

BLACK FOREST FIRE PROTECTION DISTRICT

11445 TEACHOUT ROAD

BLACK HILLS ENERGY

7080 ALEGRE STREET

11140 E. WOODMEN ROAD

U.S. WEST COMMUNICATIONS

(LOCATORS) (800) 922-1987

FOUNTAIN, CO 80817

(719) 393-6625

FALCON, CO 80831

(719) 495-2283

ELECTRIC DEPARTMENT: MOUNTAIN VIEW ELECTRIC

COLORADO SPRINGS, CO 80908

CHIEF BRYAN JACK (719) 495-4300

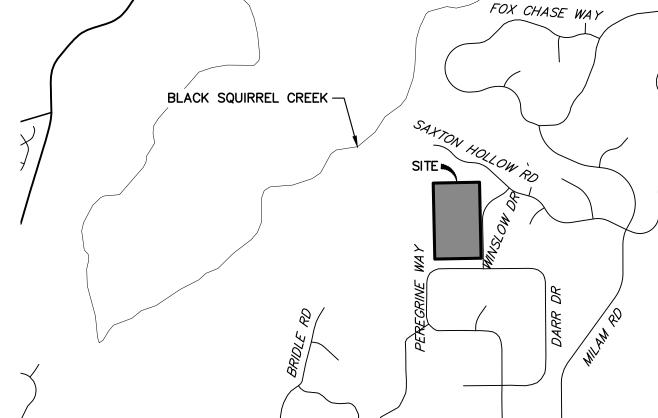
8/06/2024

5/31/2024

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER M DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY

SHEET 1 OF 9 JOB NO. **25260.00** 

# ESTATES AT CATHEDRAL PINES **COUNTY OF EL PASO, STATE OF COLORADO** STREET IMPROVEMENT PLANS



SHOUP RD

VICINITY MAP

SCALE: 1"=2000'

VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CAWLFIELD (719) 413-6900

5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 BRYAN LAW P.E. (303) 267-6254

AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 CHARLENE DURHAM, P.E. (719) 520-7951

3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JOSHUA PALMER, P.E. (719) 520-6460

**AGENCIES** OWNER/DEVELOPER:

CIVIL ENGINEER: JR ENGINEERING, LLC

COUNTY ENGINEERING: EL PASO COUNTY PLANNING

TRAFFIC ENGINEERING: EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS

# **BASIS OF BEARINGS**

THE WEST LINE OF THE SOUTHEAST 1/4 OF SECTION 2, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE 6TH P.M. BEING MONUMENTED BY A 3-1/4" ALUMINUM CAP STAMPED "LS 9132" AT THE SOUTH & CORNER AND A 2-1/2" ALUMINUM CAP STAMPED "LS 9132" AT THE CENTER 1 CORNER, SAID LINE BEARING NO0°11'44"W AS SHOWN ON THE PLAT OF CATHEDRAL PINES SUBDIVISION FILING NO. 1 RECORDED UNDER RECEPTION NO. 205001738 IN THE RECORDERS OF THE EL PASO COUNTY CLERK AND RECORDER.

### **BENCHMARKS**

. SITE VERTICAL DATUM NGVD88 FROM PLANS BY LEIGH-WHITEHEAD ELEVATION 7436.65 NO. 4 REBAR 23' NORTH AND 20' EAST OF THE SOUTHEAST CORNER OF SECTION 2, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY COLORADO, SAID SECTION CORNER BEING A 3-1/4" ALUMINUM SURVEYORS CAP STAMPED "PLS 9132" BEING APPROPRIATELY MARKED

2. 1" IRON PIPE AT SOUTHEAST CORNER OF SITE BEING 367'+/- NORTH OF THE INTERSECTION OF PEREGRINE WAY AND WINSLOW DRIVE AND 30' WESTERLY OF THE CENTERLINE OF WINSLOW DRIVE ELEVATION = 7347.65

3. THE NORTHWEST CORNER OF AN AREA INLET BEING EASTERLY OF WINSLOW DRIVE AND BEING 900' +/- NORTH OF THE INTERSECTION OF PEREGRINE WAY AND WINSLOW DRIVE ELEVATION = 7347.47

# OWNER/DEVELOPER STATEMENT

, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF HE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND | SPECIFICATIONS.

FIRE DISTRICT:

GAS DEPARTMENT:

COMMUNICATIONS:

VILLAGREE DEVELOPMENT

5710 VESSEY ROAD COLORADO SPRINGS, CO 80908 EL PASO COUNTY STATEMENT

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

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

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. COUNTY ENGINEER/ECM ADMINISTRATOR

**ENGINEER'S STATEMENT** 

PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTEF KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

COLORADO P.E. 25043 FOR AND ON BEHALF OF JR ENGINEERING, LLC

SHEET INDEX:	5.00' PI EASEMENT	60.00' TRACT WIDTH	5.00' PI EASEMENT
1 - COVER SHEET 2 - LEGEND AND GENERAL NOTES 3 - TYPICAL SECTIONS 4 - HORIZONTAL CONTROL PLAN 5-7 - STREET IMPROVEMENT PLANS 8 - SIGNAGE AND STRIPING PLAN 9 - DETAILS	2.00' GRAVEL SHOULDER	2.00' PAVED 12.00' SHOULDER THRU THRU SHOULDER	2.00' GRAVEL SHOULDER
9 — TOTAL SHEETS	7.50' MIN 10.00	O' MIN LANE	10.00' MIN 7.50' MIN
	3:7	2.0% 2.0% 1.1 	3:1 TIE BACK TO EX.
3:1 TIE BACK TO EX.			ROADSIDE SWALE 2.5' MIN
W/ 5' BERM IF NEEDED —	_	TYPICAL PRIVATE RURAL LOC	(DEPTH & SLOPES VARY)
ROADSIDE SWA (DEPTH & SL	ALE 2.5' MIN OPES VARY)	POSTED SPEED LIMIT = 25 MPH, DESIGN SPEED LIMIT = 3 SCALE: 1" = 5'	25 MPH

PCD FILE NO. SF-2234

### LAYER LINETYPE LEGEND

#### **UTILITIES LEGEND**

	EXISTING	PROPOSED	EXISTING
PHASE LINE			STORM SEWER
MATCH LINE			MANHOLE ®
SECTION LINE			
BOUNDARY LINE			STORM INLET
PROPERTY LINE			AREA INLET − SQUARE □
EASEMENT LINE			AREA INLET - ROUND O
RIGHT OF WAY			FLARED END SECTION
R.O.W. A LINE	A	A	FELINAS ENS SESTION
CENTERLINE			RIPRAP
CITY LIMITS			
WIRE FENCE	xx	××	
CHAIN LINK FENCE			SANITARY SEWER
WOOD FENCE		<b>─</b>	LINE MARKER Mkr San <sup>O</sup>
MASONRY FENCE			SERVICE MARKER
GUARDRAIL		<del> </del>	CLEAN−OUT
CONC. BARRIER	<del></del>		MANHOLE W/ DIRECTIONAL SA
CABLE TV			FLOW ARROW
ELECTRIC			WATER LINE
FIBER OPTIC	——————————————————————————————————————		
GAS MAIN			LINE MARKER  MKr W°  SERVICE MARKER
IRRIGATION MAIN			FIRE HYDRANT Q
OIL/PETRO. MAIN			FIRE CONNECTION
OVERHEAD UTILITY		OHU	MANHOLE W
SANITARY SEWER			BEND
STORM DRAIN	7 7		BLOW-OFF VALVE &
TELEPHONE			WELL OWELL
WATER MAIN		DV4 DV4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
RAW WATER LINE		RWL	METER ₩
SWALE/WATERWAY FLOWLINE			VALVE ⋈
DIVERSION DITCH			REDUCER
DIVERSION CHANNEL			THRUST BLOCK
MAJOR DRAINAGE BASIN			CROSS
MINOR DRAINAGE BASIN			PLUG W/ THRUST BLOCK №
TOP OF SLOPE			TEE
TOE OF SLOPE			REVERSE ANCHOR
EDGE OF WATER			ANODE
INDEX CONTOUR			AIR & VACUUM VALVE ASSEMBLY
	-6100	6100	TRANSMISSION
INTERMEDIATE CONTOUR			BLOW-OFF ASSEMBLY
DEPRESSION CONT. (INDEX)	- TT T6100- TT	6100	GAS LINE
DEPRESSION CONT. (INTER)	ノイーナーナーエーイーナー		MARKER Mkr G <sup>O</sup>
TOP OF CUTS	/ — \		SERVICE MARKER
TOE OF FILLS			METER ©
CUT AND FILL LINE			VALVE ⋈
SILT FENCE		SFSF	PLUG
100 YEAR FLOODPLAIN	100YR	100YR	TEE
500 YEAR FLOODPLAIN	500YR	500YR	DRY UTILITIES
FLOODWAY		FLDWY	CABLE TV MARKER Mkr TV O
BASE FLOOD ELEVATION	<b>*************************************</b>		CABLE TELEVISION PEDESTAL ™
EDGE OF WETLANDS	<u> </u>		ELECTRIC MARKER Mkr E°
			ELECTRIC SERVICE MARKER
STONE WALL		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ELECTRICAL PEDESTAL E
			ELECTRICAL METER ©
			ELECTRICAL MANHOLE ©
			FIBER-OPTIC MARKER Mkr FO°
			IRRIGATION PEDESTAL I
			TELEPHONE MARKER Mkr TO
			TELEPHONE PEDESTAL I
			TELEPHONE MANHOLE ①
			UTILITY POLE -0-
			0111/ 41101100

**GUY ANCHOR** 

MISC. UTILITIES

TEST HOLE DESIGNATOR

GUY POLE

VENT PIPE

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

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- 3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOIL AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS
- AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING: 3.1. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
- 3.2. CITY OF COLORADO SPRINGS/ EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
- 3.3. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION 3.4. CDOT M&S STANDARDS
- 4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSIONS OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS—ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- 8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- 9. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- 10. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 11. SIGHT VISIBILITY TRIANGLES ARE IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED IN SIGHT TRIANGLES.
- 12. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- 13. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 14. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWENER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

#### **GENERAL CONSTRUCTION NOTES:**

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
- 3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
- ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PCD.
- 5. ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
- 6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K 1.2C.
- 7. ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
- 8. ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 -
- 9. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.

#### **SIGNING AND STRIPING NOTES:**

- 1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
- 3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
- 4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT
- EL PASO COUNTY AND MUTCD STANDARDS. 5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- 6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- 7. ALL STREET NAME SIGNS SHALL HAVE 'D' SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
- 8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- 9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
- 10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- 11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
- 12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
- 13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- 14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.



**ENGINEER'S STATEMENT** 

FOR AND ON BEHALF OF JR ENGINEERING,

APPLICATION ON THIS PROJECT

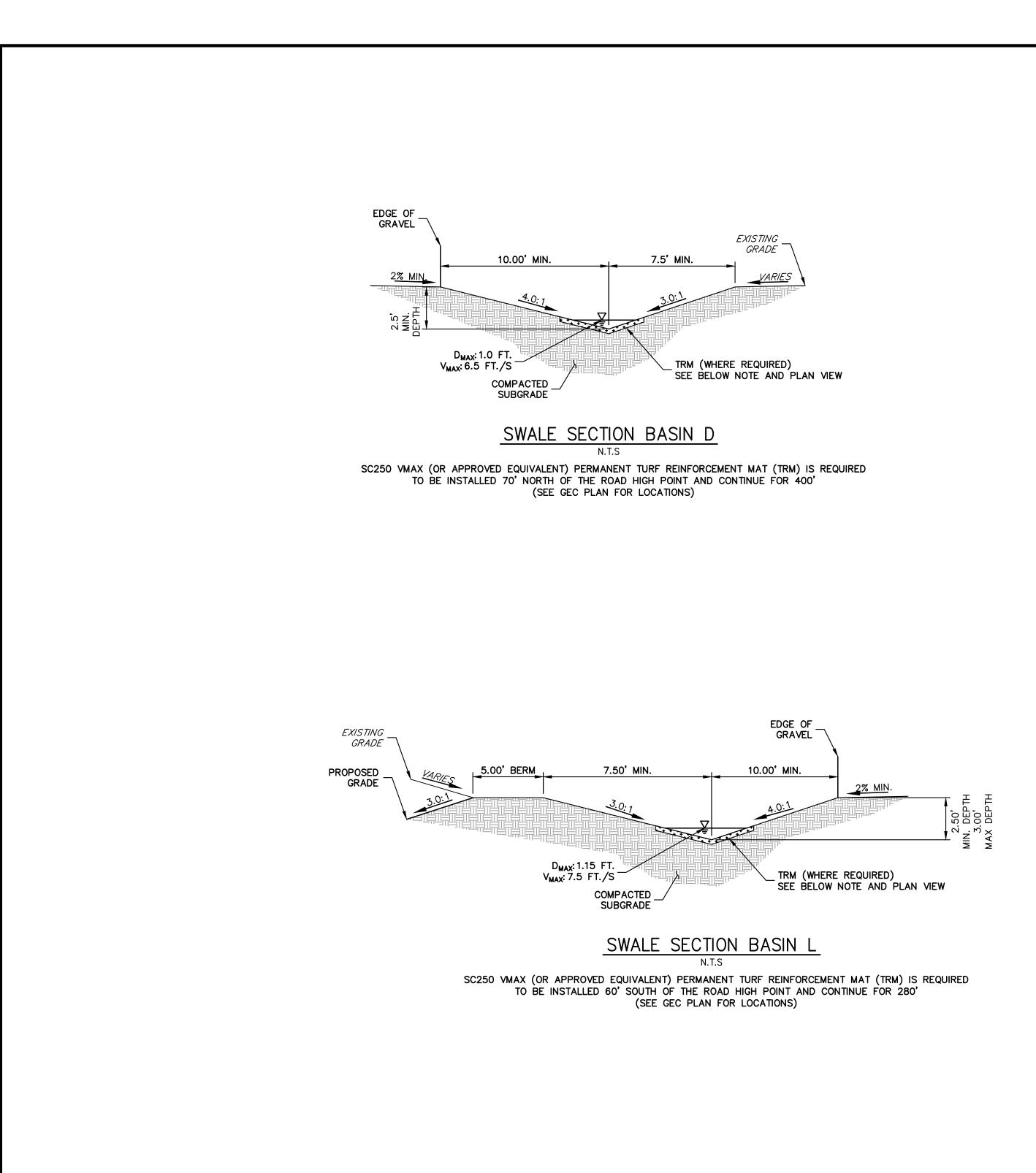
COLORADO P.E. 25043

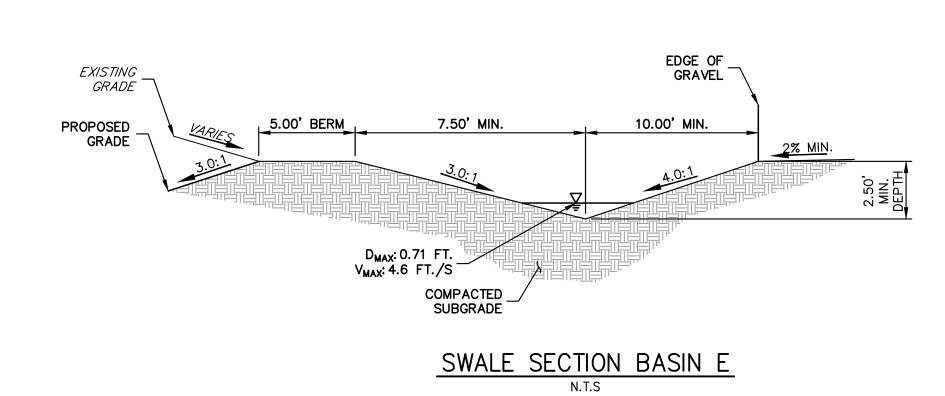
Call before you dig STANDARD DETAILS SHOWN WERE REVIEWED ONLY RAS TO THEIR 7/31/24 JOB NO. **25260.00** 

