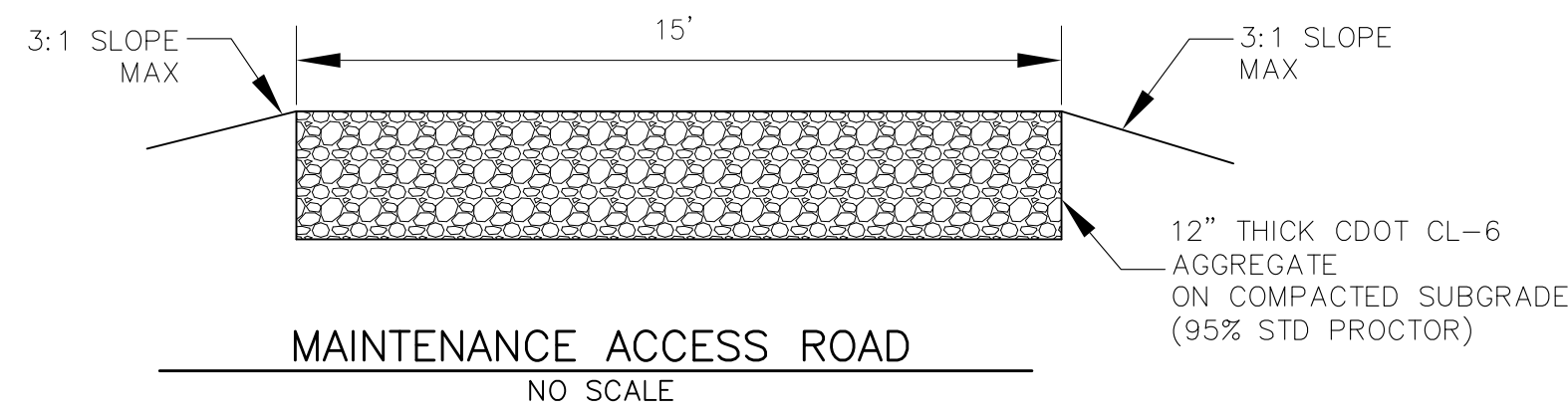
| | | |
|------------------------------------|-------|---------|
| Spillway Design Flow Depth = | 1.69 | feet |
| Stage at Top of Freeboard = | 11.88 | feet |
| Basin Area at Top of Freeboard = | 1.71 | acres |
| Basin Volume at Top of Freeboard = | 12.77 | acre-ft |

top micropool = 5761.15 = stage 0

Routed Hydrograph Results

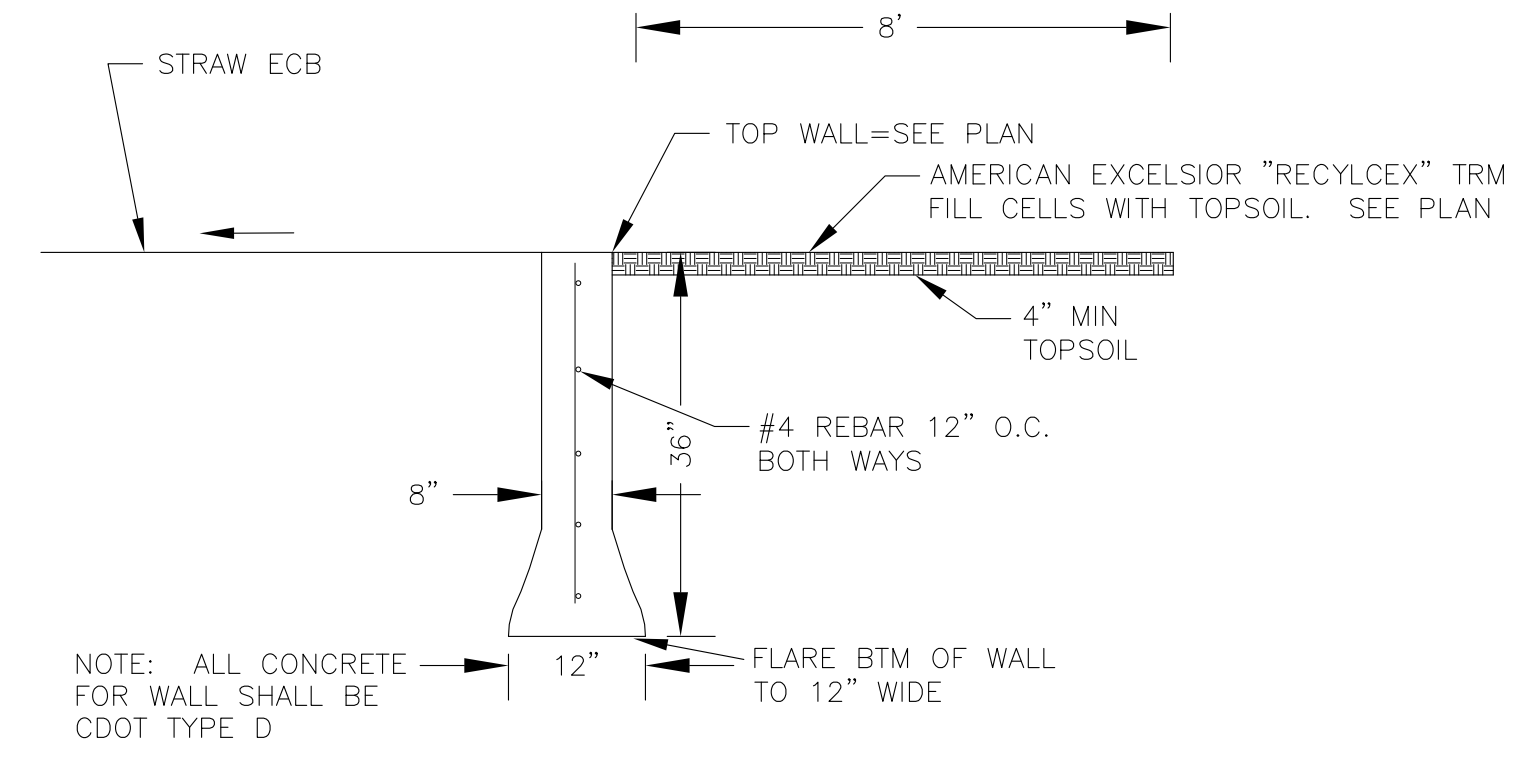
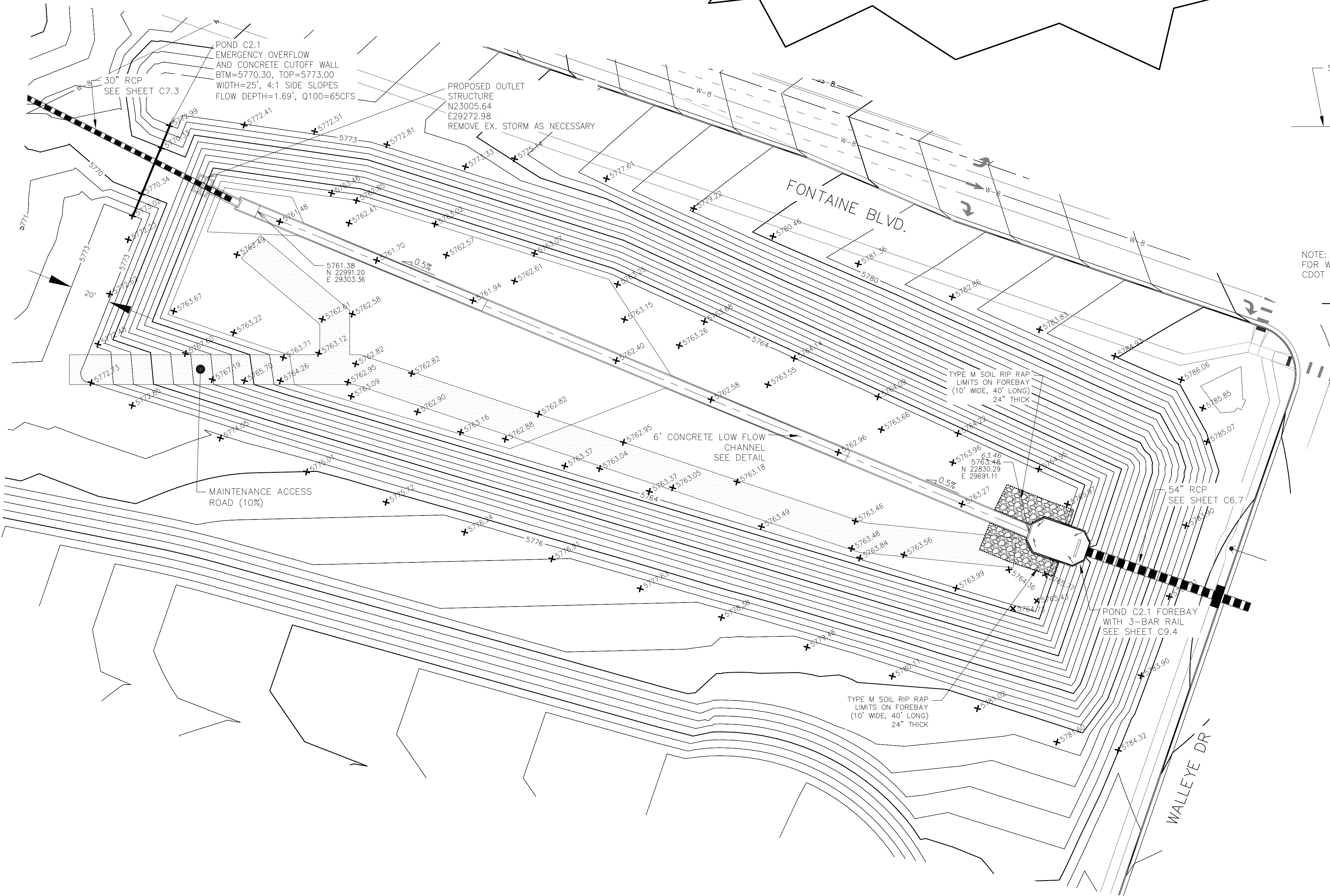
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|---|--------------------|-----------------|--------------------|-----------------|-----------------|----------------|----------------|----------------|
| Design Storm Return Period = | | | | | | | | |
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| CUHP Runoff Volume (acre-ft) = | 1.368 | 4.414 | 4.152 | 5.828 | 7.285 | 9.182 | 10.750 | 12.716 |
| Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 4.152 | 5.828 | 7.285 | 9.182 | 10.750 | 12.716 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 7.5 | 21.2 | 32.2 | 57.6 | 72.4 | 92.1 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.10 | 0.28 | 0.43 | 0.77 | 0.97 | 1.24 |
| Peak Inflow Q (cfs) = | N/A | N/A | 63.8 | 91.4 | 112.2 | 146.0 | 171.6 | 201.7 |
| Peak Outflow Q (cfs) = | 0.7 | 6.3 | 4.9 | 13.5 | 32.2 | 59.3 | 62.0 | 66.3 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 0.6 | 1.0 | 1.0 | 0.9 | 0.7 |
| Structure Controlling Flow = | Vertical Orifice 1 | Overflow Weir 1 | Vertical Orifice 1 | Overflow Weir 1 | Overflow Weir 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) = | N/A | 0.03 | N/A | 0.2 | 0.8 | 1.6 | 1.6 | 1.7 |
| Max Velocity through Gate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 38 | 46 | 46 | 46 | 45 | 42 | 41 | 38 |
| Time to Drain 99% of Inflow Volume (hours) = | 40 | 50 | 51 | 52 | 51 | 50 | 49 | 49 |
| Maximum Ponding Depth (ft) = | 3.32 | 6.18 | 5.40 | 6.36 | 6.68 | 7.12 | 7.70 | 8.69 |
| Area at Maximum Ponding Depth (acres) = | 0.93 | 1.20 | 1.13 | 1.22 | 1.25 | 1.29 | 1.34 | 1.44 |
| Maximum Volume Stored (acre-ft) = | 1.369 | 4.424 | 3.503 | 4.642 | 5.025 | 5.583 | 6.347 | 7.726 |

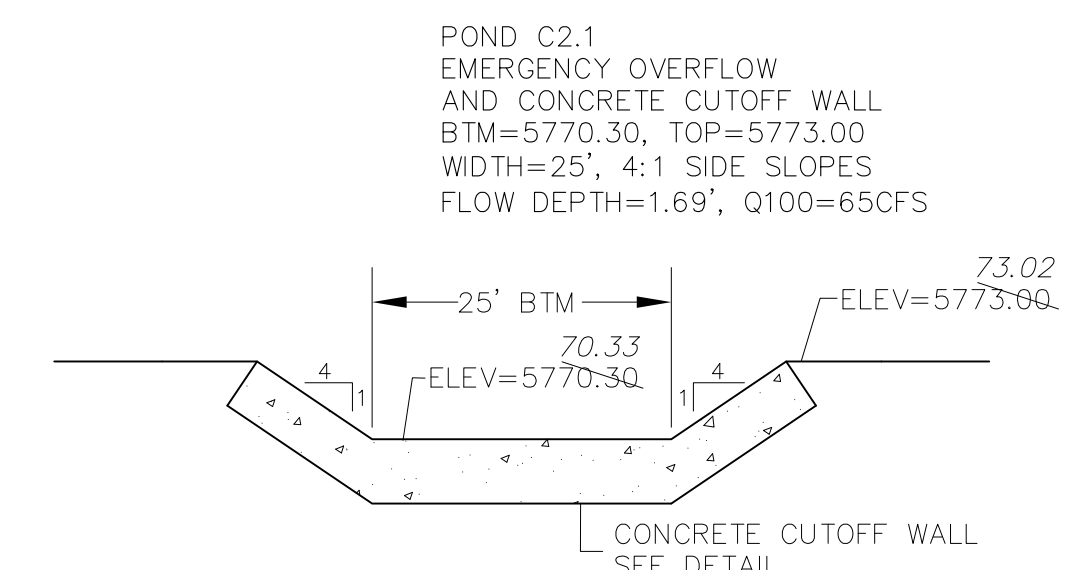


| LENGTH FOR RADII | |
|------------------|----------|
| A | = 1/2" |
| C | = 1-1/2" |

POND C2.1 IS LOCATED IN TRACT G, THE HILLS AT LORSON RANCH FILING NO. 1. SEE MAINTENANCE AGREEMENT AT REC. NO. 220211669



POND CONCRETE CUTOFF WALL
NO SCALE



POND C2.1 EMERGENCY OVERFLOW AND CONCRETE CUTOFF WALL PROFILE
SCALE: NTS

CORE ENGINEERING GROUP
19004 1ST AVENUE S.
DENVER, CO 80202
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

DATE: JAN 12, 2021
DESCRIPTION:
NO. 1: RAISE SITE 1' EAST OF POWERLINES

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

PROJECT:
THE HILLS COLLECTOR STREET CONSTRUCTION
FONTAINE BLVD - GRAYLING DR
LORSON BLVD - WALLEVE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

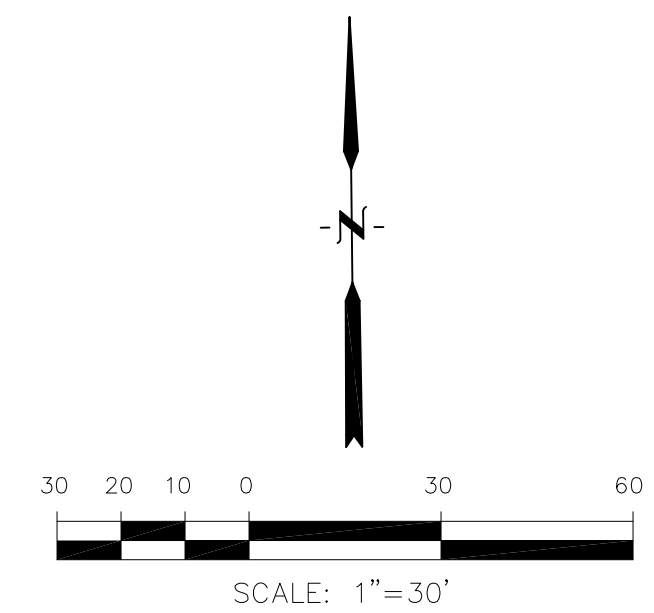
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

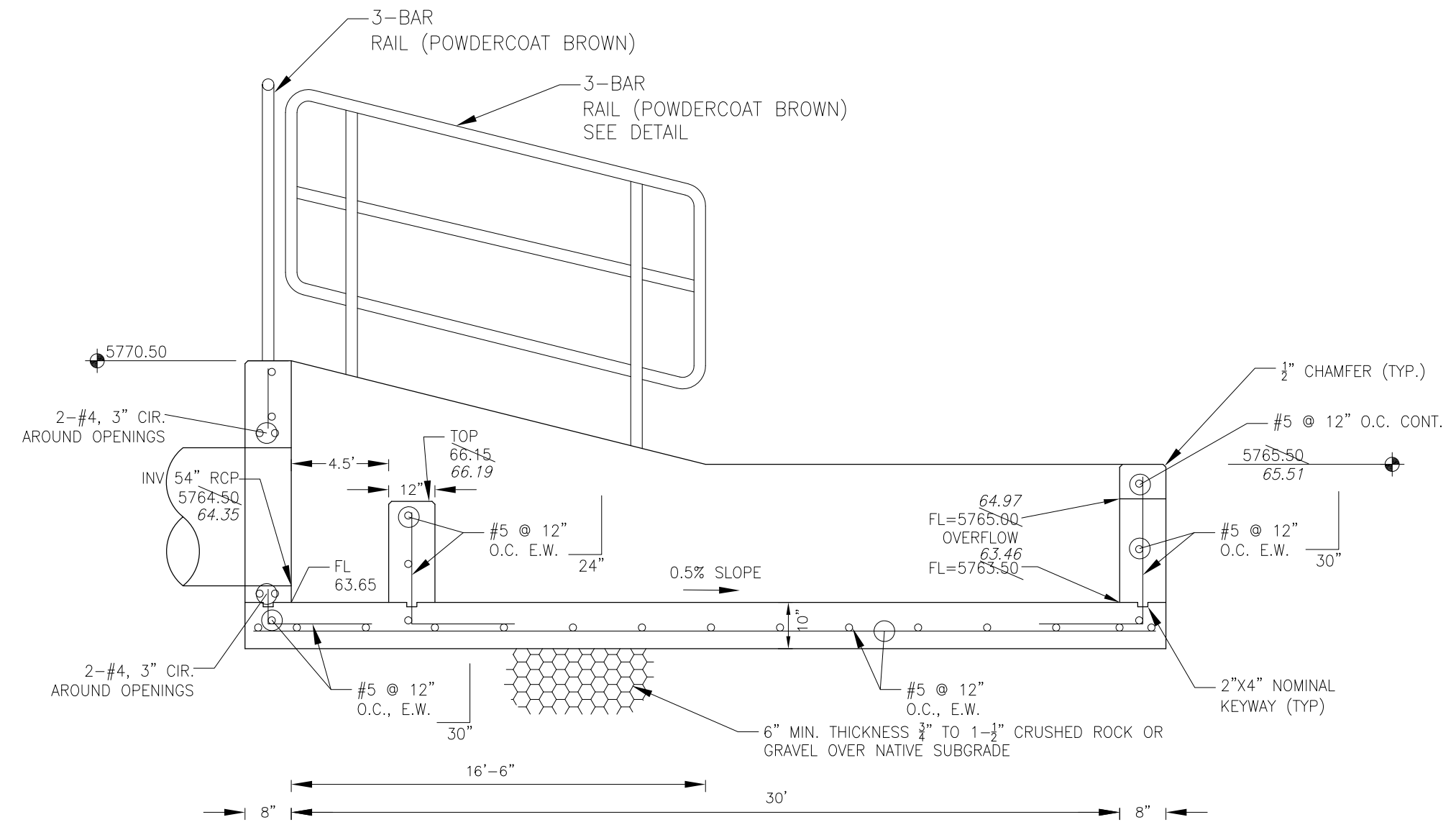
POND C2.1 FOREBAY AND LOW FLOW CHANNEL LAYOUT



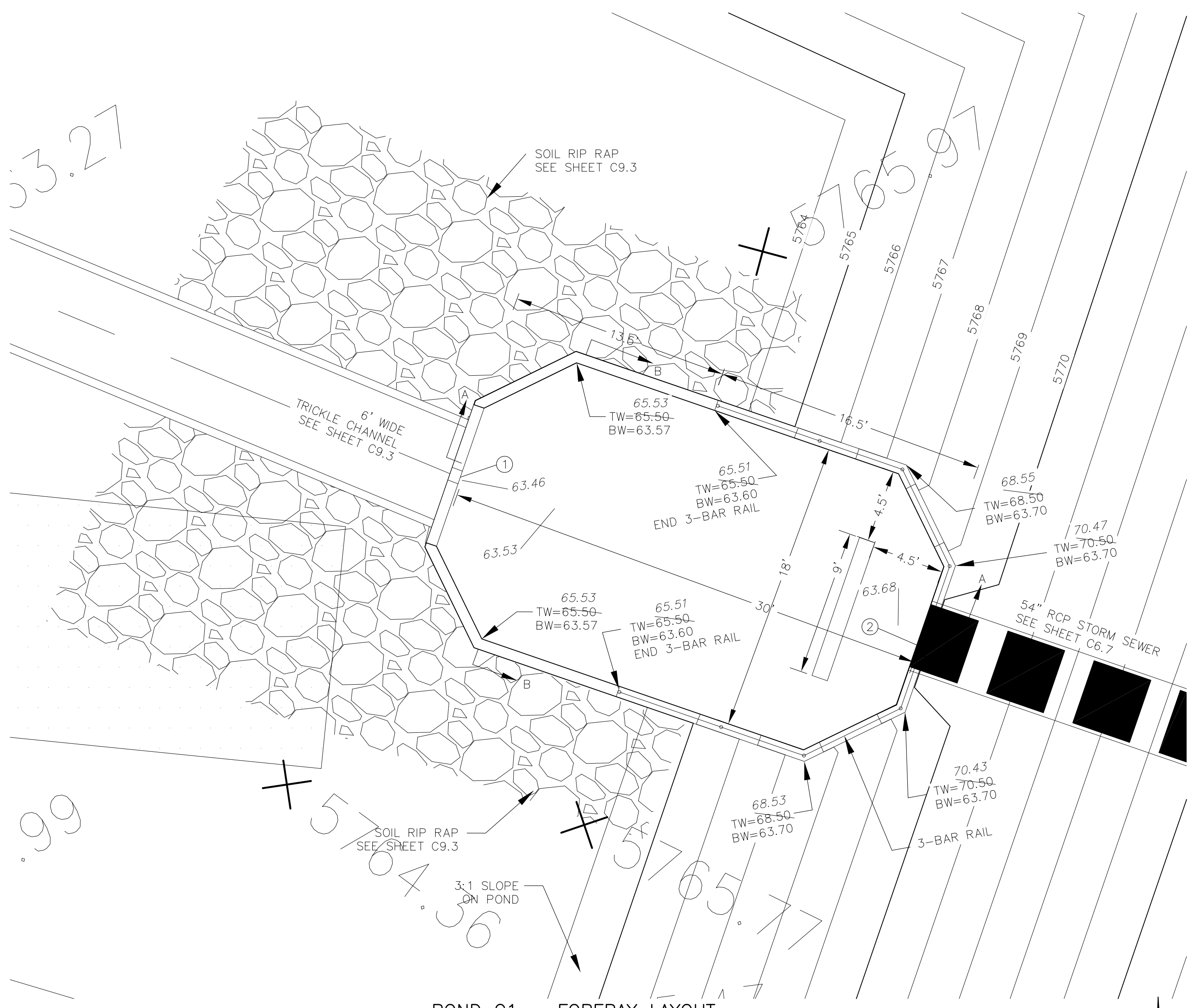
DATE: NOV 12, 2020
PROJECT NO. 100.061
SHEET NUMBER **C9.3**
TOTAL SHEETS: 58

AS-BUILT
DATE: 09/30/2022

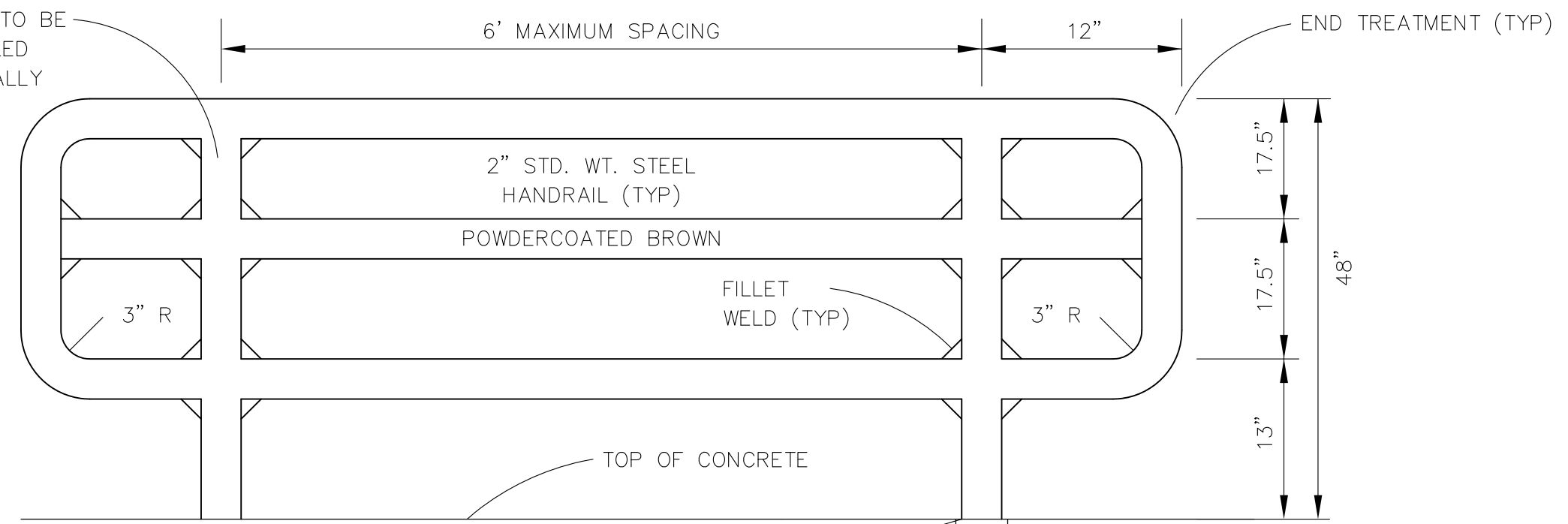




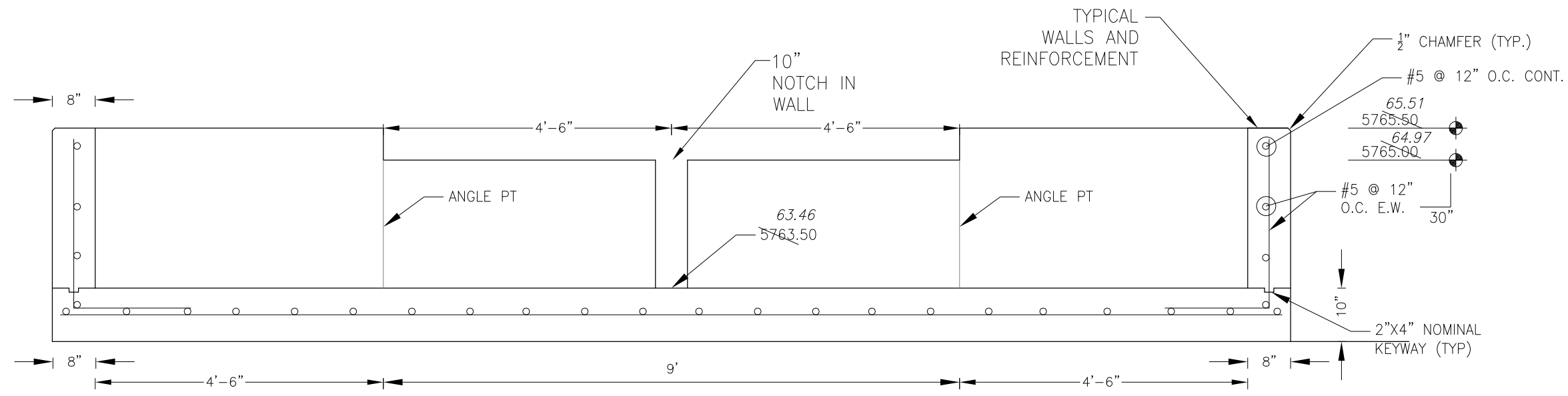
FOREBAY SECTION A-A
NO SCALE



POND C1 - FOREBAY LAYOUT
SCALE: 1"=5'



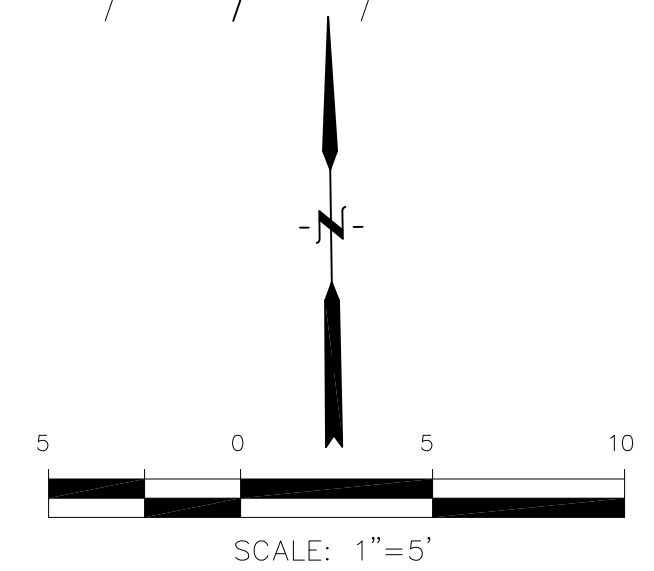
3-BAR RAIL DETAIL
NO SCALE



FOREBAY SECTION B-B
NO SCALE

NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D

| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 22830.08 | 29691.75 | 5763.50 | FOREBAY BOTTOM |
| 2 | 22820.31 | 29720.11 | 5763.65 | FOREBAY BOTTOM, INV 54"=5764.50 |



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EMAIL: Rich@ceg1.com

DATE: JAN 12, 2021
DESCRIPTION: RAISE SITE 1' EAST OF POWERLINES
NO. 1
PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO
CONTACT: JEFF MARK

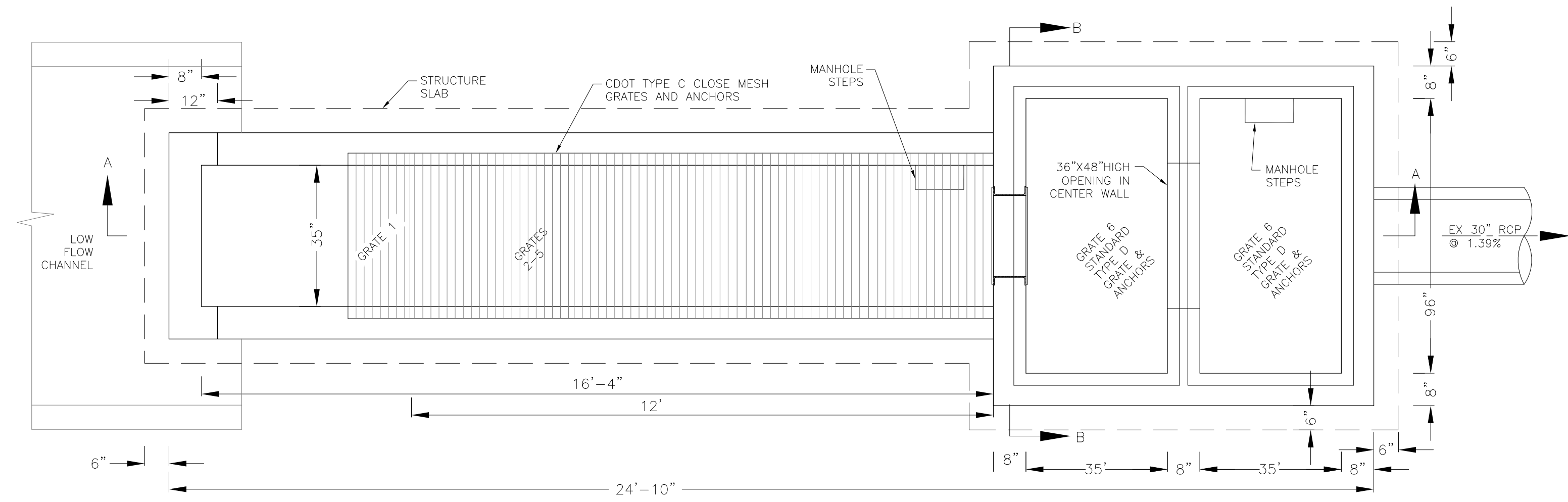
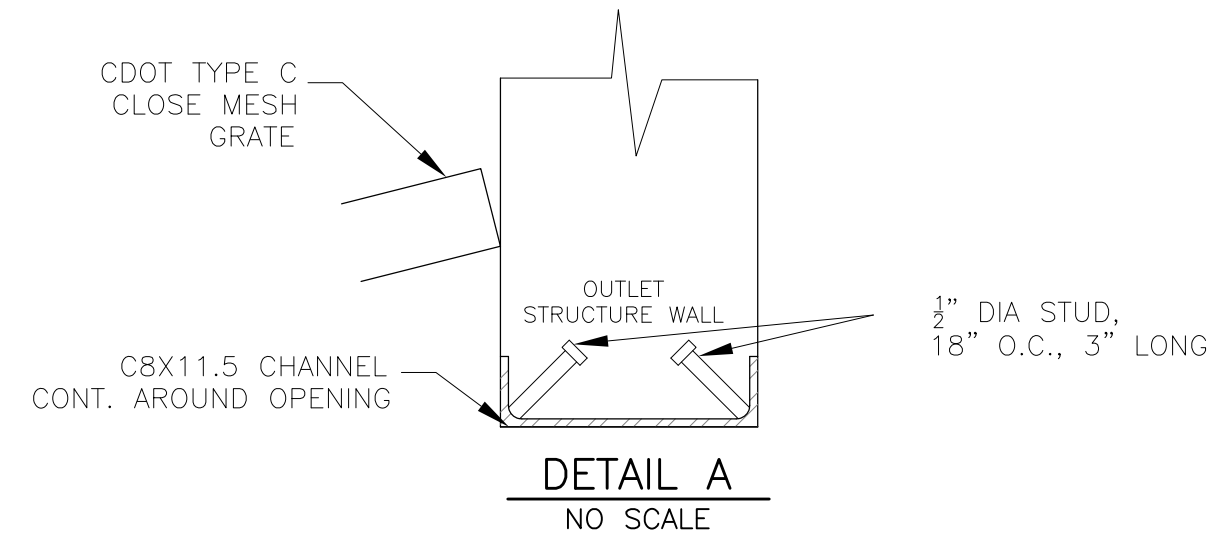
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C2.1
FOREBAY DETAILS

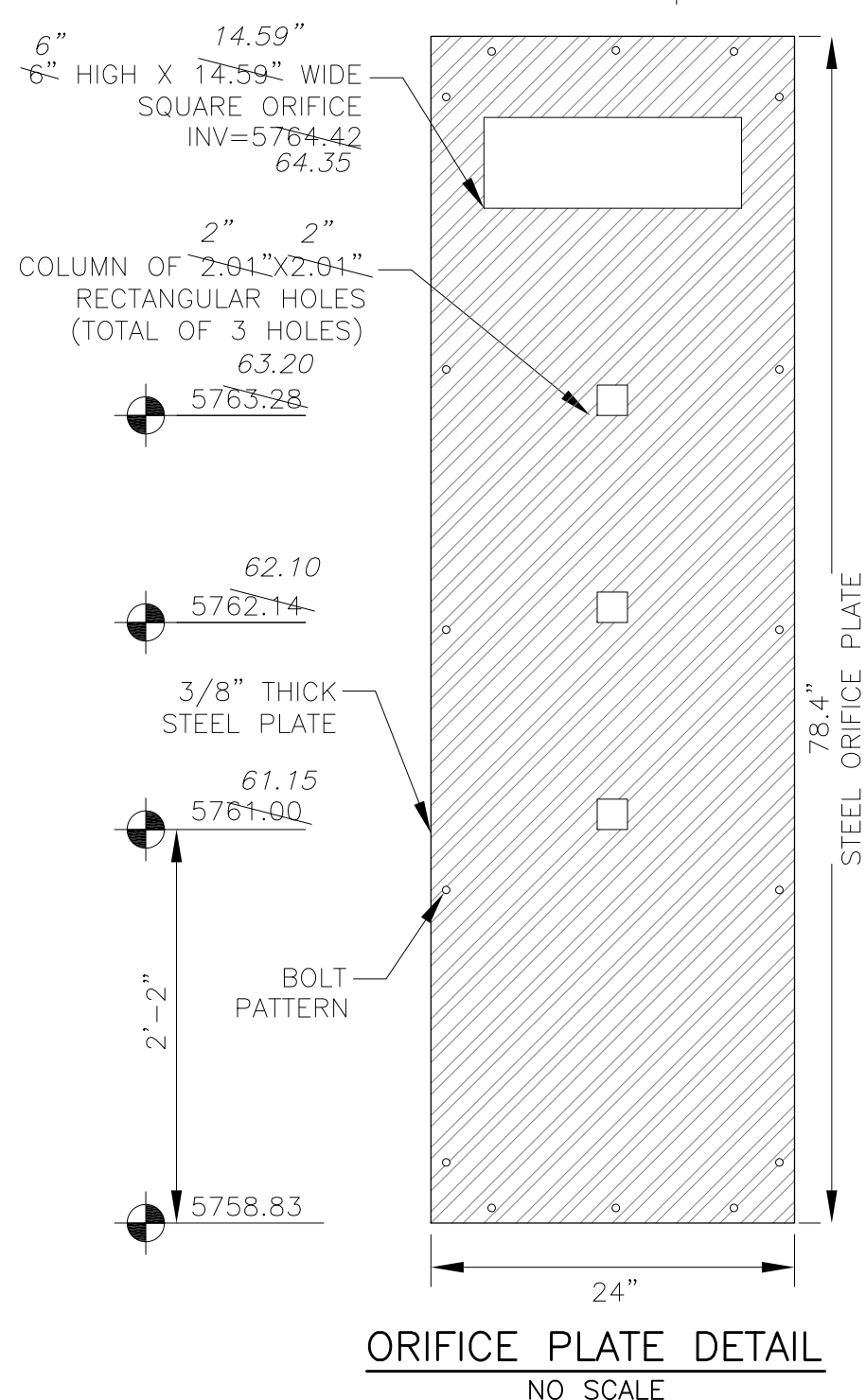
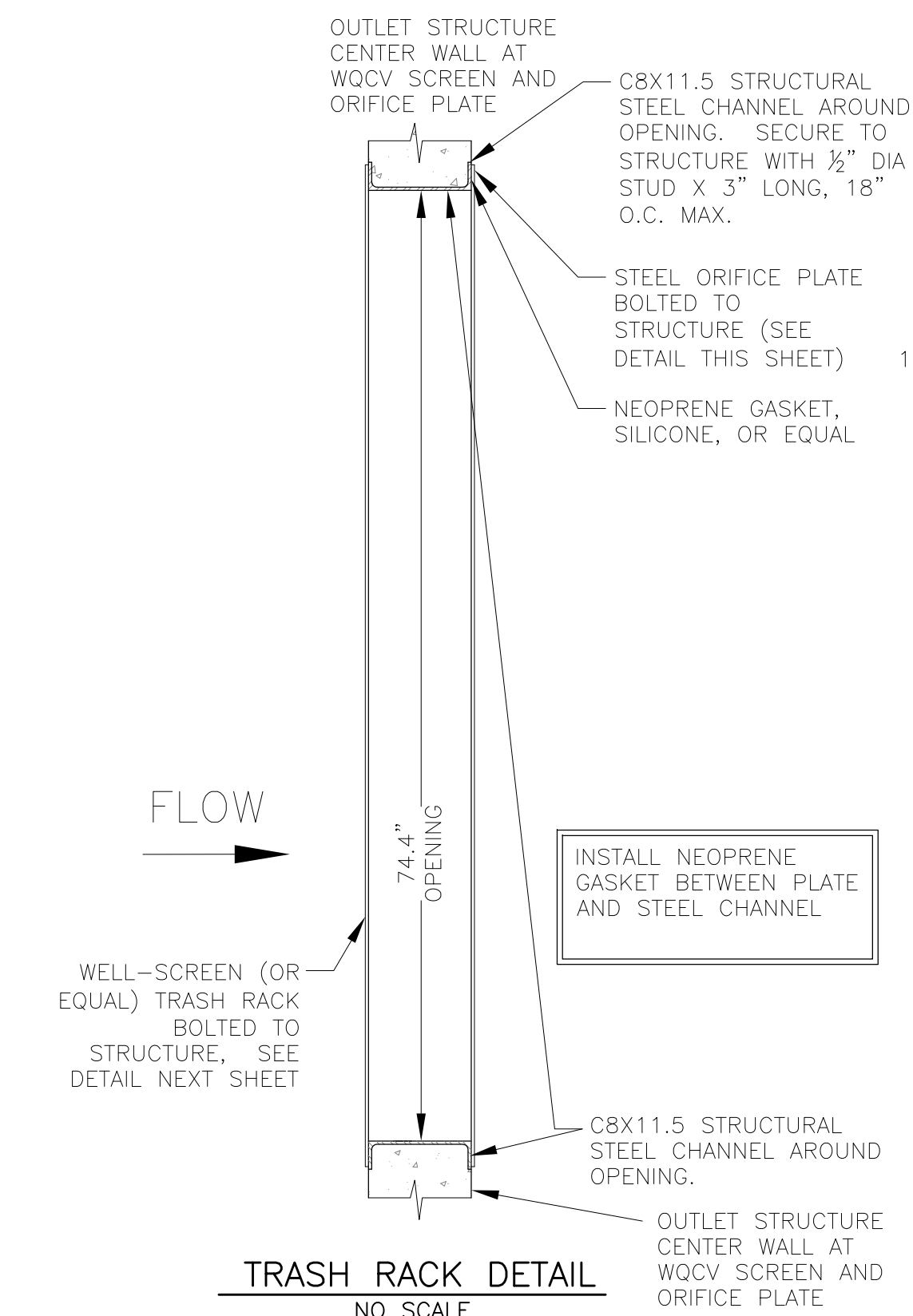
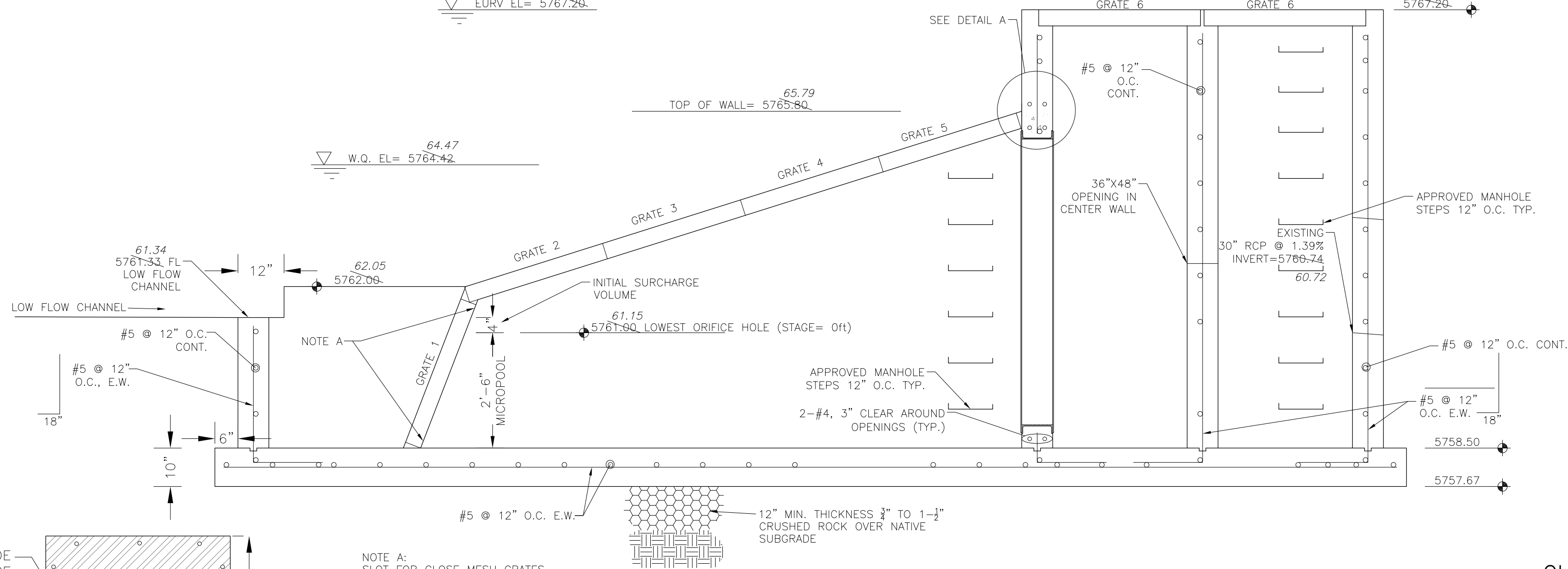
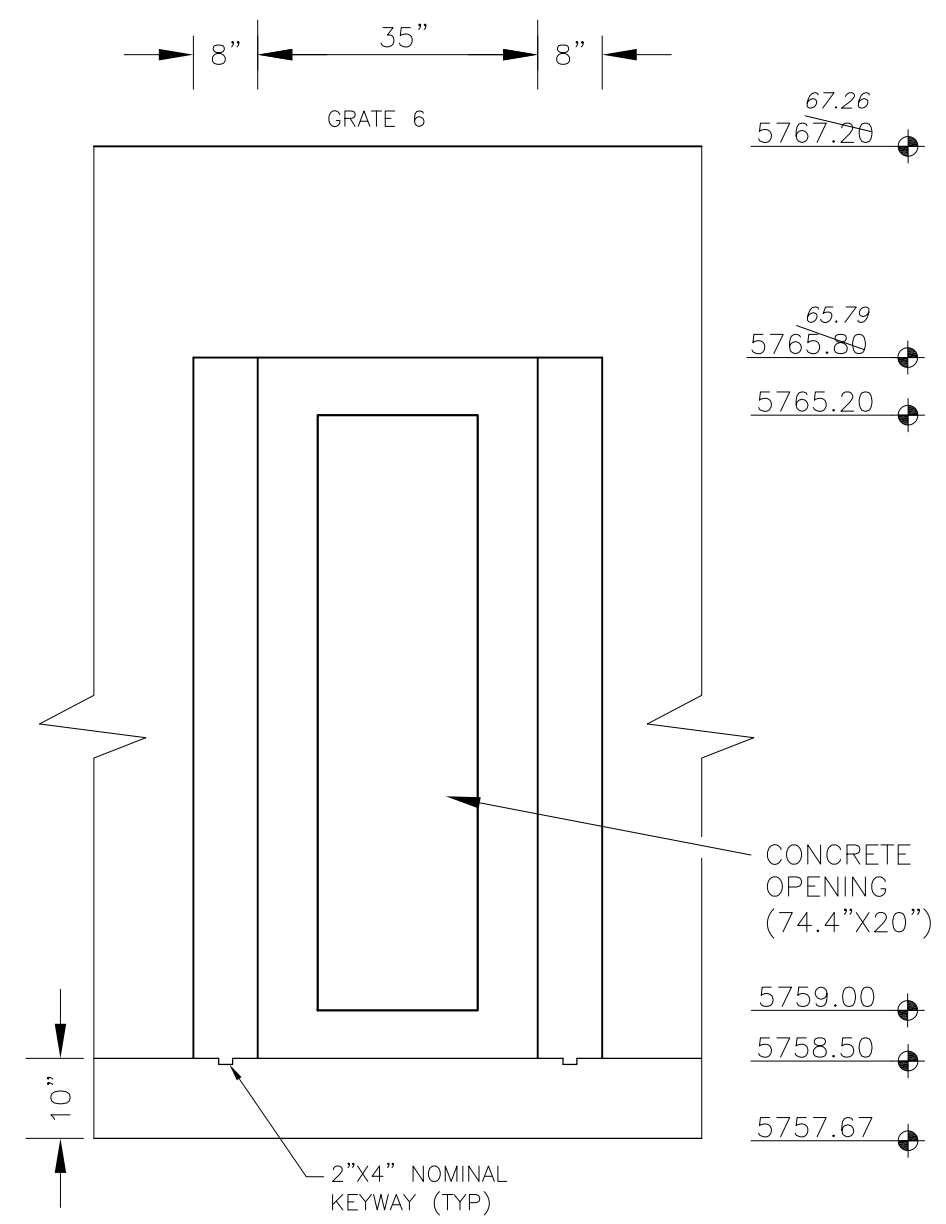
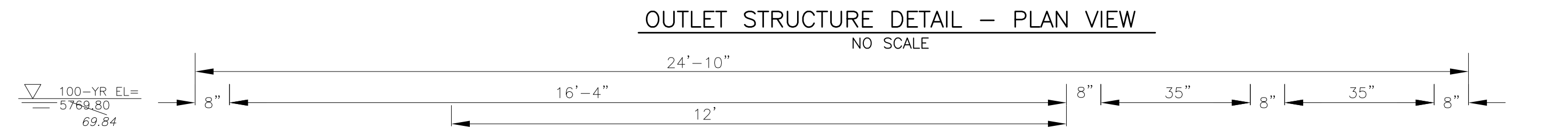
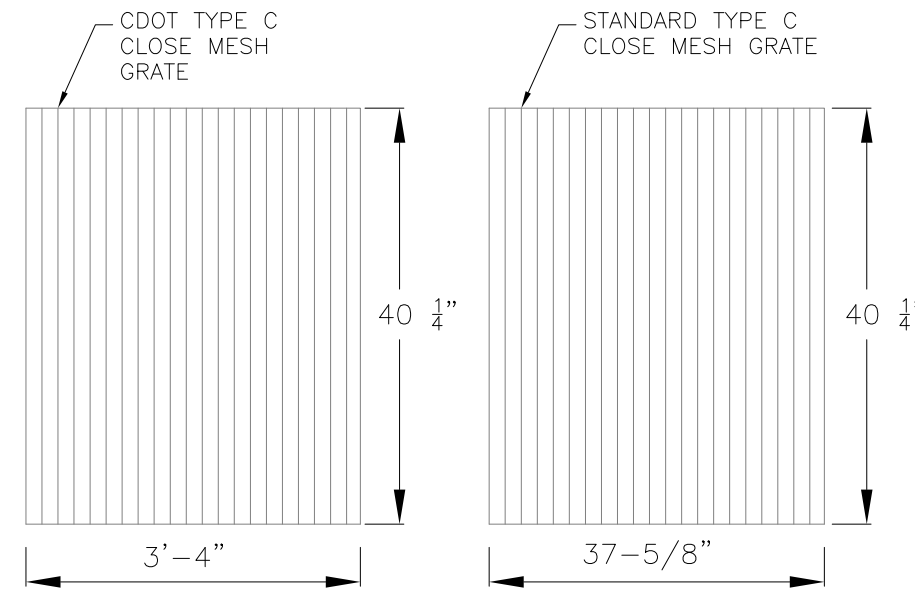


DATE: NOV 12, 2020
PROJECT NO. 100.061
SHEET NUMBER C9.4
TOTAL SHEETS: 58

AS-BUILT
DATE: 09/30/2022



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:

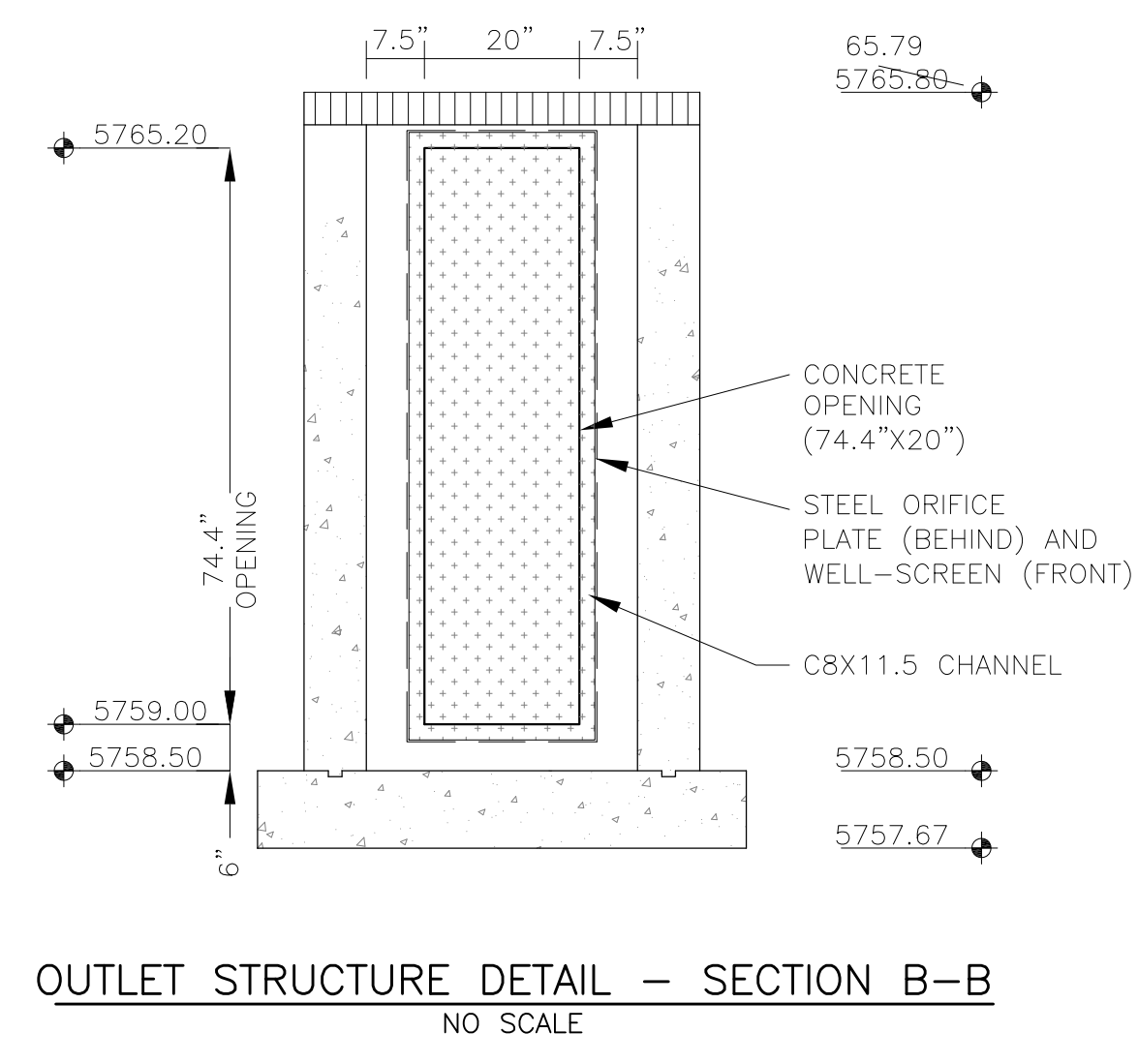
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF THE OUTLET STRUCTURE.
- GRADE 60 REINFORCING STEEL REQUIRED. SEE TABLE FOR THE MINIMUM LAP SPLICE LENGTH FOR REINFORCING BARS. ALL REINFORCING STEEL SHALL HAVE A TWO-INCH MINIMUM CLEARANCE FROM EDGE OF CONCRETE, UNLESS 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\"/>
- ALL EXPOSED CONCRETE CORNERS SHALL HAVE A 3/8\"/>
- SUBGRADE TO BE 12\"/>
- REFER TO POND DETAILS 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" |

WQCV WELL-SCREEN NOTES:

- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
- WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle

AS-BUILT
DATE: 09/30/2022

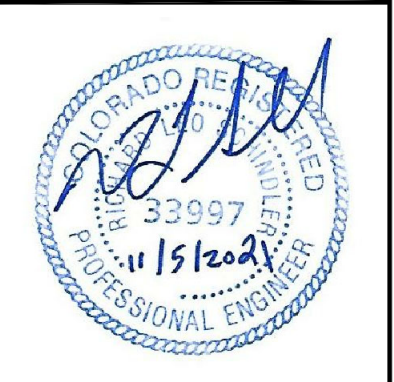


CORE
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15004 1ST AVENUE S.
DENVER, CO 80206
PH: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cog1.com

DATE: _____
DESCRIPTION: _____
NO: _____
PREPARED FOR:
LORSON, LLC
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
(719) 635-3200
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C2.1
FULL SPECTRUM
OUTLET STRUCTURE DETAILS

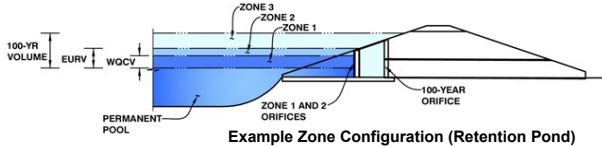


DATE:
NOV 5, 2021
PROJECT NO.
100.064
SHEET NUMBER
C9.4
TOTAL SHEETS: 23

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.02 (February 2020)

Project: The Hills at Lorson Ranch
Basin ID: Pond C2.2-asbuilt



| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 3.40 | 0.827 | Orifice Plate |
| Zone 2 (EURV) | 5.40 | 1.824 | Rectangular Orifice |
| Z3 (100+1/2WQCV) | 7.54 | 2.269 | Weir&Pipe (Restrict) |
| Total (all zones) | | 4.920 | |

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 = 1-11/16 inches)

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 | 1.15 | 2.20 | | | | | |
| Orifice Area (sq. inches) | 2.21 | 2.21 | 2.21 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | |
|---|-----------------------------------|----------------------------------|---|
| Invert of Vertical Orifice = | <input type="text" value="3.30"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | <input type="text" value="5.40"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Height = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | inches |
| Vertical Orifice Width = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | inches |

Calculated Parameters for Vertical Orif
 Vertical Orifice Area = ft²
 Vertical Orifice Centroid = feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe).

| | Zone 3 Weir | Not Selected | |
|---------------------------------------|-----------------------------------|----------------------------------|---|
| Overflow Weir Front Edge Height, Ho = | <input type="text" value="7.06"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | <input type="text" value="8.00"/> | <input type="text" value="N/A"/> | feet |
| Overflow Weir Gate Slope = | <input type="text" value="0.00"/> | <input type="text" value="N/A"/> | H:V |
| Horiz. Length of Weir Sides = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | feet |
| Overflow Gate Open Area % = | <input type="text" value="70%"/> | <input type="text" value="N/A"/> | % , gate open area/total area |
| Debris Clogging % = | <input type="text" value="50%"/> | <input type="text" value="N/A"/> | % |

Calculated Parameters for Overflow Weir
 Height of Gate Upper Edge, H_t = feet
 Overflow Weir Slope Length = feet
 Gate Open Area / 100-yr Orifice Area = N/A
 Overflow Gate Open Area w/o Debris = N/A
 Overflow Gate Open Area w/ Debris = N/A

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

| | Zone 3 Restrictor | Not Selected | |
|---|------------------------------------|----------------------------------|--|
| Depth to Invert of Outlet Pipe = | <input type="text" value="0.00"/> | <input type="text" value="N/A"/> | ft (distance below basin bottom at Stage = 0 ft) |
| Outlet Pipe Diameter = | <input type="text" value="30.00"/> | <input type="text" value="N/A"/> | inches |
| Restrictor Plate Height Above Pipe Invert = | <input type="text" value="18.50"/> | <input type="text" value="N/A"/> | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate
 Outlet Orifice Area = ft²
 Outlet Orifice Centroid = feet
 Half-Central Angle of Restrictor Plate on Pipe = N/A

