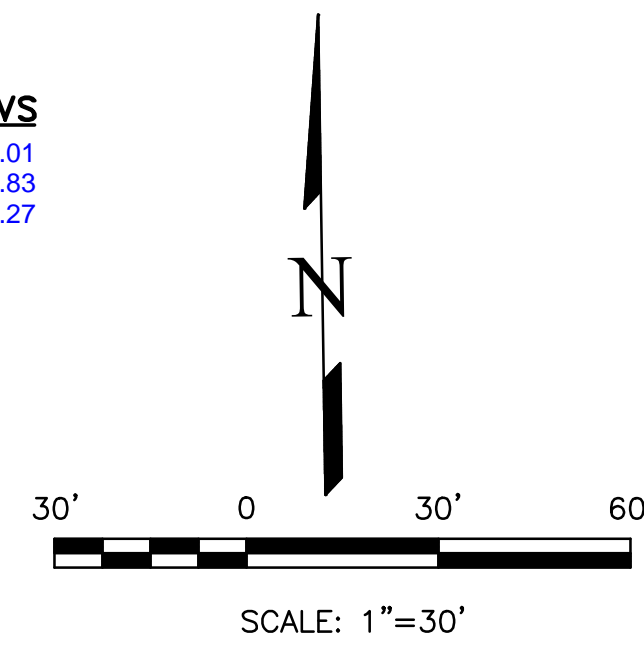


LEGEND

- BASIN DESIGNATION
- AREA IN BASIN (AC)
- DESIGN POINT
- BASIN BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 10' CONTOUR
- GROUND SURFACE FLOW DIRECTION
- ROAD AND DITCH FLOW DIRECTION
- CHAIN-LINK FENCE

POND WATER LEVEL ELEVATIONS

WQCV: 6483.95 6484.01
 EURV: 6483.70 6485.83
 100-YR: 6486.54 6486.27



ELECTRONIC STORAGE GRADING AND EROSION CONTROL PLAN GRADING DETAILS SHEET

NOVEMBER 2021

EXTENDED DETENTION BASIN AS-BUILT
 DANE FRANK, TERRA NOVA ENGINEERING, 2024/10/30

Include As-built condition stamp and EOR signature on each sheet. Per ECM 5.10.6 Engineering Record Drawings: Each sheet of the record drawings shall be designated as "Engineering Record Drawings" and signed and dated by the engineer of record.
 Even if everything was built exactly per plan, we need an electronic PDF of the original drawings to be signed, dated, and stamped with "As-Built" on each sheet.

NOTES

- ALL HDPE STORM PIPE IS TO BE SMOOTH INTERIOR PIPE.
- LARGE BLOCKS OF TEXT QUOTING STANDARD DRAWINGS OR DETAILS ARE INCLUDED AS A REQUIREMENT OF COUNTY REVIEWERS.

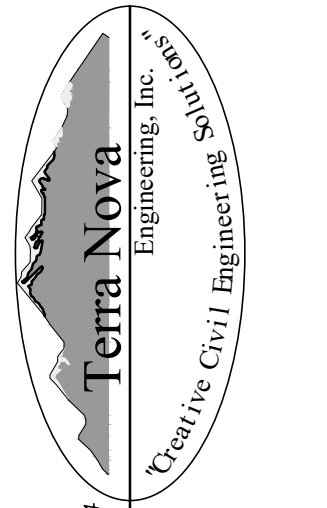
BENCHMARKS

#5 REBAR WITH ORANGE PLASTIC CAP MARKED "CSAM, LLC PLS 32439", FLUSH WITH GROUND - ELEV.=6513.85 (NAVD-1988) [NORTHWEST PROPERTY CORNER]

REVISIONS	NO.	DESCRIPTION	DATE
	1	ADD OFFSITE PIPE TO DISTURBED AREA 11/03/21	

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE REVIEWING AGENCIES, THE TERRA NOVA ENGINEERING, INC. APPROVES THEIR USE ONLY FOR THE PROJECT AND FOR THE COST OF THE WRITTEN AUTHORIZATION.

