

CITY OF COLORADO SPRINGS

PUBLIC PERMANENT CONTROL MEASURE PLANS

FAIRFAX FULL SPECTRUM DETENTION AND WATER QUALITY POND

BID SET (100%) - APRIL 2023

ENGINEER'S STATEMENT

THIS PERMANENT CONTROL MEASURE (PCM) PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION, WAS DESIGNED IN ACCORDANCE WITH THE CITY OF COLORADO SPRINGS DRAINAGE CRITERIA MANUAL (MAY 2014), AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THIS PERMANENT CONTROL MEASURE PLAN.



KEVAN P. KUHNEL
EMAIL: KEVAN.KUHNEL@FHUENG.COM

CITY OF COLORADO SPRINGS STATEMENT:

FILED IN ACCORDANCE WITH SECTION 7.7.906 OF THE CODE OF THE CITY OF COLORADO SPRINGS, 2001, AS AMENDED.

Heidi M. McMacken

05/05/2023

FOR CITY ENGINEER **Heidi McMacken**

DATE:

CONDITIONS:

CITY PROJECT MANAGER'S STATEMENT

I HEREBY CERTIFY THAT THE PERMANENT CONTROL MEASURES FOR THE FAIRFAX FULL SPECTRUM DETENTION AND WATER QUALITY POND SHALL BE CONSTRUCTED ACCORDING TO THE DESIGN IN THIS PERMANENT CONTROL MEASURE (PCM) PLAN. I FURTHER UNDERSTAND THAT FIELD CHANGES MUST BE REVIEWED BY THE SWENT REVIEW ENGINEER TO ENSURE CONFORMANCE WITH THE ORIGINAL DESIGN INTENT. I AM EMPLOYED BY AND PERFORM ENGINEERING SERVICES SOLELY FOR THE CITY OF COLORADO SPRINGS, AND THEREFORE AM EXCEPT FROM COLORADO REVISED STATUTE TITLE 12, ARTICLE 25, PART 1 ACCORDING TO § 12-25-103(1), CRS.

Adam Copper

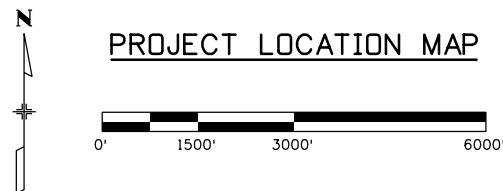
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PROJECT MANAGER

DATE:



PROJECT LOCATION MAP



SHEET NO.	INDEX OF SHEETS
1	TITLE SHEET
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APPROVED BY:

WATER RESOURCES ENGINEERING:

BY: _____ DATE _____

NOTES:

- FEMA FLOOD INSURANCE PROGRAM DATA FOR THE PROJECT WAS PULLED FROM FIRM MAP NUMBER 08041C0528G, REVISED DECEMBER 7, 2018.
- SOIL DATA WAS OBTAINED FROM USDA'S WEB SOIL SURVEY TOOL, PROVIDED IN THE DRAINAGE REPORT. THE VAST MAJORITY OF SOILS IN THE PROJECT AREA WERE DETERMINED TO BE HYDROLOGIC SOIL GROUP B SOILS, PREDOMINATELY A SANDY LOAM TYPE SOIL.

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Date:	Comments	Init.

As Constructed	FAIRFAX DETENTION AND WATER QUALITY POND TITLE SHEET	
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1. ALL CONSTRUCTION SHALL BE COMPLETED PER THE CITY OF COLORADO SPRINGS STANDARDS AND SPECIFICATIONS. IN ADDITION, PER THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD PLANS AND SPECIFICATIONS WHEN SPECIFICALLY REFERENCED IN THE CONTRACT DOCUMENTS.
2. ALL AREAS WITHIN THE CONSTRUCTION LIMITS SHALL BE CLEARED AND GRUBBED. CLEARING AND GRUBBING SHALL INCLUDE REMOVAL AND DISPOSAL OF TRASH, DEBRIS, LARGE ROCKS, TREES, TREE STUMPS, BUSHES, LANDSCAPING, ETC. UNLESS SPECIFICALLY DESIGNATED TO REMAIN.
3. THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES ARE DEPICTED IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS DOCUMENT ASCE 38, "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 105.11 OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION." THE CONTRACTOR SHALL DETERMINE THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OR 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING. THE CONTRACTOR SHALL LOCATE NON-MEMBER UTILITIES, SUCH AS STORM SEWER AND DITCH FACILITIES AS NECESSARY TO PREVENT DAMAGE THERETO.
4. THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR EQUIPMENT IN, OR DISTURB ANY AREAS NOT APPROVED BY THE ENGINEER.
5. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. WATER FOR A DUST PALLIATIVE WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK. CONTAMINATED GROUNDWATER CAN NOT BE USED AS A DUST PALLIATIVE.
6. ALL SAW, SANDBLASTING, ABRASIVE WATER BLASTING, AND JET CUTTING RESIDUE MATERIAL SHALL BE PROPERLY CONTAINED, COLLECTED, AND DISPOSED OF AND SHALL NOT RUN OFF INTO WATERS OF THE STATE, THROUGH INLETS, STORM DRAINS, AND VEGETATIVE SWALES OR BY ANY OTHER MEANS. REMOVAL OF RESIDUE SHALL BE ON A DAILY BASIS AND SHALL CONFORM TO 107.25 AND M-STD. 208 AND IS INCLUDED IN THE COST OF THE WORK.
7. EROSION/SEDIMENT CONTROL MEASURES MUST BE IMPLEMENTED BEFORE CONSTRUCTION AND GRADING OPERATIONS BEGIN. ALL EROSION/SEDIMENT PERMANENT CONTROL MEASURES SHALL BE PLACED AS NEEDED ACCORDING TO THE GRADING AND EROSION CONTROL PLANS AND AS APPROVED BY THE ENGINEER. ALL EROSION/SEDIMENT CONTROL AND STORMWATER RESPONSIBILITIES ARE AS STATED IN THE STORMWATER MANAGEMENT PLAN, CDOT SPECIFICATIONS 101, 107, 208, 212, 213, 214, AND 216 SHALL BE FOLLOWED OR AMENDED.
8. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE. LIMITS OF DISTURBANCE SHALL BE DETERMINED BY THE ENGINEER AND THE CONTRACTOR. ANY DISTURBANCES BEYOND THESE LIMITS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. DISTURBANCES WITHIN THE LIMITS SHALL BE RESTORED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE COST OF WORK. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURE SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS. ANY OFF ROAD STAGING AREAS MUST BE PRE-APPROVED BY THE ENGINEER.
9. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO COST TO THE OWNER.
10. THE CONTRACTOR SHALL OBTAIN A COLORADO DISCHARGE PERMIT SYSTEM STORMWATER CONSTRUCTION PERMIT (CDPS-SCP). ALL PERMIT REQUIREMENTS SHALL BE ADHERED TO BY THE CONTRACTOR.
11. TOPSOIL SHALL BE OBTAINED FROM THE CONTRACTOR'S SOURCE APPROVED BY THE ENGINEER. TOPSOIL SHALL BE TREATED WITH AN HERBICIDE APPLICATION AFTER PLACEMENT AND BEFORE NATIVE SEEDING BY A LICENSED HERBICIDE APPLICATOR. PLACEMENT SHALL NOT OCCUR UNTIL SLOPES THAT TOPSOIL IS BEING PLACED ON HAVE BEEN APPROVED BY THE ENGINEER. STOCKPILING TOPSOIL SHALL BE INCLUDED IN THE COST OF TOPSOIL AND WILL NOT BE PAID FOR SEPARATELY.
12. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
13. ALL COMPACTION SHALL BE PER SECTION 203 OF THE 2022 CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AS MODIFIED BY REVISIONS OF SECTIONS 203, 206, 304, AND 613-COMPACTION STANDARD SPECIAL PROVISION OR AS DIRECTED BY THE ENGINEER. THE TYPE OF COMPACTION FOR THIS PROJECT WILL BE AASHTO T-99.
14. TO PROVIDE FOR ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED FOR THIS PROJECT, SEVERITY OF POTENTIAL EXPOSURE IS CLASS 2. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, HAVE A CERTIFIED LABORATORY TEST THE SUBGRADE AS PER THE CDOT FIELD MATERIALS MANUAL. TESTING SHALL BE THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR A PRELIMINARY SOILS SURVEY. THE CONTRACTOR MAY PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.
15. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS, OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT AND/OR BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE C.R.S. SECTION 18-4-508.
16. ALL STATIONS AND OFFSETS SHOWN ON THE PLANS ARE TO THE CONTROL LINES, UNLESS OTHERWISE NOTED. THE USE OF CONTROL MONUMENTS FOR CONSTRUCTION STAKING OTHER THAN THOSE SHOWN ON THE PLANS OR APPROVED BY THE ENGINEER IS PROHIBITED, AND USE OF SUCH MONUMENTS IS AT THE CONTRACTOR'S SOLE RISK.
17. PROPOSED FINISHED GROUND ELEVATIONS FOR ITEMS TO BE ADJUSTED, RESET, OR MODIFIED SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
18. CONSTRUCTION VEHICLES SHALL ACCESS THE PROJECT FROM PUBLIC PROPERTY, NOT ADJACENT PRIVATE PROPERTIES.
19. THIS PROJECT WILL REQUIRE LIMITED WORK IN FAIRFAX CREEK THAT IS WITHIN WETLANDS. THE LIMITS OF IMPACTS TO THE WETLANDS SHALL BE KEPT TO AN ABSOLUTE MINIMUM AND FOLLOW ALL REQUIREMENTS OF THE NATIONWIDE 404 PERMIT ISSUED FOR THIS PROJECT. SEE PERMIT, PLANS, AND SPECIFICATIONS FOR COMPLETE REQUIREMENTS.
20. JOINT MATERIAL, STRUCTURAL BACKFILL (CLASS 1), COMPACTION AND GRADING SHALL BE INCLUDED IN THE COST OF THE WORK.
21. REINFORCING STEEL QUANTIFIED AT 200 LBS/CY OF CONCRETE CLASS D (WALL).
22. STRUCTURE BACKFILL (CLASS 1) (TYP.) COMPACTED TO 95% RELATIVE COMPACTION (AASHTO T99).
23. EXISTING AND PROPOSED VEGETATION BEYOND THE LIMITS OF PROPOSED DISTURBANCE SHALL REMAIN UNIMPACTED BY CONSTRUCTION ACTIVITY.
24. SEE SWMP AND GEC PLAN SET FOR PROPOSED SEEDING LOCATIONS AND SEED MIX INFORMATION.

STANDARD PERMANENT CONTROL MEASURE (PCM) NOTES:

25. NO CLEANING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED PRIOR TO APPROVAL OF THE SITE GRADING AND EROSION CONTROL (GEC) PLAN. REFERENCE THE CITY OF COLORADO SPRINGS DRAINAGE CRITERIA MANUAL (DCM) VOLUME 2, CHAPTER 7 FOR MORE INFORMATION.
26. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH POLICIES AND PROCEDURES OUTLINED IN THE CITY DCM, AND THE APPROVED GEC PLAN.
27. THIS PERMANENT CONTROL MEASURE (PCM) PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF COLORADO SPRINGS IF WORK ON THE PCM DOES NOT COMMENCE WITHIN 12 MONTHS OF PLAN APPROVAL, OR SHOULD ANY OF THE FOLLOWING OCCUR: A CHANGE IN PROPERTY OWNERSHIP, A CHANGE IN THE PROPOSED DEVELOPMENT, OR CHANGES TO THE DESIGN OF THE PCM.
28. CONTACT CITY GEC INSPECTIONS, 719-385-5918, AND CITY ENGINEERING INSPECTIONS, 719-385-5977, AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
29. ACCEPTANCE OF THIS PLAN DOES NOT CONSTITUTE APPROVAL TO GRADE OR CAUSE ANY DISTURBANCE WITHIN ANY UTILITY EASEMENT OR RIGHT-OF-WAY. APPROVALS TO WORK WITHIN UTILITY EASEMENTS MUST BE OBTAINED FROM THE APPROPRIATE UTILITY COMPANY. IT IS NOT PERMISSIBLE FOR ANY PERSON TO MODIFY THE GRADE OF THE EARTH ON ANY UTILITY EASEMENT OR RIGHT-OF-WAY WITHOUT THE APPROPRIATE WRITTEN APPROVAL. THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARD UTILITY FACILITIES. ANY CHANGES TO EXISTING UTILITY FACILITIES TO ACCOMMODATE THE PLAN MUST BE APPROVED BY THE AFFECTED UTILITY OWNER PRIOR TO IMPLEMENTING THE PLAN. THE APPLICANT IS RESPONSIBLE FOR THE COST TO RELOCATE OR PROTECT EXISTING UTILITIES OR TO PROVIDE INTERIM ACCESS.
30. A PROFESSIONAL ENGINEER (PE) CERTIFICATION THAT THE PERMANENT CONTROL MEASURE (PCM) HAS BEEN INSTALLED AND CONSTRUCTED IN GENERAL CONFORMANCE WITH THESE PLANS WILL BE REQUIRED ONCE THE PCM IS FULLY CONSTRUCTED. AN AS-CONSTRUCTED SURVEY MUST BE COMPLETED TO VERIFY FACILITY VOLUMES AND ELEVATIONS. THE AS-BUILT DRAWINGS MUST BE SUBMITTED ALONG WITH THE PE CERTIFICATION. A PE CERTIFICATION REQUIRES PERIODIC ON-SITE OBSERVATIONS BY THE ENGINEER OF RECORD OR A PERSON UNDER THEIR RESPONSIBLE CHARGE. COORDINATION WITH THE ENGINEER OF RECORD TO ENSURE THAT THE NECESSARY ON-SITE OBSERVATIONS ARE COMPLETED IS THE RESPONSIBILITY OF THE APPLICANT.
31. THE CONTRACTOR SHOULD CONTACT THE ENGINEER OF RECORD AND GEC INSPECTOR IMMEDIATELY SHOULD CONSTRUCTION OF THE PERMANENT CONTROL MEASURE VARY IN ANY WAY FROM THE PLANS.
32. PROJECT DATA:
 - CDOT REGION 2 PROPERTY (PARCEL NO. 326300009)
 - CALCULATIONS CAN BE FOUND IN "DRAINAGE REPORT FOR FAIRFAX FULL SPECTRUM DETENTION AND WATER QUALITY POND DESIGN, COLORADO SPRINGS, COLORADO", APPROVED ON OCTOBER 27, 2022
 - GESQC INFO CAN BE FOUND IN "STORMWATER MANAGEMENT, GRADING AND EROSION CONTROL PLANS" FOR FAIRFAX FULL SPECTRUM DETENTION AND WATER QUALITY POND
 - FUNCTIONAL MAINTENANCE OF THE PCM STRUCTURES WILL BE COMPLETED BY THE CITY OF COLORADO SPRINGS
 - AESTHETIC MAINTENANCE OF THE PCM WILL BE COMPLETED BY THE CITY OF COLORADO SPRINGS
 - 100-YEAR WSEL: 6906.69 FT
 - EURV WSEL: 6904.41 FT
 - WQCV WSEL: 6902.37 FT

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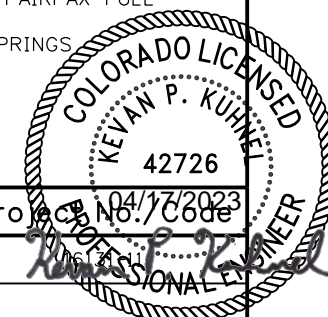
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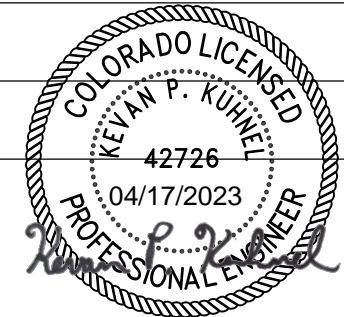
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Index			Contract Item No	Contract Item	Unit	Project Totals	
Book	Page	Sheet				Plan	As Const
			201-00000	CLEARING AND GRUBBING	L S	1	
			202-00019	REMOVAL OF INLET	EACH	2	
			202-00027	REMOVAL OF RIPRAP	SY	139	
			202-00035	REMOVAL OF PIPE	LF	75	
			202-04002	CLEAN CULVERT	EACH	1	
			203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	3950	
			203-01500	BLADING	HOUR	24	
			203-01550	DOZING	HOUR	24	
			203-01594	COMBINATION LOADER	HOUR	24	
			207-00700	TOPSOIL (ONSITE)	CY	3764	
			207-00702	TOPSOIL (OFFSITE)	CY	1882	
			208-00002	EROSION LOG TYPE 1 (12 INCH)	LF	6870	
			208-00013	EROSION LOG TYPE 1 (20 INCH)	LF	360	
			208-00020	SILT FENCE	LF	1050	
			208-00035	AGGREGATE BAG	LF	145	
			208-00041	ROCK CHECK DAM	EACH	21	
			208-00045	CONCRETE WASHOUT STRUCTURE	EACH	1	
			208-00051	STORM DRAIN INLET PROTECTION (TYPE I)	LF	24	
			208-00070	VEHICLE TRACKING PAD	EACH	1	
			208-00071	MAINTENANCE AGGREGATE (VEHICLE TRACKING PAD)	CY	30	
			208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	HOUR	40	
			208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	HOUR	40	
			208-00106	SWEEPING (SEDIMENT REMOVAL)	HOUR	100	
			208-00107	REMOVAL OF TRASH	HOUR	24	
			208-00207	EROSION CONTROL MANAGEMENT	DAY	120	
			208-00303	TEMPORARY DIVERSION (SPECIAL)	L S	1	
			212-00700	ORGANIC FERTILIZER	LB	2100	
			212-00701	COMPOST (MECHANICALLY APPLIED)	CY	455	
			212-00703	HUMATE	LB	1400	
			212-00704	MYCORRHIZAE	LB	56	

Index			Contract Item No	Contract Item	Unit	Project Totals	
Book	Page	Sheet				Plan	As Const
			212-00706	SEEDING (NATIVE) DRILL	ACRE	7.00	
			212-00711	SEEDING (WETLAND) BROADCAST	ACRE	0.09	
			213-00003	MULCHING (WEED FREE)	ACRE	7.00	
			213-00061	MULCH TACKIFIER	LB	1400	
			214-01010	BRUSH LAYER CUTTING	EACH	1	
			214-01013	LIVE WILLOW STAKES	EACH	250	
			216-00201	SOIL RETENTION BLANKET (STRAW-COCONUT) (BIODEGRADABLE CLASS 1)	SY	20110	
			216-00303	TURF REINFORCEMENT MAT (CLASS 3)	SY	232	
			217-00020	HERBICIDE TREATMENT	HOUR	24	
			240-00000	WILDLIFE BIOLOGIST	HOUR	24	
			240-00010	REMOVAL OF NESTS	HOUR	16	
			240-00020	NETTING	SY	40	
			304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	590	
			304-06009	AGGREGATE BASE COURSE (CLASS 6) (SPECIAL)	TON	290	
			412-00615	CONCRETE PAVEMENT (6.5 INCH) (REINFORCED)	SY	895	
			506-00412	SOIL RIPRAP (12 INCH)	CY	799	
			514-00000	PIPE RAILING	LF	271	
			601-03050	CONCRETE CLASS D (WALL)	CY	247	
			602-00000	REINFORCING STEEL	LB	48400	
			604-00550	INLET TYPE D (SPECIAL)	EACH	1	
			607-11525	FENCE (PLASTIC)	LF	1032	
			609-23000	GUTTER (SPECIAL)	LF	499	
			622-00270	BOLLARD	EACH	2	
			625-00000	CONSTRUCTION SURVEYING	L S	1	
			626-00000	MOBILIZATION	L S	1	
			700-70010	F/A MINOR CONTRACT REVISIONS	F A	1	
			700-70023	F/A ON-THE-JOB TRAINEE	F A	1	
			700-70380	F/A EROSION CONTROL	F A	1	
			700-70381	F/A PERMANENT DEWATERING	F A	1	



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FAIRFAX DETENTION AND WATER QUALITY POND SAQ

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TABULATION OF EARTHWORK

ITEM NO.	DESCRIPTION	
203-00010	QUANTITIES BALANCE - FOR INFORMATION ONLY UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE) FROM SURFACE COMPARISON	CY
A	FAIRFAX POND	3,950
TOTAL		3,950
ITEM NO.	DESCRIPTION	
	QUANTITIES BALANCE - FOR INFORMATION ONLY EMBANKMENT MATERIAL (COMPLETE IN PLACE) FROM SURFACE COMPARISON	CY
A	FAIRFAX POND	462
TOTAL		462
EMBANKMENT x FACTOR (1.15)		531
NET EARTHWORK (FOR INFORMATION ONLY)		3,419
ITEM NO.	DESCRIPTION	
207-00700	TOPSOIL (ONSITE)*	CY
A	FAIRFAX POND	3674
207-00702	TOPSOIL (OFFSITE)*	
A	FAIRFAX POND	1,882
TOTAL		5,556

*QUANTITIES ARE FOR REFERENCE ONLY. SEE SWMP TABULATION FOR MORE INFORMATION ON QUANTITIES.

MISCELLANEOUS TAB

ITEM NO.	ITEM NAME	UNIT	QUANTITY
201-00000	CLEARING AND GRUBBING	L S	1
240-00000	WILDLIFE BIOLOGIST	Hour	24
240-00010	REMOVAL OF NESTS	Hour	16
240-00020	NETTING	SY	40
622-00270	BOLLARD	EA	2
625-00000	CONSTRUCTION SURVEYING	L S	1
626-00000	MOBILIZATION	L S	1
700-70010	F/A MINOR CONTRACT REVISIONS	F A	1
700-70023	F/A ON-THE-JOB TRAINEE	F A	1
700-70381	F/A PERMANENT DEWATERING	F A	1

REMOVALS TAB

ITEM NUMBER	ITEM NAME	UNIT	QUANTITY
202-00019	REMOVAL OF INLET	EACH	2
202-00027	REMOVAL OF RIPRAP	SY	139
202-00035	REMOVAL OF PIPE	LF	75

DRAINAGE TAB

I.D. NO.	LOCATION	INLET	AGGREGATE BASE COURSE (CLASS 6)	AGGREGATE BASE COURSE (CLASS 6) (SPECIAL)	CONCRETE PAVEMENT (6.5 INCH) (REINFORCED)	SOIL RIPRAP (TYPE M, 12 INCH)	PIPE RAILING	CONCRETE CLASS D (WALL)	REINFORCING STEEL	GUTTER (SPECIAL)	MISC.
		TYPE D									
		H (PAY)									
		SPECIAL									
		TON	TON	SY	CY	LF	CY	LB	LF		
	FAIRFAX POND	604-00550	304-06000	304-06009	412-00615	506-00412	514-00000	601-03050	602-00000	609-23000	
ISB B	1003+23.38, 30.90' RT						117	40	8000		
ISB C	1205+47.01, 33.90' LT						103	46	9200		
FOREBAY B								57	11400		
FOREBAY C								43	8600		
TRICKLE 1										377	
TRICKLE 2										122	
MP & OUTLET	1200+40.12, 35.74' RT	1					51	35	6000		
SPILLWAY						799		26	5200		
ACCESS B			198		657						
ACCESS C			221		238						
ACCESS OUT			170		0*						
ACCESS T				290							
PROJECT TOTALS		1	590	290	895	799	271	247	48400	499	

*ACCESS OUT CONCRETE PAVEMENT QUANTITY IS INCLUDED IN THE ACCESS B QUANTITY



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3 South Tejon Street, Suite 300 Colorado Springs, CO 80903 Phone: 719.314.1800 www.FHUENG.com						Void:	Detailer: JBD	Subset Sheets: TAB-01 of 01	Sheet Number	4

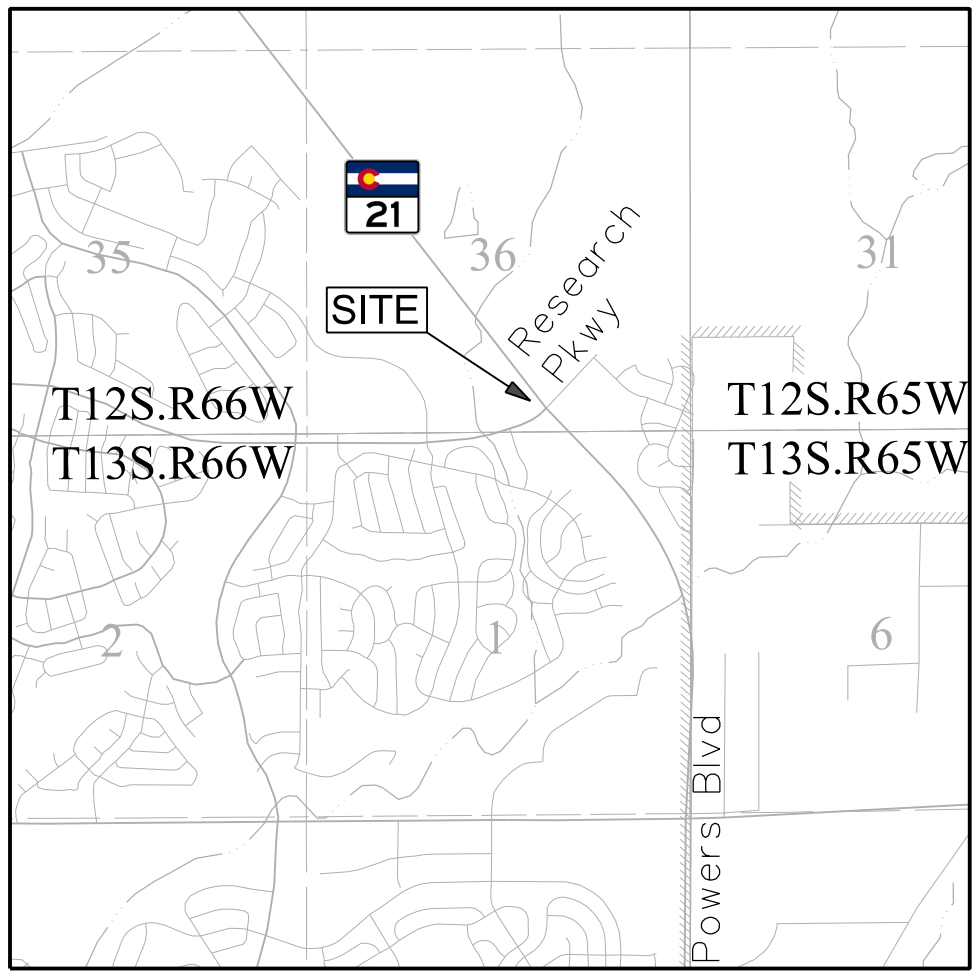
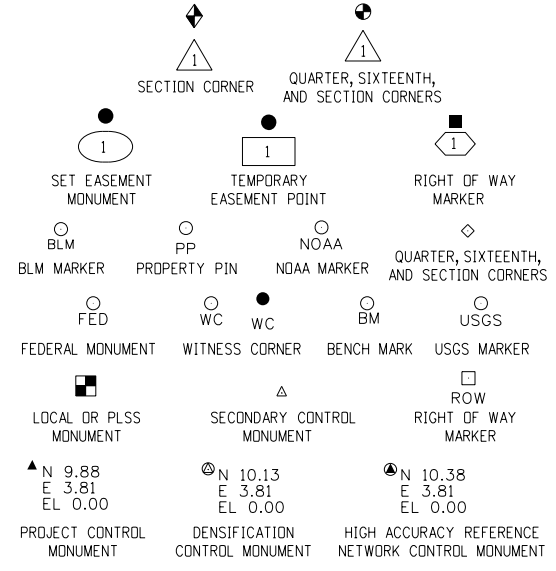
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Date	Description	Initials	Date	Description	Initials	Date	Description	Initials

105WEST INCORPORATED			
4201 E. Yale Ave., Suite 230 Denver, CO 80222 303.859.4491			
Project Control Diagram Title Sheet			
Project Number:			
Project Location: Powers Blvd. and Research Pkwy.			
El Paso County, Colorado			
Project Code:	Last Mod. Date:	Subset:	Sheet No.:
10-30-18	3.01 to 3.04	3.01	3.01

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

SHEET NO.	INDEX OF SHEETS
3.01-3.01	(1) Title Sheet
3.02-3.02	(1) Coordinate Tables
3.03-3.04	(2) Plan Sheet
	(4) Total Sheets

PROJECT CONTROL DIAGRAM
 State Highway 21 MP 149.11 to 150.77
 Section 36
 Township 12 South, Range 66 West and
 Section 1
 Township 13 South, Range 66 West
 of the 6th Principal Meridian
 County of El Paso



This Project Control Diagram is based on and perpetuated from the Colorado Department of Transportation's Project Control Diagram, Project STU M240-014, Code 11661, last updated on March 16, 2010. 105 West, Inc. did not recover any of the CM-MP points from said Control Diagram within the vicinity of Powers Blvd. and Research Pkwy. with the exception of CM-MP 30.60 and 30.61. All other CM-MP from 30.53 to 30.66 shown on said Control Diagram have been re-set in close proximity to the original location by 105 West, Inc. using the same CM-MP number as shown on said Control Diagram. As noted, the only two Control Points that have the same coordinate information as shown on said Control Diagram are found points CM-MP 30.60 and 30.61.

Basis of Bearings: Bearings used in the calculations of coordinates are based on a grid bearing of N38°40'57"W from CM-MP 30.53 (SH 21 MP 149.11) to CM-MP 30.66 (SH 21 MP 150.77). Both monuments are CDDT Type II, marked appropriately for their milepost location and control position. MilePost 30.53 to 30.66 from the above referenced Project Control Diagram are related to old Powers Blvd Milepost. Powers Blvd is now part of S.H. 21 and the Milepost have been re-numbered.

Basis of Elevations: Project elevations are based on CM-MP 30.66 (SH 21 MP 149.98), a found CDDT Type 2 Monument with a NAVD 88 elevation of 6,934.39ft. A Closed Differential Level Loop was completed through all set Project Control.

COORDINATE DATUM: Project coordinates are modified Colorado State Plane Central Zone NAD '83 coordinates. The combined elevation/scale factor used to modify the coordinates from state plane to project coordinates is 1.00039084. No truncation applied.

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

SURVEYOR STATEMENT (PROJECT CONTROL DIAGRAM)

I, Richard D. Muntean, a professional land surveyor licensed in the State of Colorado, do hereby state to the Colorado Department of Transportation this Project Control Diagram was prepared and the field survey it represents was performed under my responsible charge and, based upon my knowledge, information and belief is in accordance with applicable standards of practice defined by Colorado Department of Transportation publications. This statement is not a guaranty or warranty, either expressed or implied.

PLS No. 38189

Note: For a complete listing of symbolology used within this set of plans, please refer to the M-100-1 Standard Symbols of the Colorado Department of Transportation M&S Standards Publication. Existing features are shown as screened weight (gray scale). Proposed or new features are shown as full weight without screening.



▲ CM-MP - Control Point Monuments set by 105 West, Inc. They are CDDT Type 2 monuments, a 3/4" dia. aluminum control monument cap (as shown) on a 3' x 3/4" dia. aluminum security rod on a 3' x 3/4" dia. smooth aluminum rod. Except Control Points 30-33, See Coordinate Table Sheet for Monument Descriptions.

General Notes:

1. This Project Control Diagram is not a boundary survey of the adjoining property and is prepared for the Colorado Department of Transportation purposes only.
2. This plan set is subject to change and may not be the most current set. It is the user's responsibility to verify with CDDT that this set is the most current. The information contained on the attached drawing is not valid unless this copy bears an original signature of the Professional Land Surveyor hereon named.
3. Refer to the M-629-1 Survey Monuments of the Standard Plans dated July, 2012 found in The Colorado Department of Transportation, M & S Standards for typical survey monument descriptions.

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Date	Description	Initials

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Date	Description	Initials

Project Control Diagram			
Coordinate Tables			
Project Number:			
Project Location: Powers Blvd. and Research Pkwy.			
El Paso County, Colorado			
Project Code:	Last Mod. Date:	Subset	Sheet No.
	10-30-18	3.01 of 3.04	3.02



GEODETTIC COORDINATE TABLE									
Point No.	Geodetic Coordinates NAD-83		Elip Height (NAVD88)	Ortho Height	Mapping Angle	Grid Scale Factor	NAD 83 Zone 0502		Description
	Latitude (N)	Longitude (W)					SP Northing	SP Easting	
30	38°57'18.50101"	104°43'47.47368"	6,853.18	6,909.56	0°29'09"	0.999939135	1,409,484.810	3,219,002.977	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 30"
31	38°57'20.34226"	104°43'41.17043"	6,867.29	6,923.70	0°29'13"	0.999939113	1,409,675.302	3,219,499.279	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 31"
32	38°57'26.24402"	104°43'33.91339"	6,887.02	6,943.39	0°29'17"	0.999939041	1,410,277.215	3,220,067.411	Set 2" Aluminum Cap on 30x5/8" Rebar "105 West 32"
33	38°57'31.71369"	104°43'29.90985"	6,913.80	6,970.24	0°29'20"	0.999938975	1,410,833.237	3,220,378.914	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 33"
CM-MP 3053	38°56'48.54192"	104°43'10.06104"	6,817.26	6,873.88	0°29'32"	0.999939514	1,406,479.298	3,221,984.185	Set CDOT Type 2 Monument
CM-MP 3054	38°56'53.14451"	104°43'11.78805"	6,806.65	6,863.28	0°29'31"	0.999939454	1,406,943.736	3,221,843.756	Set CDOT Type 2 Monument
CM-MP 3055	38°56'56.98569"	104°43'13.14877"	6,809.06	6,865.64	0°29'30"	0.999939405	1,407,331.395	3,221,732.930	Set CDOT Type 2 Monument
CM-MP 3056	38°57'04.67896"	104°43'16.98278"	6,828.76	6,885.32	0°29'28"	0.999939307	1,408,107.068	3,221,423.392	Set CDOT Type 2 Monument
CM-MP 3057	38°57'10.76080"	104°43'21.62719"	6,846.89	6,903.42	0°29'25"	0.999939231	1,408,719.180	3,221,051.252	Set CDOT Type 2 Monument
CM-MP 3058	38°57'15.72673"	104°43'26.18672"	6,870.60	6,927.09	0°29'22"	0.99993917	1,409,218.466	3,220,686.800	Set CDOT Type 2 Monument
CM-MP 3059	38°57'18.88245"	104°43'29.99776"	6,877.50	6,933.97	0°29'20"	0.999939131	1,409,535.137	3,220,383.044	Set CDOT Type 2 Monument
CM-MP 3060	38°57'22.71113"	104°43'35.25329"	6,877.97	6,934.39	0°29'16"	0.999939084	1,409,918.918	3,219,964.620	Found CDOT Type 2 Monument
CM-MP 3061	38°57'28.21629"	104°43'40.71529"	6,896.55	6,952.93	0°29'13"	0.999939017	1,410,472.164	3,219,528.460	Found CDOT Type 2 Monument
CM-MP 3062	38°57'31.72065"	104°43'47.93299"	6,890.60	6,946.95	0°29'08"	0.999938975	1,410,821.835	3,218,955.361	Set CDOT Type 2 Monument
CM-MP 3063	38°57'36.37385"	104°43'53.54500"	6,920.12	6,976.42	0°29'05"	0.99993892	1,411,288.812	3,218,508.118	Set CDOT Type 2 Monument
CM-MP 3064	38°57'42.43561"	104°44'01.92347"	6,950.34	7,006.61	0°28'59"	0.999938848	1,411,896.446	3,217,841.189	Set CDOT Type 2 Monument
CM-MP 3065	38°57'47.24265"	104°44'08.14705"	6,969.10	7,025.32	0°28'56"	0.999938792	1,412,378.599	3,217,345.552	Set CDOT Type 2 Monument
CM-MP 3066	38°57'51.79638"	104°44'13.80176"	6,973.11	7,029.29	0°28'52"	0.999938739	1,412,835.512	3,216,895.076	Set CDOT Type 2 Monument



PROJECT COORDINATE TABLE				
Point No.	Project Coordinates		Elev (ft) (NAVD88)	Description
	Northing (ft)	Easting (ft)		
30	1,410,035.688	3,220,261.099	6,909.56	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 30"
31	1,410,226.255	3,220,757.595	6,923.70	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 31"
32	1,410,828.404	3,221,325.949	6,943.39	Set 2" Aluminum Cap on 30x5/8" Rebar "105 West 32"
33	1,411,384.643	3,221,637.575	6,970.24	Set CDOT Type 5(S) Monument in Conc. Walk "105 West 33"
CM-MP 3053	1,407,029.002	3,223,243.472	6,873.88	Set CDOT Type 2 Monument
CM-MP 3054	1,407,493.621	3,223,102.989	6,863.28	Set CDOT Type 2 Monument
CM-MP 3055	1,407,881.432	3,222,992.119	6,865.64	Set CDOT Type 2 Monument
CM-MP 3056	1,408,657.408	3,222,682.460	6,885.32	Set CDOT Type 2 Monument
CM-MP 3057	1,409,269.759	3,222,310.175	6,903.42	Set CDOT Type 2 Monument
CM-MP 3058	1,409,769.241	3,221,945.580	6,927.09	Set CDOT Type 2 Monument
CM-MP 3059	1,410,086.035	3,221,641.706	6,933.97	Set CDOT Type 2 Monument
CM-MP 3060	1,410,469.966	3,221,223.119	6,934.39	Found CDOT Type 2 Monument
CM-MP 3061	1,411,023.428	3,220,786.788	6,952.93	Found CDOT Type 2 Monument
CM-MP 3062	1,411,373.236	3,220,213.465	6,946.95	Set CDOT Type 2 Monument
CM-MP 3063	1,411,840.396	3,219,766.047	6,976.42	Set CDOT Type 2 Monument
CM-MP 3064	1,412,448.267	3,219,098.858	7,006.61	Set CDOT Type 2 Monument
CM-MP 3065	1,412,930.608	3,218,603.027	7,025.32	Set CDOT Type 2 Monument
CM-MP 3066	1,413,387.701	3,218,152.375	7,029.29	Set CDOT Type 2 Monument

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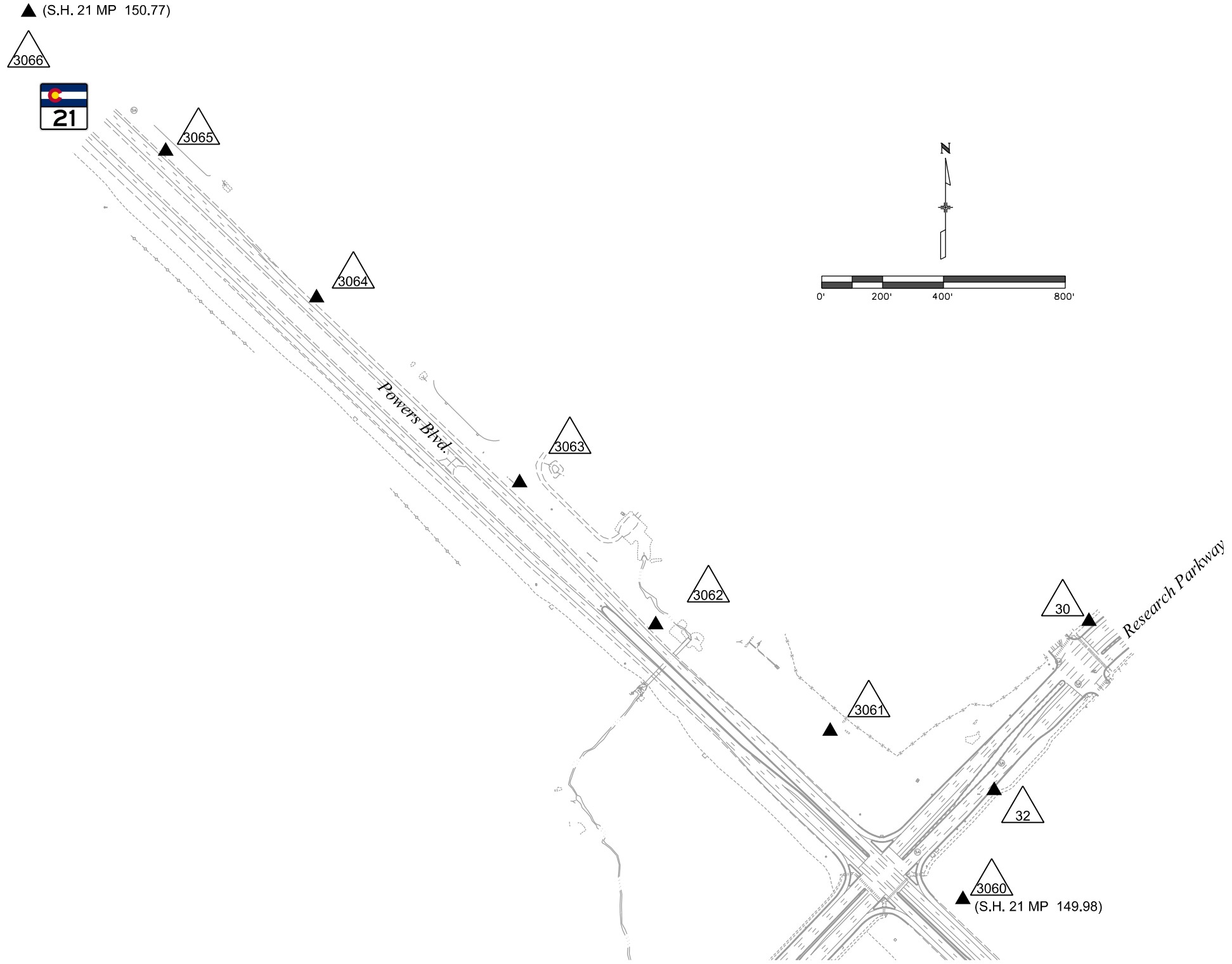
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El Paso County, Colorado			
Project Code:	Last Mod. Date:	Subset:	Sheet No.:
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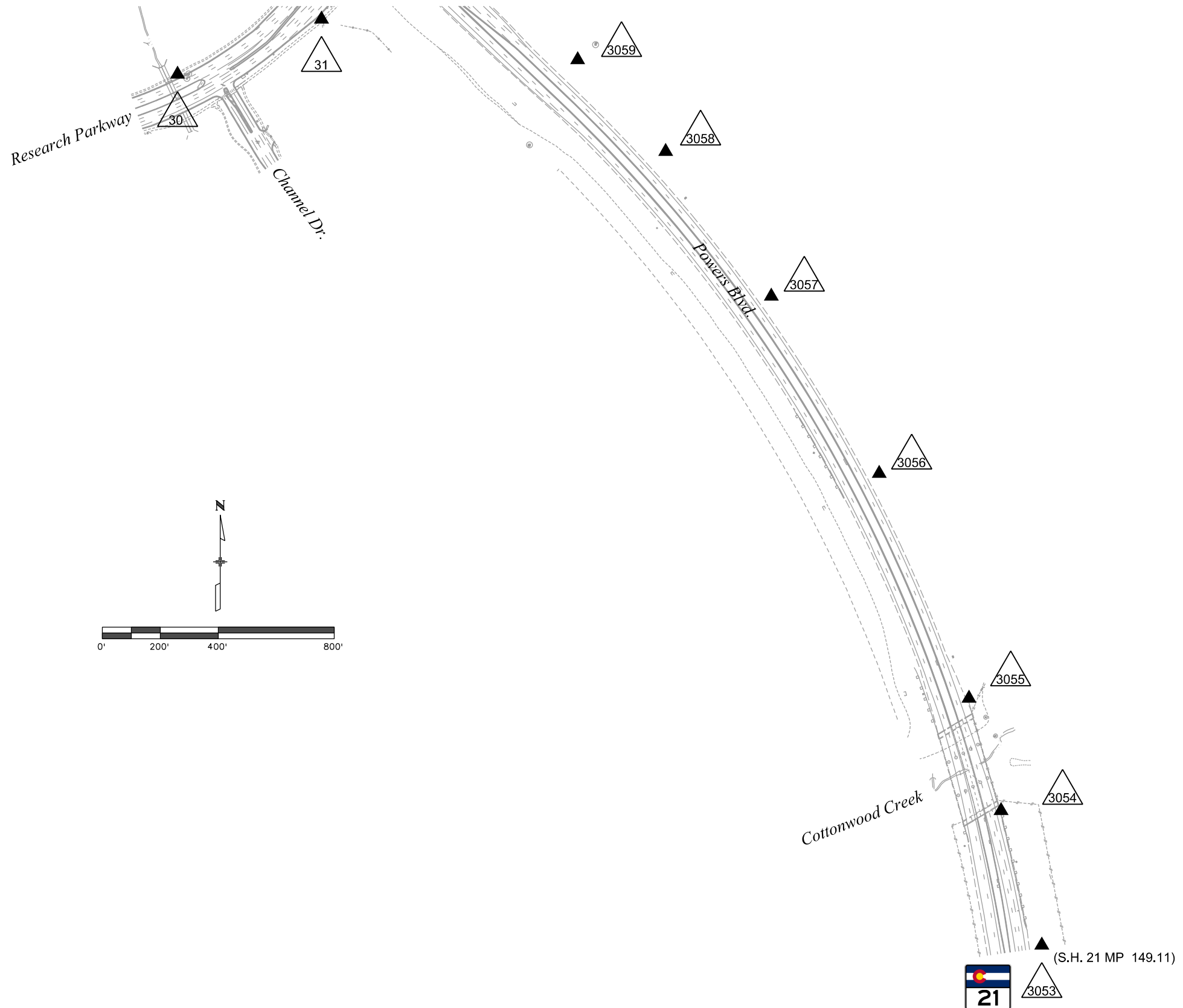
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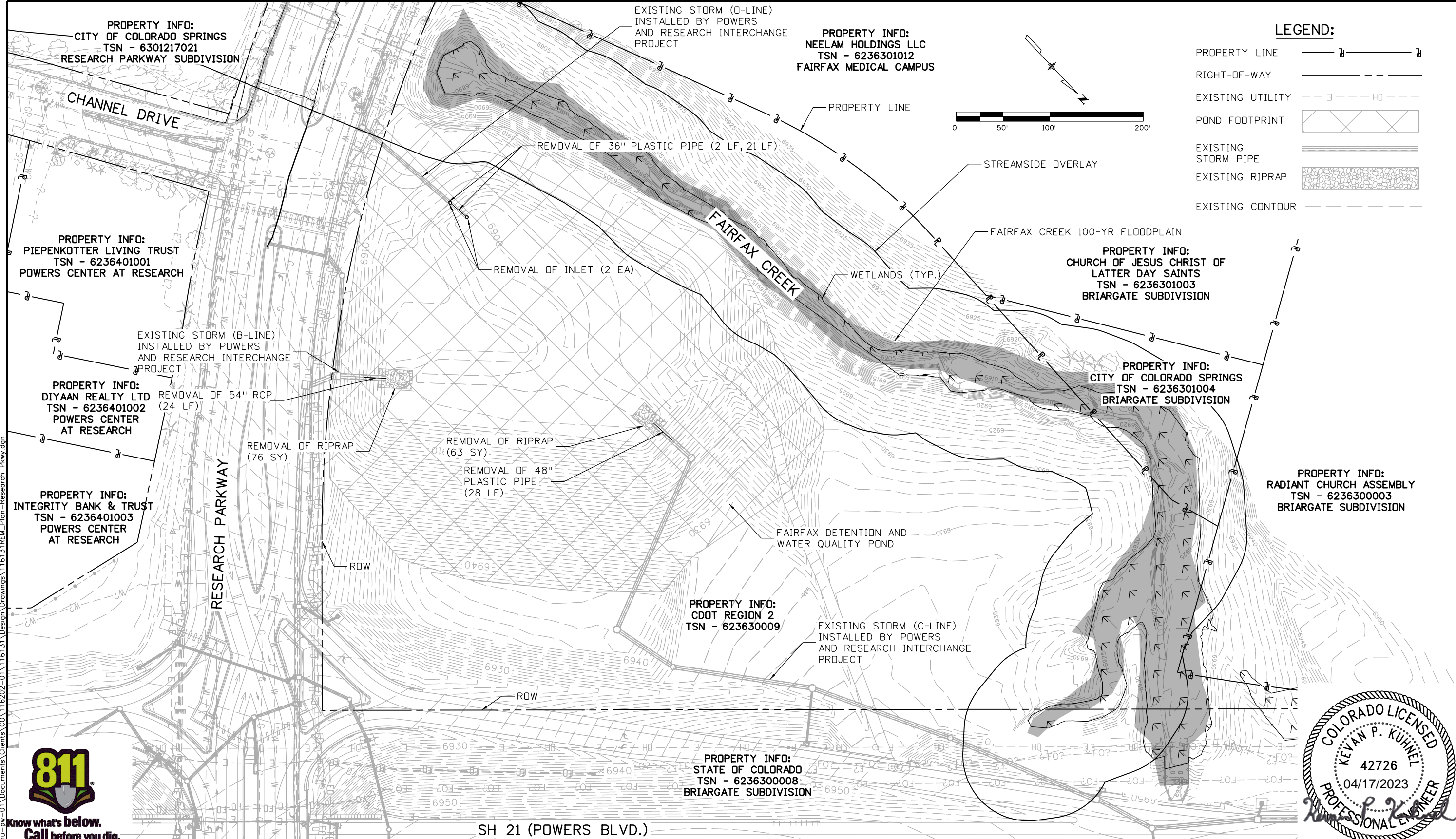


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El Paso County, Colorado			
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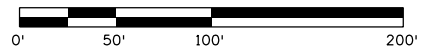


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EXISTING STORM PIPE	
EXISTING RIPRAP	
EXISTING CONTOUR	



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RESEARCH PARKWAY SUBDIVISION

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FAIRFAX MEDICAL CAMPUS

PROPERTY INFO:
PIEPENKOTTER LIVING TRUST
TSN - 6236401001
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BRIARGATE SUBDIVISION



SH 21 (POWERS BLVD.)

