

# FLYING HORSE NORTH FILING NO. 1

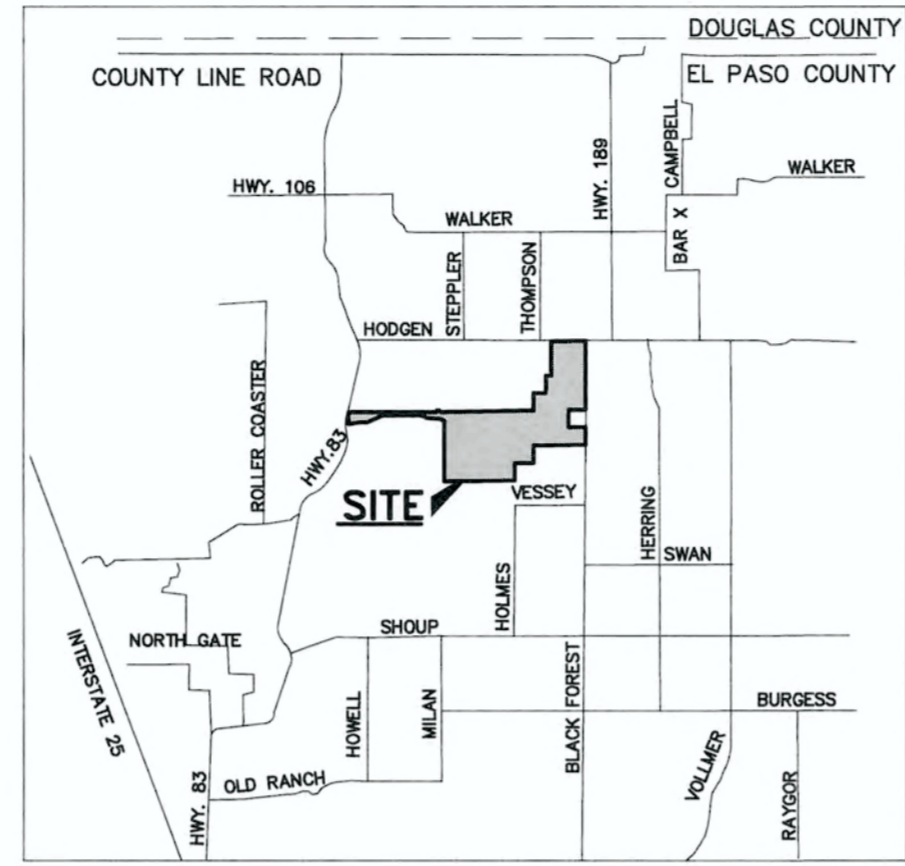
## COUNTY OF EL PASO, STATE OF COLORADO

# STORM SEWER CONSTRUCTION DRAWINGS

JUNE 2018

### GENERAL CONSTRUCTION NOTES:

1. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND MAY NOT INCLUDE ALL UTILITIES. THE EXCAVATION CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE ANY AND ALL UTILITIES.
2. BEFORE COMMENCING ANY EXCAVATION, CALL 1-800-922-1987 FOR EXISTING UTILITY LOCATIONS.
3. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
4. ALL BACKFILL, SUB-BASE AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED TO THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION.
5. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS AS SOON AS POSSIBLE AND EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
7. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO THE EPC ECM APPENDIX K - 1.2C.
8. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
9. BUILDING CONTRACTORS WILL BE RESPONSIBLE FOR CONSTRUCTING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
10. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY DEVELOPMENT SERVICES DEPARTMENT PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL REVEGETATE ALL DISTURBED AREAS WITHIN 21 DAYS OF SUBSTANTIAL GRADING COMPLETION. EROSION CONTROL SHALL BE INSTALLED AND MAINTAINED IN A FUNCTIONAL MANNER AT ALL TIMES. DEVELOPER IS RESPONSIBLE FOR MAINTAINING DISTURBED AREAS UNTIL REVEGETATION IS COMPLETE.
12. TYPE M RIP-RAP WITH 4" OF TYPE II GRANULAR BEDDING AND MIRAFI 180N OR EQUAL MAY BE SUBSTITUTED WHERE TYPE L RIP-RAP WITH MIRAFI FW 700 OR EQUAL IS SPECIFIED.
13. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH ANY AND ALL APPLICABLE EL PASO COUNTY STANDARDS.



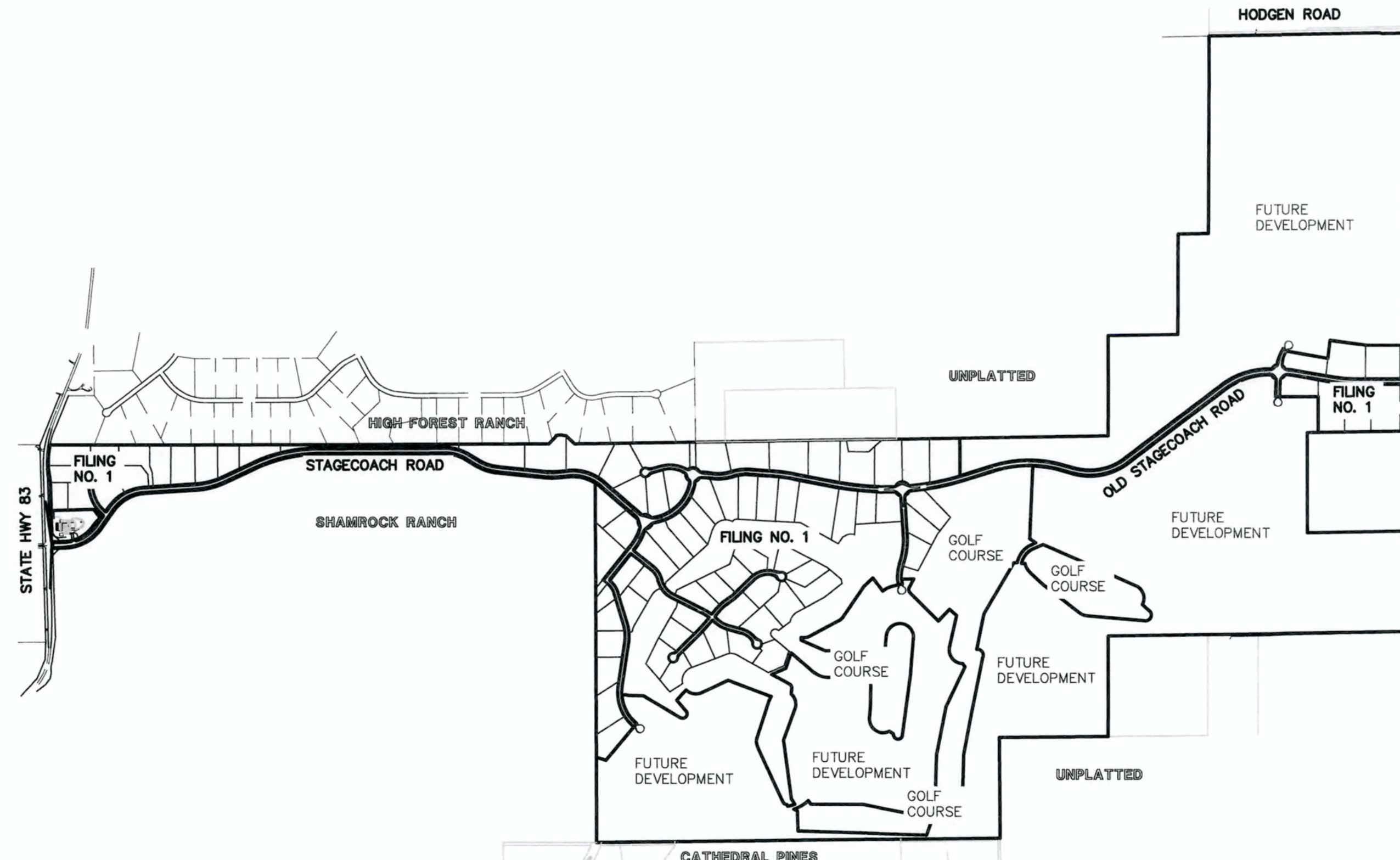
**VICINITY MAP**  
N.T.S.

### SHEET INDEX

SHEET 1 OF 22	TITLE SHEET
SHEET 2 OF 22	INDEX SHEET
SHEETS 3-9 OF 22	CULVERT PLAN AND PROFILES
SHEETS 10-21 OF 22	DETENTION FACILITY PLANS
SHEETS 22 OF 22	DETAIL SHEET

### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
  - d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND DSD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY DSD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOT AND MUTCD CRITERIA.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



**KEY MAP**  
SCALE: N.T.S.

# AS-BUILT

### AGENCIES:

<b>OWNER/DEVELOPER:</b>	PRI #2 6385 CORPORATE DRIVE, SUITE 200 COLORADO SPRINGS, CO 80919 MR. DREW BALSICK, (719) 592-9333
<b>CIVIL ENGINEER:</b>	CLASSIC CONSULTING ENGINEERS & SURVEYORS 619 N. CASCADE AVENUE, SUITE 200 COLORADO SPRINGS, COLORADO 80903 MR. MARC A. WHORTON, P.E. (719) 785-2802
<b>COUNTY ENGINEERING:</b>	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, COLORADO 80910 MR. GILBERT LAFORCE (719) 520-7945
<b>GAS COMPANY:</b>	BLACKHILLS ENERGY 37 WIDEFIELD BOULEVARD WIDEFIELD, COLORADO 80911 MR. GEORGE M. PETERSON, (719) 392-3491
<b>ELECTRIC COMPANY:</b>	MOUNTAIN VIEW ELECTRIC P.O. BOX 1600 LIMON, COLORADO 80828 MR. LES ULFERS, (719) 495-2283
<b>FIRE DISTRICT:</b>	DONALD WESCOTT FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80921 CHIEF VINNY BURNS, (719) 488-8680
<b>FIRE DISTRICT:</b>	BLACK FOREST FIRE PROTECTION DISTRICT 14445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK, (719) 495-4300
<b>TELEPHONE COMPANY:</b>	CENTURY LINK (LOCATORS) 811  AT & T (LOCATORS) 811

### APPROVALS:

#### DESIGN ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY DIRECTLY CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

MARC A WHORTON, COLORADO P.E. #37155  
FOR AND ON THE BEHALF OF CLASSIC CONSULTING ENGINEERS & SURVEYORS

6/15/18  
DATE

#### OWNER/DEVELOPER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

MR. DREW BALSICK  
PRI #2

6-15-18  
DATE

#### EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2 AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH WITH ECM SECTION 1-12 THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

**Approved**

by Elizabeth Nijkamp  
El Paso County Planning and Community Development  
on behalf of Jennifer Irvine, County Engineer, ECM Administrator

09/25/2018 2:50:55 PM

PCD No. SF-18-001

### BENCHMARKS

1. THE NORTHWESTERLY CORNER OF LOT 1, WESCOTT FIRE STATION NO. 3, RECORDED UNDER RECEPTION NO. 212713192 RECORDS OF EL PASO COUNTY COLORADO, BEING MONUMENTED BY A 1 1/2 INCH ALUMINUM SURVEYORS CAP STAMPED "CCES LLC PLS 30118" ELEVATION=7387.14
2. THE SOUTHEAST CORNER OF SECTION 30, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING A 3 1/4 INCH ALUMINUM SURVEYORS CAP STAMPED "JR ENG LTD RLS 10377" IN A RANGE BOX IN BLACK FOREST ROAD. ELEVATION=7554.01

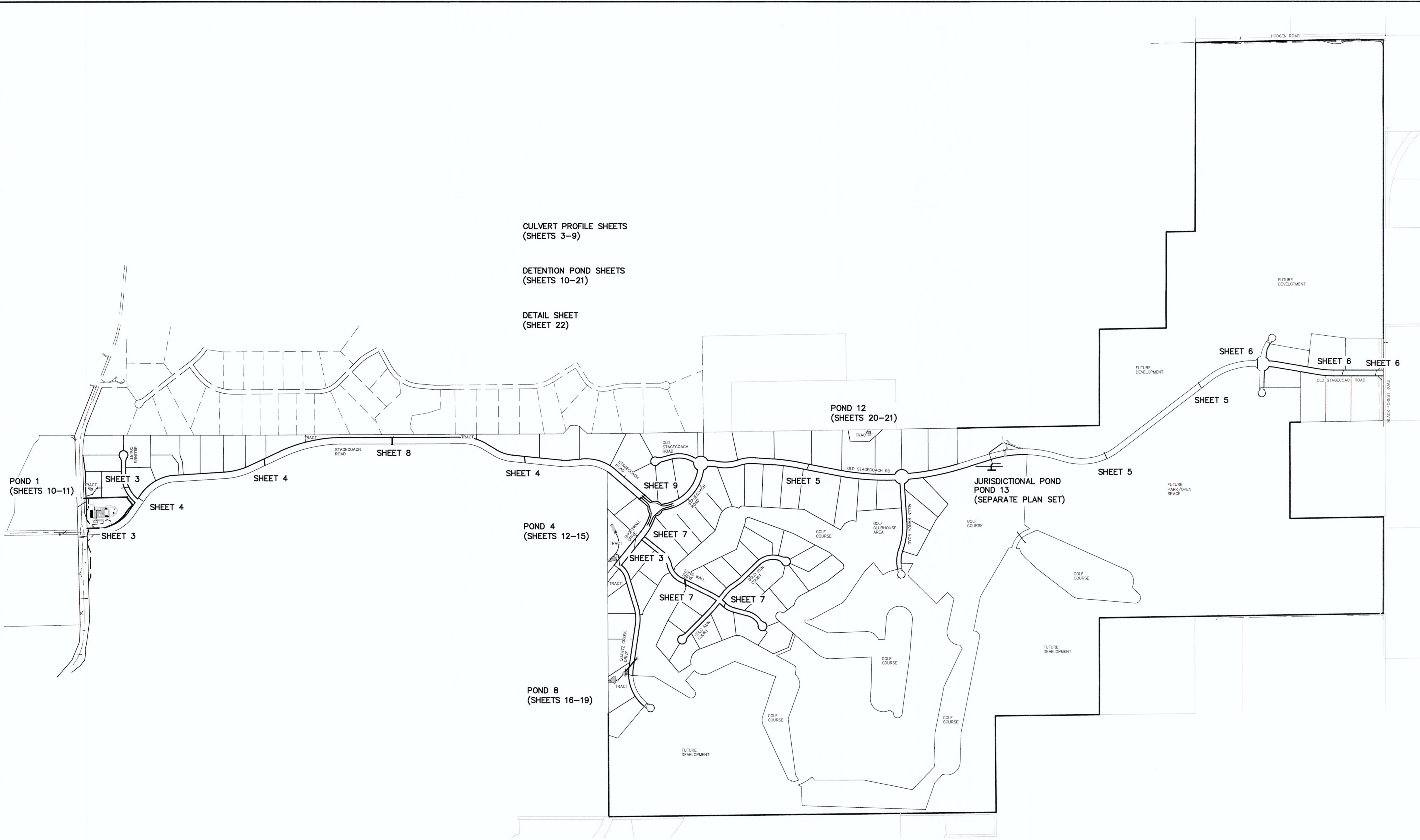
<p style="text-align: center;">48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS <b>811</b></p> <p style="text-align: center;">UTILITY NOTIFICATION OF COLORADO IT'S THE LAW</p> <p style="font-size: small;">THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR 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.</p>	<table border="1" style="width: 100%;"> <thead> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>REVISED PER COUNTY COMMENTS</td> <td>4-4-18</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISION	DATE	1	REVISED PER COUNTY COMMENTS	4-4-18										<p>REVIEW:</p> <p style="font-size: x-small;">PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC</p> <div style="text-align: center;">               MARC A. WHORTON, COLORADO P.E. #37155              DATE: 6/15/18         </div>
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**FLYING HORSE NORTH FILING NO. 1**  
**STORM SEWER CONSTRUCTION DRAWINGS**

TITLE SHEET

DESIGNED BY	MAW	SCALE	DATE	06-13-18
DRAWN BY	MAW	(H) 1" = N/A	SHEET	1 OF 22
CHECKED BY	(V) 1" = N/A	JOB NO.	1096.11	

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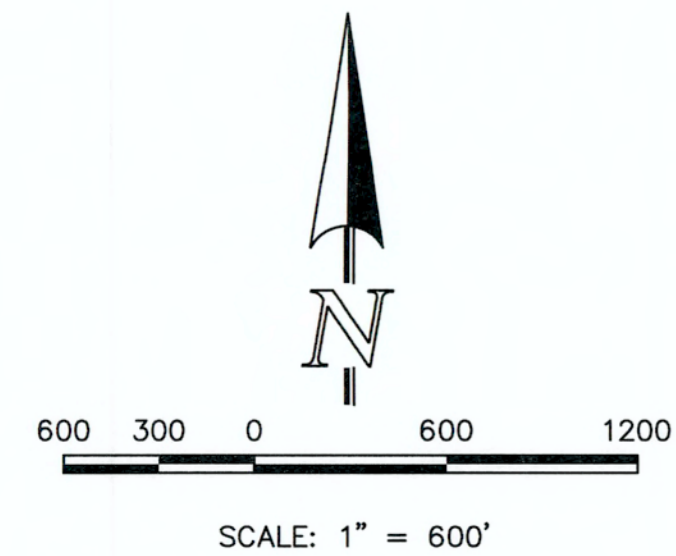




CULVERT PROFILE SHEETS  
(SHEETS 3-9)

DETENTION POND SHEETS  
(SHEETS 10-21)

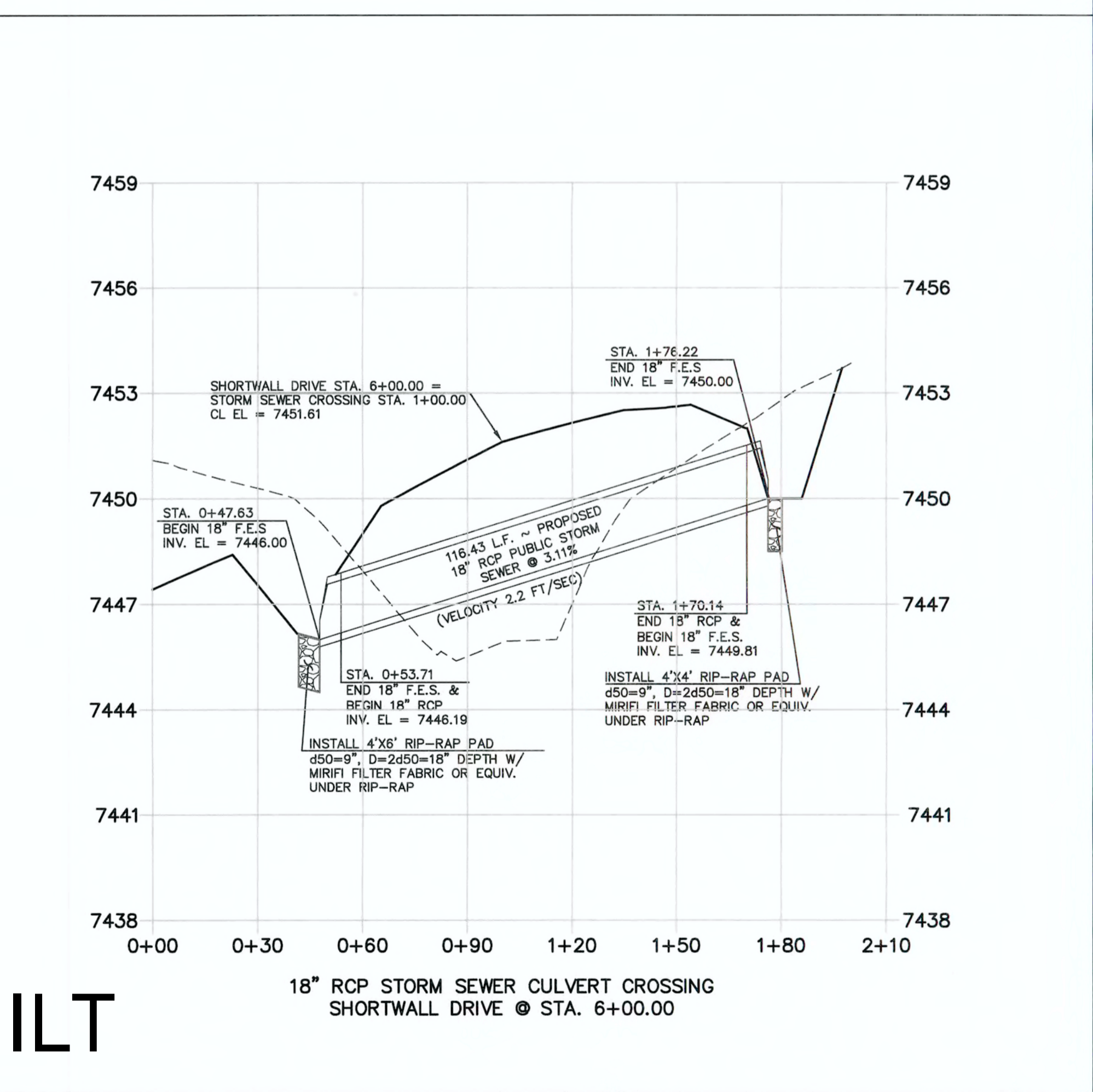
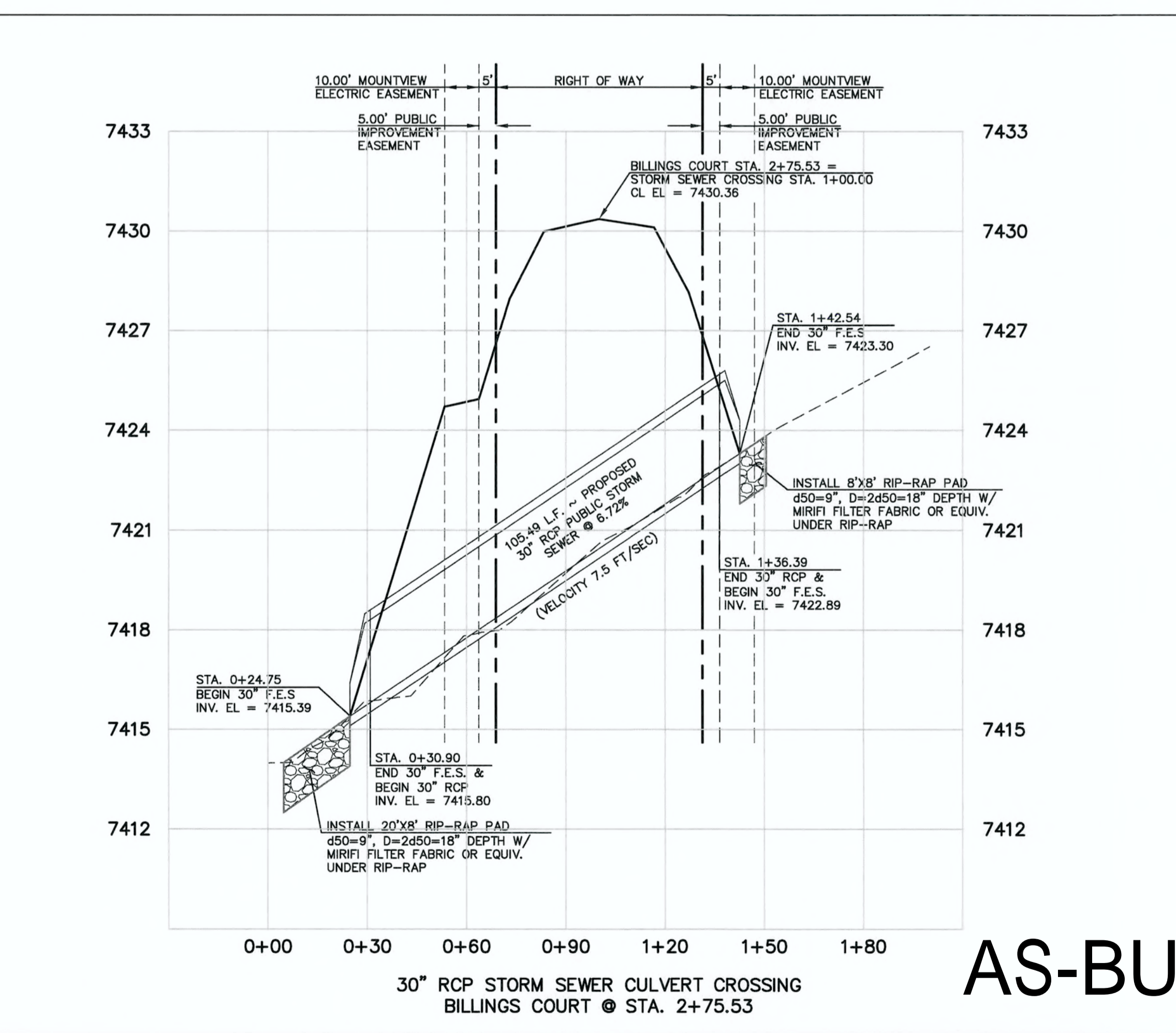
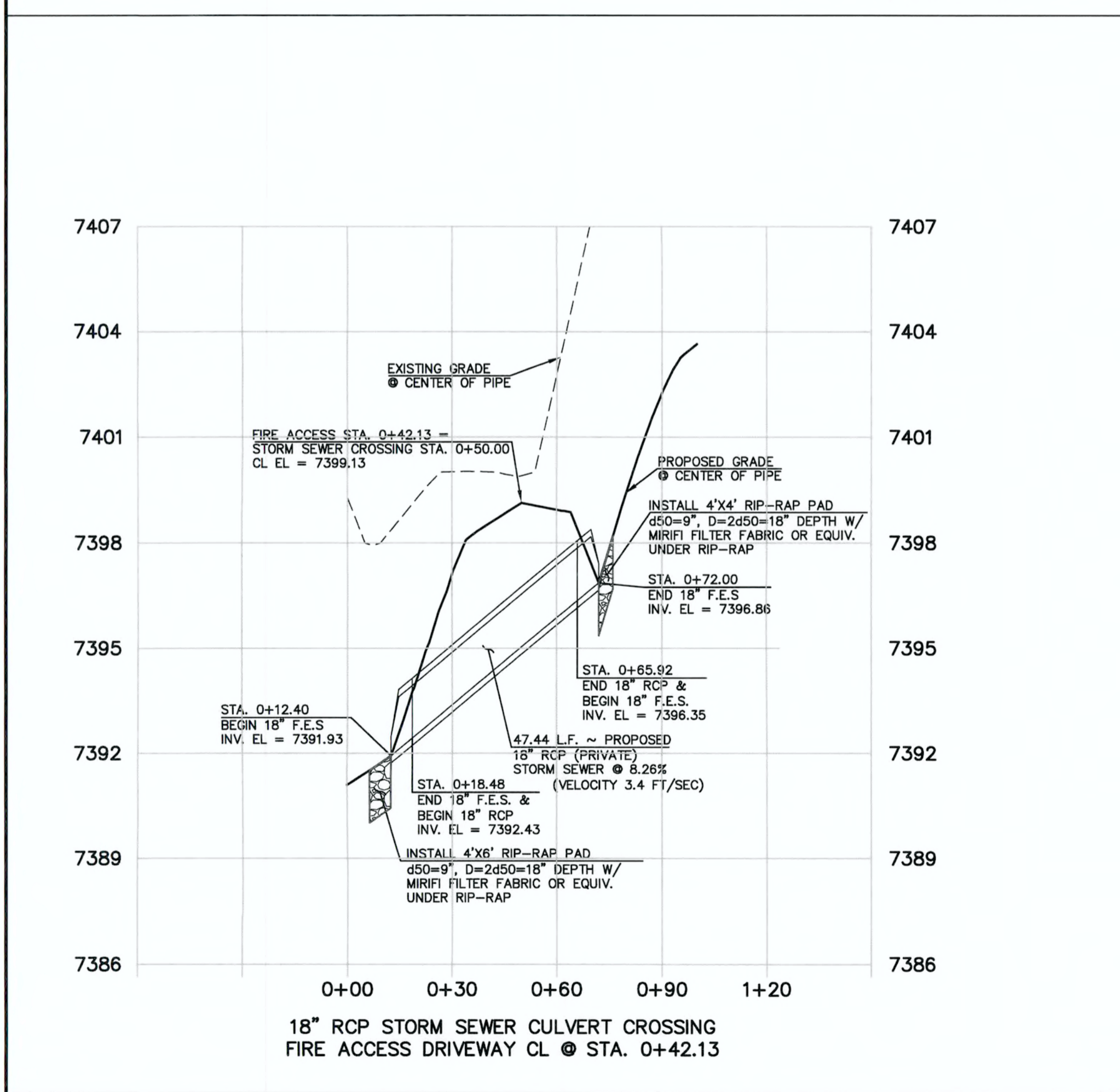
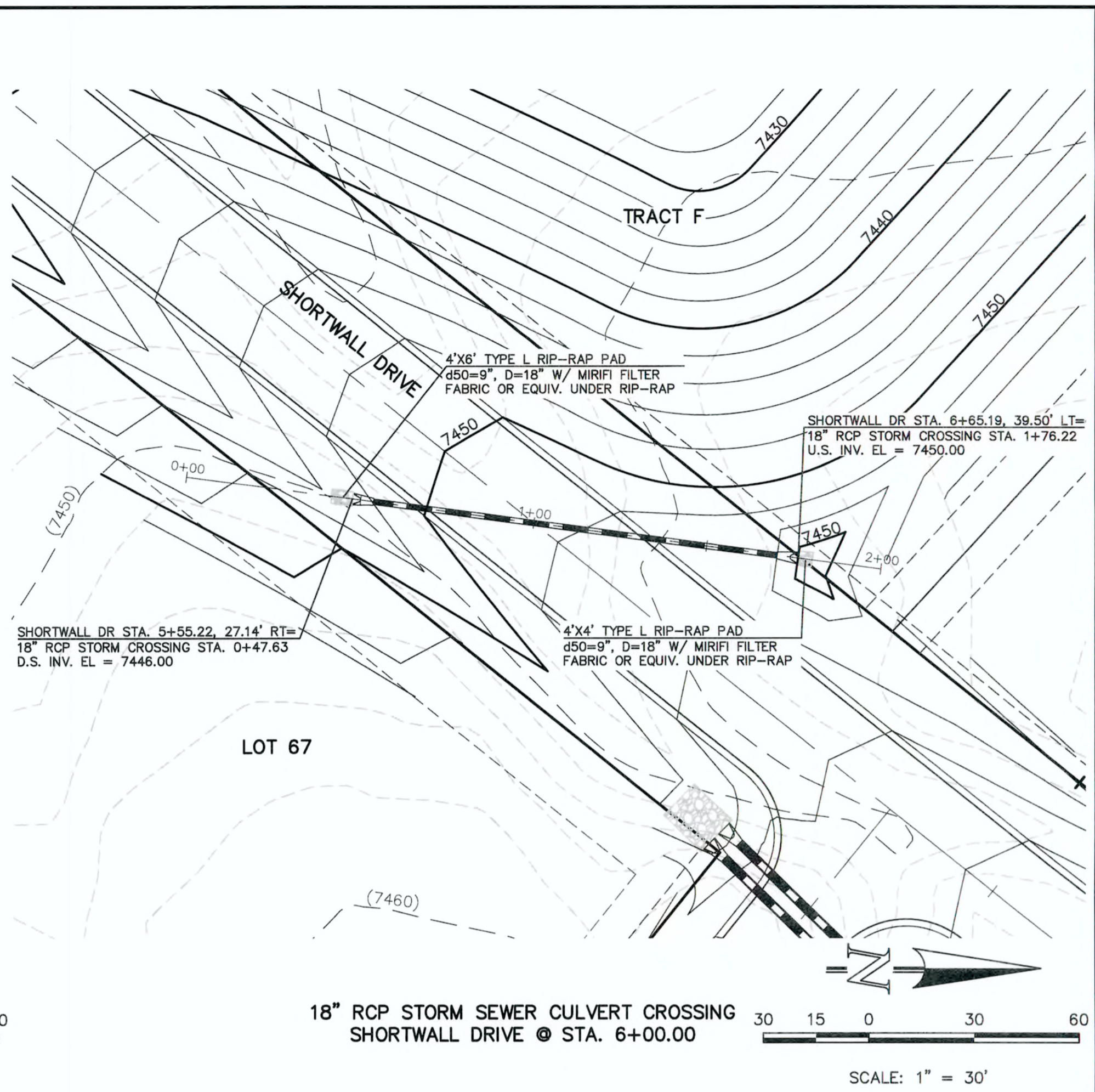
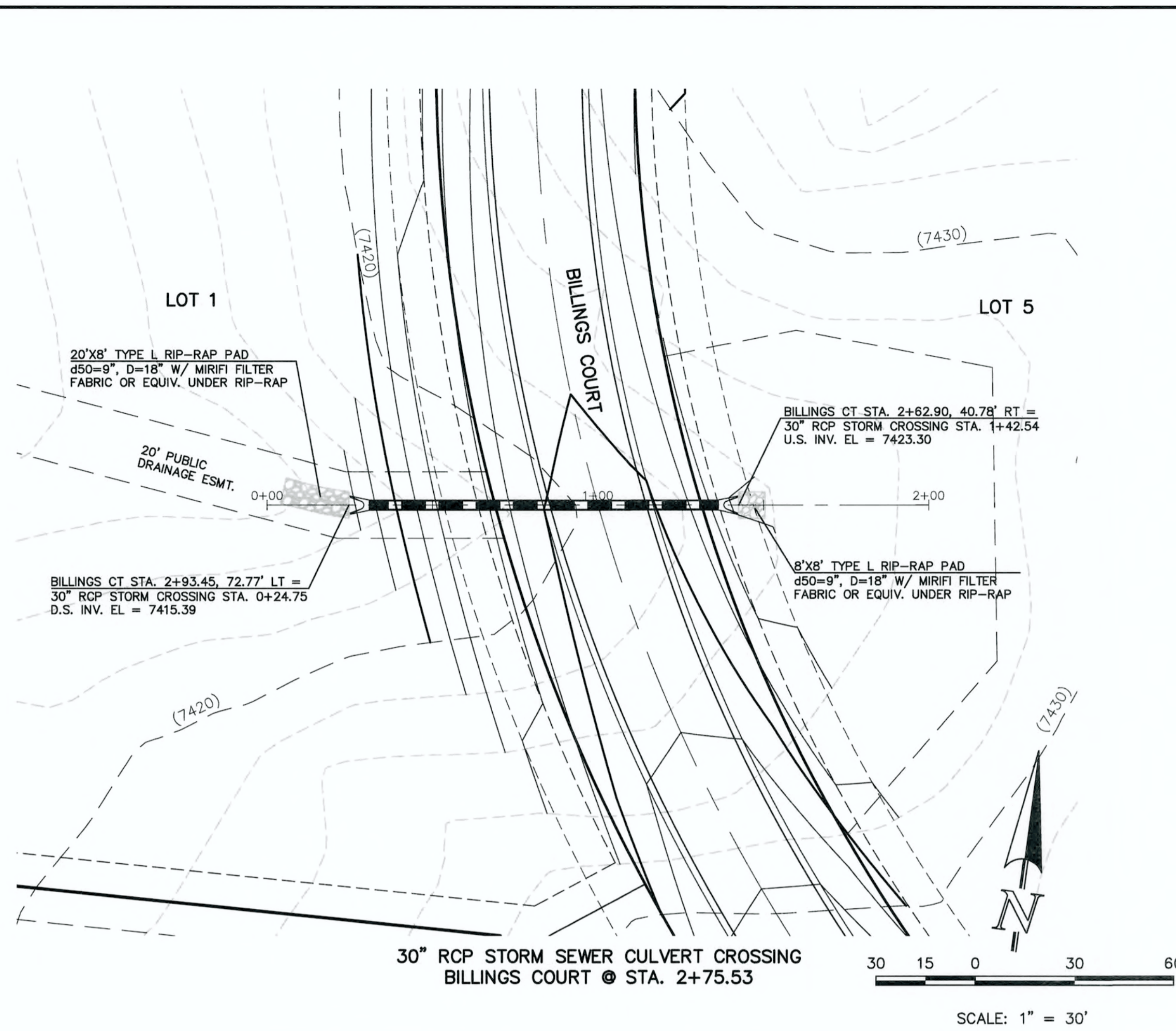
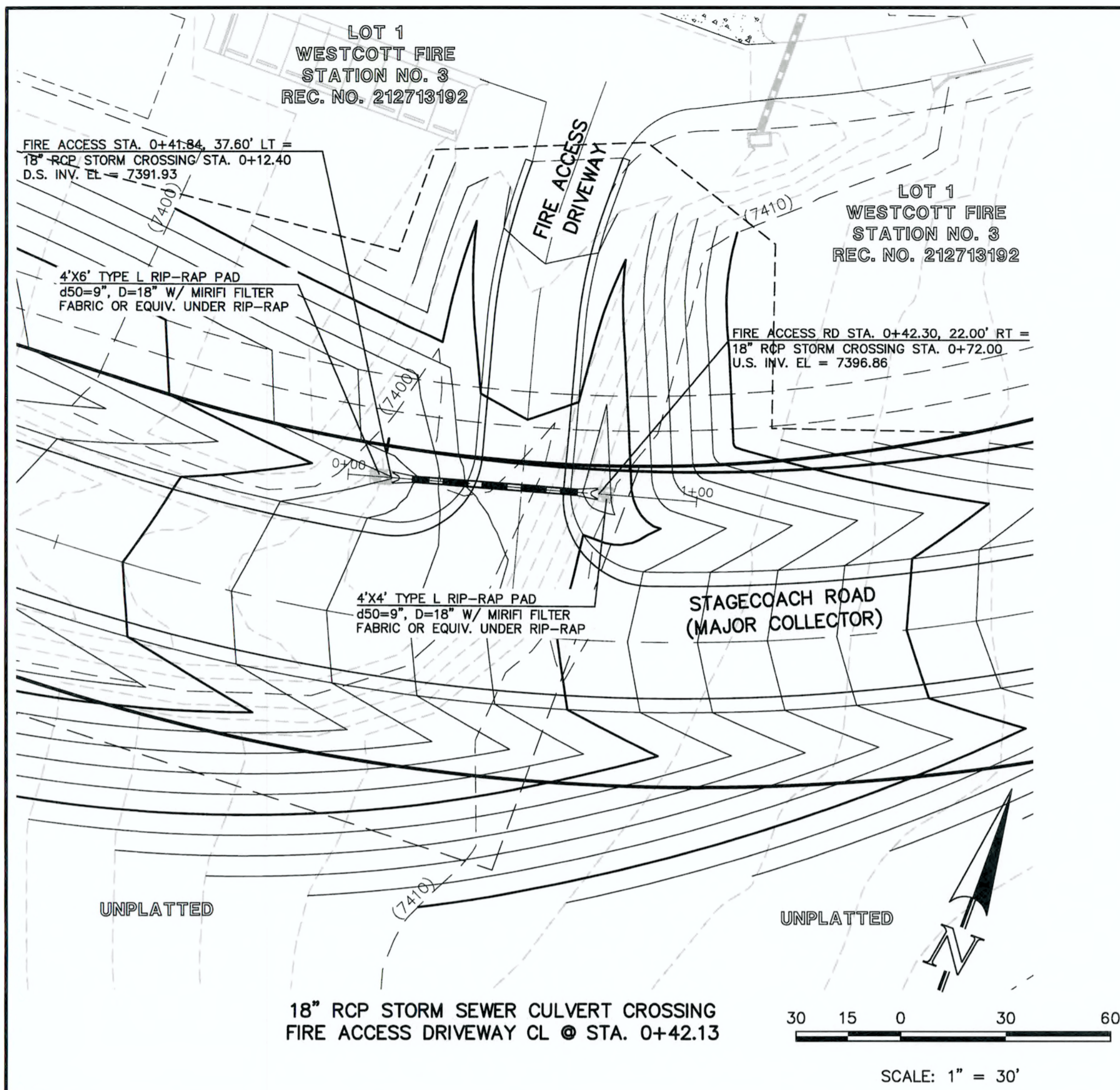
DETAIL SHEET  
(SHEET 22)

**AS-BUILT**



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**AS-BUILT**

LOT 1 WESTCOTT FIRE STATION NO. 3 REC. NO. 212713102  
 FIRE ACCESS STA. 0+41.84, 37.60' LT = 18" RCP STORM CROSSING STA. 0+12.40 D.S. INV. EL. = 7391.93  
 FIRE ACCESS DRIVEWAY  
 LOT 1 WESTCOTT FIRE STATION NO. 3 REC. NO. 212713102  
 FIRE ACCESS RD STA. 0+42.30, 22.00' RT = 18" RCP STORM CROSSING STA. 0+72.00 U.S. INV. EL. = 7396.86  
 STAGECOACH ROAD (MAJOR COLLECTOR)  
 UNPLATTED  
 UNPLATTED  
 18" RCP STORM SEWER CULVERT CROSSING FIRE ACCESS DRIVEWAY CL @ STA. 0+42.13  
 SCALE: 1" = 30'

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS  
**811**  
 UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW  
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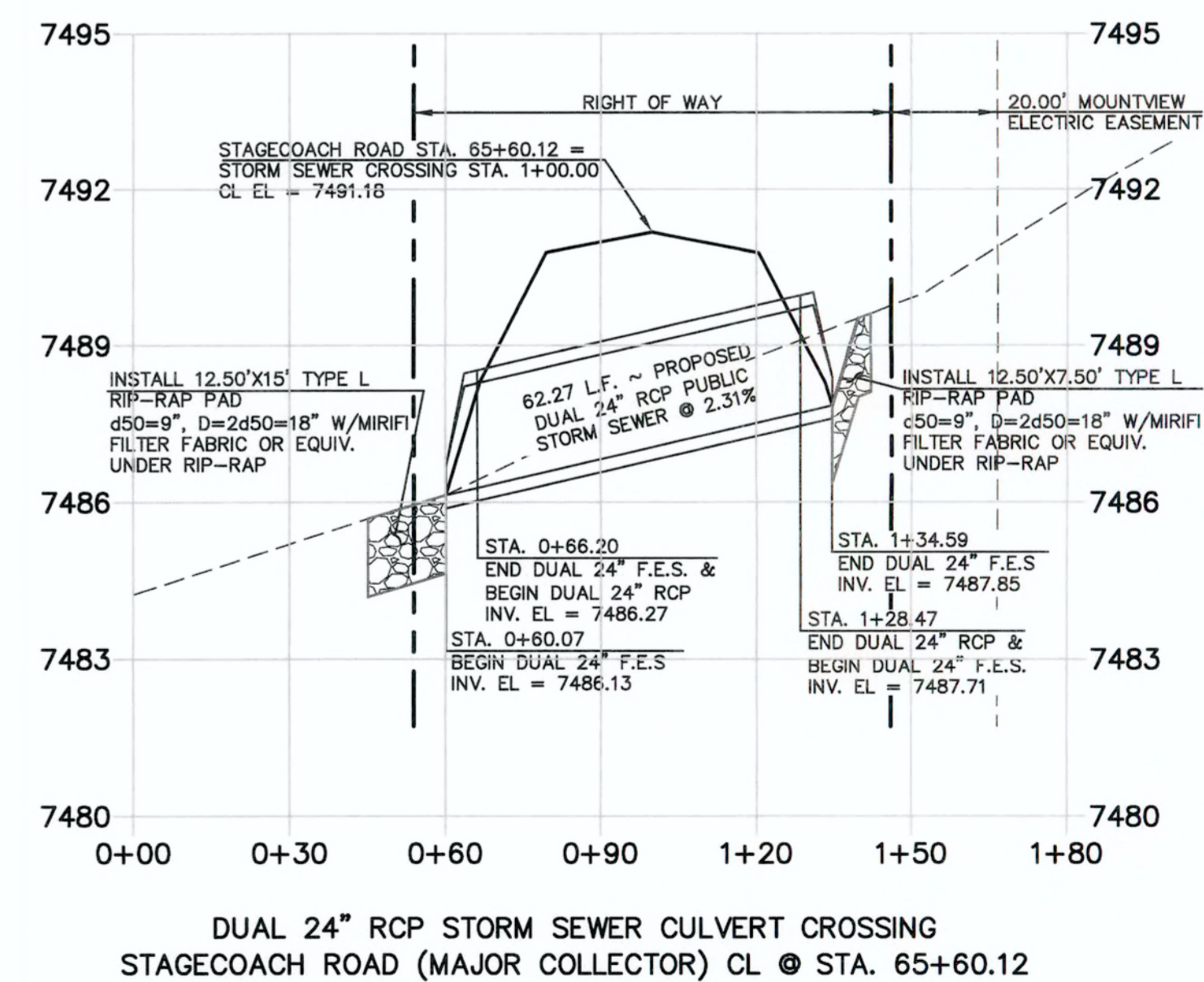
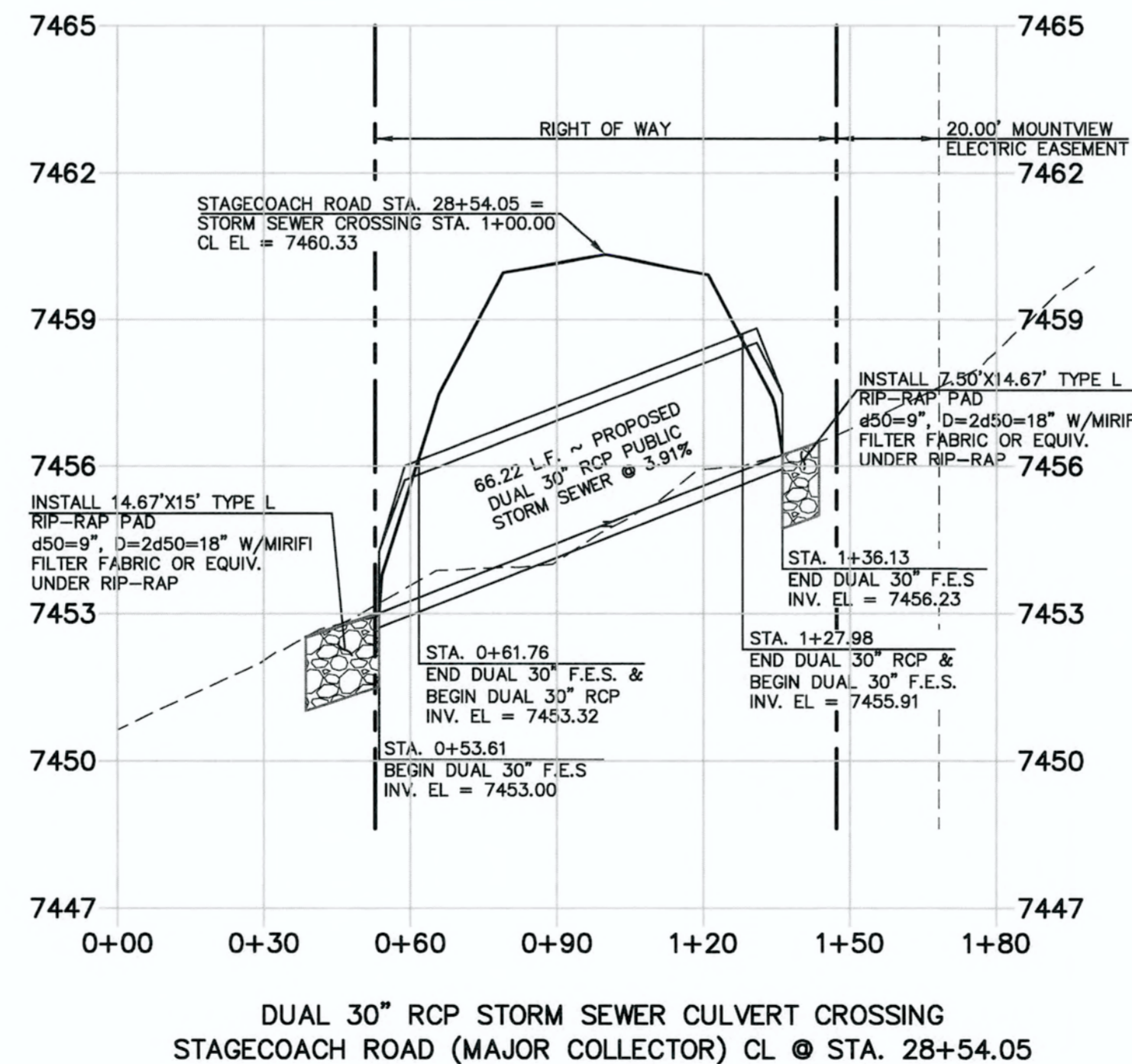
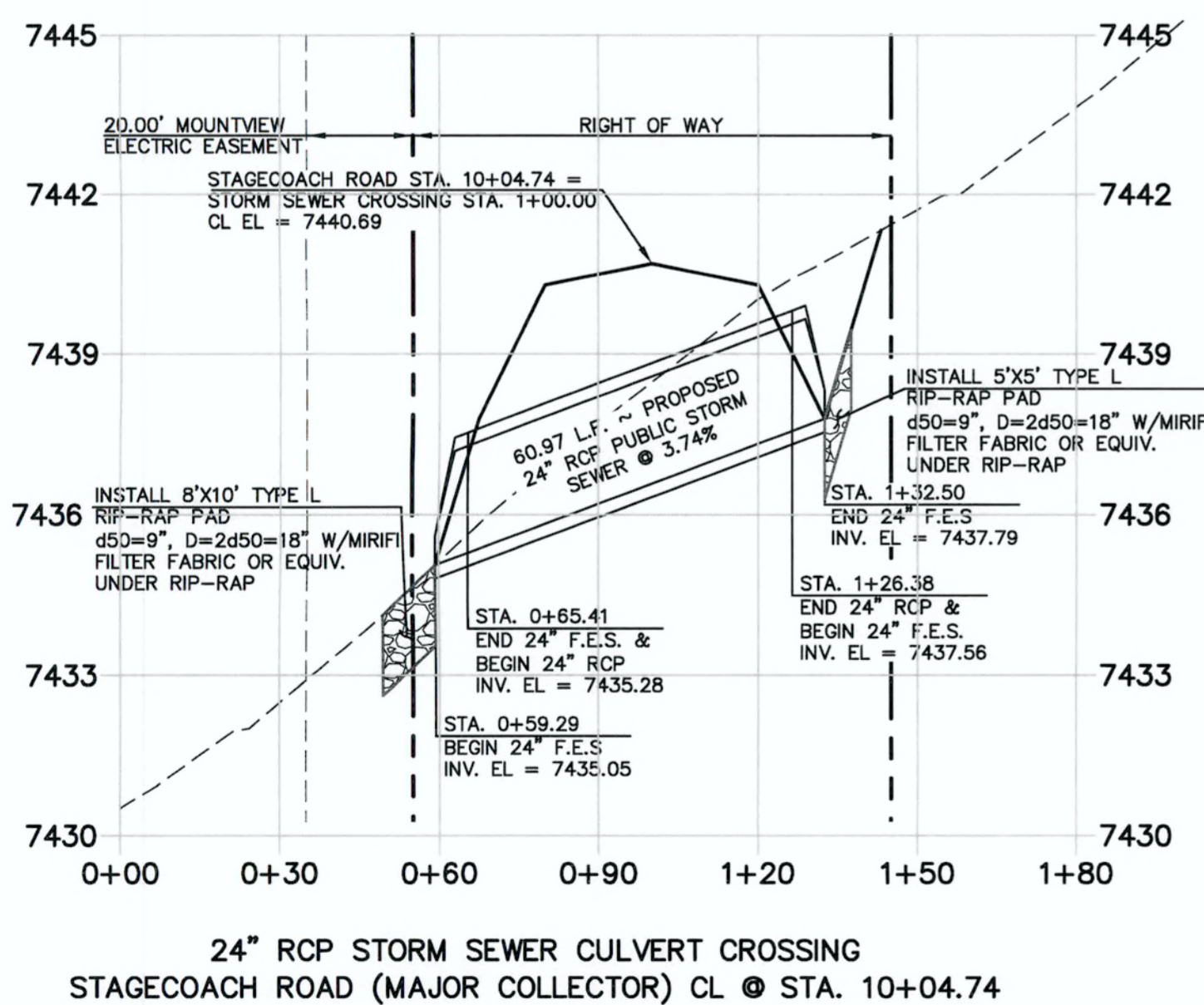
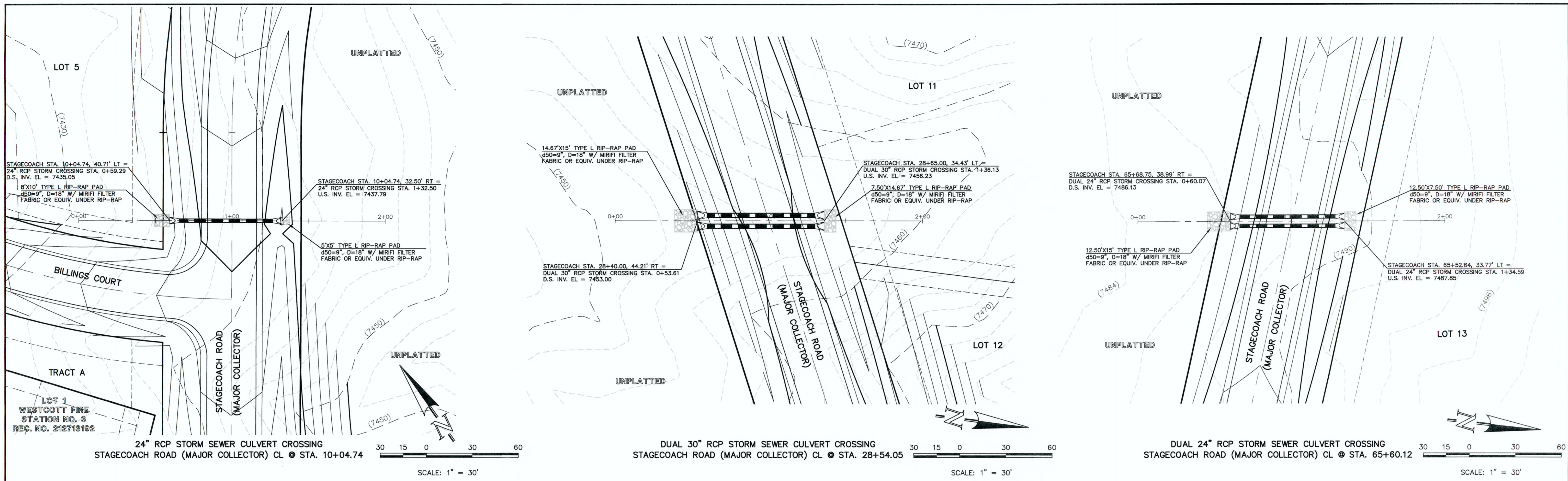
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1	REVISED PER COUNTY COMMENTS	4-4-18

REVIEW:  
 PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC  
  
 MARC A. WHORTON, COLORADO P.E. #37155  
 DATE: 6/15/18

**CLASSIC**  
 CONSULTING ENGINEERS & SURVEYORS  
 619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903  
 (719)785-0790 (719)785-0790(Fax)

FLYING HORSE NORTH FILING NO. 1  
 STORM SEWER CONSTRUCTION PLANS  
 STORM SEWER RCP CULVERT CROSSINGS  
 PLAN & PROFILE  
 DESIGNED BY: PRA SCALE: 1" = 30' DATE: 06-13-18  
 DRAWN BY: PRA (H) 1" = 30' SHEET: 3 OF 22  
 CHECKED BY: (V) 1" = 3' JOB NO.: 1096.11





AS-BUILT

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.

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MARC A. WHORTON, COLORADO P.E. #37155  
DATE: 6/17/19

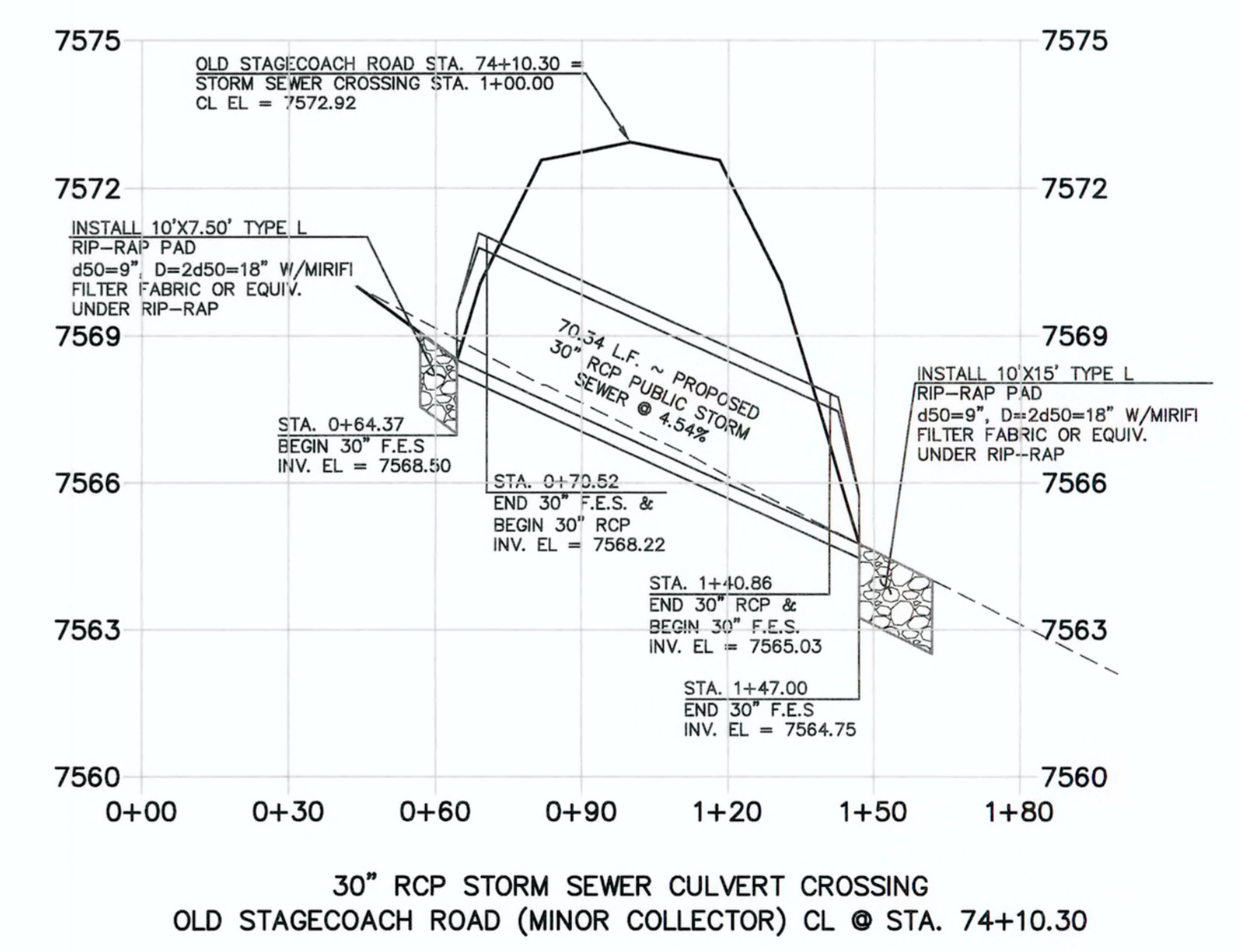
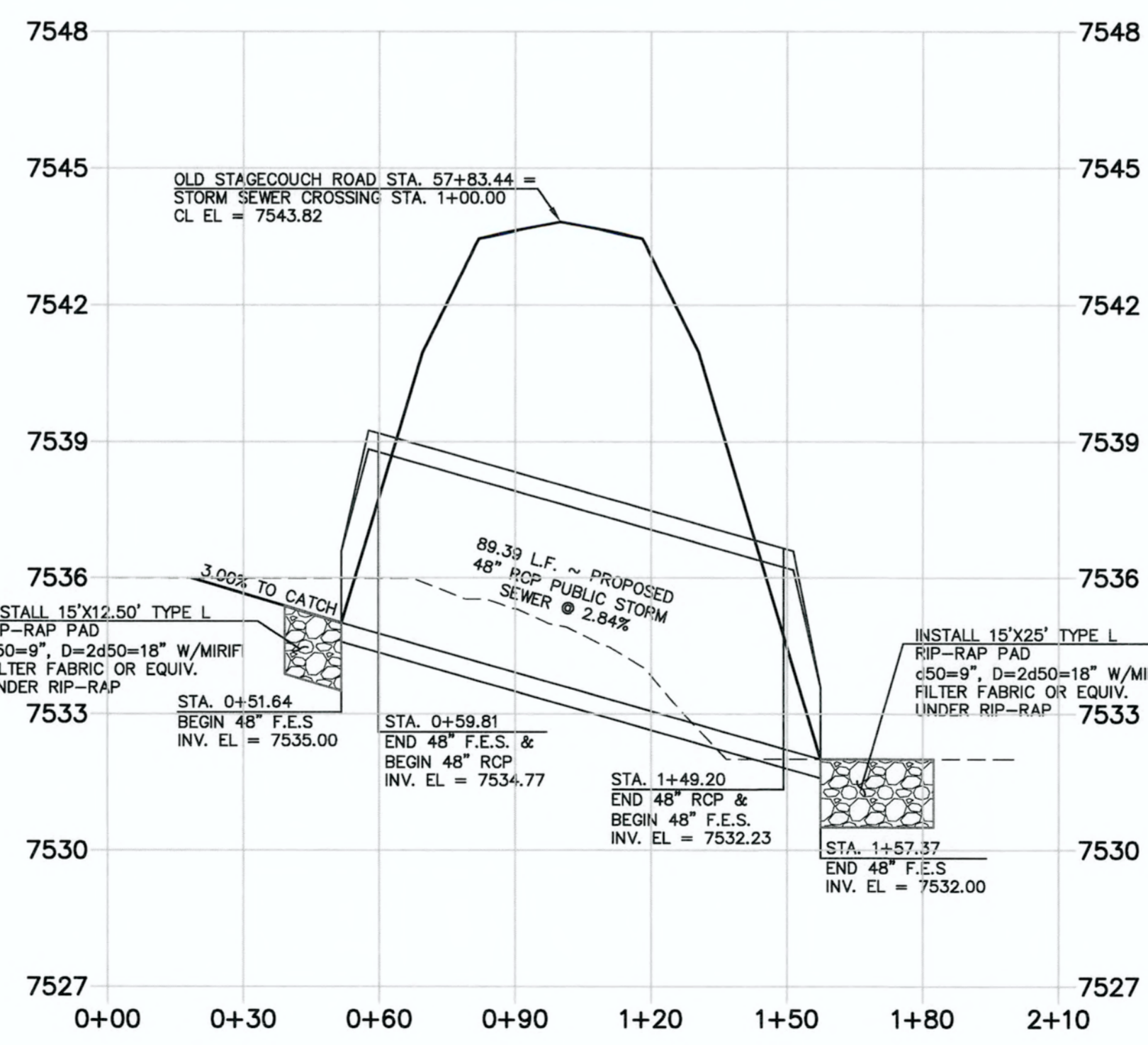
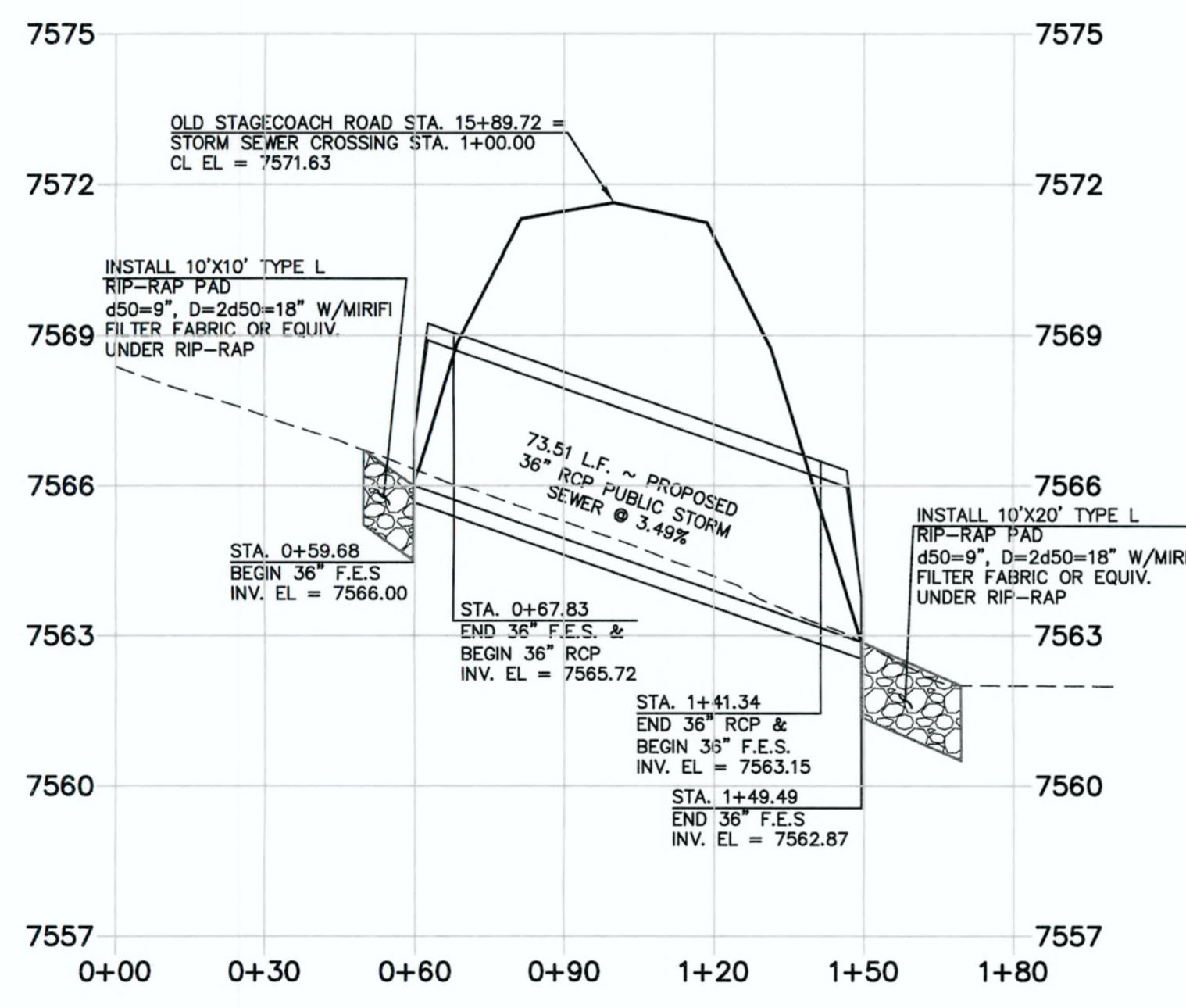
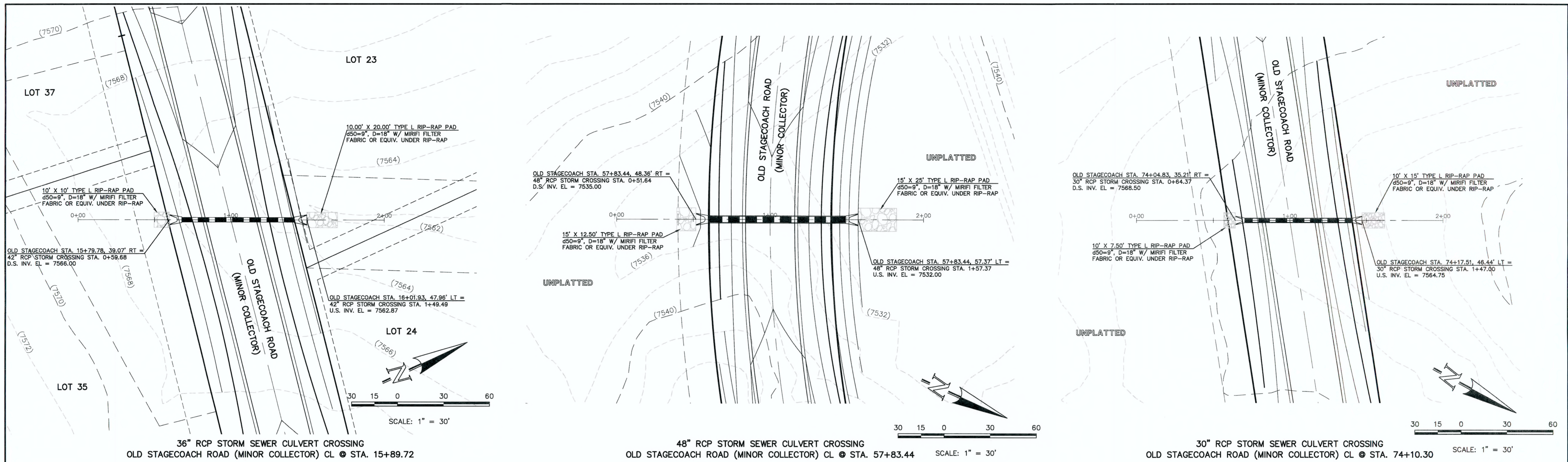
**CLASSIC**  
CONSULTING  
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619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719)785-0790  
(719)785-0799(Fax)

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STORM SEWER RCP CULVERT CROSSINGS  
PLAN & PROFILE

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		JOB NO.	1096.11

CLASSIC  
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ENGINEERS & SURVEYORS



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**CLASSIC**  
 CONSULTING ENGINEERS & SURVEYORS

