

EPC STORMWATER REVIEW COMMENTS
IN ORANGE BOXES WITH BLACK TEXT

ESTATES AT CATHEDRAL PINES

COUNTY OF EL PASO, STATE OF COLORADO

STREET IMPROVEMENT PLANS

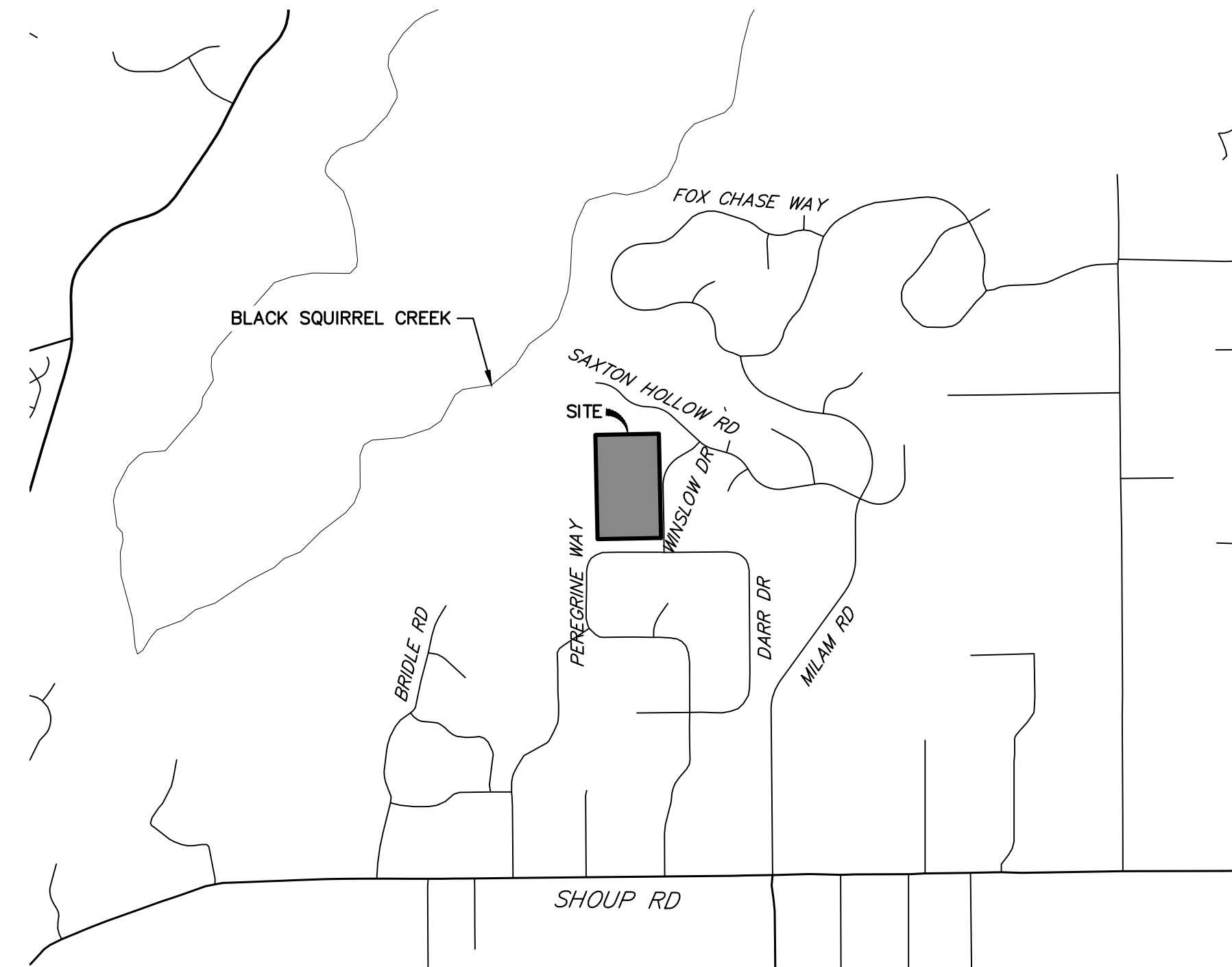


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UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

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

J.R. ENGINEERING
A Westman Company
Central 303-740-8888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com



VICINITY MAP
SCALE: 1"=2000'

AGENCIES

OWNER/DEVELOPER:	VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CAWLFIELD (719) 413-6900	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 RYAN BURNS P.E. (303) 267-6178	GAS DEPARTMENT:	BLACK HILLS ENERGY 7080 ALLEGRE STREET FOUNTAIN, CO 80817 (719) 393-6625
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 CHARLENE DURHAM, P.E. (719) 520-7951	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JOSHUA PALMER, P.E. (719) 520-6460	COMMUNICATIONS:	U.S. WEST COMMUNICATIONS (LOCATORS) (800) 922-1987

BASIS OF BEARINGS

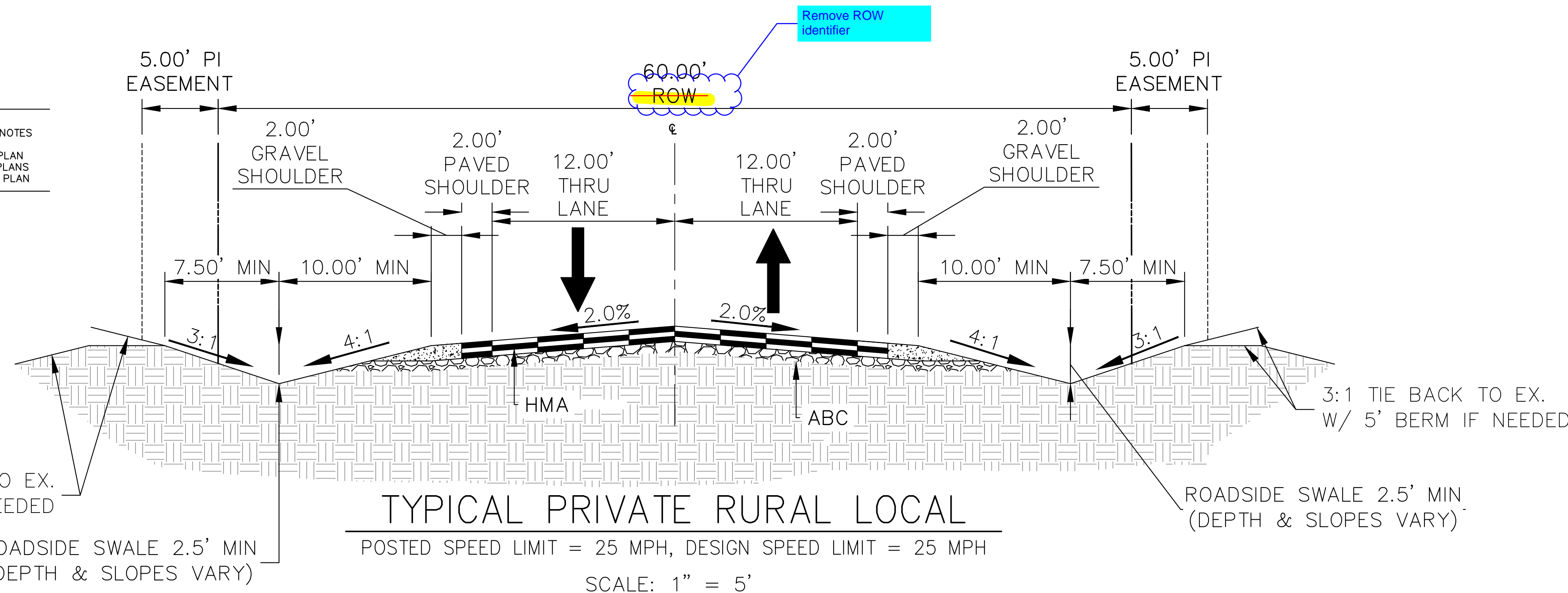
THE WEST LINE OF THE SOUTHEAST 1/4 OF SECTION 2, TOWNSHIP 12 SOUTH, RANGE 66 WEST OF THE 6TH P.M. BEING MONUMENTED BY A 3-1/4" ALUMINUM CAP STAMPED "LS 9132" AT THE SOUTH 1/2 CORNER AND A 2-1/2" ALUMINUM CAP STAMPED "LS 9132" AT THE CENTER 1/2 CORNER, SAID LINE BEARING N00°11'44"W AS SHOWN ON THE PLAT 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
- 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
- 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:

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
8	-	TOTAL SHEETS



OWNER/DEVELOPER STATEMENT

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

GREGG CAWLFIELD, OWNER DATE

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

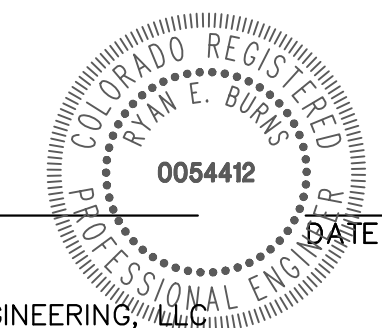
JOSHUA PALMER, P.E. DATE

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 MASTER 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.

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING, LLC



BY	DATE	No.	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				N/A	N/A	10/30/23	SAM	SAM	

ESTATES AT CATHEDRAL PINES
COVER SHEET

SHEET 1 OF 8
JOB NO. 25260.00

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.

PCD FILE NO. XX-XX-XXX

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE	---	---
MATCH LINE	---	---
SECTION LINE	---	---
BOUNDARY LINE	---	---
PROPERTY LINE	---	---
EASEMENT LINE	---	---
RIGHT OF WAY	---	---
R.O.W. A LINE	---	---
CENTERLINE	---	---
CITY LIMITS	---	---
WIRE FENCE	---	---
CHAIN LINK FENCE	---	---
WOOD FENCE	---	---
MASONRY FENCE	---	---
GUARDRAIL	---	---
CONC. BARRIER	---	---
CABLE TV	---	---
ELECTRIC	---	---
FIBER OPTIC	---	---
GAS MAIN	---	---
IRRIGATION MAIN	---	---
OIL/PETRO. MAIN	---	---
OVERHEAD UTILITY	---	---
SANITARY SEWER	---	---
STORM DRAIN	---	---
TELEPHONE	---	---
WATER MAIN	---	---
RAW WATER LINE	---	---
SWALE/WATERWAY FLOWLINE	---	---
DIVERSION DITCH	---	---
DIVERSION CHANNEL	---	---
MAJOR DRAINAGE BASIN	---	---
MINOR DRAINAGE BASIN	---	---
TOP OF SLOPE	---	---
TOE OF SLOPE	---	---
EDGE OF WATER	---	---
INDEX CONTOUR	---	---
INTERMEDIATE CONTOUR	---	---
DEPRESSION CONT. (INDEX)	---	---
DEPRESSION CONT. (INTER)	---	---
TOP OF CUTS	---	---
TOE OF FILLS	---	---
CUT AND FILL LINE	---	---
SILT FENCE	---	---
100 YEAR FLOODPLAIN	---	---
500 YEAR FLOODPLAIN	---	---
FLOODWAY	---	---
BASE FLOOD ELEVATION	---	---
EDGE OF WETLANDS	---	---
STONE WALL	---	---

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE	⊙	●
STORM INLET	⊠	■
AREA INLET - SQUARE	□	□
AREA INLET - ROUND	○	○
FLARED END SECTION	▷	▷
RIPRAP	▨	▨
SANITARY SEWER		
LINE MARKER	Mkr San ^o	
SERVICE MARKER	△	
CLEAN-OUT	○	
MANHOLE W/ DIRECTIONAL FLOW ARROW	⊙	⊙
WATER LINE		
LINE MARKER	Mkr W ^o	
SERVICE MARKER	△	
FIRE HYDRANT	⊕	⊕
FIRE CONNECTION	⊕	⊕
MANHOLE	⊙	●
BEND	⊕	⊕
BLOW-OFF VALVE	⊕	⊕
WELL	⊙	●
METER	⊕	⊕
VALVE	⊕	⊕
REDUCER	⊕	⊕
THRUST BLOCK	⊕	⊕
CROSS	⊕	⊕
PLUG W/ THRUST BLOCK	⊕	⊕
TEE	⊕	⊕
REVERSE ANCHOR	⊕	⊕
ANODE	⊕	⊕
AIR & VACUUM VALVE ASSEMBLY	⊕	⊕
TRANSMISSION BLOW-OFF ASSEMBLY	⊕	⊕
GAS LINE		
MARKER	Mkr G ^o	
SERVICE MARKER	△	
METER	⊕	⊕
VALVE	⊕	⊕
PLUG	⊕	⊕
TEE	⊕	⊕
DRY UTILITIES		
CABLE TV MARKER	Mkr TV ^o	
CABLE TELEVISION PEDESTAL	⊕	
ELECTRIC MARKER	Mkr E ^o	
ELECTRIC SERVICE MARKER	△	
ELECTRICAL PEDESTAL	⊕	
ELECTRICAL METER	⊕	
ELECTRICAL MANHOLE	⊕	
FIBER-OPTIC MARKER	Mkr FO ^o	
IRRIGATION PEDESTAL	⊕	
TELEPHONE MARKER	Mkr T ^o	
TELEPHONE PEDESTAL	⊕	
TELEPHONE MANHOLE	⊕	
UTILITY POLE	⊕	⊕
GUY ANCHOR	⊕	⊕
GUY POLE	⊕	⊕
MISC. UTILITIES		
VENT PIPE	VP	VP
TEST HOLE DESIGNATOR	TH	TH

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- 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).
- 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:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/ EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION
 - CDOT M&S STANDARDS
- 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.
- 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.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 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.
- 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.
- 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 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.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- 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.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

GENERAL CONSTRUCTION NOTES:

- 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.
- 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.
- 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.
- 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).
- ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.
- 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.
- 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 - CULVERTS.
- 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:

- ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- 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.
- ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
- 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.
- STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
- ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
- 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"
- ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
- 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.
- ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
- 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.
- 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.
- THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
- 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.

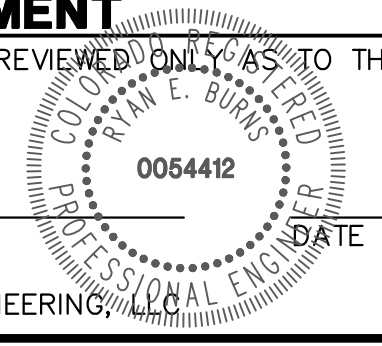


Know what's below.
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ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

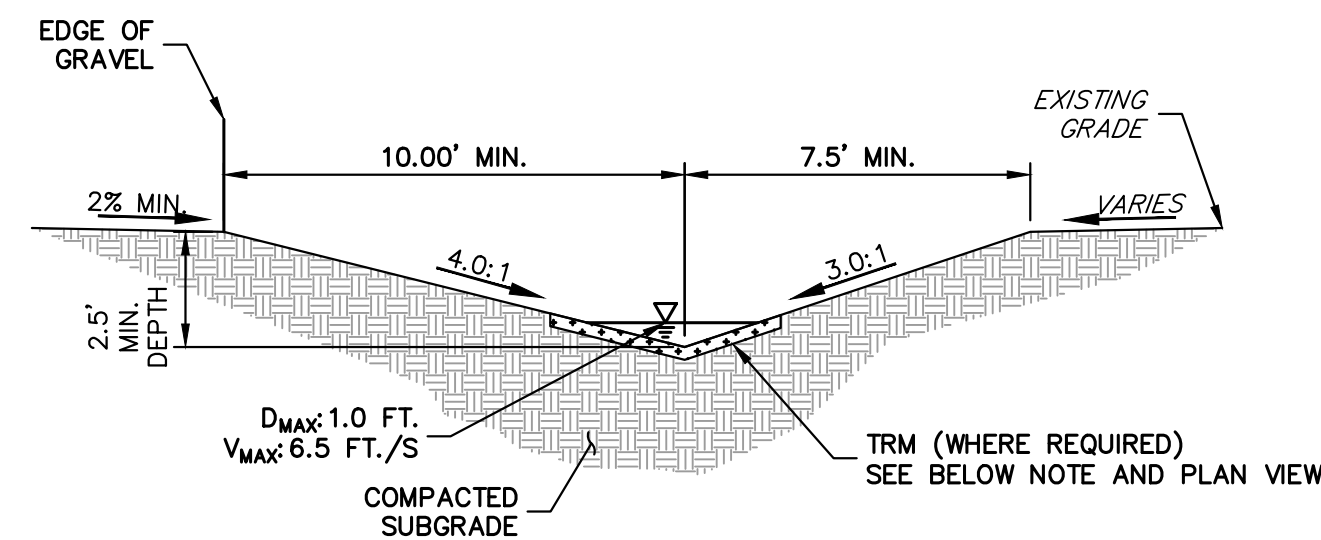
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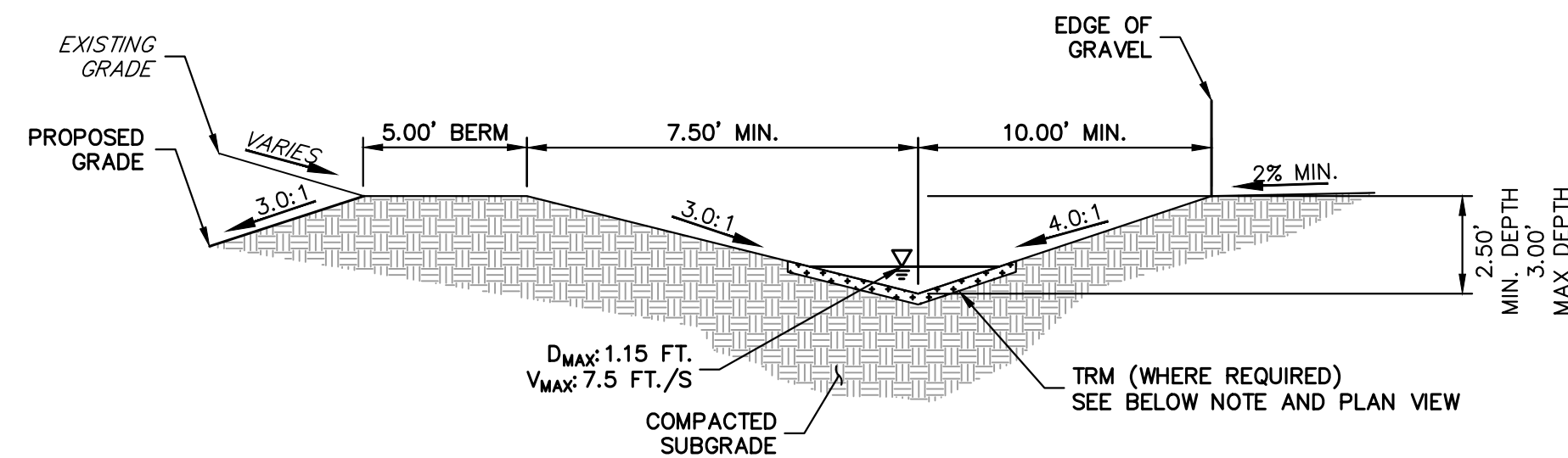
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LEGEND AND GENERAL NOTES