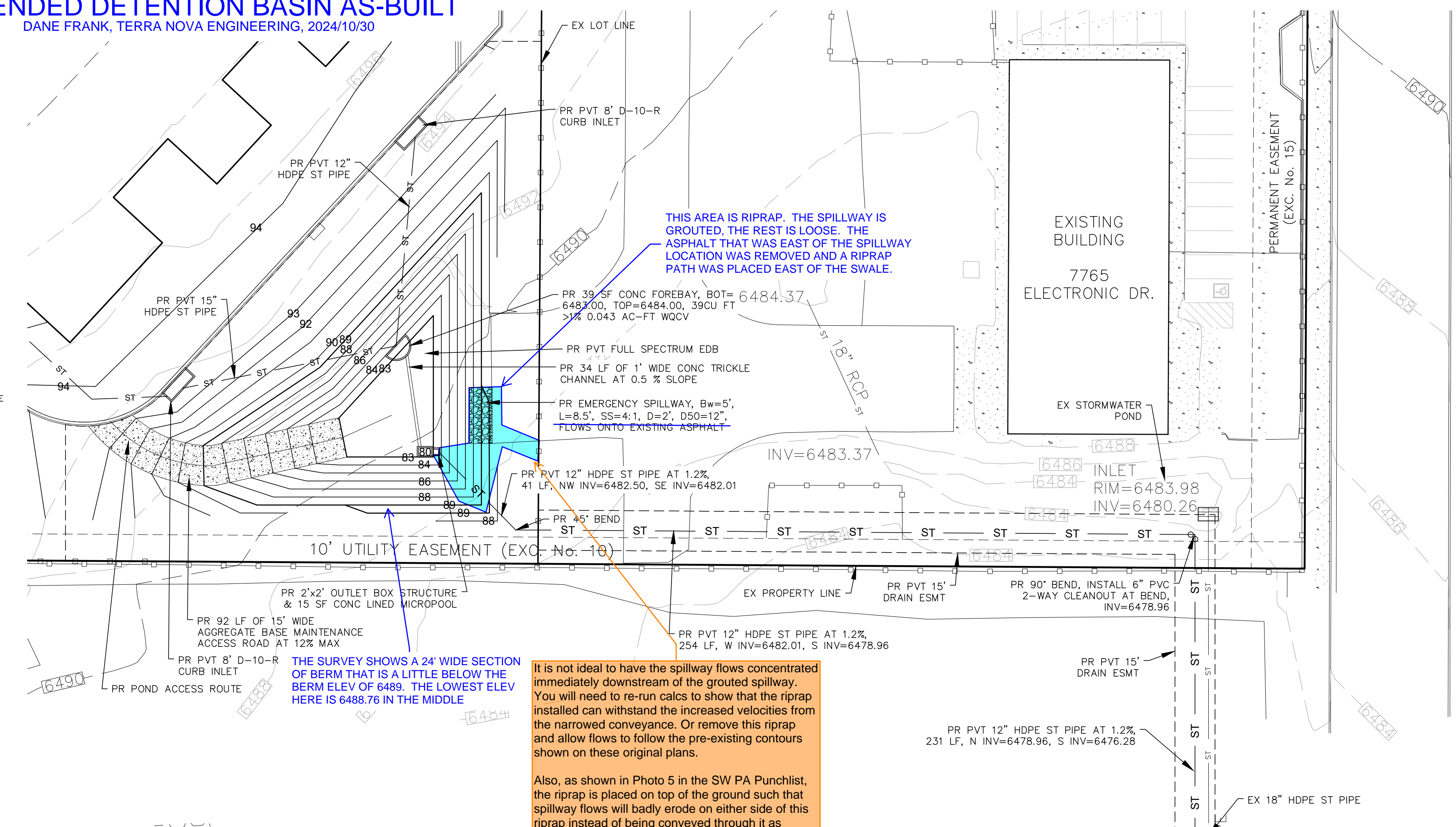
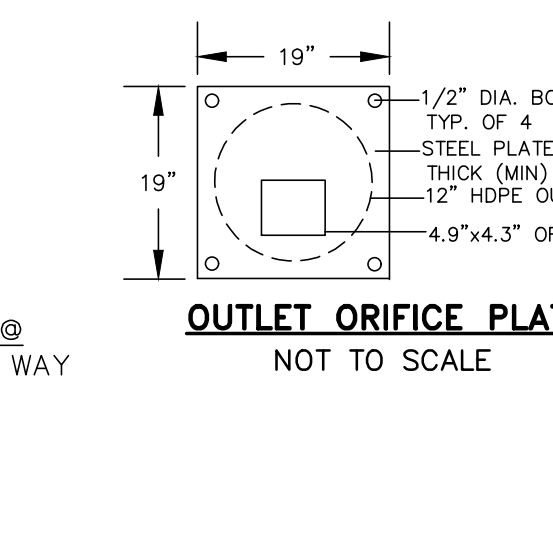
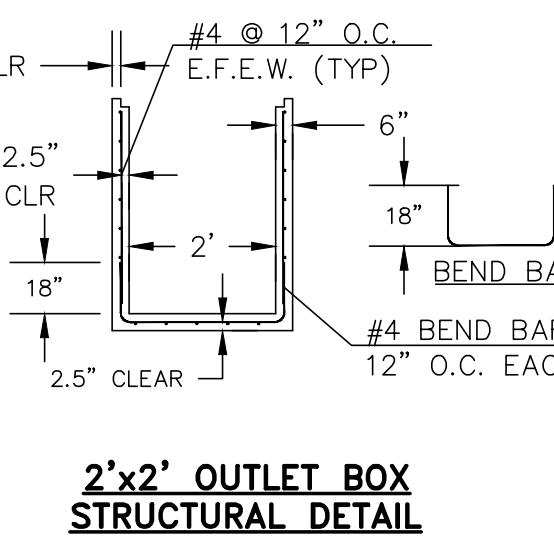
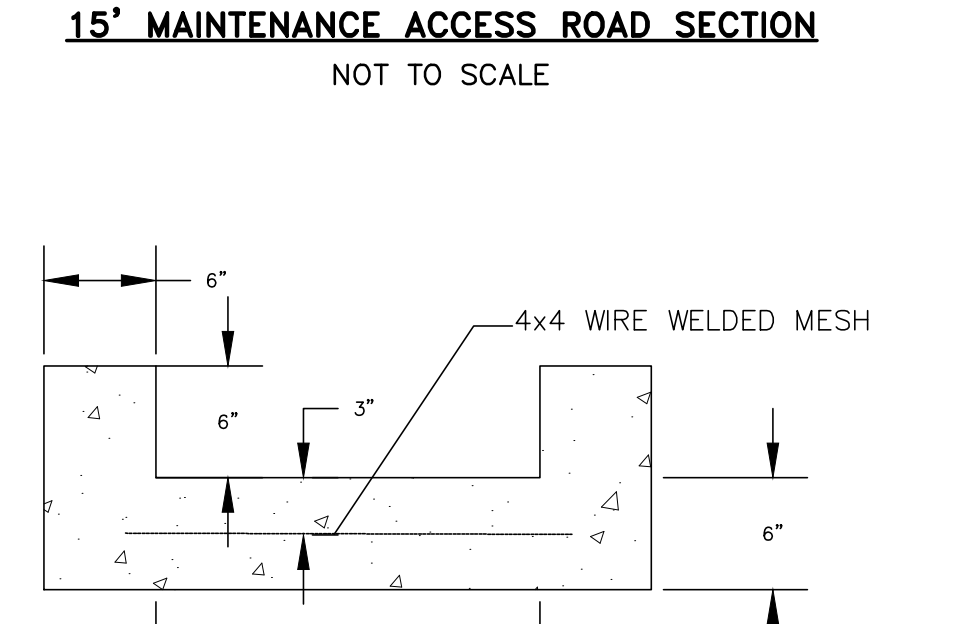
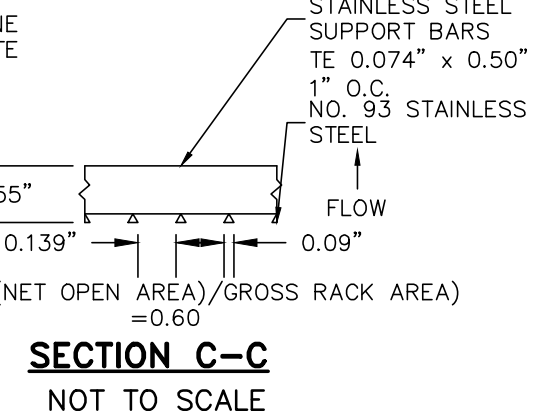