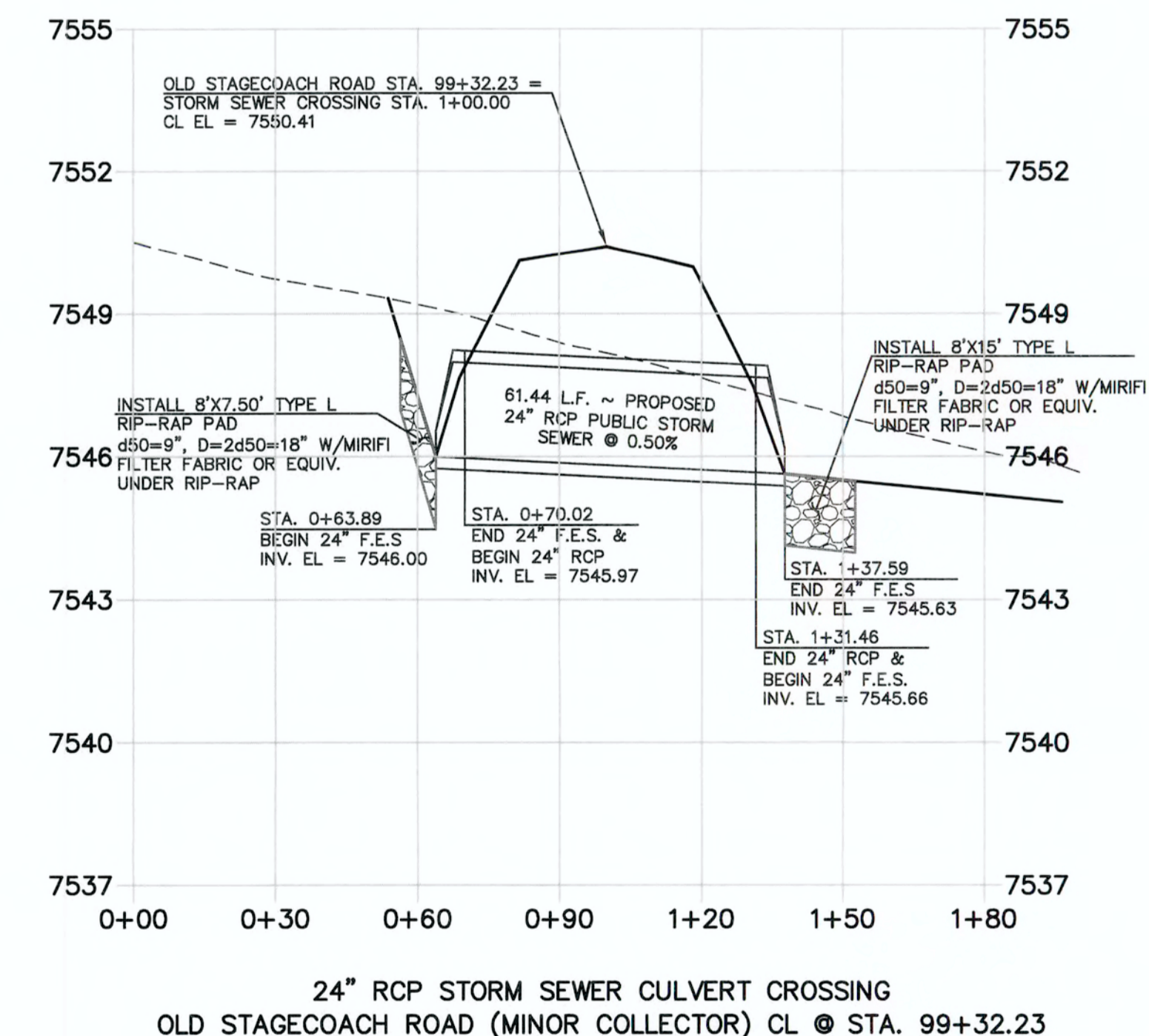
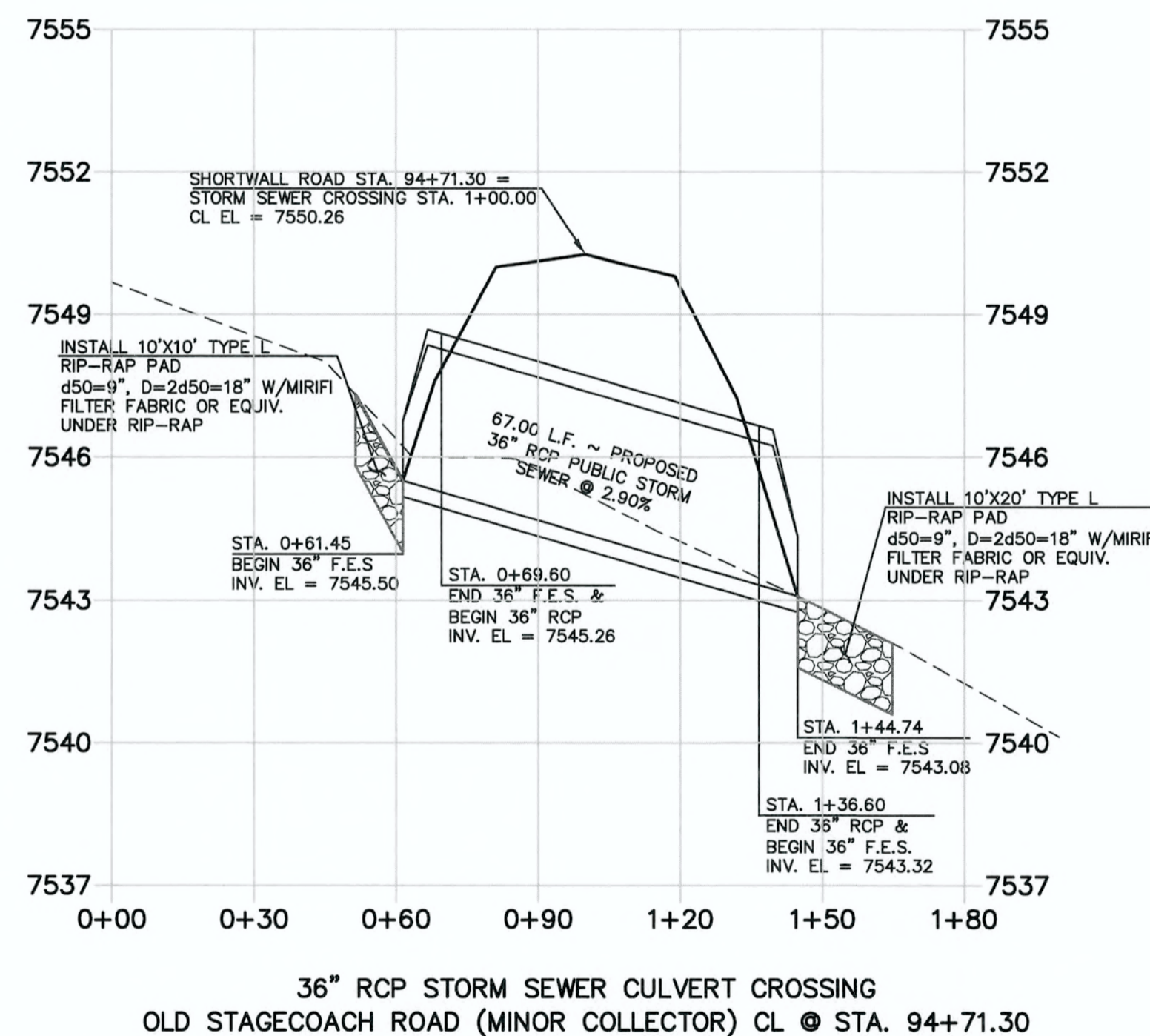
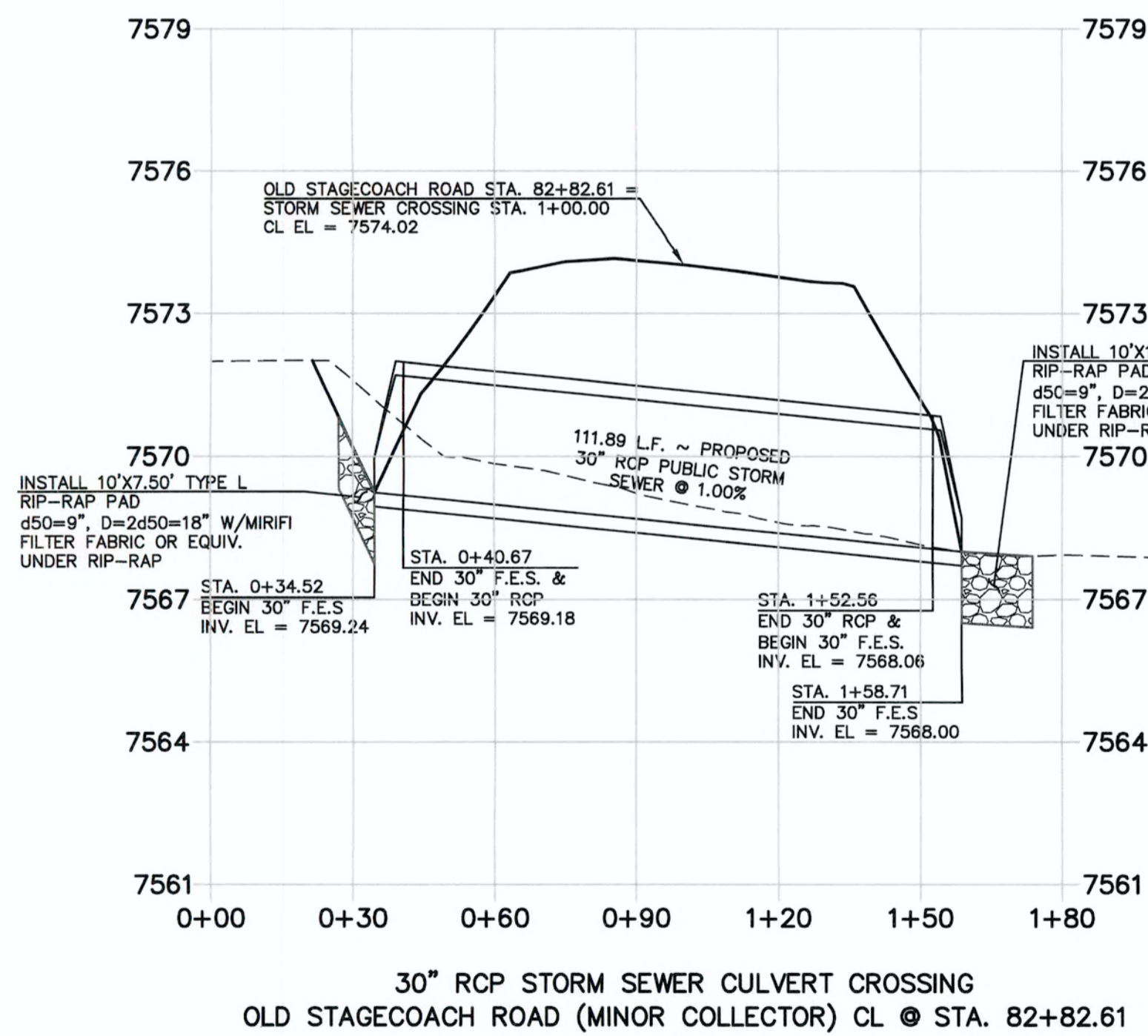
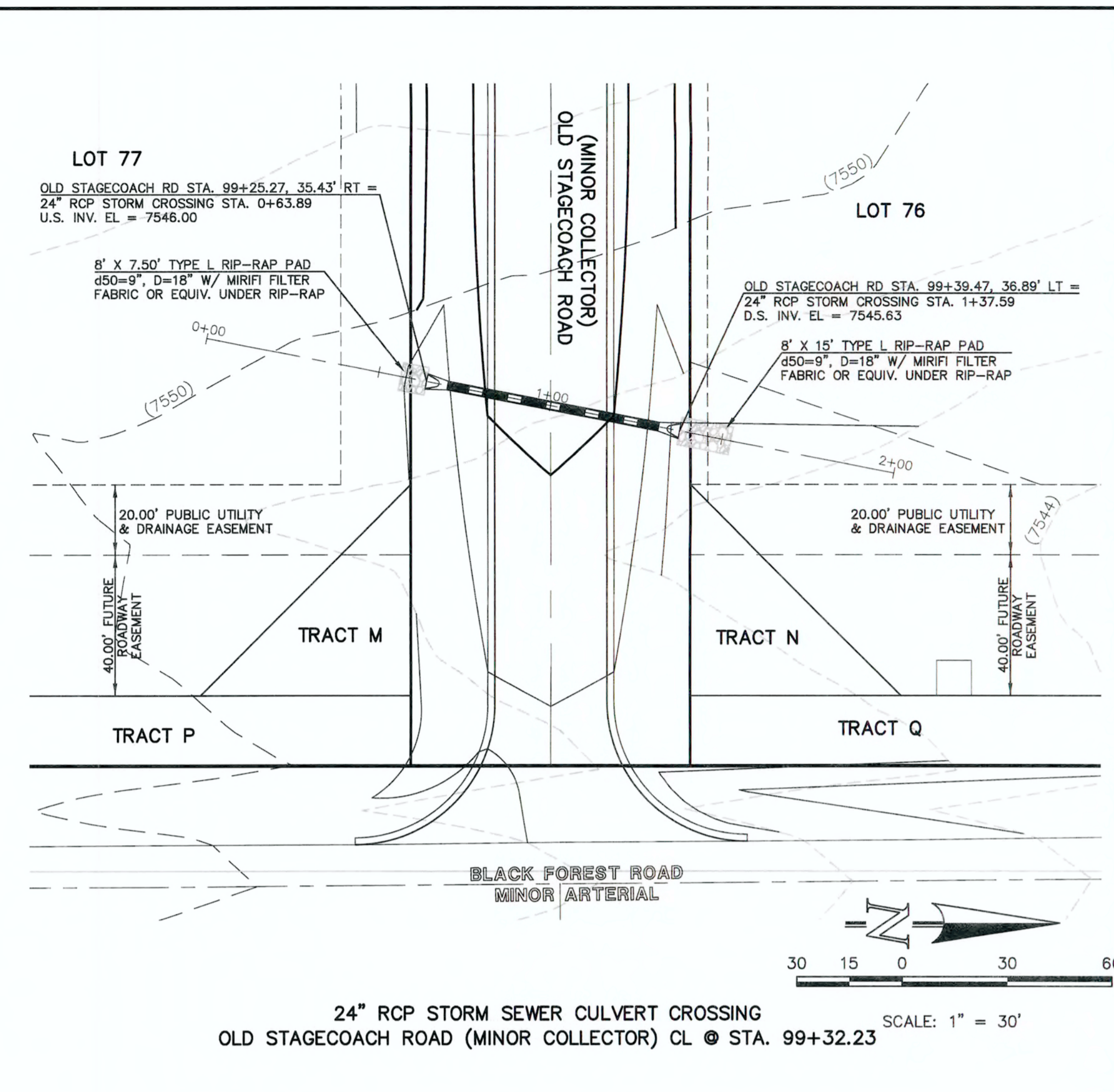
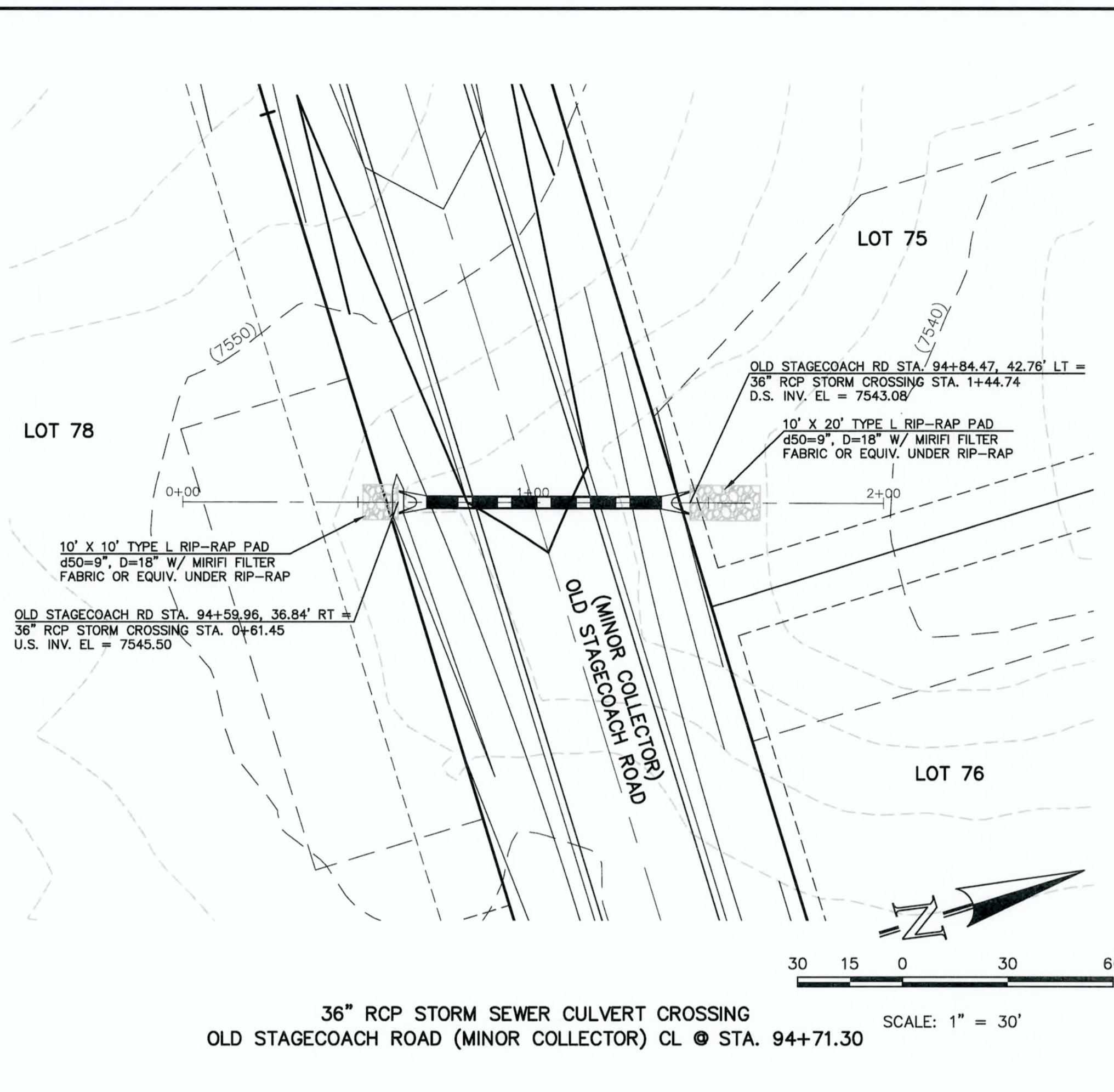
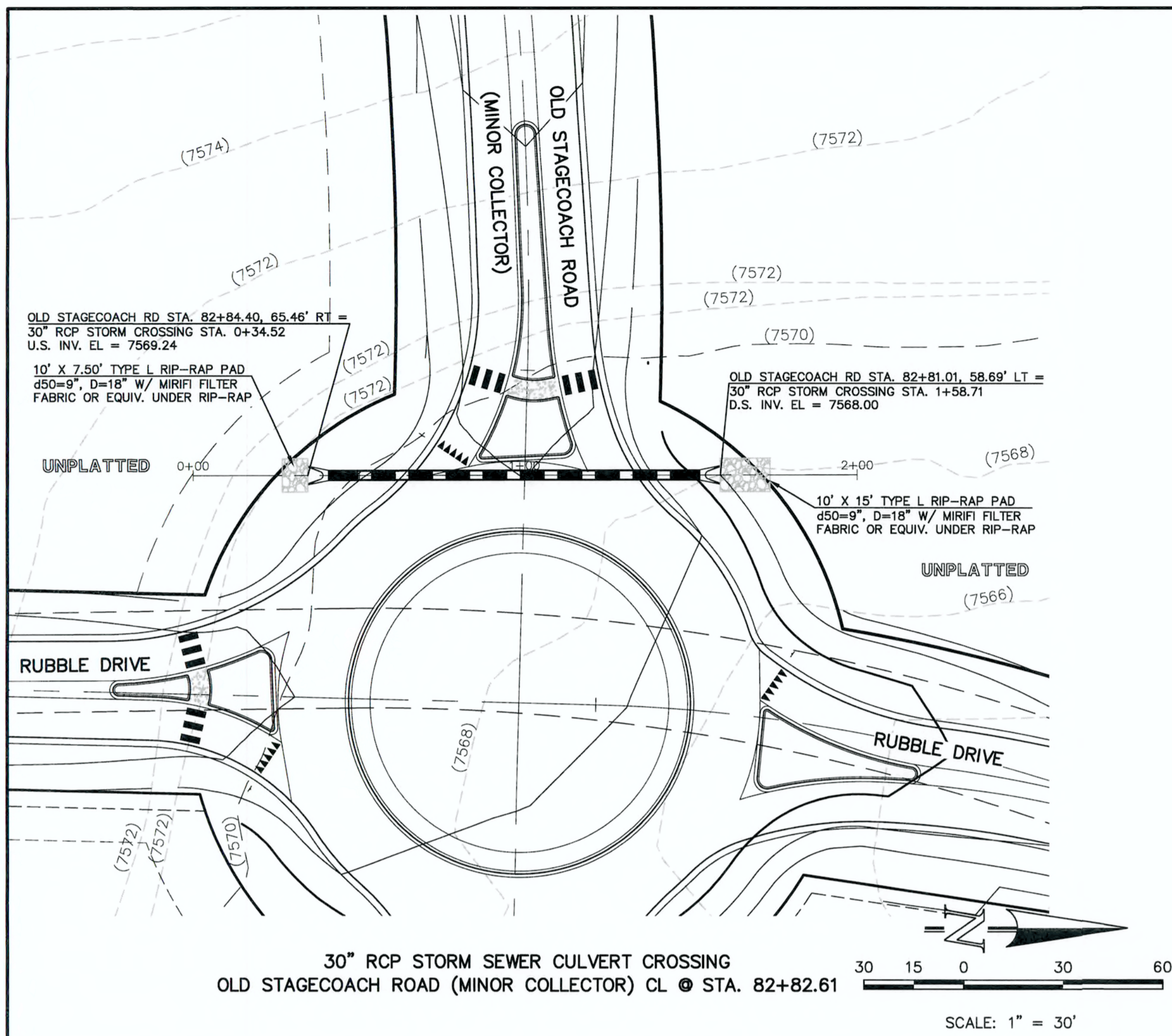
619 N. Cascade Avenue, Suite 200  
 Colorado Springs, Colorado 80903

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FLYING HORSE NORTH FILING NO. 1  
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 STORM SEWER RCP CULVERT CROSSINGS  
 PLAN & PROFILE

DESIGNED BY	PRA	SCALE	DATE
DRAWN BY	PRA	(H) 1" = 30'	SHEET 5 OF 22
CHECKED BY	(V) 1" = 3'	JOB NO.	1096.11

N:\109611\DRAWINGS\CONSTRUCTION\Final Storm Plans\109611-01-05.dwg, 6/14/2018 4:51:57 PM, 1:1



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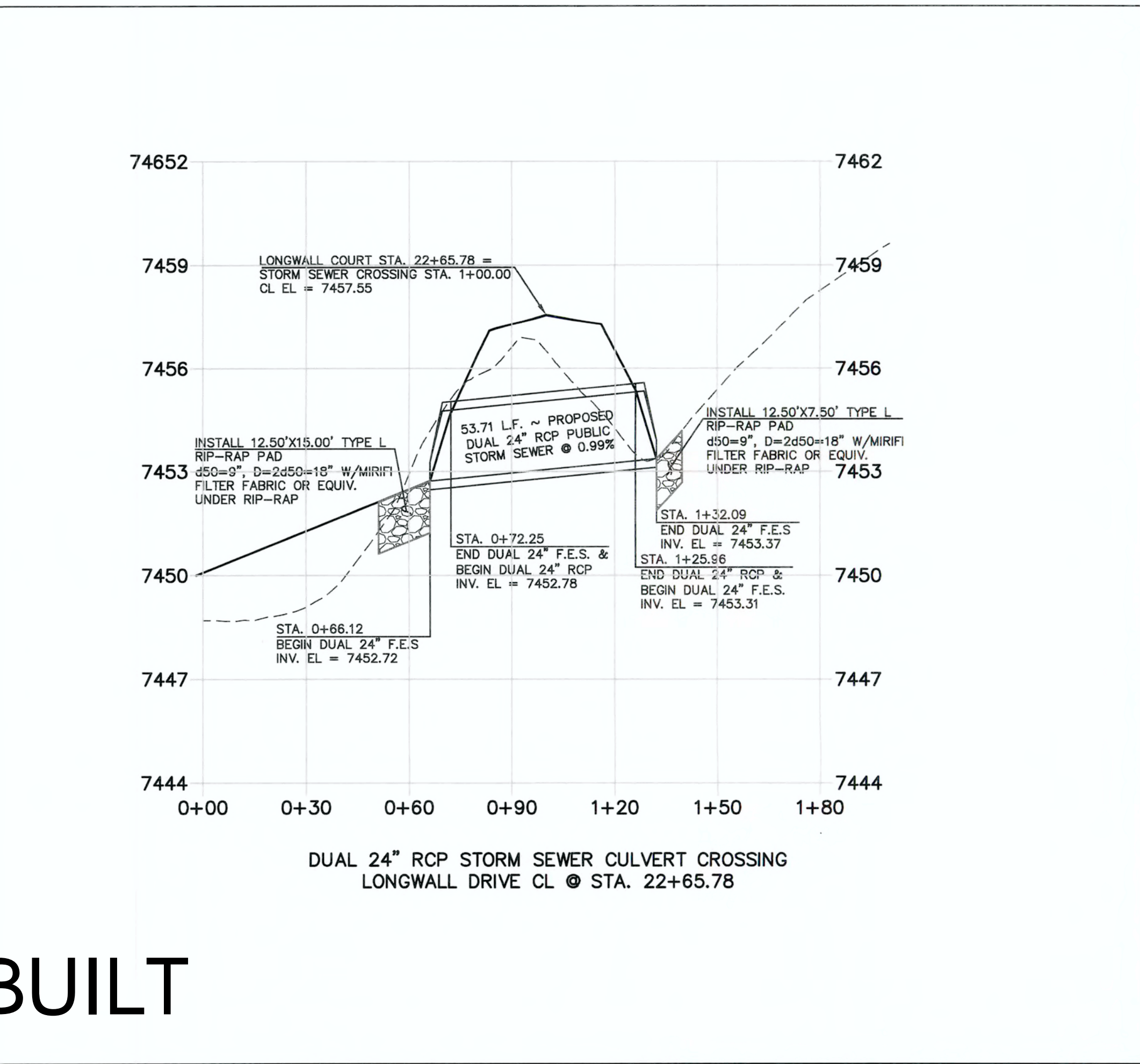
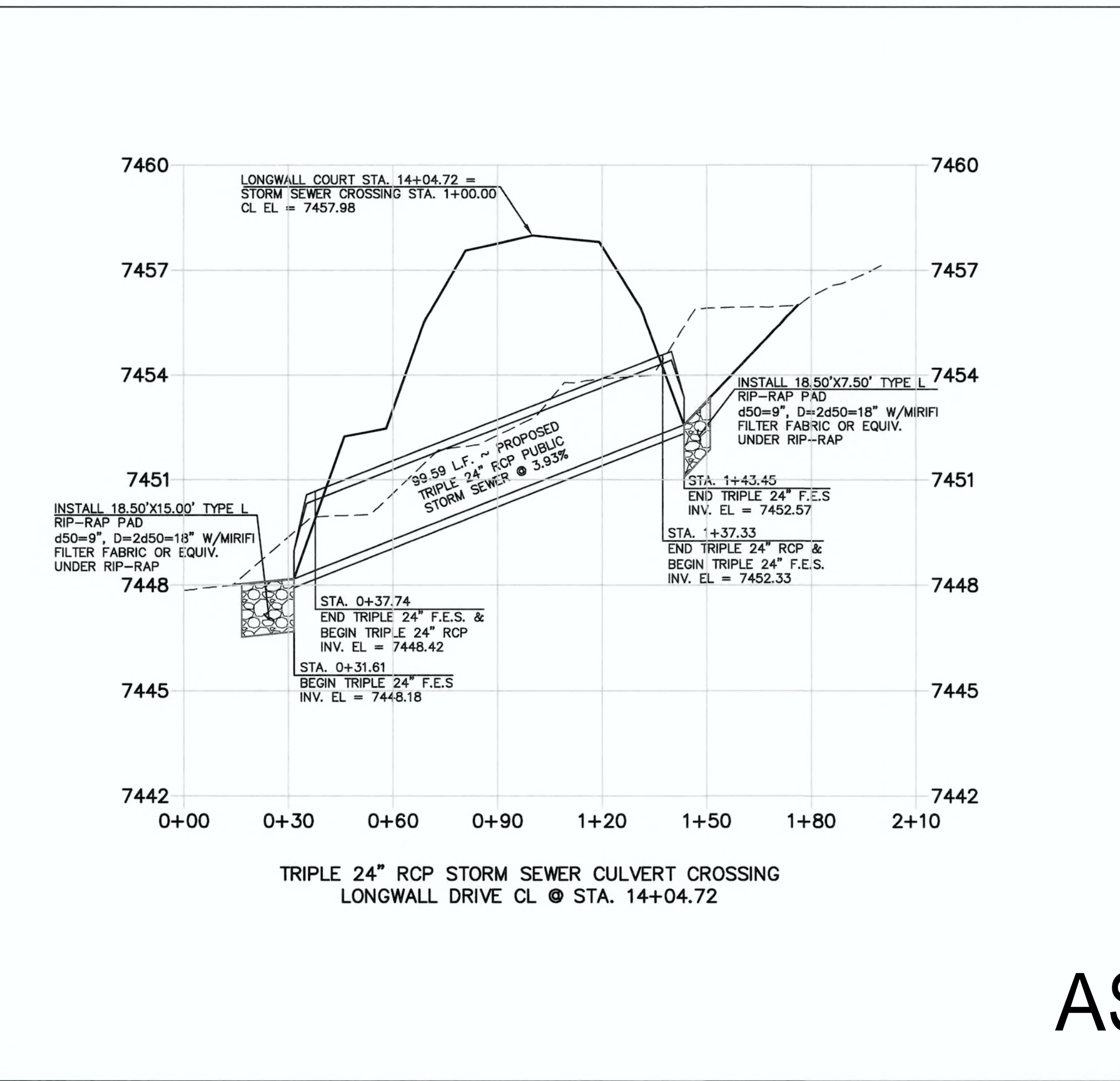
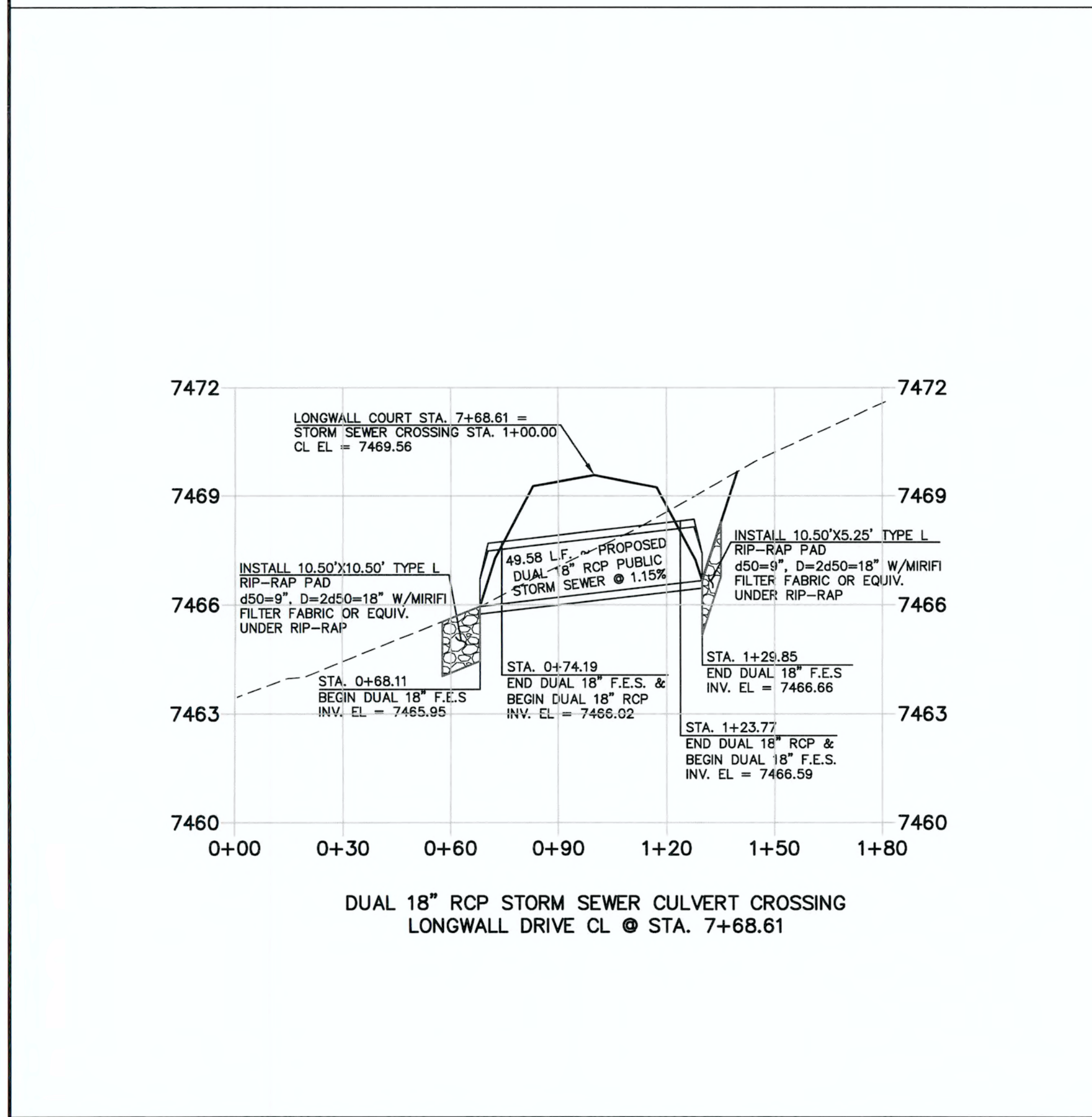
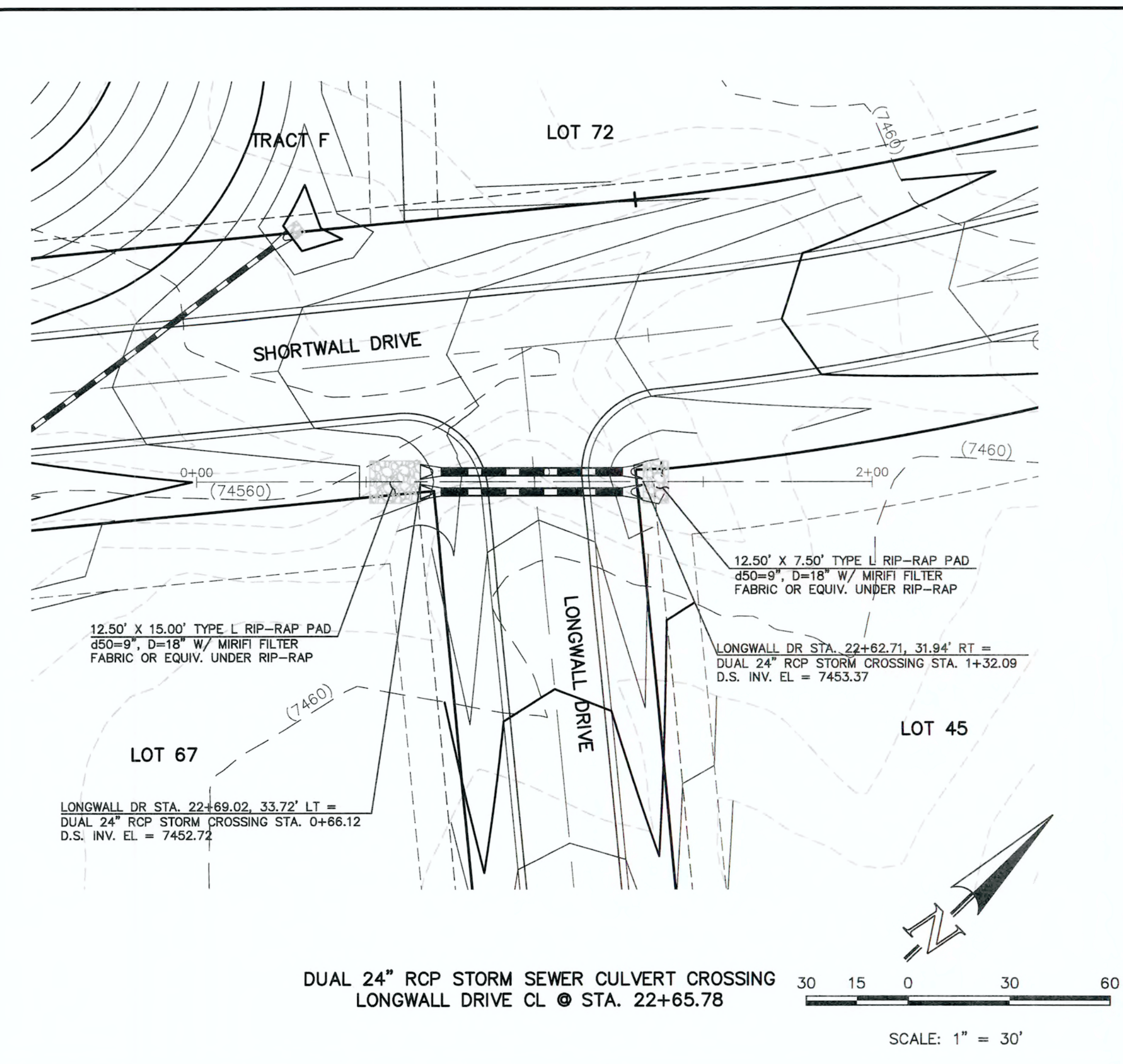
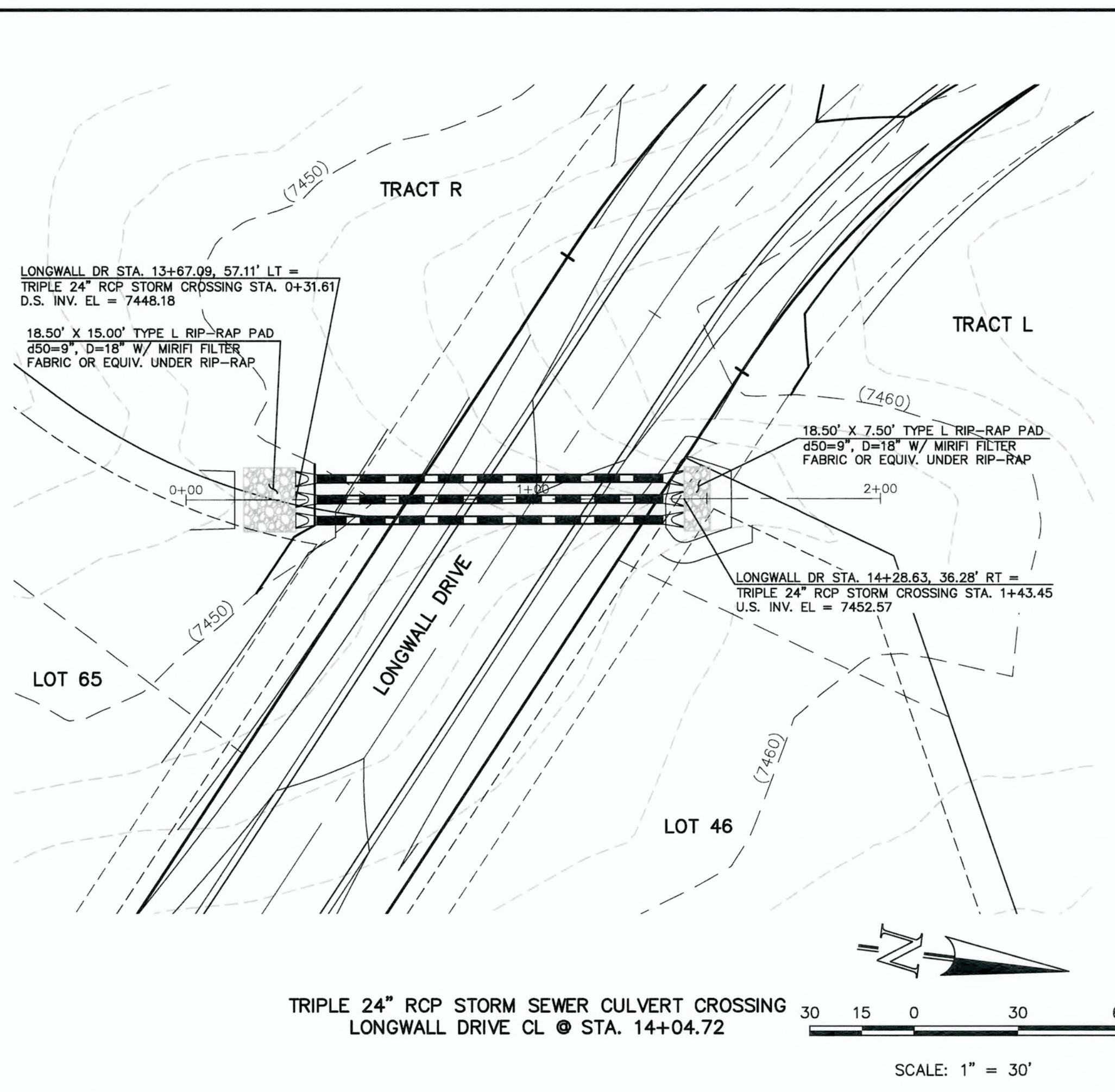
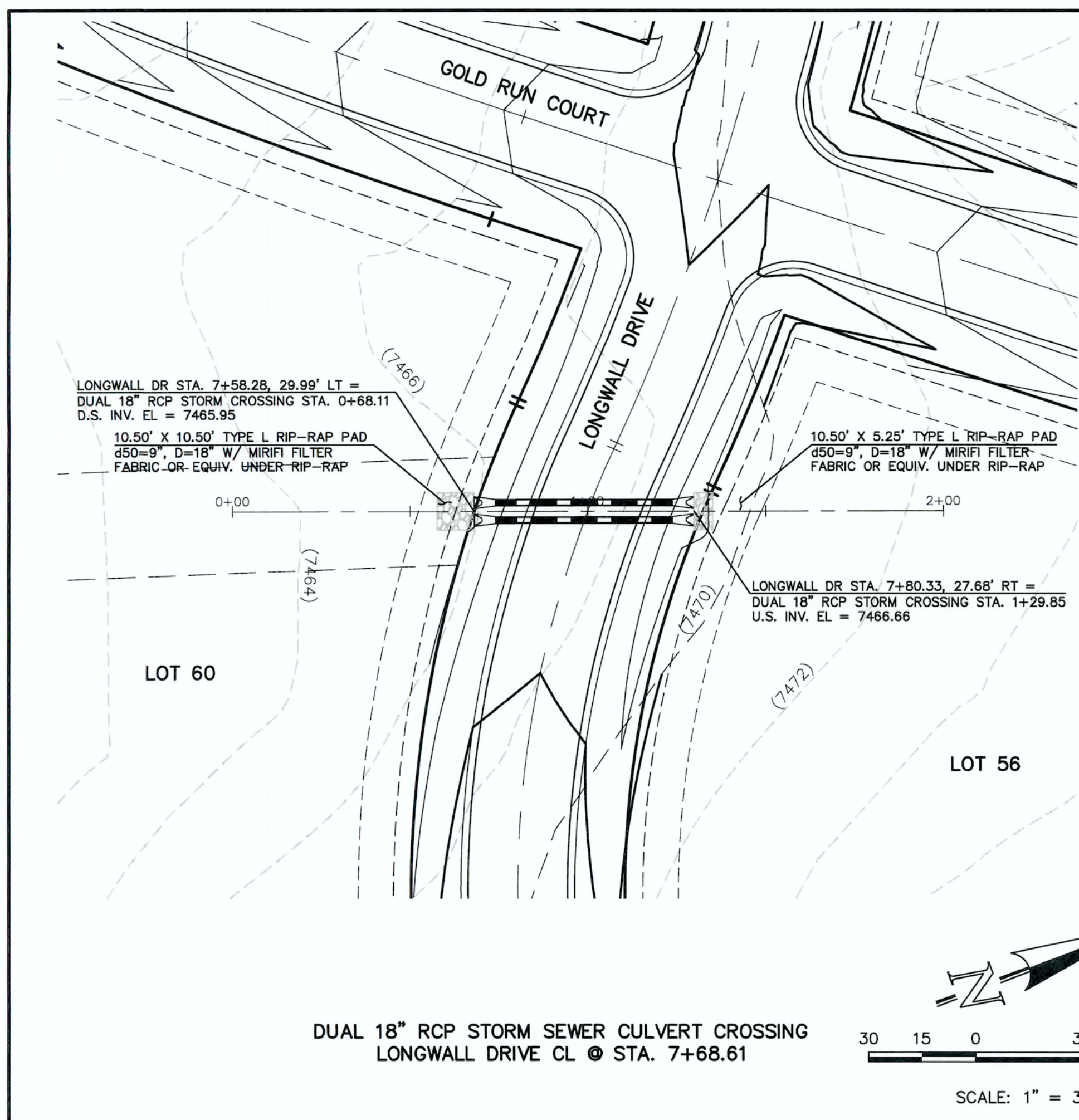
MARC A. WHORTON, COLORADO, P.E. #37155  
 DATE 6/11/18



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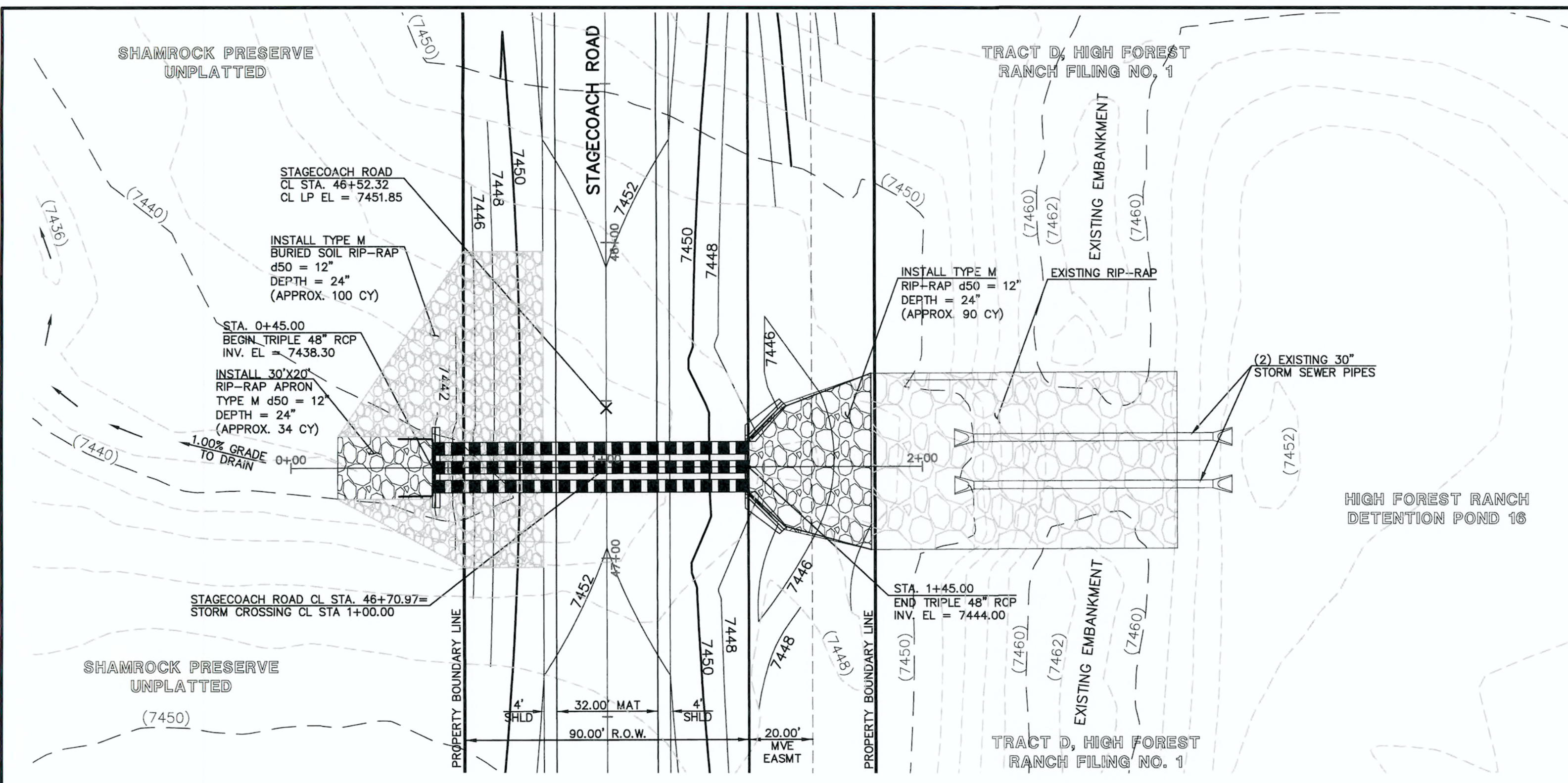
DESIGNED BY	PRA	SCALE	DATE
DRAWN BY	PRA	(H) 1" = 30'	SHEET 6 OF 22
CHECKED BY	(V) 1" = 3'	JOB NO.	1096.11



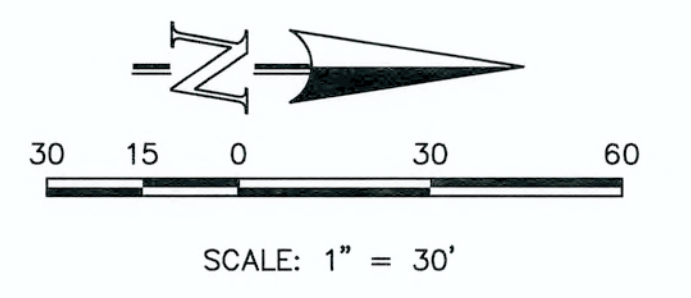


AS-BUILT

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<p>CLASSIC CONSULTING ENGINEERS &amp; SURVEYORS</p>																		



**TRIPLE 48" RCP STORM SEWER CROSSING**

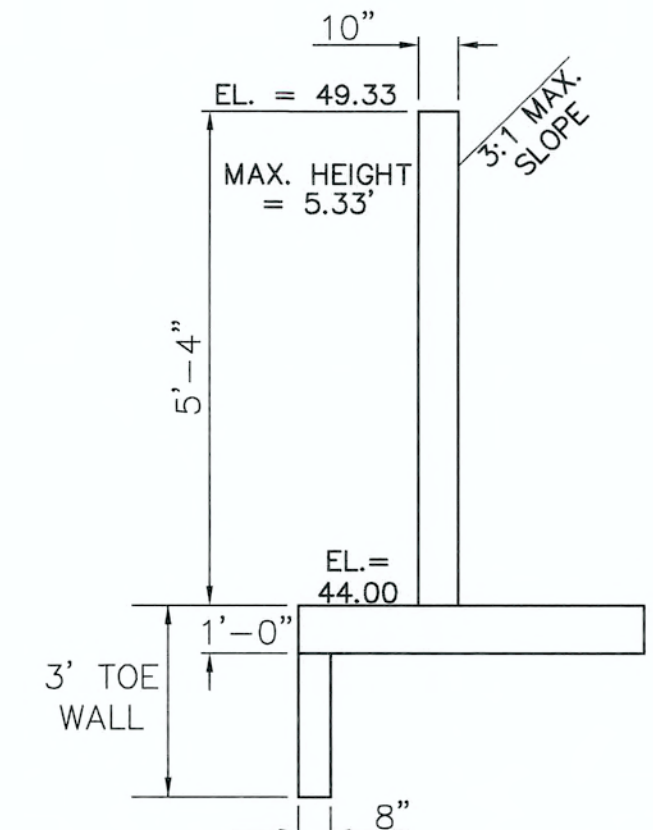


**NORTHWEST HEADWALL/WINGWALLS**

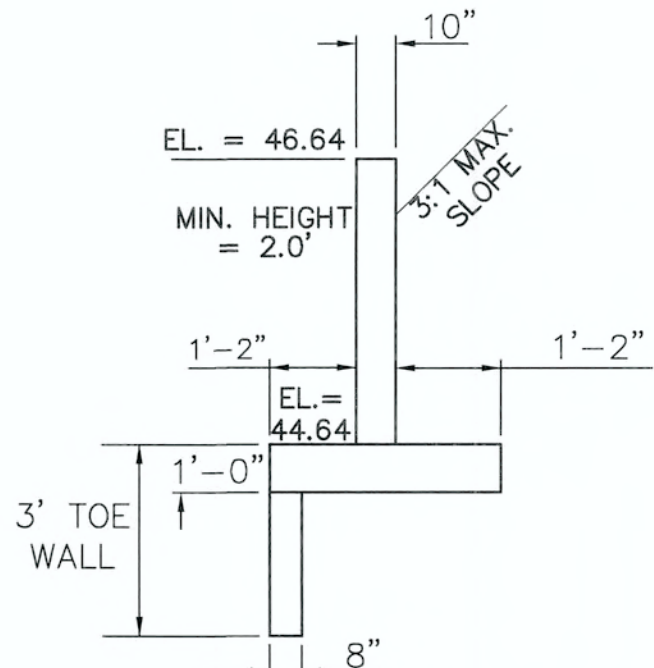
PER CDOT M-601-20  
 SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
 INV. IN EL = 7444.00  
 EL AT TOP OF HEADWALL = 7449.67  
 EL AT TOP OF WINGWALL NW1 = 7449.33  
 EL AT TOP OF WINGWALL NW2 = 7446.64  
 EL AT TOP OF NW1 FOOTING = 7444.00  
 EL AT TOP OF NW2 FOOTING = 7444.64

**NORTHEAST HEADWALL/WINGWALLS**

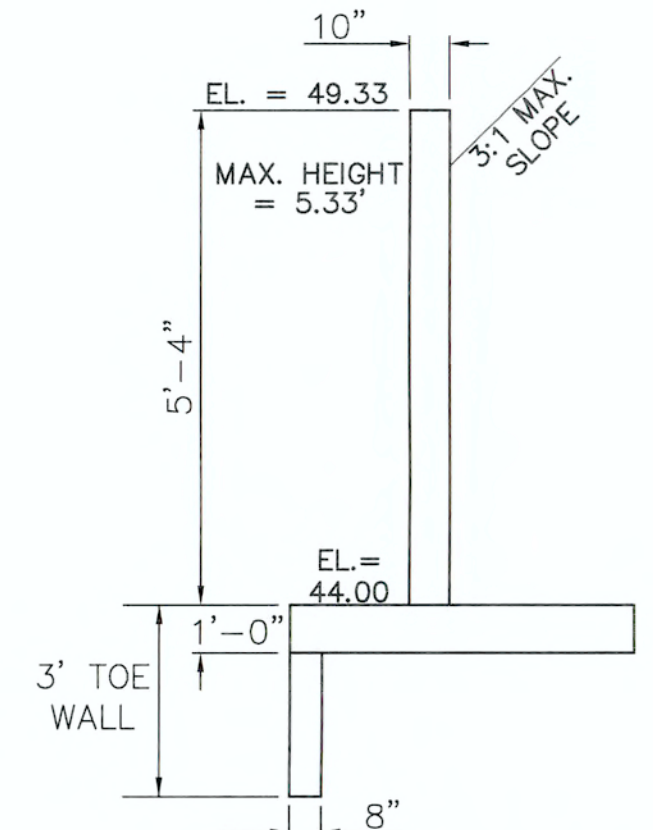
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 SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
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 EL AT TOP OF HEADWALL = 7449.67  
 EL AT TOP OF WINGWALL NE1 = 7449.33  
 EL AT TOP OF WINGWALL NE2 = 7446.64  
 EL AT TOP OF NE1 FOOTING = 7444.00  
 EL AT TOP OF NE2 FOOTING = 7444.64



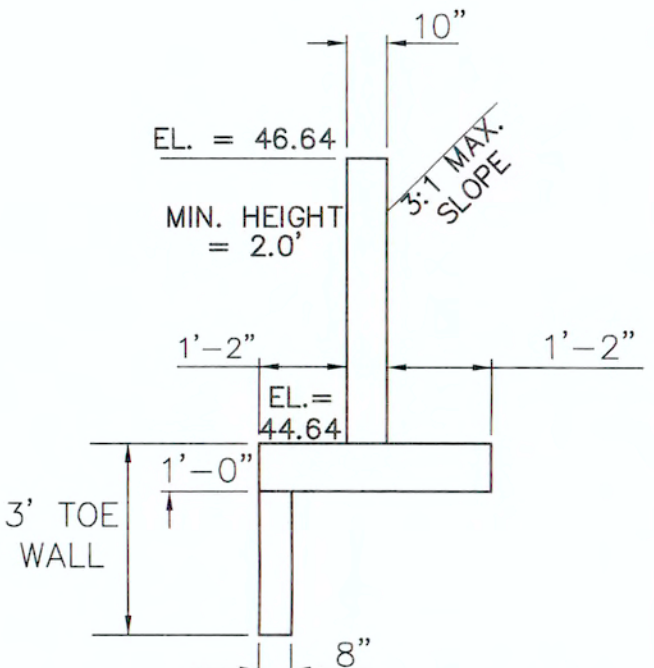
**NORTHWEST WINGWALL TOP**  
 N.T.S.  
 (WALL NW1)



**NORTHWEST WINGWALL BOTTOM**  
 N.T.S.  
 (WALL NW2)



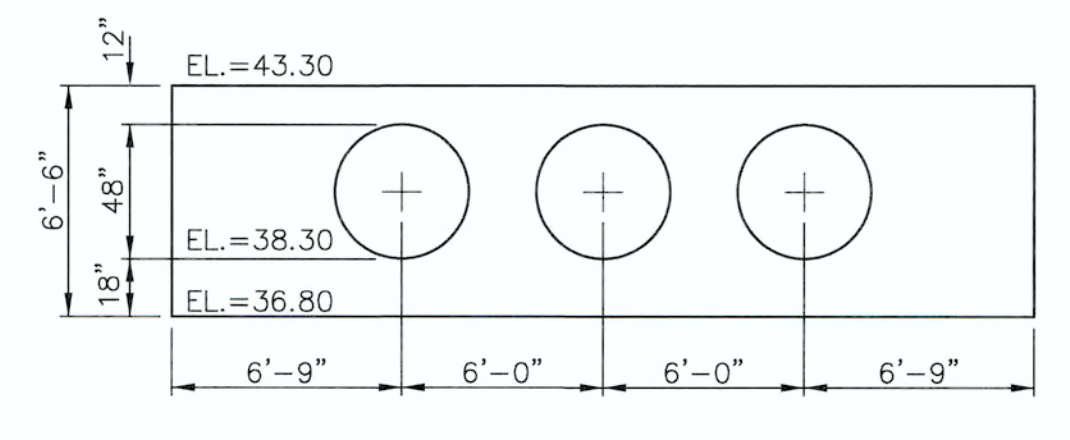
**NORTHEAST WINGWALL TOP**  
 N.T.S.  
 (WALL NE1)



**NORTHEAST WINGWALL BOTTOM**  
 N.T.S.  
 (WALL NE2)

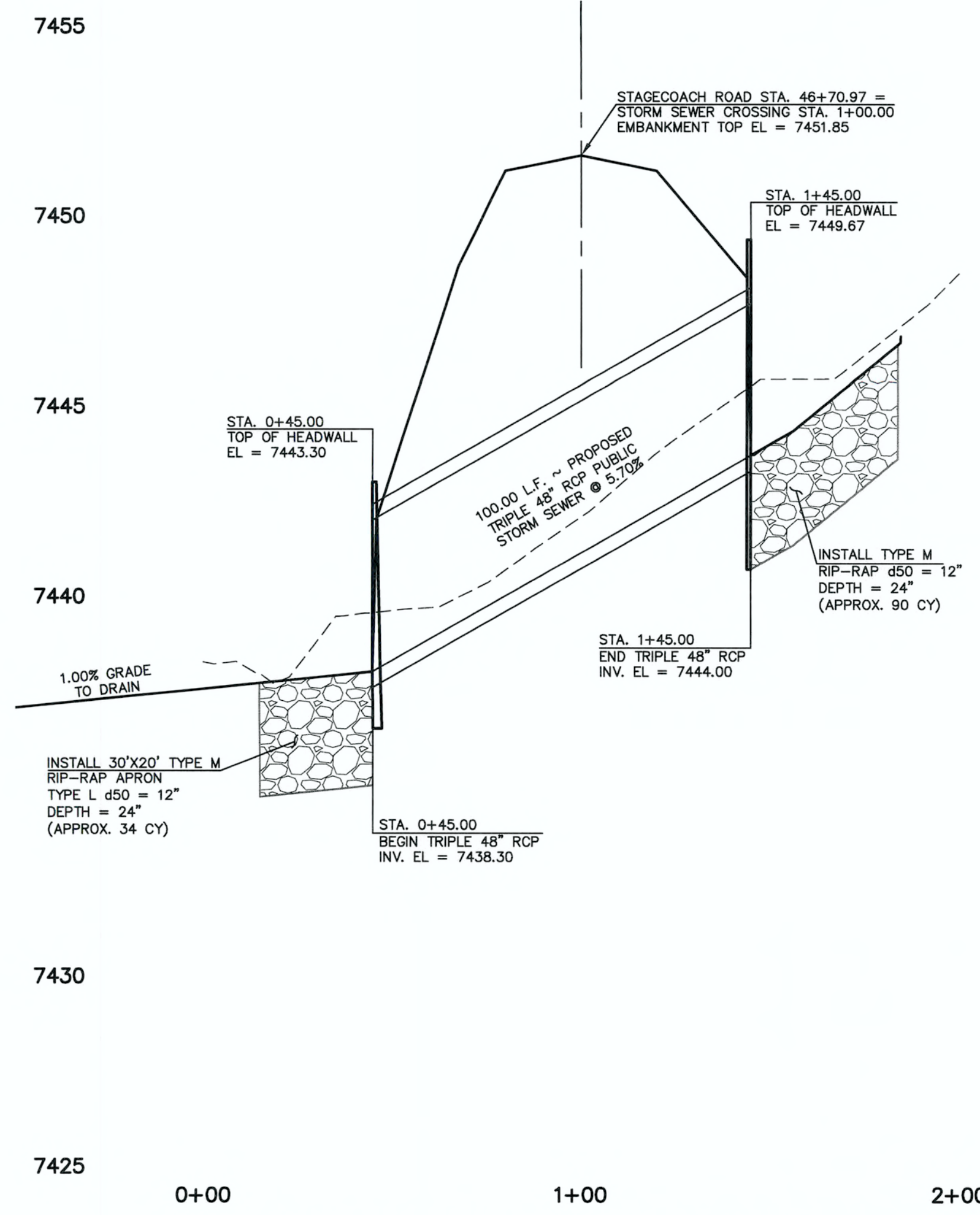
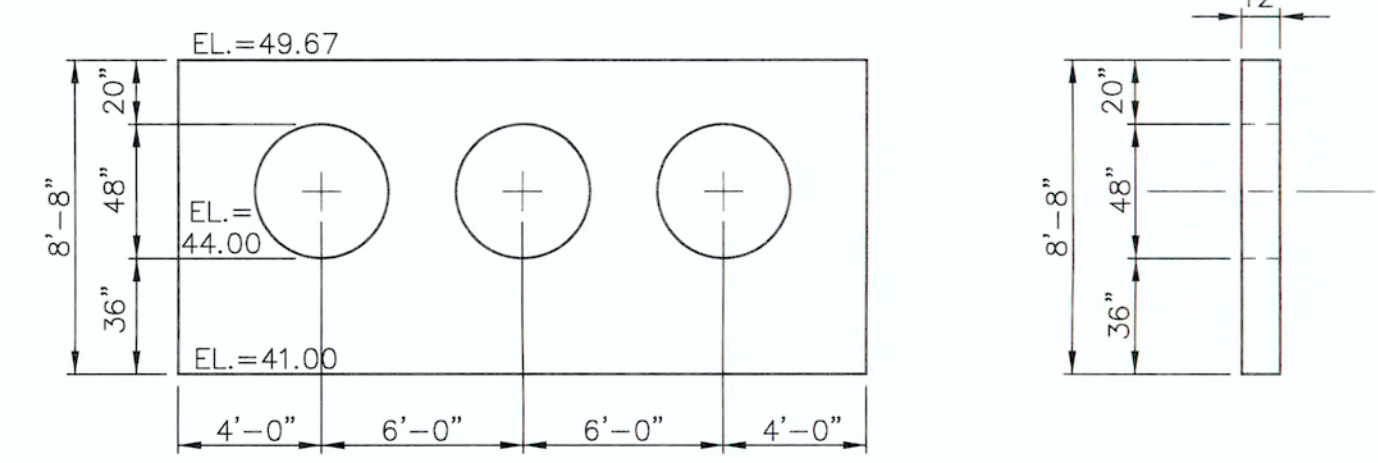
**SOUTHERN OUTLET HEADWALL**

PER CDOT M-601-12  
 SEE CDOT M-601-12 FOR DESIGN REQUIREMENTS  
 INV. OUT EL = 7438.30  
 EL AT TOP OF HEADWALL = 7443.30  
 FINISHED GRADE EL AT TOP OF HEADWALL = 7442.80  
 EL AT BOTTOM HEADWALL = 7436.80



**NORTHERN INLET HEADWALL**

PER CDOT M-601-20  
 SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
 INV. OUT EL = 7444.00  
 EL AT TOP OF HEADWALL = 7449.67  
 FINISHED GRADE EL AT TOP OF HEADWALL = 7449.17  
 EL AT BOTTOM HEADWALL = 7441.00



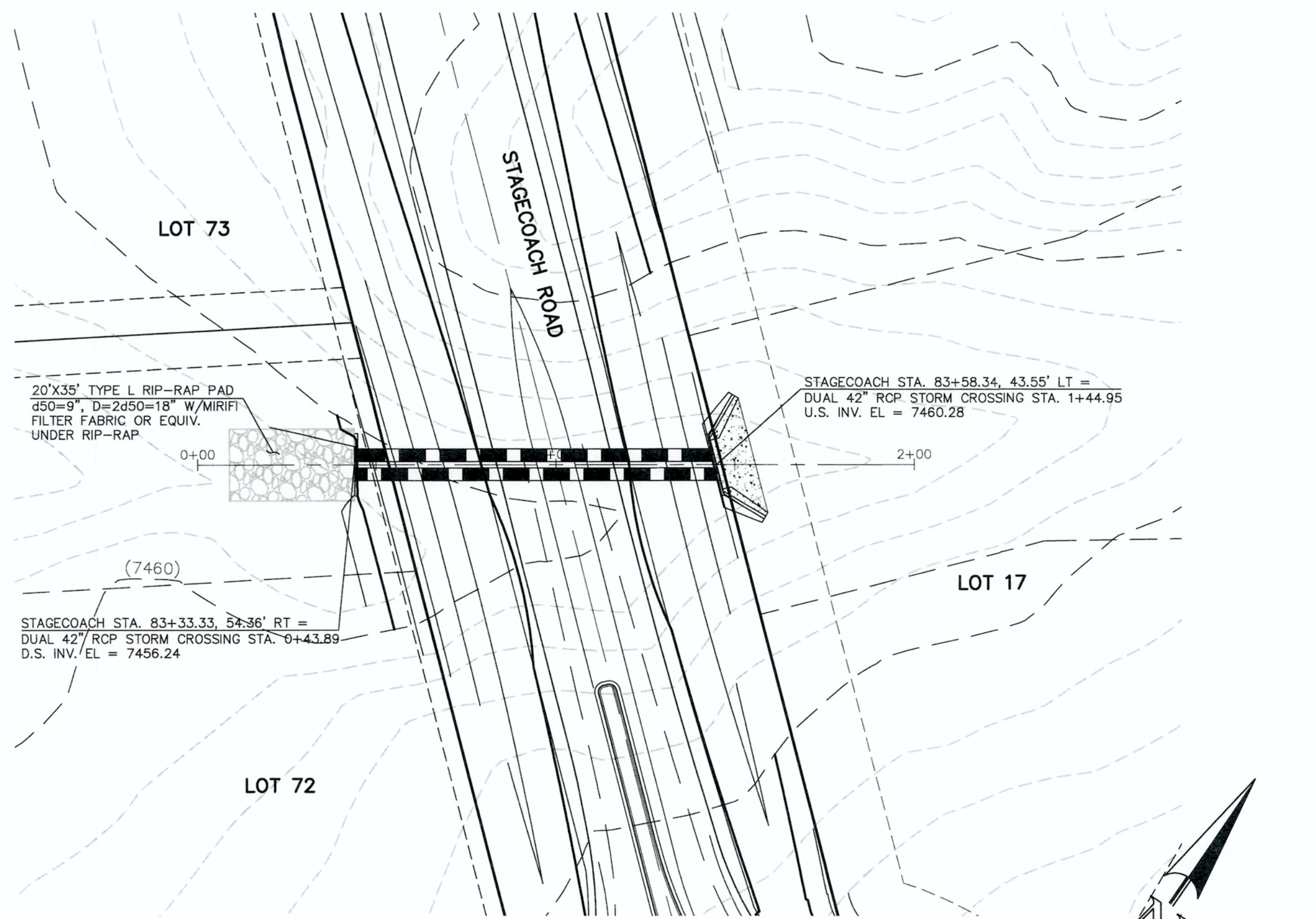
**TRIPLE 48" RCP STORM SEWER CROSSING**

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

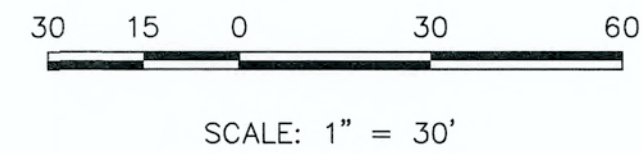
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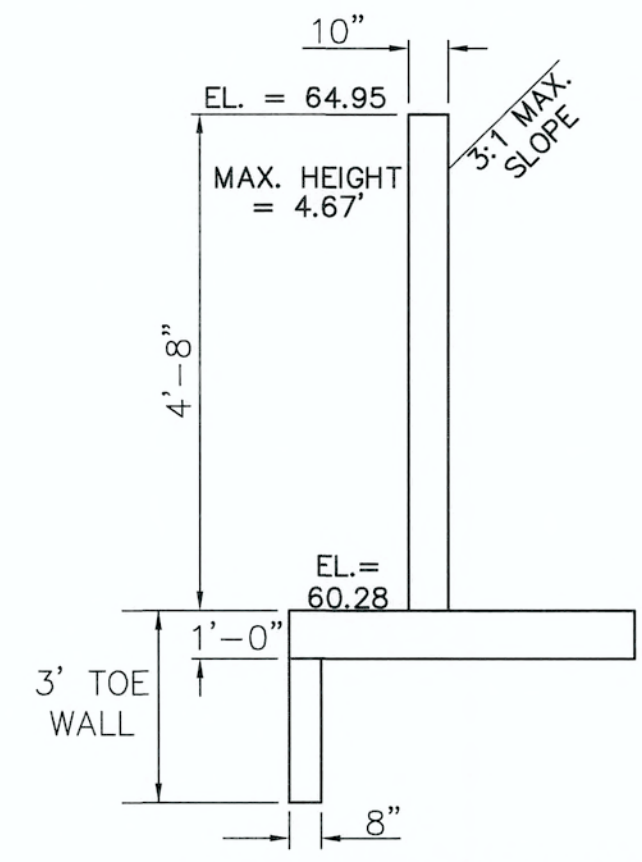