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|-------------------------------------|------------------------------------|---|
| Spillway Invert Stage = | <input type="text" value="10.13"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | <input type="text" value="20.00"/> | feet |
| Spillway End Slopes = | <input type="text" value="4.00"/> | H:V |
| Freeboard above Max Water Surface = | <input type="text" value="1.49"/> | feet |

Calculated Parameters for Spillway
 Spillway Design Flow Depth = feet
 Stage at Top of Freeboard = feet
 Basin Area at Top of Freeboard = acres
 Basin Volume at Top of Freeboard = acre-ft

micropool = 0 = 5743.90

Routed Hydrograph Results

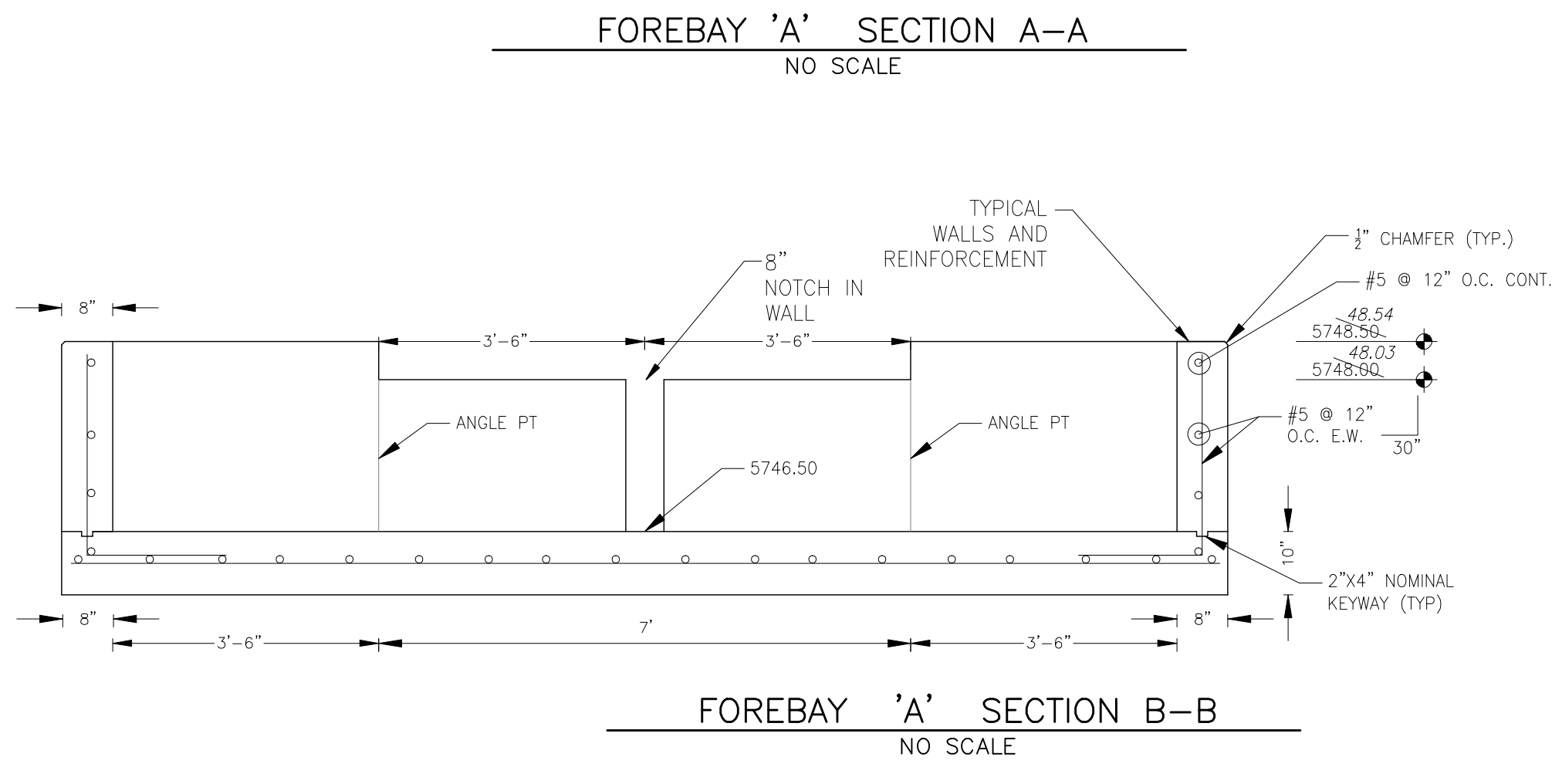
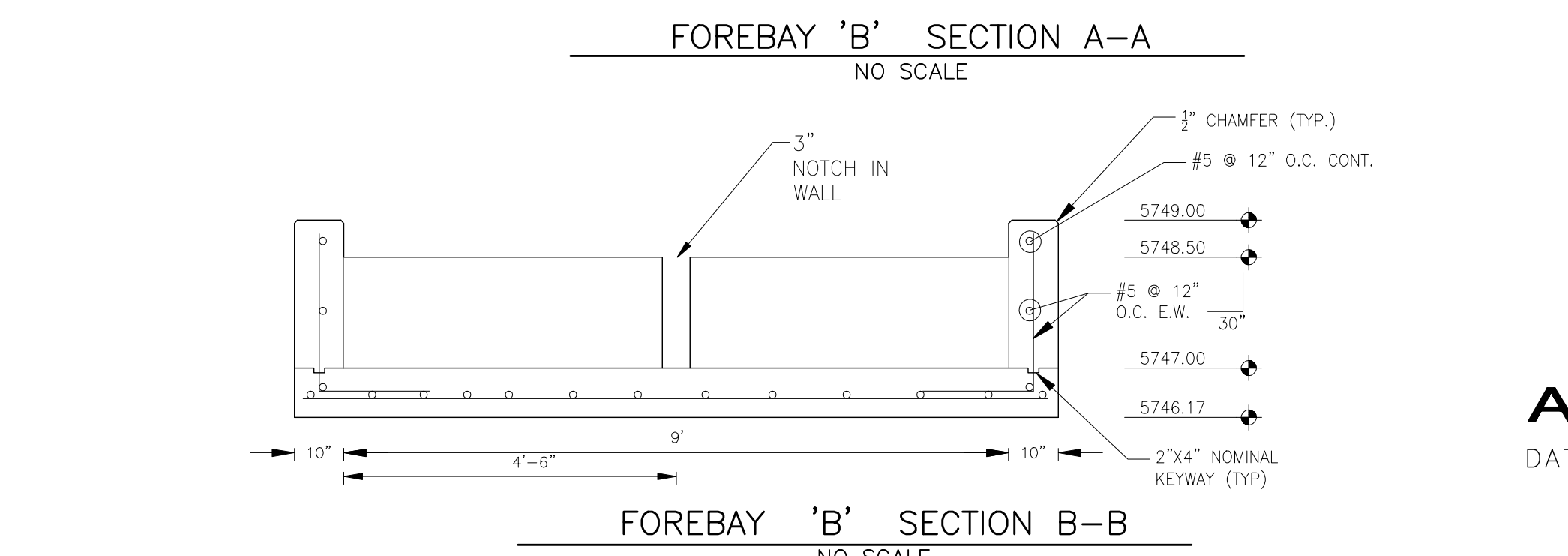
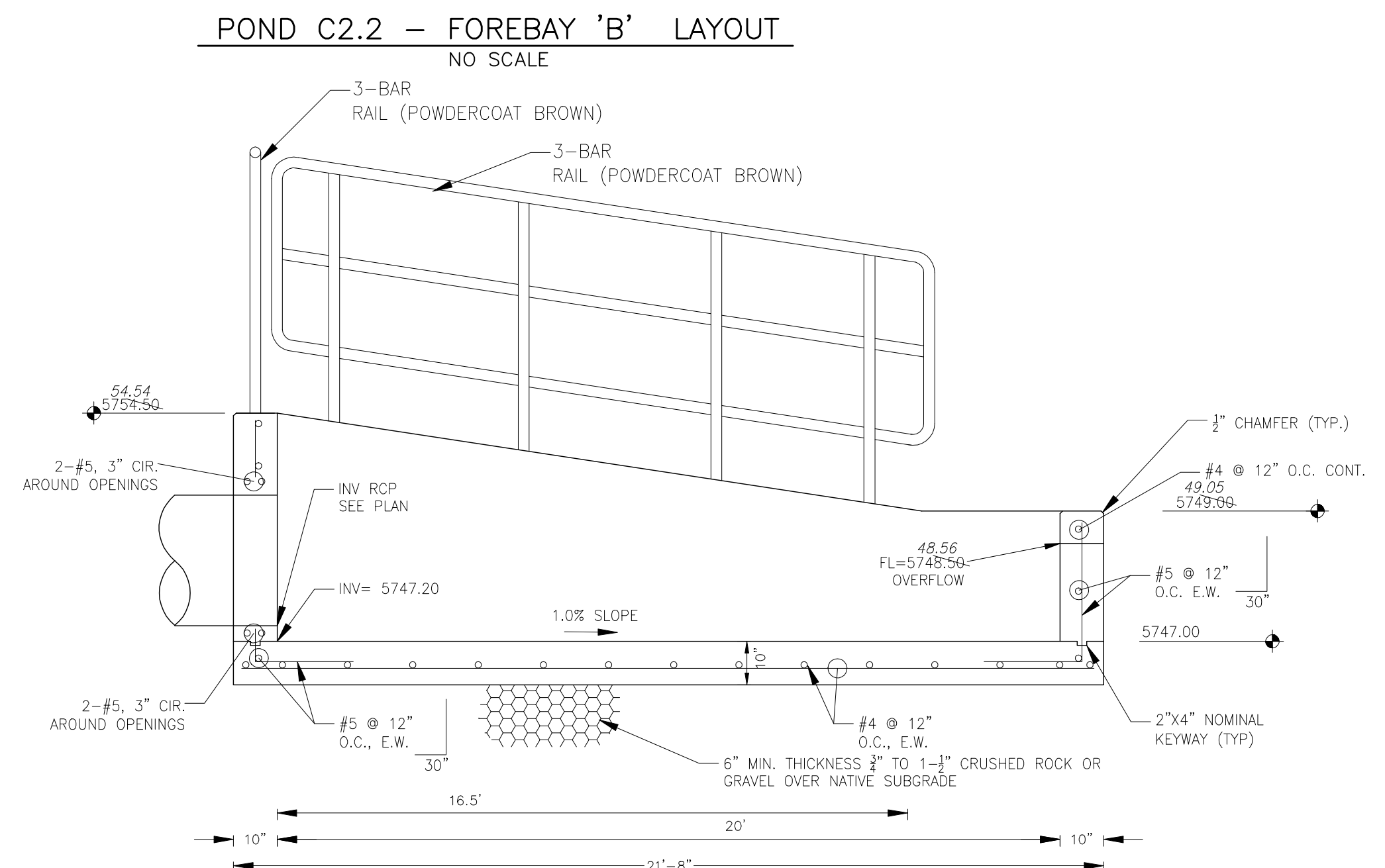
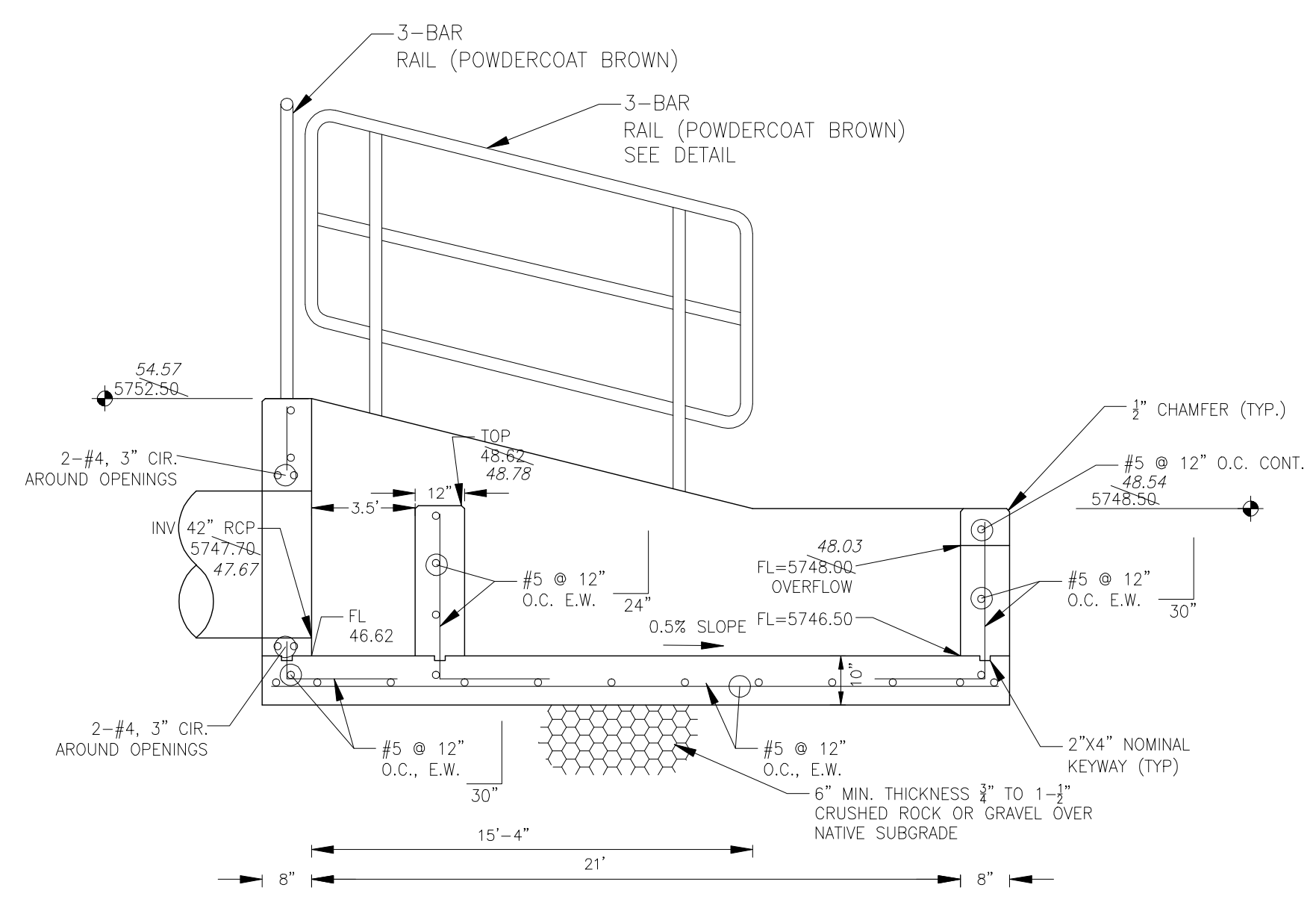
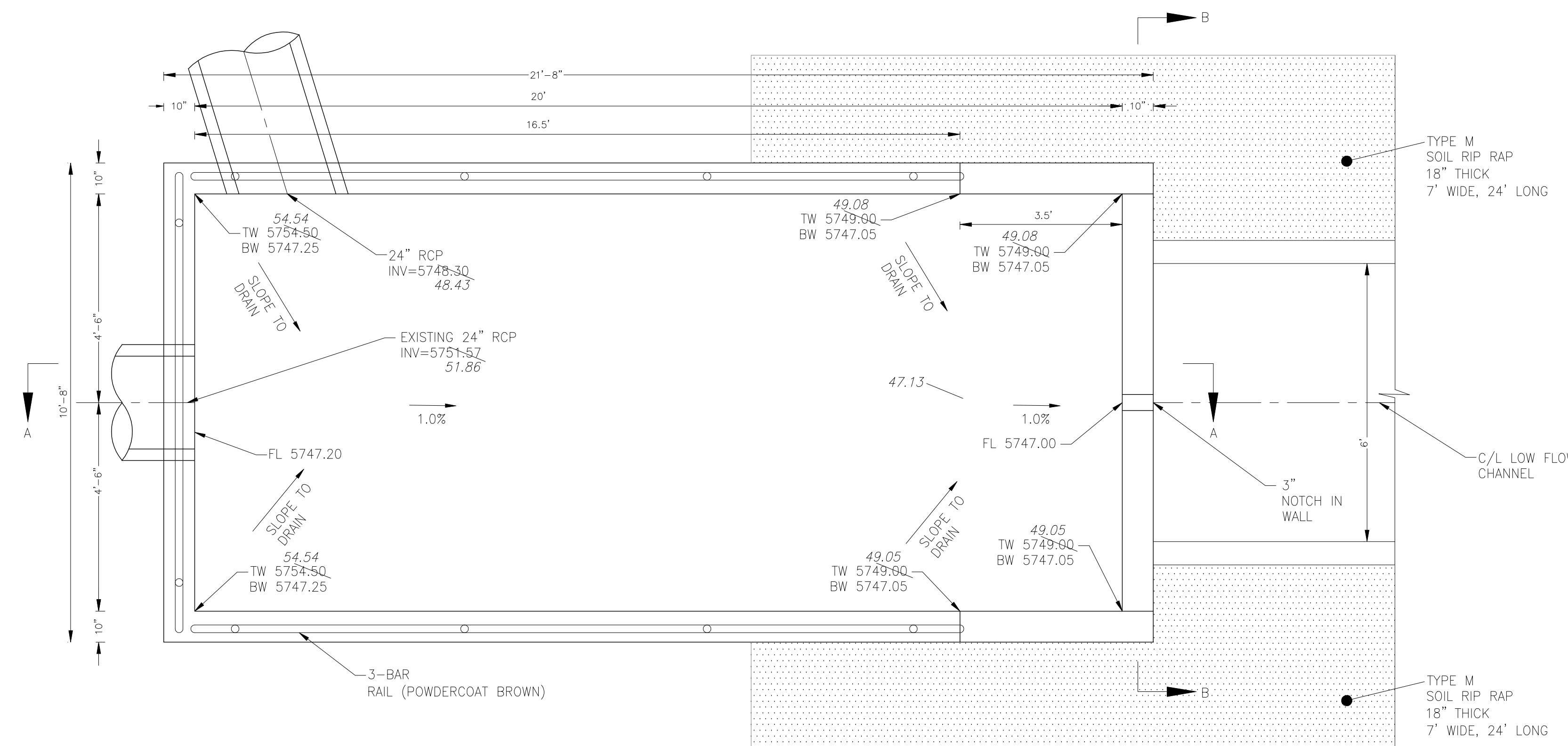
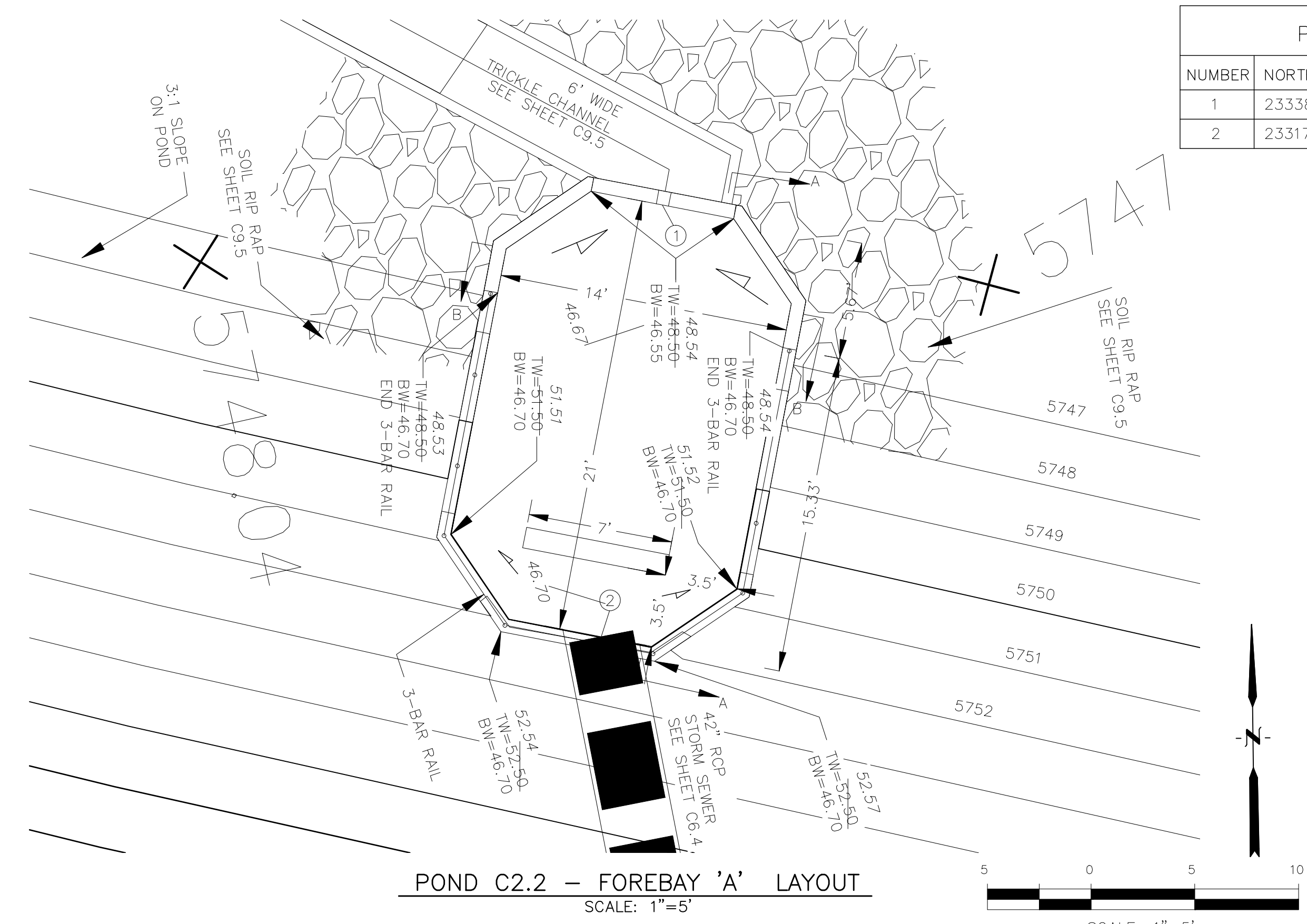
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|--|--------------------|--------------------|--------------------|-----------------|-----------------|----------------|----------------|----------------|
| Design Storm Return Period = | | | | | | | | |
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| CUHP Runoff Volume (acre-ft) = | 0.827 | 2.651 | 2.510 | 3.521 | 4.403 | 5.541 | 6.487 | 7.671 |
| User Override Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 4.057 | 5.655 | 8.290 | 11.856 | 14.864 | 18.552 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 5.0 | 13.5 | 20.5 | 36.5 | 45.7 | 58.2 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.11 | 0.30 | 0.46 | 0.81 | 1.02 | 1.29 |
| Peak Inflow Q (cfs) = | N/A | N/A | 41.0 | 59.5 | 73.2 | 94.9 | 111.3 | 131.4 |
| Peak Outflow Q (cfs) = | 0.4 | 2.1 | 2.3 | 3.9 | 25.0 | 40.3 | 41.5 | 43.7 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 0.3 | 1.2 | 1.1 | 0.9 | 0.8 |
| Structure Controlling Flow = | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Overflow Weir 1 | Overflow Weir 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) = | N/A | N/A | N/A | 0.0 | 0.7 | 1.1 | 1.1 | 1.2 |
| Max Velocity through Gate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 39 | 54 | 59 | 62 | 58 | 53 | 49 | 44 |
| Time to Drain 99% of Inflow Volume (hours) = | 41 | 58 | 65 | 70 | 68 | 66 | 64 | 62 |
| Maximum Ponding Depth (ft) = | 3.40 | 5.40 | 5.86 | 7.13 | 7.57 | 7.80 | 8.25 | 9.04 |
| Area at Maximum Ponding Depth (acres) = | 0.78 | 0.99 | 1.02 | 1.10 | 1.13 | 1.15 | 1.18 | 1.23 |
| Maximum Volume Stored (acre-ft) = | 0.834 | 2.659 | 3.122 | 4.468 | 4.959 | 5.221 | 5.745 | 6.698 |

Pond C2.2 Developed Inflow Hydrograph---- asbuilt Pond C3 outflow + C5 Basin + C7 Basin

| Time [hr] | Time [min] | 2 Year | | 5yr | | 10yr | | 25yr | | 50yr | | 100yr | | 500yr | |
|-----------|------------|--------------------------|-------|----------|------|----------|-------|----------|-------|----------|-------|----------|-------|----------|--------|
| | | Pond C3 Outflow2 - [cfs] | CUHP | Combined | CUHP | Combined | CUHP | Combined | CUHP | Combined | CUHP | Combined | CUHP | Combined | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.08 | 5.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 | 0.03 | 0.00 |
| 0.17 | 10.00 | 0.07 | 0.00 | 0.07 | 0.00 | 0.08 | 0.00 | 0.08 | 0.00 | 0.07 | 0.00 | 0.07 | 0.00 | 0.08 | 0.00 |
| 0.25 | 15.00 | 0.11 | 3.74 | 3.85 | 0.12 | 6.11 | 6.23 | 0.13 | 7.57 | 7.70 | 0.11 | 5.09 | 5.20 | 0.12 | 6.38 |
| 0.33 | 20.00 | 0.14 | 13.60 | 13.74 | 0.16 | 18.00 | 18.16 | 0.16 | 21.92 | 22.08 | 0.15 | 13.38 | 13.53 | 0.15 | 15.61 |
| 0.42 | 25.00 | 0.17 | 31.11 | 31.28 | 0.19 | 45.07 | 45.26 | 0.18 | 57.54 | 58.05 | 0.18 | 30.50 | 30.68 | 0.23 | 35.87 |
| 0.50 | 30.00 | 0.23 | 40.82 | 41.05 | 1.23 | 58.25 | 59.48 | 1.97 | 71.19 | 73.16 | 1.69 | 76.90 | 78.59 | 2.18 | 91.05 |
| 0.58 | 35.00 | 0.87 | 38.60 | 39.47 | 2.11 | 53.89 | 56.00 | 2.59 | 65.04 | 67.63 | 2.78 | 92.11 | 94.89 | 3.23 | 108.06 |
| 0.67 | 40.00 | 1.68 | 33.84 | 35.52 | 2.54 | 46.24 | 48.78 | 3.04 | 55.88 | 58.92 | 3.52 | 88.47 | 91.99 | 3.95 | 103.22 |
| 0.75 | 45.00 | 2.03 | 28.43 | 30.46 | 2.83 | 39.40 | 42.23 | 3.45 | 48.41 | 51.86 | 4.08 | 77.76 | 81.84 | 4.49 | 90.67 |
| 0.83 | 50.00 | 2.27 | 23.82 | 26.09 | 3.07 | 33.85 | 36.92 | 3.84 | 41.10 | 44.94 | 4.51 | 69.49 | 74.00 | 4.91 | 81.04 |
| 0.92 | 55.00 | 2.46 | 20.11 | 22.57 | 3.28 | 28.41 | 31.69 | 4.17 | 34.74 | 38.91 | 4.86 | 58.63 | 63.49 | 5.26 | 68.45 |
| 1.00 | 60.00 | 2.61 | 17.63 | 20.24 | 3.48 | 24.74 | 28.22 | 4.46 | 30.90 | 35.36 | 5.15 | 48.90 | 54.05 | 14.42 | 57.23 |
| 1.08 | 65.00 | 2.73 | 15.89 | 18.62 | 3.68 | 22.20 | 25.88 | 4.71 | 28.16 | 32.87 | 8.14 | 42.78 | 50.92 | 27.08 | 50.23 |
| 1.17 | 70.00 | 2.82 | 13.63 | 16.45 | 3.85 | 19.91 | 23.76 | 4.93 | 25.58 | 30.51 | 17.52 | 36.41 | 53.93 | 29.18 | 42.84 |
| 1.25 | 75.00 | 2.90 | 11.46 | 14.36 | 4.00 | 17.10 | 21.10 | 5.13 | 23.01 | 28.14 | 26.03 | 30.66 | 56.69 | 29.49 | 36.16 |
| 1.33 | 80.00 | 2.97 | 9.51 | 12.48 | 4.14 | 14.14 | 18.28 | 5.56 | 19.48 | 25.04 | 29.01 | 24.76 | 53.77 | 29.74 | 29.17 |
| 1.42 | 85.00 | 3.03 | 7.93 | 10.96 | 4.26 | 11.69 | 15.95 | 10.03 | 15.58 | 25.61 | 29.20 | 19.60 | 48.80 | 29.95 | 23.03 |
| 1.50 | 90.00 | 3.08 | 6.97 | 10.05 | 4.38 | 10.29 | 14.67 | 14.87 | 13.16 | 28.03 | 29.36 | 14.82 | 44.18 | 30.14 | 17.32 |
| 1.58 | 95.00 | 3.14 | 6.50 | 9.64 | 4.48 | 9.58 | 14.06 | 18.58 | 11.74 | 30.32 | 29.51 | 11.96 | 41.47 | 30.32 | 13.95 |
| 1.67 | 100.00 | 3.19 | 6.27 | 9.46 | 4.57 | 8.56 | 13.13 | 21.01 | 10.76 | 31.77 | 29.64 | 10.21 | 39.85 | 30.47 | 11.85 |
| 1.75 | 105.00 | 3.24 | 6.14 | 9.38 | 4.65 | 7.72 | 12.37 | 22.39 | 10.05 | 32.44 | 29.77 | 9.08 | 38.85 | 30.62 | 10.48 |
| 1.83 | 110.00 | 3.29 | 6.04 | 9.33 | 4.72 | 7.11 | 11.83 | 22.95 | 9.57 | 32.52 | 29.88 | 8.29 | 38.17 | 30.75 | 9.52 |
| 1.92 | 115.00 | 3.33 | 5.34 | 8.67 | 4.78 | 6.67 | 11.45 | 22.82 | 8.98 | 31.80 | 29.98 | 7.79 | 37.77 | 30.88 | 8.90 |
| 2.00 | 120.00 | 3.36 | 4.68 | 8.04 | 4.84 | 6.16 | 11.00 | 21.99 | 8.10 | 30.09 | 30.08 | 7.44 | 37.52 | 30.99 | 8.45 |
| 2.08 | 125.00 | 3.39 | 3.59 | 6.98 | 4.88 | 4.72 | 9.60 | 20.59 | 6.16 | 26.75 | 30.15 | 5.71 | 35.86 | 31.08 | 6.47 |
| 2.17 | 130.00 | 3.42 | 2.65 | 6.07 | 4.91 | 3.44 | 8.35 | 18.90 | 4.45 | 23.35 | 30.17 | 4.14 | 34.31 | 31.16 | 4.68 |
| 2.25 | 135.00 | 3.44 | 1.95 | 5.39 | 4.93 | 2.52 | 7.45 | 17.14 | 3.22 | 20.36 | 30.11 | 3.01 | 33.12 | 31.23 | 3.40 |
| 2.33 | 140.00 | 3.46 | 1.42 | 4.88 | 4.94 | 1.83 | 6.77 | 15.43 | 2.34 | 17.77 | 29.99 | 2.20 | 32.19 | 31.28 | 2.48 |
| 2.42 | 145.00 | 3.48 | 1.02 | 4.50 | 4.96 | 1.28 | 6.24 | 13.86 | 1.67 | 15.53 | 29.83 | 1.56 | 31.39 | 31.33 | 1.75 |
| 2.50 | 150.00 | 3.49 | 0.71 | 4.20 | 4.96 | 0.88 | 5.84 | 12.47 | 1.17 | 13.64 | 29.63 | 1.10 | 30.73 | 31.37 | 1.23 |
| 2.58 | 155.00 | 3.51 | 0.49 | 4.00 | 4.97 | 0.61 | 5.58 | 11.27 | 0.82 | 12.09 | 29.41 | 0.79 | 30.20 | 31.37 | 0.88 |
| 2.67 | 160.00 | 3.52 | 0.31 | 3.83 | 4.97 | 0.41 | 5.38 | 10.29 | 0.53 | 10.82 | 29.17 | 0.52 | 29.69 | 31.31 | 0.59 |
| 2.75 | 165.00 | 3.54 | 0.17 | 3.71 | 4.98 | 0.24 | 5.22 | 9.50 | 0.31 | 9.81 | 28.92 | 0.32 | 29.24 | 31.18 | 0.35 |
| 2.83 | 170.00 | 3.55 | 0.08 | 3.63 | 4.98 | 0.12 | 5.10 | 8.88 | 0.15 | 9.03 | 28.76 | 0.16 | 28.92 | 31.02 | 0.18 |
| 2.92 | 175.00 | 3.56 | 0.03 | 3.59 | 4.99 | 0.04 | 5.03 | 8.38 | 0.05 | 8.43 | 19.25 | 0.05 | 19.30 | 30.82 | 0.06 |
| 3.00 | 180.00 | 3.57 | 0.00 | 3.57 | 4.99 | 0.00 | 4.99 | 7.97 | 0.00 | 7.97 | 16.09 | 0.00 | 16.09 | 30.61 | 0.00 |
| 3.08 | 185.00 | 3.58 | | 3.58 | 4.99 | 0.00 | 4.99 | 7.64 | 0.00 | 7.64 | 13.83 | 0.00 | 13.83 | 30.37 | 0.00 |
| 3.17 | 190.00 | 3.59 | | 3.59 | 5.00 | | 5.00 | 7.36 | | 7.36 | 12.17 | 0.00 | 12.17 | 30.13 | 0.00 |
| 3.25 | 195.00 | 3.61 | | 3.61 | 5.00 | | 5.00 | 7.12 | | 7.12 | 10.92 | 0.00 | 10.92 | 29.87 | 0.00 |
| 3.33 | 200.00 | 3.62 | | 3.62 | 5.00 | | 5.00 | 6.92 | | 6.92 | 9.97 | 0.00 | 9.97 | 29.61 | 0.00 |
| 3.42 | 205.00 | 3.62 | | 3.62 | 5.00 | | 5.00 | 6.75 | | 6.75 | 9.22 | 0.00 | 9.22 | 29.34 | 0.00 |
| 3.50 | 210.00 | 3.63 | | 3.63 | 5.01 | | 5.01 | 6.60 | | 6.60 | 8.63 | | 8.63 | 29.07 | 0.00 |
| 3.58 | 215.00 | 3.64 | | 3.64 | 5.01 | | 5.01 | 6.46 | | 6.46 | 8.15 | | 8.15 | 27.11 | |
| 3.67 | 220.00 | 3.65 | | 3.65 | 5.01 | | 5.01 | 6.35 | | 6.35 | 7.76 | | 7.76 | 21.44 | |
| 3.75 | 225.00 | 3.66 | | 3.66 | 5.01 | | 5.01 | 6.24 | | 6.24 | 7.44 | | 7.44 | 17.58 | |
| 3.83 | 230.00 | 3.67 | | 3.67 | 5.01 | | 5.01 | 6.15 | | 6.15 | 7.17 | | 7.17 | 14.87 | |
| 3.92 | 235.00 | 3.67 | | 3.67 | 5.02 | | 5.02 | 6.06 | | 6.06 | 6.94 | | 6.94 | 12.90 | |
| 4.00 | 240.00 | 3.68 | | 3.68 | 5.02 | | 5.02 | 5.98 | | 5.98 | 6.74 | | 6.74 | 11.44 | |
| 4.08 | 245.00 | 3.69 | | 3.69 | 5.02 | | 5.02 | 5.91 | | 5.91 | 6.58 | | 6.58 | 10.33 | |
| 4.17 | 250.00 | 3.69 | | 3.69 | 5.02 | | 5.02 | 5.84 | | 5.84 | 6.43 | | 6.43 | 9.48 | |
| 4.25 | 255.00 | 3.70 | | 3.70 | 5.02 | | 5.02 | 5.78 | | 5.78 | 6.30 | | 6.30 | 8.81 | |
| 4.33 | 260.00 | 3.70 | | 3.70 | 5.02 | | 5.02 | 5.72 | | 5.72 | 6.19 | | 6.19 | 8.27 | |
| 4.42 | 265.00 | 3.71 | | 3.71 | 5.02 | | 5.02 | 5.67 | | 5.67 | 6.08 | | 6.08 | 7.83 | |
| 4.50 | 270.00 | 3.71 | | 3.71 | 5.02 | | 5.02 | 5.62 | | 5.62 | 5.99 | | 5.99 | 7.47 | |
| 4.58 | 275.00 | 3.72 | | 3.72 | 5.02 | | 5.02 | 5.57 | | 5.57 | 5.91 | | 5.91 | 7.18 | |
| 4.67 | 280.00 | 3.72 | | 3.72 | 5.02 | | 5.02 | 5.53 | | 5.53 | 5.83 | | 5.83 | 6.93 | |
| 4.75 | 285.00 | 3.72 | | 3.72 | 5.02 | | 5.02 | 5.49 | | 5.49 | 5.76 | | 5.76 | 6.71 | |
| 4.83 | 290.00 | 3.73 | | 3.73 | 5.02 | | 5.02 | 5.45 | | 5.45 | 5.70 | | 5.70 | 6.53 | |
| 4.92 | 295.00 | 3.73 | | 3.73 | 5.02 | | 5.02 | 5.41 | | 5.41 | 5.64 | | 5.64 | 6.37 | |
| 5.00 | 300.00 | 3.73 | | 3.73 | 5.02 | | 5.02 | 5.38 | | 5.38 | 5.58 | | 5.58 | 6.23 | |
| 5.08 | 305.00 | 3.73 | | 3.73 | 5.01 | | 5.01 | 5.34 | | 5.34 | 5.53 | | 5.53 | 6.11 | |
| 5.17 | 310.00 | 3.73 | | 3.73 | 5.01 | | 5.01 | 5.32 | | 5.32 | 5.49 | | 5.49 | 6.00 | |
| 5.25 | 315.00 | 3.74 | | 3.74 | 5.01 | | 5.01 | 5.30 | | 5.30 | 5.44 | | 5.44 | 5.90 | |
| 5.33 | 320.00 | 3.74 | | 3.74 | 5.01 | | 5.01 | 5.28 | | 5.28 | 5.40 | | 5.40 | 5.82 | |
| 5.42 | 325.00 | 3.74 | | 3.74 | 5.01 | | 5.01 | 5.28 | | 5.28 | 5.37 | | 5.37 | 5.74 | |
| 5.50 | 330.00 | 3.74 | | 3.74 | 5.00 | | 5.00 | 5.27 | | 5.27 | 5.33 | | 5.33 | 5.67 | |
| 5.58 | 335.00 | 3.74 | | 3.74 | 5.00 | | 5.00 | 5.27 | | 5.27 | 5.31 | | 5.31 | 5.60 | |
| 5.67 | 340.00 | 3.74 | | 3.74 | 5.00 | | 5.00 | 5.27 | | 5.27 | 5.29 | | 5.29 | 5.54 | |
| 5.75 | 345.00 | 3.74 | | 3.74 | 4.99 | | 4.99 | 5.26 | | 5.26 | 5.28 | | 5.28 | 5.49 | |

| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 23338.41 | 29100.32 | 5746.50 | FOREBAY BOTTOM |
| 2 | 23317.59 | 29097.36 | 5746.62 | FOREBAY BOTTOM, INV 42"=5747.70 |



NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D

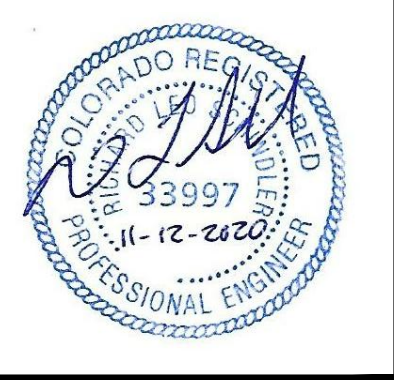
CORE ENGINEERING GROUP
 1500A 1ST AVENUE S.
 BOULDER, CO 80501
 PH: 719.570.1100
 CONTACT: RICHARD L. SCHINDLER, P.E.
 EMAIL: Rich@ceg1.com

DATE: _____
 DESCRIPTION: _____
 NO: _____

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

DRAWN: **RLS**
 DESIGNED: **RLS**
 CHECKED: **RLS**

POND C2.2
FOREBAY DETAILS



DATE: NOV 12, 2020

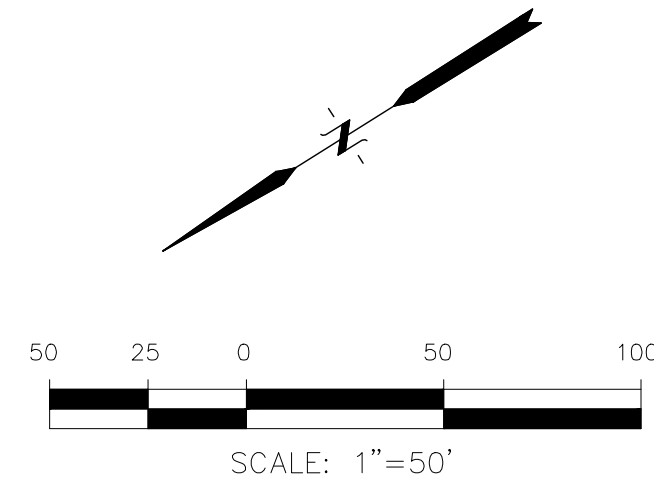
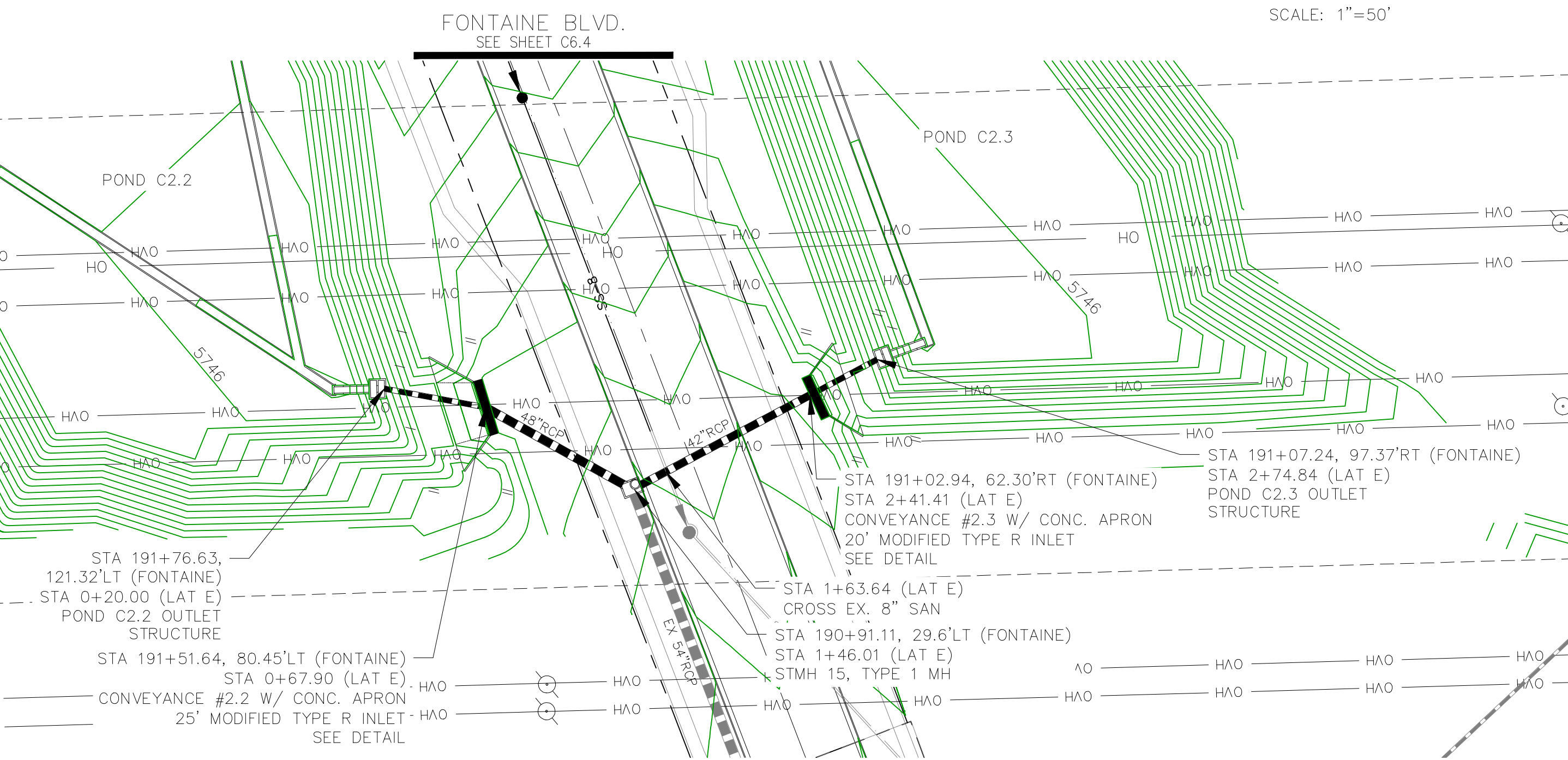
PROJECT NO. 100.061

SHEET NUMBER **C9.6**
 TOTAL SHEETS: 58

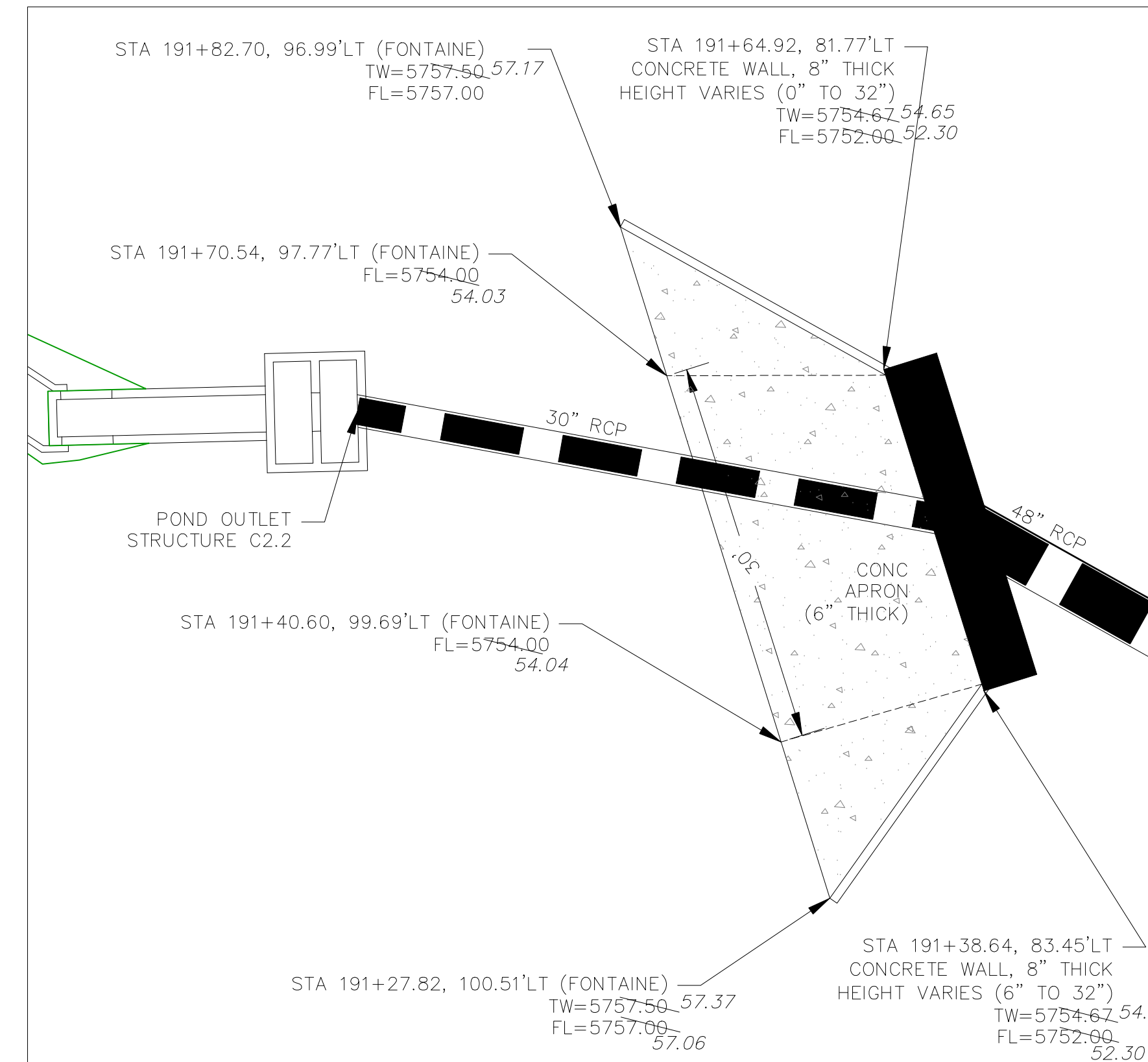
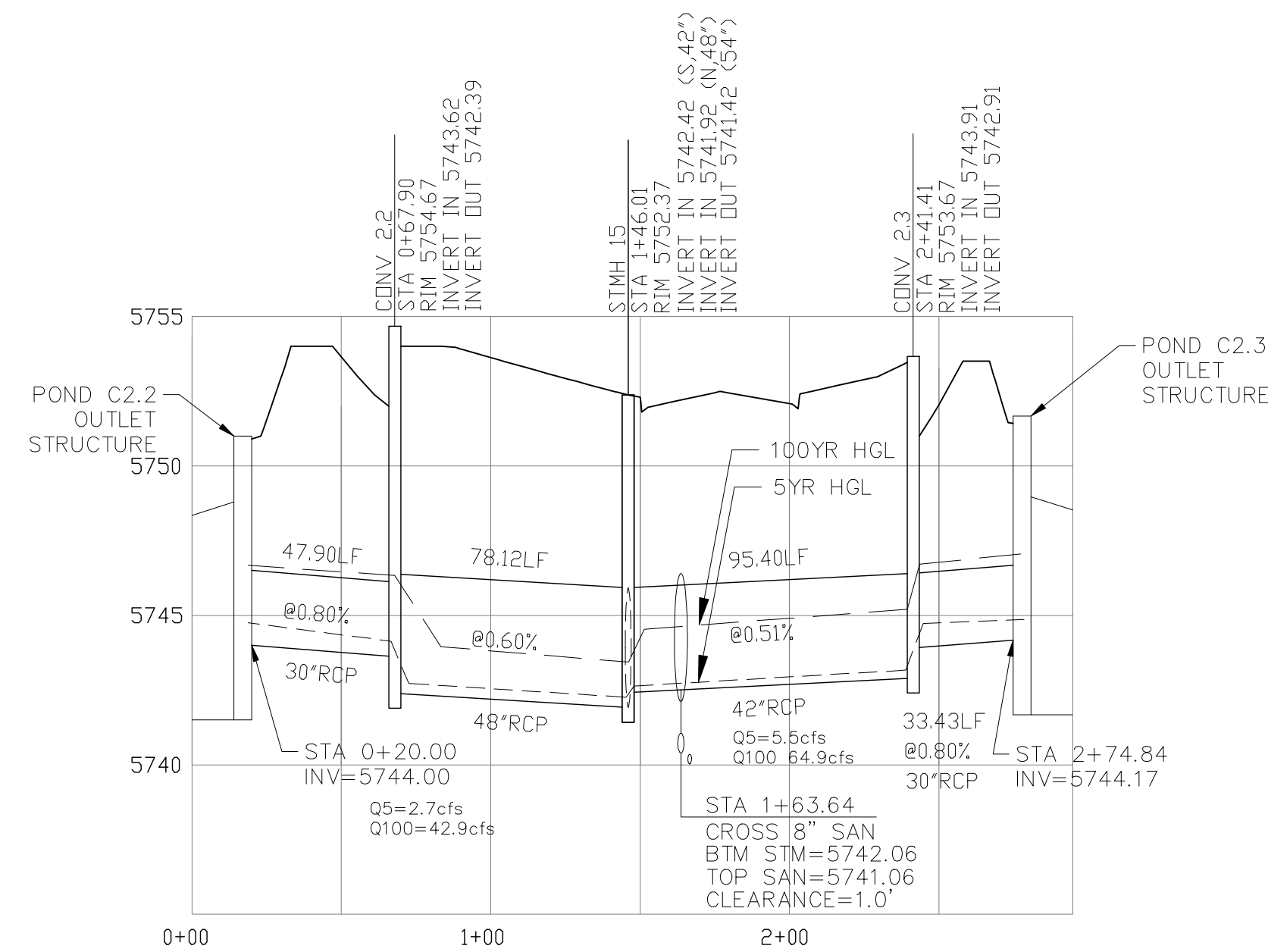
AS-BUILT
 DATE: 09/30/2022

- NOTES**
1. ALL SPOT ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE NOTED.
 2. SEE EARLY GRADING PLAN FOR GRADING INFORMATION.
 3. ALL STORM SEWER SHALL BE CLASS III RCP.
 4. ALL MHS SHALL BE TYPE 1 UNLESS OTHERWISE NOTED.

- 1 CURVE DATA ID
- 2 PEDESTRIAN RAMP, SEE SHEET C10.1
- 3 CURB/GUTTER FLOW LINE POINTS

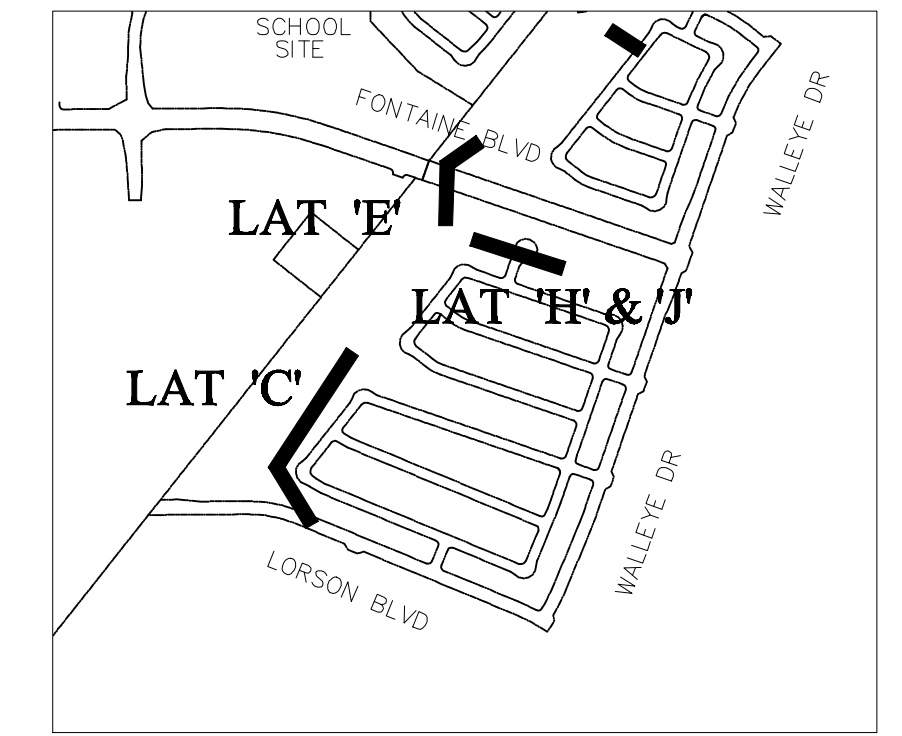


STORM LATERAL 'E'



CONVEYANCE STRUCTURE #2.2

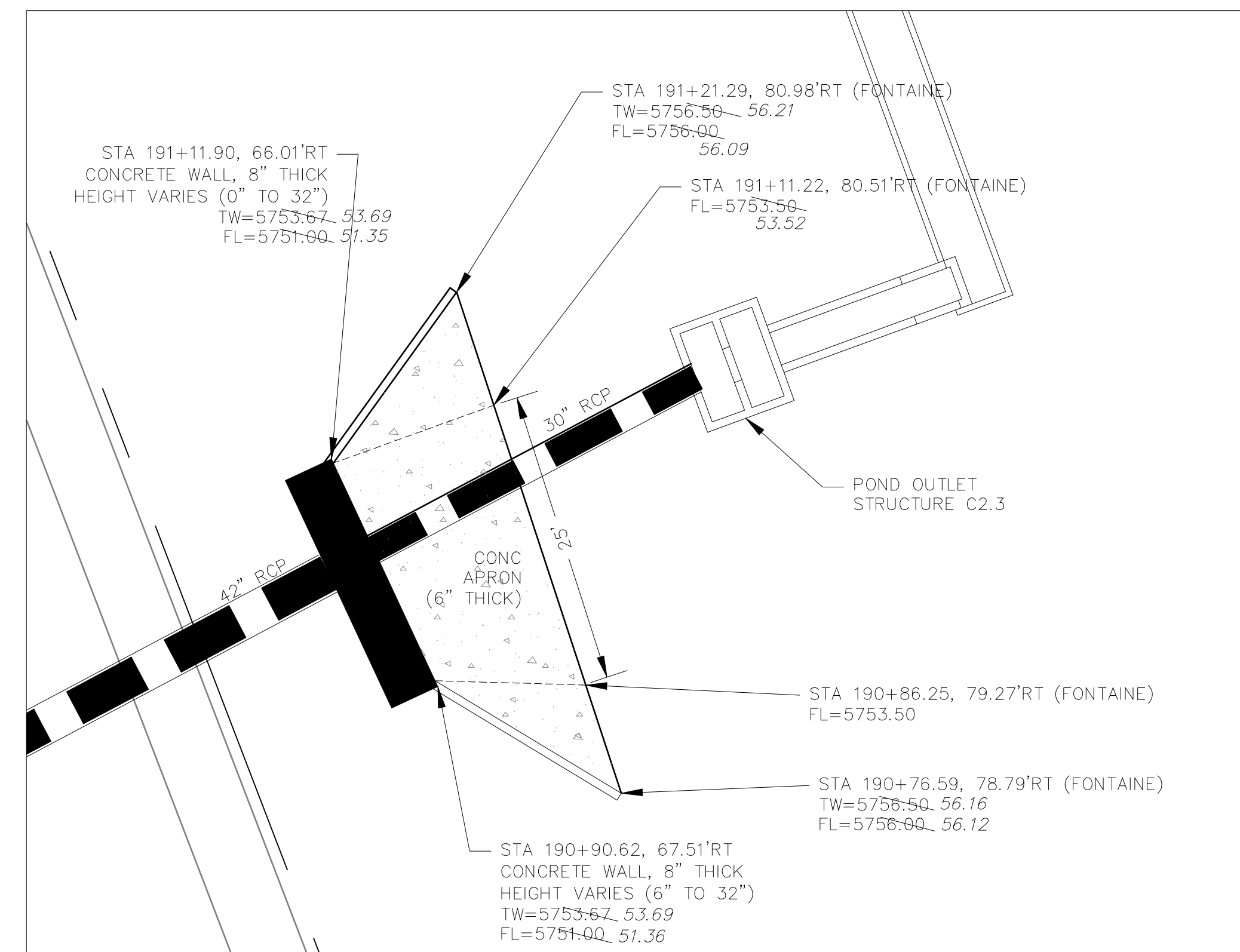
SCALE: 1"=10'



KEY MAP

CONVEYANCE STRUCTURE #2.2 NOTES:

1. 25' CDOT TYPE R INLET WITH MODIFIED THROAT OPENING
2. THROAT OPENING = 24"
3. EXTEND 1.25" GALVANIZED STEEL ROD SUPPORTS (TYPE R INLET) TO ACCOMMODATE 24" THROAT OPENING
4. CONCRETE APRON TO BE REINFORCED WITH NO. 4 REBAR, 24" O.C. BOTH WAYS. REBAR TO EXTEND INTO CONCRETE WALL W/ NO. 4 "L" BARS, 18" O.C.
5. CONCRETE WALLS SHALL HAVE A MINIMUM OF TWO HORIZONTAL NO. 4 BARS
6. 24" THROAT OPENING TO INCLUDE SAFETY GRATE.