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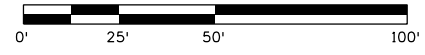
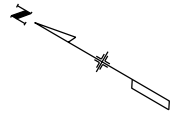
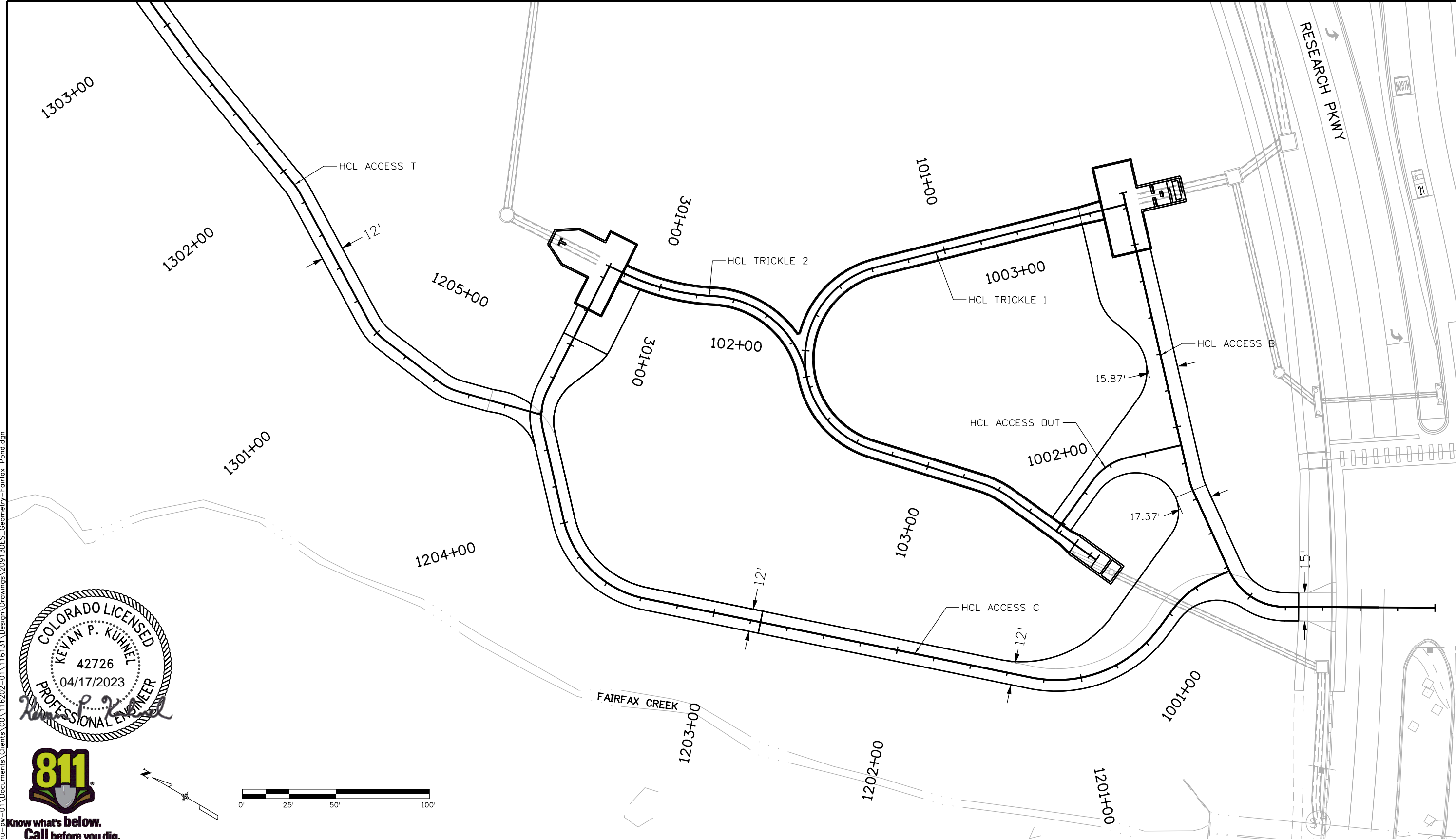


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3 South Tejon Street, Suite 300 Colorado Springs, CO 80903 Phone: 719.314.1800 www.FHUENG.com	

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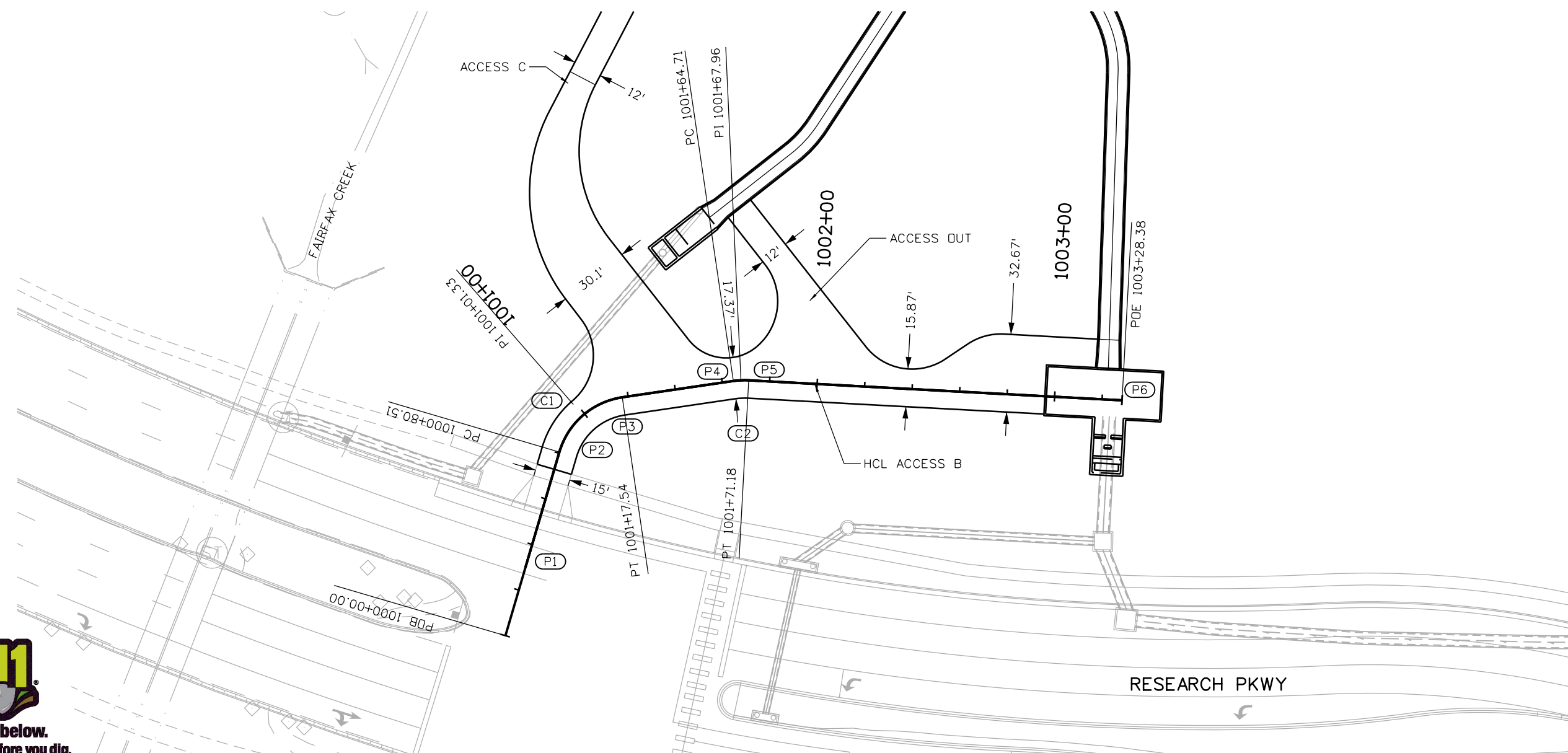
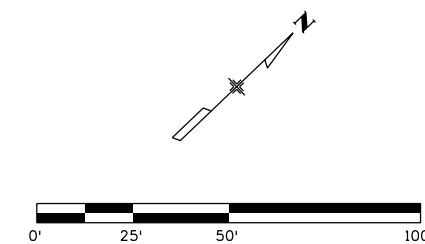


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Detailer:	JAF		
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Project No./Code	16131-11
Sheet Number	10

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P2	PC	1000+80.51	1410087.87	3220330.52	N 29°56'27" W					
P3	PT	1001+17.54	1410122.89	3220332.18		C1	32.50	65°17'09" RT	37.03'	20.82'
					N 35°20'42" E				47.17'	
P4	PC	1001+64.71	1410161.37	3220359.46						
	PI	1001+67.96	1410164.02	3220361.34		C2	32.50	11°24'36" RT	6.47'	3.25'
P5	PT	1001+71.18	1410166.24	3220363.71						
					N 46°45'18" E				157.2'	
P6	POE	1003+28.38	1410273.94	3220478.21						



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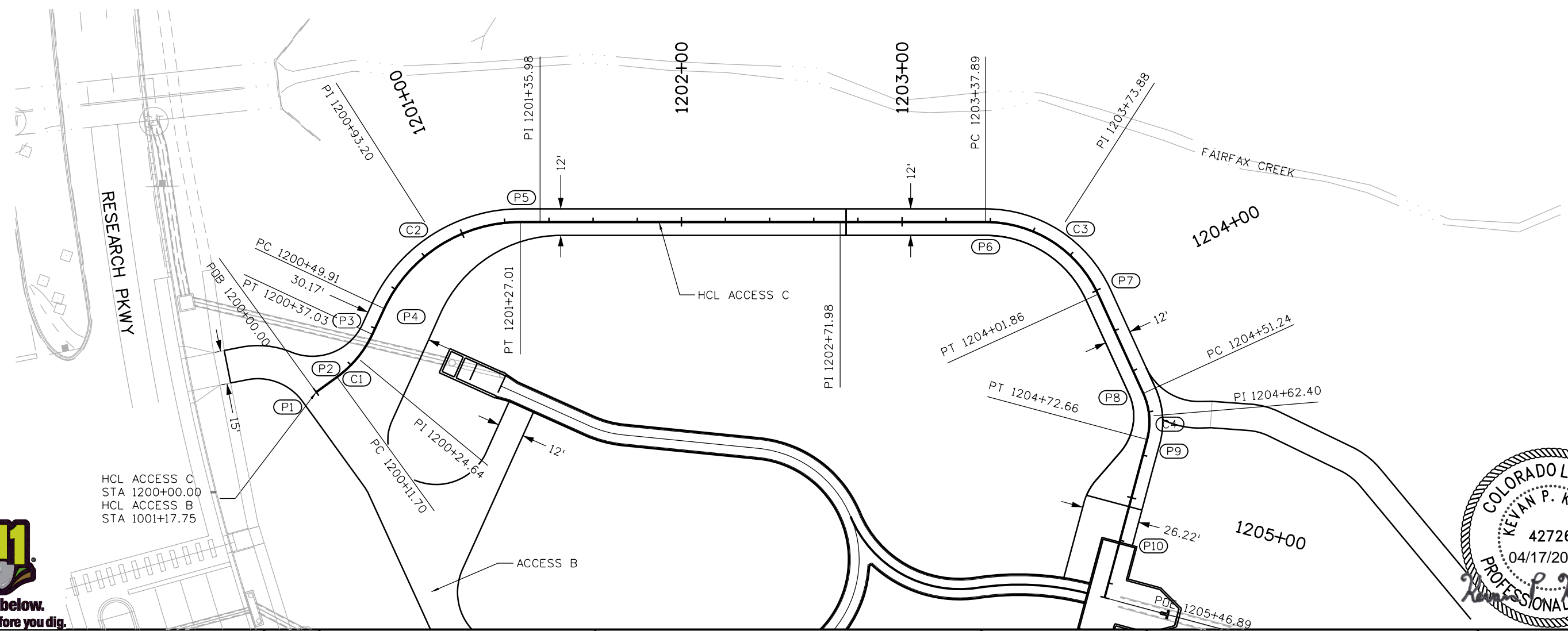
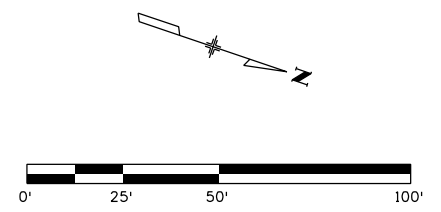
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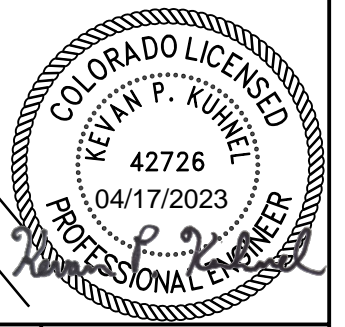
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P1	POB	1200+00.00	1410123.06	3220332.29					11.70'	
P2	PC	1200+11.70	1410129.83	3220322.75	N 54°39'18" W					
	PI	1200+24.64	1410137.32	3220312.19		C1	50.00'	29°01'28"	LT 25.33'	12.94'
P3	PT	1200+37.03	1410138.74	3220299.33						
					N 83°40'46" W				12.88	
P4	PC	1200+49.91	1410140.16	3220286.53						
	PI	1200+93.20	1410144.93	3220243.5		C2	68.00	64°58'01"	RT 77.10'	43.29'
P5	PT	1201+27.01	1410185.93	3220229.61						
					N 18°42'45" W				210.87'	
P6	PC	1203+37.89	1410385.66	3220161.96						
	PI	1203+73.88	1410419.74	3220150.41		C3	56.00'	65°27'24"	RT 63.98'	35.99'
P7	PT	1204+01.86	1410444.41	3220176.62						
					N 46°44'39" E				49.38'	
P8	PC	1204+51.24	1410478.24	3220212.58						
	PI	1204+62.40	1410485.89	3220220.71		C4	31.00'	39°35'25"	RT 21.42'	11.16'
P9	PT	1204+72.66	1410486.6	3220231.84						
					N 86°20'04" E				74.23'	
P10	POE	1205+46.89	1410491.35	3220305.92						



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FAIRFAX DETENTION AND
 WATER QUALITY POND
 GEOMETRIC CONTROL-ACCESS C

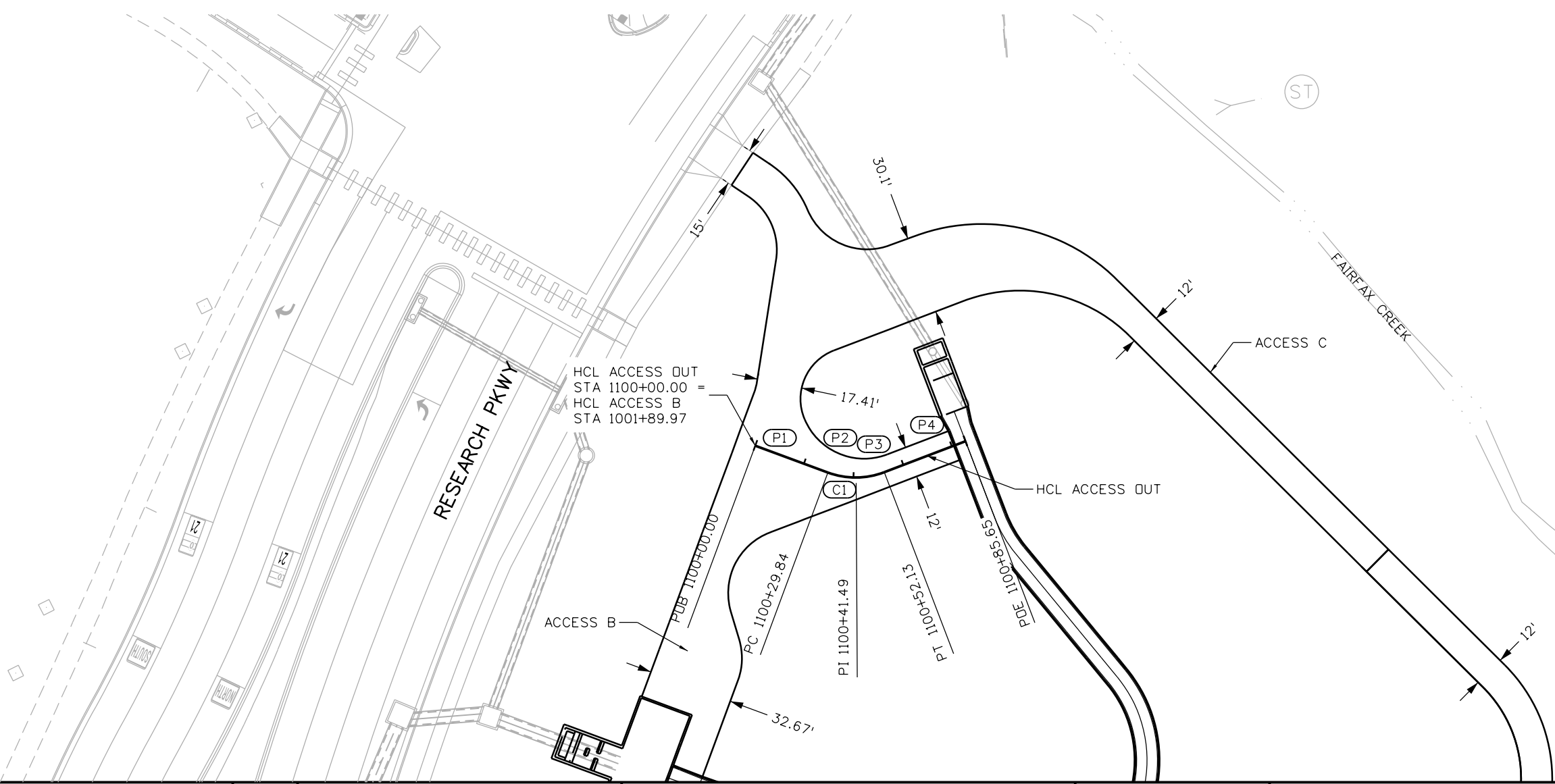
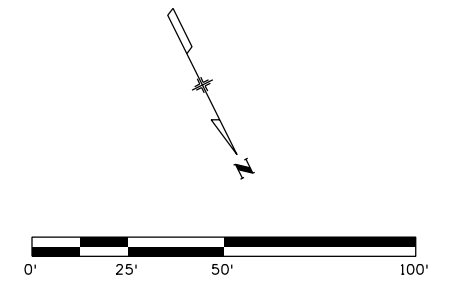
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Project No./Code
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Sheet Number 12

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P1	POB	1100+00.00	1410179.11	3220377.39						
					N 43°14'42" W				29.84'	
P2	PC	1100+29.84	1410200.85	3220356.94						
	PI	1100+41.49	1410209.33	3220348.96		C1	31.00'	41°11'23"	LT	22.29'
P3	PT	1100+52.13	1410210.46	3220337.37						
					N 84°26'05" W				33.52'	
P4	POE	1100+85.65	1410213.72	3220304.01						



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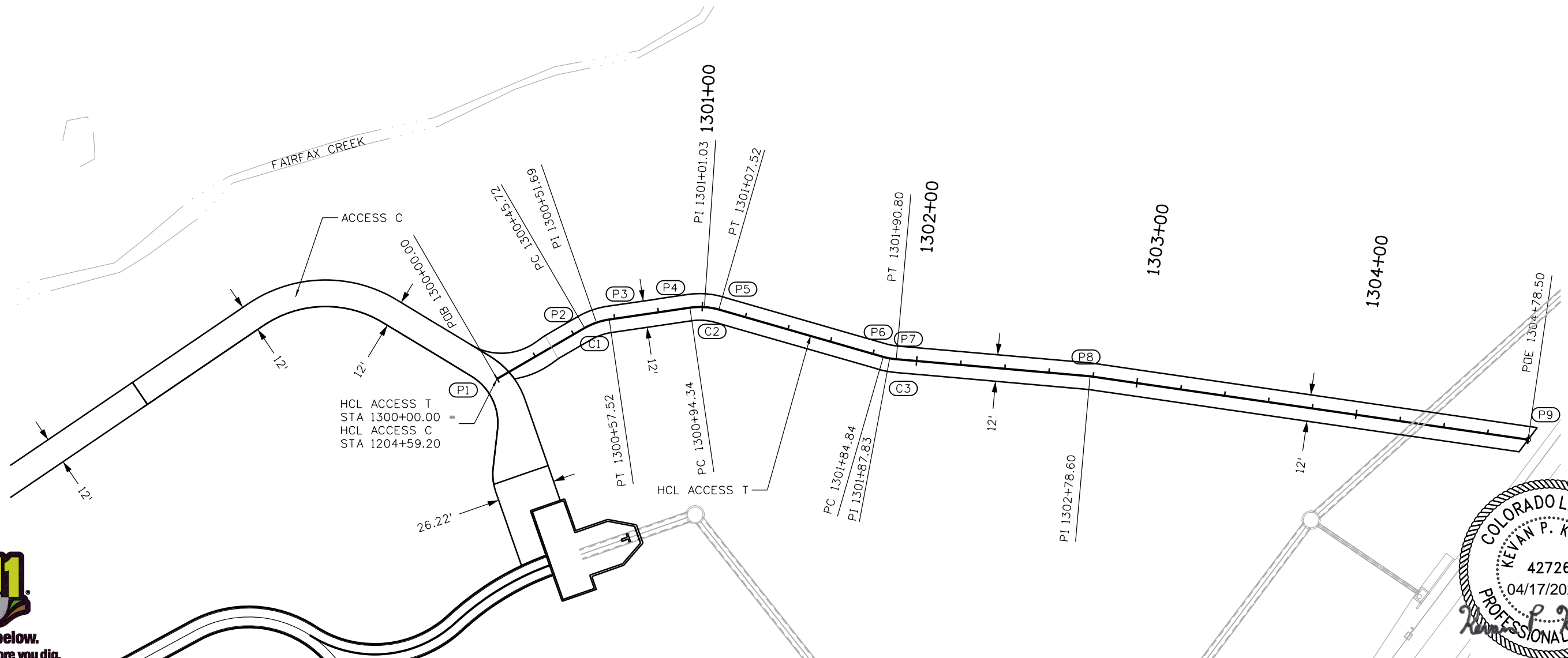
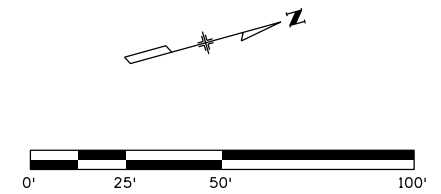


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Subset Sheets:	GC-04 of 07		

Project No./Code	16131-11
Sheet Number	13

HCL ACCESS T GEOMETRIC CONTROL DATA										
POINT #	TYPE	STATION	NORTHING	EASTING	BEARING	CURVE #	RADIUS	DELTA	LENGTH	TANGENT
P1	POB	1300+00.00	1410482.90	3220219.01					45.72'	
P2	PC	1300+45.72	1410527.14	3220207.47	N 14°37'36" W					
	PI	1300+51.69	1410532.91	3220205.96		C1	31.00'	21°48'17" RT	11.80'	5.97'
P3	PT	1300+57.52	1410538.84	3220206.71					36.82'	
					N 7°10'41" E					
P4	PC	1300+94.34	1410575.37	3220211.31						
	PI	1301+01.03	1410582.01	3220212.14		C2	31.00'	24°22'28" RT	13.19'	6.70'
P5	PT	1301+07.52	1410587.72	3220215.65					77.31'	
					N 31°33'09" E					
P6	PC	1301+84.84	1410653.6	3220256.1						
	PI	1301+87.83	1410656.15	3220257.67		C3	31.00'	11°00'54" LT	5.96'	2.99'
P7	PT	1301+90.80	1410658.95	3220258.72					87.80'	
					N 20°32'15" E					
P8	PI	1302+78.20	1410741.17	3220289.52					199.9'	
					N 23°45'34" E					
P9	POE	1304+78.50	1410924.13	3220370.06						



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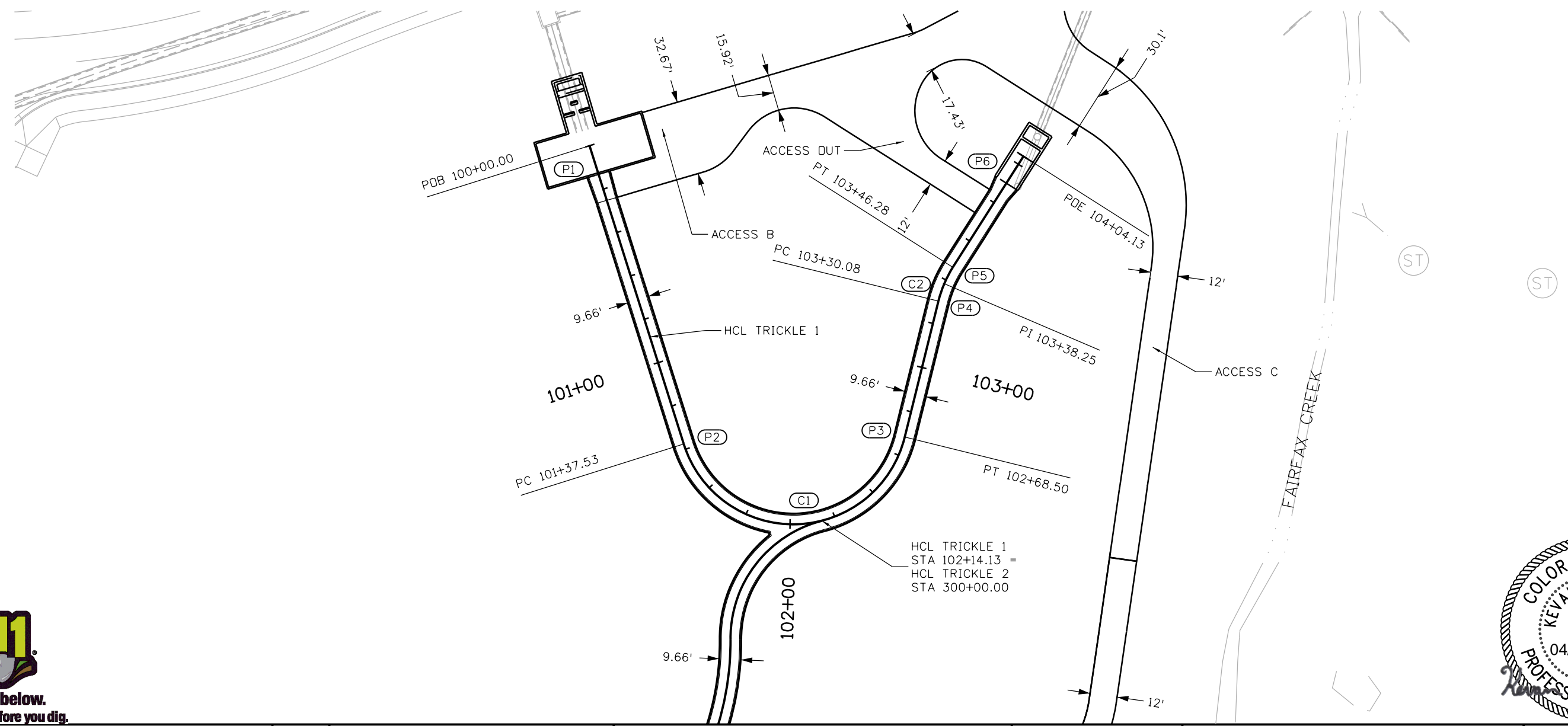
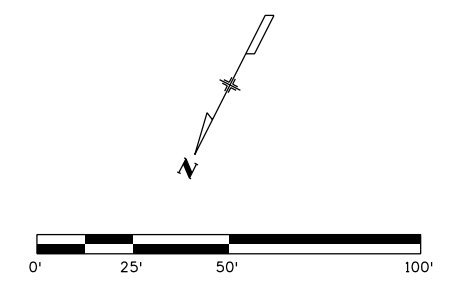


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Project No./Code	16131-11
Sheet Number	14

HCL TRICKLE 1 GEOMETRIC CONTROL DATA										
POINT #	TYPE	STATION	NORTHING	EASTING	BEARING	CURVE #	RADIUS	DELTA	LENGTH	TANGENT
P1	POB	100+00.00	1410269.67	3220473.67						
					N 44°24'20" W				137.53'	
P2	PC	101+37.53	1410367.92	3220377.44						
	PI	103+17.17	1410496.25	3220251.73		C1	50.50'	148°35'52"	LT	130.97'
P3	PT	102+68.50	1410321.22	3220292.16						
					S 13°00'23" E				61.58'	
P4	PC	103+30.08	1410261.22	3220306.02						
	PI	103+38.25	1410253.25	3220307.86		C2	50.00'	18°34'18"	RT	16.21'
P5	PT	103+46.28	1410245.12	3220307.07						
					S 5°33'55" W				48.16'	
P6	POE	104+04.13	1410187.54	3220301.46						



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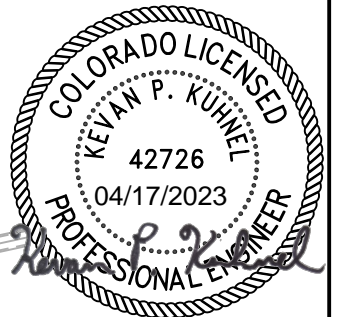
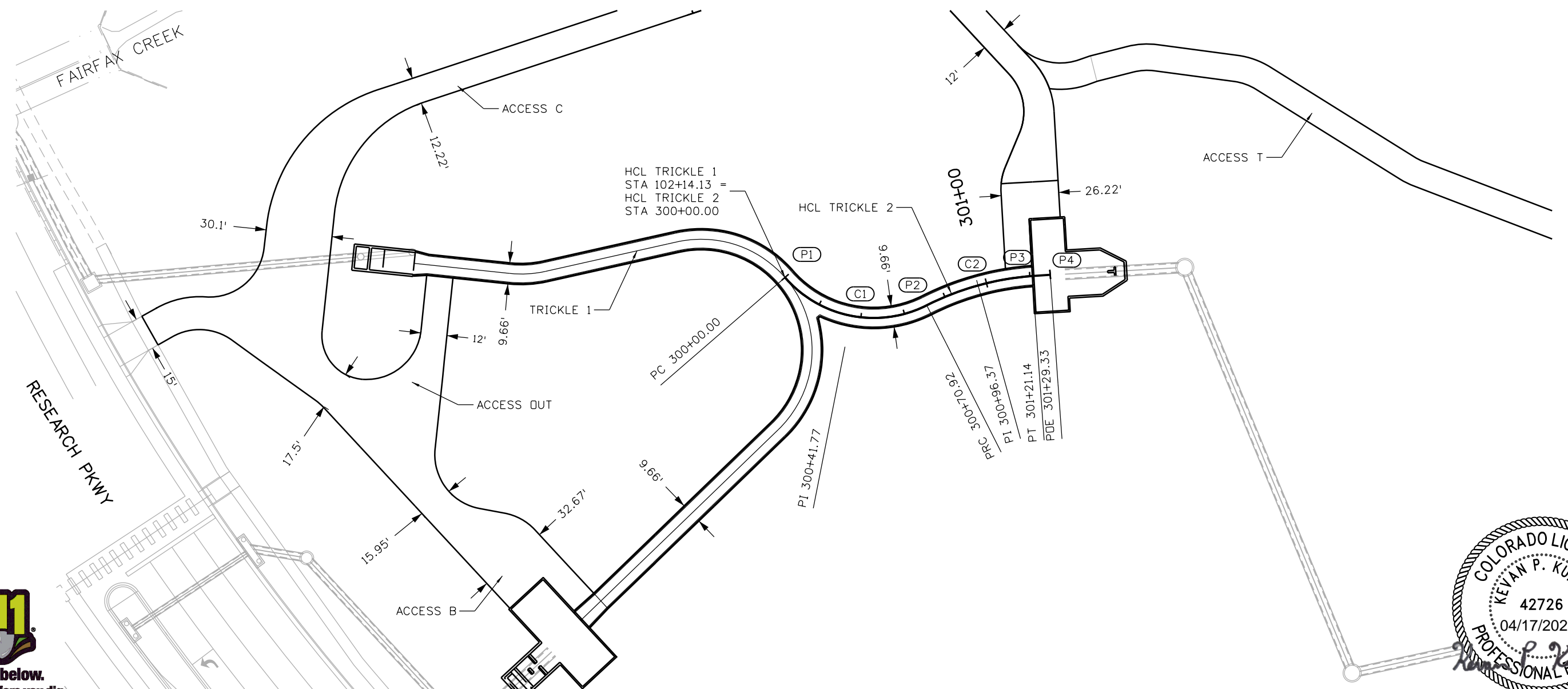
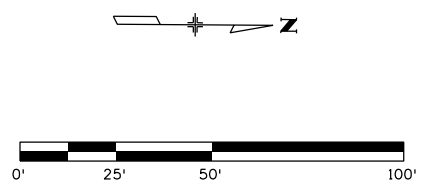
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	Designer: SJT	Structure Numbers	Sheet Number 15
	Detailer: JAF		Sheet Subst: GEOMETRY Subst Sheets: GC-06 of 07

HCL TRICKLE 2 GEOMETRIC CONTROL DATA										
POINT #	TYPE	STATION	NORTHING	EASTING	BEARING	CURVE #	RADIUS	DELTA	LENGTH	TANGENT
P1	POB/PC	300+00.00	1410370.51	3220308.02	N 48°40'35" E					
	PI	300+41.77	1410398.08	3220339.39		C1	53.50'	75°57'20" LT	70.92'	41.77'
P2	PRC	300+70.92	1410435.21	3220320.25						
	PI	300+96.37	1410457.82	3220308.58		C2	126.50'	22°44'44" RT	50.70'	25.70'
P3	PT	301+21.14	1410483.18	3220306.57						
					N 4°32'02" W					
P4	POE	301+29.33	1410491.35	3220305.92					8.19'	



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UTILITY CONTACT LIST

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ACADEMY SCHOOL DISTRICT 20	SCOTT HARRISON	719-234-1478	SCOTT.HARRISON@ASD20.ORG
COLORADO SPRINGS PARKS	KIEV ANDRASSY	719-491-3491	KIEV.ANDRASSY@COLORADOSPRINGS.GOV
COLORADO SPRINGS (CS) TRAFFIC	BRYAN CURTIS	719-385-7611	BRYAN.CURTIS@COLORADOSPRINGS.GOV
COLORADO SPRINGS UTILITIES (GAS/ELECTRIC)	DYLAN QUINTANA	719-668-8330	DQUINTANA@CSU.ORG
COLORADO SPRINGS UTILITIES (ELEC. TRANSMISSION)(ELT)	SARAH LABARRE	719-668-4993	SLABARRE@CSU.ORG
COLORADO SPRINGS UTILITIES (FIBER)	CHANCE DAVES	719-668-3913	CDAVES@CSU.ORG
COLORADO SPRINGS UTILITIES (WATER)	ADAM BAKER	719-668-8251	ABAKER@CSU.ORG
COMCAST	TOD BELL	719-442-4733	TOD_BELL@COMCAST.COM
LUMEN (FORMERLY CENTURYLINK)	NICHOLAS REED	719-650-3200	NICHOLAS.REED@LUMEN.COM
LUMEN (TERRA TECH)	ROBERT MCLEOD	630-267-6711	RMCLEOD@TERRATECHLLC.NET

GENERAL UTILITY NOTES

- UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED QUALITY LEVELS AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS DOCUMENT ASCE 38, STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA. LOCATION OF EXISTING UTILITIES IS DEPICTED ACCORDING TO THE BEST AVAILABLE INFORMATION AND REPRESENT CONDITIONS AT THE TIME OF DATA COLLECTION. THESE PLANS DO NOT RELIEVE THE CONTRACTOR FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES AND PROCEDURES DURING EXCAVATION. ALL PREVENTION SHALL BE BORNE BY THE CONTRACTOR AND SHALL BE COMPLETED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 105.11 OF THE CDOT STANDARD SPECIFICATIONS AND THE UTILITY PROJECT SPECIAL PROVISIONS CONCERNING UTILITIES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH UTILITY OWNERS IN THEIR REMOVAL, ADJUSTMENT, AND/OR RELOCATION OPERATIONS SO THAT THE UTILITY WORK CAN BE ACCOMPLISHED WITHOUT IMPACTING THE CONSTRUCTION SCHEDULE.
- THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT COLORADO 811, TO HAVE LOCATIONS OF UNDERGROUND UTILITIES MARKED BY UNDERGROUND COMPANIES. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING.
- LOCATING EXISTING UTILITIES THROUGH POTHOLING OR OTHER NON-DESTRUCTIVE METHODS SHALL BE INCLUDED IN THE COST OF THE WORK. USE OF THE TERM "POTHOLING" SHALL NOT BE CONSTRUED TO IMPLY ANY PARTICULAR METHOD OF PROSPECTING. POTHOLING OF AN AREA SHALL TAKE PLACE AT LEAST 10 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATION IN THAT AREA.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING WITH THE APPROPRIATE UTILITY REPRESENTATIVES TO BE ON SITE DURING POTHOLING AS NEEDED, AND SHALL LIKEWISE BE RESPONSIBLE FOR DETERMINING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REFER TO THE UTILITY SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH IMPACTED UTILITIES TO ASSURE THE TIMELY RELOCATION OF THEIR FACILITIES. THIS COORDINATION SHALL INCLUDE ANTICIPATED IMPACTED UTILITIES AND UNFORESEEN IMPACTED UTILITIES. THE UTILITY WORK SHALL BE INCLUDED IN THE CONTRACTOR'S CPM SCHEDULE.
- THE CONTRACTOR IS RESPONSIBLE FOR NOTING ALL UTILITY LOCATIONS ON THE AS-BUILT SET OF DRAWINGS IF THE DOCUMENTS ARE NOT ACCURATE.
- QUALITY LEVELS DEPICTED ON THESE PLANS ARE BASED ON THE UTILITY INFORMATION FROM CDOT PROJECT 23552. ALL UTILITIES ARE QUALITY LEVEL D.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 20-FEET OF CLEARANCE BETWEEN OVERHEAD TRANSMISSION LINES AND ANY EQUIPMENT, PERSONNEL, AND/OR TOOLS. WHEN WORK MUST BE ACCOMPLISHED NEAR AN OVERHEAD ELECTRICAL LINE, CALL COLORADO SPRINGS UTILITIES INSPECTIONS(QC) (719-668-5538) IN ADVANCE FOR ASSISTANCE IN REVIEWING PROPOSED WORKING CONDITIONS AND HELP IN PREVENTING CONTACT WITH THESE ENERGIZED FACILITIES. IF ANY WORK IS IDENTIFIED WHICH WOULD REQUIRE TAKING THE OVERHEAD TRANSMISSION LINE OUT OF SERVICE, COLORADO SPRINGS UTILITIES NEEDS TO BE NOTIFIED EARLY IN THE PLANNING PROCESS. TRANSMISSION OUTAGES REQUIRE A SIGNIFICANT LEVEL OF PRE- PLANNING AND CAN TAKE MONTHS TO COORDINATE. REFER TO THE COLORADO SPRINGS ELECTRIC LINE EXTENSION AND SERVICE STANDARDS, CHAPTER 2 (AVAILABLE AT WWW.CSU.ORG) FOR ADDITIONAL DETAIL, GUIDANCE, AND REQUIREMENTS.
- REFER TO CDOT PROJECT 23552 FOR MORE DETAILED UTILITY AND STORM INFORMATION.

UTILITY LEGEND

QUALITY LEVEL D

- E?---E?---E' EXISTING UG ELECTRIC
- FO?---FO?--- EXISTING FIBER
- T?---T?---T' EXISTING TELEPHONE
- TV?---TV?---TV EXISTING CABLE TV
- G?---G?---G' EXISTING GAS
- W?---W?---W' EXISTING IRRIGATION
- ?---?---? EXISTING STORM SEWER
- ?---?---? EXISTING STORM SEWER
- ?---?---? STORM SEWER (NEW INSTALL)
- W?---W?---W' EXISTING WATER

PROPOSED

- E---E---E' PROPOSED UG ELECTRIC LIGHTING
- W---W---W' PROPOSED WATER
- PROPOSED WATER TEST STATION
- PROPOSED LIGHT
- PROPOSED LIGHTING PEDESTAL

SURVEY/ABOVE GROUND FEATURES

- E---OH--- EXISTING OVERHEAD ELECTRIC
- ⓔ EXISTING ELECTRIC MANHOLE
- EXISTING ELECTRIC TRANSMISSION POLE
- EXISTING ELECTRIC GUY
- ELECTRIC VAULT (NEW INSTALL)
- FIBER HANDHOLE (NEW INSTALL)
- EXISTING FIBER HANDHOLE
- EXISTING LIGHT POLE
- Ⓢ EXISTING STORM MANHOLE
- EXISTING STORM INLET
- STORM INLET (NEW INSTALL)
- STORM MANHOLE (NEW INSTALL)
- STORM INLET (NEW INSTALL)
- Ⓢ EXISTING TELEPHONE HANDHOLE
- Ⓢ EXISTING TELEVISION HANDHOLE
- Ⓢ EXISTING WATER MANHOLE
- EXISTING WATER TEST STATION
- ⊗ EXISTING WATER VALVE
- ⊗ TEST HOLE



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UTILITY TESTHOLE TABLE

TH #	UTILITY OWNER	UTILITY TYPE	LOCATION/COMMENTS	GROUND ELEV (FT)	SIZE (IN)	MATERIAL	DEPTH TO TOP (IN)	DEPTH TO BOP (IN)	TOP ELEV (FT)	BOP ELEV (FT)	NORTHING	EASTING	DATE OF TESTHOLE
TH-1	COCSS	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.42	52	CONC	130	182	6898.59	6894.25	3220295.60	1410045.33	4/24/2019
TH-20	COMCAST	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6910.10	2X2	PLASTIC	45	47	6906.35	6906.18	3220309.30	1410074.51	8/8/2019
TH-24	CSU	ELECTRIC	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.25	2	PLASTIC	25	27	6907.17	6907.00	3220319.38	1410054.62	8/7/2019
TH-21	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.96	2X2	PLASTIC	32	34	6907.29	6907.13	3220311.44	1410071.93	8/7/2019
TH-22	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.91	2	PLASTIC	56	58	6905.24	6905.08	3220312.12	1410070.57	8/7/2019
TH-23	CSU	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.91	2	PLASTIC	40	42	6906.58	6906.41	3220313.57	1410067.19	8/8/2019
TH-23A	CSU	ELECTRIC	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.91	2	PLASTIC	25	27	6907.83	6907.66	3220313.57	1410067.19	8/7/2019
TH-303	COCSS	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6909.89	40	CONCRETE	128	168	6899.22	6895.89	3220311.56	1410055.92	5/12/2020
TH-304	COMCAST	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6910.65	2X2	PLASTIC	38	42	6907.49	6907.15	3220324.54	1410076.40	5/7/2020
TH-305	LUMEN	TELEPHONE	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6910.76	1	PLASTIC	26	27	6908.59	6908.51	3220339.49	1410083.22	5/7/2020
TH-306	CSU	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6910.28	4	PLASTIC	46	50	6906.45	6906.11	3220344.68	1410073.62	5/7/2020
TH-310	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF CHANNEL DR	6910.63	2	PLASTIC	43	45	6907.05	6906.88	3220322.54	1410080.61	5/7/2020
TH-26*	NA	NA	NORTH SIDE OF WESTBOUND RESEARCH PKWY, EAST OF CHANNEL DR	6911.01	NA	NA	NA	NA	NA	NA	3220425.44	1410102.13	Survey only see
PH-1A*	CSU	WATER	NORTH SIDE OF WESTBOUND RESEARCH PKWY, EAST OF CHANNEL DR	6911.01	54	STEEL	107	161	6902.09	6897.59	3220425.44	1410102.13	10/29/2018
PH-1B*	COCSS	STORM	NORTH SIDE OF WESTBOUND RESEARCH PKWY, EAST OF CHANNEL DR	6911.01	15	STEEL	68	83	6905.34	6904.09	3220425.44	1410102.13	10/29/2018
TH-25	CSU	ELECTRIC	NORTH SIDE OF RESEARCH PKWY, EAST OF CHANNEL DR	6911.29	2	PLASTIC	26	28	6909.12	6908.96	3220429.63	1410123.29	8/9/2019
TH-27	CSU	GAS	CENTER OF WESTBOUND RESEARCH PKWY, EAST OF CHANNEL DR	6912.26	6	PLASTIC	84	90	6905.26	6904.76	3220452.55	1410096.07	8/13/2019
TH-203	CSU	WATER	NORTH SIDE OF WESTBOUND RESEARCH PKWY, EAST OF CHANNEL DR	6912.053	54	STEEL	144	198	6900.05	6895.55	3220449.43	1410118.47	11/15/2019
TH-2	COCSS	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6912.15	52	CONC	36	88	6909.15	6904.82	3220450.20	1410137.23	4/24/2019
TH-28	COMCAST	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6912.79	2X2	PLASTIC	27	29	6910.54	6910.37	3220462.35	1410156.83	11/6/2019
TH-29	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6913.189	2x4	PLASTIC	48	52	6909.19	6908.86	3220467.36	1410166.75	11/6/2019
TH-3	LUMEN	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6913.44	52	CONC	37	89	6910.36	6906.02	3220508.38	1410180.36	4/24/2019
TH-3A	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6913.44	2	PLASTIC	35	37	6910.52	6910.36	3220508.38	1410180.36	4/24/2019
TH-204	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6914.272	2x4	PLASTIC	49	53	6910.19	6909.86	3220511.08	1410201.54	11/6/2019
TH-205	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6914.085	2	PLASTIC	29	31	6911.67	6911.50	3220514.20	1410198.07	11/6/2019
TH-4	LUMEN	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6913.91	52	CONC	38	90	6910.74	6906.41	3220526.75	1410193.92	4/24/2019
TH-5	LUMEN	STORM	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6914.46	52	CONC	35	87	6911.54	6907.21	3220545.14	1410212.41	4/24/2019
TH-307	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6915.18	4X4	PLASTIC	56	60	6910.51	6910.18	3220536.19	1410222.63	5/7/2020
TH-308	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6915.09	2	PLASTIC	35	37	6912.17	6912.00	3220540.63	1410218.53	5/7/2020
TH-33	LUMEN	STORM	NORTH SIDE OF WESTBOUND RESEARCH PKWY, WEST OF SH 21	6922.82	54	STEEL	65	119	6917.40	6912.90	3220736.76	1410394.01	8/12/2019
TH-30	LUMEN	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6924.684	4	PLASTIC	45	49	6920.93	6920.60	3220723.62	1410419.75	11/5/2019
TH-31	CSU	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6924.746	4x2	PLASTIC	28	30	6922.41	6922.25	3220726.92	1410416.82	11/5/2019
TH-32	COMCAST	FIBER	NORTH SIDE OF RESEARCH PKWY, WEST OF SH 21	6924.509	2X2	PLASTIC	32	34	6921.84	6921.68	3220728.41	1410415.42	11/5/2019

NOTES:

- UTILITY TESTHOLES ARE FROM CDOT PROJECT 23522 AND ARE FOR INFORMATION ONLY.
- * TESTHOLES PH-1A, PH-1B WERE SURVEYED AS TH-26.
- * TESTHOLE PH-2 WAS SURVEYED AS TH-42.