DUAL 42" RCP STORM SEWER CULVERT CROSSING  
STAGECOACH ROAD @ STA. 83+47.22

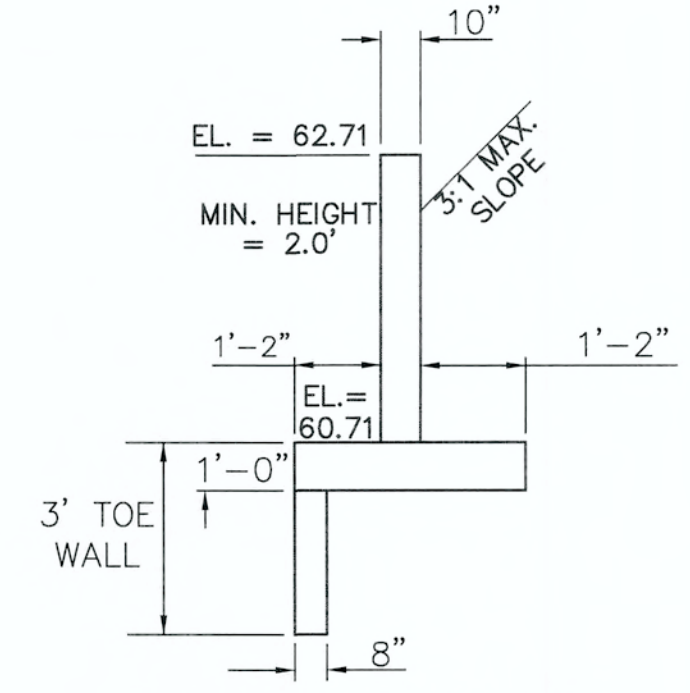


**NORTHWEST HEADWALL/WINGWALLS**

PER CDOT M-601-20  
SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
INV. IN EL = 7460.28  
EL AT TOP OF HEADWALL = 7465.45  
EL AT TOP OF WINGWALL NW1 = 7464.95  
EL AT TOP OF WINGWALL NW2 = 7462.71  
EL AT TOP OF NW1 FOOTING = 7460.28  
EL AT TOP OF NW2 FOOTING = 7460.71



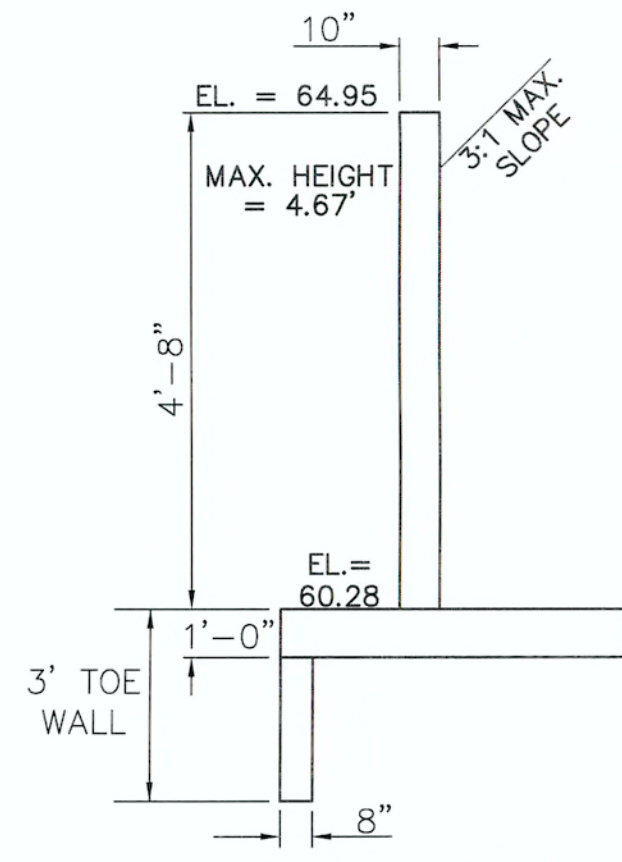
**NORTHWEST WINGWALL TOP**  
N.T.S.  
(WALL NW1)



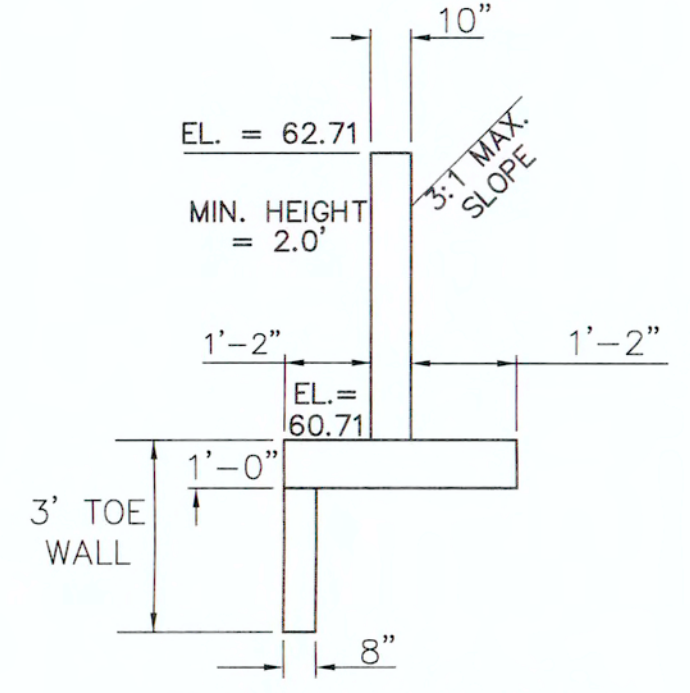
**NORTHWEST WINGWALL BOTTOM**  
N.T.S.  
(WALL NW2)

**NORTHEAST HEADWALL/WINGWALLS**

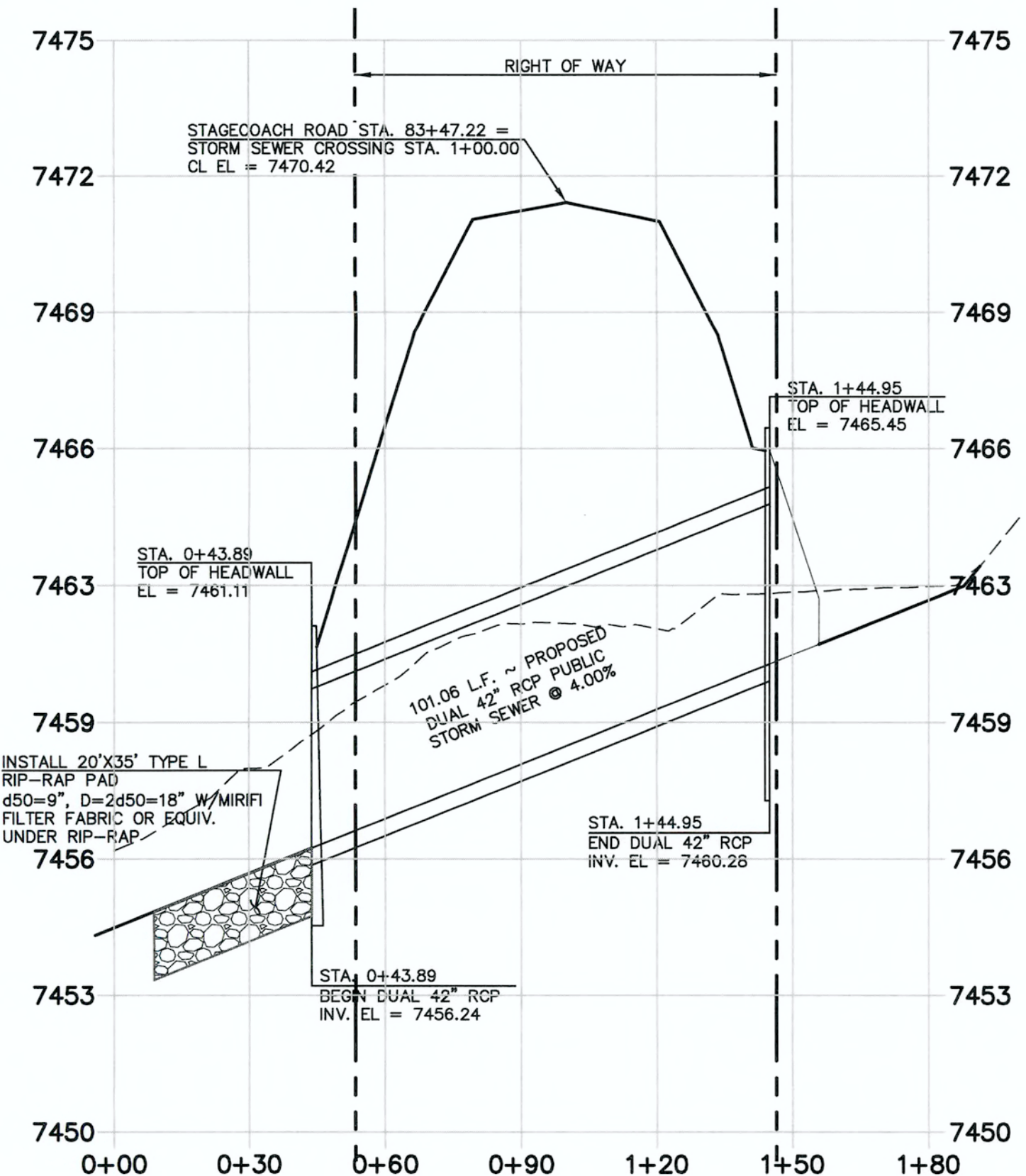
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SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
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EL AT TOP OF HEADWALL = 7465.45  
EL AT TOP OF WINGWALL NE1 = 7464.95  
EL AT TOP OF WINGWALL NE2 = 7462.71  
EL AT TOP OF NE1 FOOTING = 7460.28  
EL AT TOP OF NE2 FOOTING = 7460.71



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N.T.S.  
(WALL NE1)



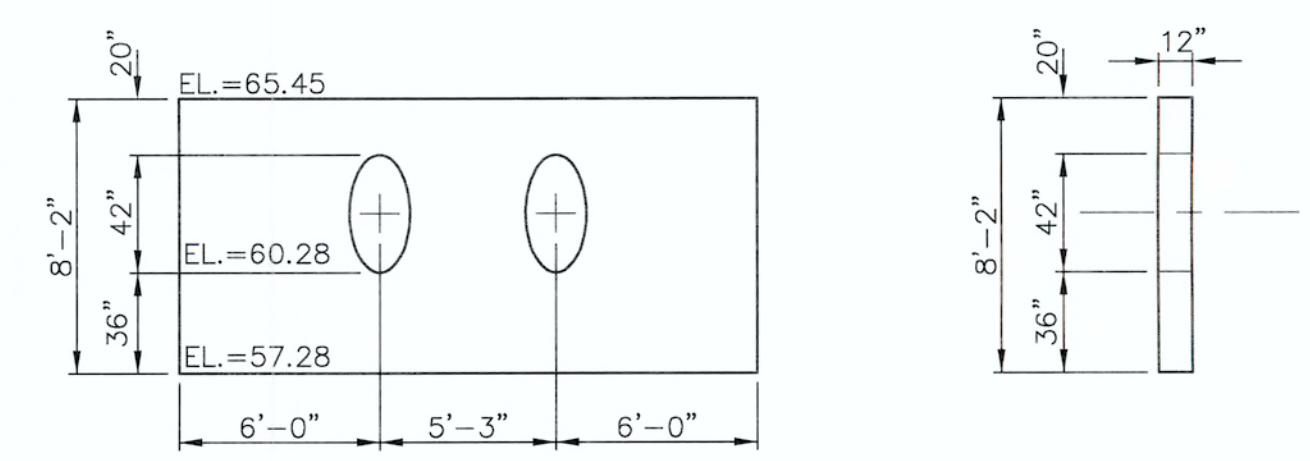
**NORTHEAST WINGWALL BOTTOM**  
N.T.S.  
(WALL NE2)



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STAGECOACH ROAD @ STA. 83+47.22  
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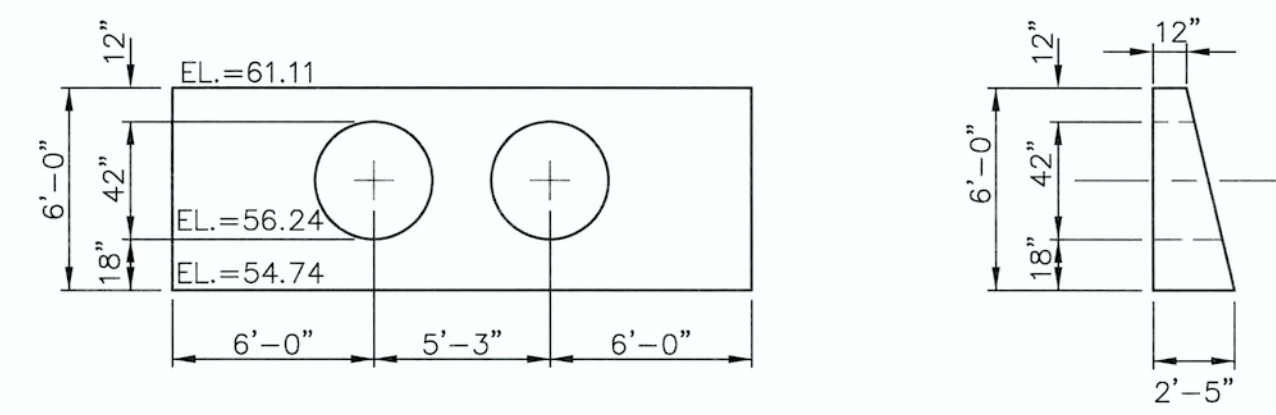
**NORTHERN INLET HEADWALL**

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SEE CDOT M-601-20 FOR DESIGN REQUIREMENTS  
INV. IN EL = 7460.28  
EL AT TOP OF HEADWALL = 7465.45  
FINISHED GRADE EL AT TOP OF HEADWALL = 7464.95  
EL AT BOTTOM HEADWALL = 7457.28



**SOUTHERN OUTLET HEADWALL**

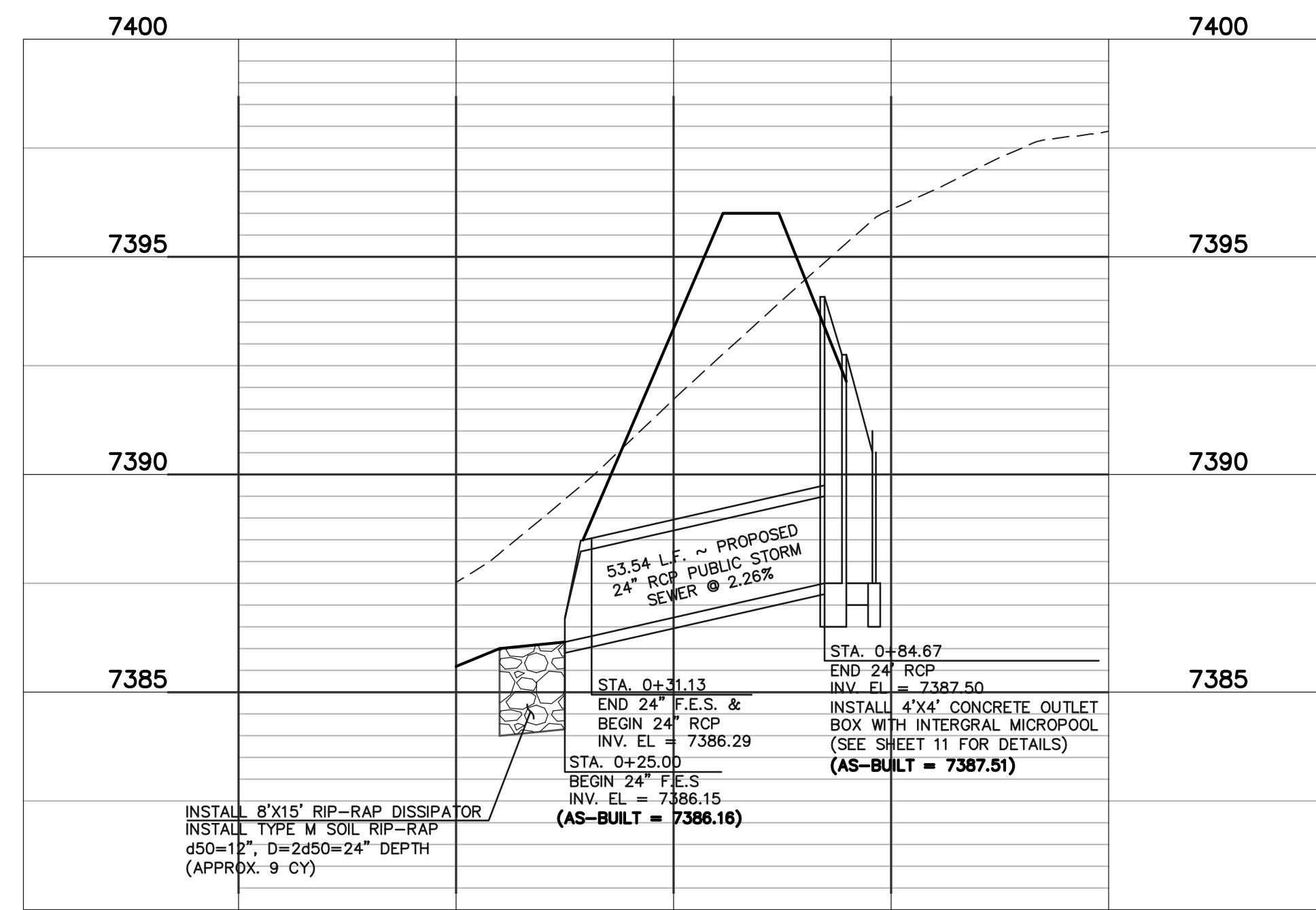
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SEE CDOT M-601-12 FOR DESIGN REQUIREMENTS  
INV. OUT EL = 7456.24  
EL AT TOP OF HEADWALL = 7461.11  
FINISHED GRADE EL AT TOP OF HEADWALL = 7460.61  
EL AT BOTTOM HEADWALL = 7454.74



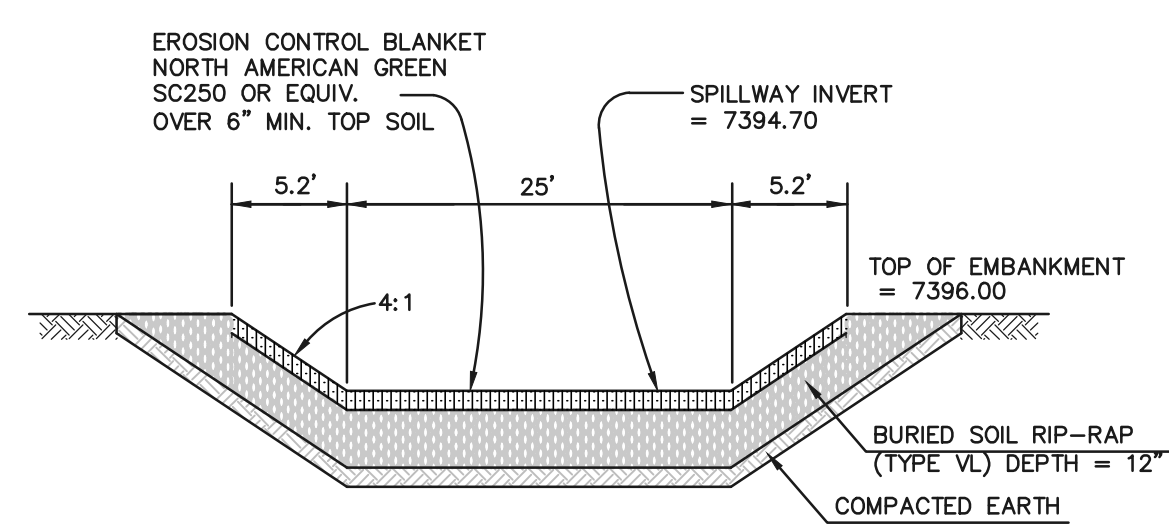
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DESIGNED BY	PRA	SCALE	DATE																										
DRAWN BY	PRA	(H) 1" = 30'	6-13-18																										
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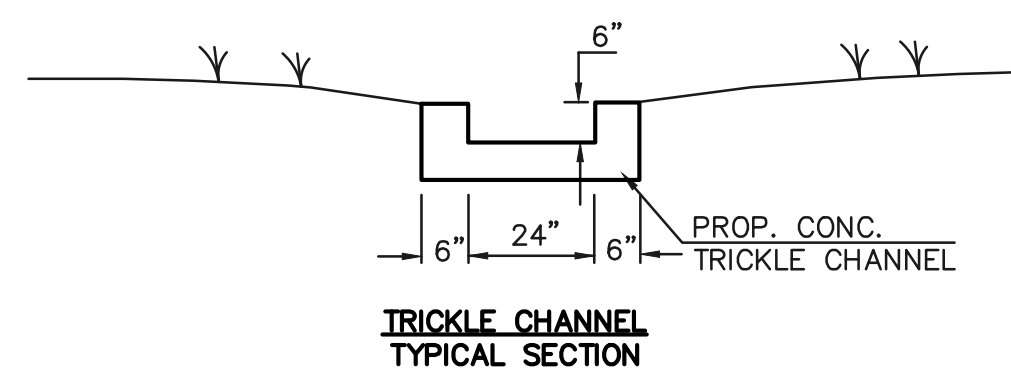
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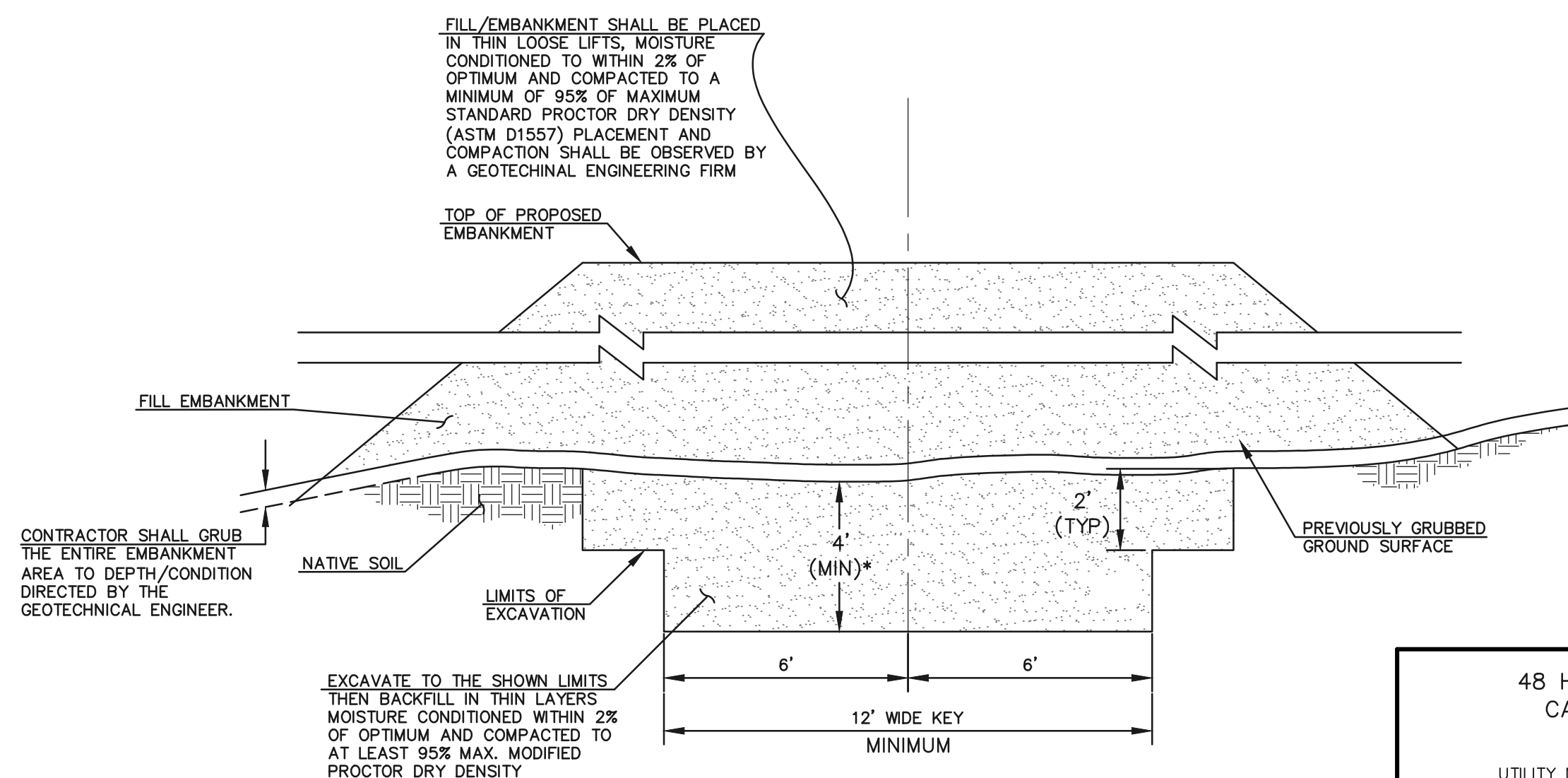
**DETENTION FACILITY NO. 1  
POND OUTLET PROFILE**  
SCALE: HORIZONTAL 1"=30'  
VERTICAL 1"=3'



**EMERGENCY SPILLWAY  
CROSS SECTION**  
SCALE: N.T.S.

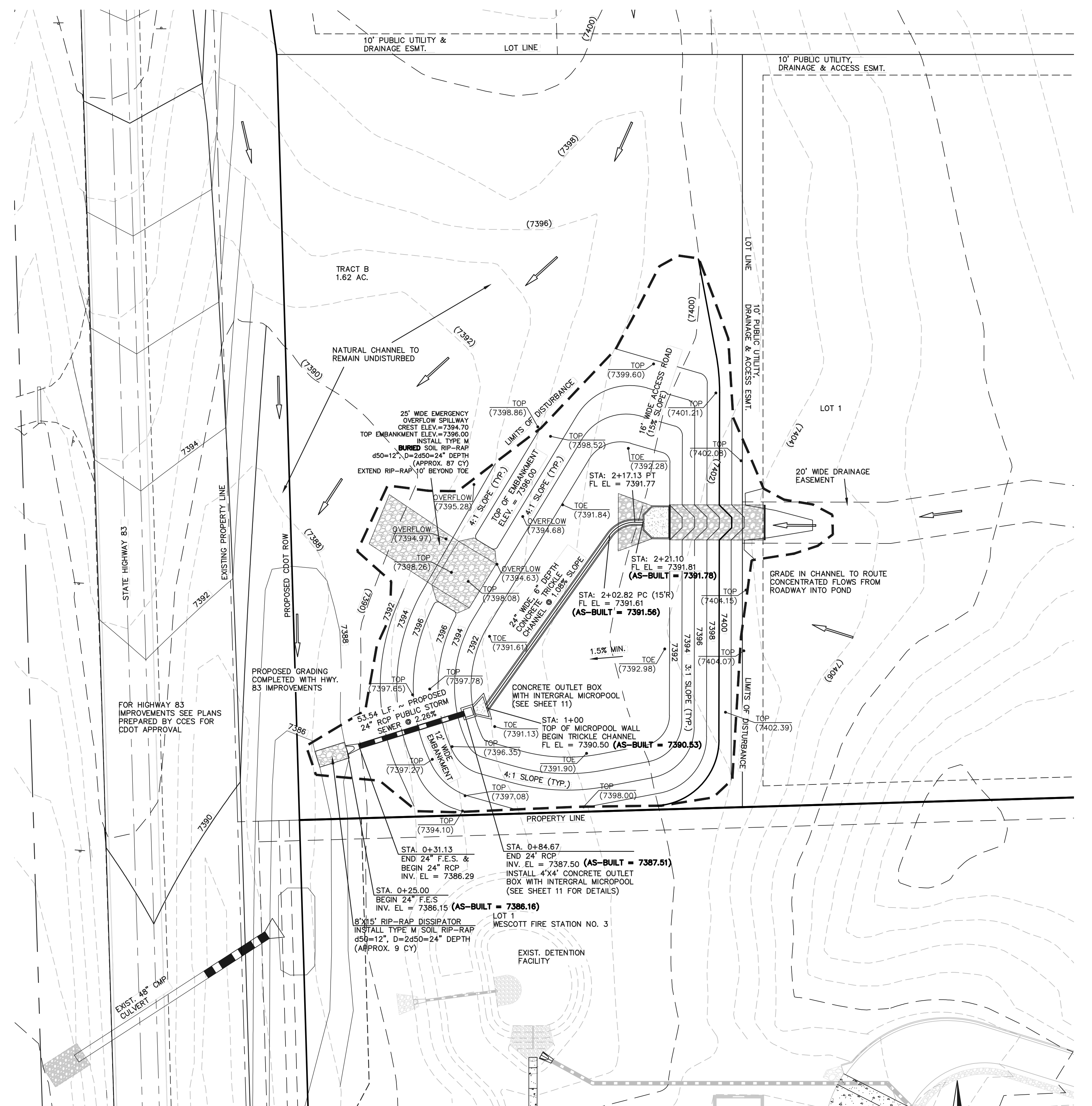


**TRICKLE CHANNEL  
TYPICAL SECTION**



**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.

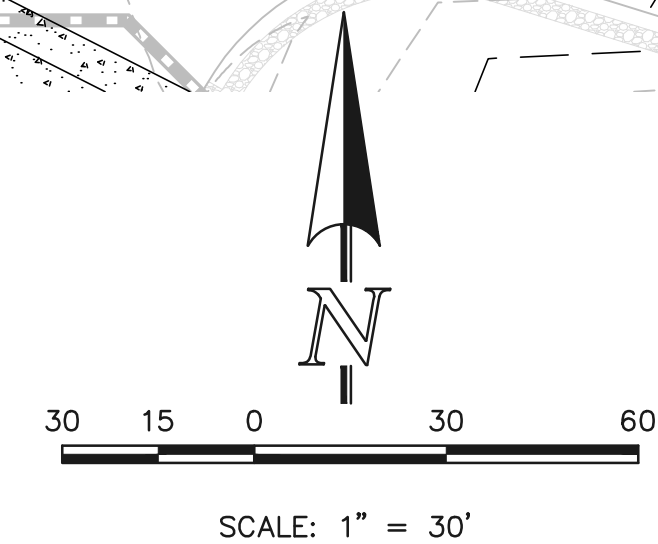


**DETENTION FACILITY NO. 1**

**AS-BUILT**

STRUCTURE AS-BUILTS TAKEN  
7/3/19  
TOPO. AS-BUILTS TAKEN  
9/26/19

SEE FLYING HORSE NORTH EARLY GRADING AND EROSION CONTROL PLAN (GOLF COURSE AND PRIVATE ACCESS ROADS ONLY) FOR EROSION CONTROL DETAILS. APPROVED OCTOBER 2016



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NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	4-4-18
2	UPDATED DESIGN BASED ON HWY 83 DESIGN	4-26-18

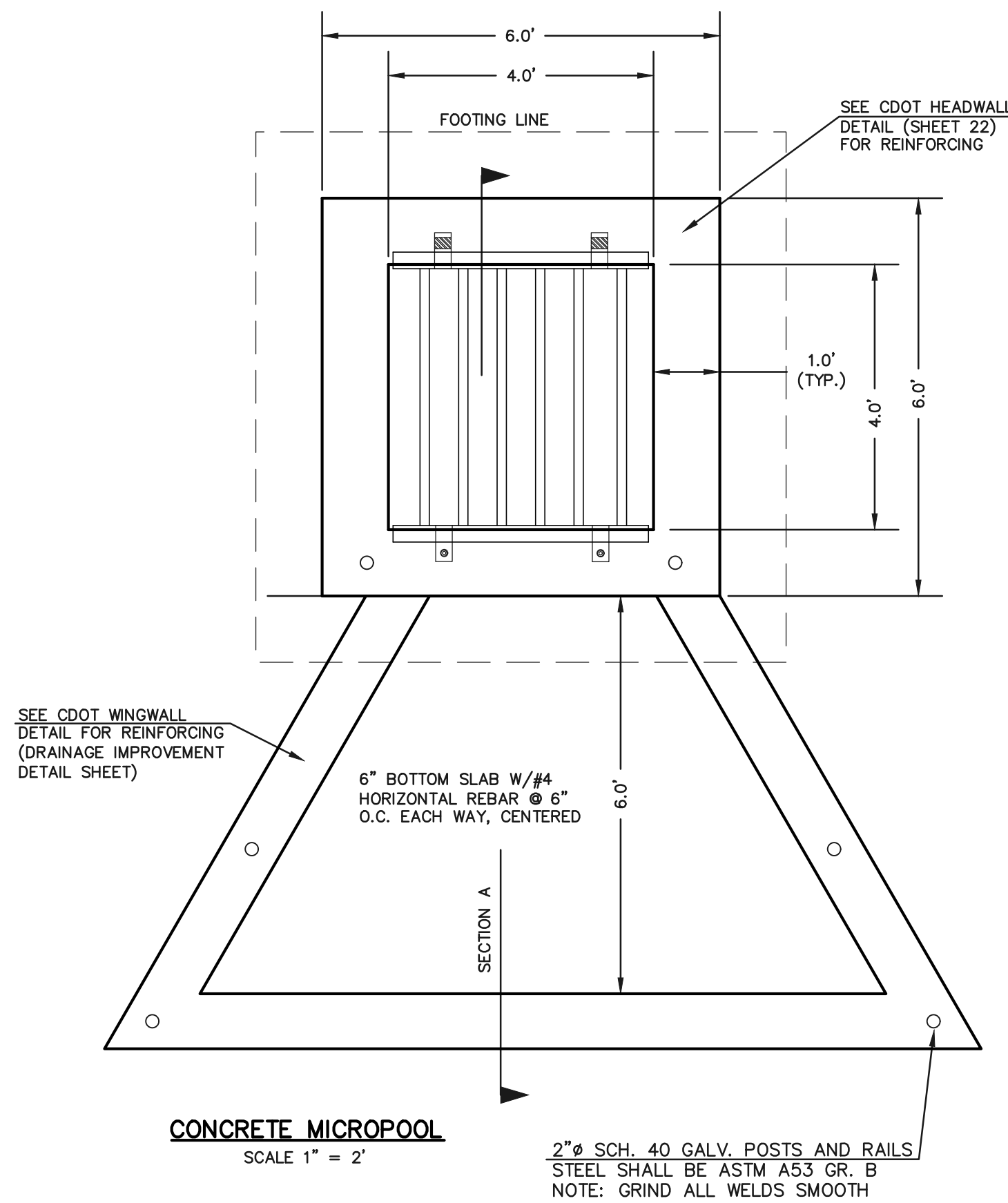
REVIEW:  
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WILGORN, COLORADO P.E. #37155  
DATE 10/16/2020

**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS  
619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (fax)

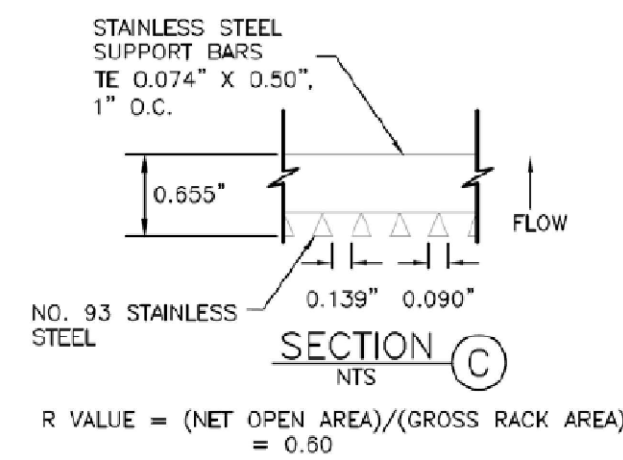
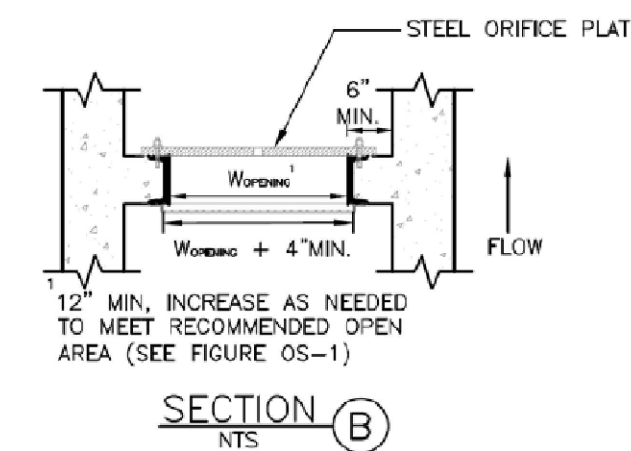
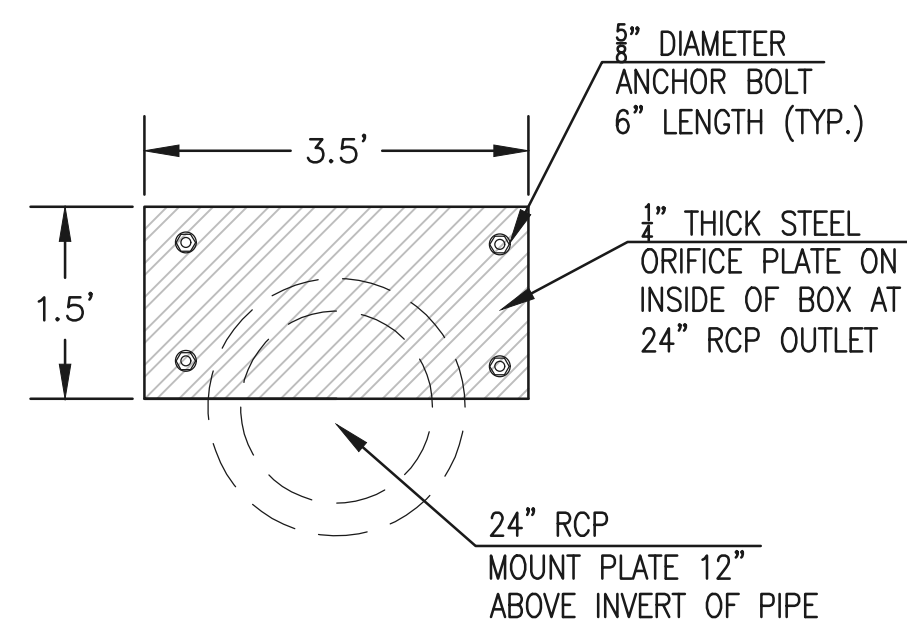
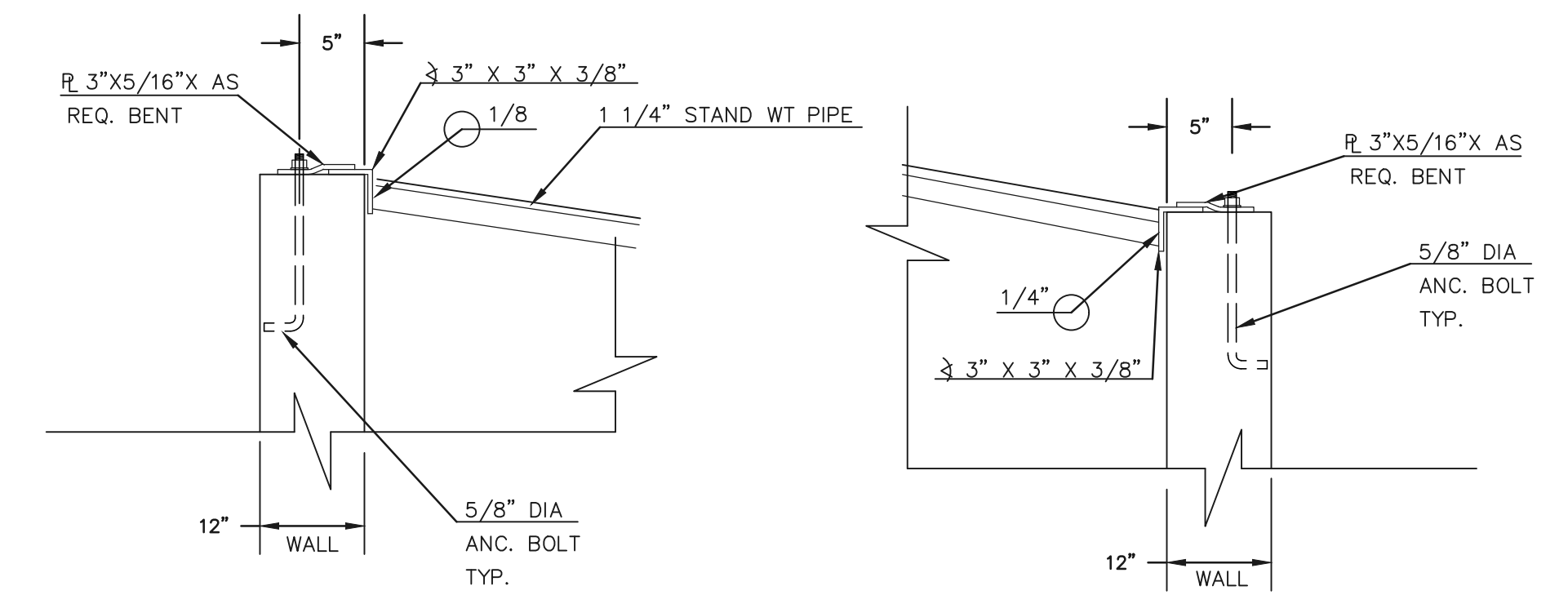
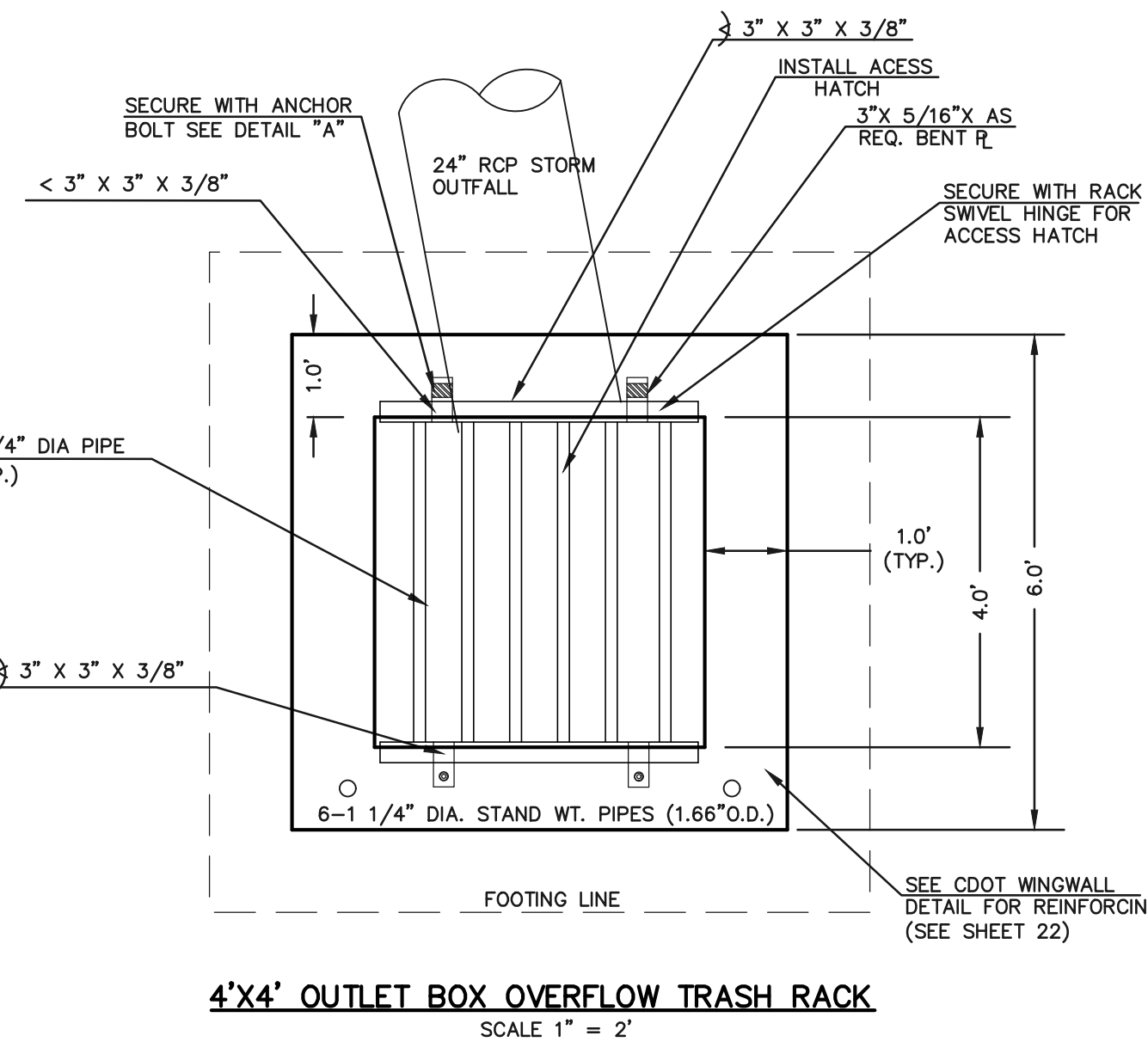
FLYING HORSE NORTH FILING NO. 1 DRAINAGE IMPROVEMENT PLANS DETENTION FACILITY NO. 1 POND PLAN			
DESIGNED BY	MAW	SCALE	DATE 06-13-18
DRAWN BY	MAW	(H) 1"= 30'	SHEET 10 OF 22
CHECKED BY		(V) 1"= 3'	JOB NO. 1096.11

**CLASSIC**  
ENGINEERS & SURVEYORS



**NOTES:**

1. WELD PLATES MAY BE SUBSTITUTED FOR PIPE EMBEDMENT. DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH AASHTO STANDARDS.
2. HANDRAIL DESIGN SHALL BE COMPATIBLE WITH THE DESIGN OF THE WINGWALLS AND HEADWALLS.
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4. ALL RAILS SHALL HAVE EXPANSION JOINTS SPACED AT 40'-0" MAX. JOINT ENDS SHALL BE FREE OF ANY SHARP EDGES OR CORNERS.



**OUTLET BOX ORIFICE PLATE - 1/4\"/>**

(ALL MATERIALS PER EL PASO COUNTY SPECIFICATIONS)

**ORIFICE PLATE NOTES:**

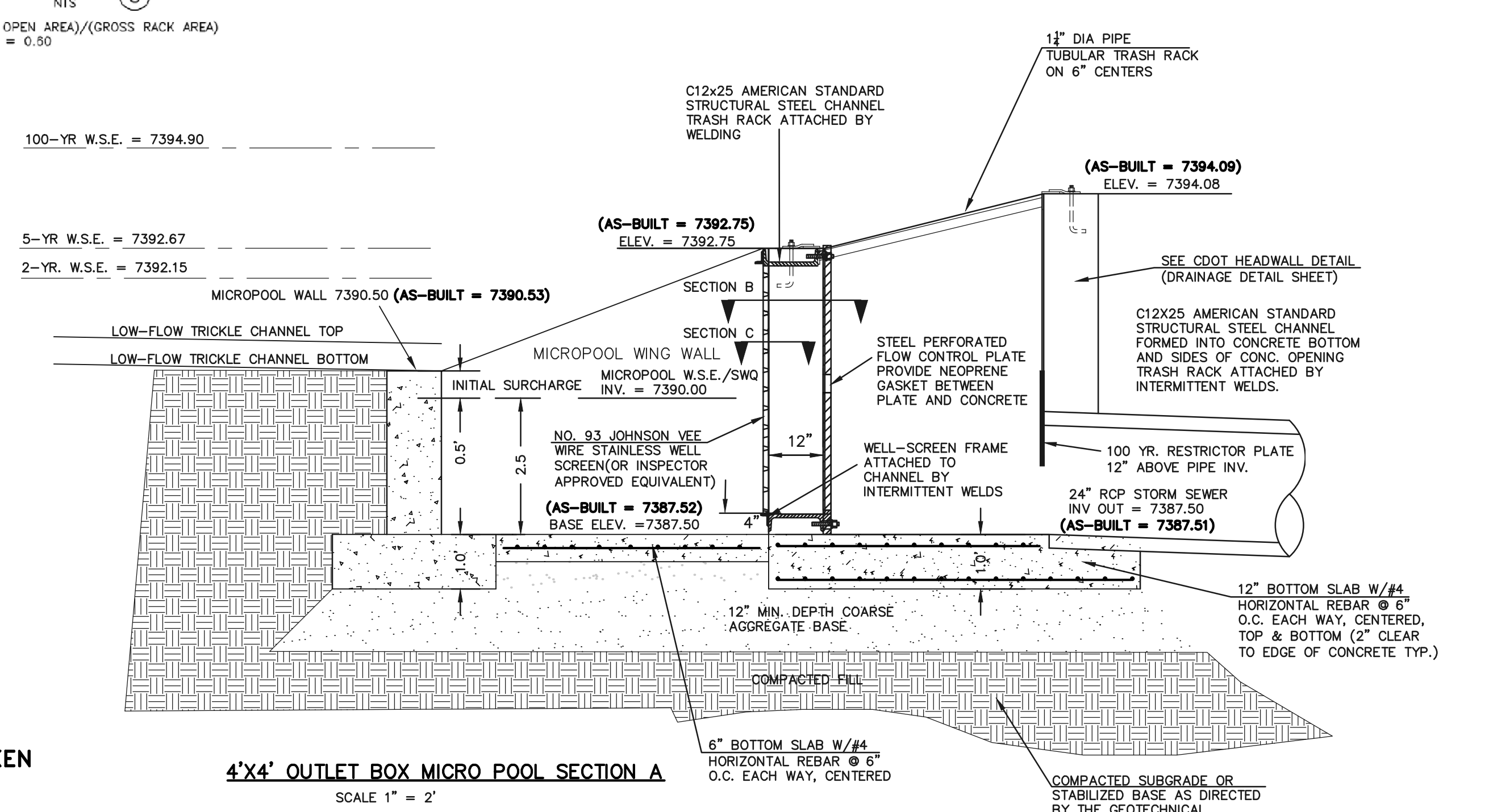
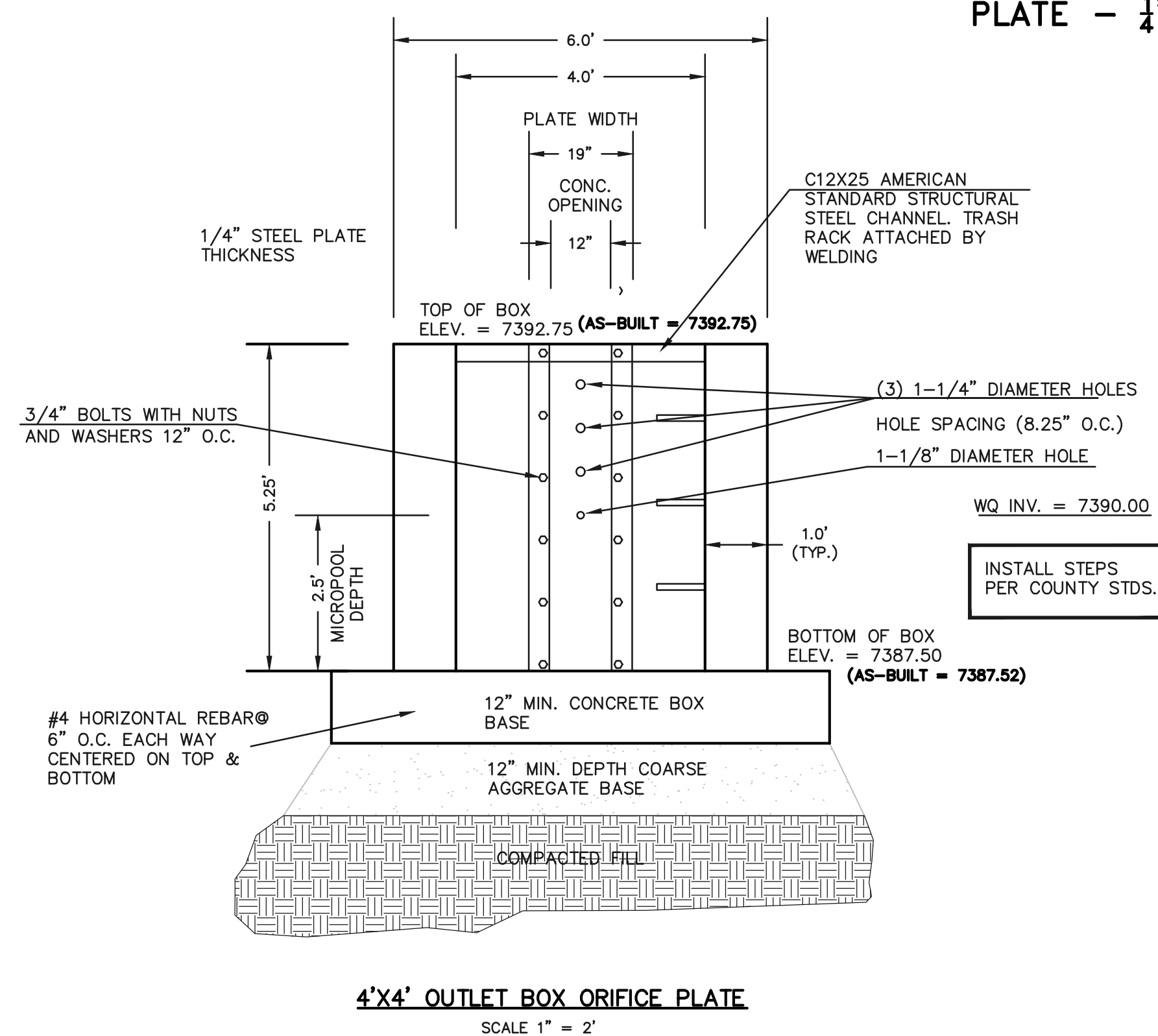
1. INSTALL HOLES AS SHOWN ON DETAIL TO LEFT.
2. PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE

**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:**

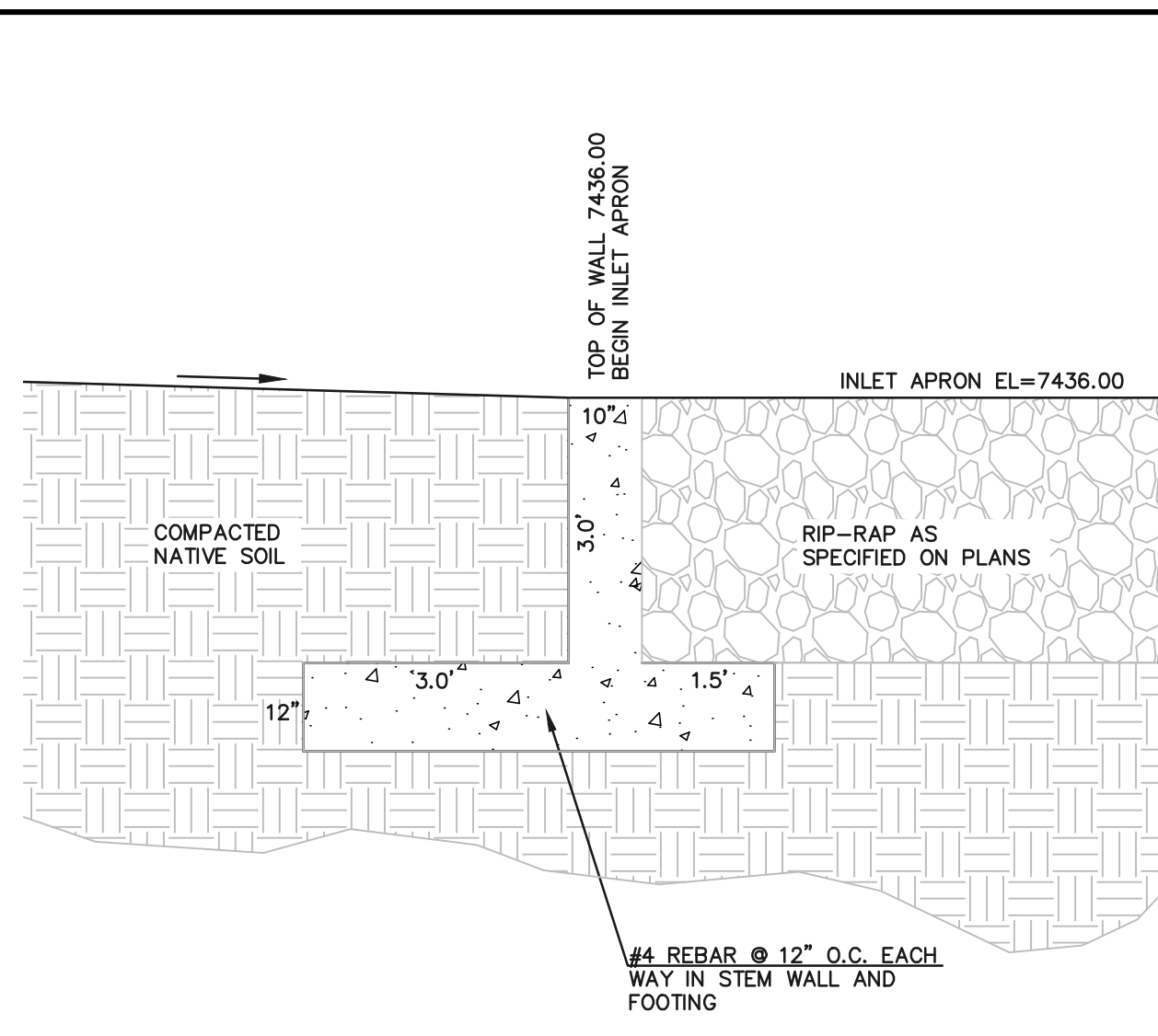
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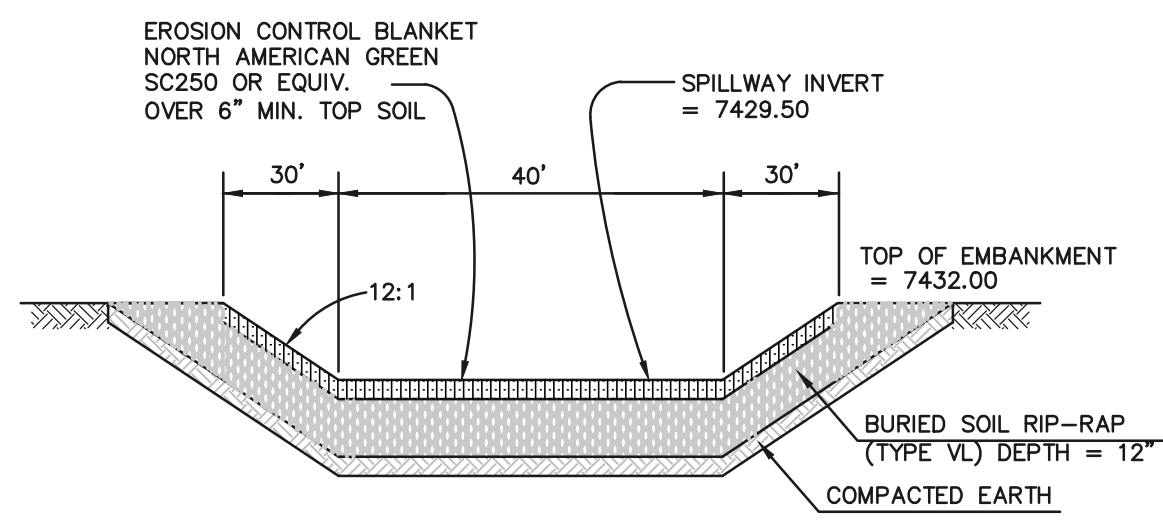
**AS-BUILT SURVEY AS-BUILTS TAKEN 7/3/19**

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	<p>DATE 10/16/2020</p>			<p>DATE 10/16/2020</p>	

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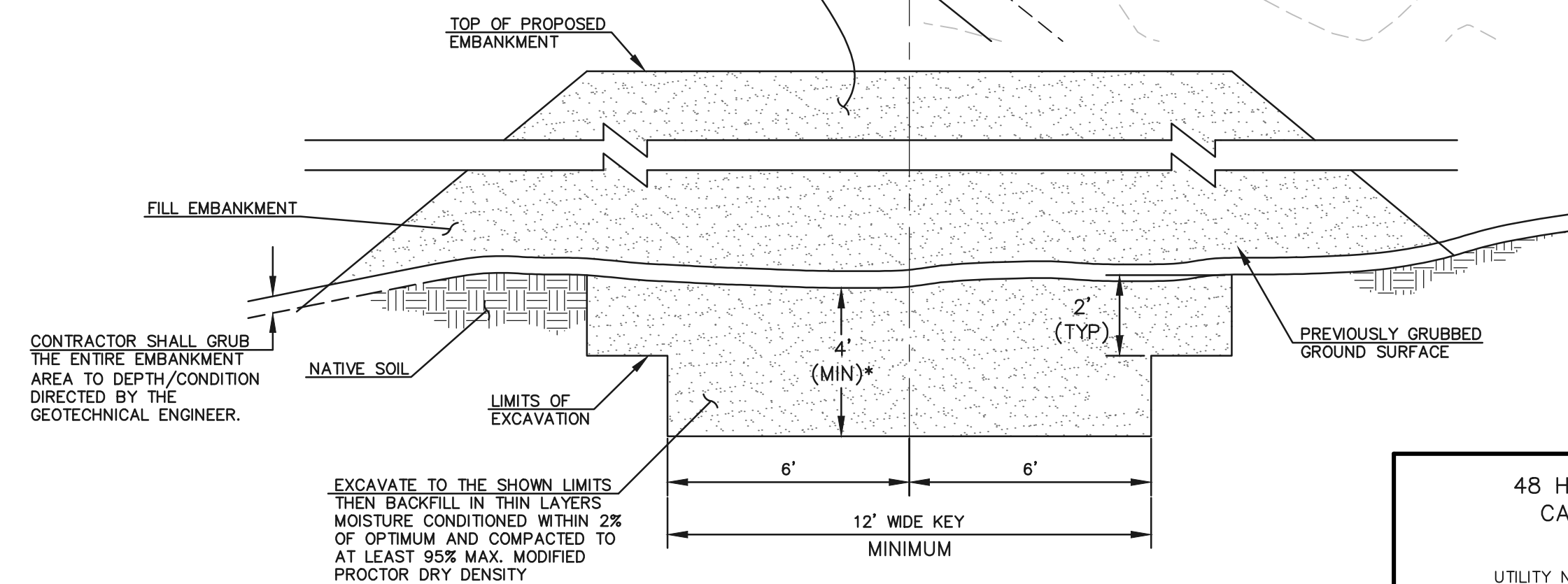


**ROCK CHUTE  
CONCRETE CUTOFF WALL**  
SCALE: 1"=2'



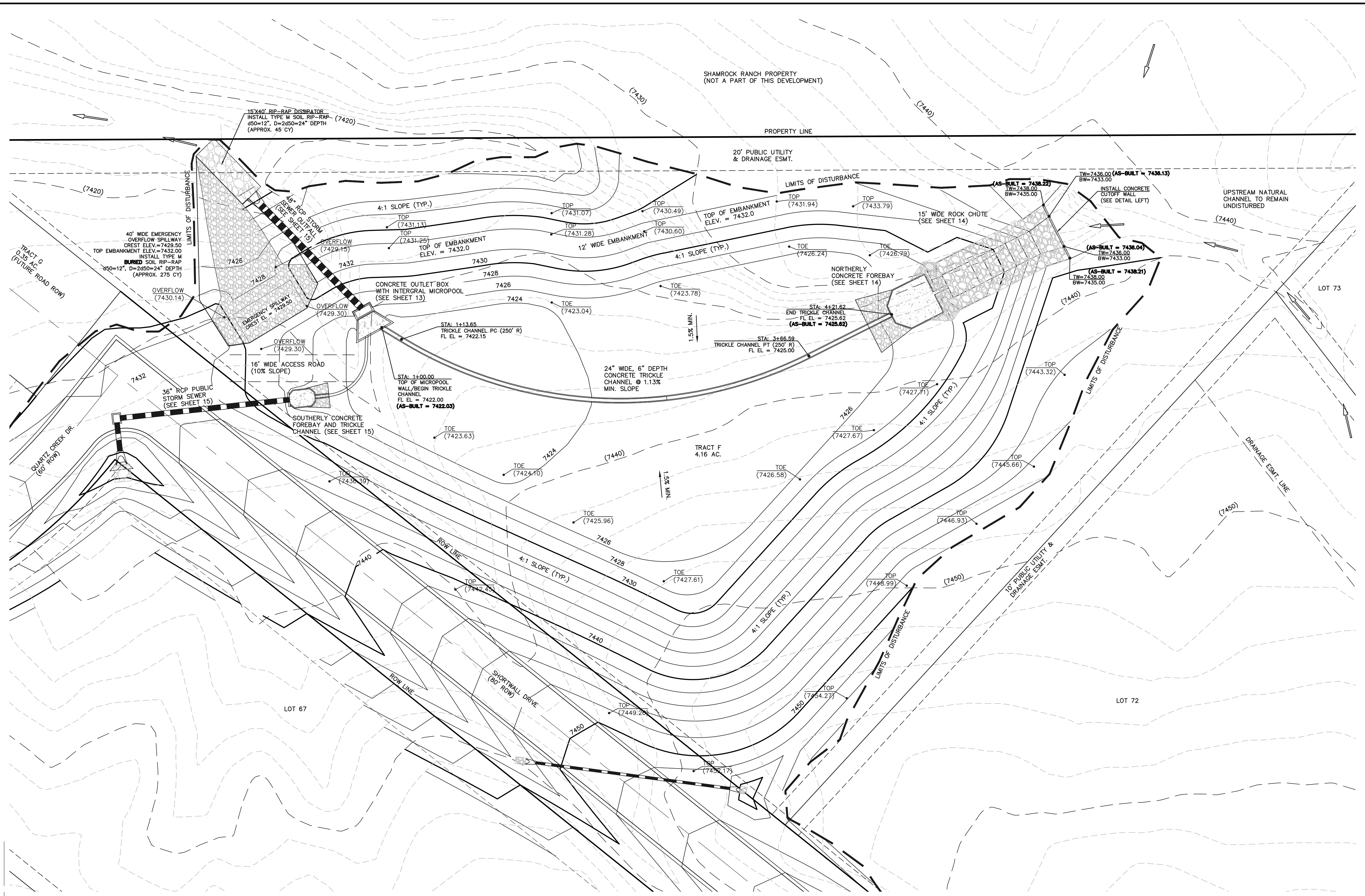
**EMERGENCY SPILLWAY  
CROSS SECTION**  
SCALE: N.T.S.

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.