CONVEYANCE STRUCTURE #2.3

SCALE: 1"=10'

CONVEYANCE STRUCTURE #2.3 NOTES:

1. 20' CDOT TYPE R INLET WITH MODIFIED THROAT OPENING
2. THROAT OPENING = 24"
3. EXTEND 1.25" GALVANIZED STEEL ROD SUPPORTS (TYPE R INLET) TO ACCOMMODATE 24" THROAT OPENING
4. CONCRETE APRON TO BE REINFORCED WITH NO. 4 REBAR, 24" O.C. BOTH WAYS. REBAR TO EXTEND INTO CONCRETE WALL W/ NO. 4 "L" BARS.
5. CONCRETE WALLS SHALL HAVE A MINIMUM OF TWO HORIZONTAL NO. 4 BARS
6. 24" THROAT OPENING TO INCLUDE SAFETY GRATE.

AS-BUILT
DATE: 09/30/2022

CORE ENGINEERING GROUP
15004 1ST AVENUE S.
DENVER, CO 80202
PHONE: 719.576.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: JAN 12, 2021

DESCRIPTION: RAISE SITE 1' EAST OF POWERLINES

NO. 1

PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
212 N. WAHSATCH AVE SUITE 301
COLORADO SPRINGS, COLORADO 80903
LORSON BLVD - GRAYLING DR
LORSON BLVD - WALLEVE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO
PREPARED FOR: LORSON, LLC
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

STREET & STORM SEWER PLAN/PROFILE
STORM LATERAL 'E'
CONVEYANCE #2.2 & #2.3

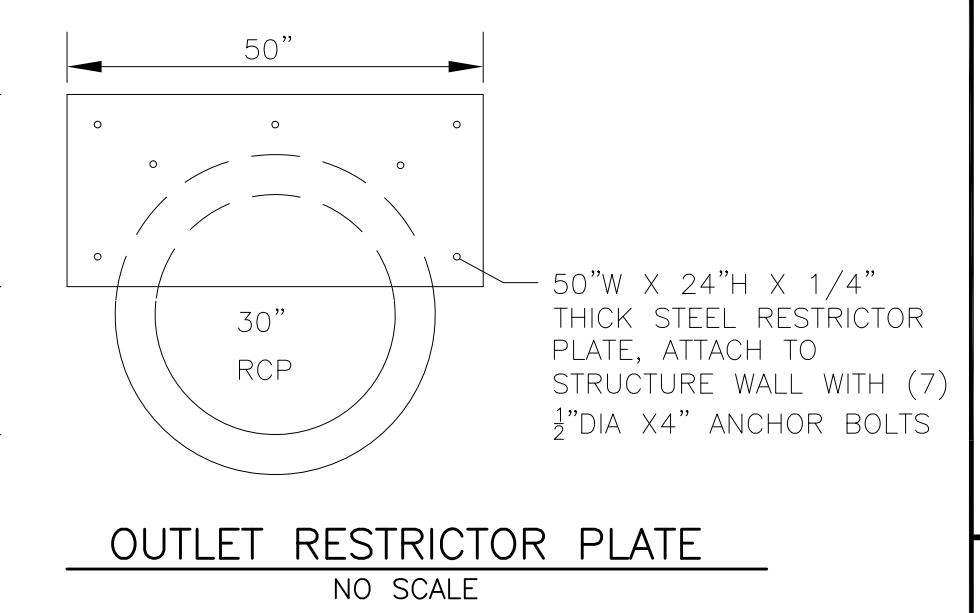
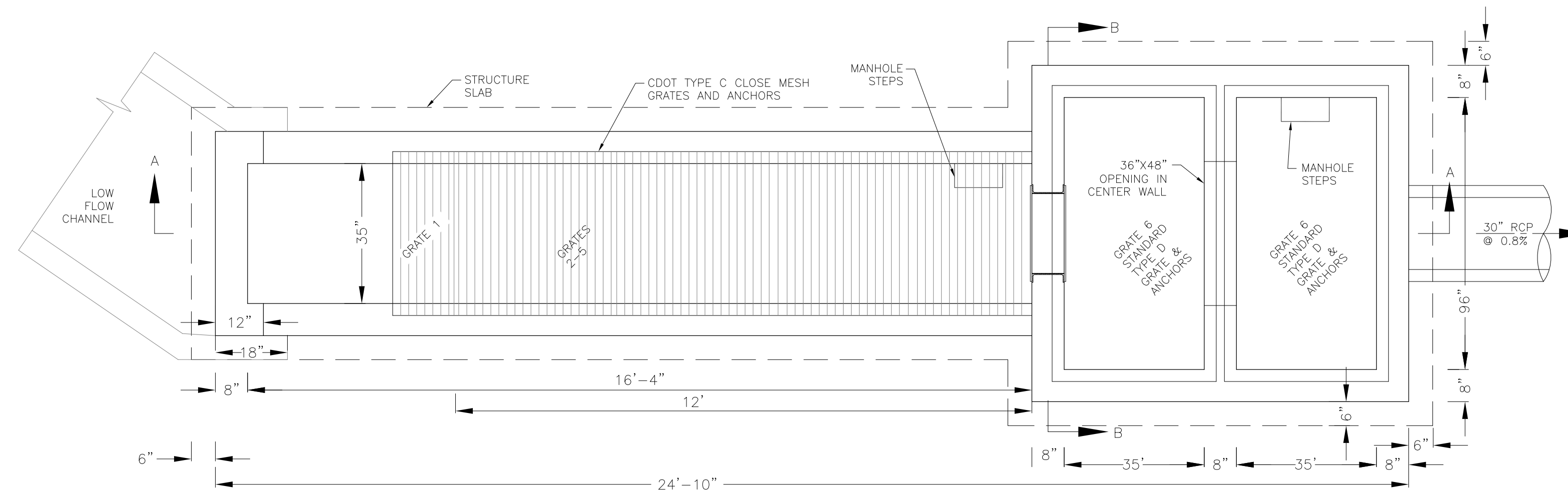
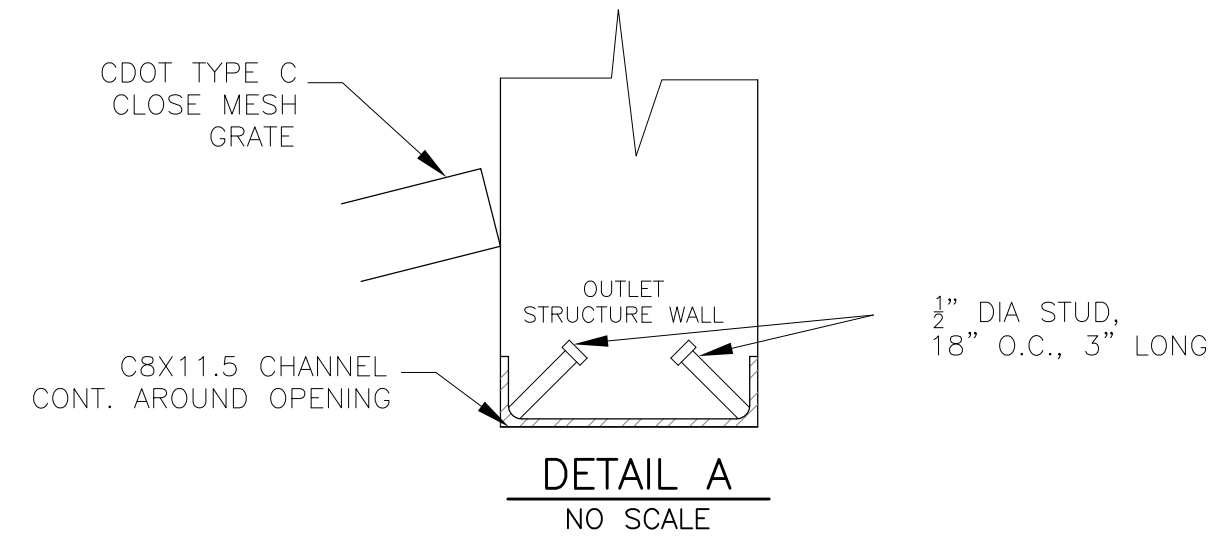


DATE: NOV 12, 2020

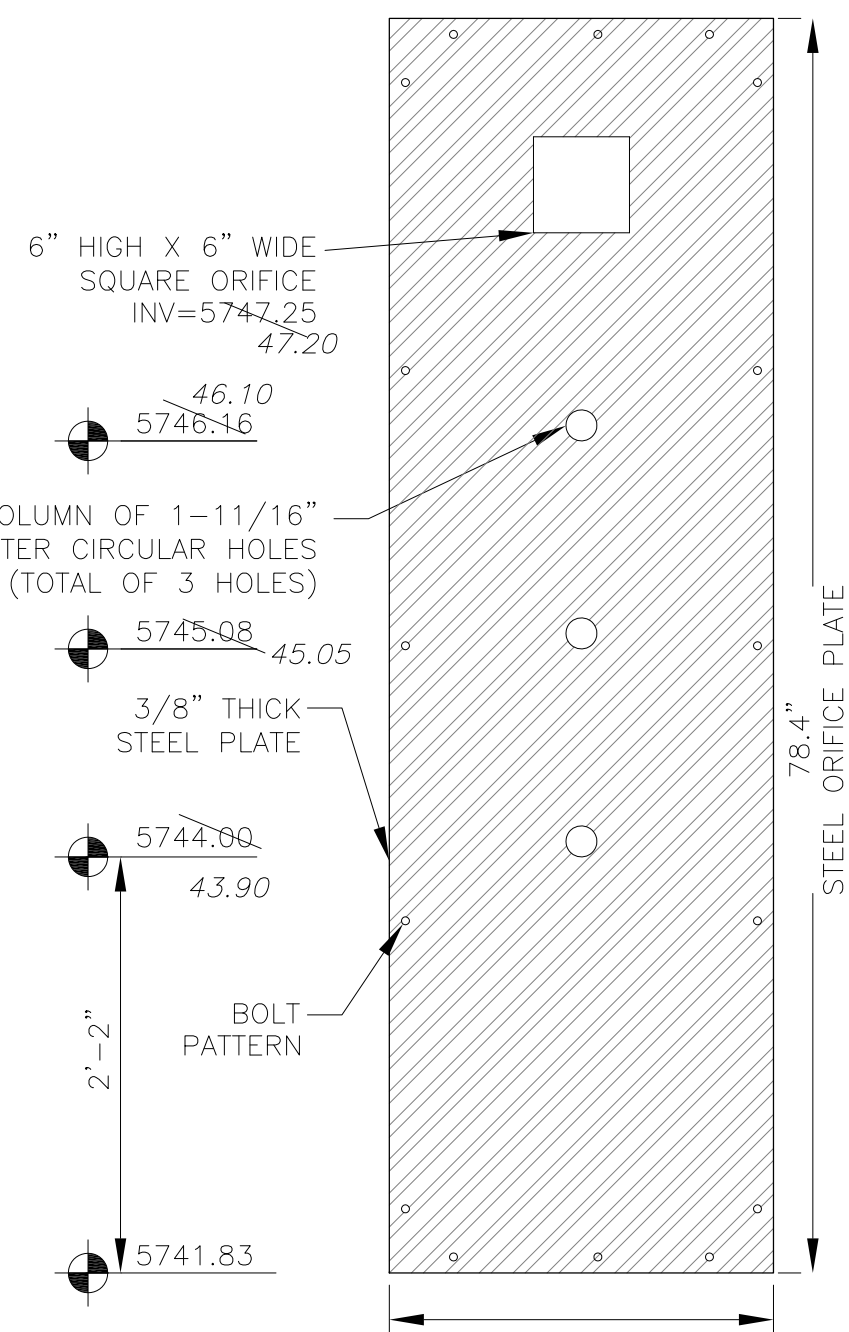
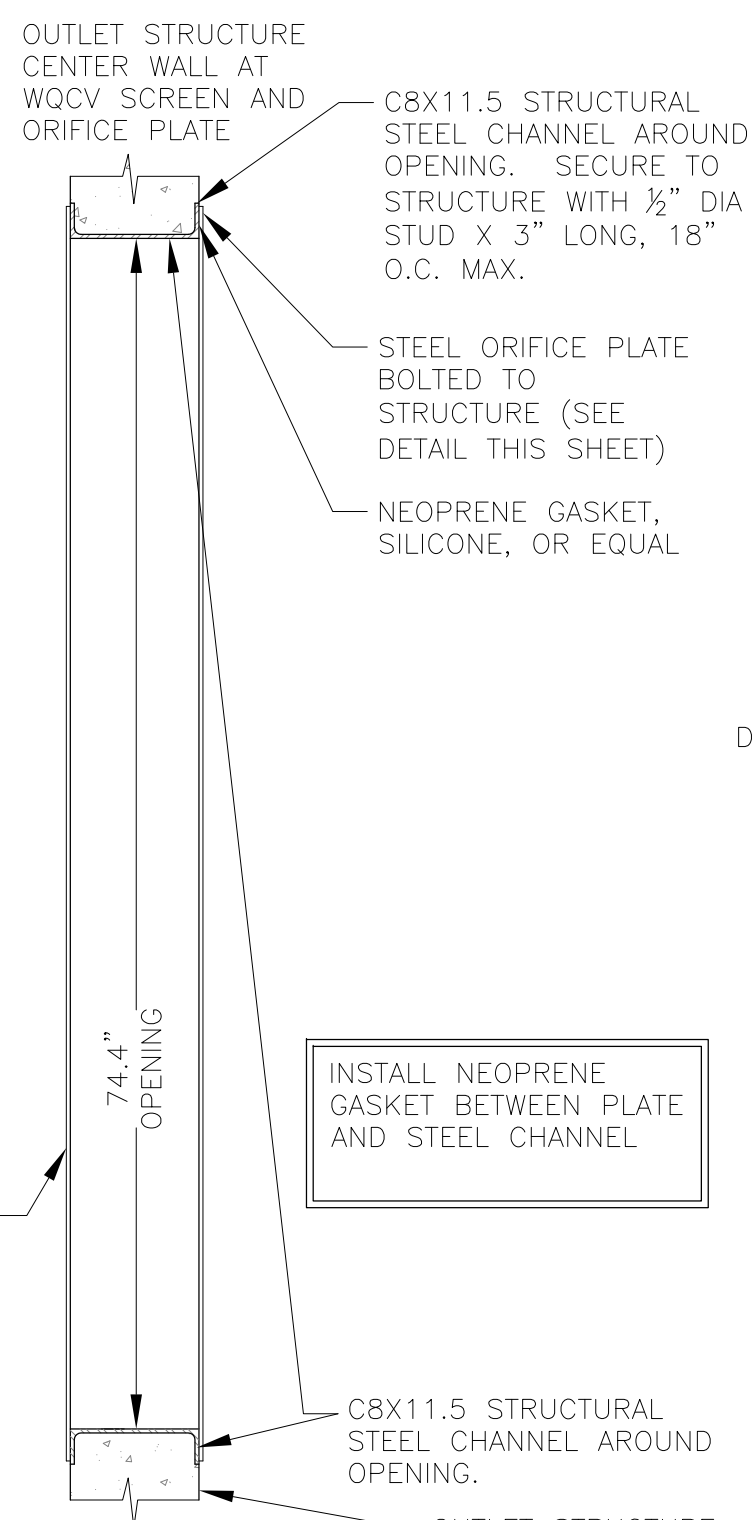
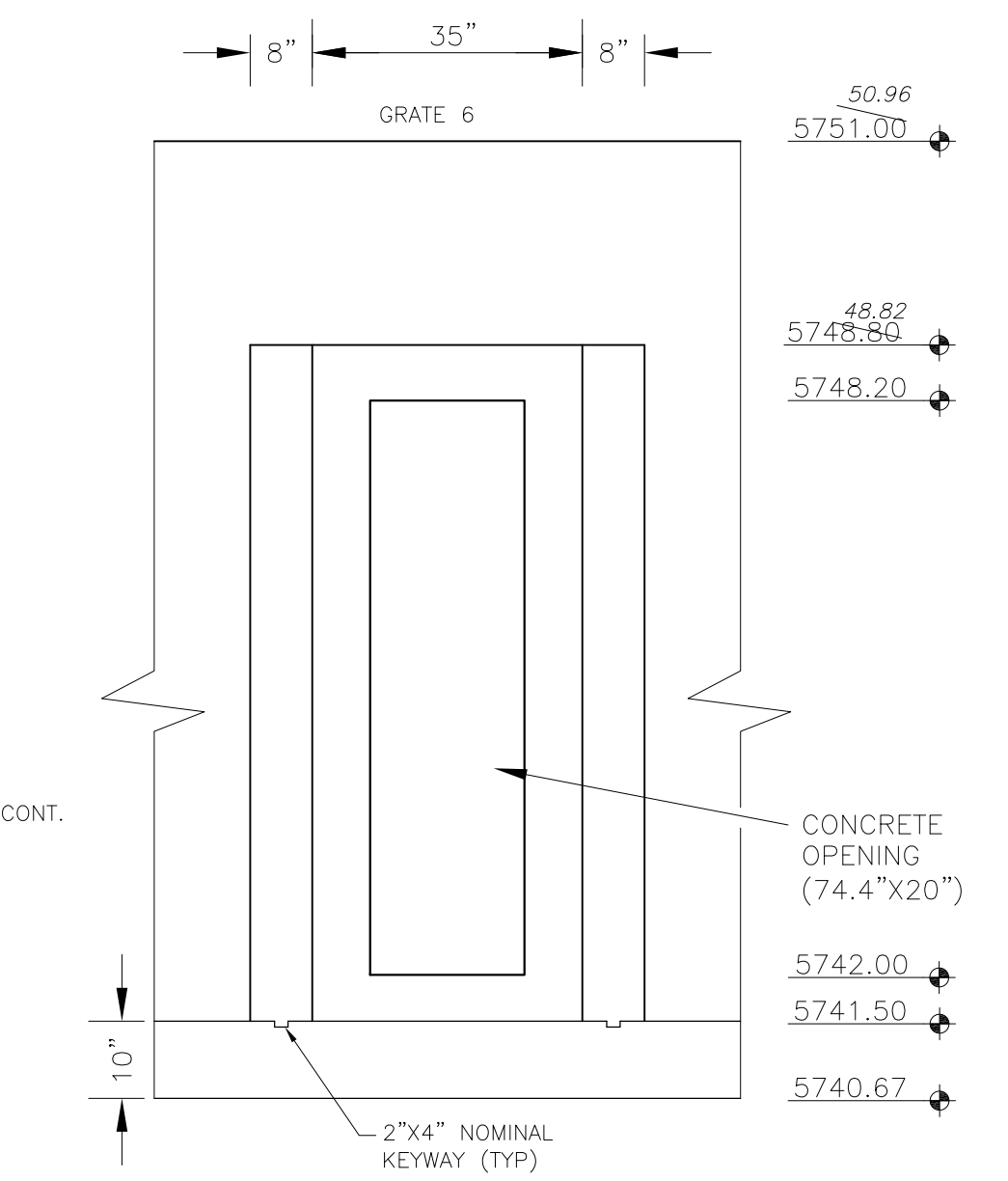
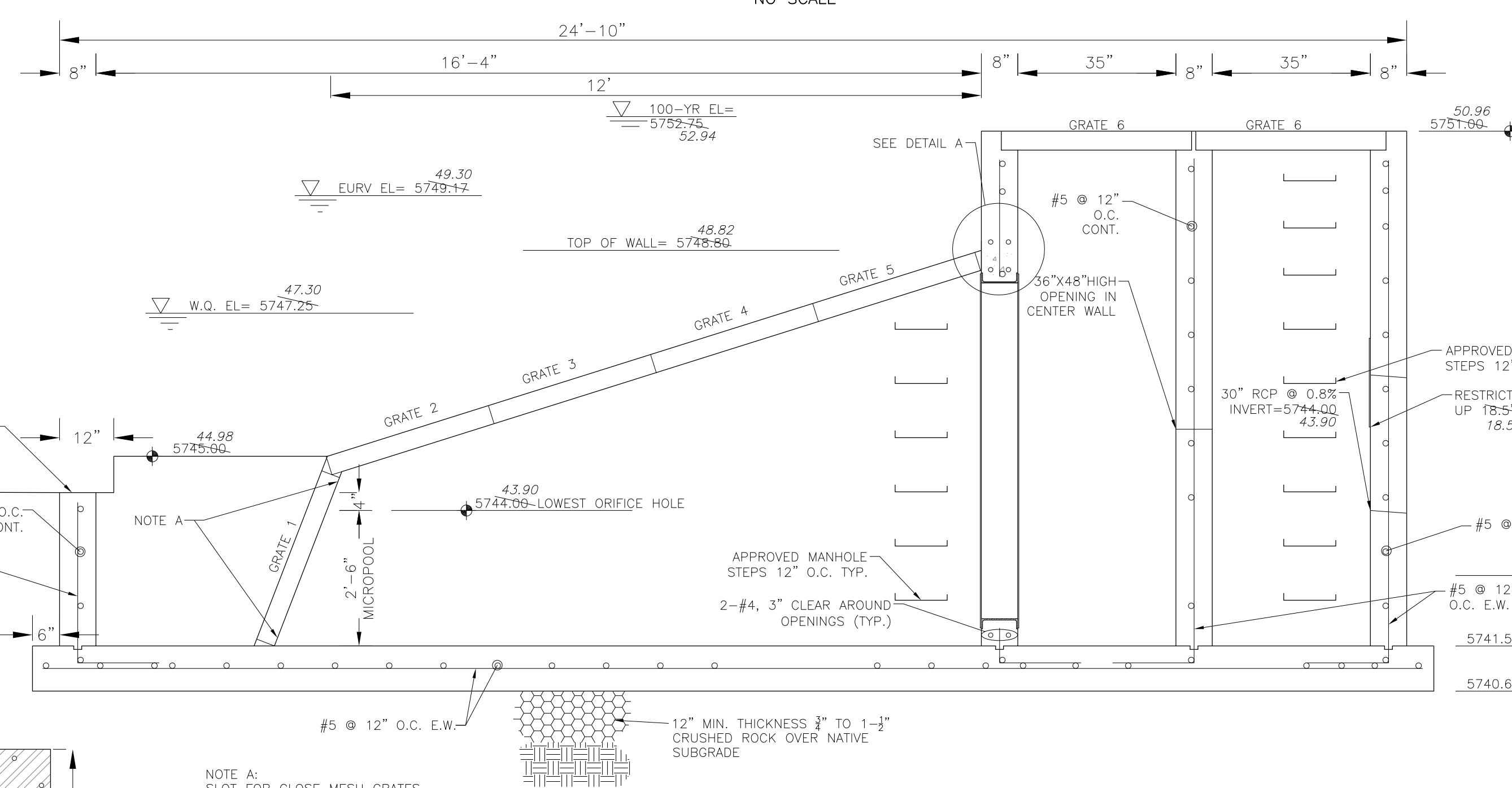
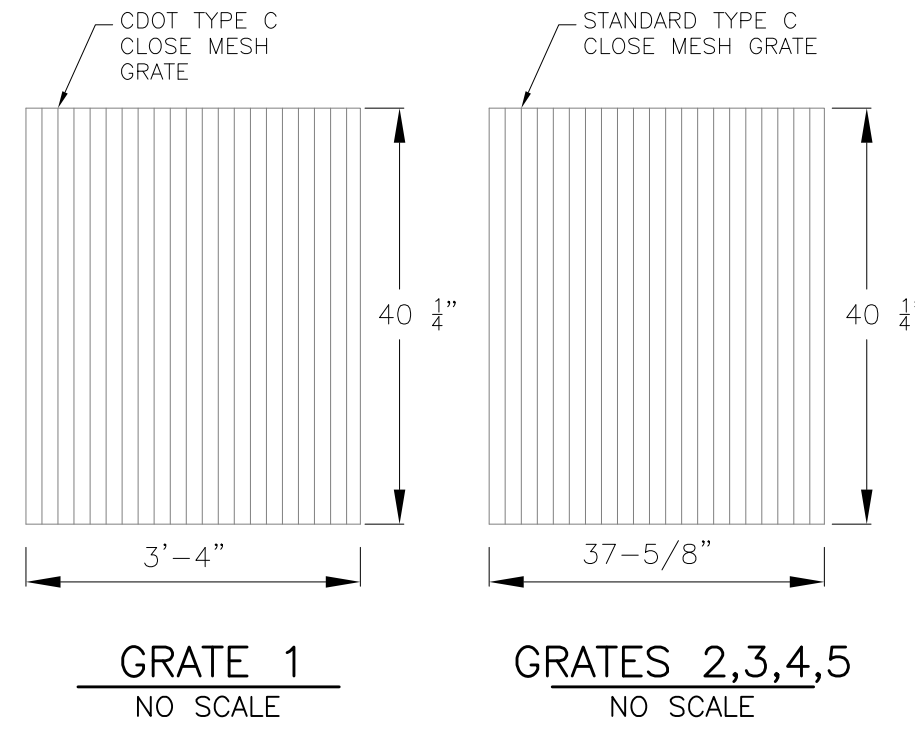
PROJECT NO. 100.061

SHEET NUMBER **C7.2**

TOTAL SHEETS: 58



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



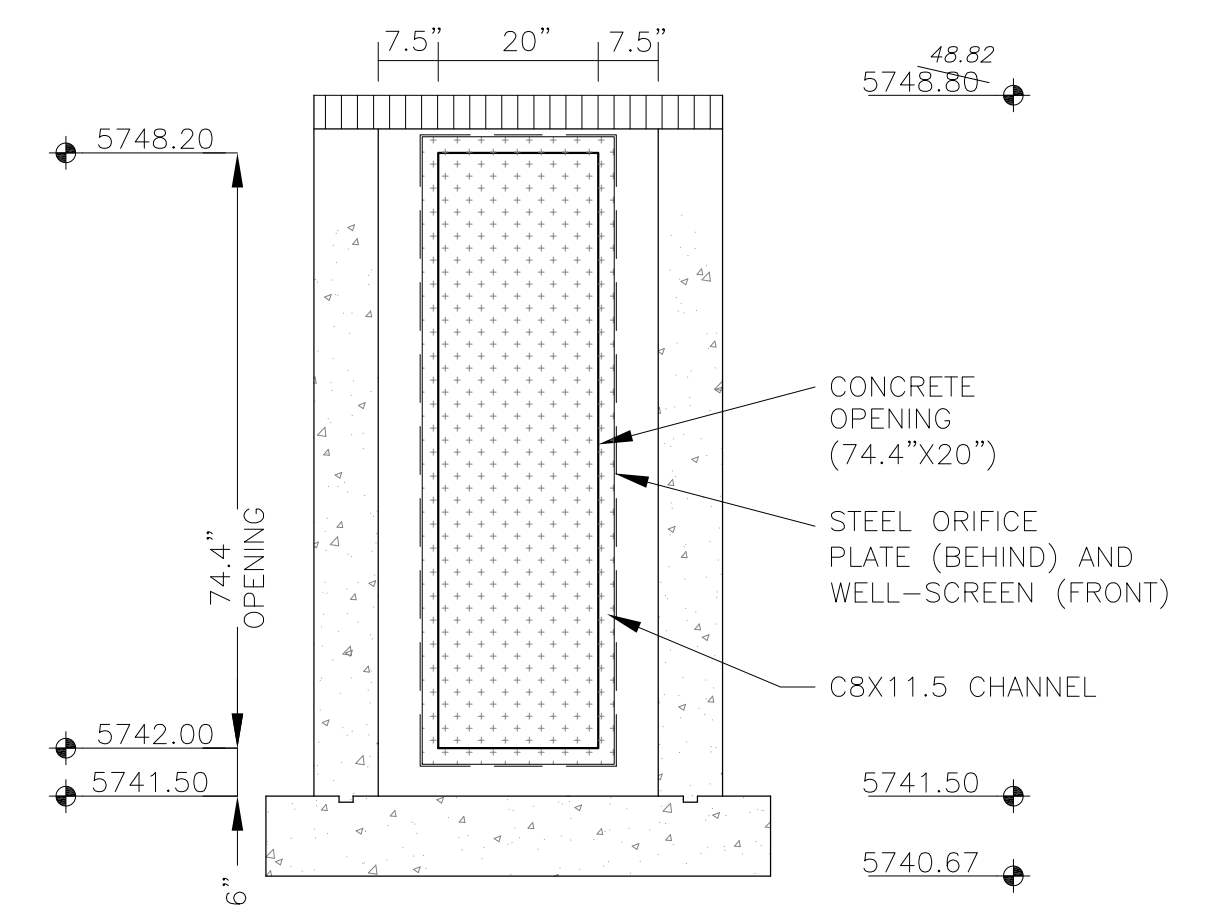
OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- 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 POND DETAILS 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" |

WQCV WELL-SCREEN NOTES:

- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
- WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle



AS-BUILT
DATE: 09/30/2022

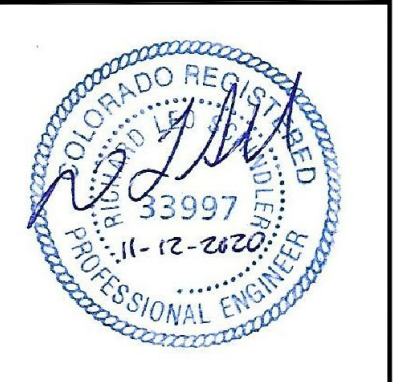
CORE ENGINEERING GROUP
15004 1ST AVENUE S.
PH: 719.570.5506
PH: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cge1.com

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

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

PROJECT:
THE HILLS COLLECTOR STREET CONSTRUCTION
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

POND C2.2
FULL SPECTRUM
OUTLET STRUCTURE DETAILS

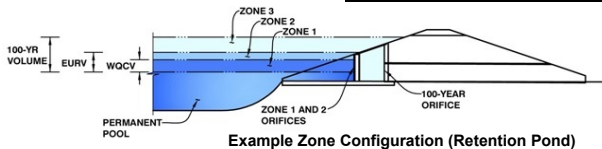


DATE:
NOV 12, 2020
PROJECT NO.
100.061
SHEET NUMBER
C9.13
TOTAL SHEETS: 58

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.02 (February 2020)

Project: The Hills at Lorson Ranch
Basin ID: Pond C2.3-asbuilt



Example Zone Configuration (Retention Pond)

| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 2.25 | 0.294 | Orifice Plate |
| Zone 2 (EURV) | 3.34 | 0.589 | Rectangular Orifice |
| Zone 3 (100+1/2WQCV) | 4.62 | 0.834 | Weir&Pipe (Restrict) |
| Total (all zones) | | 1.717 | |

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

| | | | | | |
|-----------------------------------|-----|--|-------------------------------|-----|-----------------|
| Underdrain Orifice Invert Depth = | N/A | ft (distance below the filtration media surface) | Underdrain Orifice Area = | N/A | ft ² |
| Underdrain Orifice Diameter = | N/A | inches | Underdrain Orifice Centroid = | N/A | 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 = | 0.00 | ft (relative to basin bottom at Stage = 0 ft) | WQ Orifice Area per Row = | 6.806E-03 | ft ² |
| Depth at top of Zone using Orifice Plate = | 2.25 | ft (relative to basin bottom at Stage = 0 ft) | Elliptical Half-Width = | N/A | feet |
| Orifice Plate: Orifice Vertical Spacing = | N/A | inches | Elliptical Slot Centroid = | N/A | feet |
| Orifice Plate: Orifice Area per Row = | 0.98 | sq. inches (diameter = 1-1/8 inches) | Elliptical Slot Area = | N/A | ft ² |

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 | 0.80 | 1.63 | | | | | |
| Orifice Area (sq. inches) | 0.98 | 0.98 | 0.98 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | | Zone 2 Rectangular | Not Selected |
|---|--------------------|--------------|---|-----------------------------|--------------|
| Invert of Vertical Orifice = | 2.41 | N/A | ft (relative to basin bottom at Stage = 0 ft) | Vertical Orifice Area = | 0.71 |
| Depth at top of Zone using Vertical Orifice = | 3.34 | N/A | ft (relative to basin bottom at Stage = 0 ft) | Vertical Orifice Centroid = | 0.25 |
| Vertical Orifice Height = | 6.00 | N/A | inches | | |
| Vertical Orifice Width = | 17.00 | N/A | inches | | |

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe))

| | Zone 3 Weir | Not Selected | | Zone 3 Weir | Not Selected |
|---------------------------------------|-------------|--------------|---|--|--------------|
| Overflow Weir Front Edge Height, Ho = | 7.35 | N/A | ft (relative to basin bottom at Stage = 0 ft) | Height of Grate Upper Edge, H _g = | 7.35 |
| Overflow Weir Front Edge Length = | 8.00 | N/A | feet | Overflow Weir Slope Length = | 6.00 |
| Overflow Weir Grate Slope = | 0.00 | N/A | H:V | Grate Open Area / 100-yr Orifice Area = | 6.84 |
| Horiz. Length of Weir Sides = | 6.00 | N/A | feet | Overflow Grate Open Area w/o Debris = | 33.60 |
| Overflow Grate Open Area % = | 70% | N/A | %, grate open area/total area | Overflow Grate Open Area w/ Debris = | 16.80 |
| Debris Clogging % = | 50% | N/A | % | | |

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

| | Zone 3 Restrictor | Not Selected | | Zone 3 Restrictor | Not Selected |
|---|-------------------|--------------|--|--|--------------|
| Depth to Invert of Outlet Pipe = | 0.15 | N/A | ft (distance below basin bottom at Stage = 0 ft) | Outlet Orifice Area = | 4.91 |
| Outlet Pipe Diameter = | 30.00 | N/A | inches | Outlet Orifice Centroid = | 1.25 |
| Restrictor Plate Height Above Pipe Invert = | 30.00 | N/A | inches | Half-Central Angle of Restrictor Plate on Pipe = | 3.14 |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | | Spillway Design Flow Depth = | 1.17 | feet |
|-------------------------------------|-------|---|------------------------------------|-------|---------|
| Spillway Invert Stage = | 9.20 | ft (relative to basin bottom at Stage = 0 ft) | Stage at Top of Freeboard = | 11.70 | feet |
| Spillway Crest Length = | 20.00 | feet | Basin Area at Top of Freeboard = | 1.04 | acres |
| Spillway End Slopes = | 4.00 | H:V | Basin Volume at Top of Freeboard = | 6.04 | acre-ft |
| Freeboard above Max Water Surface = | 1.33 | feet | | | |

micropool = 0 = 5744.30

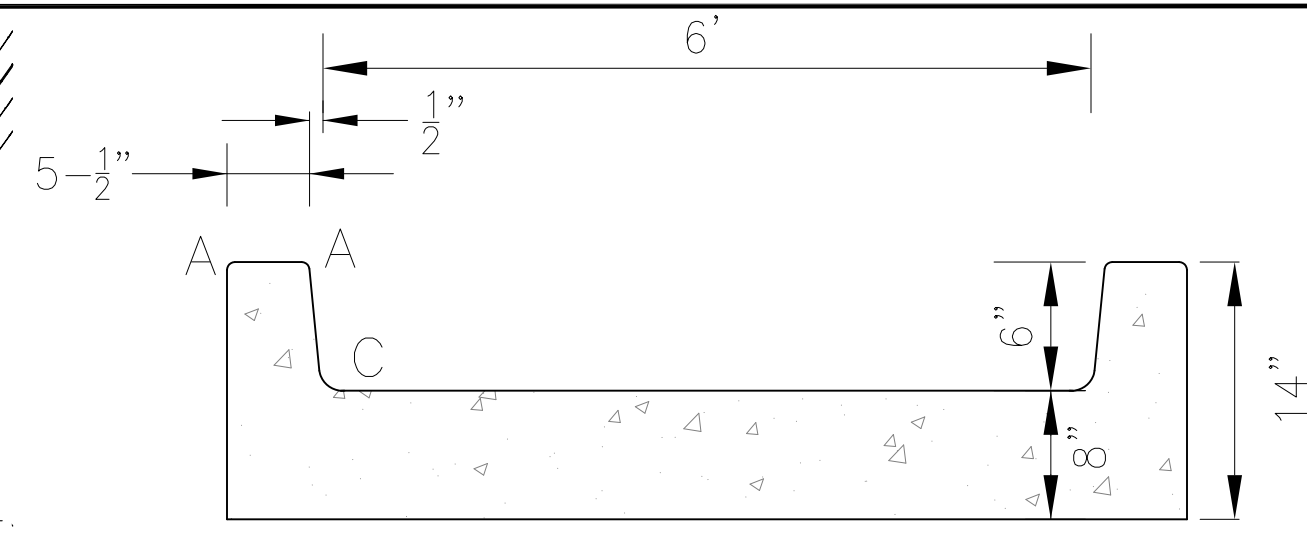
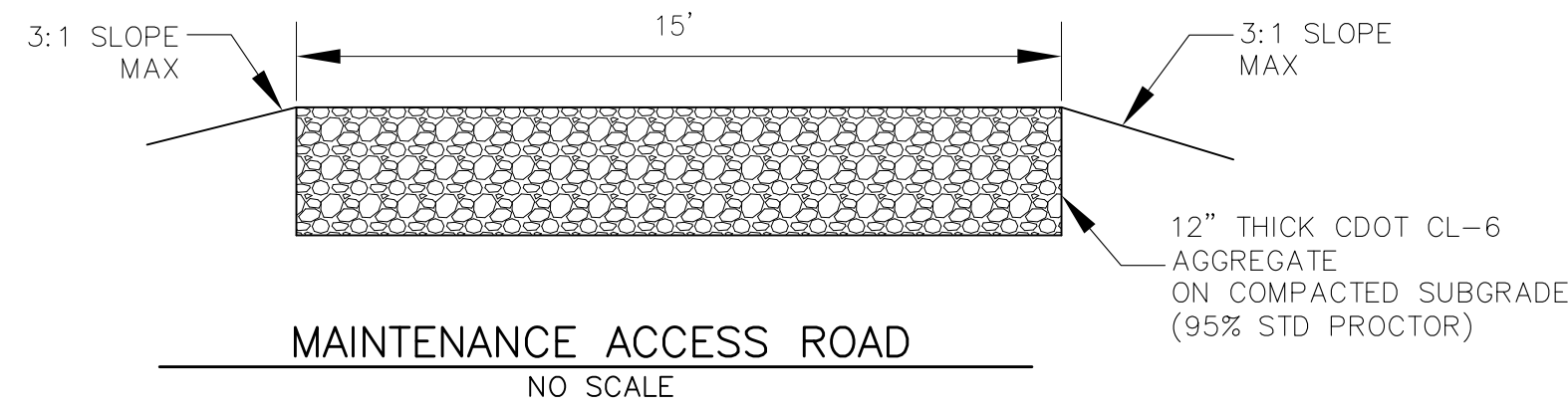
Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

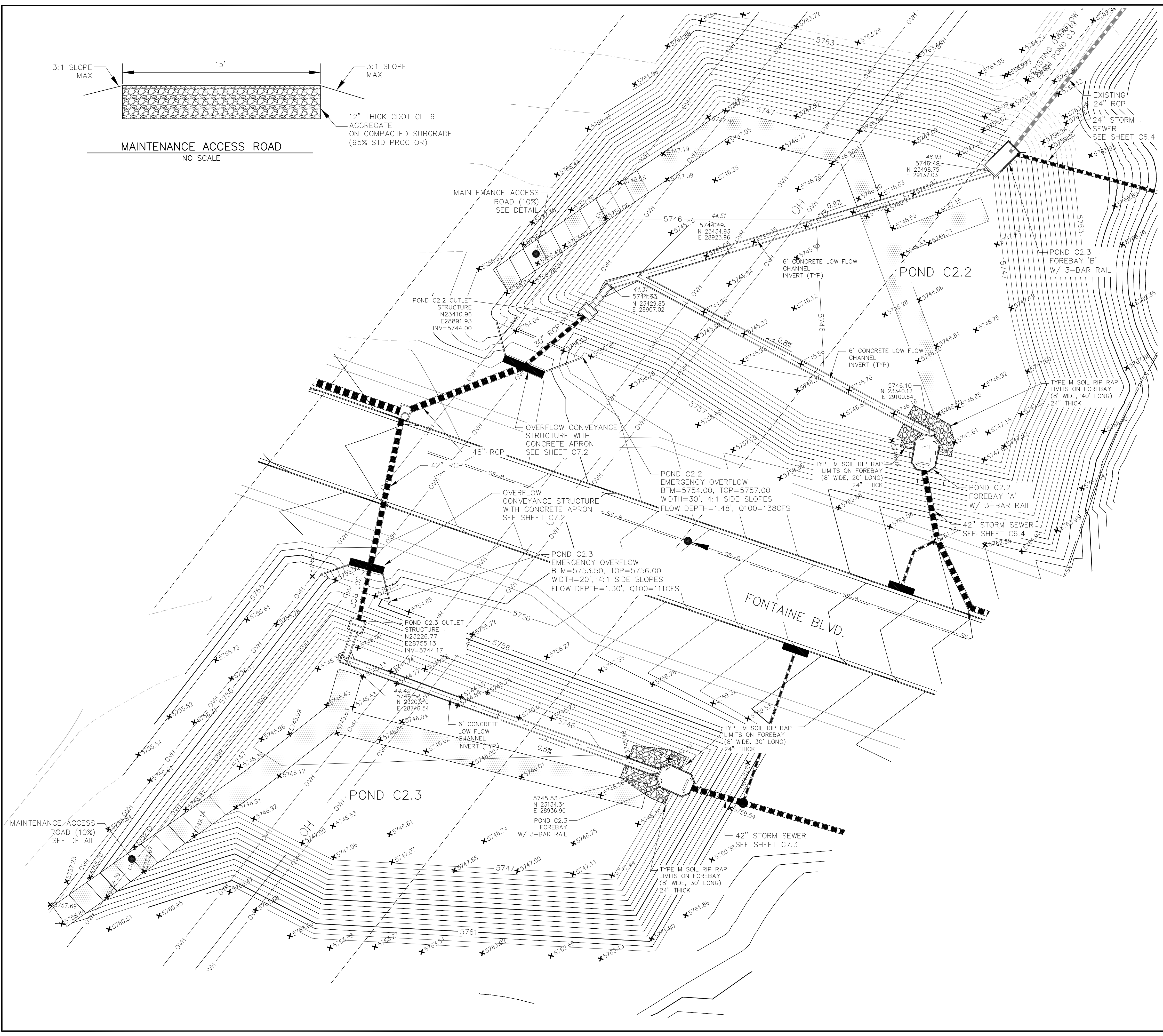
| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|--|-------|--------------------|--------------------|--------------------|--------------------|-----------------|----------------|----------------|
| Design Storm Return Period | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| One-Hour Rainfall Depth (in) | N/A | N/A | 0.924 | 1.299 | 1.627 | 2.016 | 2.357 | 2.775 |
| CUHP Runoff Volume (acre-ft) | 0.294 | 0.883 | 2.831 | 4.148 | 5.891 | 8.181 | 10.069 | 12.414 |
| User Override Inflow Hydrograph Volume (acre-ft) | N/A | N/A | 2.2 | 5.0 | 7.2 | 11.8 | 14.6 | 18.5 |
| CUHP Predevelopment Peak Q (cfs) | N/A | N/A | 0.14 | 0.31 | 0.45 | 0.74 | 0.91 | 1.16 |
| OPTIONAL Override Predevelopment Peak Q (cfs) | N/A | N/A | 14.3 | 21.0 | 40.8 | 77.8 | 87.7 | 97.1 |
| Predevelopment Unit Peak Flow, q (cfs/acre) | N/A | N/A | 4.0 | 5.5 | 7.3 | 36.9 | 63.5 | 65.3 |
| Peak Inflow Q (cfs) | N/A | N/A | N/A | 1.1 | 1.0 | 3.1 | 4.3 | 3.5 |
| Peak Outflow Q (cfs) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Ratio Peak Outflow to Predevelopment Q | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Structure Controlling Flow | Plate | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Overflow Weir 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) | N/A | N/A | N/A | N/A | N/A | 0.9 | 1.6 | 1.7 |
| Max Velocity through Gate 2 (fps) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) | 45 | 56 | 51 | 46 | 41 | 33 | 27 | 20 |
| Time to Drain 99% of Inflow Volume (hours) | 47 | 61 | 62 | 61 | 60 | 56 | 52 | 49 |
| Maximum Ponding Depth (ft) | 2.25 | 3.34 | 3.95 | 5.07 | 6.96 | 7.96 | 8.33 | 8.73 |
| Area at Maximum Ponding Depth (acres) | 0.40 | 0.61 | 0.65 | 0.71 | 0.83 | 0.90 | 0.93 | 0.95 |
| Maximum Volume Stored (acre-ft) | 0.296 | 0.886 | 1.266 | 2.029 | 3.493 | 4.348 | 4.686 | 5.061 |

Pond C2.3 Developed Inflow Hydrograph---- asbuilt Pond C2.1 outflow + C3 Basin + C4 Basin

| Time [hr] | Time [min] | 2 Year | | 2yr Combined | | 5 Year | | 5yr Combined | | 10 Year | | 10yr Combined | | 25 Year | | 25yr Combined | | 50 Year | | 50yr Combined | | 100 Year | | 100yr Combined | |
|-----------|------------|----------------------------|-------------------|--------------|----------------------------|-------------------|------------|----------------------------|--------------------|------------|----------------------------|--------------------|------------|----------------------------|--------------------|---------------|----------------------------|---------------------|------------|----------------------------|---------------------|------------|----------------------------|---------------------|------------|
| | | Ponc C2.1 Outflow2 - [cfs] | CUHP 2 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 5 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 10 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 25 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 50 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 100 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 100 Year [cfs] | Hydrograph | Ponc C2.1 Outflow2 - [cfs] | CUHP 100 Year [cfs] | Hydrograph |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 0.08 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 0.17 | 10.00 | 0.14 | 0.00 | 0.14 | 0.18 | 0.18 | 0.20 | 0.18 | 0.20 | 0.17 | 0.20 | 0.17 | 0.20 | 0.17 | 0.20 | 0.19 | 0.13 | 0.33 | 0.18 | 0.01 | 0.18 | 0.01 | 0.20 | 0.01 | |
| 0.25 | 15.00 | 0.25 | 1.17 | 1.42 | 0.27 | 1.91 | 2.18 | 0.28 | 2.37 | 2.65 | 0.26 | 1.59 | 1.85 | 0.27 | 1.99 | 2.26 | 0.27 | 1.99 | 2.26 | 0.27 | 1.94 | 2.21 | 0.27 | 2.21 | |
| 0.33 | 20.00 | 0.32 | 4.21 | 4.54 | 0.40 | 5.61 | 6.01 | 0.45 | 6.91 | 7.36 | 0.33 | 4.12 | 4.45 | 0.37 | 4.81 | 5.18 | 0.39 | 5.14 | 5.53 | 0.39 | 5.14 | 5.53 | 0.39 | 5.53 | |
| 0.42 | 25.00 | 0.48 | 9.83 | 10.31 | 0.54 | 14.69 | 15.23 | 0.58 | 18.61 | 19.20 | 0.52 | 9.65 | 10.17 | 0.55 | 11.51 | 12.05 | 0.57 | 12.82 | 13.39 | 0.57 | 12.82 | 13.39 | 0.57 | 13.39 | |
| 0.50 | 30.00 | 0.56 | 13.28 | 13.84 | 1.55 | 18.82 | 20.37 | 2.81 | 22.84 | 25.65 | 2.25 | 24.57 | 26.82 | 3.01 | 28.96 | 31.97 | 3.48 | 32.54 | 36.01 | 3.48 | 32.54 | 36.01 | 3.48 | 36.01 | |
| 0.58 | 35.00 | 1.21 | 12.88 | 14.09 | 3.15 | 17.81 | 20.96 | 3.93 | 21.42 | 25.35 | 4.04 | 29.19 | 33.23 | 4.63 | 34.09 | 38.72 | 5.11 | 40.16 | 45.28 | 5.11 | 40.16 | 45.28 | 5.11 | 45.28 | |
| 0.67 | 40.00 | 2.54 | 11.77 | 14.31 | 3.89 | 15.99 | 19.88 | 4.62 | 19.25 | 23.87 | 5.06 | 28.83 | 33.89 | 5.64 | 33.53 | 39.17 | 22.82 | 39.47 | 62.29 | 33.53 | 39.17 | 22.82 | 39.47 | 62.29 | |
| 0.75 | 45.00 | 3.14 | 10.24 | 13.38 | 4.40 | 14.14 | 18.54 | 5.12 | 17.24 | 22.36 | 6.33 | 26.34 | 32.68 | 34.39 | 30.62 | 65.01 | 60.13 | 36.96 | 97.09 | 30.62 | 65.01 | 60.13 | 36.96 | 97.09 | |
| 0.83 | 50.00 | 3.54 | 8.93 | 12.48 | 4.77 | 12.65 | 17.42 | 5.49 | 15.26 | 20.75 | 30.40 | 24.16 | 54.56 | 59.62 | 28.08 | 87.70 | 62.31 | 33.83 | 96.13 | 28.08 | 87.70 | 62.31 | 33.83 | 96.13 | |
| 0.92 | 55.00 | 3.84 | 7.84 | 11.67 | 5.05 | 11.06 | 16.11 | 6.49 | 13.49 | 19.98 | 51.27 | 21.27 | 72.54 | 60.76 | 24.75 | 85.51 | 63.89 | 30.40 | 94.29 | 24.75 | 85.51 | 63.89 | 30.40 | 94.29 | |
| 1.00 | 60.00 | 4.07 | 6.88 | 10.94 | 5.28 | 9.62 | 14.89 | 7.49 | 11.94 | 18.58 | 59.24 | 18.58 | 77.83 | 61.49 | 21.64 | 83.13 | 65.94 | 27.30 | 92.34 | 21.64 | 83.13 | 65.94 | 27.30 | 92.34 | |
| 1.08 | 65.00 | 4.25 | 6.17 | 10.42 | 5.47 | 8.60 | 14.06 | 8.25 | 10.89 | 17.44 | 66.62 | 16.29 | 75.74 | 61.90 | 19.00 | 80.90 | 65.83 | 24.59 | 90.42 | 19.00 | 80.90 | 65.83 | 24.59 | 90.42 | |
| 1.17 | 70.00 | 4.40 | 5.44 | 9.84 | 5.62 | 7.90 | 13.52 | 8.48 | 10.19 | 16.67 | 69.42 | 14.12 | 73.54 | 62.05 | 16.54 | 78.58 | 66.25 | 20.97 | 87.22 | 16.54 | 78.58 | 66.25 | 20.97 | 87.22 | |
| 1.25 | 75.00 | 4.51 | 4.83 | 9.34 | 5.94 | 7.15 | 13.09 | 31.24 | 9.58 | 40.82 | 59.16 | 12.44 | 71.60 | 61.95 | 14.62 | 76.57 | 66.34 | 18.02 | 84.36 | 14.62 | 76.57 | 66.34 | 18.02 | 84.36 | |
| 1.33 | 80.00 | 4.60 | 4.29 | 8.89 | 6.20 | 6.33 | 14.52 | 31.33 | 8.56 | 39.89 | 52.97 | 10.74 | 63.71 | 61.61 | 12.61 | 74.22 | 66.14 | 15.09 | 81.23 | 61.61 | 74.22 | 66.14 | 15.09 | 81.23 | |
| 1.42 | 85.00 | 4.67 | 3.78 | 8.45 | 6.50 | 5.55 | 15.84 | 29.58 | 7.32 | 36.90 | 45.47 | 9.19 | 54.66 | 61.06 | 10.77 | 71.83 | 65.68 | 12.49 | 78.17 | 61.06 | 71.83 | 65.68 | 12.49 | 78.17 | |
| 1.50 | 90.00 | 4.72 | 3.29 | 8.00 | 6.72 | 4.82 | 16.54 | 27.15 | 6.18 | 33.33 | 38.42 | 7.64 | 46.06 | 60.30 | 8.94 | 69.24 | 64.99 | 10.21 | 75.20 | 60.30 | 69.24 | 64.99 | 10.21 | 75.20 | |
| 1.58 | 95.00 | 4.76 | 2.84 | 7.60 | 6.94 | 4.18 | 16.72 | 24.80 | 5.20 | 29.99 | 32.37 | 6.21 | 38.59 | 59.40 | 7.26 | 66.66 | 64.16 | 8.15 | 72.31 | 59.40 | 66.66 | 64.16 | 8.15 | 72.31 | |
| 1.67 | 100.00 | 4.80 | 2.49 | 7.30 | 7.15 | 3.49 | 16.33 | 22.74 | 4.46 | 27.21 | 27.58 | 4.97 | 32.56 | 48.95 | 5.81 | 54.75 | 63.22 | 6.37 | 69.59 | 48.95 | 54.75 | 63.22 | 6.37 | 69.59 | |
| 1.75 | 105.00 | 4.84 | 2.31 | 7.15 | 7.29 | 3.04 | 15.84 | 21.02 | 4.04 | 25.06 | 23.88 | 4.04 | 27.94 | 37.96 | 4.74 | 42.70 | 62.21 | 5.07 | 67.28 | 37.96 | 42.70 | 62.21 | 5.07 | 67.28 | |
| 1.83 | 110.00 | 4.88 | 2.22 | 7.10 | 7.25 | 2.77 | 15.32 | 19.56 | 3.77 | 23.33 | 21.04 | 3.51 | 24.55 | 30.77 | 4.11 | 34.89 | 61.14 | 4.28 | 65.43 | 30.77 | 34.89 | 61.14 | 4.28 | 65.43 | |
| 1.92 | 115.00 | 4.90 | 1.98 | 6.88 | 7.19 | 2.57 | 14.76 | 18.22 | 3.51 | 21.72 | 18.86 | 3.16 | 22.02 | 25.88 | 3.71 | 29.59 | 60.03 | 3.77 | 63.79 | 25.88 | 29.59 | 60.03 | 3.77 | 63.79 | |
| 2.00 | 120.00 | 4.92 | 1.77 | 6.68 | 7.11 | 2.37 | 13.96 | 16.71 | 3.18 | 19.88 | 16.91 | 2.93 | 19.84 | 22.12 | 3.43 | 25.55 | 55.41 | 3.39 | 58.80 | 19.84 | 22.12 | 55.41 | 3.39 | 58.80 | |
| 2.08 | 125.00 | 4.92 | 1.41 | 6.33 | 7.09 | 1.88 | 12.57 | 14.92 | 2.52 | 17.44 | 14.89 | 2.20 | 17.19 | 18.78 | 2.69 | 21.19 | 48.78 | 2.61 | 41.59 | 17.19 | 18.78 | 48.78 | 2.61 | 41.59 | |
| 2.17 | 130.00 | 4.92 | 1.09 | 6.01 | 7.05 | 1.45 | 11.11 | 13.06 | 1.95 | 15.01 | 12.93 | 1.76 | 14.68 | 15.83 | 2.06 | 17.89 | 28.56 | 1.94 | 30.51 | 14.68 | 15.83 | 28.56 | 1.94 | 30.51 | |
| 2.25 | 135.00 | 4.90 | 0.85 | 5.75 | 7.02 | 1.13 | 9.75 | 11.33 | 1.50 | 12.82 | 11.16 | 1.34 | 12.50 | 13.34 | 1.57 | 14.91 | 21.64 | 1.45 | 23.09 | 12.50 | 13.34 | 21.64 | 1.45 | 23.09 | |
| 2.33 | 140.00 | 4.89 | 0.65 | 5.54 | 7.09 | 0.86 | 8.55 | 9.81 | 1.13 | 10.94 | 9.64 | 1.02 | 10.66 | 11.28 | 1.19 | 12.47 | 16.85 | 1.08 | 17.93 | 10.66 | 11.28 | 16.85 | 1.08 | 17.93 | |
| 2.42 | 145.00 | 4.86 | 0.50 | 5.36 | 6.89 | 0.66 | 7.54 | 8.52 | 0.85 | 9.37 | 8.37 | 0.77 | 9.14 | 9.60 | 0.90 | 10.50 | 13.43 | 0.82 | 14.25 | 9.14 | 9.60 | 13.43 | 0.82 | 14.25 | |
| 2.50 | 150.00 | 4.84 | 0.38 | 5.22 | 6.25 | 0.49 | 6.74 | 7.46 | 0.63 | 8.10 | 7.34 | 0.57 | 7.91 | 8.26 | 0.67 | 8.93 | 10.93 | 0.62 | 11.55 | 7.91 | 8.26 | 10.93 | 0.62 | 11.55 | |
| 2.58 | 155.00 | 4.81 | 0.29 | 5.09 | 5.81 | 0.36 | 6.17 | 6.63 | 0.47 | 7.11 | 6.54 | 0.43 | 6.96 | 7.21 | 0.50 | 7.70 | 9.08 | 0.46 | 9.55 | 6.96 | 7.21 | 9.08 | 0.46 | 9.55 | |
| 2.67 | 160.00 | 4.78 | 0.21 | 4.99 | 5.71 | 0.26 | 5.97 | 6.03 | 0.35 | 6.29 | 6.03 | 0.32 | 6.29 | 6.41 | 0.37 | 6.79 | 7.72 | 0.35 | 8.07 | 6.29 | 6.41 | 7.72 | 0.35 | 8.07 | |
| 2.75 | 165.00 | 4.74 | 0.15 | 4.90 | 5.68 | 0.19 | 5.87 | 5.72 | 0.26 | 5.98 | 5.72 | 0.24 | 5.96 | 5.88 | 0.28 | 6.15 | 6.71 | 0.26 | 6.97 | 5.96 | 5.88 | 6.15 | 6.71 | 0.26 | 6.97 |
| 2.83 | 170.00 | 4.71 | 0.10 | 4.81 | 5.65 | 0.13 | 5.78 | 5.69 | 0.18 | 5.87 | 5.69 | 0.18 | 5.86 | 5.71 | 0.19 | 5.91 | 6.03 | 0.18 | 6.21 | 5.86 | 5.71 | 5.91 | 6.03 | 0.18 | 6.21 |
| 2.92 | 175.00 | 4.68 | 0.06 | 4.74 | 5.62 | 0.08 | 5.70 | 5.66 | 0.11 | 5.77 | 5.66 | 0.11 | 5.77 | 5.68 | 0.12 | 5.81 | 5.72 | 0.12 | 5.84 | 5.77 | 5.68 | 5.81 | 5.72 | 0.12 | 5.84 |
| 3.00 | 180.00 | 4.64 | 0.03 | 4.67 | 5.58 | 0.05 | 5.63 | 5.63 | 0.06 | 5.69 | 5.63 | 0.06 | 5.69 | 5.65 | 0.07 | 5.72 | 5.69 | 0.07 | 5.76 | 5.69 | 5.65 | 5.72 | 5.69 | 0.07 | 5.76 |
| 3.08 | 185.00 | 4.61 | 0.01 | 4.62 | 5.55 | 0.02 | 5.57 | 5.60 | 0.03 | 5.62 | 5.59 | 0.03 | 5.62 | 5.62 | 0.03 | 5.65 | 5.66 | 0.03 | 5.69 | 5.62 | 5.66 | 5.65 | 5.66 | 0.03 | 5.69 |
| 3.17 | 190.00 | 4.57 | 0.00 | 4.58 | 5.52 | 0.01 | 5.53 | 5.56 | 0.01 | 5.57 | 5.56 | 0.01 | 5.57 | 5.58 | 0.01 | 5.59 | 5.62 | 0.01 | 5.63 | 5.57 | 5.58 | 5.59 | 5.62 | 0.01 | 5.63 |
| 3.25 | 195.00 | 4.54 | 0.00 | 4.54 | 5.49 | 0.00 | 5.49 | 5.53 | 0.00 | 5.53 | 5.53 | 0.00 | 5.53 | 5.55 | 0.00 | 5.55 | 5.59 | 0.00 | 5.59 | 5.53 | 5.55 | 5.59 | 5.55 | 0.00 | 5.59 |
| 3.33 | 200.00 | 4.50 | 0.00 | 4.50 | 5.45 | 0.00 | 5.45 | 5.50 | 0.00 | 5.50 | 5.50 | 0.00 | 5.50 | 5.52 | 0.00 | 5.52 | 5.56 | 0.00 | 5.56 | 5.50 | 5.52 | 5.56 | 5.52 | 0.00 | 5.56 |
| 3.42 | 205.00 | 4.46 | 0.00 | 4.46 | 5.42 | 0.00 | 5.42 | 5.47 | 0.00 | 5.47 | 5.46 | 0.00 | 5.46 | 5.49 | 0.00 | 5.49 | 5.53 | 0.00 | 5.53 | 5.46 | 5.49 | 5.53 | 5.49 | 0.00 | 5.53 |
| 3.50 | 210.00 | 4.43 | 0.00 | 4.43 | 5.39 | 0.00 | 5.39 | 5.43 | 0.00 | 5.43 | 5.43 | 0.00 | 5.43 | 5.45 | 0.00 | 5.45 | 5.49 | 0.00 | 5.49 | 5.43 | 5.45 | 5.49 | 5.45 | 0.00 | 5.49 |
| 3.58 | 215.00 | 4.39 | 0.00 | 4.39 | 5.35 | 0.00 | 5.35 | 5.40 | 0.00 | 5.40 | 5.40 | 0.00 | 5.40 | 5.42 | 0.00 | 5.42 | 5.46 | 0.00 | 5.46 | 5.40 | 5.42 | 5.46 | 5.42 | 0.00 | 5.46 |
| 3.67 | 220.00 | 4.36 | 0.00 | 4.36 | 5.32 | 0.00 | 5.32 | 5.37 | 0.00 | 5.37 | 5.36 | 0.00 | 5.36 | 5.39 | 0.00 | 5.39 | 5.43 | 0.00 | 5.43 | 5.36 | 5.39 | 5.43 | 5.39 | 0.00 | 5.43 |
| 3.75 | 225.00 | 4.32 | 0.00 | 4.32 | 5.29 | 0.00 | 5.29 | 5.33 | 0.00 | 5.33 | 5.33 | 0.00 | 5.33 | 5.35 | 0.00 | 5.35 | 5.40 | 0.00 | 5.40 | 5.33 | 5.35 | 5.40 | 5.35 | 0.00 | 5.40 |
| 3.83 | 230.00 | 4.29 | 0.00 | 4.29 | 5.25 | 0.00 | 5.25 | 5.30 | 0.00 | 5.30 | 5.30 | 0.00 | 5.30 | 5.32 | 0.00 | 5.32 | 5.36 | 0.00 | 5.36 | 5.30 | 5.32 | 5.36 | 5.32 | 0.00 | 5.36 |
| 3.92 | 235.00 | 4.25 | 0.00 | 4.25 | 5.22 | 0.00 | 5.22 | 5.27 | 0.00 | 5.27 | 5.26 | 0.00 | 5.26 | 5.29 | 0.00 | 5.29 | 5.33 | 0.00 | 5.33 | 5.26 | 5.29 | 5.33 | 5.29 | 0.00 | 5.33 |
| 4.00 | 240.00 | 4.21 | 0.00 | 4.21 | 5.19 | 0.00 | 5.19 | 5.23 | 0.00 | 5.23 | 5.23 | 0.00 | 5.23 | | | | | | | | | | | | |