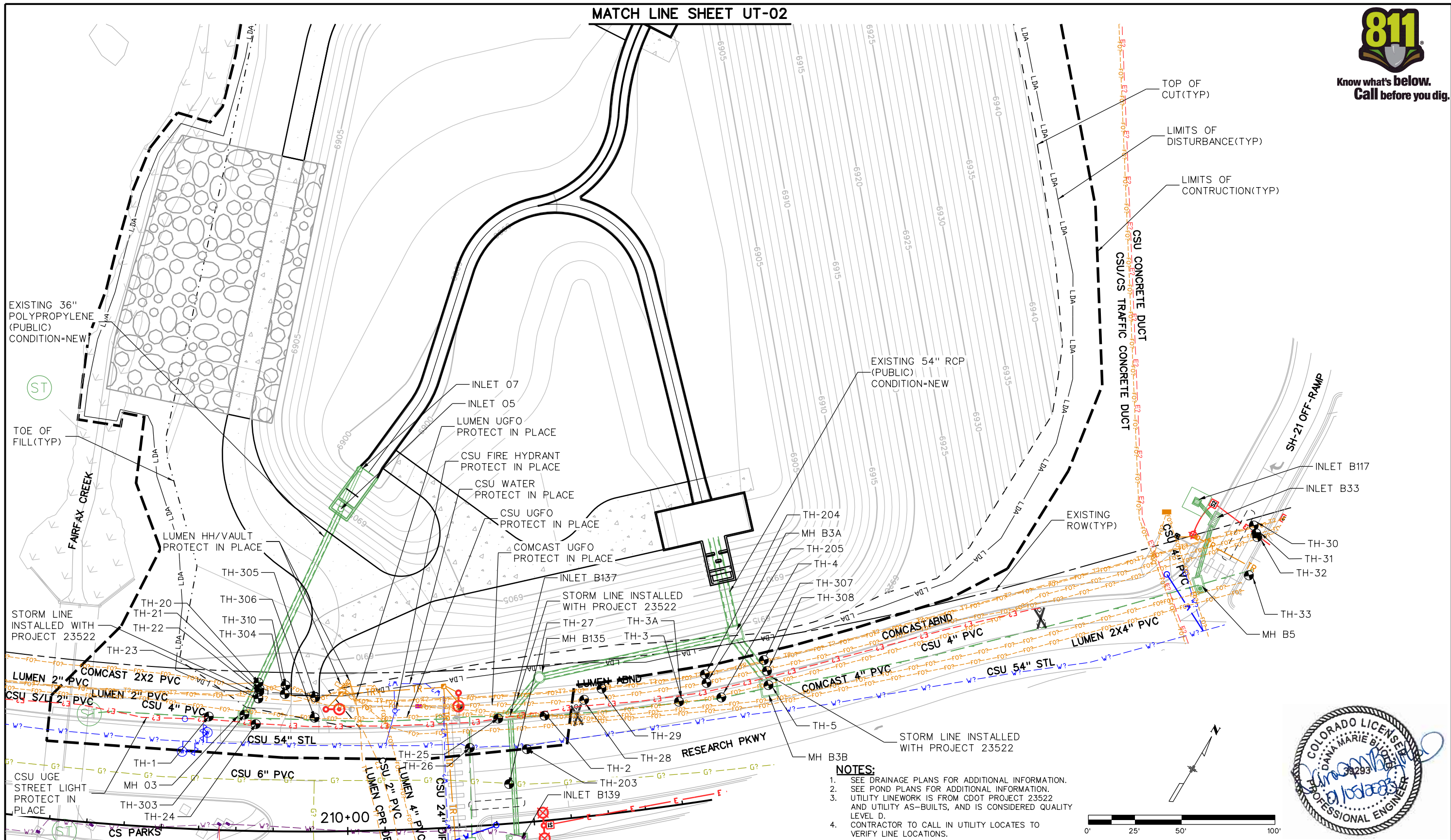
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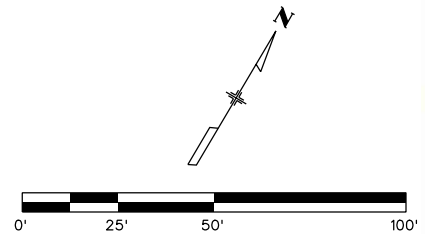


Know what's below.
Call before you dig.

MATCH LINE SHEET UT-02



- NOTES:**
1. SEE DRAINAGE PLANS FOR ADDITIONAL INFORMATION.
 2. SEE POND PLANS FOR ADDITIONAL INFORMATION.
 3. UTILITY LINWORK IS FROM CDOT PROJECT 23522 AND UTILITY AS-BUILTS, AND IS CONSIDERED QUALITY LEVEL D.
 4. CONTRACTOR TO CALL IN UTILITY LOCATES TO VERIFY LINE LOCATIONS.



Work 12/16/2022 10:07:00 AM
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Print Date: 12/16/2022
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Sheet Revisions		
Date:	Comments	Init.



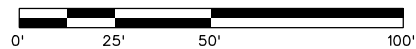
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Detailer:	MK	Numbers	
Sheet Subset:	UTILITY	Subset Sheets:	UT-01 of 02

Project No./Code
16131-11
Sheet Number
19

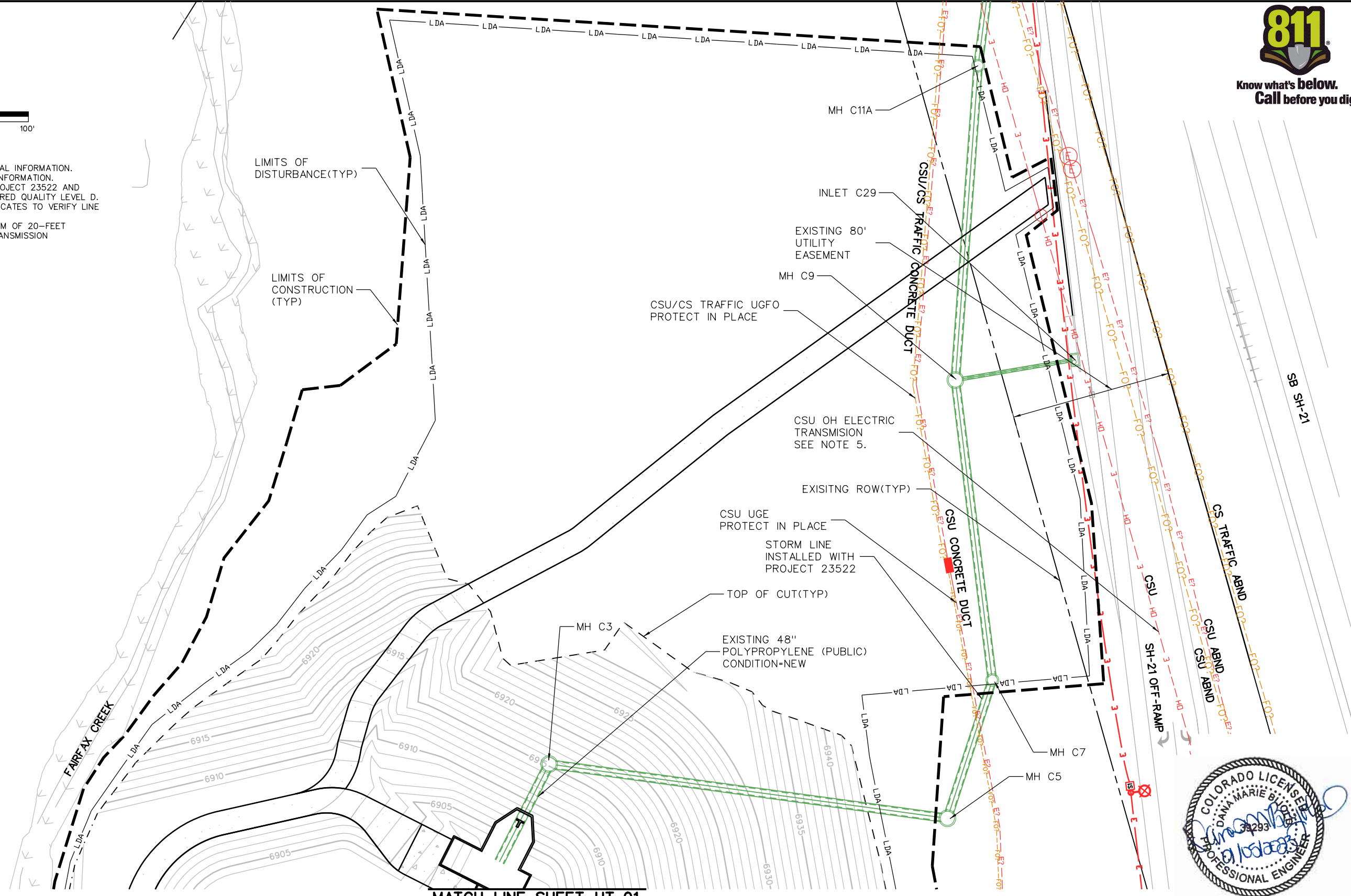


Know what's below.
Call before you dig.



NOTES:

1. SEE DRAINAGE PLANS FOR ADDITIONAL INFORMATION.
2. SEE POND PLANS FOR ADDITIONAL INFORMATION.
3. UTILITY LINWORK IS FROM CDOT PROJECT 23522 AND UTILITY AS-BUILTS, AND IS CONSIDERED QUALITY LEVEL D. CONTRACTOR TO CALL IN UTILITY LOCATES TO VERIFY LINE LOCATIONS.
4. CONTRACTOR TO MAINTAIN A MINIMUM OF 20- FEET OF CLEARANCE FROM OVERHEAD TRANSMISSION LINES. SEE GENERAL UTILITY NOTES.



MATCH LINE SHEET UT-01

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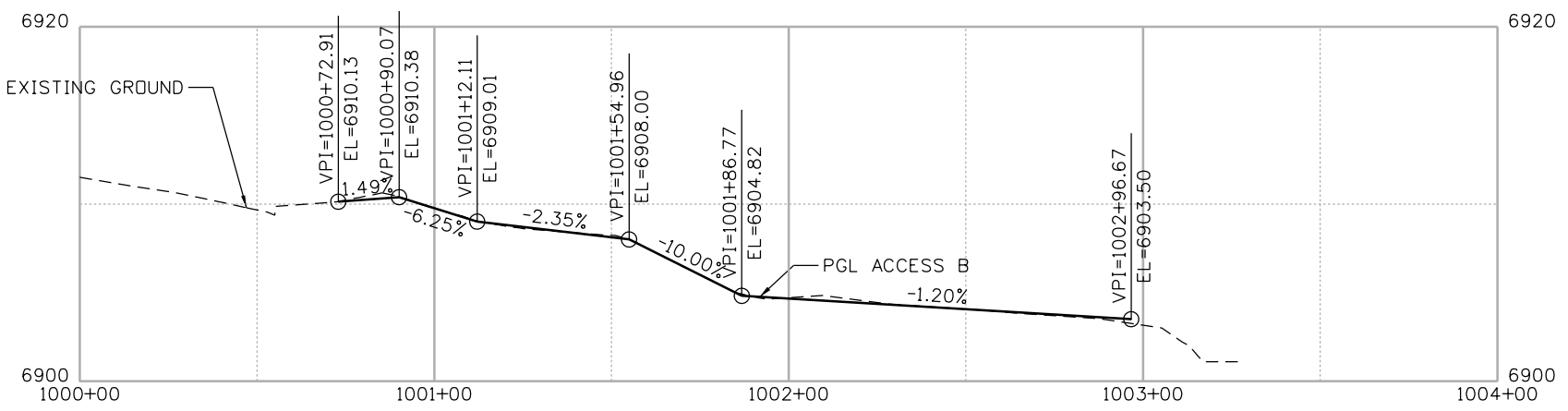
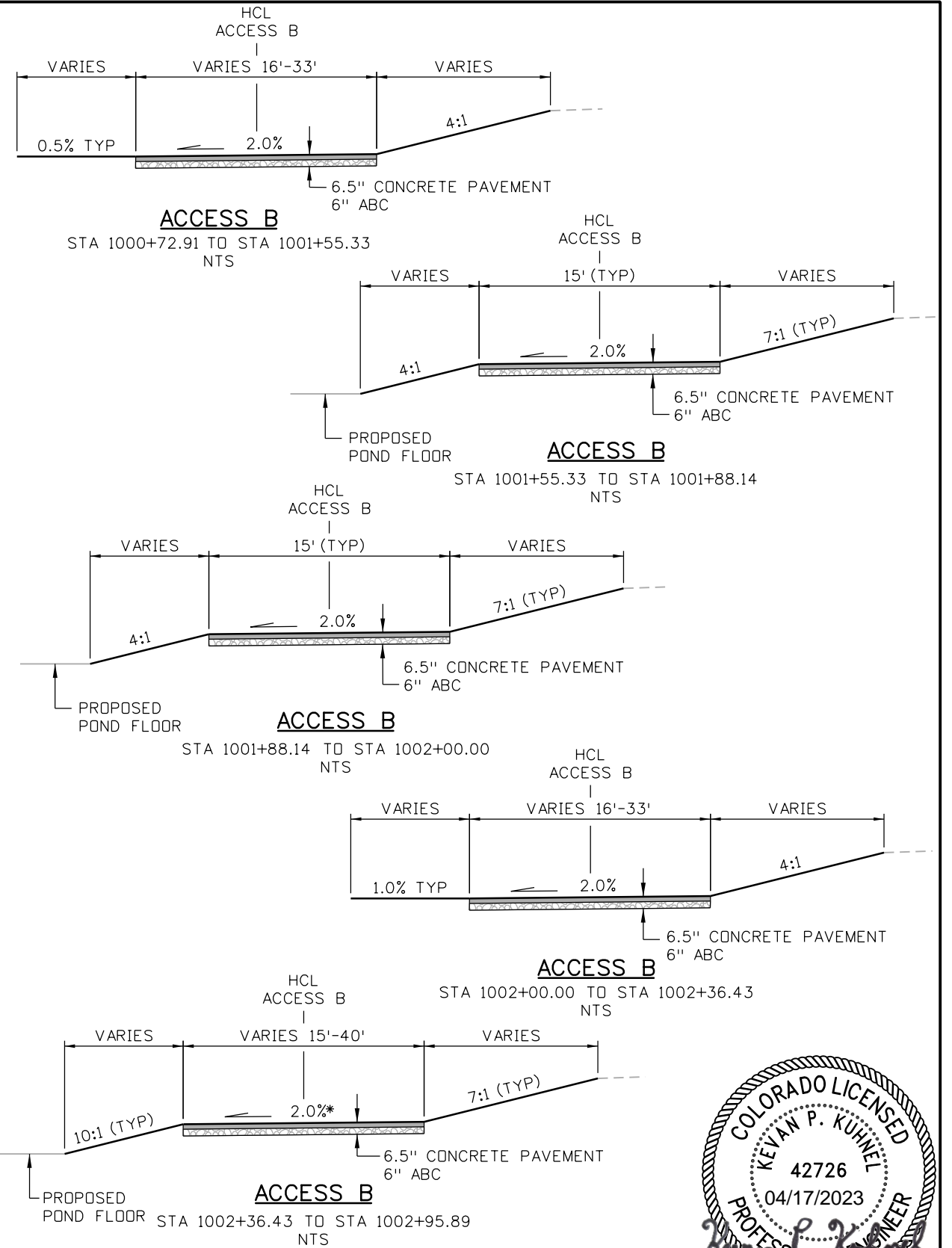
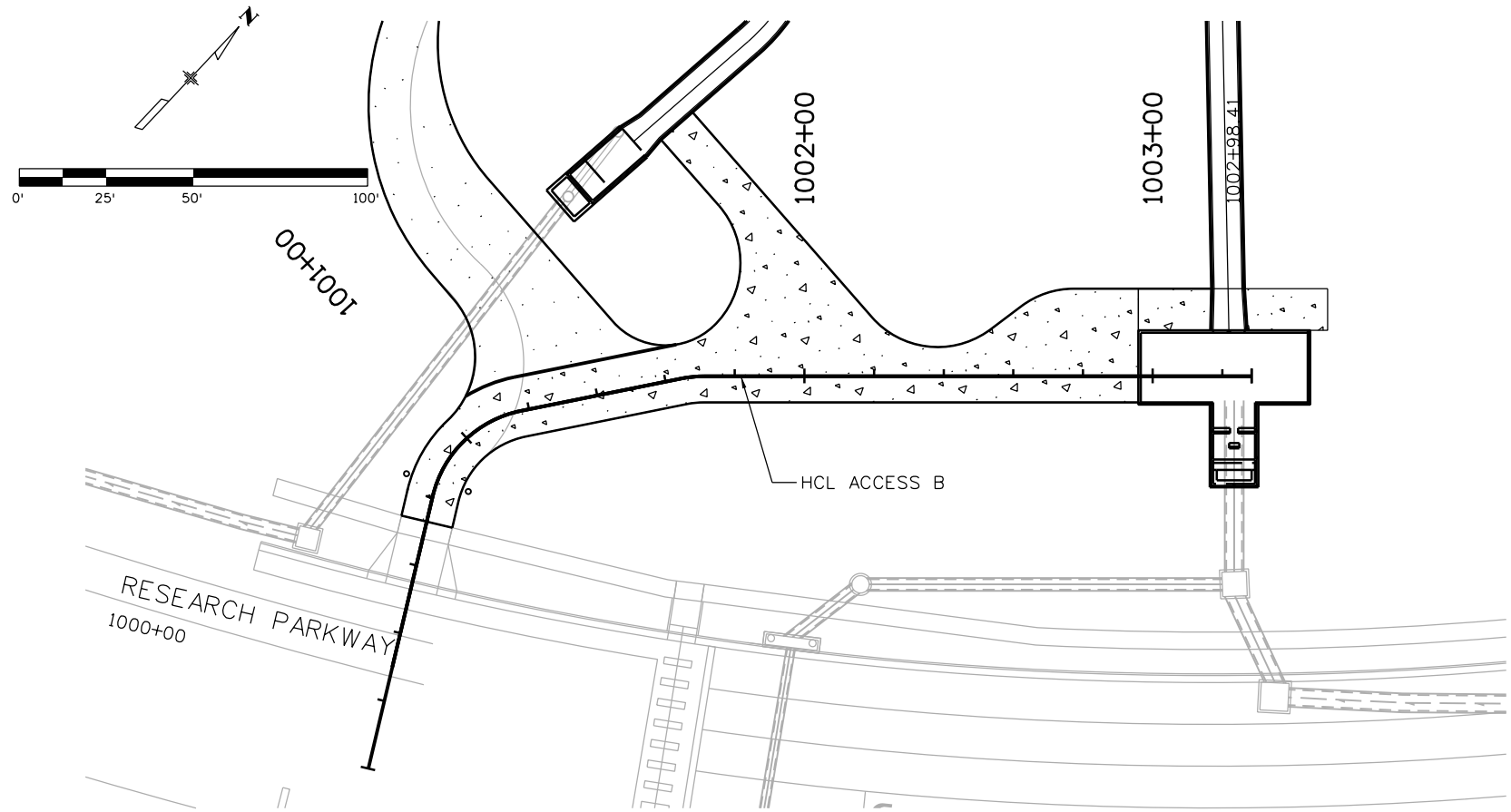
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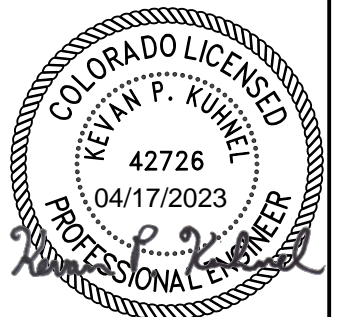
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Project No./Code	16131-11
Sheet Number	20



*CROSS SLOPE SHALL TRANSITION TO 0% TO TIE INTO THE EDGE OF FOREBAY



Print Date: 4/4/2023
File Name: 116131DES_Prof-FairfaxPond.dgn
Horiz. Scale: 1:50 Vert. Scale: As Noted

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Sheet Revisions		
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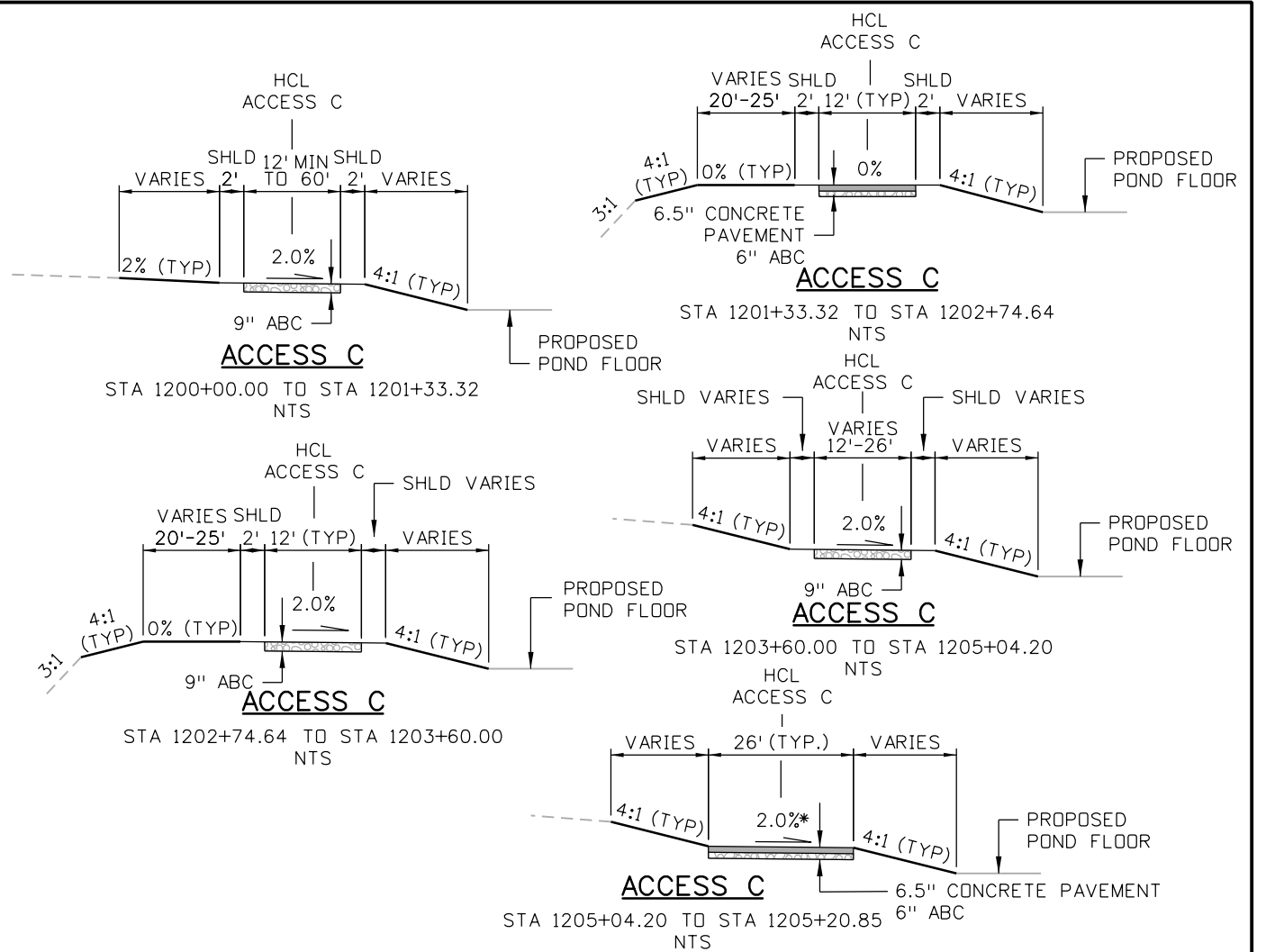
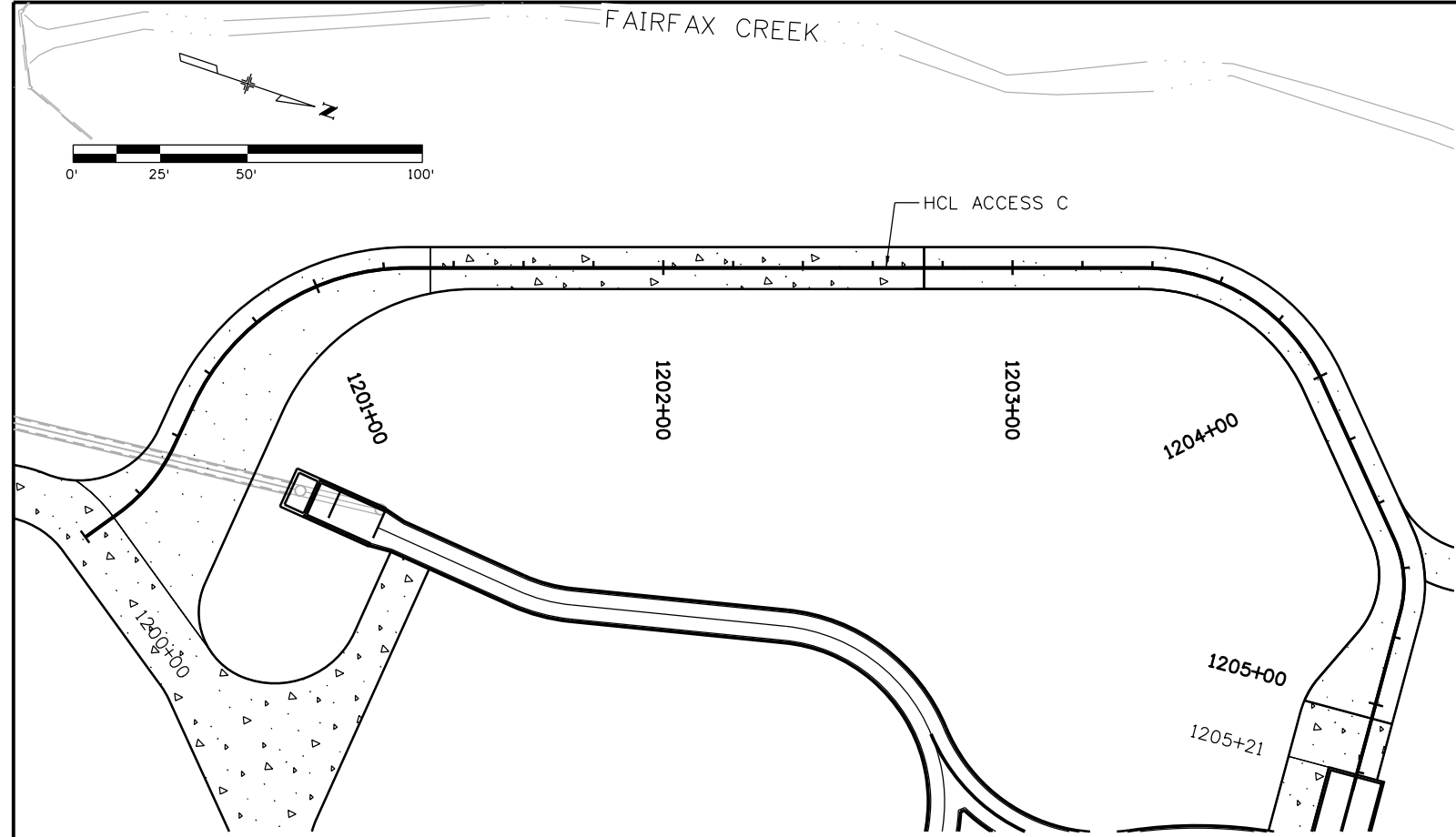


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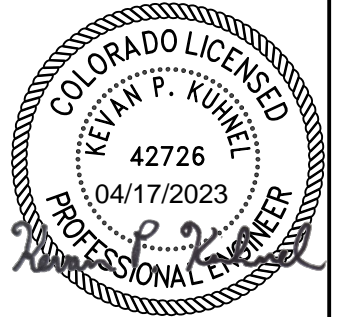
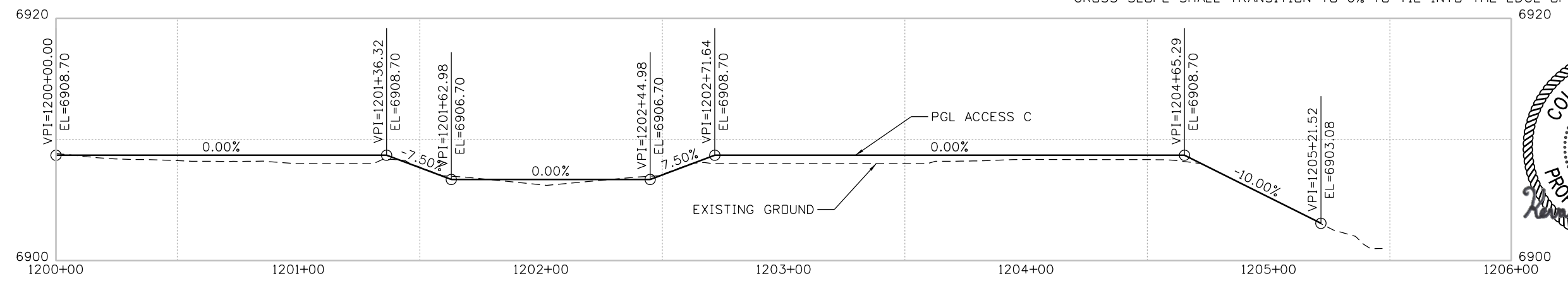
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Project No./Code	16131-11
Sheet Number	21

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*CROSS SLOPE SHALL TRANSITION TO 0% TO TIE INTO THE EDGE OF FOREBAY



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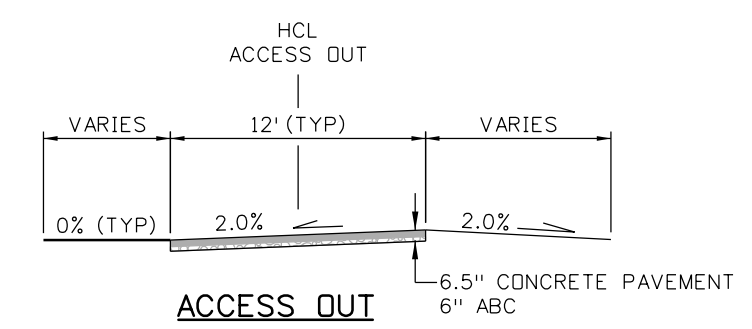
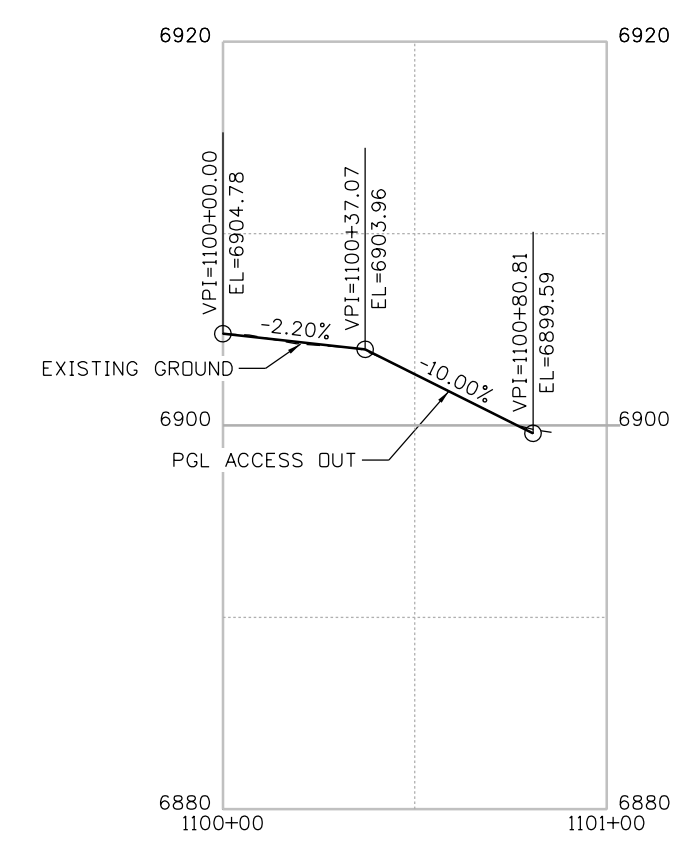
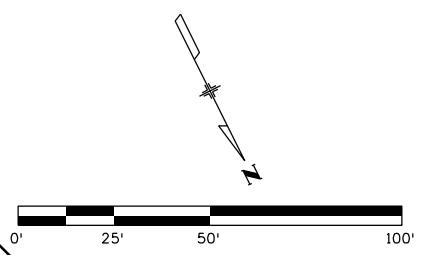
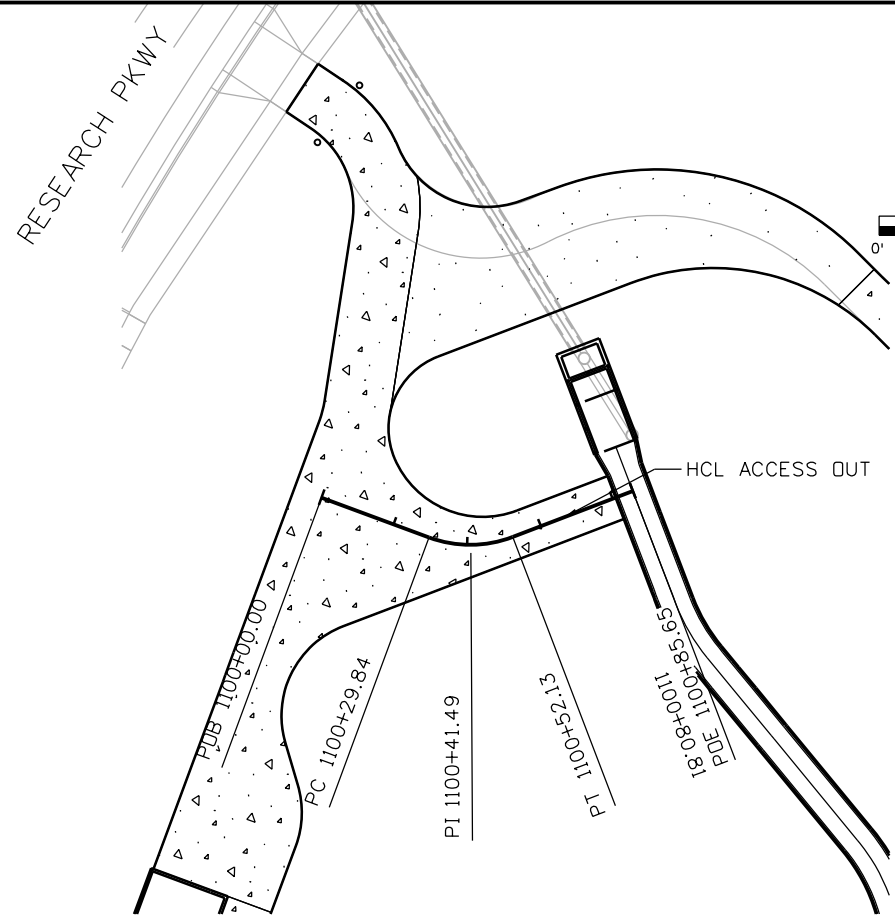


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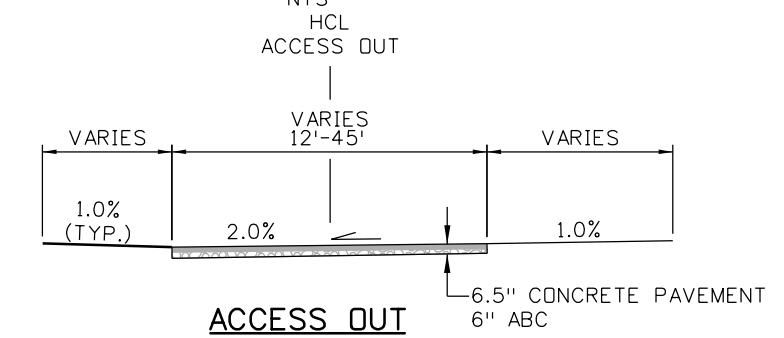
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ACCESS OUT
STA 1100+45.00 TO STA 1100+80.81
NTS



ACCESS OUT
STA 1100+25.00 TO STA 1100+45.00
NTS

NOTE:
1. FOR STATION RANGE 1100+00.00 TO 1100+25.00,
PLEASE SEE GRADING DETAIL.



Jordan.Martin
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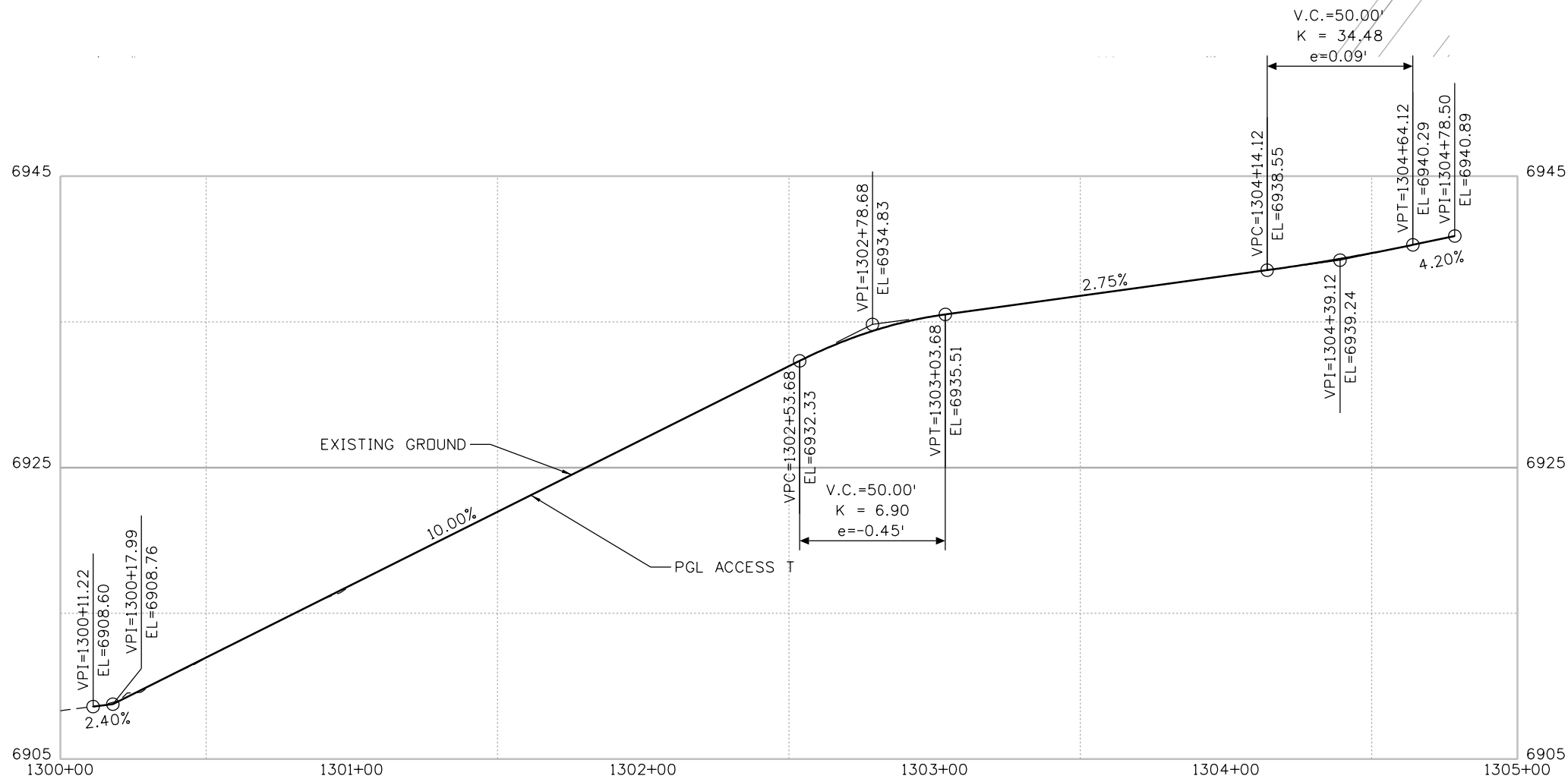
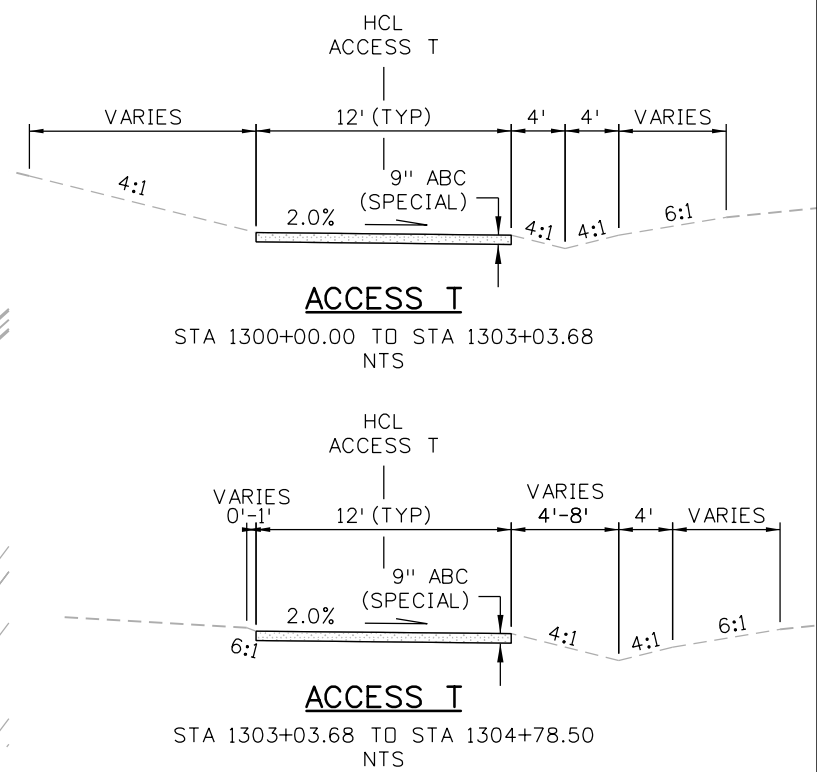
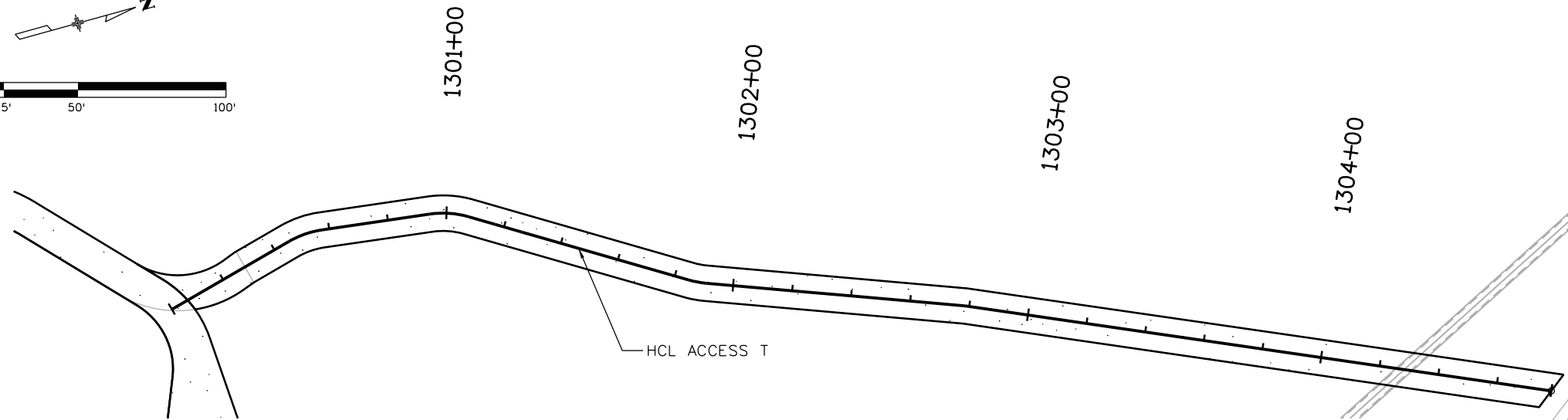
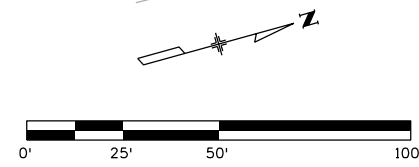
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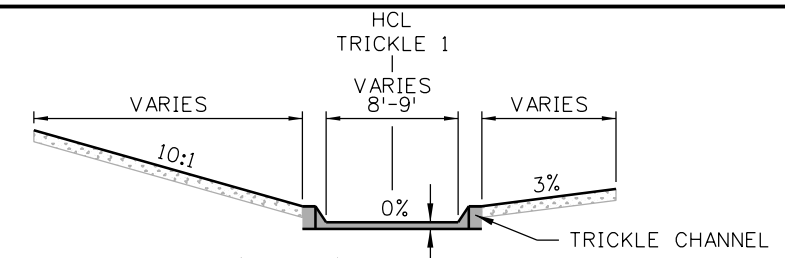
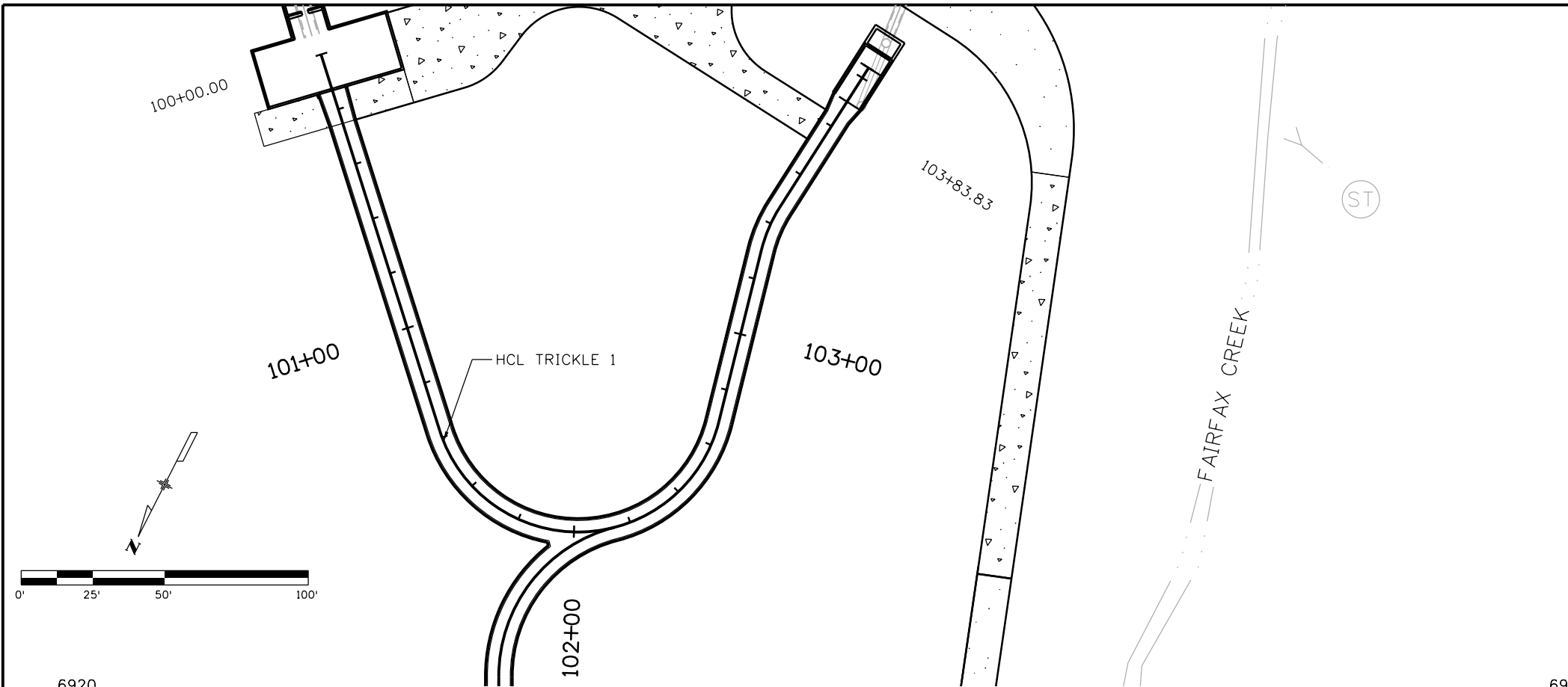
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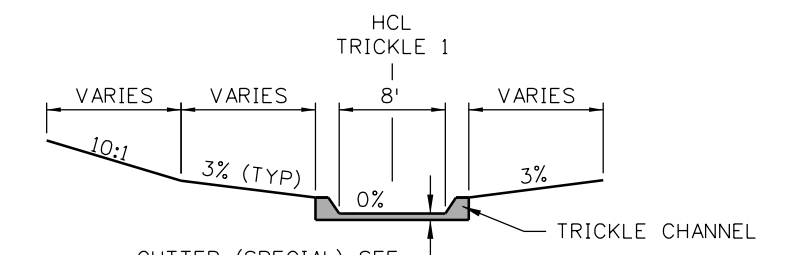
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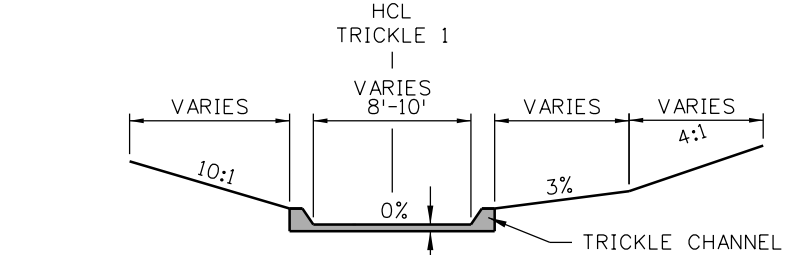
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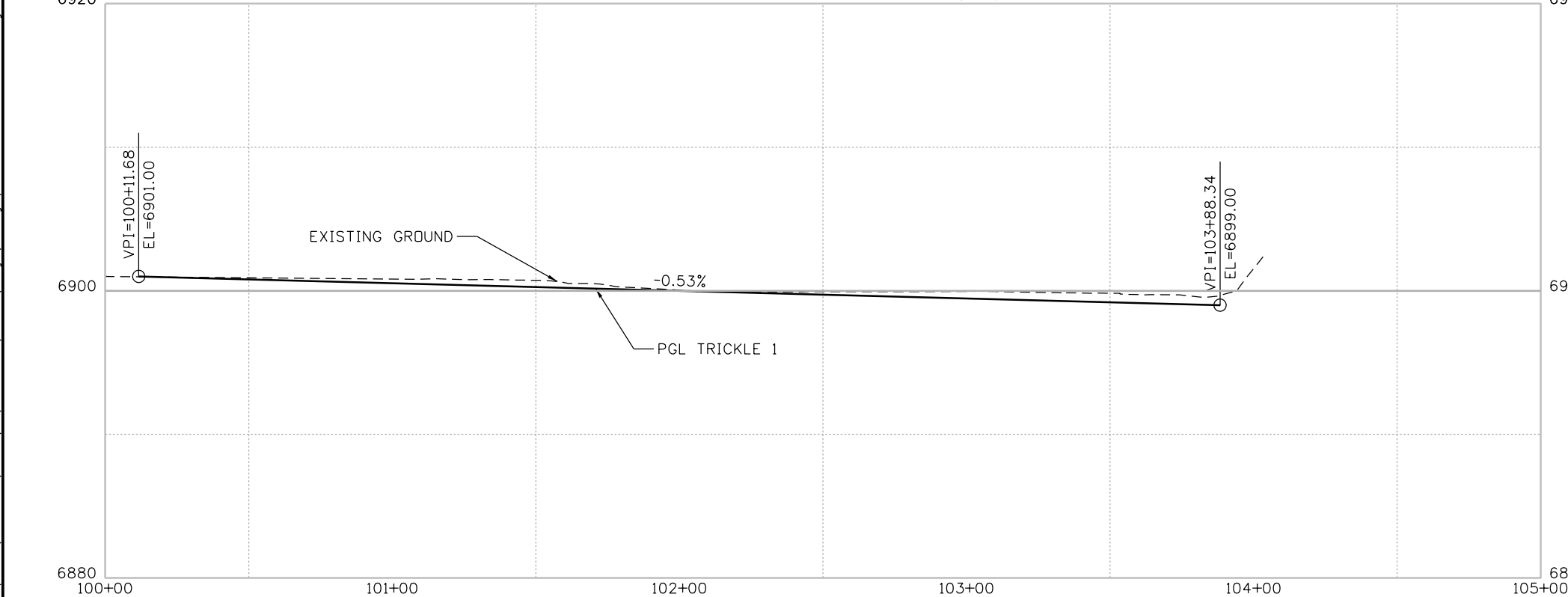
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TRICKLE 1
 STA 100+13.17 TO STA 100+25.18
 NTS



