



**Civil Engineer**  
**Stormwater Best Management Practice (permanent) Certification Letter**

December 18, 2020

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

Attn.: Brad Walters, Inspections Supervisor

RE: **Redtail Ranch Filing No. 1**

The permanent stormwater Best Management Practices (BMPs) for **Redtail Ranch Filing No. 1** consists of a two individual Private Full Spectrum Extended Detention Basins. These facilities are described by the following:

- Pond 1 within a Stormwater Quality Easement on Lot 5
- Pond 2 within a Stormwater Quality Easement on Lot 7

Based upon this information and information gathered during periodic site visits to the project during significant/key phases of the stormwater BMP installation, along with the attached as-built plans, Classic Consulting Engineers & Surveyors, LLC is of the opinion that the stormwater BMPs have been constructed in general compliance with the approved Construction Plans, and Specifications as filed with El Paso County.

**Statement Of Engineer In Responsible Charge:**

I, Marc A. Whorton, a registered Professional Engineer in the State of Colorado, in accordance with Sections 5.2 and 5.3 of the Bylaws and Rules of the State Board of Registration for Professional Engineers and Professional Land Surveyors, do hereby certify that I or a person under my responsible charge periodically observed the construction of the above mentioned project. Based on the on-site

field observations and review of pertinent as-built documentation, it is my professional opinion that the required permanent BMPs have been installed and are in general compliance with the approved Construction Plans, and Specifications as filed with El Paso County. For BMPs with a Water Quality Capture Volume (WQCV), I have attached the post-construction As-Built drawings. The As-Built drawings accurately depict the final installation of the stormwater BMPs.



Marc A. Whorton, P.E.  
Colorado No. 37155

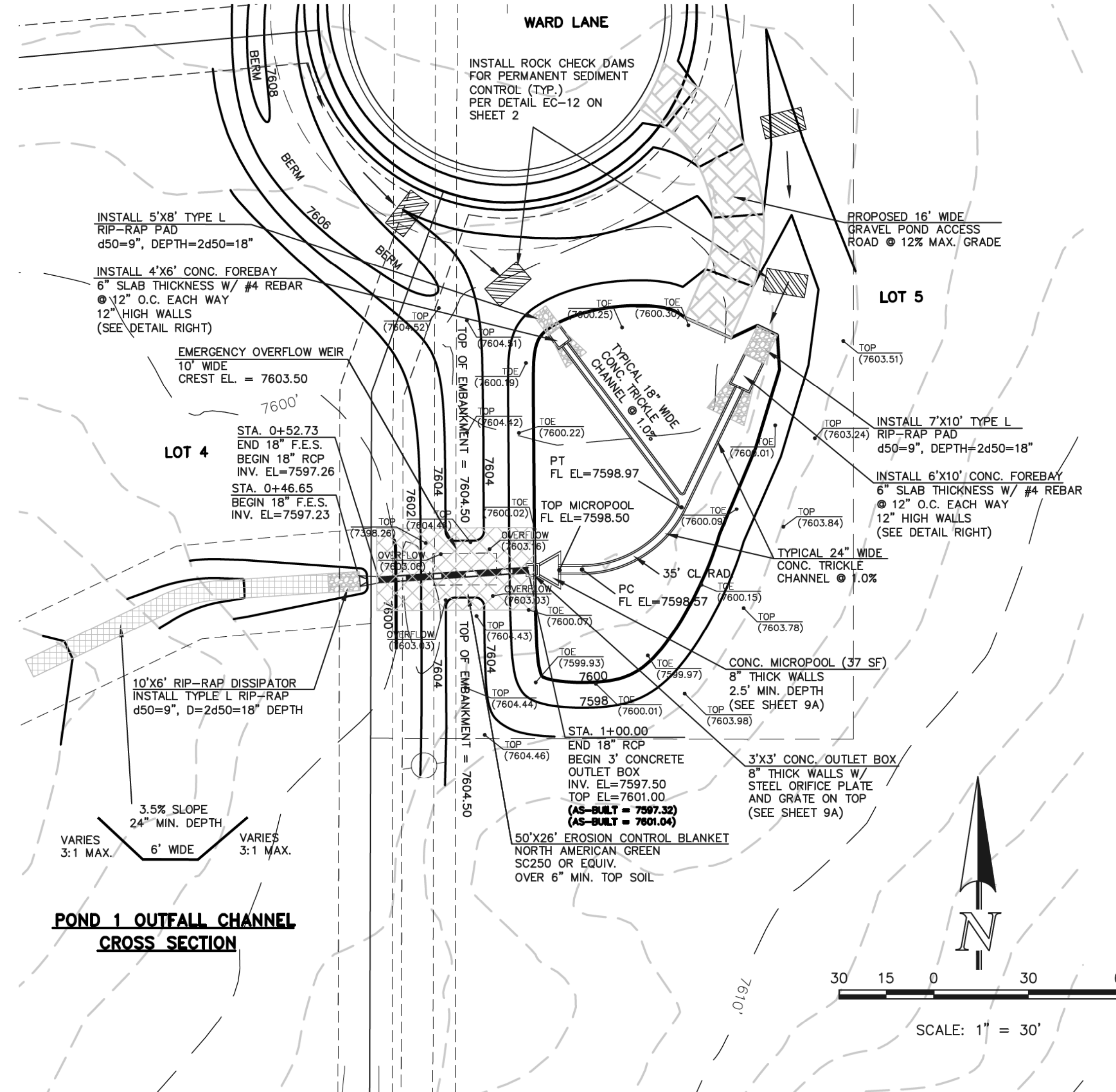


Seal & Signature of P.E. Goes Here

Revise Cert Letters per ECM Chapter 5.10.6.B:

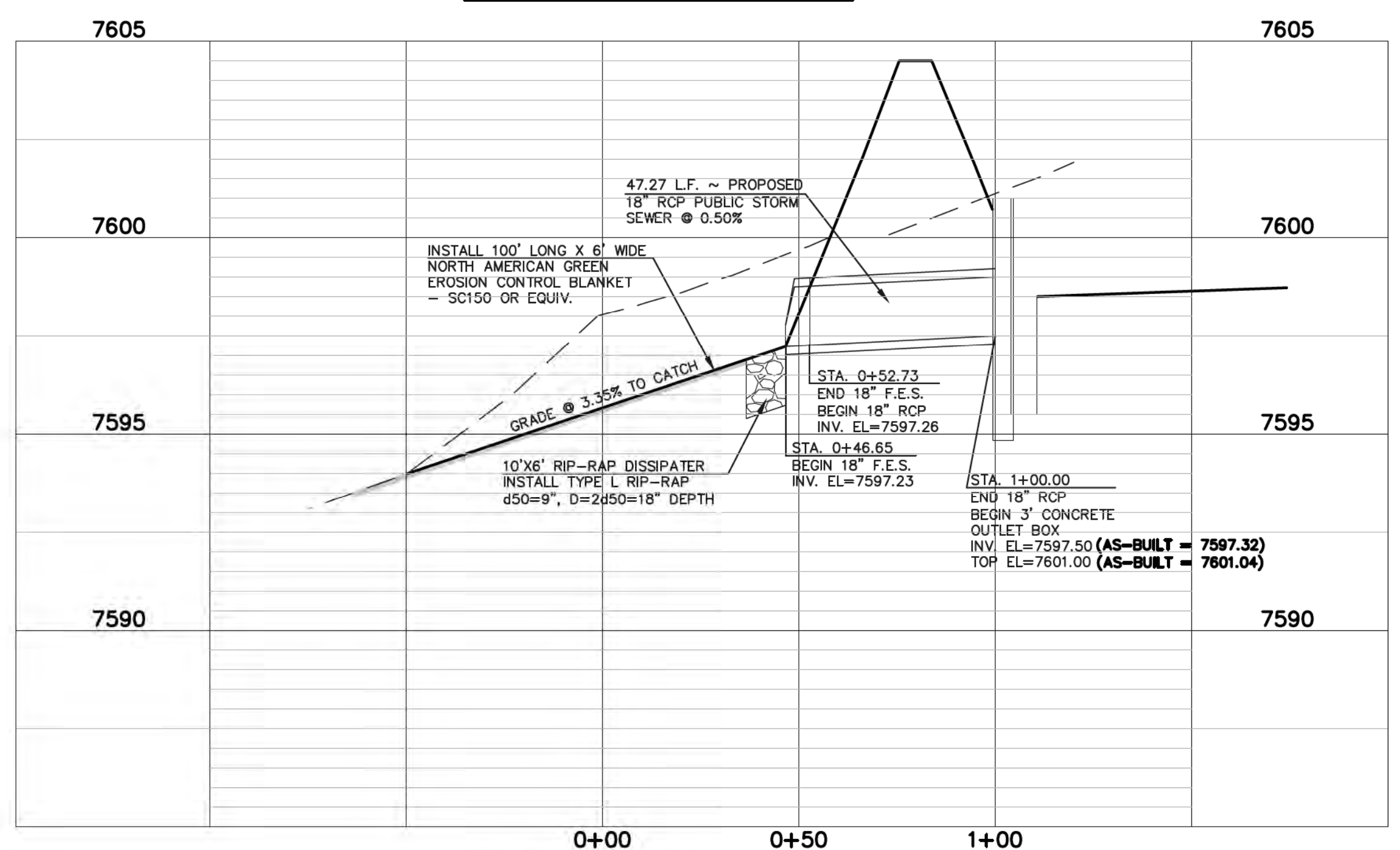
*Engineering Record Drawings shall be accompanied by a certification letter from the Engineer of Record which shall state that the site and adjacent properties (as affected by work performed under the County permit) are stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and that the improvements (public improvements, common development improvements, site grading and paving) meet or exceed the minimum design requirements.*