SHEET 2 OF 8
JOB NO. 25260.00



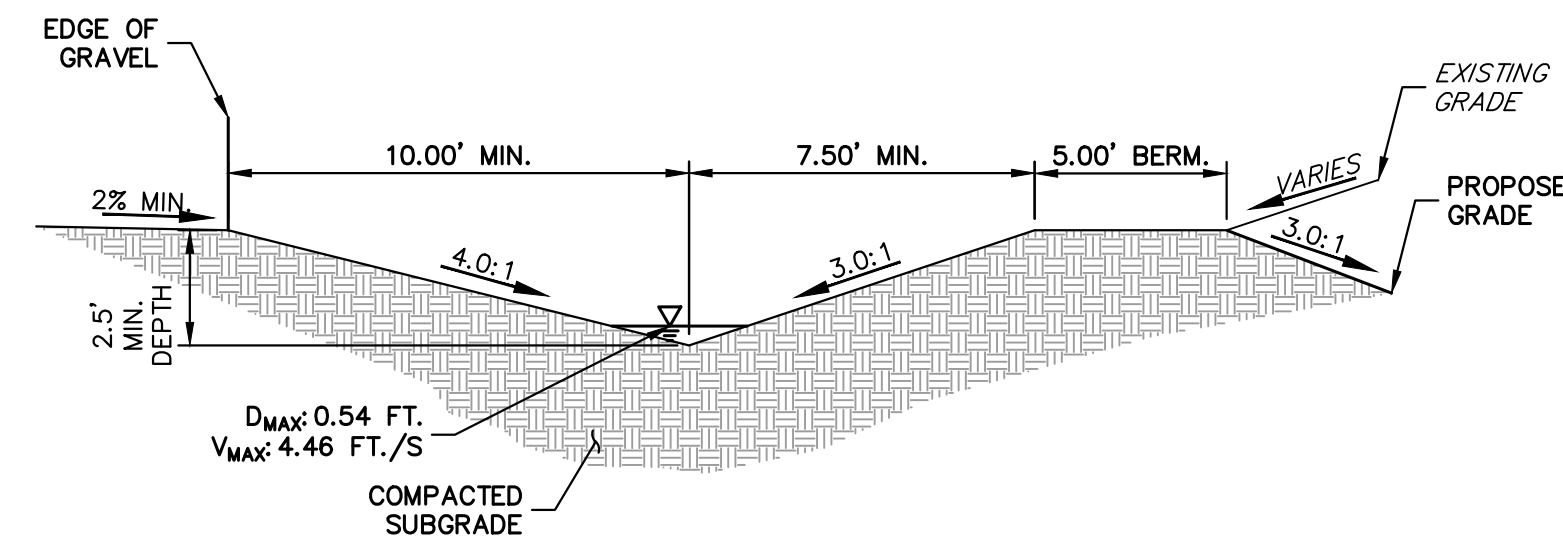
SWALE SECTION BASIN D
N.T.S.

SC250 VMAX (OR APPROVED EQUIVALENT) PERMANENT TURF REINFORCEMENT MAT (TRM) IS REQUIRED TO BE INSTALLED 70' NORTH OF THE ROAD HIGH POINT AND CONTINUE FOR 400' (SEE GEC PLAN FOR LOCATIONS)

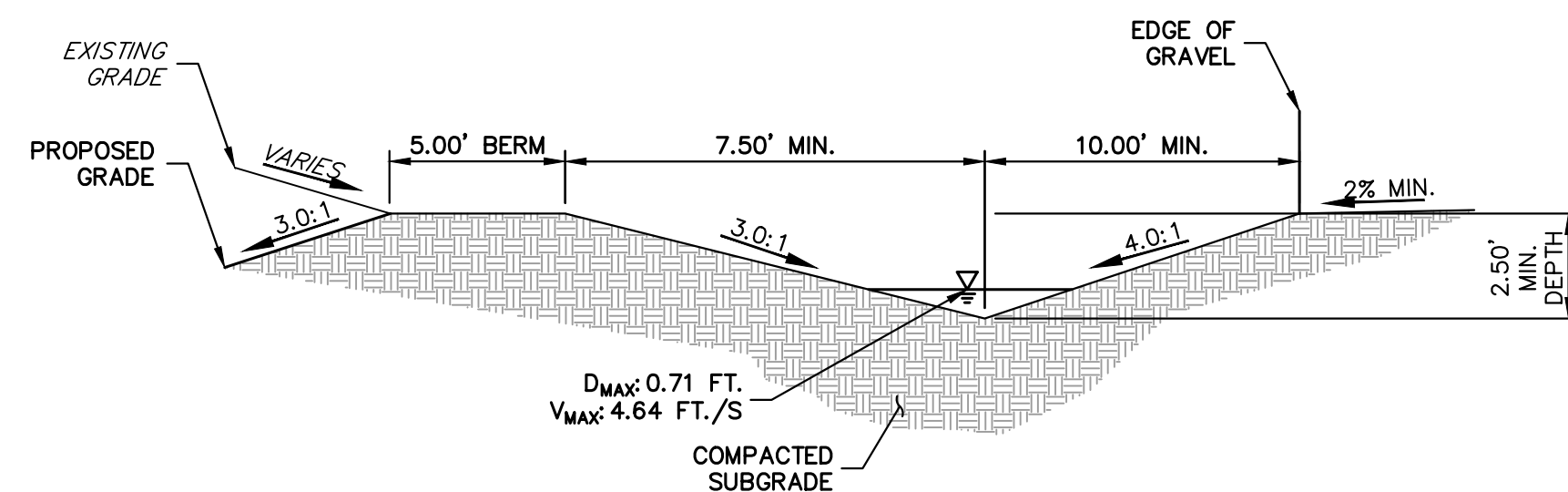


SWALE SECTION BASIN L
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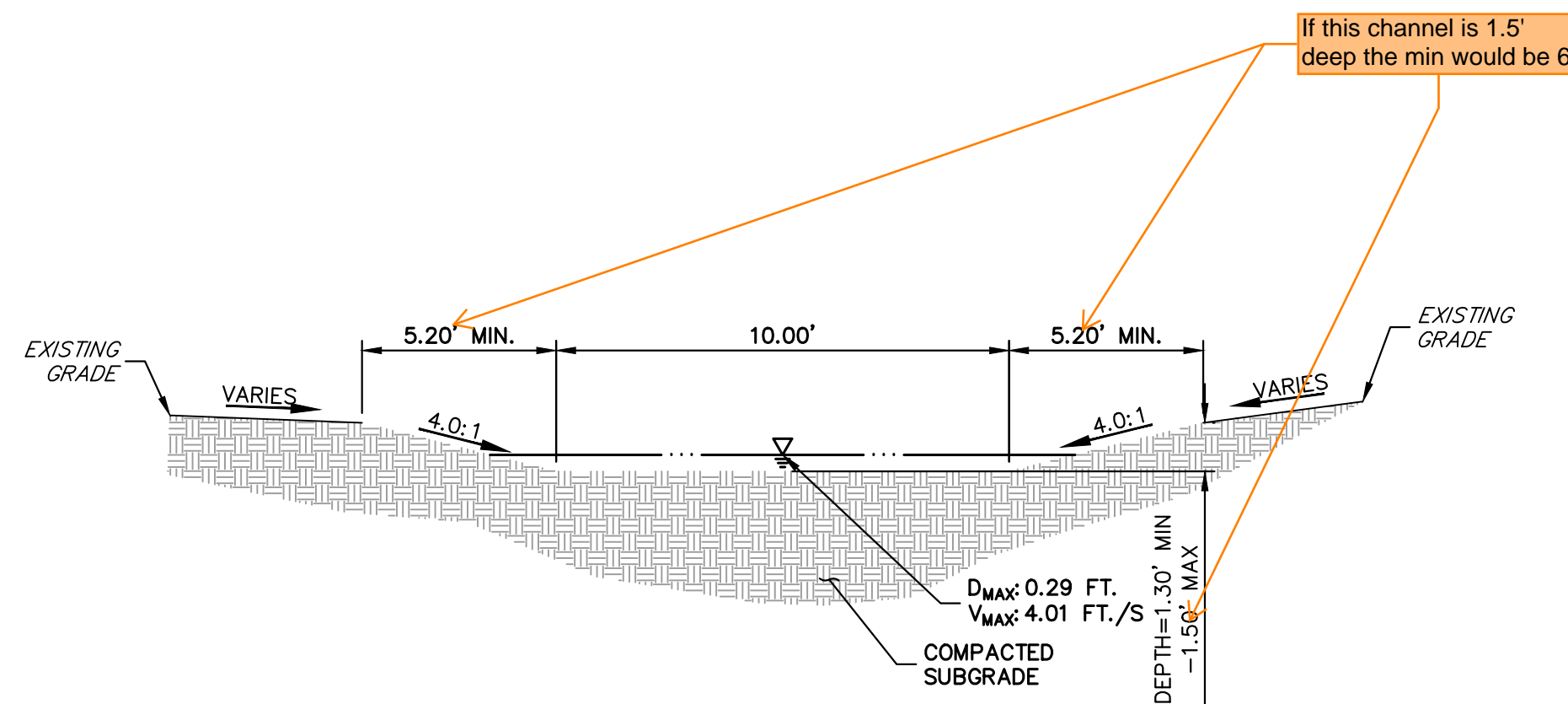
SC250 VMAX (OR APPROVED EQUIVALENT) PERMANENT TURF REINFORCEMENT MAT (TRM) IS REQUIRED TO BE INSTALLED 60' SOUTH OF THE ROAD HIGH POINT AND CONTINUE FOR 280' (SEE GEC PLAN FOR LOCATIONS)



SWALE SECTION BASIN M
N.T.S.



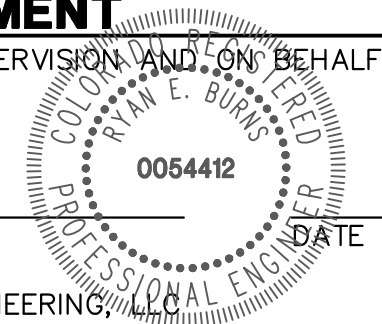
SWALE SECTION BASIN E
N.T.S.



SWALE SECTION BASIN G
SCALE: N.T.S.



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

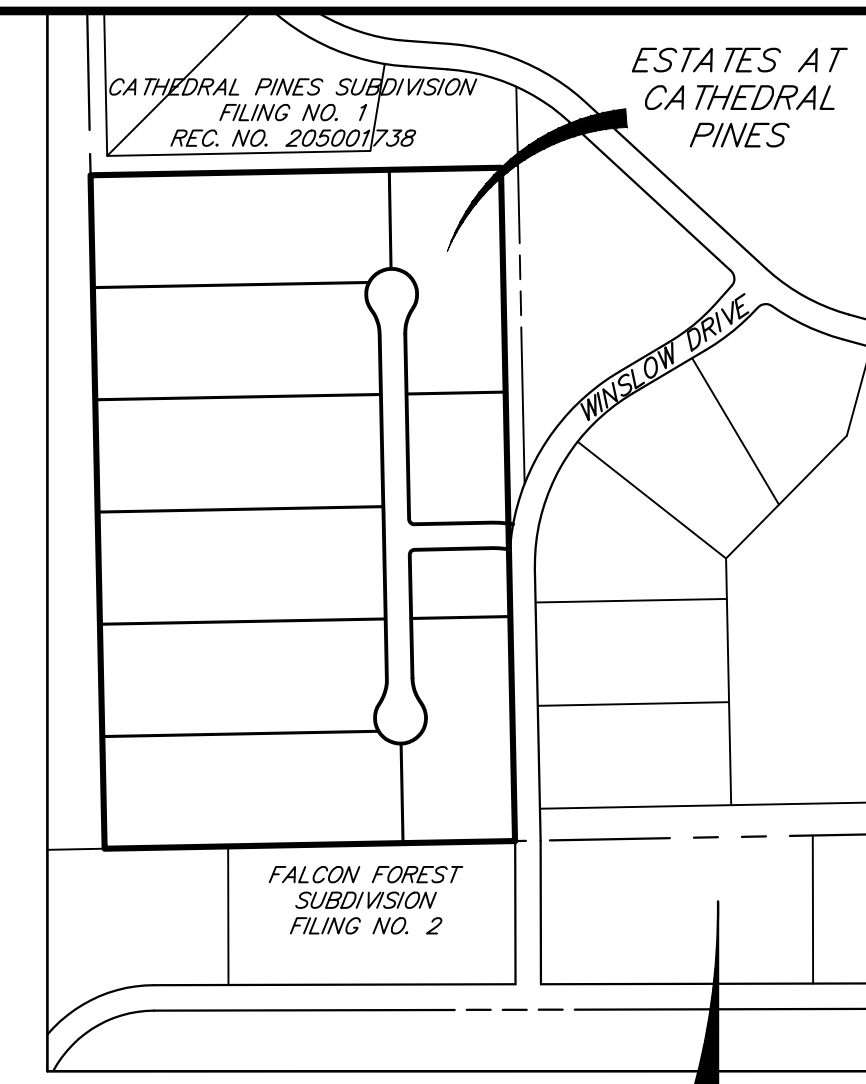
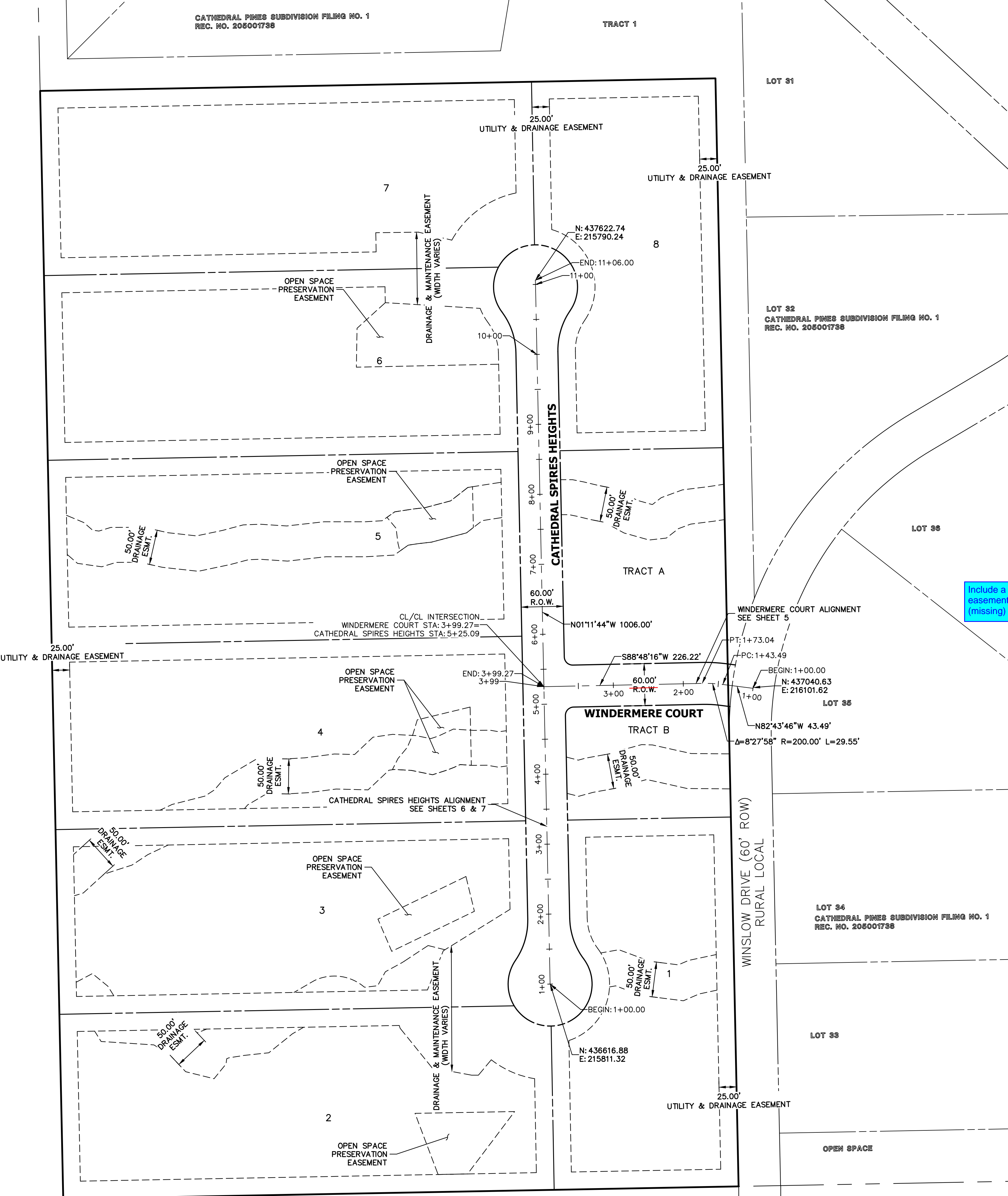


ESTATES AT CATHEDRAL PINES TYPICAL SECTIONS	DESIGNED BY	RYAN E. BURNS	DATE	10/30/23
	DRAWN BY	PAL	CHECKED BY	PAL
SHEET 3 OF 8		JOB NO. 25260.00		

UNLESS SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE AGENCIES, OR ENGINEERING APPROVES THEIR USE, DESIGNATED BY WRITTEN AUTHORIZATION.