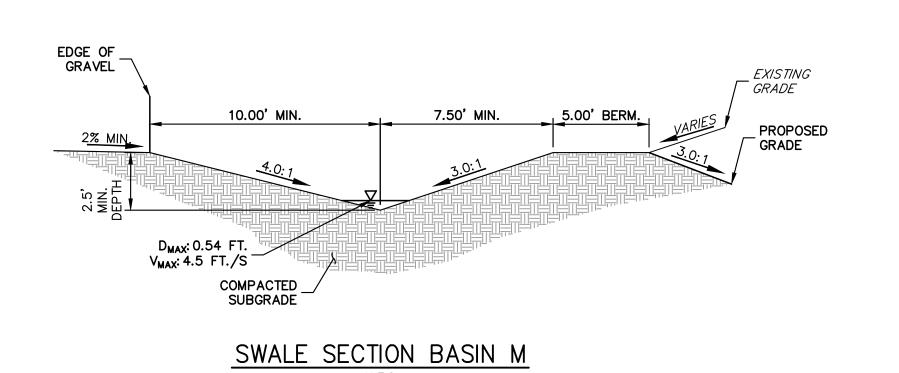
SHEET 2 OF 9

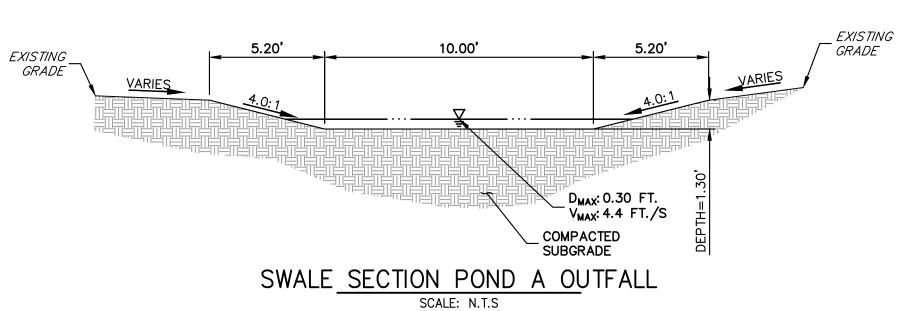
EPC 8/06/2024

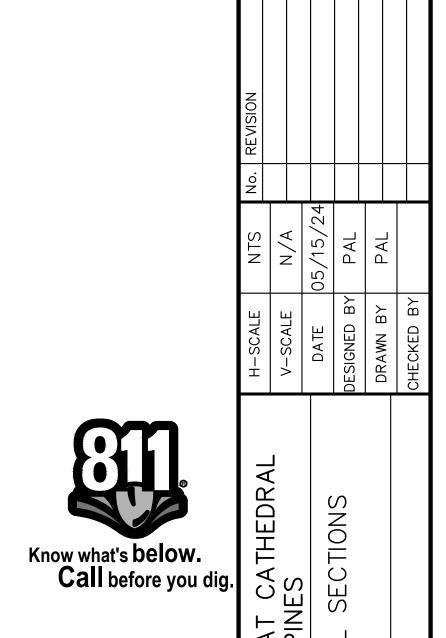
VILLAGRE 57 30LORAD GREGG (7



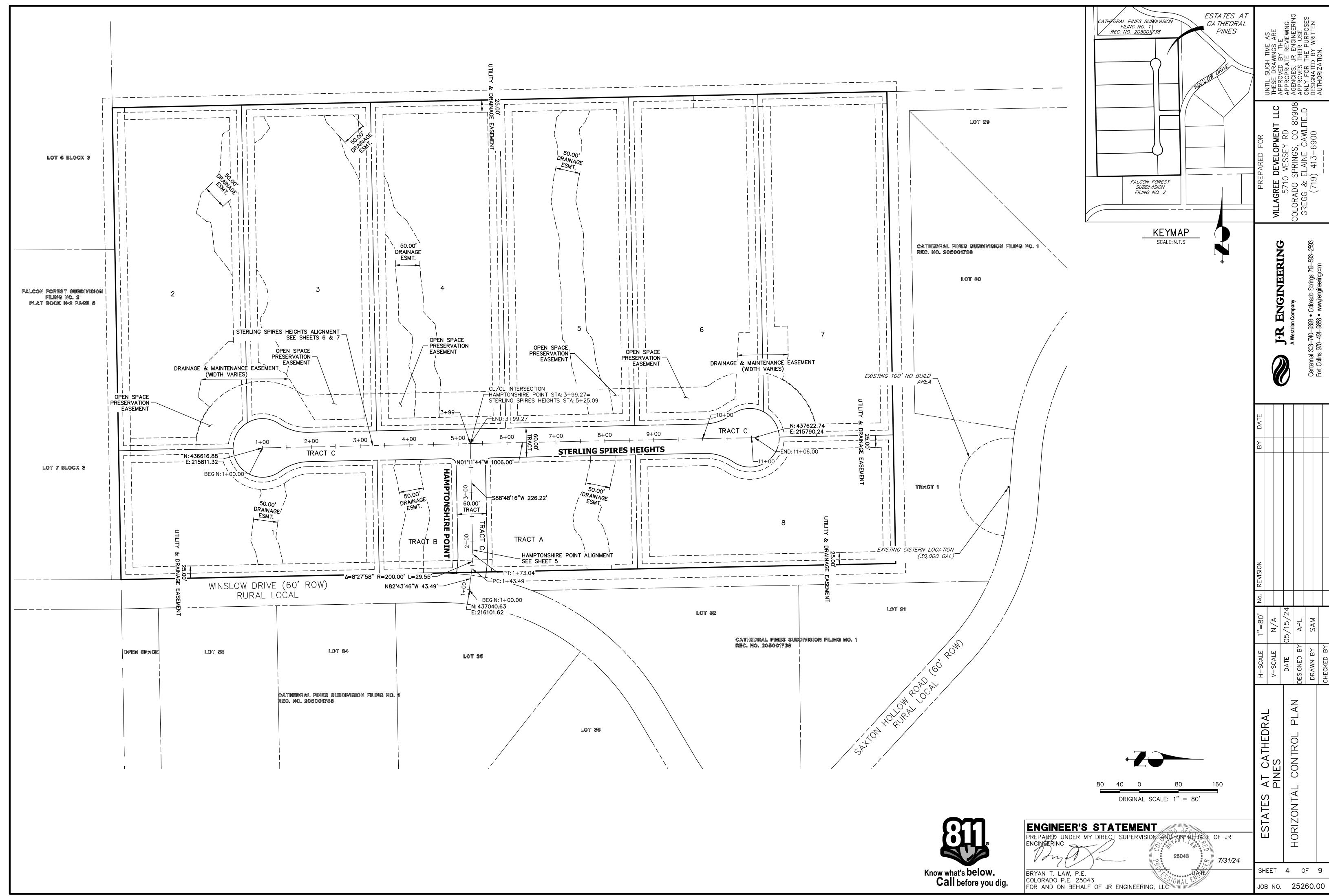


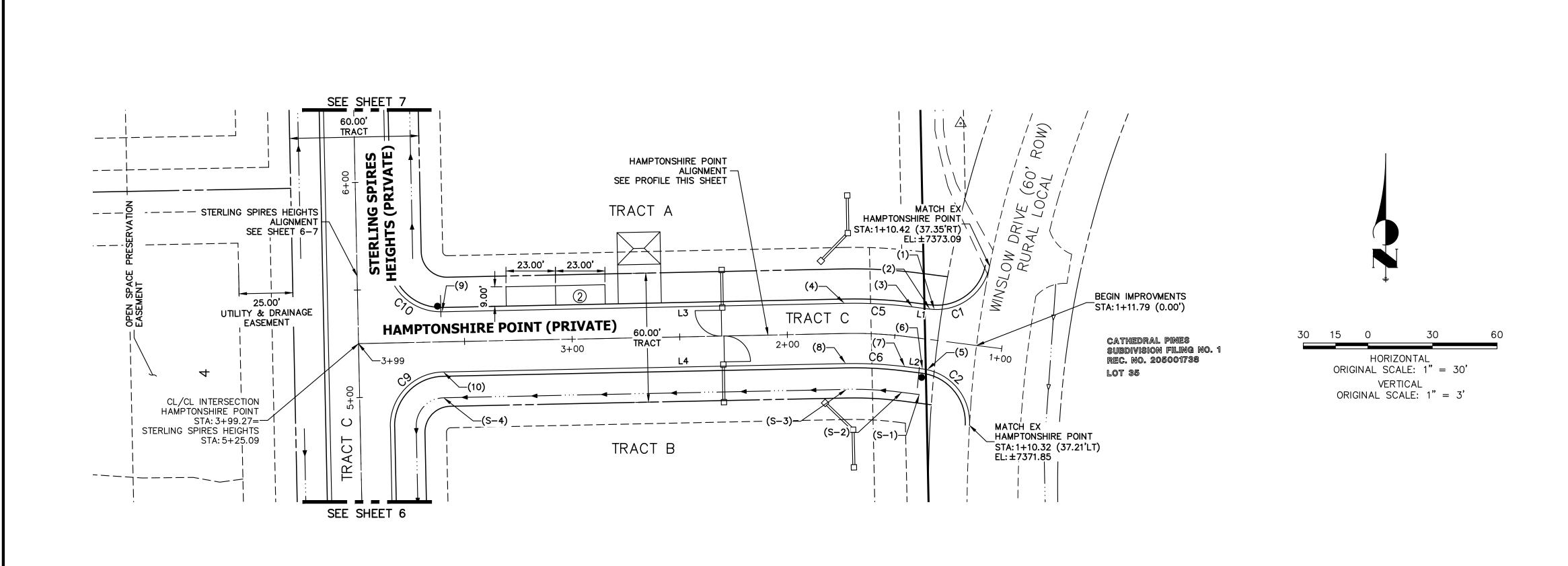






Know what's **below. Call** before you dig.





HAMPTONSHIRE POINT PROFILE

VPI \$TA: 3+40.77 VPI EL: 7359.55

K: 15.17

90.00' VC

7375<del>+</del>

7370

7360

3+99

2.00%----

STA 1+00.00 TO 3+99.27 VPI STA: 2+24.00 VPI EL: 7368.89 K: 12.00

3+00

48.00' VC

HP STA: 1+12.62 HP EL: 7372.79 VPI STA: 1+23.82 VPI EL: 7372.90 K: 7.00 33.60' VC

TPROPOSED GRADE @ 6

= EXISTING GRADE @ Q

2+00

BEGIN IMPROVMENTS \_MATCH\_EX.\_EOA

STA: 1+11.79

EL: 7372.79 ±

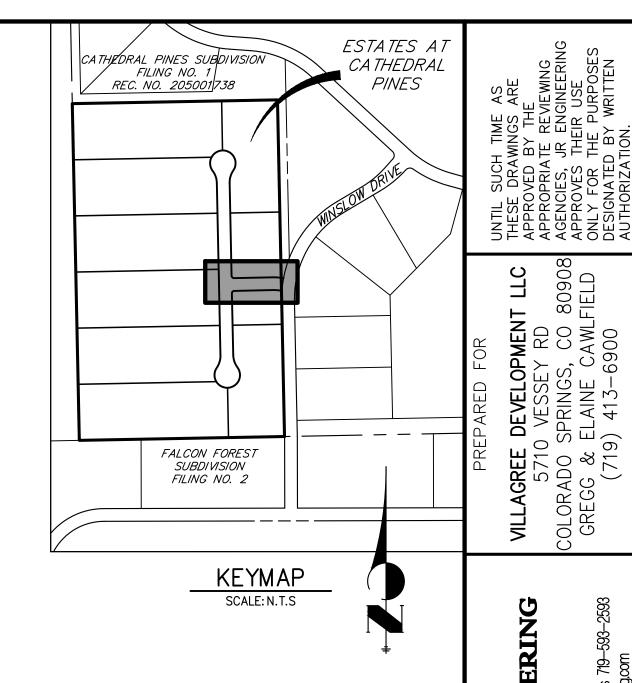
-7370

-7365

-7360

<del>+</del>7355

1+00



LINE TABLE			
LINE	BEARING	DISTANCE	
L1	S82*43'46"E	8.12'	
L2	S82°43'46"E	8.23'	
L3	S88°48'16"W	187.22'	
L4	N88°48'16"E	187.04'	

	CURVE	TABLE			POINT TABULATION				
CURVE	DELTA	RADIUS	LENGTH	POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
C1	86°12'34"	25.00'	37.62'	(1)	1+33.30	14.09' (RT)	HAMPTONSHIRE POINT	7372.79	HIGH PT
C2	85°54'02"	25.00'	37.48'	(2)	1+35.37	14.00' (RT)	HAMPTONSHIRE POINT	7372.14	PT
C5	8 <b>°</b> 27'58"	214.00'	31.62'	(3)	1+43.49	14.00' (RT)	HAMPTONSHIRE POINT	7371.83	PC
C6	8 <b>°</b> 27'58"	186.00'	27.48'	(4)	1+73.04	14.00' (RT)	HAMPTONSHIRE POINT	7370.65	PT
C9	90°25'32"	25.00'	39.46'	(5)	1+33.21	14.08' (LT)	HAMPTONSHIRE POINT	7372.73	HIGH PT
C10	85°45'49"	25.00'	37.42'	(6)	1+35.26	14.00' (LT)	HAMPTONSHIRE POINT	7372.14	PT
				(7)	1+43.49	14.00' (LT)	HAMPTONSHIRE POINT	7371.83	PC
				(8)	1+73.04	14.00' (LT)	HAMPTONSHIRE POINT	7370.65	PT
				(9)	3+60.27	14.00' (RT)	HAMPTONSHIRE POINT	7359.08	PC
				(10)	3+60.27	14.00' (LT)	HAMPTONSHIRE POINT	7359.08	PC
				(S-1)	1+35.26	26.00' (LT)	HAMPTONSHIRE POINT	7369.60	BEGIN SWALE SECTION

`	017111011	011021	712.0112.11		22001111 11011	m					
	1+33.30	14.09' (RT)	HAMPTONSHIRE POINT	7372.79	HIGH PT		+				+
	1+35.37	14.00' (RT)	HAMPTONSHIRE POINT	7372.14	PT						
	1+43.49	14.00' (RT)	HAMPTONSHIRE POINT	7371.83	PC						
	1+73.04	14.00' (RT)	HAMPTONSHIRE POINT	7370.65	PT						
	1+33.21	14.08' (LT)	HAMPTONSHIRE POINT	7372.73	HIGH PT						
	1+35.26	14.00' (LT)	HAMPTONSHIRE POINT	7372.14	PT						
	1+43.49	14.00' (LT)	HAMPTONSHIRE POINT	7371.83	PC						
	1+73.04	14.00' (LT)	HAMPTONSHIRE POINT	7370.65	PT						
	3+60.27	14.00' (RT)	HAMPTONSHIRE POINT	7359.08	PC						
	3+60.27	14.00' (LT)	HAMPTONSHIRE POINT	7359.08	PC	EVISION					
	1+35.26	26.00' (LT)	HAMPTONSHIRE POINT	7369.60	BEGIN SWALE SECTION L	REVIS					
	1+43.49	26.00' (LT)	HAMPTONSHIRE POINT	7369.29	SWALE PC	o F	+			-	+
	1+73.04	26.00' (LT)	HAMPTONSHIRE POINT	7368.11	SWALE PT	ž	<u> </u>	4			$\perp$
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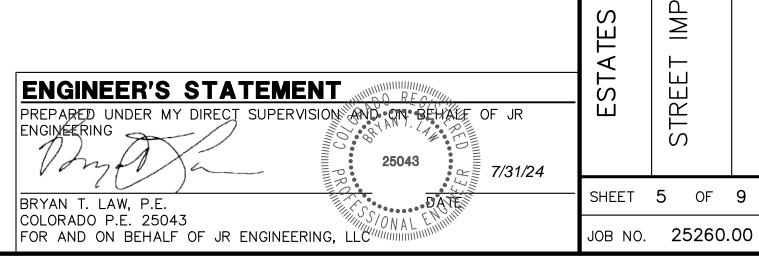
**NOTES** 

- 1. SEE SHEET 3 FOR TYPICAL SWALE SECTIONS. 2. SEE STORM & POND PLANS BY JR ENGINEERING FOR ALL CULVERT & STORM SEWER INFORMATION.
- 3. ALL POINTS ARE EDGE OF ASPHALT (EOA) UNLESS OTHERWISE SPECIFIED.



(S-2)

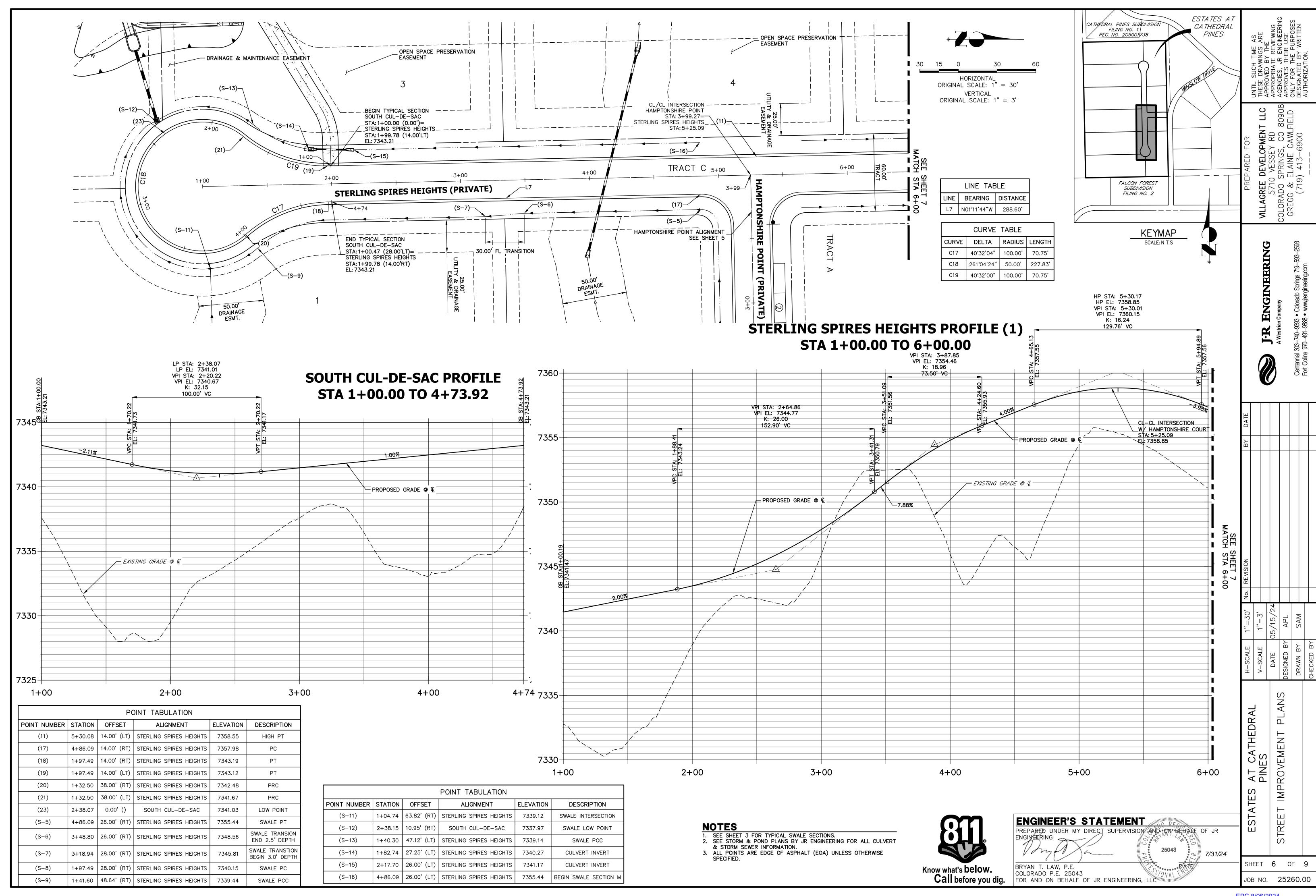
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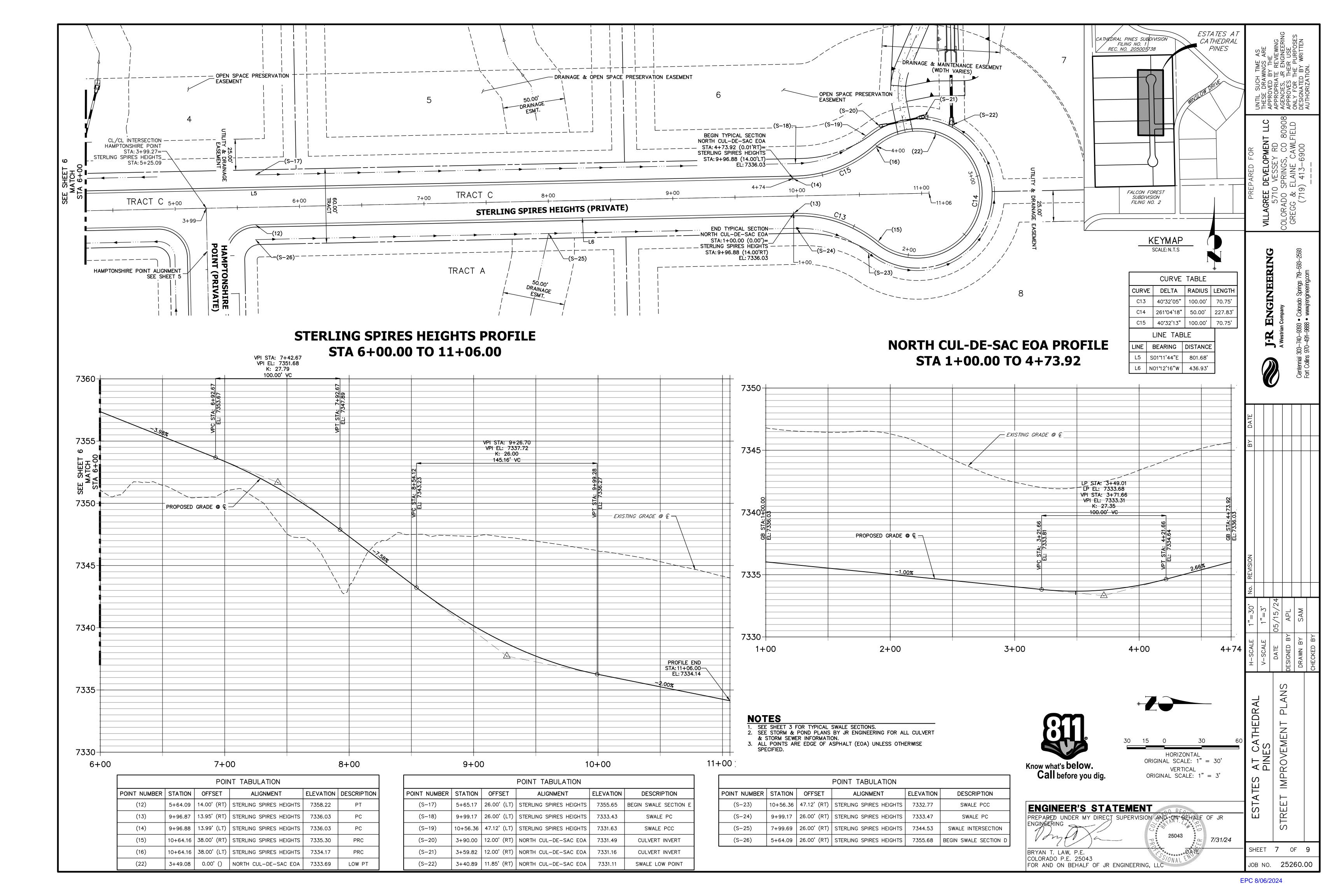