GUTTER (SPECIAL). SEE POND PLANS FOR DETAILS
TRICKLE 1
 STA 100+25.18 TO STA 103+83.83
 NTS



GUTTER (SPECIAL). SEE POND PLANS FOR DETAILS
TRICKLE 1
 STA 103+83.83 TO STA 103+90.13
 NTS



Jordan.Martin
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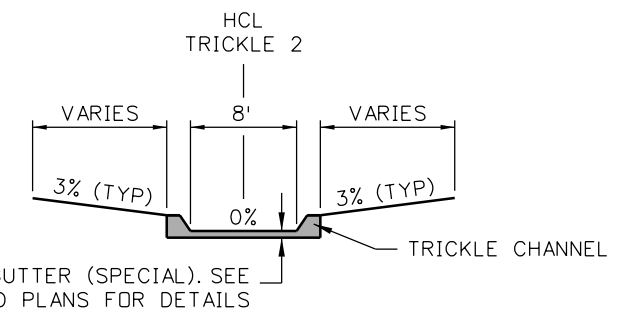
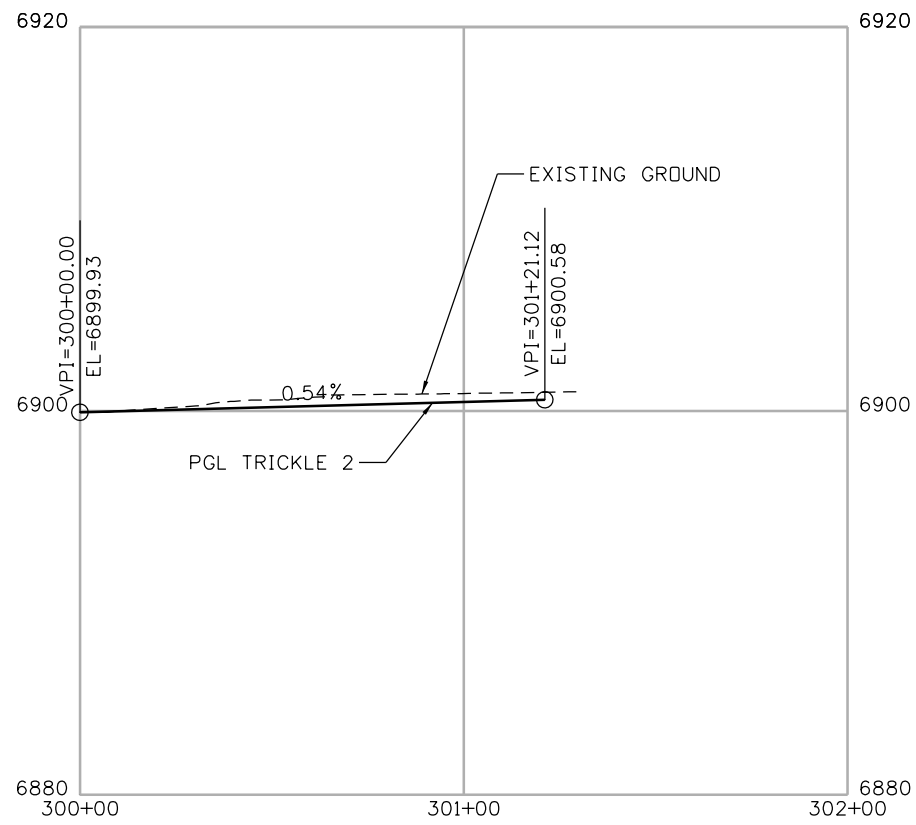
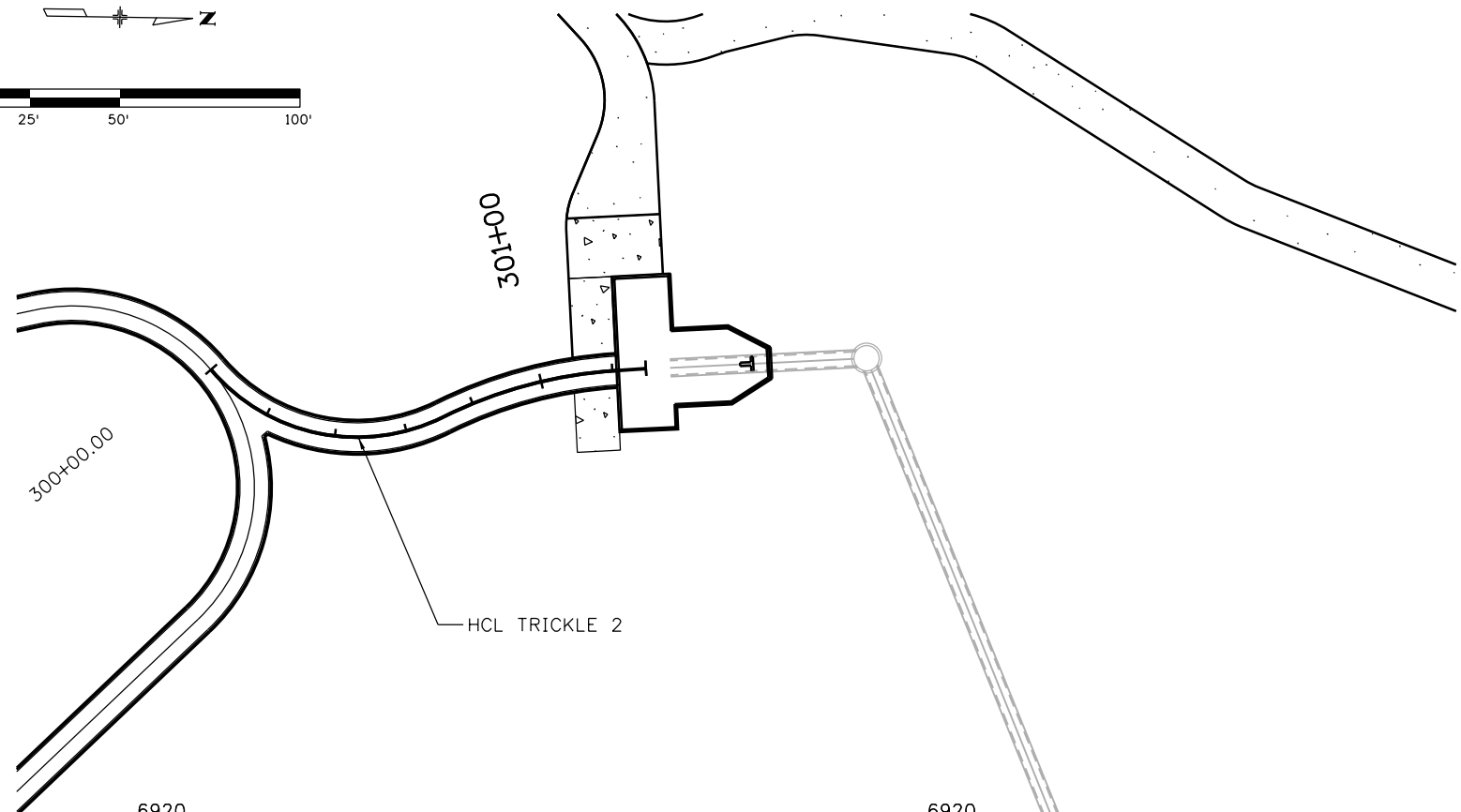
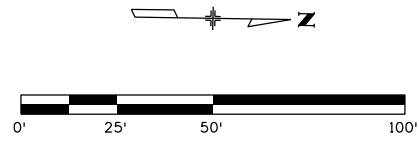
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Detailer:	JAF	Numbers	
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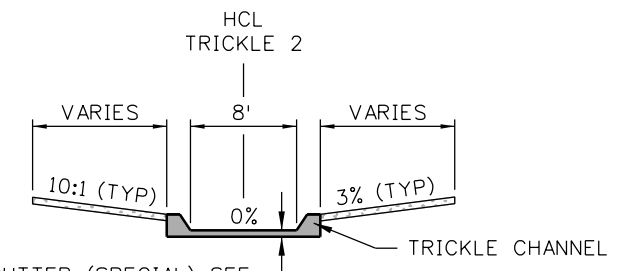
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Sheet Number	25



TRICKLE 2

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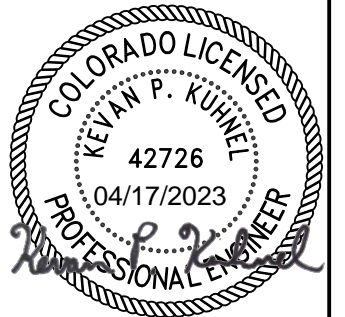
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TRICKLE 2

STA 301+09.63 TO STA 301+21.12
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GUTTER (SPECIAL). SEE POND PLANS FOR DETAILS



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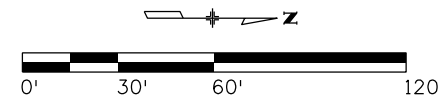
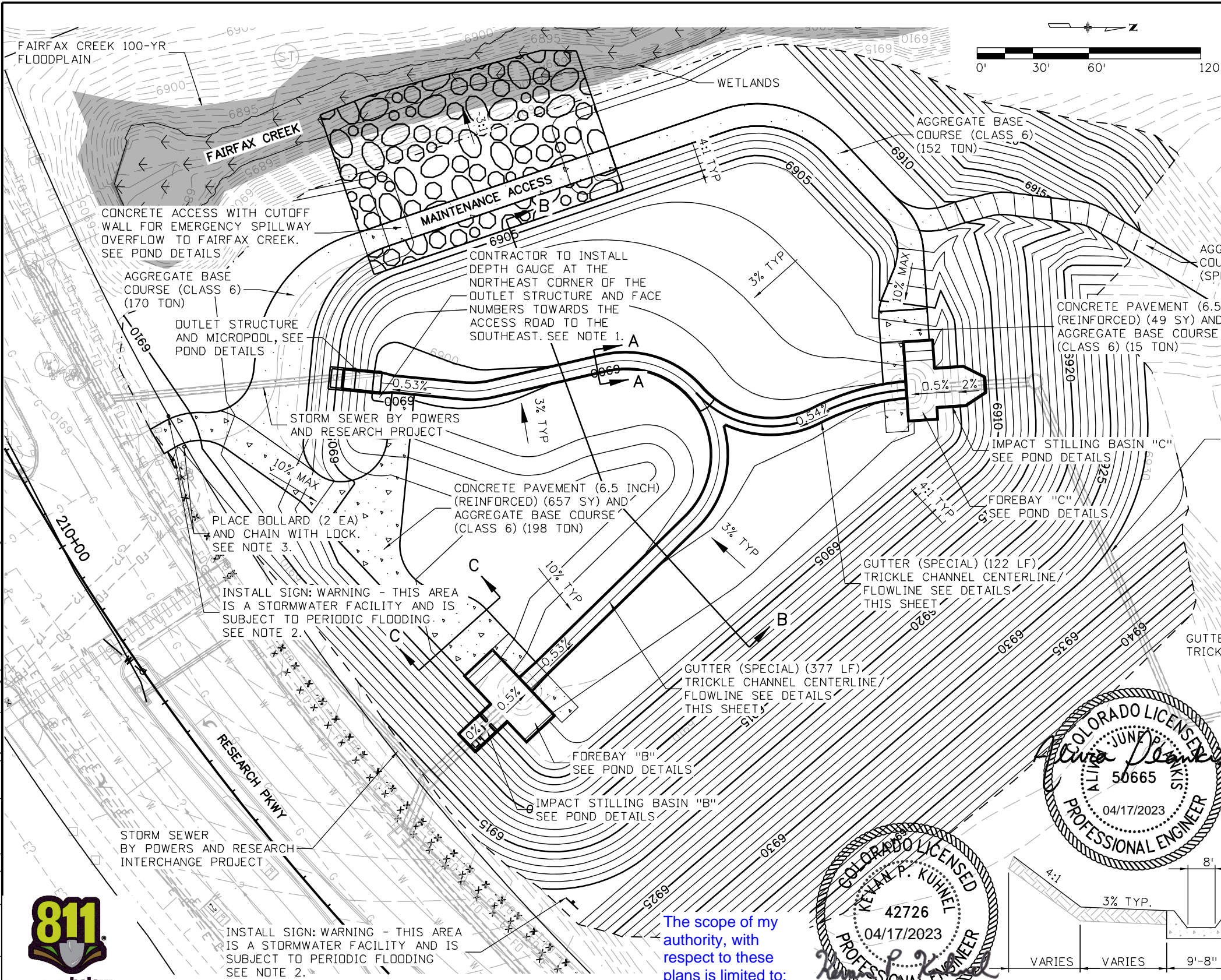
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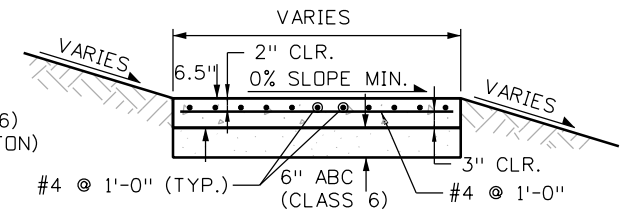
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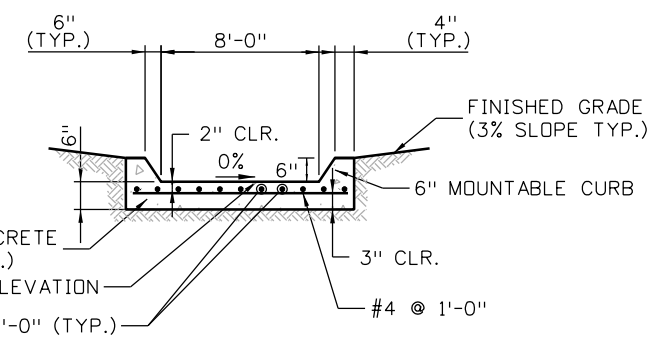


NOTES:
 1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DEPTH GAUGE FOR APPROVAL BY THE ENGINEER, PRIOR TO ORDERING MATERIALS. DEPTH GAUGE SHALL MEASURE TO 7' DEPTH AND HAVE LARGE NUMBERS VISIBLE FROM 60' DISTANCE. THE COST OF THE DEPTH GAUGE SHALL BE INCLUDED IN THE COST OF THE WORK.
 2. THE COST OF THE SIGNS, POSTS, AND INSTALLATION SHALL BE INCLUDED IN THE COST OF THE WORK. SEE SIGN DETAILS FOR ADDITIONAL INFORMATION.
 3. A CHAIN WITH A LOCK SHALL BE PLACED BETWEEN THE BOLLARDS AND SHALL BE INCLUDED IN THE COST OF THE BOLLARDS.
 4. DUE TO THE RECENT GRADING EFFORTS ON THE POWERS AND RESEARCH INTERCHANGE PROJECT, THE EAST AND NORTH SIDE TOP OF CUT TIE IN LOCATIONS ARE APPROXIMATE AND MAY NEED TO BE ADJUSTED IN THE FIELD. CONTRACTOR TO COORDINATE WITH THE ENGINEER PRIOR TO FINALIZING GRADING.



CONCRETE ACCESS SECTION C-C
N.T.S.

ALL CONCRETE PAVEMENT USED FOR POND ACCESS ROADS SHALL BE INSTALLED WITH JOINTS SPACED AT 13' MAX. CONTRACTOR SHALL PROVIDE A GROOVED FINISH TO THE SURFACE OF THE PAVEMENT. GROOVES SHALL BE ORIENTED TO DRAIN WATER AWAY TO ONE OR BOTH SIDES.

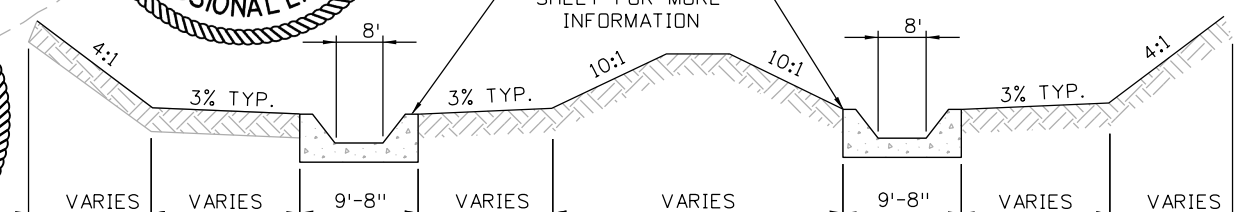


GUTTER (SPECIAL) CONCRETE TRICKLE CHANNEL SECTION A-A
N.T.S.

The scope of my authority, with respect to these plans is limited to:
Structural Design



The scope of my authority, with respect to these plans is limited to:
Drainage Design



SECTION B-B
N.T.S.



Know what's below.
 Call before you dig.

Print Date: 4/4/2023

File Name: 116131HYDR_Pond_Plan01.dgn

Horiz. Scale: 1:60 Vert. Scale: As Noted

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Sheet Revisions			
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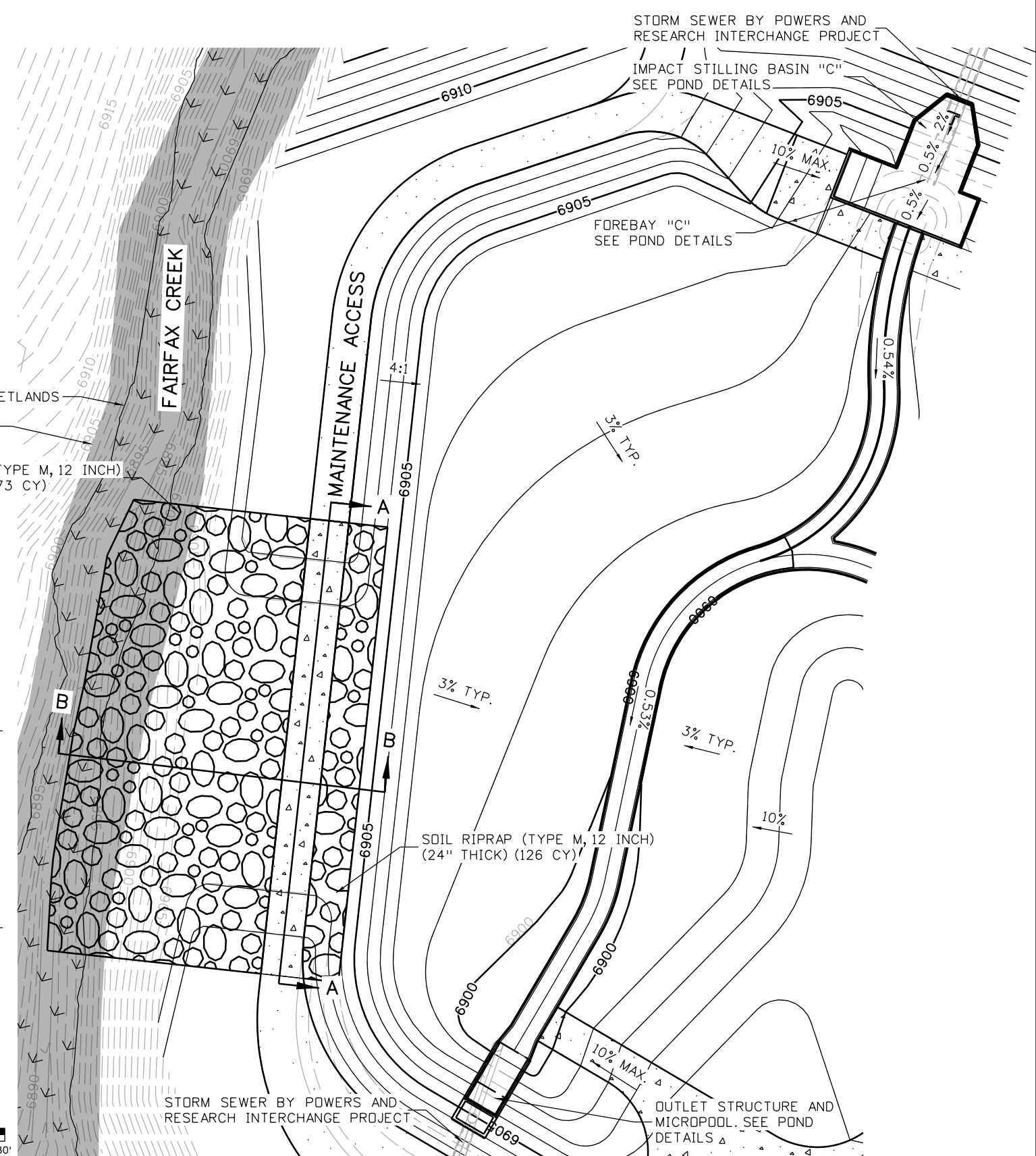
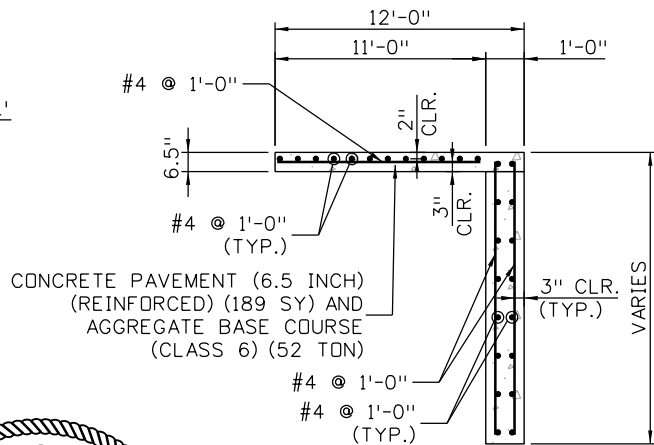
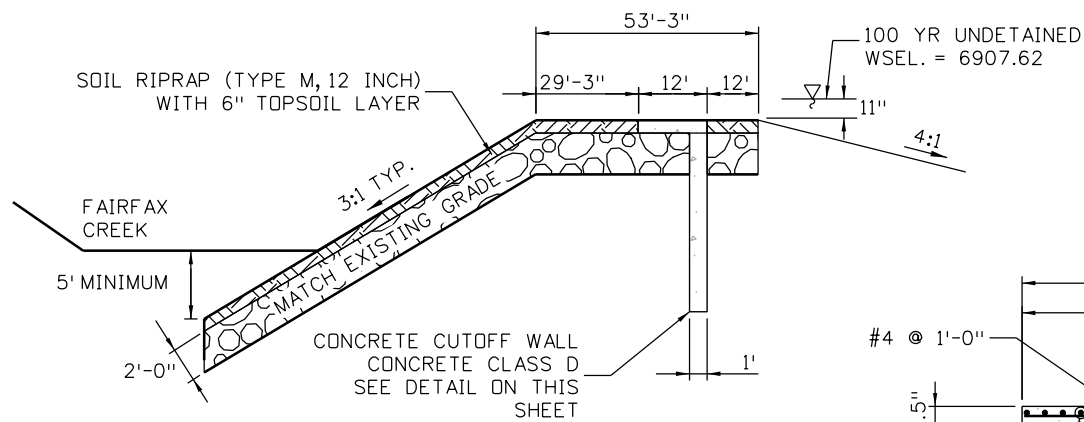
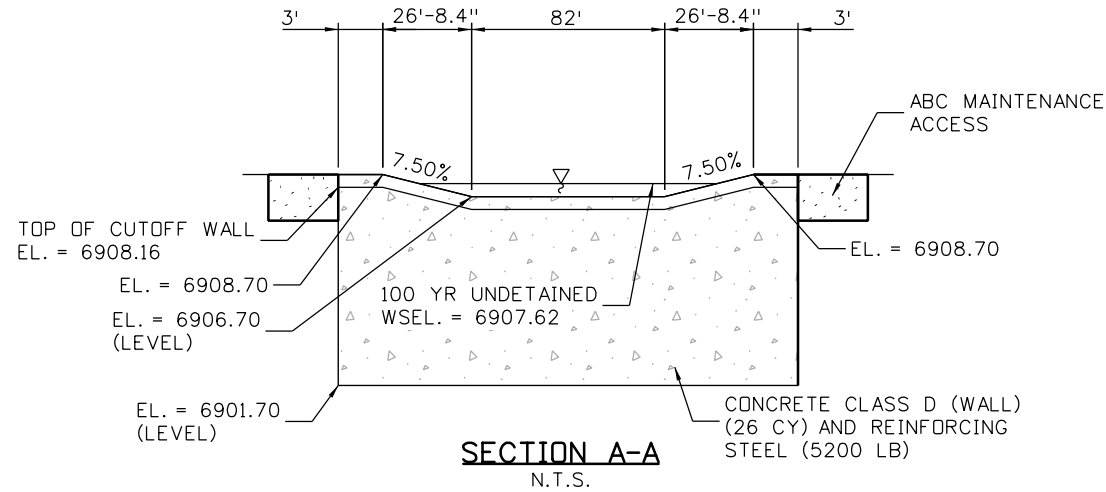


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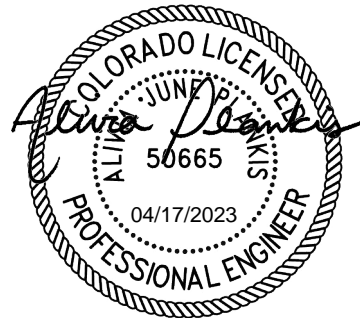
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Project No./Code	16131-11
Sheet Number	27

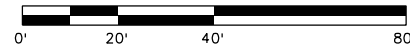
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The scope of my authority, with respect to these plans is limited to: Structural Design



The scope of my authority, with respect to these plans is limited to: Drainage Design



Jordan.Martin
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 File Name: 116131HYDR_Pond_Plan02.dgn
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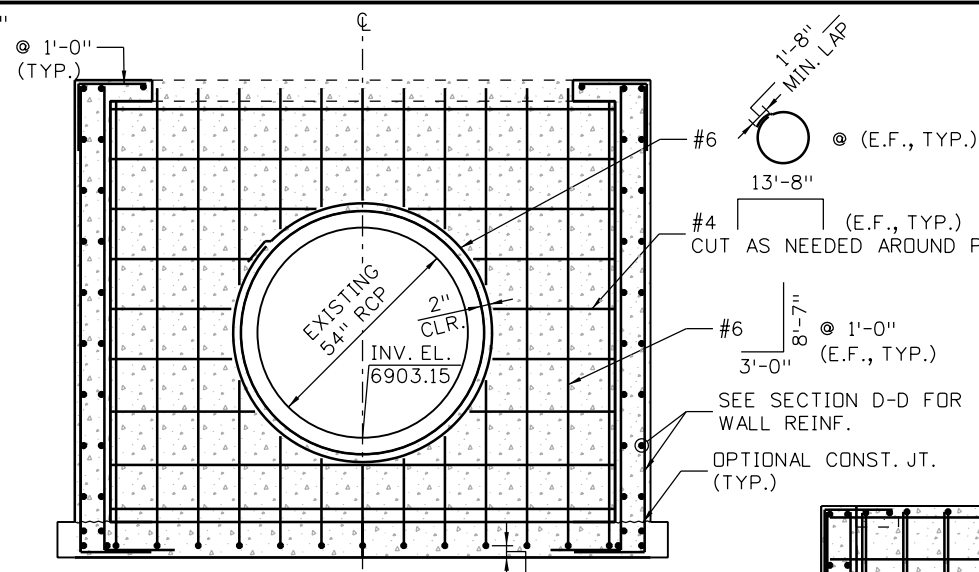
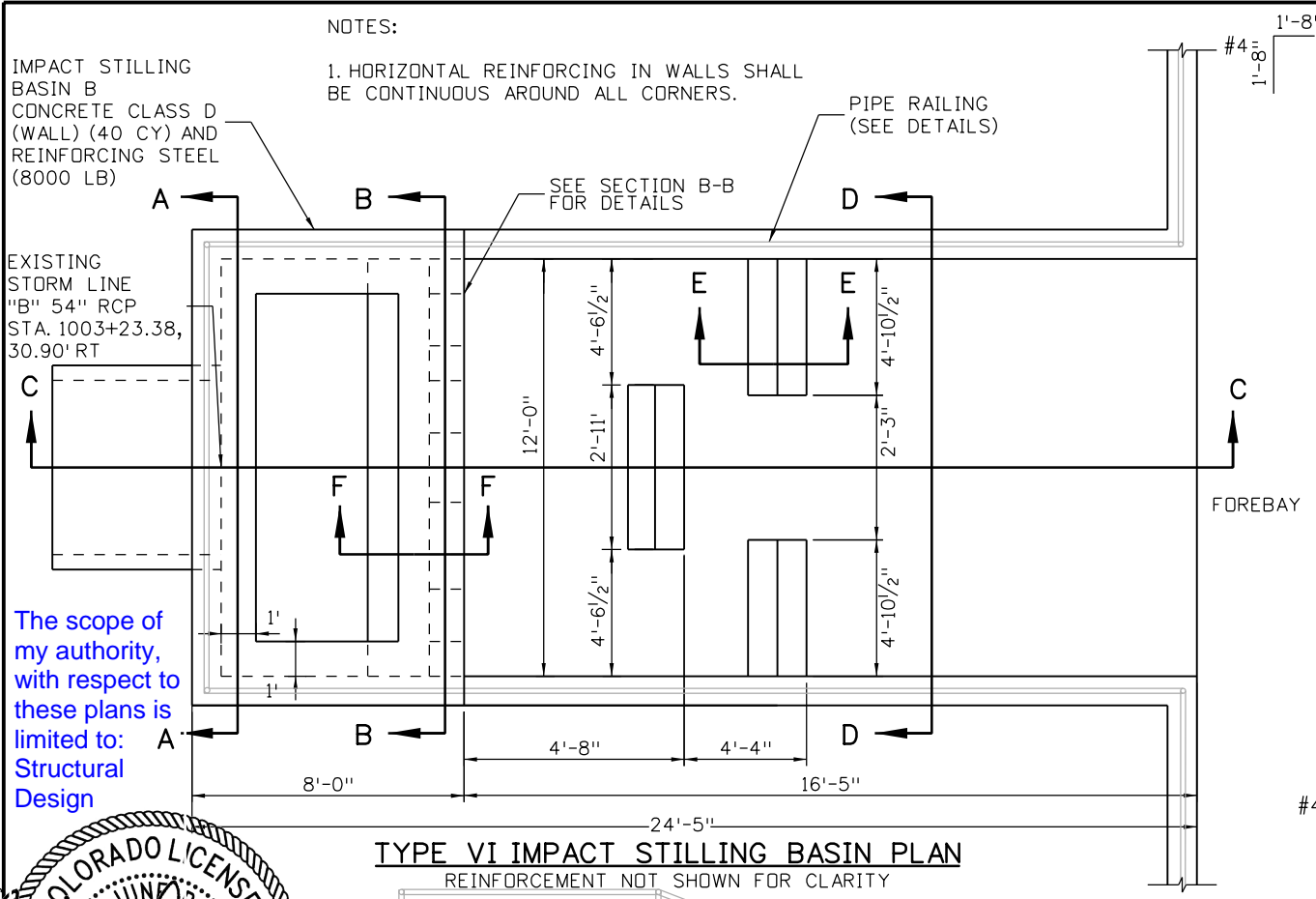
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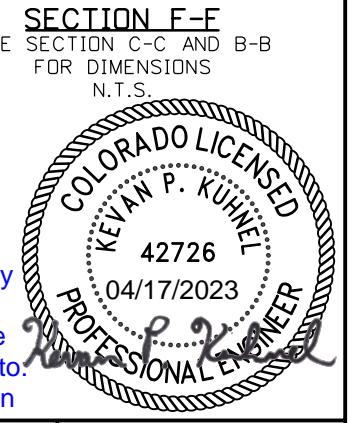
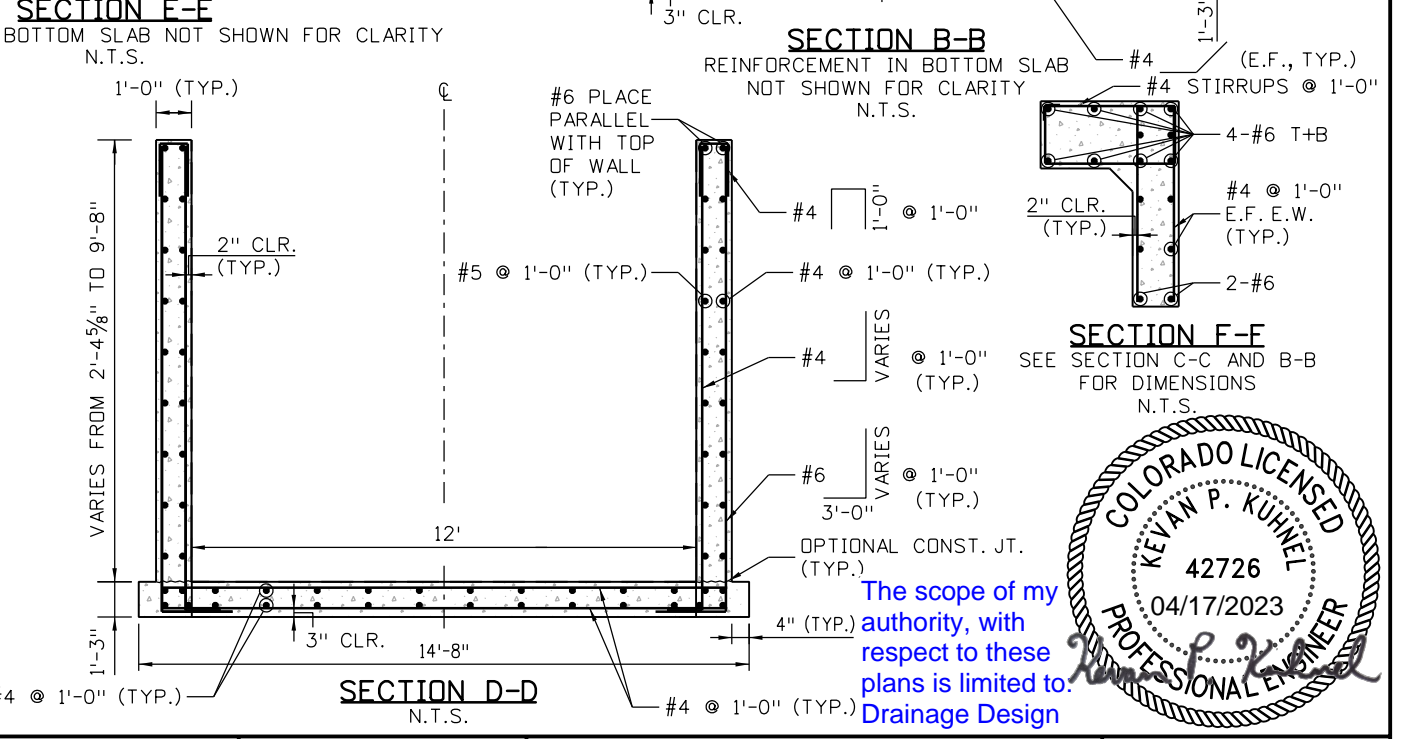
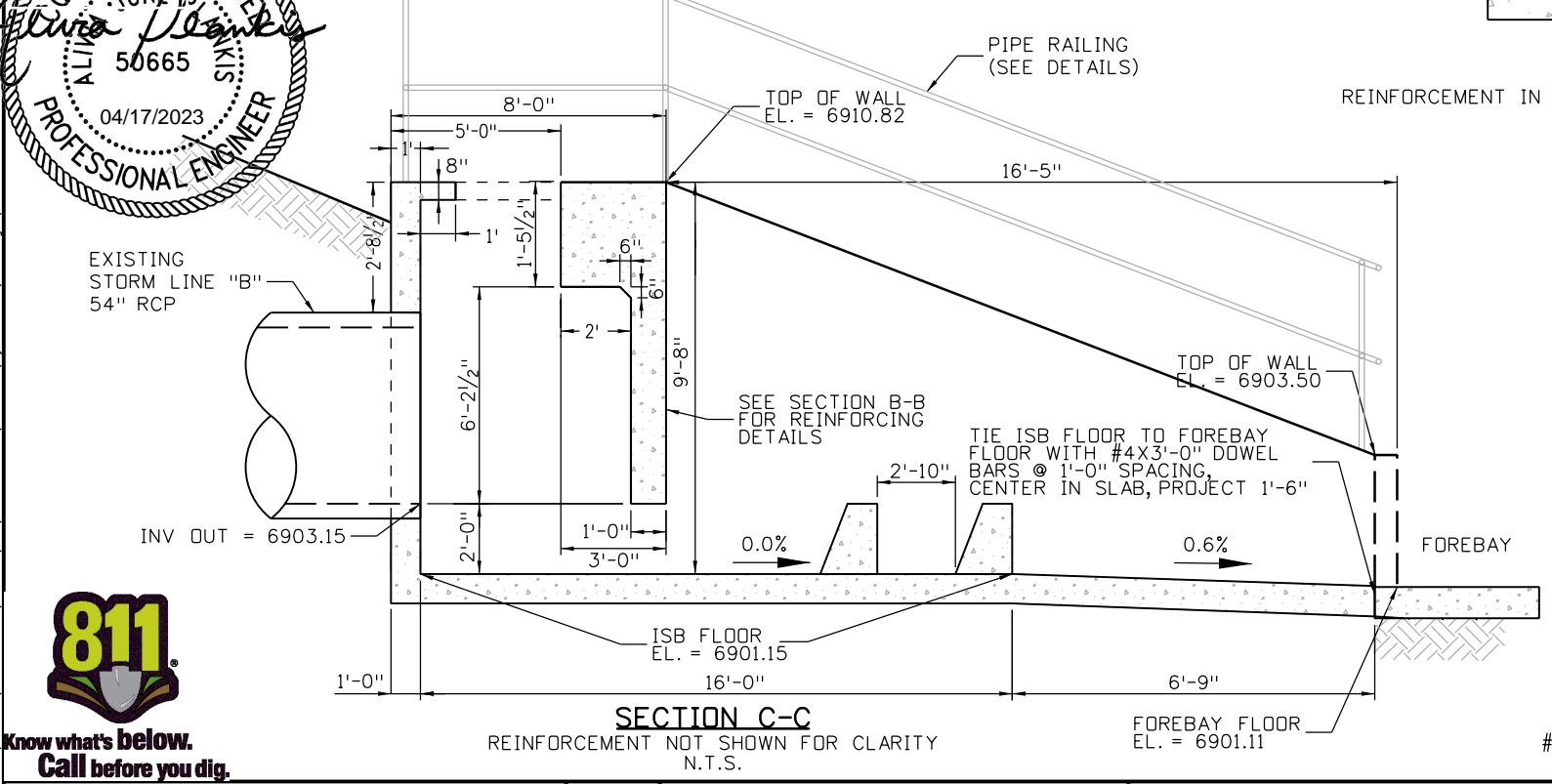
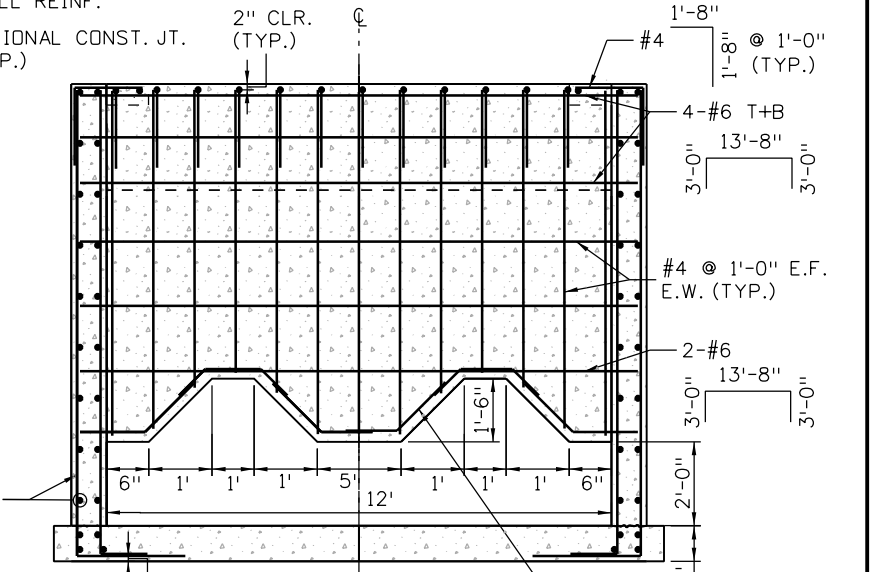
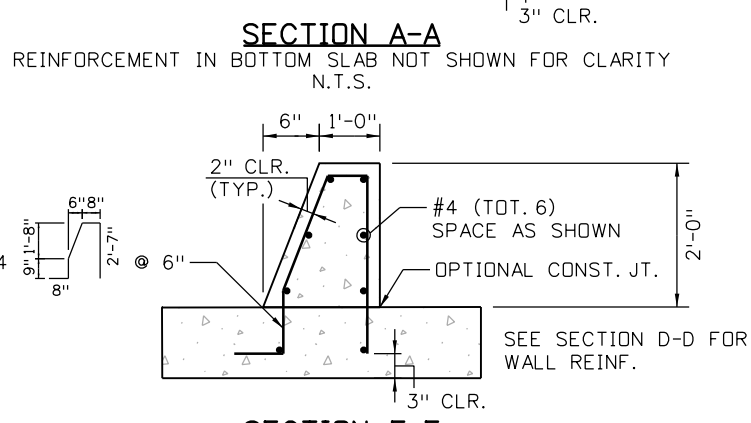
As Constructed
No Revisions:
Revised:
Void:

FAIRFAX DETENTION AND WATER QUALITY POND PLANS			
Designer:	SJT	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	DRAINAGE	Subset Sheets:	DR-02 of 02

Project No./Code	16131-11
Sheet Number	28



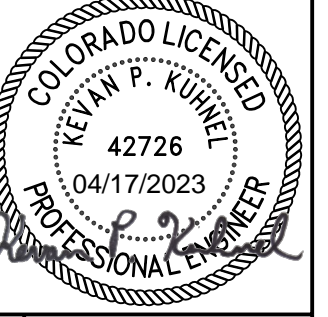
- NOTES:**
- CONCRETE SHALL BE CLASS D (WALL).
 - REINFORCING STEEL SHALL BE GRADE 60 (BLACK).
 - DESIGN DATA
 UNIT STRESSES: $f_s = 24,000$ PSI
 $f_c = 1,200$ PSI
 $N = 9$
 - EQUIVALENT FLUID PRESSURE = 36 LBS./CU. FT.
 - ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE CONCRETE IS POURED.
 - N.F. = NEAR FACE
 E.F. = EACH FACE
 F.F. = FRONT FACE



The scope of my authority, with respect to these plans is limited to: **Structural Design**



The scope of my authority, with respect to these plans is limited to: **Drainage Design**



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 File Name: 116131HYDR_Pond_Detail01.dgn
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811
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Date:	Comments	Init.	