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

J.R. ENGINEERING
 A Westman Company
 Centennial 303-740-9888 • Colorado Springs 719-583-2583
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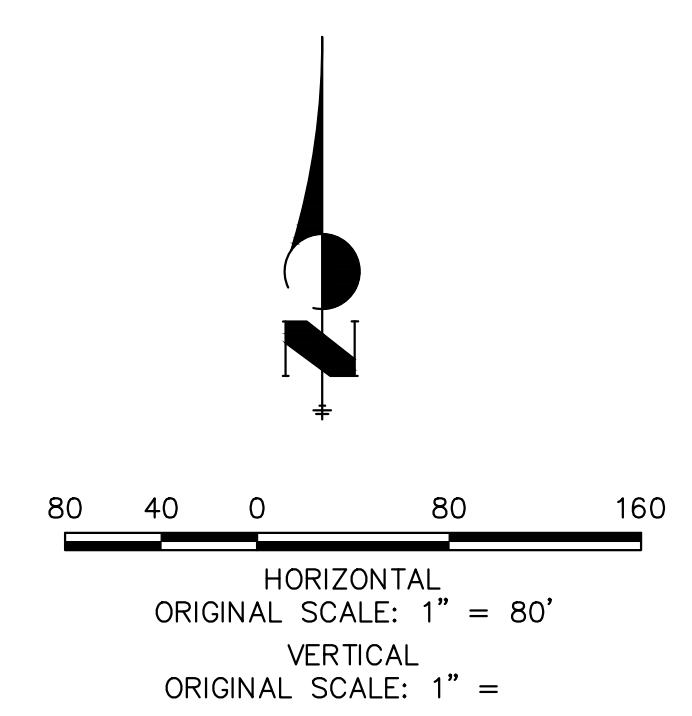
BY	DATE	REVISION

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
1"=80'	N/A	10/30/23	APL	SAM	

ESTATES AT CATHEDRAL PINES
HORIZONTAL CONTROL PLAN

SHEET 4 OF 8
 JOB NO. 25260.00

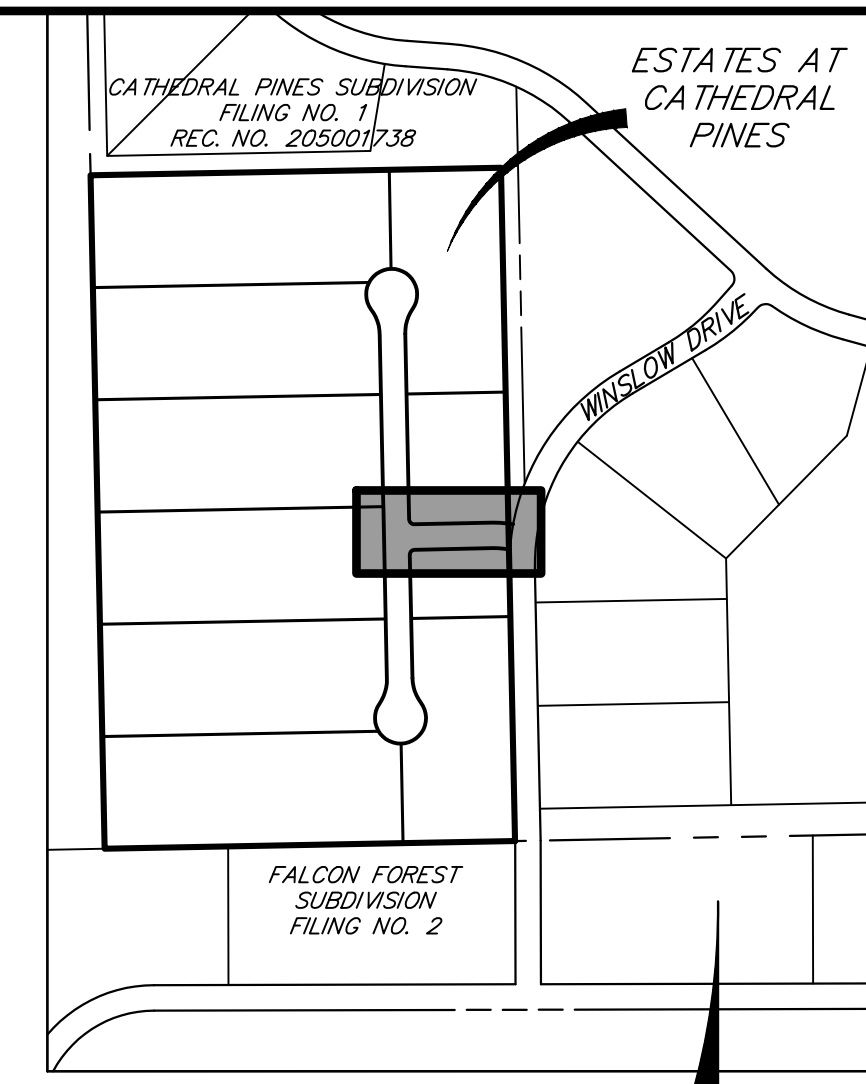
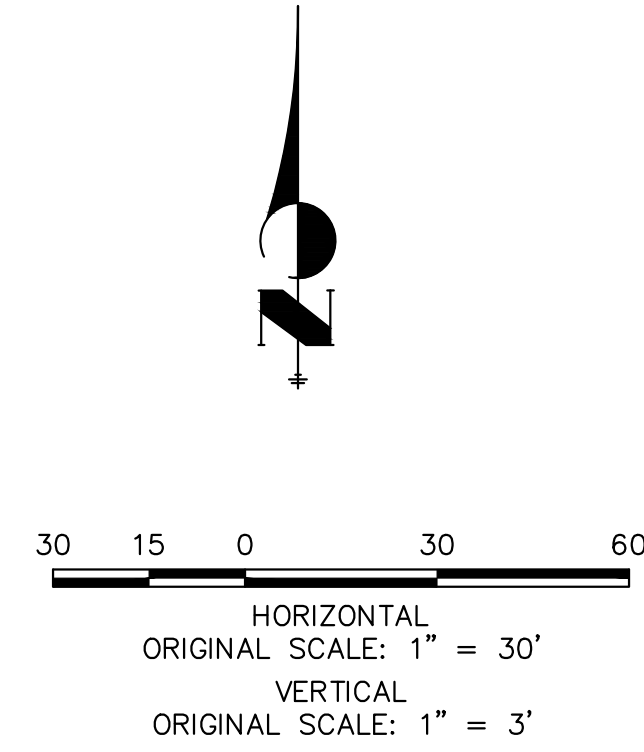
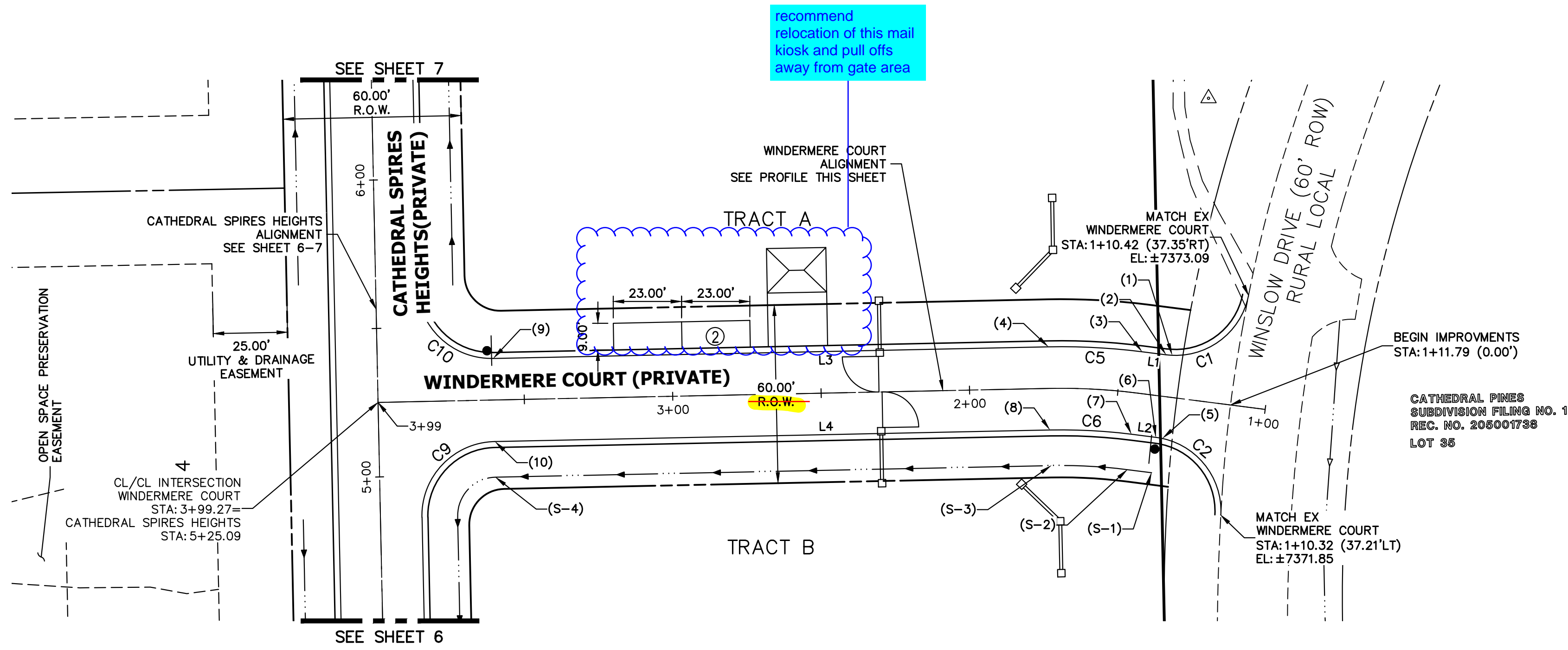
Include a cistern location and easement and turn around area (missing)



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

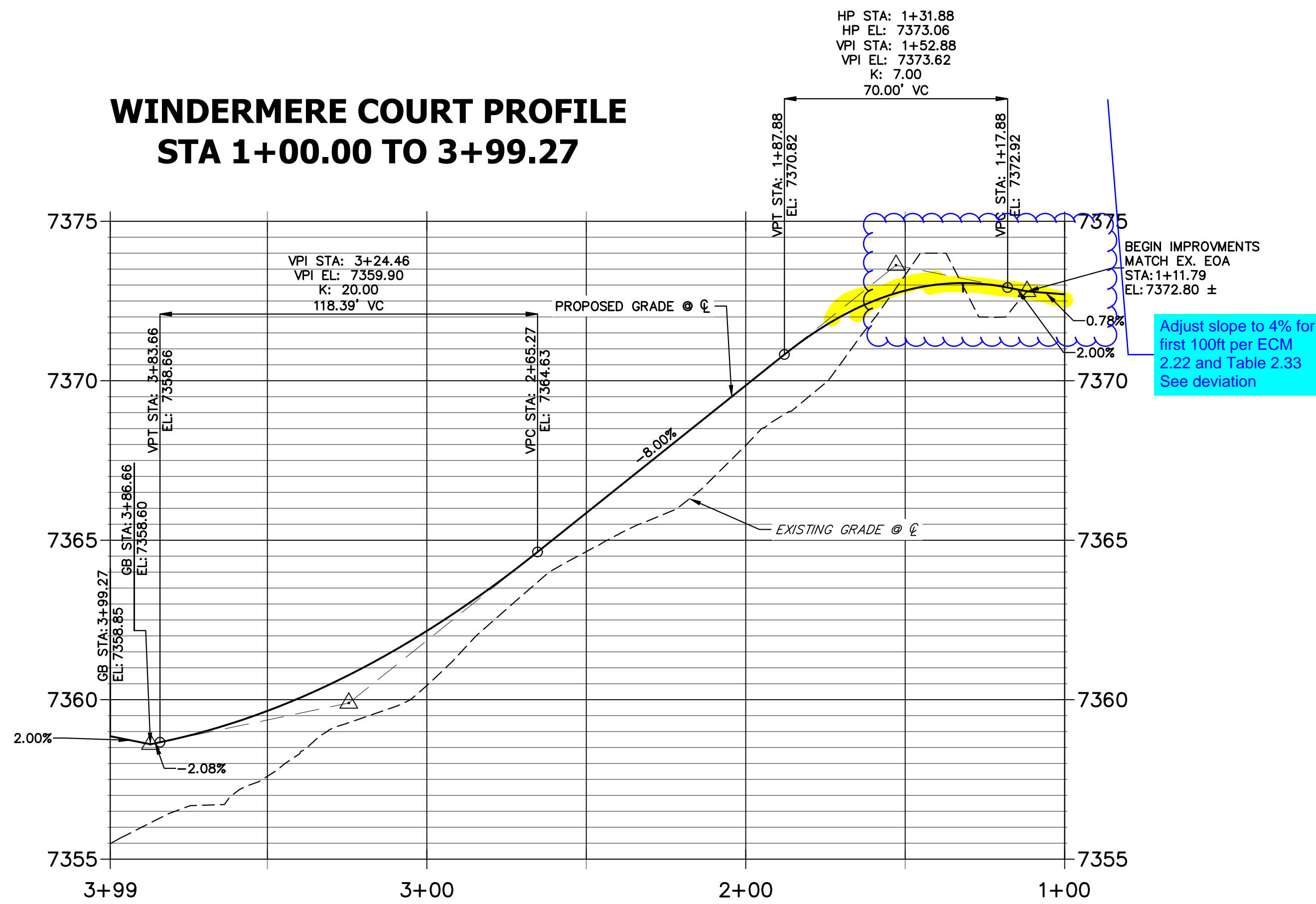
0054412
 DATE



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

**WINDERMERE COURT PROFILE
 STA 1+00.00 TO 3+99.27**



LINE	BEARING	DISTANCE
L1	N82°43'46"W	8.12'
L2	S82°43'46"E	8.23'
L3	S88°48'16"W	187.22'
L4	N88°48'16"E	187.04'

CURVE	DELTA	RADIUS	LENGTH
C1	86°12'34"	25.00'	37.62'
C2	85°54'02"	25.00'	37.48'
C5	8°27'58"	214.00'	31.62'
C6	8°27'58"	186.00'	27.48'
C9	90°25'32"	25.00'	39.46'
C10	85°45'49"	25.00'	37.42'

POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(1)	1+33.30	14.09' (RT)	WINDERMERE COURT	7372.79	HIGH PT
(2)	1+35.37	14.00' (RT)	WINDERMERE COURT	7372.77	PT
(3)	1+43.49	14.00' (RT)	WINDERMERE COURT	7372.69	PC
(4)	1+73.04	14.00' (RT)	WINDERMERE COURT	7371.57	PT
(5)	1+33.21	14.08' (LT)	WINDERMERE COURT	7372.73	HIGH PT
(6)	1+35.26	14.00' (LT)	WINDERMERE COURT	7372.77	PT
(7)	1+43.49	14.00' (LT)	WINDERMERE COURT	7372.69	PC
(8)	1+73.04	14.00' (LT)	WINDERMERE COURT	7371.57	PT
(9)	3+60.27	14.00' (RT)	WINDERMERE COURT	7359.01	PC
(10)	3+60.27	14.00' (LT)	WINDERMERE COURT	7359.01	PC
(S-1)	1+35.26	26.00' (LT)	WINDERMERE COURT	7370.23	BEGIN SWALE SECTION L
(S-2)	1+43.49	26.00' (LT)	WINDERMERE COURT	7370.15	SWALE PC
(S-3)	1+73.04	26.00' (LT)	WINDERMERE COURT	7369.03	SWALE PT

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



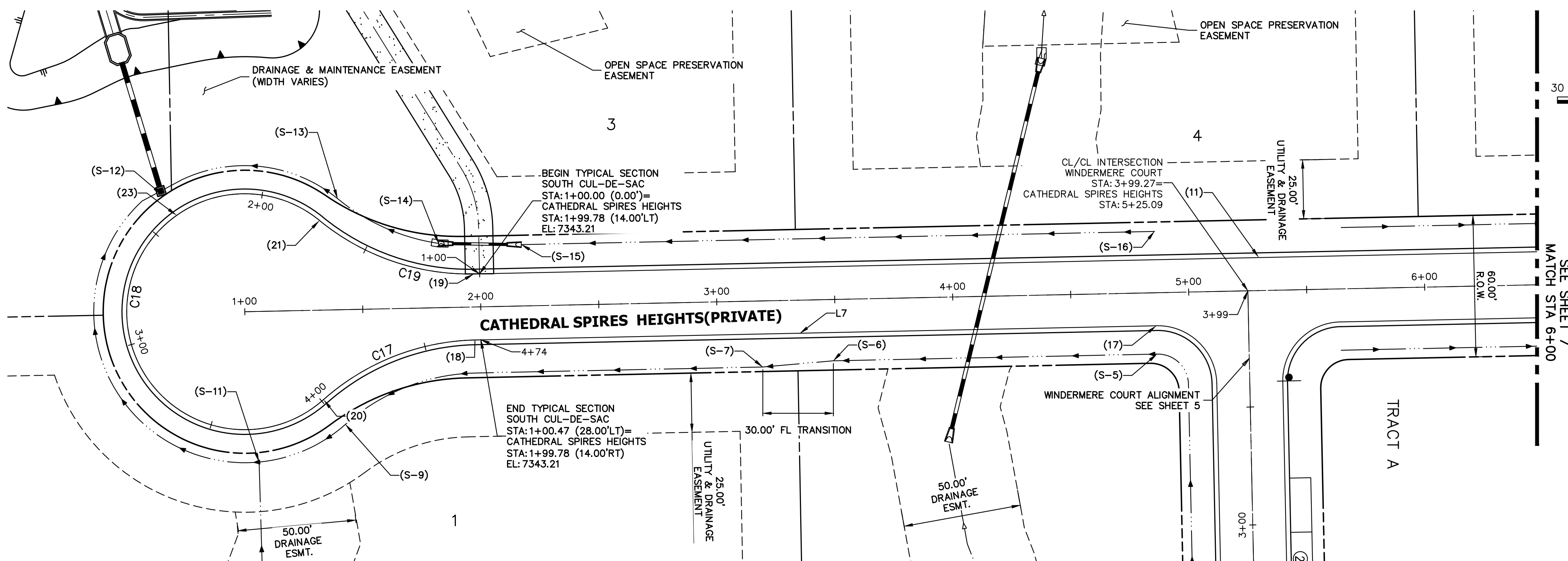
ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

DATE	BY	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
			1"=30'	1"=3'	10/30/23	APL	SAM	

ESTATES AT CATHEDRAL PINES
 STREET IMPROVEMENT PLANS

SHEET 5 OF 8
 JOB NO. 25260.00

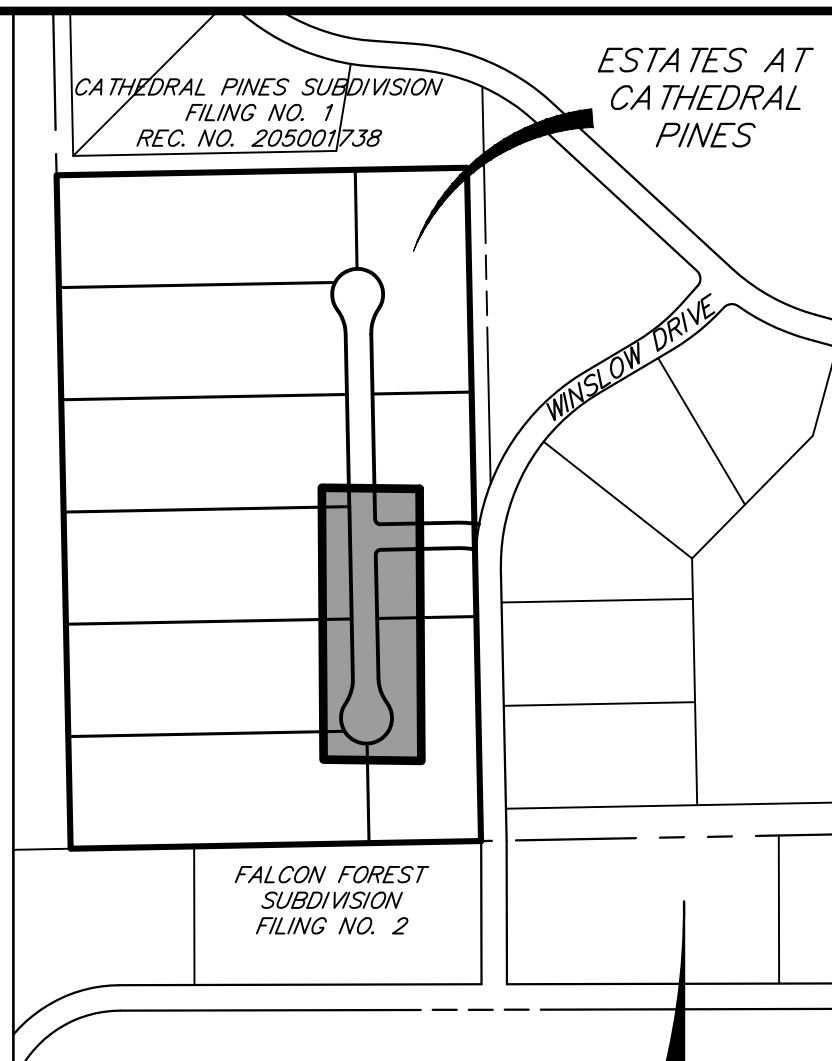


LINE TABLE

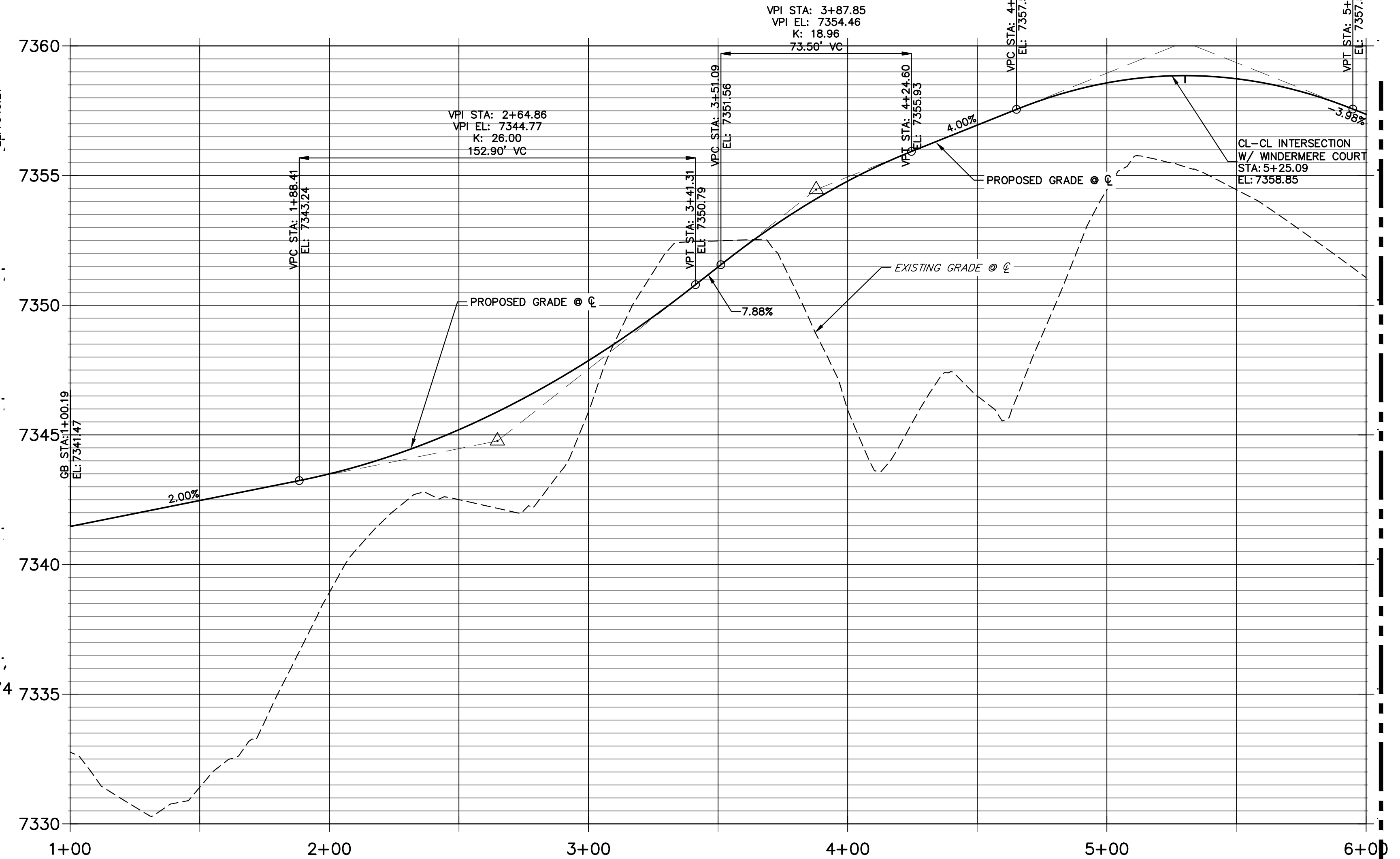
LINE	BEARING	DISTANCE
L7	N01°11'44"W	288.60'

CURVE TABLE

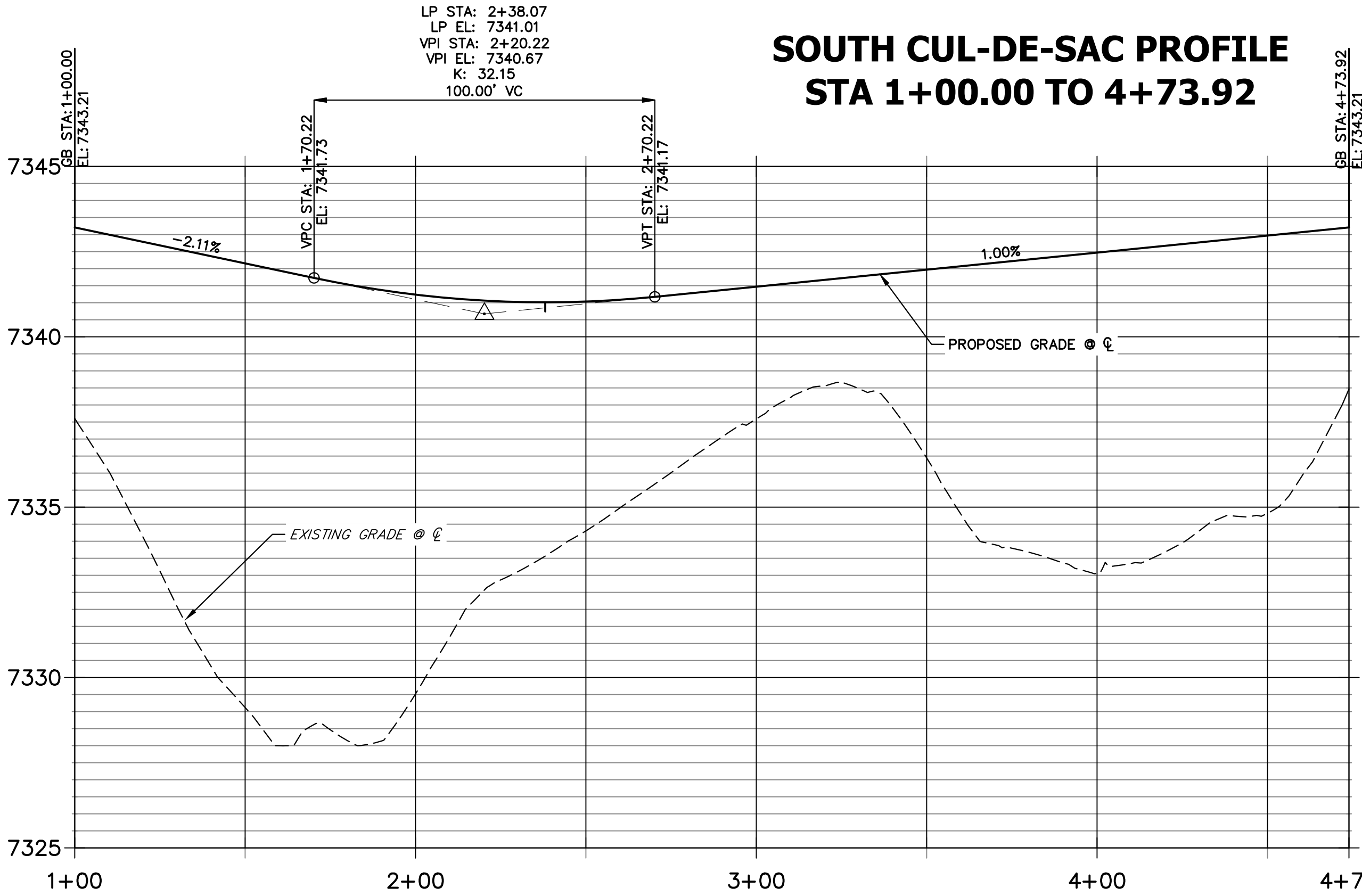
CURVE	DELTA	RADIUS	LENGTH
C17	40°32'04"	100.00'	70.75'
C18	261°04'24"	50.00'	227.83'
C19	40°32'00"	100.00'	70.75'



**CATHEDRAL SPIRES HEIGHTS PROFILE (1)
STA 1+00.00 TO 6+00.00**



**SOUTH CUL-DE-SAC PROFILE
STA 1+00.00 TO 4+73.92**



POINT TABULATION

POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(11)	5+30.08	14.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7358.55	HIGH PT
(17)	4+86.09	14.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7357.98	PC
(18)	1+97.49	14.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7343.19	PT
(19)	1+97.49	14.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7343.12	PT
(20)	1+32.50	38.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7342.48	PRC
(21)	1+32.50	38.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7341.67	PRC
(23)	2+38.07	0.00' (I)	SOUTH CUL-DE-SAC	7341.03	LOW POINT
(S-5)	4+86.09	26.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7355.44	SWALE PT
(S-6)	3+48.80	26.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7348.56	SWALE TRANSITION END 2.5' DEPTH
(S-7)	3+18.94	28.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7345.81	SWALE TRANSITION BEGIN 3.0' DEPTH
(S-8)	1+97.49	28.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7340.15	SWALE PC
(S-9)	1+41.60	48.64' (RT)	CATHEDRAL SPIRES HEIGHTS	7339.44	SWALE PCC

POINT TABULATION

POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(S-11)	1+04.74	63.82' (RT)	CATHEDRAL SPIRES HEIGHTS	7339.12	SWALE INTERSECTION
(S-12)	2+38.15	10.95' (RT)	SOUTH CUL-DE-SAC	7337.97	SWALE LOW POINT
(S-13)	1+40.30	47.12' (LT)	CATHEDRAL SPIRES HEIGHTS	7339.14	SWALE PCC
(S-14)	1+82.74	27.25' (LT)	CATHEDRAL SPIRES HEIGHTS	7340.27	CULVERT INVERT
(S-15)	2+17.70	26.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7341.17	CULVERT INVERT
(S-16)	4+86.09	26.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7355.44	BEGIN SWALE SECTION M