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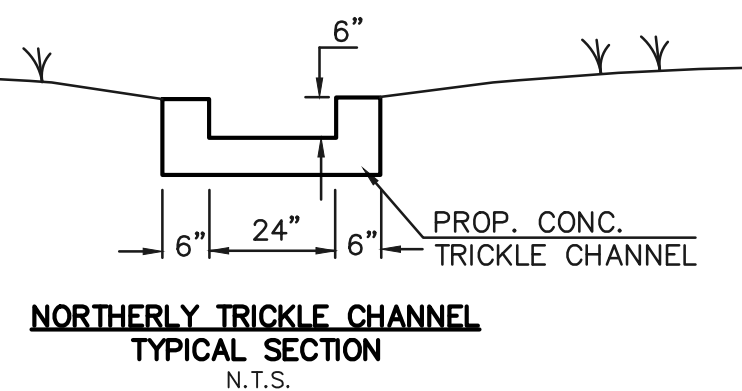
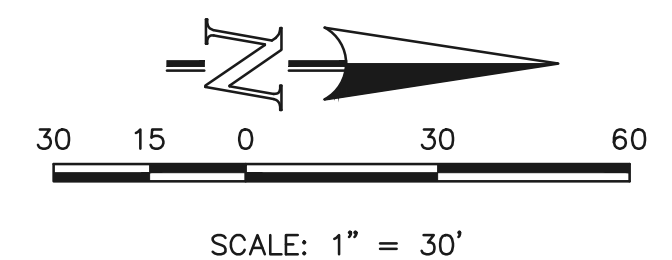
DETENTION FACILITY NO. 4

**AS-BUILT**

STRUCTURE AS-BUILTS TAKEN  
7/3/19

TOPO. AS-BUILTS TAKEN  
9/26/19 & 10/15/20

SEE FLYING HORSE NORTH EARLY GRADING AND EROSION CONTROL PLAN (GOLF COURSE AND PRIVATE ACCESS ROADS ONLY) FOR EROSION CONTROL DETAILS. APPROVED OCTOBER 2016



**NORTHERLY TRICKLE CHANNEL  
TYPICAL SECTION**  
N.T.S.

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NO.	REVISION	DATE
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PREPARED UNDER DIRECT SUPERVISION FOR AND ON BEHALF OF  
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155  
DATE 10/16/2020

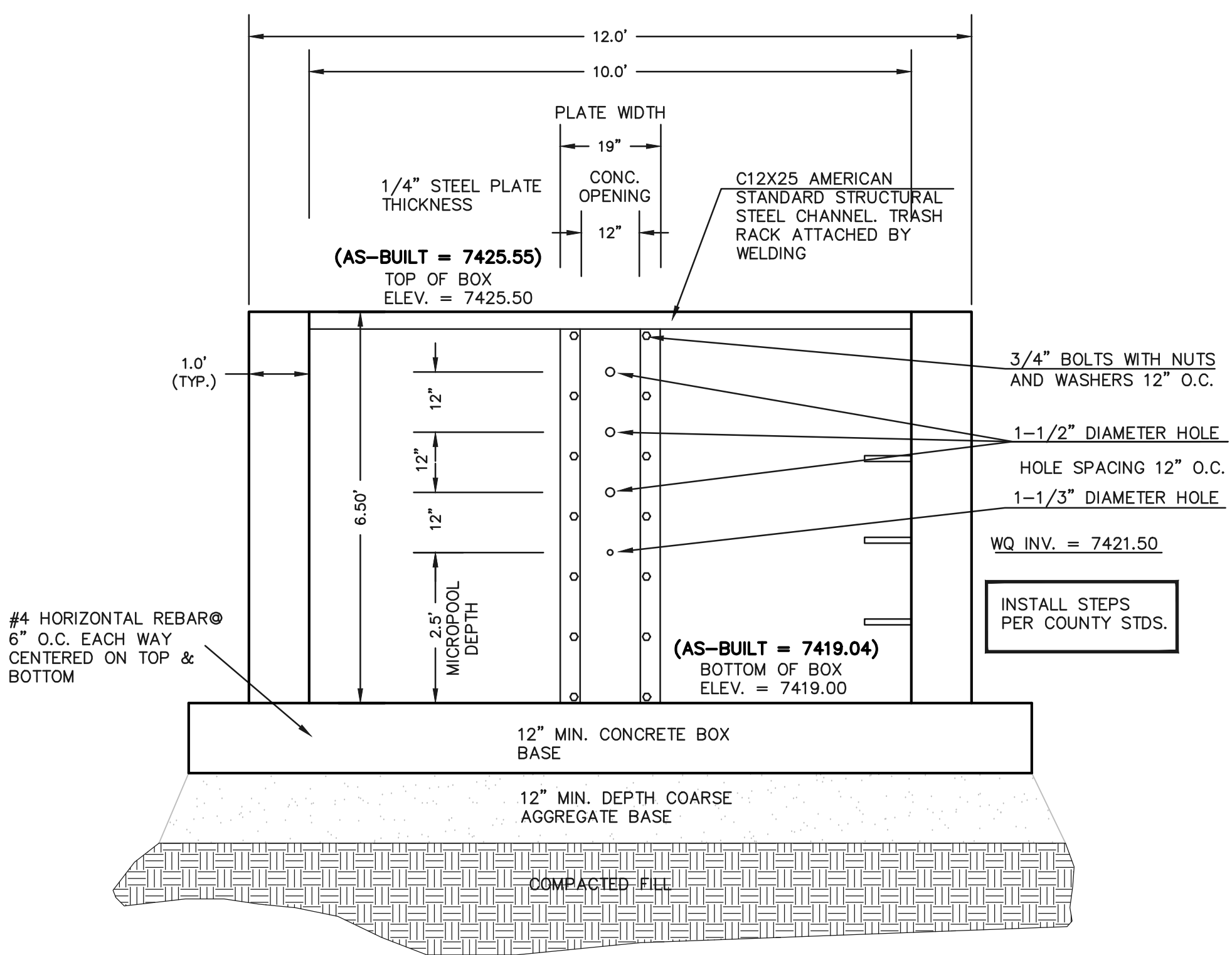
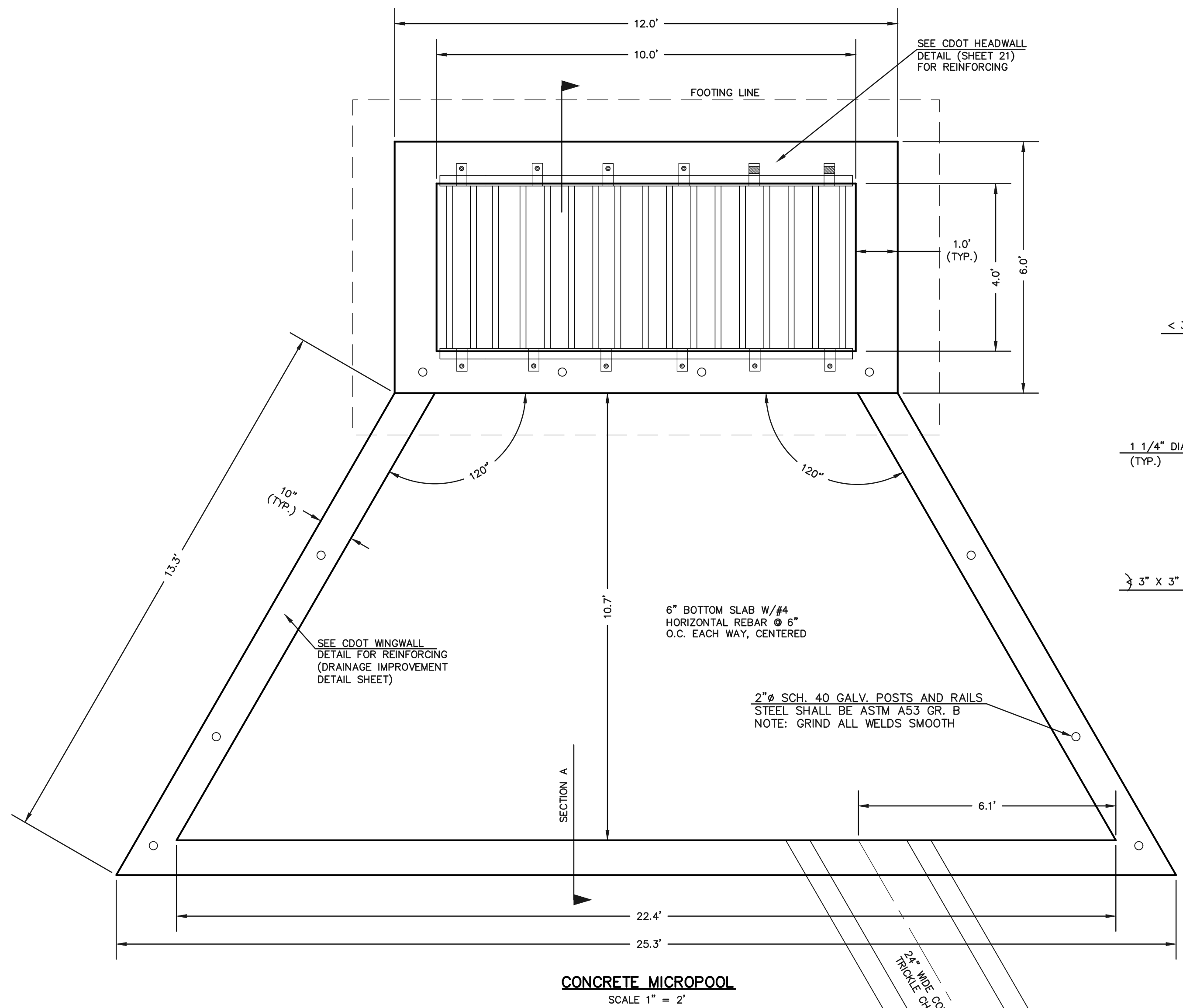
**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS

618 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (fax)

DESIGNED BY	MAW	SCALE	DATE
DESIGNED BY	MAW	(H) 1"= 30'	06-13-18
DRAWN BY	MAW	(V) 1"= N/A	SHEET 12 OF 22
CHECKED BY			JOB NO. 1096.11

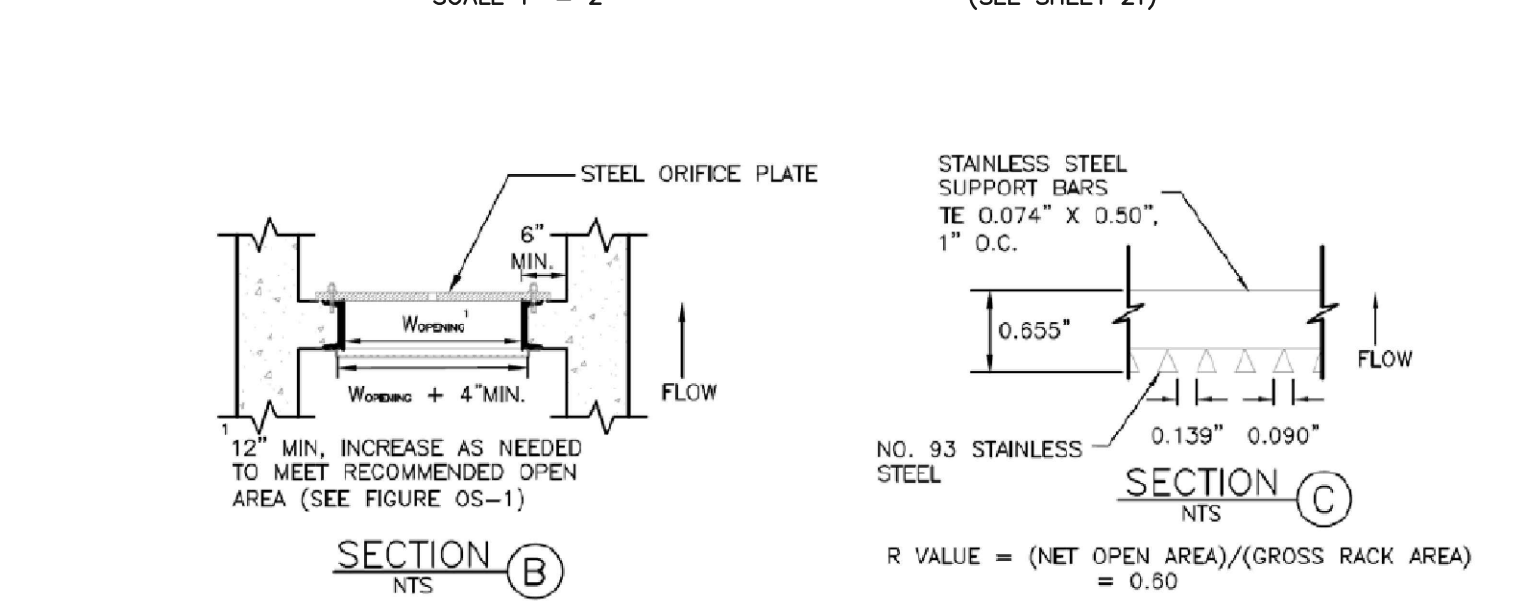
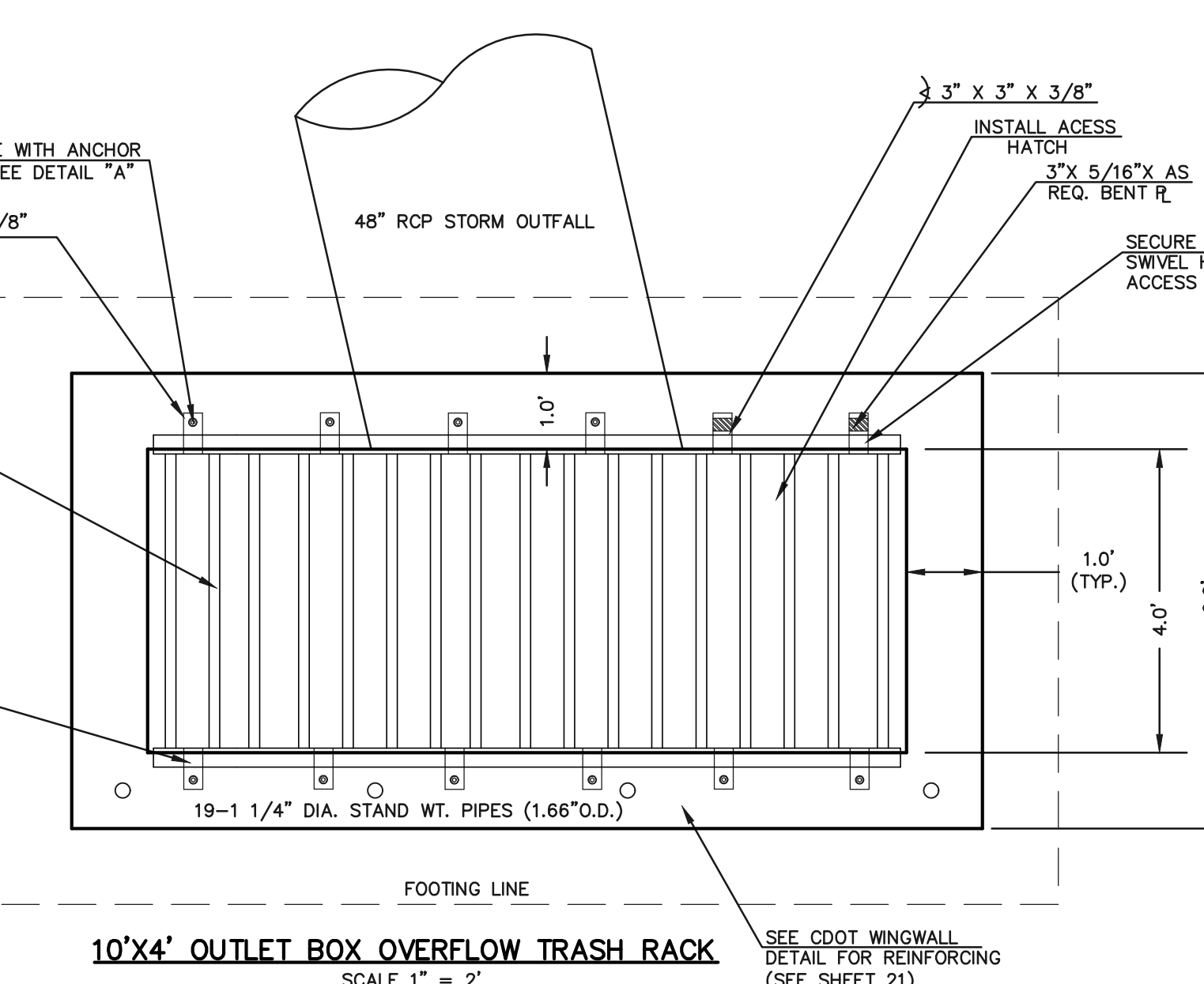
FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
DETENTION FACILITY NO. 4  
POND PLAN

**CLASSIC**  
ENGINEERS & SURVEYORS



**AS-BUILT** SURVEY AS-BUILTS TAKEN 7/3/19

- NOTES:
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  2. DESIGN CRITERIA SHALL BE IN ACCORDANCE WITH AASHTO STANDARDS.
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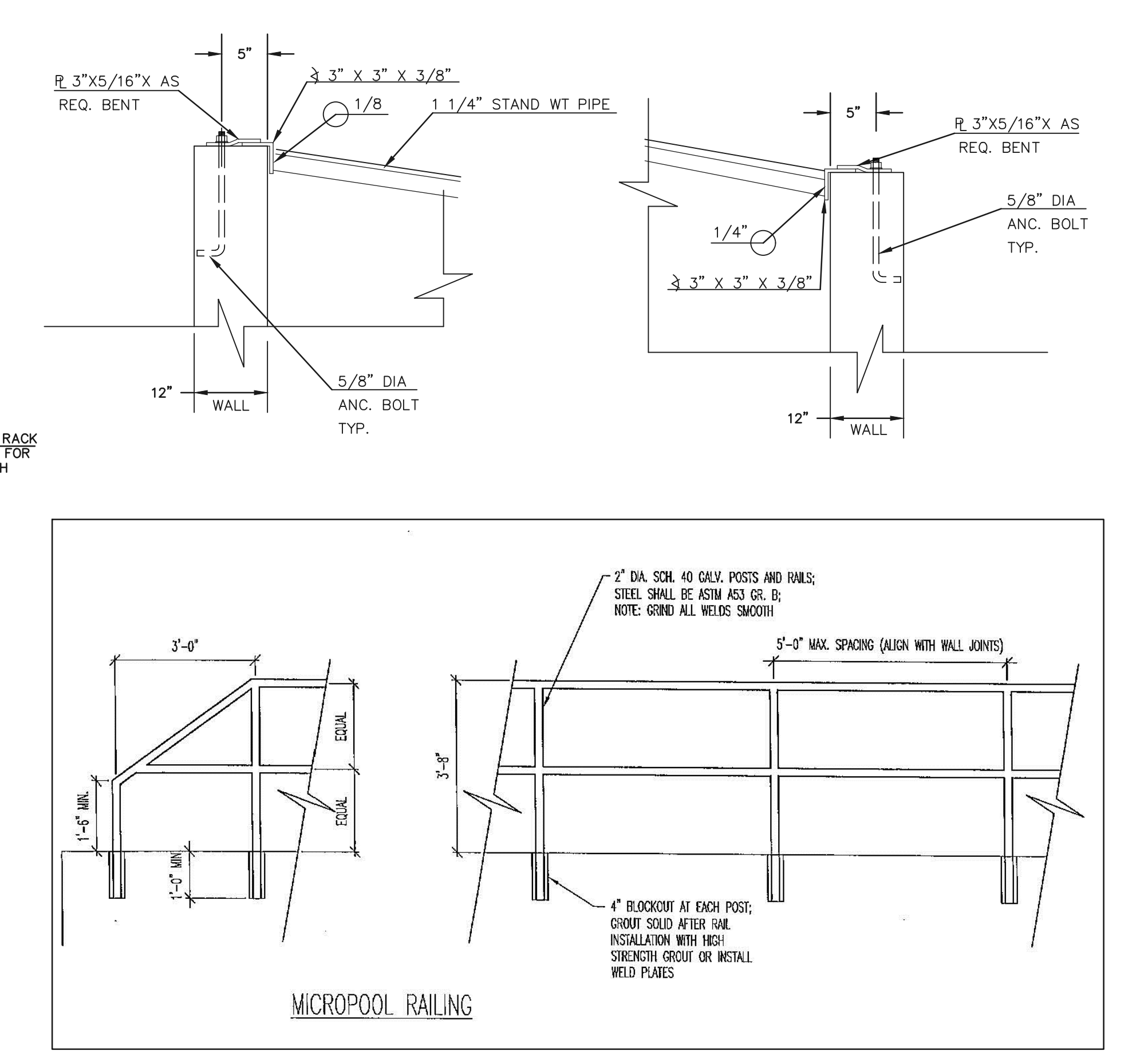
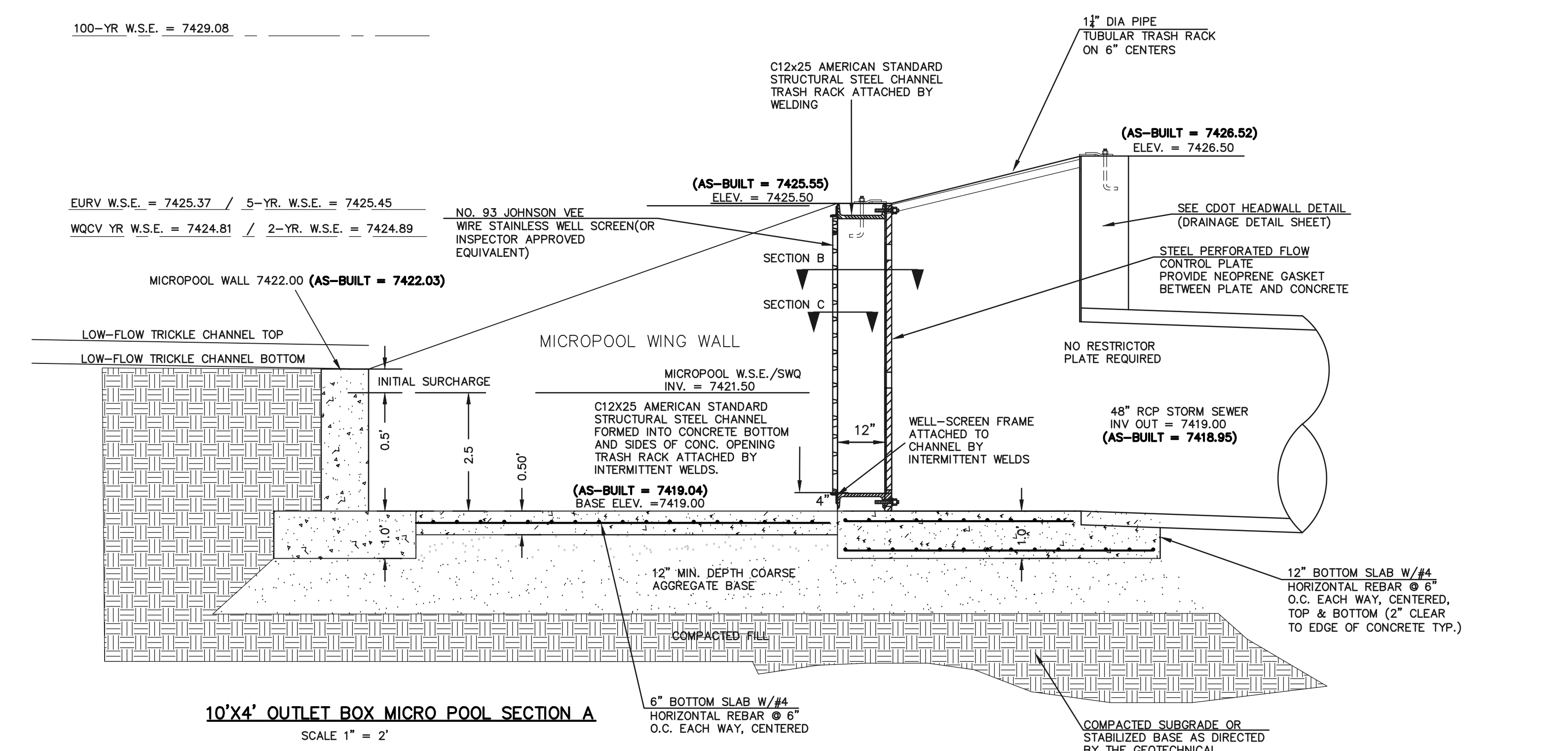


100-YR W.S.E. = 7429.08

EURV W.S.E. = 7425.37 / 5-YR W.S.E. = 7425.45

WQCV YR W.S.E. = 7424.81 / 2-YR W.S.E. = 7424.89

- (ALL MATERIALS PER EL PASO COUNTY SPECIFICATIONS)
- ORIFICE PLATE NOTES:
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MARC A. WHORTON, COLORADO P.E. #37155

DATE 10/16/2020



FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
DETENTION FACILITY NO. 4  
OUTLET BOX DETAILS

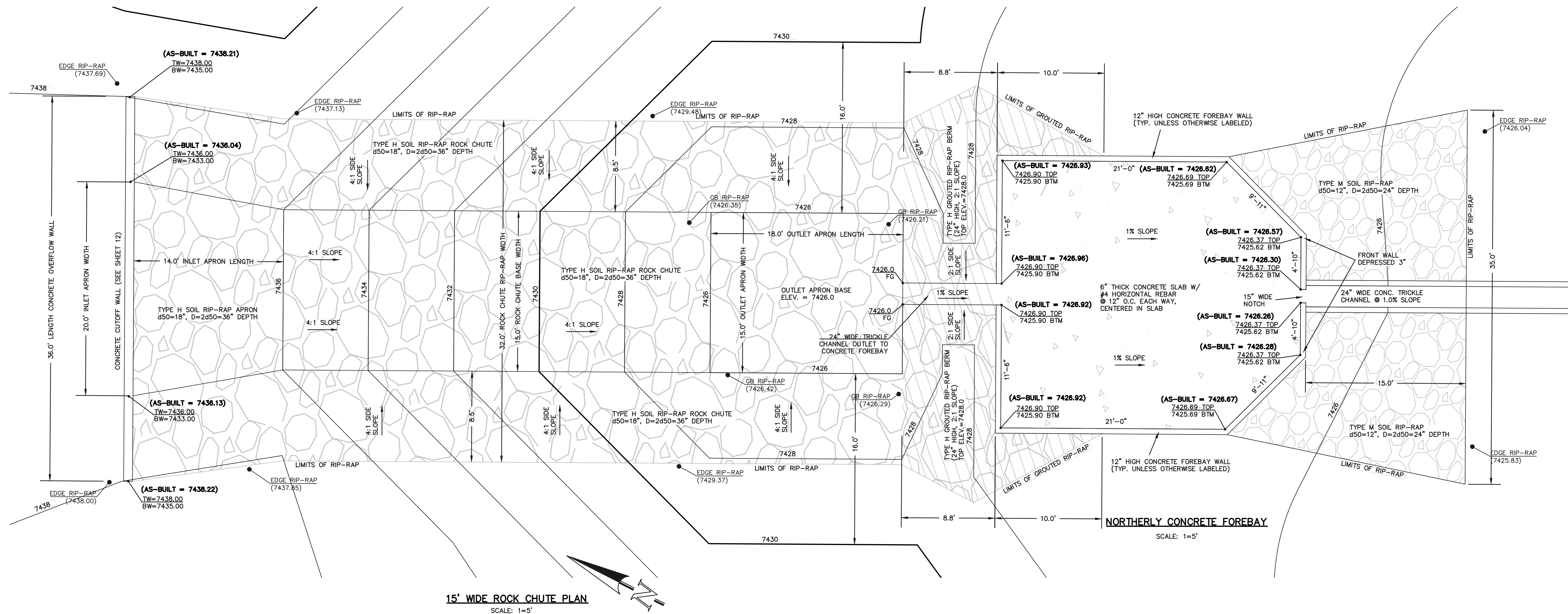
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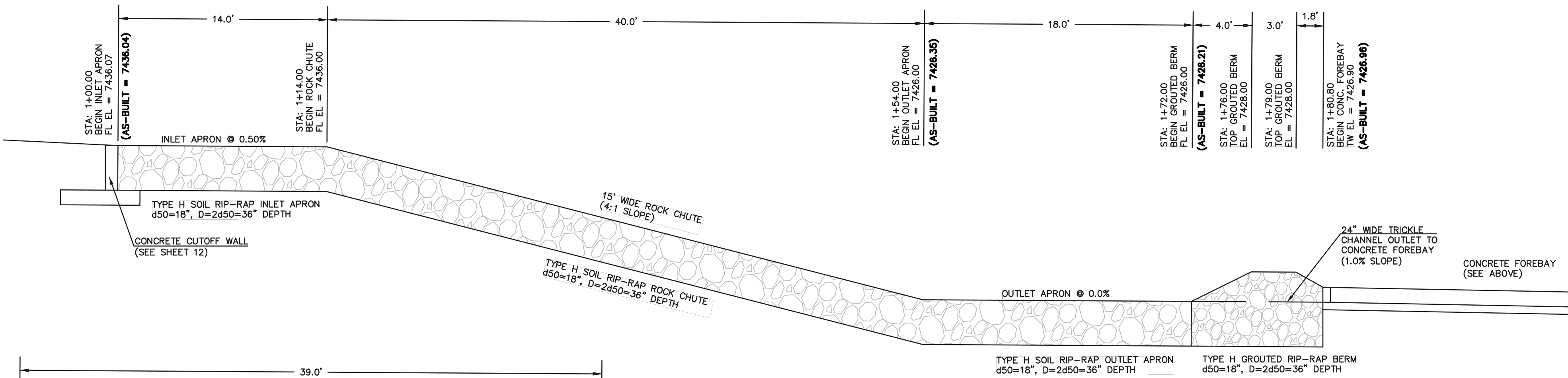
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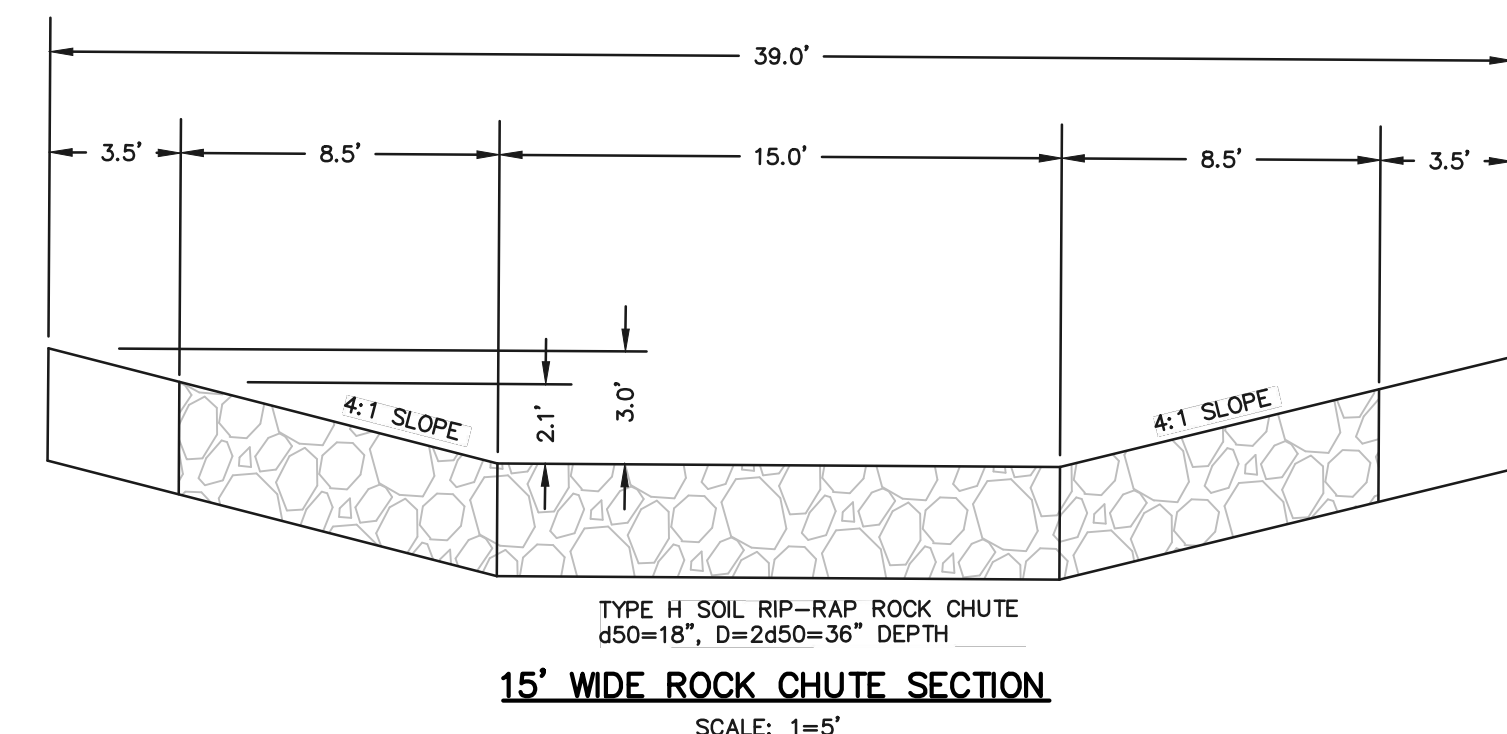
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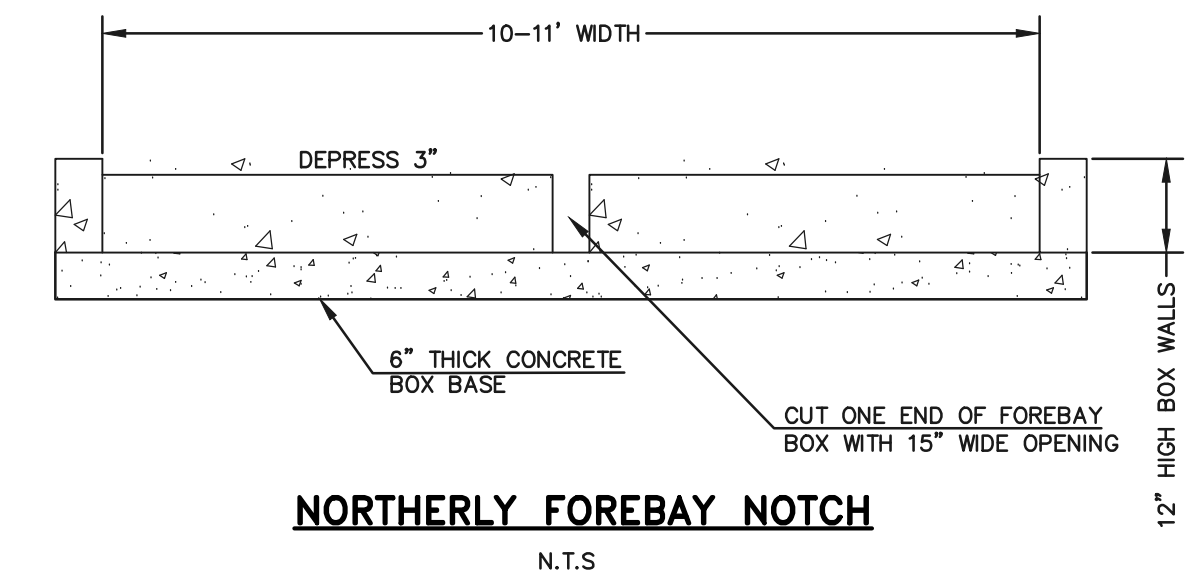
15' WIDE ROCK CHUTE PLAN  
SCALE: 1=5'



15' WIDE ROCK CHUTE PROFILE  
SCALE: 1=5'



15' WIDE ROCK CHUTE SECTION  
SCALE: 1=5'



NORTHERLY FOREBAY NOTCH  
N.T.S.

**AS-BUILT** SURVEY AS-BUILTS TAKEN  
7/3/19 & 10/15/20

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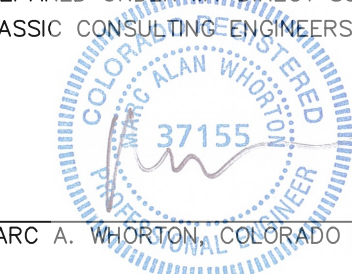
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DATE

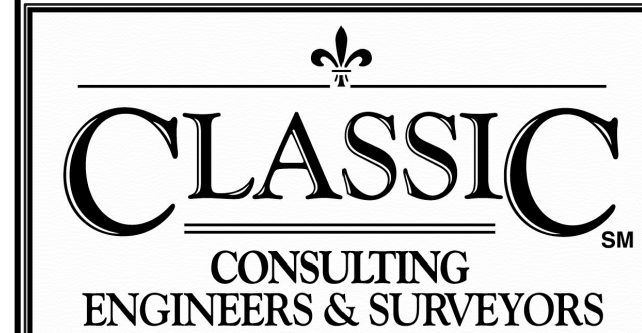
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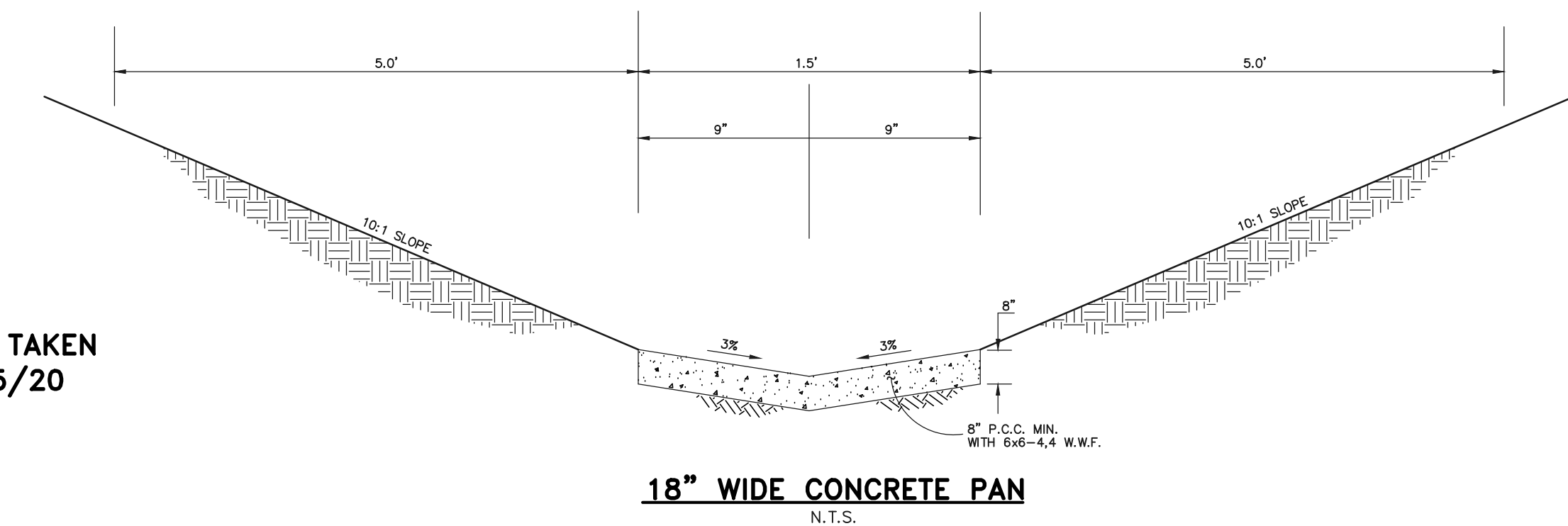
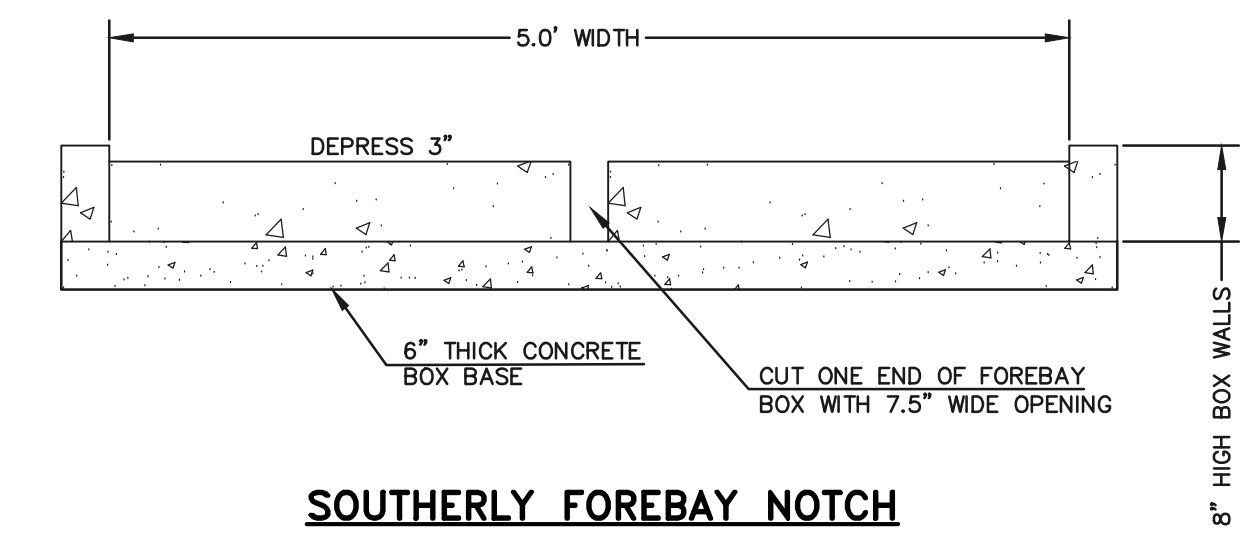
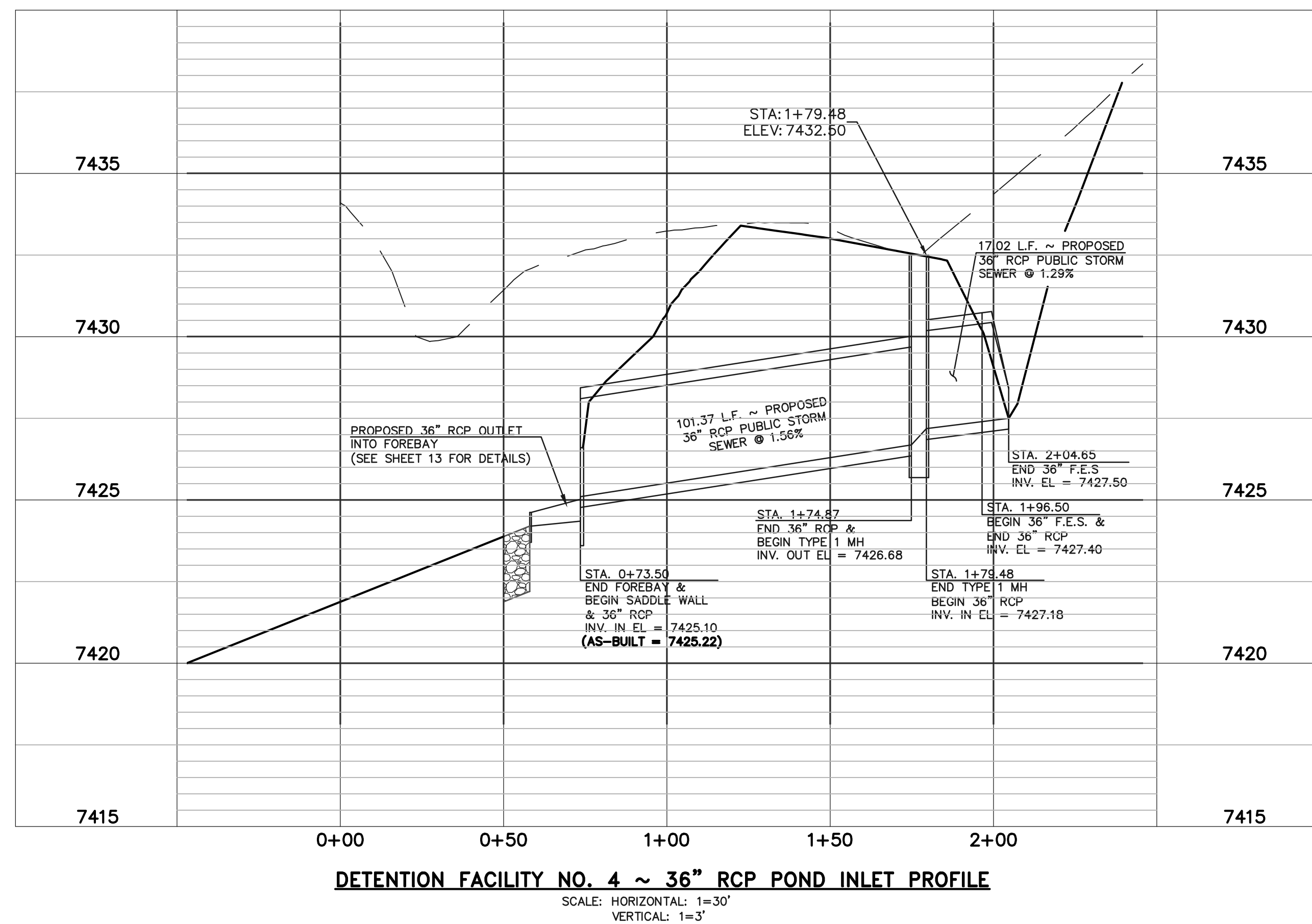
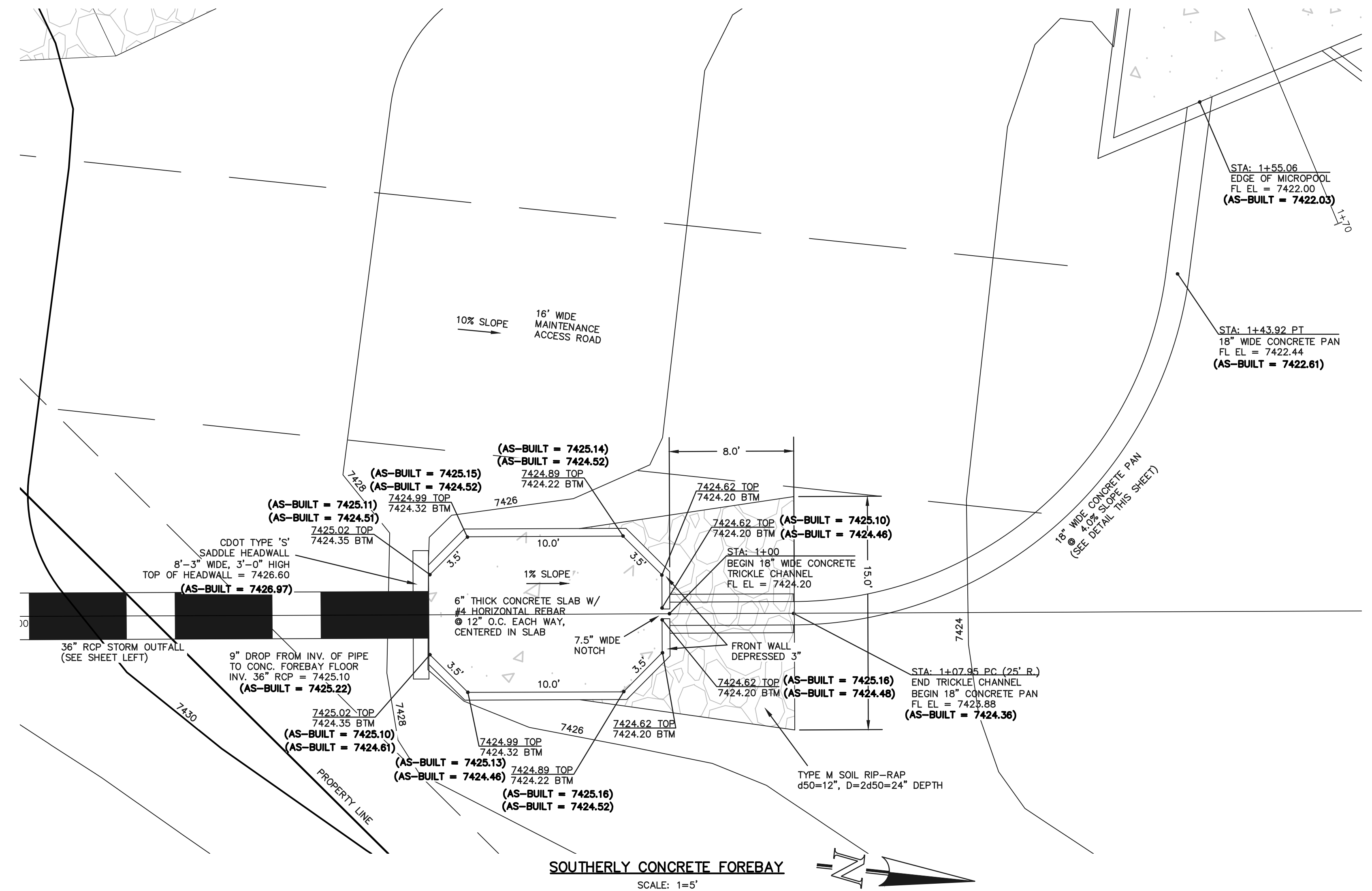
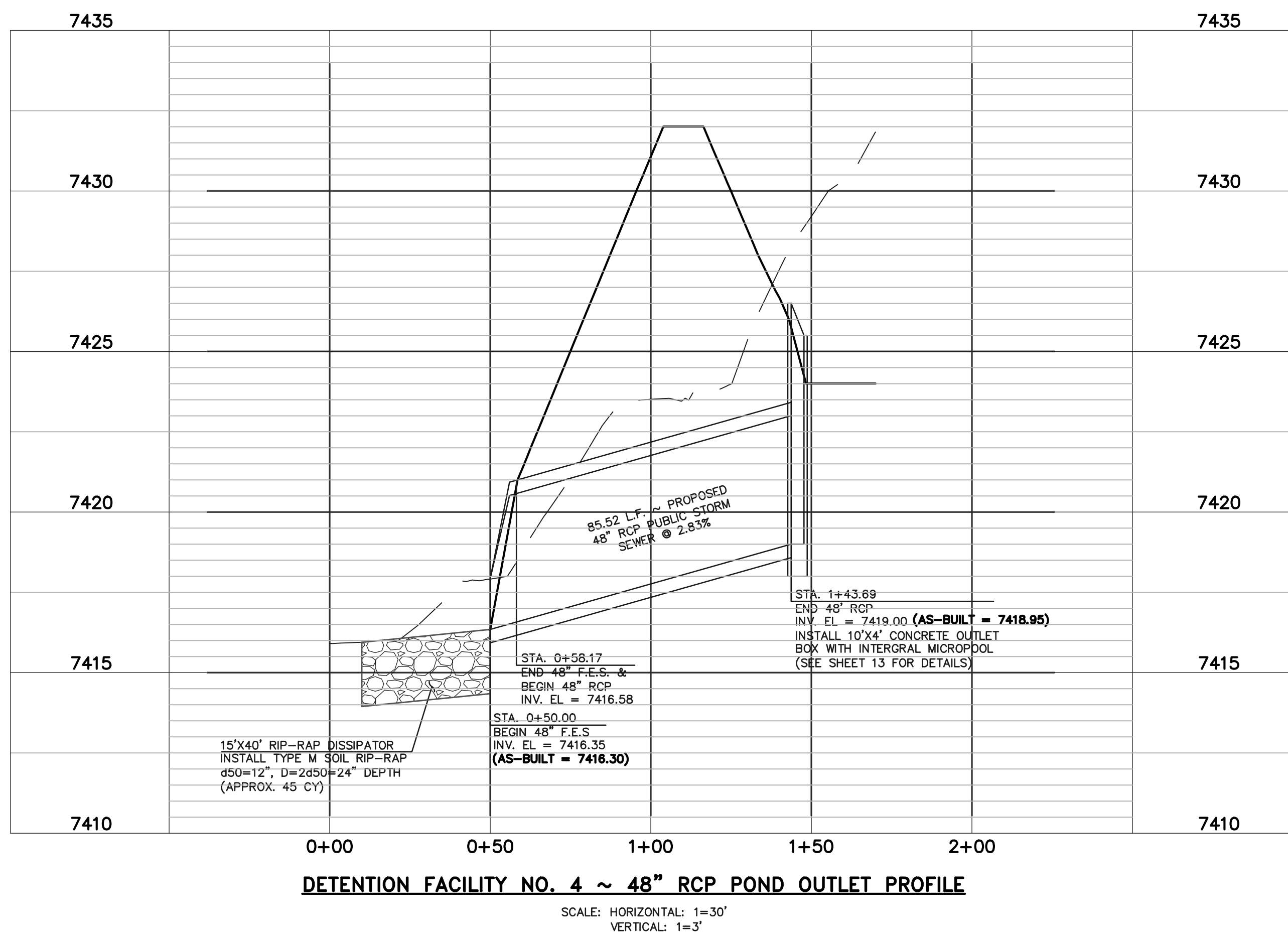
MARC A. WHORTON, COLORADO P.E. #37155



FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
DETENTION FACILITY NO. 4  
ROCK CHUTE / NORTHERLY FOREBAY

DESIGNED BY	MAW	SCALE	DATE
DRAWN BY	MAW	(H) 1"= 2'	06-13-18
CHECKED BY	(V) 1"= N/A	SHEET 14 OF 22	JOB NO. 1096.11





**AS-BUILT** SURVEY AS-BUILTS TAKEN  
 7/3/19 & 10/15/20

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

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NO.	REVISION	DATE

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

*(Professional Seal)*

MARC A. WHORTON, COLORADO P.E. #37155 DATE 10/16/2020

**CLASSIC**  
 CONSULTING ENGINEERS & SURVEYORS

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

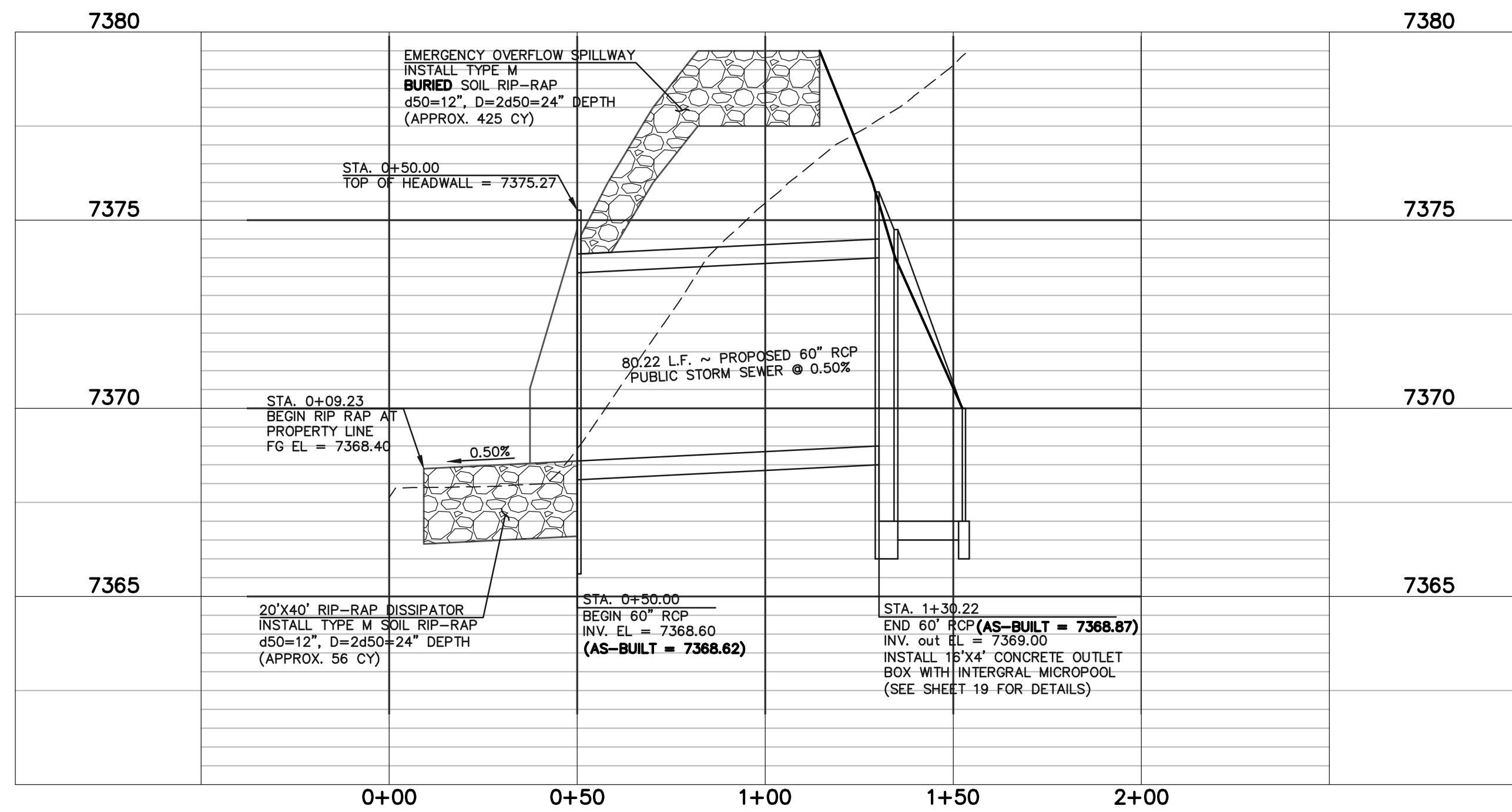
(719) 785-0790  
 (719) 785-0799 (Fax)

FLYING HORSE NORTH FILING NO. 1  
 DRAINAGE IMPROVEMENT PLANS  
 DETENTION FACILITY NO. 4  
 OUTLET PROFILE / SOUTHERLY FOREBAY

DESIGNED BY	MAW	SCALE	DATE	06-13-18
DRAWN BY	MAW	(H) 1"=VARIES	SHEET	15 OF 22
CHECKED BY	(V) 1"=VARIES	JOB NO.	1096.11	



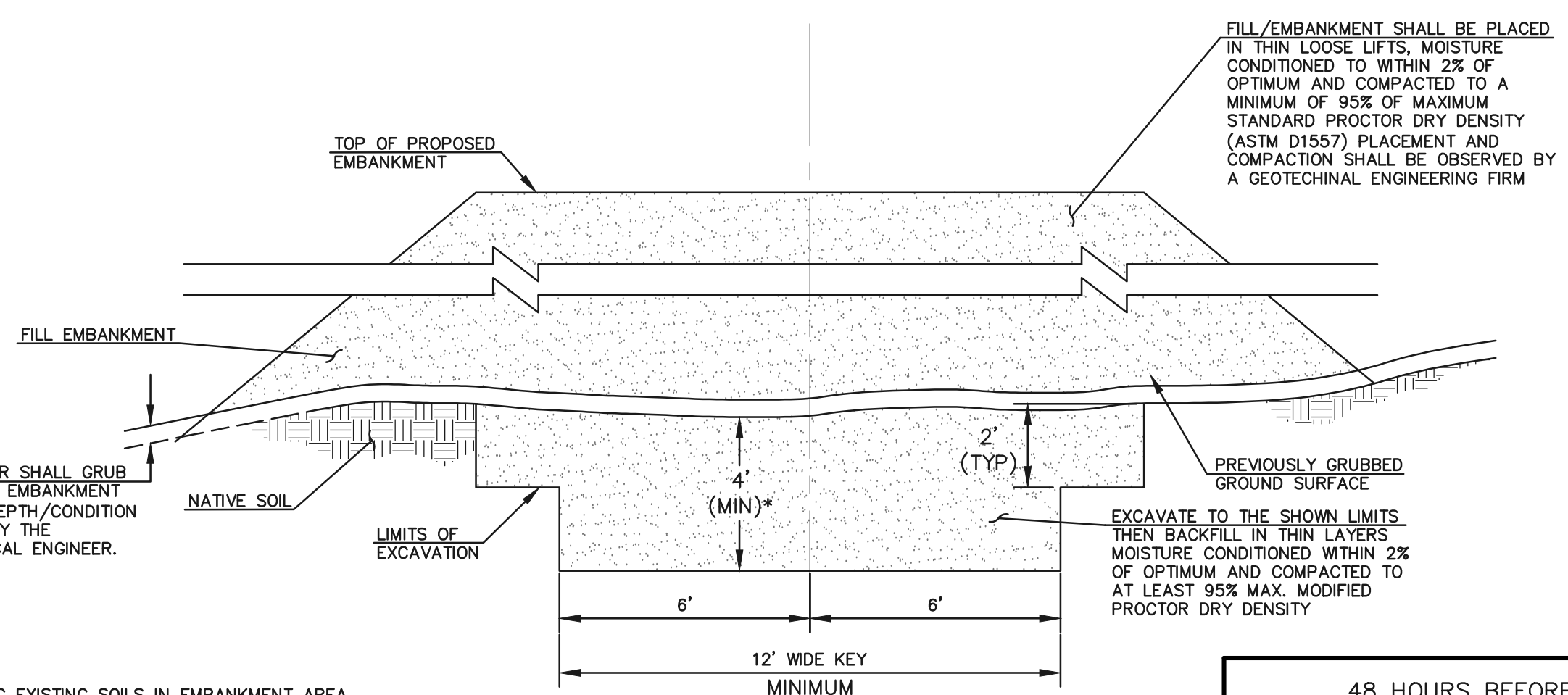
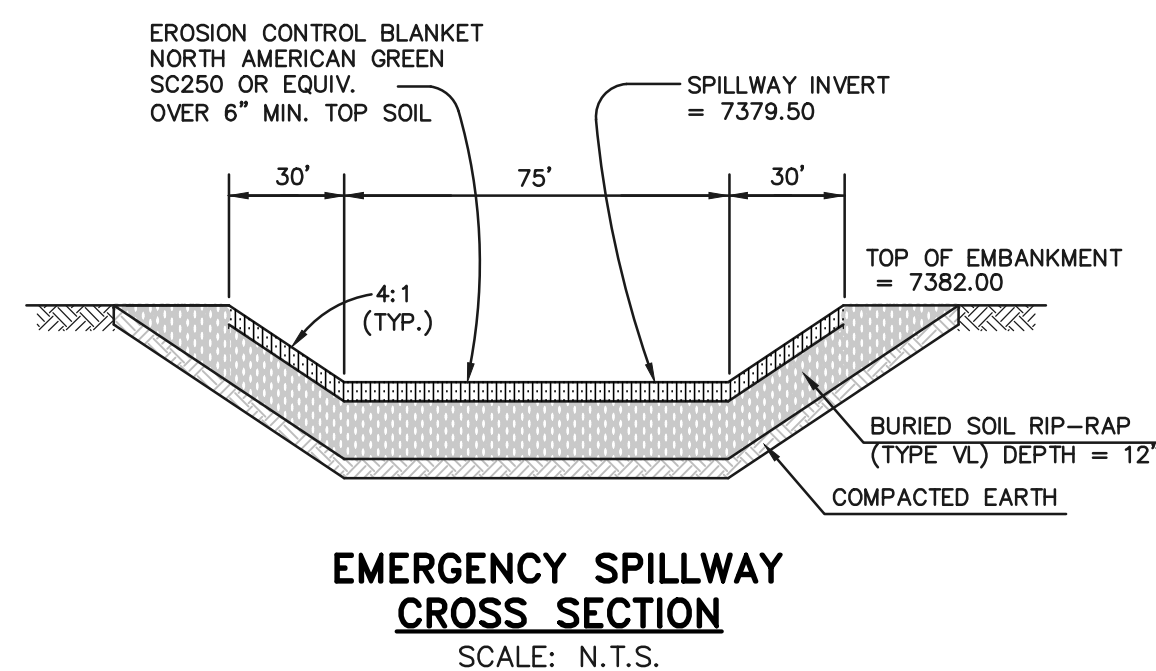
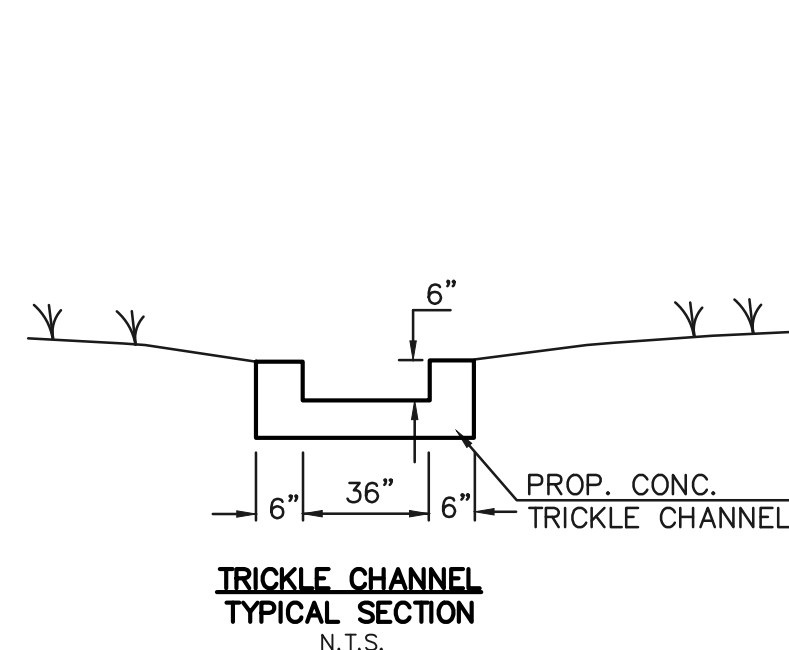
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**DETENTION FACILITY NO. 8  
POND OUTLET PROFILE**  
SCALE: HORIZONTAL 1"=30'  
VERTICAL 1"=3'

# AS-BUILT

STRUCTURE AS-BUILTS TAKEN  
11/26/18  
TOPO. AS-BUILTS TAKEN  
9/25/19 & 11/24/19



\* 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.