*For sites including detention and/or water quality facilities, the certification letter shall include a statement that the facilities provide the required storage volume and will meet the required release rates, as documented by an attached UDFCD design form submitted with the original application, the stage areas, elevations and outlet dimensions. If the detention/WQCV facility cannot be modeled with UDFCD spreadsheets due to a large contributing area, other verified stage/storage/discharge tables for the applicable design storms shall be provided with the certification letter.*



**POND 1 OUTFALL CHANNEL CROSS SECTION**

**EXTENDED DETENTION BASIN 1**

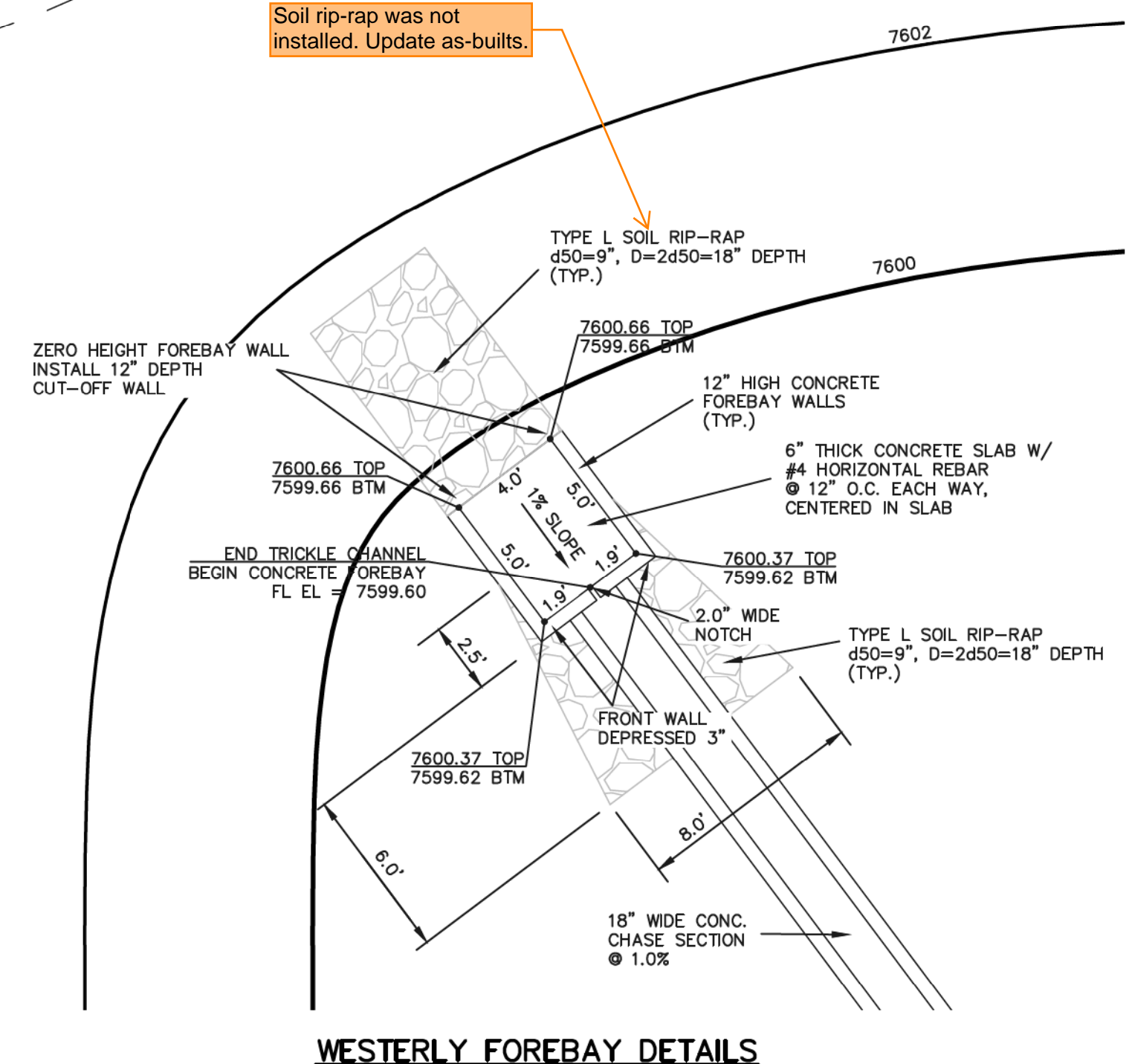


**18" RCP POND OUTLET PROFILE**

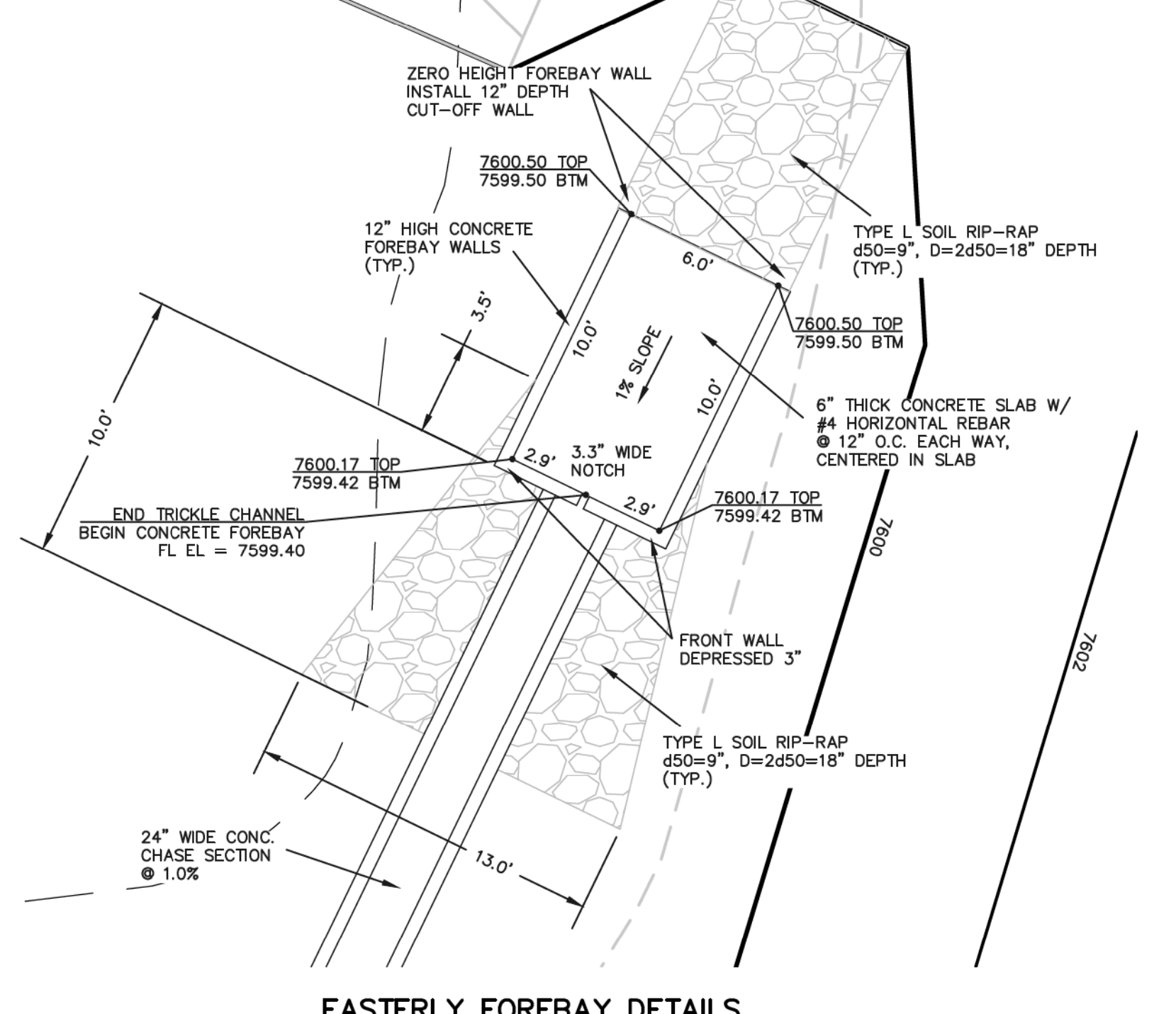
SCALE: HORIZONTAL 1"=30'  
VERTICAL 1"=3'

From field observations, Pond 1 does not appear to be draining within in the time that it was designed to. It did not appear to be a maintenance issue like clogging or a install issue like undersized orifice.