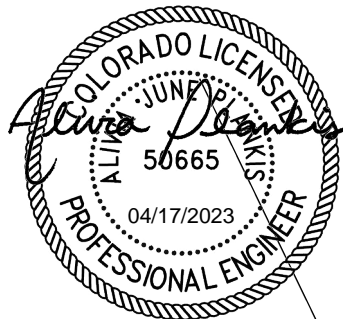


As Constructed	No Revisions:	Revised:	Void:
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FAIRFAX DETENTION AND WATER QUALITY POND IMPACT STILLING BASIN "B" DETAILS			
Designer:	SJT	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	DETAILS	Subset Sheets:	DT-01 of 12

Project No./Code	16131-11
Sheet Number	29

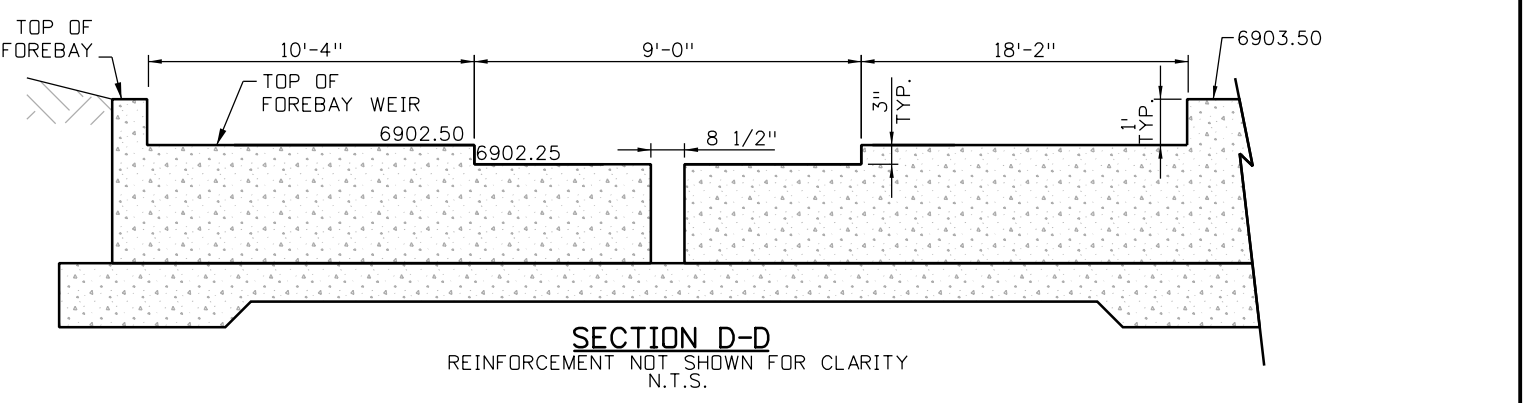
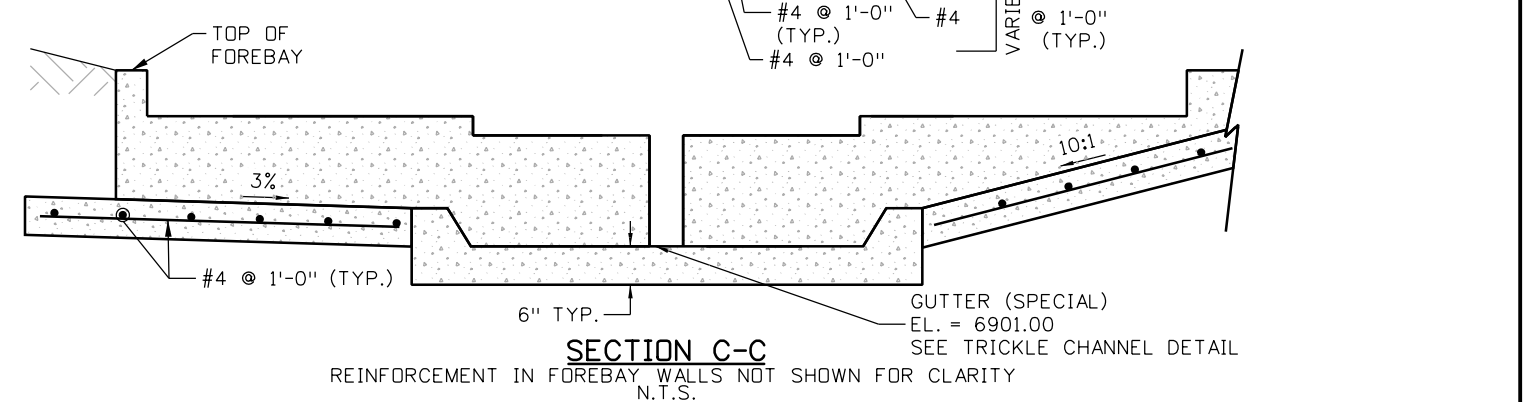
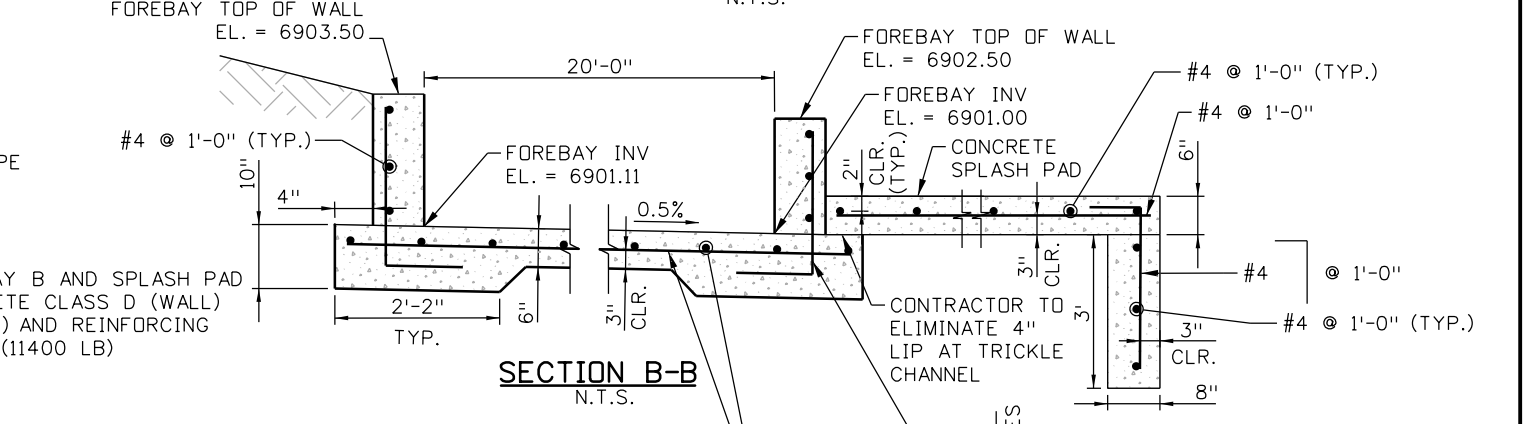
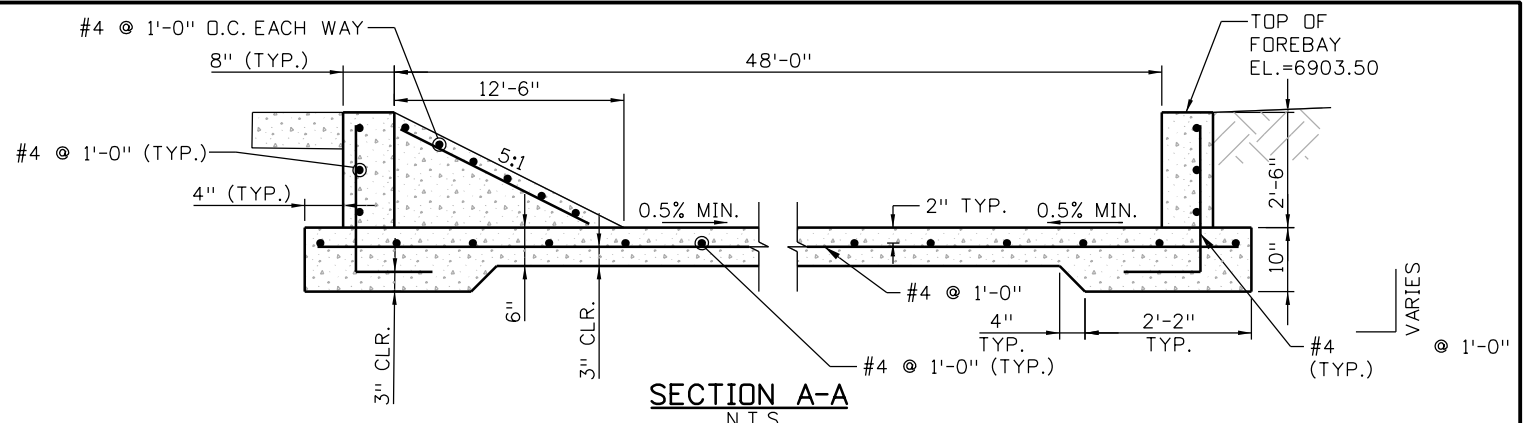
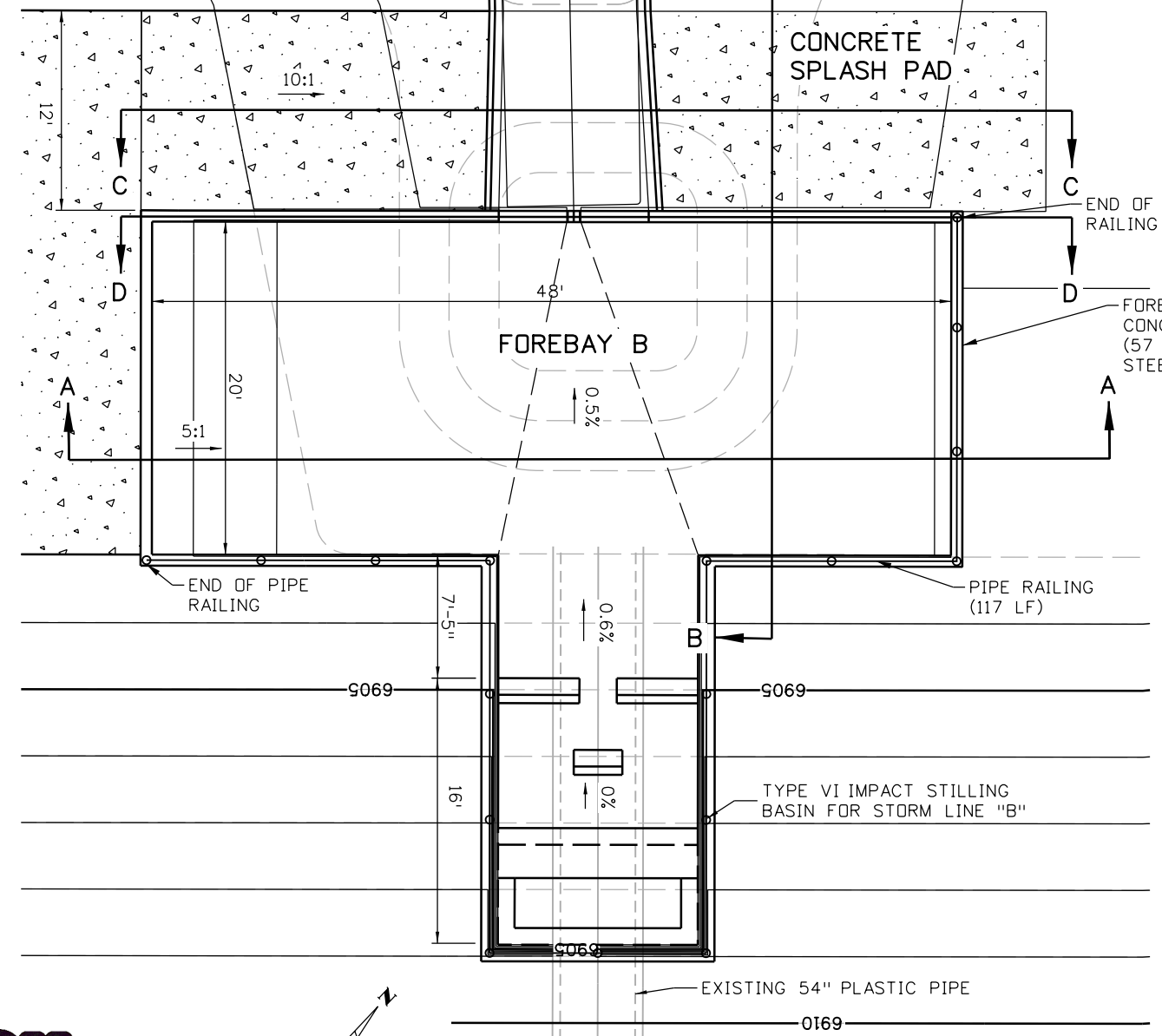
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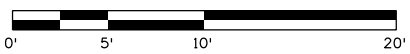
The scope of my authority, with respect to these plans is limited to: Structural Design



The scope of my authority, with respect to these plans is limited to: Drainage Design



NOTES:
1. CONCRETE FOREBAY SHALL HAVE A CLASS 1 FINISH.



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Horiz. Scale: 1:10
Vert. Scale: As Noted

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Date:	Comments	Init.	

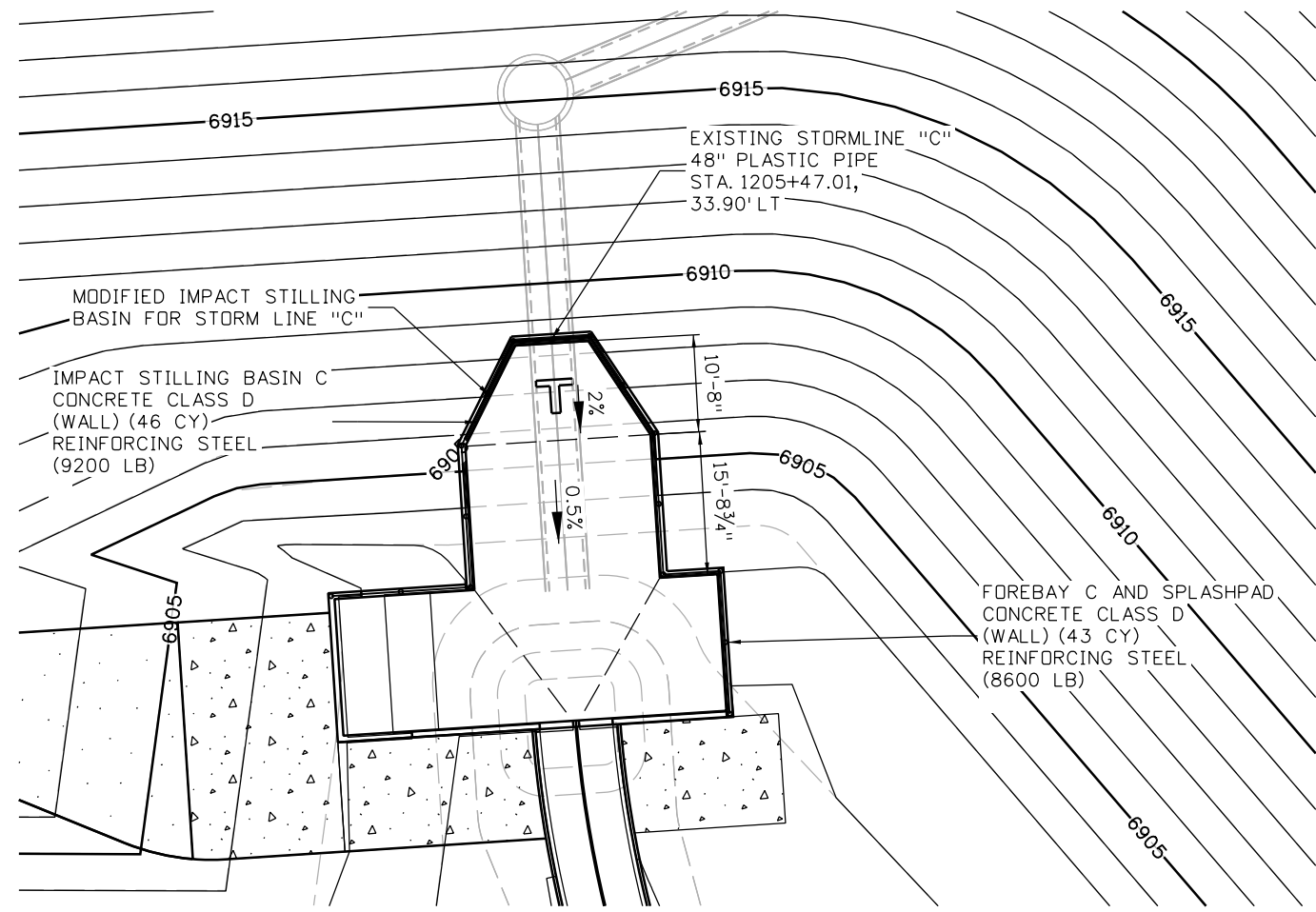


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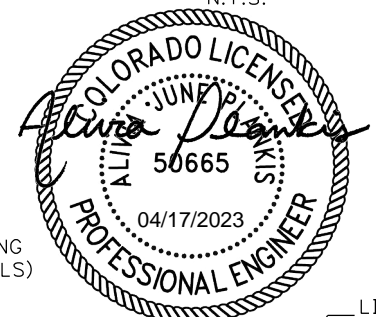
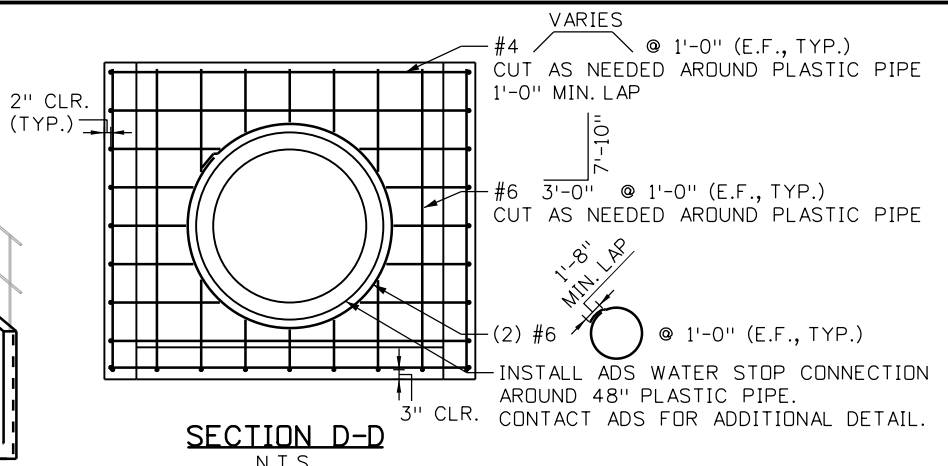
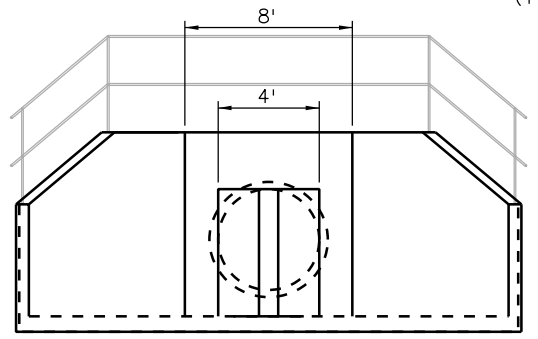
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Detailer:	JMM		
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Project No./Code	16131-11
Sheet Number	30

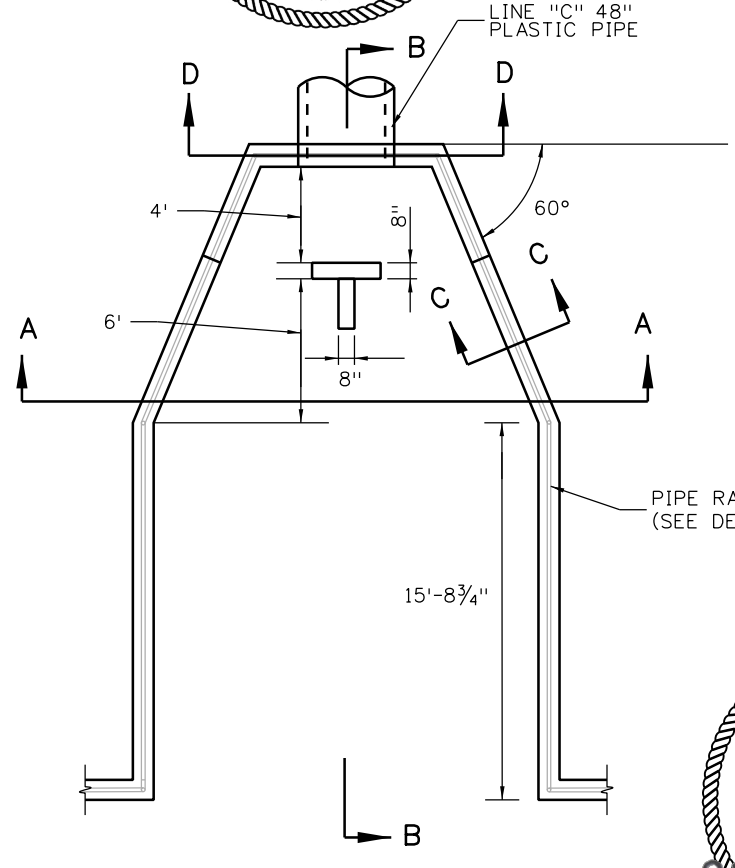
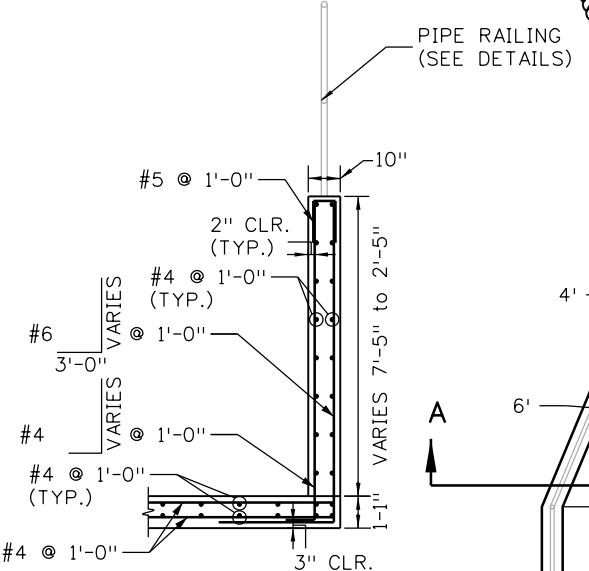
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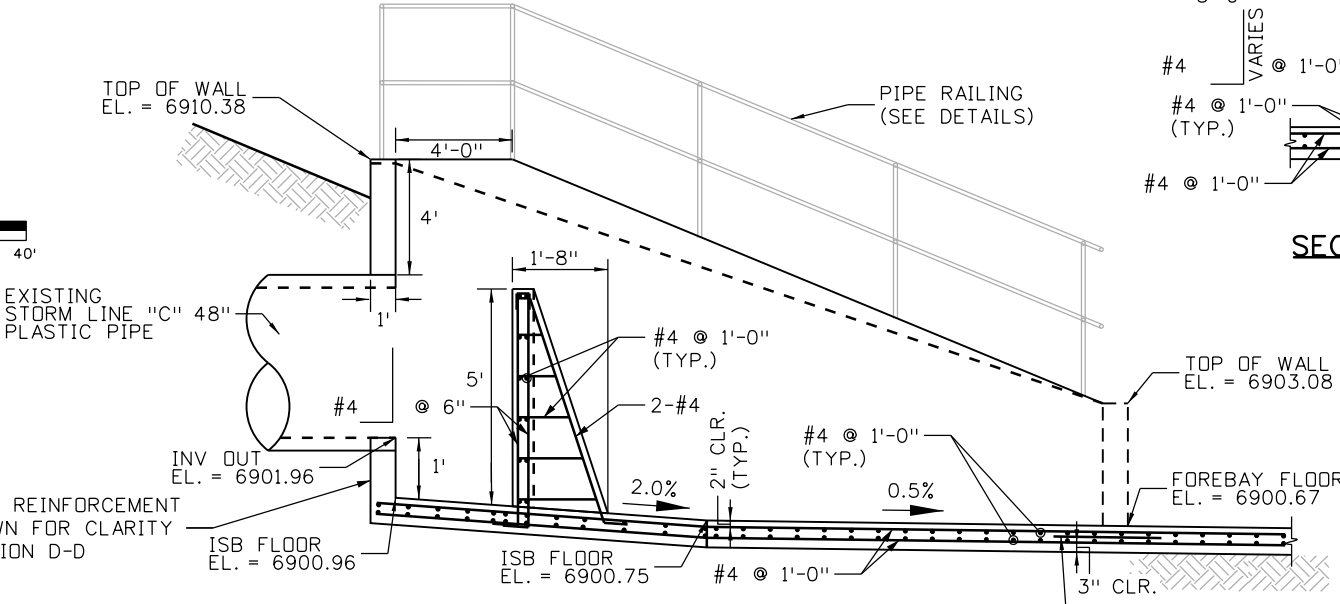
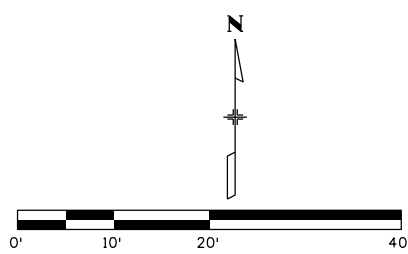
NOTES:
 1. HORIZONTAL REINFORCING IN WALLS SHALL BE CONTINUOUS AROUND ALL CORNERS.



The scope of my authority, with respect to these plans is limited to: **Structural Design**



The scope of my authority, with respect to these plans is limited to: **Drainage Design**



TIE ISB FLOOR TO FOREBAY FLOOR WITH #4X3'-0" DOWEL BARS @ 1'-0" SPACING, CENTER IN SLAB, PROJECT 1'-6"



Print Date: 4/4/2023
 File Name: 116131HYDR_Pond_Detail03.dgn
 Horiz. Scale: 1:20 Vert. Scale: As Noted

Sheet Revisions			
Date:	Comments	Init.	



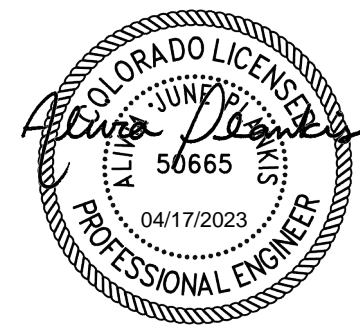
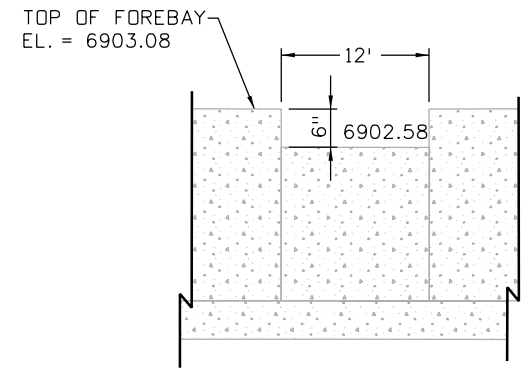
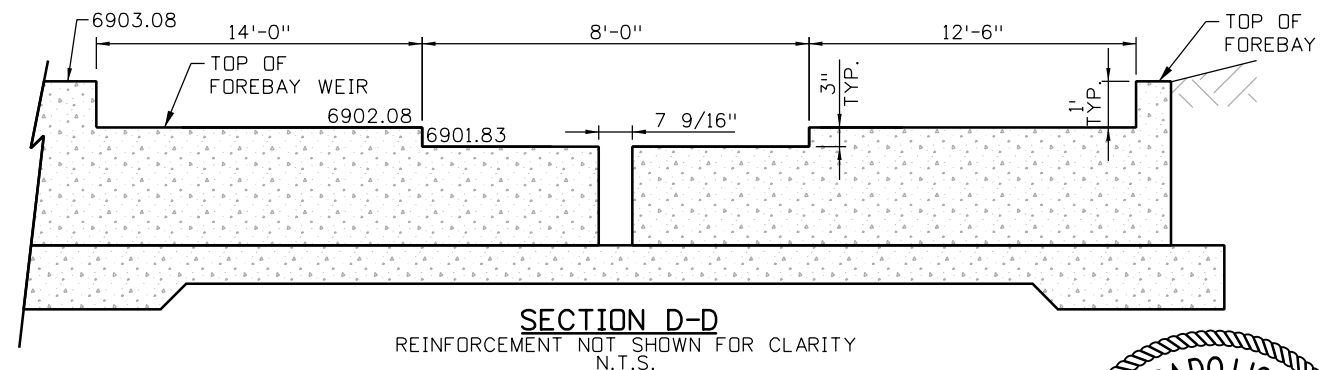
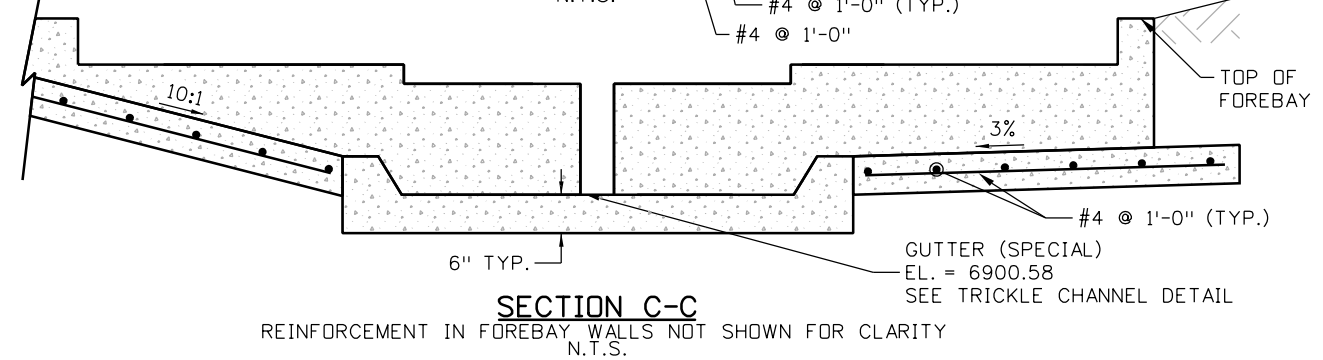
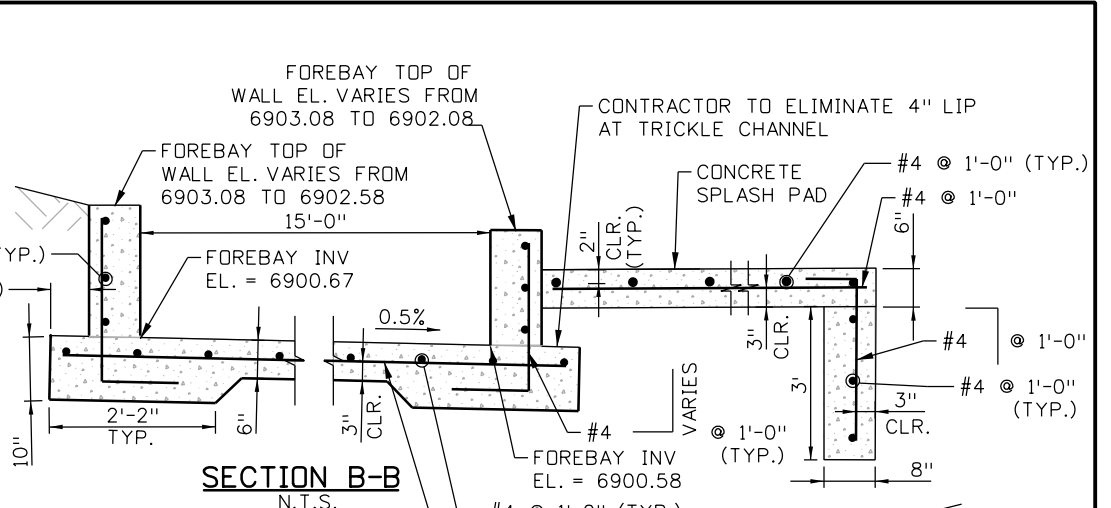
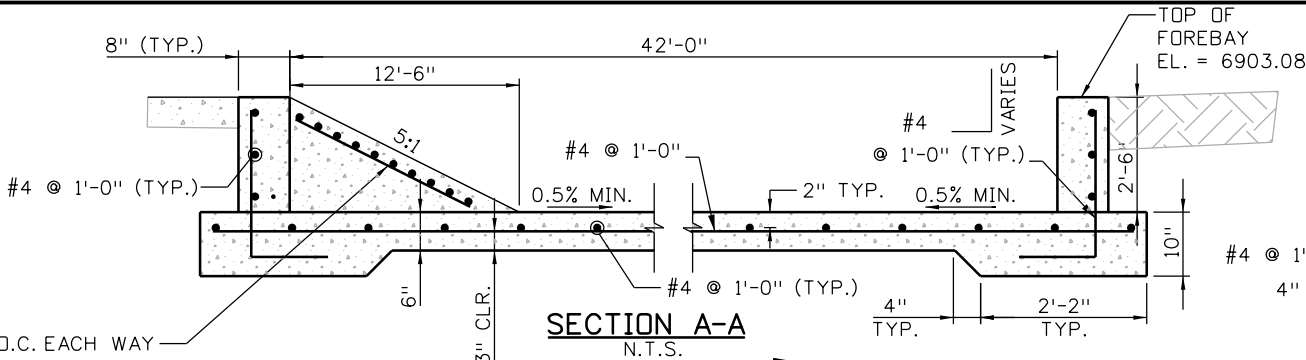
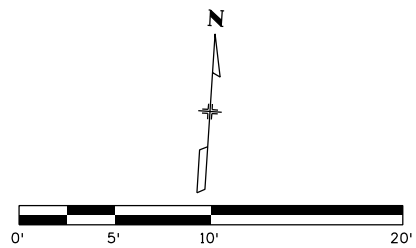
As Constructed	No Revisions:	Revised:	Void:
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FAIRFAX DETENTION AND WATER QUALITY POND IMPACT STILLING BASIN "C" DETAILS			
Designer:	SJT	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	DETAILS	Subset Sheets:	DT-03 of 12

Project No./Code	16131-11
Sheet Number	31

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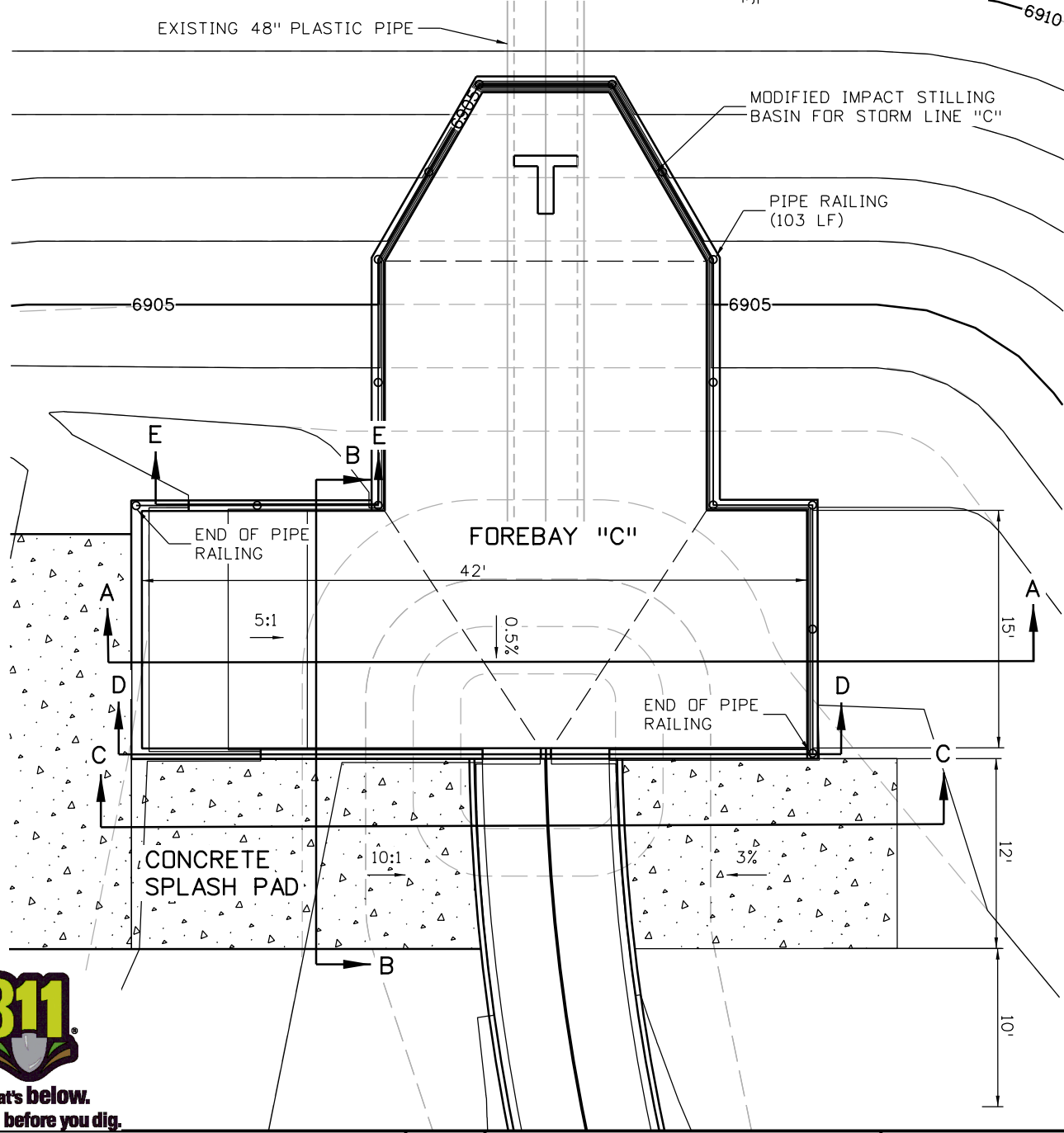
The scope of my authority, with respect to these plans is limited to: **Structural Design**



The scope of my authority, with respect to these plans is limited to: **Drainage Design**

NOTES:

1. CONCRETE FOREBAY SHALL HAVE A CLASS 1 FINISH.



Print Date: 4/17/2023

File Name: 116131HYDR_Pond_Detail04.dgn
 Horiz. Scale: 1:10 Vert. Scale: As Noted

Sheet Revisions			
Date:	Comments	Init.	



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No Revisions:
Revised:
Void:

FAIRFAX DETENTION AND WATER QUALITY POND FOREBAY "C" DETAILS			
Designer:	SJT	Structure Numbers:	
Detailer:	JMM	Subset Sheets:	DT-04 of 12
Sheet Subset:	DETAILS		

Project No./Code
16131-11
Sheet Number
32

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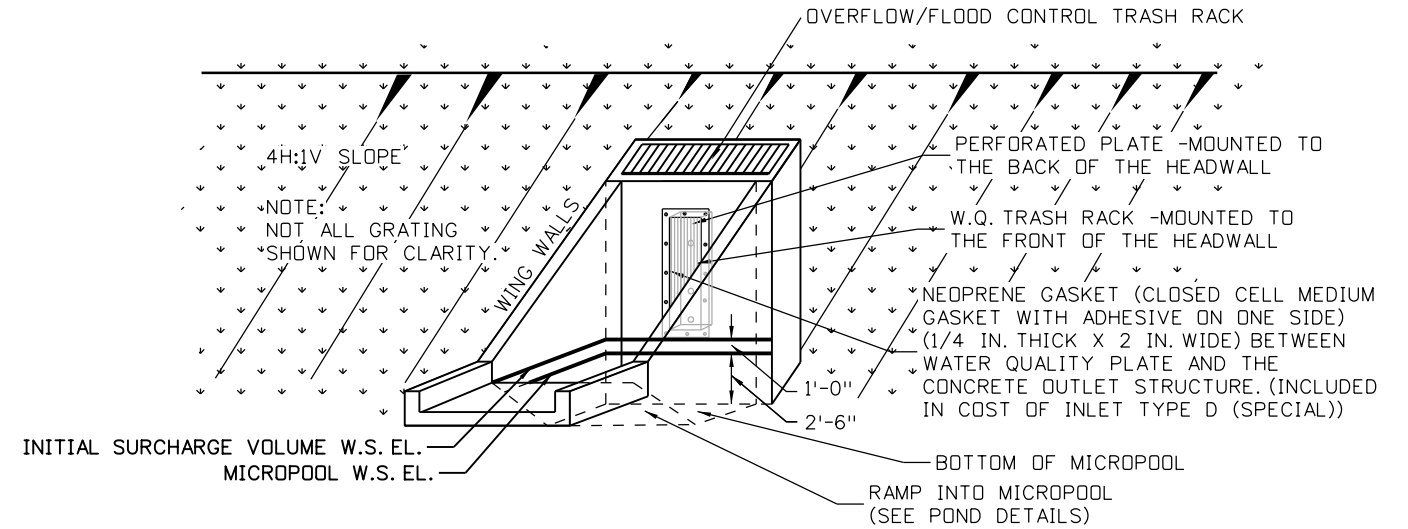
ID	TOTAL TRIBUTARY AREA (ACRES)	Q100 (C.F.S.)	PERCENT IMPERVIOUS	WATER QUALITY VOLUME (ACRE-FEET)	WATER QUALITY ELEVATION (FEET)	EXCESS URBAN RUNOFF VOLUME (ACRE-FEET)	EURV ELEVATION (FEET)	100-YEAR VOLUME (ACRE-FEET)	100-YEAR ELEVATION (FEET)	EMERGENCY SPILLWAY ELEVATION (FEET)	Q100 RELEASE (C.F.S.)
POND	86.29	242.1	45.72	1.27	6902.37	4.19	6904.41	7.89	6906.69	6906.70	71.1



The scope of my authority, with respect to these plans is limited to: **Structural Design**

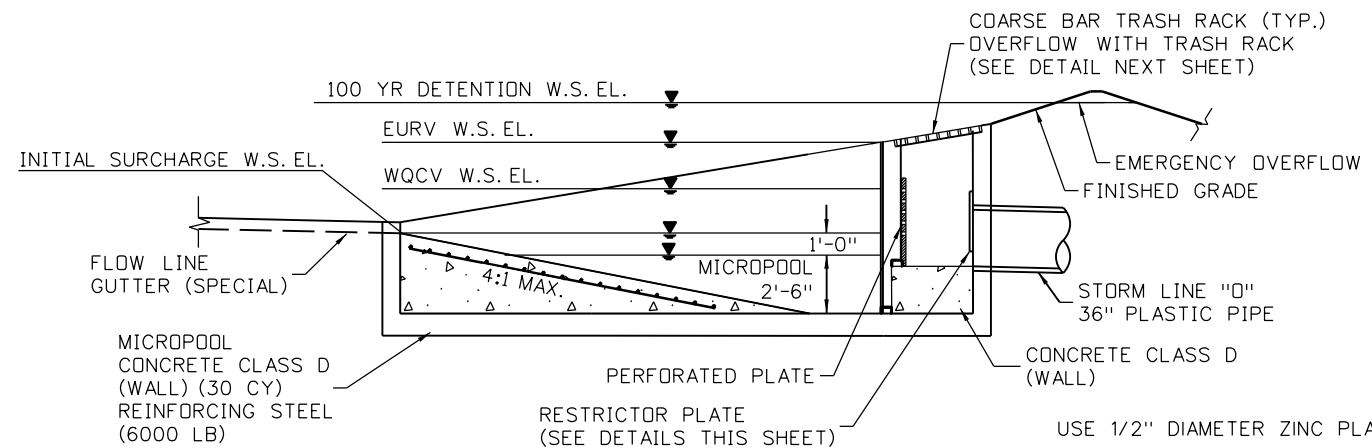


The scope of my authority, with respect to these plans is limited to: **Drainage Design**



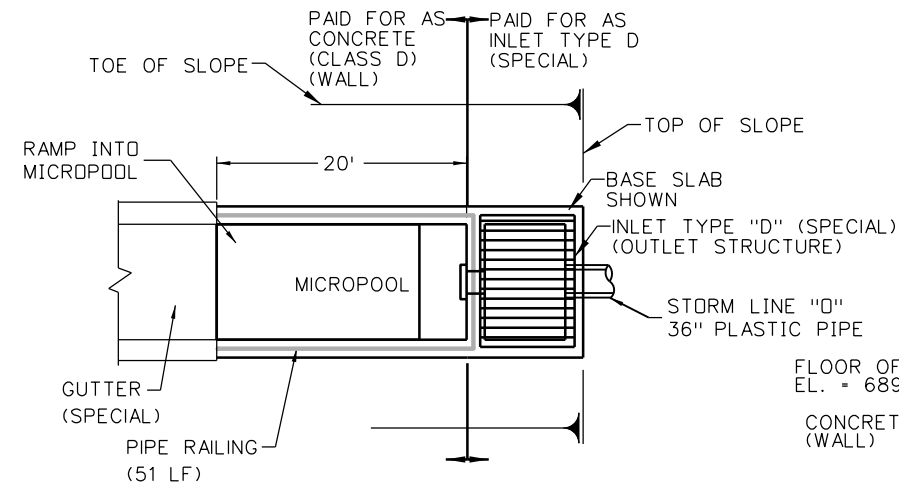
PERSPECTIVE VIEW OF INLET TYPE D (SPECIAL) WITH NONFLARED WINGWALLS

N.T.S.
SEE DRAINAGE DETAILS FOR ADDITIONAL INFORMATION
SLAB AND TRICKLE WALL NOT SHOWN FOR CLARITY



INLET TYPE D (SPECIAL)
N.T.S.

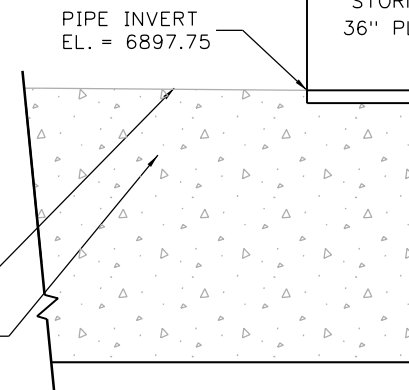
USE 1/2" DIAMETER ZINC PLATED STEEL HILTI KWIK BOLT (OR EQUIVALENT) TZ ANCHORS (4" MIN CONCRETE EMBEDMENT)



PLAN VIEW-NONFLARED WINGWALLS
N.T.S.