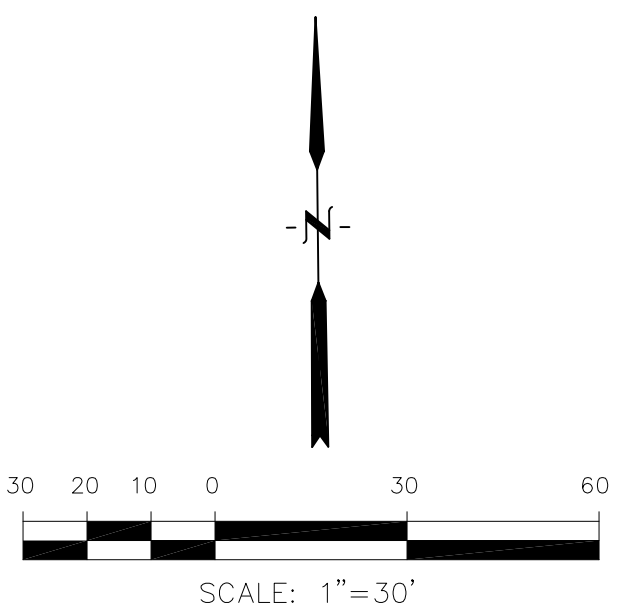


| LENGTH FOR RADII | |
|------------------|----------|
| A | = 1/2" |
| C | = 1-1/2" |



AS-BUILT

DATE: 09/30/2022



CORE ENGINEERING GROUP

15004 1ST AVE. SUITE 300
 COLORADO SPRINGS, CO 80903
 PHONE: 719.570.1100
 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
 (719) 635-3200
 CONTACT: JEFF MARK

PROJECT: **THE HILLS COLLECTOR STREET CONSTRUCTION**
 FONTAINE BLVD. - GRAYLING DR
 LORSON BLVD - WALLEYE DR - LAMPREY DR
 COLORADO SPRINGS, COLORADO

DRAWN: RLS
 DESIGNED: RLS
 CHECKED: RLS

POND C2.2 & C2.3 FOREBAY, LOW FLOW CHANNEL AND OUTLET STRUCTURE LAYOUT

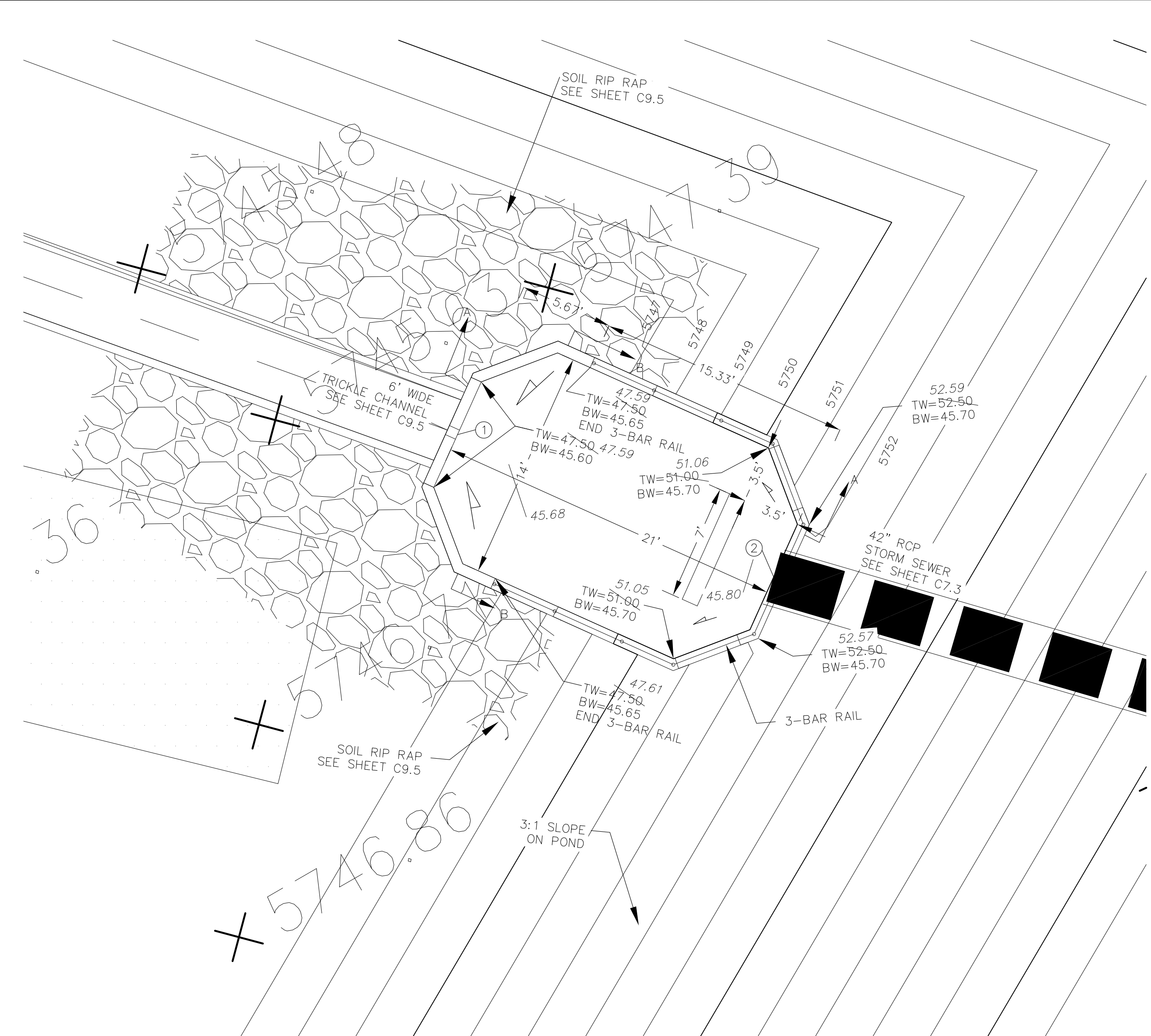
DATE: NOV 12, 2020

PROJECT NO. 100.061

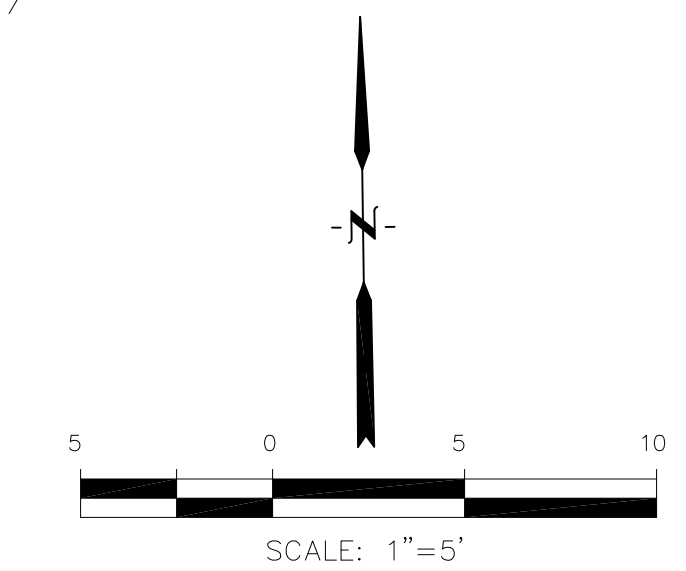
SHEET NUMBER **C9.5**

TOTAL SHEETS: 58

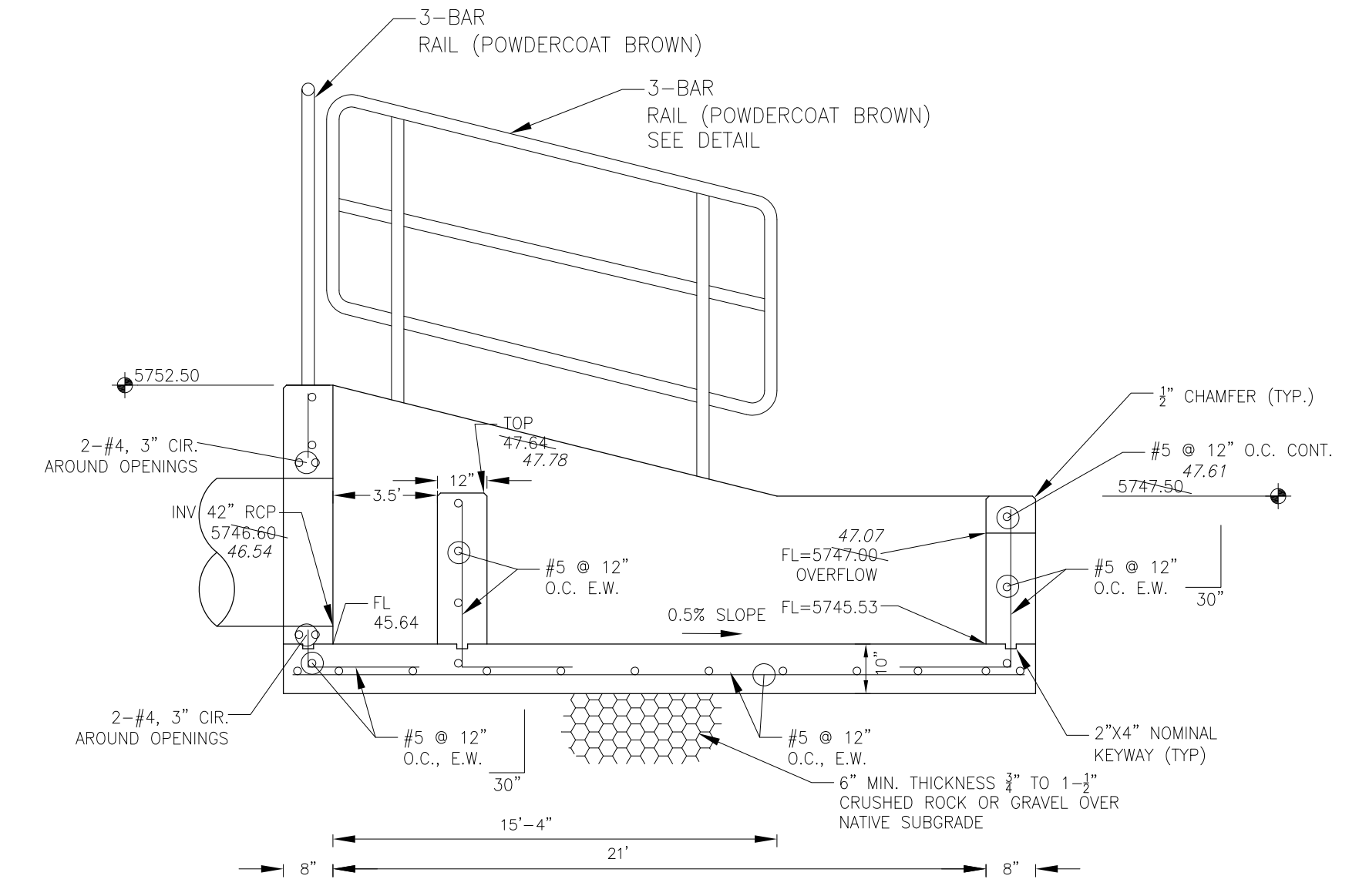




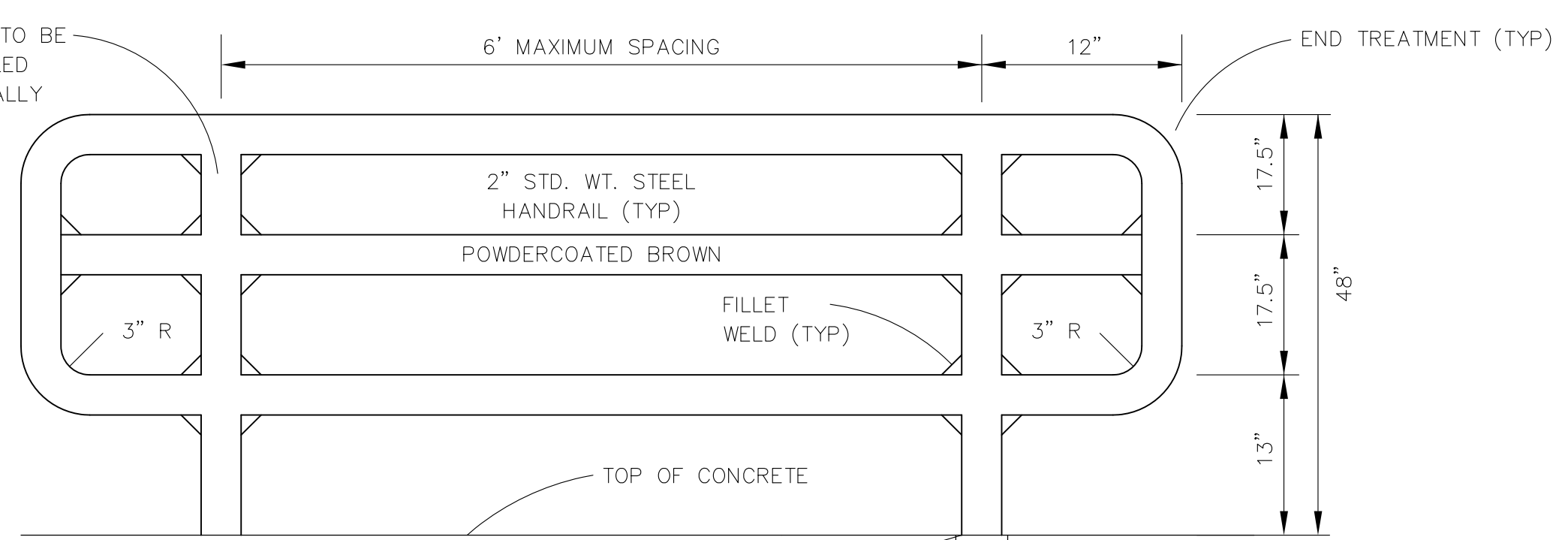
POND C2.3 - FOREBAY LAYOUT
 SCALE: 1"=5'



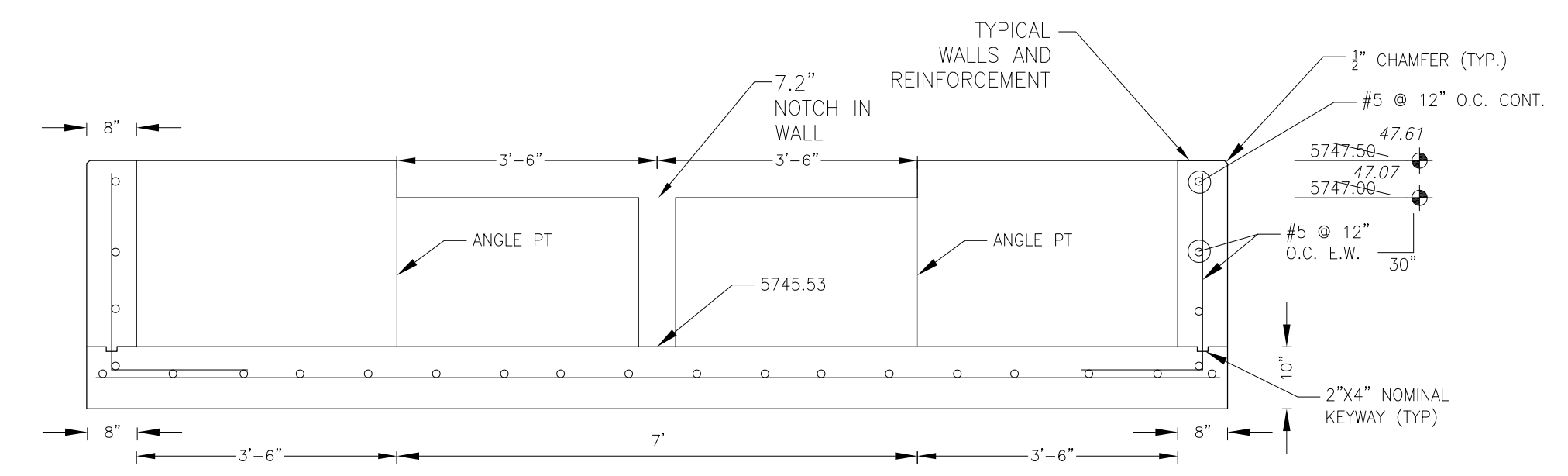
| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 23134.06 | 28937.51 | 5745.53 | FOREBAY BOTTOM |
| 2 | 23125.44 | 28956.66 | 5745.64 | FOREBAY BOTTOM, INV 42"=5746.50 |



FOREBAY SECTION A-A
 NO SCALE



3-BAR RAIL DETAIL
 NO SCALE



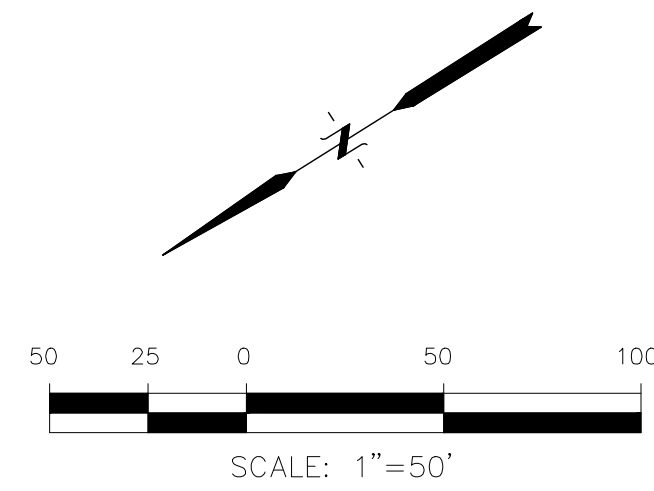
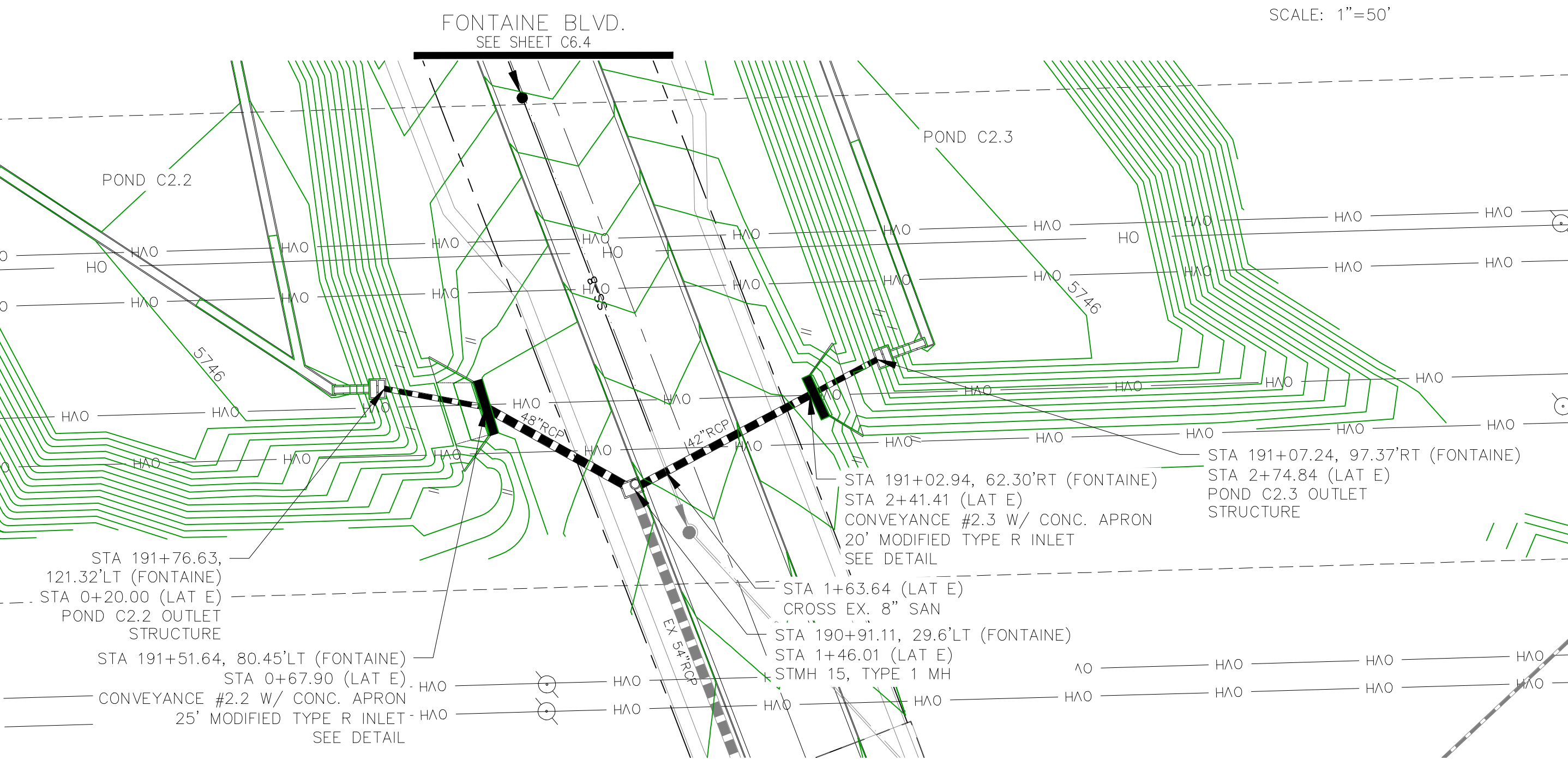
FOREBAY SECTION B-B
 NO SCALE

NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D

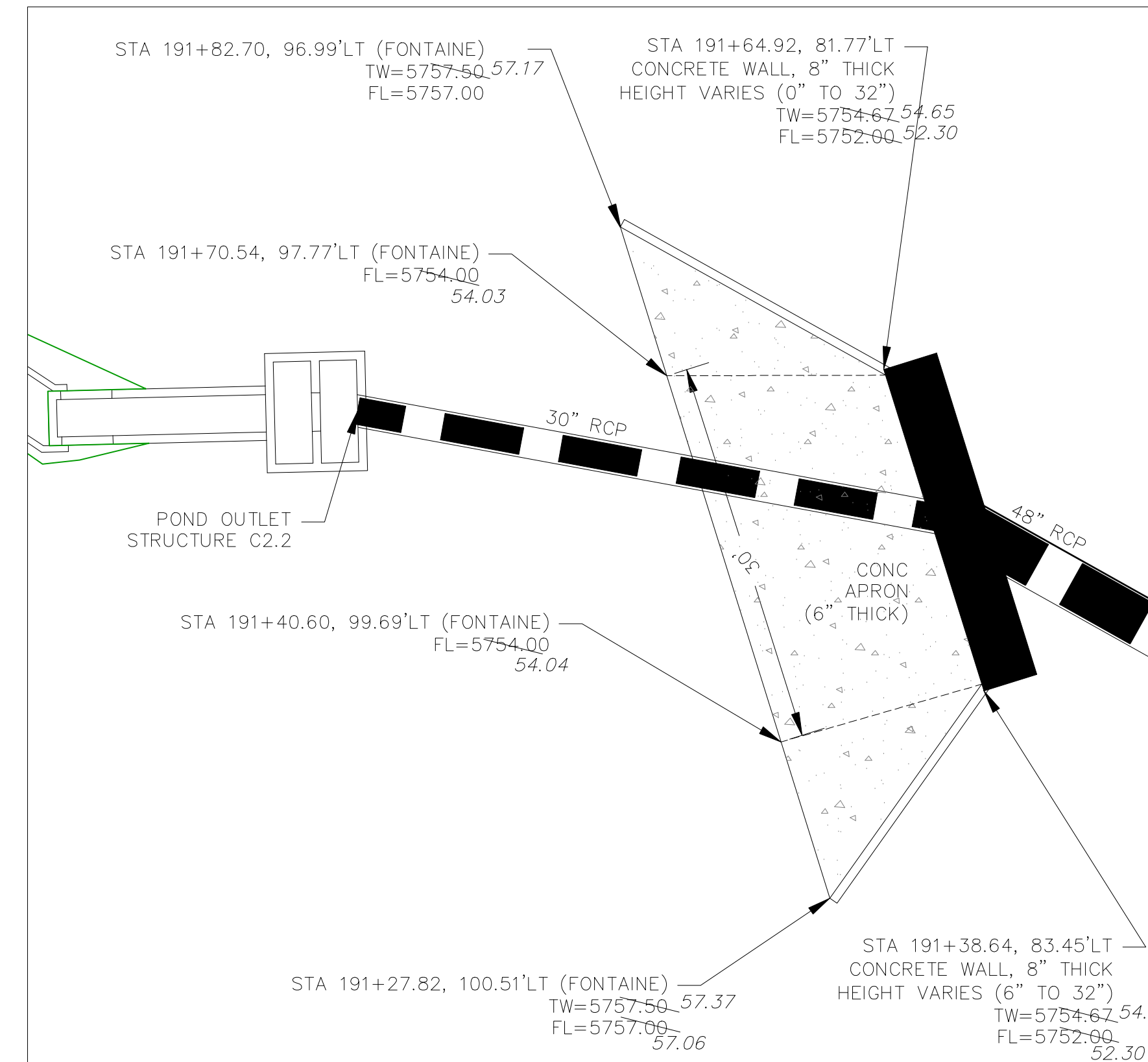
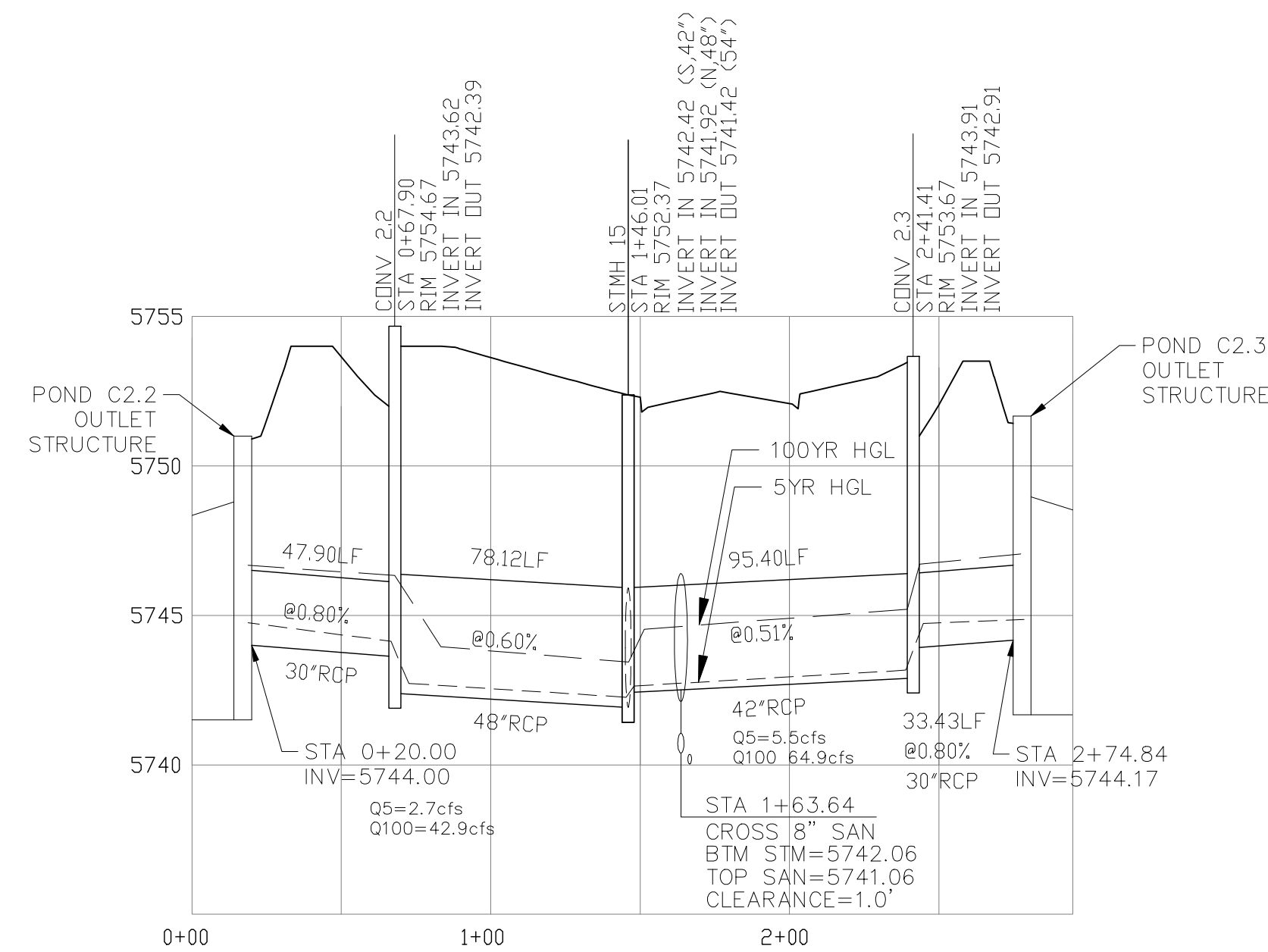
AS-BUILT
 DATE: 09/30/2022

- NOTES**
1. ALL SPOT ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE NOTED.
 2. SEE EARLY GRADING PLAN FOR GRADING INFORMATION.
 3. ALL STORM SEWER SHALL BE CLASS III RCP.
 4. ALL MHS SHALL BE TYPE 1 UNLESS OTHERWISE NOTED.

- 1 CURVE DATA ID
- 2 PEDESTRIAN RAMP, SEE SHEET C10.1
- 3 CURB/GUTTER FLOW LINE POINTS

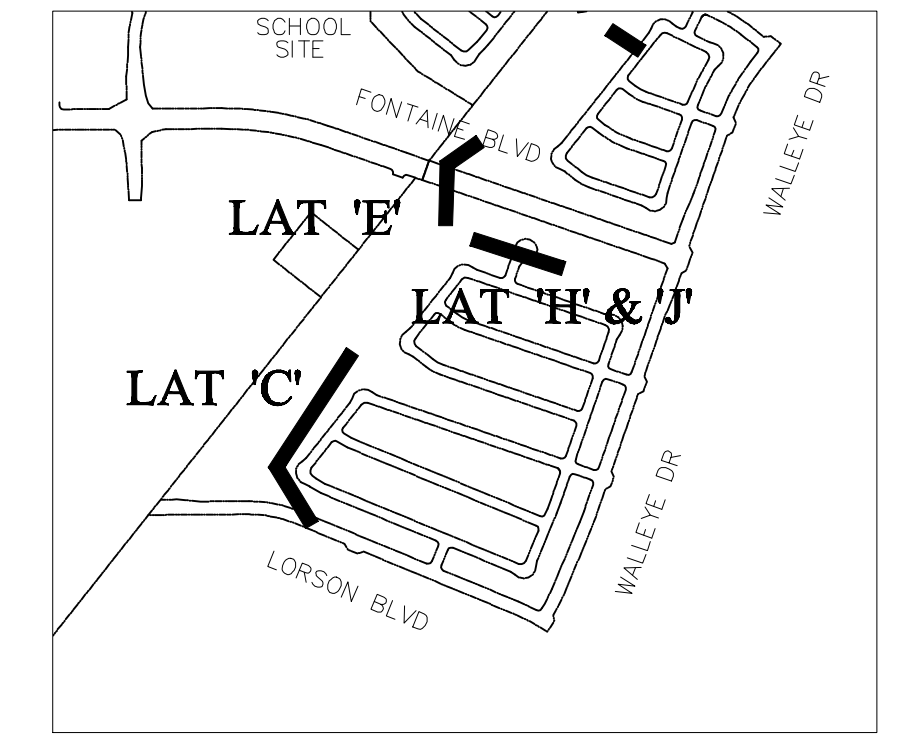


STORM LATERAL 'E'



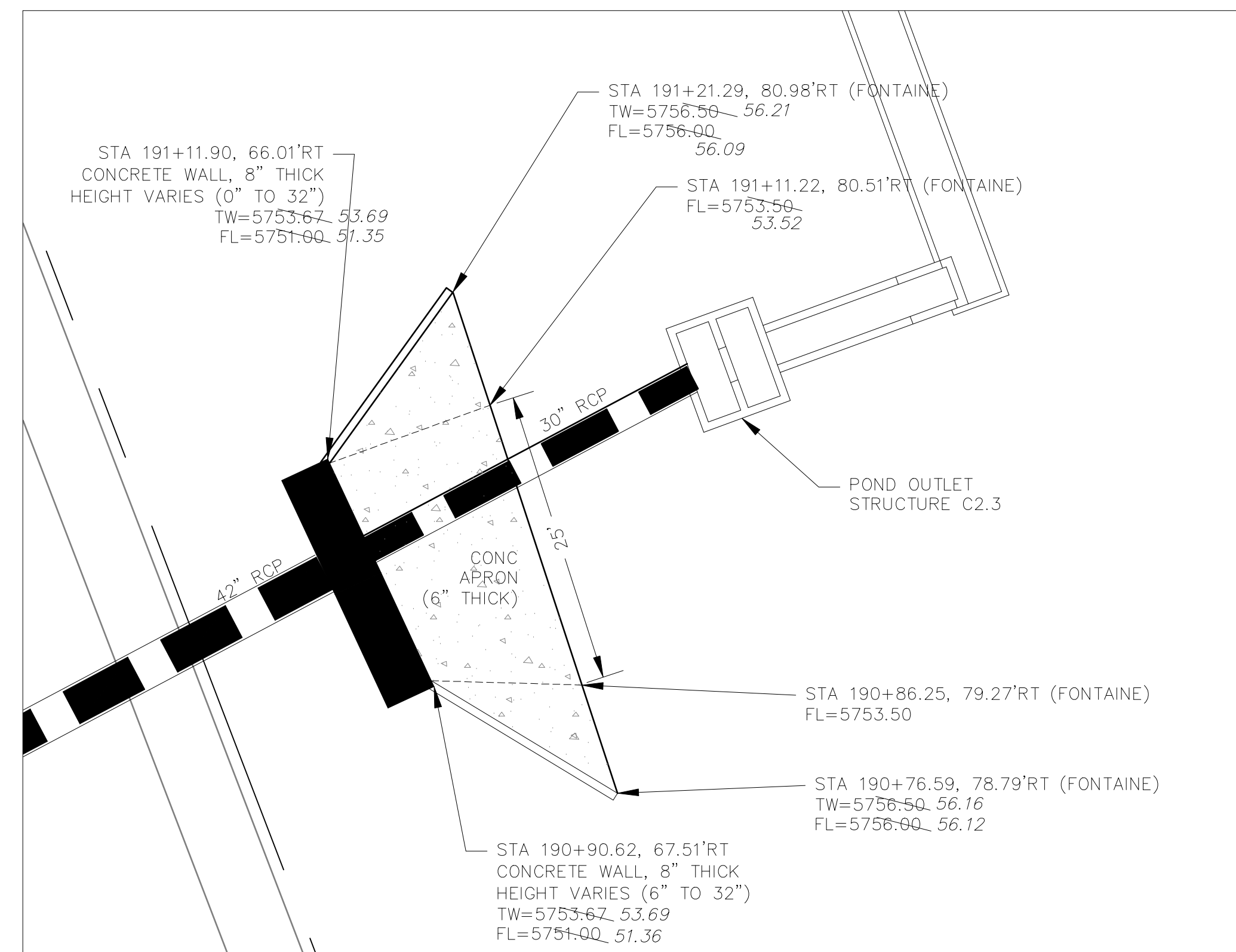
CONVEYANCE STRUCTURE #2.2

SCALE: 1"=10'



CONVEYANCE STRUCTURE #2.2 NOTES:

1. 25' CDOT TYPE R INLET WITH MODIFIED THROAT OPENING
2. THROAT OPENING = 24"
3. EXTEND 1.25" GALVANIZED STEEL ROD SUPPORTS (TYPE R INLET) TO ACCOMMODATE 24" THROAT OPENING
4. CONCRETE APRON TO BE REINFORCED WITH NO. 4 REBAR, 24" O.C. BOTH WAYS. REBAR TO EXTEND INTO CONCRETE WALL W/ NO. 4 "L" BARS, 18" O.C.
5. CONCRETE WALLS SHALL HAVE A MINIMUM OF TWO HORIZONTAL NO. 4 BARS
6. 24" THROAT OPENING TO INCLUDE SAFETY GRATE.



CONVEYANCE STRUCTURE #2.3

SCALE: 1"=10'

CONVEYANCE STRUCTURE #2.3 NOTES:

1. 20' CDOT TYPE R INLET WITH MODIFIED THROAT OPENING
2. THROAT OPENING = 24"
3. EXTEND 1.25" GALVANIZED STEEL ROD SUPPORTS (TYPE R INLET) TO ACCOMMODATE 24" THROAT OPENING
4. CONCRETE APRON TO BE REINFORCED WITH NO. 4 REBAR, 24" O.C. BOTH WAYS. REBAR TO EXTEND INTO CONCRETE WALL W/ NO. 4 "L" BARS.
5. CONCRETE WALLS SHALL HAVE A MINIMUM OF TWO HORIZONTAL NO. 4 BARS
6. 24" THROAT OPENING TO INCLUDE SAFETY GRATE.

AS-BUILT
DATE: 09/30/2022

CORE ENGINEERING GROUP
15004 1ST AVENUE S
DENVER, CO 80202
PHONE: 719.576.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: JAN 12, 2021

DESCRIPTION: RAISE SITE 1' EAST OF POWERLINES

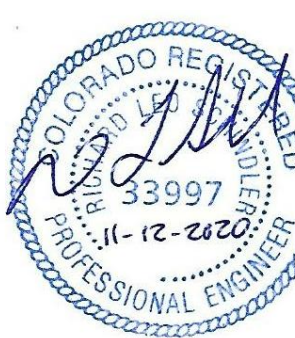
NO. 1

PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
212 N. WAHSATCH AVE SUITE 301
COLORADO SPRINGS, COLORADO 80903
LORSON BLVD - GRAYLING DR
LORSON BLVD - WALLEVE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

PREPARED FOR: LORSON, LLC
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

STREET & STORM SEWER PLAN/PROFILE
STORM LATERAL 'E'
CONVEYANCE #2.2 & #2.3

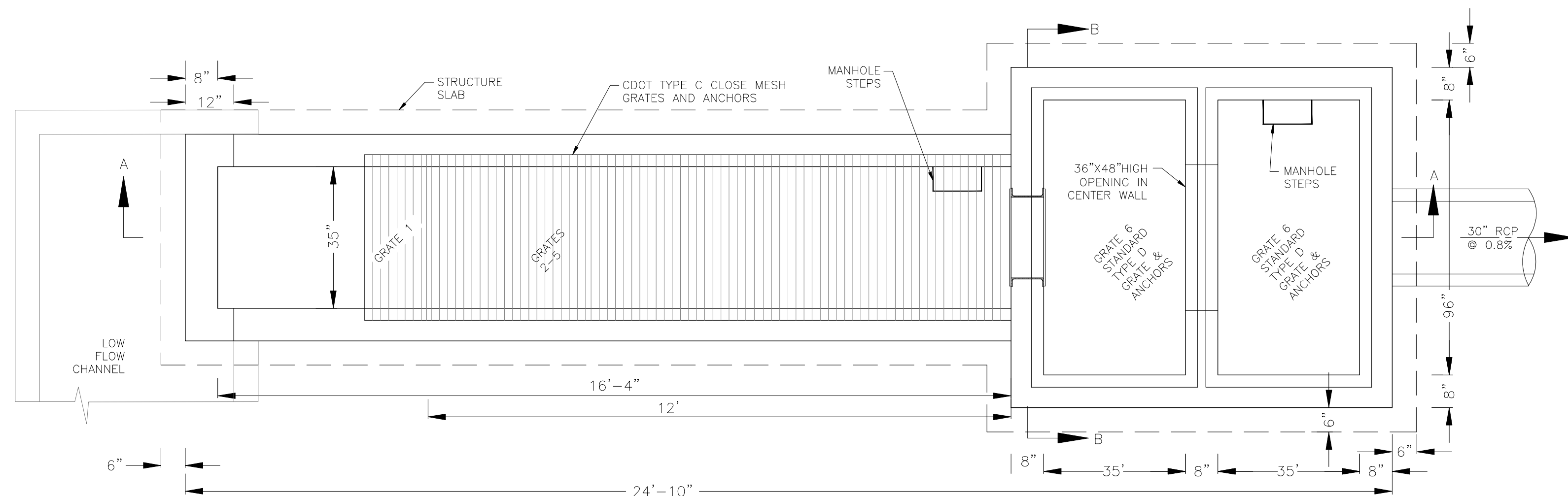
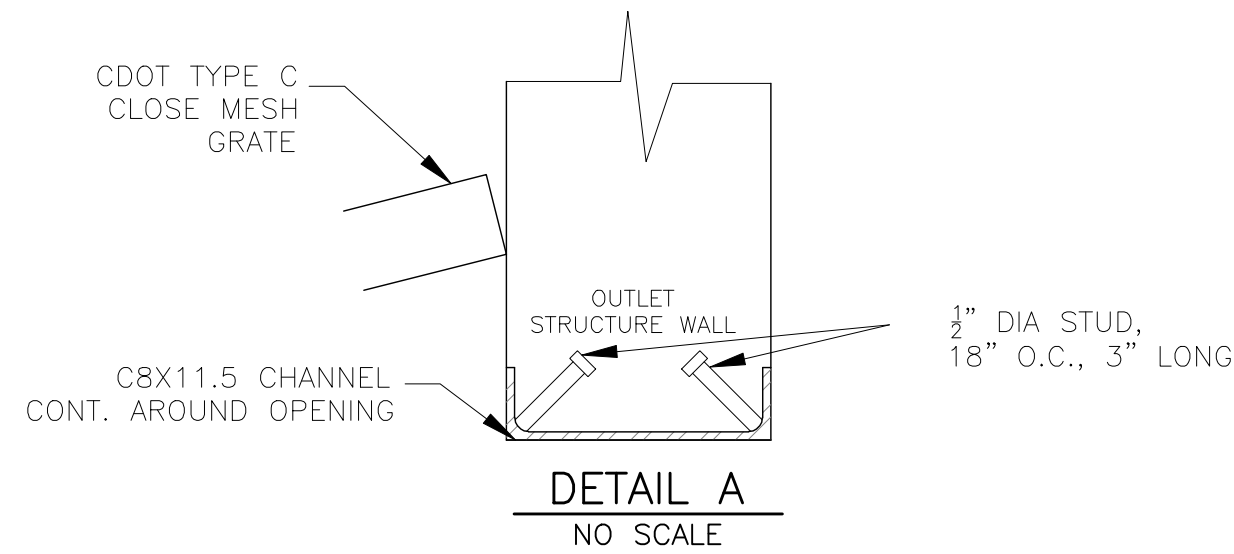


DATE: NOV 12, 2020

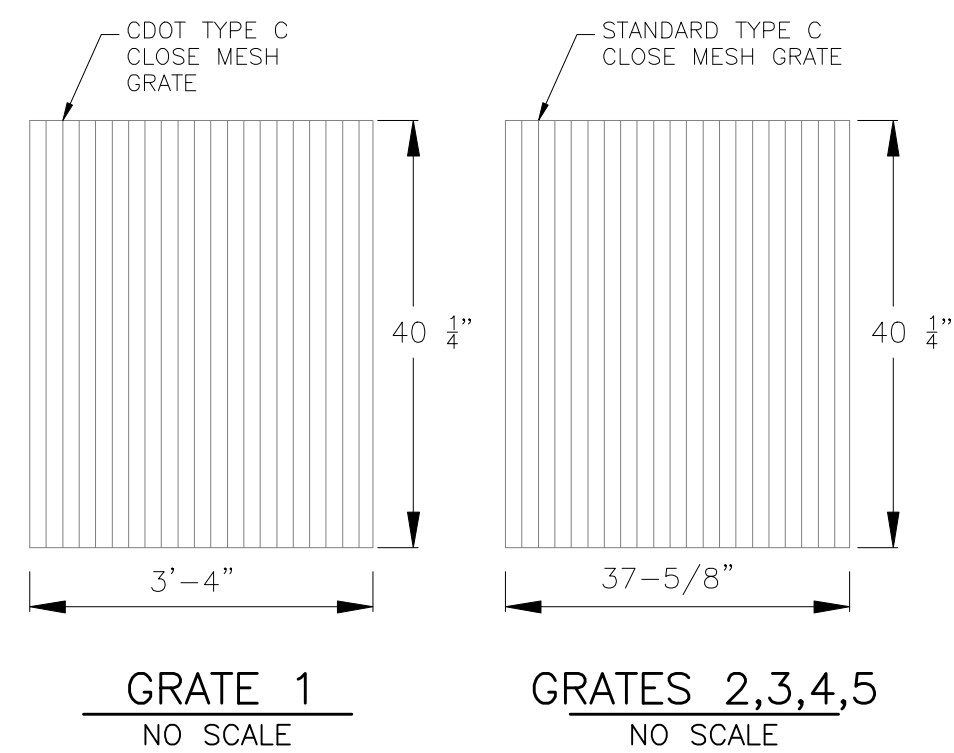
PROJECT NO. 100.061

SHEET NUMBER **C7.2**

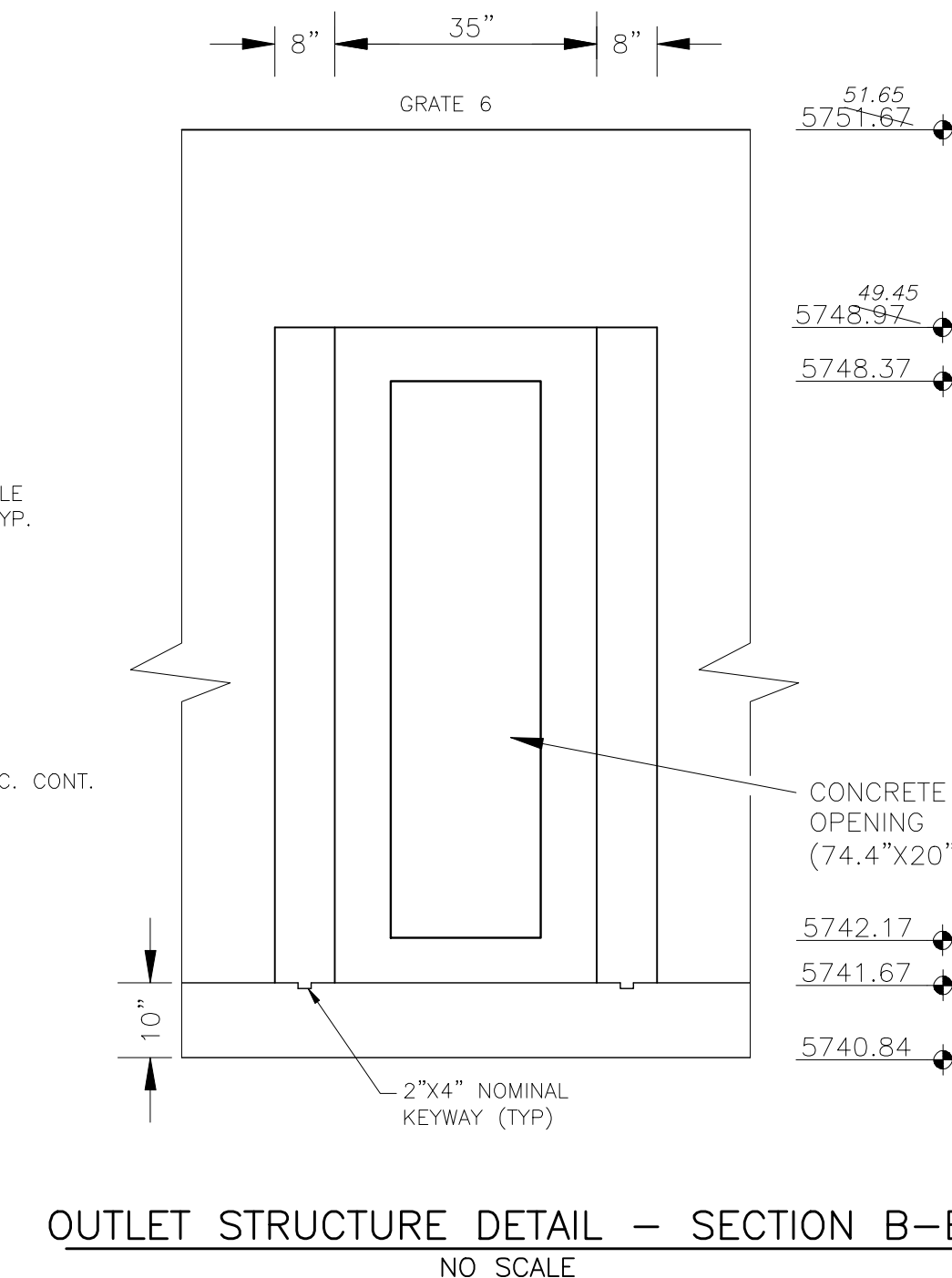
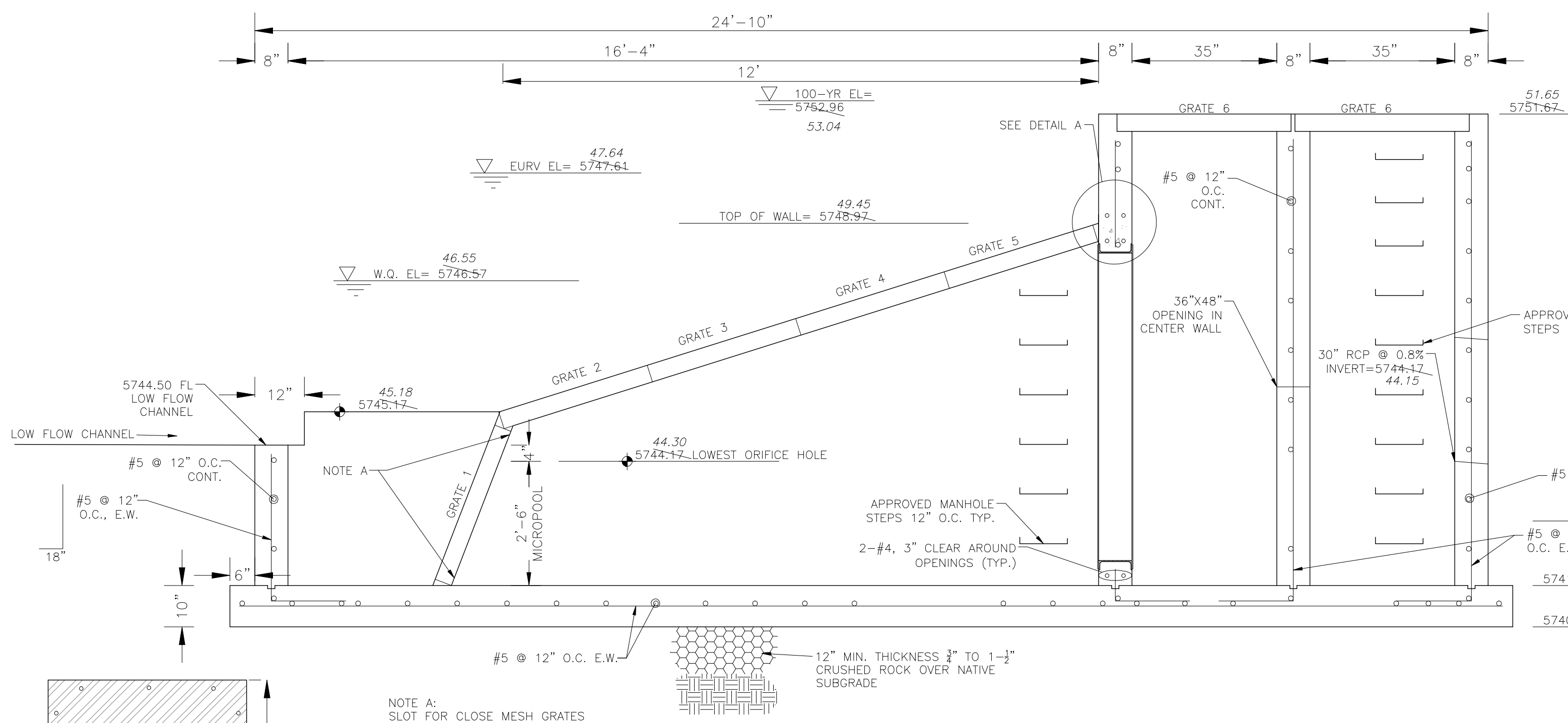
TOTAL SHEETS: 58