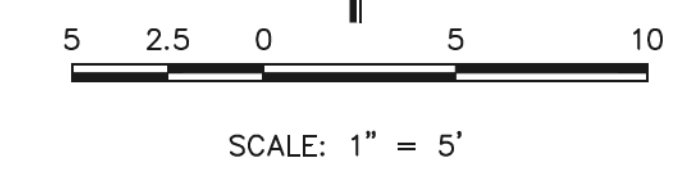
Please call Mikayla at 719-339-5053 to discuss more specifics if you have questions.



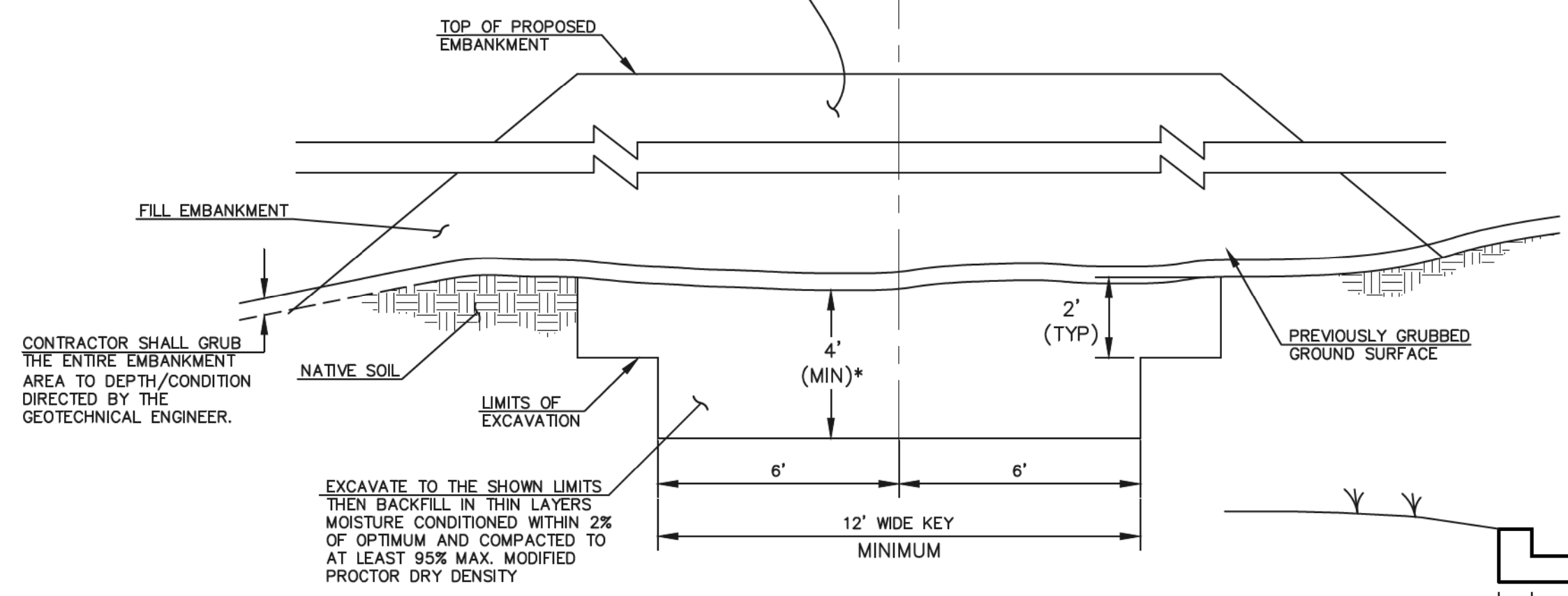
**WESTERLY FOREBAY DETAILS**



**EASTERLY FOREBAY DETAILS**



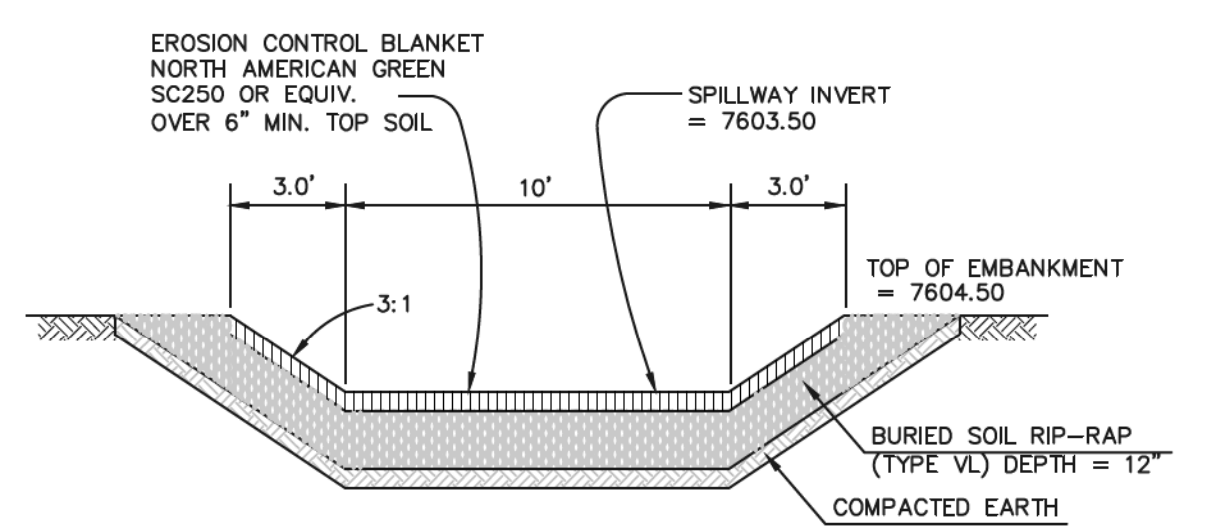
FILL/EMBANKMENT SHALL BE PLACED IN THIN LOOSE LIFTS, MOISTURE CONDITIONED TO WITHIN 2% OF OPTIMUM AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D1557) PLACEMENT AND COMPACTION SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEERING FIRM



**SECTION A TYPICAL EMBANKMENT WITH SOIL KEYWAY**

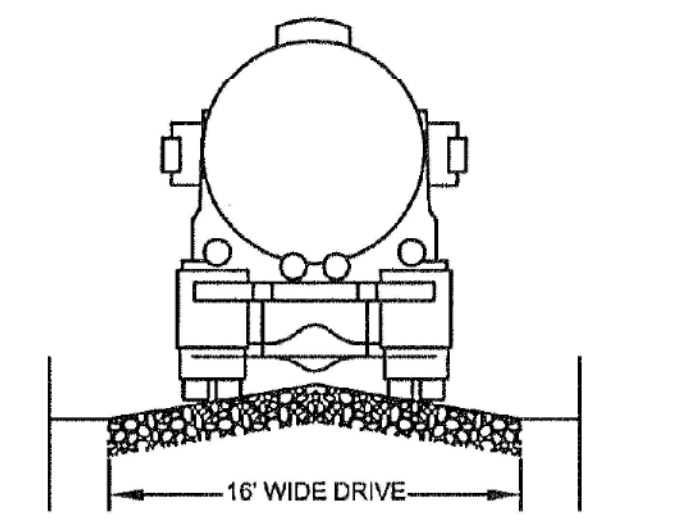
SCALE: N.T.S.

\* UPON GRUBBING EXISTING SOILS IN EMBANKMENT AREA, ENGINEER SHALL BE CONTACTED TO DETERMINE SOIL QUALITY. IF POOR PERMEABILITY IS FOUND (I.E. SANDY-SILT) ONLY TOP 2' X 14' PORTION OF EMBANKMENT KEY IS REQUIRED FOR CONSTRUCTION.



**EMERGENCY SPILLWAY CROSS SECTION**

SCALE: N.T.S.



**TYPICAL ACCESS ROAD CROSS SECTION**

SCALE: N.T.S.

**AS-BUILT** AS-BUILTS TAKEN 12/2/20

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS  
**811**  
UTILITY NOTIFICATION CENTER OF COLORADO  
IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	11-14-18
2	REVISED PER COUNTY COMMENTS	1-14-19
3	REVISED TO EDB DESIGN	4-17-20