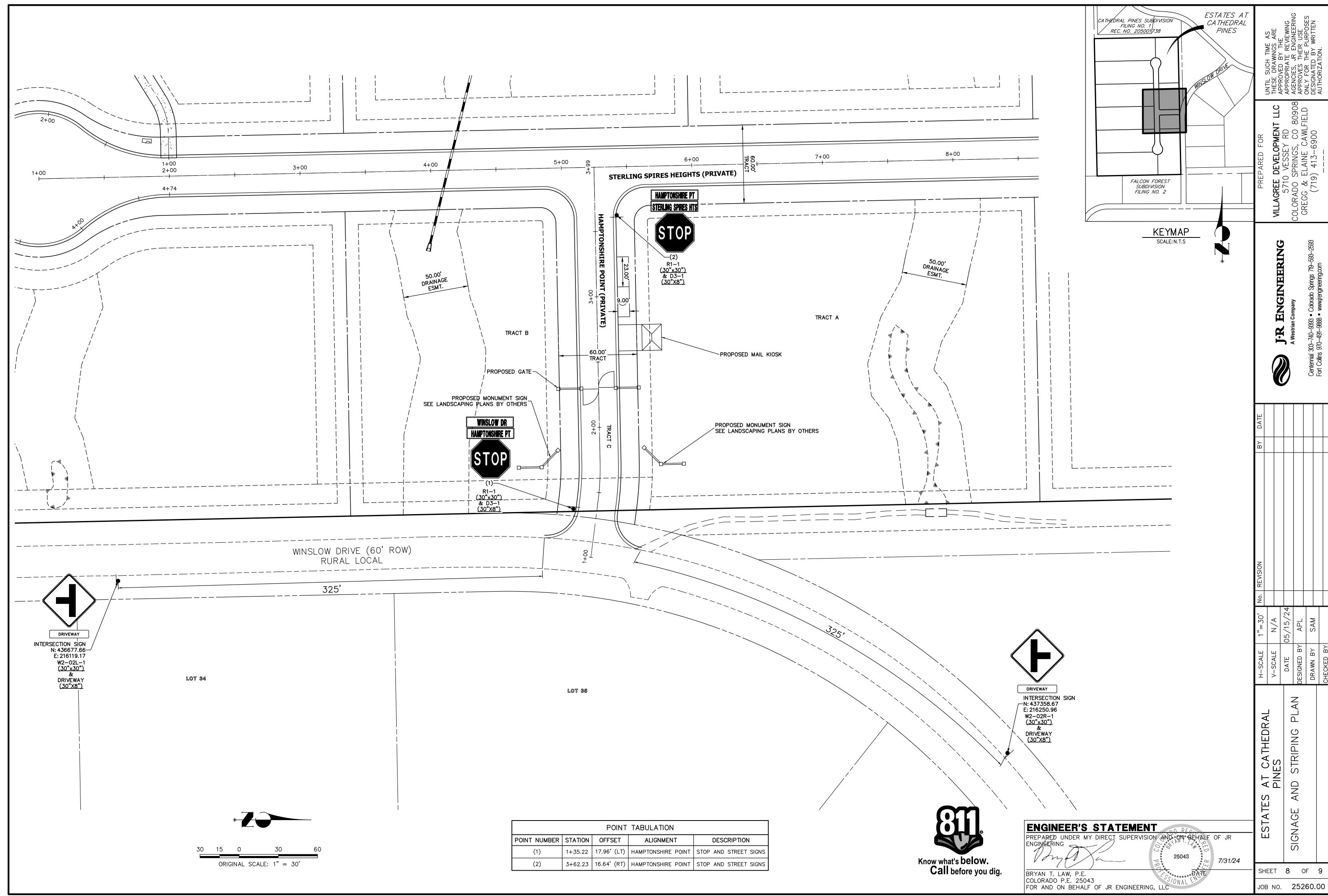
TREE

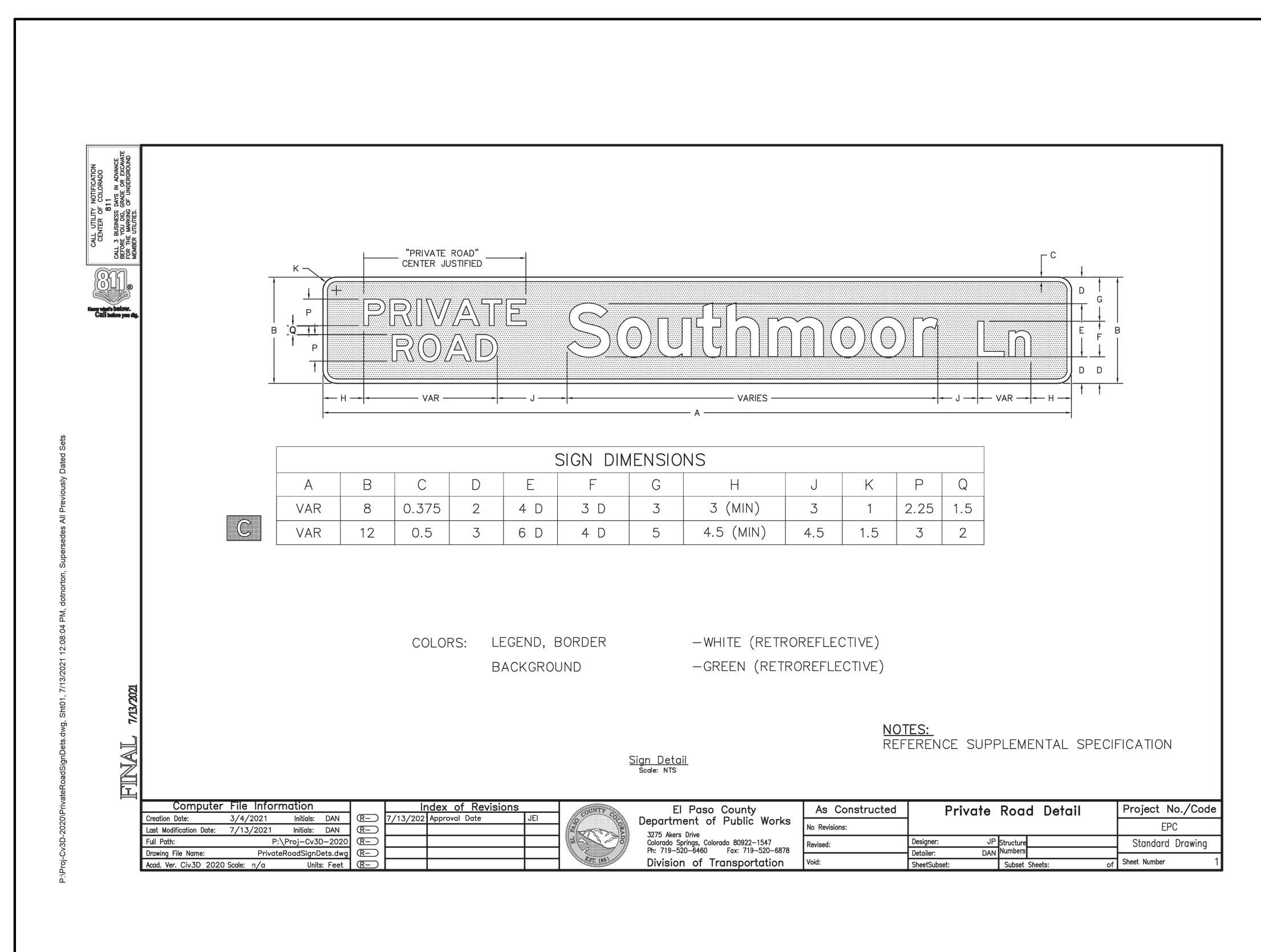
S

AT CATHEDRAL PINES









Supplemental Specification - El Paso County, Colorado

July 13, 2021

#### PRIVATE ROAD SIGNS

#### DESCRIPTION

This work consists of the construction of traffic signs. This work shall be done in accordance with the latest version of the CDOT Standard Specifications for Road and Bridge Construction, the latest revision of the "Manual on Uniform Traffic Control Devices for Streets and Highways" published by the FHWA and adopted by CDOT, the latest revision of the Colorado Supplement thereto, and in conformity with the EPC Standard Private Road Detail together and the details shown on the plans or established.

#### **MATERIALS**

Private Road sign panel materials shall conform to this specification, Sections 614 and 713 of the CDOT Standard Specifications for Road and Bridge Construction and to the details shown on the plans.

The Private Road sign panel shall contain a retroreflective green background with a retroreflective white legend and border.

Private road street name signing that faces approach roads which are classified or operate as local residential area subdivision roads that provide direct access to consistently subdivided residential lots will typically utilize an 8-inch sign panel height with 4-inch initial upper-case lettering for the primary street name legend. Private road street name signing that faces approach roads which are classified or operate as non-local residential area subdivision roads will typically utilize a 12-inch sign panel height with 6-inch initial upper-case lettering for the primary street name legend. Larger signs may be required per the MUTCD.

The words "PRIVATE ROAD" shall be located prior to the street name and shall be center justified. The words shall be all capital letters, stacked and centered vertically. For an 8-inch sign panel height, use 2.25 inches for the PRIVATE ROAD letter height and a 1.5-inch vertical space between the legend. For a 12-inch sign panel height, use 3 inches for the PRIVATE ROAD letter height and a 2-inch vertical space between the legend.

#### CONSTRUCTION REQUIREMENTS

Private Road sign panel construction shall conform to Section 614 of the CDOT Standard Specifications for Road and Bridge

#### METHOD OF MEASUREMENT

Private Road signs will be measured by the square feet of facing.

#### BASIS OF PAYMENT

The accepted quantities will be paid for at the contract price per unit of measurement for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item Sign Panel (Class)

Pay Unit Square Foot

VILLAGREE DEVELOPMENT L 5710 VESSEY RD COLORADO SPRINGS, CO 80° GREGG & ELAINE CAWLFIEI (719) 413-6900

ENGINEERING

**ENGINEER'S STATEMENT** STANDARD DETAILS SHOWN WERE REVIEWED ONLY RESTROY THEIR APPLICATION ON THIS PROJECT 7/31/24 BRYAN T. LAW, P.E.
COLORADO P.E. 25043
FOR AND ON BEHALF OF JR ENGINEERING,

AT CATHEDRAL PINES Know what's below.

Call before you dig.

> SHEET 9 OF 9 JOB NO. 25260.00

# **ESTATES AT CATHEDRAL PINES**

**COUNTY OF EL PASO, STATE OF COLORADO** 

# STORM SEWER AND POND PLANS



BLACK FOREST FIRE PROTECTION DISTRICT

11445 TEACHOUT ROAD

BLACK HILLS ENERGY 7080 ALEGRE STREET

FOUNTAIN, CO 80817

11140 E. WOODMEN ROAD

U.S. WEST COMMUNICATIONS

(LOCATORS) (800) 922-1987

(719) 393-6625

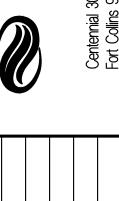
FALCON, CO 80831

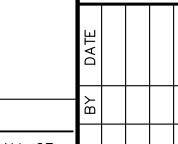
(719) 495-2283

ELECTRIC DEPARTMENT: MOUNTAIN VIEW ELECTRIC

COLORADO SPRINGS, CO 80908

CHIEF BRYAN JACK (719) 495-4300







, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF HE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND

SPECIFICATIONS.

FIRE DISTRICT:

GAS DEPARTMENT:

COMMUNICATIONS:

VILLAGREE DEVELOPMENT LLC

COLORADO SPRINGS, CO 80908

COLORADO SPRINGS, CO 80919

AND COMMUNITY DEVELOPMENT

COLORADO SPRINGS, CO 80910

COLORADO SPRINGS, CO 80922

2880 INTERNATIONAL CIRCLE, SUITE 110

CHARLENE DURHAM, P.E. (719) 520-7951

JOSHUA PALMER, P.E. (719) 520-6460

BRYAN LAW P.E. (303) 267-6254

5475 TECH CENTER DRIVE

GREGG & ELAINE CAWLFIELD (719) 413-6900

5710 VESSEY RD

3275 AKERS DRIVE

5/31/2024

VILLAGREE DEVELOPMENT 5710 VESSEY ROAD COLORADO SPRINGS, CO 80908

### EL PASO COUNTY STATEMENT

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

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

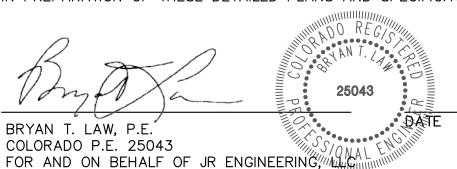
IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER, P.E.