**SECTION A  
TYPICAL EMBANKMENT  
WITH SOIL KEYWAY**  
SCALE: N.T.S.

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NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	4-4-18

REVIEW:  
PREPARED UNDER THE DIRECT SUPERVISION FOR AND ON BEHALF OF  
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC  
MARC A. WHITTON, COLORADO P.E. #37155  
DATE 10/16/2020

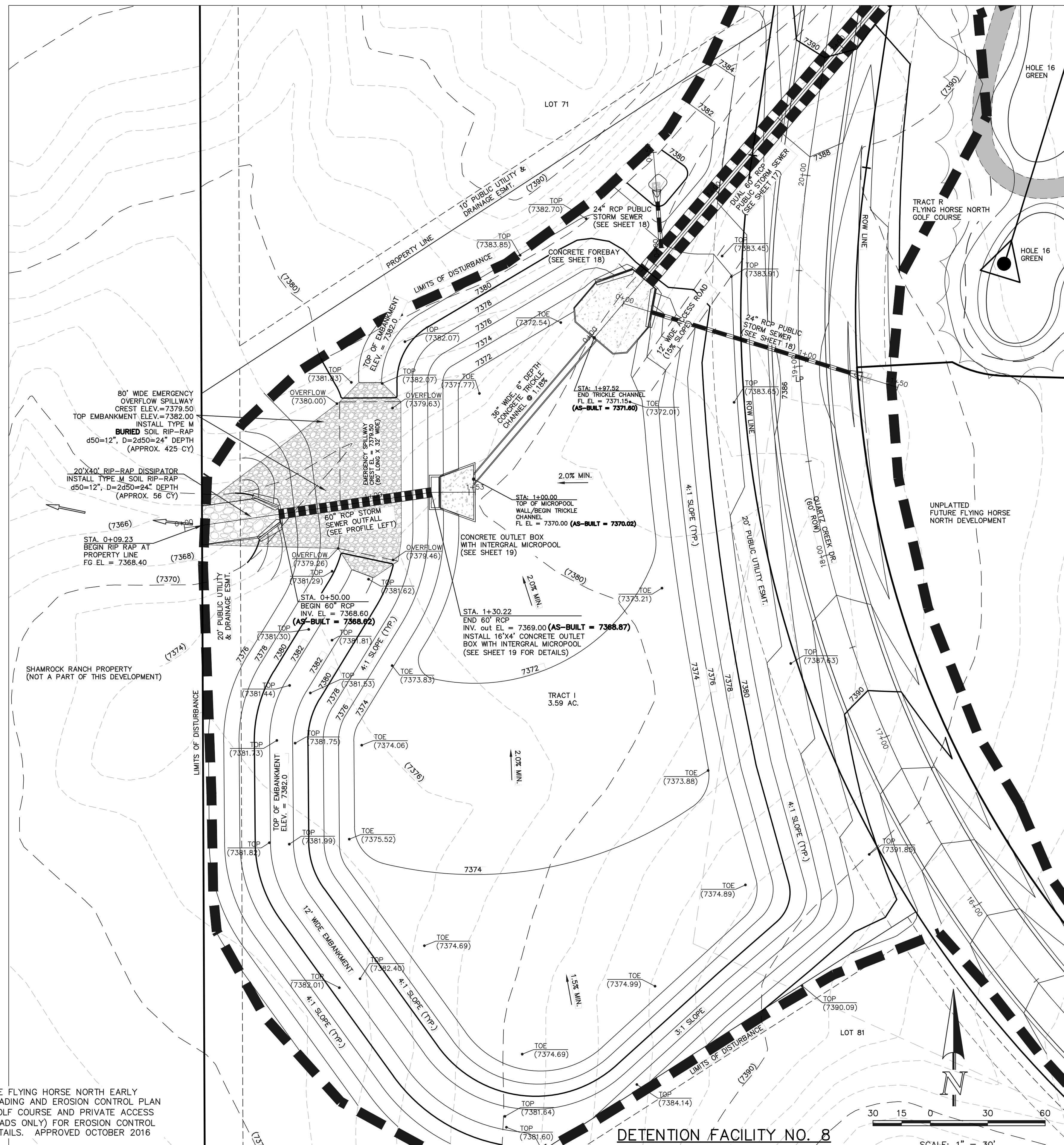
**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (Fax)

**FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS**

DETENTION FACILITY NO. 8  
POND PLAN

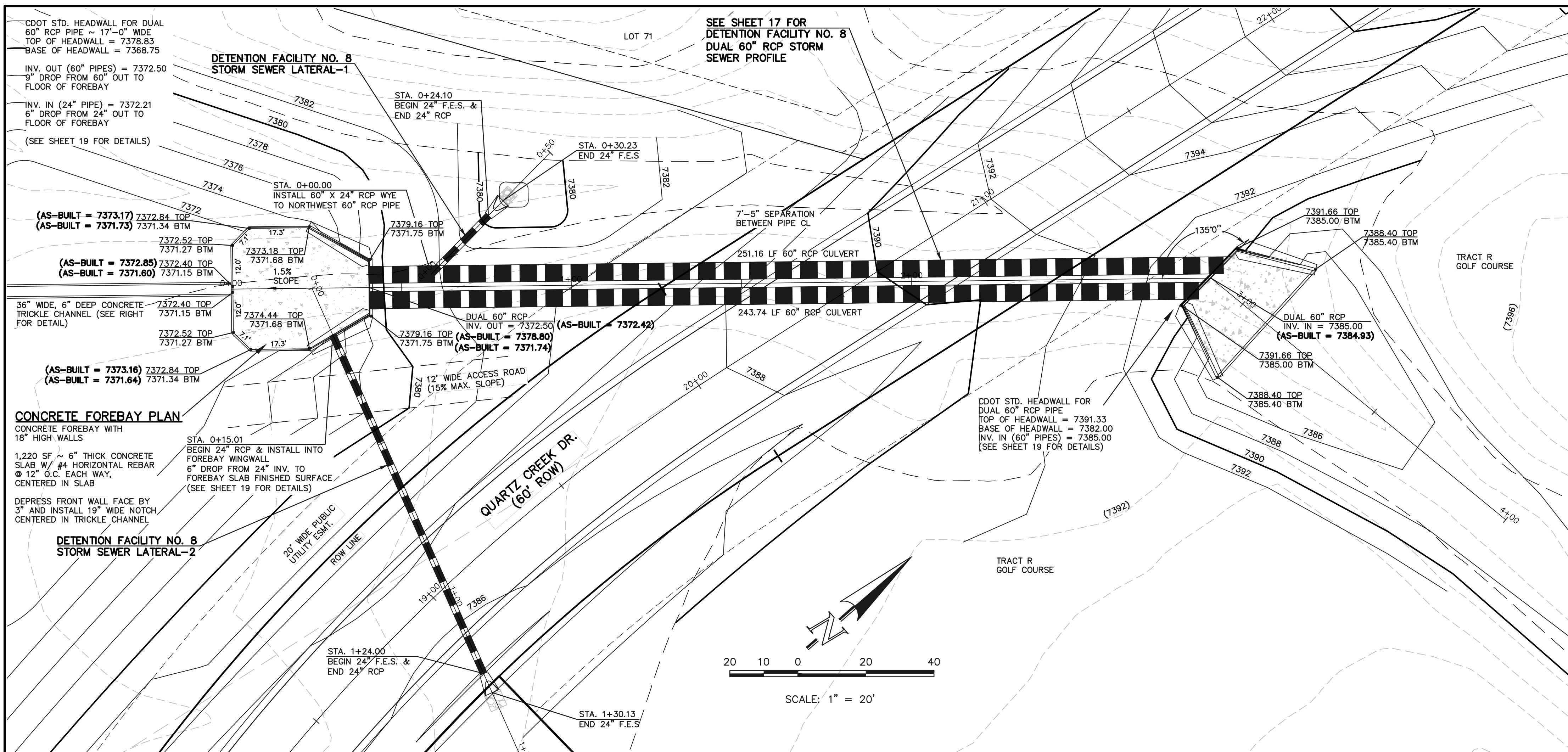
DESIGNED BY	MAW	SCALE	DATE	06-13-18
DRAWN BY	MAW	(H) 1"= 30'	SHEET	16 OF 22
CHECKED BY	(V) 1"= N/A	JOB NO.	1096.11	



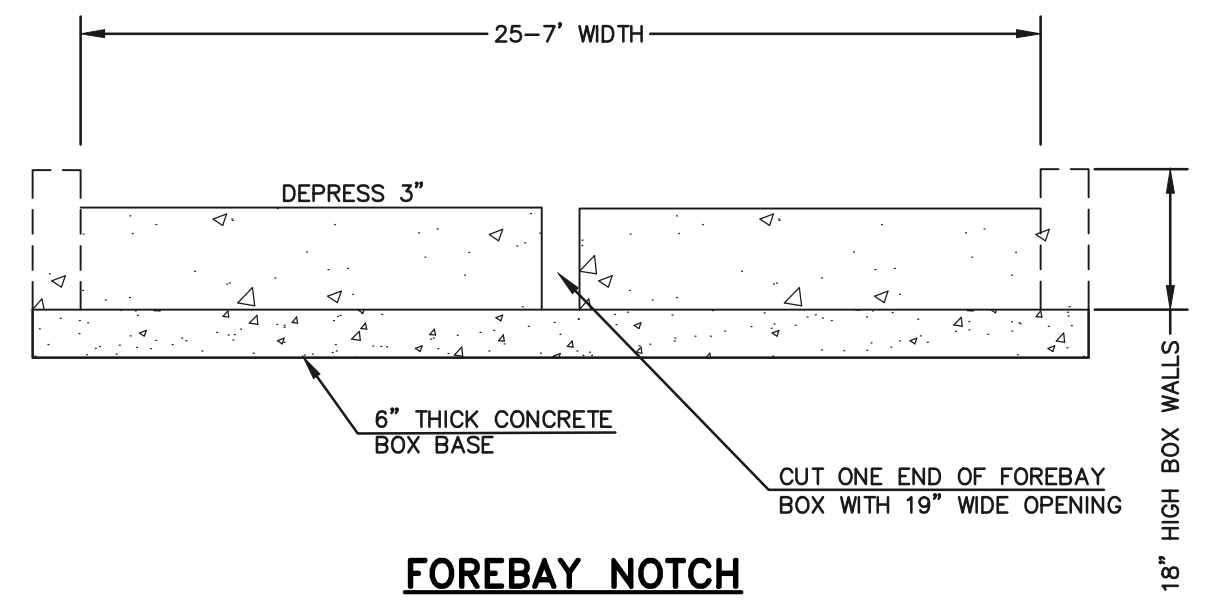
**DETENTION FACILITY NO. 8**  
SCALE: 1" = 30'

N:\TOPGRAPH\DRAWINGS\CONSTRUCTION\Plan Pond Plans\AS-BUILT.dwg, 10/14/2020, 2:40:53 PM, 1:1

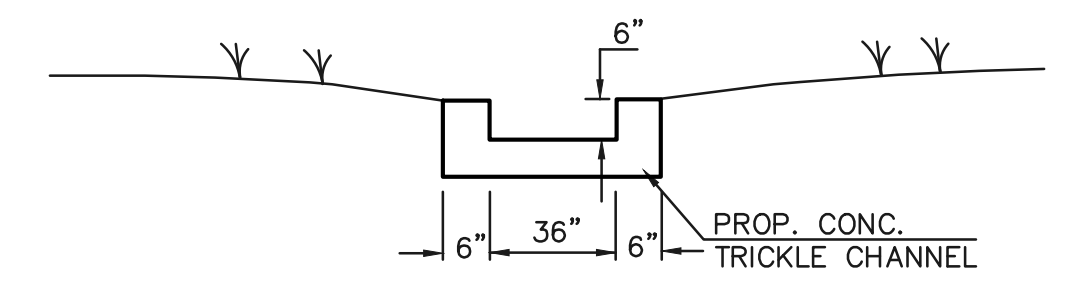




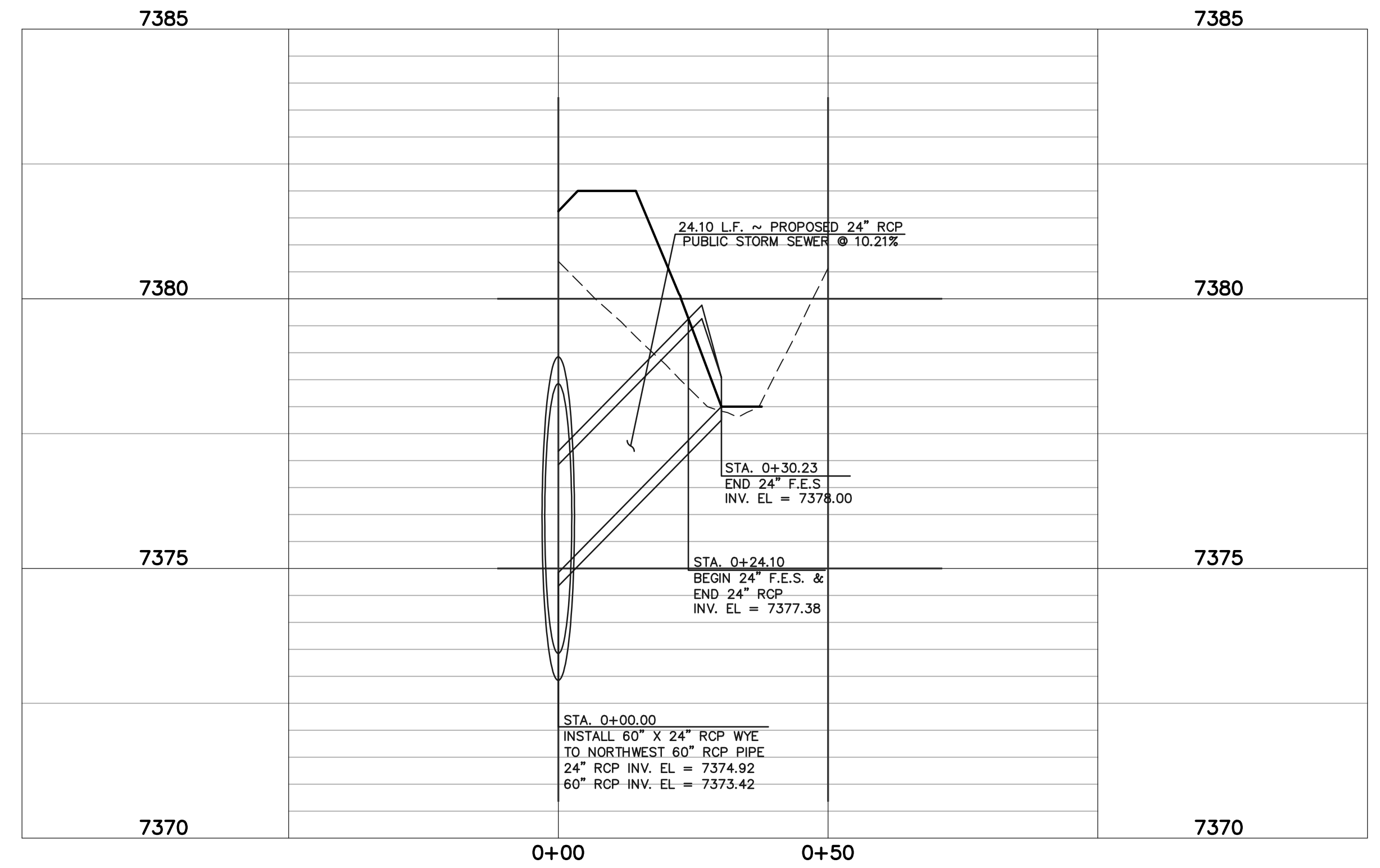
DUAL 60" RCP CULVERTS PLAN  
SCALE: 1"=20'



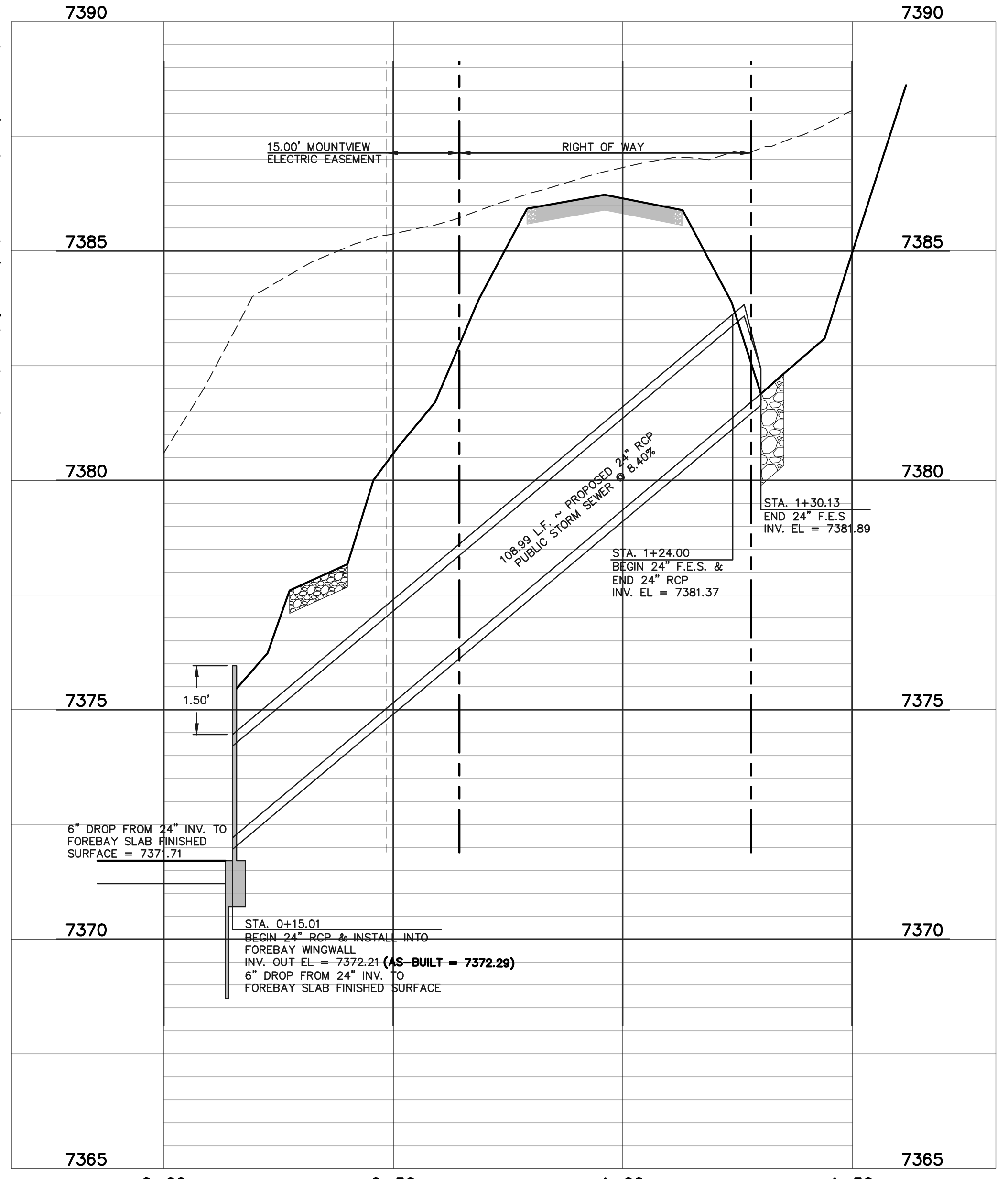
FOREBAY NOTCH  
N.T.S.



TRICKLE CHANNEL SECTION  
N.T.S.



DETENTION FACILITY NO. 8 STORM SEWER LATERAL-1 PROFILE  
SCALE: HORIZONTAL 1"=20'  
VERTICAL 1"=2'



DETENTION FACILITY NO. 8 STORM SEWER LATERAL-2 PROFILE  
SCALE: HORIZONTAL 1"=20'  
VERTICAL 1"=2'

# AS-BUILT SURVEY AS-BUILTS TAKEN 11/26/18

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37155

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

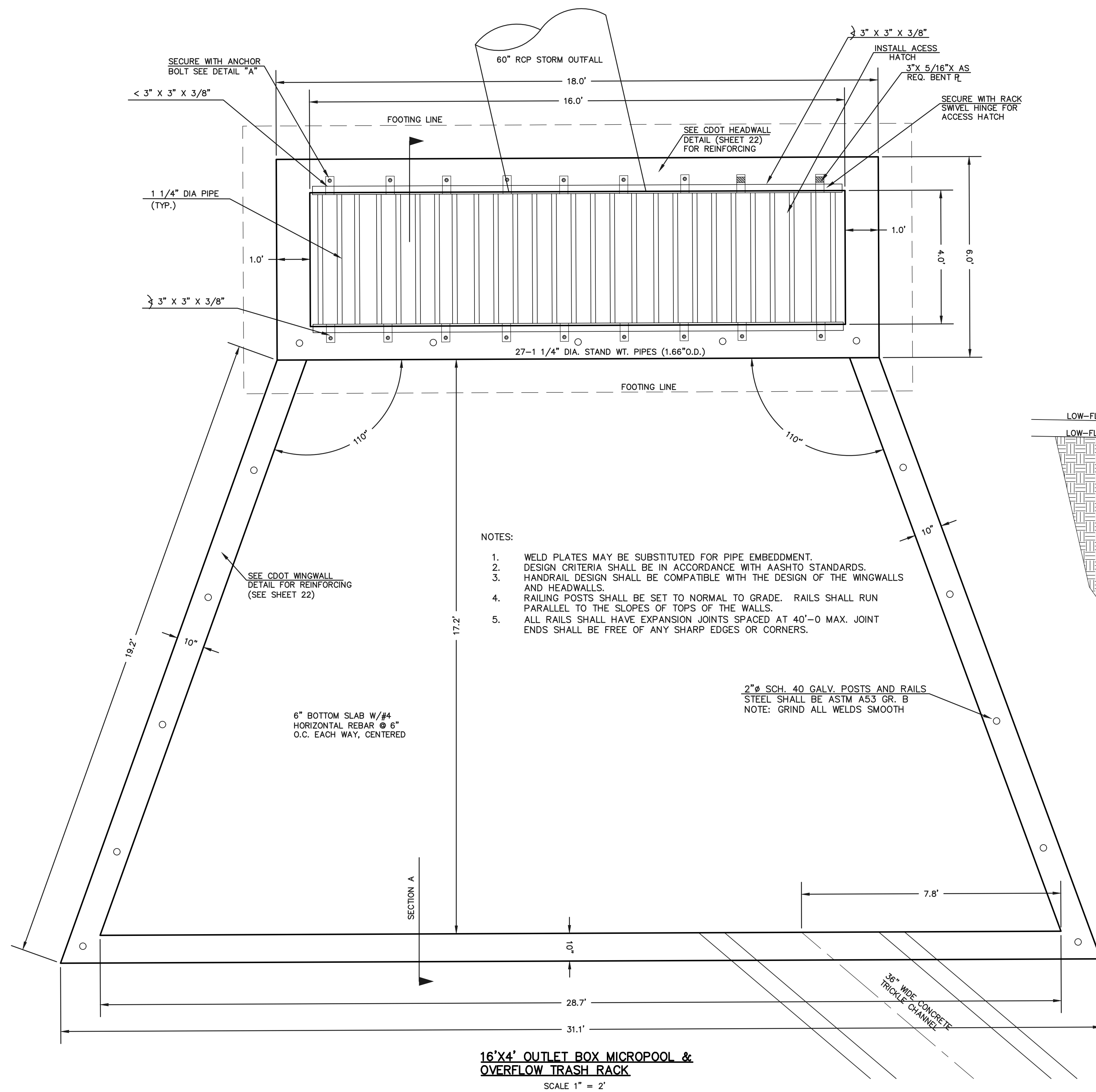
DATE 10/16/2020

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719)785-0790  
(719)785-0799(Fax)

FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
DETENTION FACILITY NO. 8  
DUAL 60" RCP CULVERTS / FOREBAY DESIGN

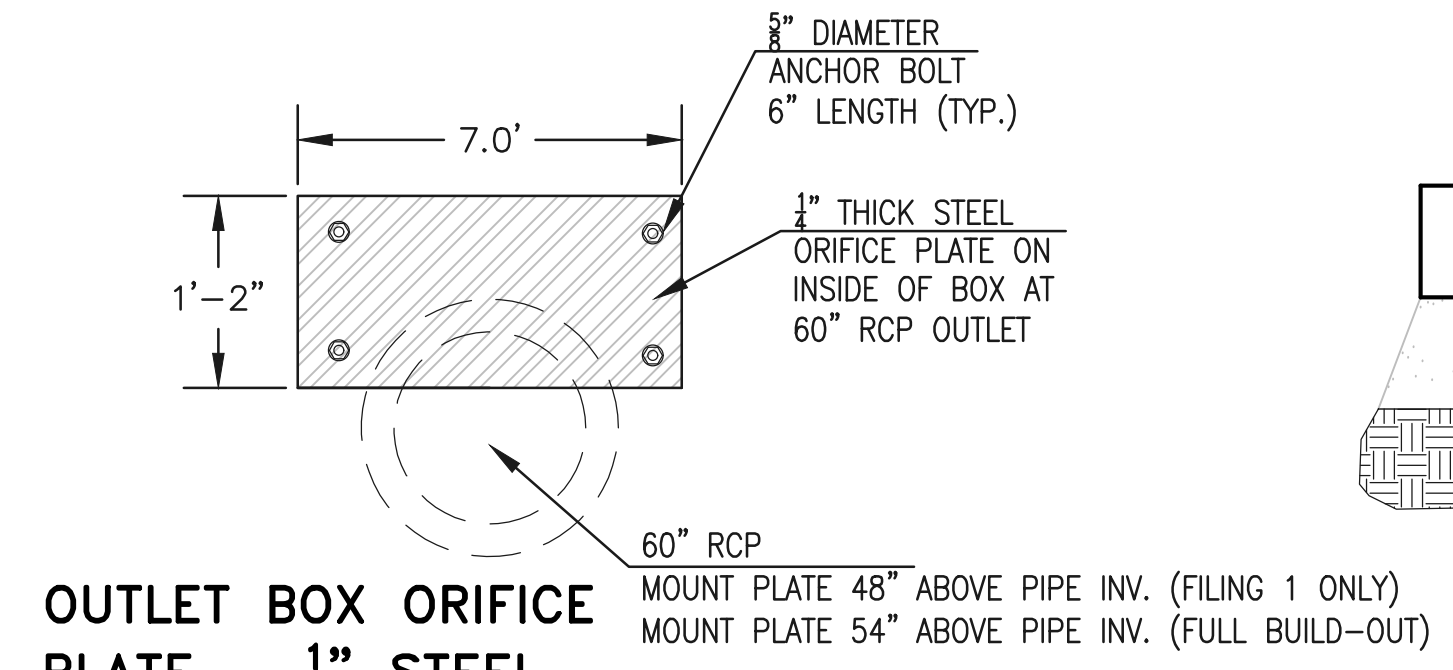
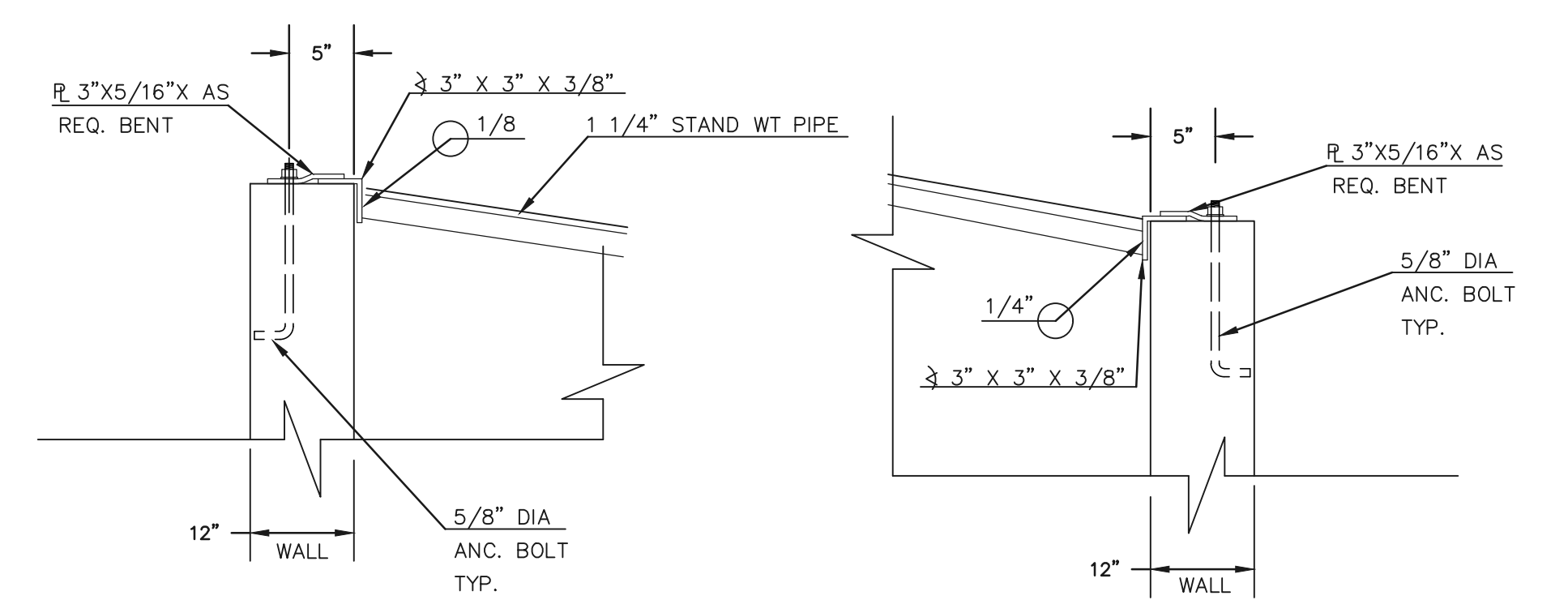
DESIGNED BY	MAW	SCALE	DATE	06-13-18
DRAWN BY	MAW	(H) 1"= 20'	SHEET	18 OF 22
CHECKED BY		(V) 1"= 2'	JOB NO.	1096.11

N:\109611\DRAWINGS\CONSTRUCTIVE\DWG\Final Plans\F8-F8-01.DWG - FOREBAY AS-BUILT.dwg, 10/14/2020 1:42:15 PM, 1:1



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

# AS-BUILT SURVEY AS-BUILTS TAKEN 11/26/18



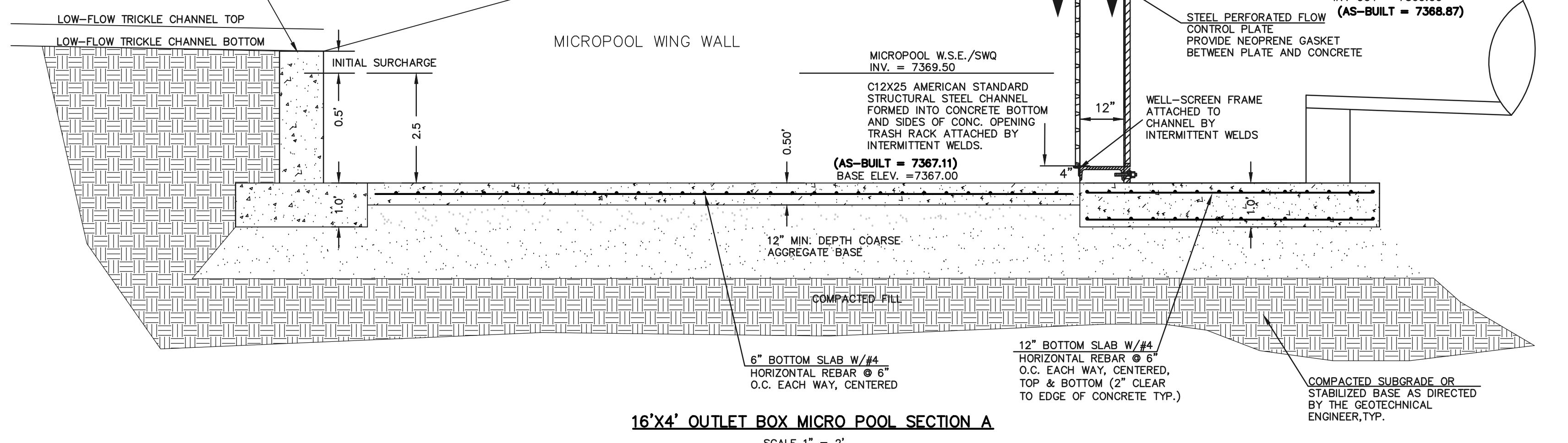
48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS  
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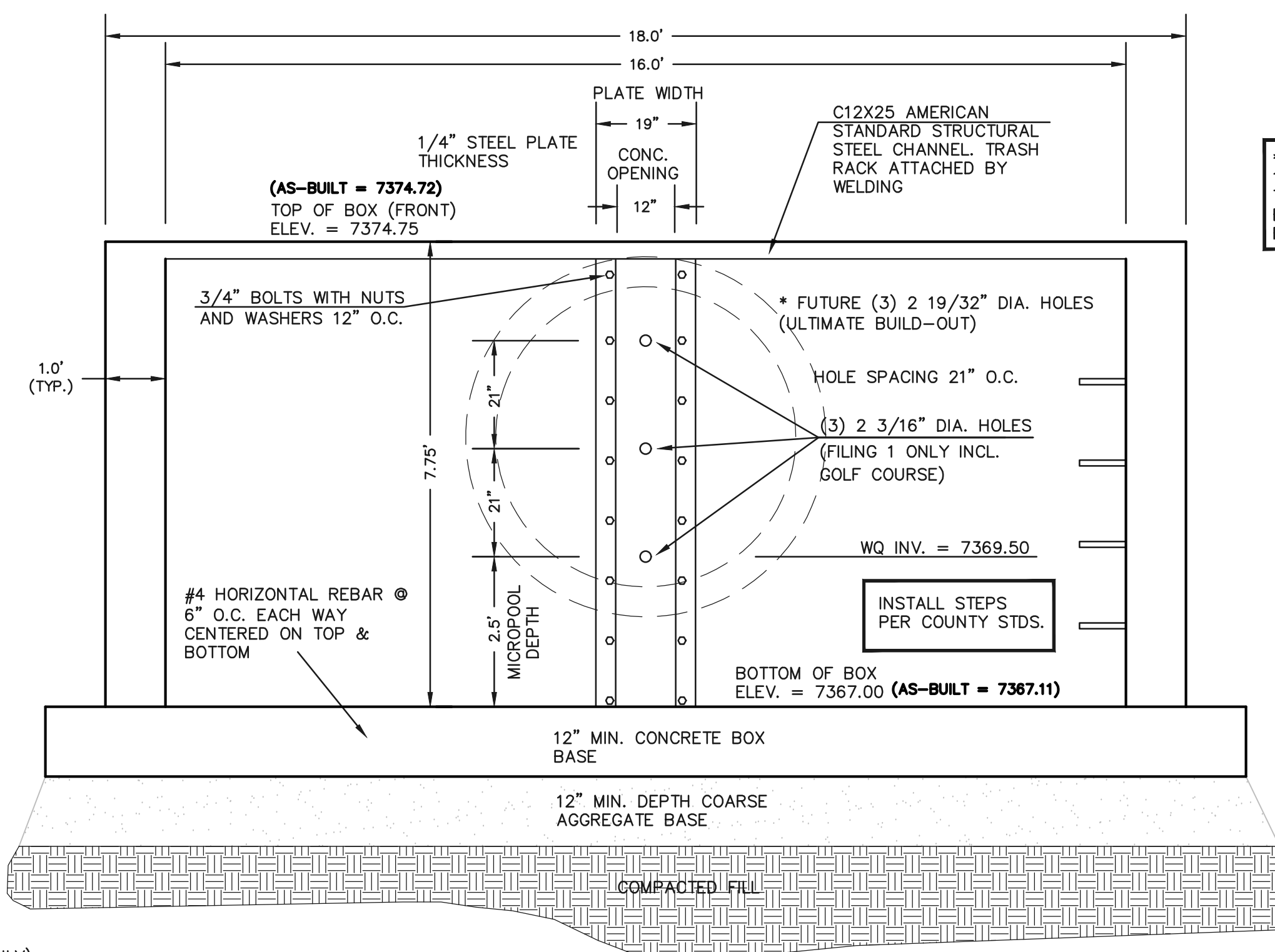
(FILING 1 ONLY INCL. GOLF COURSE)  
 100-YR. W.S.E. = 7378.42

(FILING 1 ONLY INCL. GOLF COURSE)  
 EURV W.S.E. = 7373.11 / 5-YR. W.S.E. = 7373.20  
 WQCV YR. W.S.E. = 7372.55 / 2-YR. W.S.E. = 7372.48

MICROPOOL WALL 7370.00  
 (AS-BUILT = 7370.02)



16'x4' OUTLET BOX MICRO POOL SECTION A  
 SCALE 1" = 2'



16'x4' OUTLET BOX ORIFICE PLATE  
 SCALE 1" = 2'

\* STEEL ORIFICE PLATE AND 100 YR. RESTRICTOR PLATE TO BE REPLACED WITH FULL BUILD-OUT DESIGN UPON FILING 2 DEVELOPMENT.

- (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.

NO.	REVISION	DATE

REVIEW:

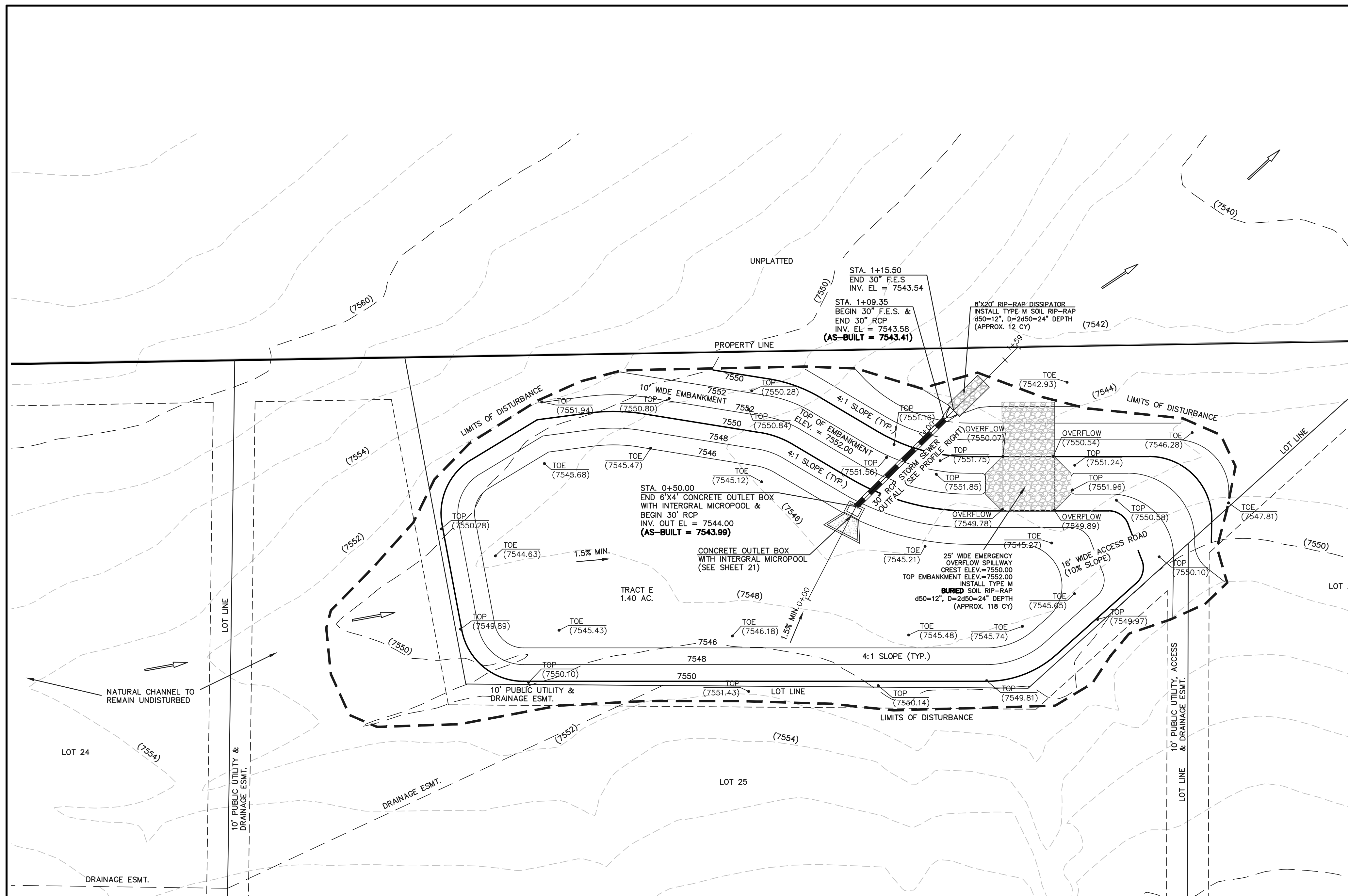
PREPARED UNDER THE DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

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

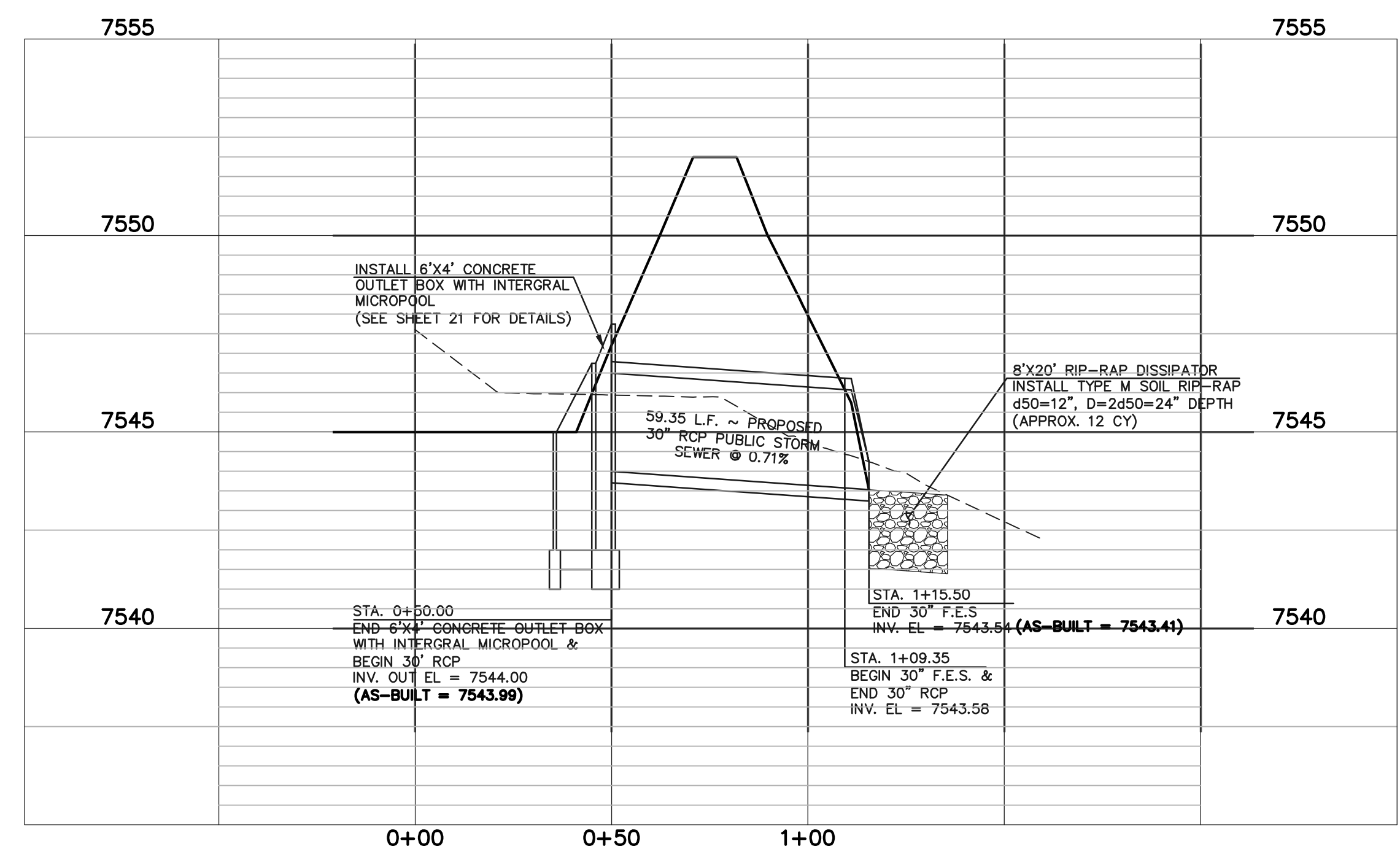
DATE: 10/16/2020

FLYING HORSE NORTH FILING NO. 1			
DRAINAGE IMPROVEMENT PLANS			
DETENTION FACILITY NO. 8			
OUTLET BOX DETAILS			
DESIGNED BY	MAW	SCALE	DATE 06-13-18
DRAWN BY	MAW	(H) 1" = N/A	SHEET 19 OF 22
CHECKED BY	(V) 1" = N/A	JOB NO.	1096.11

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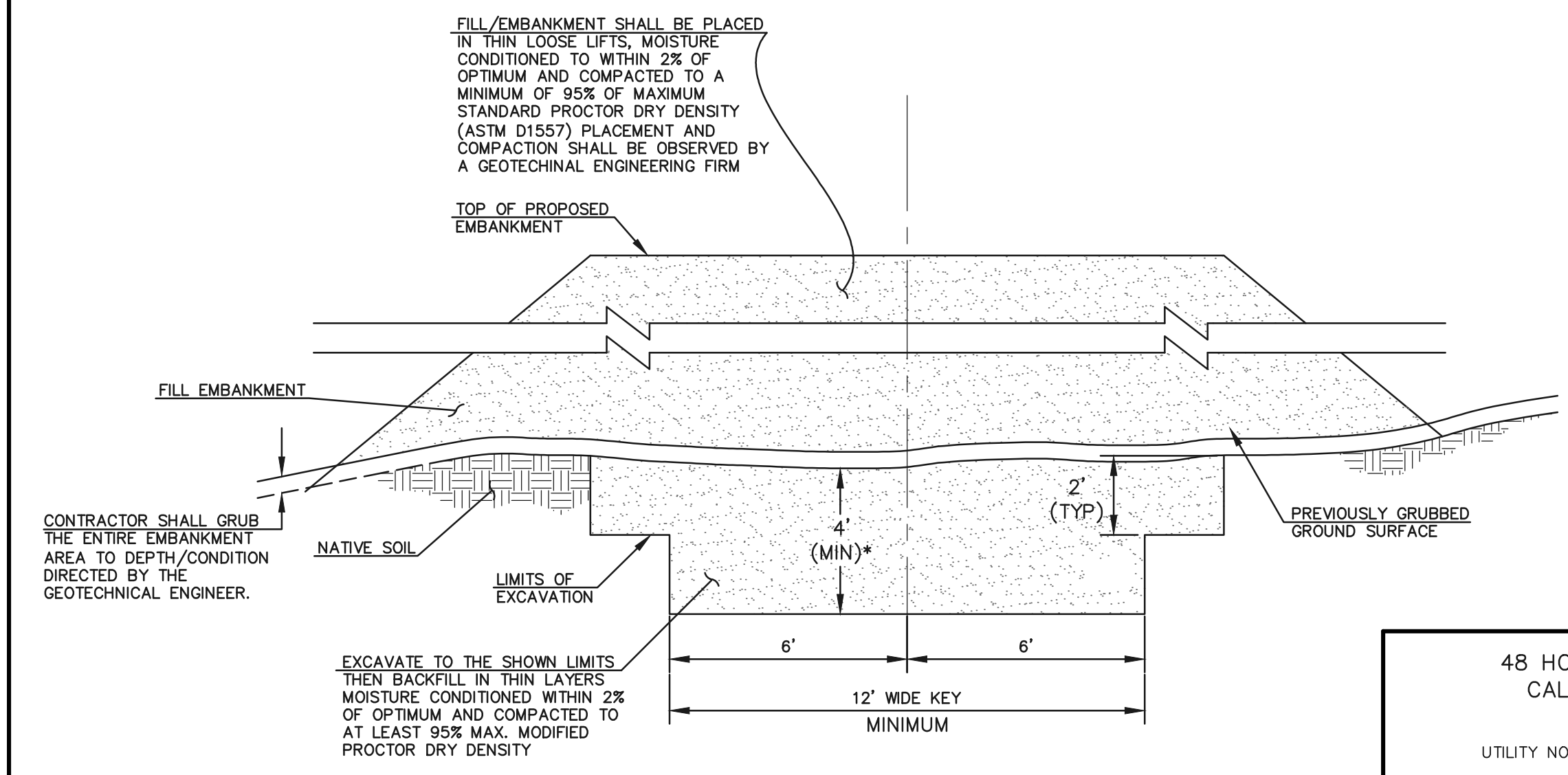


DETENTION FACILITY NO. 12



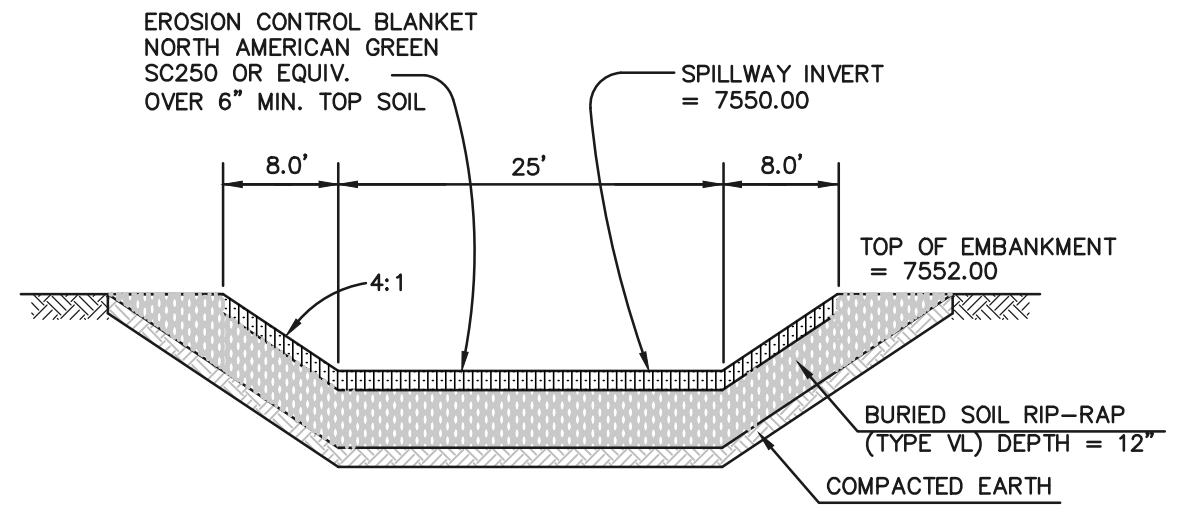
DETENTION FACILITY NO. 12 ~ 30" RCP POND OUTLET PROFILE

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



SECTION A  
TYPICAL EMBANKMENT  
WITH SOIL KEYWAY

SCALE: N.T.S.



EMERGENCY SPILLWAY  
CROSS SECTION

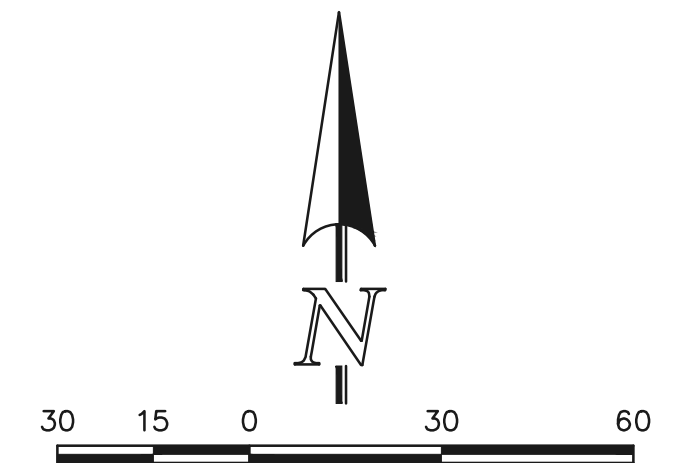
SCALE: N.T.S.

AS-BUILT

STRUCTURE AS-BUILTS TAKEN  
7/3/19

TOPO. AS-BUILTS TAKEN  
9/25/19 & 11/24/19

SEE FLYING HORSE NORTH EARLY  
GRADING AND EROSION CONTROL PLAN  
(GOLF COURSE AND PRIVATE ACCESS  
ROADS ONLY) FOR EROSION CONTROL  
DETAILS. APPROVED OCTOBER 2016



SCALE: 1" = 30'

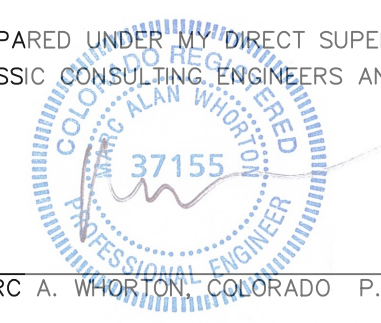
\* UPON GRUBBING EXISTING SOILS IN EMBANKMENT AREA, ENGINEER SHALL BE CONTACTED TO DETERMINE SOIL QUALITY. IF POOR PERMEABILITY IS FOUND (I.E. SANDY-SILT) ONLY TOP 2' X 14' PORTION OF EMBANKMENT KEY IS REQUIRED FOR CONSTRUCTION.

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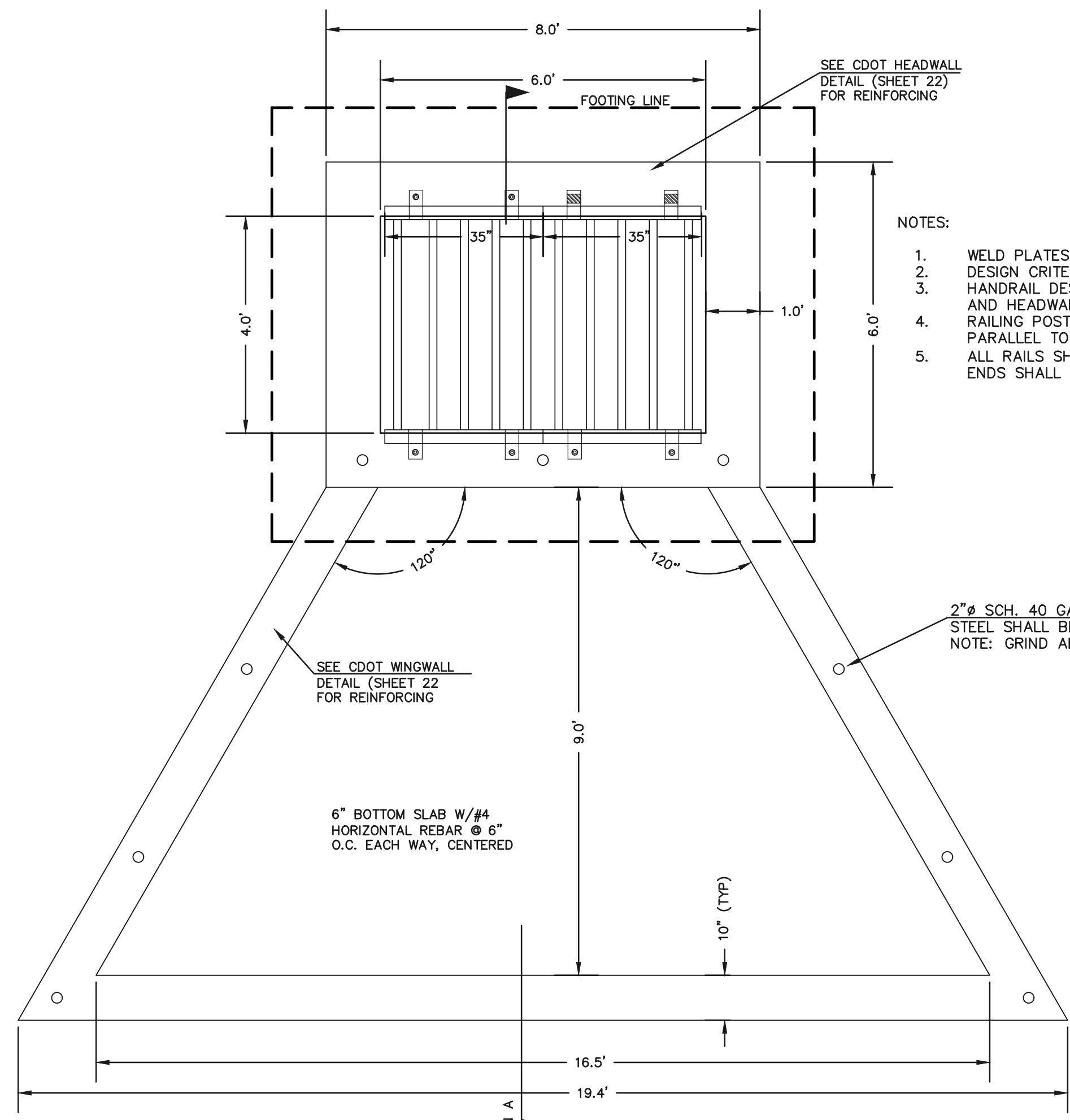
CLASSIC CONSULTING ENGINEERS & SURVEYORS

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

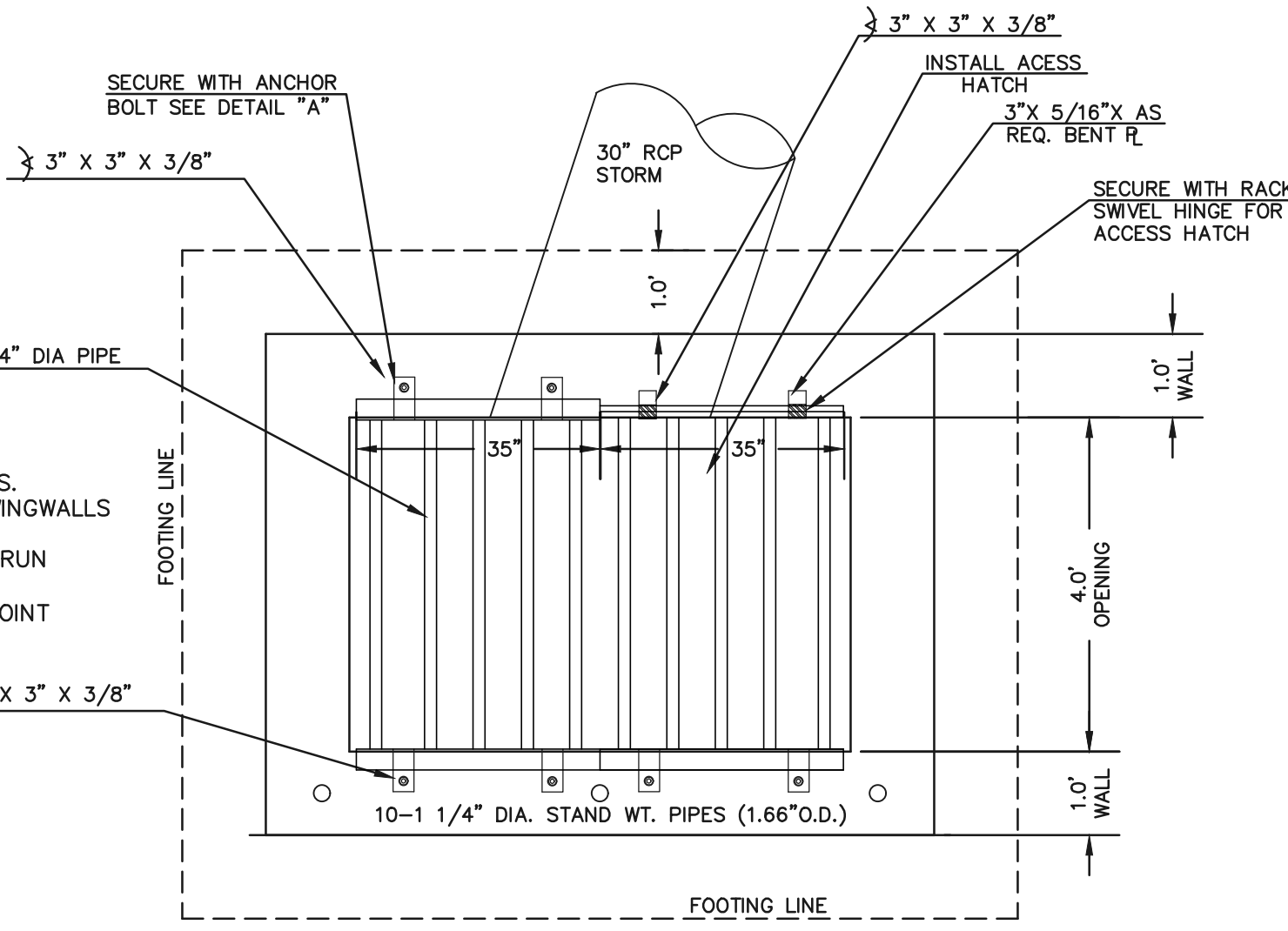
(719)785-0790  
(719)785-0799(Fax)

FLYING HORSE NORTH FILING NO. 1 DRAINAGE IMPROVEMENT PLANS			
DETENTION FACILITY NO. 12 POND PLAN			
DESIGNED BY	MAW	SCALE	DATE 06-13-18
DRAWN BY	MAW	(H) 1"= 30'	SHEET 20 OF 22
CHECKED BY		(V) 1"= N/A	JOB NO. 1096.11

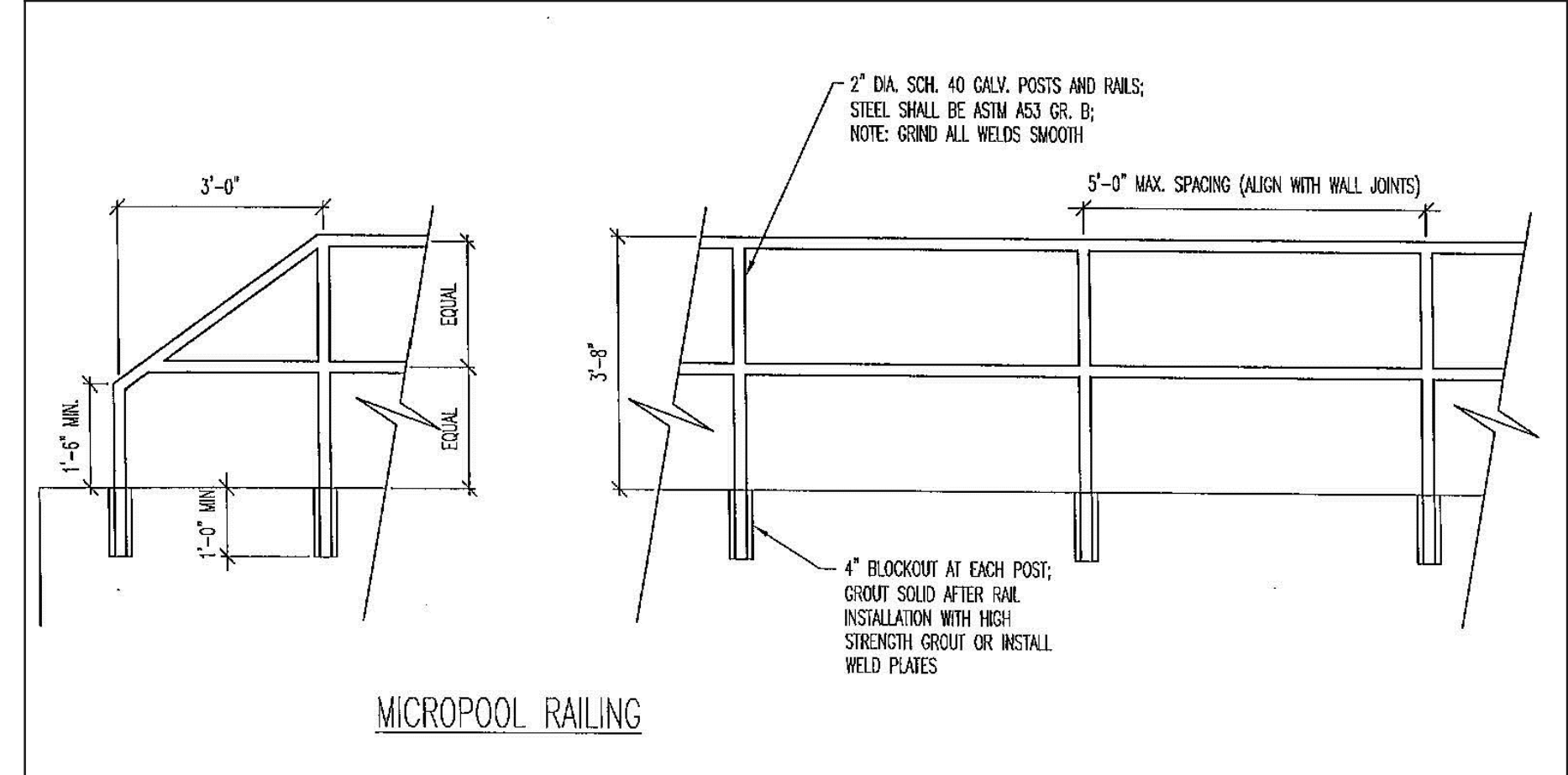
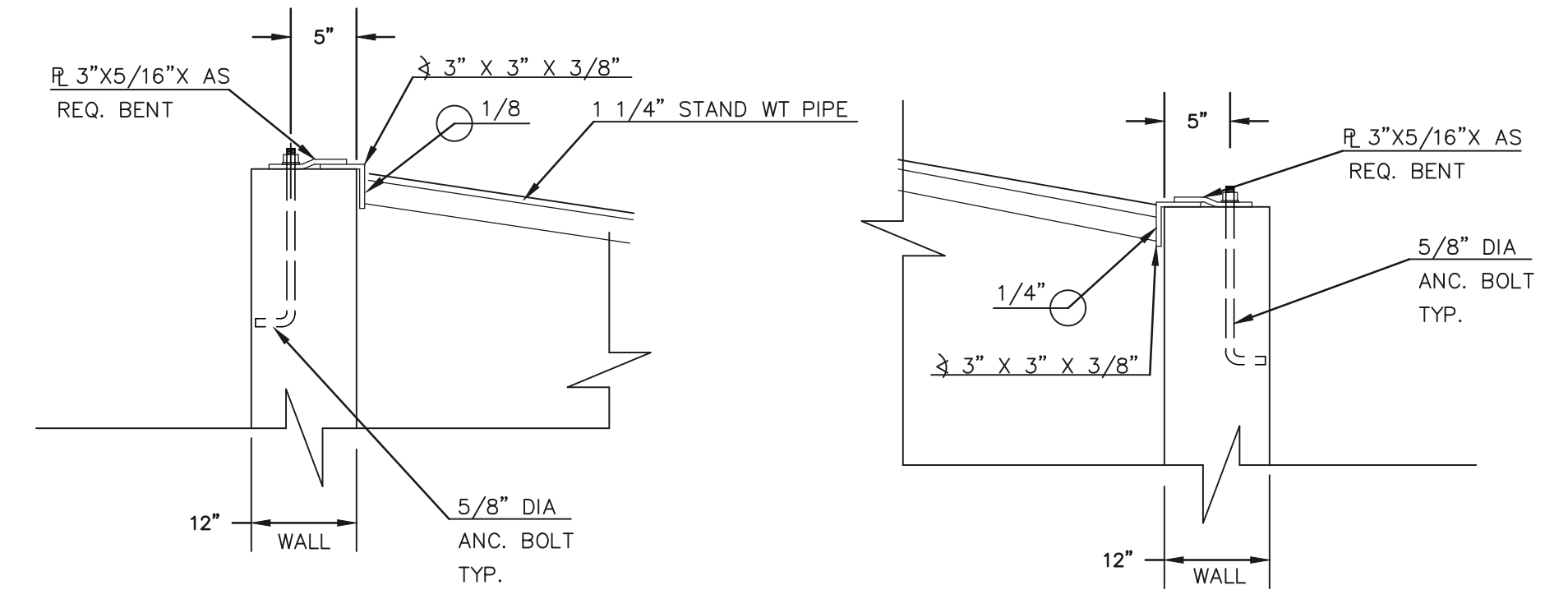




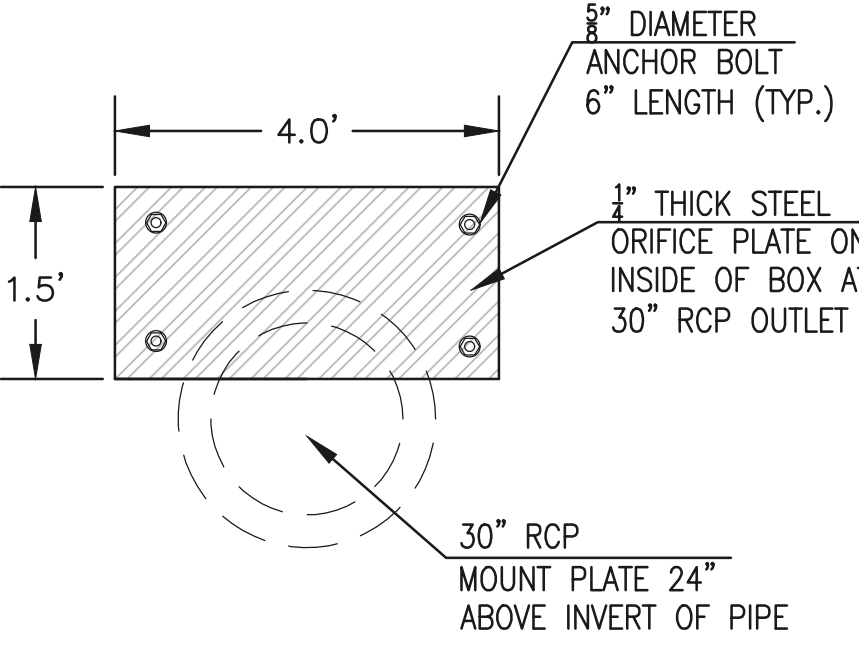
**CONCRETE MICROPOOL**  
SCALE 1" = 2'



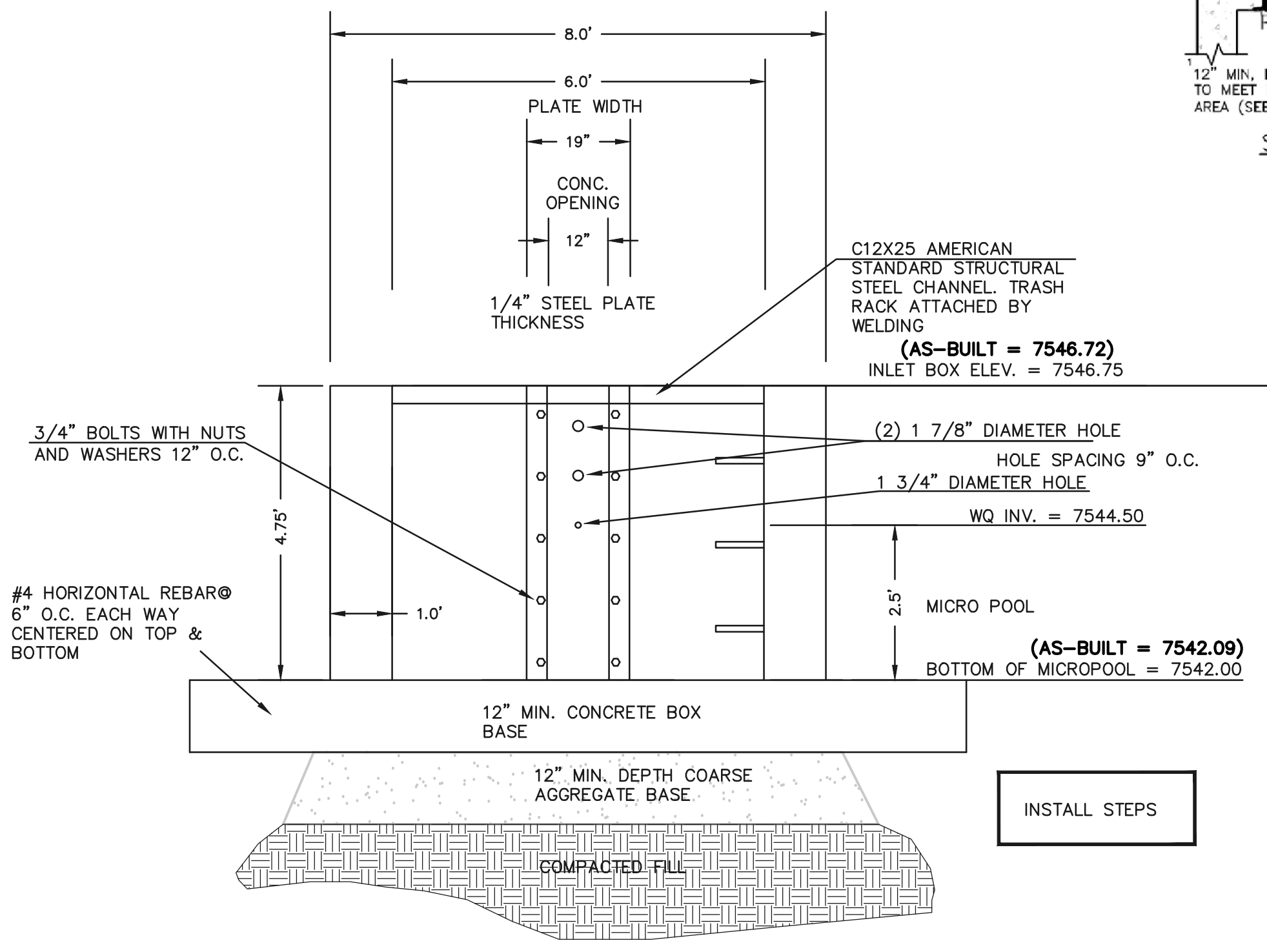
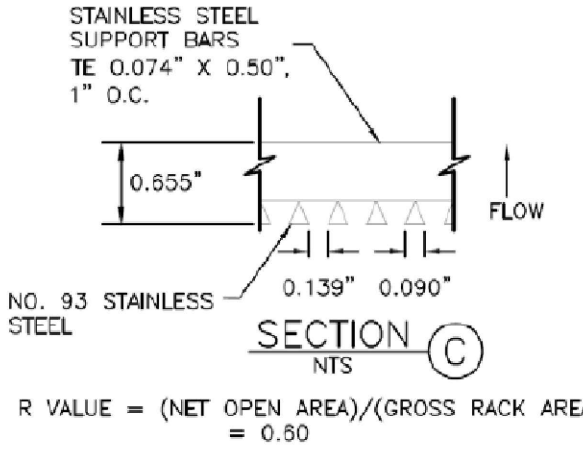
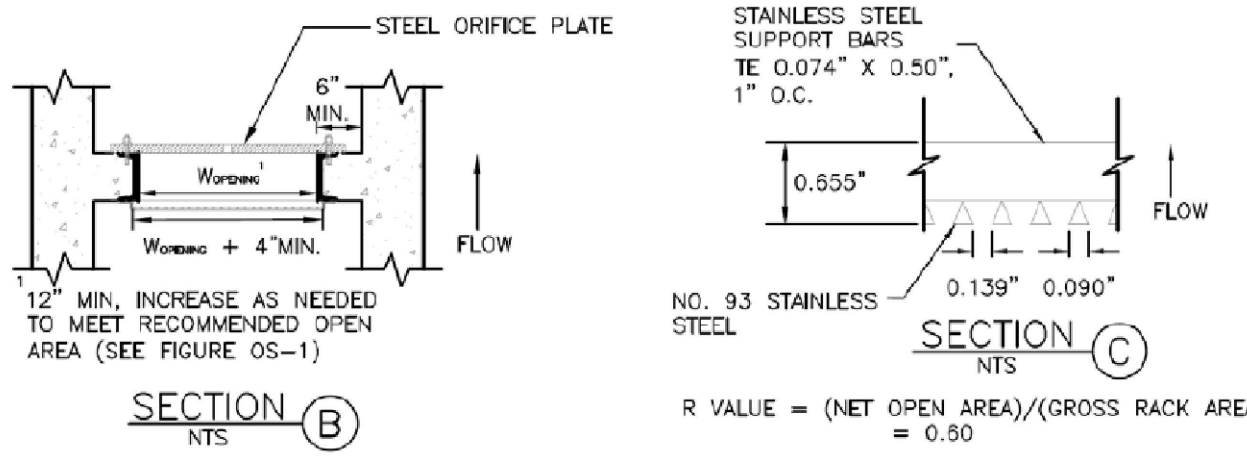
**6'X4' OUTLET BOX OVERFLOW TRASH RACK**  
SCALE 1" = 2'



**OUTLET BOX RAILING**  
N.T.S.



**OUTLET BOX ORIFICE PLATE - 1/4\"/>**



**6'X4' OUTLET BOX ORIFICE PLATE**  
SCALE 1" = 2'

(ALL MATERIALS PER EL PASO COUNTY SPECIFICATIONS)

ORIFICE PLATE NOTES:

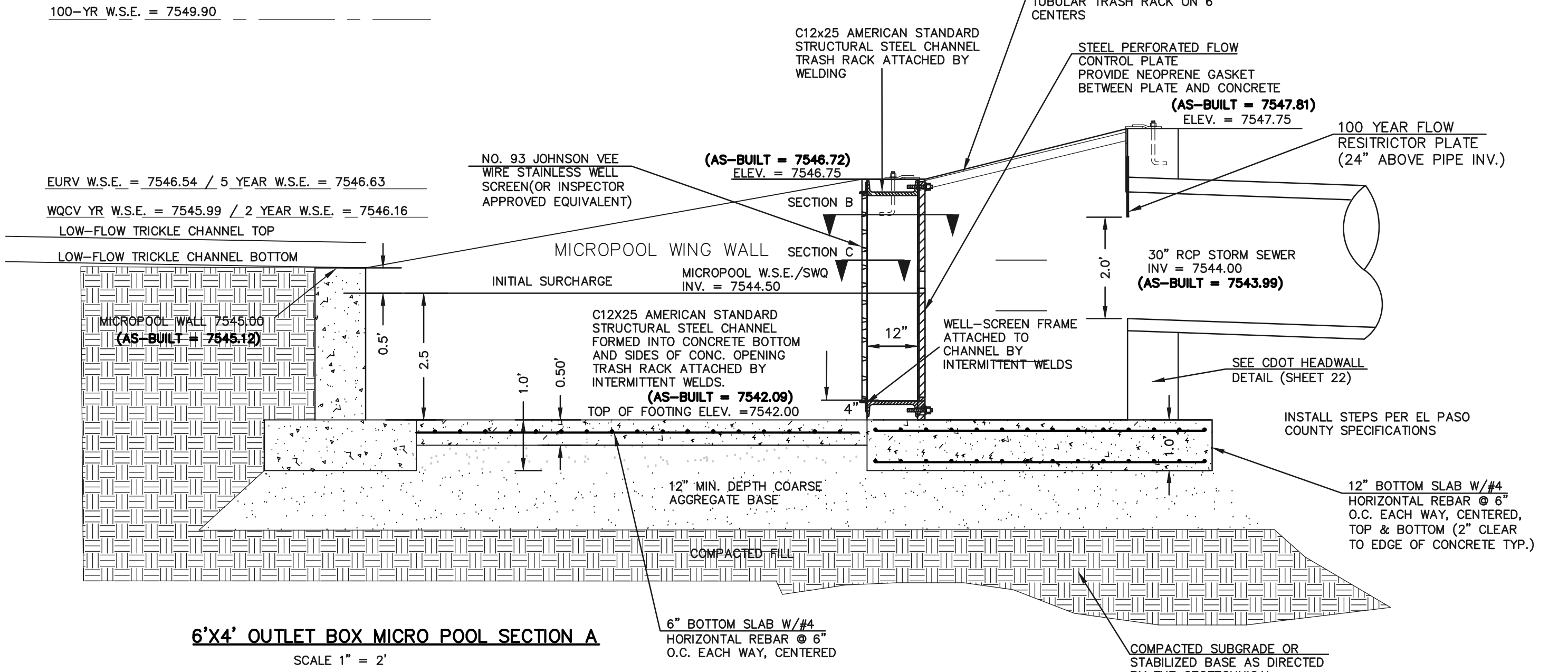
- INSTALL HOLES AS SHOWN ON DETAIL TO RIGHT.
- PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE

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**6'X4' OUTLET BOX MICRO POOL SECTION A**  
SCALE 1" = 2'

**AS-BUILT** STRUCTURE AS-BUILTS TAKEN 7/3/19

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MARC A. WHORLEN, COLORADO P.E. #37155 DATE 10/16/2020

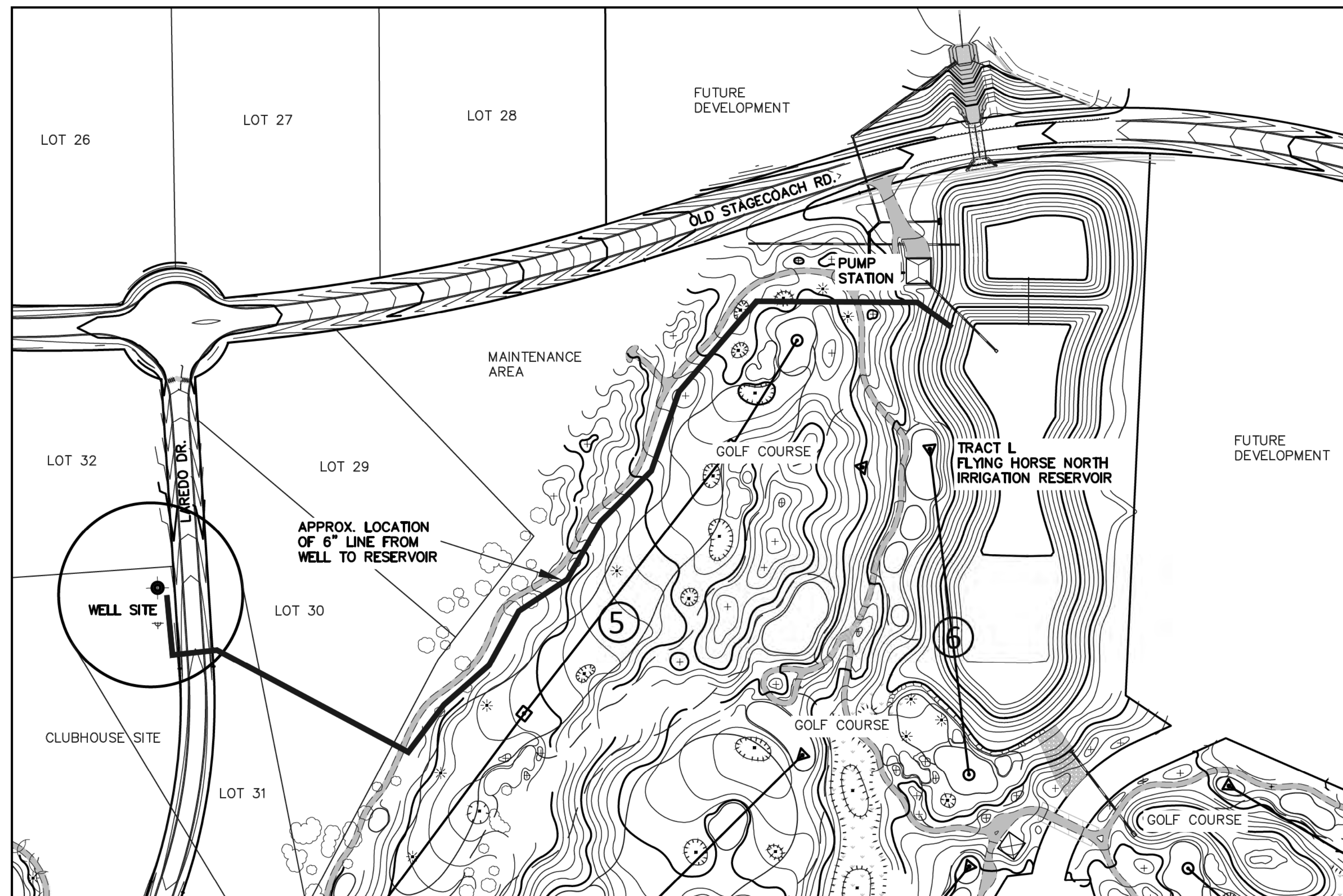
**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (Fax)

FLYING HORSE NORTH FILING NO. 1  
DRAINAGE IMPROVEMENT PLANS  
DETENTION FACILITY NO. 12  
OUTLET BOX DETAILS

DESIGNED BY	MAW	SCALE	DATE	06-13-18
DRAWN BY	MAW	(H) 1" = N/A	SHEET	21 OF 22
CHECKED BY	(V)	1" = N/A	JOB NO.	1096.11





**WELL INFORMATION:**

WELL NAME: FLYING HORSE NORTH A-1  
LOCATION: SEC. 36, T 11 SOUTH, R 66 WEST, 6TH P.M.  
NORTHING: 1445275.0  
EASTING: 3220345.0  
(STATE PLANE)  
PERMIT # 81145-F  
ISSUE DATE: 7/24/17  
WATER DIVISION 1  
WATER DISTRICT 8  
ARAPAHOE AQUIFER  
TOTAL DEPTH 2400 FT.