- NOTES**
- SEE SHEET 3 FOR TYPICAL SWALE SECTIONS.
 - SEE STORM & POND PLANS BY JR ENGINEERING FOR ALL CULVERT & STORM SEWER INFORMATION.
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ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

ESTATES AT CATHEDRAL PINES
STREET IMPROVEMENT PLANS

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

BY DATE

REVISIONS

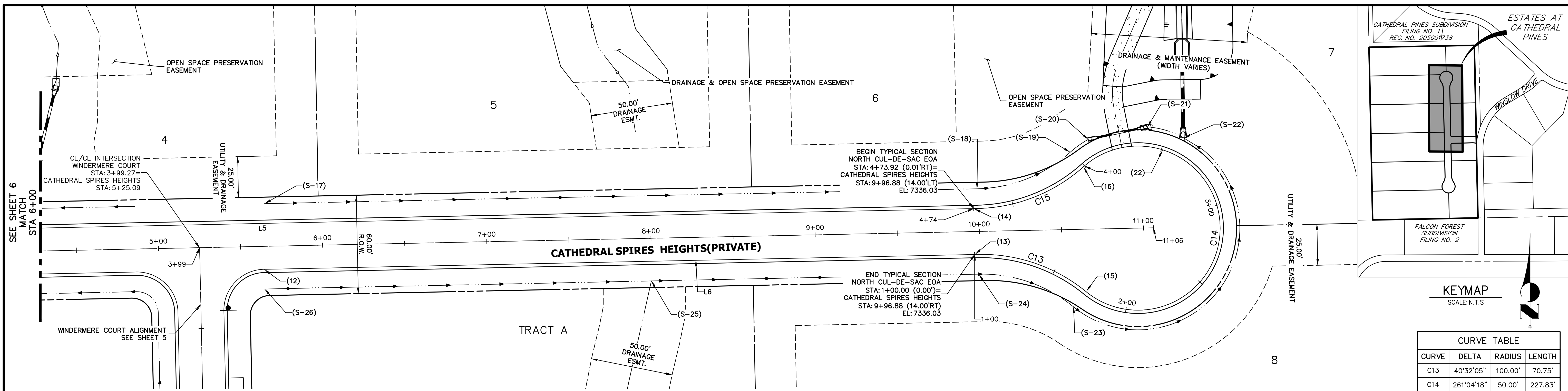
H-SCALE 1"=30'
V-SCALE 1"=3'

DATE 10/30/23
DESIGNED BY APL
DRAWN BY SAM
CHECKED BY

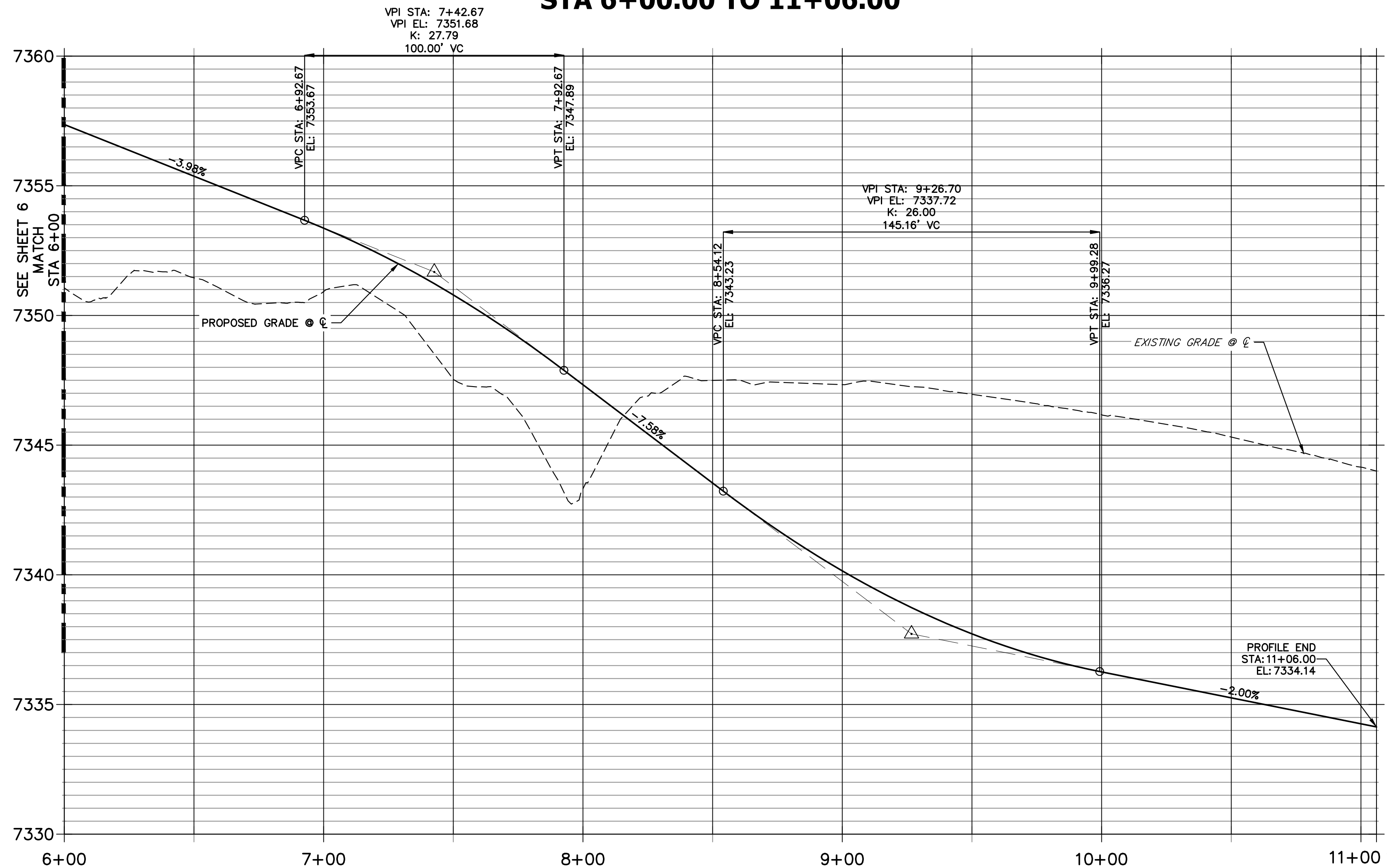
SHEET 6 OF 8
JOB NO. 25260.00

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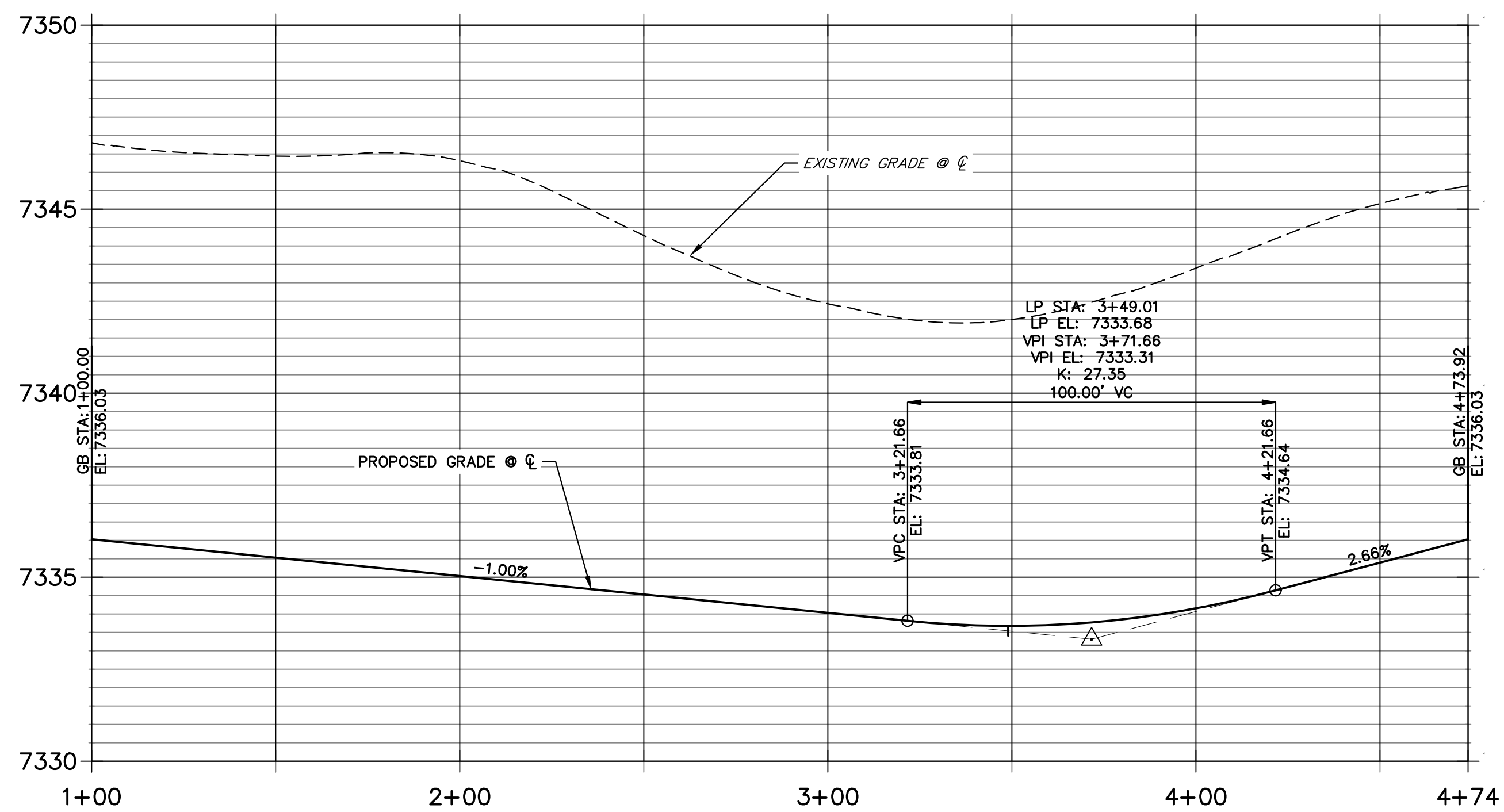
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**CATHEDRAL SPIRES HEIGHTS PROFILE
STA 6+00.00 TO 11+06.00**



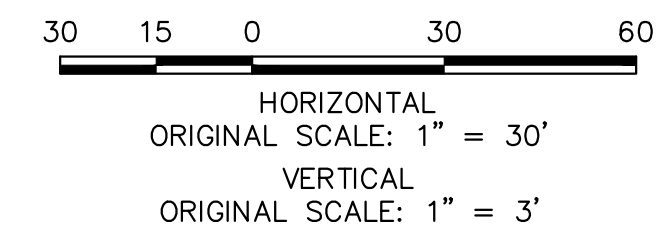
**NORTH CUL-DE-SAC EOA PROFILE
STA 1+00.00 TO 4+73.92**



CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C13	40°32'05"	100.00'	70.75'
C14	26°10'41"	50.00'	227.83'
C15	40°32'13"	100.00'	70.75'

LINE TABLE		
LINE	BEARING	DISTANCE
L5	S01°11'44"E	801.68'
L6	N01°12'16"W	436.93'

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



POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(12)	5+64.09	14.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7358.22	PT
(13)	9+96.87	13.95' (RT)	CATHEDRAL SPIRES HEIGHTS	7336.03	PC
(14)	9+96.88	13.99' (LT)	CATHEDRAL SPIRES HEIGHTS	7336.03	PC
(15)	10+64.16	38.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7335.30	PRC
(16)	10+64.16	38.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7334.17	PRC
(22)	3+49.08	0.00' ()	NORTH CUL-DE-SAC EOA	7333.69	LOW PT

POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(S-17)	5+65.17	26.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7355.65	BEGIN SWALE SECTION E
(S-18)	9+99.17	26.00' (LT)	CATHEDRAL SPIRES HEIGHTS	7333.43	SWALE PC
(S-19)	10+56.36	47.12' (LT)	CATHEDRAL SPIRES HEIGHTS	7331.63	SWALE PCC
(S-20)	3+90.00	12.00' (RT)	NORTH CUL-DE-SAC EOA	7331.49	CULVERT INVERT
(S-21)	3+59.82	12.00' (RT)	NORTH CUL-DE-SAC EOA	7331.16	CULVERT INVERT
(S-22)	3+40.89	11.85' (RT)	NORTH CUL-DE-SAC EOA	7331.11	SWALE LOW POINT

POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
(S-23)	10+56.36	47.12' (RT)	CATHEDRAL SPIRES HEIGHTS	7332.77	SWALE PCC
(S-24)	9+99.17	26.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7333.47	SWALE PC
(S-25)	7+99.69	26.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7344.53	SWALE INTERSECTION
(S-26)	5+64.09	26.00' (RT)	CATHEDRAL SPIRES HEIGHTS	7355.68	BEGIN SWALE SECTION D

ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

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

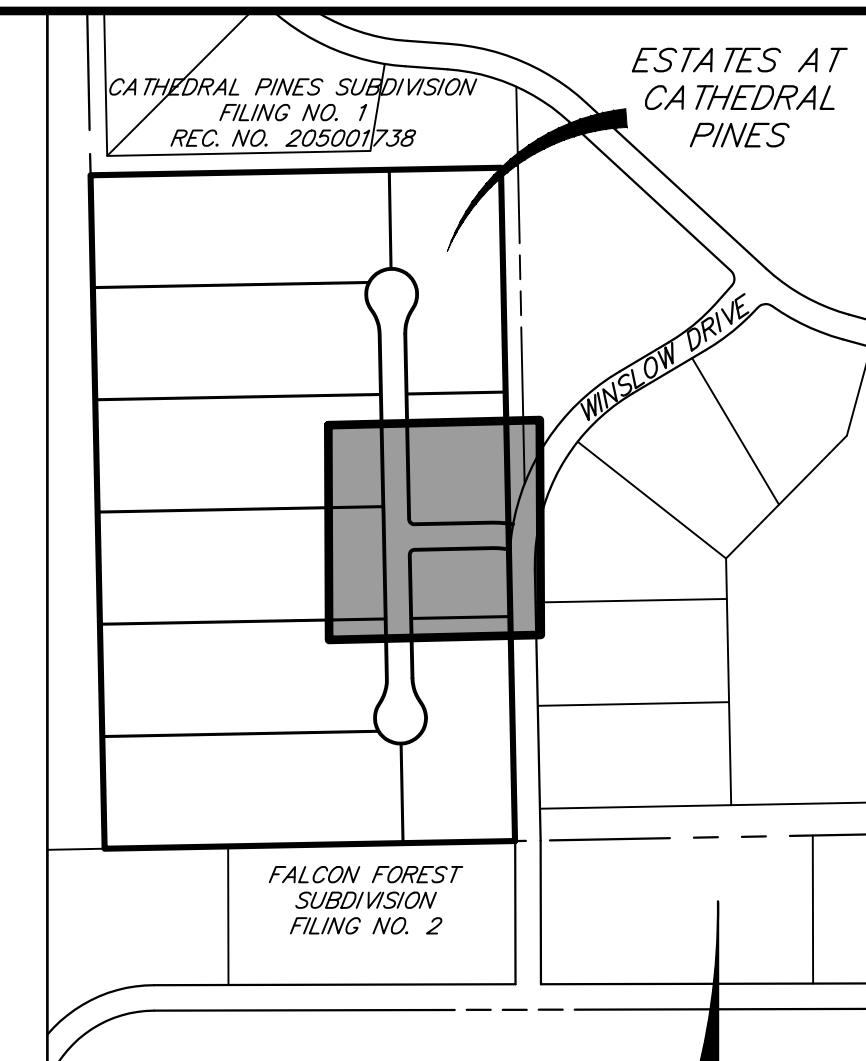
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BY	DATE	REVISION