REVIEW: PREPARED UNDER SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155

DATE: 12/18/2020

**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903

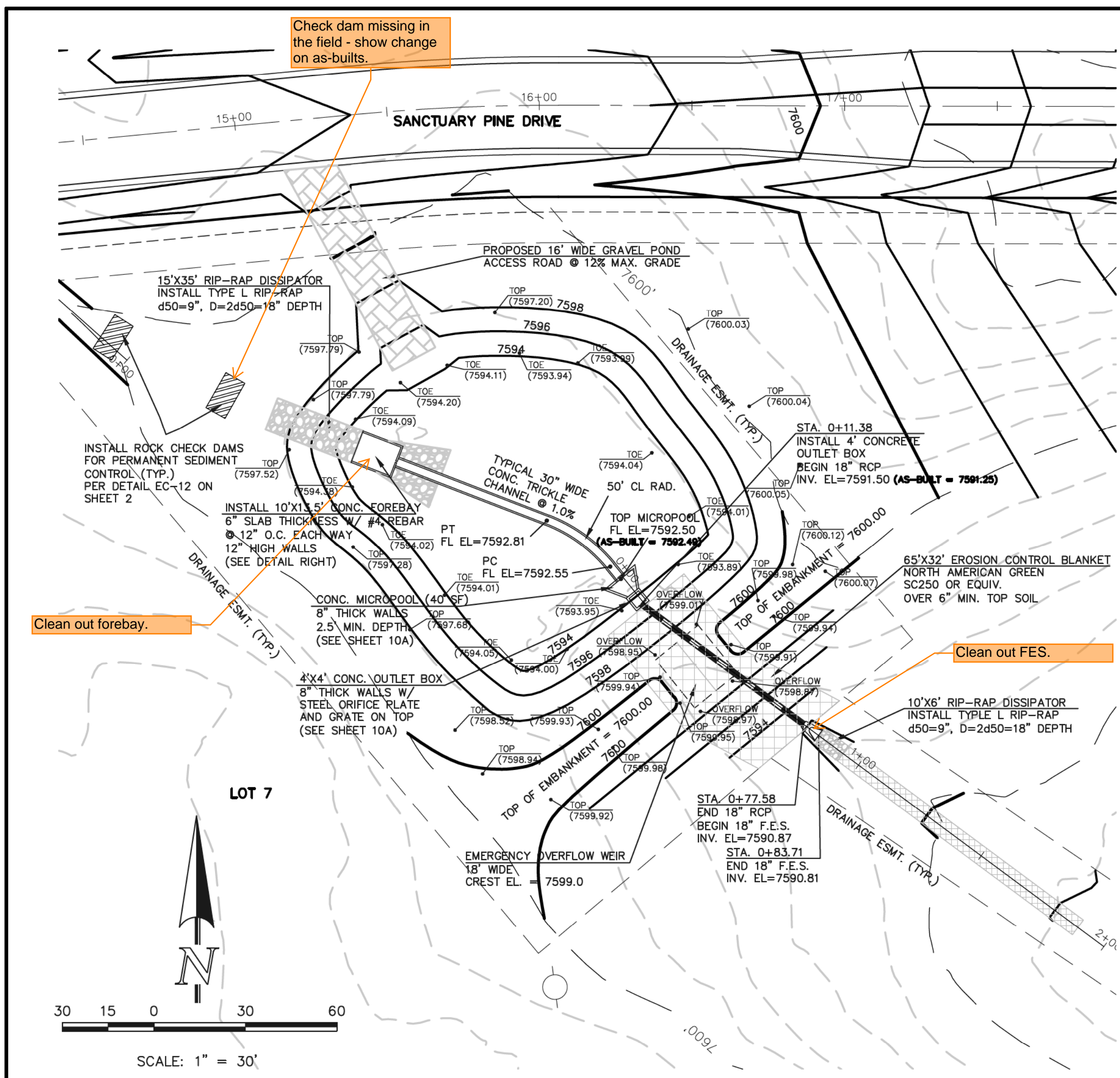
(719) 785-0790  
(719) 785-0799 (Fax)

RETAIL RANCH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
EXTENDED DETENTION BASIN NO. 1  
POND PLAN AND DETAILS

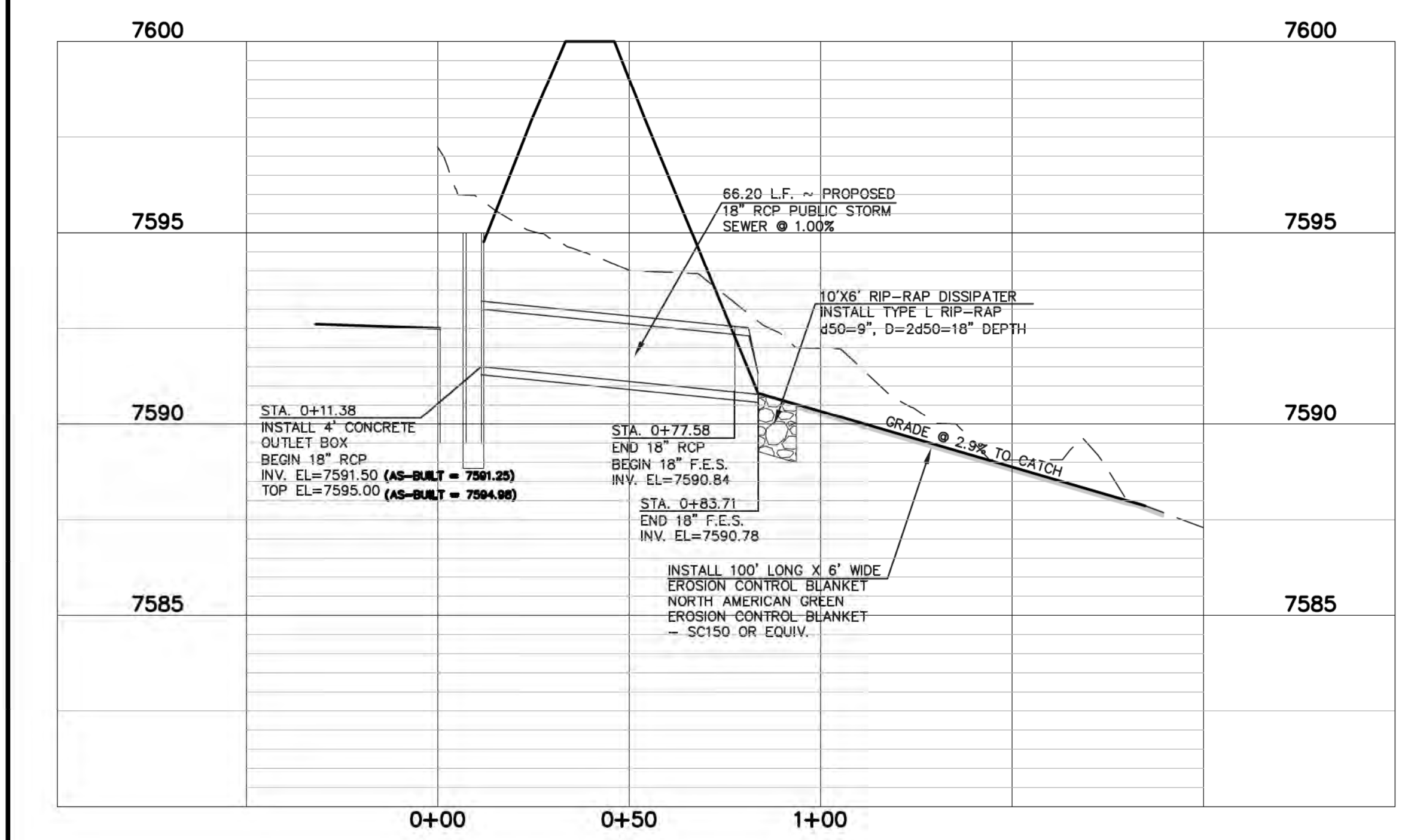
DESIGNED BY	MAW	SCALE	DATE	07-03-18
DRAWN BY	MAW	(H) 1" = 30'	SHEET	9 OF 10
CHECKED BY	(V) 1" = N/A	JOB NO.	2525.00	