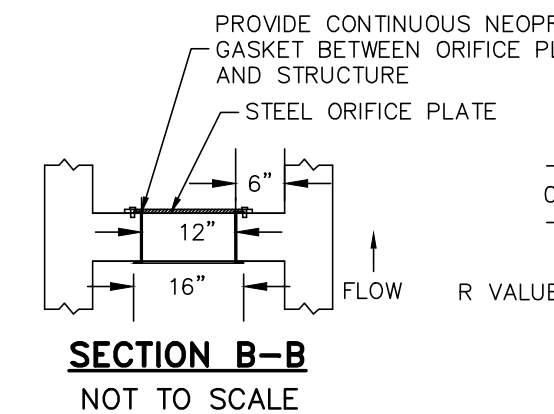
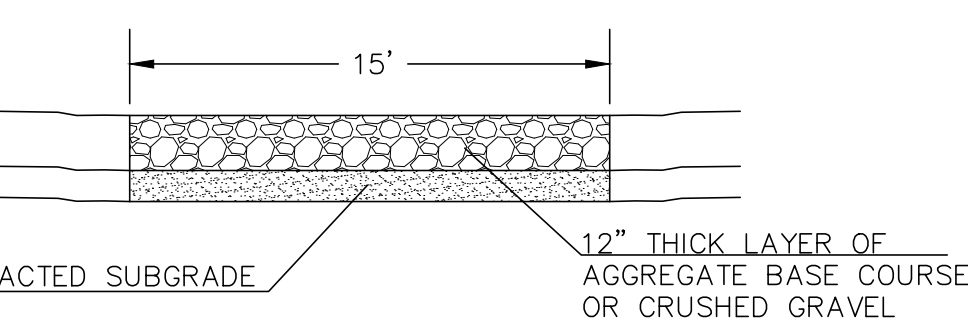
PREPARED BY:
 D. STEFANO-BUILDING &...
 ATTN: DAVID STEFANO
 520 W 21ST ST, G-2 #710
 NORFOLK, CA 94557
 757.333.3144