COUNTY ENGINEER/ECM ADMINISTRATOR

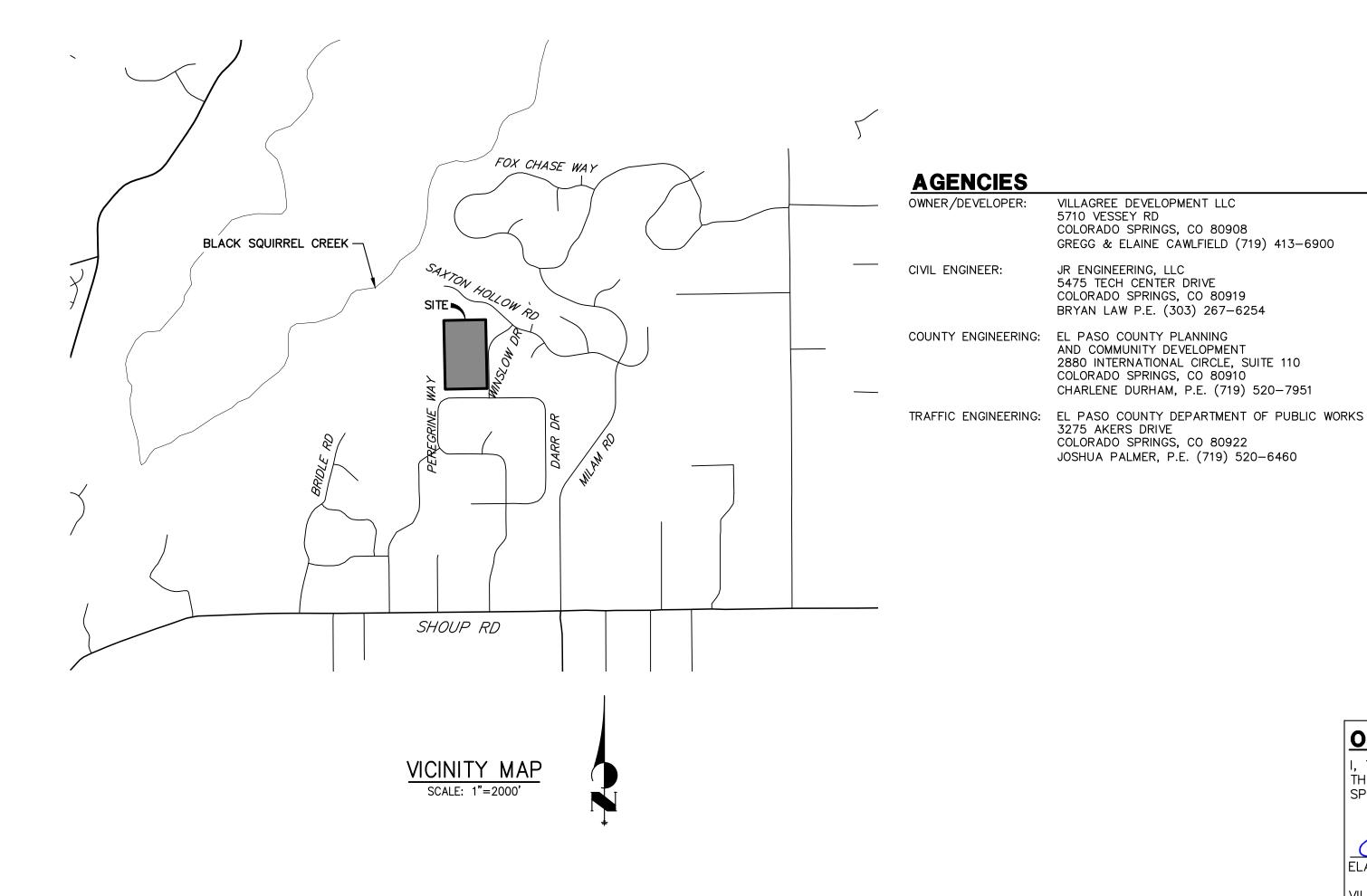
## **ENGINEER'S STATEMENT**

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



7/12/24

SHEET 1 OF 16 JOB NO. **25260.00** 



#### BENCHMARKS

. SITE VERTICAL DATUM NGVD88 FROM PLANS BY LEIGH-WHITEHEAD ELEVATION 7436.65 SECTION 2, TOWNSHIP 12 SOUTH. RANGE 66 WEST NO. 4 REBAR 23' NORTH AND 20' EAST OF THE SOUTHEAST CORNER OF SECTION 2, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY COLORADO, SAID SECTION CORNER BEING A 3-1/4" ALUMINUM SURVEYORS CAP STAMPED "PLS 9132" BEING APPROPRIATELY MARKED RECEPTION NO. 205001738 IN THE RECORDERS OF

2. 1" IRON PIPE AT SOUTHEAST CORNER OF SITE BEING 367'+/- NORTH OF THE INTERSECTION OF PEREGRINE WAY AND WINSLOW DRIVE AND 30' WESTERLY OF THE CENTERLINE OF WINSLOW DRIVE ELEVATION = 7347.65

3. THE NORTHWEST CORNER OF AN AREA INLET BEING EASTERLY OF WINSLOW DRIVE AND BEING 900' +/- NORTH OF THE INTERSECTION OF PEREGRINE WAY AND WINSLOW DRIVE

ELEVATION = 7347.47

## SHEET INDEX:

 COVER SHEET LEGEND AND GENERAL NOTES STORM SEWER PLAN & PROFILE 6-13 - POND PLANS AND DETAILS 14-16 - DETAILS

TOTAL SHEETS

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

BASIS OF BEARINGS

THE WEST LINE OF THE SOUTHEAST 1/4 OF

OF THE 6TH P.M. BEING MONUMENTED BY A

CAP STAMPED "LS 9132" AT THE CENTER 1

SHOWN ON THE PLAT OF CATHEDRAL PINES

SUBDIVISION FILING NO. 1 RECORDED UNDER

THE EL PASO COUNTY CLERK AND RECORDER.

CORNER, SAID LINE BEARING NOO'11'44"W AS

3-1/4" ALUMINUM CAP STAMPED "LS 9132" AT

THE SOUTH & CORNER AND A 2-1/2" ALUMINUM

PCD FILE NO. SF-2234

### LAYER LINETYPE LEGEND

#### **UTILITIES LEGEND**

		<u> </u>	<u> </u>	THE LE	<u> </u>
	EXISTING	PROPOSED		EXISTING	PROPOSED
PHASE LINE			CTORM CEWER		
MATCH LINE			STORM SEWER		
SECTION LINE			MANHOLE	<b>©</b>	
BOUNDARY LINE			STORM INLET		
PROPERTY LINE			AREA INLET - SQUARE		
EASEMENT LINE					
RIGHT OF WAY			AREA INLET — ROUND	Ο	
R.O.W. A LINE	A	A	FLARED END SECTION	D	
CENTERLINE		··	RIPRAP		
CITY LIMITS			· · · · · · · · ·		
WIRE FENCE	XX	××			
CHAIN LINK FENCE		• • • • • • • • • • • • • • • • • • • •	CANITARY CEWER		
WOOD FENCE			SANITARY SEWER		
MASONRY FENCE				Mkr San <sup>O</sup> ∧	
GUARDRAIL			SERVICE MARKER	<u>/s</u> \	
CONC. BARRIER			CLEAN-OUT	0-	•-
CABLE TV		TVTV	MANHOLE W/ DIRECTIONAL FLOW ARROW	S⊲	•
ELECTRIC		E E	FLOW ARROW		
			WATER LINE		
FIBER OPTIC			LINE MARKER	Mkr W <sup>O</sup>	
GAS MAIN		G G	SERVICE MARKER	MKI W	
IRRIGATION MAIN		IRRIRR	FIRE HYDRANT	<u>~</u>	<b>~</b>
OIL/PETRO. MAIN		0 — 0 —	FIRE CONNECTION	~	¥
OVERHEAD UTILITY	——————————————————————————————————————	OHUOHU	MANHOLE	W	•
SANITARY SEWER	——————————————————————————————————————	<del></del>	BEND	•	•
STORM DRAIN				۶ <sub>E</sub>	<b>.</b> <b>↓</b> [
TELEPHONE		тт	BLOW-OFF VALVE		
WATER MAIN		•	WELL	OWELL	●WELL
RAW WATER LINE		RWLRWL	METER	<b>®</b>	•
SWALE/WATERWAY FLOWLINE			VALVE	$\bowtie$	•
DIVERSION DITCH	<u> </u>		REDUCER		<b>-</b>
DIVERSION CHANNEL			THRUST BLOCK		<b>K</b>
MAJOR DRAINAGE BASIN			CROSS		<del>-</del> ‡-
MINOR DRAINAGE BASIN			PLUG W/ THRUST BLOCK	۰Ľ	•[
			TEE	_	<del>‡</del>
TOP OF SLOPE			REVERSE ANCHOR		+ 1
TOE OF SLOPE			ANODE		<b>A</b>
EDGE OF WATER					
INDEX CONTOUR	-6100	6100	AIR & VACUUM VALVE ASSEMBLY		•
INTERMEDIATE CONTOUR	6100	6100	TRANSMISSION		<b>6</b> + <b>t</b>
TO THE CONTROL			BLOW-OFF ASSEMBLY		• +
DEPRESSION CONT. (INDEX)	- X T T T6100 - T T	6100	GAS LINE		
DEPRESSION CONT. (INTER)	ナーナーテ		MARKER	0	
•			SERVICE MARKER	Mkr G <sup>O</sup>	
TOP OF CUTS			METER	©	•
TOE OF FILLS				•	•
CUT AND FILL LINE		—————— C/F ———— C/F ———	VALVE	✓	
SILT FENCE	——————————————————————————————————————		PLUG	L	L ∔.
100 YEAR FLOODPLAIN		100YR	TEE		₽*
500 YEAR FLOODPLAIN		500YR	DRY UTILITIES		
FLOODWAY	FLDWY	FLDWY	CABLE TV MARKER	Mkr TV <sup>O</sup>	
BASE FLOOD ELEVATION	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		CABLE TELEVISION PEDESTAI	L TV	
EDGE OF WETLANDS	——————————————————————————————————————	***************************************	ELECTRIC MARKER	Mkr E <sup>O</sup>	
			ELECTRIC SERVICE MARKER	Æ	
STONE WALL			ELECTRICAL PEDESTAL	E	
			ELECTRICAL METER	Ē	
			ELECTRICAL MANHOLE	Œ	
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	<del></del>		IRRIGATION PEDESTAL	Π	
			TELEPHONE MARKER	Mkr T <sup>O</sup>	
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			TELEPHONE MANHOLE	①	
			UTILITY POLE	- <b>o</b> -	-
			GUY ANCHOR	<b>@</b> —	
			GUY POLE	0-	
			MISC. UTILITIES		
			VENT DIDE	0	<b>A</b> :-

VENT PIPE

TEST HOLE DESIGNATOR

### STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- 1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- 3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOIL AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS
- AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING: 3.1. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
- 3.2. CITY OF COLORADO SPRINGS/ EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2 3.3. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION 3.4. CDOT M&S STANDARDS
- 4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSIONS OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- 6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS—ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- 8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- 9. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- 10. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 11. SIGHT VISIBILITY TRIANGLES ARE IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED IN SIGHT TRIANGLES.
- 12. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- 13. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- 14. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWENER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

## STORM SEWER NOTES

- 1. SEE SHEET 1 FOR BENCHMARK. SEE SHEET 2 FOR LEGEND. 2. ALL STORM SEWER PIPES, INLETS, MANHOLES, AND APPURTENANCES WITHIN THE R.O.W. ARE PUBLIC. STORM FACILITIES OUTSIDE OF THE
- 3. ALL STATIONING IS PIPE CENTERLINE UNLESS OTHERWISE NOTED.

PUBLIC R.O.W. ARE PRIVATE, UNLESS OTHERWISE NOTED.

- 4. ALL PROPOSED RCP STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.
- 5. PIPE LENGTHS ARE FROM INSIDE INLET WALL TO INSIDE INLET WALL, FROM CENTER OF MANHOLE TO INSIDE INLET OF WALL, OR FROM CENTER OF MANHOLE TO CENTER OF MANHOLE. PIPE LENGTHS INCLUDE FES OR 6. WHERE PIPES ENTER STRUCTURES, THE CENTERLINE STATION CALLED
- OUT ON THE PLANS IS TO THE CENTER OF STRUCTURE. WHERE PIPES ENTER STRUCTURES ON A SKEW, CONTRACTOR IS REQUIRED TO EXTEND PIPE TO ENSURE THAT BOTH EDGES OF THE PIPE EXTEND INTO THE STRUCTURE. CONTRACTOR WILL THEN BE REQUIRED TO CUT PIPE FLUSH WITH THE INSIDE FACE OF THE STRUCTURE AND GROUT IN PLACE.
- 7. PIPES SHALL HAVE JOINT RESTRAINTS ON LAST 3 JOINTS AT PIPE OUTFALL.
- 8. PIPES WITH PRESSURE HEAD SHALL USE WATER TIGHT JOINTS WITH A 100-YEAR SERVICE LIFE.
- 9. PIPE BEDDING SHALL CONFORM TO EL PASO COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS. BEDDING FOR RCP SHALL BE AG7122 NO. 57/67 CRUSHED ROCK. SQUEEGEE OR MIXTURES CONTAINING SQUEEGEE SHALL NOT BE USED. BEDDING SHALL BE 6 TO 8 INCHES DEEP UNDER THE PIPE AND BACKFILLED TO THE SPRING LINE.
- 10. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH MANUFACTURES SPECIFICATIONS AND EL PASO COUNTY
- STANDARDS AND SPECIFICATION. 11. SEE DETAIL SHEET 14 FOR APPLICABLE DETAILS.

#### POND NOTES

- 1. ALL PROPOSED POND IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE
- 2. SEE SHEETS 3-5 FOR PROPOSED STORM SEWER DESIGN.
- 3. SEE PRIVATE STREET IMPROVEMENT PLANS BY JR ENGINEERING FOR PROPOSED PRIVATE STREET DESIGN.
- 4. SEE GRADING AND EROSION CONTROL PLAN BY JR ENGINEERING.

Know what's below.

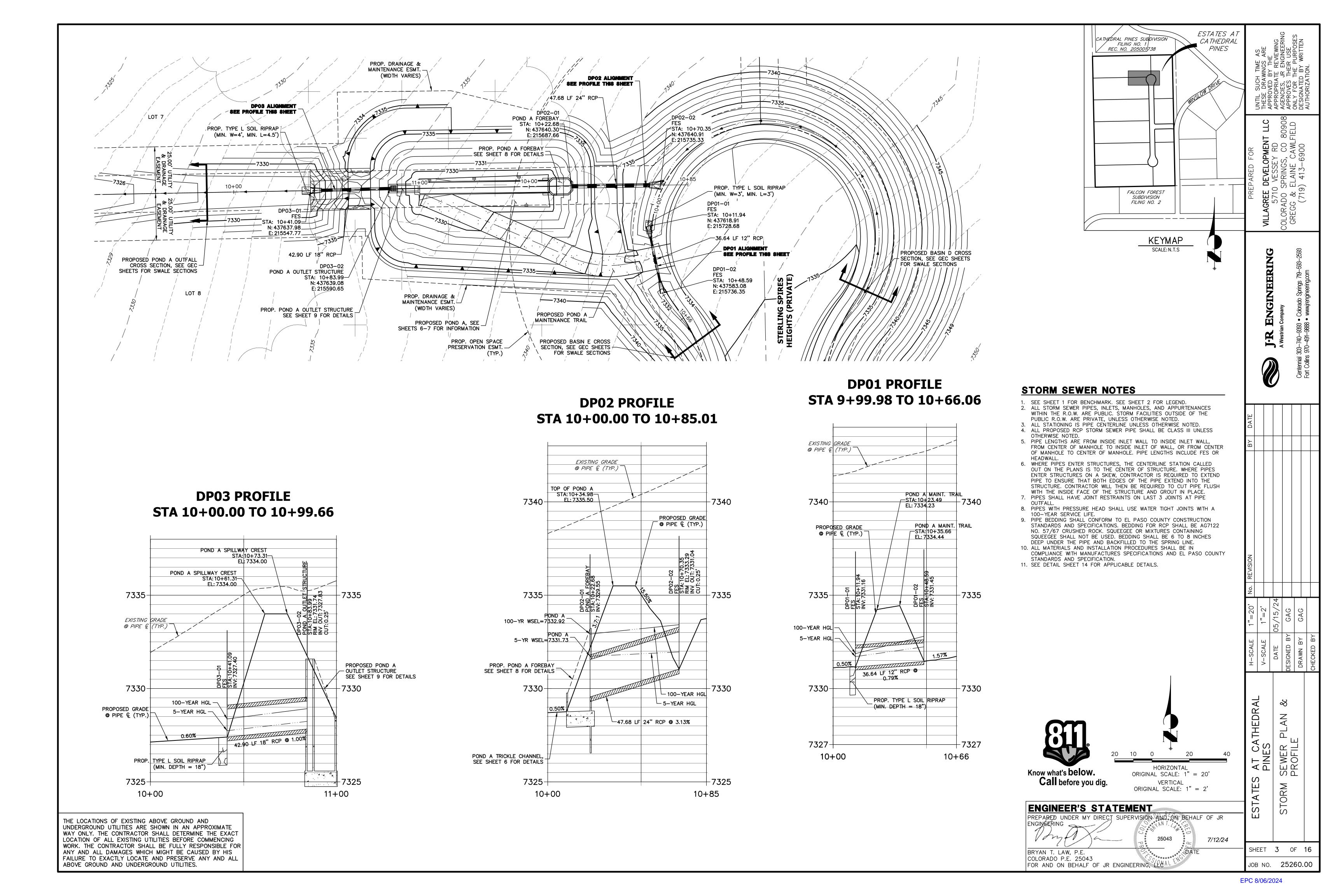
ENGINEER'S STATEMENT STANDARD DETAILS SHOWN WERE REVIEWED ON TO THEIR APPLICATION ON THIS PROJECT 7/12/24 COLORADO P.E. 25043 FOR AND ON BEHALF OF JR ENGINEERING, MEDIA

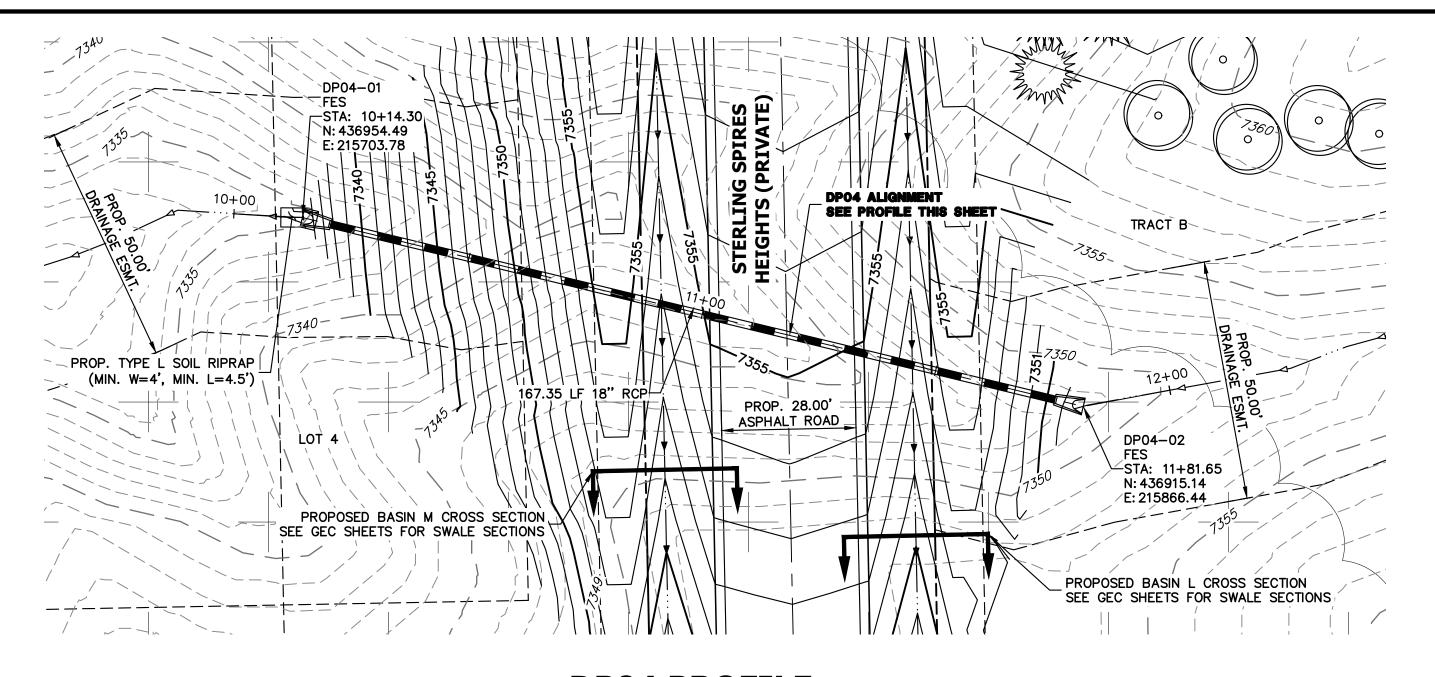
Call before you dig.