Layne Well Test Report for 47170 FLYING HORSE GOLF PUMP TEST. Includes well name, location, and a detailed table of pumping water levels and discharge rates.

Layne Well Test Report for 47170 FLYING HORSE GOLF PUMP TEST. Includes well name, location, and a detailed table of pumping water levels and discharge rates.

Table showing well log data with columns for depth, casing size, grain size, color, and water level. Includes 'AS-BUILT' stamp.

WELL CONSTRUCTION AND YIELD ESTIMATE REPORT form. Includes sections for well information, aquifer characteristics, geologic log, and construction details.

\\099611\DRAWINGS\CONSTRUCTION\Jurisdictional Plans\3-ud\_POND - Well Site - 3.dwg, 8/21/2018 3:37:55 PM, 11

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS 811. 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 REVIEW: 1 REVISED PER COUNTY COMMENTS 4-2-18, 2 REVISED PER COUNTY COMMENTS 7-31-18. PREPARED UNDER DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC.

AS-BUILT. Marc A. Wilgraton, P.E. #37155. DATE 9/17/18.



FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT. WELL SITE / TEST REPORTS. DAM ID - 080459. EPC 9/25/18. DESIGNED BY MAW, DRAWN BY MAW, CHECKED BY MAW. SCALE (H) 1"= N/A, (V) 1"= N/A. SHEET 2 OF 14. JOB NO. 1096.11

**PUMP STATION SPECIFICATIONS:**  
 NAME: FLYING HORSE RANCH  
 STATION MODEL: VTV-1-75x3(75)/5ST-480-3-2250(3000)-110

**STATION TOTAL PERFORMANCE:**  
 2250GPM @ 110PSI  
 3000GPM @ 110PSI (FUTURE)

**PUMP HORSEPOWER:**  
 SUSTAIN PUMP: 5HP  
 PUMP NO. 1-3: 75HP  
 PUMP NO. 4: 75HP (FUTURE PUMP/MOTOR)

**CHECK VALVE SIZE:**  
 SUSTAIN: BUILT IN  
 PUMP NO. 1-2: 6"

**ISOLATION VALVE SIZES:**  
 SUSTAIN PUMP: 2"  
 PUMP NO. 1-2: 5" (EBV)

**DISCHARGE ISOLATION VALVE:** 10"  
 RELIEF VALVE SIZE: 6"

**PUMP STATION DISCONNECT:** 600 AMP  
**POWER REQUIREMENTS:**  
 480V, 60 HZ, 3 PZ, 386 FLA  
**EXHAUST FAN REQ'D FOR BUILDING:**  
 5400 CFM

**WET WELL DIMS:** ..... Ø96"  
**WET WELL DEPTH:** ..... 25'-0"

**MAIN LINE CONNECTION:** .... 16" FLANGED  
**NOMINAL PIPE SIZE:** ..... NA

**DROP PIPE COVER:** ..... 48"  
**INTAKE FLUME PIPE SIZE:** ..... 30"  
**INTAKE FLUME MATERIAL:** ..... SDR35 PVC  
**OD:** ..... 32"

**PLEASE VERIFY ALL INFO WITH YOUR INITIALS AND DATE**

**PLEASE INDICATE POWER SUPPLY CONDITION BELOW FOR FCC COMPLIANCE. REFER TO WATERTRONICS DRAWING # FCC-1 FOR ADDITIONAL INFORMATION**

A: CONNECTED THROUGH A COMMERCIAL BUILDING  
 B: CONNECTED THROUGH A DEDICATED TRANSFORMER  
 C: CONNECTED THROUGH A PAD TRANSFORMER SHARED WITH OTHER NON-RESIDENTIAL EQUIPMENT.  
 D: CONNECTED TO A POLE TRANSFORMER ON A RESIDENTIAL POWER GRID.  
 E: CONNECTED TO A PAD TRANSFORMER SHARED WITH RESIDENTIAL DWELLINGS.

**PLEASE USE THE SPACE BELOW FOR ANY ADDITIONAL COMMENTS:**  
 1. MIN. WATER LEVEL IN THE WET WELL 56" FROM THE BOTTOM  
 2. NORMAL WATER LEVEL AT THE WET WELL ??  
 3. MAXIMUM WATER LEVEL IN THE WET WELL ??  
 4. TO DRAIN THE BOND COMPLETELY THE BOTTOM OF THE BOND NEED TO BE LOWER THAN THE BOTTOM OF WET WELL 1

APPROVED AS SUBMITTED  
 APPROVED AS NOTED  
 REVISE AND RESUBMIT

REVIEWED BY: \_\_\_\_\_  
 NAME: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**DIMENSIONS AND SIZES OF EXISTING STRUCTURES, AND/OR COMPONENTS MUST BE VERIFIED TO WATERTRONICS BEFORE STATION CONSTRUCTION BEGINS.**

UNLESS SPECIFIED BY THE CUSTOMER, PUMP HOUSE/CONCRETE SLAB DIMENSIONS ARE RECOMMENDED MINIMUMS FOR NEC AND SERVICE CLEARANCE, AND ARE FOR ILLUSTRATION PURPOSES ONLY. PROJECT MANAGER SHALL BE CONSULTED ON FINAL DESIGN.

THE PUMP STATION PROPOSED HEREIN IS DESIGNED TO BE PLACED IN A PUMP HOUSE FOR PROTECTION FROM THE ENVIRONMENT. IF A PUMP HOUSE IS NOT USED, WATERTRONICS MUST BE NOTIFIED AT TIME OF QUOTATION SO SPECIAL PROVISIONS CAN BE MADE.

**WATERTRONICS**  
 A LINDSAY COMPANY  
 PHONE: 1-262-367-5000  
 FAX: 1-262-367-5051

SHEET 1 OF 4 SHEETS  
 DRAWING NO. PRVT12023 09/15/2016

**STATION COMPONENTS:**  
 A: 75HP PUMP AND MOTOR  
 B: 5HP SUBMERSIBLE PUMP AND MOTOR  
 C: 6" CHECK VALVE  
 D: 5" PUMP ISO VALVE W/ EBV CONTROL  
 E: BOILER DRAIN 3/4"  
 F: PRESSURE RELIEF VALVE  
 G: PRESSURE TRANSDUCER W/ GAUGE  
 H: 8" MAGNETIC FLOW METER  
 I: CONTROL CABINET  
 J: HEAT EXCHANGER  
 K: LEVEL SENSOR W/ ALARM FLOAT  
 L: T-LETS 3/4" W/ PLUG (X4)-SPACED C 6"  
 M: STATION ISOLATION VALVE 12"  
 N: BLOW OUT FITTING 2" W/ PLUG  
 O: 12" X 12" DROP PIPE AND 12" X 16" ECCENTRIC WITH 16" FL  
 P: 8" VAF1500 FILTER W/ 300 MICRON SCREEN (X2)  
 Q: 8" FILTER ISOLATION VALVE  
 R: 8" FILTER BY-PASS VALVE  
 S: FILTER FLUSH W/ EBV CONTROL  
 T: PAINTED STEEL BASE (SANDSTONE)  
 U: 3KVA REGULATED POWER SUPPLY (4X15CB)  
 V: 5KW ELECTRIC HEATER  
 W: SBS-48 INLET STAINLESS STEEL SCREEN  
 X: NA  
 Y: 5" BLIND FLANGE FOR FUTURE PUMP  
 Z: 14" Ø HATCH FOR FUTURE 75HP PUMP  
 AA: 2" TOL INJECTION PORT-TOP OF PIPE  
 AB: 3" TOL INJECTION PORT

**PLAN VIEW**

NO. DATE BY DESCRIPTION

12	11/13/2017	MJH	REVISED ELEVATION
11	10/24/2017	MJH	REVISED SIZE OF THE MAGNATION UNIT PIPE SPOOL FROM 10" TO 12"
10	10/18/2017	MJH	REVISED LOCATION OF AA AND AB FITTING INJECTION PORTS. WILL SHALL 10/18/2017
9	10/17/2017	MJH	REVISED LOCATION OF MAGNATION SPOOL PIPE, ISO VALVE, DISCHARGE ELBOW, BLDG DIM.
8	08/07/2017	MJH	REVISED WET WELL DEPTH FROM 19'-0" TO 25'-0"
7	07/14/2017	MJH	REVISED WET WELL DEPTH FROM 12'-0" TO 19'-0"
6	03/29/2017	MJH	ADDED 20" SPOOL PIECE FOR MAGNATION UNIT
5	03/24/2017	MJH	REVISED DROP PIPE TERMINATION TO 16" FL
4	03/23/2017	MJH	ADD 3KVA REGULATED POWER SUPPLY
3	03/02/2017	MJH	DELETED FERTIGATION, 3KVA REGULATED AND RELOCATED 2" O LET TO TOP
2	02/08/2017	MJH	LOCATED 3/4" TOL, ADDING 2" & 3" TOL TO OTHER SIDE OF THE PIPE
1	10/10/2016	MJH	REVISED WET WELL DEPTH TO 12'-0" & ADDING 2" TOL

DRAWN BY: MJH DATE: 09/15/2016 TITLE: FLYING HORSE RANCH  
 CHECKED BY: RJLS DATE: 08/07/17 VTV-1-75x3(75)/5ST-480-3-2250(3000)-110

SCALE: NTS SHEET 2 OF 4 SHEETS  
 DRAWING NO. PRVT12023

**ELEVATION VIEW**

NO. DATE BY DESCRIPTION

12	11/13/2017	MJH	REVISED ELEVATION
11	10/24/2017	MJH	REVISED SIZE OF THE MAGNATION UNIT PIPE SPOOL FROM 10" TO 12"
10	10/18/2017	MJH	REVISED LOCATION OF AA AND AB FITTING INJECTION PORTS. WILL SHALL 10/18/2017
9	10/17/2017	MJH	REVISED LOCATION OF MAGNATION SPOOL PIPE, ISO VALVE, DISCHARGE ELBOW, BLDG DIM.
8	08/07/2017	MJH	REVISED WET WELL DEPTH FROM 19'-0" TO 25'-0"
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DRAWN BY: MJH DATE: 09/15/2016 TITLE: FLYING HORSE RANCH  
 CHECKED BY: RJLS DATE: 08/07/17 VTV-1-75x3(75)/5ST-480-3-2250(3000)-110

SCALE: NTS SHEET 3 OF 4 SHEETS  
 DRAWING NO. PRVT12023

**Job Name: Flying Horse Ranch Wet Well**  
 Frontier Environmental

Structure ID: Wet Well Size: 96"  
 Rim to Invert: 24'  
 Precast Height: 25'  
 Step Position:

**NOTE: The invert elevation of the 30" PVC is not indicated on the detail drawing. To be confirmed by contractor.**

**NOTE: Catch Depth to be confirmed by contractor**

Oldcastle Precast / Mark H. Approved for production 9/22/2017

Quote ID: 2017090089  
 Page: 1 of 1

**SLAB VIEW**

NO. DATE BY DESCRIPTION

12	11/13/2017	MJH	REVISED ELEVATION
11	10/24/2017	MJH	REVISED SIZE OF THE MAGNATION UNIT PIPE SPOOL FROM 10" TO 12"
10	10/17/2017	MJH	REVISED LOCATION OF AA AND AB FITTING INJECTION PORTS. WILL SHALL 10/18/2017
9	10/17/2017	MJH	REVISED LOCATION OF MAGNATION SPOOL PIPE, ISO VALVE, DISCHARGE ELBOW, BLDG DIM.
8	08/07/2017	MJH	REVISED WET WELL DEPTH FROM 19'-0" TO 25'-0"
7	07/14/2017	MJH	REVISED WET WELL DEPTH FROM 12'-0" TO 19'-0"
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DRAWN BY: MJH DATE: 09/15/2016 TITLE: FLYING HORSE RANCH  
 CHECKED BY: RJLS DATE: 08/07/17 VTV-1-75x3(75)/5ST-480-3-2250(3000)-110

SCALE: NTS SHEET 4 OF 4 SHEETS  
 DRAWING NO. PRVT12023

**HydroFlo Pumps**  
 Fluid Solutions

Company: Pump Data Sheet - HydroFlo Pumps USA, Inc.  
 Date: 9/15/2016

**Pump:**  
 Size: 11MH (5 stage)  
 Type: Vertical  
 Synch speed: 1800 rpm  
 Impeller: 11MH SS ENCL  
 Specific Speed: 8  
 Dimensions: Vertical Turbine  
 Suction: 8 in  
 Discharge: 8 in  
 Bowl size: 11 in  
 Max lateral: 0.75 in  
 Thrust K factor: 7.8 lbf/ft

**Search Criteria:**  
 Flow: 750 US gpm  
 Head: 291 ft  
 Temperature: 60 °F  
 Vapor pressure: 0.2563 psi a  
 Viscosity: 1.105 cP  
 Air pressure: 14.7 psi a  
 NPSHr: ---  
 Motor: Standard: NEMA  
 Enclosure: WPI  
 Size: 100 hp  
 Speed: 1800  
 Frame: 4047  
 Sizing criteria: Max Power on Design Curve

**Pump Limits:**  
 Temperature: 120 °F  
 Pressure: 400 psig  
 Sphre size: 0.68 in  
 Power: ---  
 Eye area: ---

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
900	1770	261	62.5	71.7	10.9
750	1770	291	83.1	66.2	8.63
600	1770	311	79.5	59	7.33
450	1770	325	69.7	52	7
300	1770	325	58.7	43.8	7

Selected from catalog: hydroflo vs pumps:60 Vers: 18.3

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NO. REVISION DATE REVIEW:

1	REVISED PER STATE COMMENTS	4-2-18	
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MARC A. WHITTON, P.E. #37155  
 DATE: 9/17/18

**CLASSIC CONSULTING ENGINEERS & SURVEYORS**  
 619 N. Cascade Avenue, Suite 200  
 Colorado Springs, Colorado 80903  
 (719)785-0790  
 (719)785-0799 (Fax)

**FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT**  
 PUMP STATION PLAN / DETAILS  
 DAM ID - 080459

DESIGNED BY: MAW SCALE: (H) 1" = N/A DATE: 1-4-18  
 DRAWN BY: MAW SCALE: (V) 1" = N/A SHEET 3 OF 14  
 CHECKED BY: \_\_\_\_\_ JOB NO.: 1096.11

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085  
 EPC 9/25/18

N:\05061\DRAWINGS\CONSTRUCTION\Architectural Plans\3-AD\_FOND - Pump Station.dwg, 9/21/2018 3:19:13 PM, TCT

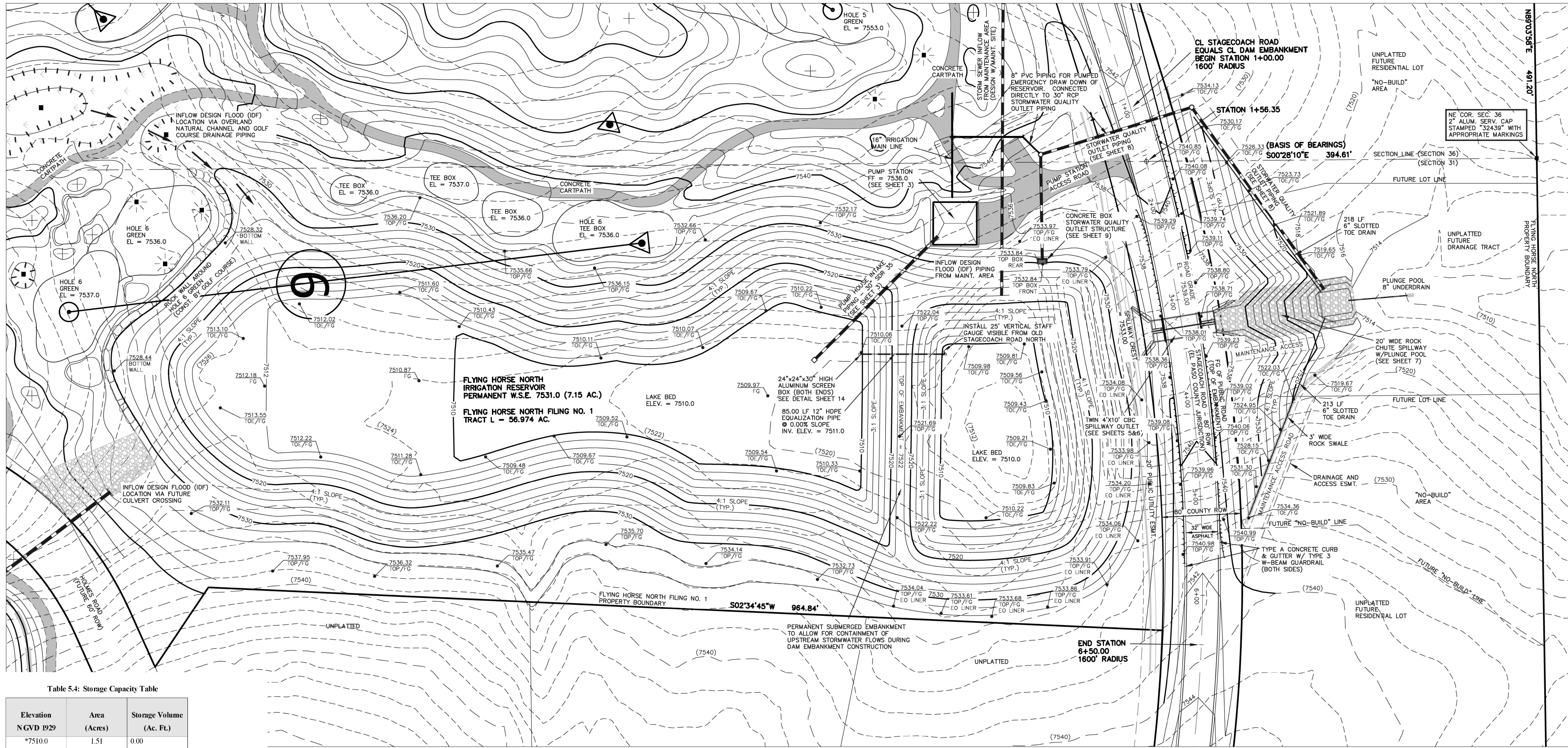


Table 5.4: Storage Capacity Table

Elevation NGVD 1929	Area (Acres)	Storage Volume (Ac. Ft.)
*7510.0	1.51	0.00
*7511.0	1.99	1.74
*7512.0	2.52	3.99
*7513.0	2.85	6.68
*7514.0	3.05	9.63
*7515.0	3.26	12.78
7516.0	3.48	16.15
7517.0	3.70	19.74
7518.0	3.93	23.56
7519.0	4.16	27.60
7520.0	4.40	31.88
7521.0	4.64	36.40
7522.0	4.88	41.16
7523.0	5.14	46.17
7524.0	5.36	51.42
7525.0	5.59	56.89
7526.0	5.84	62.61
7527.0	6.08	68.57
7528.0	6.33	74.77
7529.0	6.57	81.22
7530.0	6.81	87.91
7531.0	7.15	94.89
7532.0	7.52	102.22
7533.0	7.83	109.90
7534.0	8.37	118.00
7535.0	8.77	126.57
7536.0	9.17	135.53

\*Indicates dead storage below pumping ability

Table 5.5: Reservoir Discharge Table

Elevation	Discharge (cfs)		
	(SWQ Outlet Box)	(Twin CBC Spillway)	(Total)
7531.0	0.0	0.0	0.0
7532.0	13.89	0.0	13.89
7533.0	27.77	0.0	27.77
7534.0	51.31	49.05	100.36
7535.0	69.52	138.56	208.08
7536.0	74.61	254.72	329.33

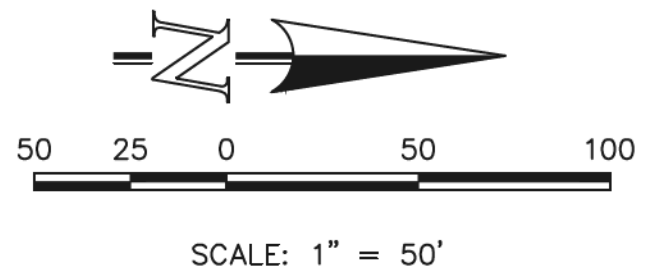
Permanent WSE = 7531.0  
 Top of SWQ Outlet box = 7533.0  
 Spillway elevation = 7533.0

NOTES:

- TOPOGRAPHIC BASE MAPPING PRODUCED FROM AERIAL PHOTOGRAPHY PROVIDED BY NORTH AMERICAN MAPPING IN 2009. HORIZONTAL CONTROL IS BASED ON LOCAL CALIBRATION TIED TO SECTION CORNER AND VERTICAL CONTROL IS BASED ON NGVD 1929 DATUM.
- PERMANENT WSE = 7531.0
- RESERVOIR LINER INSTALLED UP TO ELEVATION 7534.0

STAFF GAUGE DETAILS:

- 12"x25"x1/2" PVC
- LASER CUT ACRYLIC NUMBERS AND HATCH MARKS LIQUID WELDED TO PVC ON 1 FT. INCREMENTS
- MOUNTED ON ALUMINUM FRAME WITH CROSS BRACKETS ANCHORED INTO SLOPE
- BASE FASTENED TO 12" PIPE
- ELEVATION DISPLAY RANGE: 7512-7535



**AS-BUILT**  
 SURVEY AS-BUILTS PROVIDED  
 BY CLASSIC CONSULTING  
 DATED 9/26/19

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

48 HOURS BEFORE YOU DIG,  
 CALL UTILITY LOCATORS  
**811**  
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NO.	REVISION	DATE
1	REVISED PER STATE COMMENTS	5-14-18
2	REVISED PER COUNTY COMMENTS	7-31-18
3	INCLUDE AS-BUILT SURVEY SHOTS	11-11-19

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

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

CLASSIC CONSULTING ENGINEERS & SURVEYORS

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

(719)785-0790  
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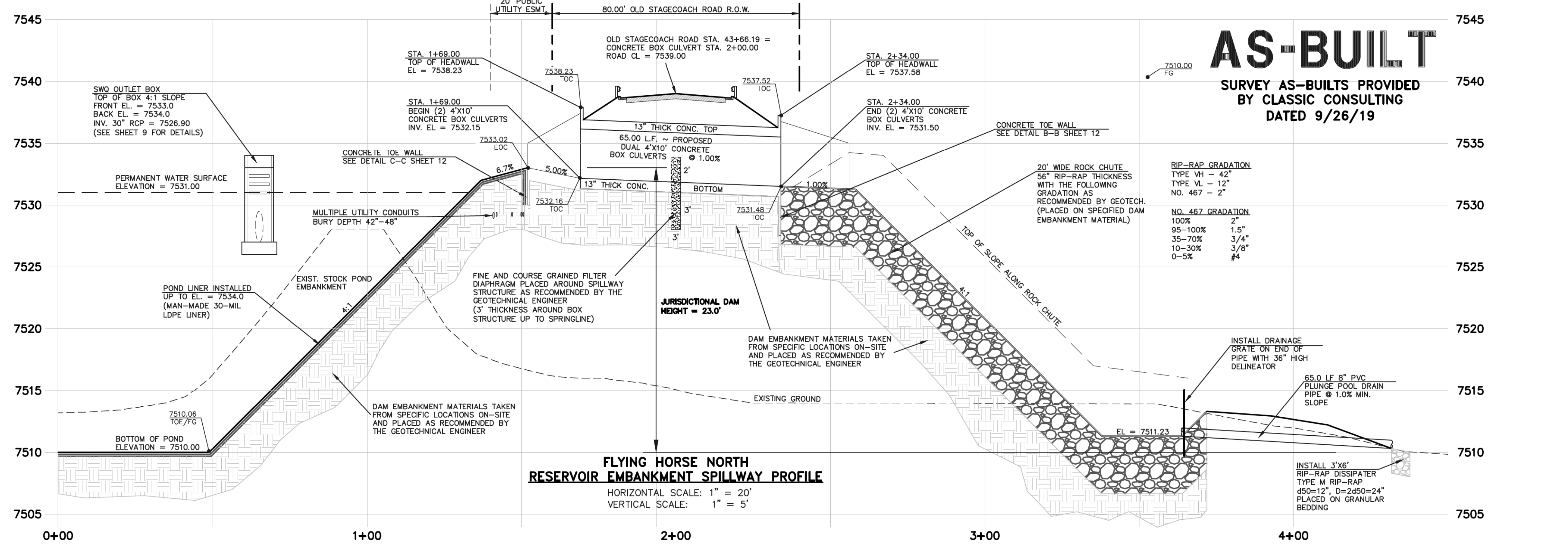
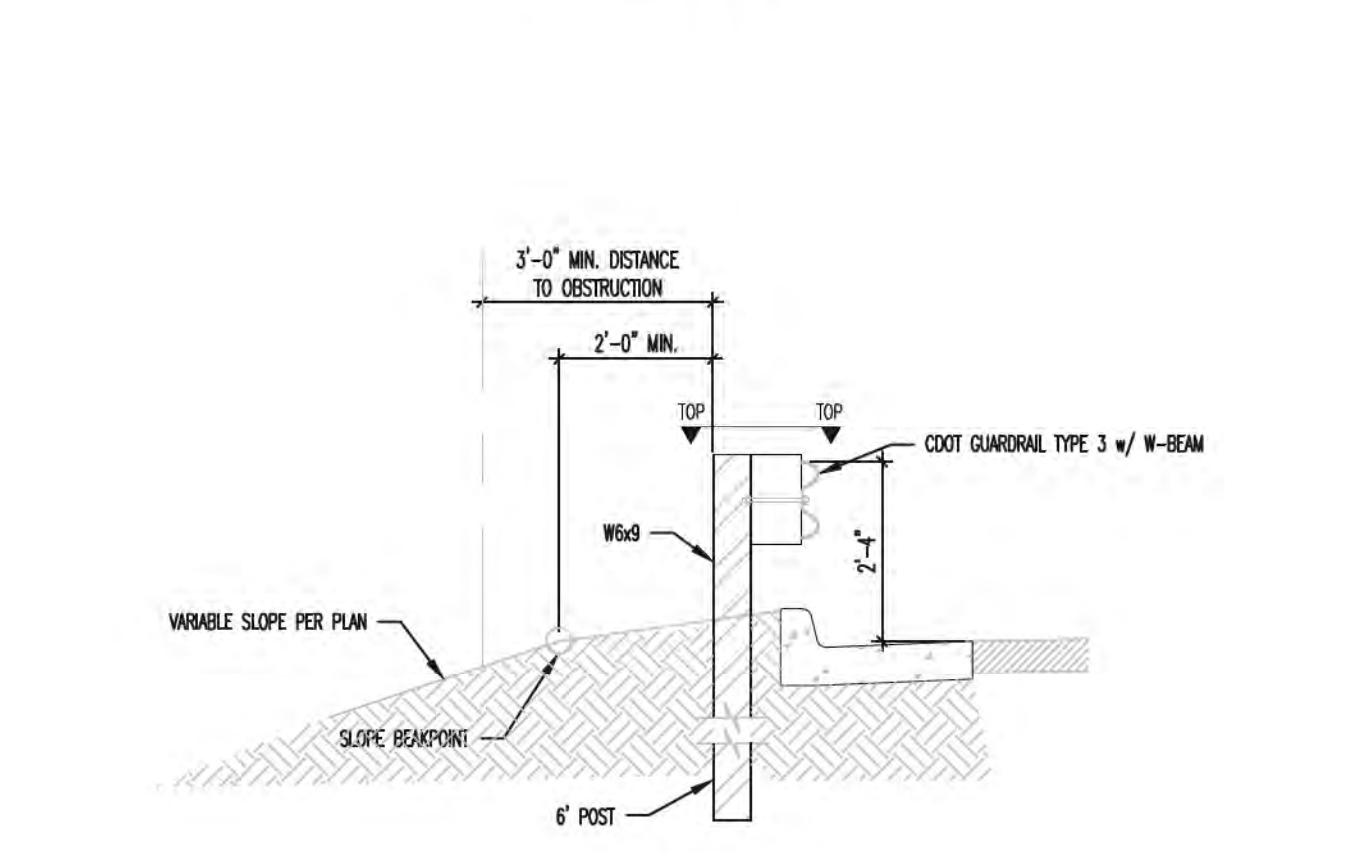
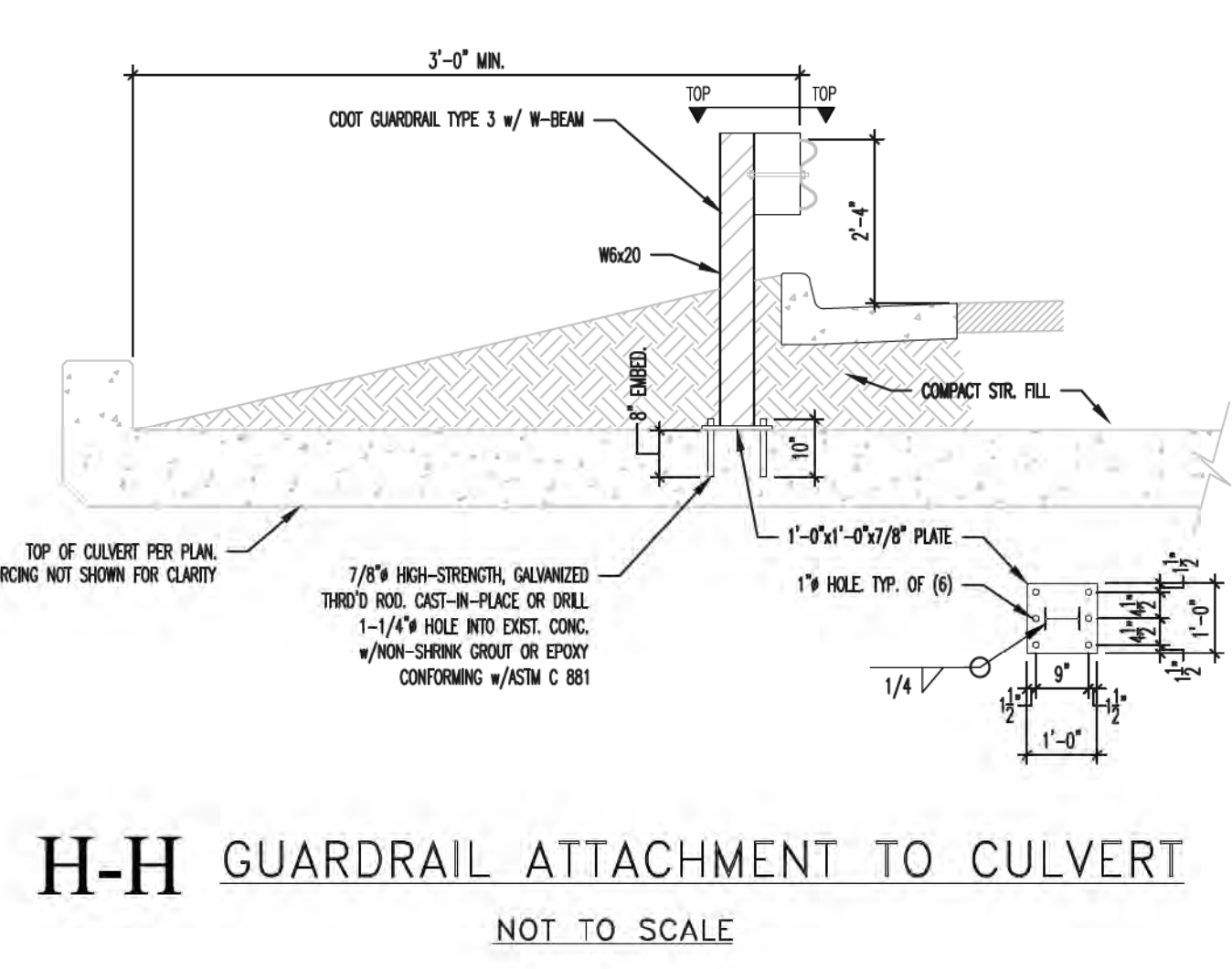
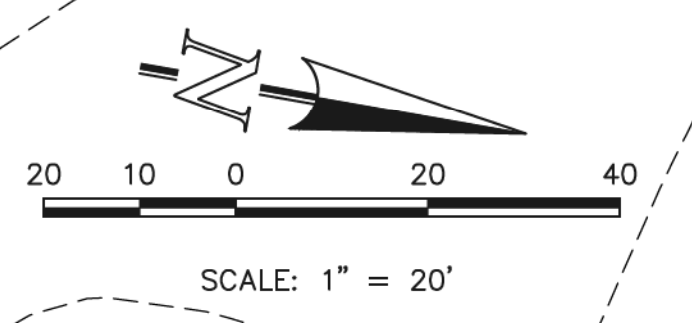
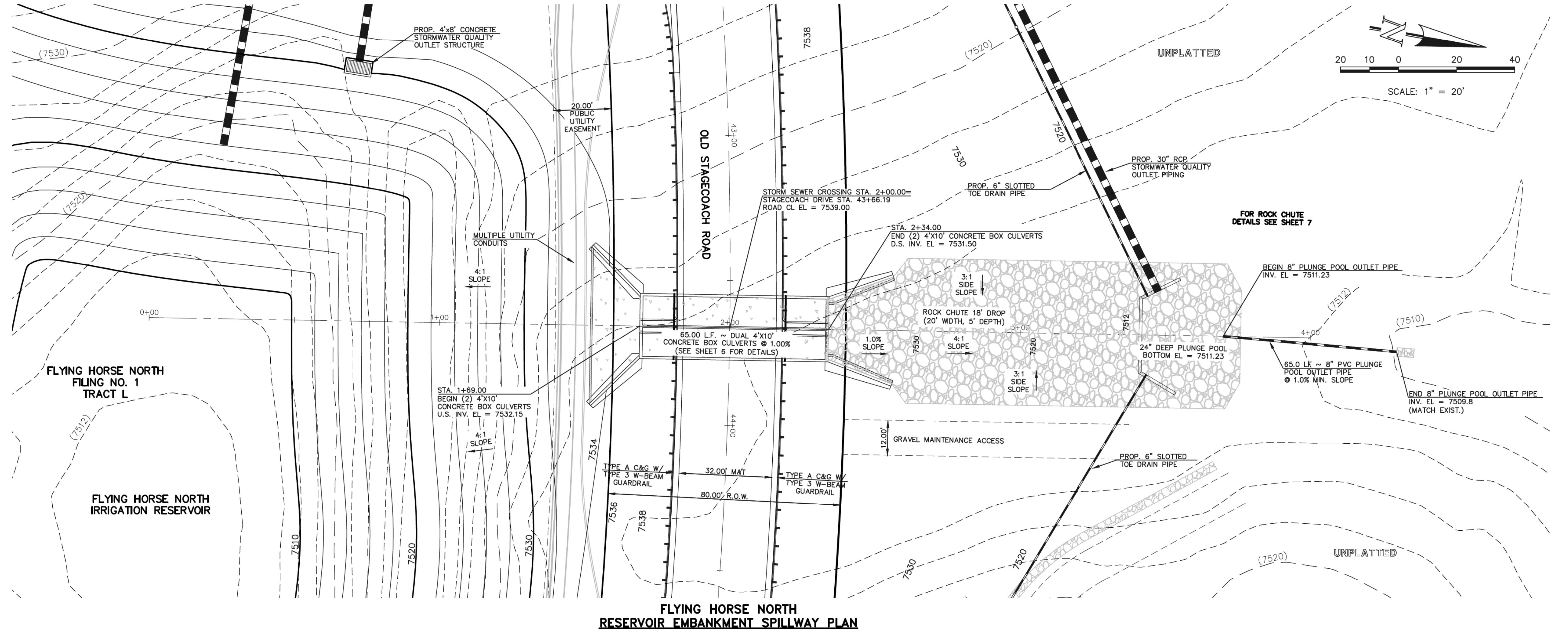
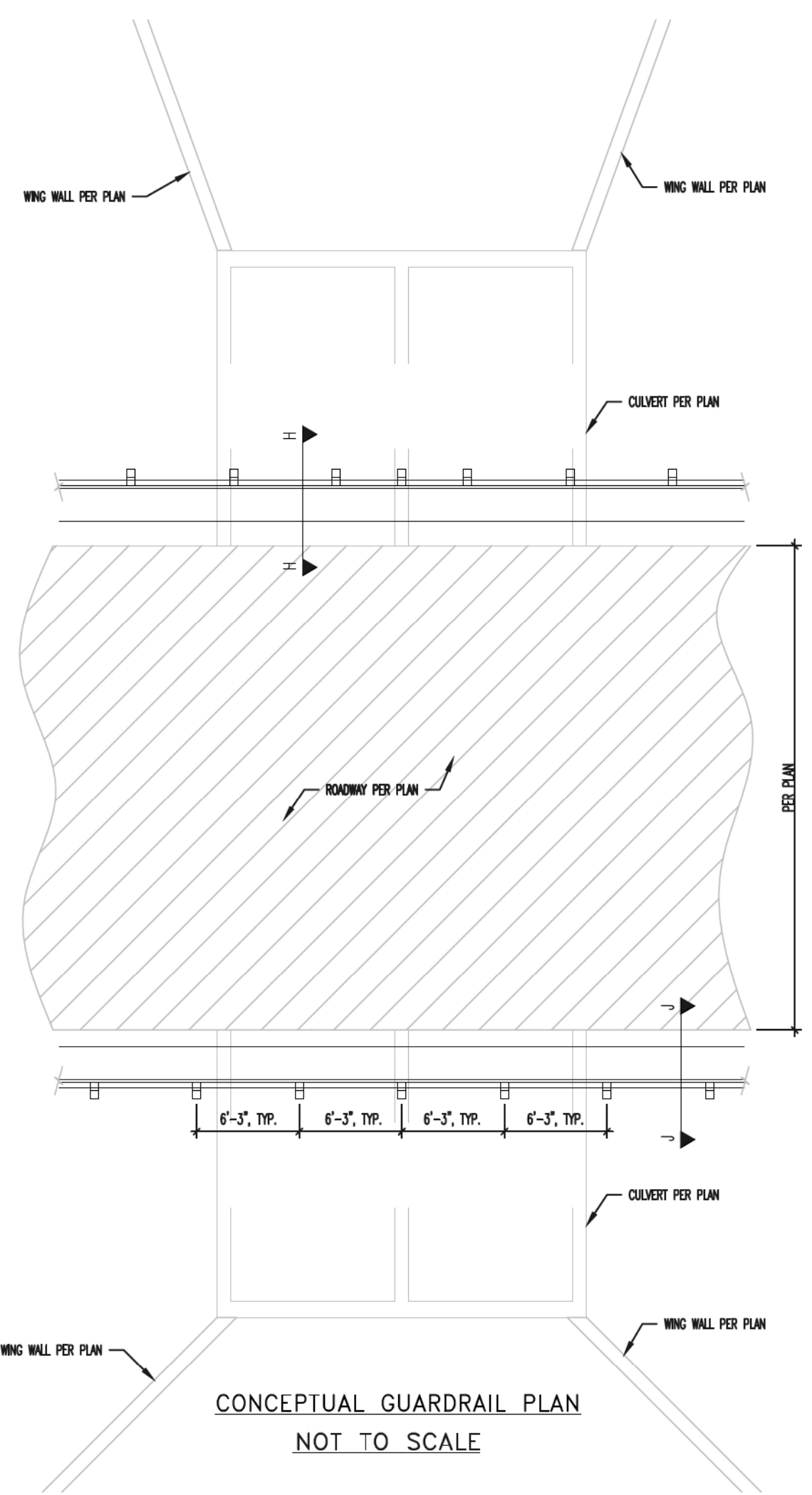
FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT

SITE LAYOUT WITH GRADING  
 DAM ID - 080459

DESIGNED BY	MAW	SCALE	DATE	1-4-18
DRAWN BY	MAW	(H) 1" = 50'	SHEET	4 OF 14
CHECKED BY		(V) 1" = N/A	JOB NO.	1096.11







**AS-BUILT**  
 SURVEY AS-BUILTS PROVIDED  
 BY CLASSIC CONSULTING  
 DATED 9/26/19

RIP-RAP GRADATION

100%	2"
95-100%	1.5"
35-70%	3/4"
10-30%	3/8"
0-5%	#4

NO. 467 GRADATION

100%	2"
95-100%	1.5"
35-70%	3/4"
10-30%	3/8"
0-5%	#4

48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS <b>811</b> UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW		NO. REVISION	DATE
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.		1 REVISED PER STATE COMMENTS	4-2-18
		2 REVISED PER COUNTY COMMENTS	7-31-18

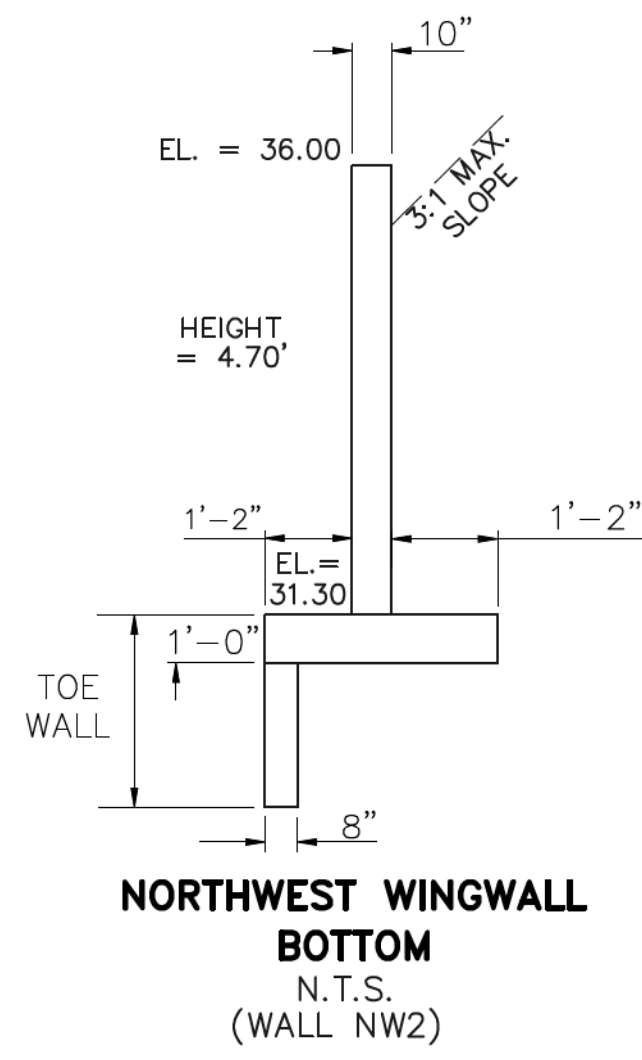
REVIEW:  
 PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC  
 MARC A. WHORSON, COLORADO P.E. #37155  
 DATE: 1/22/20



STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

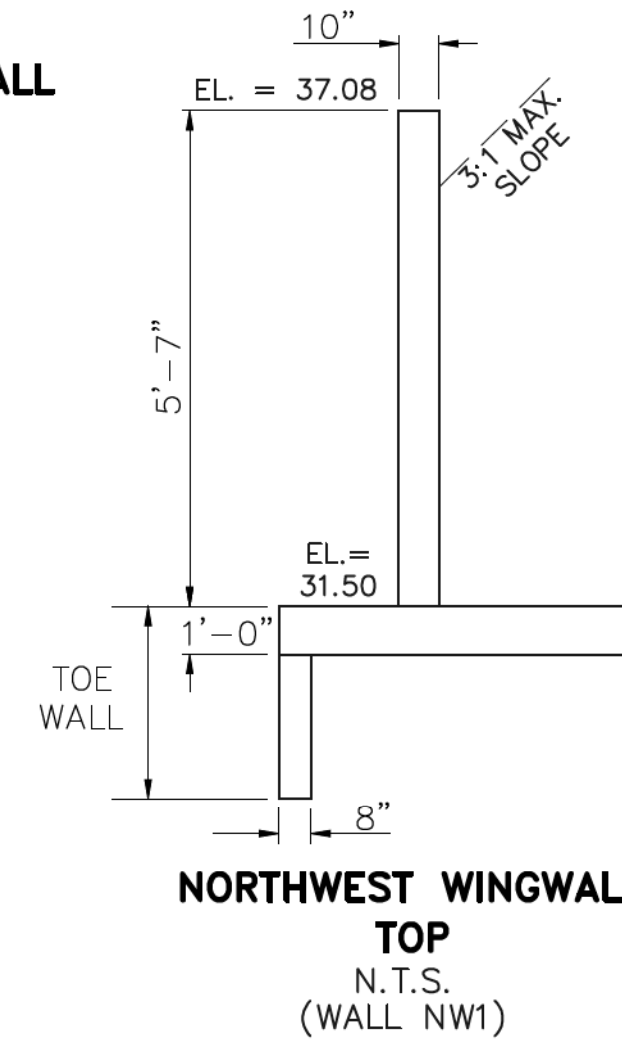
FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT EMBANKMENT SPILLWAY PLAN		DESIGNED BY		MAW	SCALE	DATE	1-4-18
DAM ID - 080459		DRAWN BY		MAW	(H) 1" = 20'	SHEET	5 OF 14
		CHECKED BY		(V) 1" = 5'	JOB NO.	1096.11	

M:\Users\jwhorson\Documents\CONSTRUCTION\Jurisdictional Plans\8-10 19010 - Spillway Profile AS-BUILT.dwg, 1/22/2020 12:46:50 PM, 1:1



**NORTHWEST WINGWALLS**  
CBC INV. EL = 7531.50  
EL AT TOP OF CBC = 7537.58

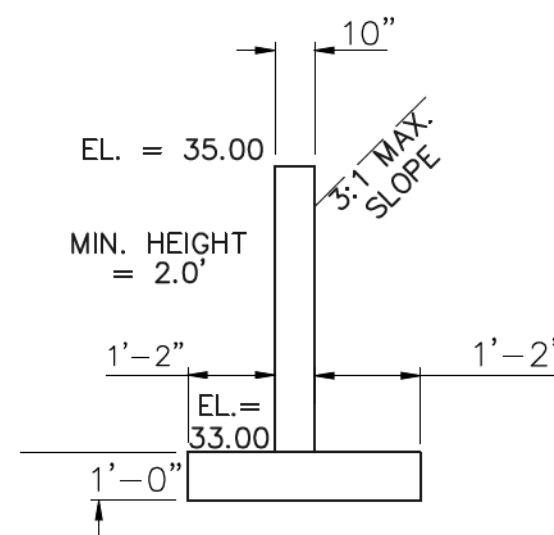
FOR WINGWALL STRUCTURAL DETAILS  
SEE DETAIL E-E SHEET 13



**NORTHWEST WINGWALLS**  
CBC INV. EL = 7531.50  
EL AT TOP OF CBC = 7537.58

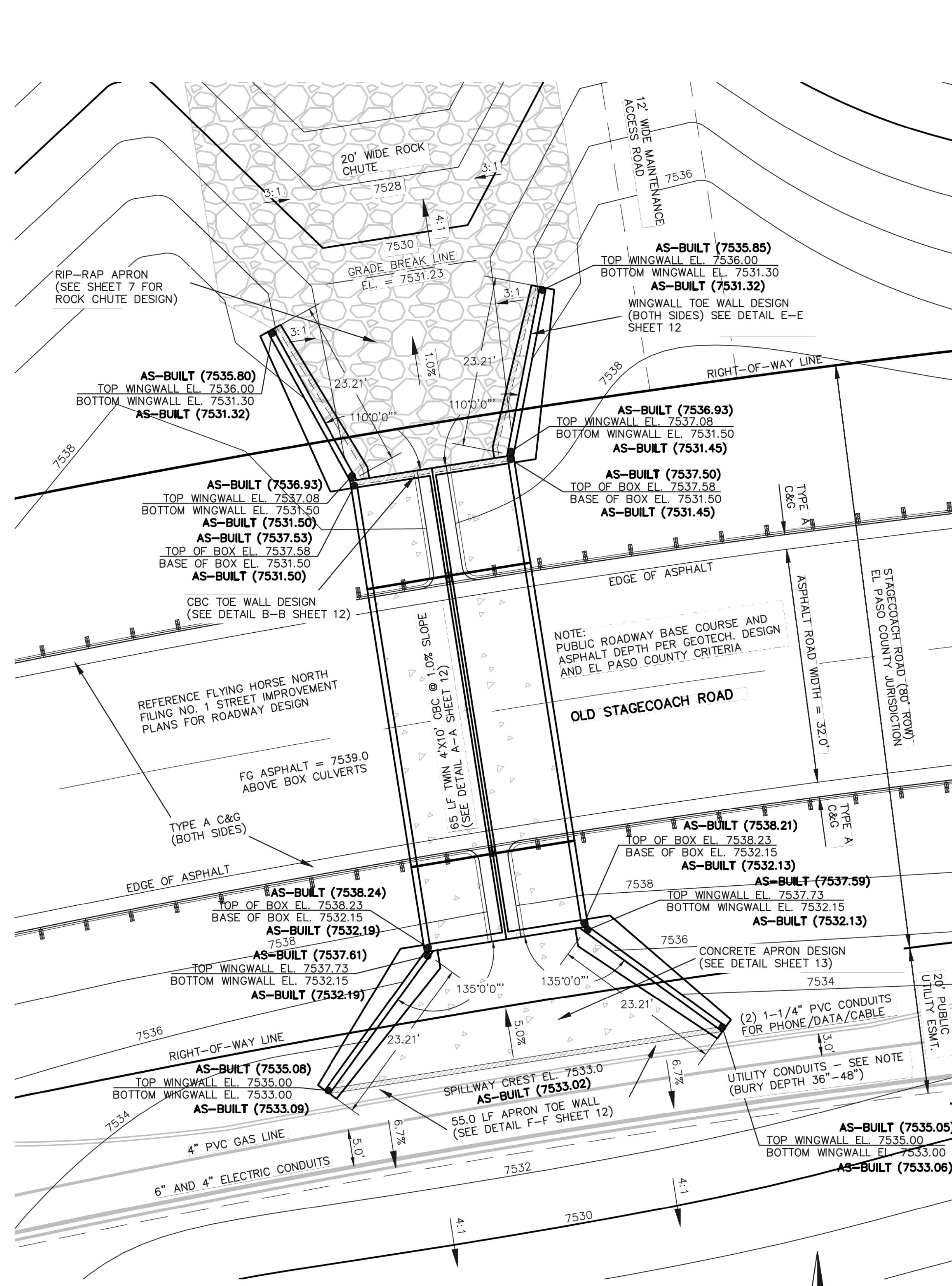
**SOUTHWEST WINGWALLS**  
CBC INV. EL = 7532.15  
EL AT TOP OF CBC = 7538.23

FOR WINGWALL STRUCTURAL DETAILS  
SEE DETAIL D-D SHEET 13



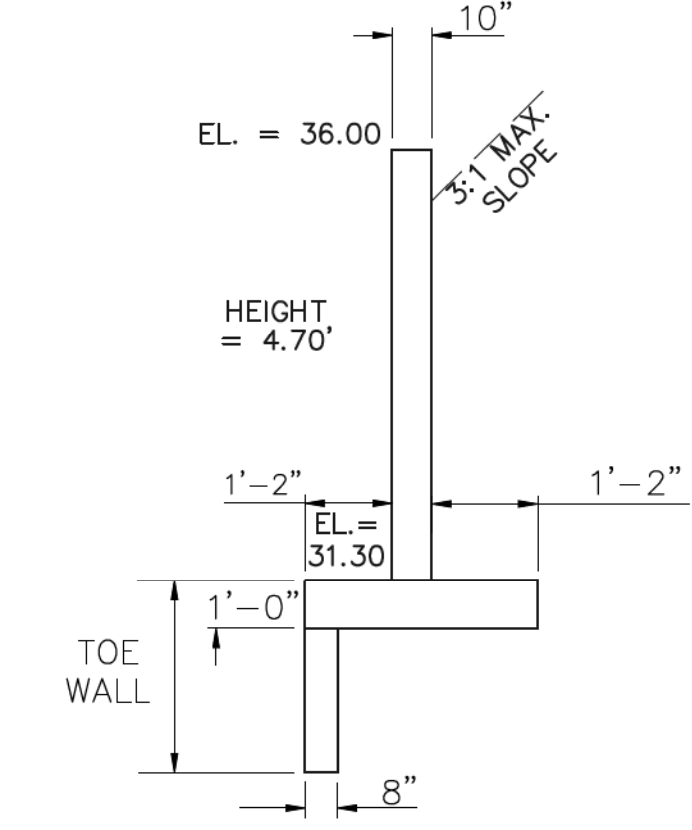
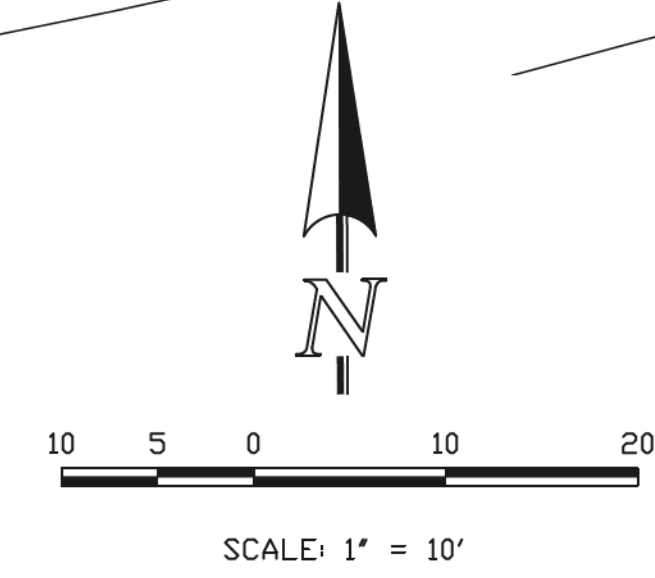
**SOUTHWEST WINGWALLS**  
CBC INV. EL = 7532.15  
EL AT TOP OF CBC = 7538.23

FOR WINGWALL STRUCTURAL DETAILS  
SEE DETAIL D-D SHEET 13



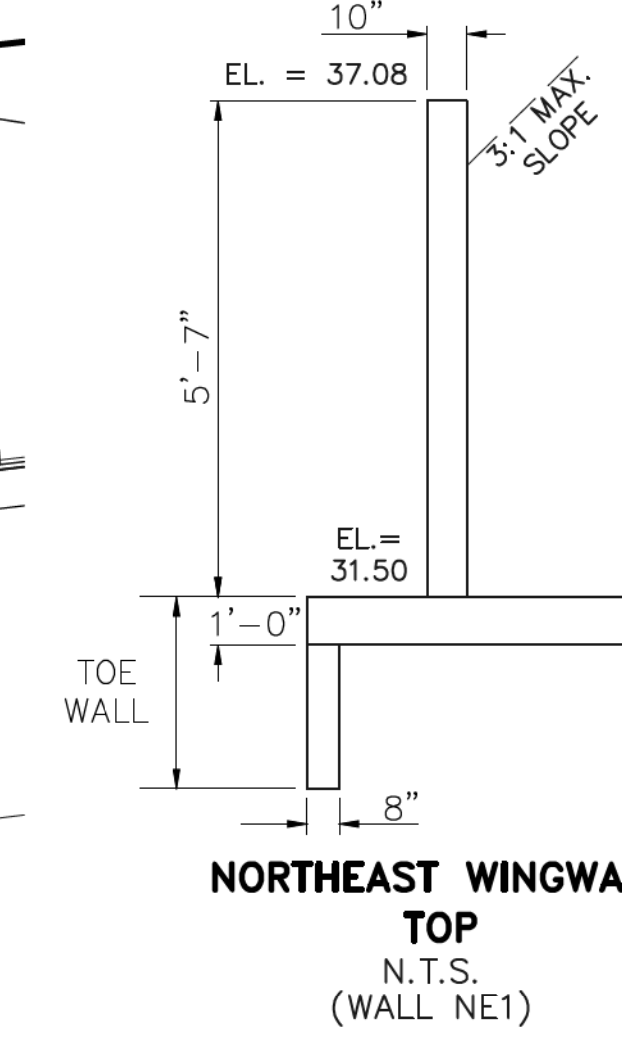
**EMBANKMENT SPILLWAY DESIGN**

**AS-BUILT**  
SURVEY AS-BUILTS PROVIDED  
BY CLASSIC CONSULTING  
DATED 7/19/19



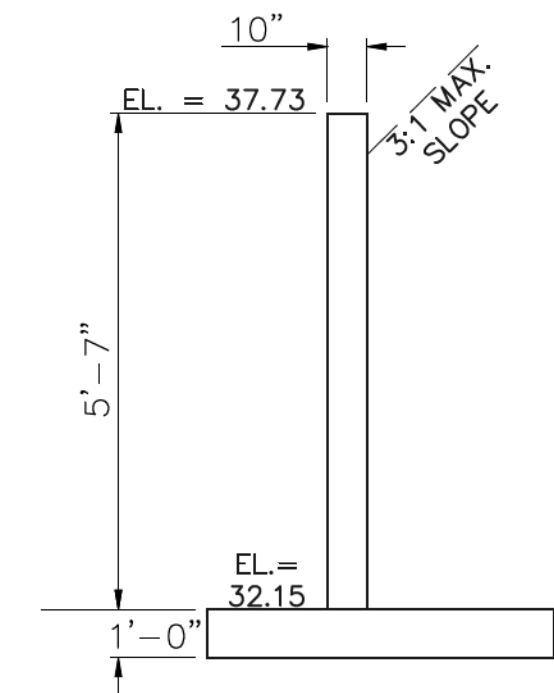
**NORTHEAST WINGWALLS**  
CBC INV. IN EL = 7531.50  
EL AT TOP OF CBC = 7537.58

FOR WINGWALL STRUCTURAL DETAILS  
SEE DETAIL E-E SHEET 13



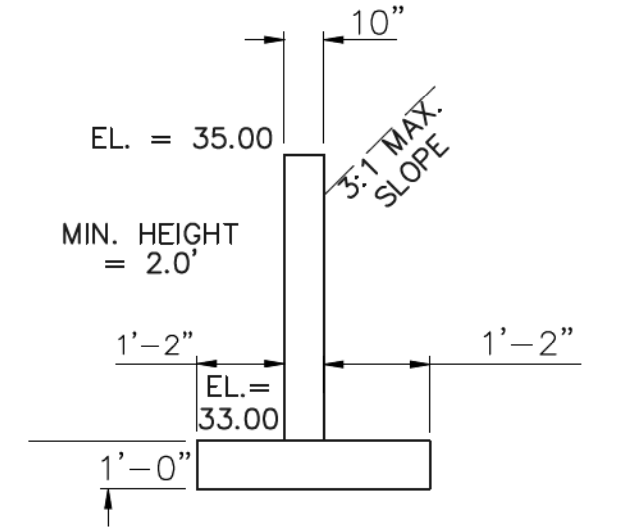
**UTILITY CONDUIT NOTE:**  
BURIED CONDUITS WITHIN THE 20' PUBLIC UTILITY ESMT.  
INCLUDE THE FOLLOWING:

- (1) 6" SCHEDULE 40 PVC FOR 3 PHASE ELECTRIC
- (1) 4" PVC FOR SINGLE PHASE ELECTRIC
- (1) 4" PVC NATURAL GAS LINE
- (2) 1-1/4" PVC CONDUIT FOR PHONE/DATA/CABLE



**SOUTHEAST WINGWALLS**  
CBC INV. IN EL = 7532.15  
EL AT TOP OF CBC = 7538.23

FOR WINGWALL STRUCTURAL DETAILS  
SEE DETAIL D-D SHEET 13



**SOUTHEAST WINGWALLS**  
CBC INV. IN EL = 7532.15  
EL AT TOP OF CBC = 7538.23

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

48 HOURS BEFORE YOU DIG,  
CALL UTILITY LOCATORS  
**811**  
UTILITY NOTIFICATION 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 STATE COMMENTS	5-2-18