721 S. ZABO STREET
 COLORADO SPRINGS, CO 80904
 OFFICE: 719-635-6422
 FAX: 719-635-6426
 www.tneng.com

ELECTRONIC STORAGE
 PROPOSED DRAINAGE MAP
 PROPOSED DRAINAGE MAP

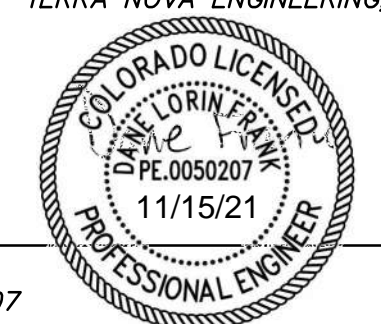
DESIGNED BY DLF
 DRAWN BY DLF
 CHECKED BY LD
 H-SCALE AS SHOWN
 V-SCALE N/A
 JOB NO. 1971.00
 DATE ISSUED 11/03/21
 SHEET NO. 4 OF 8



Access must be provided to the outlet structure (via steps per DCMv2 Chap 4.2: "Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided." And: Either a ladder or steps shall be installed when manhole depth exceeds 30 inches (see ECM Storm Sewer Manhole Detail SD_3-2).
 This is a general safety concern for if someone ends up in the outlet structure, there must be a way for them to exit. And it allows for removing sediment and debris from the outlet structure.

It is not ideal to have the spillway flows concentrated immediately downstream of the grouted spillway. You will need to re-run calcs to show that the riprap installed can withstand the increased velocities from the narrowed conveyance. Or remove this riprap and allow flows to follow the pre-existing contours shown on these original plans.
 Also, as shown in Photo 5 in the SW PA Punchlist, the riprap is placed on top of the grouted spillway. This riprap will badly erode on either side of this riprap instead of being conveyed through it as intended like a swale.