H-SCALE 1"=30'
 V-SCALE 1"=3'
 DATE 10/30/23
 DESIGNED BY APL
 DRAWN BY SAM
 CHECKED BY

ESTATES AT CATHEDRAL PINES
STREET IMPROVEMENT PLANS

SHEET 7 OF 8
 JOB NO. 25260.00



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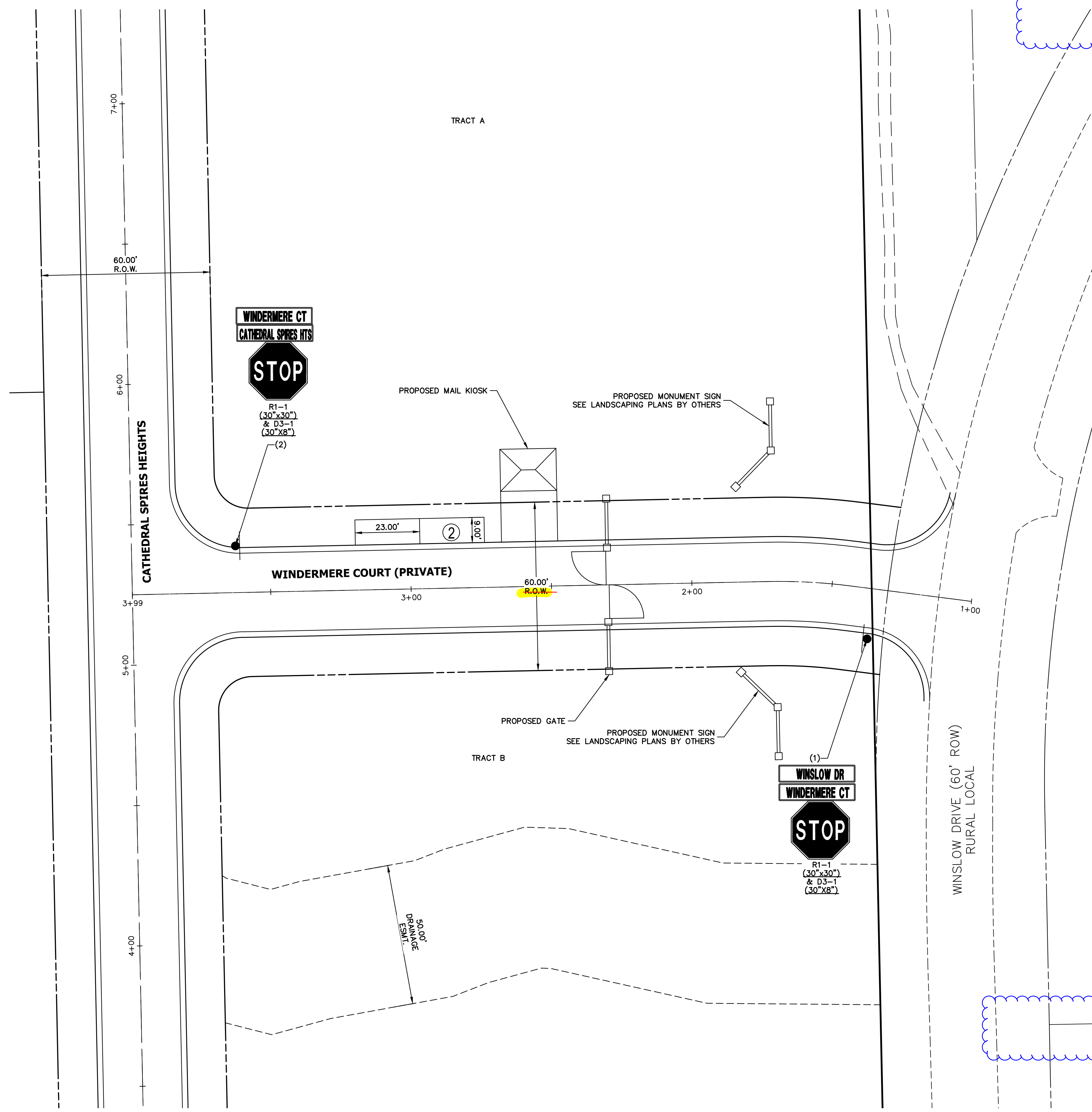
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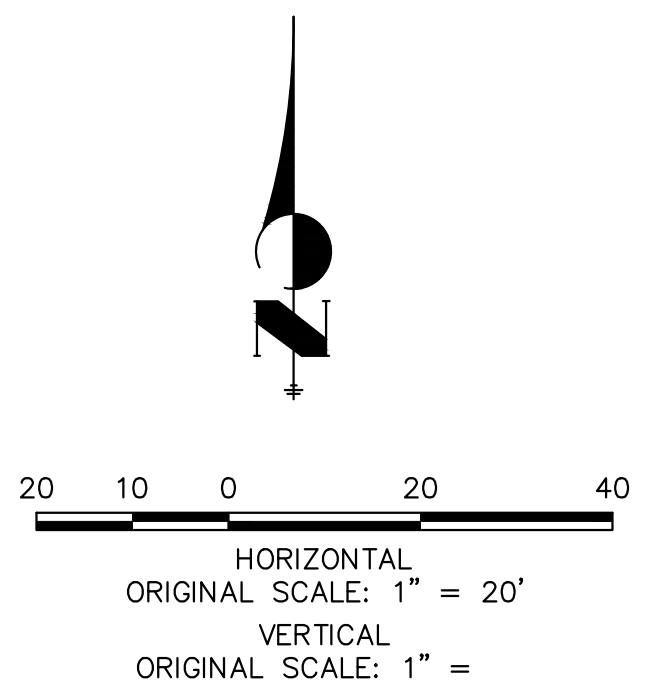
BY	DATE	No.	REVISION

ESTATES AT CATHEDRAL PINES
SIGNAGE AND STRIPING PLAN

SHEET **8** OF **8**
 JOB NO. 25260.00



POINT NUMBER	STATION	OFFSET	ALIGNMENT	DESCRIPTION
(1)	1+35.22	17.96' (LT)	WINDERMERE COURT	STOP AND STREET SIGNS
(2)	3+62.23	16.64' (RT)	WINDERMERE COURT	STOP AND STREET SIGNS



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

DATE

ESTATES AT CATHEDRAL PINES

COUNTY OF EL PASO, STATE OF COLORADO

STORM SEWER AND POND PLANS

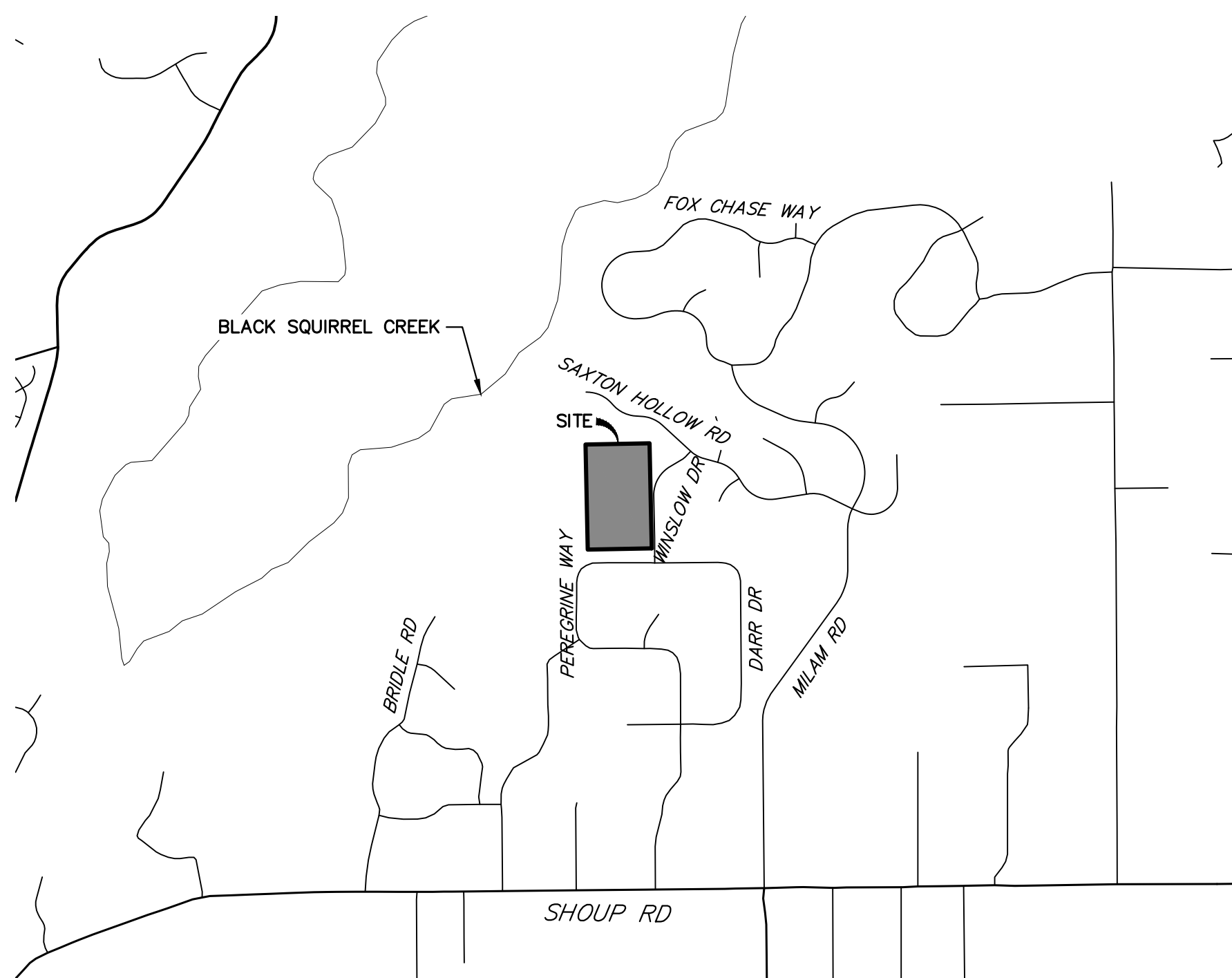


Know what's below.
Call before you dig.

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VICINITY MAP
SCALE: 1"=2000'



AGENCIES

OWNER/DEVELOPER:	VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CRAWFIELD (719) 413-6900	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT RD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 RYAN BURNS P.E. (303) 267-6178	GAS DEPARTMENT:	BLACK HILLS ENERGY 7080 ALEGRE STREET FOUNTAIN, CO 80817 (719) 393-6625
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 CHARLENE DURHAM, P.E. (719) 520-7951	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JOSHUA PALMER, P.E. (719) 520-6460	COMMUNICATIONS:	U.S. WEST COMMUNICATIONS (LOCATORS) (800) 922-1987

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 1/4 CORNER AND A 2-1/2" ALUMINUM CAP STAMPED "LS 9132" AT THE CENTER 1/4 CORNER, SAID LINE BEARING N00°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

1. 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

SHEET INDEX:

1	-	COVER SHEET
2	-	LEGEND AND GENERAL NOTES
3-5	-	STORM SEWER PLAN & PROFILE
6-13	-	POND PLANS AND DETAILS
14-16	-	DETAILS
16	-	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.

OWNER/DEVELOPER STATEMENT

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

GREGG CRAWFIELD, OWNER _____ DATE _____

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.

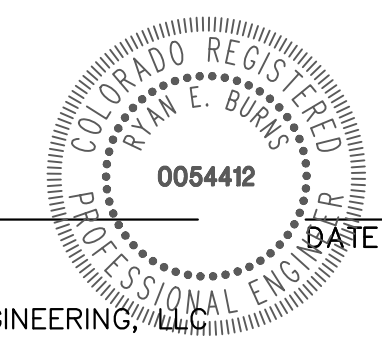
IN ACCORDANCE WITH EOM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF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

JOSHUA PALMER, P.E. _____ DATE _____

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 MASTER 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.



RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING, LLC

PCD FILE NO. XX-XX-XXX

BY	DATE	No.	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
		N/A	N/A			10/27/23	GAG	GAG	

ESTATES AT CATHEDRAL PINES

COVER SHEET

SHEET 1 OF 16

JOB NO. 25260.00

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE	---	---
MATCH LINE	---	---
SECTION LINE	---	---
BOUNDARY LINE	---	---
PROPERTY LINE	---	---
EASEMENT LINE	---	---
RIGHT OF WAY	---	---
R.O.W. A LINE	---	---
CENTERLINE	---	---
CITY LIMITS	---	---
WIRE FENCE	---	---
CHAIN LINK FENCE	---	---
WOOD FENCE	---	---
MASONRY FENCE	---	---
GUARDRAIL	---	---
CONC. BARRIER	---	---
CABLE TV	---	---
ELECTRIC	---	---
FIBER OPTIC	---	---
GAS MAIN	---	---
IRRIGATION MAIN	---	---
OIL/PETRO. MAIN	---	---
OVERHEAD UTILITY	---	---
SANITARY SEWER	---	---
STORM DRAIN	---	---
TELEPHONE	---	---
WATER MAIN	---	---
RAW WATER LINE	---	---
SWALE/WATERWAY FLOWLINE	---	---
DIVERSION DITCH	---	---
DIVERSION CHANNEL	---	---
MAJOR DRAINAGE BASIN	---	---
MINOR DRAINAGE BASIN	---	---
TOP OF SLOPE	---	---
TOE OF SLOPE	---	---
EDGE OF WATER	---	---
INDEX CONTOUR	---	---
INTERMEDIATE CONTOUR	---	---
DEPRESSION CONT. (INDEX)	---	---
DEPRESSION CONT. (INTER)	---	---
TOP OF CUTS	---	---
TOE OF FILLS	---	---
CUT AND FILL LINE	---	---
SILT FENCE	---	---
100 YEAR FLOODPLAIN	---	---
500 YEAR FLOODPLAIN	---	---
FLOODWAY	---	---
BASE FLOOD ELEVATION	---	---
EDGE OF WETLANDS	---	---
STONE WALL	---	---

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE	⊙	●
STORM INLET	⊠	⊠
AREA INLET - SQUARE	□	□
AREA INLET - ROUND	○	○
FLARED END SECTION	▷	▷
RIPRAP	▨	▨
SANITARY SEWER		
LINE MARKER	Mkr San ^o	
SERVICE MARKER	△	
CLEAN-OUT	○	
MANHOLE W/ DIRECTIONAL FLOW ARROW	⊙	⊙
WATER LINE		
LINE MARKER	Mkr W ^o	
SERVICE MARKER	△	
FIRE HYDRANT	⊕	⊕
FIRE CONNECTION	⊕	⊕
MANHOLE	⊙	●
BEND	⊕	⊕
BLOW-OFF VALVE	⊕	⊕
WELL	⊙	●
METER	⊕	⊕
VALVE	⊕	⊕
REDUCER	⊕	⊕
THRUST BLOCK	⊕	⊕
CROSS	⊕	⊕
PLUG W/ THRUST BLOCK	⊕	⊕
TEE	⊕	⊕
REVERSE ANCHOR	⊕	⊕
ANODE	⊕	⊕
AIR & VACUUM VALVE ASSEMBLY	⊕	⊕
TRANSMISSION BLOW-OFF ASSEMBLY	⊕	⊕
GAS LINE		
MARKER	Mkr G ^o	
SERVICE MARKER	△	
METER	⊕	⊕
VALVE	⊕	⊕
PLUG	⊕	⊕
TEE	⊕	⊕
DRY UTILITIES		
CABLE TV MARKER	Mkr TV ^o	
CABLE TELEVISION PEDESTAL	⊕	
ELECTRIC MARKER	Mkr E ^o	
ELECTRIC SERVICE MARKER	△	
ELECTRICAL PEDESTAL	⊕	
ELECTRICAL METER	⊕	
ELECTRICAL MANHOLE	⊕	
FIBER-OPTIC MARKER	Mkr FO ^o	
IRRIGATION PEDESTAL	⊕	
TELEPHONE MARKER	Mkr T ^o	
TELEPHONE PEDESTAL	⊕	
TELEPHONE MANHOLE	⊕	
UTILITY POLE	⊕	⊕
GUY ANCHOR	⊕	⊕
GUY POLE	⊕	⊕
MISC. UTILITIES		
VENT PIPE	VP	VP
TEST HOLE DESIGNATOR	TH	TH

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- 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).
- 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:
 - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - CITY OF COLORADO SPRINGS/ EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
 - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS AND BRIDGE CONSTRUCTION
 - CDOT M&S STANDARDS
- 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.
- 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.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 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.
- 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.
- 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.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- 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.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
- 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.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

STORM SEWER NOTES

- 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.
- ALL STATIONING IS PIPE CENTERLINE UNLESS OTHERWISE NOTED.
- ALL PROPOSED RCP STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.
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- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS AND EL PASO COUNTY STANDARDS AND SPECIFICATION.
- SEE DETAIL SHEET 14 FOR APPLICABLE DETAILS.