SHEET 2 OF 16 JOB NO. **25260.00** 

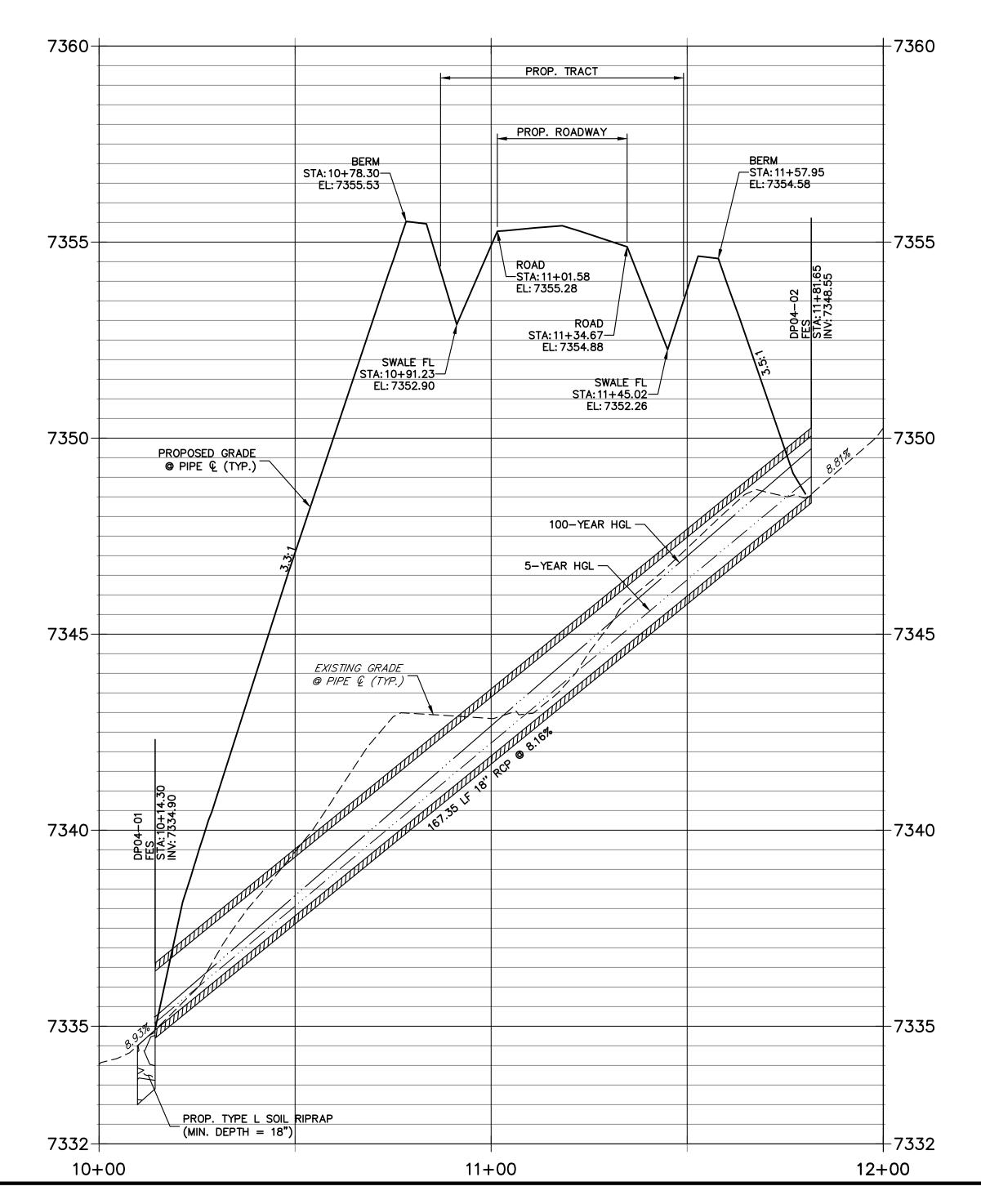
GE

VILLAGREE 5710 COLORADO ( GREGG & (719





# DP04 PROFILE STA 10+00.00 TO 12+00.00



THE LOCATIONS OF EXISTING ABOVE GROUND AND

ABOVE GROUND AND UNDERGROUND UTILITIES.

UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT

LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING

ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS

FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL

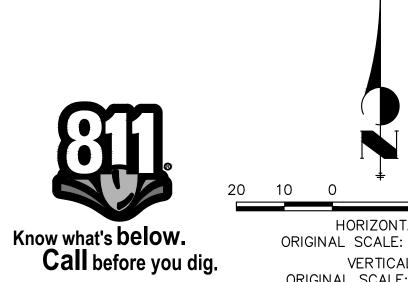
WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR



- SEE SHEET 1 FOR BENCHMARK. SEE SHEET 2 FOR LEGEND.
   ALL STORM SEWER PIPES, INLETS, MANHOLES, AND APPURTENANCES WITHIN THE R.O.W. ARE PUBLIC. STORM FACILITIES OUTSIDE OF THE PUBLIC R.O.W. ARE PRIVATE, UNLESS OTHERWISE NOTED.
- PUBLIC R.O.W. ARE PRIVATE, UNLESS OTHERWISE NOTED.

  3. ALL STATIONING IS PIPE CENTERLINE UNLESS OTHERWISE NOTED.

  4. ALL PROPOSED RCP STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.
- 5. PIPE LENGTHS ARE FROM INSIDE INLET WALL TO INSIDE INLET WALL, FROM CENTER OF MANHOLE TO INSIDE INLET OF WALL, OR FROM CENTER OF MANHOLE TO CENTER OF MANHOLE. PIPE LENGTHS INCLUDE FES OR HEADWALL.
- 6. WHERE PIPES ENTER STRUCTURES, THE CENTERLINE STATION CALLED OUT ON THE PLANS IS TO THE CENTER OF STRUCTURE. WHERE PIPES ENTER STRUCTURES ON A SKEW, CONTRACTOR IS REQUIRED TO EXTEND PIPE TO ENSURE THAT BOTH EDGES OF THE PIPE EXTEND INTO THE STRUCTURE. CONTRACTOR WILL THEN BE REQUIRED TO CUT PIPE FLUSH WITH THE INSIDE FACE OF THE STRUCTURE AND GROUT IN PLACE.
- 7. PIPES SHALL HAVE JOINT RESTRAINTS ON LAST 3 JOINTS AT PIPE OUTFALL.
- 8. PIPES WITH PRESSURE HEAD SHALL USE WATER TIGHT JOINTS WITH A 100-YEAR SERVICE LIFE.
  9. PIPE BEDDING SHALL CONFORM TO EL PASO COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS. BEDDING FOR RCP SHALL BE AG7122
- NO. 57/67 CRUSHED ROCK. SQUEEGEE OR MIXTURES CONTAINING SQUEEGEE SHALL NOT BE USED. BEDDING SHALL BE 6 TO 8 INCHES DEEP UNDER THE PIPE AND BACKFILLED TO THE SPRING LINE.
- 10. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH MANUFACTURES SPECIFICATIONS AND EL PASO COUNTY STANDARDS AND SPECIFICATION.
- 11. SEE DETAIL SHEET 14 FOR APPLICABLE DETAILS.



FOR AND ON BEHALF OF JR ENGINEERING

PREPARED UNDER MY DIRECT SUPERVISION AND FOND BEHALF OF JR ENGINEERING

25043

7/12/24

BRYAN T. LAW, P.E. COLORADO P.E. 25043

HORIZONTAL
ORIGINAL SCALE: 1" = 20'
VERTICAL
ORIGINAL SCALE: 1" = 2'

WENT
ERVISION AND ON BEHALF OF JR

ESTATES AT CATHEDRAL

CATHEDRAL PINES SUBDIVISION
FILING NO. 1
REC. NO. 205001738

FALCON FOREST

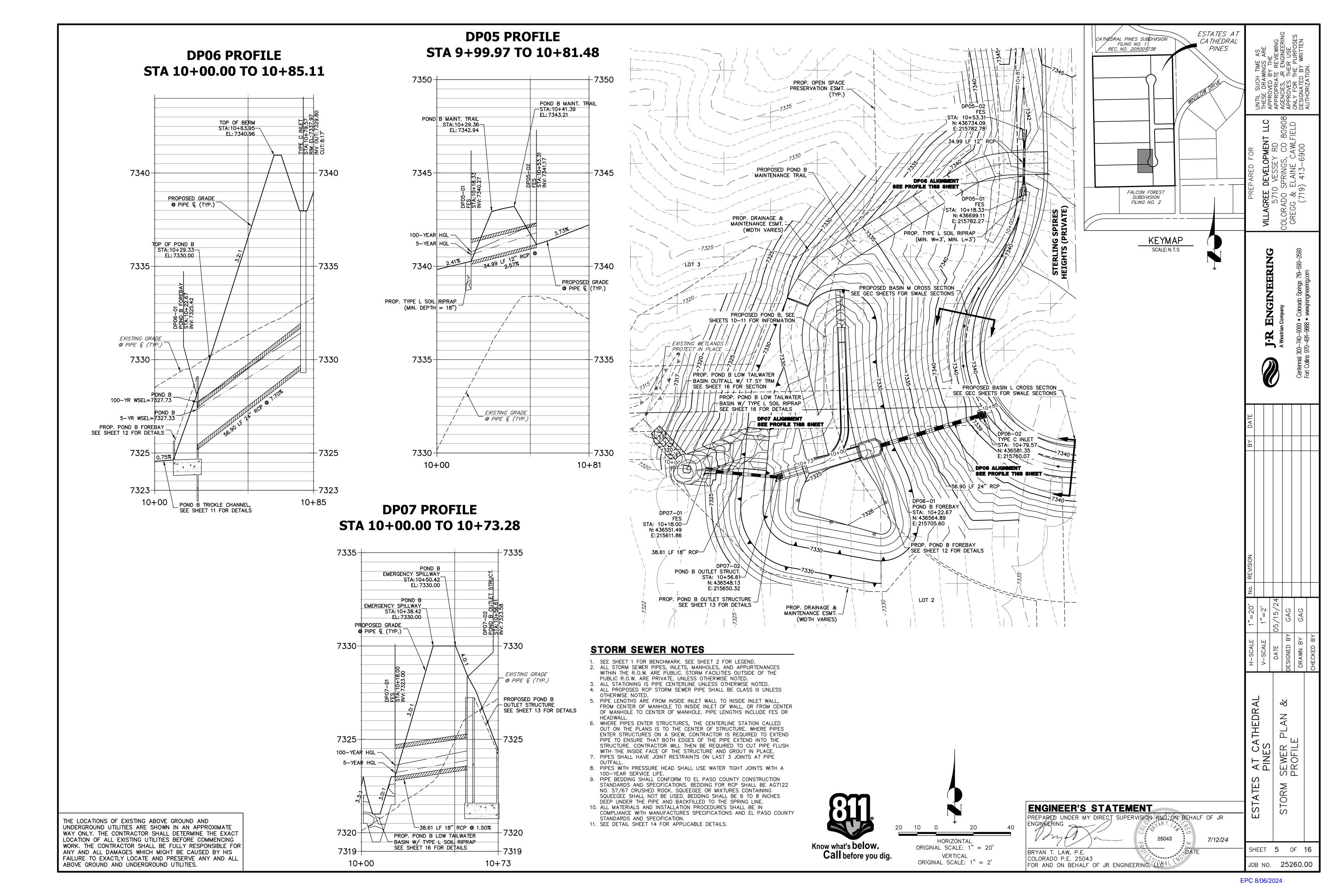
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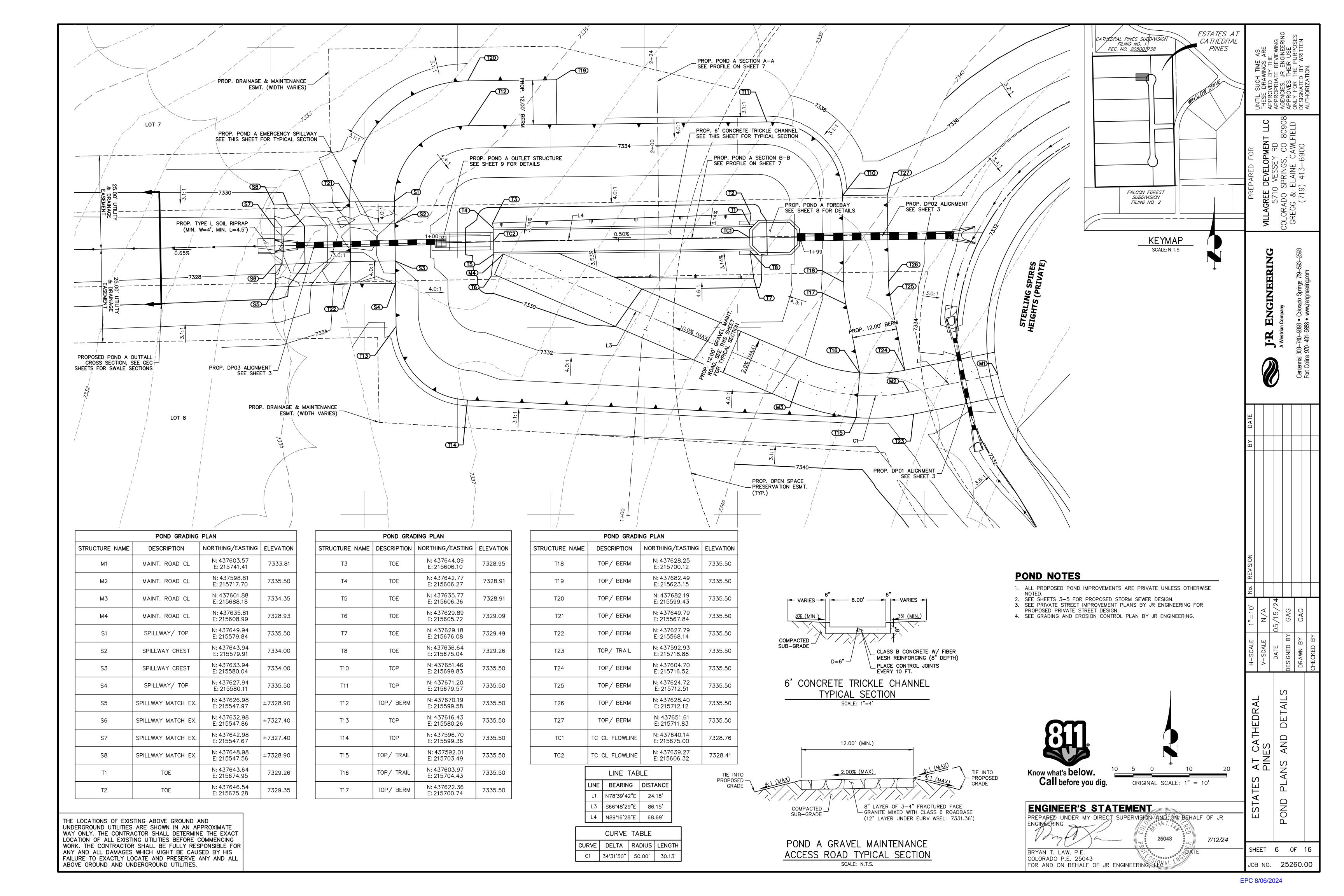
KEYMAP