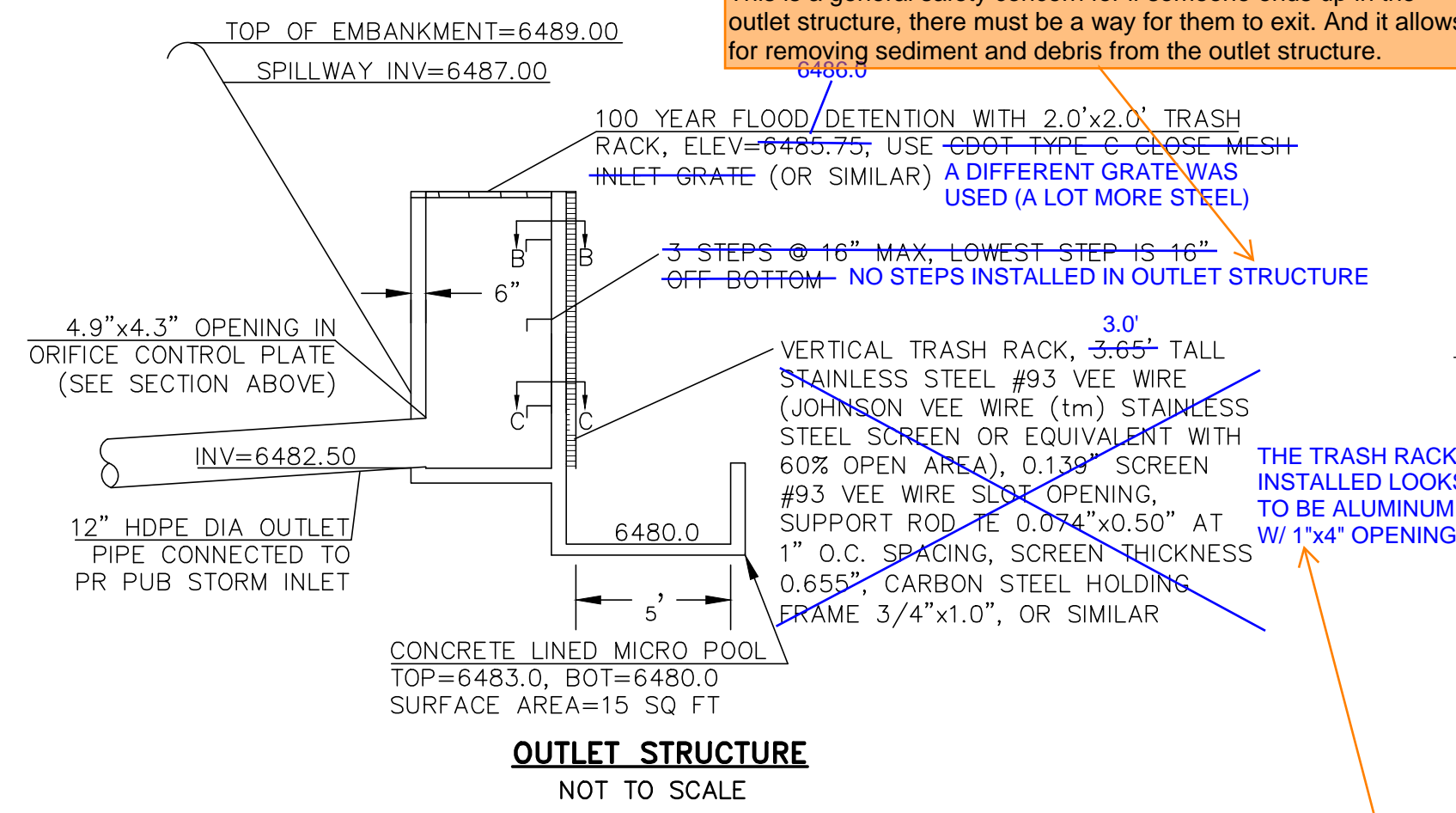
THIS DESIGN WAS PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF TERRA NOVA ENGINEERING, INC.
 Dane Frank
 DANE FRANK
 COLORADO P.E. # 50207