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

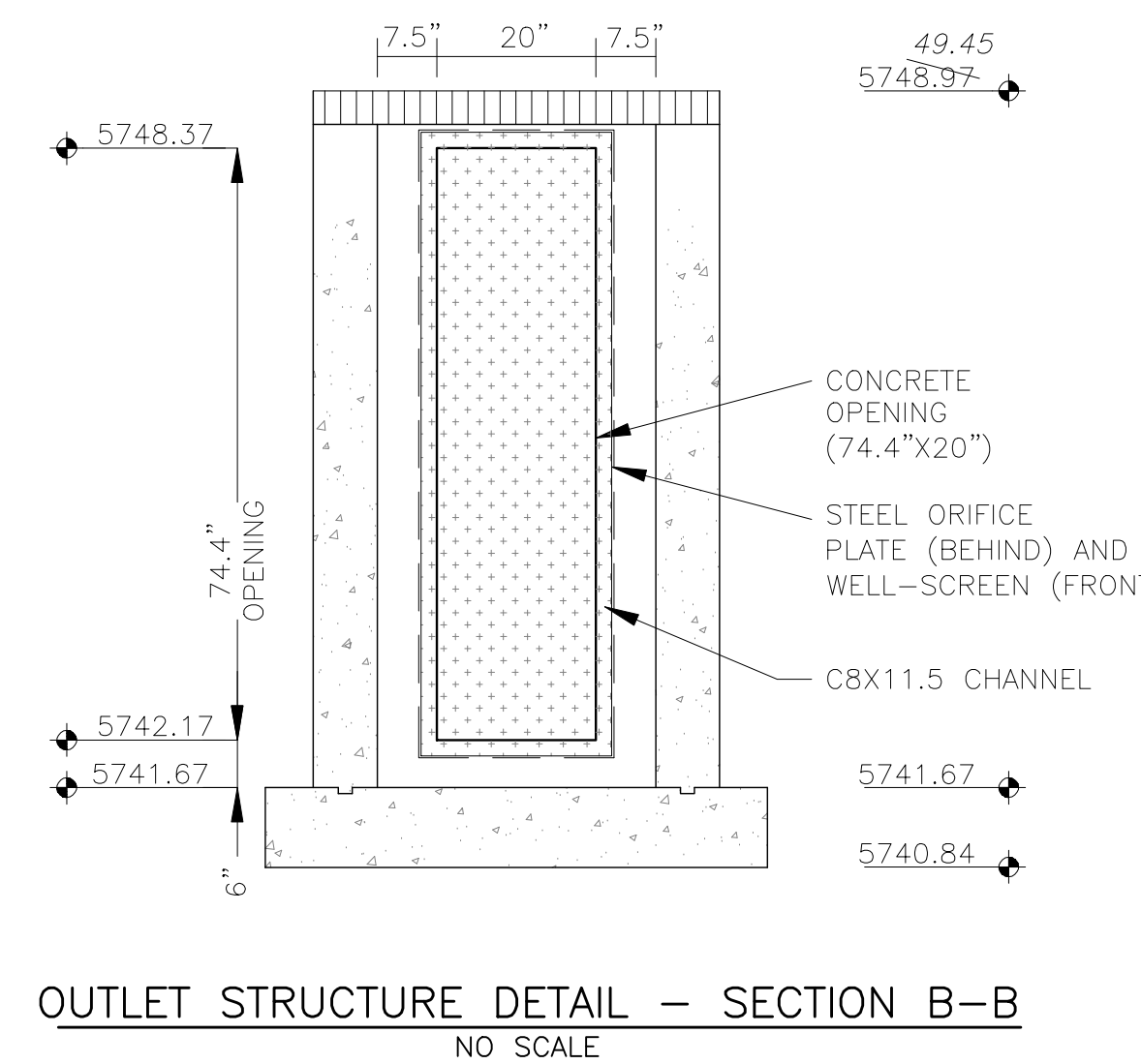
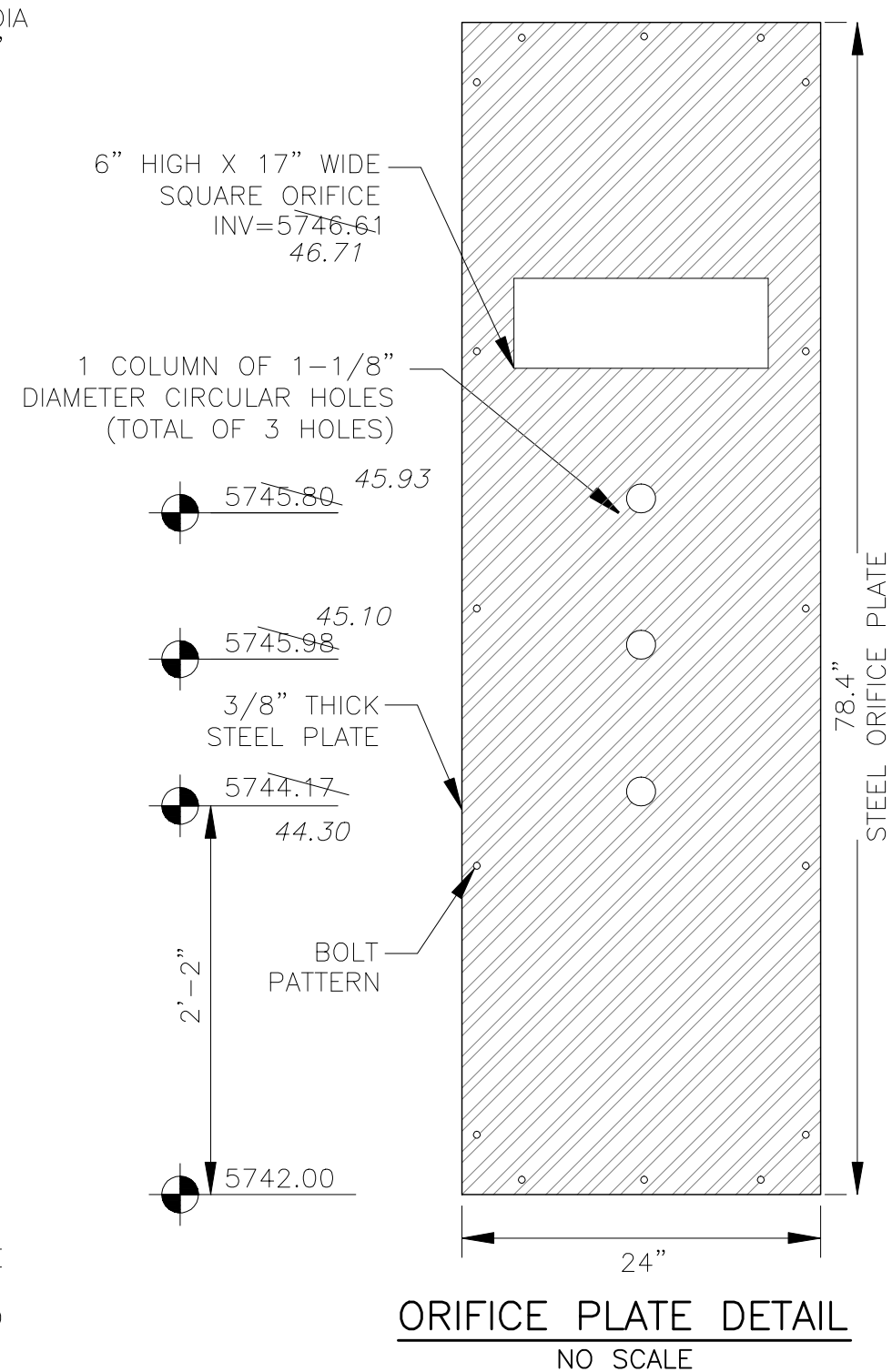
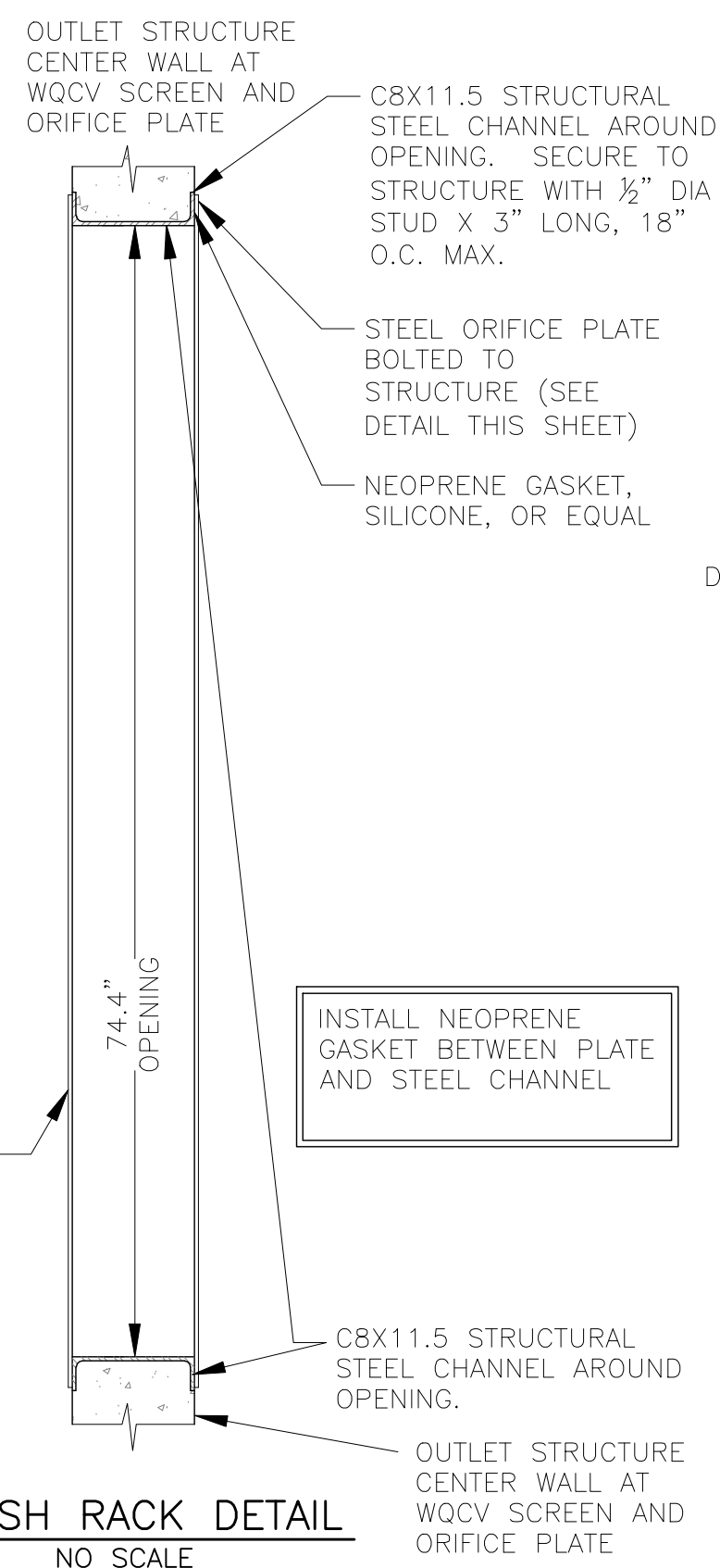
OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- 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.
- | BAR SIZE | #4 | #5 | #6 |
|--------------------|-------|-------|-------|
| MIN. SPLICE LENGTH | 1'-3" | 1'-7" | 2'-0" |
- 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 POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
 - ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

WQCV WELL-SCREEN NOTES:

- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
- WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle

AS-BUILT
DATE: 09/30/2022



OUTLET STRUCTURE DETAIL - SECTION B-B
NO SCALE

CORE ENGINEERING GROUP
15004 1ST AVENUE S.
DENVER, CO 80202
PHONE: 303.750.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: _____

DESCRIPTION: _____

NO. _____

PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE. SUITE 301
COLORADO SPRINGS, COLORADO 80903
CONTACT: RICHARD L. SCHINDLER, P.E.
(719) 635-3200
EMAIL: Rich@cegi.com
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C2.3
FULL SPECTRUM
OUTLET STRUCTURE DETAILS

COLORADO REGISTERED PROFESSIONAL ENGINEER
No. 33997
Exp. 12-22-27

DATE: NOV 12, 2020

PROJECT NO. 100.061

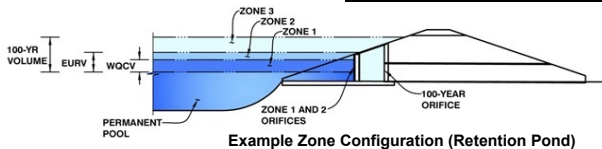
SHEET NUMBER **C9.14**

TOTAL SHEETS: 58

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.02 (February 2020)

Project: The Hills at Lorson Ranch
Basin ID: Pond C3-asbuilt



Example Zone Configuration (Retention Pond)

| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 3.27 | 0.459 | Orifice Plate |
| Zone 2 (EURV) | 4.37 | 0.858 | Rectangular Orifice |
| Z3 (100+1/2WQCV) | 5.66 | 1.346 | Weir&Pipe (Restrict) |
| Total (all zones) | | 2.663 | |

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

| | | | | | |
|-----------------------------------|-----|--|-------------------------------|-----|-----------------|
| Underdrain Orifice Invert Depth = | N/A | ft (distance below the filtration media surface) | Underdrain Orifice Area = | N/A | ft ² |
| Underdrain Orifice Diameter = | N/A | inches | Underdrain Orifice Centroid = | N/A | 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 = | 0.00 | ft (relative to basin bottom at Stage = 0 ft) | WQ Orifice Area per Row = | 8.333E-03 | ft ² |
| Depth at top of Zone using Orifice Plate = | 3.27 | ft (relative to basin bottom at Stage = 0 ft) | Elliptical Half-Width = | N/A | feet |
| Orifice Plate: Orifice Vertical Spacing = | N/A | inches | Elliptical Slot Centroid = | N/A | feet |
| Orifice Plate: Orifice Area per Row = | 1.20 | sq. inches (diameter = 1-1/4 inches) | Elliptical Slot Area = | N/A | ft ² |

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 | 1.02 | 2.02 | | | | | |
| Orifice Area (sq. inches) | 1.20 | 1.20 | 1.20 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | | Zone 2 Rectangular | Not Selected |
|---|--------------------|--------------|---|--------------------|--------------|
| Invert of Vertical Orifice = | 3.32 | N/A | ft (relative to basin bottom at Stage = 0 ft) | 0.58 | N/A |
| Depth at top of Zone using Vertical Orifice = | 4.37 | N/A | ft (relative to basin bottom at Stage = 0 ft) | 0.25 | N/A |
| Vertical Orifice Height = | 6.00 | N/A | inches | | |
| Vertical Orifice Width = | 14.00 | N/A | inches | | |

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe))

| | Zone 3 Weir | Not Selected | | Zone 3 Weir | Not Selected |
|---------------------------------------|-------------|--------------|---|-------------|--------------|
| Overflow Weir Front Edge Height, Ho = | 6.73 | N/A | ft (relative to basin bottom at Stage = 0 ft) | 6.73 | N/A |
| Overflow Weir Front Edge Length = | 6.00 | N/A | feet | 6.00 | N/A |
| Overflow Weir Grate Slope = | 0.00 | N/A | H:V | 10.87 | N/A |
| Horiz. Length of Weir Sides = | 6.00 | N/A | feet | 25.20 | N/A |
| Overflow Grate Open Area % = | 70% | N/A | %, grate open area/total area | 12.60 | N/A |
| Debris Clogging % = | 50% | N/A | % | | |

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

| | Zone 3 Restrictor | Not Selected | | Zone 3 Restrictor | Not Selected |
|---|-------------------|--------------|--|-------------------|--------------|
| Depth to Invert of Outlet Pipe = | 0.17 | N/A | ft (distance below basin bottom at Stage = 0 ft) | 2.32 | N/A |
| Outlet Pipe Diameter = | 24.00 | N/A | inches | 0.77 | N/A |
| Restrictor Plate Height Above Pipe Invert = | 16.60 | N/A | inches | 1.96 | N/A |

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | | | | |
|-------------------------------------|-------|---|------------------------------------|-------|---------|
| Spillway Invert Stage = | 9.59 | ft (relative to basin bottom at Stage = 0 ft) | Spillway Design Flow Depth = | 1.32 | feet |
| Spillway Crest Length = | 20.00 | feet | Stage at Top of Freeboard = | 12.59 | feet |
| Spillway End Slopes = | 4.00 | H:V | Basin Area at Top of Freeboard = | 1.66 | acres |
| Freeboard above Max Water Surface = | 1.68 | feet | Basin Volume at Top of Freeboard = | 9.74 | acre-ft |

micropool = 0 = 5755.15

Routed Hydrograph Results

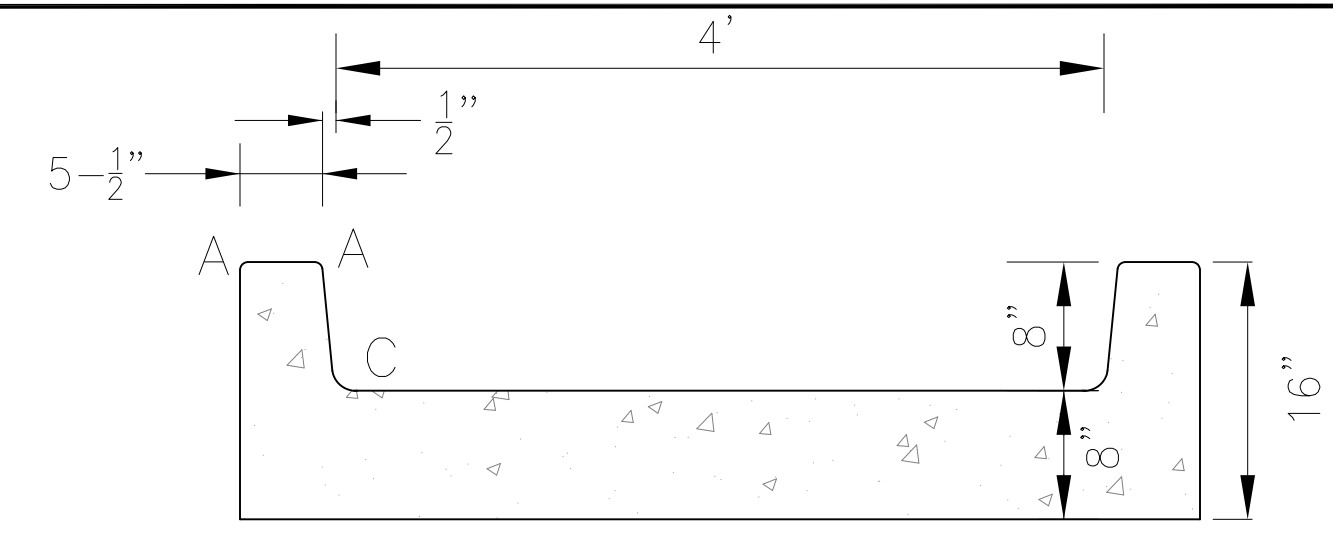
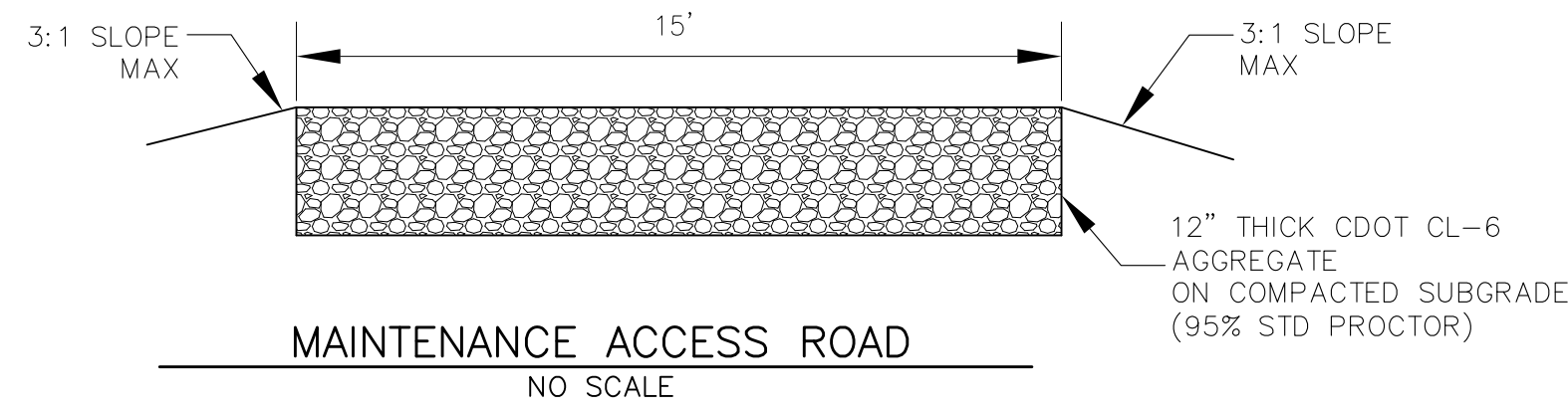
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|--|-------|--------------------|--------------------|--------------------|-----------------|----------------|----------------|----------------|
| Design Storm Return Period = | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| One-Hour Rainfall Depth (in) = | 0.459 | 1.316 | 1.426 | 2.032 | 2.557 | 3.174 | 3.723 | 4.395 |
| CUHP Runoff Volume (acre-ft) = | N/A | N/A | 3.549 | 5.555 | 7.674 | 10.126 | 12.221 | 14.786 |
| User Override Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 5.6 | 12.2 | 17.2 | 27.0 | 33.3 | 41.0 |
| OPTIONAL CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.22 | 0.47 | 0.66 | 1.04 | 1.28 | 1.58 |
| Peak Inflow Q (cfs) = | N/A | N/A | 28.0 | 41.4 | 54.0 | 82.0 | 98.8 | 115.3 |
| Peak Outflow Q (cfs) = | 0.2 | 2.7 | 3.7 | 5.0 | 22.5 | 30.2 | 31.4 | 32.8 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 0.4 | 1.3 | 1.1 | 0.9 | 0.8 |
| Structure Controlling Flow = | Plate | Vertical Orifice 1 | Vertical Orifice 1 | Vertical Orifice 1 | Overflow Weir 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) = | N/A | N/A | N/A | N/A | 0.7 | 1.0 | 1.0 | 1.0 |
| Max Velocity through Gate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 38 | 48 | 50 | 48 | 44 | 39 | 34 | 29 |
| Time to Drain 99% of Inflow Volume (hours) = | 40 | 52 | 57 | 59 | 57 | 55 | 53 | 51 |
| Maximum Ponding Depth (ft) = | 3.27 | 4.37 | 5.09 | 6.39 | 7.20 | 7.91 | 8.50 | 9.24 |
| Area at Maximum Ponding Depth (acres) = | 0.57 | 0.93 | 1.06 | 1.18 | 1.26 | 1.32 | 1.39 | 1.48 |
| Maximum Volume Stored (acre-ft) = | 0.462 | 1.320 | 2.044 | 3.493 | 4.493 | 5.407 | 6.193 | 7.253 |

Pond C3 Developed Inflow Hydrograph --- asbuilt Pond C4 Outflow + C10 Basin

Pond C3 Inflow = asbuilt Pond C4 + direct tributary area

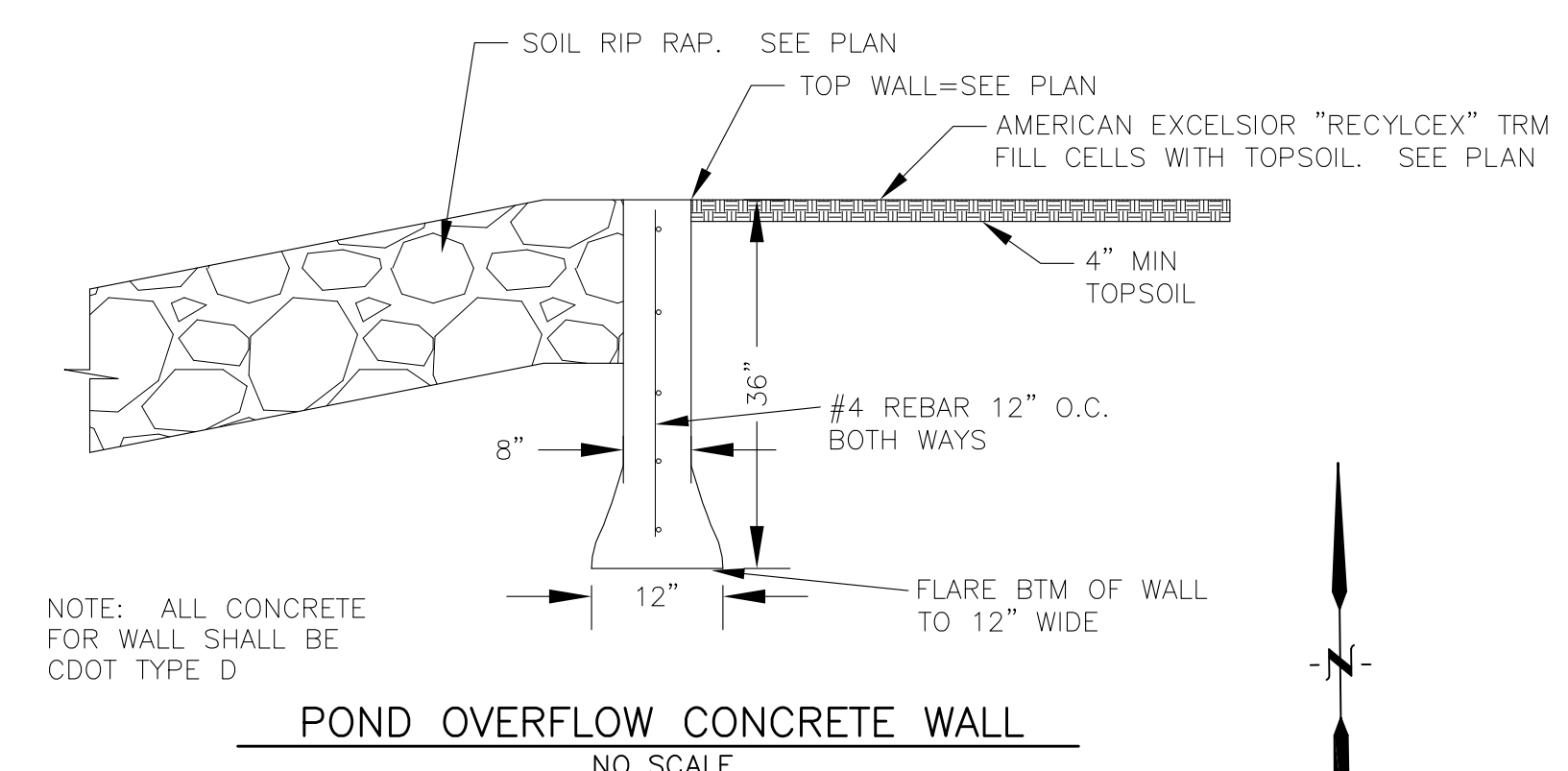
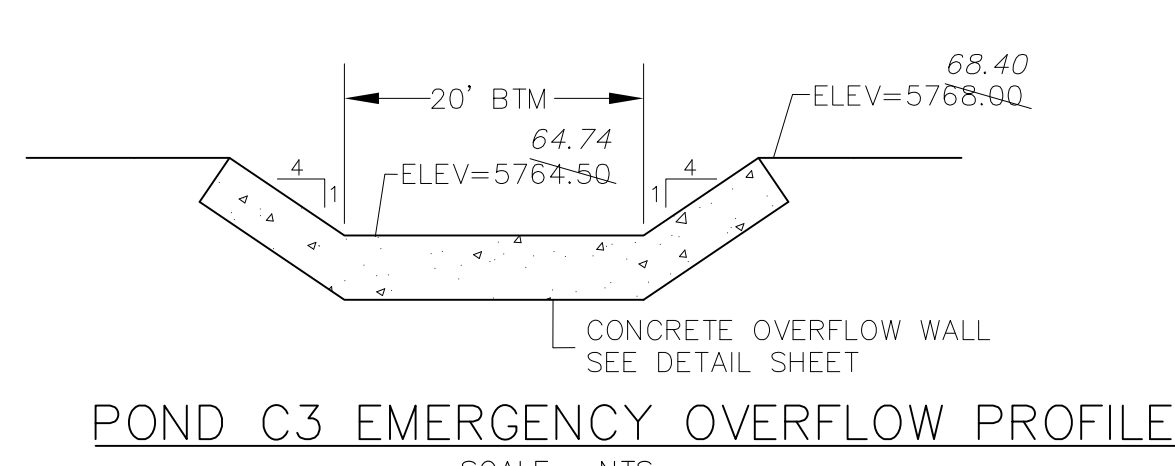
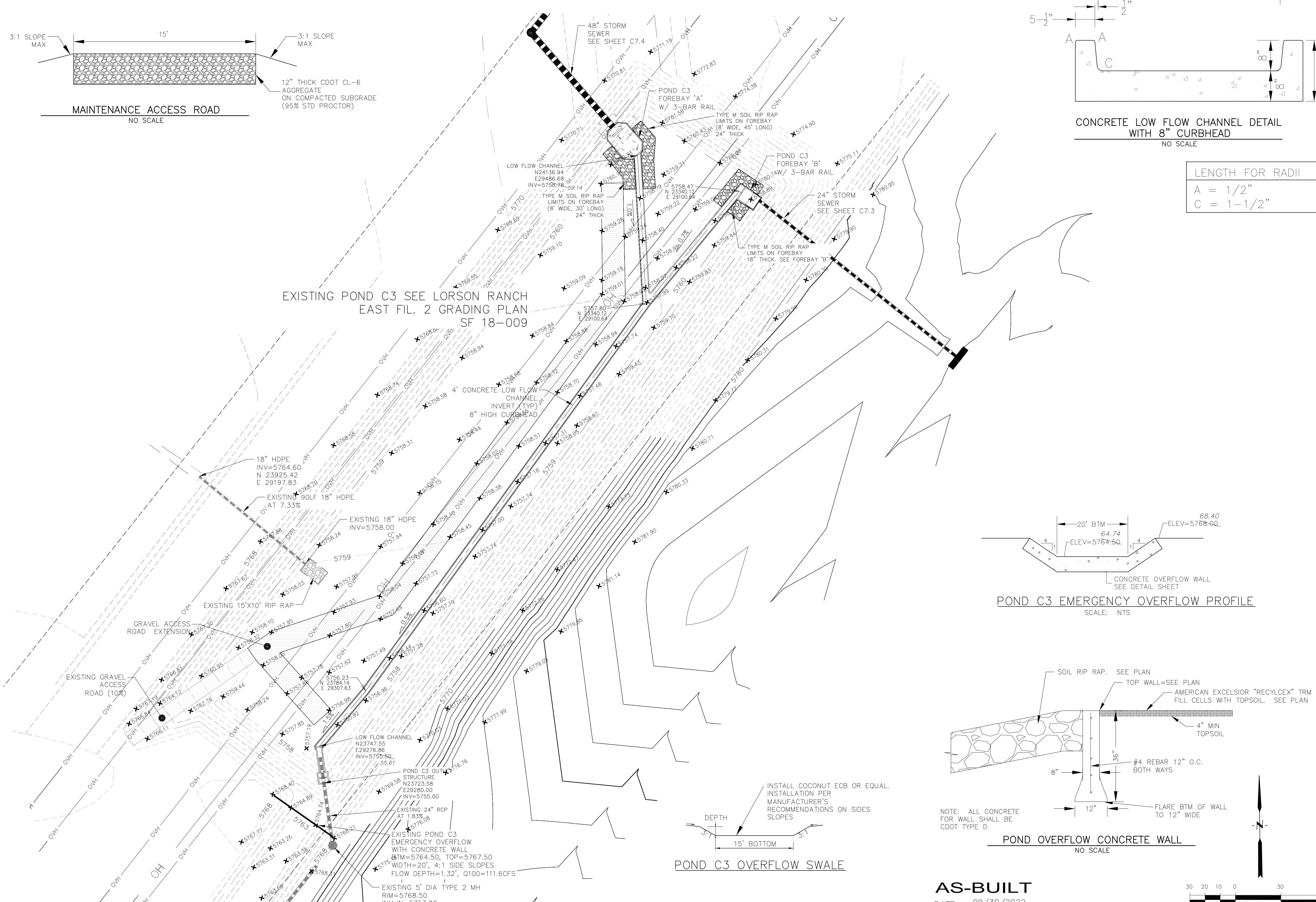
| Time [hr] | Time [min] | 2 Year | | 2yr | | 5yr | | 10yr | | 25yr | | 50yr | | 100yr | |
|-----------|------------|--------------------------|-------------------|---------------------|--------------------------|-------------------|---------------------|--------------------------|--------------------|---------------------|--------------------------|--------------------|---------------------|--------------------------|--------------------|
| | | Pond C4 Outflow2 - [cfs] | CUHP 2 Year [cfs] | Combined Hydrograph | Pond C4 Outflow2 - [cfs] | CUHP 5 Year [cfs] | Combined Hydrograph | Pond C4 Outflow2 - [cfs] | CUHP 10 Year [cfs] | Combined Hydrograph | Pond C4 Outflow2 - [cfs] | CUHP 25 Year [cfs] | Combined Hydrograph | Pond C4 Outflow2 - [cfs] | CUHP 50 Year [cfs] |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 0.08 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.06 |
| 0.17 | 10.00 | 0.24 | 0.00 | 0.24 | 0.26 | 0.00 | 0.26 | 0.27 | 0.00 | 0.27 | 0.26 | 0.00 | 0.27 | 0.29 | 0.03 |
| 0.25 | 15.00 | 0.32 | 2.54 | 2.86 | 0.34 | 4.14 | 4.49 | 0.35 | 5.13 | 5.49 | 0.33 | 3.45 | 3.77 | 0.34 | 4.27 |
| 0.33 | 20.00 | 0.44 | 8.76 | 9.20 | 0.52 | 11.77 | 12.28 | 0.57 | 14.53 | 15.09 | 0.45 | 8.43 | 8.87 | 0.48 | 9.78 |
| 0.42 | 25.00 | 0.59 | 20.44 | 21.04 | 0.91 | 31.71 | 32.62 | 2.44 | 40.41 | 42.85 | 0.65 | 20.03 | 20.68 | 1.16 | 24.46 |
| 0.50 | 30.00 | 1.18 | 26.78 | 27.96 | 3.43 | 37.99 | 41.42 | 4.32 | 45.89 | 50.20 | 3.96 | 53.09 | 57.05 | 4.66 | 62.73 |
| 0.58 | 35.00 | 2.95 | 24.15 | 27.10 | 4.48 | 33.33 | 37.81 | 5.30 | 39.98 | 45.28 | 5.56 | 58.17 | 63.73 | 11.91 | 67.93 |
| 0.67 | 40.00 | 3.70 | 20.70 | 24.41 | 5.12 | 27.98 | 33.10 | 5.93 | 33.64 | 39.58 | 24.54 | 54.13 | 78.68 | 35.81 | 62.96 |
| 0.75 | 45.00 | 4.16 | 16.52 | 20.69 | 5.56 | 22.99 | 28.54 | 17.02 | 28.10 | 45.12 | 35.64 | 46.38 | 82.02 | 37.68 | 53.91 |
| 0.83 | 50.00 | 4.48 | 13.25 | 17.72 | 5.87 | 19.04 | 24.91 | 28.41 | 22.85 | 51.26 | 36.82 | 40.15 | 76.96 | 38.98 | 46.60 |
| 0.92 | 55.00 | 4.70 | 11.05 | 15.76 | 8.69 | 15.88 | 24.57 | 34.44 | 19.61 | 54.04 | 37.60 | 32.28 | 69.87 | 39.85 | 37.57 |
| 1.00 | 60.00 | 4.87 | 9.54 | 14.41 | 13.02 | 13.57 | 26.58 | 34.59 | 17.21 | 51.80 | 38.09 | 27.13 | 65.22 | 40.43 | 31.66 |
| 1.08 | 65.00 | 4.99 | 8.16 | 13.15 | 16.03 | 11.50 | 27.52 | 34.64 | 14.96 | 49.59 | 38.35 | 23.19 | 61.54 | 40.75 | 27.12 |
| 1.17 | 70.00 | 5.07 | 6.38 | 11.46 | 17.74 | 9.65 | 27.39 | 34.63 | 12.91 | 47.54 | 38.41 | 18.55 | 56.96 | 40.87 | 21.79 |
| 1.25 | 75.00 | 5.14 | 4.93 | 10.06 | 18.46 | 7.69 | 26.15 | 34.57 | 11.26 | 45.83 | 38.33 | 14.54 | 52.88 | 40.85 | 17.18 |
| 1.33 | 80.00 | 5.19 | 4.06 | 9.25 | 18.54 | 6.44 | 24.96 | 34.44 | 9.60 | 44.04 | 38.16 | 10.73 | 48.89 | 40.73 | 12.68 |
| 1.42 | 85.00 | 5.24 | 3.65 | 8.89 | 18.27 | 5.79 | 24.06 | 32.01 | 8.07 | 40.08 | 37.93 | 8.55 | 46.48 | 40.54 | 10.11 |
| 1.50 | 90.00 | 5.28 | 3.42 | 8.70 | 17.87 | 5.37 | 23.25 | 28.79 | 7.00 | 35.79 | 37.64 | 6.82 | 44.46 | 40.29 | 8.07 |
| 1.58 | 95.00 | 5.32 | 3.31 | 8.63 | 17.26 | 5.10 | 22.36 | 26.04 | 6.25 | 32.30 | 37.31 | 5.71 | 43.03 | 40.00 | 6.76 |
| 1.67 | 100.00 | 5.36 | 3.23 | 8.59 | 16.40 | 4.46 | 20.85 | 23.78 | 5.73 | 29.51 | 36.96 | 4.95 | 41.92 | 39.69 | 5.86 |
| 1.75 | 105.00 | 5.40 | 3.16 | 8.56 | 15.46 | 3.98 | 19.44 | 21.93 | 5.37 | 27.31 | 36.60 | 4.49 | 41.09 | 39.36 | 5.30 |
| 1.83 | 110.00 | 5.43 | 3.12 | 8.54 | 14.56 | 3.64 | 18.19 | 20.37 | 5.11 | 25.48 | 36.23 | 4.15 | 40.38 | 39.03 | 4.89 |
| 1.92 | 115.00 | 5.45 | 2.67 | 8.12 | 13.72 | 3.38 | 17.10 | 18.88 | 4.73 | 23.62 | 35.85 | 3.94 | 43.32 | 38.68 | 4.64 |
| 2.00 | 120.00 | 5.45 | 2.34 | 7.79 | 12.68 | 3.10 | 15.78 | 17.12 | 4.16 | 21.28 | 35.44 | 3.82 | 39.25 | 38.30 | 4.49 |
| 2.08 | 125.00 | 5.44 | 1.68 | 7.12 | 11.36 | 2.22 | 13.58 | 15.03 | 2.94 | 17.96 | 34.97 | 2.72 | 37.69 | 37.87 | 3.20 |
| 2.17 | 130.00 | 5.42 | 1.17 | 6.59 | 10.01 | 1.54 | 11.56 | 12.96 | 2.04 | 15.56 | 34.55 | 1.90 | 36.35 | 37.50 | 2.23 |
| 2.25 | 135.00 | 5.40 | 0.80 | 6.20 | 8.79 | 1.05 | 9.84 | 11.11 | 1.41 | 12.52 | 26.72 | 1.31 | 28.03 | 36.87 | 1.54 |
| 2.33 | 140.00 | 5.36 | 0.54 | 5.91 | 7.75 | 0.69 | 8.44 | 9.54 | 0.95 | 10.49 | 20.46 | 0.89 | 21.35 | 36.33 | 1.04 |
| 2.42 | 145.00 | 5.33 | 0.35 | 5.68 | 6.92 | 0.45 | 7.36 | 8.26 | 0.62 | 8.88 | 16.06 | 0.59 | 16.64 | 35.77 | 0.69 |
| 2.50 | 150.00 | 5.29 | 0.22 | 5.51 | 6.30 | 0.29 | 6.59 | 7.25 | 0.40 | 7.65 | 12.88 | 0.39 | 13.27 | 35.20 | 0.46 |
| 2.58 | 155.00 | 5.25 | 0.12 | 5.37 | 5.95 | 0.17 | 6.12 | 6.50 | 0.23 | 6.73 | 10.55 | 0.23 | 10.79 | 34.61 | 0.27 |
| 2.67 | 160.00 | 5.21 | 0.05 | 5.26 | 5.90 | 0.08 | 5.98 | 6.03 | 0.10 | 6.13 | 8.86 | 0.11 | 8.97 | 28.41 | 0.13 |
| 2.75 | 165.00 | 5.17 | 0.02 | 5.19 | 5.86 | 0.03 | 5.89 | 5.91 | 0.03 | 5.94 | 7.62 | 0.04 | 7.66 | 21.16 | 0.04 |
| 2.83 | 170.00 | 5.13 | 0.00 | 5.13 | 5.82 | 0.00 | 5.82 | 5.87 | 0.00 | 5.87 | 6.74 | 0.00 | 6.74 | 16.31 | 0.00 |
| 2.92 | 175.00 | 5.09 | 0.00 | 5.09 | 5.78 | 0.00 | 5.78 | 5.83 | 0.00 | 5.83 | 6.16 | 0.00 | 6.16 | 12.95 | 0.00 |
| 3.00 | 180.00 | 5.05 | 0.00 | 5.05 | 5.74 | 0.00 | 5.74 | 5.80 | 0.00 | 5.80 | 5.93 | 0.00 | 5.93 | 10.58 | 0.00 |
| 3.08 | 185.00 | 5.01 | 0.00 | 5.01 | 5.71 | 0.00 | 5.71 | 5.76 | 0.00 | 5.76 | 5.89 | 0.00 | 5.89 | 8.87 | 0.00 |
| 3.17 | 190.00 | 4.97 | 0.00 | 4.97 | 5.67 | 0.00 | 5.67 | 5.72 | 0.00 | 5.72 | 5.85 | 0.00 | 5.85 | 7.63 | 0.00 |
| 3.25 | 195.00 | 4.93 | 0.00 | 4.93 | 5.63 | 0.00 | 5.63 | 5.68 | 0.00 | 5.68 | 5.81 | 0.00 | 5.81 | 6.75 | 0.00 |
| 3.33 | 200.00 | 4.89 | 0.00 | 4.89 | 5.59 | 0.00 | 5.59 | 5.64 | 0.00 | 5.64 | 5.77 | 0.00 | 5.77 | 6.16 | 0.00 |
| 3.42 | 205.00 | 4.85 | 0.00 | 4.85 | 5.55 | 0.00 | 5.55 | 5.60 | 0.00 | 5.60 | 5.73 | 0.00 | 5.73 | 5.93 | 0.00 |
| 3.50 | 210.00 | 4.81 | 0.00 | 4.81 | 5.51 | 0.00 | 5.51 | 5.56 | 0.00 | 5.56 | 5.69 | 0.00 | 5.69 | 5.89 | 0.00 |
| 3.58 | 215.00 | 4.76 | 0.00 | 4.76 | 5.47 | 0.00 | 5.47 | 5.52 | 0.00 | 5.52 | 5.65 | 0.00 | 5.65 | 5.85 | 0.00 |
| 3.67 | 220.00 | 4.72 | 0.00 | 4.72 | 5.43 | 0.00 | 5.43 | 5.48 | 0.00 | 5.48 | 5.61 | 0.00 | 5.61 | 5.81 | 0.00 |
| 3.75 | 225.00 | 4.68 | 0.00 | 4.68 | 5.39 | 0.00 | 5.39 | 5.44 | 0.00 | 5.44 | 5.58 | 0.00 | 5.58 | 5.77 | 0.00 |
| 3.83 | 230.00 | 4.64 | 0.00 | 4.64 | 5.35 | 0.00 | 5.35 | 5.40 | 0.00 | 5.40 | 5.54 | 0.00 | 5.54 | 5.73 | 0.00 |
| 3.92 | 235.00 | 4.60 | 0.00 | 4.60 | 5.31 | 0.00 | 5.31 | 5.36 | 0.00 | 5.36 | 5.50 | 0.00 | 5.50 | 5.69 | 0.00 |
| 4.00 | 240.00 | 4.56 | 0.00 | 4.56 | 5.27 | 0.00 | 5.27 | 5.32 | 0.00 | 5.32 | 5.46 | 0.00 | 5.46 | 5.65 | 0.00 |
| 4.08 | 245.00 | 4.52 | 0.00 | 4.52 | 5.23 | 0.00 | 5.23 | 5.28 | 0.00 | 5.28 | 5.42 | 0.00 | 5.42 | 5.61 | 0.00 |
| 4.17 | 250.00 | 4.47 | 0.00 | 4.47 | 5.19 | 0.00 | 5.19 | 5.24 | 0.00 | 5.24 | 5.38 | 0.00 | 5.38 | 5.58 | 0.00 |
| 4.25 | 255.00 | 4.43 | 0.00 | 4.43 | 5.15 | 0.00 | 5.15 | 5.20 | 0.00 | 5.20 | 5.34 | 0.00 | 5.34 | 5.54 | 0.00 |
| 4.33 | 260.00 | 4.39 | 0.00 | 4.39 | 5.11 | 0.00 | 5.11 | 5.16 | 0.00 | 5.16 | 5.30 | 0.00 | 5.30 | 5.50 | 0.00 |
| 4.42 | 265.00 | 4.35 | 0.00 | 4.35 | 5.07 | 0.00 | 5.07 | 5.12 | 0.00 | 5.12 | 5.26 | 0.00 | 5.26 | 5.46 | 0.00 |
| 4.50 | 270.00 | 4.31 | 0.00 | 4.31 | 5.03 | 0.00 | 5.03 | 5.08 | 0.00 | 5.08 | 5.22 | 0.00 | 5.22 | 5.42 | 0.00 |
| 4.58 | 275.00 | 4.27 | 0.00 | 4.27 | 4.99 | 0.00 | 4.99 | 5.04 | 0.00 | 5.04 | 5.18 | 0.00 | 5.18 | 5.38 | 0.00 |
| 4.67 | 280.00 | 4.22 | 0.00 | 4.22 | 4.95 | 0.00 | 4.95 | 5.00 | 0.00 | 5.00 | 5.14 | 0.00 | 5.14 | 5.34 | 0.00 |
| 4.75 | 285.00 | 4.18 | 0.00 | 4.18 | 4.91 | 0.00 | 4.91 | 4.96 | 0.00 | 4.96 | 5.10 | 0.00 | 5.10 | 5.30 | 0.00 |
| 4.83 | 290.00 | 4.14 | 0.00 | 4.14 | 4.87 | 0.00 | 4.87 | 4.92 | 0.00 | 4.92 | 5.06 | 0.00 | 5.06 | 5.26 | 0.00 |
| 4.92 | 295.00 | 4.10 | 0.00 | 4.10 | 4.83 | 0.00 | 4.83 | 4.88 | 0.00 | 4.88 | 5.02 | 0.00 | 5.02 | 5.22 | 0.00 |
| 5.00 | 300.00 | 4.05 | 0.00 | 4.05 | 4.78 | 0.00 | 4.78 | 4.84 | 0.00 | 4.84 | 4.98 | 0.00 | 4.98 | 5.18 | 0.00 |
| 5.08 | 305.00 | 4.01 | 0.00 | 4.01 | 4.74 | 0.00 | 4.74 | 4.80 | 0.00 | 4.80 | 4.93 | 0.00 | 4.93 | 5.14 | 0.00 |
| 5.17 | 310.00 | 3.97 | 0.00 | 3.97 | 4.70 | 0.00 | 4.70 | 4.76 | 0.00 | 4.76 | 4.89 | 0.00 | 4.89 | 5.10 | 0.00 |
| 5.25 | 315.00 | 3.92 | 0.00 | 3.92 | 4.66 | 0.00 | 4.66 | 4.72 | 0.00 | 4.72 | 4.85 | 0.00 | 4.85 | 5.06 | 0.00 |
| 5.33 | 320.00 | 3.88 | 0.00 | 3.88 | 4.62 | 0.00 | 4.62 | 4.67 | 0.00 | 4.67 | 4.81 | 0.00 | 4.81 | 5.02 | 0.00 |
| 5.42 | 325.00 | 3.84 | 0.00 | 3.84 | 4.58 | 0.00 | 4.58 | 4.63 | 0.00 | 4.63 | 4.77 | 0.00 | 4.77 | 4.98 | 0.00 |
| 5.50 | 330.00 | 3.79 | 0.00 | 3.79 | 4.54 | 0.00 | 4.54 | 4.59 | 0.00 | 4.59 | 4.73 | 0.00 | 4.73 | 4.94 | 0.00 |
| 5.58 | 335.00 | 3.75 | 0.00 | 3.75 | 4.49 | 0.00 | 4.49 | 4.55 | 0.00 | 4.55 | 4.69 | 0.00 | 4.69 | 4.89 | 0.00 |
| 5.67 | 340.00 | 3.71 | 0.00 | 3.71 | 4.45 | 0.00 | 4.45 | 4.51 | 0.00 | 4.51 | 4.65 | 0.00 | 4.65 | 4.85 | 0.00 |
| 5.75 | 345.00 | 3.66 | 0.00 | 3.66 | 4.41 | 0.00 | 4.41 | 4.47 | 0.00 | 4.47 | 4.61 | 0.00 | 4.61 | 4.81 | 0.00 |
| 5.83 | 350.00 | 3.62 | 0.00 | 3.62 | 4.37 | 0.00 | 4.37 | 4.43 | 0.00 | 4.43 | 4.56 | 0.00 | 4.56 | 4.77 | 0.00 |
| 5.92 | 355.00 | 3.58 | 0.00 | 3.58 | 4.33 | 0.00 | 4.33 | 4.38 | 0.00 | 4.38 | 4.52 | 0.00 | 4.52 | 4.73 | 0.00 |
| 6.00 | 360.00 | 3.53 | 0.00 | 3.53 | 4.29 | 0.00 | 4.29 | 4.34 | 0.00 | 4.34 | 4.54 | 0.00 | 4.69 | 4.69 | 0.00 |



LENGTH FOR RADII

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

EXISTING POND C3 SEE LORSON RANCH EAST FIL. 2 GRADING PLAN SF 18-009



NOTE: ALL CONCRETE FOR WALL SHALL BE CDOT TYPE D

AS-BUILT
DATE: 09/30/2022



CORE ENGINEERING GROUP
19004 1ST AVE. SUITE 100
DENVER, CO 80202
PHONE: 303.750.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: _____
DESCRIPTION: _____
NO: _____

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

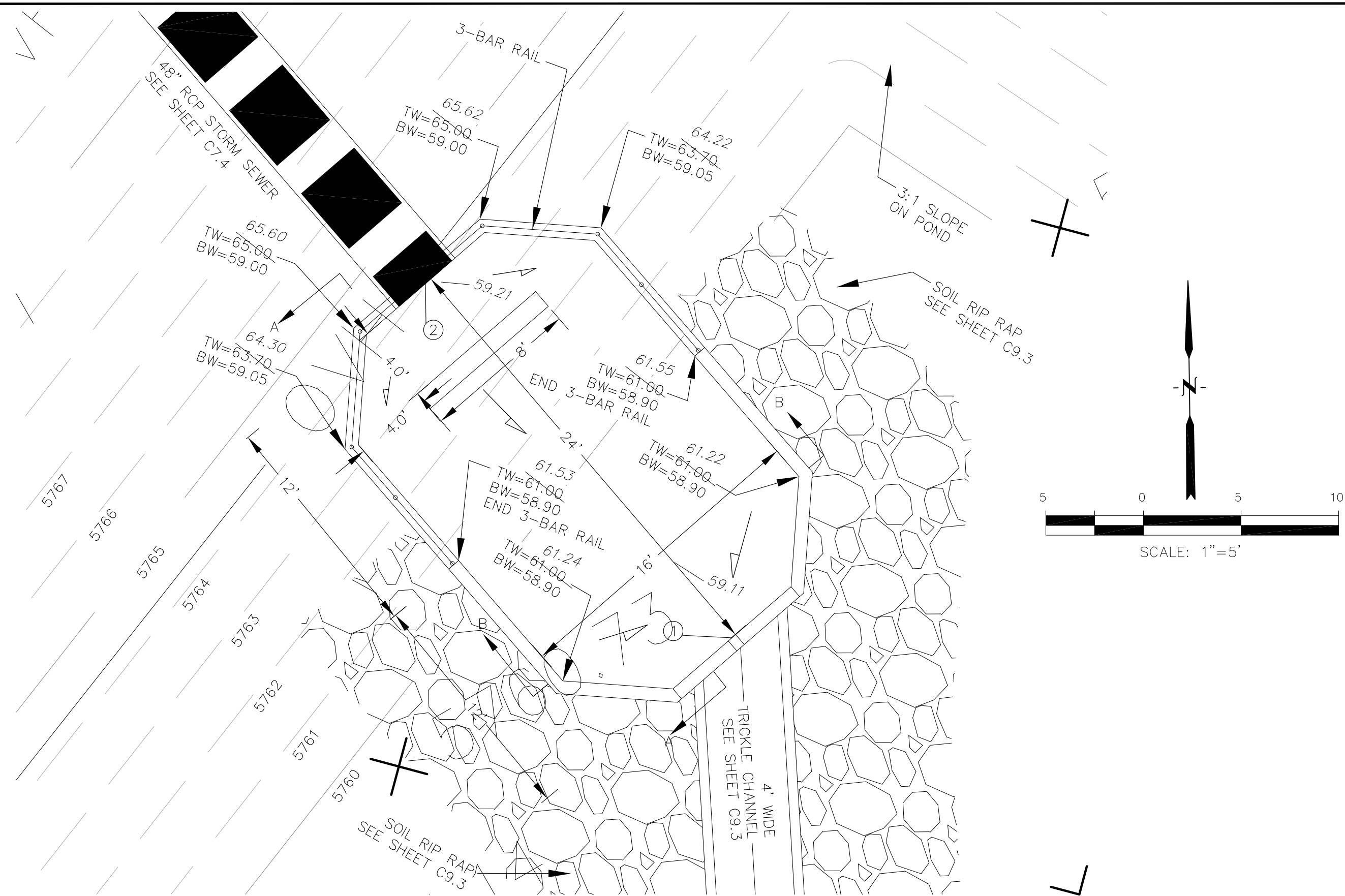
PROJECT: **THE HILLS COLLECTOR STREET CONSTRUCTION**
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

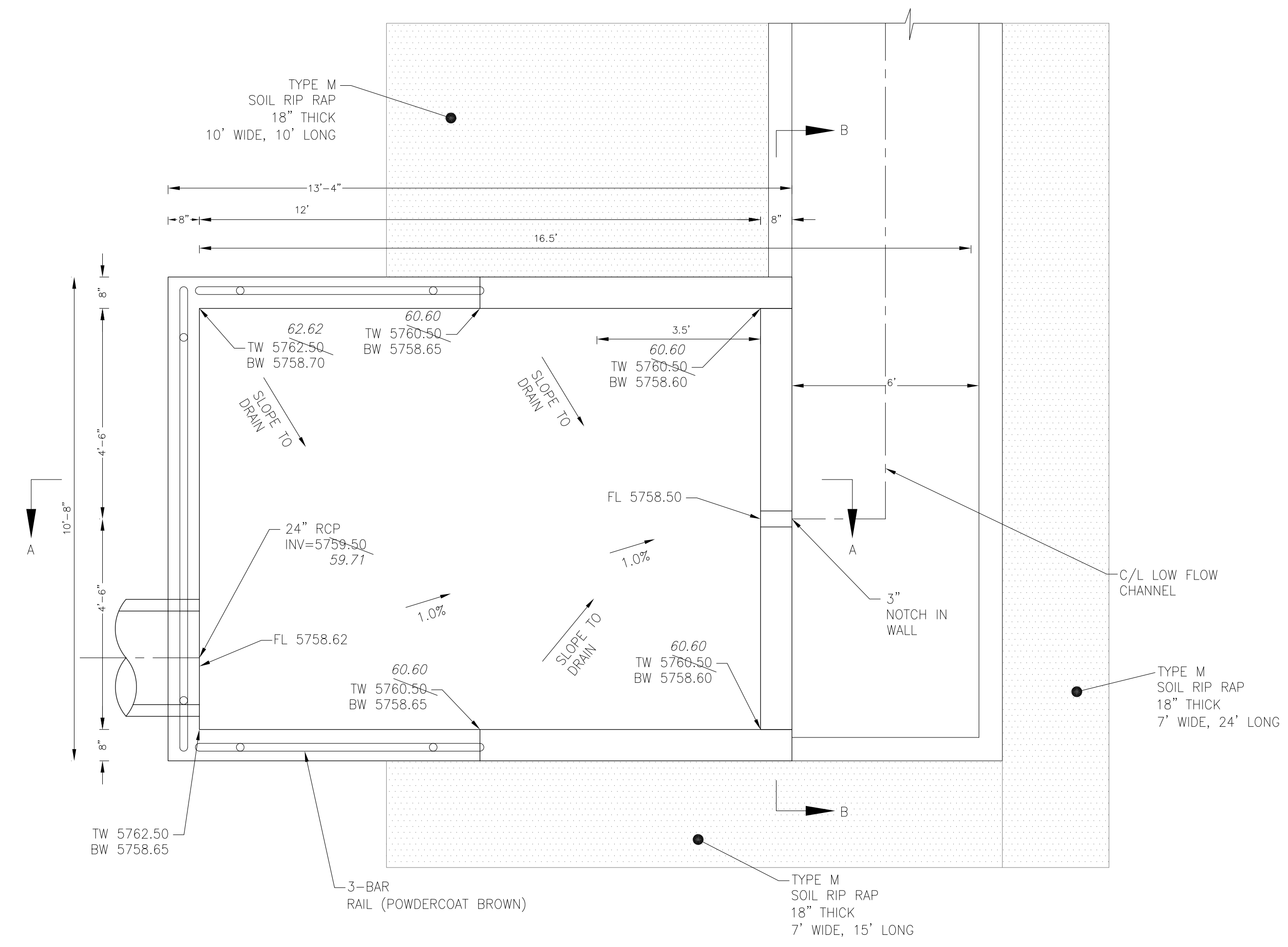
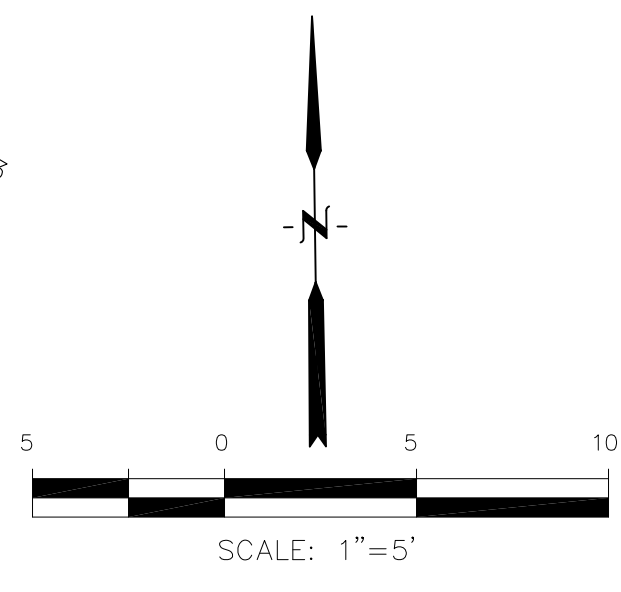
POND C3 FOREBAY, LOW FLOW CHANNEL AND OUTLET STRUCTURE LAYOUT



DATE: NOV 12, 2020
PROJECT NO: 100.061
SHEET NUMBER: C9.8
TOTAL SHEETS: 58

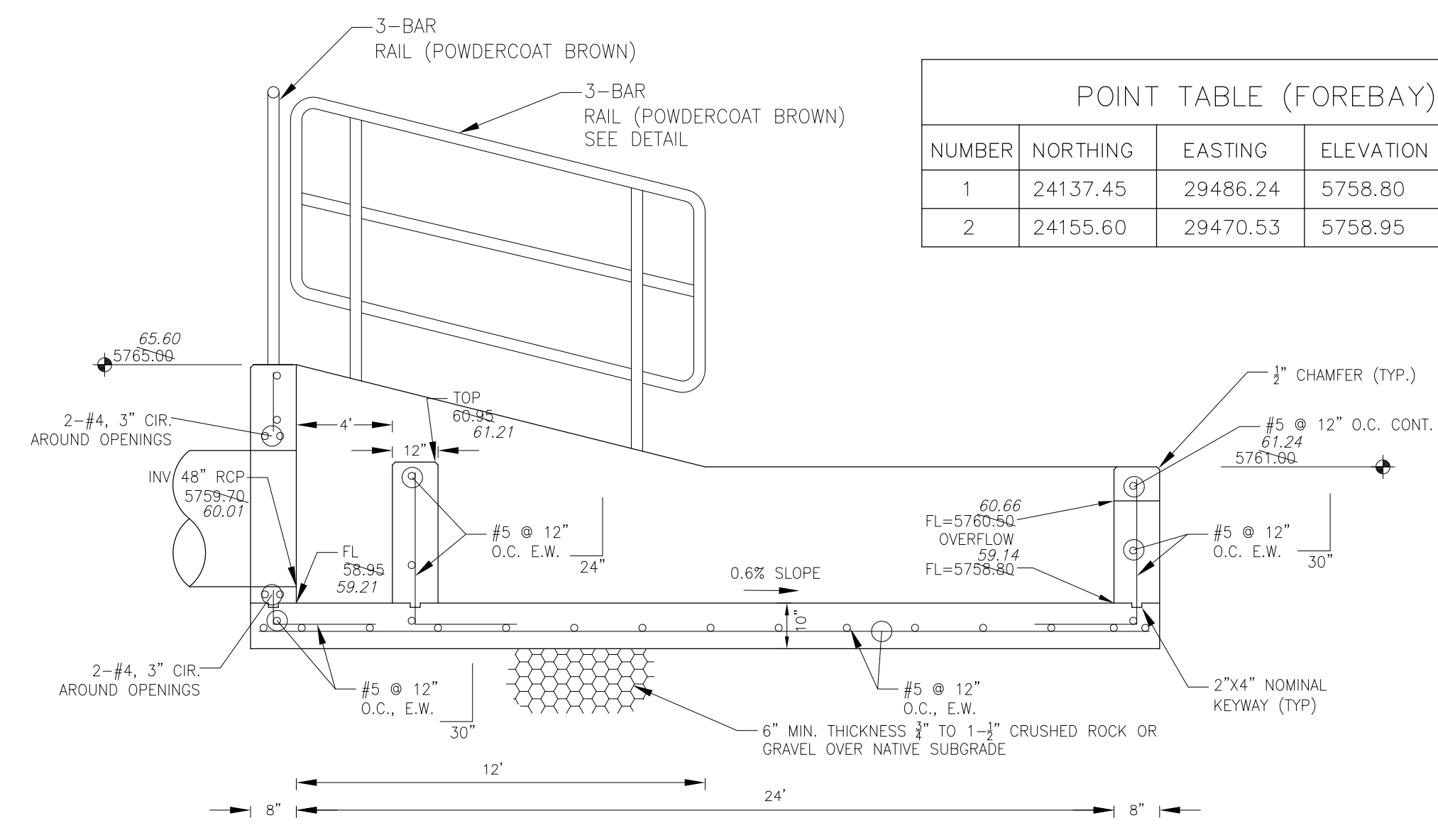


POND C3 - FOREBAY 'A' LAYOUT
SCALE: 1"=5'