SCALE: N.T.S

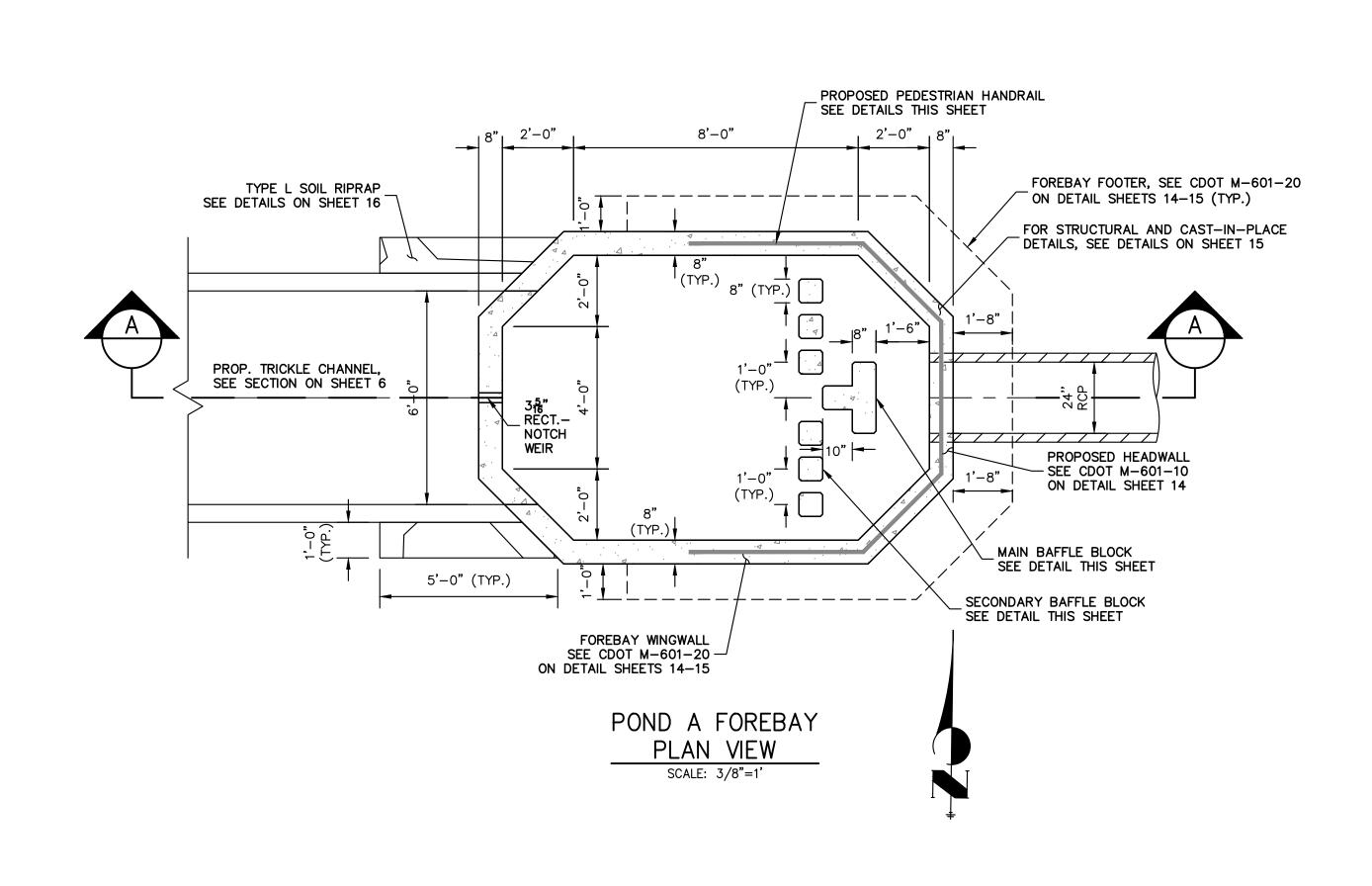
SHEET **4** OF **16** 

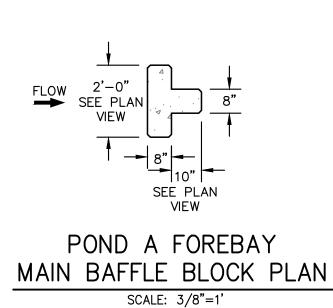
JOB NO. **25260.00** 





#### POND A SECTION A-A PROFILE POND A SECTION B-B PROFILE STA 1+00.00 TO 2+23.90 STA 1+00.00 TO 1+98.52 <del>+</del>7340 <del>-</del>7340 7340-7340-MATCH EX. -STA: 1+18.95 EL: ±7338.72 MATCH EX. /—STA: 2+09.38 EL: ±7336.54 EXISTING GRADE - @ TC € (TYP.) EXISTING GRADE (TYP.) — TOP OF POND STA: 2+06.14— EL: 7335.50 7335--7335 7335--7335 BERM/TOP OF POND STA:1+28.94— EL: 7335.50 PROP. POND A OUTLET STRUCTURE SEE SHEET 9 FOR DETAILS PROP. 12.00' MAINT. ROAD PROP. POND A FOREBAY \_ SEE SHEET 8 FOR DETAILS 20% (MAX) - PROPOSED GRADE (TYP.) GB STA: 1+47.69 PROPOSED GRADE @ TC € (TYP.) EL: 7330.68 7330--7330 7330--7330 STA: 1+16.50 EL: 7328.41 STA: 1+59.69— STA: 1+85.16— EL: 7330.46 EL: 7328.76 STA: 1+64.74—/ EL: 7329.37 -STA: 1+80.98 0.50% EL: 7329.21 STA: 1+71.64— <sup>\</sup>\_STA:1+78.64 EL: 7329.14 EL: 7329.14 PROP. CONCRETE TRICKLE CHANNEL \_\_\_\_\_\_ SEE SHEET 6 FOR TYPICAL SECTION 7325+ <del>+</del>7325 <del>-</del>7325 7325<del>∦</del> 1+00 2+00 1+99 2+24 1+00 6.00' 10.00' TOP OF SPILLWAY/ TOP OF SPILLWAY/ TOP OF POND=7335.50' TOP OF POND=7335.50' POND NOTES HORIZONTAL Know what's below. Call before you dig. 1. ALL PROPOSED POND IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE ORIGINAL SCALE: 1" = 10"2. SEE SHEETS 3-5 FOR PROPOSED STORM SEWER DESIGN. 3. SEE PRIVATE STREET IMPROVEMENT PLANS BY JR ENGINEERING FOR VERTICAL ORIGINAL SCALE: 1" = 13" TOPSOIL □ PROPOSED PRIVATE STREET DESIGN. 4. SEE GRADING AND EROSION CONTROL PLAN BY JR ENGINEERING. - SPILLWAY CREST=7334.00' TYPE L SOIL RIPRAP, (18" MIN. DEPTH, D50=9") PER MHFD SPEC. SECTION 31-37-00, THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH 65% RIPRAP\_ ENGINEER'S STATEMENT PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR THE LOCATIONS OF EXISTING ABOVE GROUND AND AND 35% SOIL BY VOLUME. SOIL RIPRAP SHALL CONSIST OF UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOIDS. UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE SEE SHEET 16 FOR DETAILS. WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING 7/12/24 POND A EMERGENCY WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SHEET **7** OF **16** ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS BRYAN T. LAW, P.E. COLORADO P.E. 25043 SPILLWAY TYP. SECTION FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL FOR AND ON BEHALF OF JR ENGINEERING JOB NO. 25260.00 ABOVE GROUND AND UNDERGROUND UTILITIES. SCALE: 1"=5' EPC 8/06/2024





<del>|</del> 3'-0" <del>| </del> 3'-0" <del>| </del>

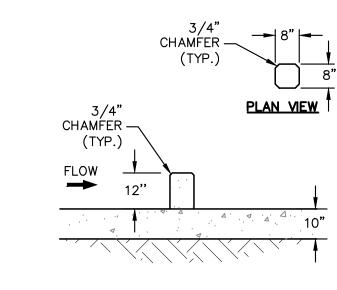
POND A FOREBAY

SECTION AT WEIR SCALE: 3/8"=1'

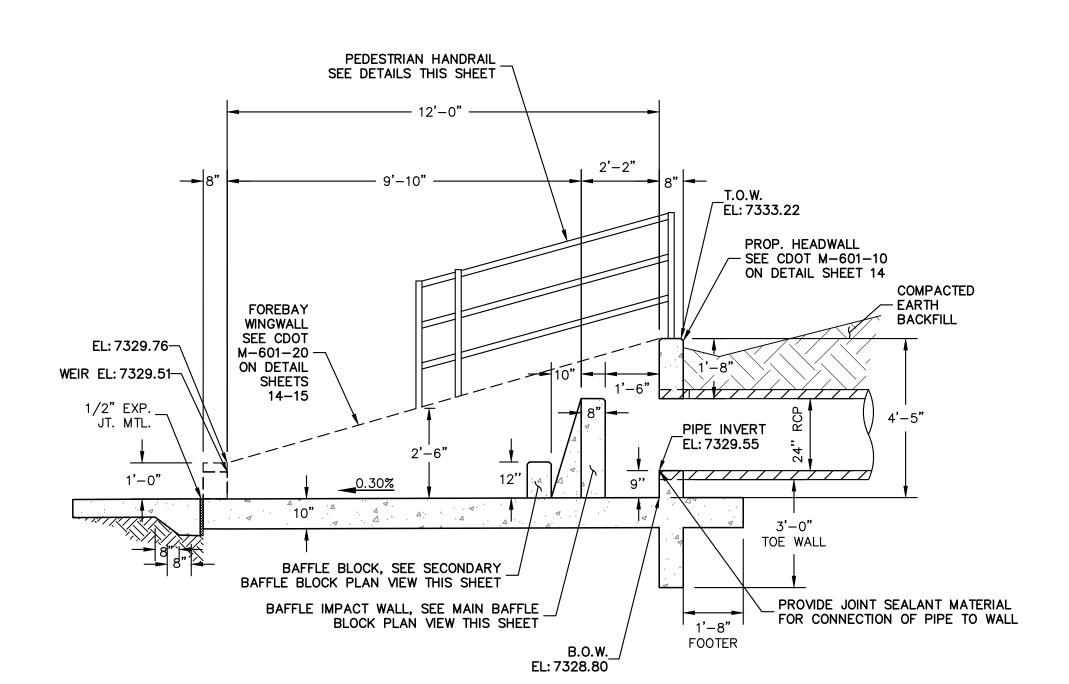
FORM MONOLITHICALLY

W/ FOREBAY BOTTOM

FOREBAY INV. ▼ 7325.75

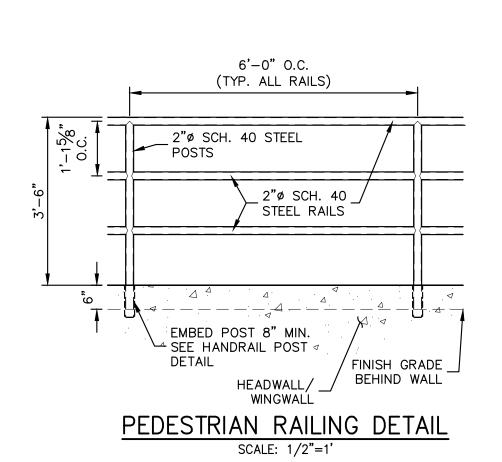


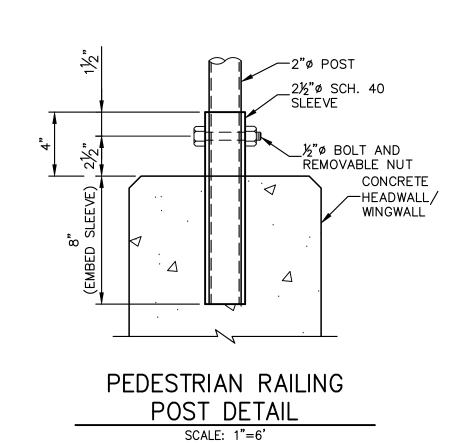
POND A FOREBAY SECONDARY BAFFLE BLOCK DETAILS SCALE: 3/8"=1'



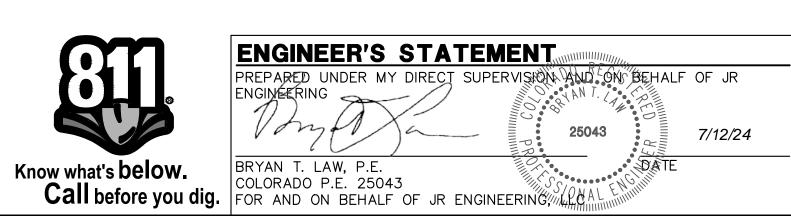
POND A FOREBAY

CROSS SECTION A-A SCALE: 3/8"=1'







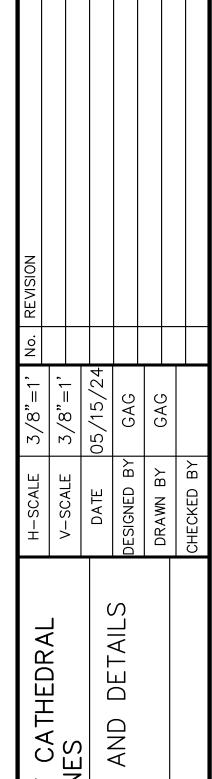


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VILLAGREE DEVELOPI 5710 VESSEY COLORADO SPRINGS, GREGG & ELAINE C (719) 413-69