POND NOTES

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

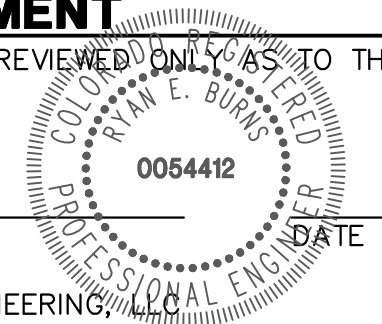


Know what's below. Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING



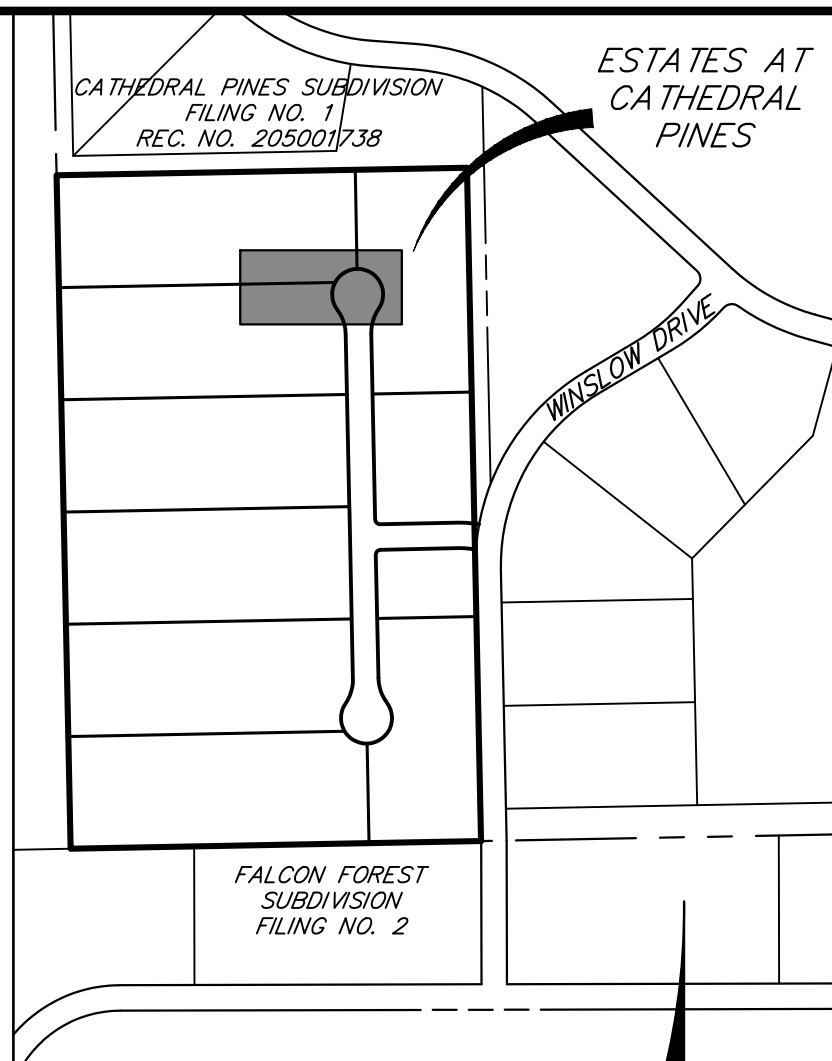
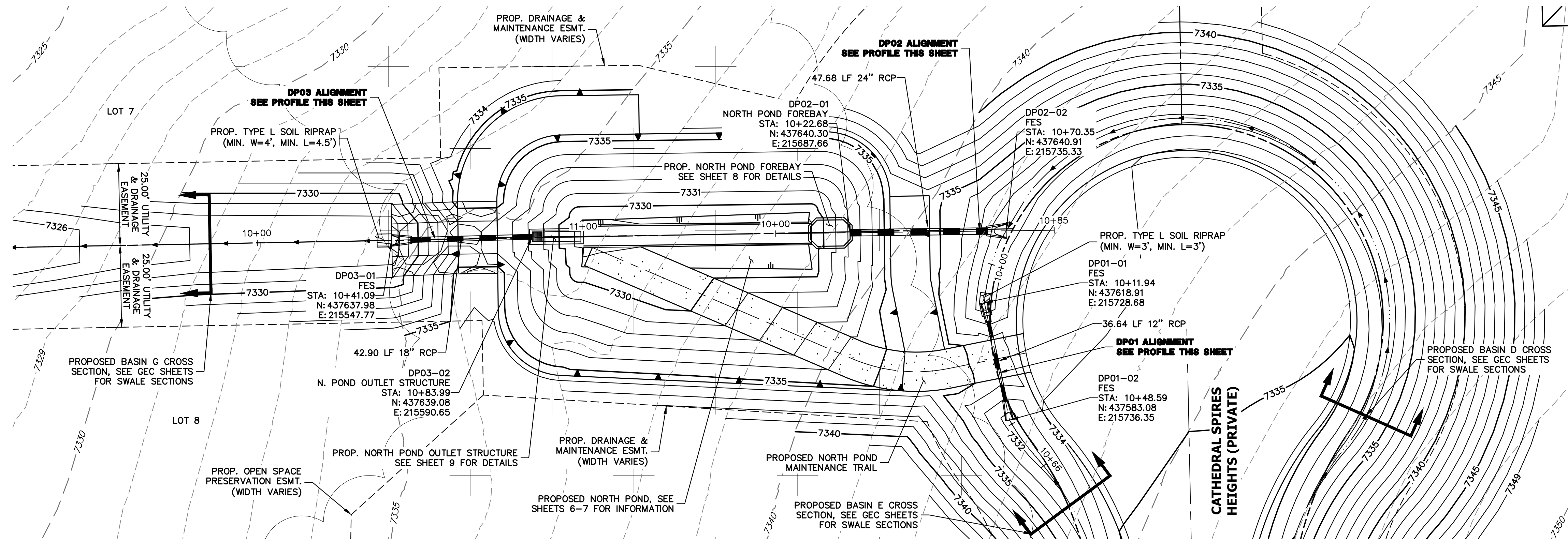
ESTATES AT CATHEDRAL PINES	BY	DATE							
	No.	REVISION							
LEGEND AND GENERAL NOTES	H-SCALE	N/A	N/A						
	V-SCALE	N/A	N/A						
	DATE	10/27/23							
	DESIGNED BY	GAG							
	DRAWN BY	GAG							
	CHECKED BY								
	SHEET	2	OF	16					
	JOB NO.	25260.00							

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE. DESIGNATED BY WRITTEN AUTHORIZATION.

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

J.R. ENGINEERING
A Westman Company
Central 303-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

X:\25260000\Drawings\Sheet\Drawings\CD\Storm and Pond Plans\25260000_CV01_Storm.dwg, LG & CN, 10/27/2023 8:39:40 AM, CS

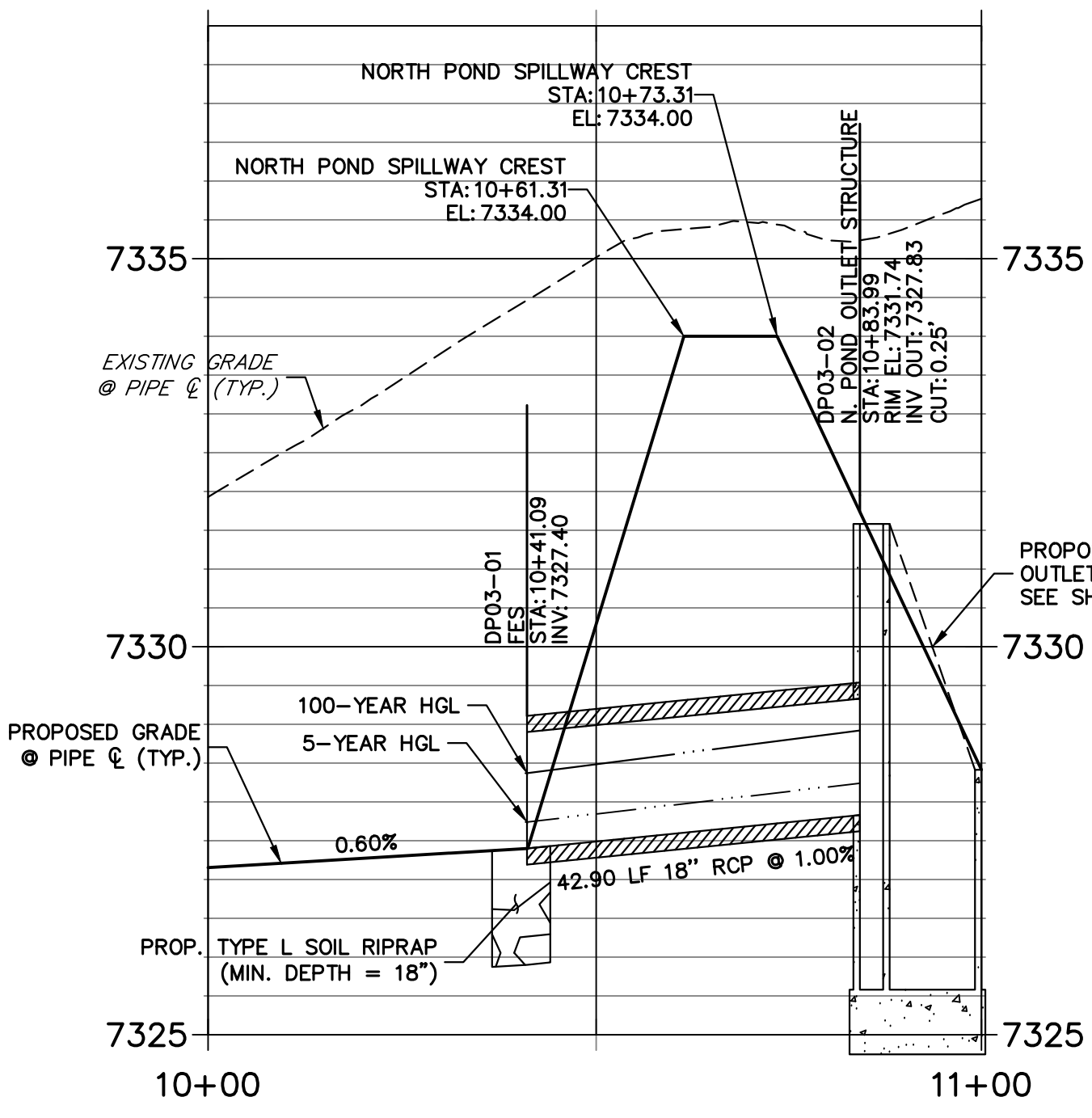


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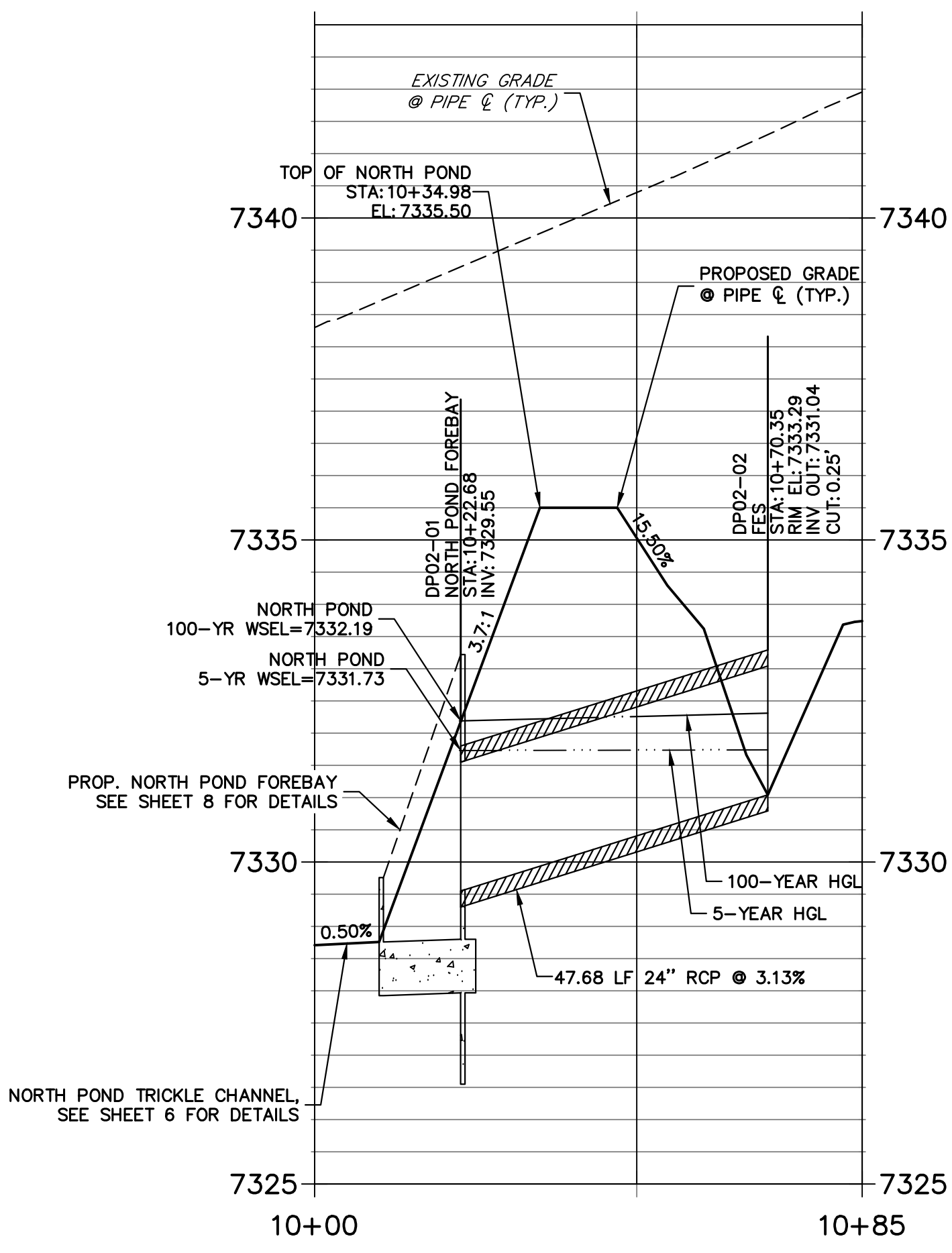
PREPARED FOR
VILLAGREE DEVELOPMENT LLC
 5710 VESSEY RD
 COLORADO SPRINGS, CO 80908
 GREGG & ELAINE CAWLFIELD
 (719) 413-6900

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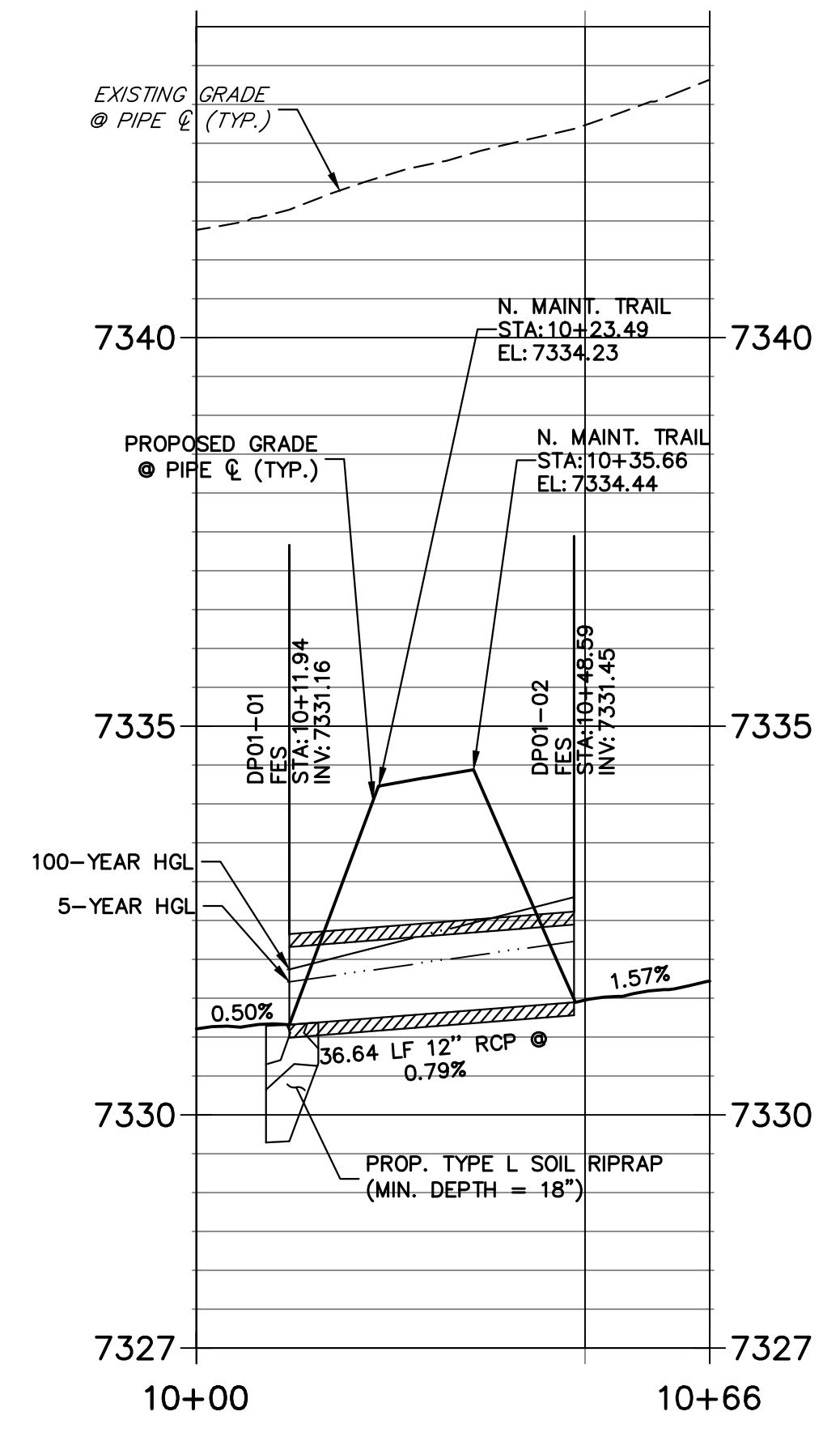
**DP03 PROFILE
 STA 10+00.00 TO 10+99.66**



**DP02 PROFILE
 STA 10+00.00 TO 10+85.01**

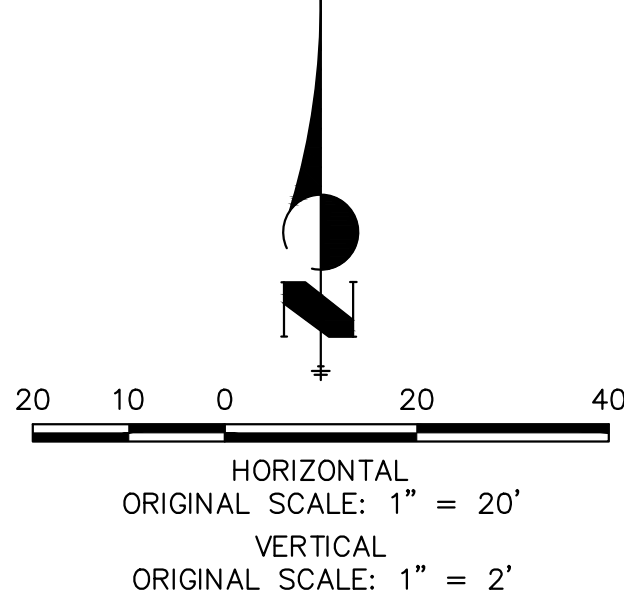


**DP01 PROFILE
 STA 9+99.98 TO 10+66.06**



STORM SEWER NOTES

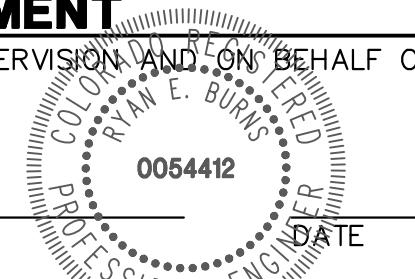
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- SEE DETAIL SHEET 14 FOR APPLICABLE DETAILS.