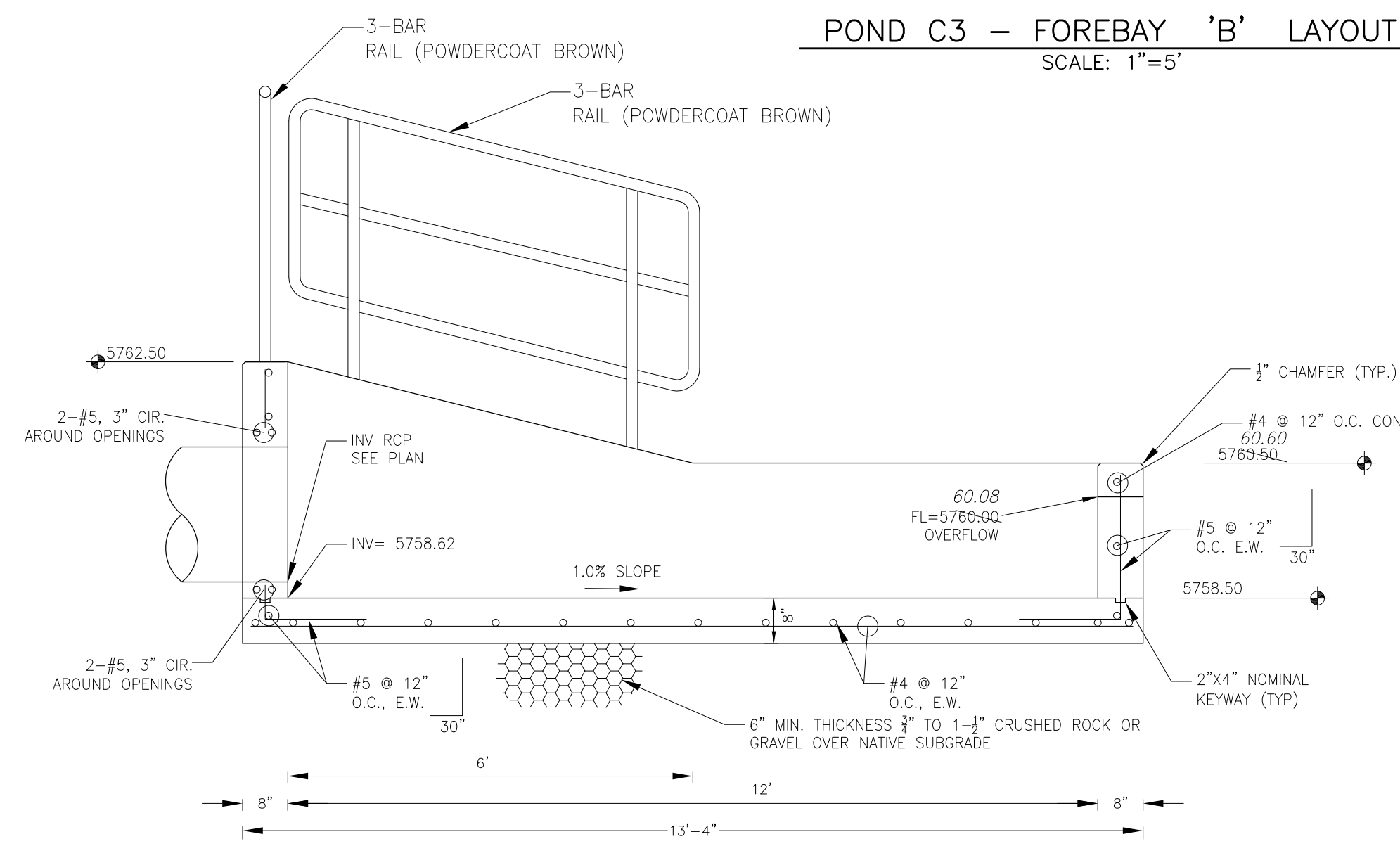


POND C3 - FOREBAY 'B' LAYOUT
SCALE: 1"=5'

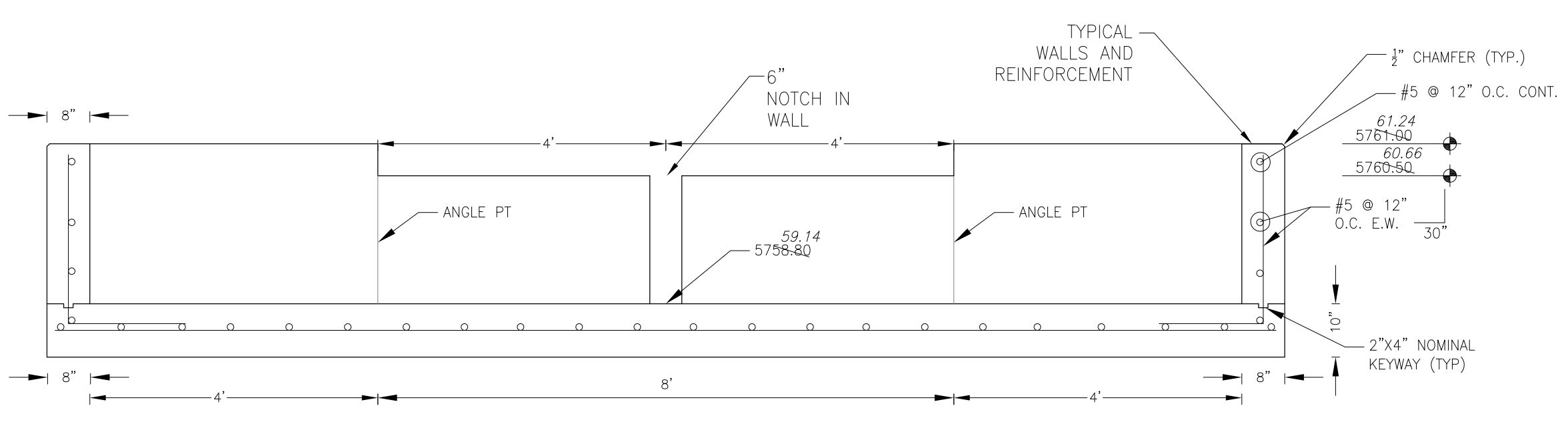
| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 24137.45 | 29486.24 | 5758.80 | FOREBAY BOTTOM |
| 2 | 24155.60 | 29470.53 | 5758.95 | FOREBAY BOTTOM, INV 48"=5759.70 |



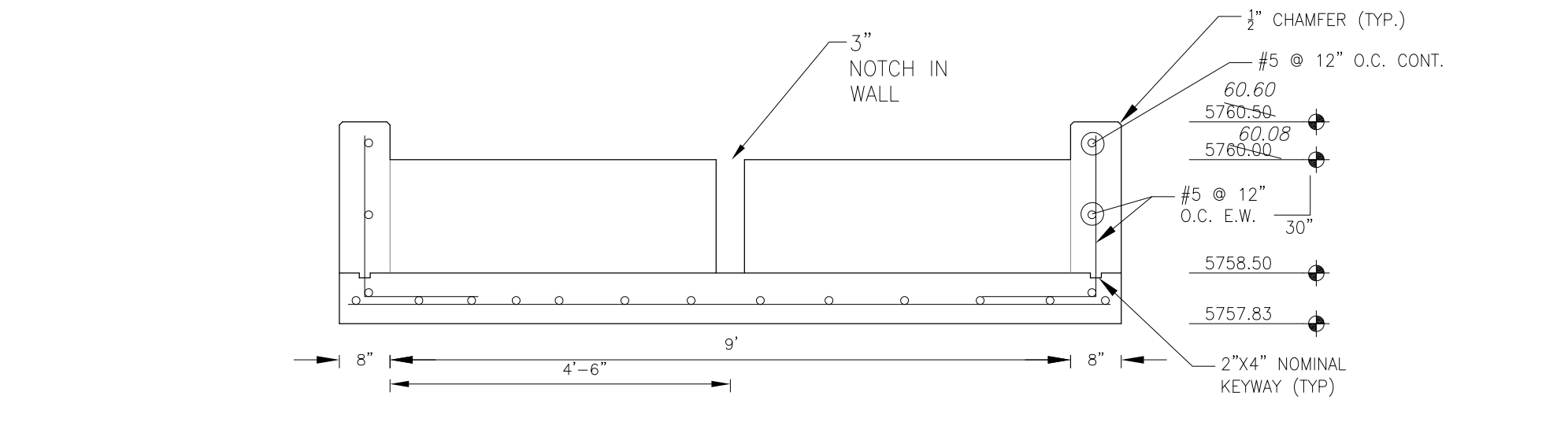
FOREBAY 'A' SECTION A-A
NO SCALE



FOREBAY 'B' SECTION A-A
NO SCALE



FOREBAY 'A' SECTION B-B
NO SCALE



FOREBAY 'B' SECTION B-B
NO SCALE

NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D

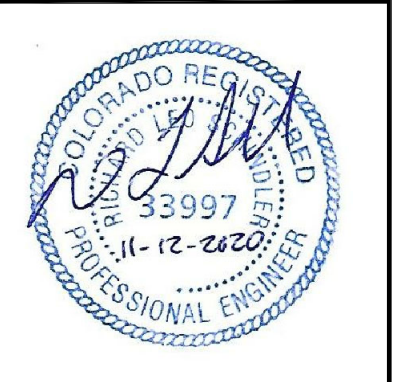
AS-BUILT
DATE: 09/30/2022

CORE ENGINEERING GROUP
15004 151ST AVENUE, S.
DENVER, CO 80232
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

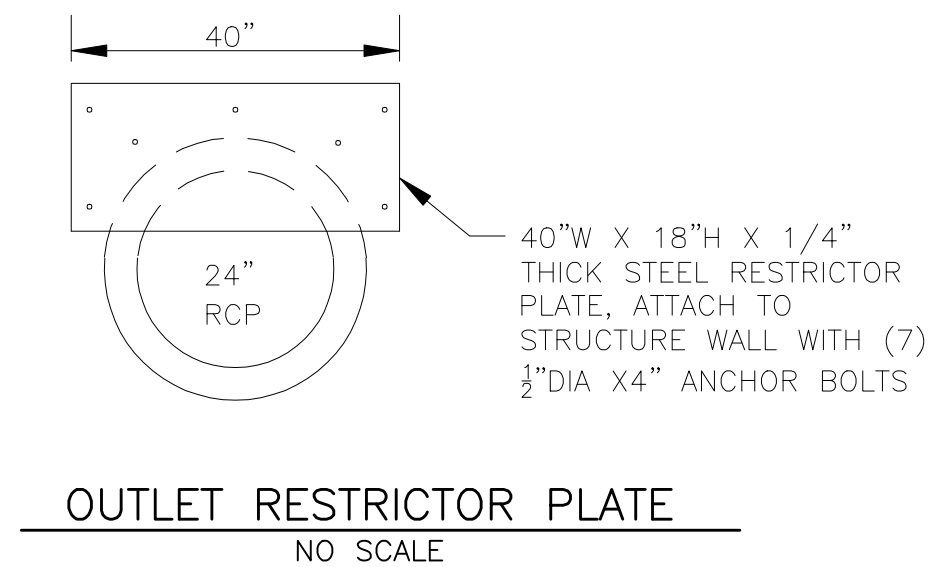
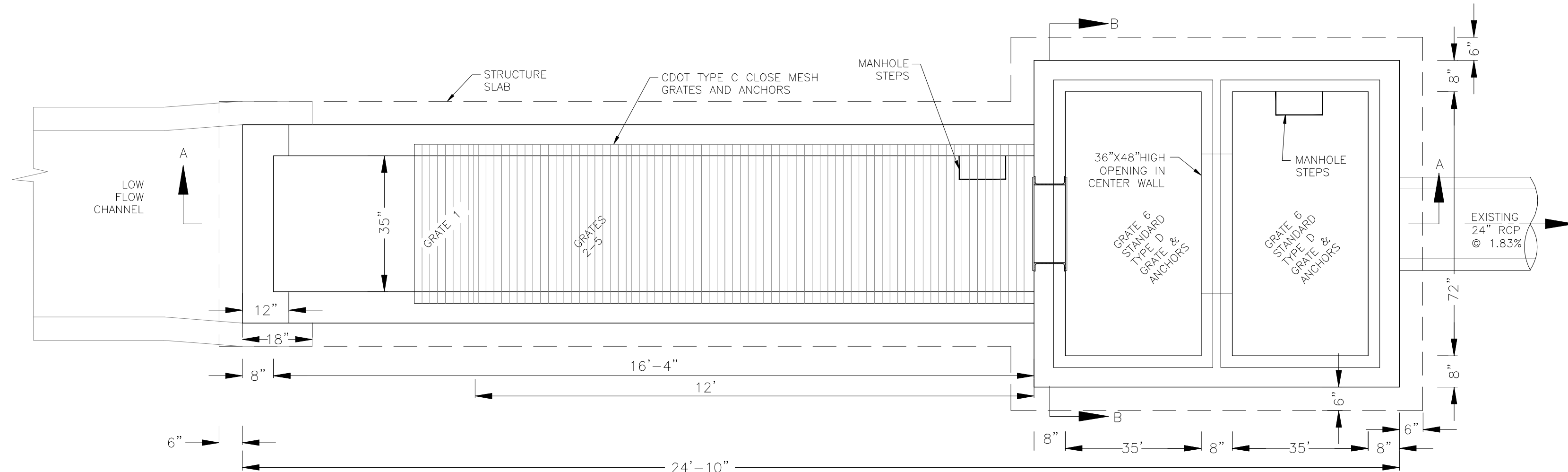
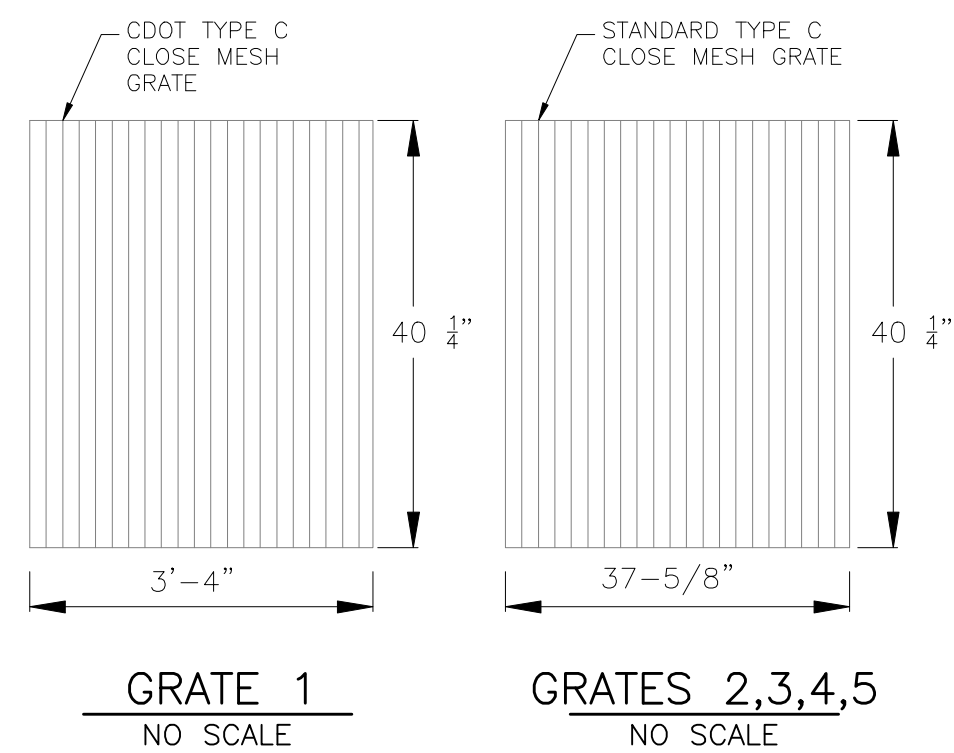
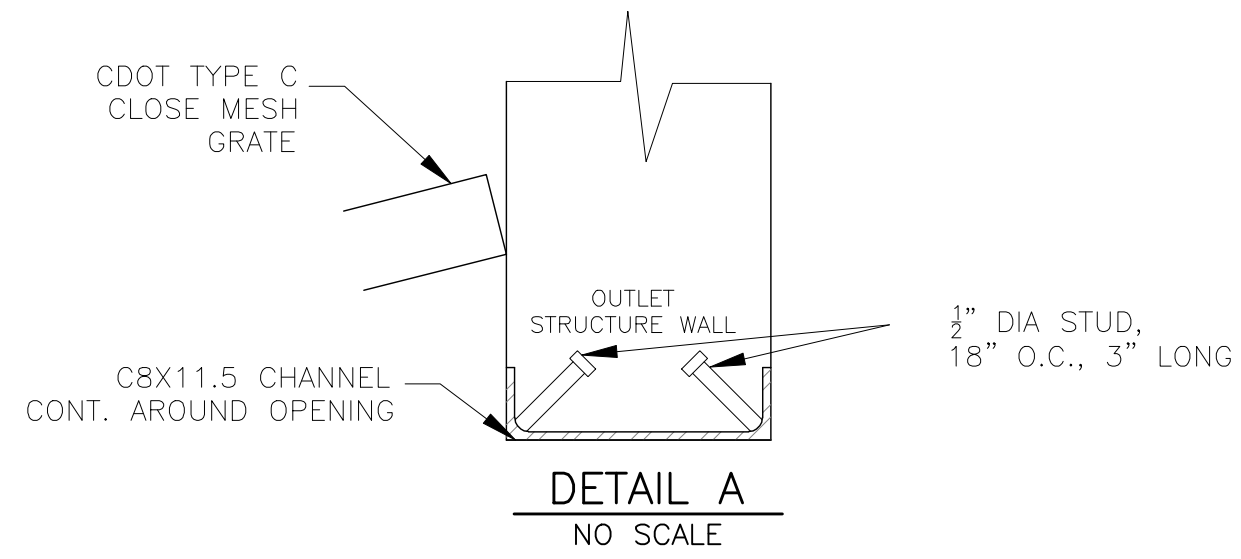
DATE: _____
DESCRIPTION: _____
NO: _____
DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS
PREPARED FOR: **LORSON, LLC**
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
PROJECT: **THE HILLS COLLECTOR STREET CONSTRUCTION**
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO
CONTACT: JEFF MARK

DATE: _____
DESCRIPTION: _____
NO: _____

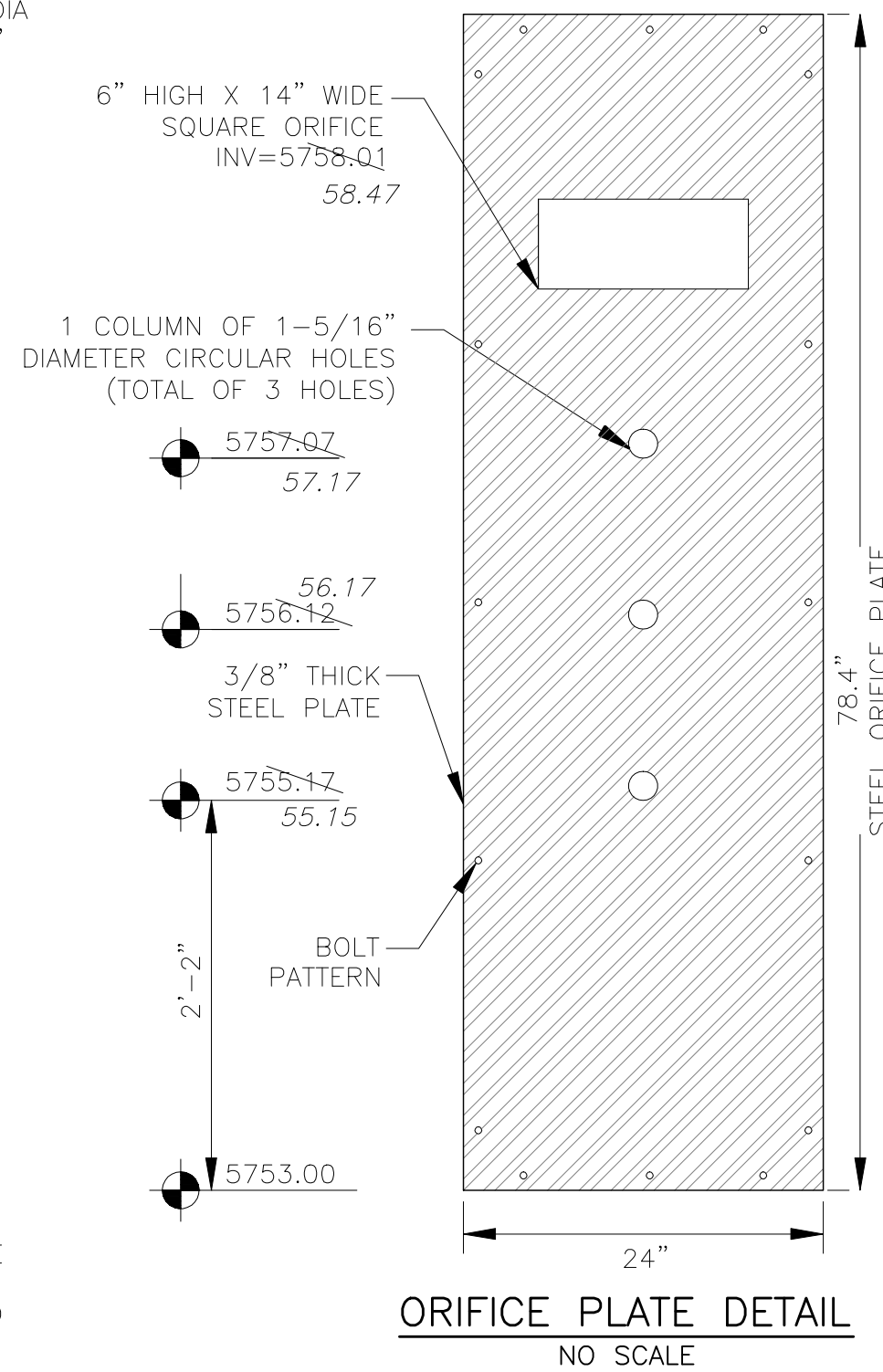
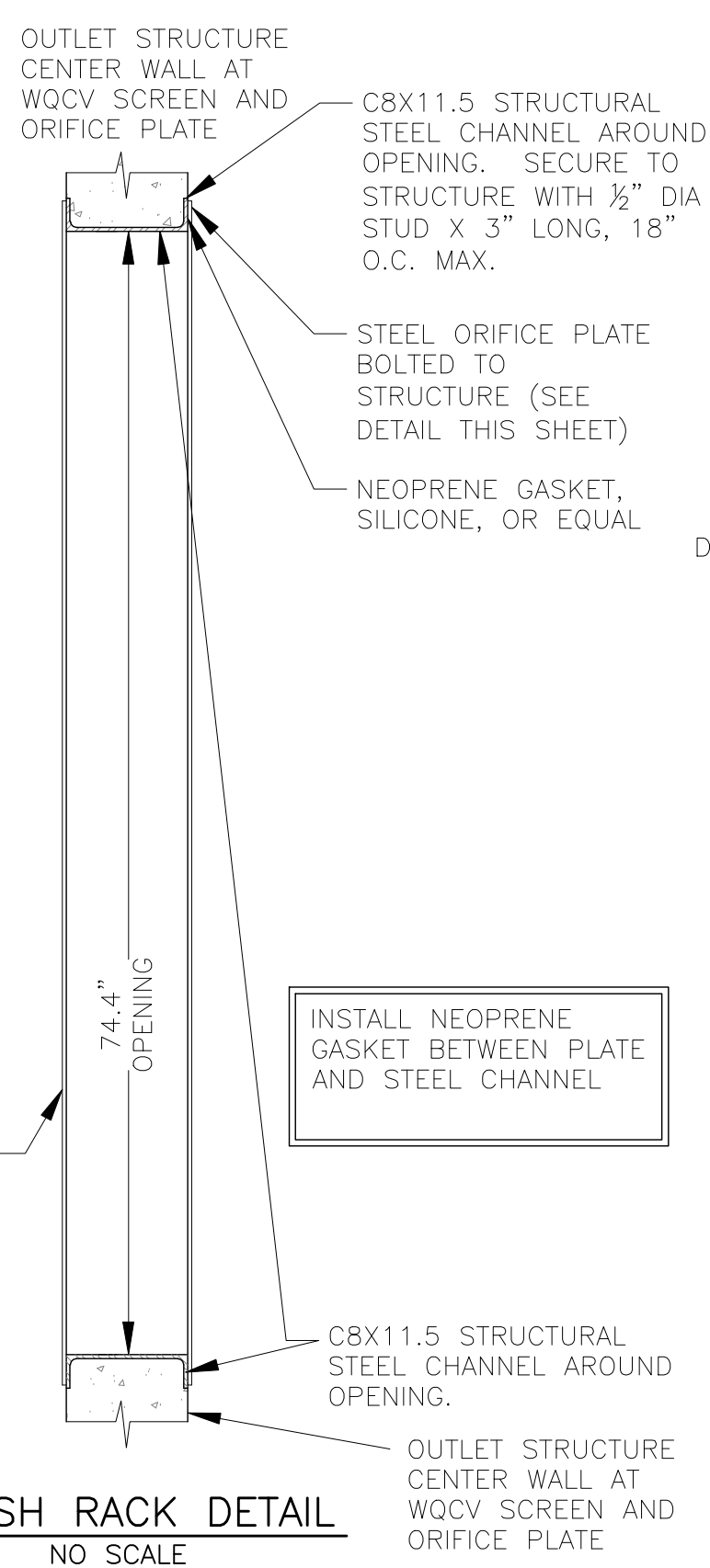
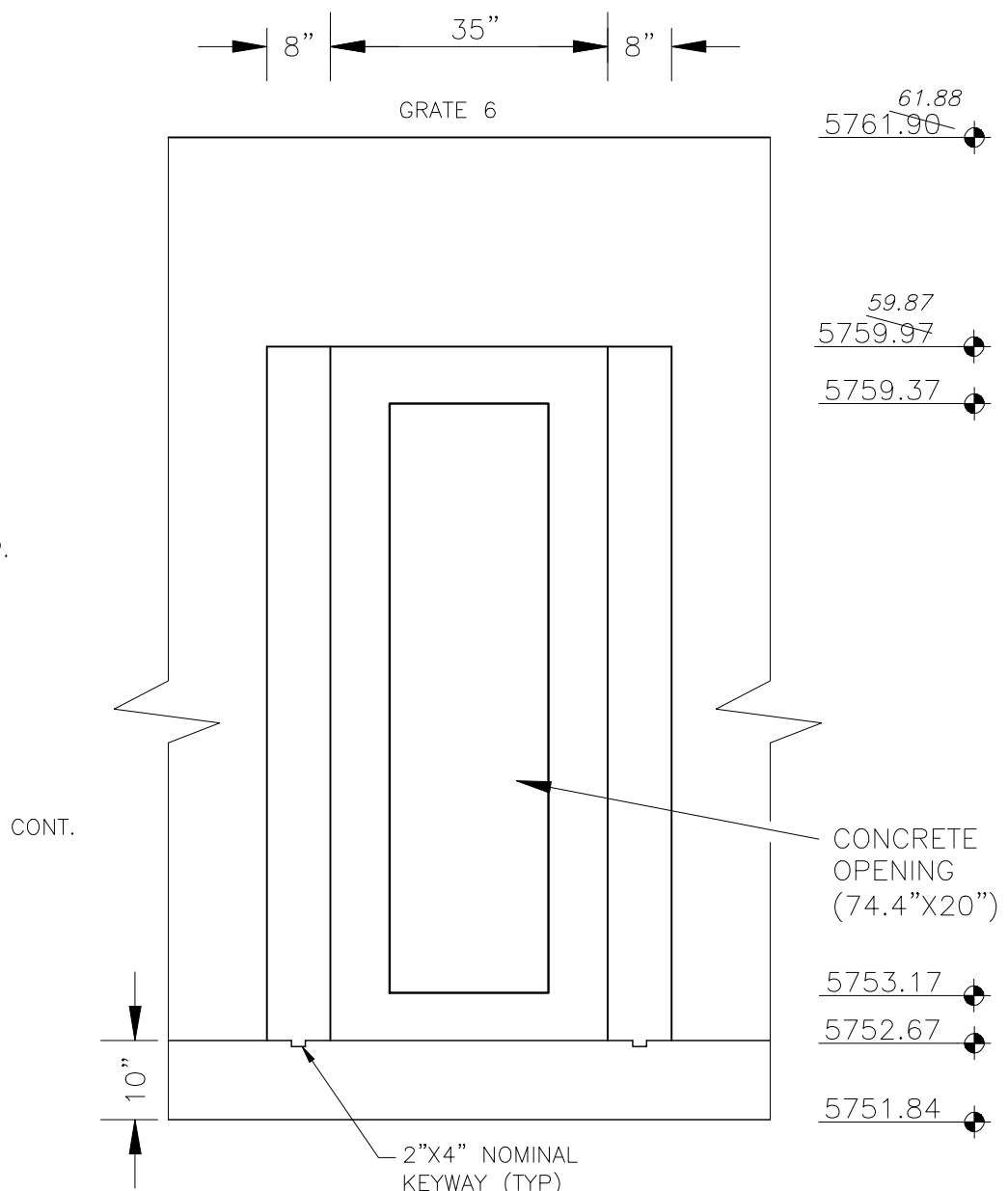
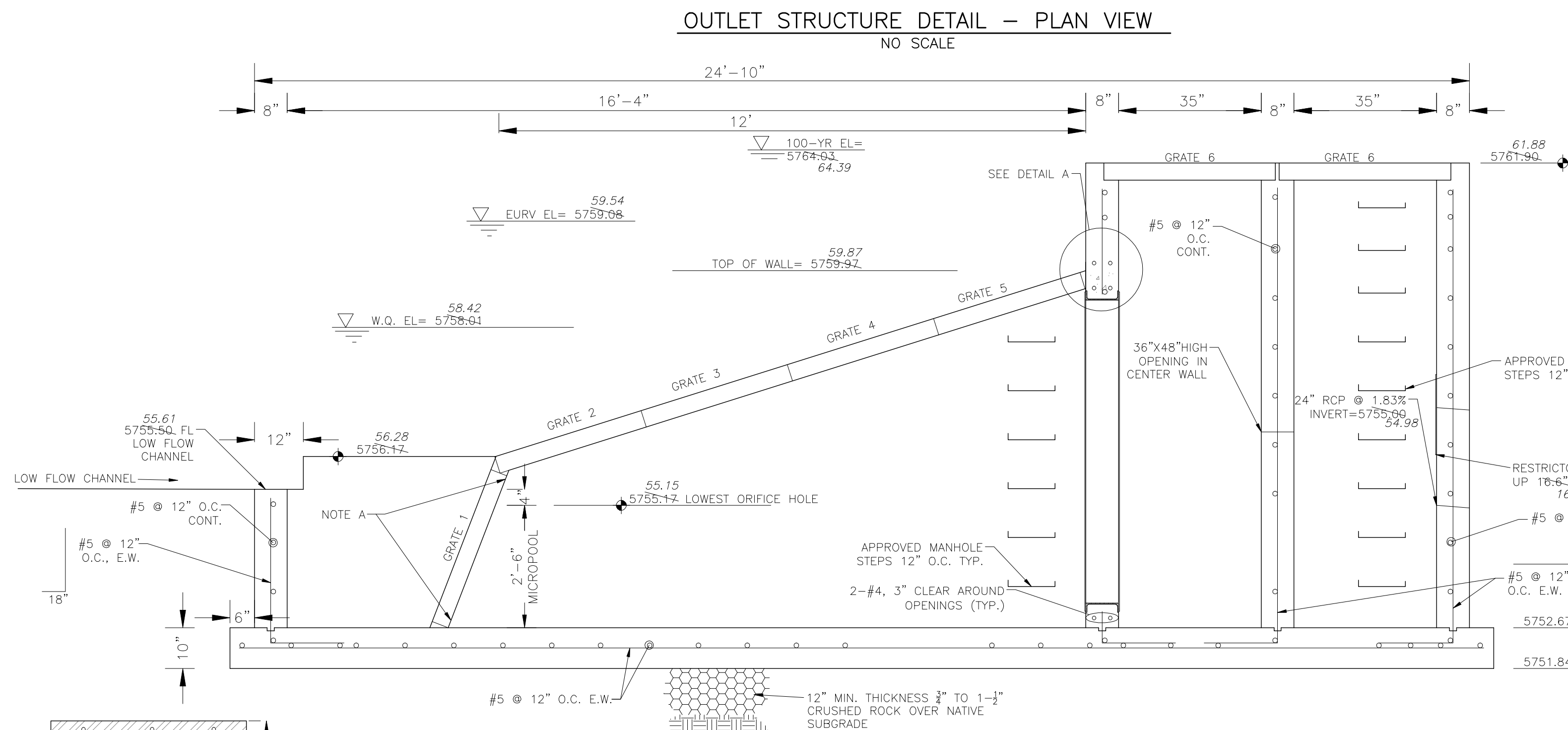
POND C3
FOREBAY DETAILS



DATE: NOV 12, 2020
PROJECT NO. 100.061
SHEET NUMBER C9.9
TOTAL SHEETS: 58



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



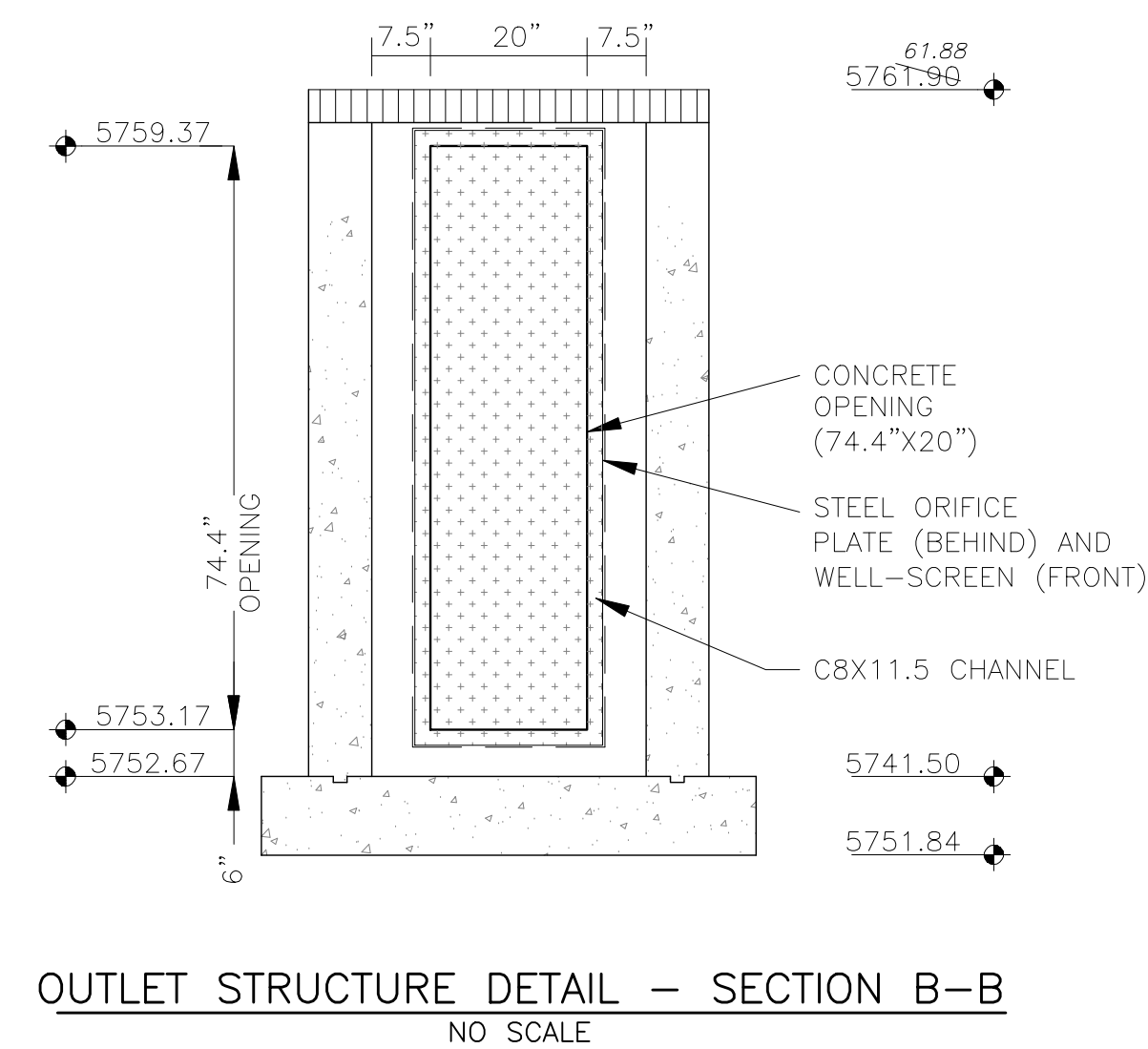
OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- 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.
- | BAR SIZE | #4 | #5 | #6 |
|--------------------|-------|-------|-------|
| MIN. SPLICE LENGTH | 1'-3" | 1'-7" | 2'-0" |
- 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 POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
 - ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

WQCV WELL-SCREEN NOTES:

- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
- WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle

AS-BUILT
DATE: 09/30/2022



CORE ENGINEERING GROUP
15004 1ST AVENUE S
BURNING WOODS, CO 80906
PHONE: 719.576.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: _____
DESCRIPTION: _____
NO. _____
PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
FOUNTAIN BLVD - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO
PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE SUITE 301
COLORADO SPRINGS, COLORADO 80903
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C3
FULL SPECTRUM
OUTLET STRUCTURE DETAILS



DATE: NOV 12, 2020

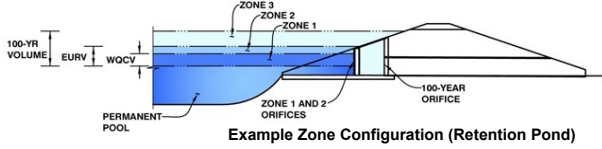
PROJECT NO. 100.061

SHEET NUMBER C9.15
TOTAL SHEETS: 58

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.02 (February 2020)

Project: The Hills at Lorson Ranch
Basin ID: Pond C4-asbuilt



| | Estimated Stage (ft) | Estimated Volume (ac-ft) | Outlet Type |
|--------------------------|----------------------|--------------------------|----------------------|
| Zone 1 (WQCV) | 3.06 | 1.488 | Orifice Plate |
| Zone 2 (EURV) | 5.56 | 2.980 | Rectangular Orifice |
| Z3 (100+1/2WQCV) | 8.58 | 4.225 | Weir&Pipe (Restrict) |
| Total (all zones) | | 8.692 | |

User Input: Orifice at Underdrain Outlet (typically used to drain WOCV 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 WOCV 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 (use rectangular openings)

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 | 1.00 | 2.00 | | | | | |
| Orifice Area (sq. inches) | 4.68 | 4.68 | 4.68 | | | | | |

| | 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)

| | Zone 2 Rectangular | Not Selected | |
|---|------------------------------------|----------------------------------|---|
| Invert of Vertical Orifice = | <input type="text" value="3.00"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Depth at top of Zone using Vertical Orifice = | <input type="text" value="5.56"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Vertical Orifice Height = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | inches |
| Vertical Orifice Width = | <input type="text" value="16.39"/> | <input type="text" value="N/A"/> | inches |

Calculated Parameters for Vertical Orif
 Zone 2 Rectangular = ft²
 Not Selected = ft²
 Vertical Orifice Centroid = feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe).

| | Zone 3 Weir | Not Selected | |
|---------------------------------------|-----------------------------------|----------------------------------|---|
| Overflow Weir Front Edge Height, Ho = | <input type="text" value="5.51"/> | <input type="text" value="N/A"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Overflow Weir Front Edge Length = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | feet |
| Overflow Weir Gate Slope = | <input type="text" value="0.00"/> | <input type="text" value="N/A"/> | H:V |
| Horiz. Length of Weir Sides = | <input type="text" value="6.00"/> | <input type="text" value="N/A"/> | feet |
| Overflow Gate Open Area % = | <input type="text" value="70%"/> | <input type="text" value="N/A"/> | % , gate open area/total area |
| Debris Clogging % = | <input type="text" value="50%"/> | <input type="text" value="N/A"/> | % |

Calculated Parameters for Overflow We
 Zone 3 Weir = ft
 Not Selected = ft
 Height of Gate Upper Edge, H_t = feet
 Overflow Weir Slope Length = feet
 Gate Open Area / 100-yr Orifice Area = N/A
 Overflow Gate Open Area w/o Debris = N/A
 Overflow Gate Open Area w/ Debris = N/A

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

| | Zone 3 Restrictor | Not Selected | |
|---|------------------------------------|----------------------------------|--|
| Depth to Invert of Outlet Pipe = | <input type="text" value="0.00"/> | <input type="text" value="N/A"/> | ft (distance below basin bottom at Stage = 0 ft) |
| Outlet Pipe Diameter = | <input type="text" value="24.00"/> | <input type="text" value="N/A"/> | inches |
| Restrictor Plate Height Above Pipe Invert = | <input type="text" value="24.00"/> | <input type="text" value="N/A"/> | inches |

Calculated Parameters for Outlet Pipe w/ Flow Restriction Pl
 Zone 3 Restrictor = ft²
 Not Selected = ft²
 Outlet Orifice Area = ft²
 Outlet Orifice Centroid = feet
 Half-Central Angle of Restrictor Plate on Pipe = degrees

User Input: Emergency Spillway (Rectangular or Trapezoidal)

| | | |
|-------------------------------------|------------------------------------|---|
| Spillway Invert Stage = | <input type="text" value="10.00"/> | ft (relative to basin bottom at Stage = 0 ft) |
| Spillway Crest Length = | <input type="text" value="30.00"/> | feet |
| Spillway End Slopes = | <input type="text" value="4.00"/> | H:V |
| Freeboard above Max Water Surface = | <input type="text" value="1.13"/> | feet |

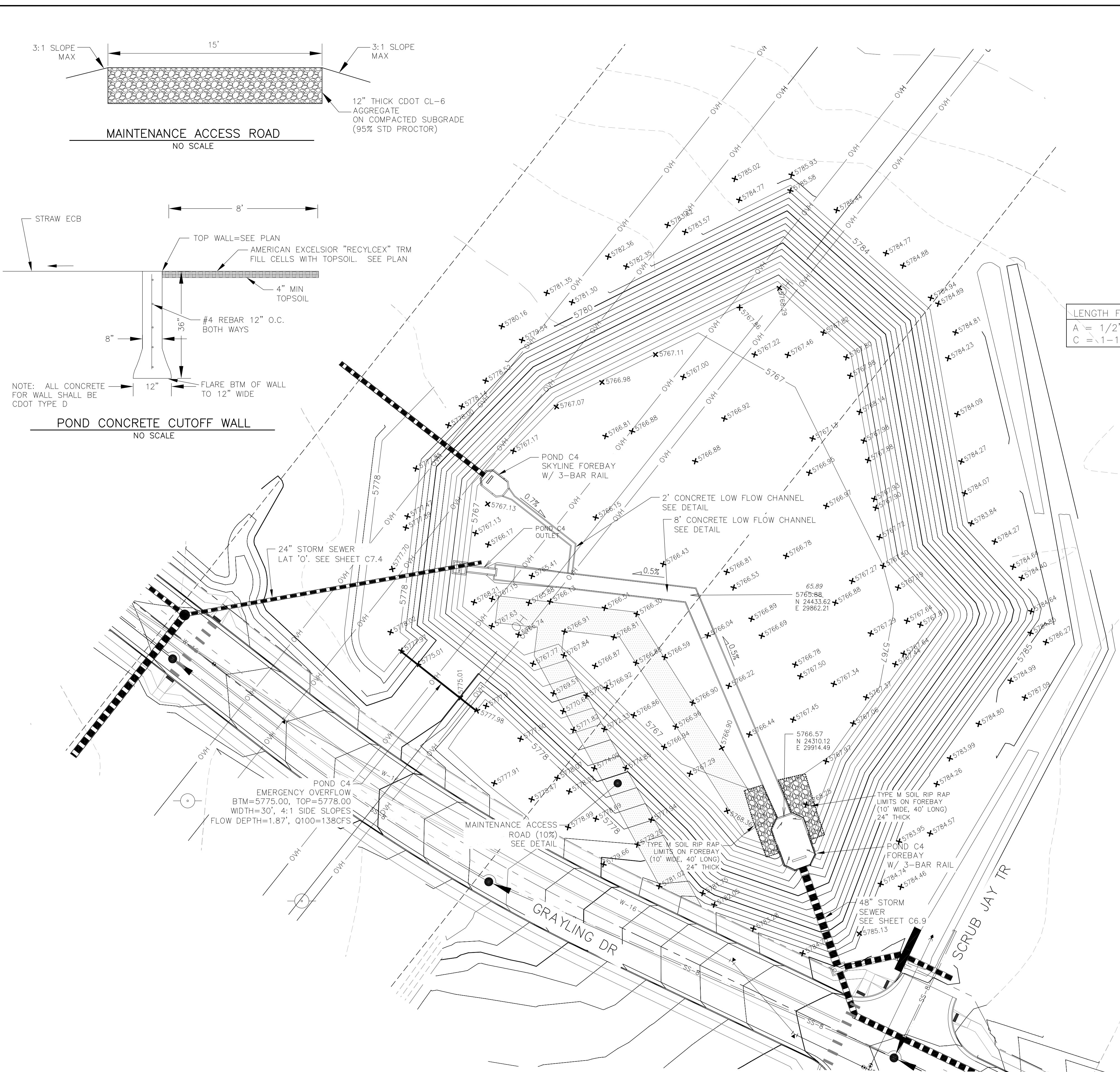
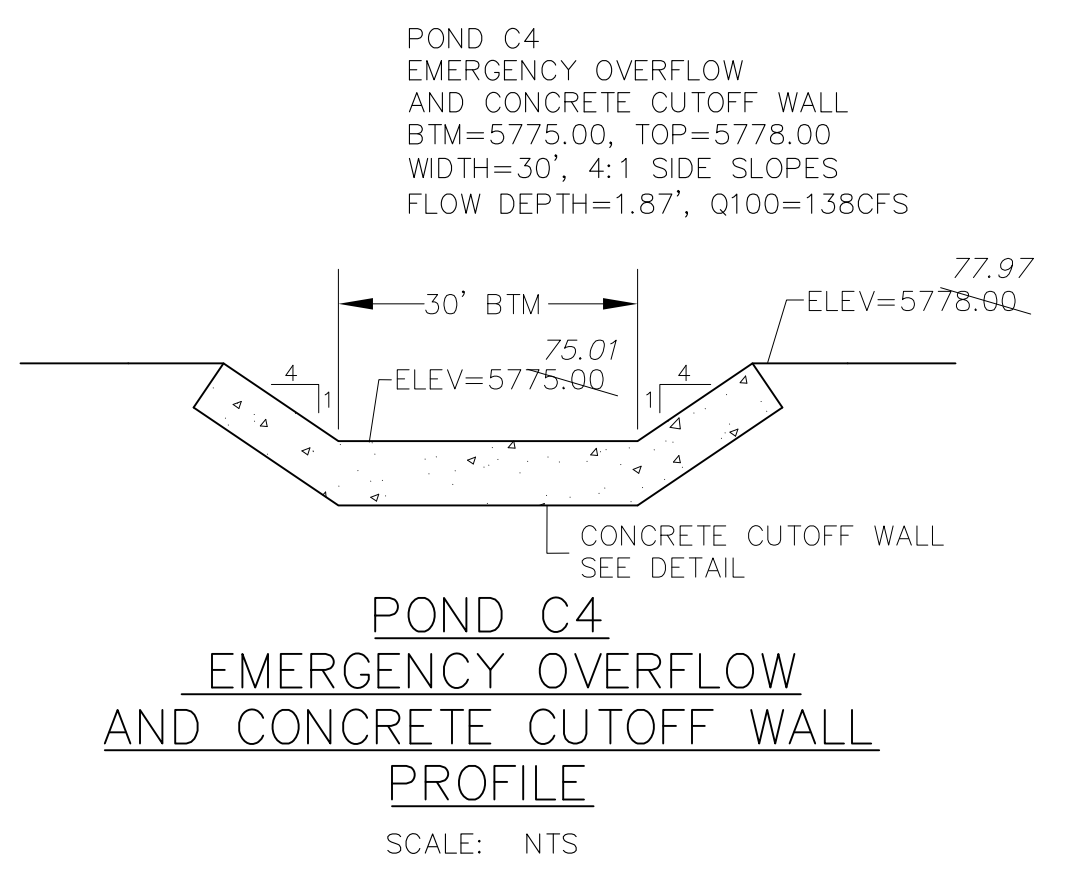
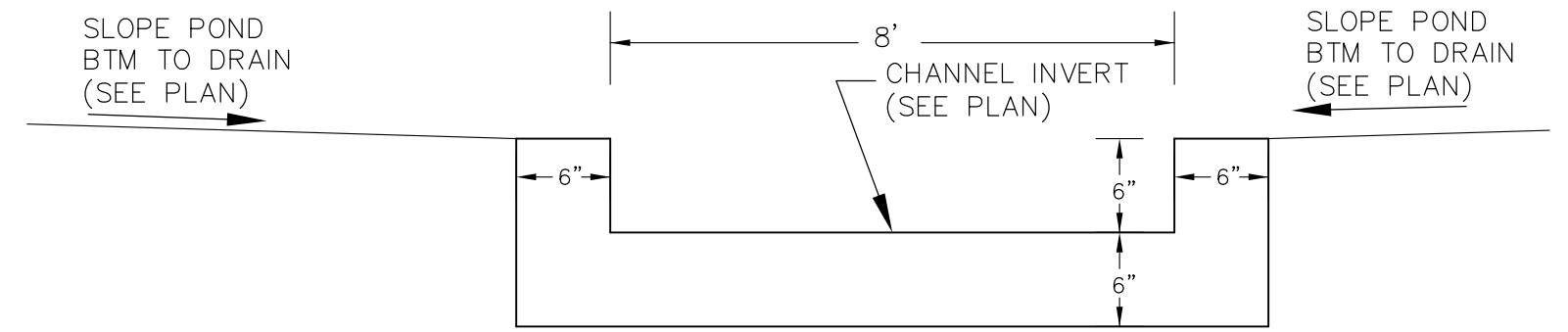
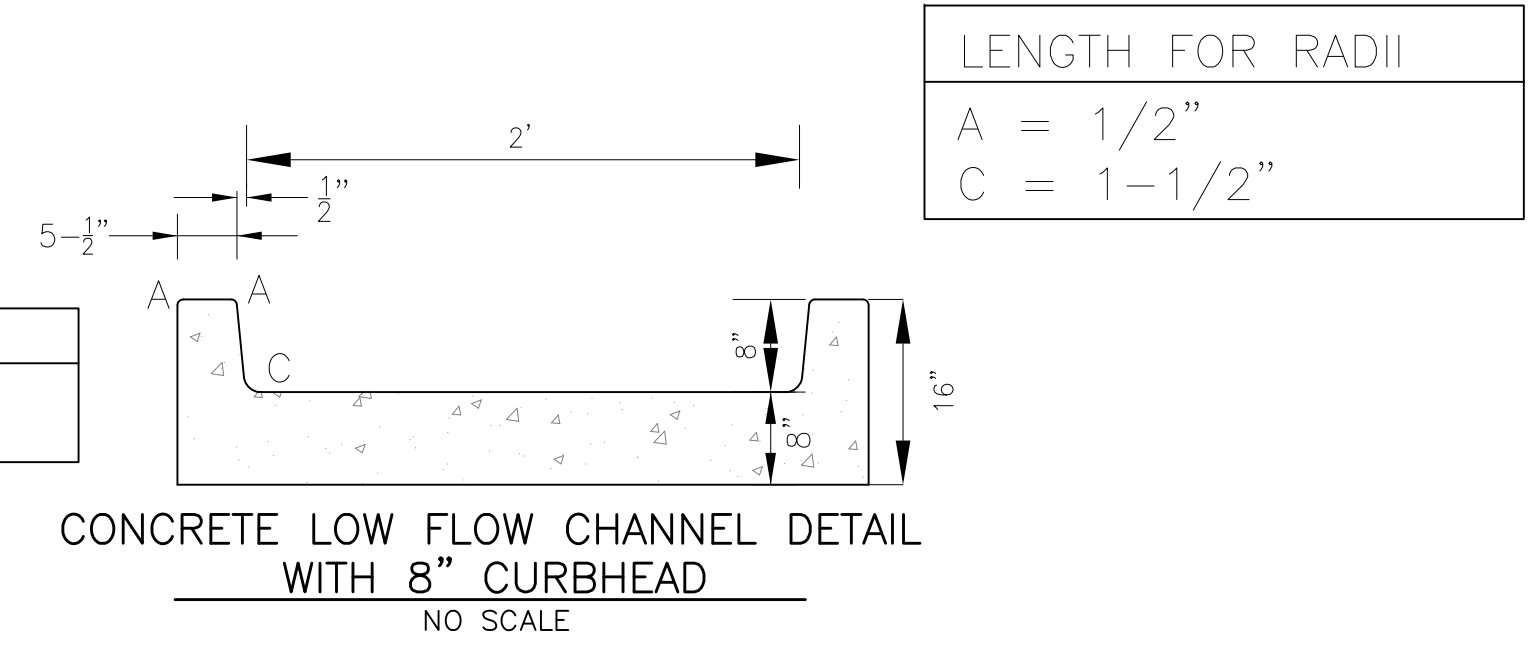
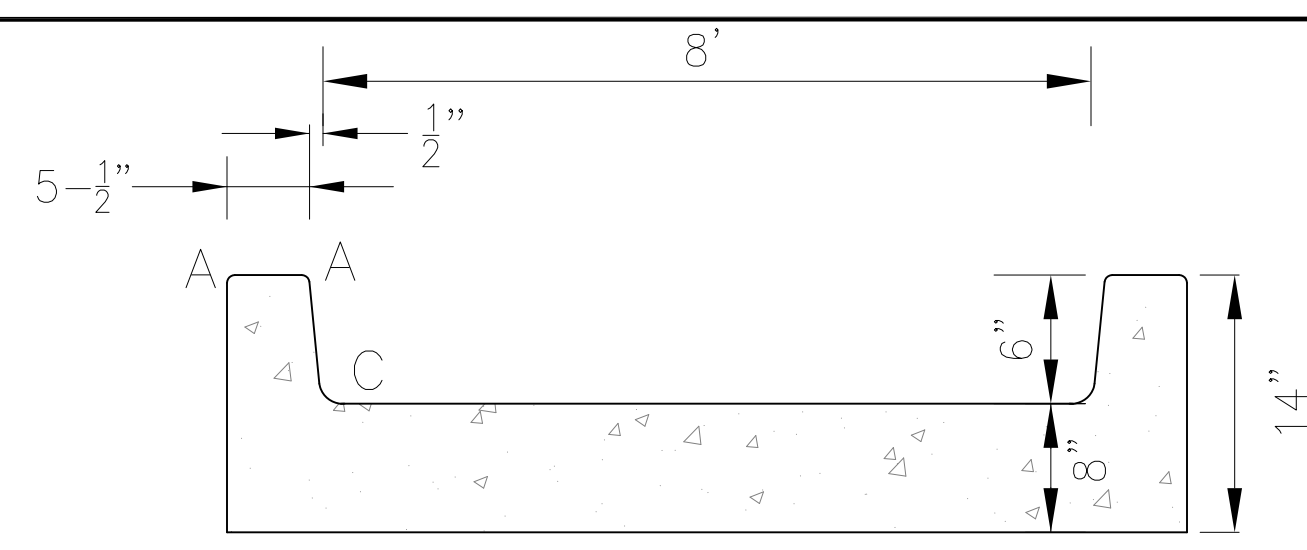
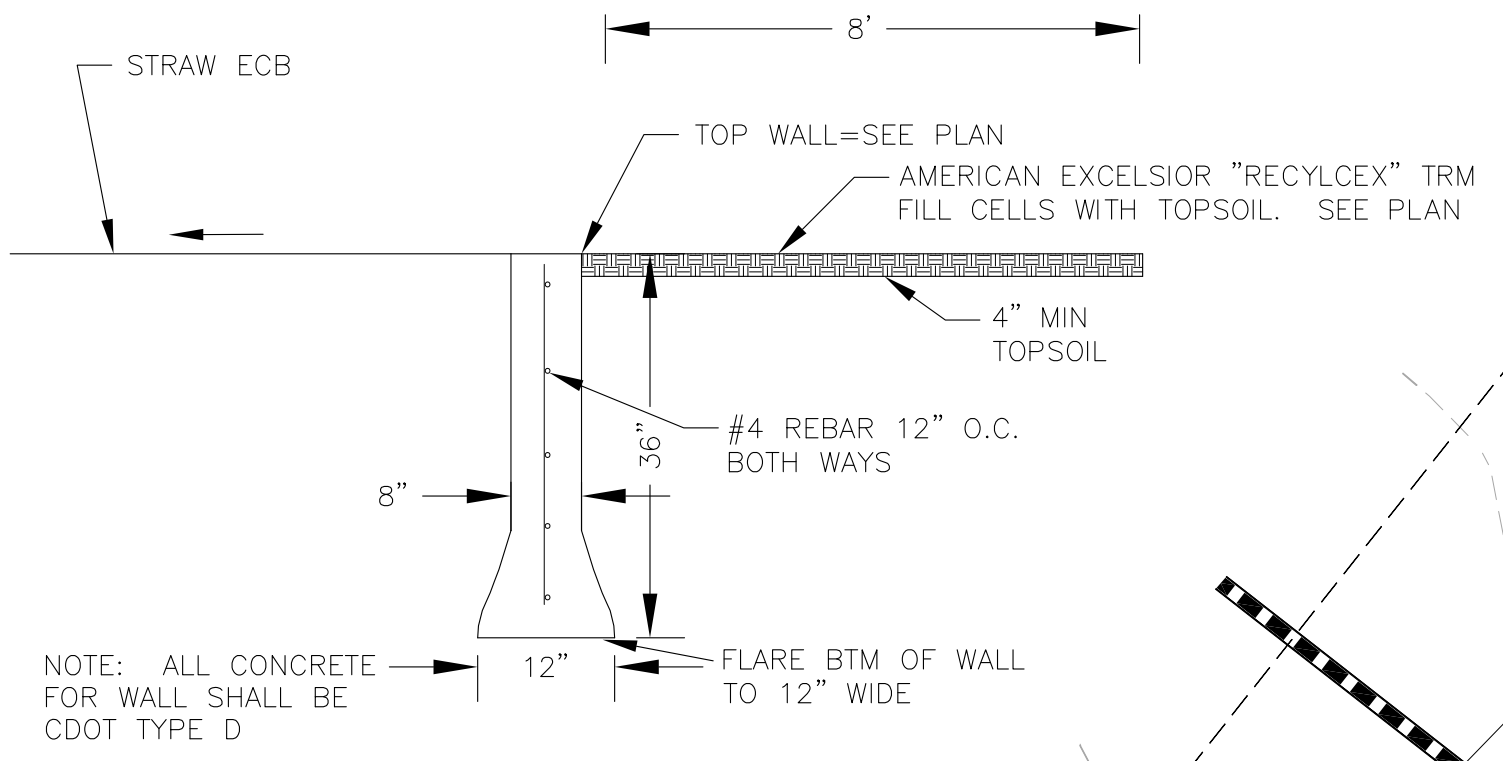
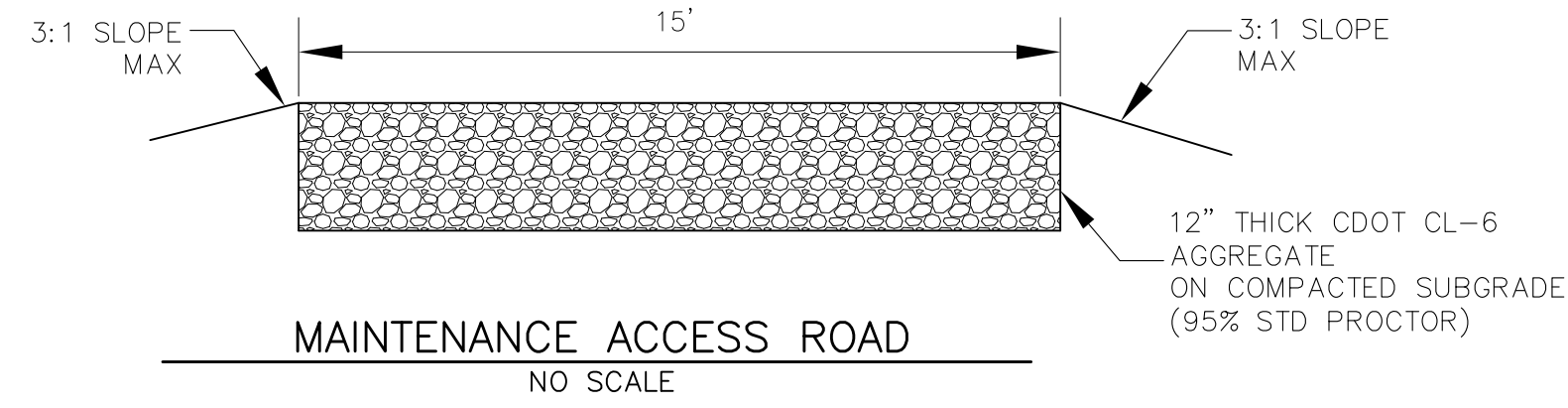
Calculated Parameters for Spillway
 Spillway Design Flow Depth = feet
 Stage at Top of Freeboard = feet
 Basin Area at Top of Freeboard = acres
 Basin Volume at Top of Freeboard = acre-ft

micropool = 0 = 5765

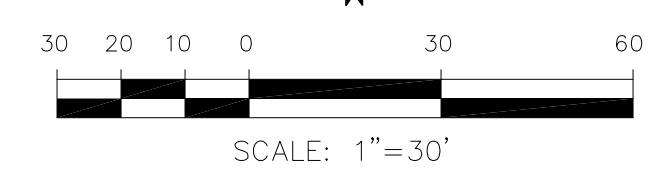
Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF)

| | WQCV | EURV | 2 Year | 5 Year | 10 Year | 25 Year | 50 Year | 100 Year |
|---|--------------------|-----------------|--------------------|-----------------|----------------|----------------|----------------|----------------|
| Design Storm Return Period = | | | | | | | | |
| One-Hour Rainfall Depth (in) = | N/A | N/A | 1.19 | 1.50 | 1.75 | 2.00 | 2.25 | 2.52 |
| CUHP Runoff Volume (acre-ft) = | 1.488 | 4.468 | 4.607 | 6.475 | 8.109 | 10.045 | 11.748 | 13.830 |
| Inflow Hydrograph Volume (acre-ft) = | N/A | N/A | 4.607 | 6.475 | 8.109 | 10.045 | 11.748 | 13.830 |
| CUHP Predevelopment Peak Q (cfs) = | N/A | N/A | 17.5 | 39.6 | 56.8 | 90.6 | 111.9 | 138.5 |
| OPTIONAL Override Predevelopment Peak Q (cfs) = | N/A | N/A | | | | | | |
| Predevelopment Unit Peak Flow, q (cfs/acre) = | N/A | N/A | 0.22 | 0.49 | 0.70 | 1.12 | 1.38 | 1.71 |
| Peak Inflow Q (cfs) = | N/A | N/A | 93.5 | 131.6 | 158.6 | 200.0 | 232.9 | 277.2 |
| Peak Outflow Q (cfs) = | 0.7 | 6.2 | 5.5 | 18.5 | 34.6 | 38.4 | 40.9 | 44.1 |
| Ratio Peak Outflow to Predevelopment Q = | N/A | N/A | N/A | 0.5 | 0.6 | 0.4 | 0.4 | 0.3 |
| Structure Controlling Flow = | Vertical Orifice 1 | Overflow Weir 1 | Vertical Orifice 1 | Overflow Weir 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 | Outlet Plate 1 |
| Max Velocity through Gate 1 (fps) = | N/A | 0.02 | N/A | 0.5 | 1.1 | 1.2 | 1.3 | 1.4 |
| Max Velocity through Gate 2 (fps) = | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Time to Drain 97% of Inflow Volume (hours) = | 38 | 46 | 47 | 47 | 45 | 43 | 42 | 40 |
| Time to Drain 99% of Inflow Volume (hours) = | 40 | 50 | 51 | 52 | 51 | 51 | 50 | 50 |
| Maximum Ponding Depth (ft) = | 3.06 | 5.56 | 5.13 | 5.89 | 6.24 | 7.45 | 8.30 | 9.48 |
| Area at Maximum Ponding Depth (acres) = | 1.10 | 1.28 | 1.25 | 1.31 | 1.33 | 1.42 | 1.49 | 1.59 |
| Maximum Volume Stored (acre-ft) = | 1.497 | 4.476 | 3.919 | 4.903 | 5.364 | 7.017 | 8.272 | 10.092 |