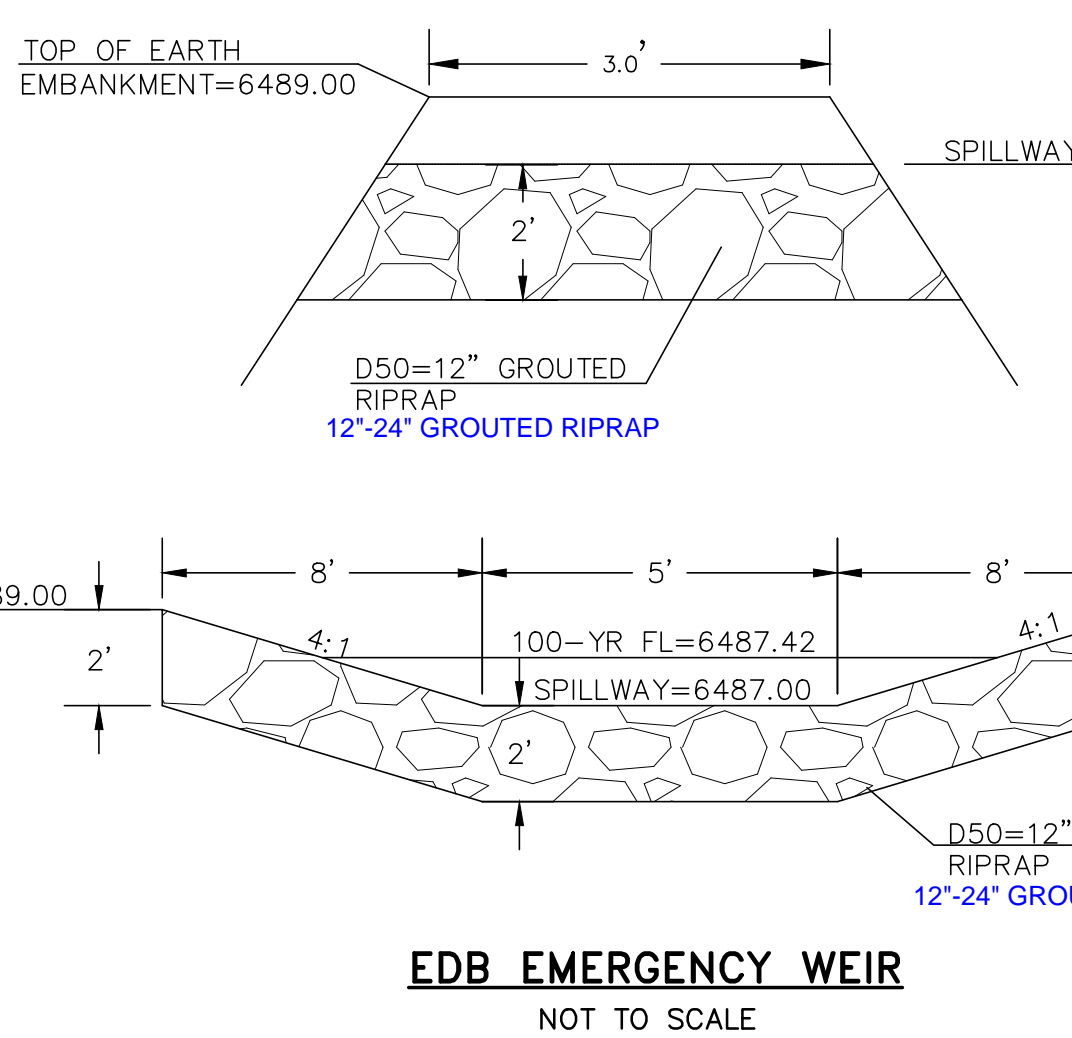
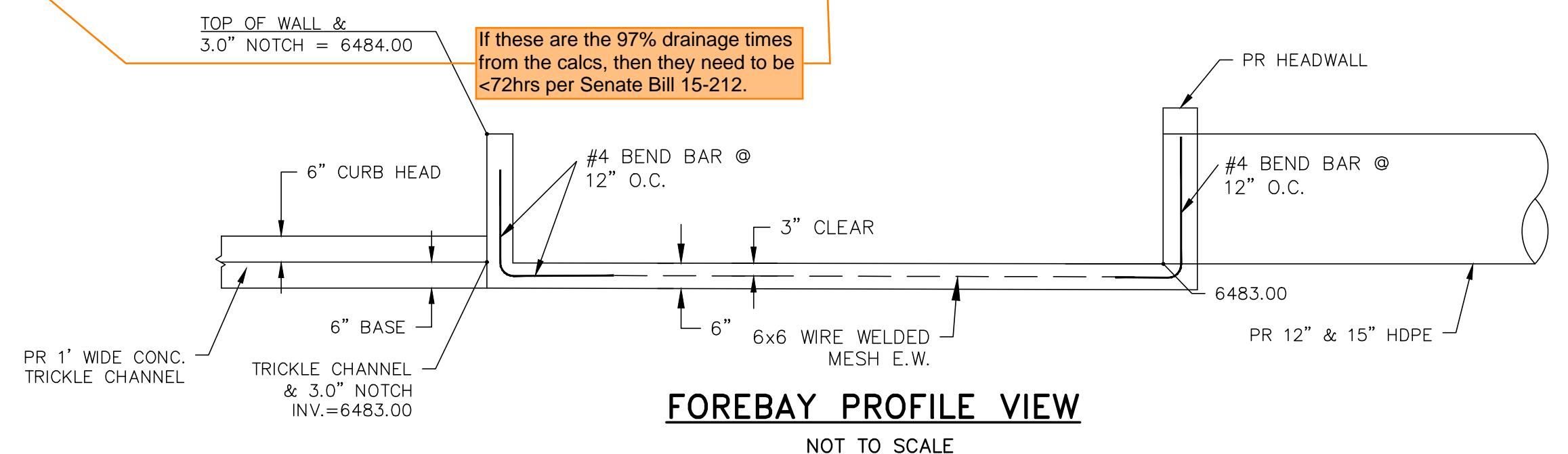