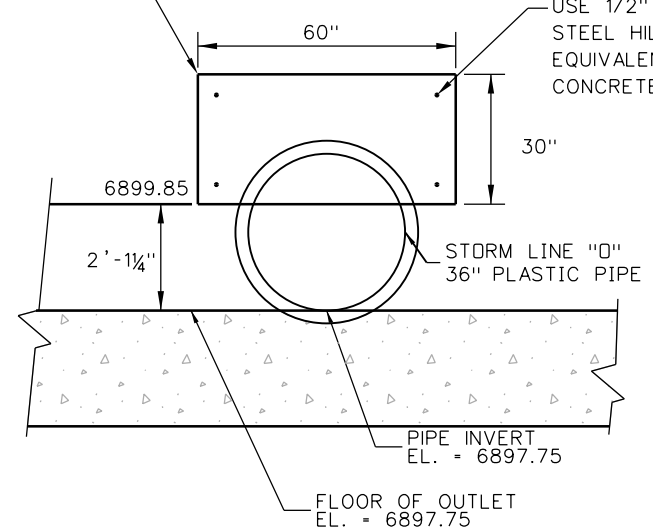
MIN. 3/8 INCH THICK RESTRICTOR PLATE GALVANIZED STEEL

PIPE INVERT EL. = 6897.75



RESTRICTOR PLATE POND DETAILS
N.T.S.

MIN. 3/8 INCH THICK RESTRICTOR PLATE GALVANIZED STEEL



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File Name: 116131HYDR_Pond_Detail05.dgn
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Date:	Comments	Init.



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FAIRFAX DETENTION AND WATER QUALITY POND OUTLET STRUCTURE DETAILS			
Designer:	SJT	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	DRAINAGE	Subset Sheets:	DT-05 of 12

Project No./Code
16131-11
Sheet Number
33

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4/17/2023 8:59:06 AM
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WQCV TRASH RACK:

- WELL-SCREEN TRASH RACKS SHALL BE ALUMINUM.
- THE SCREEN SHALL BE AN AMICO KLEMP SR SERIES ALUMINUM BAR GRATE (OR APPROVED EQUIVALENT) WITH 2-1/4" BY 3/16" BARS PLACED 1-3/4" O.C. WITH CROSS RODS PLACED 2" O.C. THE TRASH RACK SHALL BE WELDED TO AN ASSEMBLY OF 3"X3"X1/4" ALUMINUM ANGLE.

TRASH RACKS:

- ALL TRASH RACKS SHALL BE MOUNTED USING GALVANIZED STEEL HARDWARE AND PROVIDED WITH HINGED ACCESS PANELS.
- TRASH RACKS SHALL BE GALVANIZED STEEL. GALVANIZED STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED.
- ALL INCIDENTAL MATERIALS REQUIRED TO CONSTRUCT TRASH RACKS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF INLET TYPE D (SPECIAL) (EACH).

INLET TYPE D (SPECIAL):

- ALL INCIDENTAL ITEMS REQUIRED FOR CONSTRUCTION OF INLET SHALL BE INCLUDED IN THE COST OF INLET TYPE D (SPECIAL) (EA).
- ALL REBAR SHALL BE INCLUDED IN THE COST OF INLET TYPE D (SPECIAL).

C10X15.3 GALVANIZED STEEL CHANNEL (TYPICAL 3 SIDES)

1/2" DIAM VENT HOLES 3 PER CHANNEL AS SHOWN

1/2" x 5" GALVANIZED STEEL NELSON STUDS AT 1'-0" MAX SPACING (TYPICAL SIDES AND TOP AS SHOWN)

3"X3"X1/4" ALUMINUM ANGLE (TYP.)

AMICO KLEMP SR SERIES ALUMINUM BAR GRATE 3/16" WIDTH BARS ON 1-3/4" CENTERS

PROVIDE HINGES ON THE UPSLOPE EDGE OF THE TRASH RACK. FABRICATOR SHALL PROVIDE 180-DEGREE HINGES SO THE RACK CAN LAY FLAT ON THE UPSLOPE SOIL.

HOT DIP GALVANIZE ENTIRE TOP TRASH RACK ASSEMBLY

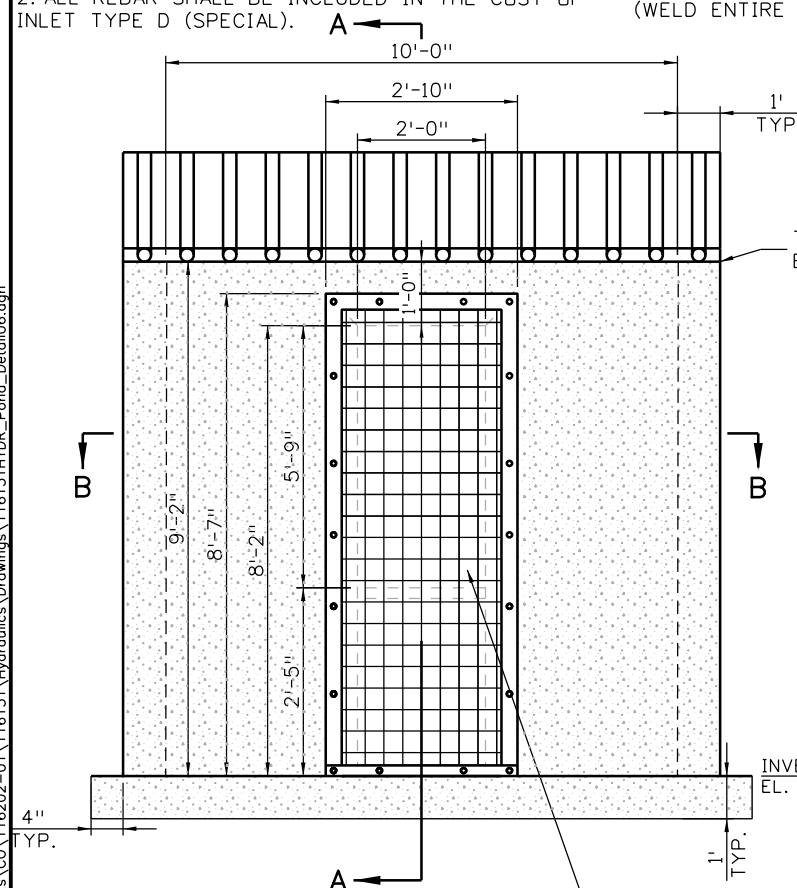
2-1/2" DIA. SCH 40 STEEL PIPE

OVERFLOW TRASH RACK
N.T.S.

CHANNEL ASSEMBLY DETAIL

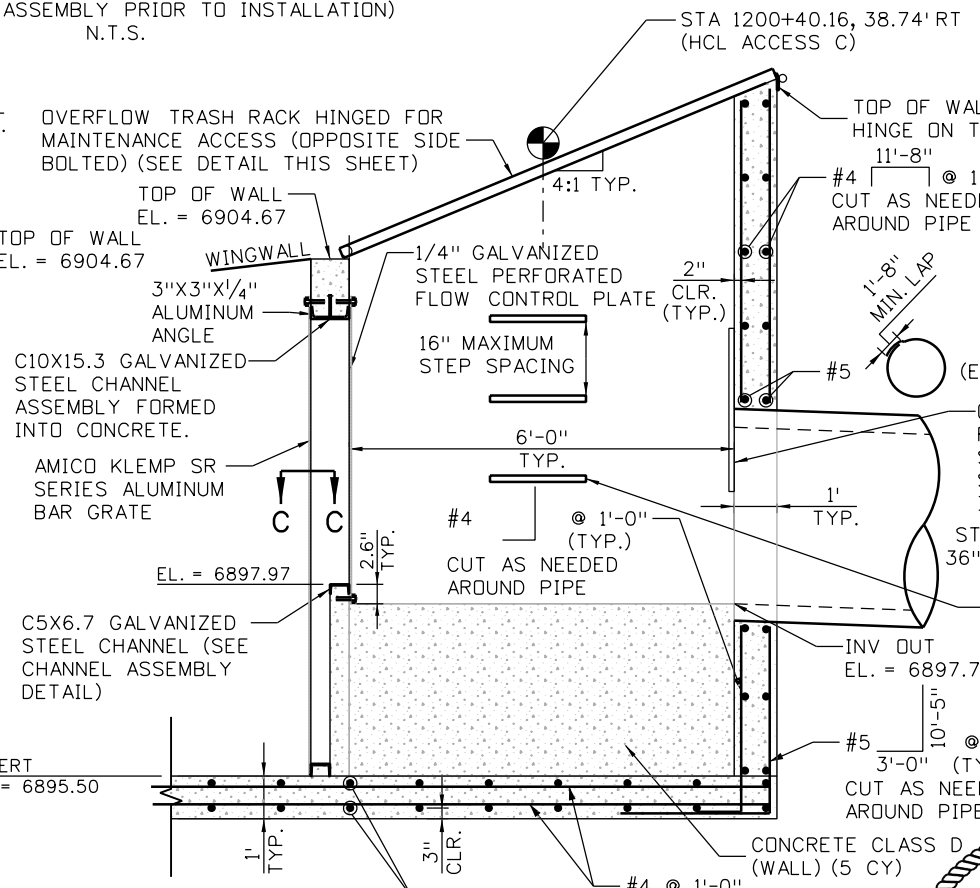
(WELD ENTIRE ASSEMBLY PRIOR TO INSTALLATION)
N.T.S.

FLOW CONTROL PLATE DETAIL



FRONT VIEW

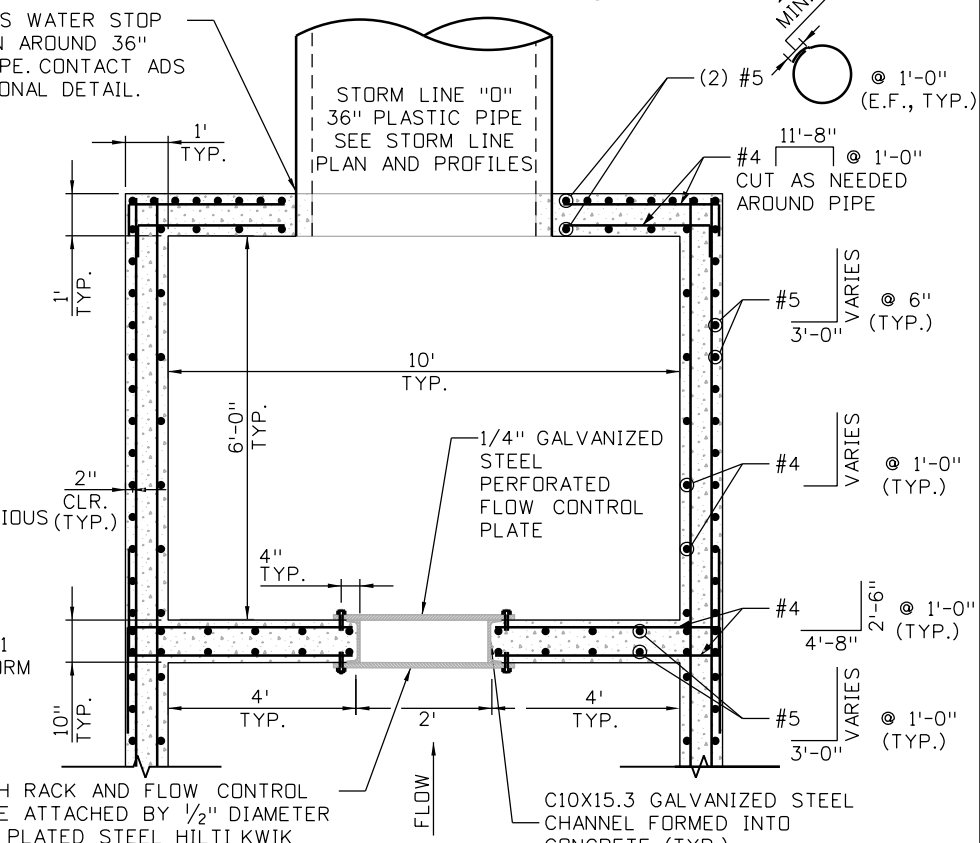
REINFORCEMENT NOT SHOWN FOR CLARITY
N.T.S.



SECTION A-A
N.T.S.

INSTALL ADS WATER STOP CONNECTION AROUND 36" PLASTIC PIPE. CONTACT ADS FOR ADDITIONAL DETAIL.

STORM LINE "0" 36" PLASTIC PIPE SEE STORM LINE PLAN AND PROFILES!



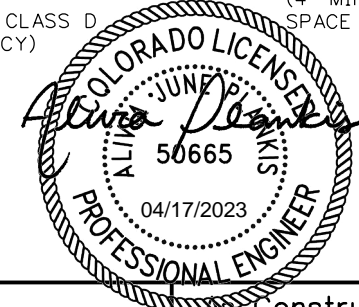
SECTION B-B/PLAN VIEW
INLET TYPE D (SPECIAL)
N.T.S.



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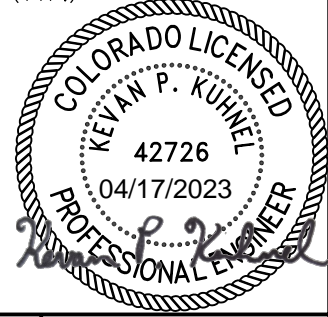
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File Name: 116131HYDR_Pond_Detail06.dgn
Horiz. Scale: 1:6
Vert. Scale: As Noted

Sheet Revisions			
Date:	Comments	Init.	



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Structural Design

The scope of my authority, with respect to these plans is limited to:
Drainage Design



As Constructed	FAIRFAX DETENTION AND WATER QUALITY POND OUTLET STRUCTURE DETAILS		Project No./Code
No Revisions:	Designer: SJT	Structure Numbers:	16131-11
Revised:	Detailer: JMM	Subset Sheets:	DT-06 of 12
Void:	Sheet Subset: DRAINAGE	Sheet Number	34

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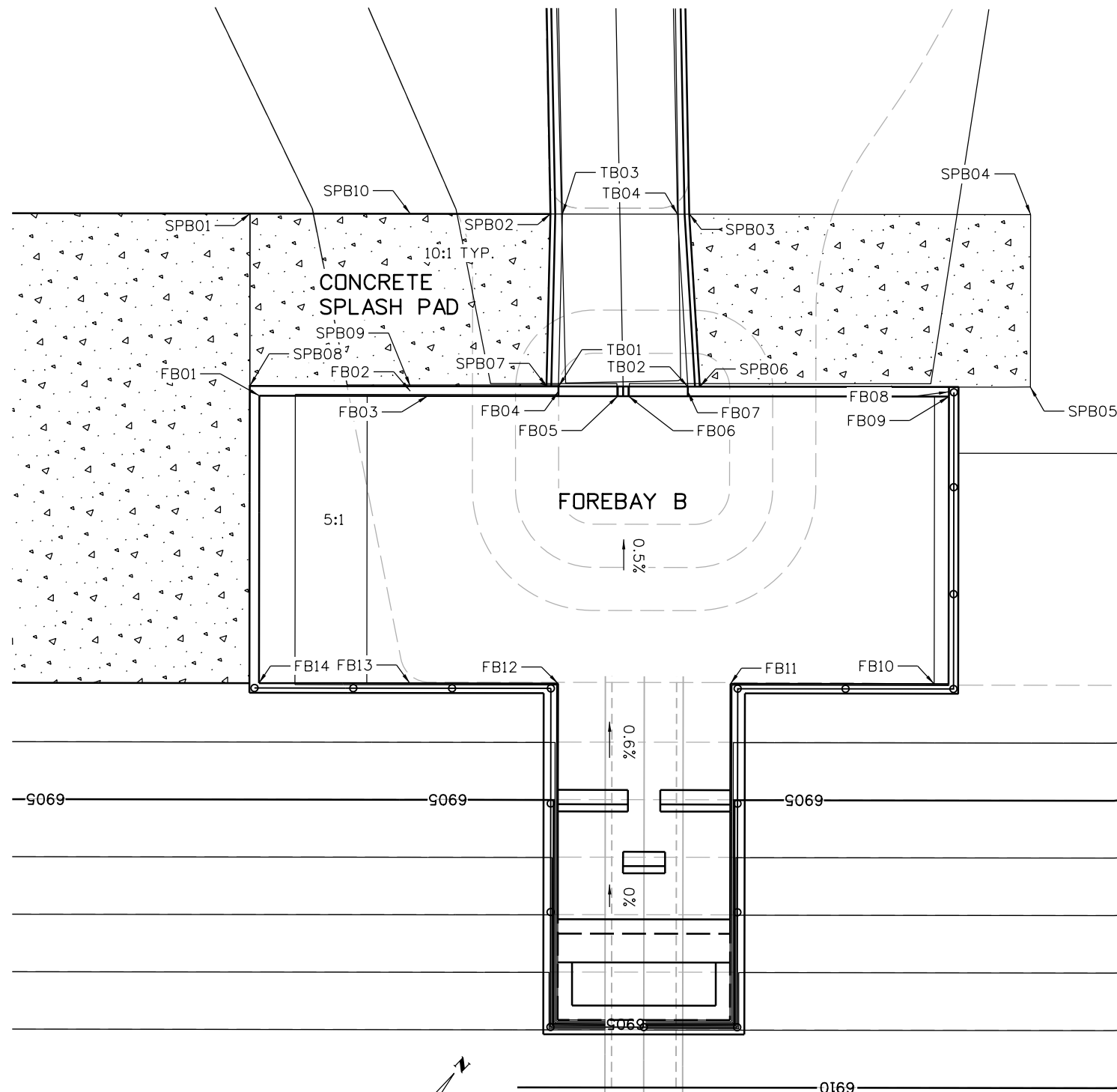
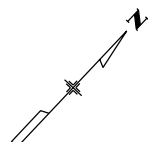
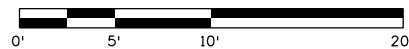
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FOREBAY B POINT DATA

POINT	NORTHING	EASTING	TOP	BOTTOM	DESCRIPTION
FB01	1410246.68	3220460.18	6903.50	6903.50	FOREBAY WALL - FINISHED GRADE
FB02	1410254.70	3220468.70	6903.50	6902.50	FOREBAY WALL - 1' TOP OF WALL STEP
FB03	1410260.94	3220475.34	6902.50	6901.16	FOREBAY WALL - FINISHED GRADE
FB04	1410269.16	3220484.08	6902.50	6902.25	LIMITS OF 3" DEPRESSION - FINISHED GRADE
FB05	1410279.57	3220495.14	6902.25	6901.00	FOREBAY WALL - FINISHED GRADE
FB06	1410294.13	3220481.44	6902.25	6901.00	FOREBAY WALL - FINISHED GRADE
FB07	1410293.69	3220480.48	6902.50	6902.25	LIMITS OF 3" DEPRESSION - FINISHED GRADE
FB08	1410281.92	3220467.96	6903.50	6902.50	FOREBAY WALL - 1' TOP OF WALL STEP
FB09	1410278.85	3220465.19	6903.50	6901.11	FOREBAY WALL - FINISHED GRADE
FB10	1410278.34	3220464.64	6903.50	6901.18	FOREBAY WALL - FINISHED GRADE
FB11	1410275.75	3220461.41	6903.50	6901.11	FOREBAY WALL - FINISHED GRADE
FB12	1410269.26	3220455.00	6903.50	6901.11	FOREBAY WALL - FINISHED GRADE
FB13	1410268.69	3220453.89	6903.50	6901.16	FOREBAY WALL - FINISHED GRADE
FB14	1410261.25	3220446.47	6903.50	6903.50	FOREBAY WALL - FINISHED GRADE

SPLASH PAD B POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SPB01	1410270.02	3220437.31	6903.44	EDGE OF CONCRETE SPLASH PAD
SPB02	1410284.35	3220452.53	6901.44	EDGE OF CONCRETE SPLASH PAD
SPB03	1410290.97	3220459.58	6901.44	EDGE OF CONCRETE SPLASH PAD
SPB04	1410307.25	3220476.88	6902.15	EDGE OF CONCRETE SPLASH PAD
SPB05	1410298.51	3220485.11	6902.19	EDGE OF CONCRETE SPLASH PAD
SPB06	1410282.74	3220468.34	6901.50	EDGE OF CONCRETE SPLASH PAD
SPB07	1410275.43	3220460.57	6901.50	EDGE OF CONCRETE SPLASH PAD
SPB08	1410261.28	3220445.53	6903.50	EDGE OF CONCRETE SPLASH PAD
SPB09	1410268.93	3220453.66	6902.50	EDGE OF CONCRETE SPLASH PAD
SPB10	1410277.66	3220445.43	6902.44	EDGE OF CONCRETE SPLASH PAD

TRICKLE FLARE POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
TB01	1410276.00	3220461.18	6901.00	TRICKLE FLOWLINE, BEGIN TRICKLE FLARE
TB02	1410282.16	3220467.73	6901.00	TRICKLE FLOWLINE, BEGIN TRICKLE FLARE
TB03	1410284.92	3220453.14	6900.94	TRICKLE FLOWLINE, END TRICKLE FLARE
TB04	1410290.40	3220458.97	6900.94	TRICKLE FLOWLINE, END TRICKLE FLARE



Sheet Revisions			
Date:	Comments	Init.	



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FAIRFAX DETENTION AND WATER QUALITY POND FOREBAY "B" SPOT ELEVATIONS			
Designer:	SJT	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	DETAILS	Subset Sheets:	DT-07 of 12

Project No./Code	16131-11
Sheet Number	35

Jordan.Martin 4/17/2023 9:06:54 AM DGN MODEL:Sheet pw:\fh-u-pw-bentley.com\fh-u-01\Documents\Clients\CO\116202-01\116131\Hydraulics\Drawings\116131HYDR_Pond_Detail08.dgn



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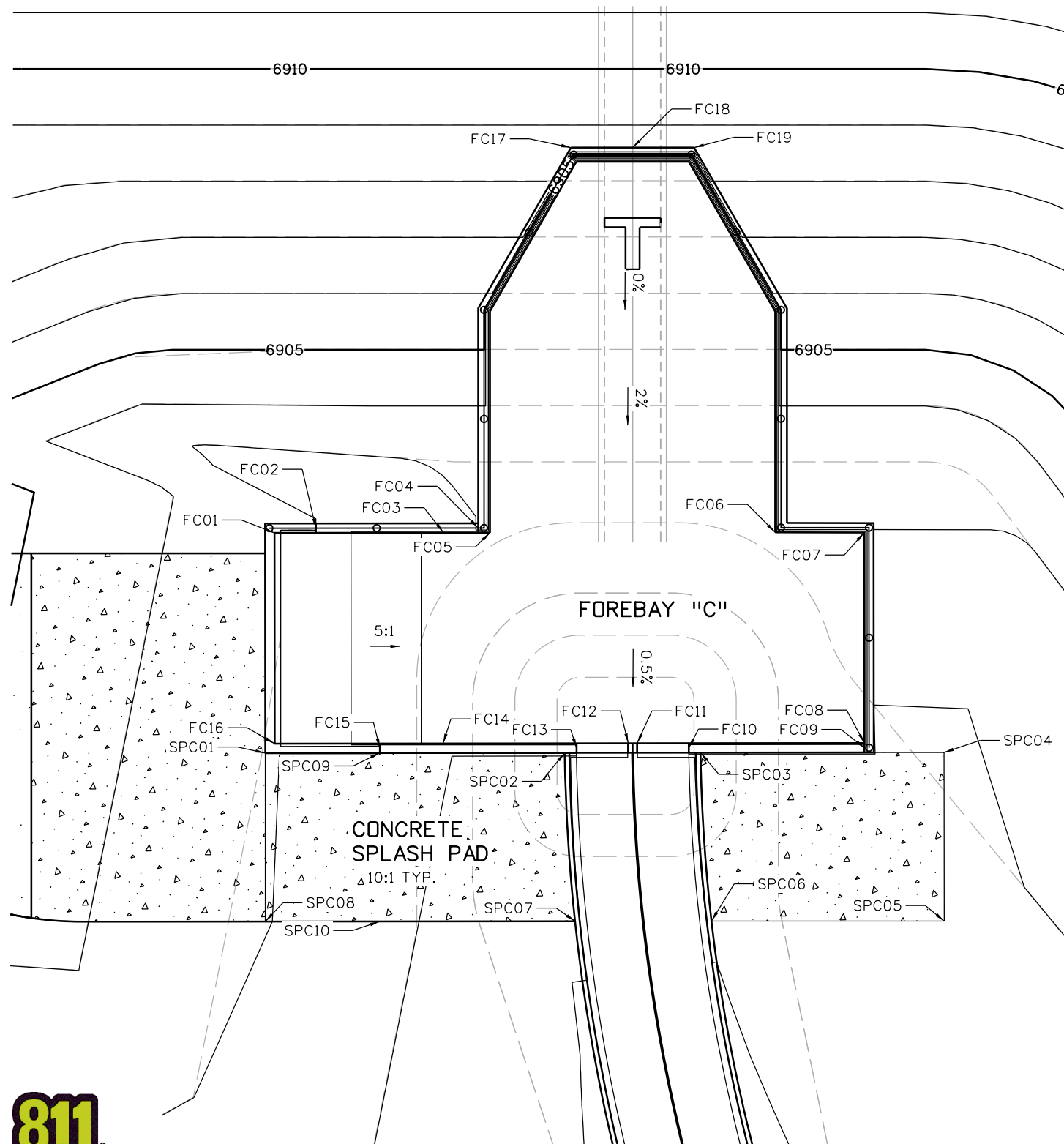
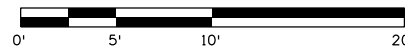
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File Name: 116131HYDR_Pond_Detail08.dgn
Horiz. Scale: 1:10 Vert. Scale: As Noted

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Date:	Comments	Init.



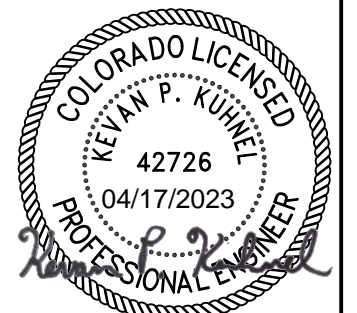
FOREBAY C POINT DATA

POINT	NORTHING	EASTING	TOP	BOTTOM	DESCRIPTION
FC01	1410497.17	3220280.12	6903.08	6903.08	FOREBAY WALL - FINISHED GRADE
FC02	1410497.70	3220283.04	6903.08	6902.58	LIMITS OF 6" DEPRESSION - FINISHED GRADE
FC03	1410497.95	3220292.10	6902.58	6900.69	FOREBAY WALL - FINISHED GRADE
FC04	1410498.45	3220294.58	6903.08	6902.58	LIMITS OF 6" DEPRESSION - FINISHED GRADE
FC05	1410498.17	3220295.43	6903.08	6900.67	FOREBAY WALL - FINISHED GRADE
FC06	1410499.49	3220315.70	6903.08	6900.67	FOREBAY WALL - FINISHED GRADE
FC07	1410499.89	3220322.03	6903.08	6900.70	FOREBAY WALL - FINISHED GRADE
FC08	1410484.92	3220323.00	6903.08	6900.66	FOREBAY WALL - FINISHED GRADE
FC09	1410484.59	3220323.02	6903.08	6902.08	FOREBAY WALL - 1' TOP OF WALL STEP
FC10	1410483.78	3220310.55	6902.08	6901.83	LIMITS OF 3" DEPRESSION - FINISHED GRADE
FC11	1410483.87	3220306.85	6901.83	6900.58	FOREBAY WALL - FINISHED GRADE
FC12	1410483.83	3220306.22	6901.83	6900.58	FOREBAY WALL - FINISHED GRADE
FC13	1410483.26	3220302.56	6902.08	6901.83	LIMITS OF 3" DEPRESSION - FINISHED GRADE
FC14	1410482.98	3220293.07	6902.08	6900.69	FOREBAY WALL - FINISHED GRADE
FC15	1410482.35	3220288.58	6903.08	6902.08	FOREBAY WALL - 1' TOP OF WALL STEP
FC16	1410482.20	3220281.09	6903.08	6903.08	FOREBAY WALL - FINISHED GRADE
FC17*	1410525.90	3220299.44	6910.38	6908.70	ISB HEADWALL - FINISHED GRADE
FC18*	1410526.18	3220303.81	6910.38	6908.80	ISB HEADWALL - FINISHED GRADE
FC19*	1410526.46	3220308.18	6910.38	6908.70	ISB HEADWALL - FINISHED GRADE

*BOTTOM ELEVATION IS FINISHED GRADE OF SOIL ON THE HIGH SIDE OF THE WALL

SPLASH PAD C POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
SPC01	1410481.49	3220280.46	6903.08	EDGE OF CONCRETE SPLASH PAD
SPC02	1410482.87	3220301.75	6901.08	EDGE OF CONCRETE SPLASH PAD
SPC03	1410483.50	3220311.39	6901.08	EDGE OF CONCRETE SPLASH PAD
SPC04	1410484.62	3220328.70	6901.60	EDGE OF CONCRETE SPLASH PAD
SPC05	1410472.65	3220329.48	6901.51	EDGE OF CONCRETE SPLASH PAD
SPC06	1410471.57	3220312.94	6901.02	EDGE OF CONCRETE SPLASH PAD
SPC07	1410470.94	3220303.24	6901.02	EDGE OF CONCRETE SPLASH PAD
SPC08	1410469.52	3220281.24	6903.02	EDGE OF CONCRETE SPLASH PAD
SPC09	1410482.02	3220288.60	6902.38	EDGE OF CONCRETE SPLASH PAD
SPC10	1410470.04	3220289.37	6902.32	EDGE OF CONCRETE SPLASH PAD



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FAIRFAX DETENTION AND WATER QUALITY POND
FOREBAY "C" SPOT ELEVATIONS

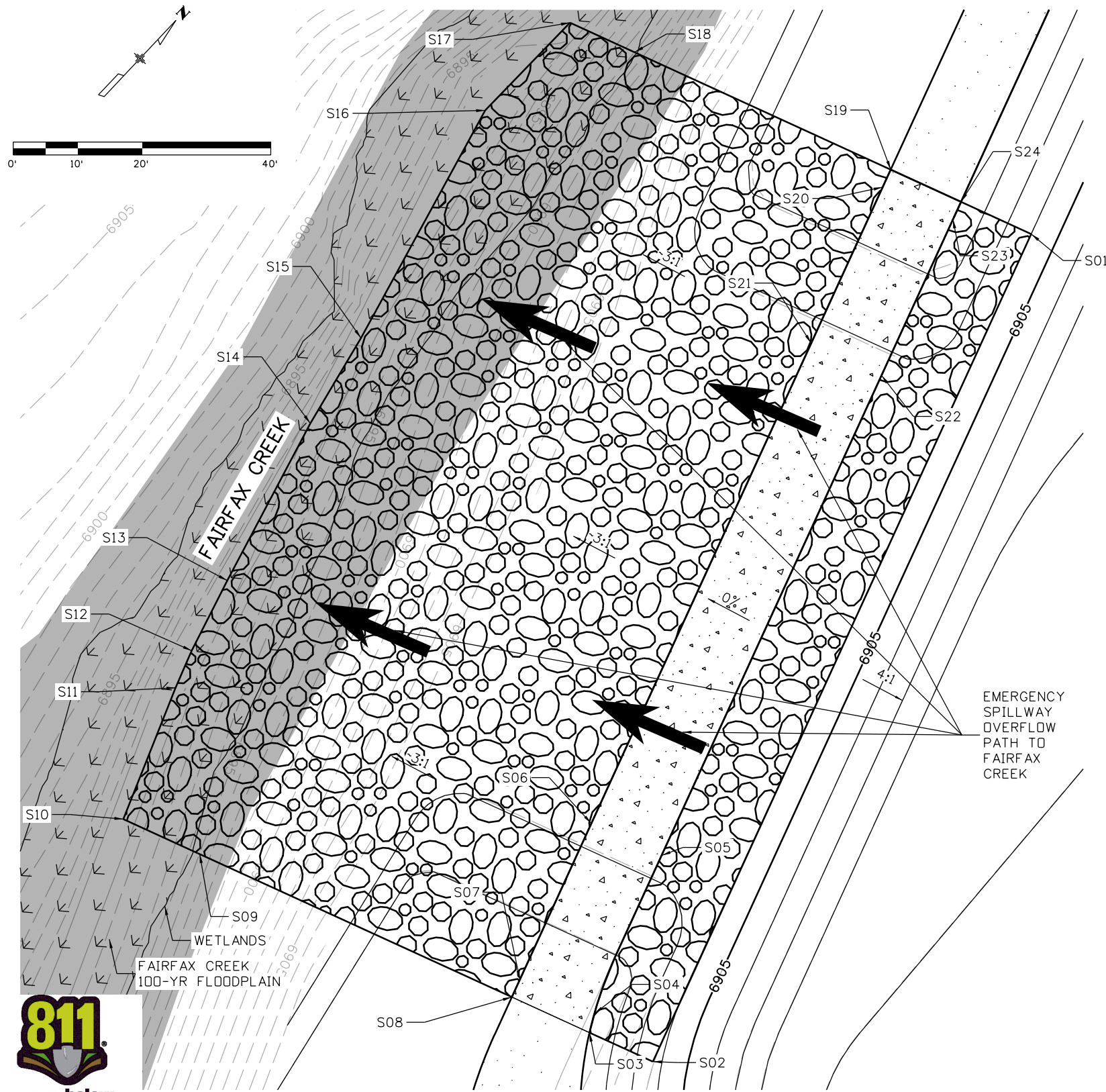
Designer: SJT Structure Numbers
Detailer: JMM
Sheet Subset: DETAILS Subset Sheets: DT-08 of 12

Project No./Code

16131-11

Sheet Number

36



SPILLWAY SOIL RIPRAP (TYPE M, 12 INCH) POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
S01	1410331.53	3220199.30	6906.00	SOIL RIPRAP FINISHED GRADE
S02	1410197.71	3220244.72	6906.06	SOIL RIPRAP FINISHED GRADE
S03	1410194.23	3220234.47	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S04	1410196.91	3220233.02	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S05	1410221.92	3220223.75	6906.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S06	1410218.07	3220212.39	6906.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S07	1410192.82	3220220.94	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S08	1410189.98	3220221.90	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S09	1410172.87	3220171.40	6895.00	SOIL RIPRAP FINISHED GRADE
S10	1410168.69	3220159.05	6885.34	SOIL RIPRAP FINISHED GRADE
S11	1410189.07	3220150.96	6885.57	SOIL RIPRAP FINISHED GRADE
S12	1410195.00	3220148.83	6885.61	SOIL RIPRAP FINISHED GRADE
S13	1410206.69	3220145.38	6885.62	SOIL RIPRAP FINISHED GRADE
S14	1410233.30	3220138.01	6886.08	SOIL RIPRAP FINISHED GRADE
S15	1410248.35	3220134.65	6887.09	SOIL RIPRAP FINISHED GRADE
S16	1410287.30	3220124.42	6887.46	SOIL RIPRAP FINISHED GRADE
S17	1410306.25	3220124.66	6888.27	SOIL RIPRAP FINISHED GRADE
S18	1410309.79	3220135.12	6899.00	SOIL RIPRAP FINISHED GRADE
S19	1410323.83	3220176.56	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S20	1410320.99	3220177.53	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S21	1410295.74	3220186.08	6906.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S22	1410299.59	3220197.45	6906.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S23	1410324.84	3220188.89	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS
S24	1410327.68	3220187.93	6908.70	SOIL RIPRAP FINISHED GRADE, EDGE OF ACCESS



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Sheet Revisions			
Date:	Comments	Init.	



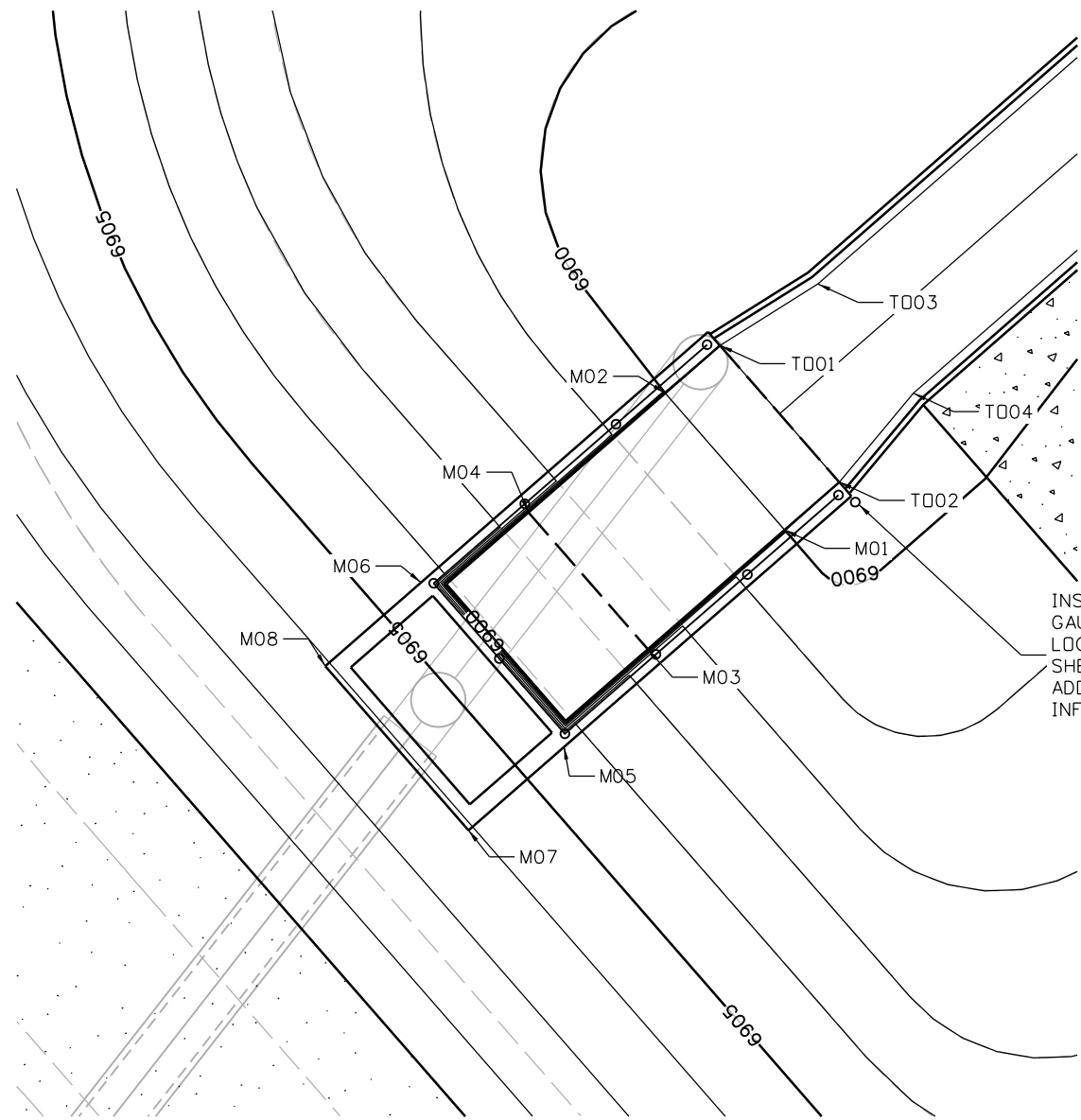
As Constructed
 No Revisions:
 Revised:
 Void:

FAIRFAX DETENTION AND WATER QUALITY POND SPILLWAY SPOT ELEVATIONS

Designer: SJT Structure Numbers
 Detailer: JMM
 Sheet Subset: DETAILS Subset Sheets: DT-09 of 12

Project No./Code
 16131-11
 Sheet Number **37**

Jordan.Martin
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INSTALL DEPTH GAUGE AT THIS LOCATION. SEE SHEET 27 FOR ADDITIONAL INFORMATION.

OUTLET STRUCTURE POINT DATA

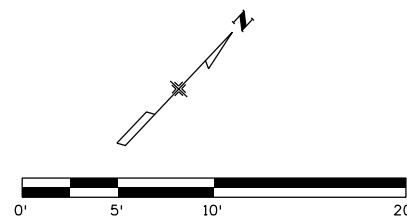
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
M01	1410197.01	3220307.41	6899.00	MICROPOOL FLOOR AT TRICKLE CHANNEL
M02	1410197.98	3220297.45	6899.00	MICROPOOL FLOOR AT TRICKLE CHANNEL
M03	1410187.05	3220306.44	6895.50	MICROPOOL FLOOR
M04	1410188.02	3220296.48	6895.50	MICROPOOL FLOOR
M05	1410179.98	3220306.77	6904.67	TOP OF INLET TYPE D (SPECIAL)
M06	1410181.16	3220294.83	6904.67	TOP OF INLET TYPE D (SPECIAL)
M07	1410173.02	3220306.09	6906.42	TOP OF INLET TYPE D (SPECIAL)
M08	1410174.19	3220294.15	6906.42	TOP OF INLET TYPE D (SPECIAL)

TRICKLE FLARE POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
T001	1410201.96	3220297.84	6899.00	TRICKLE FLOWLINE, BEGIN TRICKLE FLARE
T002	1410200.99	3220307.79	6899.00	TRICKLE FLOWLINE, BEGIN TRICKLE FLARE
T003	1410208.13	3220299.45	6899.03	TRICKLE FLOWLINE, END TRICKLE FLARE
T004	1410207.36	3220307.41	6899.03	TRICKLE FLOWLINE, END TRICKLE FLARE



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 4/4/2023 7:06:22 AM
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Print Date: 4/4/2023
 File Name: 116131HYDR_Pond_Detail10.dgn
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**FAIRFAX DETENTION AND WATER QUALITY POND
OUTLET SPOT ELEVATIONS**

Designer: SJT Structure Numbers
 Detailer: JMM

Sheet Subset: DETAILS Subset Sheets: DT-10 of 12

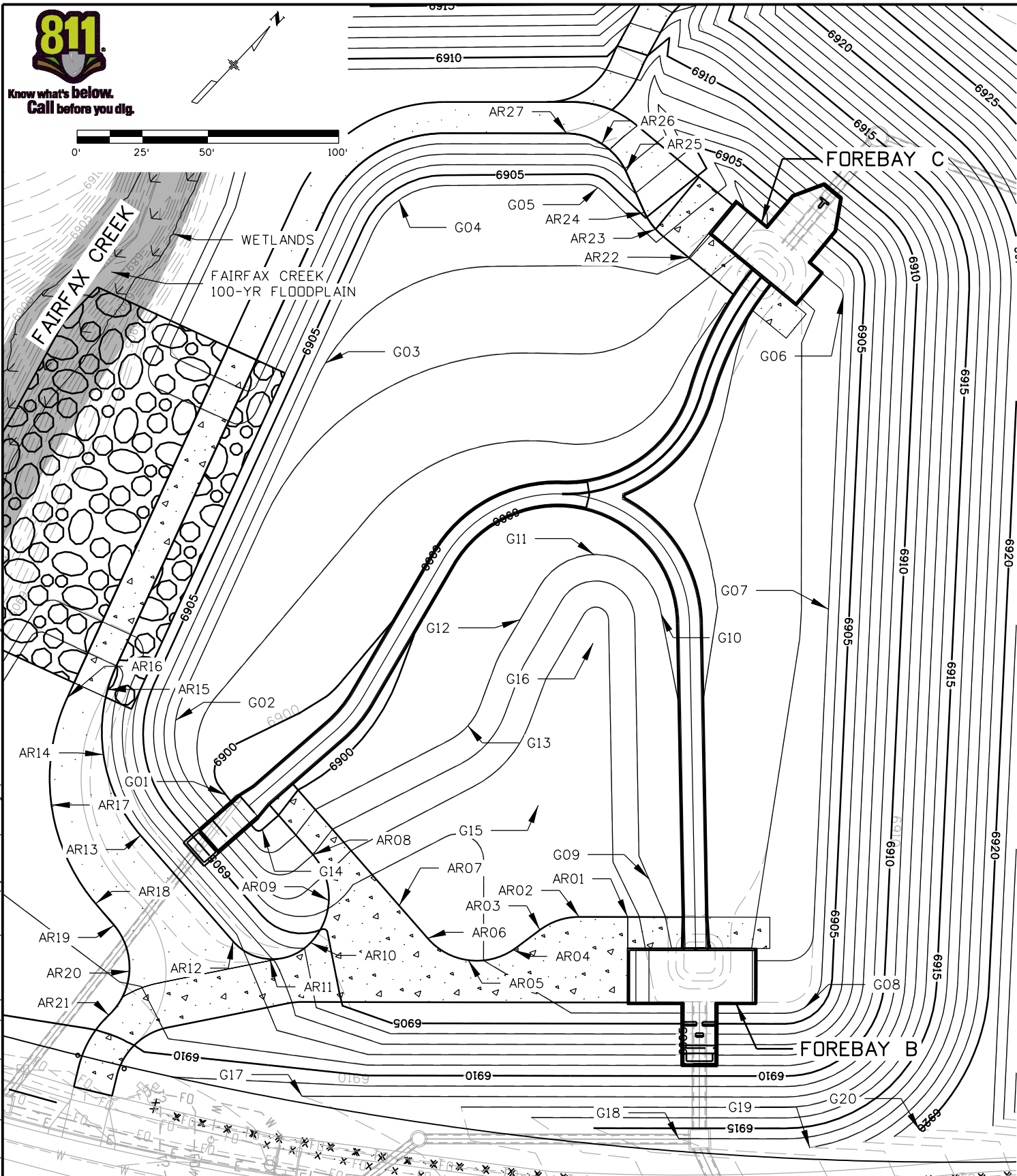
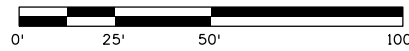
Project No./Code

16131-11

Sheet Number **38**



Know what's below.
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GRADING POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
G01	1410198.59	3220293.55	6900.00	FINISHED GRADE, TOE OF SLOPE
G02	1410206.16	3220259.97	6902.00	FINISHED GRADE, TOE OF SLOPE
G03	1410345.25	3220207.78	6903.00	FINISHED GRADE, TOE OF SLOPE
G04	1410409.48	3220185.65	6904.00	FINISHED GRADE, TOE OF SLOPE
G05	1410465.13	3220237.55	6904.00	FINISHED GRADE, TOE OF SLOPE
G06	1410499.27	3220334.29	6903.00	FINISHED GRADE, TOE OF SLOPE
G07	1410408.28	3220412.41	6903.00	FINISHED GRADE, TOE OF SLOPE
G08	1410291.13	3220510.35	6904.00	FINISHED GRADE, TOE OF SLOPE
G09	1410286.20	3220433.21	6902.00	FINISHED GRADE, TOE OF SLOPE
G10	1410363.09	3220367.19	6901.00	FINISHED GRADE, TOE OF SLOPE
G11	1410362.03	3220332.90	6901.00	FINISHED GRADE, TOE OF SLOPE
G12	1410324.53	3220329.37	6901.00	FINISHED GRADE, TOE OF SLOPE
G13	1410281.36	3220342.68	6901.00	FINISHED GRADE, TOE OF SLOPE
G14	1410198.50	3220312.73	6900.00	FINISHED GRADE, TOE OF SLOPE
G15	1410277.65	3220383.13	6903.71	FINISHED GRADE, TOP OF BERM
G16	1410337.21	3220355.82	6903.11	FINISHED GRADE, TOP OF BERM
G17	1410134.72	3220393.83	6912.00	FINISHED GRADE, RIDGE AT TOP OF 4:1
G18	1410221.73	3220509.69	6916.00	FINISHED GRADE, RIDGE AT TOP OF 4:1
G19	1410253.53	3220548.54	6917.00	FINISHED GRADE, RIDGE AT TOP OF 4:1
G20	1410287.25	3220574.41	6920.00	FINISHED GRADE, RIDGE AT TOP OF 4:1

ACCESS ROAD POINT DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
AR01	1410270.02	3220437.31	6903.44	FINISHED GRADE, EDGE OF ACCESS
AR02	1410257.31	3220423.79	6903.48	FINISHED GRADE, EDGE OF ACCESS
AR03	1410243.40	3220416.29	6903.55	FINISHED GRADE, EDGE OF ACCESS
AR04	1410230.88	3220414.07	6903.82	FINISHED GRADE, EDGE OF ACCESS
AR05	1410216.21	3220404.30	6904.07	FINISHED GRADE, EDGE OF ACCESS
AR06	1410211.63	3220387.29	6904.40	FINISHED GRADE, EDGE OF ACCESS
AR07	1410213.24	3220370.79	6904.43	FINISHED GRADE, EDGE OF ACCESS
AR08	1410204.82	3220333.44	6902.00	FINISHED GRADE, EDGE OF ACCESS
AR09	1410196.21	3220349.84	6903.79	FINISHED GRADE, EDGE OF ACCESS
AR10	1410179.76	3220355.85	6905.65	FINISHED GRADE, EDGE OF ACCESS
AR11	1410164.47	3220348.84	6907.21	FINISHED GRADE, EDGE OF ACCESS
AR12	1410159.76	3220333.90	6908.07	FINISHED GRADE, EDGE OF ACCESS
AR13	1410164.98	3220280.34	6908.24	FINISHED GRADE, EDGE OF ACCESS
AR14	1410177.69	3220248.87	6908.42	FINISHED GRADE, EDGE OF ACCESS
AR15	1410196.91	3220233.02	6908.70	FINISHED GRADE, EDGE OF ACCESS
AR16	1410184.01	3220223.93	6908.81	FINISHED GRADE, EDGE OF ACCESS
AR17	1410150.08	3220247.64	6908.82	FINISHED GRADE, EDGE OF ACCESS
AR18	1410134.20	3220285.87	6908.82	FINISHED GRADE, EDGE OF ACCESS
AR19	1410133.01	3220296.57	6908.71	FINISHED GRADE, EDGE OF ACCESS
AR20	1410124.25	3220312.95	6908.90	FINISHED GRADE, EDGE OF ACCESS
AR21	1410106.60	3220318.76	6909.64	FINISHED GRADE, EDGE OF ACCESS
AR22	1410469.52	3220281.24	6903.02	FINISHED GRADE, EDGE OF ACCESS
AR23	1410468.70	3220264.59	6904.41	FINISHED GRADE, EDGE OF ACCESS
AR24	1410470.46	3220257.16	6905.19	FINISHED GRADE, EDGE OF ACCESS
AR25	1410476.94	3220241.25	6906.88	FINISHED GRADE, EDGE OF ACCESS
AR26	1410478.36	3220227.25	6908.49	FINISHED GRADE, EDGE OF ACCESS
AR27	1410471.99	3220214.70	6908.58	FINISHED GRADE, EDGE OF ACCESS



Print Date: 4/4/2023

File Name: 116131HYDR_Pond_Detail11.dgn

Horiz. Scale: 1:50

Vert. Scale: As Noted

Sheet Revisions

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FAIRFAX DETENTION AND WATER QUALITY POND GRADING SPOT ELEVATIONS

Designer: SJT
Detailer: JMM

Structure Numbers
Sheet Subset: DETAILS
Subset Sheets: DT-11 of 12

Project No./Code

16131-11

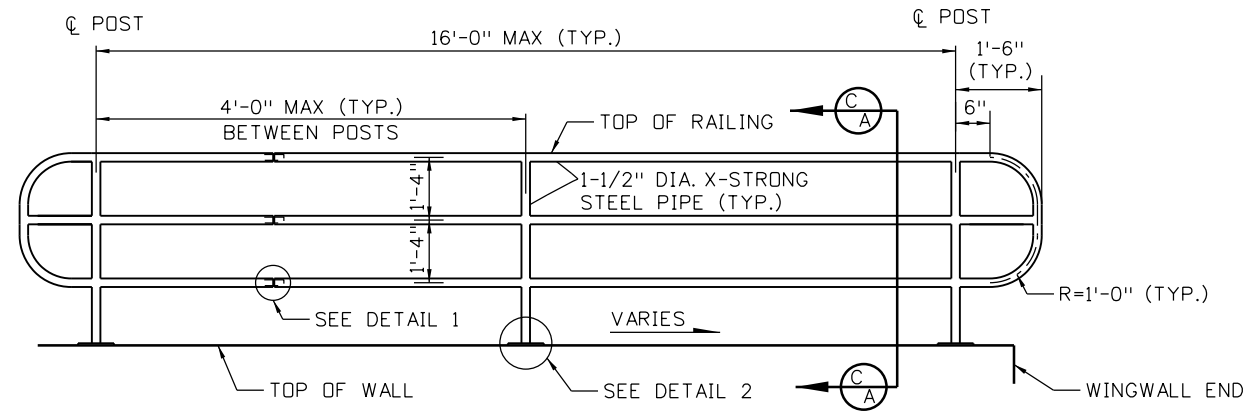
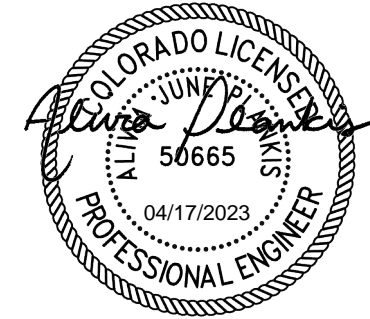
Sheet Number 39



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Colorado Springs, CO 80903
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NOTES:

1. ALL PIPE SHALL BE 1/2" X-STRONG STEEL PIPE CONFORMING TO THE REQUIREMENTS IN ASTM A53 FOR GRADE B STEEL (fy=35ksi). ALL PLATES SHALL MEET THE REQUIREMENTS IN AASHTO M270 FOR GRADE 36ksi STEEL. ALL ANCHOR BOLTS AND NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M314 FOR GRADE 55 STEEL.
2. ALL STEEL SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 509 OF CDDT STANDARD SPECIFICATION.
3. PLATES, BOLTS, AND NUTS WILL BE PAID FOR AS ITEM 514 PIPE RAILING (STEEL) ON A LINEAR FOOT BASIS.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS BEFORE FABRICATION.
5. ANCHORAGE ASSEMBLY (PLATES, BOLTS & NUTS) SHALL BE GALVANIZED AFTER FABRICATION.
6. RAILING SHALL BE PAINTED THE COLOR "GREEN", AND IS TO BE SELECTED FROM TEST PANELS PROVIDED BY THE CONTRACTOR.