AS-BUILT
DATE: 09/30/2022



CORE ENGINEERING GROUP
19004 1ST AVENUE S.
DENVER, CO 80202
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

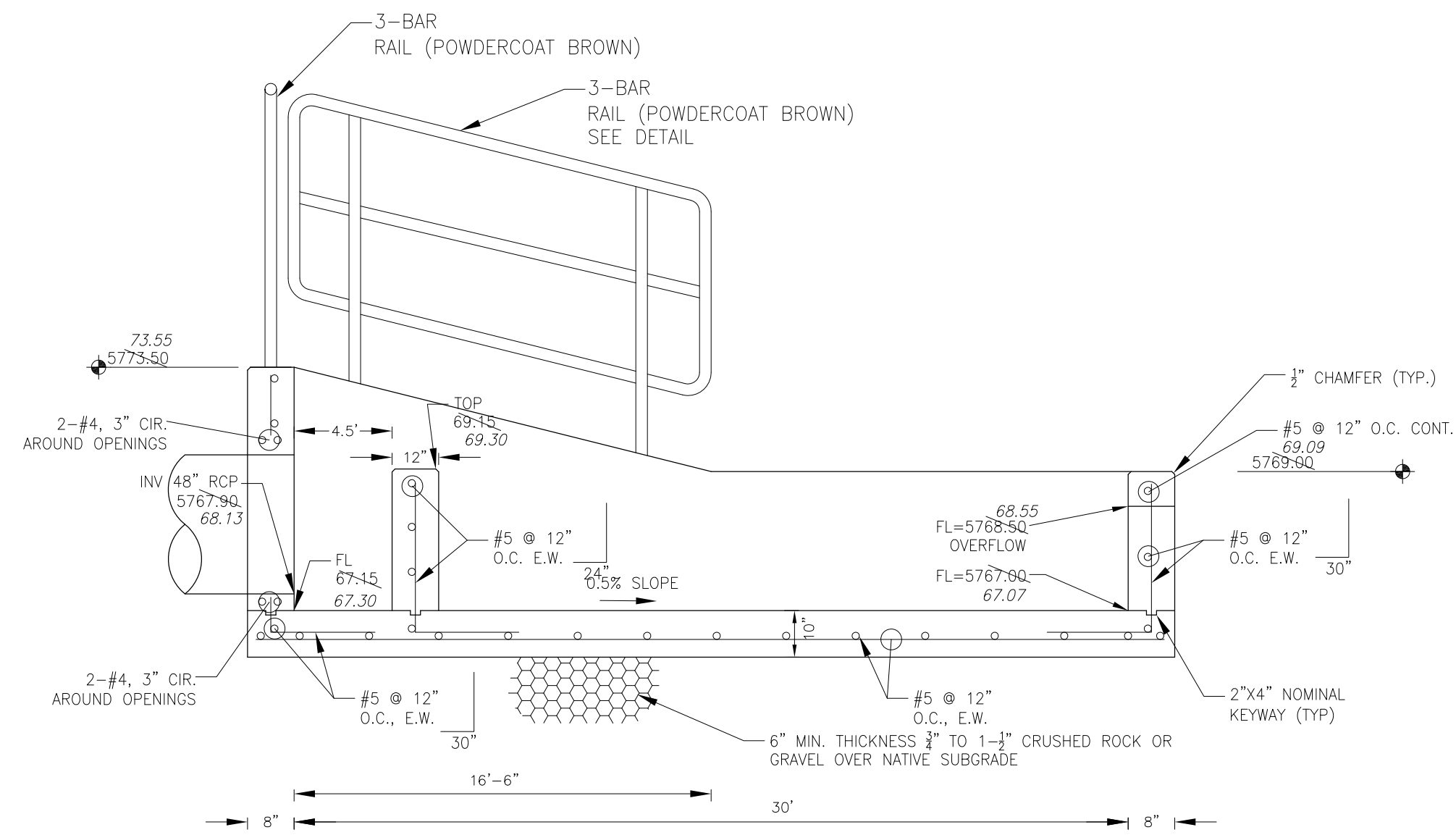
DATE: JAN 12, 2021
DESCRIPTION: RAISE SITE 1' EAST OF POWERLINES
NO. 1
PREPARED FOR: **LORSON, LLC**
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
PROJECT: **THE HILLS COLLECTOR STREET CONSTRUCTION**
FONTAINE BLVD. - GRAYLING DR
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

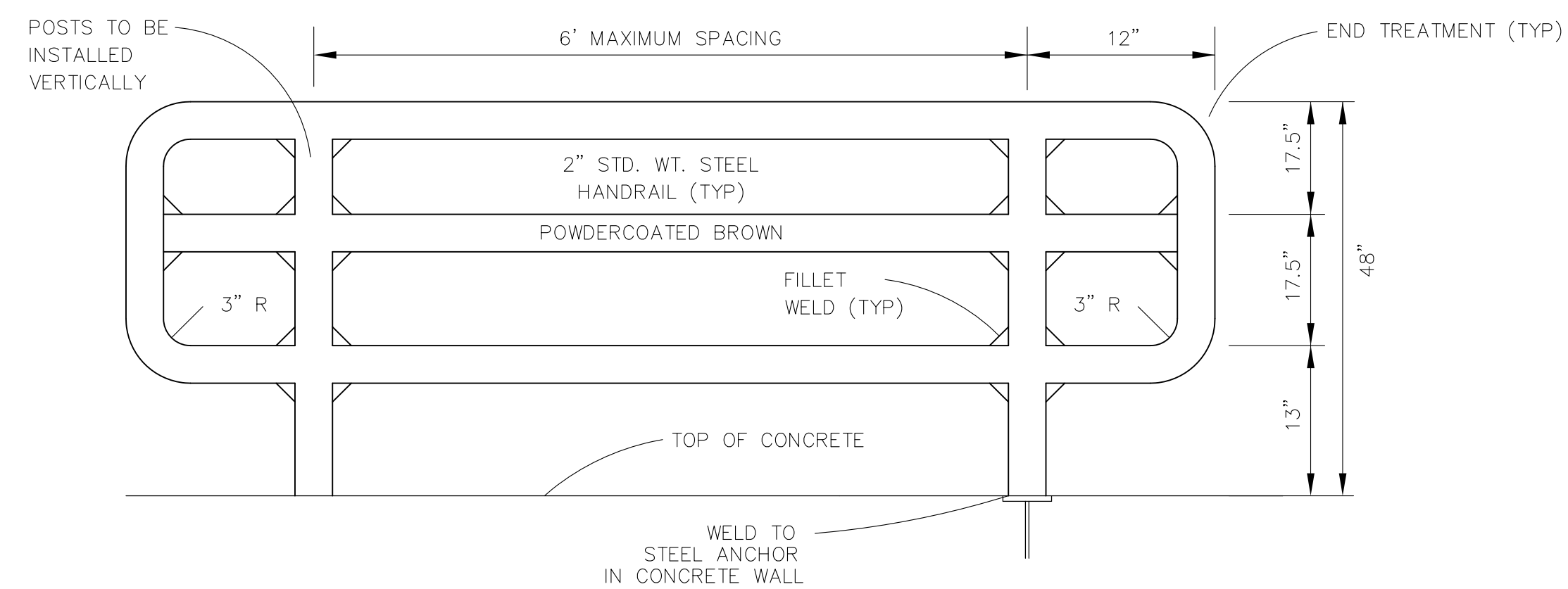
POND C4 FOREBAY & LOW FLOW CHANNEL LAYOUT



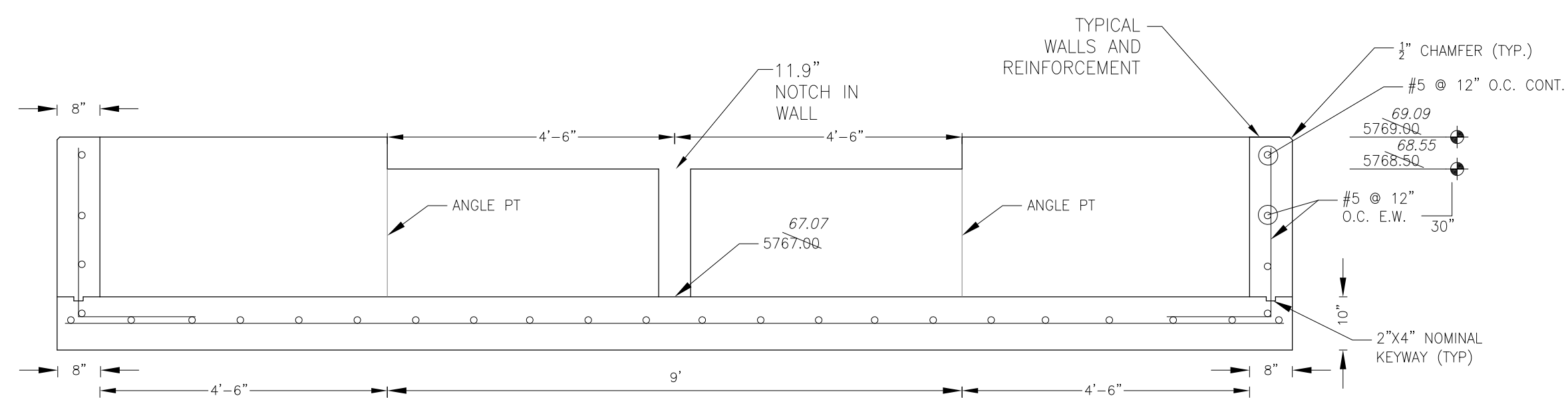
DATE: NOV 12, 2020
PROJECT NO. 100.061
SHEET NUMBER **C9.10**
TOTAL SHEETS: 58



FOREBAY SECTION A-A
NO SCALE

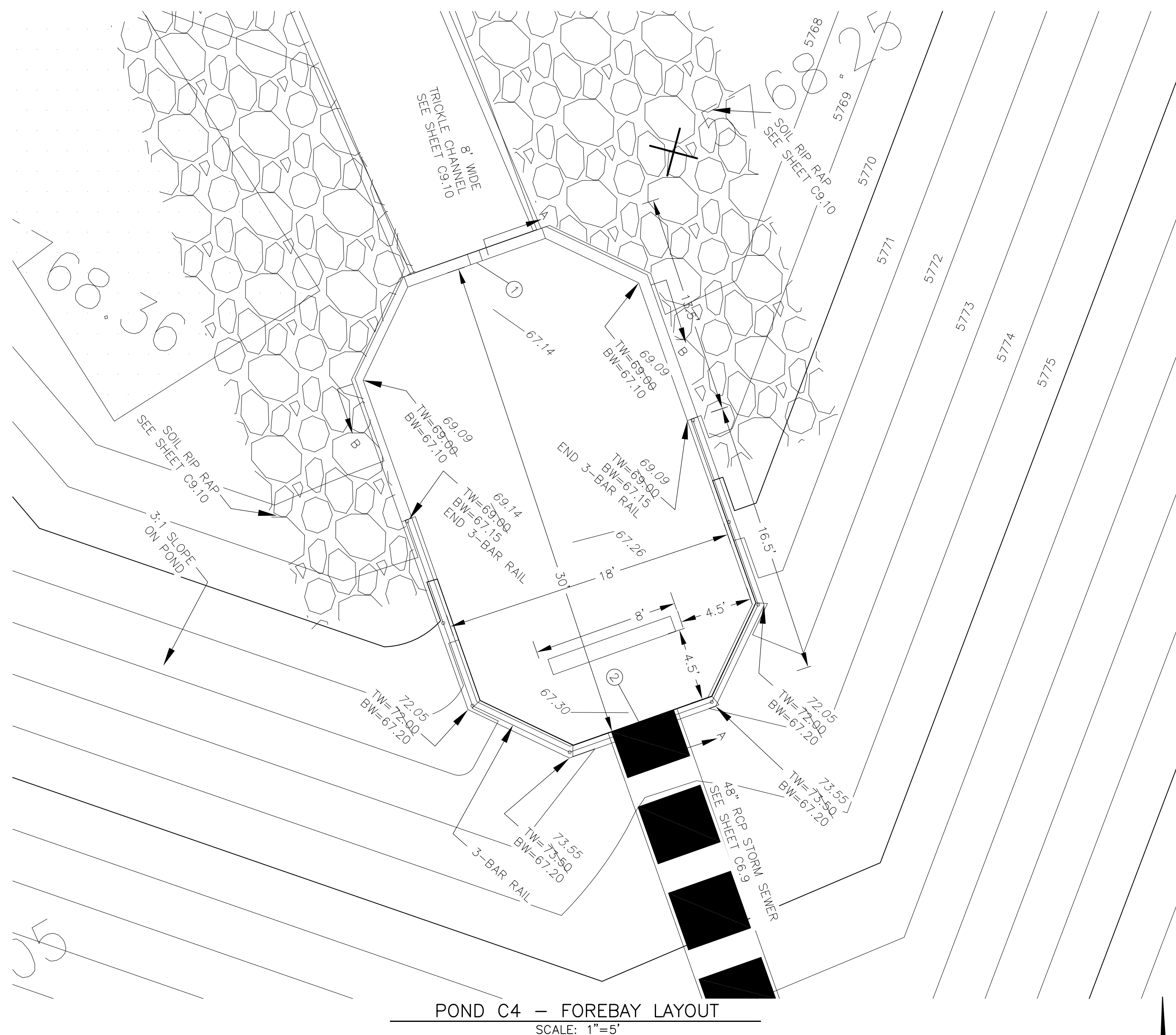


3-BAR RAIL DETAIL
NO SCALE

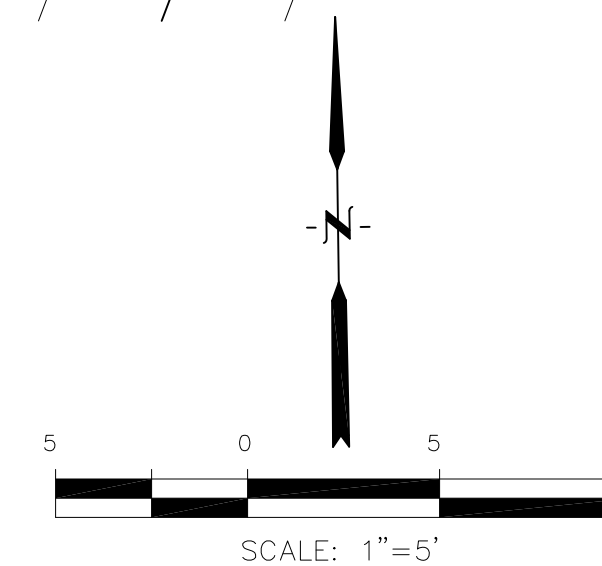


FOREBAY SECTION B-B
NO SCALE

NOTE: ALL CONCRETE FOR FOREBAY SHALL BE CDOT TYPE D



POND C4 - FOREBAY LAYOUT
SCALE: 1"=5'



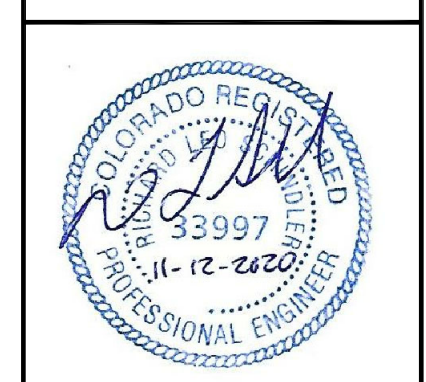
| POINT TABLE (FOREBAY) | | | | |
|-----------------------|----------|----------|-----------|---------------------------------|
| NUMBER | NORTHING | EASTING | ELEVATION | NOTES |
| 1 | 24309.51 | 29914.77 | 5767.00 | FOREBAY BOTTOM |
| 2 | 24281.30 | 29924.99 | 5767.15 | FOREBAY BOTTOM, INV 48"=5767.90 |

CORE ENGINEERING GROUP
15004 1ST AVENUE, S.
DENVER, CO 80202
PH: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@ceg1.com

DATE: JAN 12, 2021
DESCRIPTION: RAISE SITE 1' EAST OF POWERLINES
NO. 1
PROJECT: THE HILLS COLLECTOR STREET CONSTRUCTION
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
LORSON, LLC
LORSON BLVD - WALLEYE DR - LAMPREY DR
COLORADO SPRINGS, COLORADO (719) 635-3200
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND C4
FOREBAY DETAILS

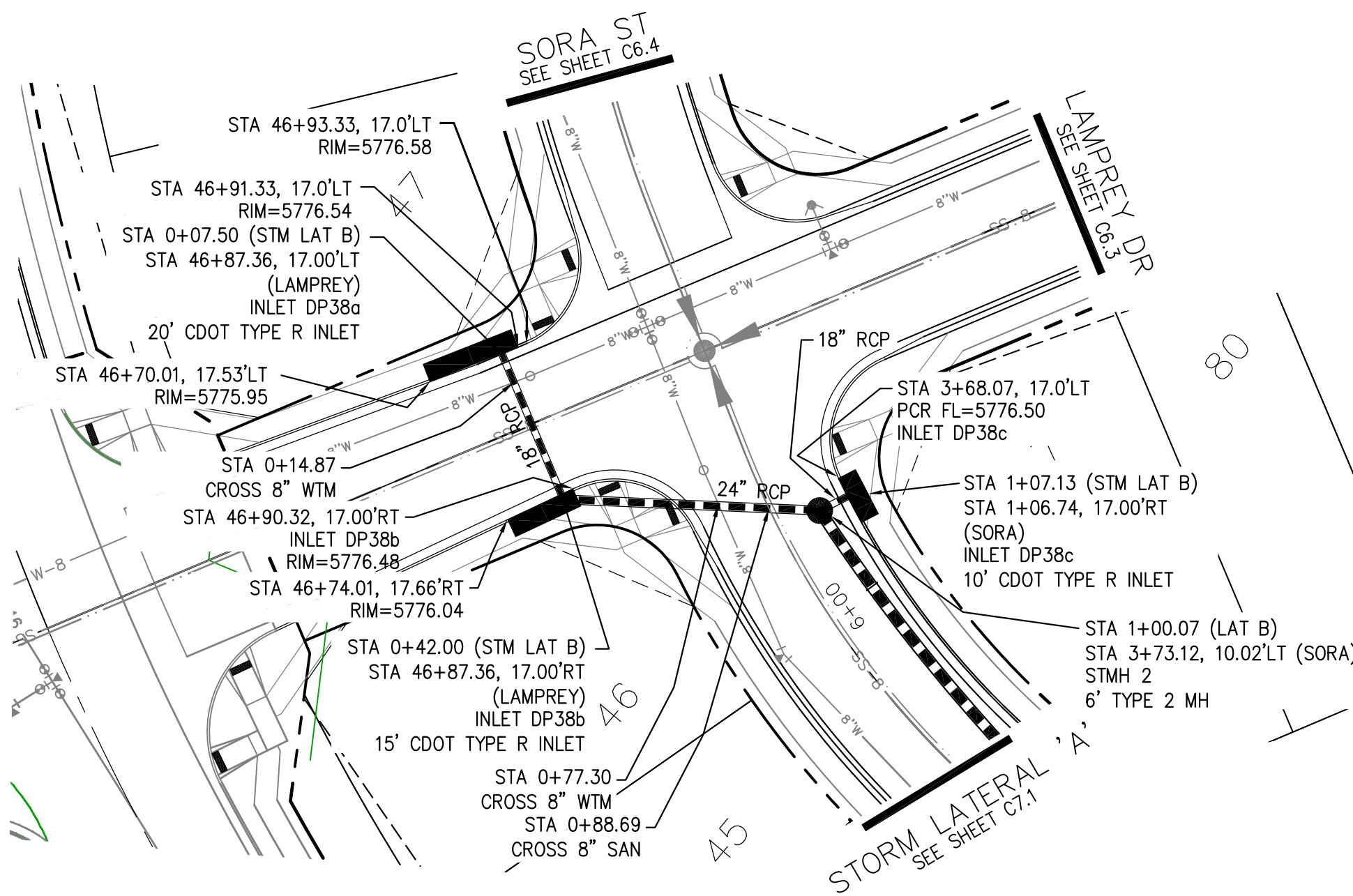
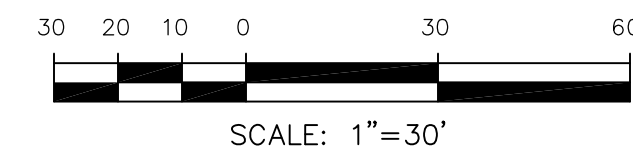


DATE: NOV 12, 2020
PROJECT NO. 100.061
SHEET NUMBER C9.11
TOTAL SHEETS: 58

AS-BUILT
DATE: 09/30/2022

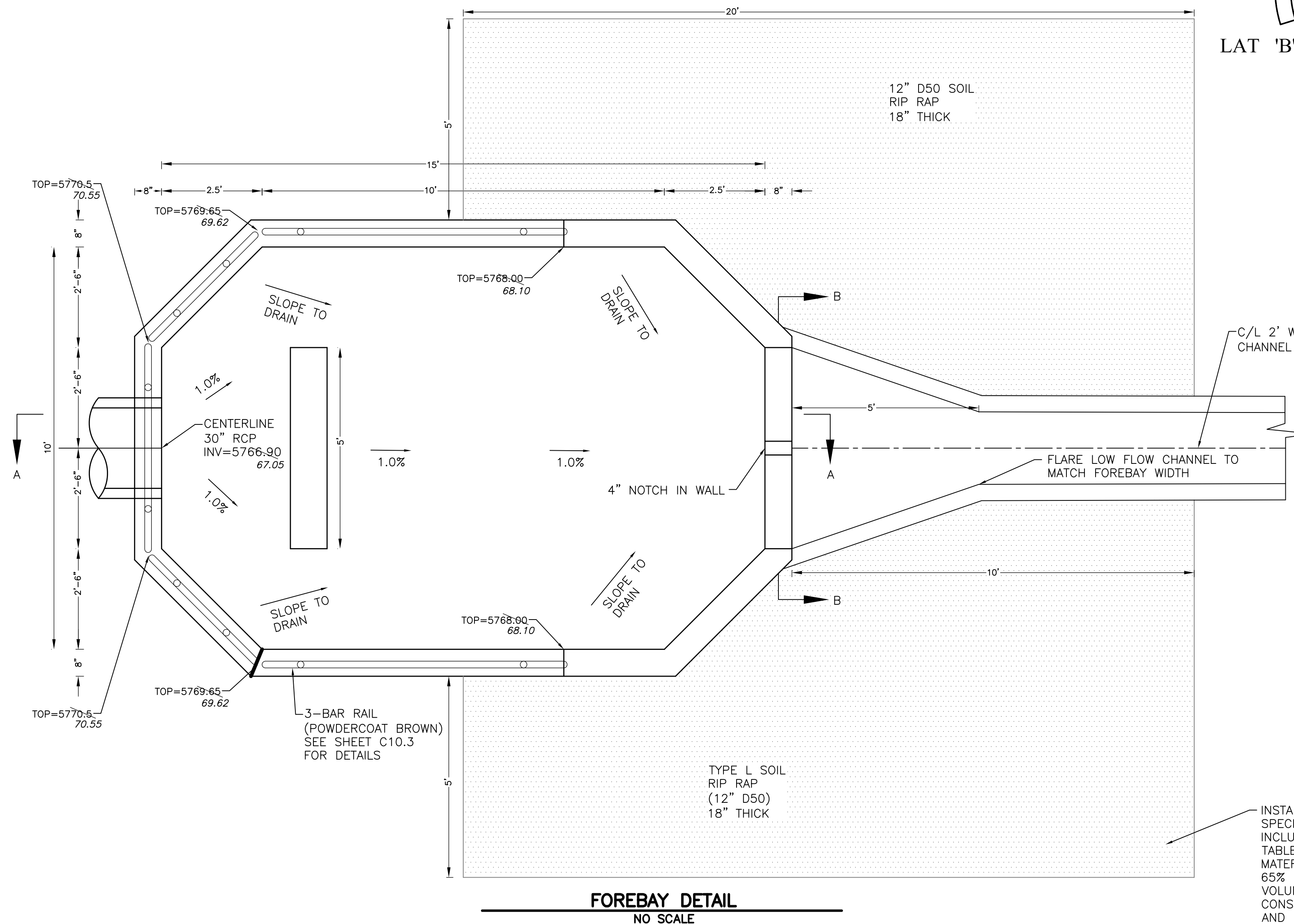
- NOTES**
1. ALL SPOT ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE NOTED.
 2. SEE GRADING PLAN FOR GRADING INFORMATION.
 3. ALL STORM SEWER SHALL BE CLASS III RCP.
 4. ALL MHS SHALL BE TYPE 1 UNLESS OTHERWISE NOTED.

- 1 CURVE DATA ID
- 2 CURB TRANSITIONS
- 3 PEDESTRIAN RAMP, SEE SHEET C10.1

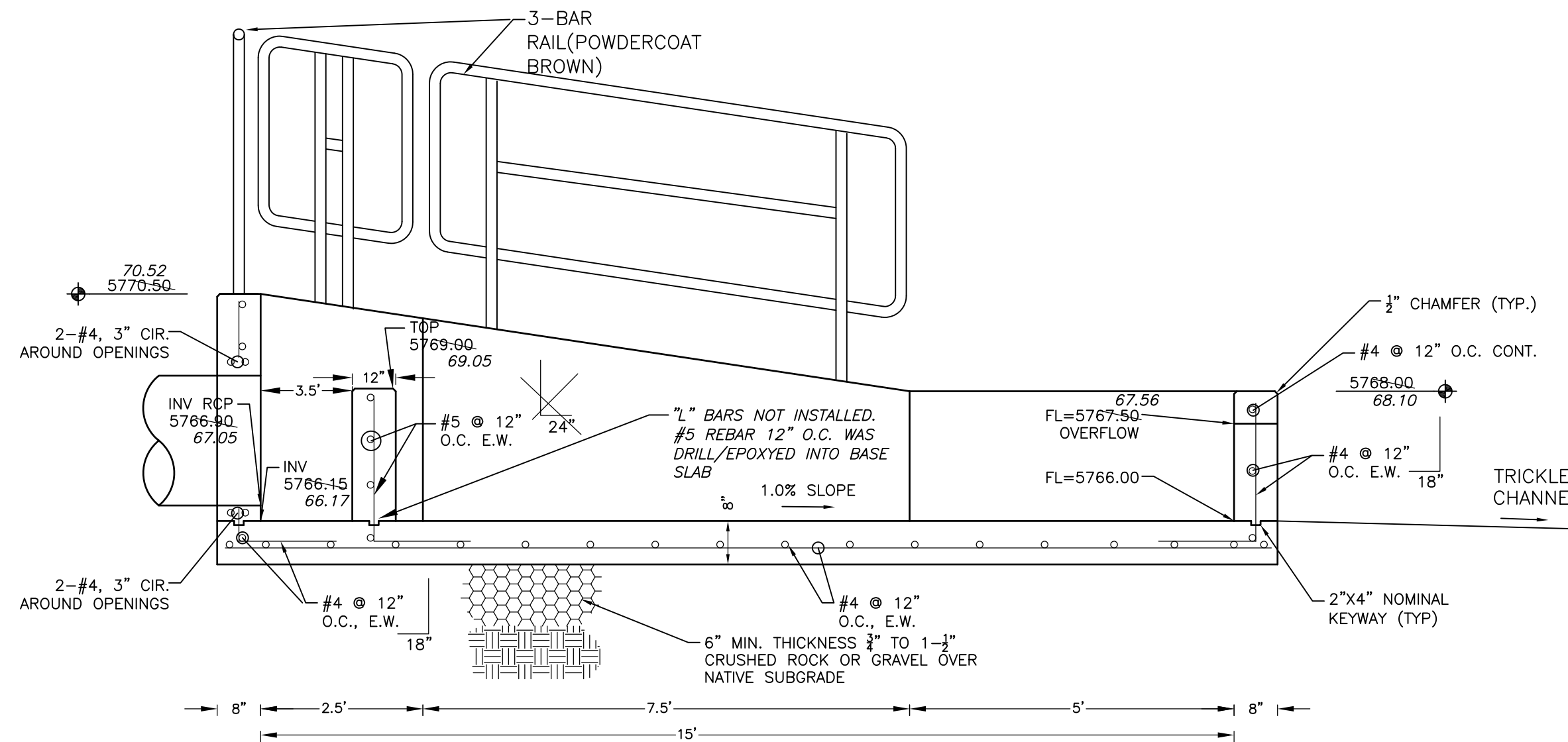


STORM LATERAL 'B' (PUBLIC)

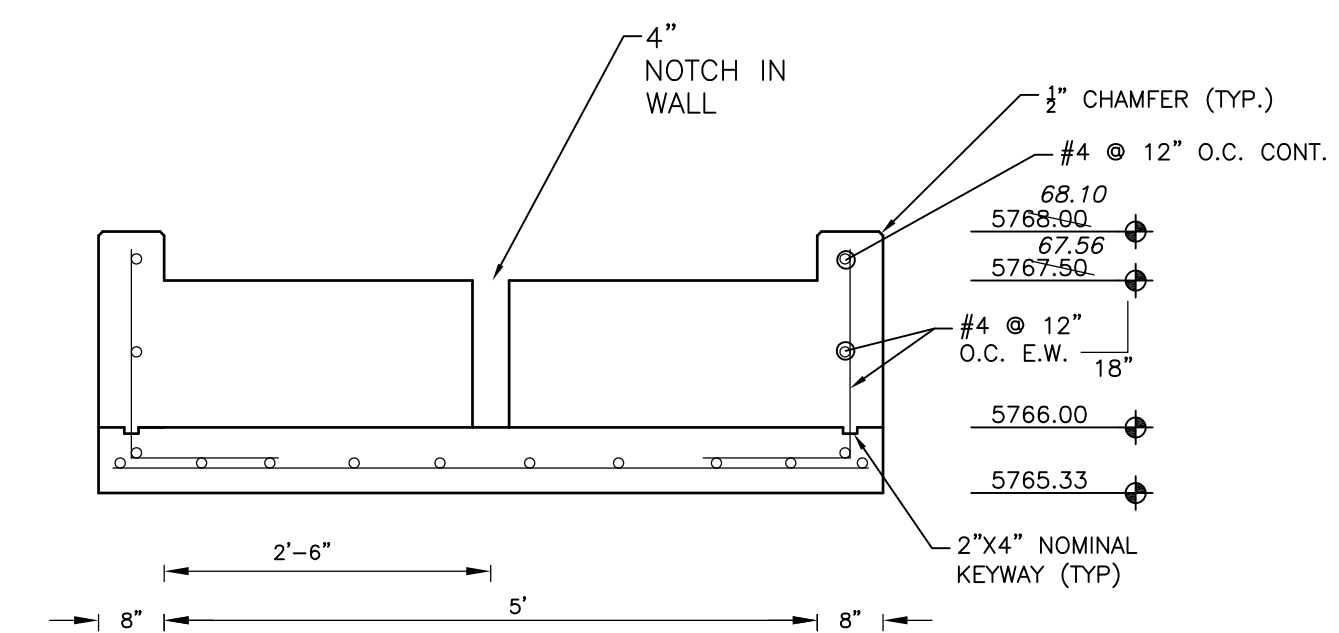
| Station | Description | Flow |
|---------|----------------------------|------|
| 5795 | | |
| 5790 | | |
| 5785 | | |
| 5780 | | |
| 5775 | | |
| 5770 | | |
| 5765 | | |
| 0+00 | Q5=7.4cfs Q100=15.2cfs | |
| 1+00 | Q5=10.2cfs Q100=21.4cfs | |
| 2+00 | | |



FOREBAY DETAIL
NO SCALE

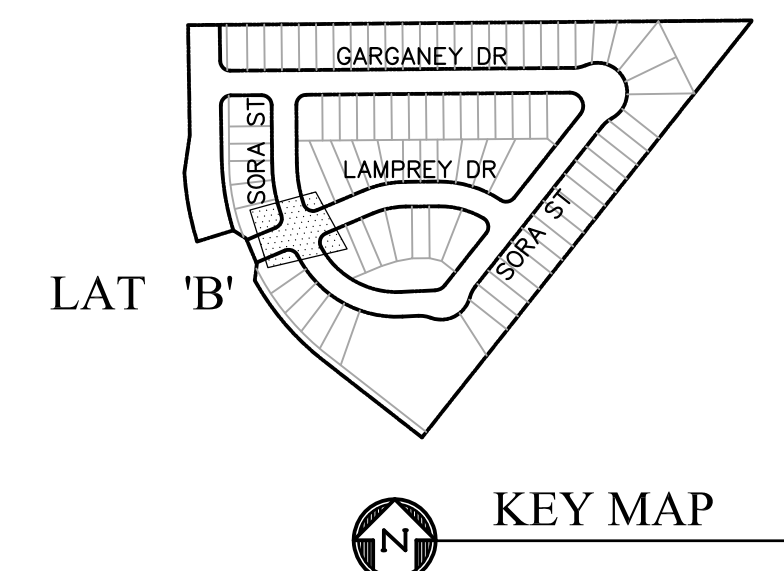


FOREBAY SECTION A-A
NO SCALE



FOREBAY SECTION B-B
NO SCALE

INSTALL SOIL RIP PER MHFD SPECIFICATION SECTION 31-37-00 INCLUDING RIP RAP SPECIFICATIONS IN TABLE 1 OF SAID SPECIFICATIONS SOIL MATERIAL SHALL BE TOPSOIL MIXED WITH 65% RIP RAP AND 35% TOPSOIL BY VOLUME. ALL SOIL RIP RAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIP RAP WITHOUT VOIDS.



KEY MAP

CORE ENGINEERING GROUP
 15004 1ST AVENUE S, SUITE 301
 BIRMGHAM, AL 35206
 CONTACT: RICHARD L. SCHINDLER, P.E.
 EMAIL: Rich@ceg1.com

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

PROJECT:
SKYLINE AT LORSON RANCH
 GRAYLING DR - LAMPREY DR
 COLORADO SPRINGS, COLORADO

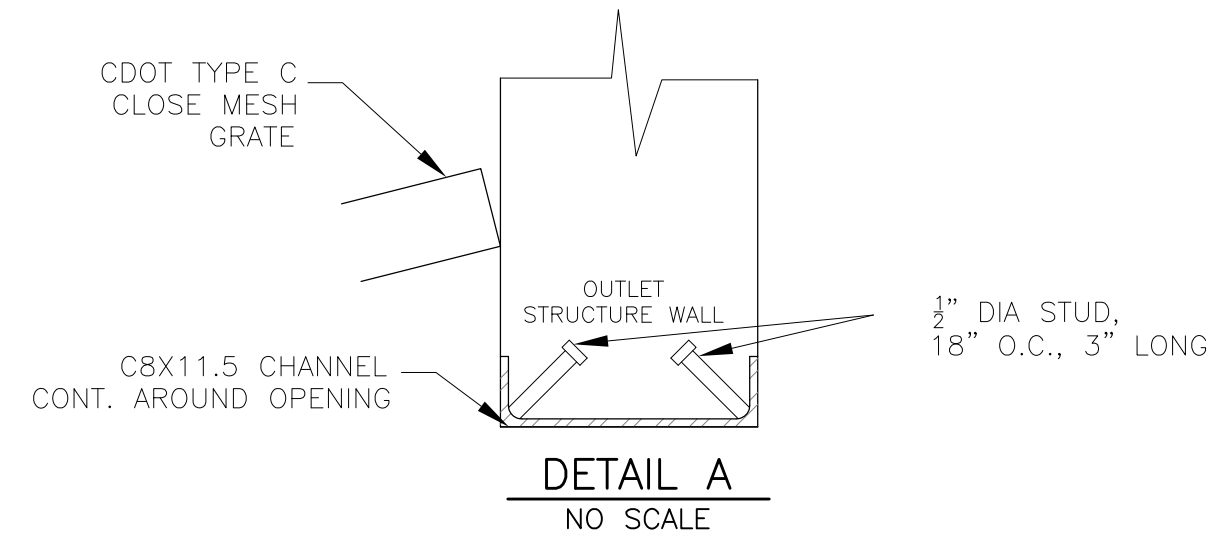
DATE:
MAY 2, 2022

DESIGNED: RLS
CHECKED: RLS

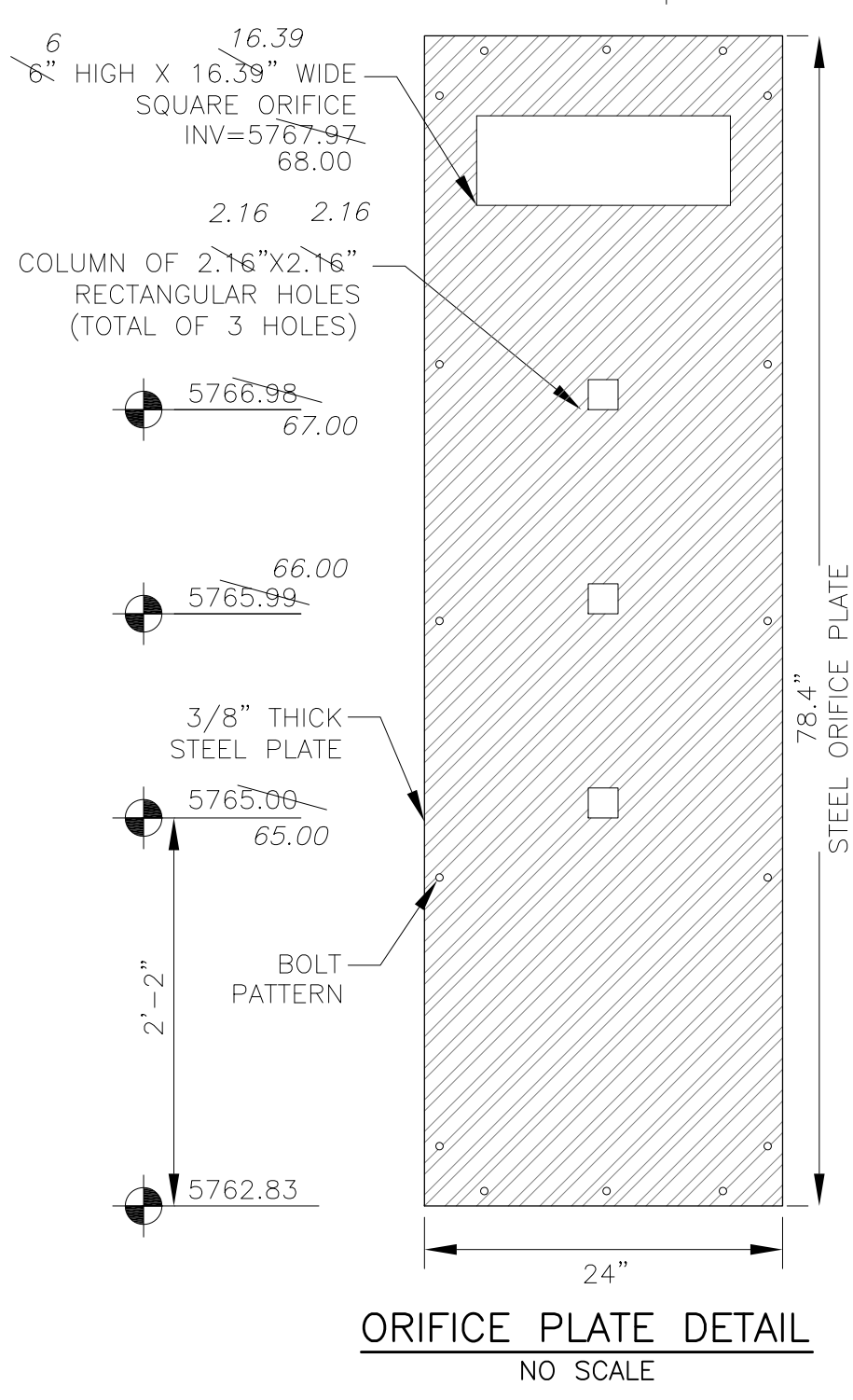
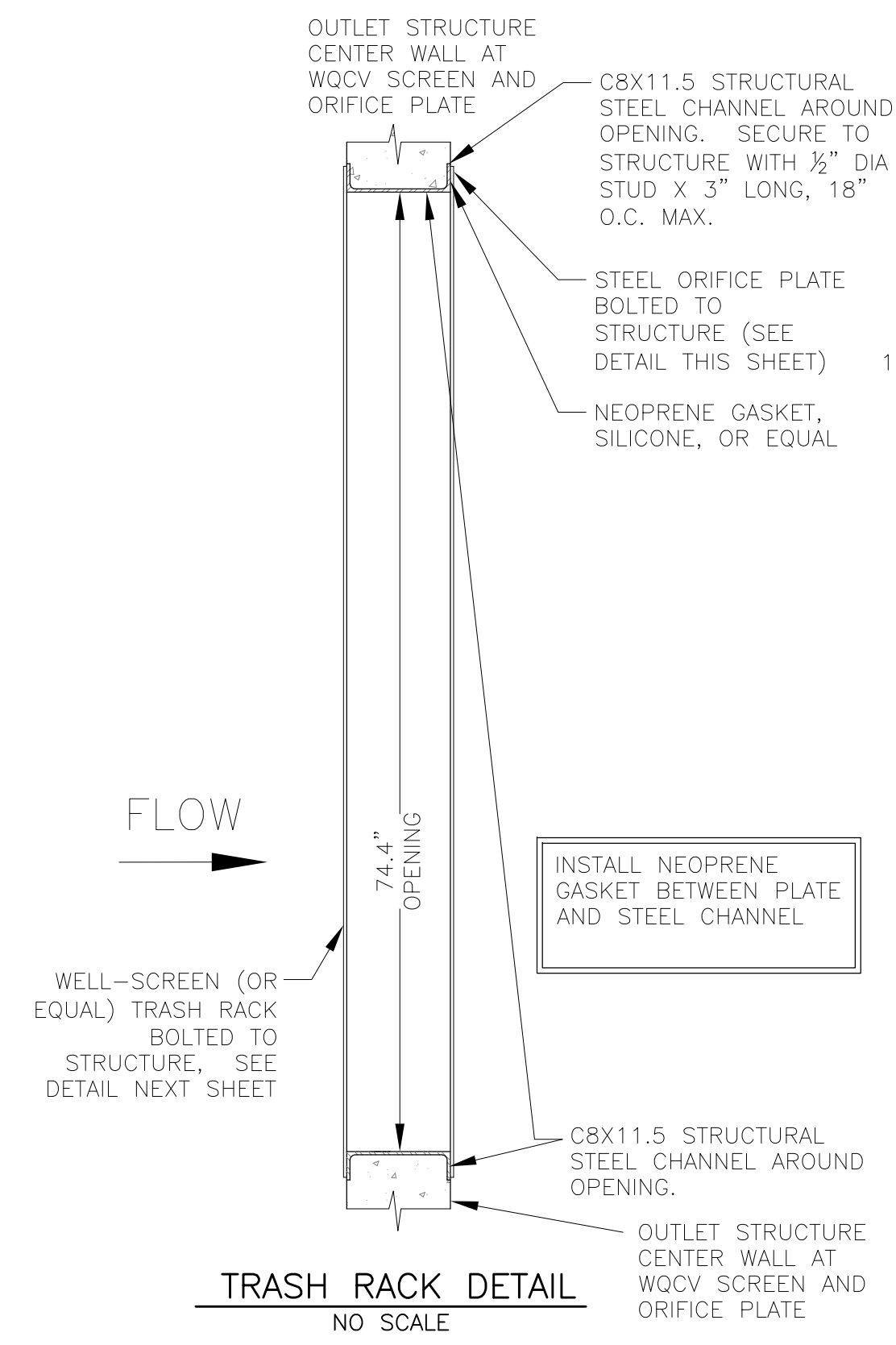
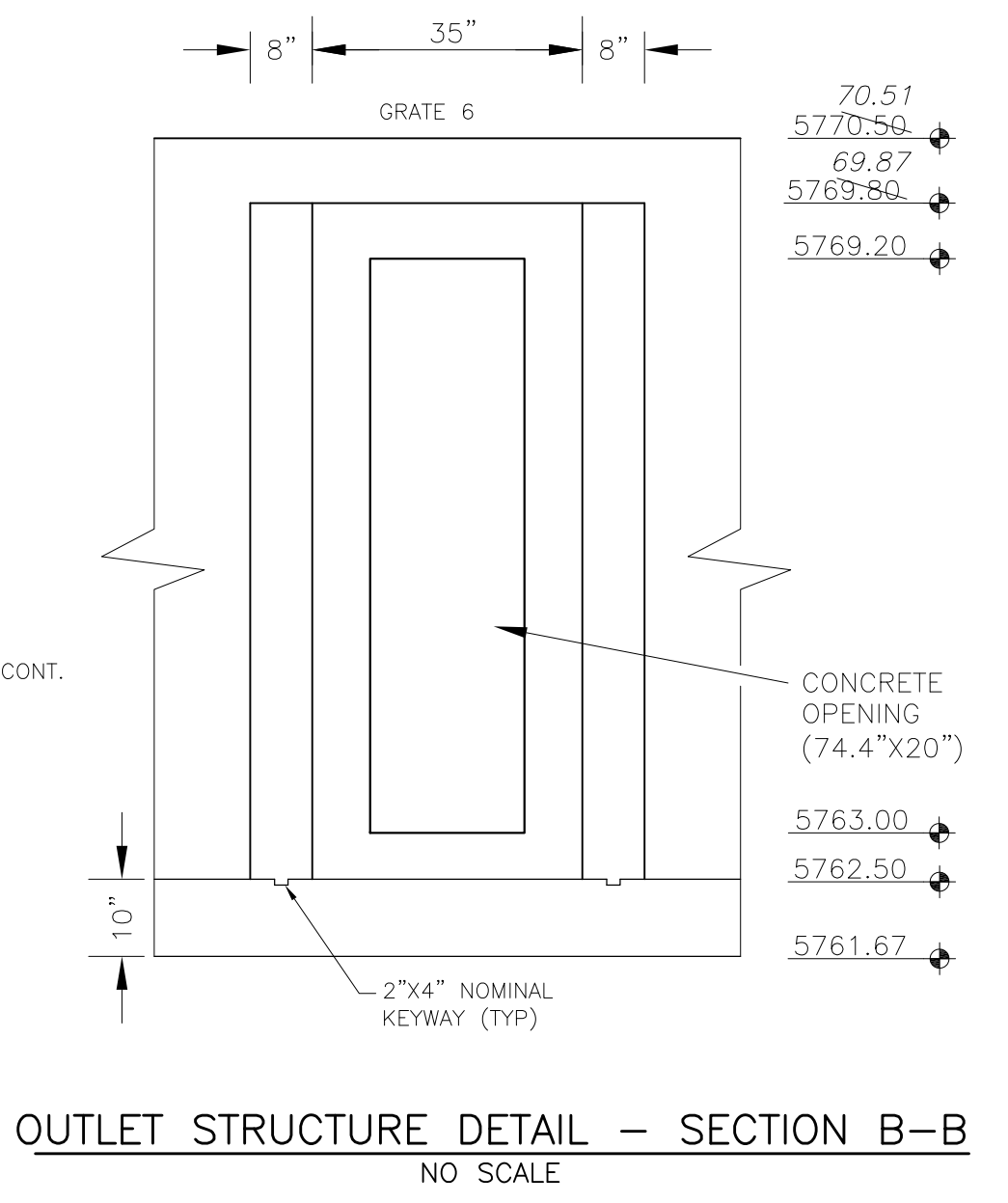
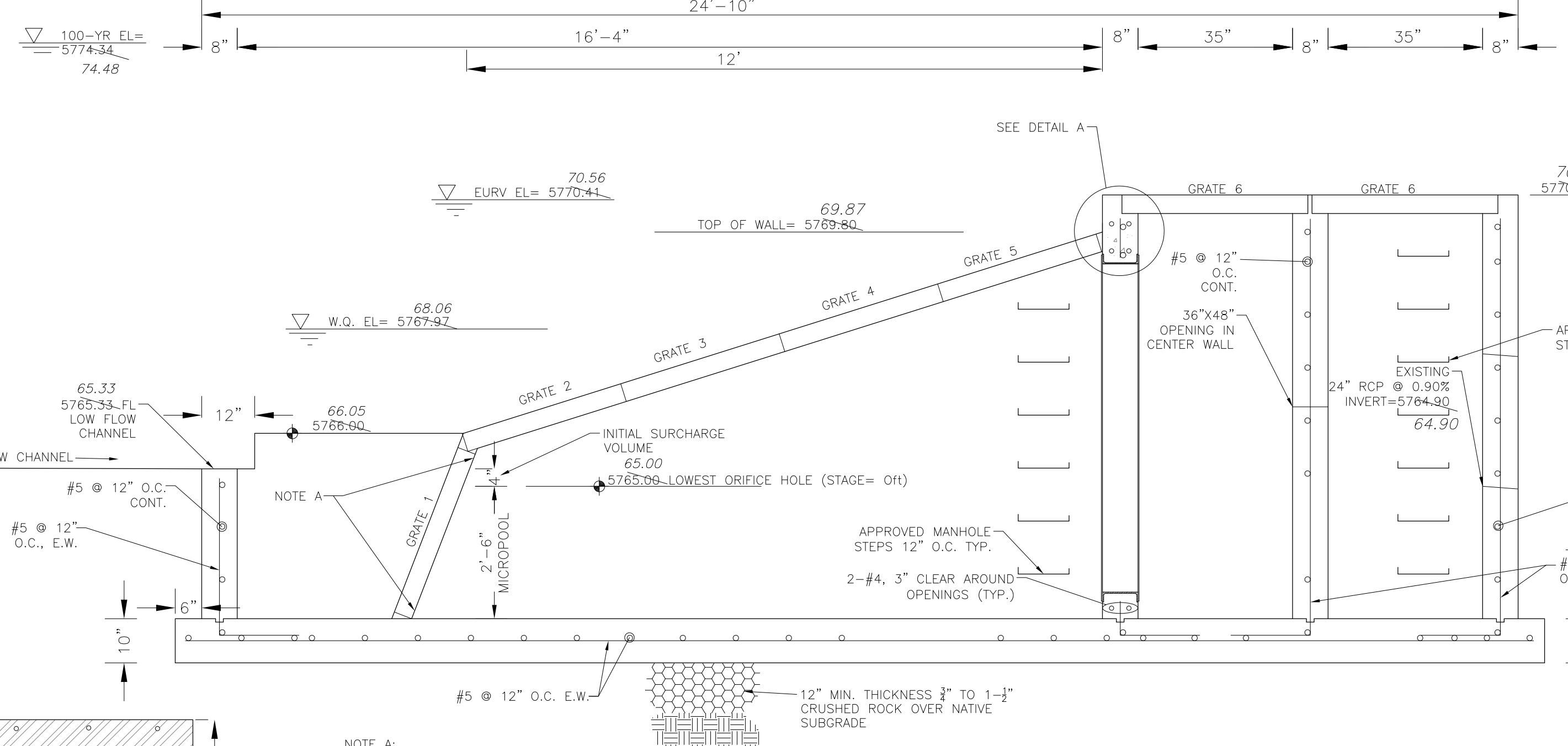
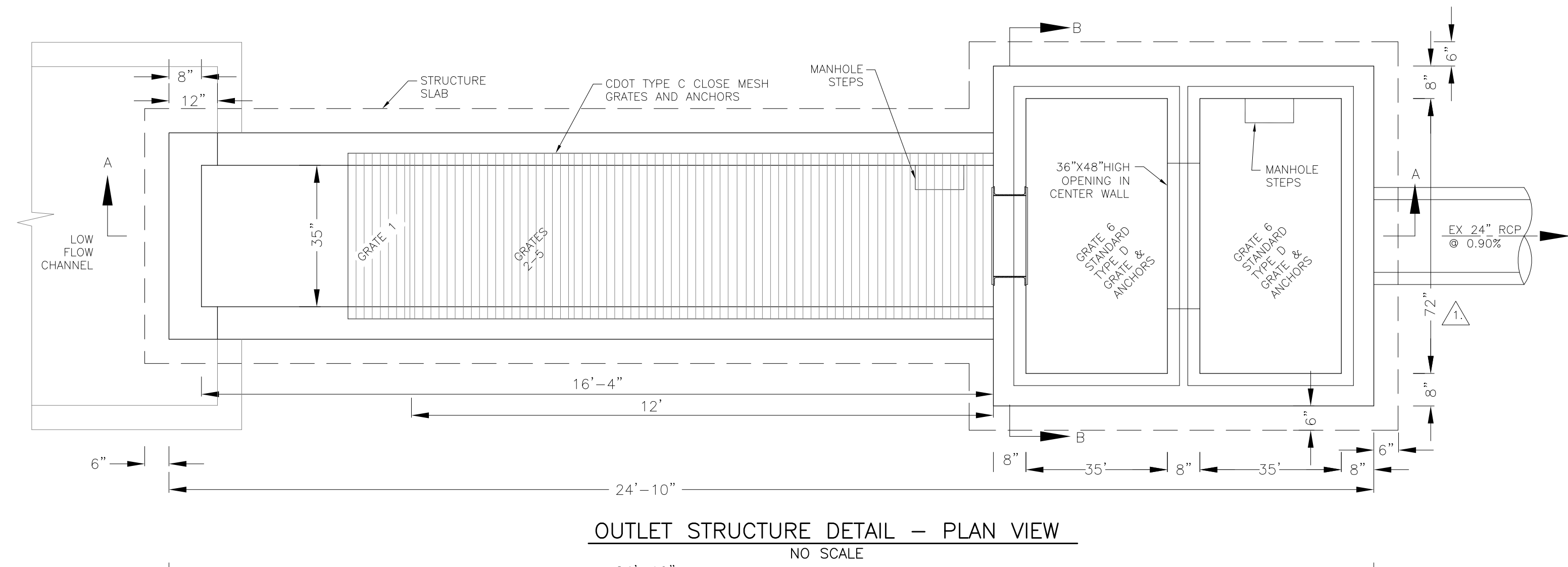
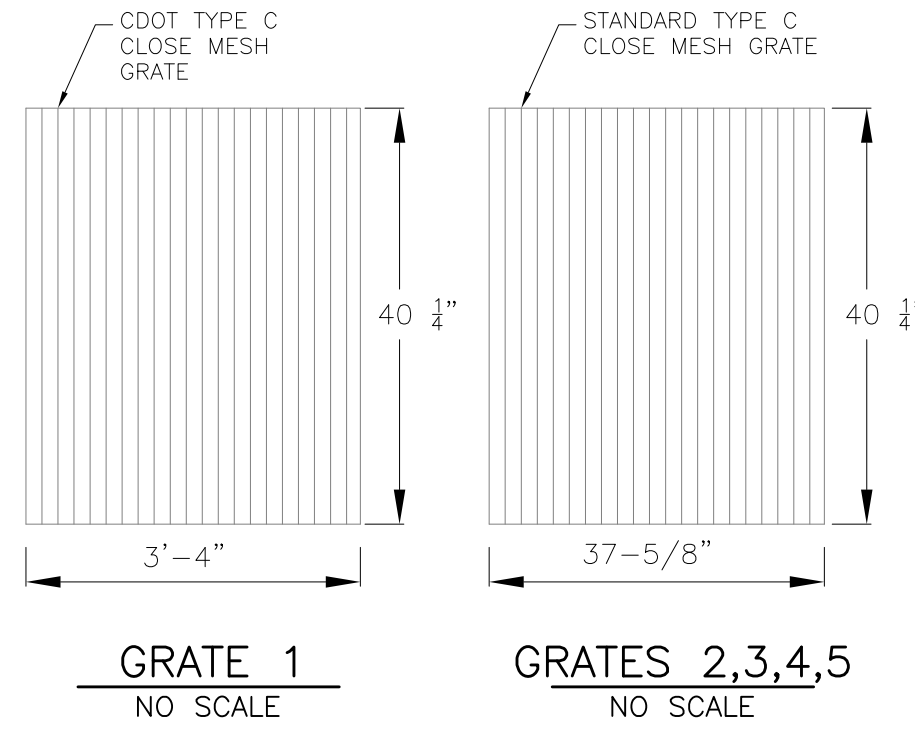
STORM SEWER LATERAL 'B'
STORM LATERAL 'B' AND SKYLINE POND C4 FOREBAY

AS-BUILT
 DATE: 11/03/2022

PROJECT NO. 100.063
SHEET NUMBER C7.2
TOTAL SHEETS: 17



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

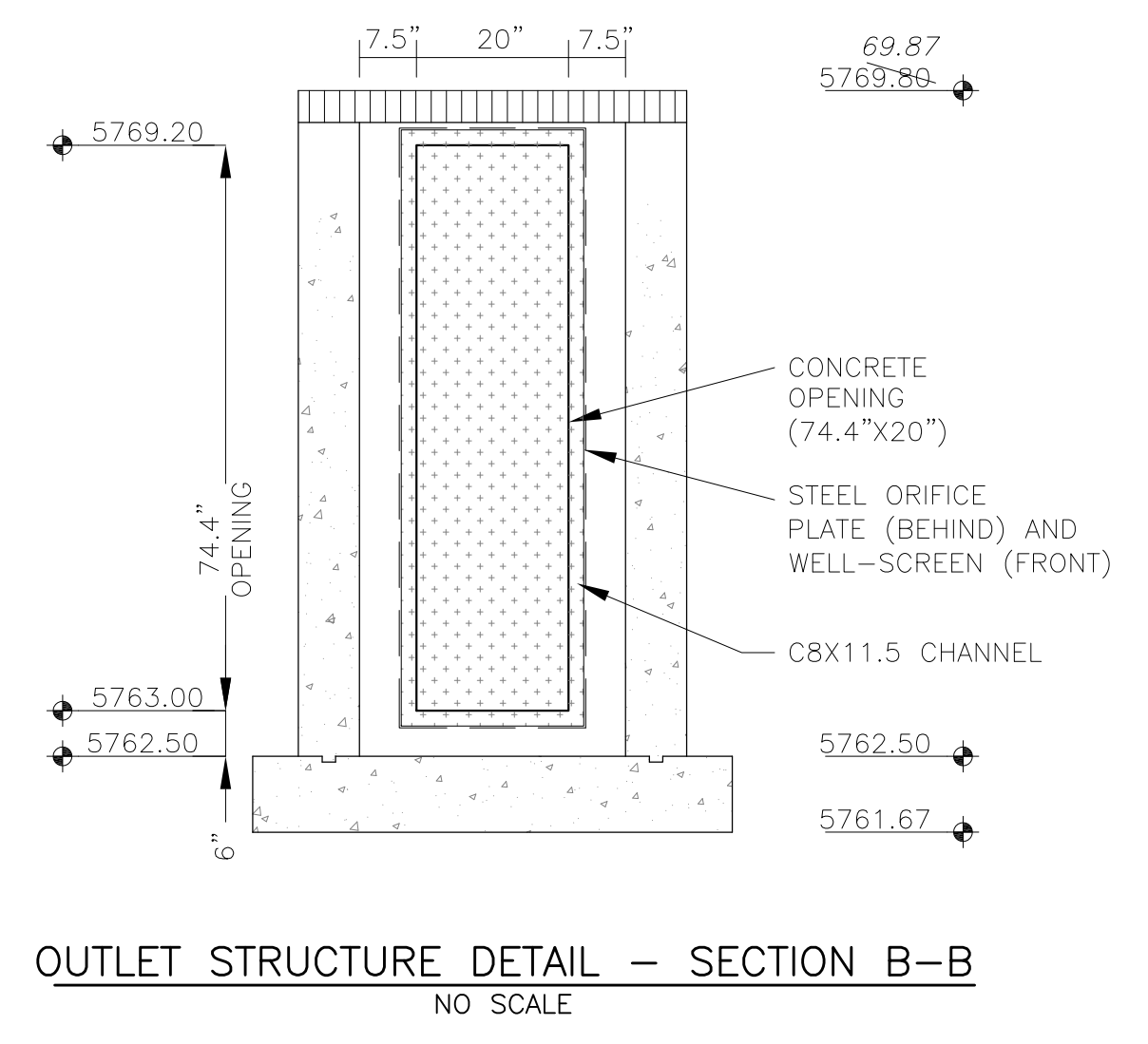


OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- 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.
- | BAR SIZE | #4 | #5 | #6 |
|--------------------|-------|-------|-------|
| MIN. SPLICE LENGTH | 1'-3" | 1'-7" | 2'-0" |
- 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 POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
 - ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

- WQCV WELL-SCREEN NOTES:**
- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
 - WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
 - Screen slot opening dimension: 0.139" (Screen #93 Vee Wire Slot Opening)
 - Type and Size of Support Rod: TE 0.074"x0.50"
 - Spacing of Support Rod (O.C.): 1.0 Inch
 - Total Screen Thickness: 0.655"
 - Carbon Steel Holding Frame Type: 3/4" x 1.0" angle

AS-BUILT
DATE: 09/30/2022



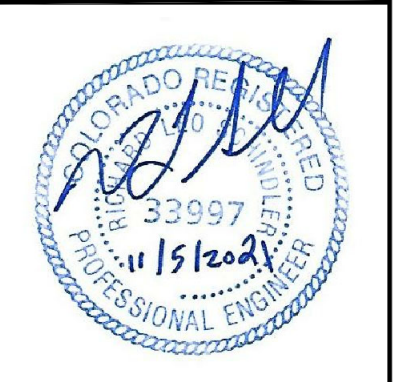
CORE ENGINEERING GROUP
15004 1ST AVENUE S.
DENVER, CO 80202
PH: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cge.com

DATE: 3/7/2022
DESCRIPTION: STRUCTURE WIDTH REVISED TO 72"
NO. 1:
PREPARED FOR: **LORSON, LLC**
212 N. WAHSATCH AVE. SUITE 301
COLORADO SPRINGS, COLORADO 80903
(719) 635-3200
CONTACT: JEFF MARK

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

PROJECT: **THE RIDGE AT LORSON RANCH**
FONTAINE BLVD. - WALLEYE DR
COLORADO SPRINGS, COLORADO

POND C4
FULL SPECTRUM
OUTLET STRUCTURE DETAILS



DATE: NOV 5, 2021
PROJECT NO. 100.064
SHEET NUMBER **C9.5**
TOTAL SHEETS: 23



CORE
ENGINEERING GROUP

April 10, 2023

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

Attn.: Project Manager

RE: The Ridge at Lorson Ranch Filing No. 1 (SF 22-004)
Private Stormwater Quality Pond F
As-built Certification

Dear Project Manager:

Per the approved construction drawings for The Ridge at Lorson Ranch Filing No.1 (PUD/SP 21-006 and SF 22-004), improvements were made to construct one 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.