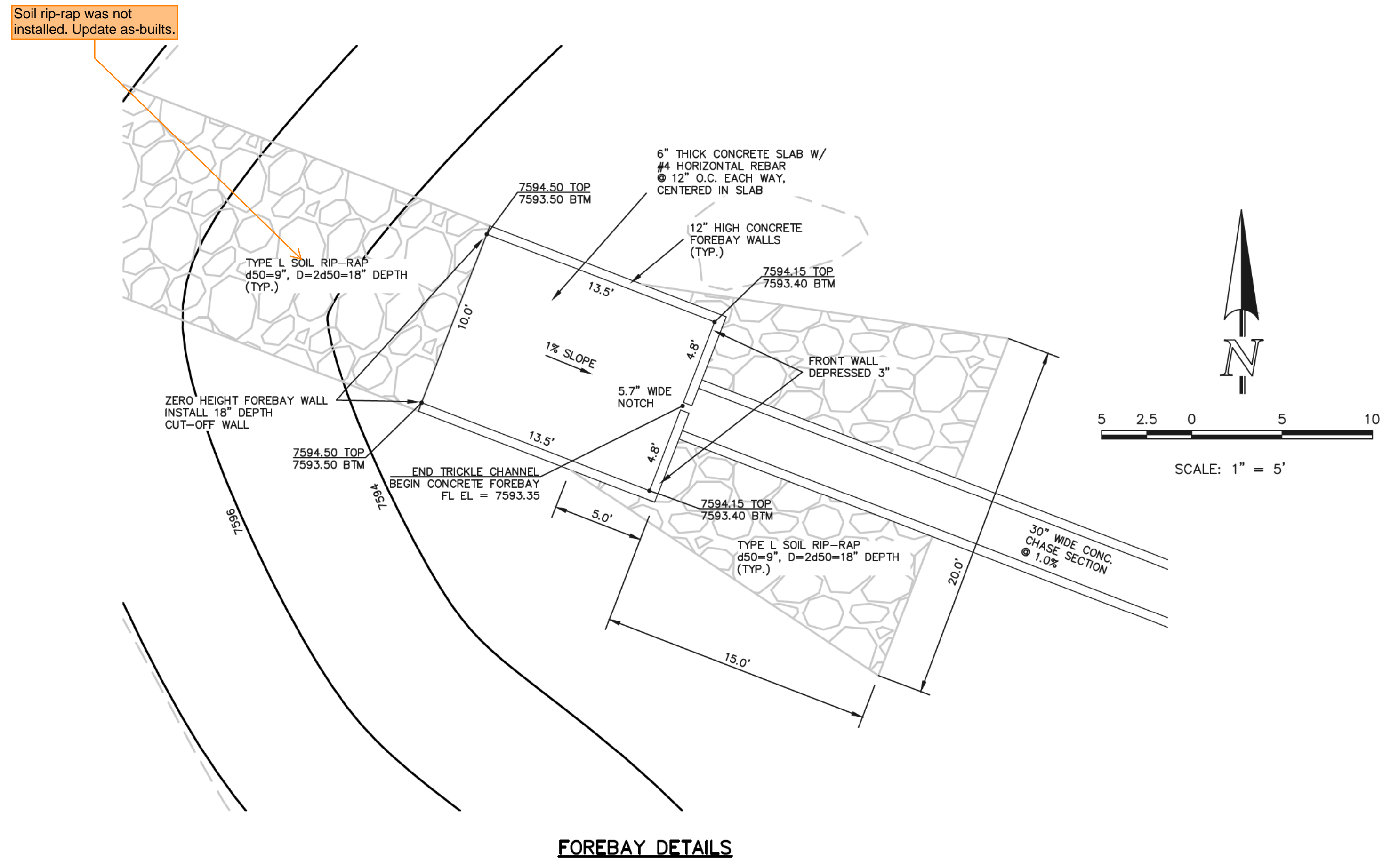




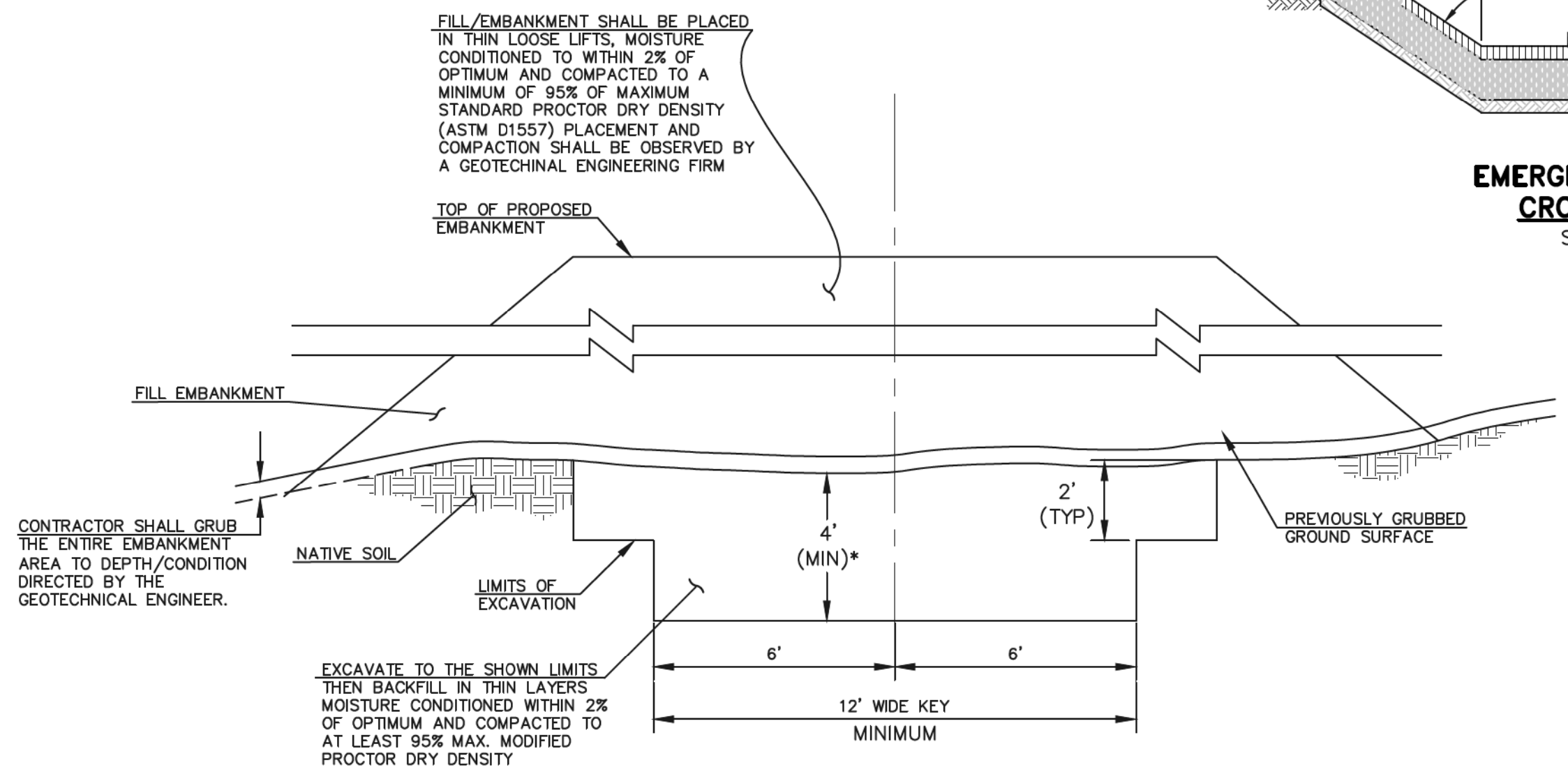
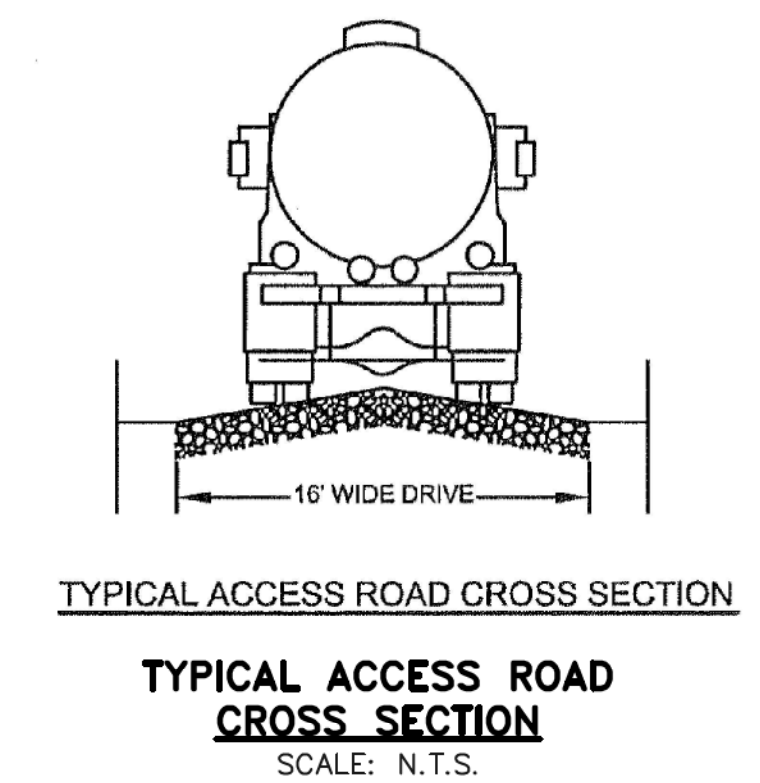
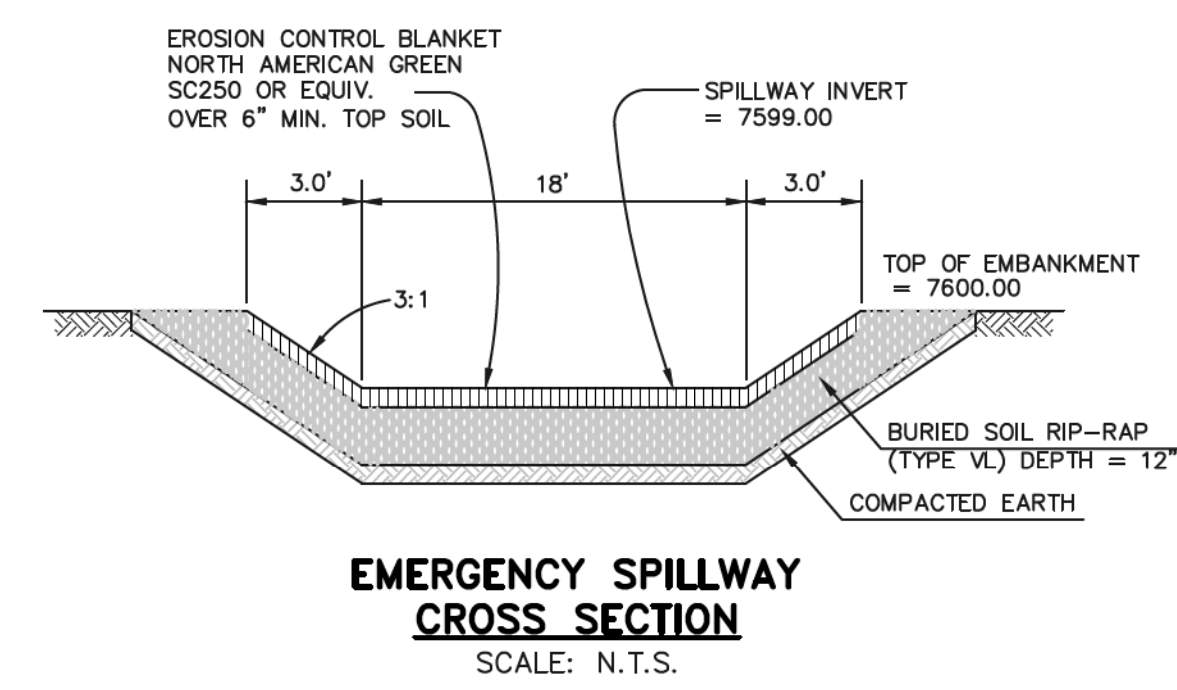
EXTENDED DETENTION BASIN 2