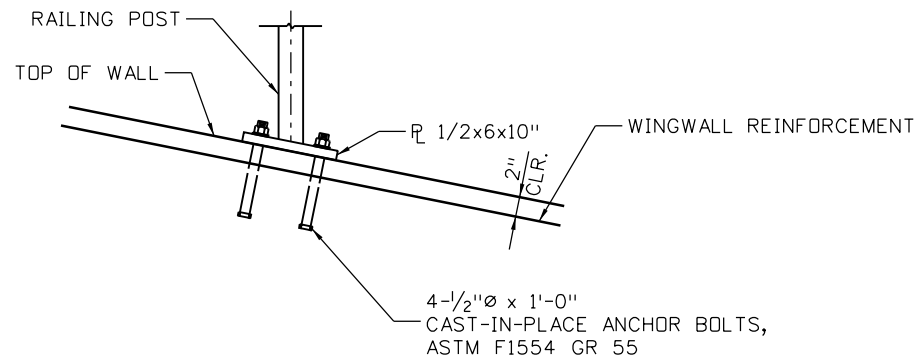


ELEVATION VIEW OF PIPE RAILING

N.T.S.

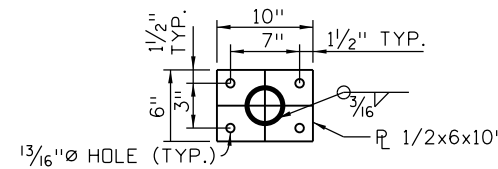
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N.T.S.



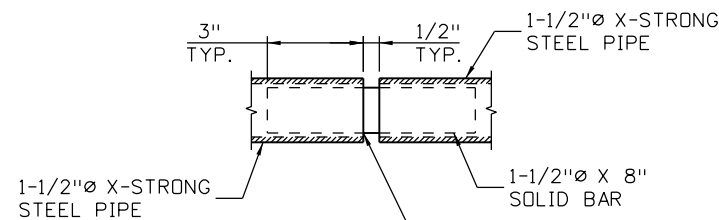
**DETAIL 2
ANCHORAGE DETAIL**

N.T.S.



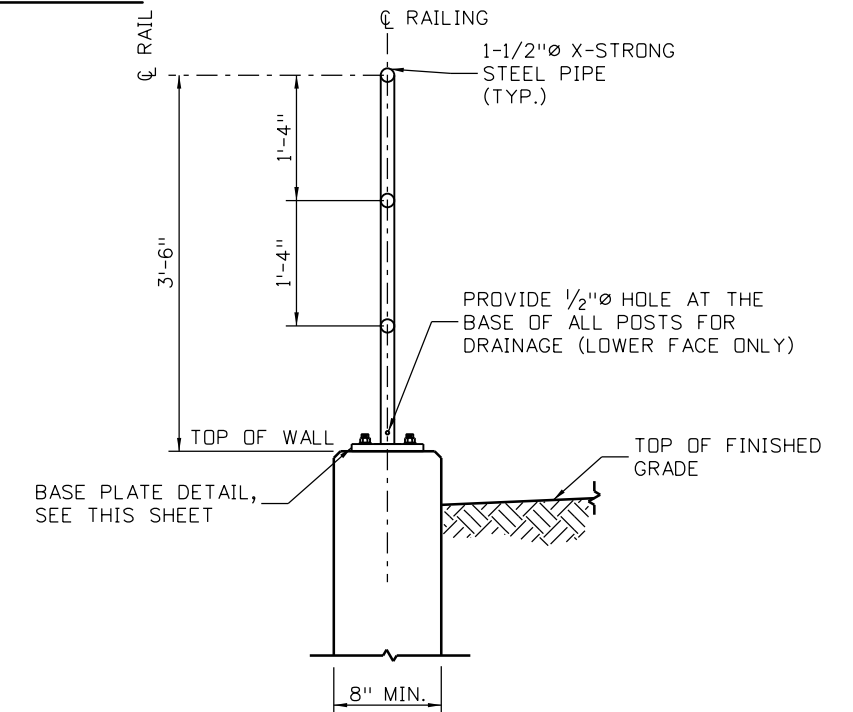
BASE PLATE DETAIL

N.T.S.



**DETAIL 1
EXPANSION JOINT DETAIL**

(PLACE EVERY 12' IN CENTER OF 4' SPAN)
(EXPANSION JT. NOT REQUIRED FOR PANEL LENGTHS UNDER 8'-0" IN LENGTH)
N.T.S.



SECTION C-A

N.T.S.



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File Name: 116131HYDR_Pond_Detail12.dgn

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**FAIRFAX DETENTION AND
WATER QUALITY POND
RAILING DETAILS**

Designer: SJT

Detailer: JMM

Sheet Subset: DRAINAGE

Structure

Numbers

Subset Sheets: DT-12 of 12

Project No./Code

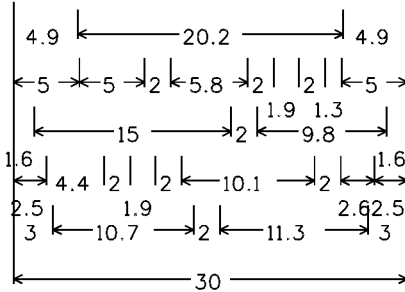
16131-11

Sheet Number

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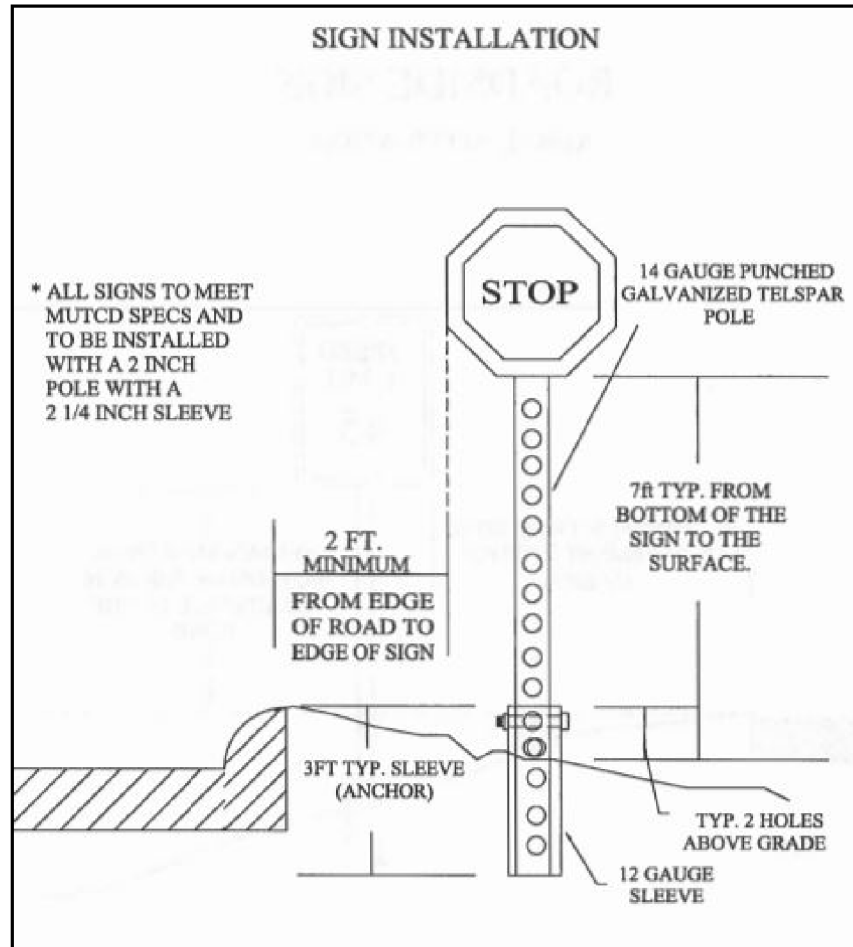
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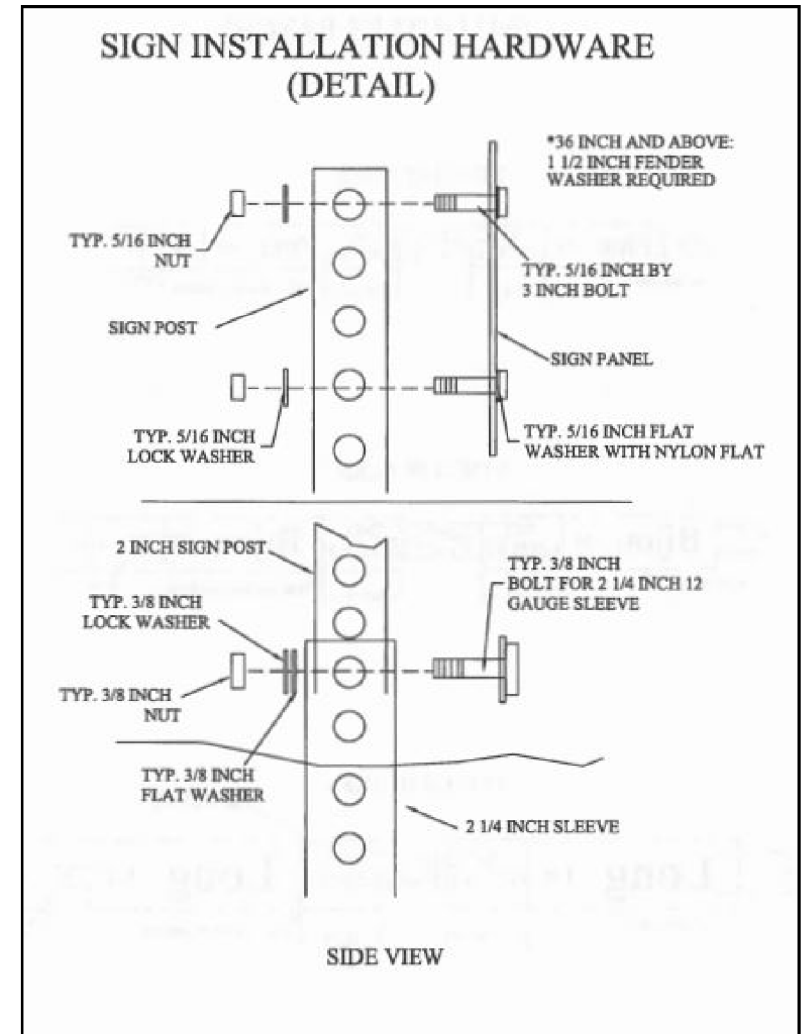
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 "THIS AREA IS A", C 127% spacing;
 "STORMWATER FACILITY", C 127% spacing;
 "AND IS SUBJECT TO", C 127% spacing;
 "PERIODIC FLOODING", C 127% spacing;
 Table of letter and object lefts

W	A	R	N	I	N	G											
4.9	8.2	11.5	14.8	18.0	19.7	22.9											
T	H	I	S	A	R	E	A	I	S	A							
5.0	6.4	8.1	8.9	12.0	13.7	15.3	16.6	19.8	20.6	23.7							
S	T	O	R	M	W	A	T	E	R	F	A	C	I	L	I	T	Y
1.6	3.1	4.5	6.2	7.9	9.6	11.2	12.6	14.1	15.5	18.6	19.9	21.5	23.1	23.9	25.3	26.0	27.2
A	N	D	I	S	S	U	B	J	E	C	T	T	O				
2.5	4.2	5.8	8.9	9.7	12.8	14.4	16.1	17.6	19.1	20.5	21.9	24.9	26.4				
P	E	R	I	O	D	I	C	F	L	O	D	I	N	G			
3.0	4.6	6.0	7.7	8.5	10.2	11.8	12.6	15.7	17.1	18.6	20.2	21.8	23.5	24.3	25.9		

POND SIGN LAYOUT



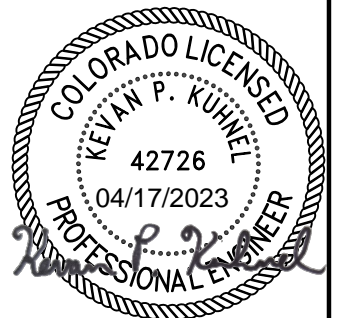
CITY OF COLORADO SPRINGS-SIGNS AND MARKINGS GUIDELINES
 DETAIL-1



CITY OF COLORADO SPRINGS-SIGNS AND MARKINGS GUIDELINES
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As Constructed	FAIRFAX DETENTION AND WATER QUALITY POND SIGN DETAILS		Project No./Code
No Revisions:			16131-11
Revised:	Designer: BJH	Structure Numbers	
Void:	Detailer: BJH		
	Sheet Subset: DRAINAGE	Subset Sheets: SN-01 of 01	Sheet Number 41

SWMP Template (Plan Sheets) for Projects with 1 Acre or More of Disturbance 2/25/2022 UPDATE

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements, and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator for Construction shall update the SWMP to reflect current project site conditions.

A. PROJECT SITE LOCATION:

Fairfax Pond will be located adjacent to Fairfax Creek in the northwest corner of the intersection of SH 21 (Powers Blvd) and Research Parkway. The pond is located on the east bank of Fairfax Creek, north of the intersection of Research Pkwy and Channel Dr. The project is located in Section 36, Township 12 South, Range 66 West of the 6th P.M. El Paso County, Colorado at 38 degrees 57'20.86" north, 104 degrees 43'47.23" west.
Location or address of construction office: The construction offices are assumed to be located within the project limits and shall be determined prior to construction.

B. PROJECT SITE DESCRIPTION:

Colorado Department of Transportation (CDOT) and the City of Colorado Springs (City) are planning to construct a full spectrum detention and water quality pond intended to detain and treat runoff from the adjacent CDOT grade separated interchange project. This project will reduce peak discharge rates added to the area from the adjacent project into Fairfax Creek. This project is surrounded primarily by residential areas, commercial properties, and roadways.

C. PROPOSED SCHEDULE FOR SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES:

Stabilize all areas that are not paved or landscaped through establishment of vegetation cover.

1. Pre-construction survey
2. Clearing and Grubbing
3. Establish Access Locations
4. Place Initial BMP's and perimeter control
5. Grading operations
6. Drainage and permanent water quality/detention construction
7. Final grading and paving access roads
8. Final stabilization and remove temporary BMP's

D. ACRES OF DISTURBANCE:

1. Total area of construction site (LOC (PERMITTED AREA)): 7.85 acres
2. Total area of proposed disturbance (LDA): 7.00 acres
3. Total area of seeding: 7.00 acres
4. Total area of pre-project impervious surface: 11,064 sq. ft.
5. Total area of final impervious surface: 39,473 sq. ft.

E. EXISTING SOIL DATA:

The hydrologic soil group classification present on this site entirely consists of Stapleton and Stapleton-Bernal sandy loams, which are classified as Soil Type B. Soil Group Type B has a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained and well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Within this project's limits, surface runoff is classified as low. Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classifications are Negligible, Very Low, Low, Medium, High and Very High. Surface runoff classes are based on slope, climate and vegetative cover. The concept indicated relative runoff for very specific conditions. It is assumed that the surface of soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal.

Data Source(s): NRCS Custom Soil Resource Report for El Paso County Area, Colorado; USGS Web Soil Survey

F. EXISTING VEGETATION, INCLUDING PERCENT OF VEGETATIVE COVER:

During design, the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects. If the site is disturbed, an Adequate Reference Site(s) may be utilized, refer to the permit.

SWMP Administrator for Design or SWMP Administrator for Construction is to conduct a survey including general description of existing vegetation prior to any ground disturbance on the project. The SWMP Administrator shall photo-document existing vegetation where all work will be occurring. The SWMP Administrator shall perform the vegetation survey transect(s) and include photo documentation.

Pre-Construction Date of survey: * _____ Percent Existing Vegetative Cover: * _____

Description of existing vegetation: *
Method for determining percent vegetative cover: CDOT Vegetative Transect Procedure

Include a map or table showing transect locations, photos documenting pre-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17:

* Note - Pre-Construction vegetation transects were not completed for this project. The project area had recently been disturbed by the adjacent Powers and Research Interchange project and was in the process of revegetating, therefore vegetation transects on establishing vegetation do not provide value for comparing final stabilization to pre-project conditions.

Post-Construction Date of survey: _____ Percent Vegetative Cover: _____

Description of vegetation:
The method used to determine pre-construction percent cover shall be used to determine post construction percent cover. Include map or table showing transect locations, photos documenting post-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17:

A. POTENTIAL POLLUTANTS SOURCES:

Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

B. DRAINAGE PATTERNS AND RECEIVING WATER(S):

1. Description of drainage patterns from the Site: See SWMP site maps for outfall locations. Drainage at the existing site flows west into Fairfax Creek or into the existing rough graded Fairfax Pond.
2. Names of immediate and ultimate receiving water(s) on site: Fairfax Pond and subsequently Fairfax Creek serves as the immediate receiving waters on site. This project reroutes existing flows from two existing storm sewer systems to discharge to this proposed pond for treatment before being discharged back into Fairfax Creek. The storm system entering the pond from the north conveys water from CDOT's ROW and the storm system entering the pond from the south conveys runoff from a combination of CDOT, City of Colorado Springs, and private development ROW and property. The ultimate receiving waters are Fountain Creek.
- Does the on-site receiving water(s) have 303d impaired designation: Per CDPHE data, the stream segments included in this project are listed under segment ID CDARF004b_A as an impaired stream - E. Coli.
3. Description of all stream crossings located within the Construction Site Boundary: None

Location	Stream Name	Description Of Any Disturbed Upland Areas
See Site Map	Fairfax Creek	The eastern slope along Fairfax creek is located within the limits of construction and will have a small disturbance area needed to place soilriprap for the pond emergency overflow structure.

C. ALLOWABLE NON-STORMWATER DISCHARGES:

Discharge Description	Site Map #	Method Statement (Location)
Uncontaminated Springs		
Concrete Washout Water (in-ground washout structure)#		
Landscape Irrigation Return Flows		
Discharges from Diversions of State Waters		
Emergency Fire Fighting		

#Concrete washout water associated with the washing of concrete tools and concrete mixer chutes can be discharged to the ground if site is managed accordingly to prevent the water from leaving the site as surface runoff or reaching receiving waters.

D. DIVERSION CRITERIA:

1. Is a diversion planned for the Site? Yes No
2. If yes, complete information below:
 - a. What is the 2-year peak flow for the waterway being diverted (cubic feet per second)?
Q2 = 150 CFS to the existing CBC (2019 Cottonwood Creek DBPS)
 - b. What are the monthly averages if available? (provide averages for Jan- Dec if available)
Not Available
 - c. What is the upstream contributing drainage area and imperviousness?
The contributing area is 1.17 square miles, 16.9% of which is impervious (2019 Cottonwood Creek DBPS). The land use immediately upstream is primarily residential area, with undeveloped areas further upstream.
 - d. A method statement must be prepared by the Contractor and approved by CDOT for each diversion. Diversion structures must minimize soil transport and erosion within the entire diversion, minimize erosion during discharge, and minimize run-on into the diversion and meet the conditions in the SCP.
 - e. If the conditions in the SCP cannot be met and an alternative is required, CDOT must approve the alternative and then it must be submitted and approved by CDPHE's Water Quality Control Division prior to implementation.

E. ALTERNATIVE TEMPORARY STABILIZATION SCHEDULE:

If applicable, provide a description of the alternative temporary stabilization schedule. If temporary stabilization exceeds the 14-day schedule, then the SWMP must document the constraints necessitating the alternative schedule, provide the alternative schedule, and identify all the locations where the alternative schedule is applicable on the site map. Alternative temporary stabilization schedules must be approved by CDOT prior to implementation.



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FAIRFAX DETENTION AND WATER QUALITY POND STORMWATER MANAGEMENT PLAN			
Designer:	JMM	Structure Numbers	
Detailer:	JMM		
Sheet Subset:	SWMP	Subset Sheets:	SW-01 of 06

Project No./Code
16131-11
Sheet Number
42

2. SITE MAP COMPONENTS:

Pre-construction

- A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES:
See Grading and Erosion Control Plans
- B. FLOW ARROWS THAT DEPICT STORMWATER FLOW DIRECTIONS ON-SITE, RUN-ON AND RUNOFF DIRECTION:
See Grading and Erosion Control Plans
- C. ALL AREAS OF GROUND SURFACE DISTURBANCE:
See Grading and Erosion Control Plans
- D. AREAS OF CUT AND FILL:
See Grading and Erosion Control Plans
- E. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) AND LOCATIONS OF ALL WASTE ACCUMULATION AND BATCH PLANTS INCLUDING MASONRY MIXING STATIONS:
See Grading and Erosion Control Plans
- F. LOCATION OF ALL STRUCTURAL CONTROL MEASURES IDENTIFIED IN THE SWMP:
See Grading and Erosion Control Plans
- G. LOCATION OF NON-STRUCTURAL CONTROL MEASURES AS APPLICABLE IN THE SWMP:
See Grading and Erosion Control Plans
- H. SPRINGS, STREAMS, WETLANDS, DIVERSIONS, AND OTHER STATE WATERS, INCLUDING AREAS THAT REQUIRE PRE-EXISTING VEGETATION BE MAINTAINED WITHIN 50 FEET OF A RECEIVING WATER:
See Grading and Erosion Control Plans
- I. LOCATIONS OF ALL STREAM CROSSING LOCATED WITHIN THE CONSTRUCTION SITE BOUNDARY:
See Grading and Erosion Control Plans
- J. PROTECTION OF TREES, SHRUBS, SENSITIVE HABITAT, AND CULTURAL RESOURCES:
See Grading and Erosion Control Plans
- K. LOCATIONS WHERE ALTERNATIVE TEMPORARY STABILIZATION SCHEDULES APPLY:
See Grading and Erosion Control Plans

3. QUALIFIED STORMWATER MANAGERS:

- A. SWMP ADMINISTRATOR FOR DESIGN:
CDOT Certified Individual responsible for developing SWMP Plan Sheets and SWMP Site Maps during the design phase.

Name/Title	Contact Information [phone & email]	Certification #
Kevan P. Kuhnel, Water Resources Engineer	Felsburg, Holt & Ullevig; (719) 290-2338; kevan.kuhnel@fhueng.com	CO 0042726

- B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Section 208) The Contractor shall designate a SWMP Administrator for Construction upon accepting co-permittee of the permit. The SWMP Administrator for Construction shall become the operator for the SWMP and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03, the SWMP shall remain the property of CDOT. The SWMP Administrator for Construction shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project's SWMP. (Update the information below for each new SWMP Administrator for Construction) (A copy of TECS Certification must be included in the SWMP.)

Name/Title	Contact Information (phone & email)	Certification #	Start Date	Engineer Approval

- C. EROSION CONTROL INSPECTOR: (As defined in Section 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP.)

Name/Title	Contact Information (phone & email)	TECS Certification #	Start Date	Engineer Approval

- D. PERMANENT STABILIZATION SUBJECT MATTER EXPERT: This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor Controller (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 212 Project Special Provisions as follows and will be available for questions regarding permanent stabilization requirements. https://www.codot.gov/programs/environmental/landscape-architecture/assets/inspection-and-verification-checklist-for-road-side-revegetation_-111621_v3.pdf

1. Review the Topsoil Management Plan and the Permanent Stabilization Site Maps.
2. Attend the Environmental Pre-Construction Conference.
3. Coordinate the Site Pre-Vegetation Conference.
4. Review and recommend approval of products.
5. Review and recommend approval of the Quantities Verification Prerequisite.
6. Attend the Partial Landscape Completion Walkthrough.
7. Attend the Final Landscape Completion Walkthrough.

Name/Title	Contact Information [phone & email]
Troy Rice, Region 2 Water Pollution Control Manager	(719)648-3462, troy.rice@state.co.us

4. STORMWATER MANAGEMENT CONTROLS FOR FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

- A. POTENTIAL POLLUTANT SOURCES:
Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP. All control measures related to potential pollutants shall be shown on the SWMP Site Map by the Contractor's SWMP Administrator for Construction.
- B. OFFSITE DRAINAGE (RUN ON WATER):
Describe and record control measures on the SWMP Site Map that have been implemented to address off site run-on water in accordance with subsection 208.03.
- C. VEHICLE TRACKING CONTROL:
Control measures shall be implemented in accordance with subsection 208.04.
- D. PERIMETER CONTROL:
1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. Perimeter control shall be in accordance with subsection 208.04
2. Perimeter control may consist of berms, silt fence, erosion logs, existing landforms, or other control measures as approved.

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR FOR CONSTRUCTION: Considered a "living document", the SWMP is continuously reviewed and modified throughout the construction phases. During construction, SWMP Administrator for Construction shall add, update, or amend the items A-F below as needed in accordance with subsection 208.03.

During construction, indicate how items that were not addressed during design are being handled in construction. If items are covered in other sections of the SWMP, indicate below what section the discussion takes place.

- A. MATERIALS HANDLING AND SPILL PREVENTION AND RESPONSE PLAN: Prior to construction commencing the Contractor shall submit a Spill Response Plan. Materials handling and Spill Response Plan shall be in accordance with subsection 208.06.
- B. OTHER CDPS PERMITS: List applicable CDPS permits associated with the permitted site and activities.
- C. STOCKPILE MANAGEMENT: Shall be done in accordance with subsections 107.25 and 208.07.
- D. CONCRETE WASHOUT: Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- E. SAW CUTTING: Shall be done in accordance with subsections 107.25, 208.04, 208.05
- F. STREET SWEEPING: Shall be done in accordance with subsection 208.04.



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Designer:	JMM	Structure	
Detailer:	JMM	Numbers	
Sheet Subset:	SWMP	Subset Sheets:	SW-02 of 06

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6. INSPECTIONS

- A. Water Quality Inspections shall be in accordance with subsection 208.03(c).
- B. Permanent Stabilization Inspections shall be in accordance with subsections 208.04(e)4 and 208.10.

7. CONTROL MEASURE MAINTENANCE

Maintenance shall be in accordance with subsection 208.04(f).

8. RECORD KEEPING

Records shall be kept in accordance with subsection 208.03(d).

9. INTERIM, PERMANENT STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

The Contractor shall comply with all interim stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

A. SEEDING PLAN:

The following seed mix(es) and rates are for drill seeding method as shown on the Permanent Stabilization Site Maps shall be used:

SEEDING (NATIVE) DRILL

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Oats	Avena sativa	2.5
Western Wheatgrass	Pascopyrum smithii Barton	4.3
Blue Grama	Bouteloua gracilis Alma	0.6
Cane Bluestem	Bothriochloa barbinodis VNS	0.5
Buffalograss	Bouteloua dactyloides VNS	7.5
Sand Bluestem	Andropogon hallii Woodward	3.6
Sand Lovegrass	Eragrostis trichodes Nebraska 27	0.2
Basin Wildrye	Leymus cinereus Magnar	2.1
Upright Prairie Coneflower	Ratibida columnifera VNS	0.2
Purple Prairie Coneflower	Dalea purpurea var. purpurea VNS	0.8
Broadbeard Penstemon	Penstemon angustifolius VNS	0.8
Desert Verbena	Glandularia gooddingii VNS	0.4
Indian Blanket	Gaillardia pulchella VNS	0.8
Total		24.3

SEEDING (WETLAND) BROADCAST

COMMON NAME	BOTANICAL NAME	Percent of Mix	LBS. PLS PER ACRE
Yellow Indiangrass	Sorghastrum nutans	18	5
Alkali Sacaton	Sporobolus airoides, Salado	15	4.2
Big Bluestem	Bothriochloa barbinodis	15	4.2
Prairie Cordgrass	Spartina pectinate, Atkins	10	2.8
Switchgrass	Panicum virgatum	10	2.8
Canada Wildrye	Elymus canadensis, Mandan	10	2.8
Creeping Spikerush	Eleocharis palustris	12	3.4
Swamp Milkweed	Asclepias incarnata	10	2.8
Total		100	28.0

B. SEEDING APPLICATION METHOD:

The following seeding methods shall be used for all areas shown on the Permanent Stabilization Site Maps. Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast or hydroseed at double the rate and rake 0.25 inch to 0.5 inch into the soil per subsection 212. Soil compaction shall be minimized for areas where permanent stabilization will be achieved through vegetative cover.

Pay Item	Seeding Method (subsection 212.05)	Acre
212-00706	Seeding (Native) Drill	7.00
212-00711	Seeding (Wetland) Broadcast	0.09
Total		7.09

C. SOIL STABILIZATION METHODS:

MINIMUM SOIL STABILIZATION METHODS (ATTACHED MULCH) FOR ALL DISTURBANCES TO RECEIVE SEEDING.

1. Apply a minimum of 2 tons/ac certified weed free hay or 2 1/2 tons/ac of certified weed free straw and mechanically crimp into the soil in combination with natural mulch tackifier in accordance with Section 213.
 2. Install Soil Retention Blankets in accordance with Standard Plan M-216-1 and Section 216.
- Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier in accordance with Sections 208 and 213.

D. SPECIAL REQUIREMENTS:

1. Soil amendments, seedbed preparation, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the de-compacted civil subgrades. If placed topsoil is not mulched with permanent stabilization mulch within four working days, the Contractor shall complete interim stabilization methods in accordance with subsection 208.04(e) at no additional cost to the Department.
2. Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.
3. The Contractor shall submit a proposed Permanent Stabilization Phasing Plan to the Engineer for approval showing how implementation of SWMP Permanent Stabilization Plans will minimize damage to seeded areas.

E. SOIL AMENDMENT REQUIREMENTS: Minimum amendment material requirements for all disturbances to receive seeding.

7.00 Total Acres of Seeding (Native) Drill with Topsoil Generated From Topsoil (Onsite)

Seeding (Native) Drill Pay Item	Pay Item	Description	Amount/Acre	Units	Total For This Method
212-00706	212-00700	Organic Fertilizer	300	Pounds	2,100
	212-00701	Compost (Mechanically Applied)	65	CY	455
	212-00703	Humate	200	Pounds	1,400
	212-00704	Mycorrhizae	8	Pounds	56
	212-00705	Elemental Sulfur	N/A	Pounds	0

F. Permanent Stabilization Application Under Structures:

Under structures shade patterns should be considered and the use of Median Cover Material (Stone) or other stabilized options with an approved Project Special Provision should be used. See SWMP Site Map for locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION:

- Prior to stormwater construction work partial acceptance.
1. All seeded areas shall be reviewed by the SWMP Administrator for Construction and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
 2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas, at no additional cost to the project.

H. LOCATION AND DESCRIPTION OF PLANNED PERMANENT CONTROL MEASURES: Is Permanent Water Quality Required:

Yes. This project is a permanent control measure established to provide full-spectrum detention and water quality for the related SH-21 & Research Parkway Project. See plan set.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

- A. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
- B. At the end of the project, all ditch checks shall consist of either temporary erosion logs (or equivalent) or permanent riprap.
- C. All storm drains shall be cleaned prior to the Final Acceptance of the project. If required, include work in 202-04002 Clean Culvert.
- D. Refer to subsection 208.10 for Items to be completed prior to requesting partial acceptance of water quality work.



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11. NARRATIVES

Control Measure Matrixes During Construction:

- Control measure narratives have been included for the CDDT Standard Specifications and Standard Plan M-208 and M-216 along with any non-standard control measures approved during the design process. If a Non-Standard Control Measure not included in the SWMP is proposed and approved by the Engineer the SWMP Administrator for Construction shall do the following: Place an "X" in the column for non-standard and complete a Non-Standard Control Measure Specification and Narrative covering the what, when, where and why the control measure is being used shall be added to the SWMP. The appropriate "X" shall also be added to the implementation phase(s).
- The SWMP Administrator for Construction shall place an "X" in the column In Use On Site when the control measure has been installed.
- A "B" in the Initial Activities Column indicates that the control measure shall be installed **before** construction activity starts. Locations and quantities will be discussed during the Environmental Pre-Construction Conference with the Regional Water Pollution Control Manager.

STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to the following:

APPLICATION, CONTROL MEASURE	NARRATIVE	M-208 STANDARD or "X" for NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITIES	INTERIM ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING WETLANDS Fence (plastic) and erosion logs	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.			B	X	
PROTECTION OF EXISTING TREES/LANDSCAPING Fence (plastic)	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of sensitive habitat, mature trees and/or existing landscaping prior to start of construction disturbances.			B	X	
CHECK DAM/DITCH CHECK Erosion log, silt berm, silt dike, rock check dam	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208		X	X	
Storm Drain Inlet Protection In Paved Roadways (Type 1, 2 and 3 as shown on M-208-1, sheet 5 of 11)	Manufactured storm drain inlet protection placed prior to construction disturbances as detailed in M-208-1, to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.	M-208		B	X	X
Storm Drain Inlet Protection In Native Seed Areas (M-604 Standard Inlets Type C and D)	Erosion logs or aggregate bags placed around inlet grate to prevent sediment from entering inlet. Place prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets.	M-208		B		
CULVERT INLET/OUTLET PROTECTION Erosion logs, aggregate bags	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to the start of construction disturbances.	M-208		B	X	X
TYPE C, TYPE D AND TYPE 13 PROTECTION Erosion logs, aggregate bags, erosion bales	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to the start of construction disturbances.	M-208		B	X	
STOCKPILE PROTECTION Temporary berm, erosion logs, aggregate bags*	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stockpiling, increase control as the stockpile increases size.	M-208		X	X	
TOE OF FILL PROTECTION Erosion logs, temporary berm, silt fence, topsoil windrow*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208		X	X	
PERIMETER CONTROL Erosion logs, silt fence, temporary berm, topsoil windrow*	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208		B	X	
SLOPE CONTROL Silt fence, erosion logs	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to the start of construction disturbances.	M-208		B	X	
TEMPORARY SEDIMENT TRAP	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to the start of construction disturbances. Outlets that withdraw water from or near the surface may be installed when discharging from basins and impoundments.	M-208				
TEMPORARY SLOPE DRAIN	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208				
OUTLET PROTECTION Riprap, or approved other	Material placed as an energy dissipater to prevent erosion at outlet structure.	M-601-12				
CONCRETE WASHOUT In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to the start of concrete activities.	M-208		X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to the start of construction disturbances.	M-208		B	X	
Engineered SEDIMENT BASIN	Constructed early in the project, prior to storm sewer/ditches and in accordance with 208.05(p) to capture storm flow. Outlet structure and/or outfall shall be modified for temporary sediment control using an approved non-standard detail. Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless infeasible					
DEWATERING (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.	X		X	X	
TEMPORARY STREAM CROSSING	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water.					
CLEAN WATER DIVERSION	Placed to divert clean surface or groundwater around the disturbance area to prevent it from mixing with construction runoff.	X			X	



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Sheet Number 45

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NON-STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to: Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site. Construction controls are control measures related to construction access and staging. Control Measure locations are indicated on the SWMP Site Map.

* Use of vegetative buffer strip requirements. The CDPHE Water Quality Control Division Technical Memorandum dated August 27, 2015 clarifies the requirements for utilization of existing vegetation as a buffer type of sediment control measure, while maintaining compliance with the CDPS permit for Stormwater Discharges Associated with Construction Activity - CDPS Permit No. CDR4000000. In general, the division does not recommend that vegetated buffers be implemented as a sediment removal control measure for runoff from disturbed areas at construction sites, unless implemented as a "finishing" component of a treatment train comprised of additional, adequate up-gradient Control Measures. The entire memorandum can be found at: <https://www.colorado.gov/pacific/sites/default/files/Vegetative%20Buffer%20Memo.pdf>

APPLICATION, CONTROL MEASURE	NARRATIVE	M-STANDARD or "For NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITY	INTERIM ACTIVITIES	PERMANENT STABILIZATION
* VEGETATIVE BUFFER STRIP	Finishing component for filtering sediment-laden runoff from disturbance area. Area within CDOT ROW or temporary easement to be identified on SWMP prior to construction starting.					
GRADING APPLICATIONS (LANDFORM)	Existing or created landforms may be used as a control measure if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrated outfall point, the outfall point shall be protected to prevent erosion. Area to be identified on SWMP prior to construction starting.	M-208				
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Stockpile	Prior to any site disturbance work commencing, existing topsoil shall be scraped to a depth six inches or as specified, and placed in stockpiles or windrows. Upon completion of final grading, topsoil shall be evenly distributed over embankment to a depth of six inches or as specified.	M-208		X	X	X
SURFACE ROUGHENING / GRADING TECHNIQUES	Temporary stabilization of disturbance and to minimize wind and erosion.				X	
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.				X	
BONDED FIBER MATRIX or MULCHING (HYDRAULIC)	Not to be used in areas of concentrated flows, i.e. ditch lines. To be for either Interim or Permanent Stabilization placed as a surface cover for erosion control. May be used as surface cover when work is temporarily halted and as approved by the Engineer for stockpiles.				X	
Straw or Hay MULCH/MULCH TACKIFIER	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as Interim Stabilization as a surface cover when work is temporarily halted and as approved by the Engineer				X	X
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer					
SEEDING PERMANENT (NATIVE PERENNIAL)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.					X
SOIL RETENTION BLANKET (SRB)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216				X
TURF REINFORCEMENT MAT (TRM)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.	M-216				X
Sweeping	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.			X	X	X
OTHER						

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12. TABULATION OF STORMWATER QUANTITIES

- A. Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other control measure maintenance shall be included in the cost of the control measure.
- B. It is estimated that 24 hours of blading (140-250 horsepower), dozing (130-250 horsepower) and/or combination loader (80-125 horsepower) may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Blading, 203 Dozing, 203 Backhoe and/or 203 Combination Loader.

PSP Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
	216-00303	Turf Reinforcement Mat (Class 3)	SY		232		232
	217-00020	Herbicide Treatment	Hour		24		24
	607-11525	Fence (Plastic)	LF	1,032			1,032
X	700-70380	F/A Erosion Control	FA				1

PSP Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
X	202-04002	Clean Culvert	Each	1			1
	203-01500	Blading	Hour		24		24
	203-01550	Dozing	Hour		24		24
X	203-01594	Combination Loader	Hour		24		24
	207-00700	Topsoil (Onsite)	CY			3,764	3,764
	207-00702	Topsoil (Offsite)	CY			1,882	1,882
	208-00002	Erosion Log Type 1 (12inch)	LF	282	6,588		6,870
	208-00013	Erosion Log Type 1 (20inch)	LF		360		360
	208-00020	Silt Fence	LF	1,050			1,050
	208-00035	Aggregate Bag	LF	46	99		145
	208-00041	Rock Check Dam	Each	20	1		21
	208-00045	Concrete Washout Structure	Each	1			1
	208-00051	Storm Drain Inlet Protection (Type 1)	LF	24			24
	208-00070	Vehicle Tracking Pad	Each	1			1
	208-00071	**Maintenance Aggregate (Vehicle Tracking Pad)	CY	10	10	10	30
	208-00103	Removal and Disposal of Sediment (Labor)	Hour		40		40
	208-00105	Removal and Disposal of Sediment (Equipment)	Hour		40		40
	208-00106	Sweeping (Sediment Removal)	Hour		100		100
	208-00107	Removal of Trash	Hour		24		24
	208-00207	Erosion Control Management (ECM)	Day				120
	208-00303	Temporary Diversion (Special)	L S		1		1
	212-00704	Mycorrhizae	Pounds			56	56
	212-00706	Seeding (Native) Drill	Acre			7.00	7.0
	212-00700	Organic Fertilizer	Pounds			2100	2100
	212-00701	Compost (Mechanically Applied)	CY			455	455
	212-00703	Humate	Pounds			1400	1400
	212-00711	Seeding (Wetland) Broadcast	Acre			0.09	0.09
	213-00003	Mulching (Weed Free)	Acre			7.00	7.00
	213-00061	Mulch Tackifier	Pounds			1,400	1,400
	216-00201	Soil Retention Blanket (Straw/ Coconut) (Biodegradable Class 1)	SY			20,110	20,110
	214-01010	Brush Layer Cutting	Each		1		1
	214-01013	Live Willow Stakes	Each			250	250

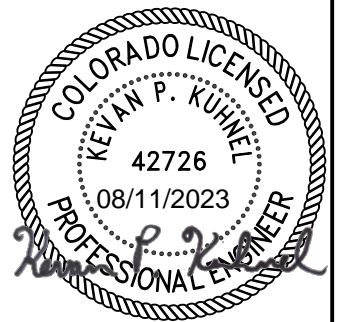
*It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. Quantities for all control measures shown above are estimated and have been increased for unforeseen conditions and normal control measure life expectancy. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.
 **Pay Item 208-00071 is included for anticipated maintenance of vehicle tracking pads based on the service life of the control measure in the field. The use of the material shall be directed and approved by the Engineer.
 *** F/A refers to CDOT's Force Account Pay Items.

13. BIOLOGICAL IMPACTS and DEWATERING

- A. ENVIRONMENTAL IMPACTS:
 1. Wetland Impacts: YES
 2. Stream Impacts: YES
 3. Threatened and Endangered Species: No
- B. DEWATERING:
 (Not covered under the CDPHE guidance document Low Risk Discharge Guidance Discharges of Uncontaminated Groundwater to Land):
<https://www.colorado.gov/pacific/sites/default/files/WQ%20LDR%20RISK%20GW.pdf>
 1. Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Tab 16 of the SWMP.
 2. If groundwater does not meet water quality standards for receiving water a separate CDPS Dewatering Permit shall be obtained by the Contractor from CDPHE in accordance with subsections 107.02 and 107.25.