ENGINEERING

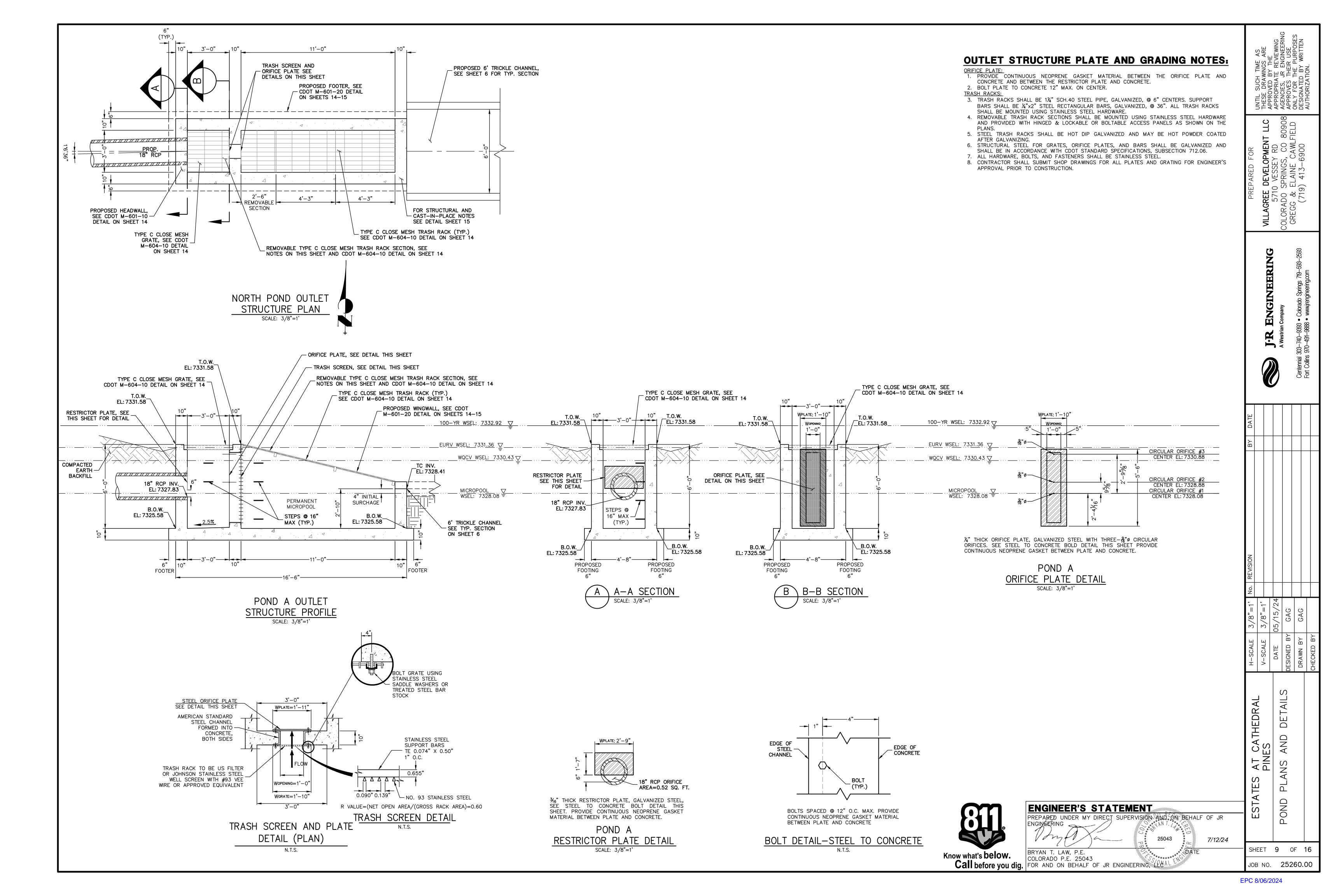


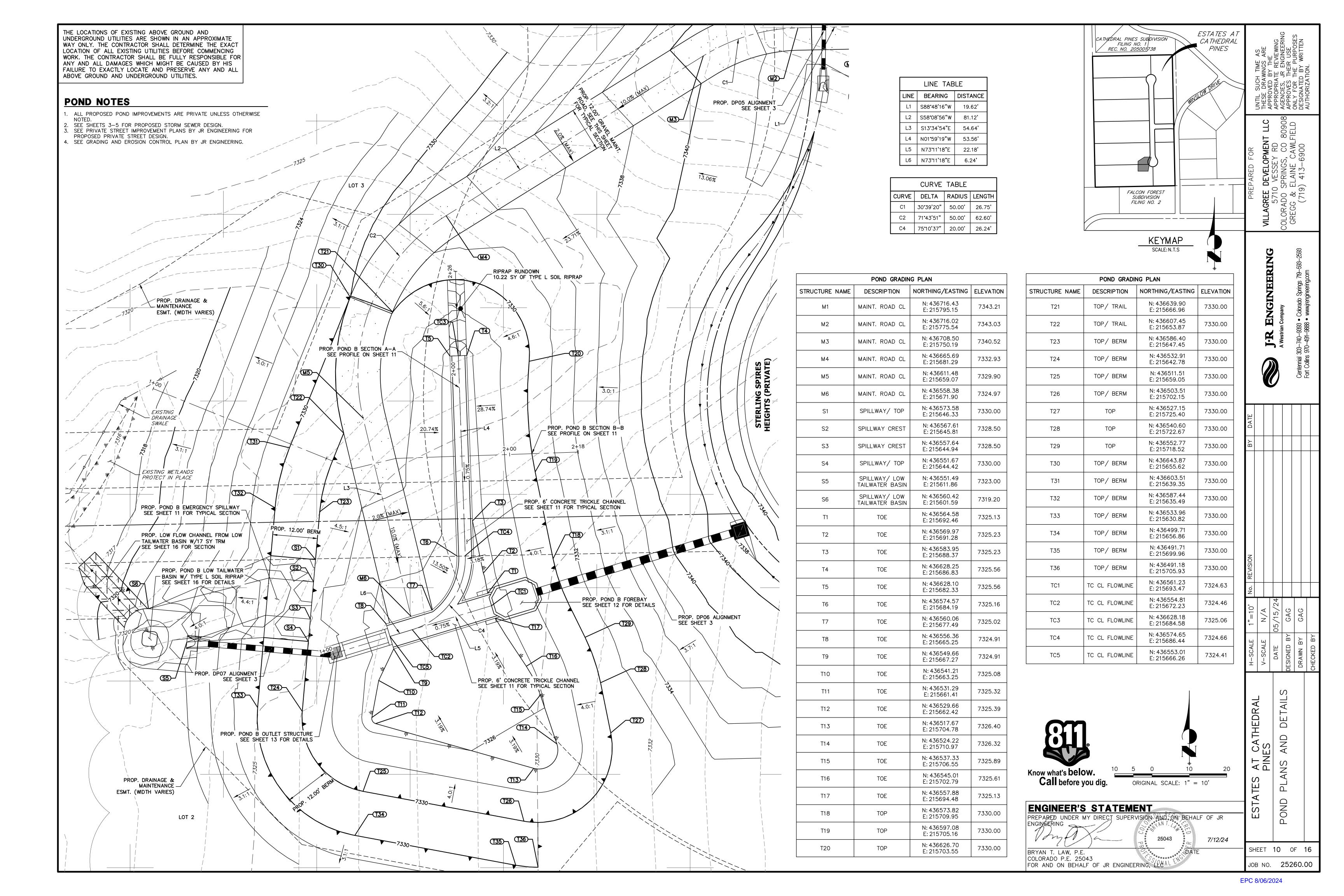
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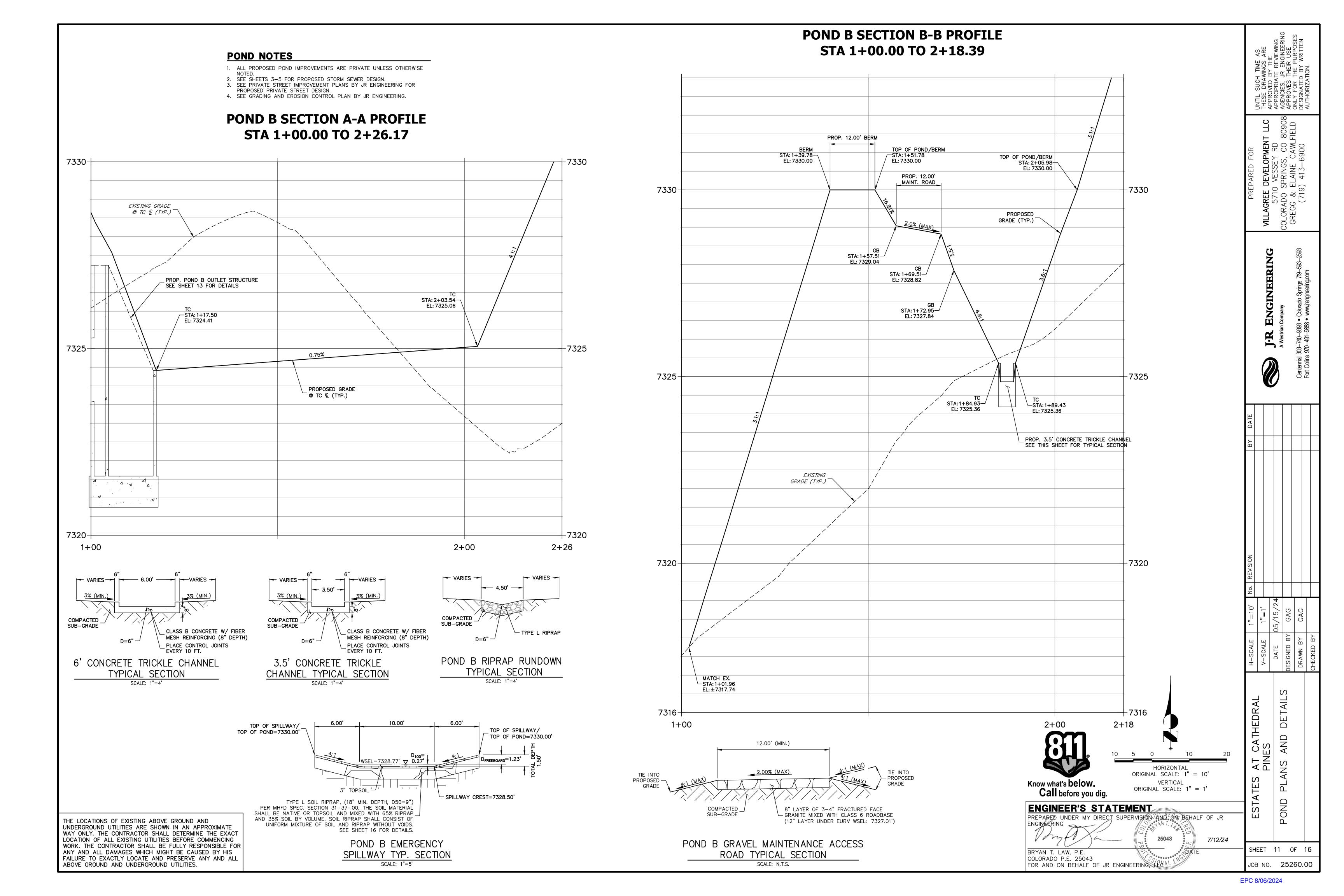
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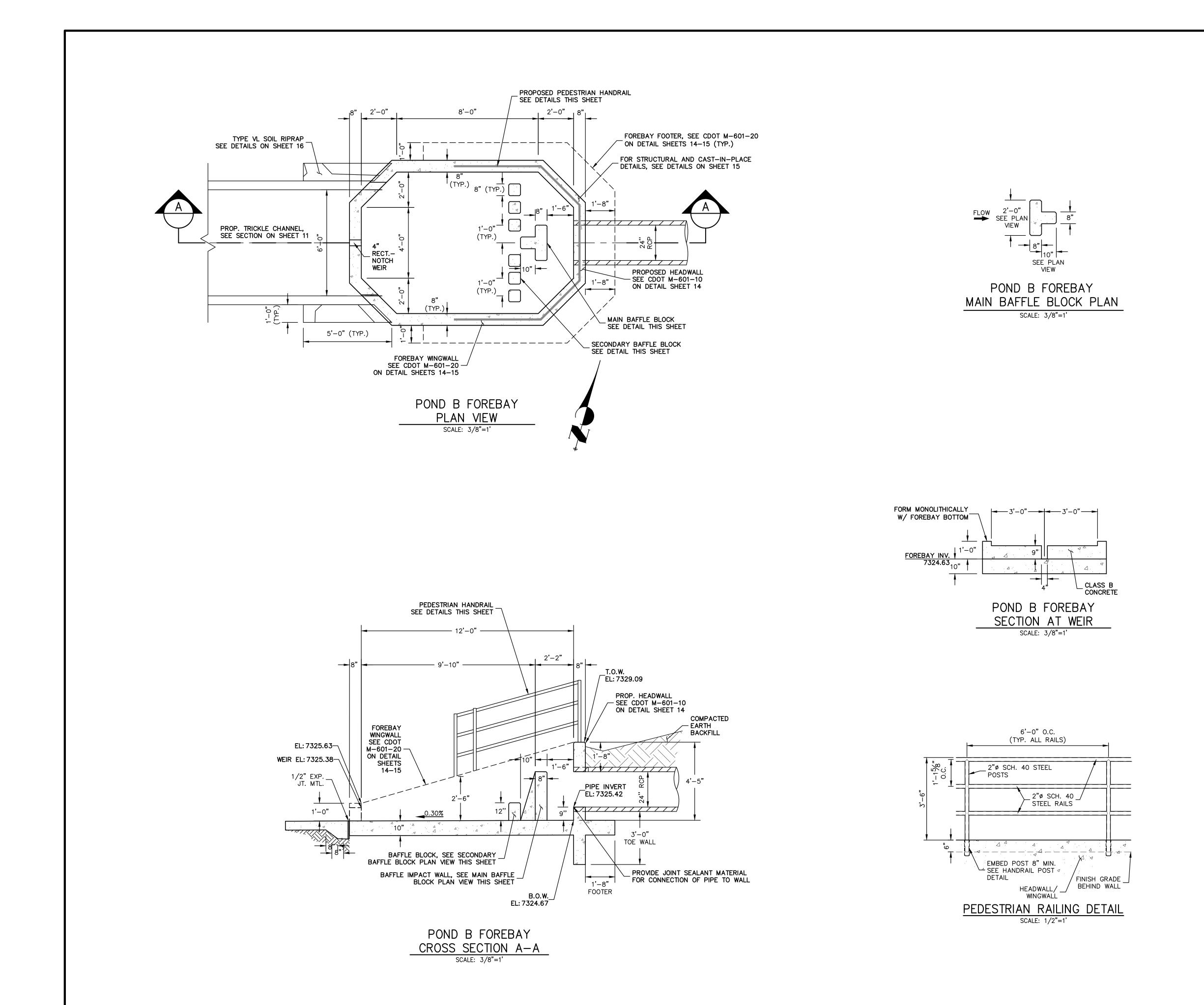
SHEET 8 OF 16

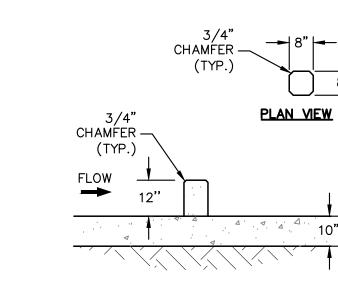
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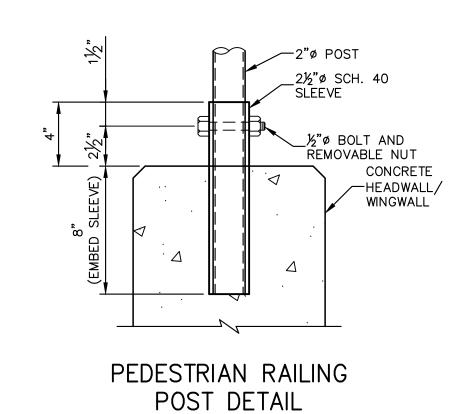






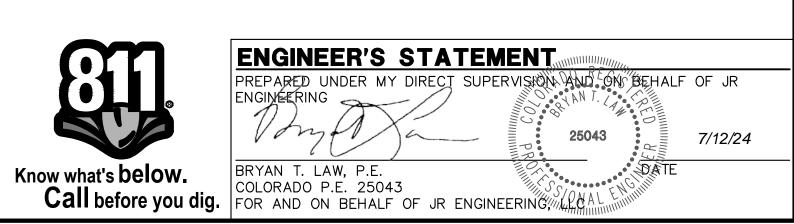


POND B FOREBAY SECONDARY BAFFLE BLOCK DETAILS SCALE: 3/8"=1'



SCALE: 1"=6"





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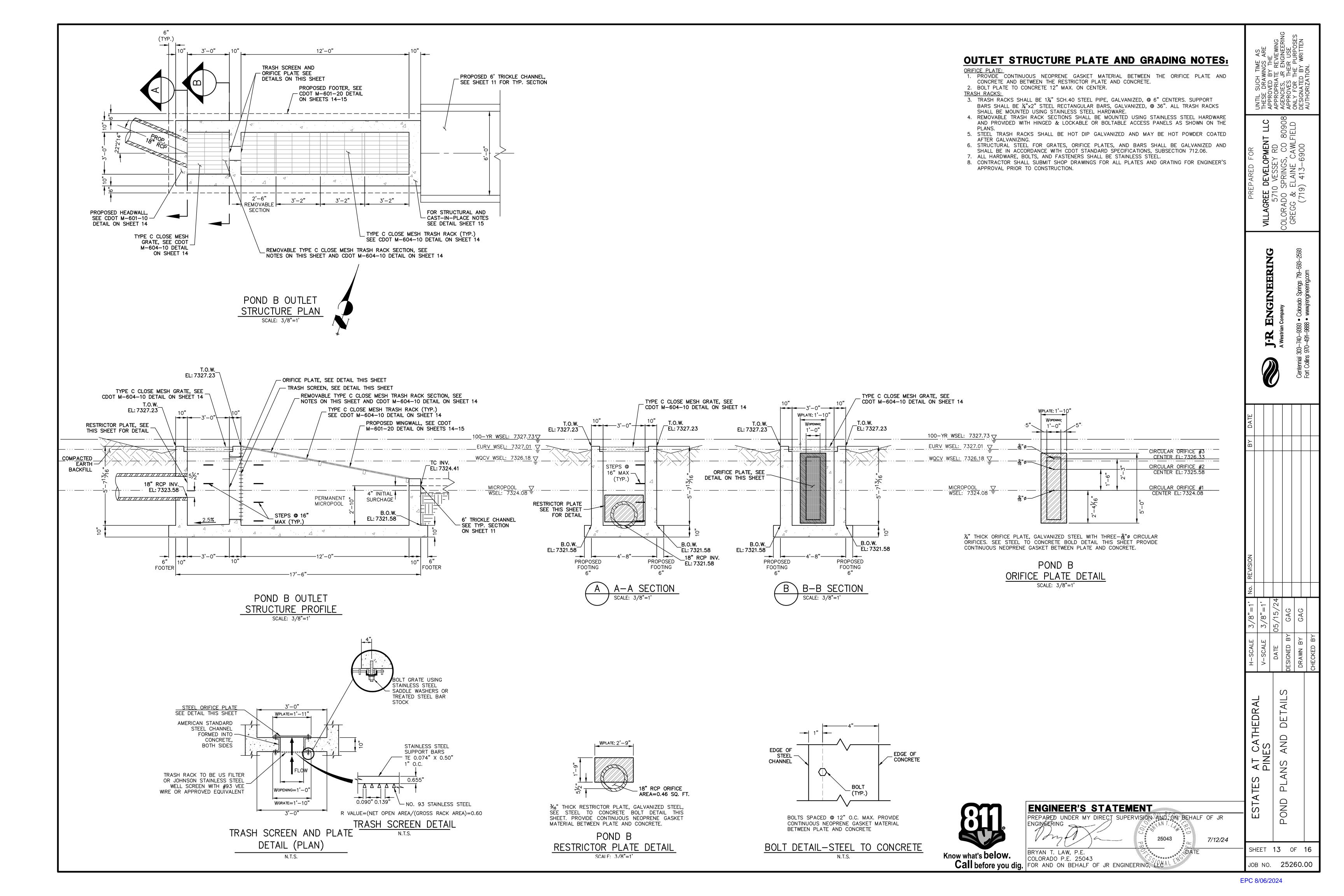
SHEET 12 OF 16