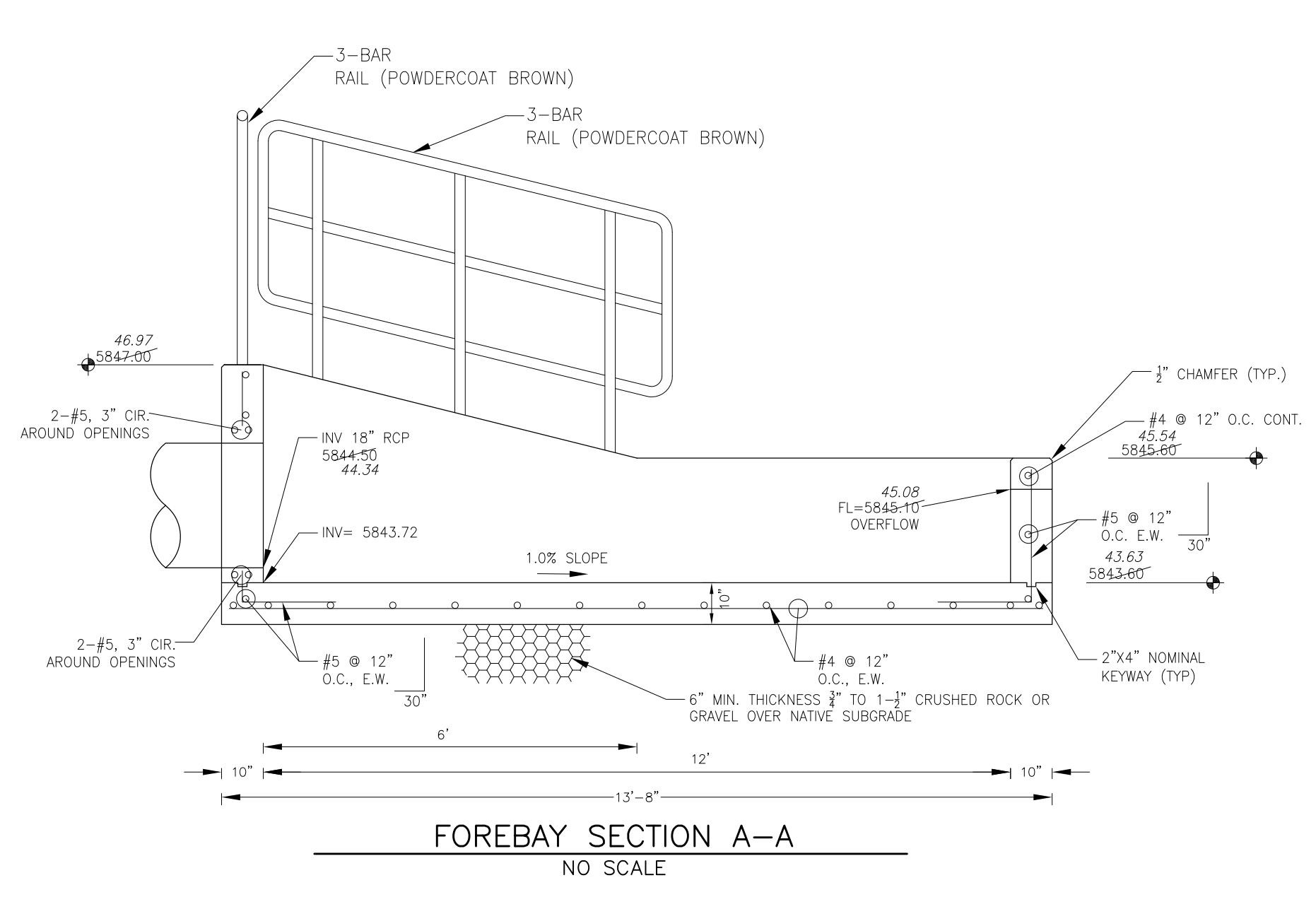
Statement Of Engineer of Record

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.

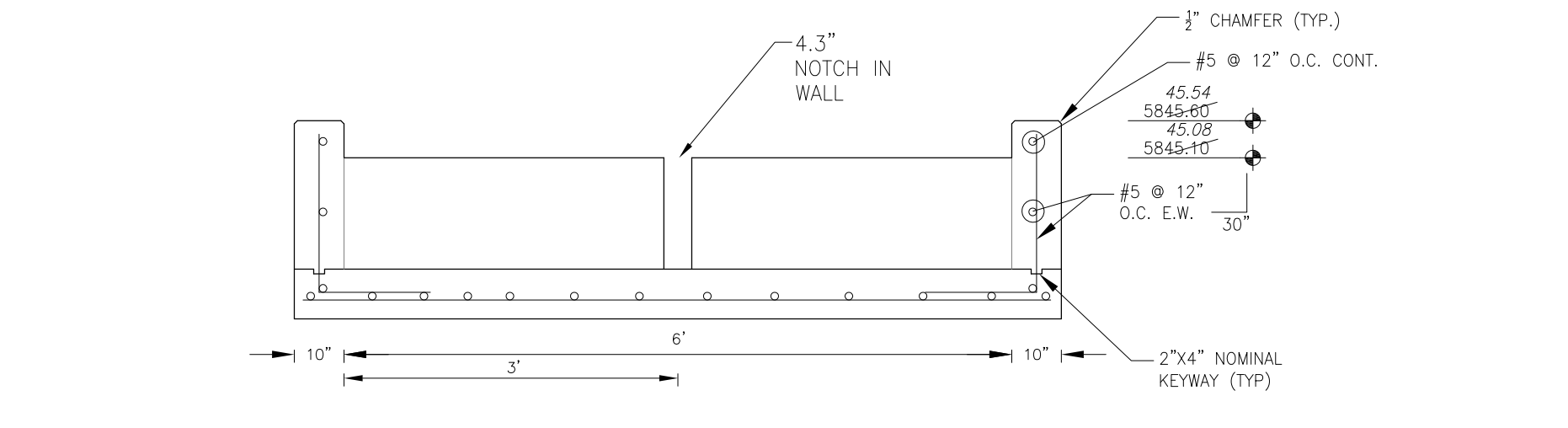


Richard L. Schindler
Colorado P.E. No.33997
For and on behalf of Core Engineering Group, LLC

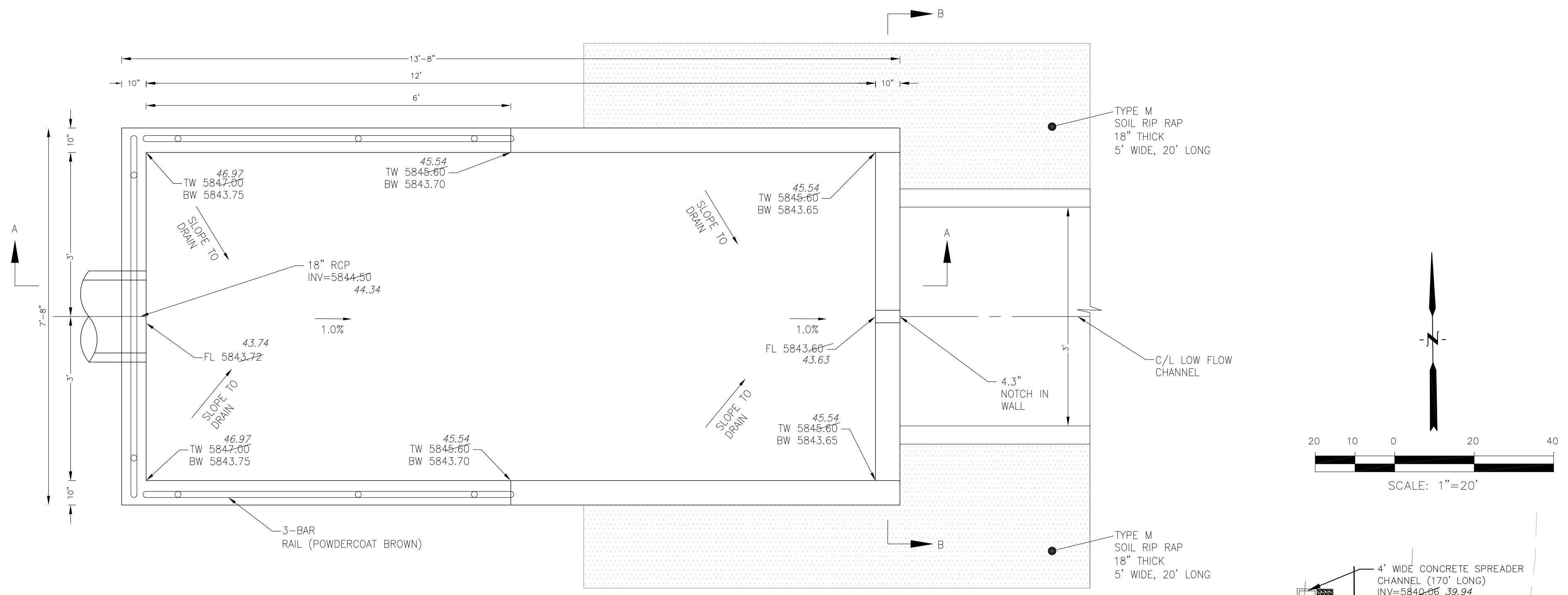
Attachments: Water Quality Pond F As-Built Drawings



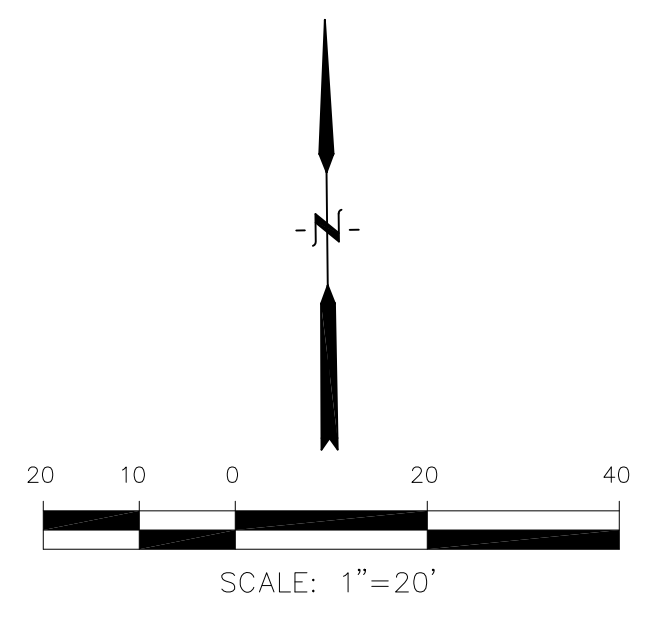
FOREBAY SECTION A-A
NO SCALE



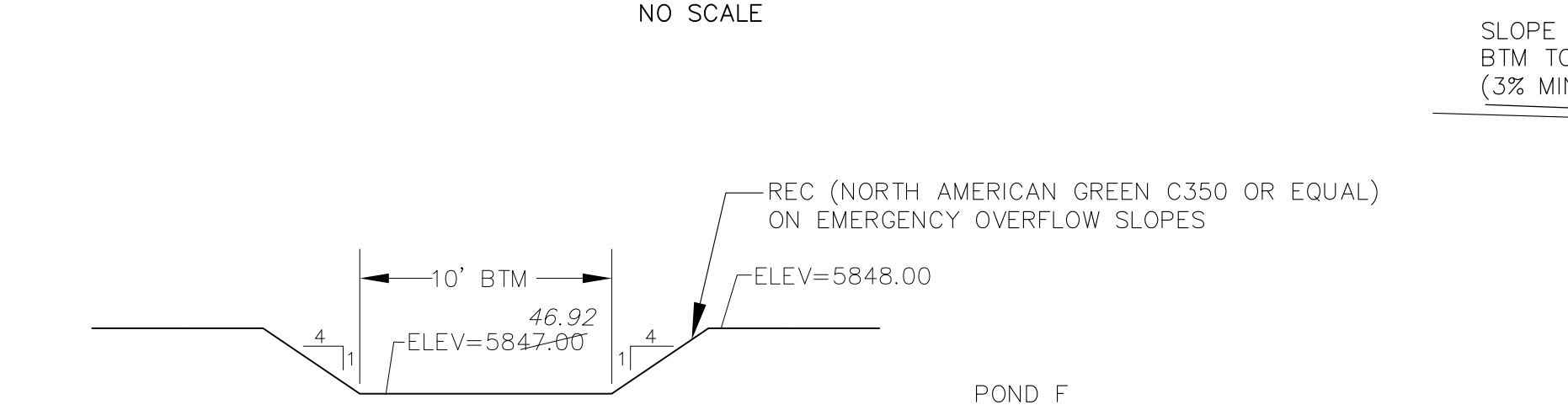
FOREBAY SECTION B-B
NO SCALE



FOREBAY DETAIL
NO SCALE

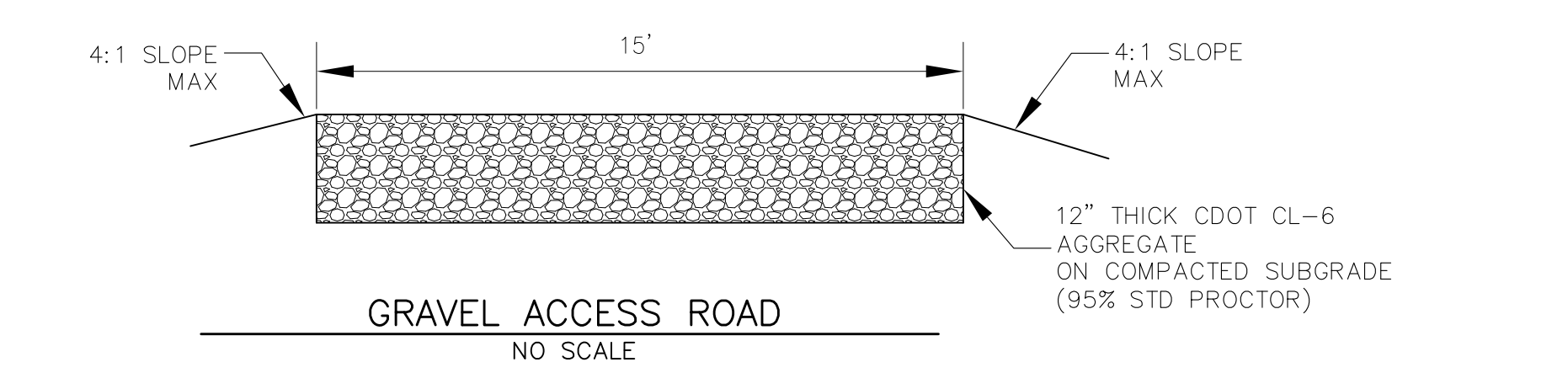


NOTE:
1. POND SLOPES SHALL BE 4:1 UNLESS OTHERWISE NOTED
2. STRAW ECB SHALL BE PLACED ON ALL POND SIDE SLOPES UNLESS NOTED OTHERWISE

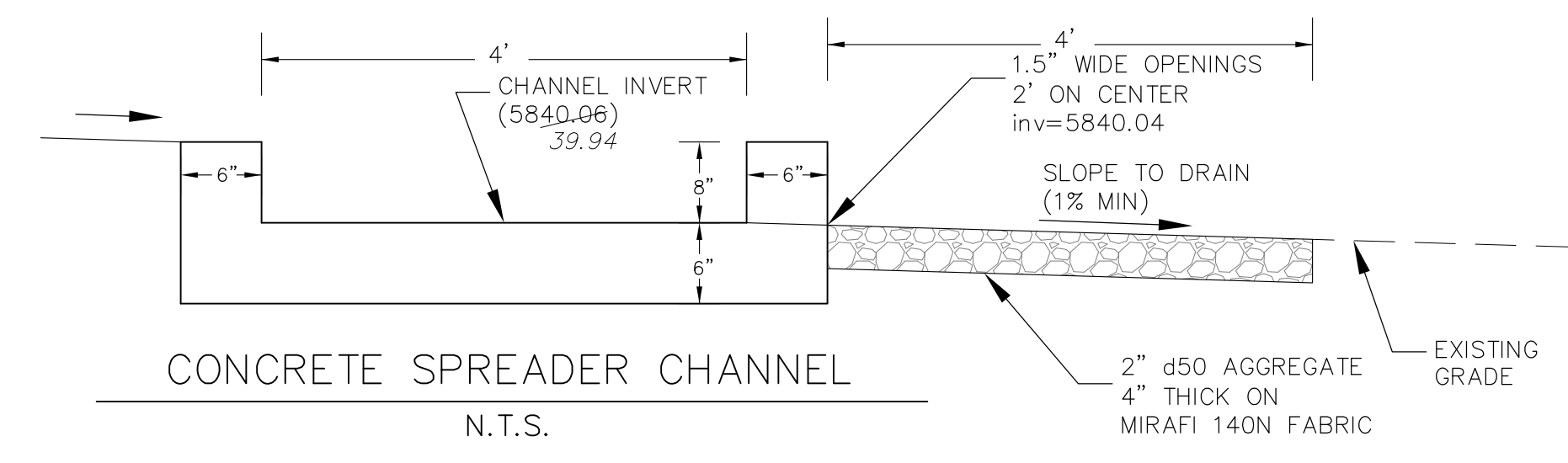


WQ POND F
EMERGENCY OVERFLOW
PROFILE
SCALE: NTS

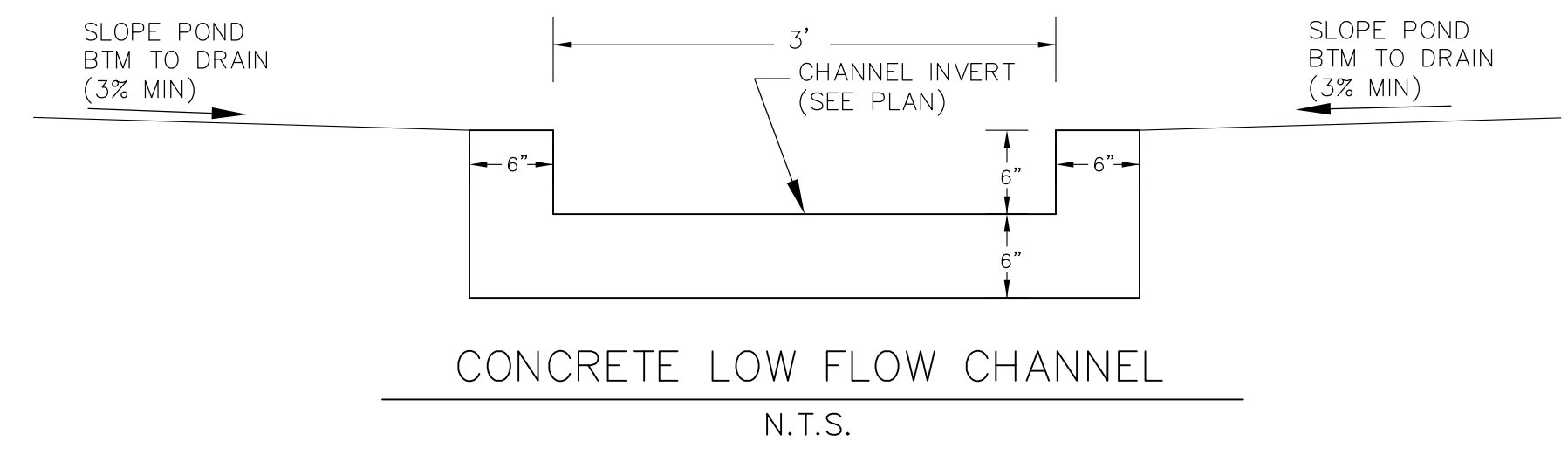
POND F
EMERGENCY OVERFLOW
BTM=5847.00, TOP=5848.00
WIDTH=10', 4:1 SIDE SLOPES
FLOW DEPTH=0.44', Q100=10.2cfs



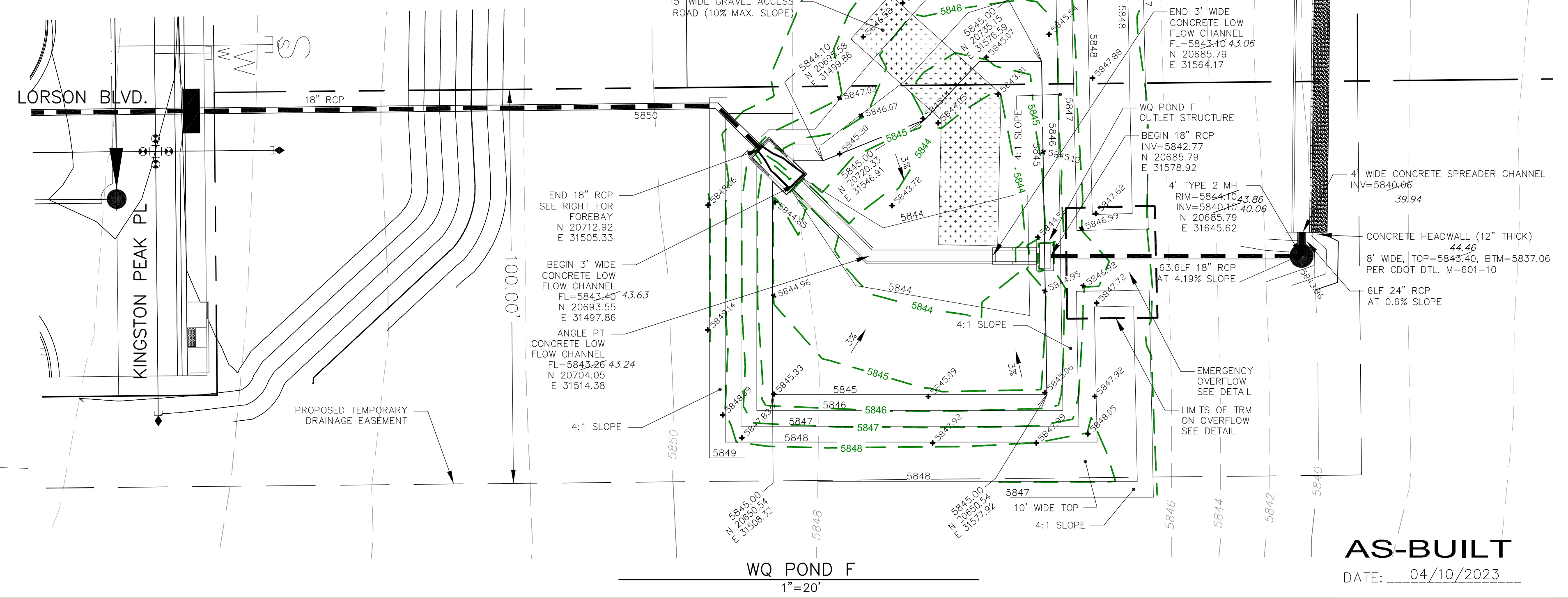
GRAVEL ACCESS ROAD
NO SCALE



CONCRETE SPREADER CHANNEL
N.T.S.



CONCRETE LOW FLOW CHANNEL
N.T.S.



WQ POND F
1"=20'

AS-BUILT
DATE: 04/10/2023

CORE ENGINEERING GROUP
15004 151ST AVENUE S.
DENVER, CO 80232
PHONE: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cegi.com

DATE: NOV 30, 2021

DESCRIPTION: MODIFY CONCRETE SPREADER CHANNEL

NO. 1

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

PROJECT:
THE RIDGE AT LORSON RANCH
FONTAINE BLVD. - WALLEYE DR
COLORADO SPRINGS, COLORADO

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

WQ POND F
POND STRUCTURES
AND TRICKLE CHANNEL

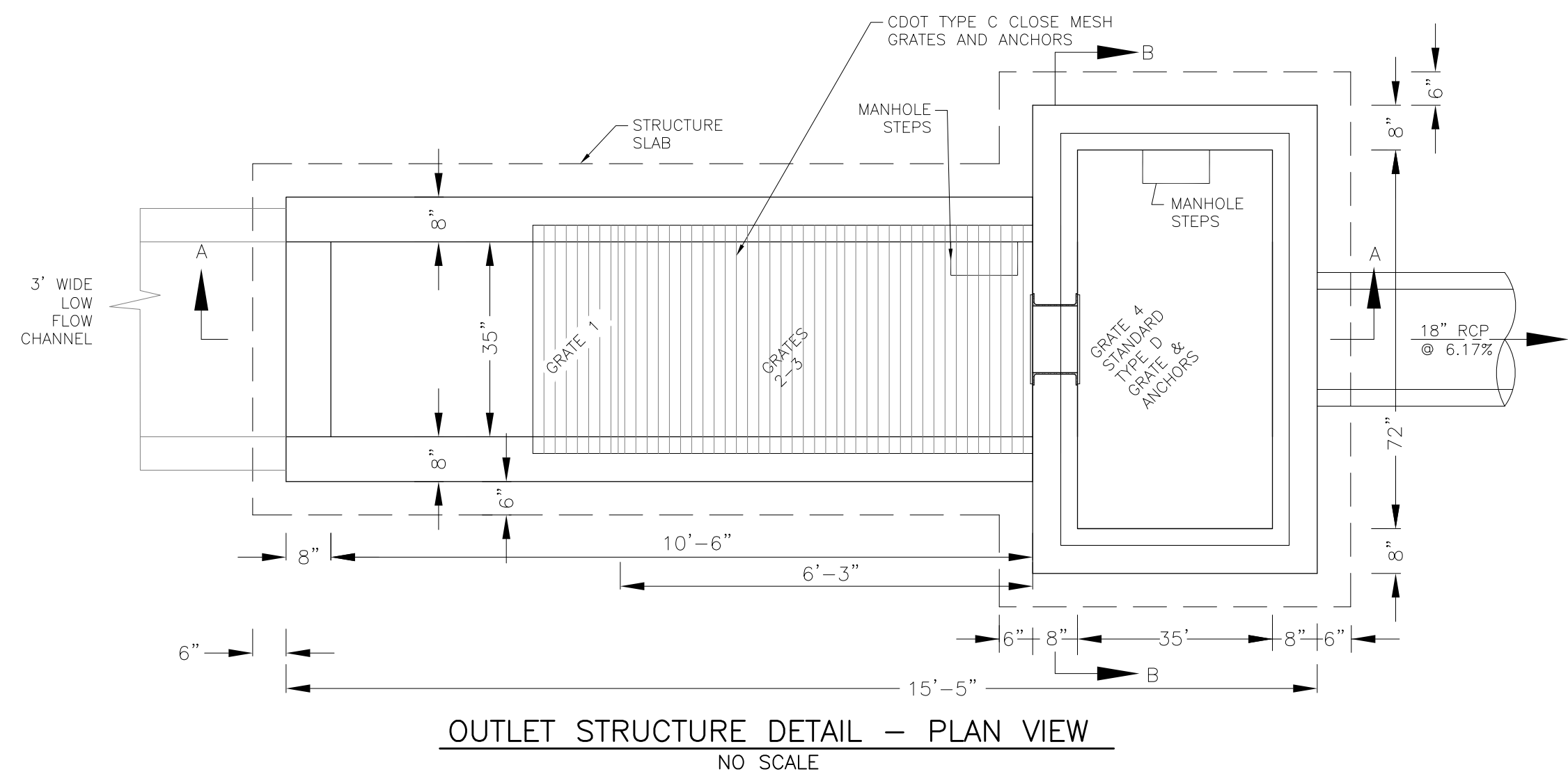
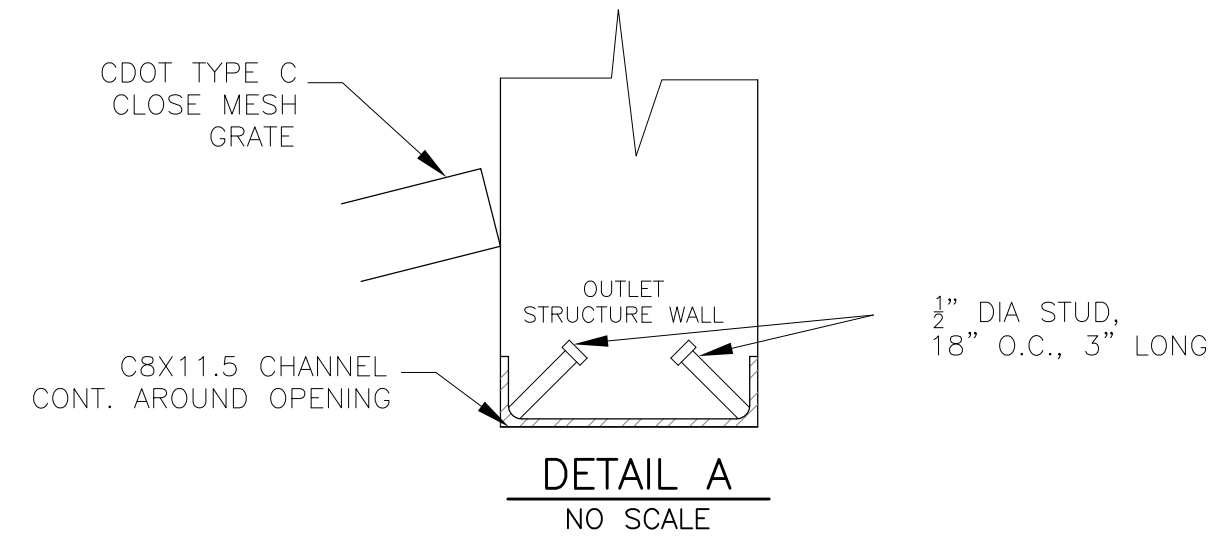


DATE: NOV 5, 2021

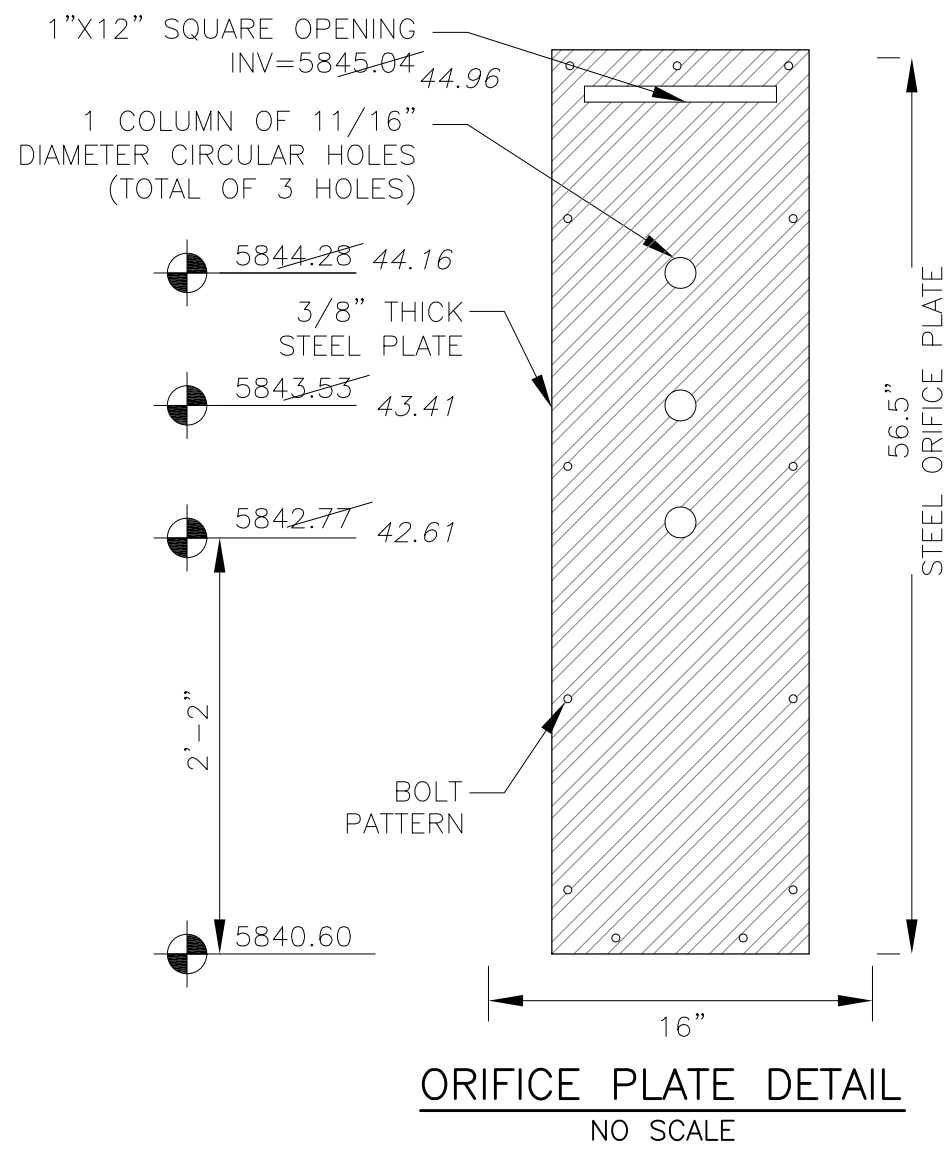
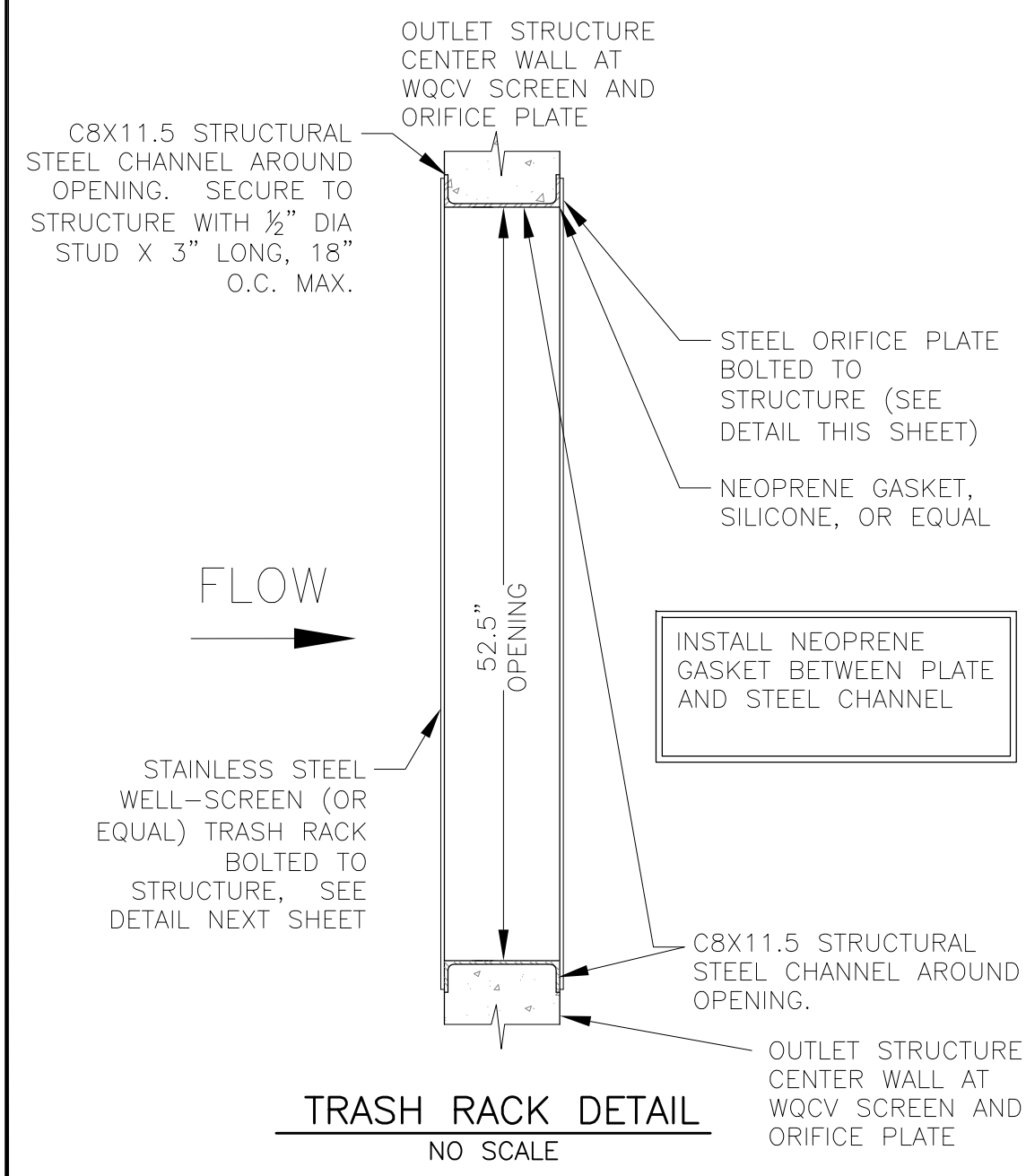
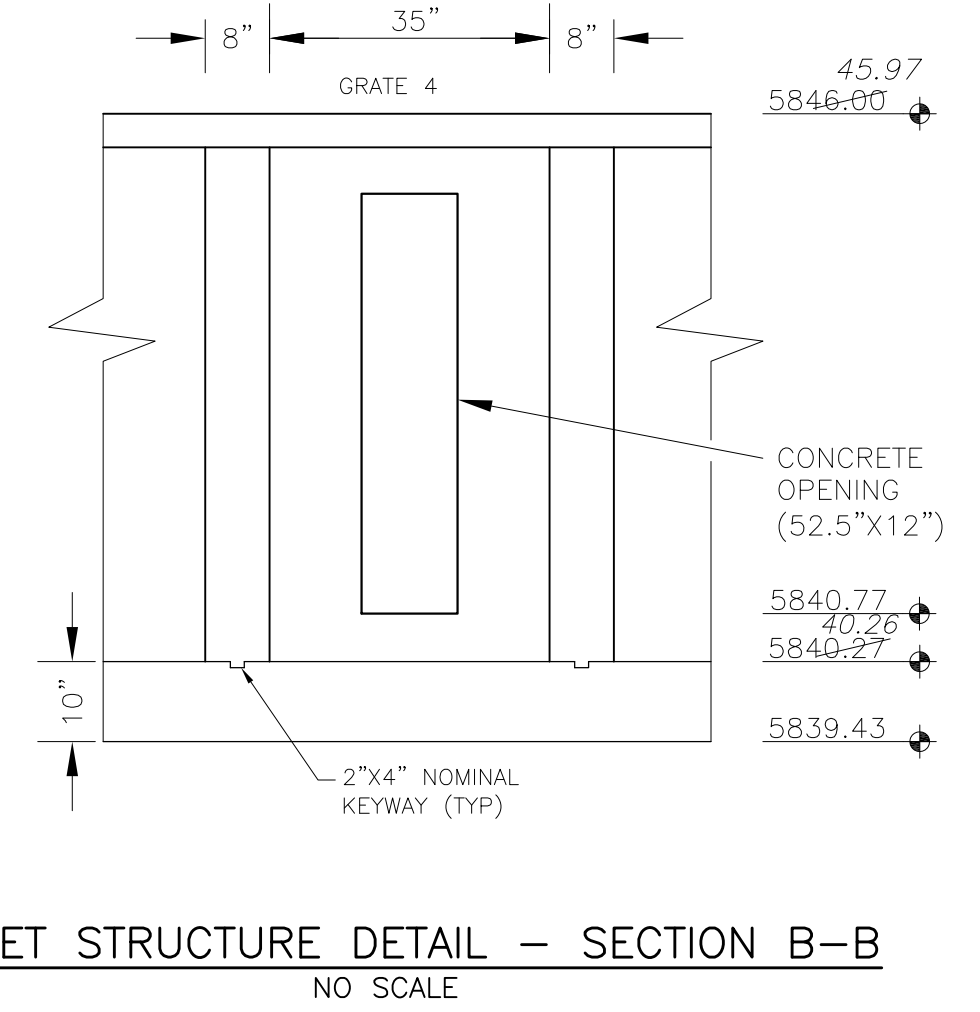
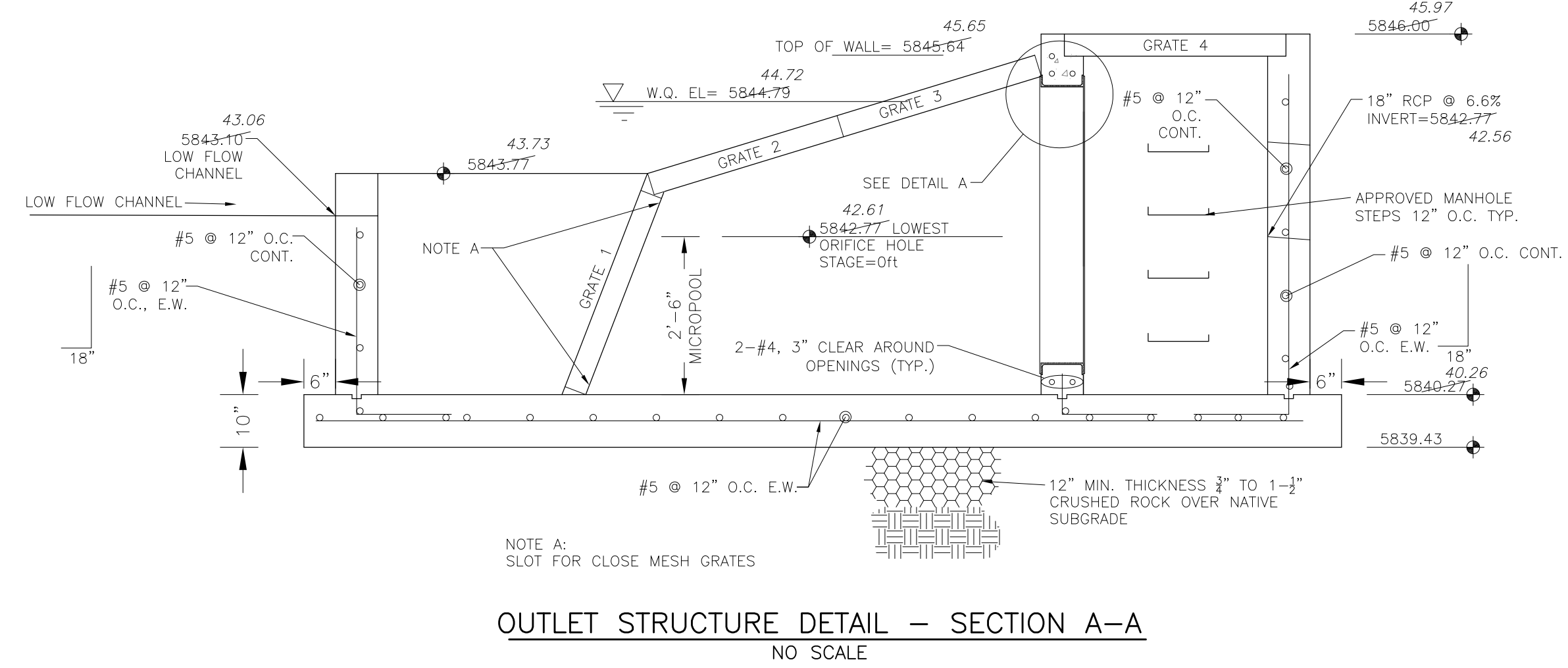
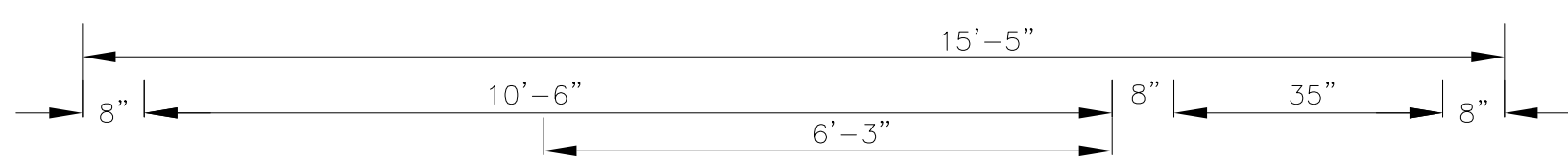
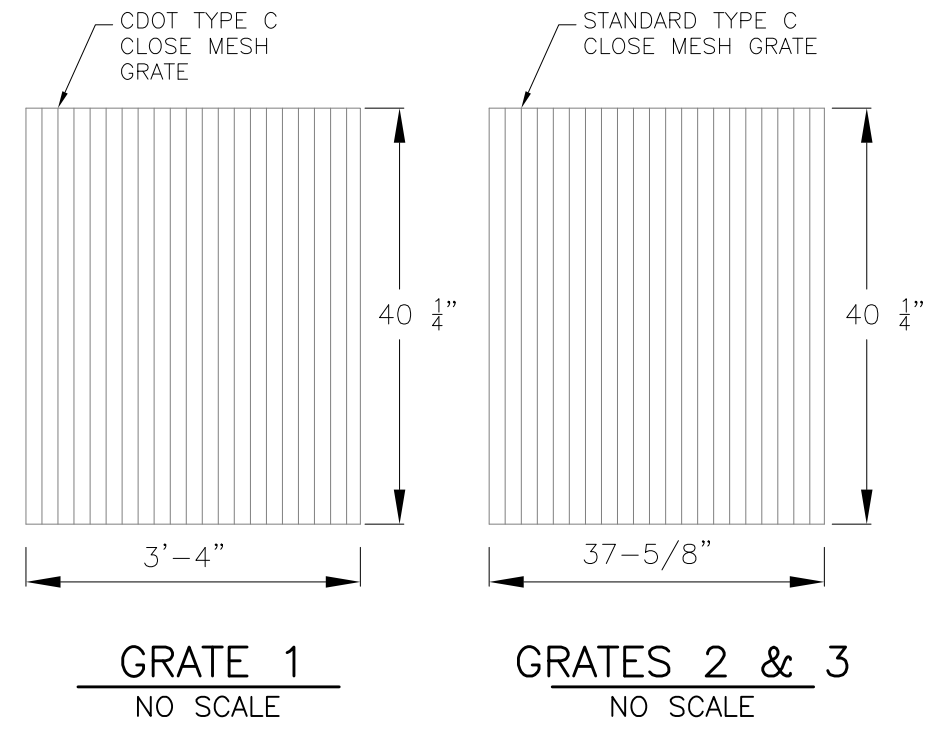
PROJECT NO. 100.064

SHEET NUMBER C9.3

TOTAL SHEETS: 23



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

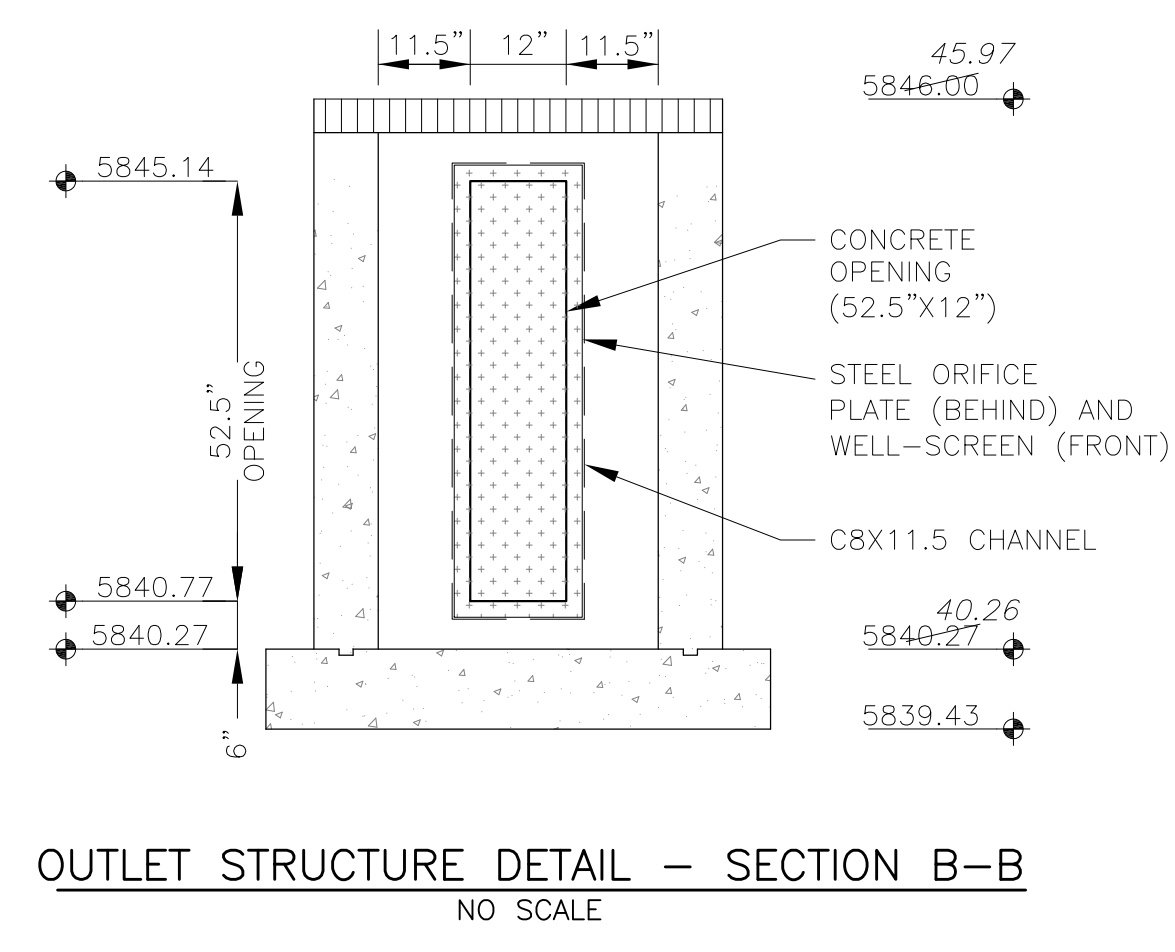


OUTLET STRUCTURE, FOREBAY, AND DRAIN CHANNEL NOTES:

- 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.
- | BAR SIZE | #4 | #5 | #6 |
|--------------------|-------|-------|-------|
| MIN. SPLICE LENGTH | 1'-3" | 1'-7" | 2'-0" |
- 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 POND DETAILS FOR PRESEDIMENTATION/FOREBAY DESIGN.
 - ENGINEER SHALL BE NOTIFIED PRIOR TO BEGINNING CONSTRUCTION OF OUTLET STRUCTURE TO SCHEDULE OBSERVATION VISITS FOR STRUCTURES.

- WQCV WELL-SCREEN NOTES:
- Well-Screen shall be stainless steel and attached by stainless steel bolts along edge of the mounting frame.
 - WQCV Well Screen
 - Type of Screen: Stainless steel #93 Vee Wire (Johnson Vee Wire (tm) Stainless Steel Screen or equivalent with 60% open area)
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AS-BUILT
DATE: 04/10/2023



CORE ENGINEERING GROUP
15004 1ST AVENUE S.
DENVER, CO 80202
PH: 719.570.1100
CONTACT: RICHARD L. SCHINDLER, P.E.
EMAIL: Rich@cog1.com

DATE: NOV 30, 2021
DESCRIPTION: MODIFY CIRCULAR HOLES IN ORIFICE PLATE
PREPARED FOR: LORSON, LLC
212 N. WAHSATCH AVE, SUITE 301
COLORADO SPRINGS, COLORADO 80903
CONTACT: JEFF MARK

PROJECT: THE RIDGE AT LORSON RANCH
FONTAINE BLVD. - WALLEYE DR
COLORADO SPRINGS, COLORADO

DRAWN: RLS
DESIGNED: RLS
CHECKED: RLS

POND F
WQ POND
OUTLET STRUCTURE DETAILS



DATE: NOV 5, 2021
PROJECT NO: 100.064
SHEET NUMBER: C9.6
TOTAL SHEETS: 23