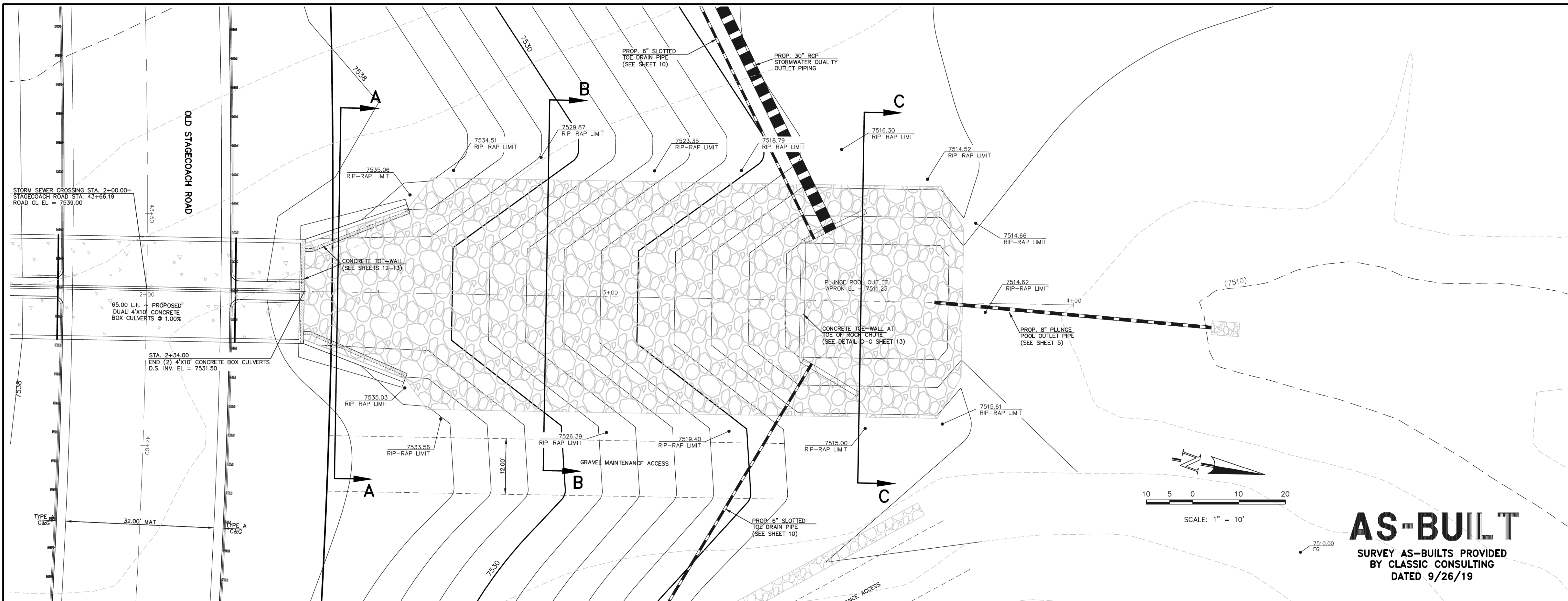
REVIEW:  
PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

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

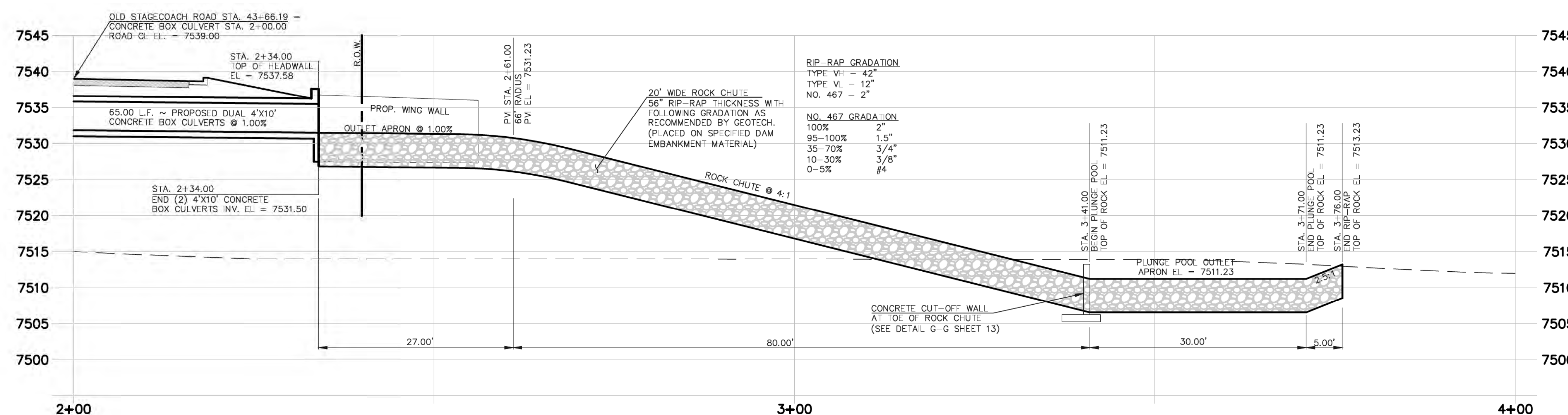
DATE: 1/22/20

**CLASSIC CONSULTING ENGINEERS & SURVEYORS**  
619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (Fax)

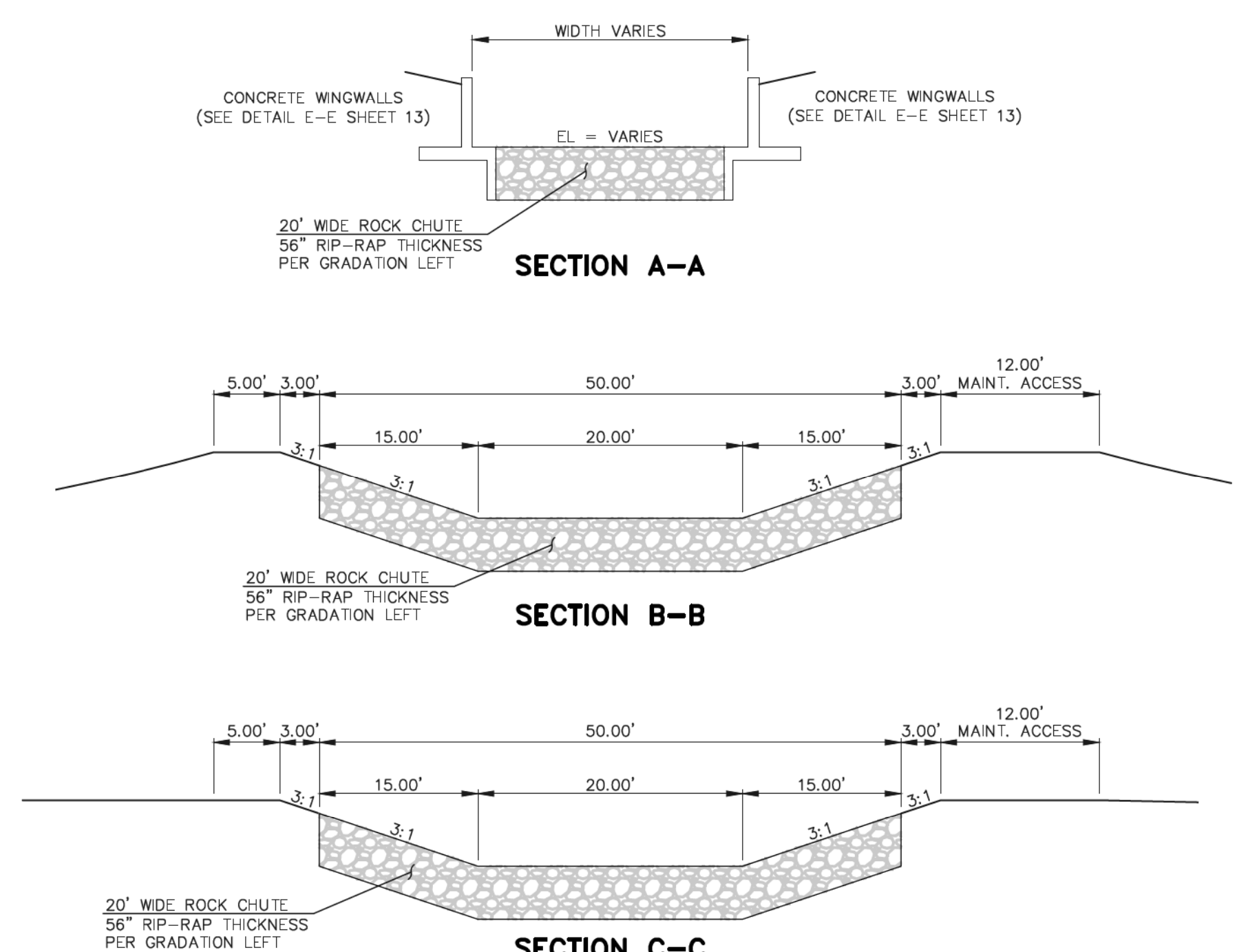
FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT			
EMBANKMENT SPILLWAY DETAILS			
DAM ID - 080459			
DESIGNED BY	MAW	SCALE	DATE
DRAWN BY	MAW	(H) 1" = 20'	SHEET 6 OF 14
CHECKED BY	(V) 1" = N/A	JOB NO.	1096.11



**SPILLWAY ROCK CHUTE PLAN**



**SPILLWAY ROCK CHUTE PROFILE**



STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

<p>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS <b>811</b> UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW</p> <p>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.</p>	NO. REVISION	DATE	<p>REVIEW:</p> <p>PREPARED UNDER THE DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC</p> <p>MARC A. WHORTON, COLORADO P.E. #37155</p>
	1	REVISED PER STATE COMMENTS	
	2	INCLUDE AS-BUILT SURVEY SHOTS	11-11-19

DATE: 1/22/20

DATE: 1/22/20

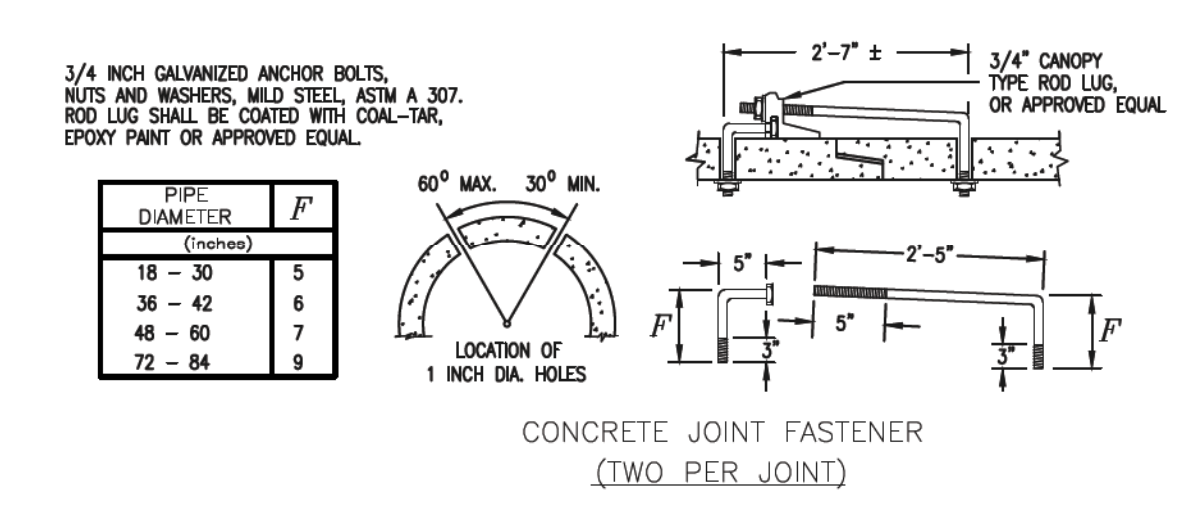
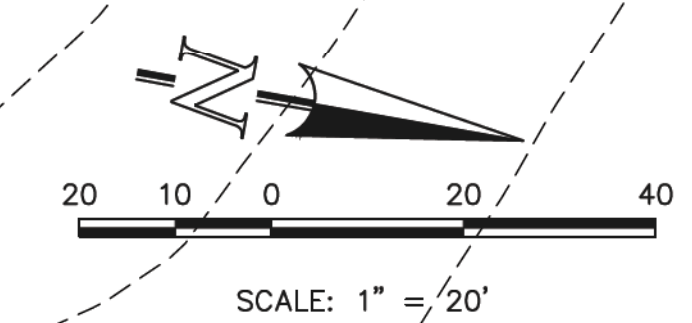
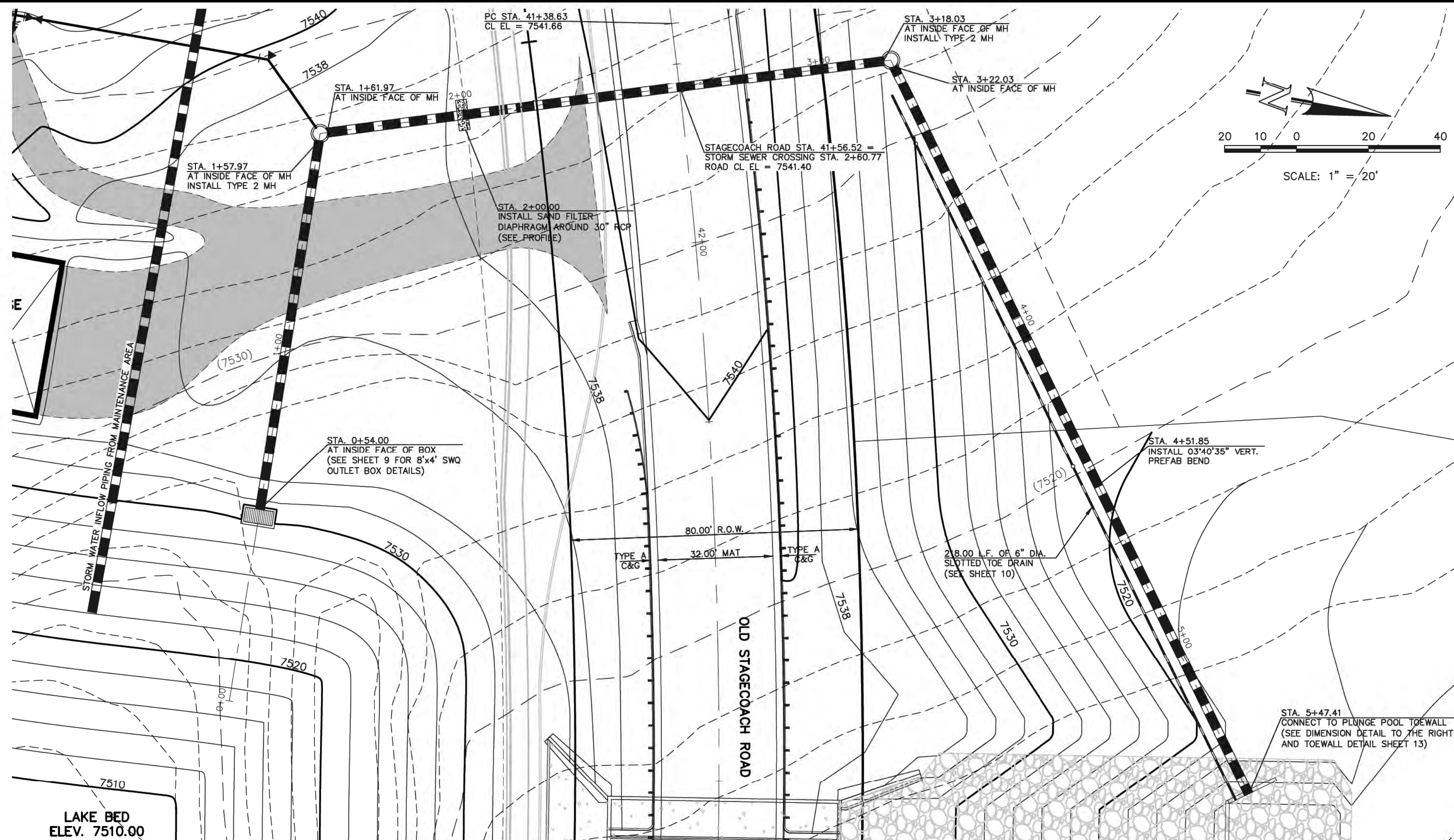
**CLASSIC CONSULTING ENGINEERS & SURVEYORS**

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

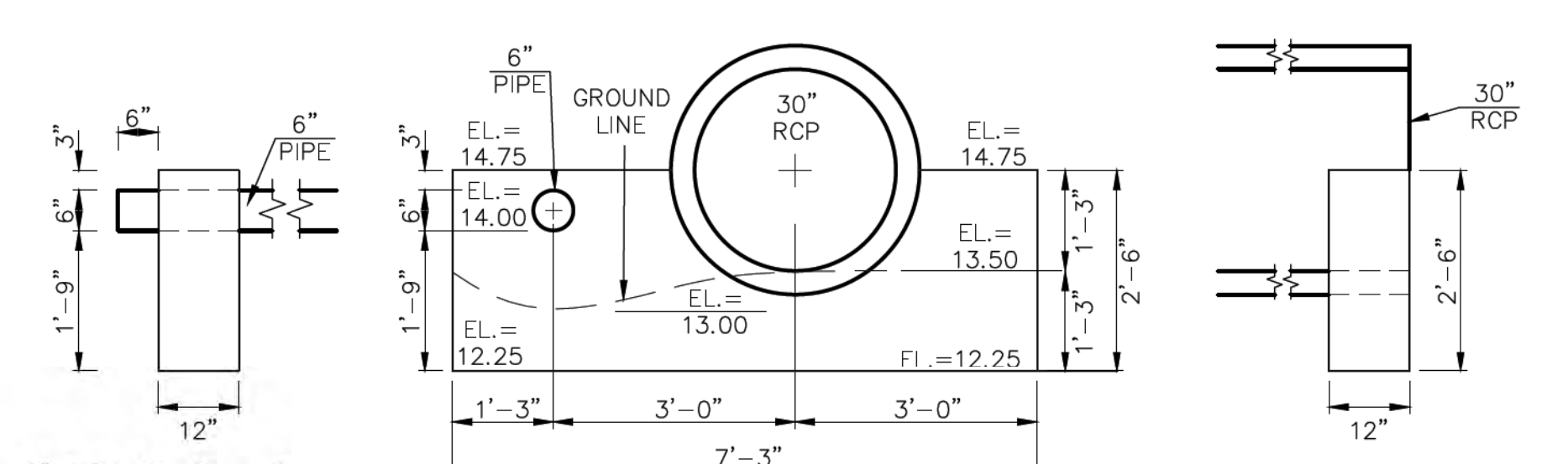
(719) 785-0790  
(719) 785-0799 (Fax)

<p><b>FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT</b> SPILLWAY ROCK CHUTE DESIGN DAM ID - 080459</p>			
DESIGNED BY	MAW	SCALE	DATE
DRAWN BY	MAW	(H) 1" = 10'	SHEET 7 OF 14
CHECKED BY	(V) 1" = 1'	JOB NO.	1096.11

C:\Users\jrdawkins\OneDrive\Documents\Projects\1-22-2020\11-4-18 AM\11-1-19\SPILLWAY ROCK CHUTE AS-BUILT\Drawings\CONSTRUCTION\Plan\7-10 8000 - Spillway Rock Chute AS-Built.dwg, 1/22/2020 11:41:29 AM, 11

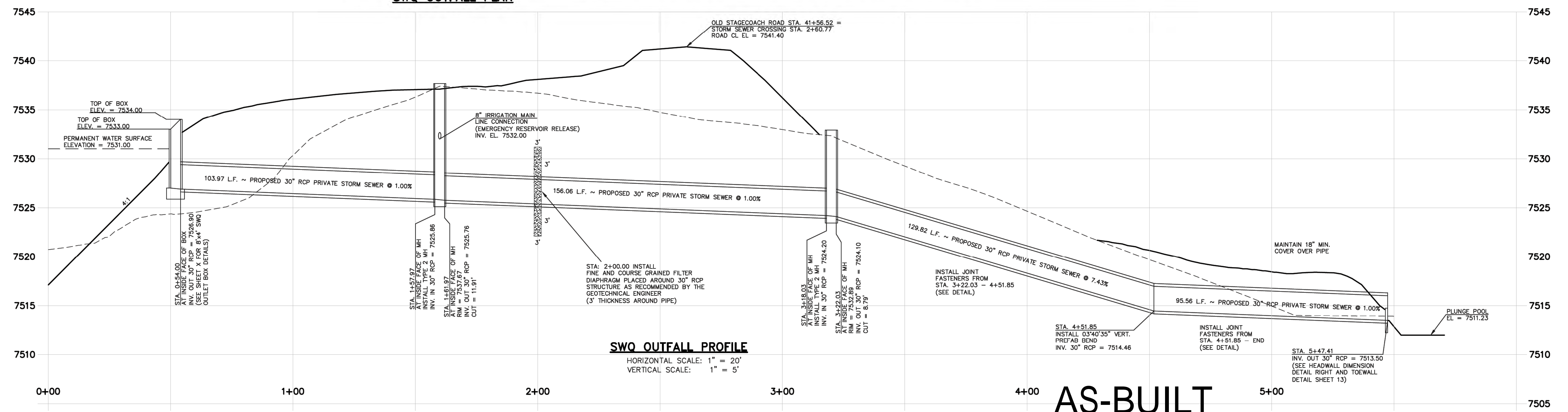


**CONCRETE JOINT FASTENER**



**WESTERLY OUTLET HEADWALL**  
 6" PIPE INV. OUT EL = 7514.00  
 30" RCP INV. OUT EL = 7513.50  
 EL AT TOP OF SADDLEWALL = 7514.75  
 EL AT BOTTOM SADDLEWALL = 7512.25

**SWQ OUTFALL PLAN**



**SWQ OUTFALL PROFILE**  
 HORIZONTAL SCALE: 1" = 20'  
 VERTICAL SCALE: 1" = 5'

**AS-BUILT**

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

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NO.	REVISION	DATE
1	REVISED PER STATE COMMENTS	5-8-18
2	REVISED PER COUNTY COMMENTS	7-31-18

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

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

9/17/18

**CLASSIC**  
 CONSULTING ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200  
 Colorado Springs, Colorado 80903  
 (719) 785-0790  
 (719) 785-0799 (fax)

**FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT**  
 SWQ OUTFALL PLAN & PROFILE  
 DAM ID - 080459

DESIGNED BY: MAW  
 DRAWN BY: MAW  
 CHECKED BY:

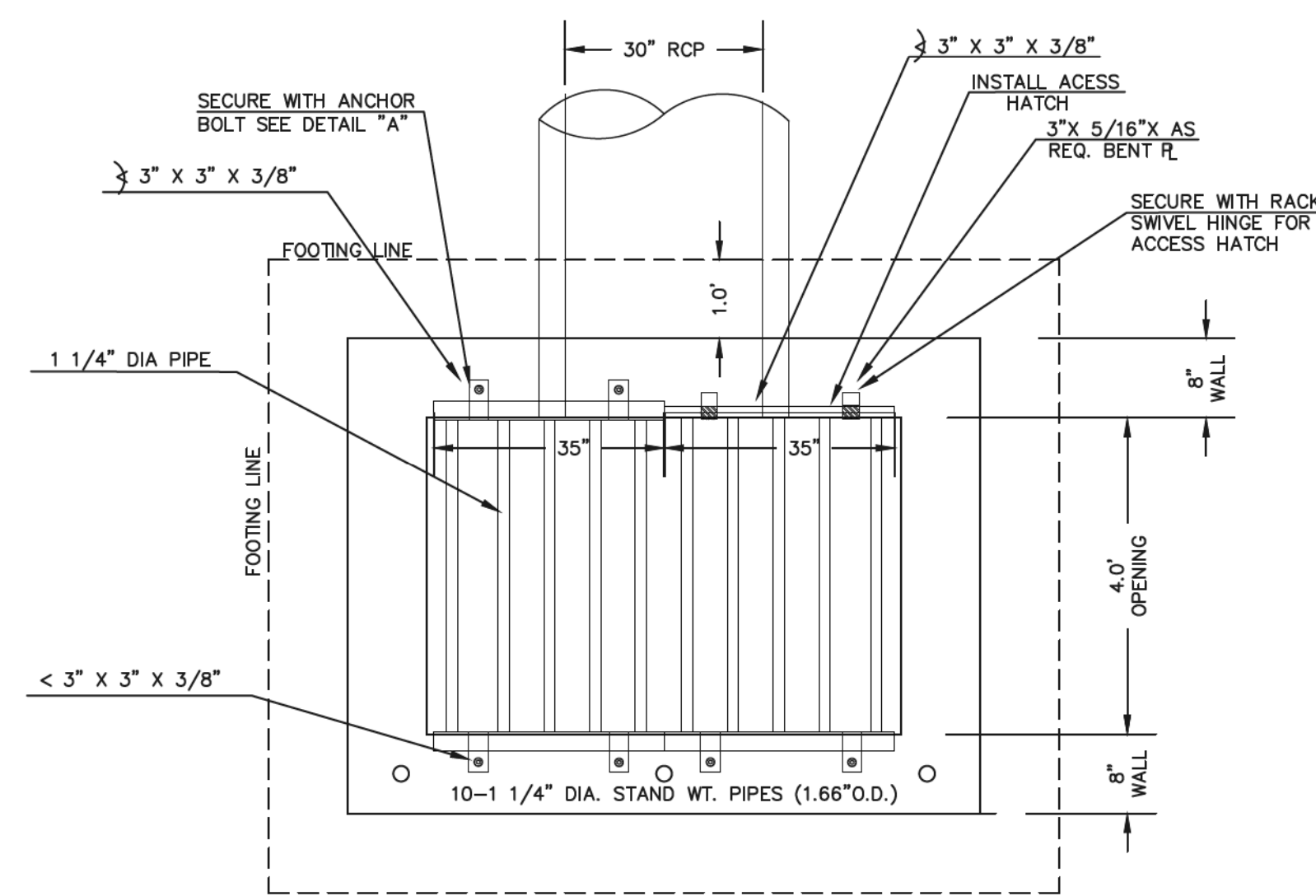
SCALE: (H) 1" = 20'  
 (V) 1" = 5'

DATE: 1-4-18  
 SHEET 8 OF 14  
 JOB NO. 1096.11

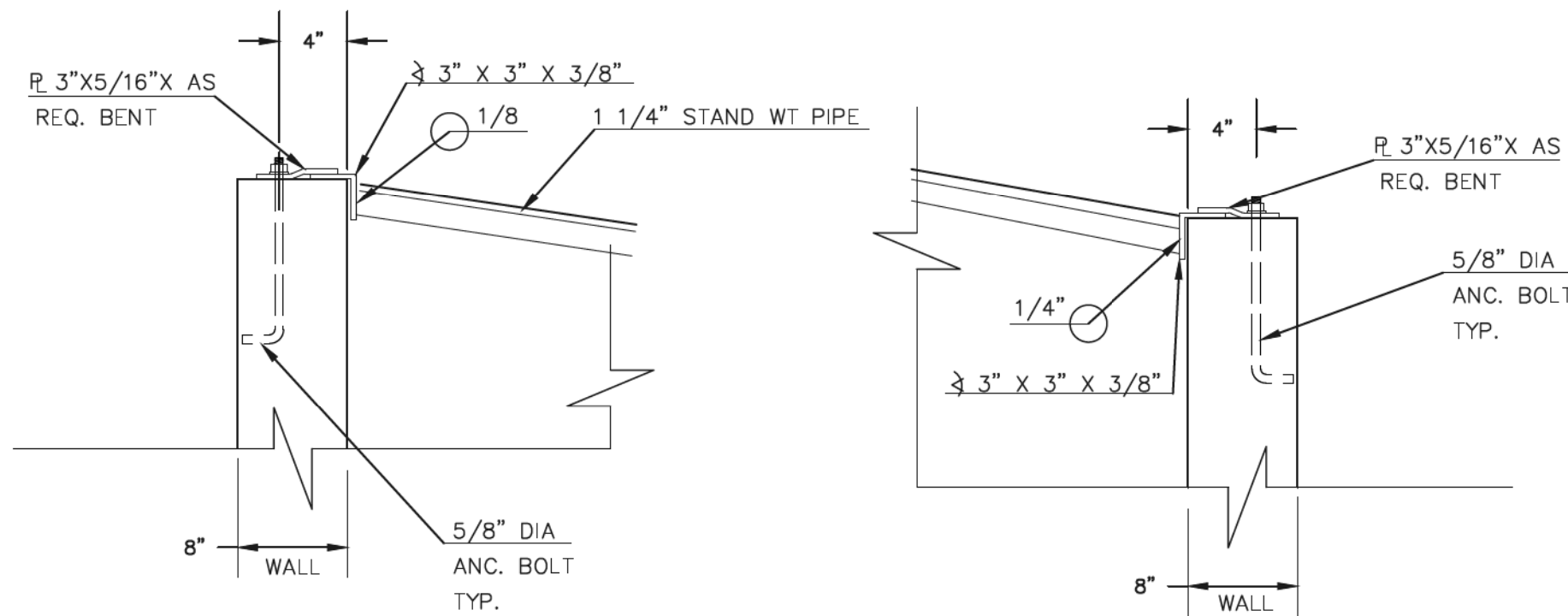
EPC 9/25/18



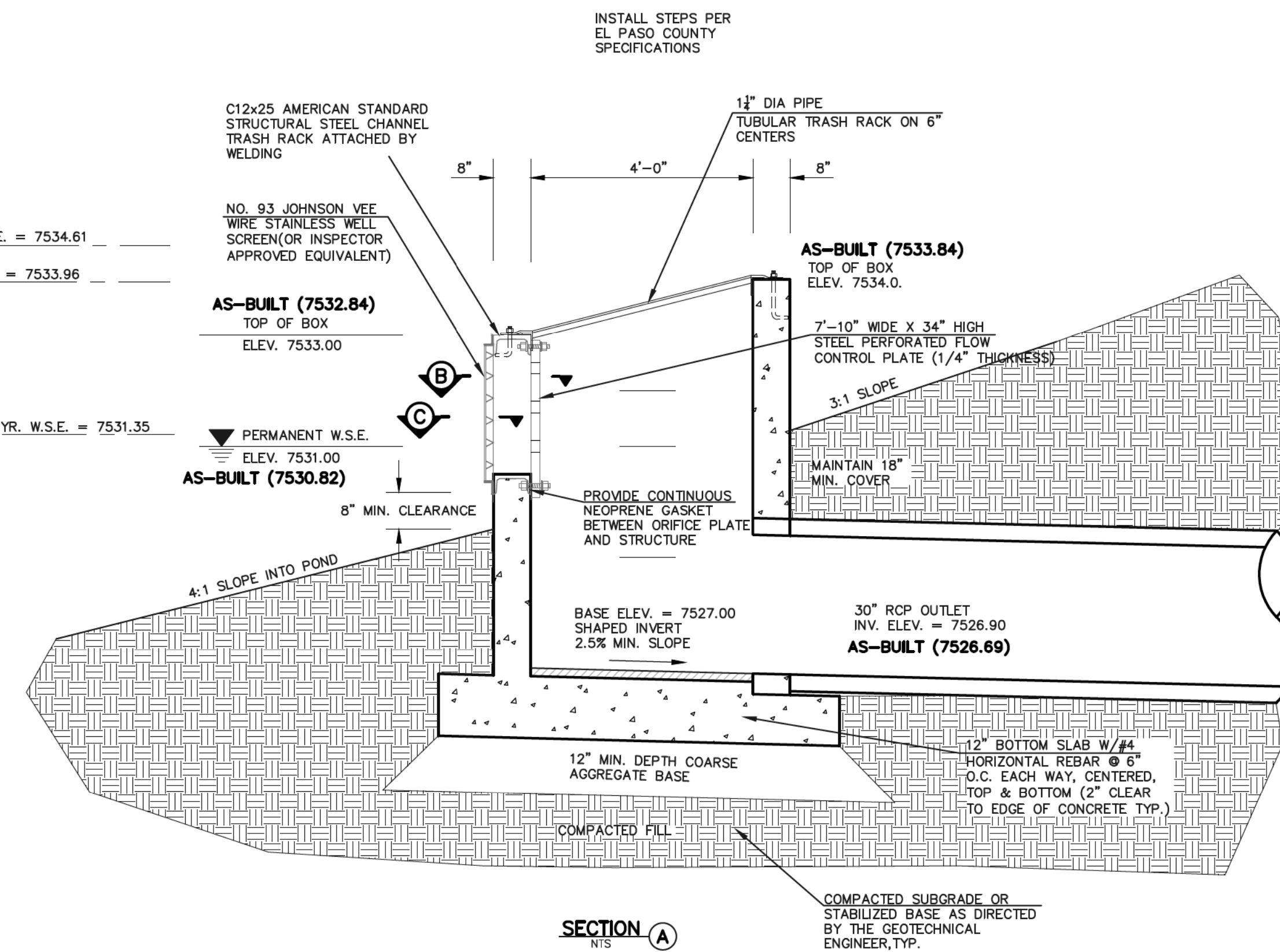
N:\109611\DRAWINGS\CONSTRUCTION\Jurisdictional Plans\8-D FOND - SWQ BOX OUTFALL PLAN & PROFILE.dwg, 8/21/2018 12:59:34 PM, 1:1



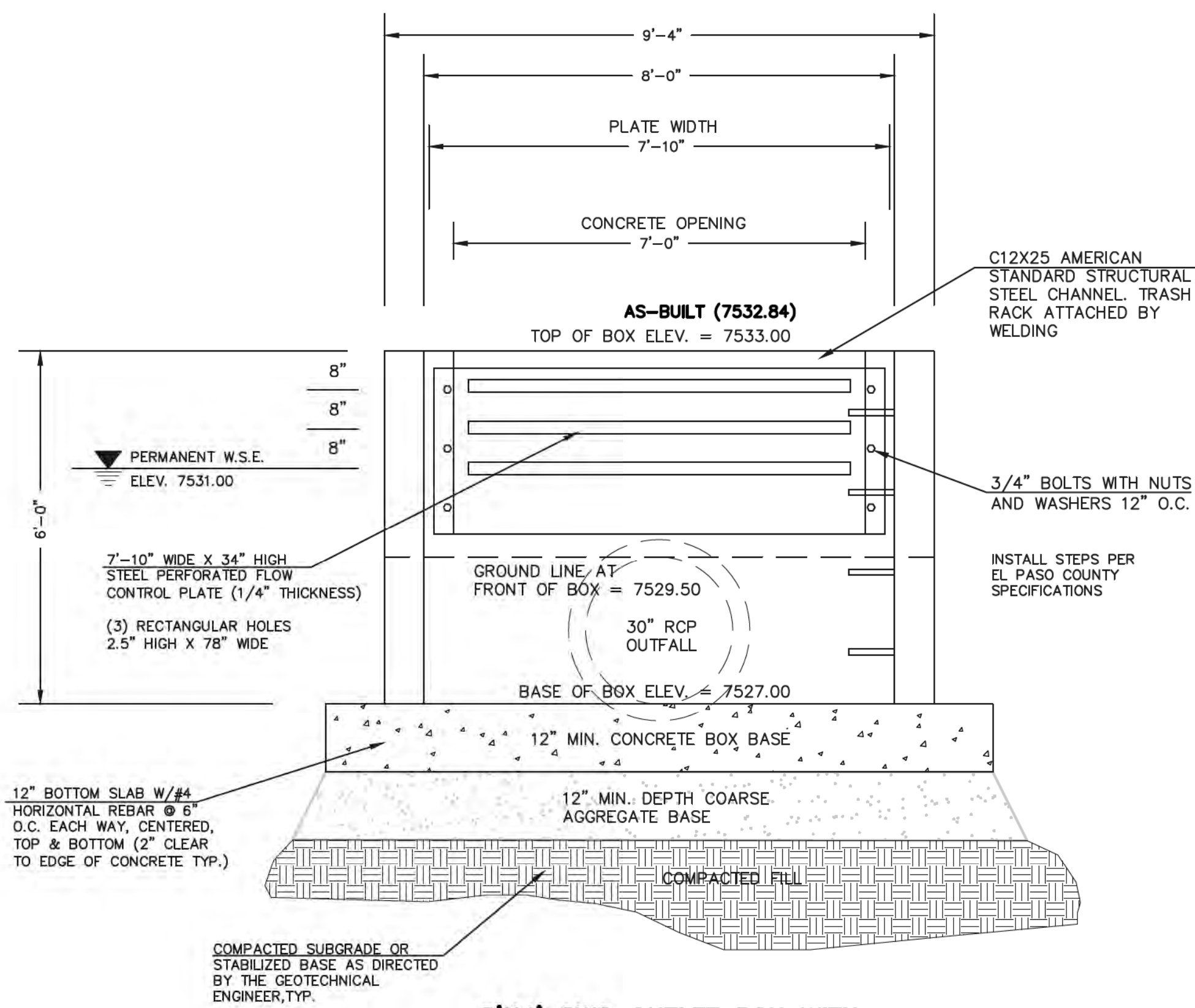
**TRASH RACK**  
ALL WELDED CONSTRUCTION  
N.T.S.



100 YR. W.S.E. = 7534.61  
50 YR. W.S.E. = 7533.96  
2 YR. W.S.E. = 7531.22 / 5 YR. W.S.E. = 7531.35



**8'x4' SWQ OUTLET BOX WITH FLOW CONTROL PLATE**  
SCALE: 1"=2'



**8'x4' SWQ OUTLET BOX WITH FLOW CONTROL PLATE**  
SCALE: 1"=2'

(ALL MATERIALS PER EL PASO COUNTY SPECIFICATIONS)

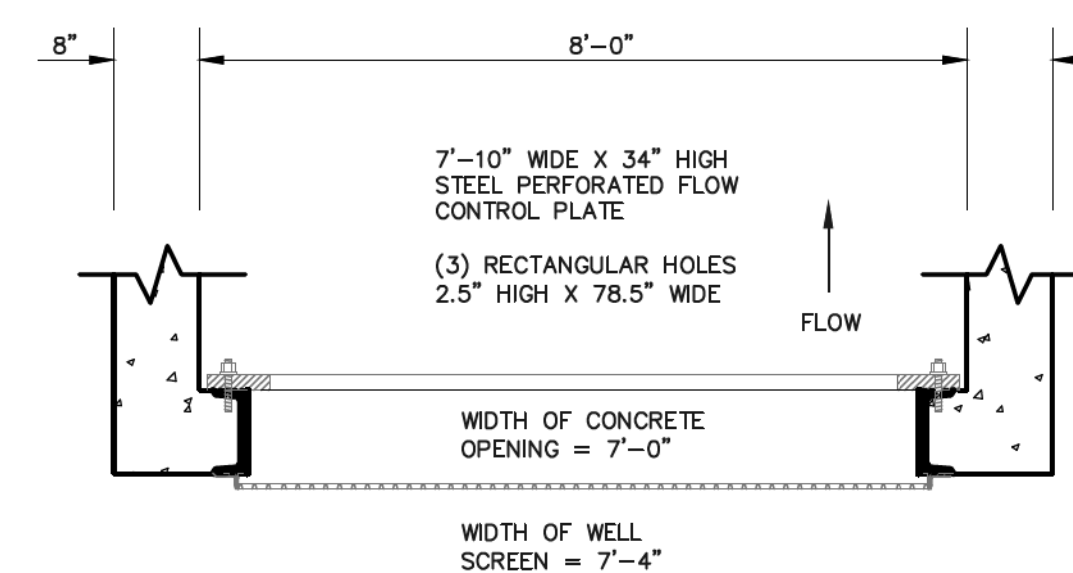
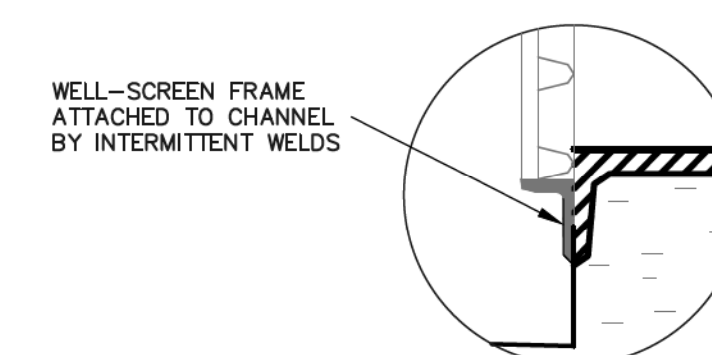
- ORIFICE PLATE NOTES:
1. INSTALL HOLES AS SHOWN ON DETAIL TO RIGHT.
  2. PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.

EURV AND WQCV TRASH RACKS:

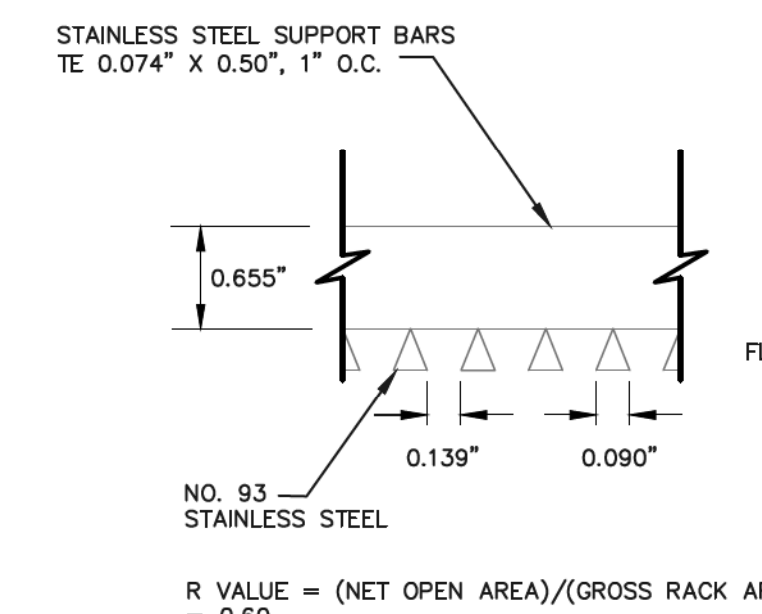
3. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
4. BAR GRATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
5. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD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



**SECTION B**



**SECTION C**

**AS-BUILT**

AS-BUILT (7510.00)

SURVEY AS-BUILTS PROVIDED  
BY CLASSIC CONSULTING  
DATED 7/19/19

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**811**

UTILITY NOTIFICATION OF COLORADO  
IT'S THE LAW

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NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	7-31-18

REVIEW:

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

MARC A WHORTON, COLORADO P.E. #37155  
DATE: 1/22/20

**CLASSIC**  
CONSULTING ENGINEERS & SURVEYORS

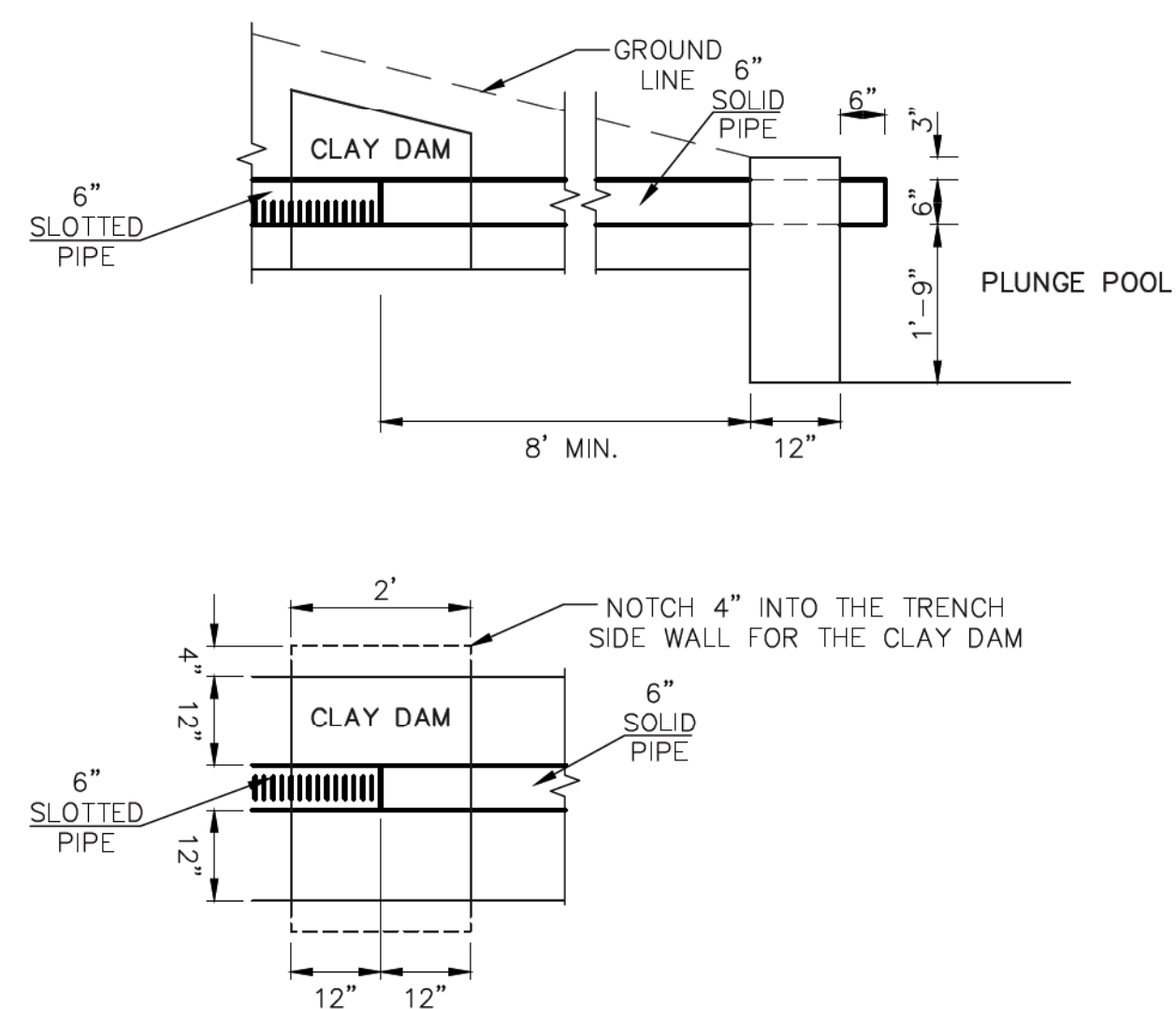
619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (Fax)

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

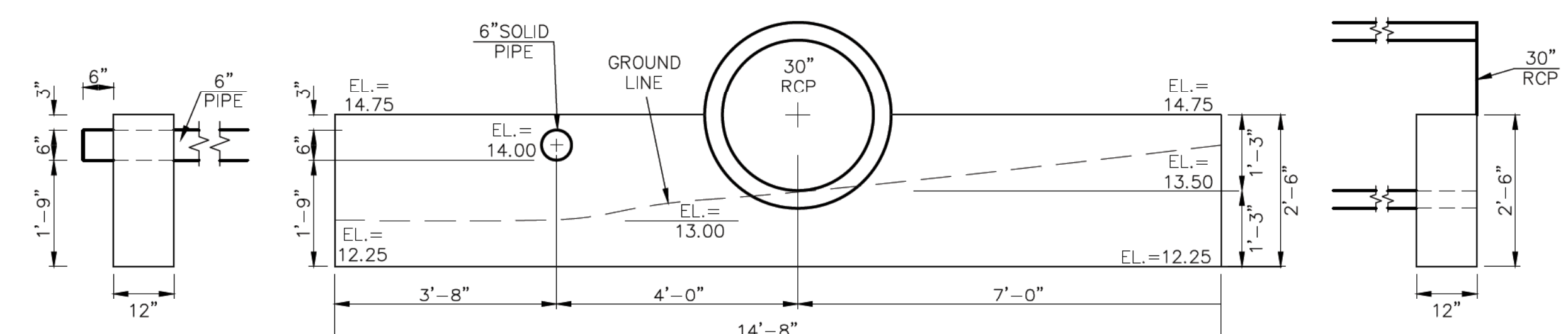
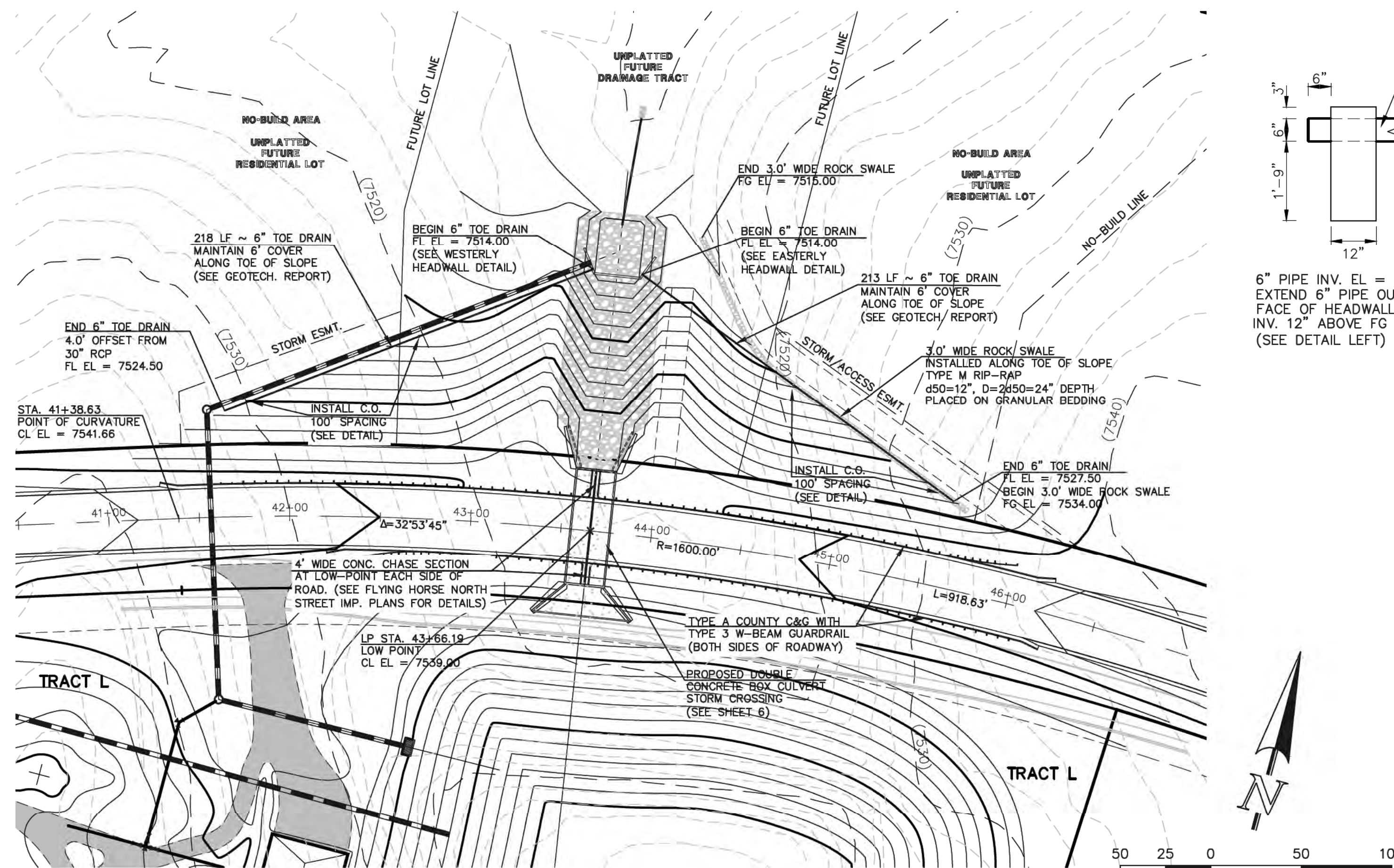
**FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT**  
DETENTION/SWQ OUTLET BOX DESIGN  
DAM ID - 080459

DESIGNED BY	MAW	SCALE	DATE	1-4-18
DRAWN BY	MAW	(H) 1"= 2'	SHEET 9 OF 14	
CHECKED BY		(V) 1"= 2'	JOB NO.	1096.11

**CLASSIC**  
ENGINEERS & SURVEYORS

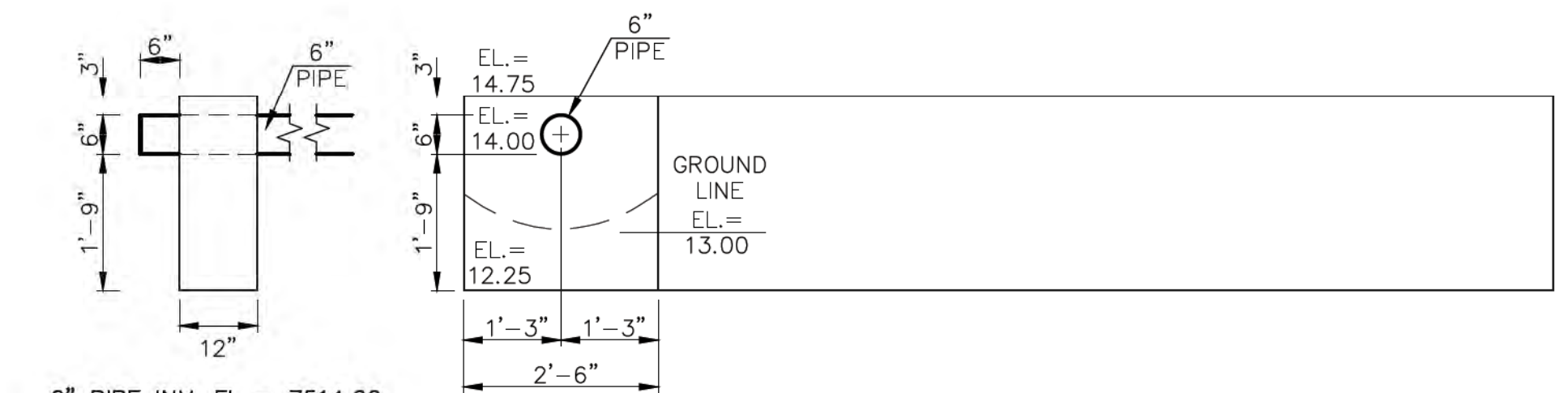


NOTE:  
 CONSTRUCT CLAY DAM A MINIMUM OF 10 FEET UPGRADIENT OF TIE-IN TO PLUNGE POOL TOE WALL. THE CLAY DAM SHALL EXTEND ONE FOOT BEYOND THE DRAIN PIPE CONNECTION TO SOLID PIPE, IN BOTH DIRECTIONS. THE CLAY DAM SHALL EXTEND TO WITHIN ONE FOOT OF THE BLANKET DRAIN OR DOWNSTREAM DAM SURFACE. THE CLAY DAM SHALL BE NOTCHED INTO THE SIDEWALLS OF THE PIPE TRENCH A MINIMUM OF 4 INCHES. THE CLAY SOILS SHALL HAVE A MINIMUM PI OF 25 AND COMPACTED TO THE REQUIREMENTS OF STRUCTURAL FILL.



**WESTERLY OUTLET HEADWALL**

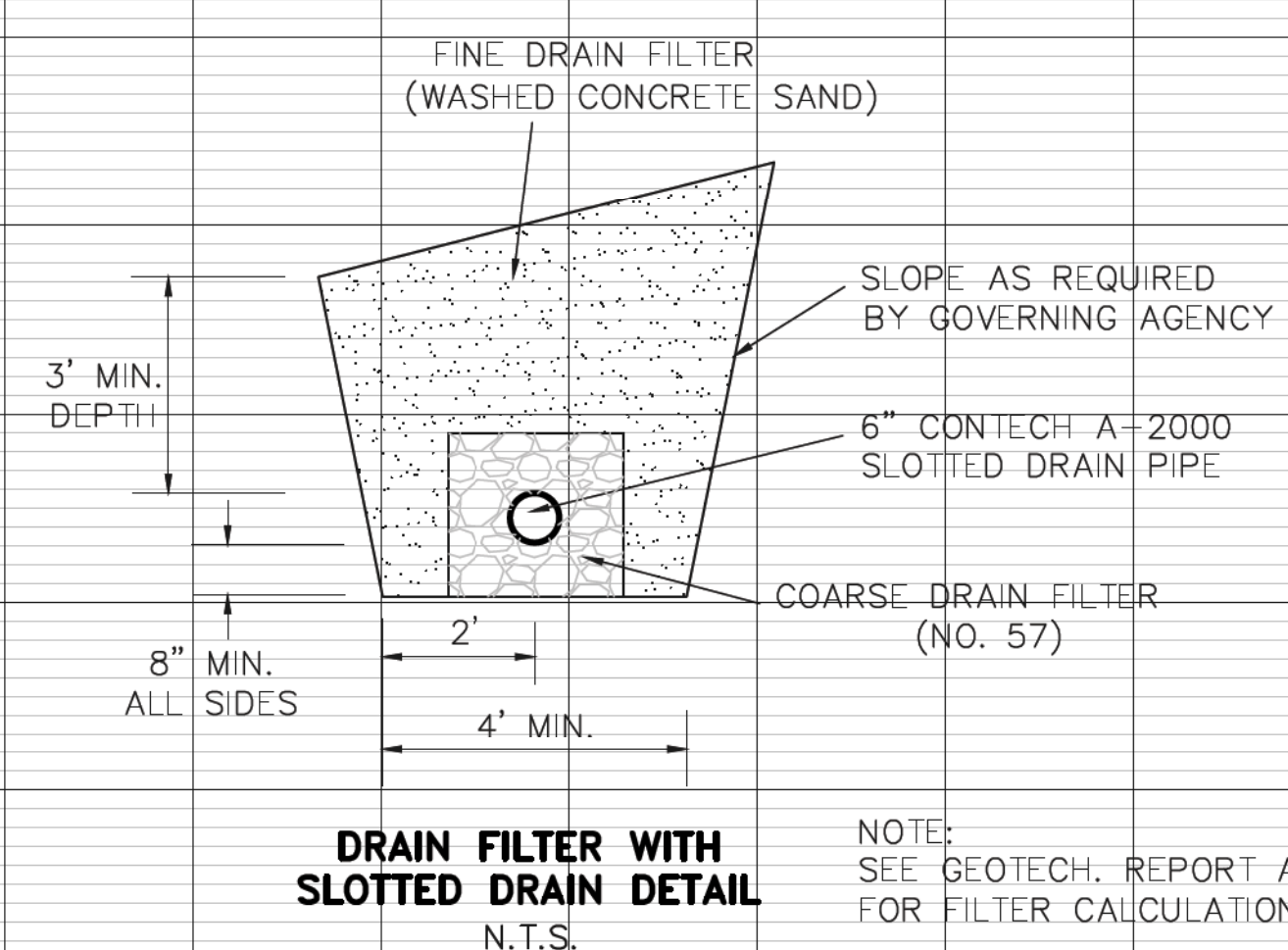
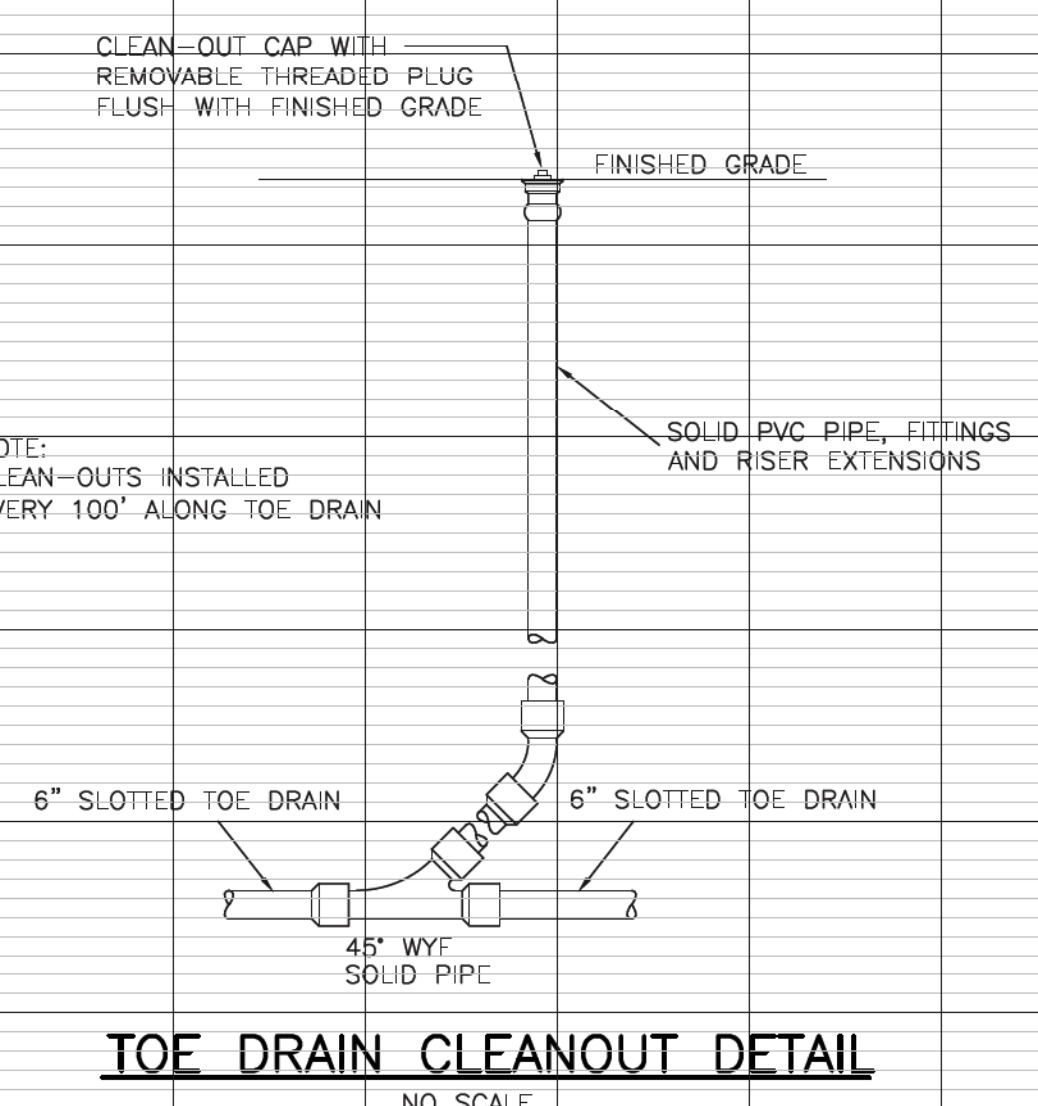
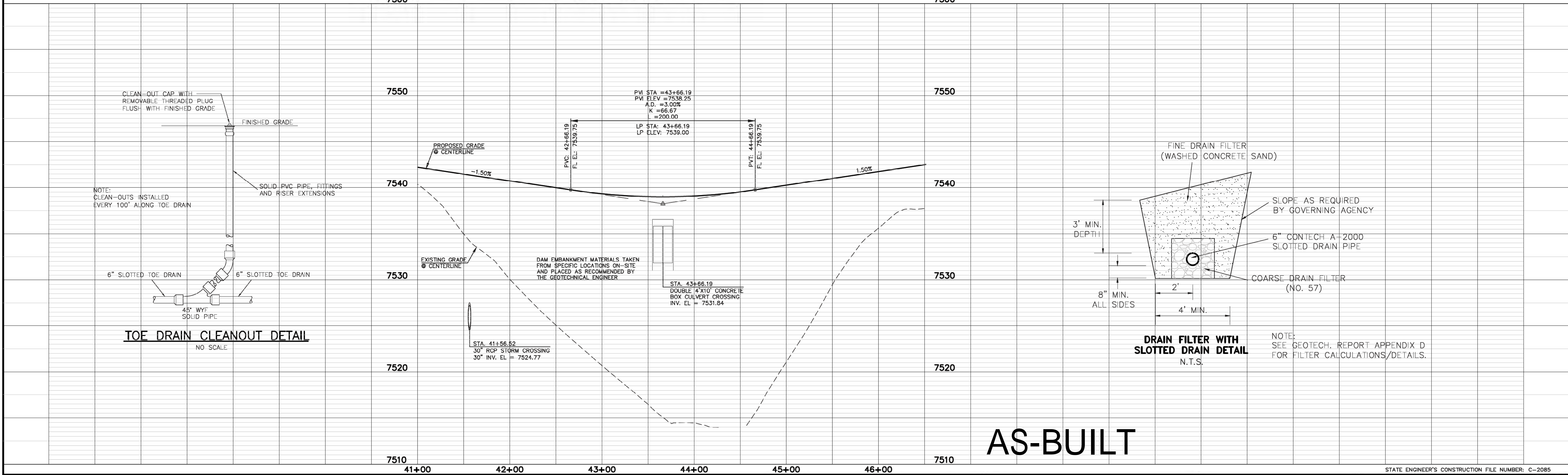
6" PIPE INV. OUT EL = 7514.00  
 30" RCP INV. OUT EL = 7513.50  
 EL AT TOP OF SADDLEWALL = 7514.75  
 EL AT BOTTOM SADDLEWALL = 7512.25



**EASTERLY OUTLET HEADWALL**

6" PIPE INV. OUT EL = 7514.00  
 EL AT TOP OF SADDLEWALL = 7514.75  
 EL AT BOTTOM SADDLEWALL = 7512.25

7560 STAGECOACH ROAD SCALE: 1" = 50'



**AS-BUILT**

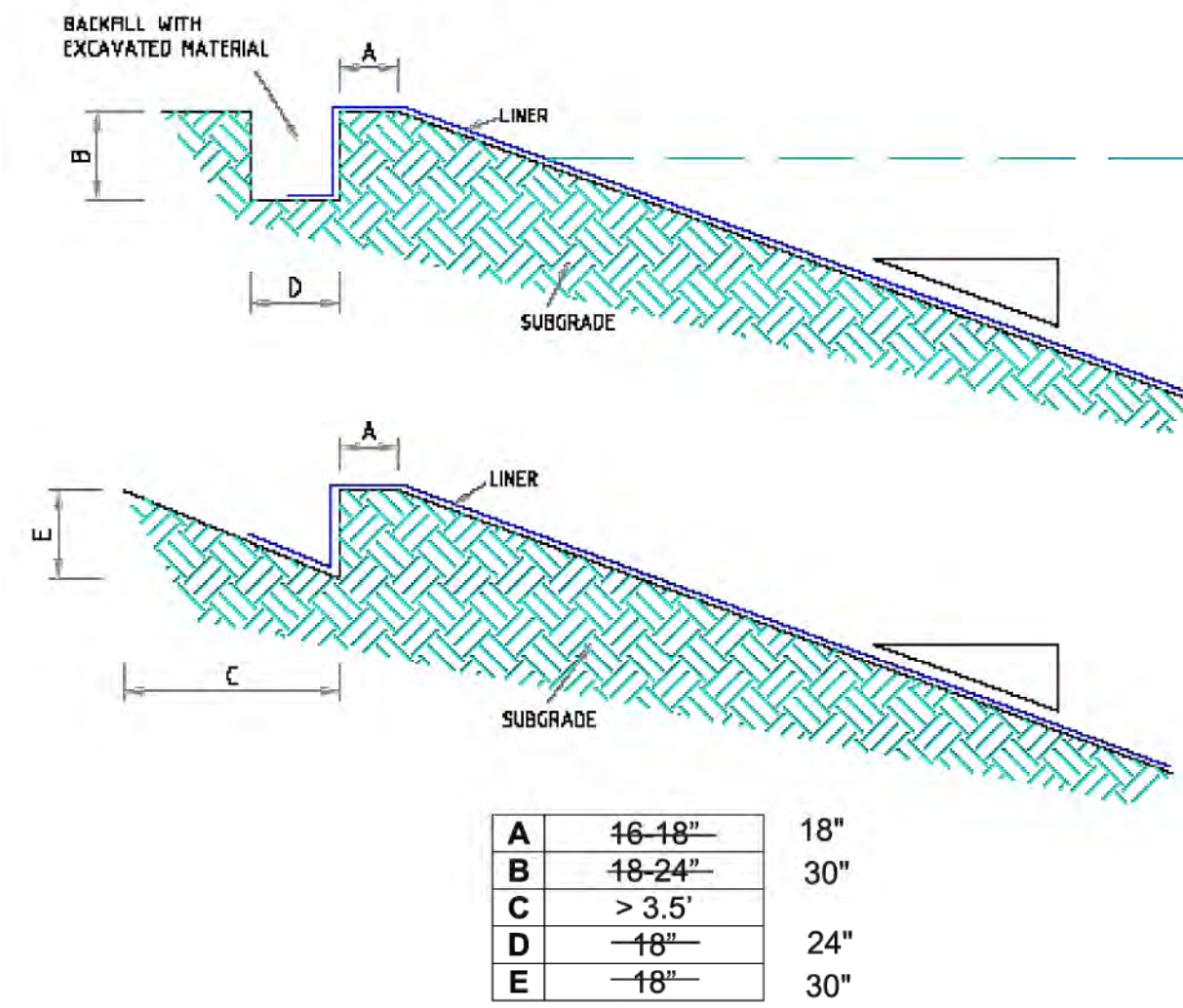
<p>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS <b>811</b> UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW</p> <p>THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING 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.</p>		<p>NO. REVISION DATE</p> <p>1 REVISED PER STATE COMMENTS 5-14-18</p> <p>2 REVISED PER COUNTY COMMENTS 7-31-18</p>	<p>REVIEW:</p> <p>PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC</p> <p>MARC A. WHORTON/COLORADO P.E. #37155</p>	<p>DATE 9/17/18</p>	<p>STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085</p> <p><b>FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT</b></p> <p>ROAD EMBANKMENT / TOE DRAIN DESIGN</p> <p>DAM ID - 080459</p> <p>DESIGNED BY MAW SCALE DATE 1-4-18</p> <p>DRAWN BY MAW (H) 1" = 50' SHEET 10 OF 14</p> <p>CHECKED BY (V) 1" = 5' JOB NO. 1096.11</p>
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**CLASSIC CONSULTING ENGINEERS & SURVEYORS**

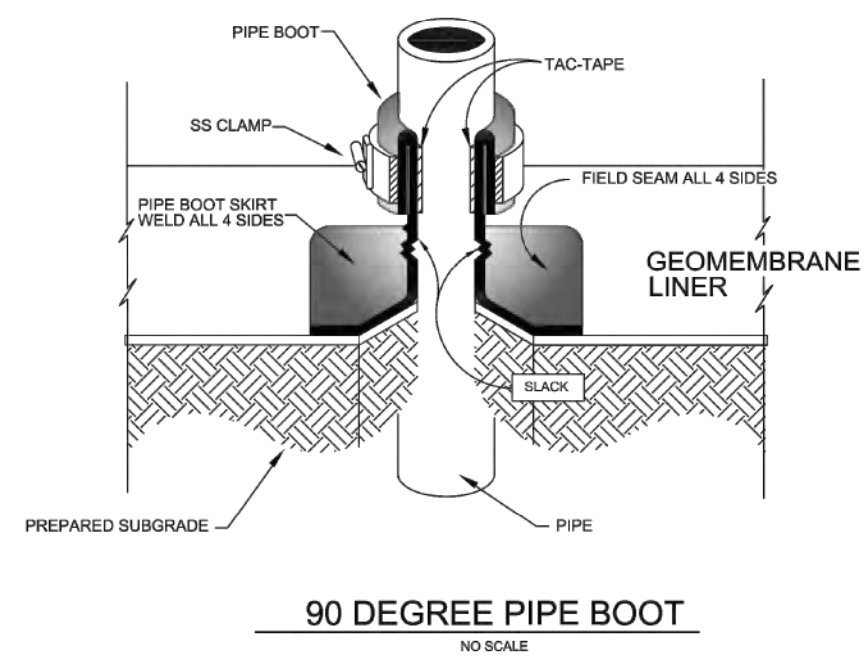
619 N. Cascade Avenue, Suite 200  
 Colorado Springs, Colorado 80903  
 (719)785-0790  
 (719)785-0799(Fax)

N:\090611\DRAWINGS\CONSTRUCTION\Jurisdictional Plans\10-00\_POND - Embankment Profiles - Toe Drain REV.dwg, 8/22/2018 1:25:11 PM, 1:1

**14 Appendix C – Anchor Trench examples**



**LINER ANCHOR TRENCH DETAIL**



MATERIALS AND DIMENSIONS SHOWN ARE FOR GENERAL INFORMATION ONLY, AND SHOULD BE DETERMINED BY SITE SPECIFIC DESIGN.