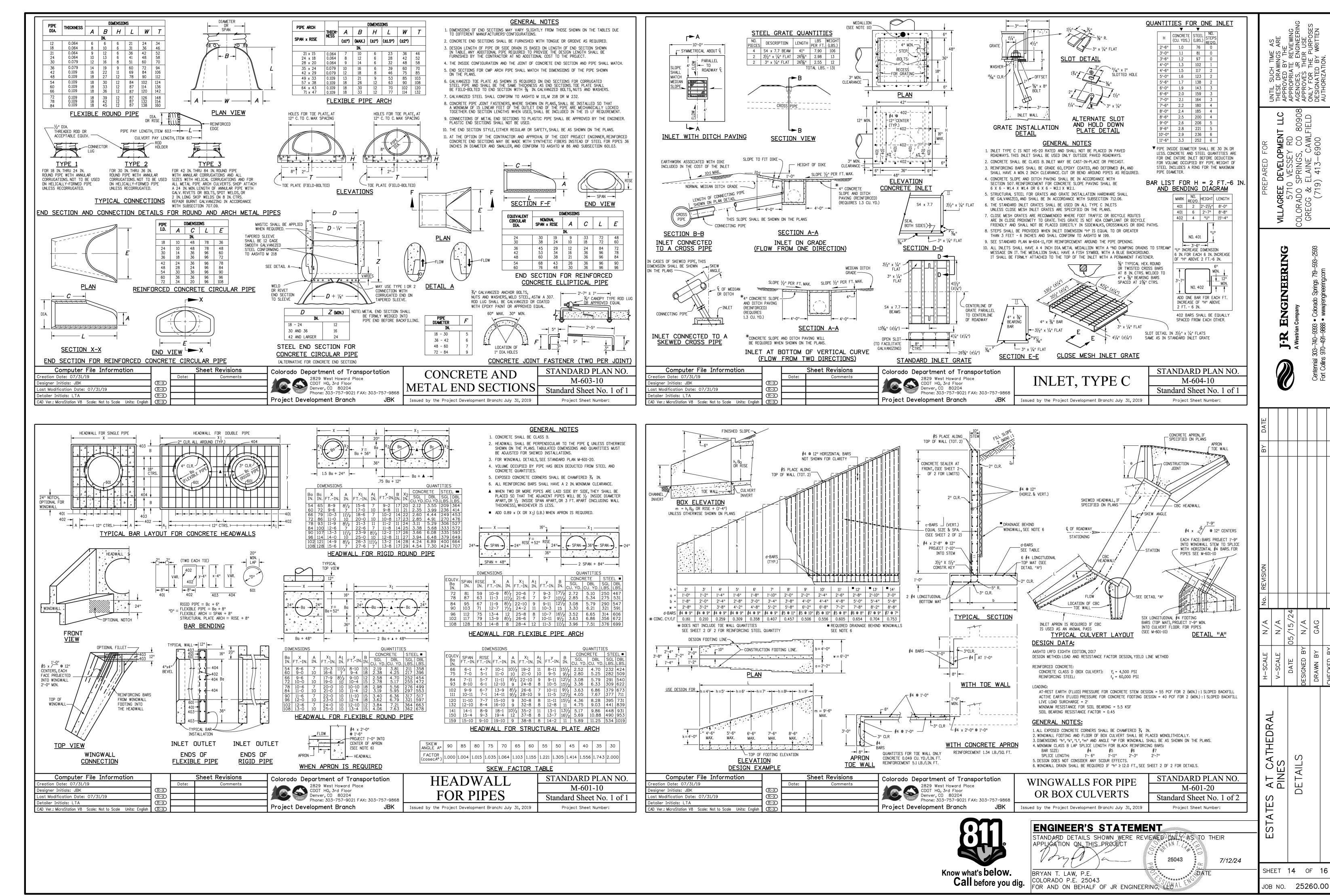
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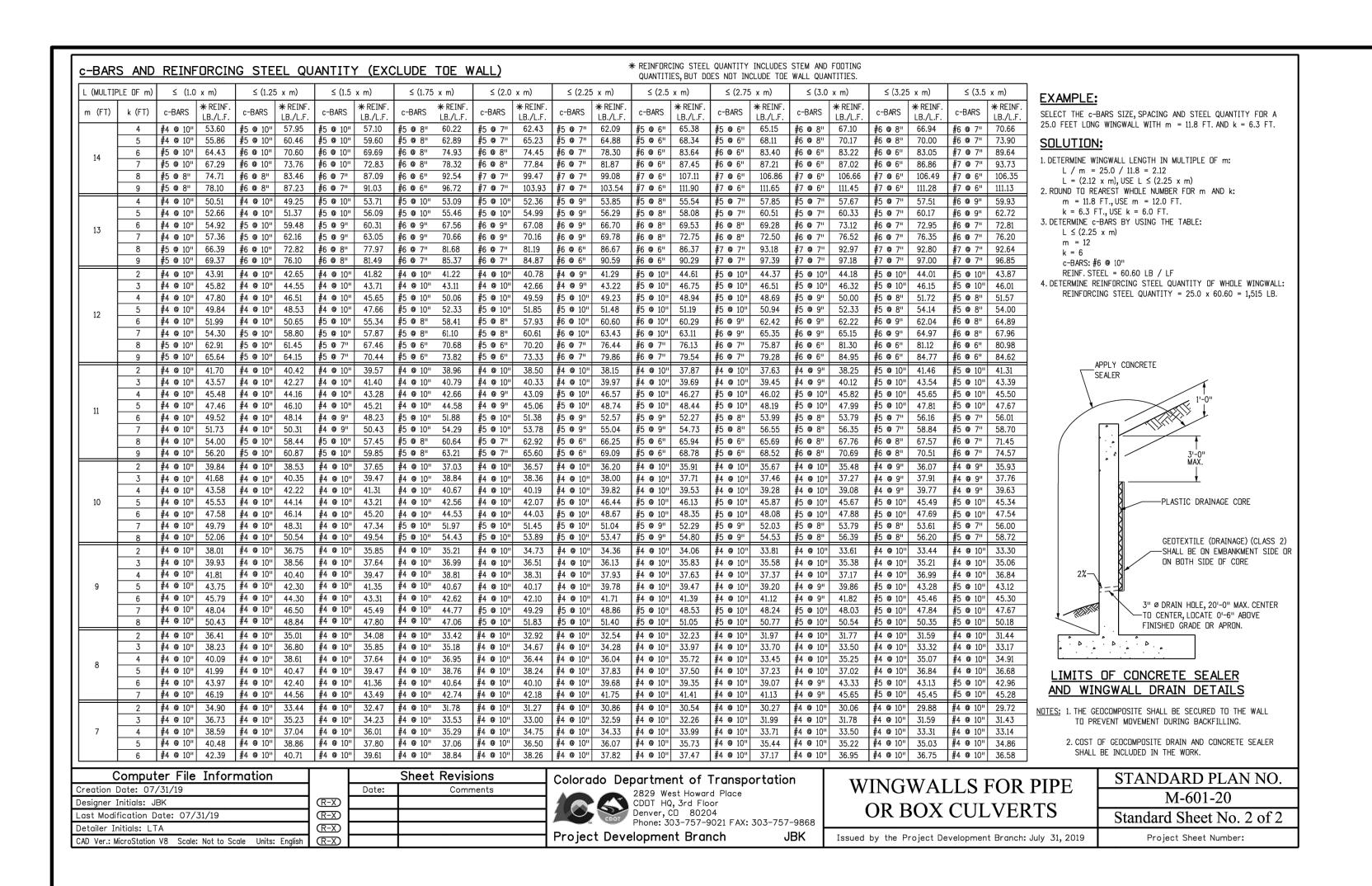
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VILLAGREE DEVELOPMENT L 5710 VESSEY RD COLORADO SPRINGS, CO 80% GREGG & ELAINE CAWLFIEL (719) 413-6900







# **GENERAL STRUCTURE NOTES:**

ALL WORK SHALL BE DONE IN ACCORDANCE WITH CITY OR COUNTY STANDARD CONSTRUCTION SPECIFICATIONS. EXCEPT AS SHOWN IN THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH CDOT M-206-1, AND M-206-2 EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO A 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OF OTHER.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DESIGNING AND PROVIDING ALL BRACING AND SHORING AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE EXCAVATION PROCEDURES INCLUDING ANY SHORING REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL METHODS AND MEANS OF CONSTRUCTION AS WELL AS ALL JOB SITE SAFETY & HEALTH PRECAUTIONS.

ALL SOILS WORK INCLUDING (BUT NOT LIMITED TO) PIER DRILLING AND CONSTRUCTION, SOILS EXCAVATION, FILL PLACEMENT, AND STRUCTURE BACKFILL SHALL BE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT, UNLESS MORE STRINGENT REQUIREMENTS ARE PRINTED ON THE "IRRIGATION NOTES".

BACKFILL SHALL NOT BEGIN UNTIL CONCRETE WALLS REACH COMPRESSION STRENGTH AT LEAST 80 PERCENT OF THE REQUIRED 28 DAY STRENGTH, 0.8fc'.

REINFORCED CONCRETE:

CLASS D CONCRETE: fc'=4,500 psi REINFORCING STEEL: fy=60,000 psi

ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS D UNLESS NOTED OTHERWISE.

REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 U.N.O.

REINFORCING BARS TO BE WELDED SHALL CONFORM TO ASTM A706. GRADE 60.

- ALL REINFORCING, EXCEPT PIER REINFORCING, SHALL BE EPOXY COATED AND SHALL CONFORM TO ASTM A775. ALL REINFORCING SHALL HAVE 2" CONCRETE COVER, U.N.O. ON PLANS, 3" AGAINST GROUND (BOTTOM SLAB)
- ALL REINFORCING SHALL BE HOOKED AROUND CORNERS AND LAPPED, SEE DETAILS. ALL LAP SPLICE LOCATIONS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

THE FOLLOWING TABLE GIVES THE MINIMUM CLASS B (STAGGERED) LAP SPLICE LENGTH FOR EPOXY COATED REINFORCING BARS PLACE IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPLICE LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER. INCREASED BY 40% FOR HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE BELOW (TOP BARS.), AND INCREASED BY 75% IF BOTH CONDITIONS EXIST. THE INCREASES ABOVE FOR #6 THRU #11 BARS MAY BE 25%, 13%, AND 42% RESPECTIVELY.

1'-3" 1'-7" #5 2'-5" 2'-10" 3'-8" 4'-8" 7'-3" #10 5**'**–11"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS. THE MINIMUM LAP SPLICE SHALL BE AS DESCRIBED ABOVE.

STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

THE CONTRACTOR SHALL SUBMIT REINFORCING STEEL PLACING DRAWINGS (PRIOR TO CONSTRUCTION) TO THE ENGINEER FOR REVIEW FOR CONFORMANCE WITH THE DESIGN DRAWINGS. THE DESIGN DRAWINGS SHALL GOVERN OVER PLACING DRAWINGS IN ALL CASES UNLESS MODIFICATIONS ARE APPROVED IN WRITING BY ENGINEER.

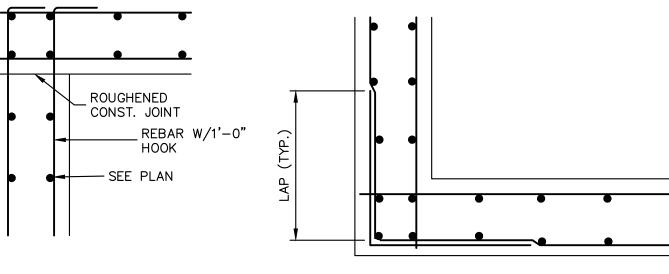
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

E.F. = EACH FACE= OUTSIDE FACE F.E. = FAR FACE T.&B. = TOP AND BOTTOM N.F. = NEAR FACE T.F. = TOP FACEI.F. = INSIDE FACE B.F. = BOTTOM FACET.W. = TWO WAYT.F. = TWO FACESE.S. = EACH SIDE= LAP LENGTH

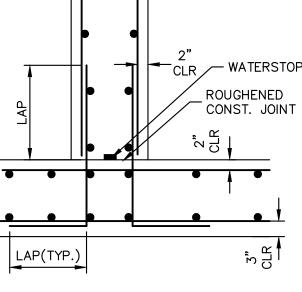
# 4. DO NOT BACKFILL UNTIL CONCRETE HAS REACHED DESIGN STRENGTH, F'c.

**CAST-IN-PLACE STRUCTURAL NOTES:** 

- 1. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED BEFORE FRESH CONCRETE IS POURED. ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
- 5. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 34".
- 6. CONTRACTOR SHALL SUBMIT STEEL REINFORCING SHOP DRAWINGS FOR ALL CAST-IN-PLACE STRUCTURES FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
- 7. HEADWALLS FOR PIPES SHALL BE CONSTRUCTED PER CDOT M-601-10.
- 8. WINGWALLS SHALL BE CONSTRUCTED PER CDOT M-601-20.

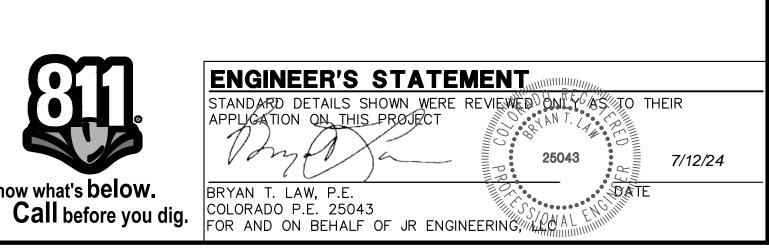


TYPICAL TOP CORNER **WALL SECTION DETAIL**  TYPICAL WALL CORNER **PLAN VIEW** 



TYPICAL BOTTOM **CORNER WALL SECTION DETAIL** 

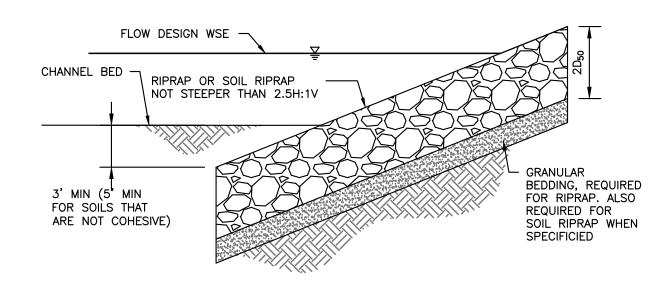




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SHEET **15** OF **16** 

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RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D <sub>50</sub> * (INCHES)
TYPE VL	70 - 100 50 - 70 35 - 50 2 - 10	12 9 6 2	6
TYPE L	70 - 100 50 - 70 35 - 50 2 - 10	15 12 9 3	9
TYPE M	70 - 100 50 - 70 35 - 50 2 - 10	21 18 12 4	12
TYPE H	70 - 100 50 - 70 35 - 50 2 - 10	30 24 18 6	18
*D <sub>50</sub> = MEAN ROCK	SIZE		

#### SOIL RIPRAP NOTES:

- 1. ELEVATION TOLERANCES FOR THE SOIL RIPRAP SHALL BE 0.10 FEET.
  THICKNESS OF SOIL RIPRAP SHALL BE NO LESS THAN THICKNESS SHOWN AND NO MORE THAN 2-INCHES GREATER THAN THE THICKNESS SHOWN.
- 2. WHERE "SOIL RIPRAP" IS DESIGNATED ON THE CONTRACT DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH NATIVE SOIL THE RIPRAP SHALL BE PRE-MIXED WITH THE NATIVE SOIL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65 PERCENT RIPRAP AND 35 PERCENT SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND SHALL HAVE A MINIMUM FINES CONTENT OF 15 PERCENT. THE SOIL RIPRAP SHALL BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH RIPRAP VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST PRIMARILY OF SOIL; THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.
- 3. WHERE SPECIFIED (TYPICALLY AS "BURIED SOIL RIPRAP"), A SURFACE LAYER OF TOPSOIL SHALL BE PLACED OVER THE SOIL RIPRAP ACCORDING TO THE THICKNESS SPECIFIED ON THE CONTRACT DRAWINGS. THE TOPSOIL SURFACE LAYER SHALL BE COMPACTED TO APPROXIMATELY 85% OF MAXIMUM DENSITY AND WITHIN TWO PERCENTAGE POINTS OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698, TOPSOIL SHALL BE ADDED TO ANY AREAS THAT SETTLE.
- 4. ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.

	GRADATION FOR GRANULAR BEDDING				
U.S. STANDARD SIEVE	PERCENT	PASSING BY WEIGHT			
SIZE	TYPE I CDOT SECT. 703.01	TYPE II CDOT SECT. 703.09 CLASS			
3 INCHES	_	90 — 100			
1½ INCHES	_	_			
¾ INCHES	_	20 - 90			
¾ INCHES	100	_			
#4	95 — 100	0 - 20			
#16	45 - 80	_			
#50	10 - 30	_			
#100	2 - 10	_			
#200	0 - 2	0 - 3			

#### RIPRAP BEDDING

THICKNESS REQUIREMENTS FOR GRANULAR BEDDING						
	MININ	MINIMUM BEDDING THICKNESS (INCHES)				
RIPRAP DESIGNATION	FINE-GRAIN	COARSE-GRAINED SOILS 2				
	TYPE I (LOWER LAYER)	TYPE II (UPPER LAYER)	TYPE II			
$VL (D_{50} = 6 IN)$	4	4	6			
$L (D_{50} = 9 IN)$	4	4	6			
$M (D_{50} = 12 IN)$	4	4	6			
$H (D_{50} = 18 IN)$	4	6	8			
VH $(D_{50} = 24 \text{ IN})$	4	6	8			

1. MAY SUBSTITUTE ONE 12-INCH LAYER OF TYPE II BEDDING. THE SUBSTITUTION OF ONE LAYER OF TYPE II BEDDING SHALL NOT BE PERMITTED AT DROP STRUCTURES. THE USE OF A COMBINATION OF FILTER FABRIC AND TYPE II BEDDING AT DROP STRUCTURES IS ACCEPTABLE.

2. FIFTY PERCENT OR MORE BY WEIGHT RETAINED ON THE #40 SIEVE.

Hydraulic Structures

Chapter 9

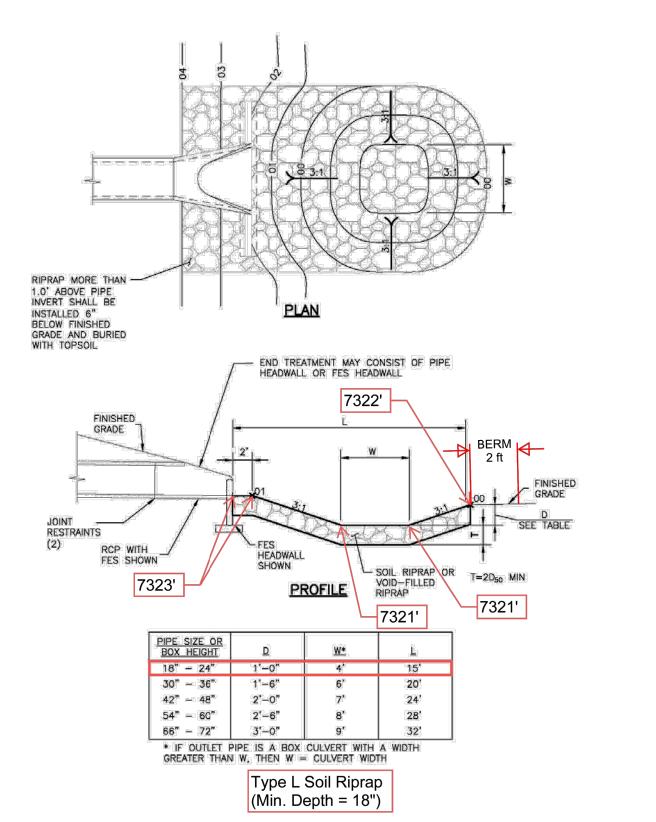
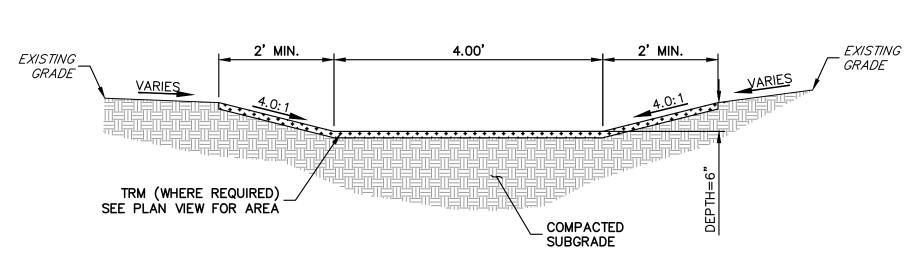


Figure 9-37. Low tailwater riprap basin

9-72 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 2

September 2017



POND B LOW TAILWATER BASIN LOW FLOW CHANNEL SCALE: N.T.S



	ENGINEER'S STATEMENT STANDARD DETAILS SHOWN WERE REVIEWED ON THEIR APPLICATION ON THIS PROJECT 25043 7/12/24	ESTATES AT CATHEDRAL PINES	DETAILS	
Know what's below.	BRYAN T. LAW, P.E.	SHEET	<b>16</b> OF	16
Call before you dig.	FOR AND ON BEHALF OF JR ENGINEERING, ALL MANIMUM	JOB NO.	25260.	00

VILLAGREE DEVELC 5710 VESSE COLORADO SPRINGS GREGG & ELAINE (719) 413-

ENGINEERIN