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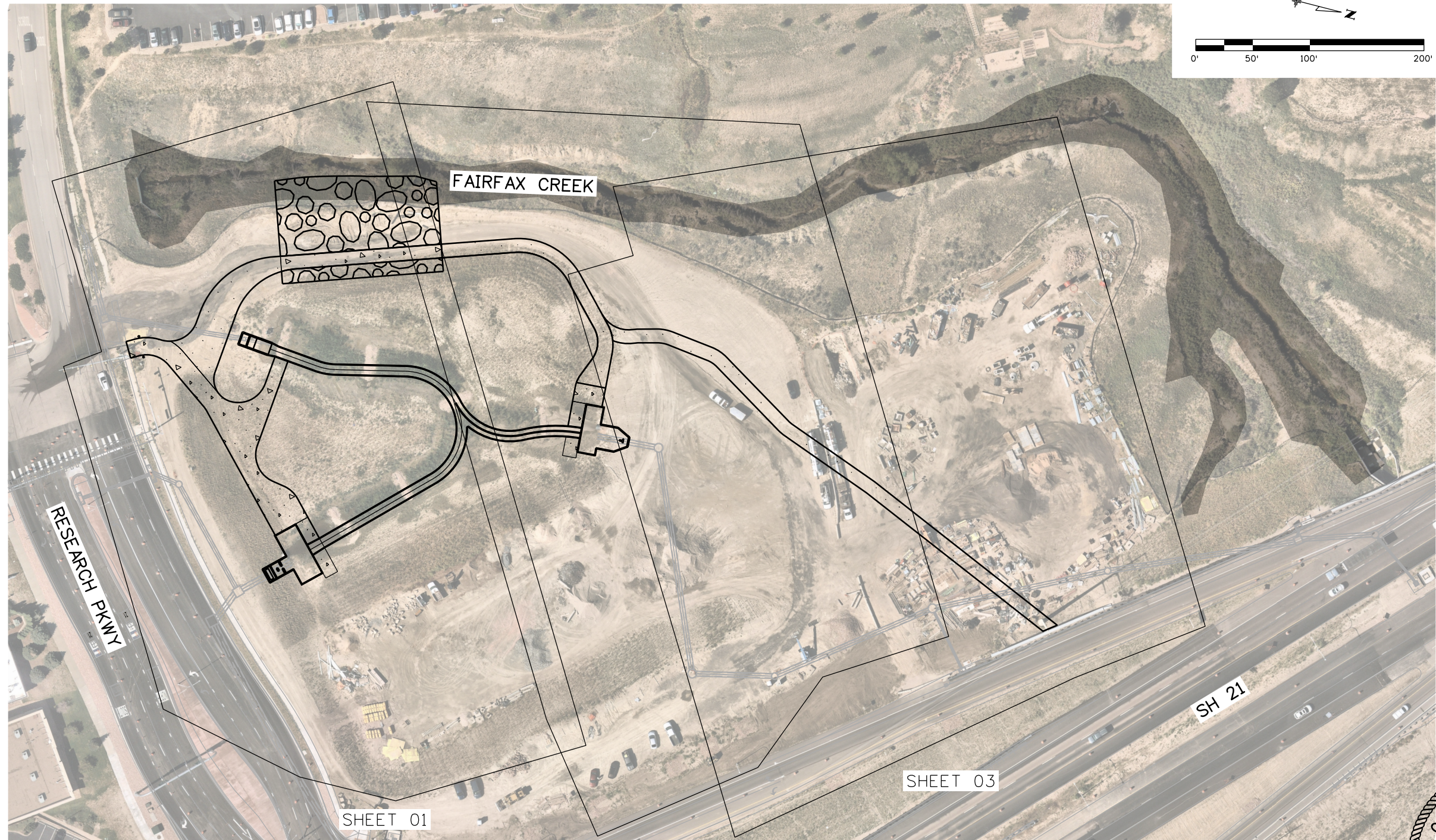
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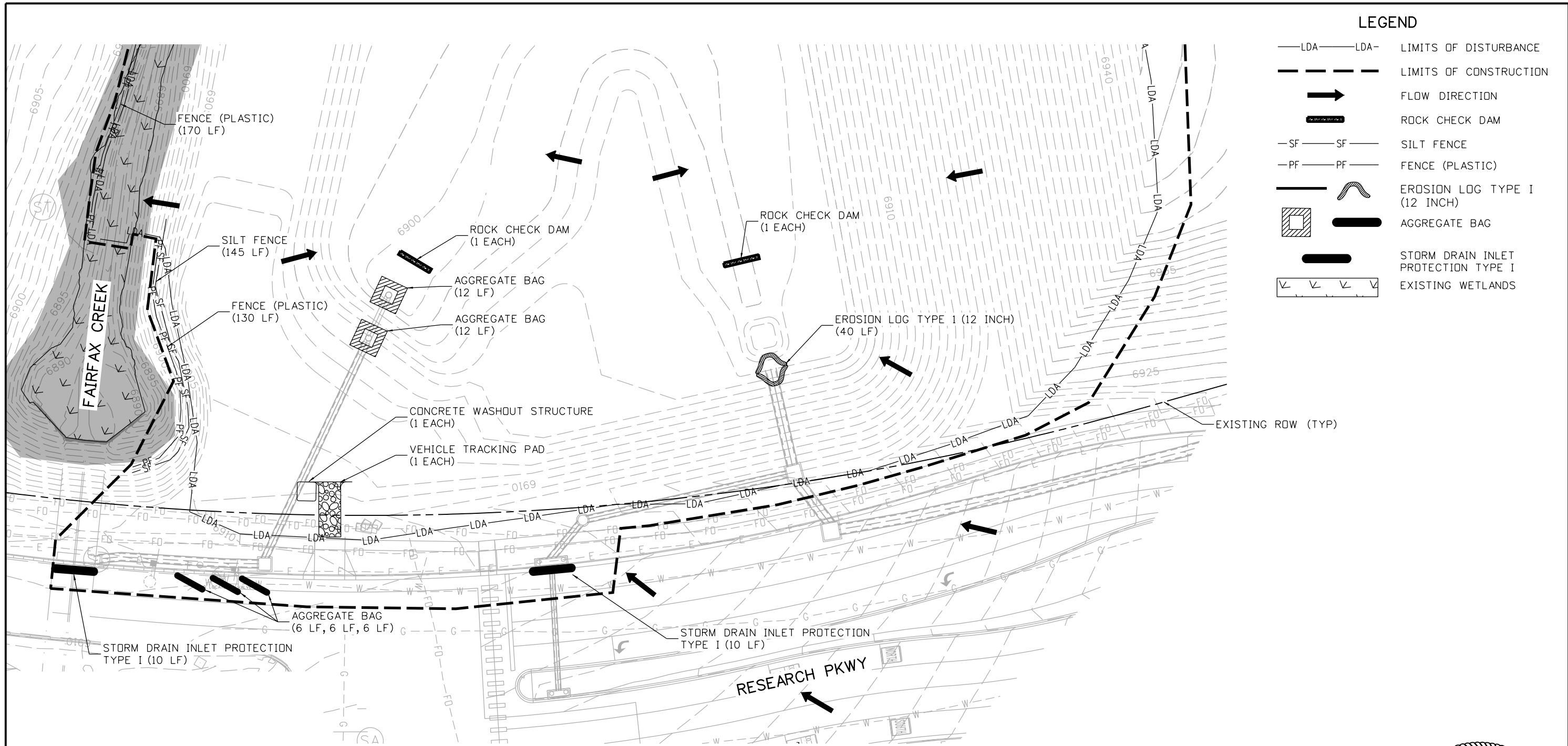
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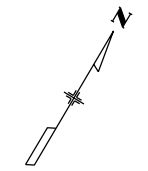
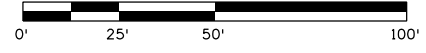
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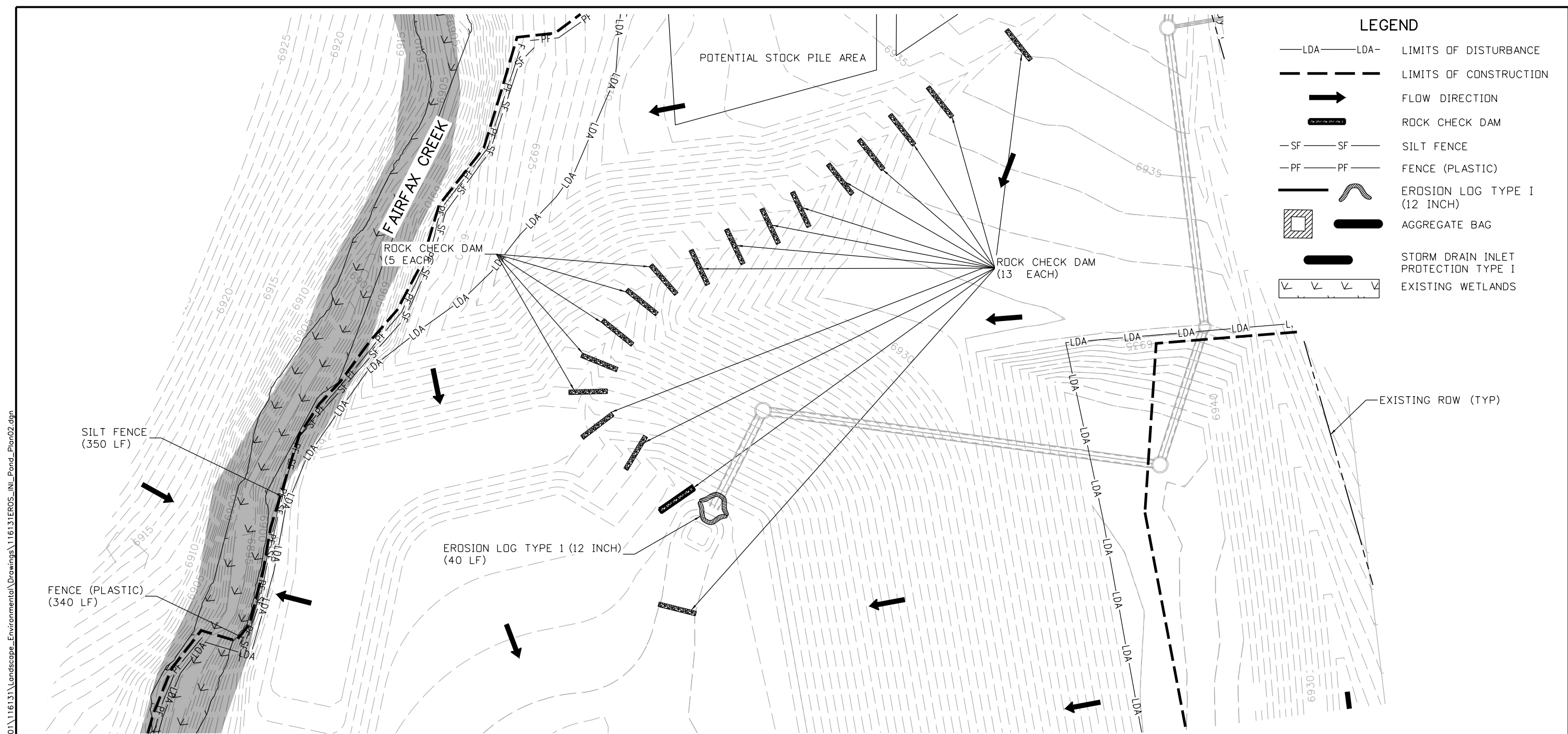
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- LEGEND**
- LDA — LDA — LIMITS OF DISTURBANCE
 - --- LIMITS OF CONSTRUCTION
 - FLOW DIRECTION
 - █ ROCK CHECK DAM
 - SF -SF- SILT FENCE
 - PF -PF- FENCE (PLASTIC)
 - ▬ EROSION LOG TYPE I (12 INCH)
 - ▣ AGGREGATE BAG
 - ▬ STORM DRAIN INLET PROTECTION TYPE I
 - ▽ ▽ ▽ ▽ EXISTING WETLANDS

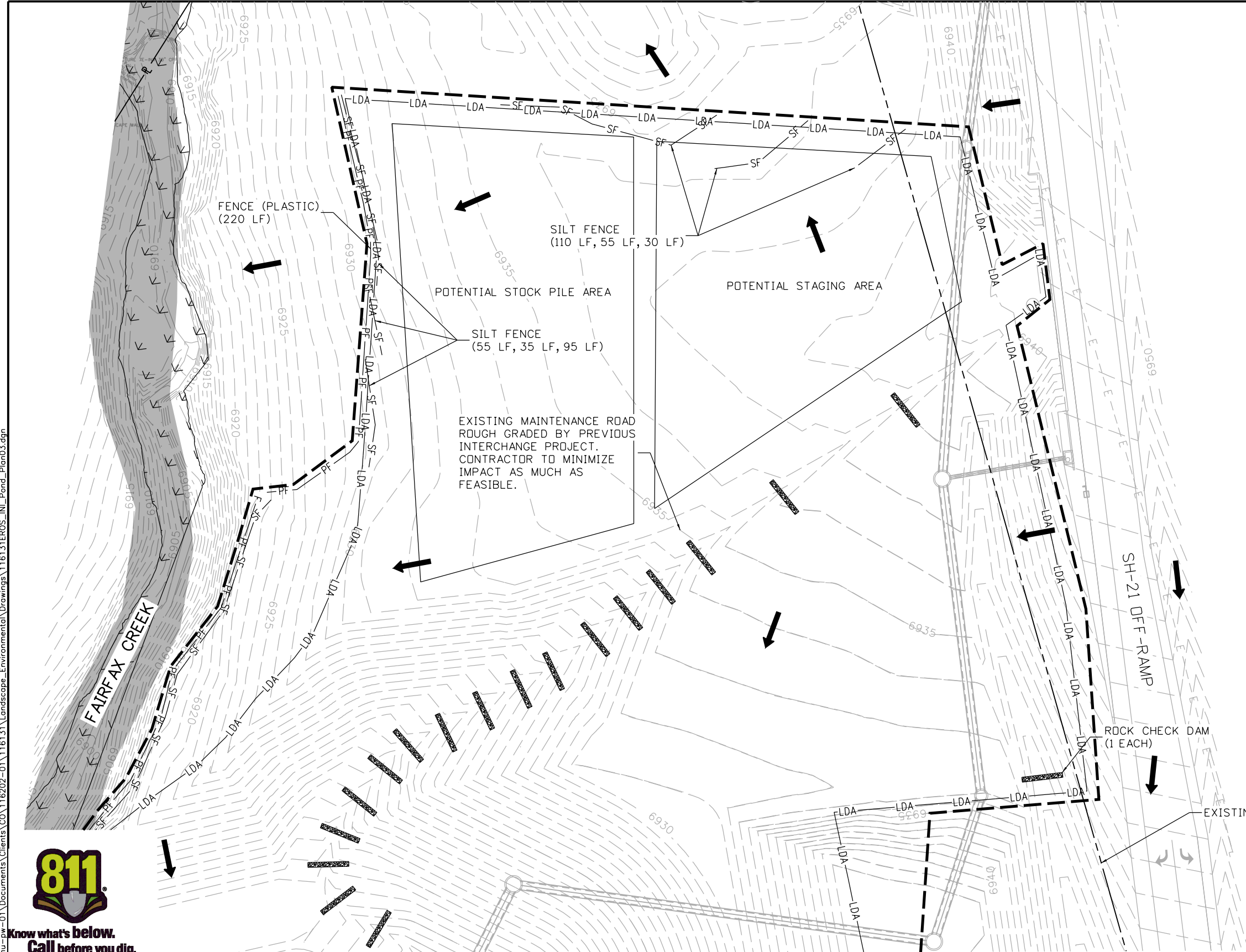
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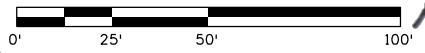
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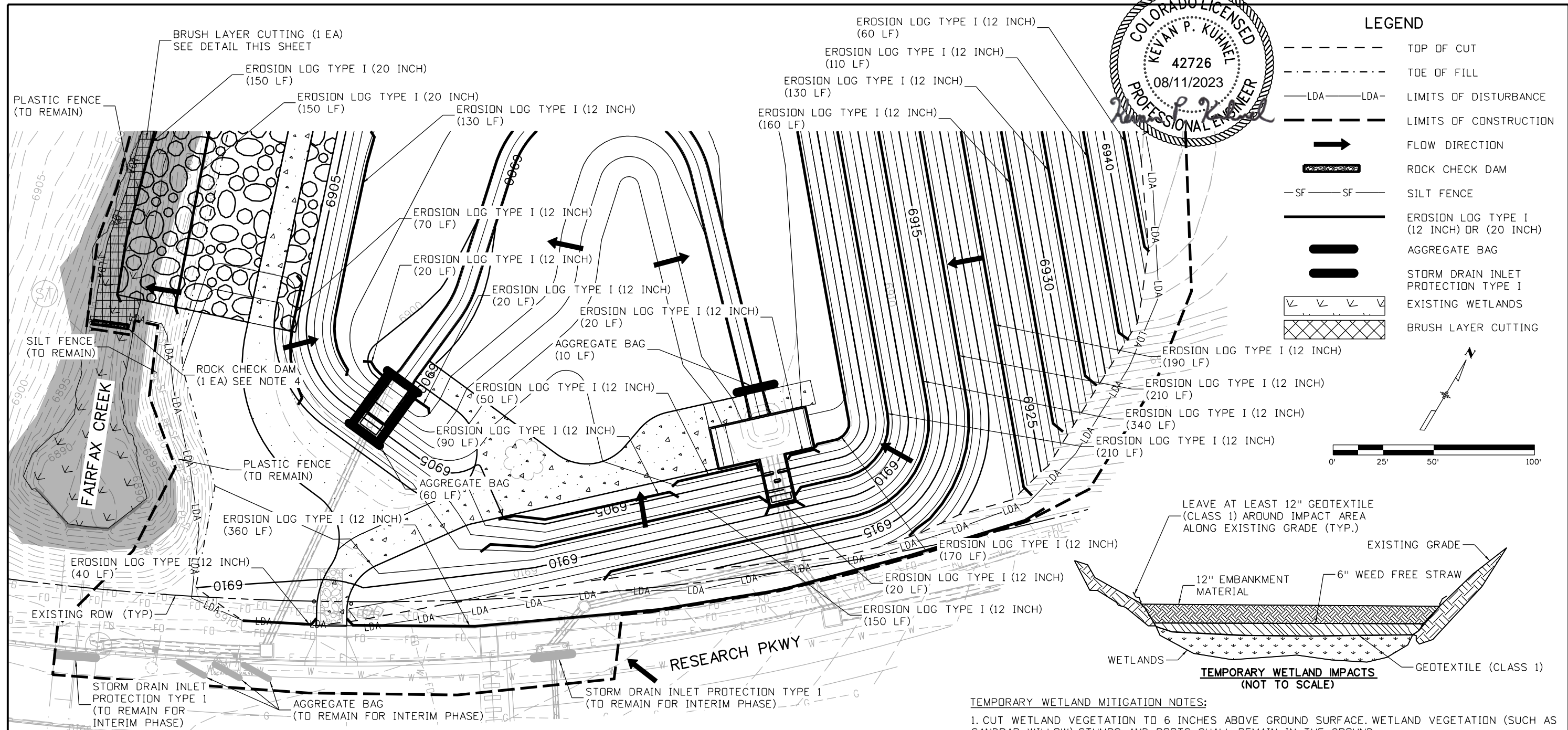


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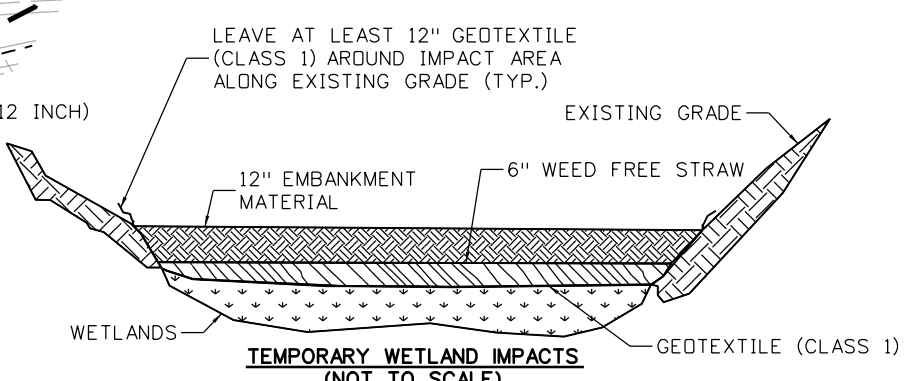
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LEGEND

- TOP OF CUT
- - - - - TOE OF FILL
- LDA—LDA— LIMITS OF DISTURBANCE
- LIMITS OF CONSTRUCTION
- FLOW DIRECTION
- █ ROCK CHECK DAM
- SF—SF— SILT FENCE
- █ EROSION LOG TYPE I (12 INCH) OR (20 INCH)
- █ AGGREGATE BAG
- █ STORM DRAIN INLET PROTECTION TYPE I
- ▭ EXISTING WETLANDS
- ▨ BRUSH LAYER CUTTING

0' 25' 50' 100'



- TEMPORARY WETLAND MITIGATION NOTES:**
- CUT WETLAND VEGETATION TO 6 INCHES ABOVE GROUND SURFACE. WETLAND VEGETATION (SUCH AS SANDBAR WILLOW) STUMPS AND ROOTS SHALL REMAIN IN THE GROUND.
 - PLACE GEOTEXTILE MATERIAL OVER THE WETLAND AREA.
 - PLACE 6 INCHES OF WEED FREE STRAW ON TOP OF THE WETLAND MATERIAL
 - COVER THE WEED FREE STRAW ON THE TOP OF THE GEOTEXTILE MATERIAL WITH 12" SOIL.
 - REMOVAL OF THE EMBANKMENT, STRAW, AND GEOTEXTILE MATERIAL SHALL BE DONE USING THE STRAW LAYER AS AN INDICATOR TO ALERT THE OPERATOR TO THE PROXIMITY OF THE GEOTEXTILE LAYER MATERIAL AND NATIVE GROUND.
 - FINAL REMOVAL OF THE REMAINING MATERIAL SHALL BE DONE WITH A TOOTHLESS BLADE IN ORDER TO MAINTAIN THE ORIGINAL WETLAND AREA.
- ALL COSTS FOR LABOR, EMBANKMENT MATERIAL, STRAW, GEOTEXTILE AND OTHER MATERIALS WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF BRUSH LAYER CUTTING (214-01010) PAY ITEM.

- NOTE:**
- SOME EXISTING CCMS MAY REMAIN FROM PREVIOUS PROJECT'S DISTURBANCES. CONTRACTOR SHALL DETERMINE IF THEY STILL FUNCTION AND ARE SUFFICIENT FOR PROPOSED PROJECT DISTURBANCES. PROPOSED CCMS SHOWN INCLUDE REPLACEMENTS FOR EXISTING CCMS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE ACCURACY OF CCM TYPES AND LOCATIONS SHOWN. CONTRACTOR SHALL COORDINATE WITH THE EROSION CONTROL SUPERVISOR OR ENGINEER AS TO THE APPROPRIATE CCMS AND THEIR LOCATIONS AND SHALL AMEND THE SWMP/EROSION CONTROL PLANS IN ACCORDANCE WITH SECTION 208.
 - ALL TEMPORARY CCMS SHALL BE INSTALLED ACCORDING TO M-208-1 AND SECTION 208 UNLESS APPROVED OTHERWISE BY THE EROSION CONTROL SUPERVISOR OR ENGINEER.
 - CONTRACTOR TO PLACE ROCK CHECK JUST PRIOR TO BEGINNING WORK ON THE TEMPORARY WETLAND PROTECTION AND RIPRAP PLACEMENT FOR THE SPILLWAY. REMOVE ROCK CHECK AS SOON AS VEGETATION IS ESTABLISHED. THE GOAL IS TO MINIMIZE THE TIME FRAME THE ROCK CHECK IS IN THE CREEK.



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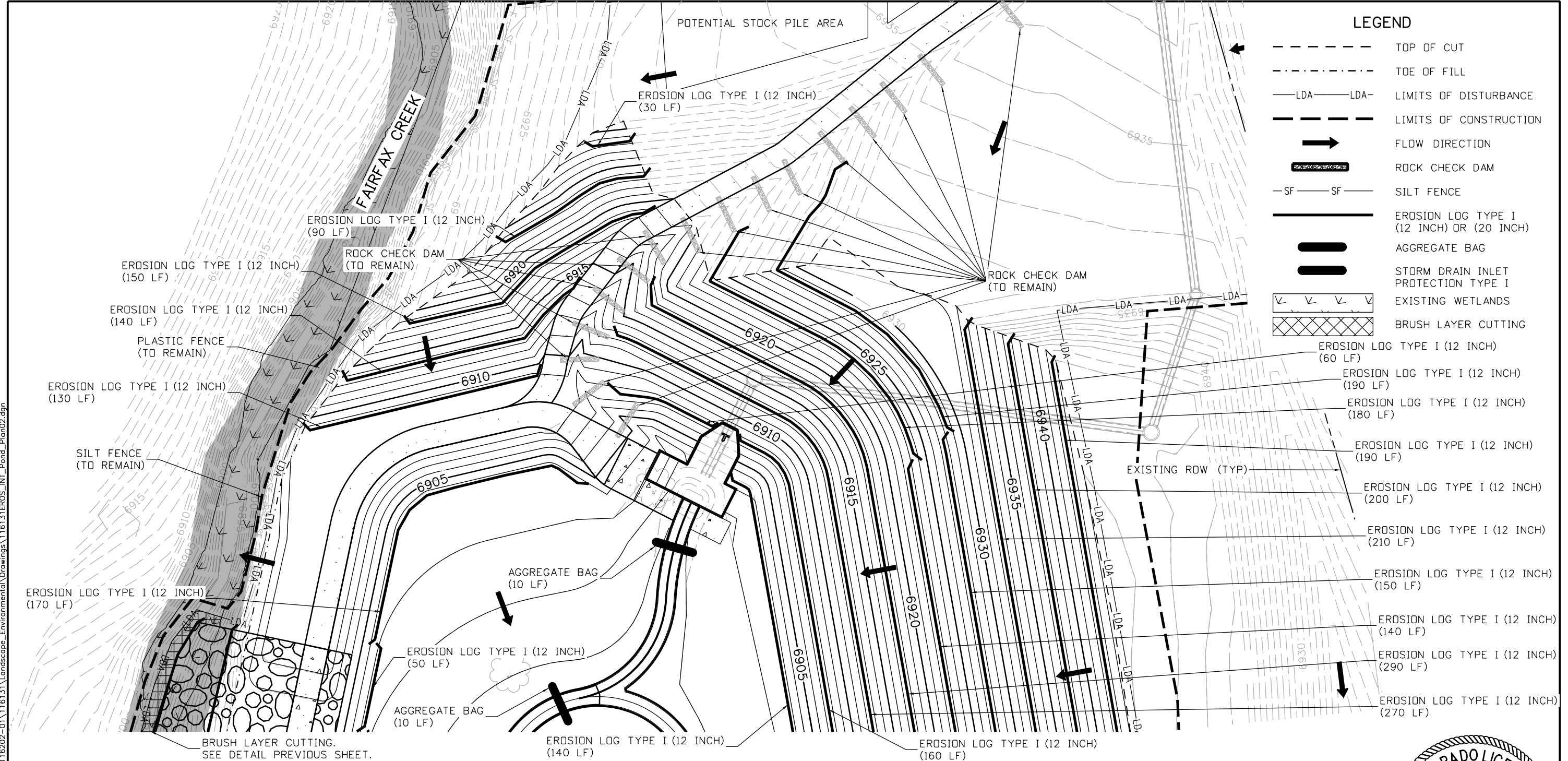
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Project No./Code
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Sheet Number
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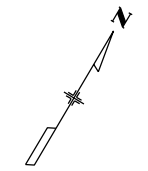
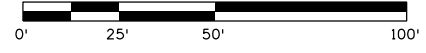
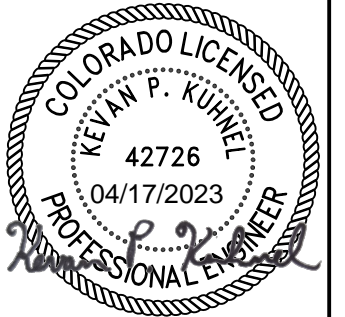


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█	STORM DRAIN INLET PROTECTION TYPE I
▽▽▽▽	EXISTING WETLANDS
▨	BRUSH LAYER CUTTING

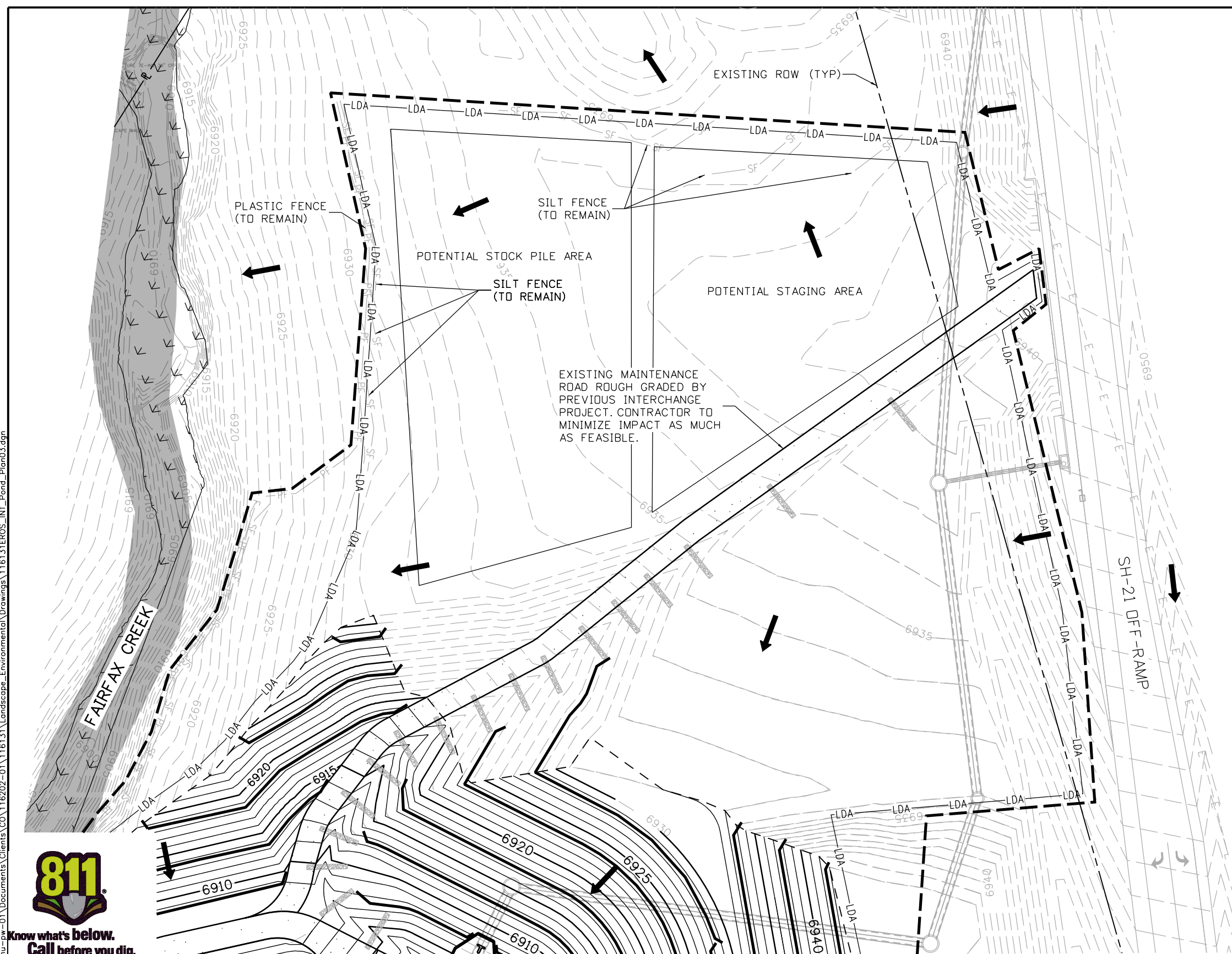
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Print Date: 4/14/2023 File Name: 116131EROS_INT_Pond_Plan02.dgn Horiz. Scale: 1:50 Vert. Scale: As Noted	Sheet Revisions Date: Comments Init.			Colorado Department of Transportation 1480 Quail Lake Loop, Suite A Colorado Springs, CO 80906 Phone: 719-227-3205 FAX: 719-227-3298 Region 2 JSH	As Constructed No Revisions: Revised: Void:	FAIRFAX DETENTION AND WATER QUALITY POND INTERIM GEC PLANS		Project No./Code 16131-11 Sheet Number 53
	 3 South Tejon Street, Suite 300 Colorado Springs, CO 80903 Phone: 719.314.1800 www.FHUENG.com	Designer: JMM Detailer: JMM Sheet Subset: EROSION Subset Sheets: EN-02 of 03						

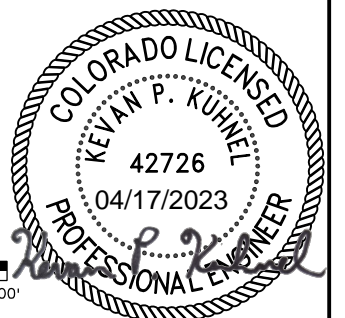


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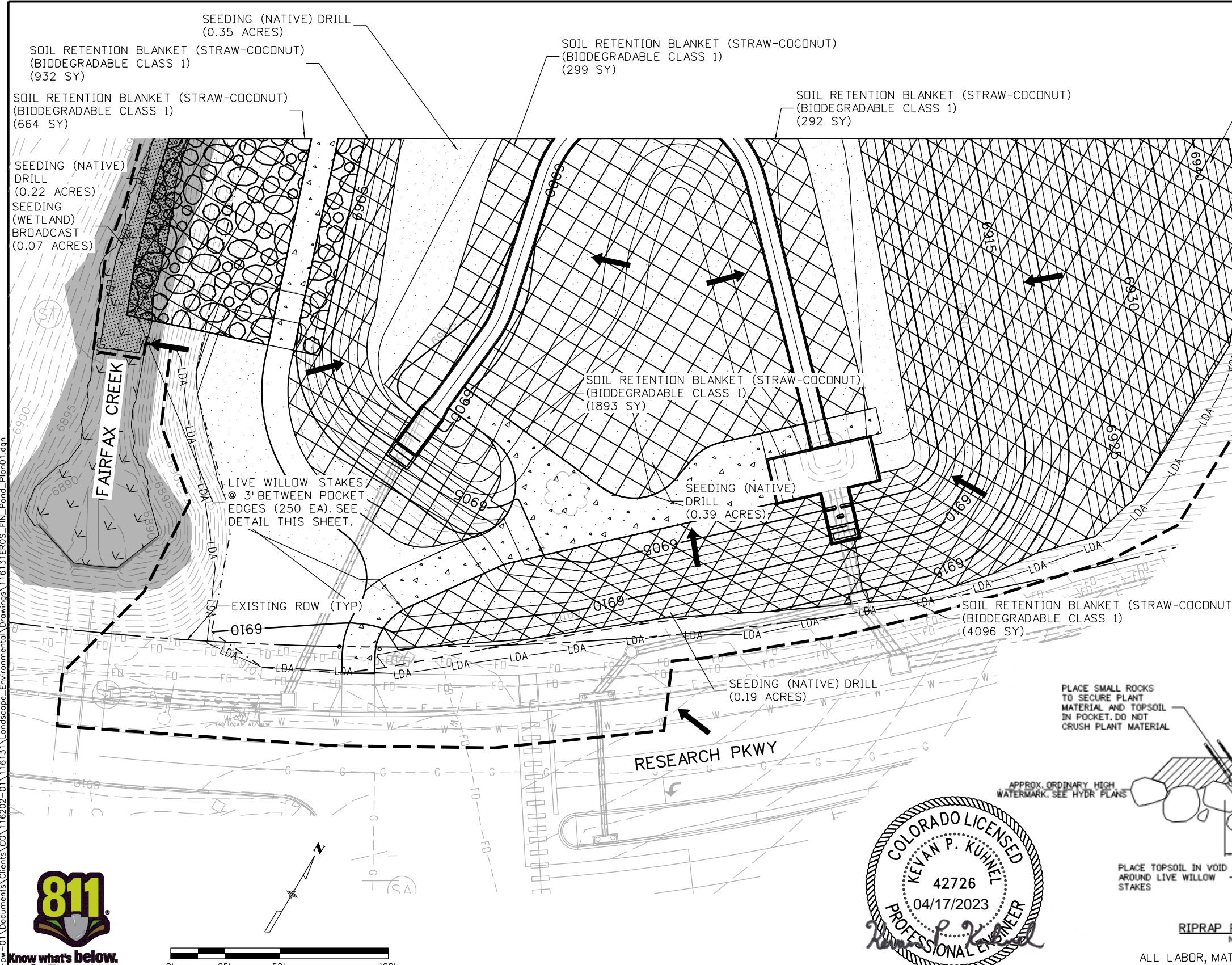
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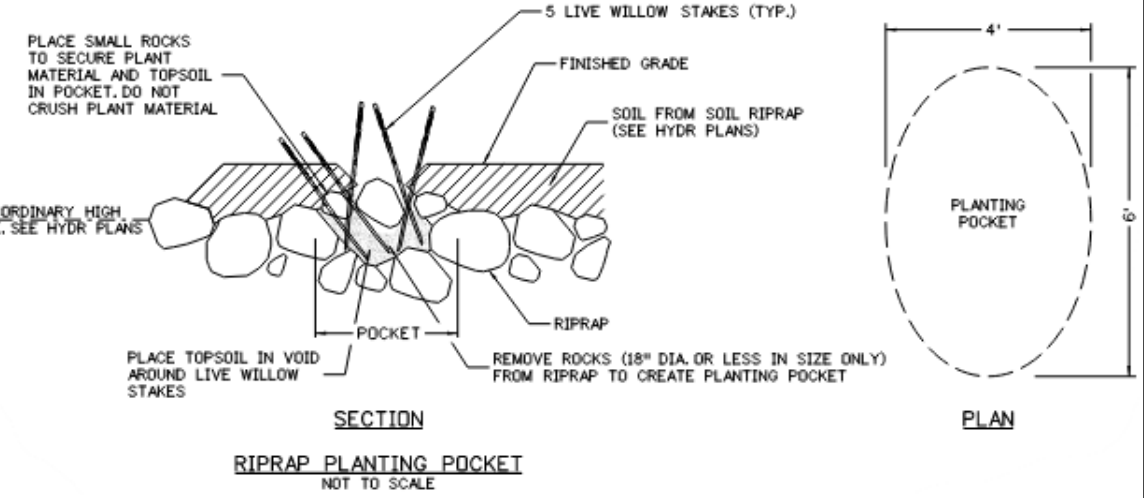
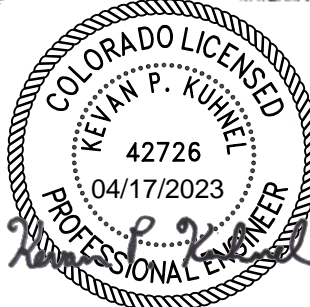
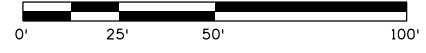
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- SOIL RETENTION BLANKET
- SEEDING (WETLAND)
- ○ ○ ○ LIVE WILLOW STAKES

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ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO INSTALL THE PLANTING POCKET SHALL BE INCLUDED IN THE COST OF LIVE WILLOW STAKES

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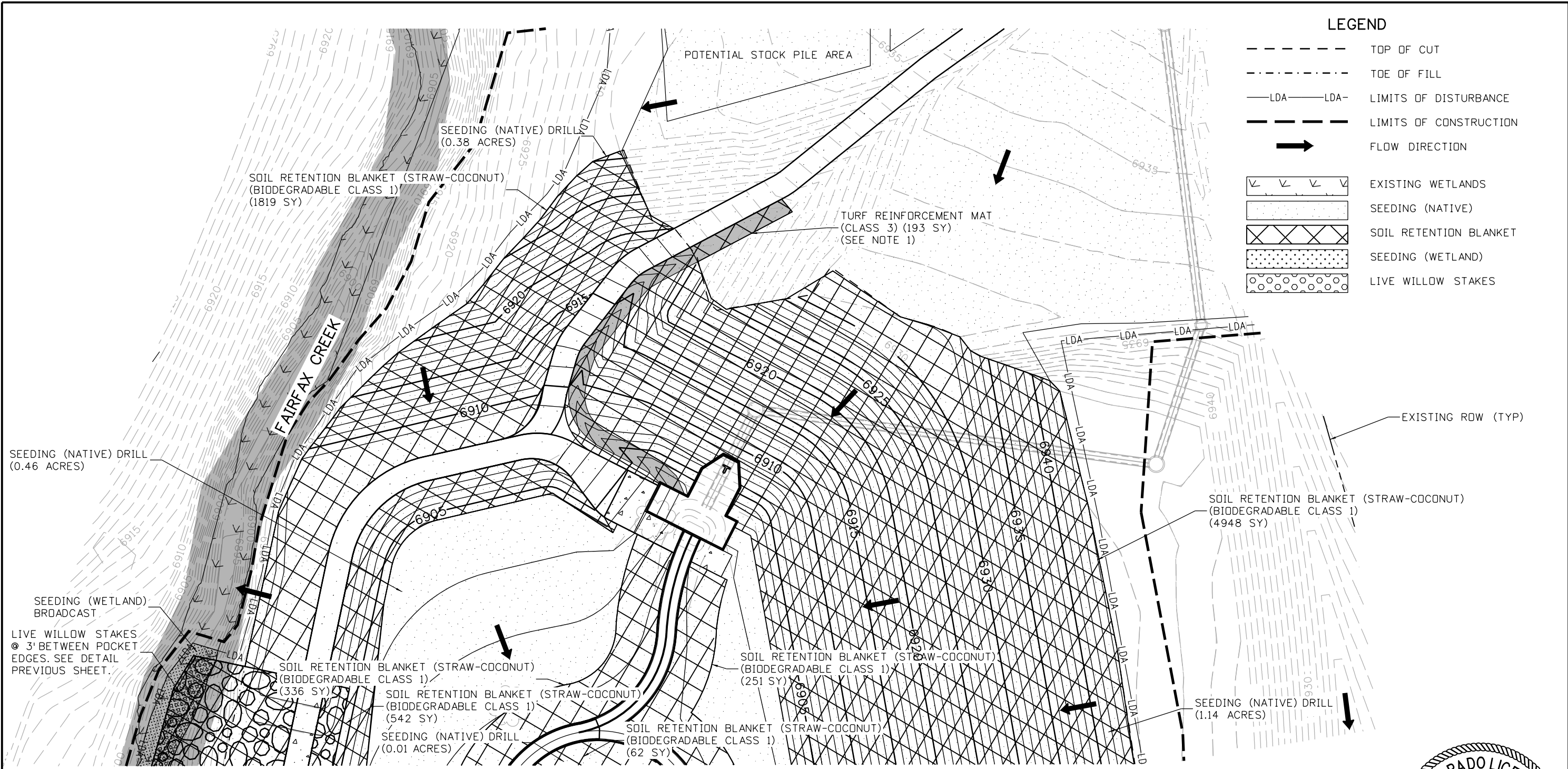
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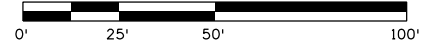
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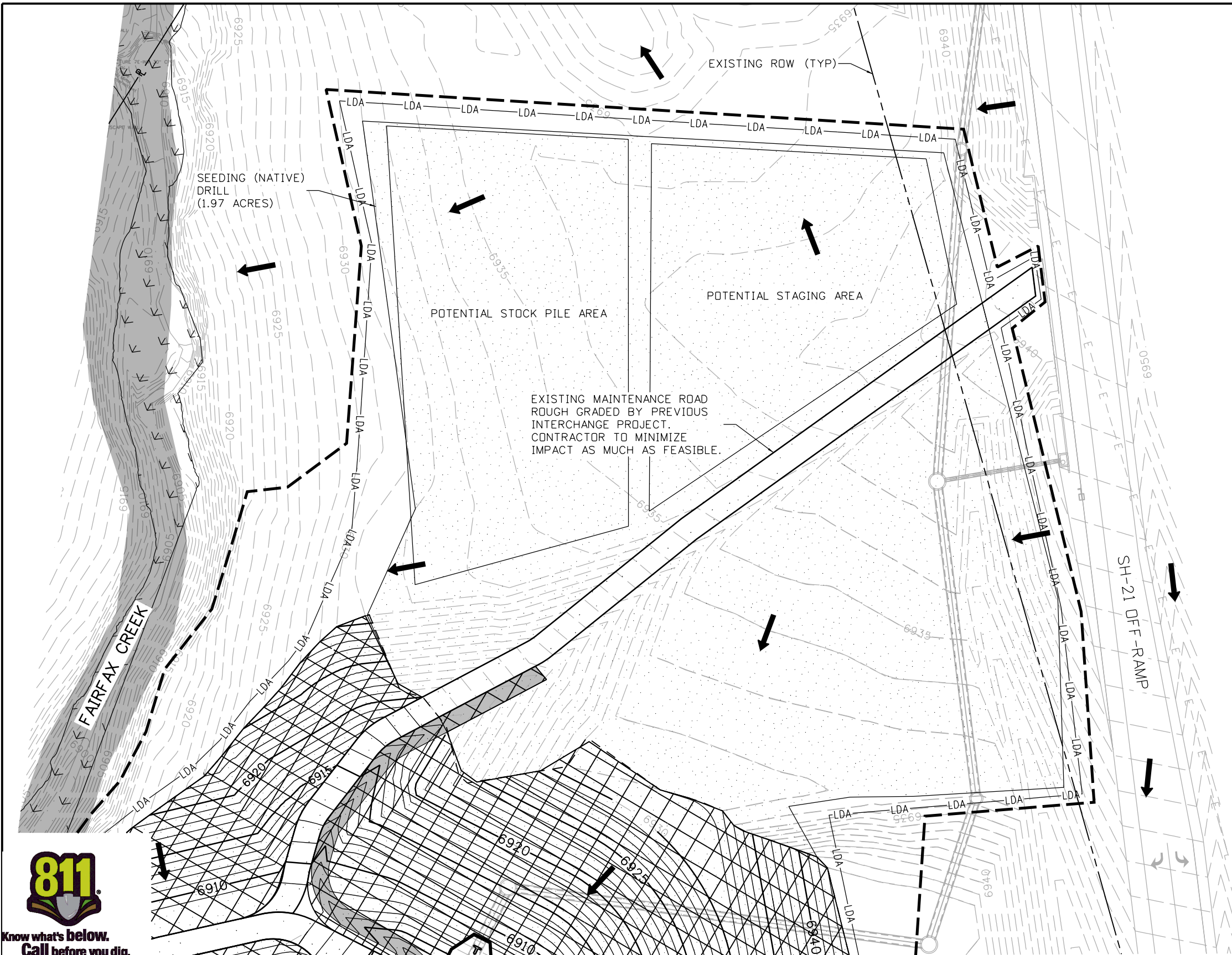
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FAIRFAX DETENTION AND WATER QUALITY POND FINAL GEC PLANS

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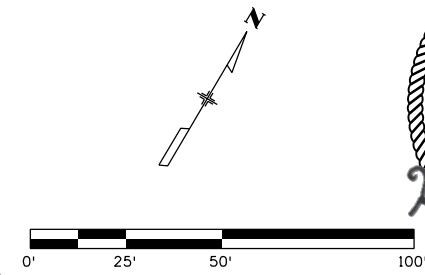
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