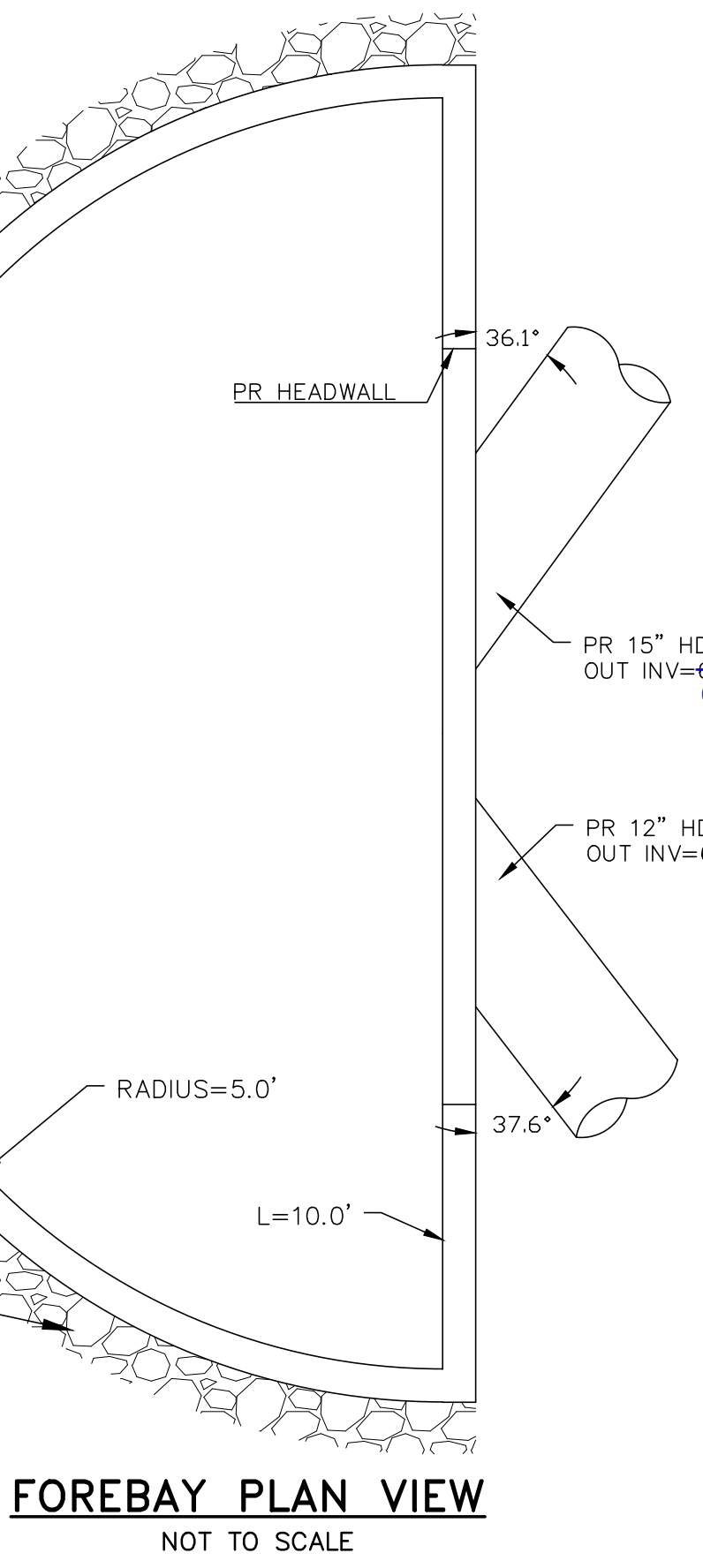
AS-BUILT NOTES