18" RCP POND OUTLET PROFILE



FOREBAY DETAILS



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EMERGENCY SPILLWAY CROSS SECTION

TYPICAL ACCESS ROAD CROSS SECTION

TRICKLE CHANNEL TYPICAL SECTION

(AS-BUILT = 7601.04)  
TOP (7604.46)

**AS-BUILT**

AS-BUILTS TAKEN 12/2/20

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NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	11-14-18
2	REVISED PER COUNTY COMMENTS	1-14-19
3	REVISED TO EDB DESIGN	4-15-20

REVIEW:

PREPARED UNDER DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORWON, COLORADO P.E. #37155

DATE: 12/18/2020

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CONSULTING ENGINEERS & SURVEYORS

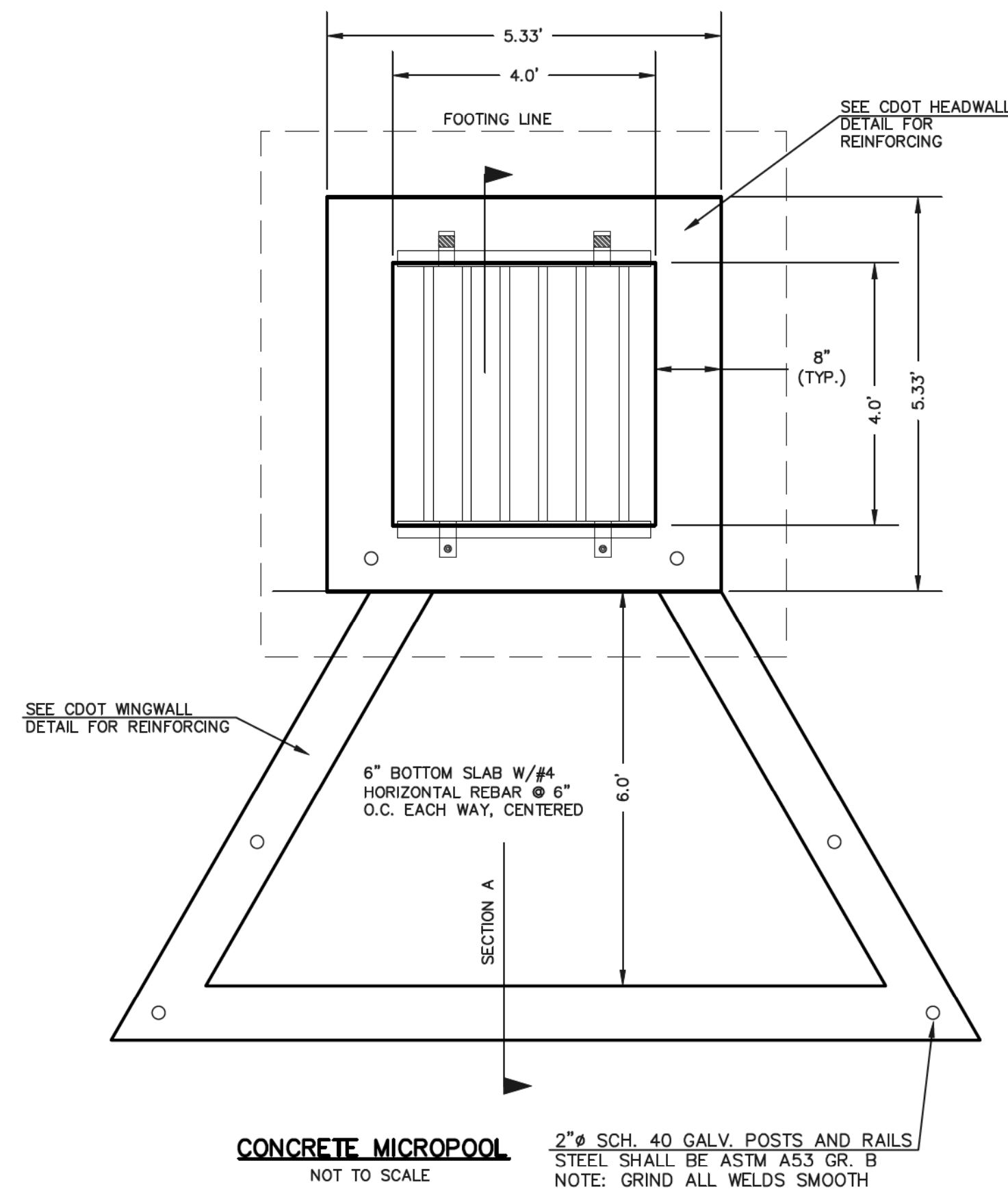
619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903

(719) 785-0790  
(719) 785-0799 (Fax)

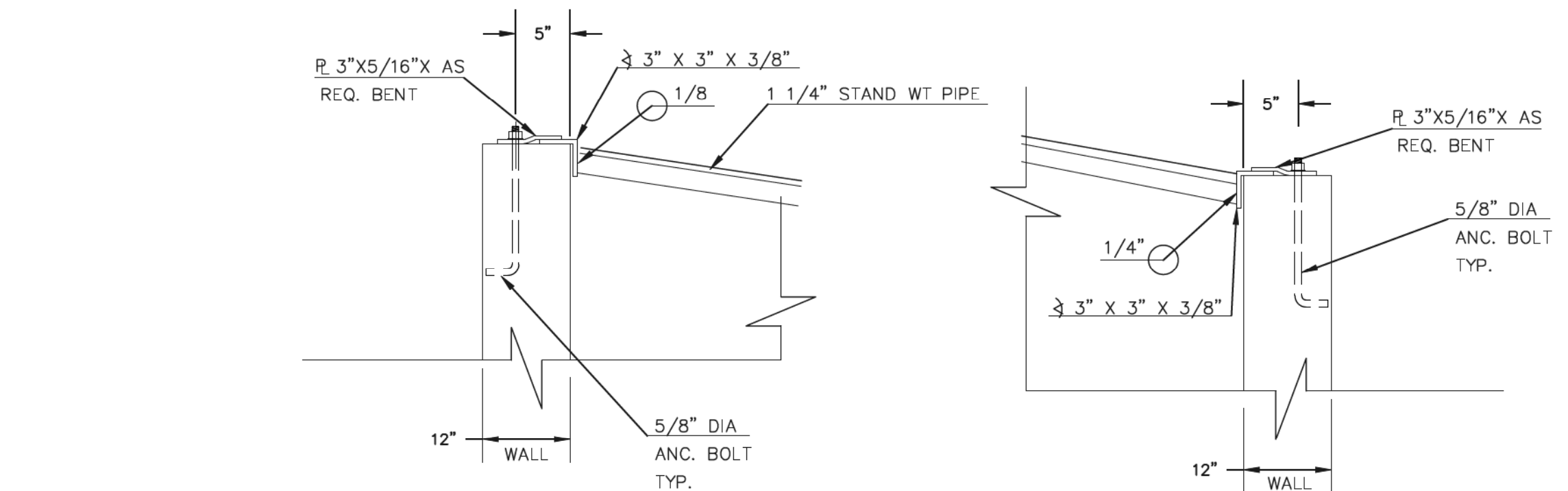
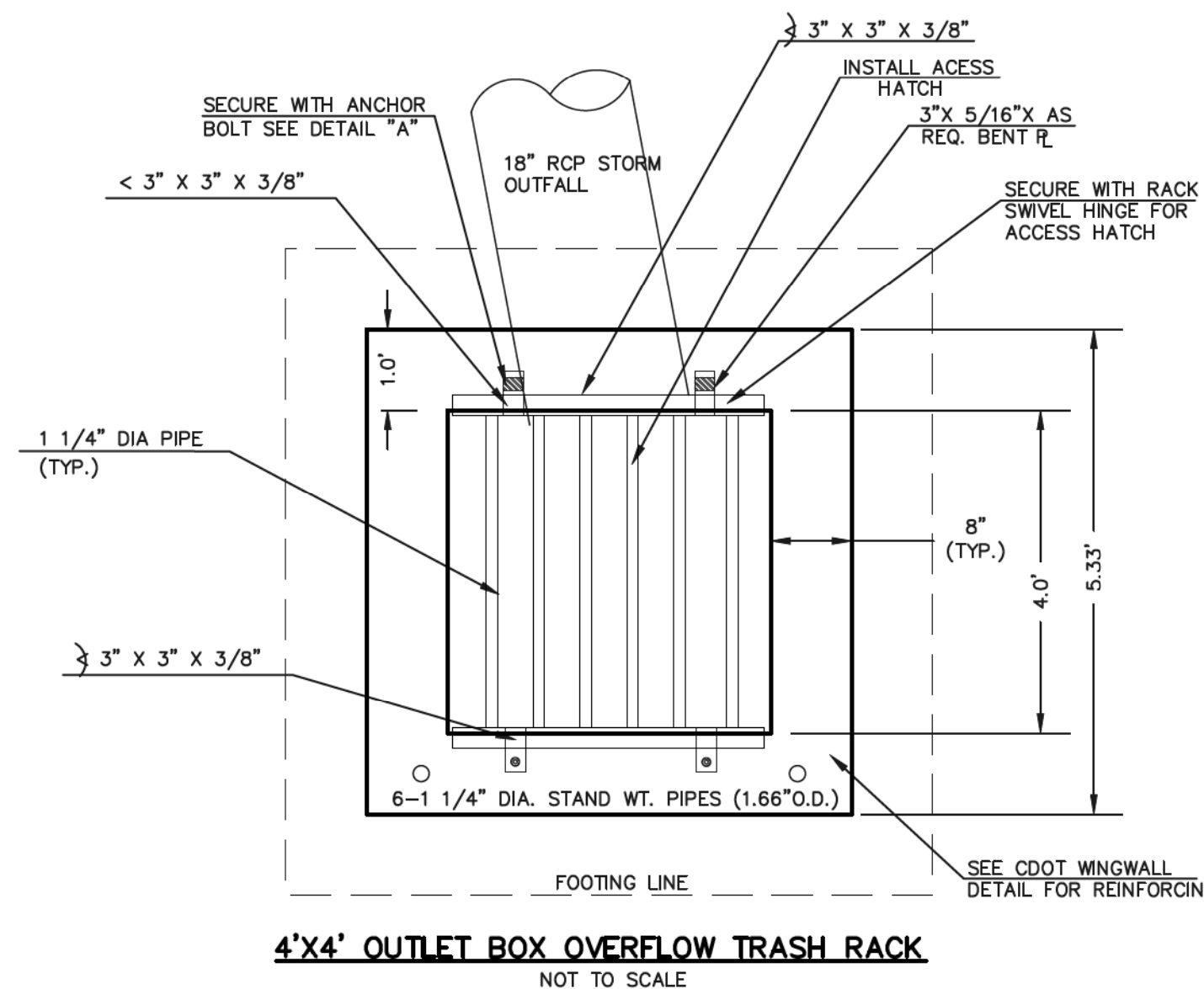
RETAIL RANCH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
EXTENDED DETENTION BASIN 2  
POND PLAN AND DETAILS