Drawing Title: **STANDARD DETAIL 90 DEGREE PIPE BOOT**  
 Date: 11/26/11  
 Scale: 4" = 9'  
 Revision: 15 SHOWN

Consolidated Divisions Inc.  
 5585 W. Airport Road  
 Suite 100  
 Skielee, CO 80135  
 Phone: 303-471-1522  
 Fax: 303-470-3197

Watersaver Company  
 5870 E. 56th Ave.  
 Commerce City, CO 80022  
 Phone: 303-289-1818  
 Fax: 303-287-3136

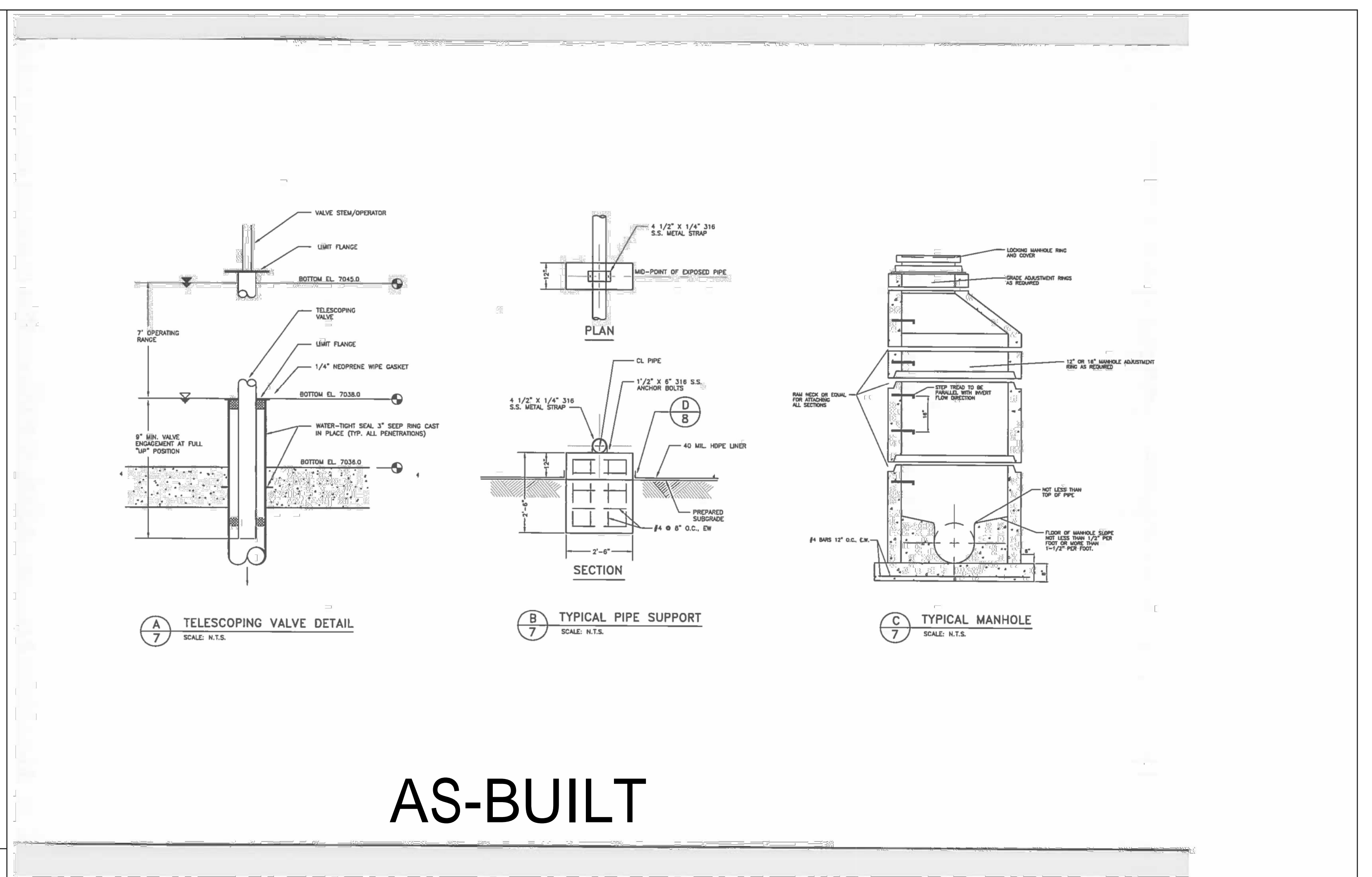
**SOLMAX** TECHNICAL DATA SHEET  
 LLDPE 7000 Series, 30 mils  
 Black, Smooth  
 Solmax, 2901 Blvd. Marie-Victorie, Vancouver, Qc, Canada, J3X 1P7  
 Tel: (450) 929-1234 Fax: (450) 929-2559 www.solmax.com

PROPERTY	TEST METHOD	FREQUENCY <sup>(1)</sup>	UNIT (Imperial)	1020269
<b>SPECIFICATIONS</b>				
Thickness (Nominal ±10%) (11)	ASTM D-5199	Every roll	mils	30.0
Resin Density	ASTM D-1505	Certified	g/cc	< 0.926
Melt Index - 190/2.16 (max.)	ASTM D-1238	Certified	g/10 min	1.0
Sheet Density (8)	ASTM D-792	1/Batch	g/cc	≤ 0.939
Carbon Black Content (9)	ASTM D-4218	Every 2 rolls	%	2.0 - 3.0
Carbon Black Dispersion	ASTM D-5596	Every 10 rolls	Category	Cat. 1 & Cat. 2
OIT - standard (avg.)	ASTM D-3895	Per formulation	min	100
<b>Tensile Properties (min. avg.) (2)</b>				
Strength at Break	ASTM D-6693	Every 5 rolls	ppi	114
Elongation at Break			%	800
2% Modulus (max.)	ASTM D-5323	Per formulation	ppi	1,800
Tear Resistance (min. avg.)	ASTM D-1004	Every 10 rolls	lbf	15
Puncture Resistance (min. avg.)	ASTM D-4833	Every 10 rolls	lbf	42
Dimensional Stability	ASTM D-1204	Certified	%	± 2
Multi-Axial Tensile (min.)	ASTM D-5617	Per formulation	%	30
Oven Aging - % retained after 90 days	ASTM D-5721	Per formulation	%	35
STD OIT (min. avg.)	ASTM D-3895		%	60
HP OIT (min. avg.)	ASTM D-5885		%	60
UV Resistance - % retained after 1600 hr	GRI-GM-11	Per formulation	%	35
HP-OIT (min. avg.)	ASTM D-5885		%	35
<b>SUPPLY SPECIFICATIONS (Roll dimensions may vary ±1%)</b>				
Roll Dimension - Width	-	-	ft	22.3
Roll Dimension - Length	-	-	ft	1,000
Area (Surface/Roll)	-	-	sf	22,300

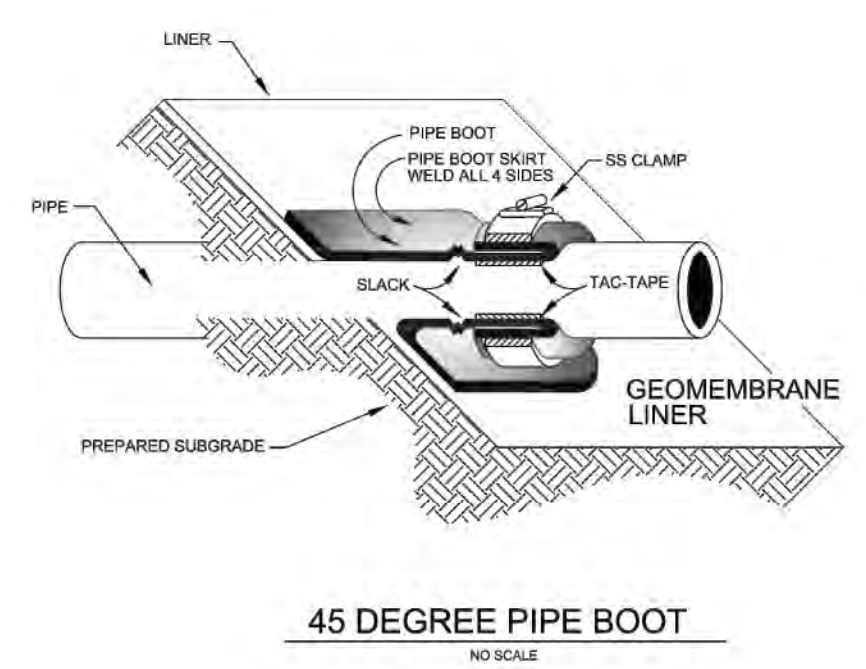
**NOTES**  
 1. Testing frequency based on standard roll dimensions and one batch is approximately 180,000 lbs (or one railcar).  
 2. Machine Direction (MD) and Cross Machine Direction (CMD or TD) average values should be on the basis of 5 specimens each direction.  
 3. Correlation table is available for ASTM D792 vs ASTM D1505. Both methods give the same results.  
 4. Correlation table is available for ASTM D1603 vs ASTM D4218. Both methods give the same results.  
 5. The minimum average thickness is ± 10% of the nominal value.  
 \* All values are nominal test results, except when specified as minimum or maximum.  
 \* The information contained herein is provided for reference purposes only and is not intended as a warranty or guarantee. Final determination of suitability for use contemplated is the sole responsibility of the user. SOLMAX assumes no liability in connection with the use of this information.  
 Solmax is not a design professional and has not performed any design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation or specification.

MF-CQ-34 (Rev. 03 / 2010-07-28) Revision Date: 2016-03-02

**LAKE LINER SPECIFICATION**



**AS-BUILT**



MATERIALS AND DIMENSIONS SHOWN ARE FOR GENERAL INFORMATION ONLY, AND SHOULD BE DETERMINED BY SITE SPECIFIC DESIGN.

Drawing Title: **STANDARD DETAIL 45 DEGREE PIPE BOOT**  
 Date: 11/26/11  
 Scale: 7" = 9'  
 Revision: 15 SHOWN

Consolidated Divisions Inc.  
 5585 W. Airport Road  
 Suite 100  
 Skielee, CO 80135  
 Phone: 303-471-1522  
 Fax: 303-470-3197

Watersaver Company  
 5870 E. 56th Ave.  
 Commerce City, CO 80022  
 Phone: 303-289-1818  
 Fax: 303-287-3136

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 UTILITY NOTIFICATION CENTER OF COLORADO  
 IT'S THE LAW

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NO.	REVISION	DATE
1	REVISED PER STATE COMMENTS	5-4-18

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

MARC A. WHORSON, COLORADO P.E. #37155  
 DATE: 9/17/18

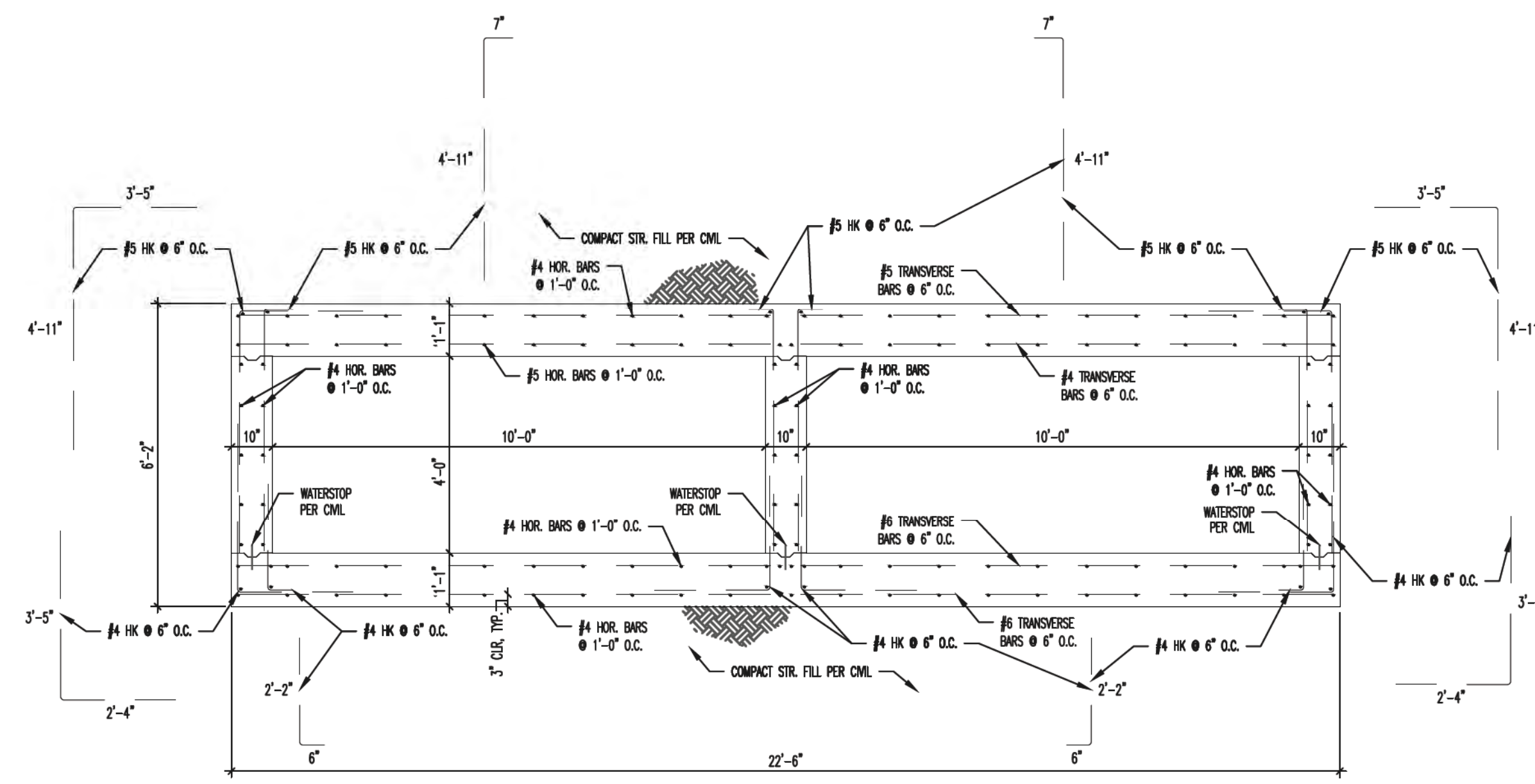
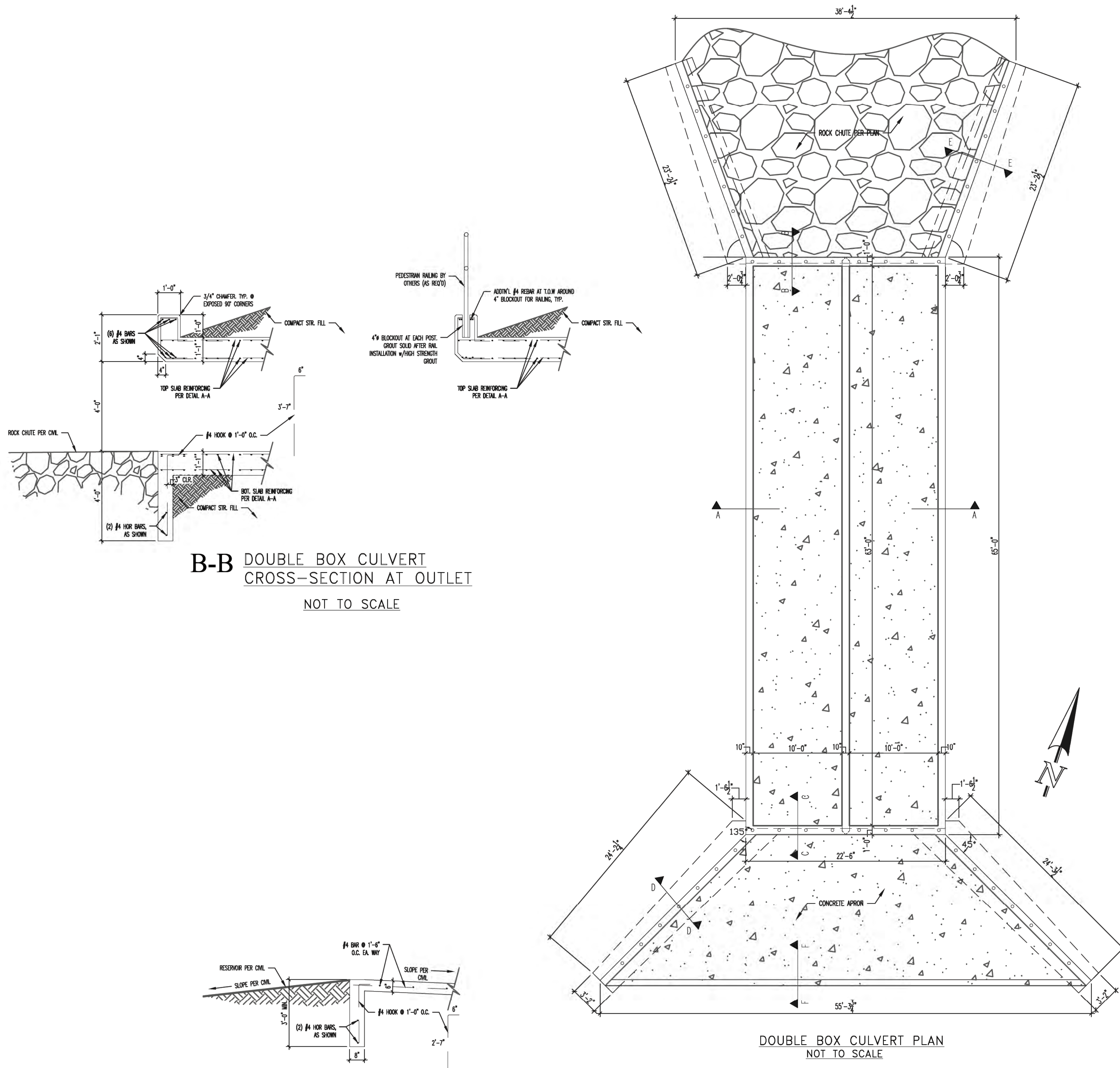
STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

**FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT**  
 LAKE LINER DETAIL SHEET  
 DAM ID - 080459

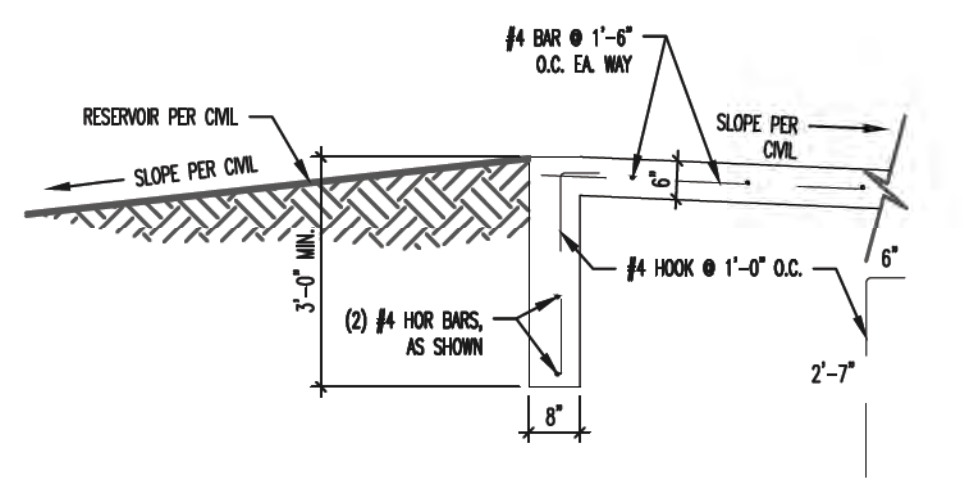
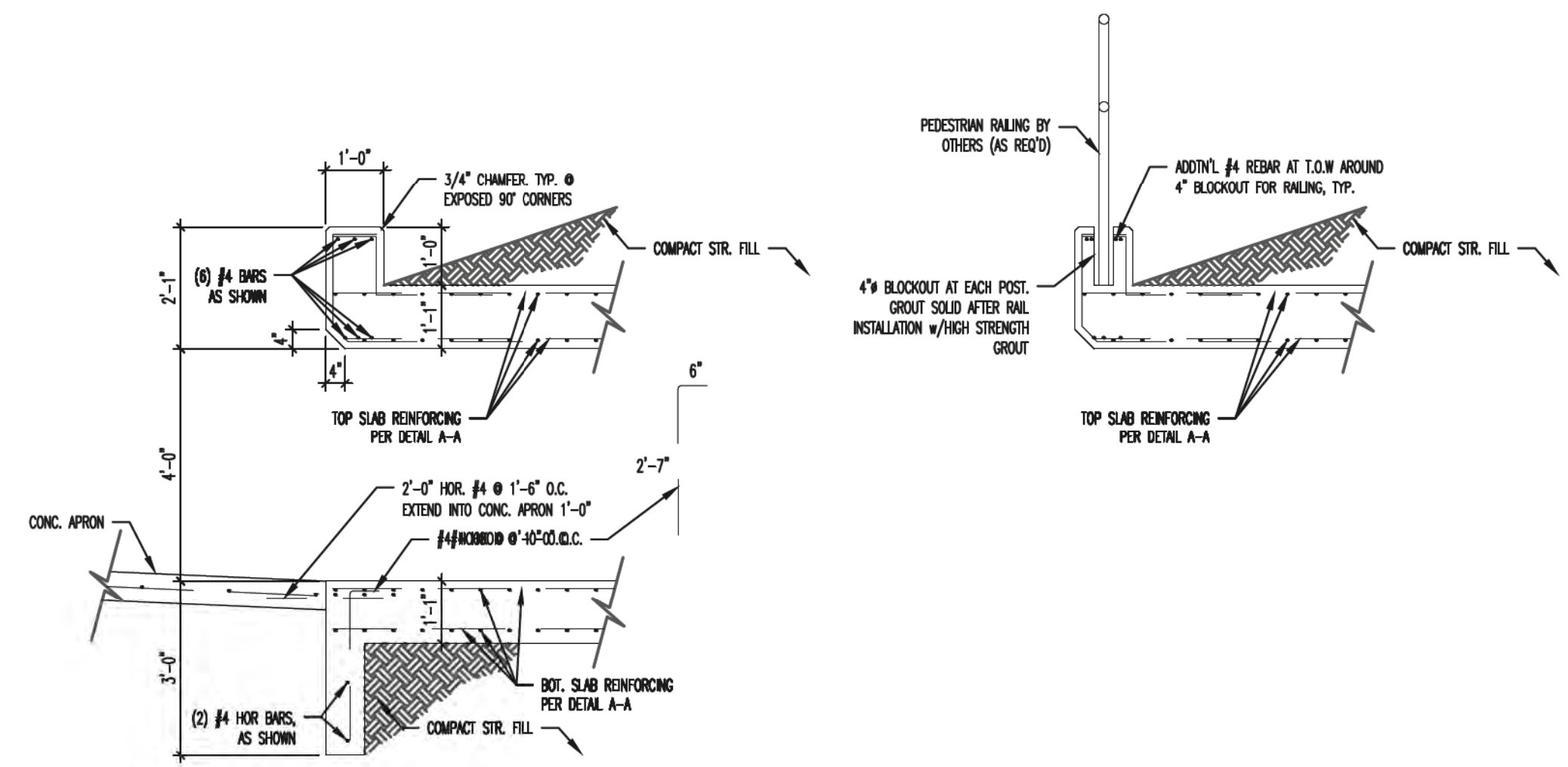
**CLASSIC CONSULTING ENGINEERS & SURVEYORS**  
 619 N. Cascade Avenue, Suite 200  
 Colorado Springs, Colorado 80903  
 (719) 785-0790  
 (719) 785-0799 (Fax)

DESIGNED BY: MAW SCALE: DATE: 1-4-18  
 DRAWN BY: MAW (H) 1" = N/A SHEET 11 OF 14  
 CHECKED BY: (V) 1" = N/A JOB NO. 1096.11

N:\109811\DRAWINGS\CONSTRUCTION\Installation\Plan\11-01\_POND - Details.dwg, 8/22/2018 11:39:10 AM, 1:1



**B-B DOUBLE BOX CULVERT CROSS-SECTION AT OUTLET**  
NOT TO SCALE



**DOUBLE BOX CULVERT PLAN**  
NOT TO SCALE

**A-A DOUBLE BOX CULVERT CROSS-SECTION**  
NOT TO SCALE

**C-C DOUBLE BOX CULVERT CROSS-SECTION AT INLET**  
NOT TO SCALE

**F-F CONCRETE APRON TOE WALL AT INLET**  
NOT TO SCALE

**AS-BUILT**

ALL STRUCTURAL DETAILS SHOWN HEREON PROVIDED BY:  
**ENTECH ENGINEERING, INC.**  
505 ELKTON DRIVE  
COLORADO SPRINGS, CO 80907  
719-531-5599

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

<p>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS</p> <p><b>811</b></p> <p>UTILITY NOTIFICATION OF COLORADO IT'S THE LAW</p> <p>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.</p>	NO. REVISION	DATE	REVIEW:
	<p>PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC</p> <p><i>(Signature)</i></p> <p>MARC A. WILKINSON, COLORADO P.E. #37155</p>		

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**FLYING HORSE NORTH IRRIGATION RESERVOIR EMBANKMENT**  
EMBANKMENT SPILLWAY STRUCTURAL DETAILS  
DAM ID - 080459

DESIGNED BY: MAW  
DRAWN BY: MAW  
CHECKED BY:

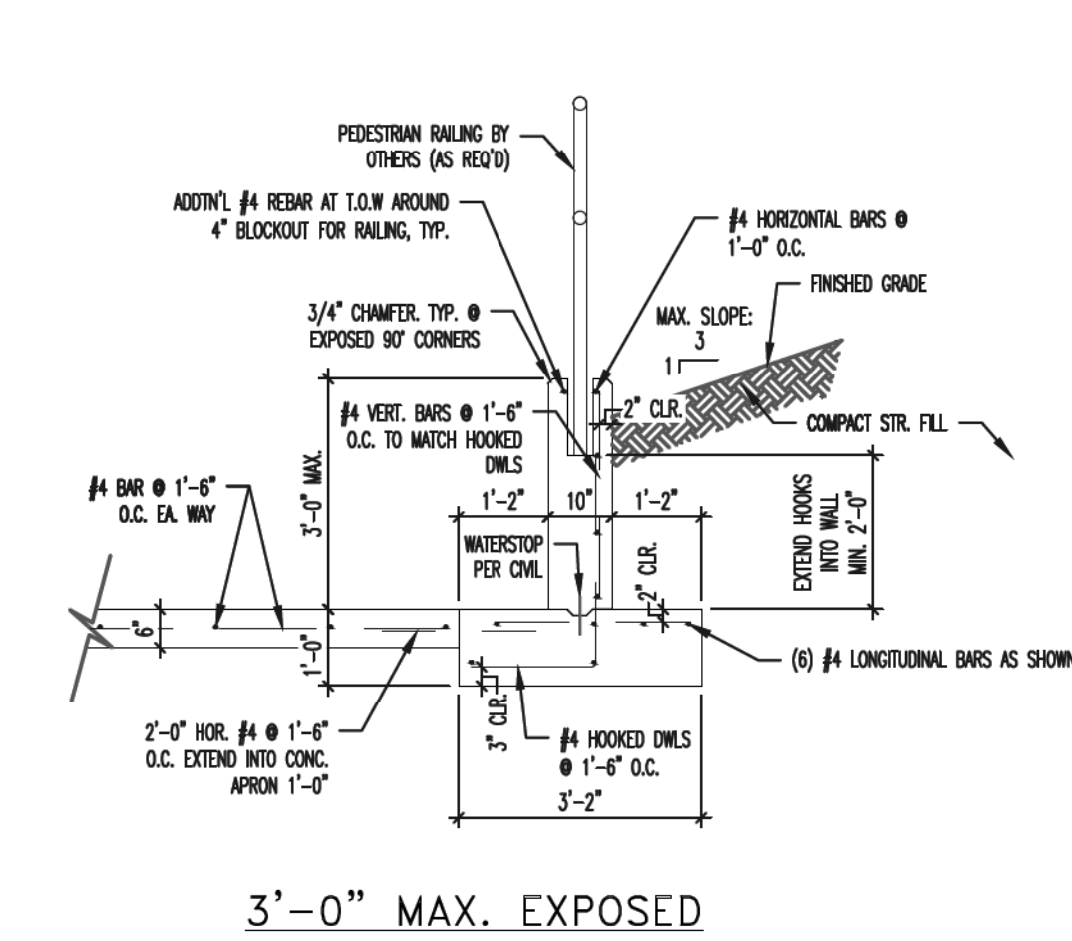
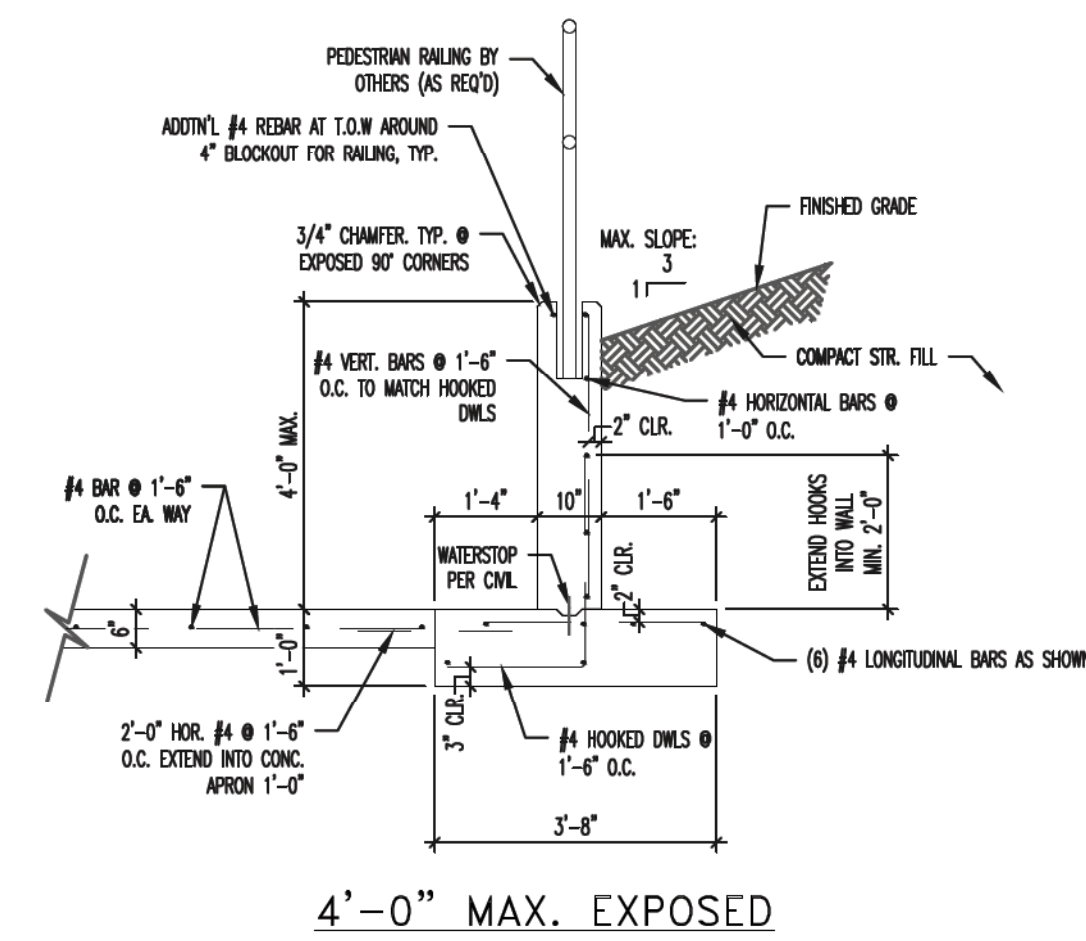
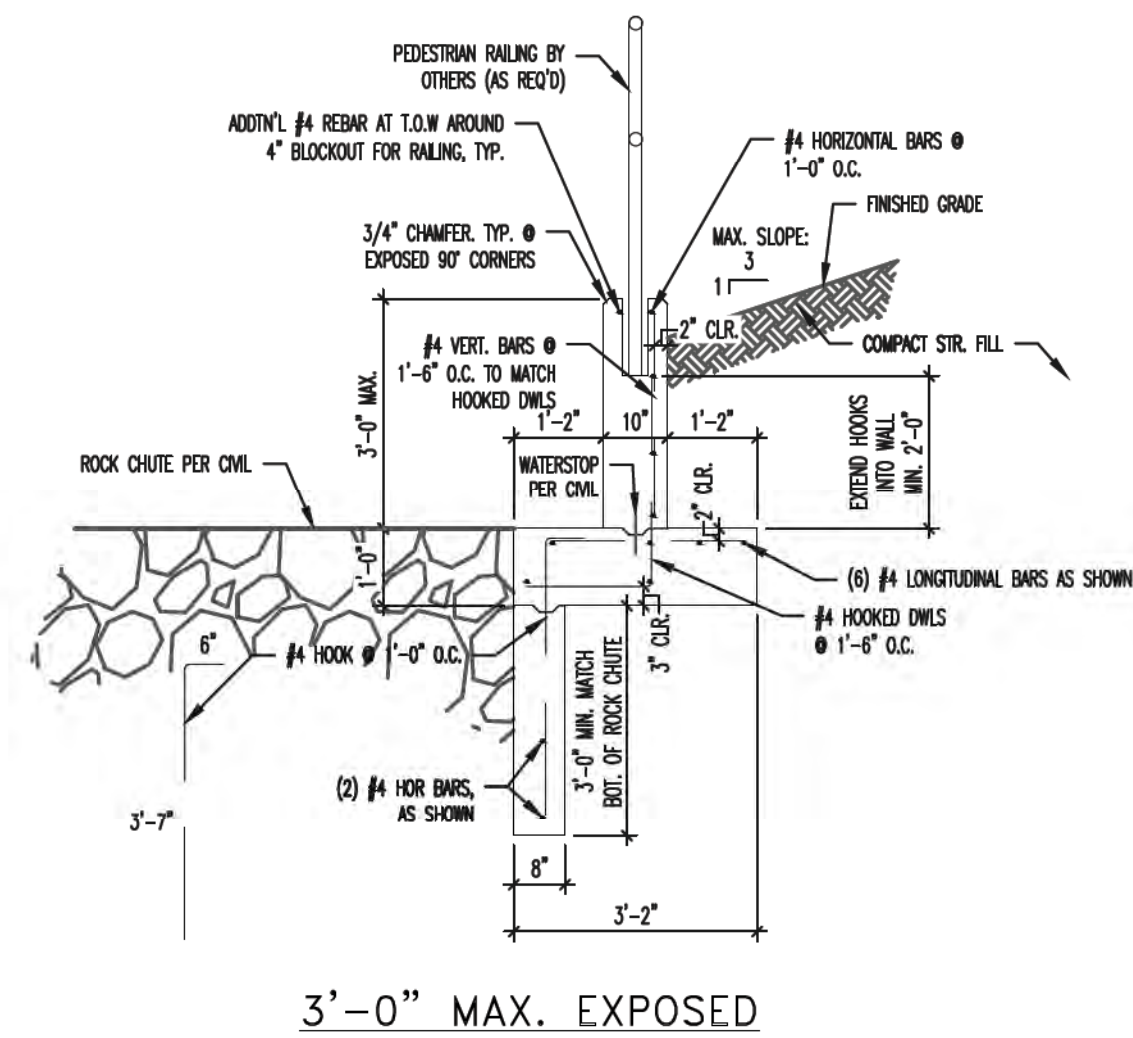
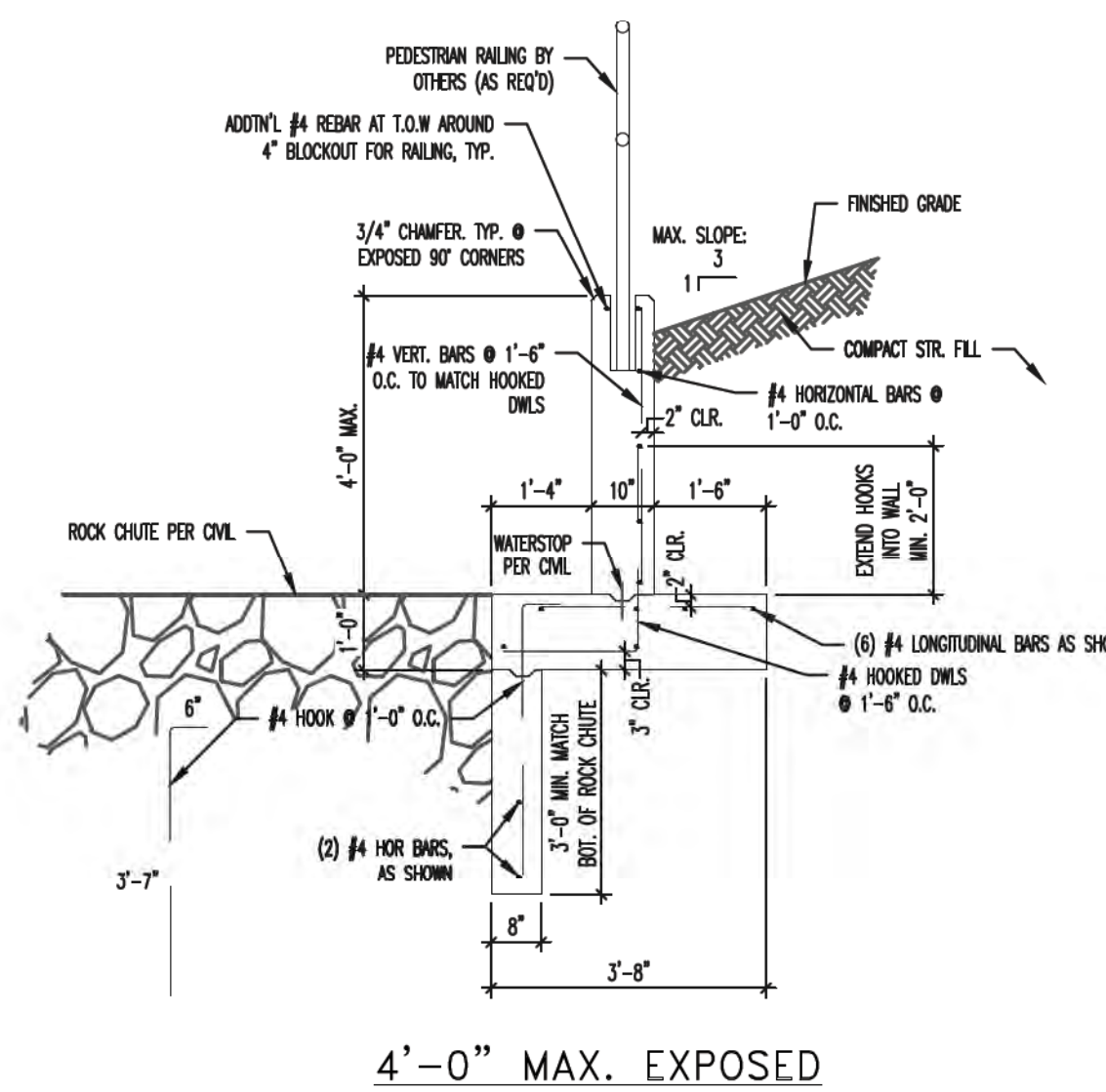
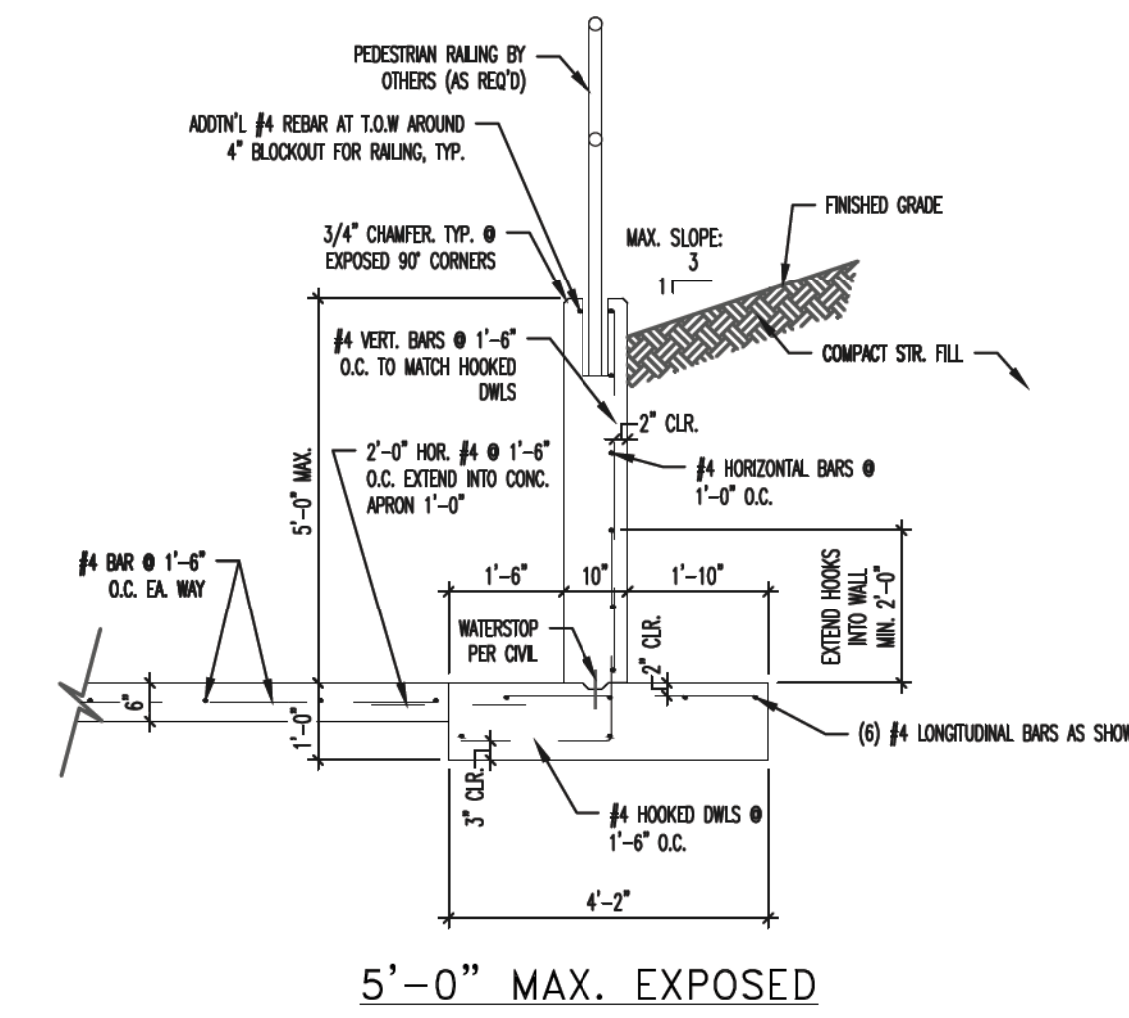
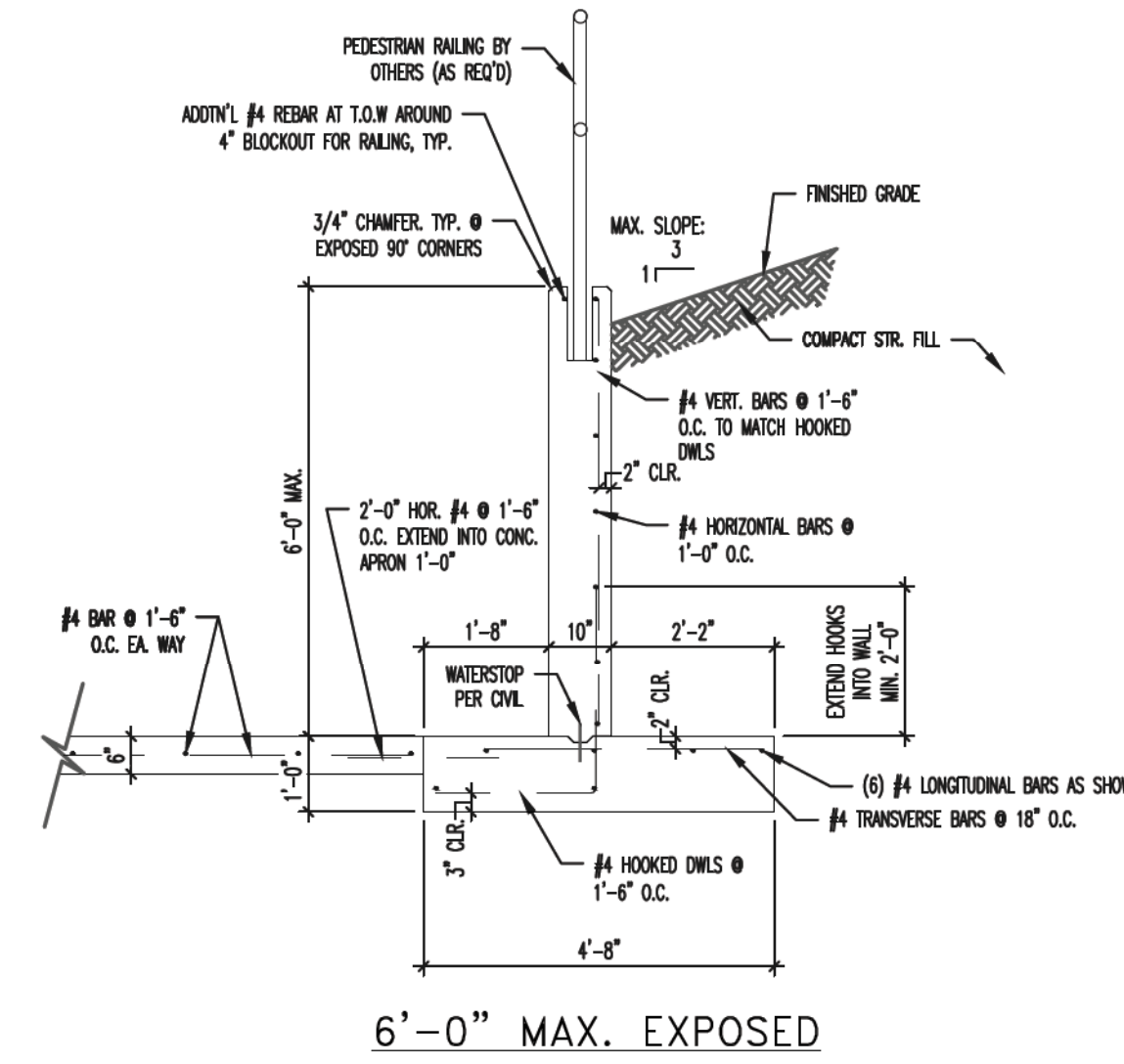
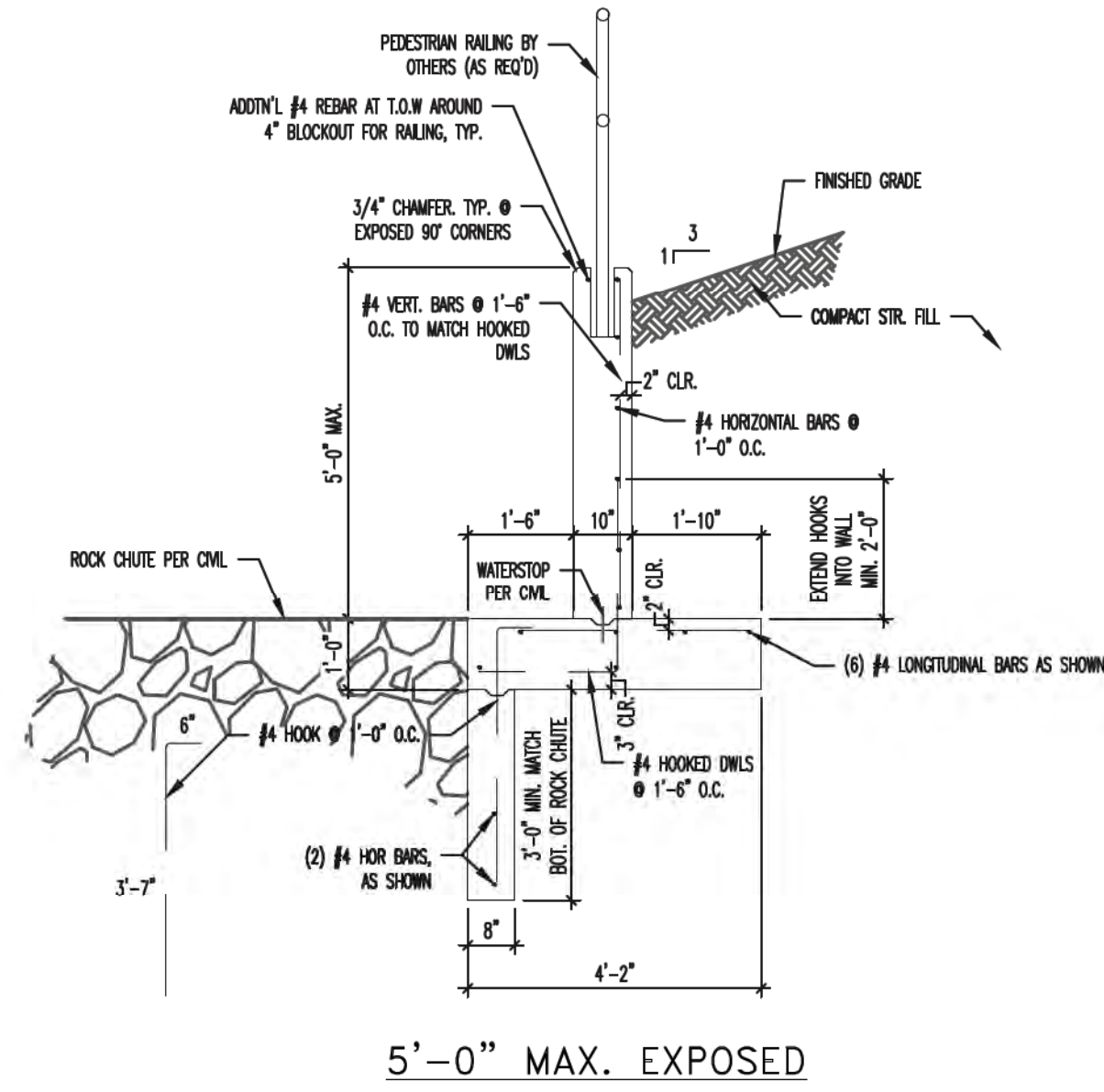
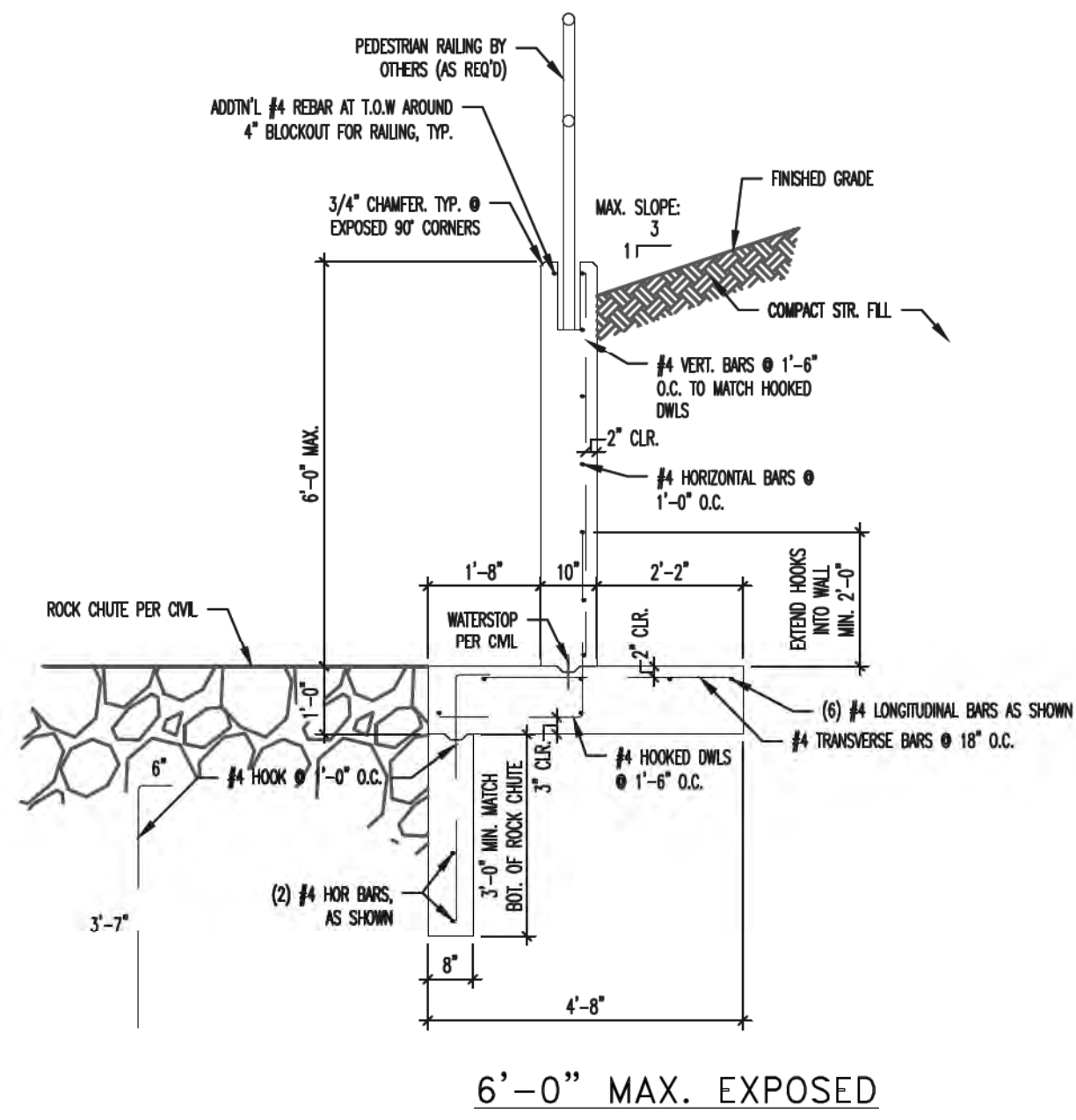
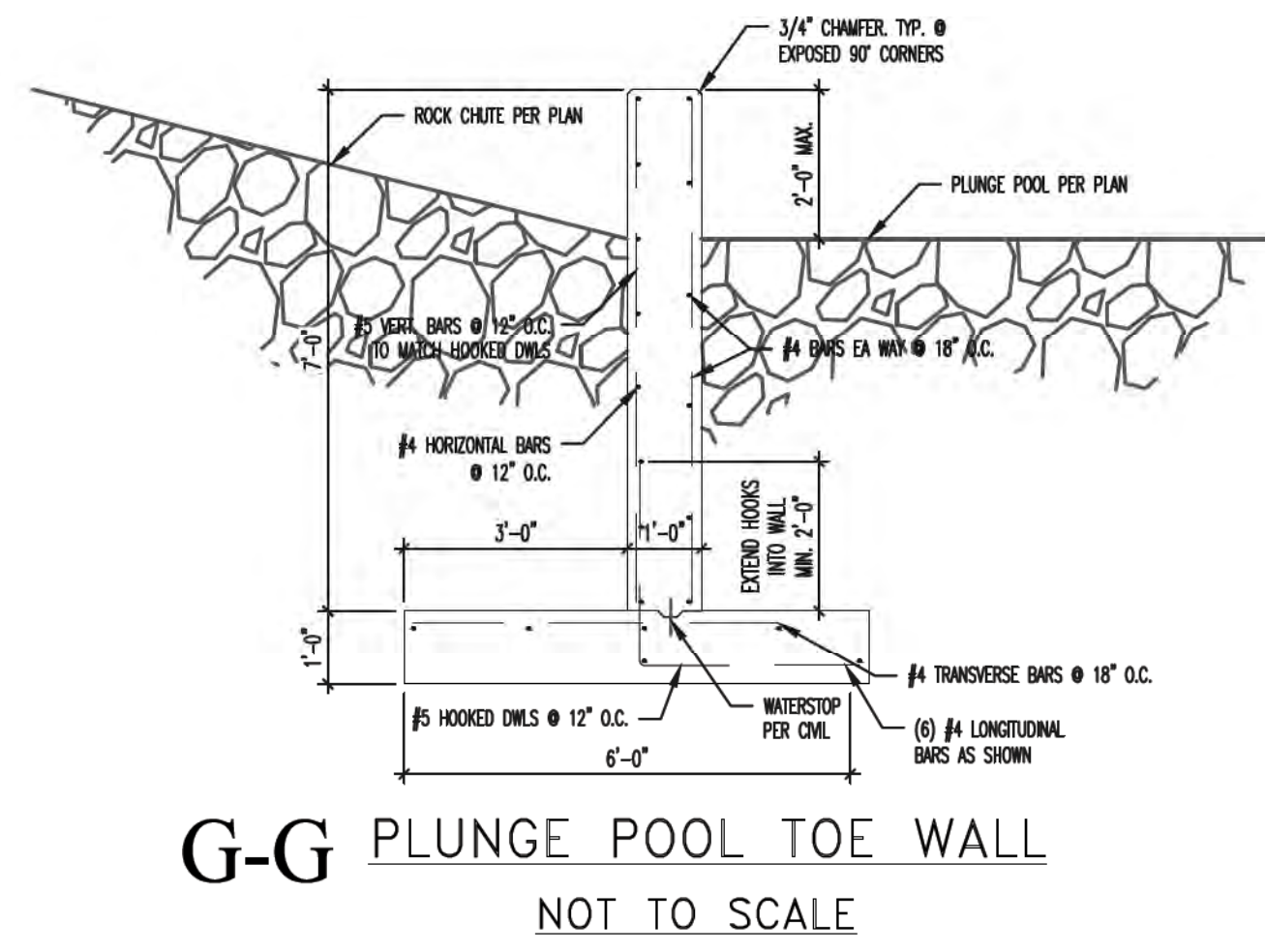
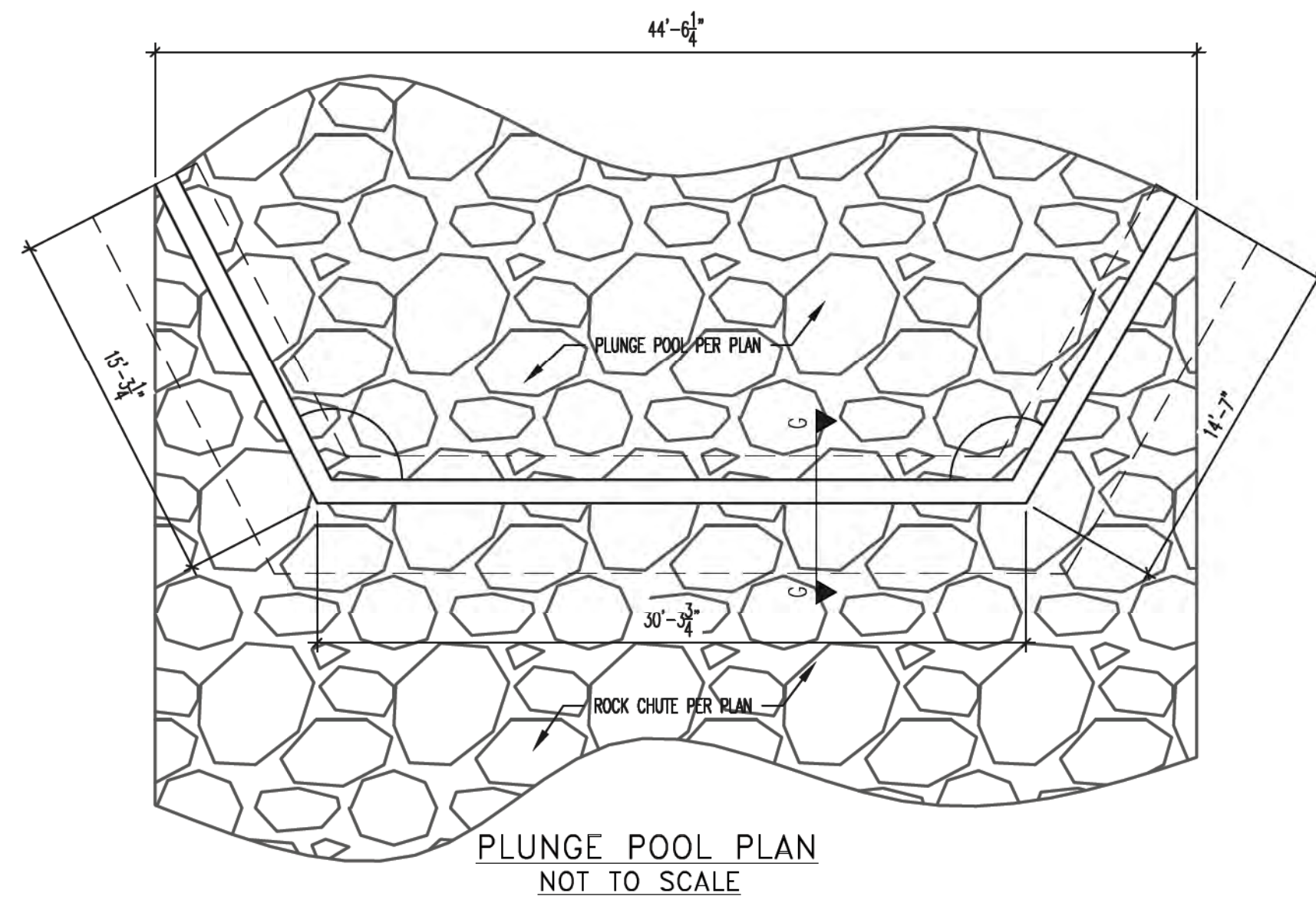
SCALE: (H) 1" = N/A  
(V) 1" = N/A

DATE: 1-4-18  
SHEET 12 OF 14  
JOB NO. 1096.11

STATE ENGINEER'S CONSTRUCTION FILE NUMBER: C-2085

N:\090611\DRAININGS\CONSTRUCTION\Structural Plans\12-AD\_POND - Box Culvert Details.dwg, 8/22/2018 1:45:31 PM, 1:1





**E-E** WING WALL CROSS-SECTIONS  
AT OUTLET  
NOT TO SCALE

**D-D** WING WALL CROSS-SECTIONS  
AT INLET  
NOT TO SCALE

**AS-BUILT**

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719-531-5599

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**811**

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NO. REVISION

DATE

REVIEW:

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



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

9/17/18

DATE



619 N. Cascade Avenue, Suite 200  
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**FLYING HORSE NORTH  
IRRIGATION RESERVOIR EMBANKMENT**  
EMBANKMENT SPILLWAY STRUCTURAL DETAILS  
DAM ID - 080459

DESIGNED BY	MAW	SCALE	DATE	1-4-18
DRAWN BY	MAW	(H) 1" = N/A	SHEET	13 OF 14
CHECKED BY	(V) 1" = N/A	JOB NO.	1096.11	



CLASSIC  
ENGINEERS & SURVEYORS

N:\190811\DRAWINGS\CONSTRUCTION\as-built\Drawn\14-10\_POND - Details.dwg, 8/22/2018 1:55:30 PM, 1:1

TOTAL QTY		ASSEMBLY		BILL OF MATERIAL				REMARKS
QTY	EA	MARK	DESCRIPTION	GRADE	LENGTH	WEIGHT		
1	1	P11	12" sch 40 Pipe	A33	12 1/2"			
4	4	L1	L 1 1/4" x 1 1/4" x 1/4"	A36	29 1/2"			
2	2	P1	PL 1/4 x 23 1/2"	A36	23 1/2"			
4	4	XP1	#7 x 3/4 Expanded Metal x 24"	A36	16"			
4	4	P2	PL 1/4 x 23 1/2"	A36	13 3/4"			

**SUBMITTAL REVIEW**

NO EXCEPTIONS TAKEN

MAKE CORRECTIONS AS NOTED

REVISE AND RESUBMIT

NOT REVIEWED (Submittal does not pertain to civil prepared documents)

Classic Consulting Engineers & Surveyors, LLC has reviewed this Submittal only for the limited purpose of checking for general conformance with the survey and civil documents prepared for this project. This review does not warranty or guarantee installation will be in conformance with these documents, nor does it relieve the contractor from adhering to all required government specifications and regulations.

By: *[Signature]* Date: 6/9/18

Project No: Proj. Mgr.

	DATE	DESCRIPTION	PM	CHK
X	08/06/18	FOR APPROVAL		
A				

**DRAWING & DETAIL REFERENCE(S):**

STANDARDS (UNO)

MATL GRADE: A36

BOLT: 3/4" A325 TC

HOLE: 13/16"

RE-ENTRANT CORNERS: 1/2"

SURFACE PREP: SP-2

**BARTON**  
REBAR SUPPLY

11010 220  
1110 S. Bascom Avenue  
SAN JOSE, CA 95128

SCREEN BOX FOR EQUALIZATION PIPE

**NOTES:**

- TYPE II MANHOLES SHALL BE USED WHEN APPROPRIATE AND TYPICALLY WHEN THE PIPE SIZES ARE 30" OR LESS INSIDE DIAMETER.
- VIEW AND DETAILS ARE TYPICAL. DESIGN ENGINEER SHALL DETERMINE MANHOLE BASE CONFIGURATION AND DIMENSIONS FOR PARTICULAR PIPE SIZES AND ALIGNMENT.
- EITHER LADDER OF STEPS SHALL BE INSTALLED WHEN MANHOLE DEPTH EXCEEDS 30". STEPS IN BASE SHALL BE INSTALLED IN "TOE POCKETS" (SEE DETAIL THIS SHEET). LOWEST STEP SHALL BE A MAXIMUM OF 16" ABOVE THE FLOOR.
- PIPES SHALL BE TRIMMED TO FINAL SHAPE AND SET BEFORE MANHOLE IS POURED.
- BENCH SHALL BE SLOPED TOWARD CENTER OF MANHOLE BASE (4:1 MAX., 1/2" PER FOOT. MIN.).
- FLOOR OF MANHOLE SHALL BE TROWELLED TO A SMOOTH, HARD SURFACE AND SHALL SLOPE TOWARDS THE OUTLET (8:1, 1/2" PER FT. MIN.). FLOOR SHALL BE SHAPED AND CHANNLED; SEE DETAILS THIS SHEET.

SCALE: NOT TO SCALE

DATE APPROVED:	Storm Sewer Manhole Detail Type II Standard Drawing	
André P. Brackin	REVISION DATE: 11/10/04	FILE NAME: SD_3-2

DATE APPROVED:	Storm Sewer Manhole Details Standard Drawing	
9/16/10	REVISION DATE: 9/16/10	FILE NAME: SD_3-5

MANHOLE FOR PRIVATE SWQ OUTLET PIPING

# AS-BUILT

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IRRIGATION RESERVOIR EMBANKMENT**

DETAIL SHEET  
DAM ID - 080459

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DRAWN BY: MAW  
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SHEET 14 OF 14  
JOB NO. 1096.11