- AS-BUILT REDLINES ARE SHOWN IN BLUE.
- THE FINAL GRADING WAS A LITTLE DIFFERENT THAN THE DESIGN, AND THE TOP OF THE OUTLET STRUCTURE WAS BUILT 6" HIGH. CHECKING THE AS-BUILT NUMBERS WITH THE DESIGN SPREADSHEET SHOWS THE GRADING AND OUTLET STRUCTURE TOP WILL FUNCTION AS INTENDED, WITH THE WATER SURFACE ELEVATIONS CHANGING A LITTLE.
- THE BOTTOM ORIFICE ON THE INLET ORIFICE PLATE IS BUILT 3" HIGH. THE TOP TWO ORIFICES HAD TO BE REDRILLED AND THE CONTRACTOR LEFT THE BOTTOM ORIFICE HIGH DUE TO THE DESIGN ELEVATION, HAVING TO GO THROUGH THE CONCRETE AND STEEL OF THE OUTLET STRUCTURE. THE DESIGN SPREADSHEET SHOWS THIS ORIFICE BEING HIGH CAUSES THE DRAIN TIMES TO BE: WQCV 49 HOURS, EURV 84 HOURS, 2 YEAR 73 HOURS, 5 YEAR 81 HOURS, 10 YEAR 87 HOURS, 25 YEAR 89 HOURS, 50 YEAR 88 HOURS, 100 YEAR 87 HOURS, AND 500 YEAR 86 HOURS. THE POND IS SHOWN TO STILL HAVE ADEQUATE STORAGE CAPACITY AND FREEBOARD IN THIS CONDITION.

please provide this spreadsheet that shows the as-built conditions. Highlight/circle the inputs that changed from the original design.



This is not acceptable as an "or equivalent" alternative. The intent of the trash rack in front of the orifice plate is for the openings in the trash rack to be less than the orifice holes. That way debris that is large enough to clog the orifice plate cannot pass through the trash rack.
 DCMv2 Chap 4.2: "Provide a trash rack of sufficient size to prevent clogging of the primary water quality outlet."
 MHFD DCMv3 states: Eliminating well screen [is acceptable] if orifices are large enough to be protected by standard bar grating. Orifice dimensions greater than 1.25 inches are generally large enough to eliminate the well screen in favor of standard bar grating. Do not eliminate the well screen if the smallest orifice dimension is less than 1.25 inches.



N:\jobs\1971.00\Drawings\197100 GEC.dwg, 11/3/2021 8:58:53 AM

COUNTY PRJ #: PPR-20-020
 EPC 11/29/21