DESIGNED BY	MAW	SCALE	DATE	07-03-18
DRAWN BY	MAW	(H) 1" = 30'	SHEET	10 OF 10
CHECKED BY	(V) 1" = N/A	JOB NO.	2525.00	





- NOTES:
1. WELD PLATES MAY BE SUBSTITUTED FOR PIPE EMBEDMENT. DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH AASHTO STANDARDS. HANDRAIL DESIGN SHALL BE COMPATIBLE WITH THE DESIGN OF THE WINGWALLS AND HEADWALLS.
  2. RAILING POSTS SHALL BE SET TO NORMAL TO GRADE. RAILS SHALL RUN PARALLEL TO THE SLOPES OF TOPS OF THE WALLS.
  3. ALL RAILS SHALL HAVE EXPANSION JOINTS SPACED AT 40'-0" MAX. JOINT ENDS SHALL BE FREE OF ANY SHARP EDGES OR CORNERS.



(ALL MATERIALS PER EL PASO COUNTY SPECIFICATIONS)

ORIFICE PLATE NOTES:

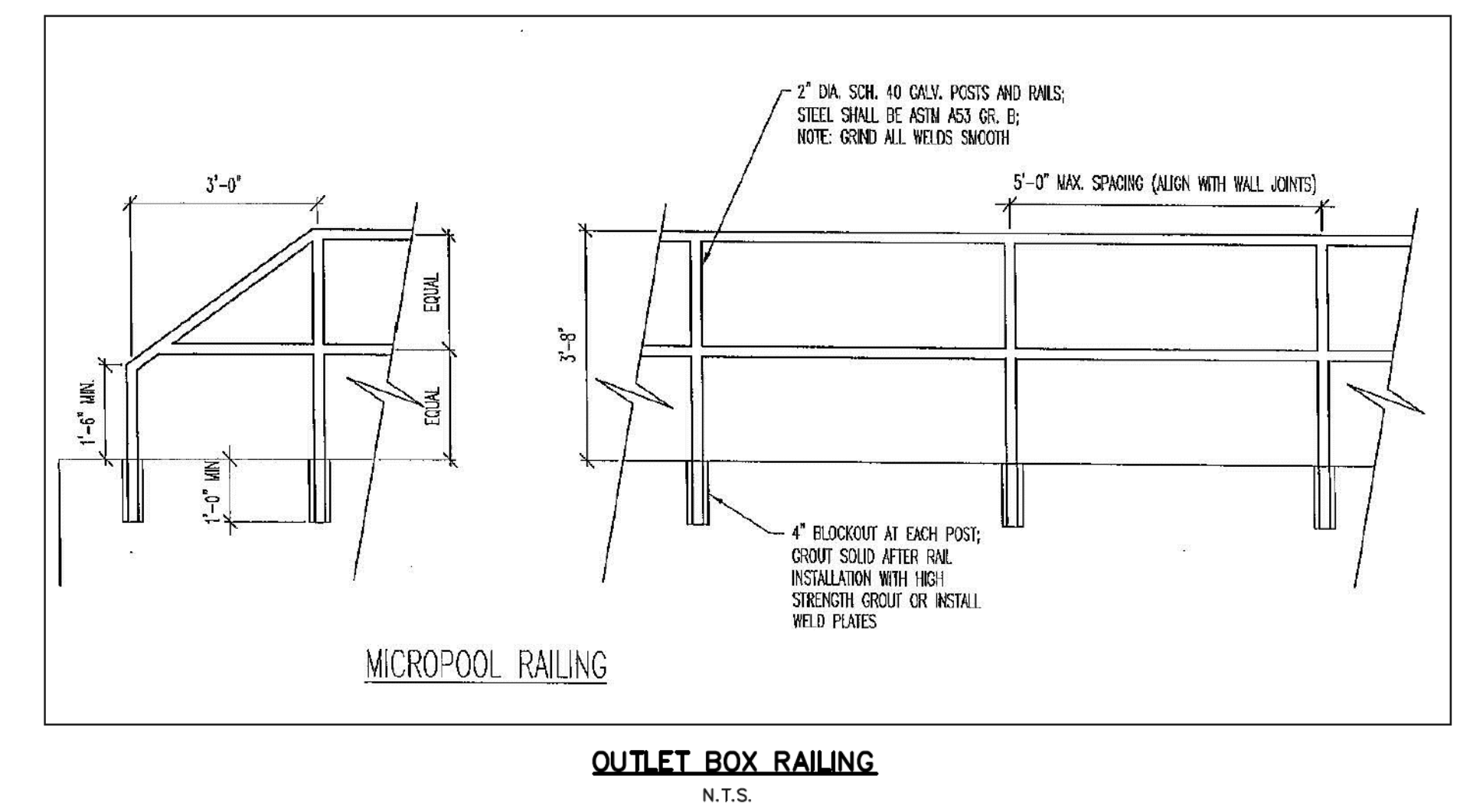
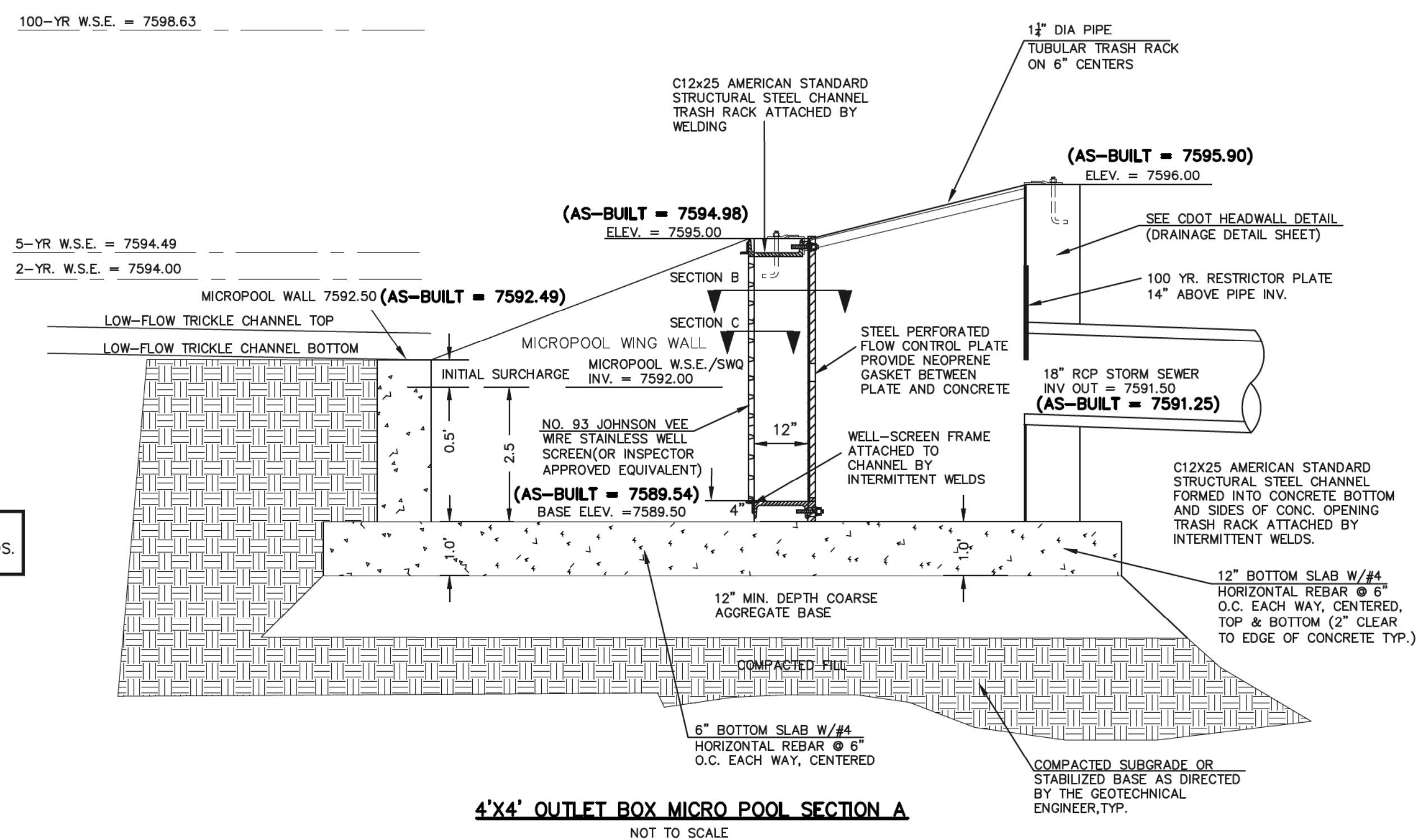
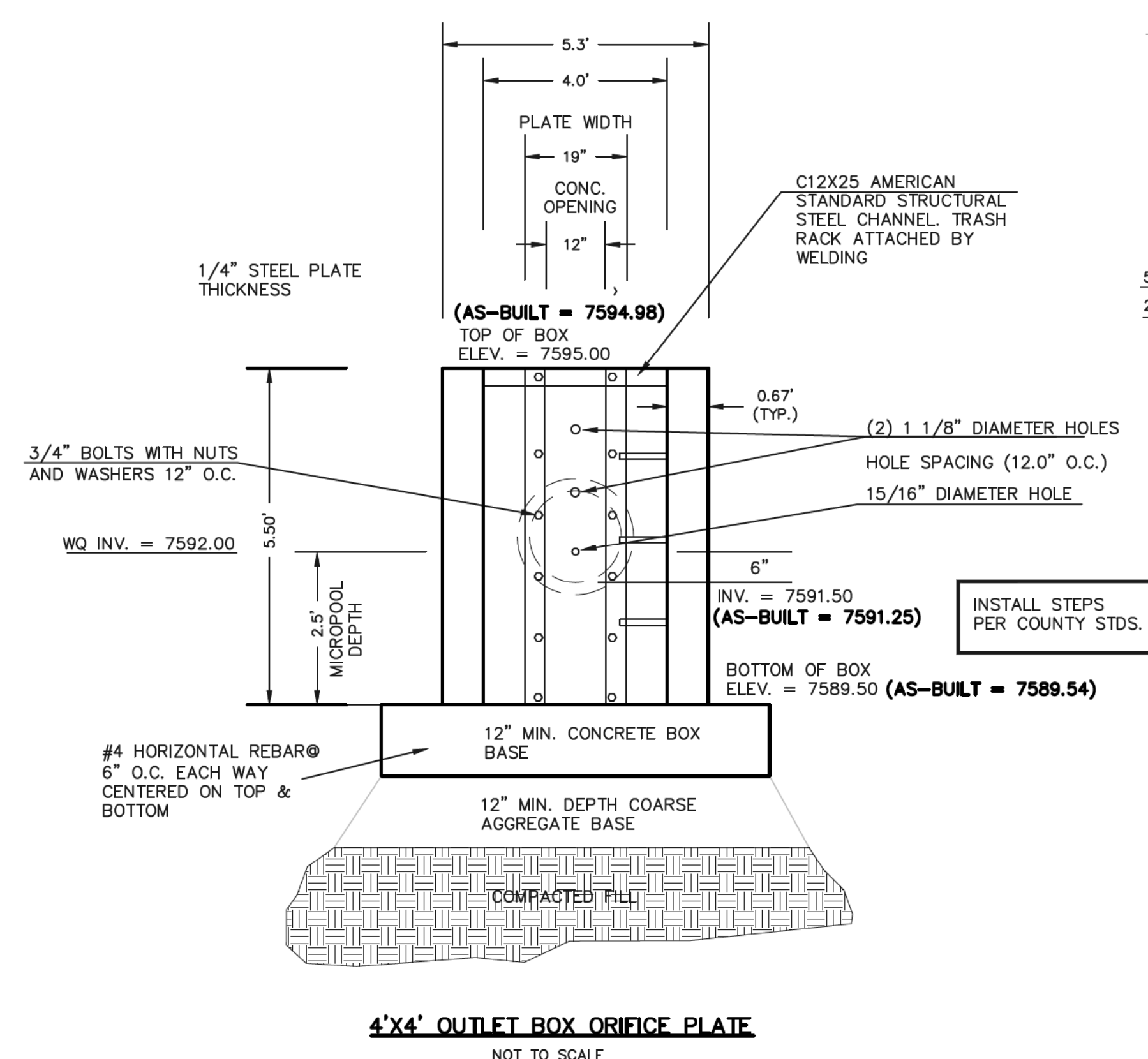
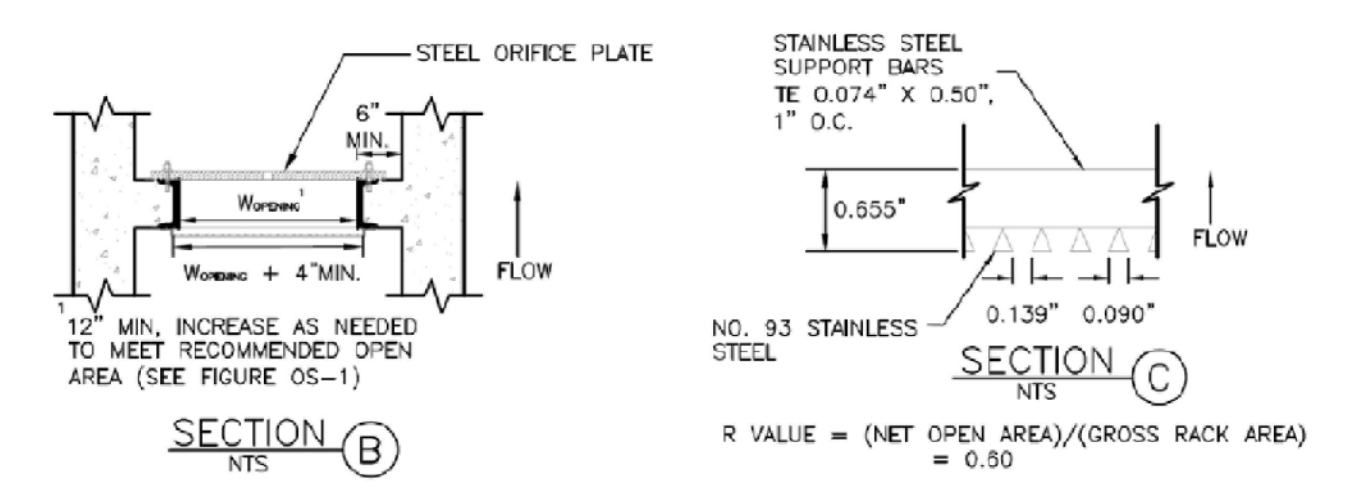
1. INSTALL HOLES AS SHOWN ON DETAIL TO LEFT.
2. PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.

EURV AND WQCV TRASH RACKS:

3. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
4. BAR GRATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
5. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF RACK.

OVERFLOW TRASH RACKS:

1. ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. TRASH RACKS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. TRASH RACKS SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF THE TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.



(AS-BUILT = 7601.04) **AS-BUILT** AS-BUILTS TAKEN 12/2/20

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			MARC A. WILSON/COLORADO P.E. #37155

DATE: 12/18/2020

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(719) 785-0799 (Fax)

REDTAIL RANCH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
EXTENDED DETENTION FACILITY 2  
OUTLET BOX DETAILS

DESIGNED BY	MAW	SCALE	DATE	4-15-20
DRAWN BY	MAW	(H) 1" = N/A	SHEET	10A OF 10
CHECKED BY		(V) 1" = N/A	JOB NO.	2525.00



N:\252500\DRAWINGS\CONSTRUCTION\252500-FOUND\_2-10A\_EOB\_AS-BUILT.dwg, 12/18/2020 11:48:51 AM, 1:1