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

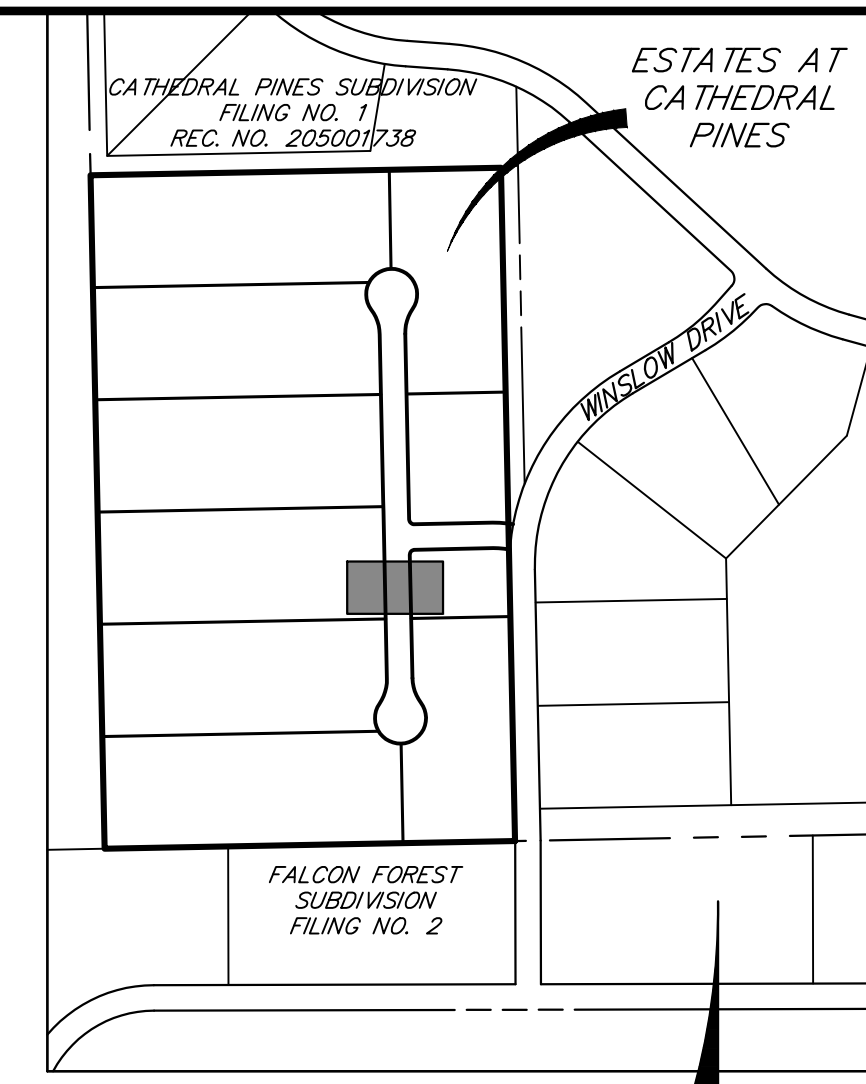
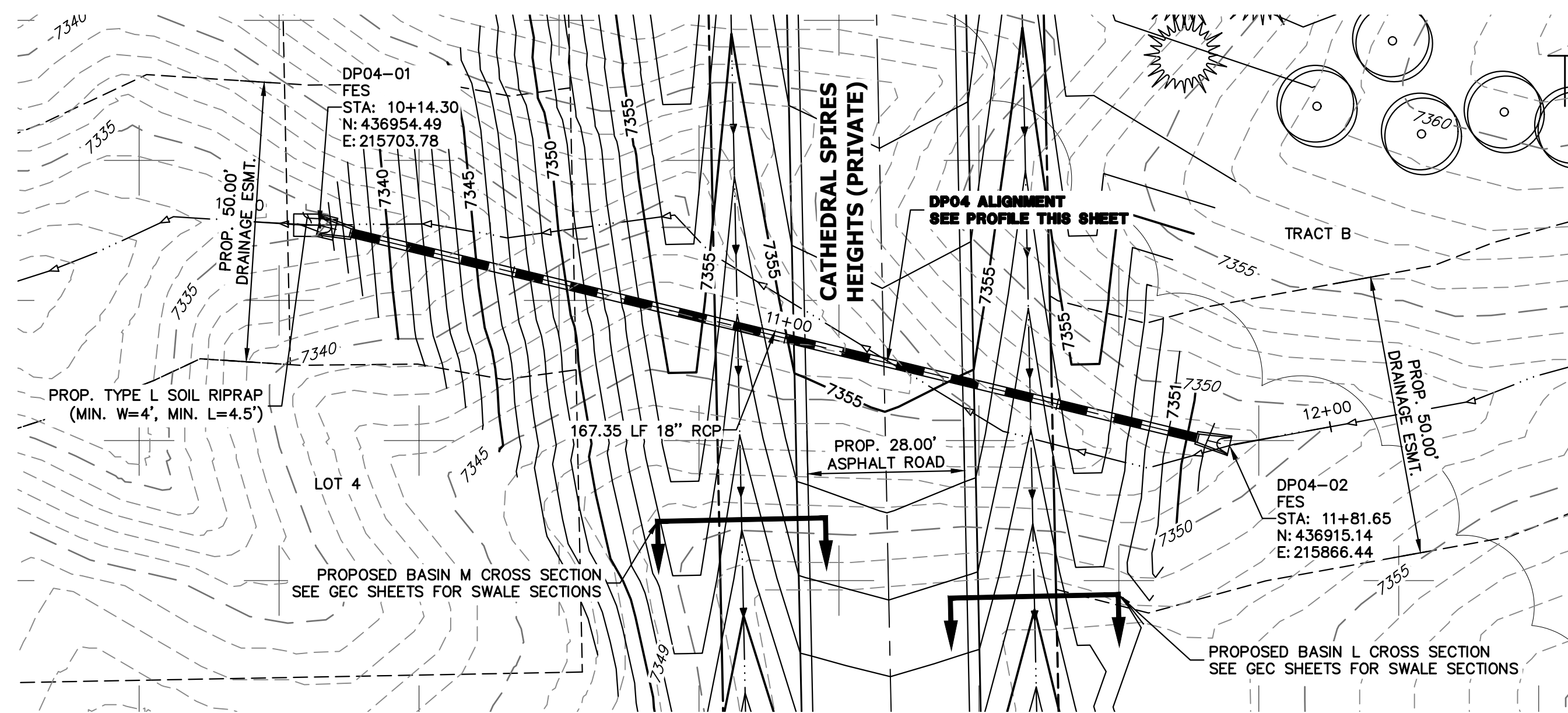


THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE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

No.	REVISION	BY	DATE	H-SCALE		V-SCALE		DESIGNED BY	DRAWN BY	CHECKED BY
				1"=20'	1"=2'	DATE	GAG			

ESTATES AT CATHEDRAL PINES
 STORM SEWER PLAN & PROFILE

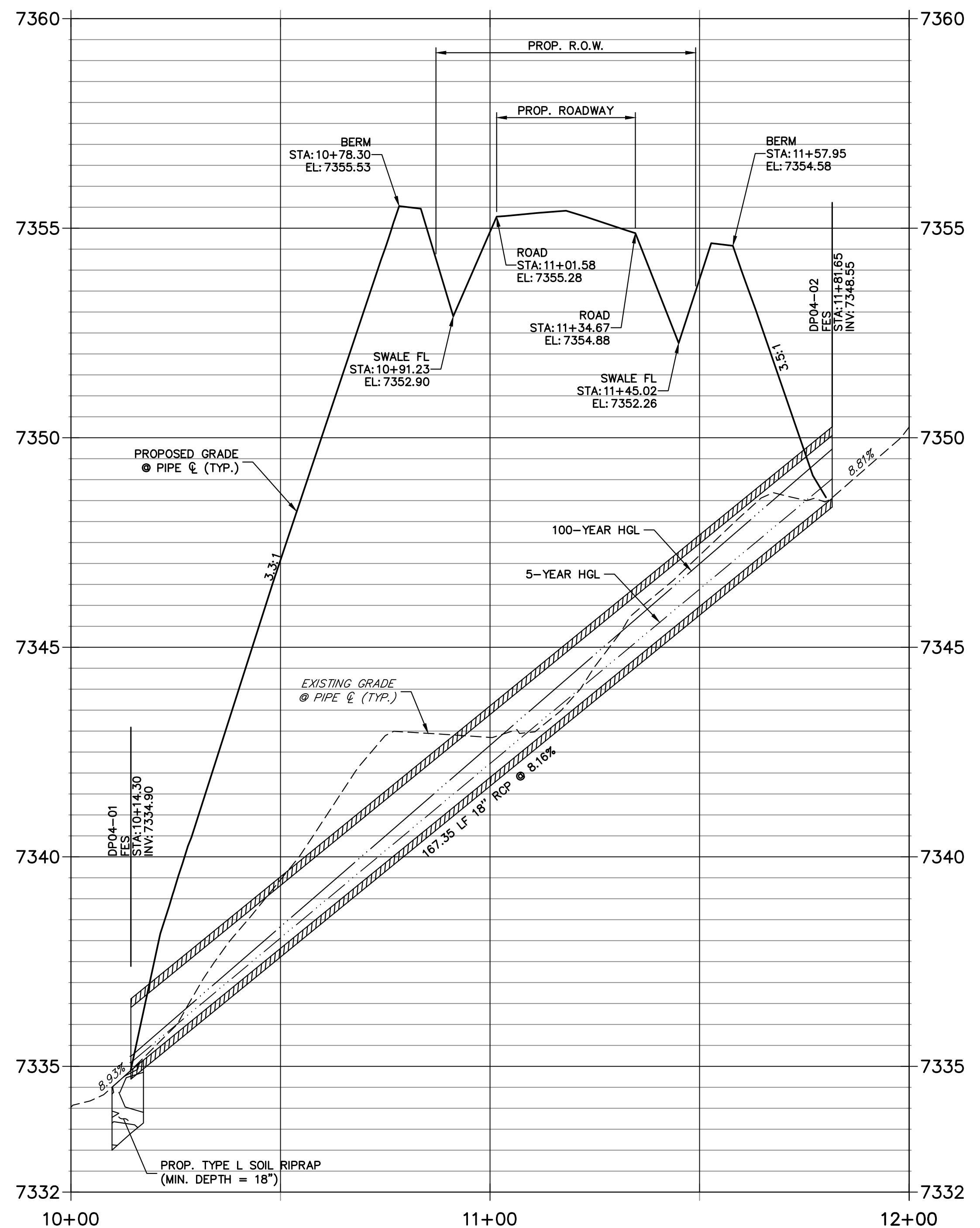
SHEET 3 OF 16
 JOB NO. 25260.00



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

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

**DP04 PROFILE
 STA 10+00.00 TO 12+00.00**



STORM SEWER NOTES

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811
 Know what's below.
 Call before you dig.

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

ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

0054412
 DATE

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J.R. ENGINEERING
 A Westman Company

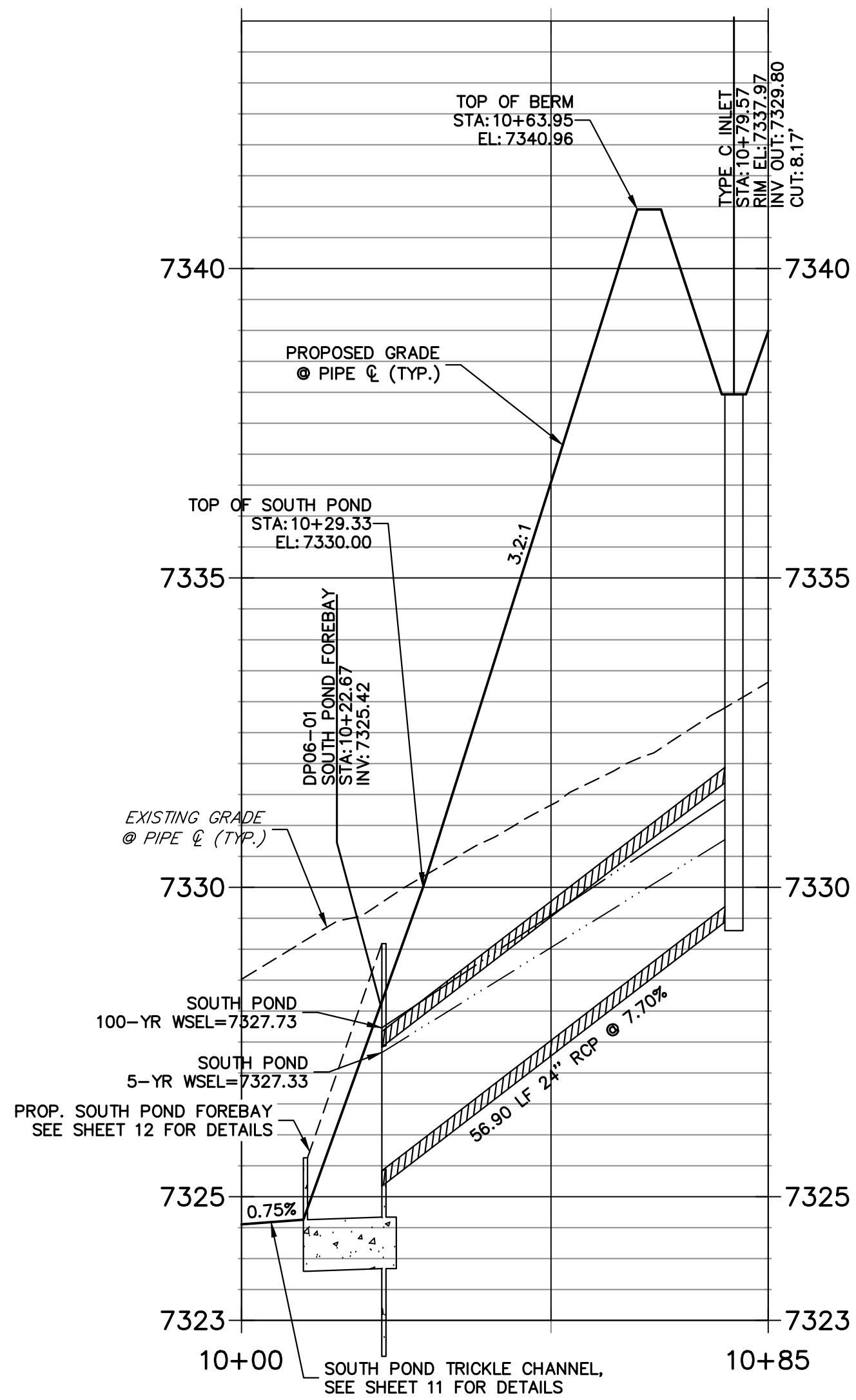
Central 303-740-9888 • Colorado Springs 719-583-2583
 Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	DATE

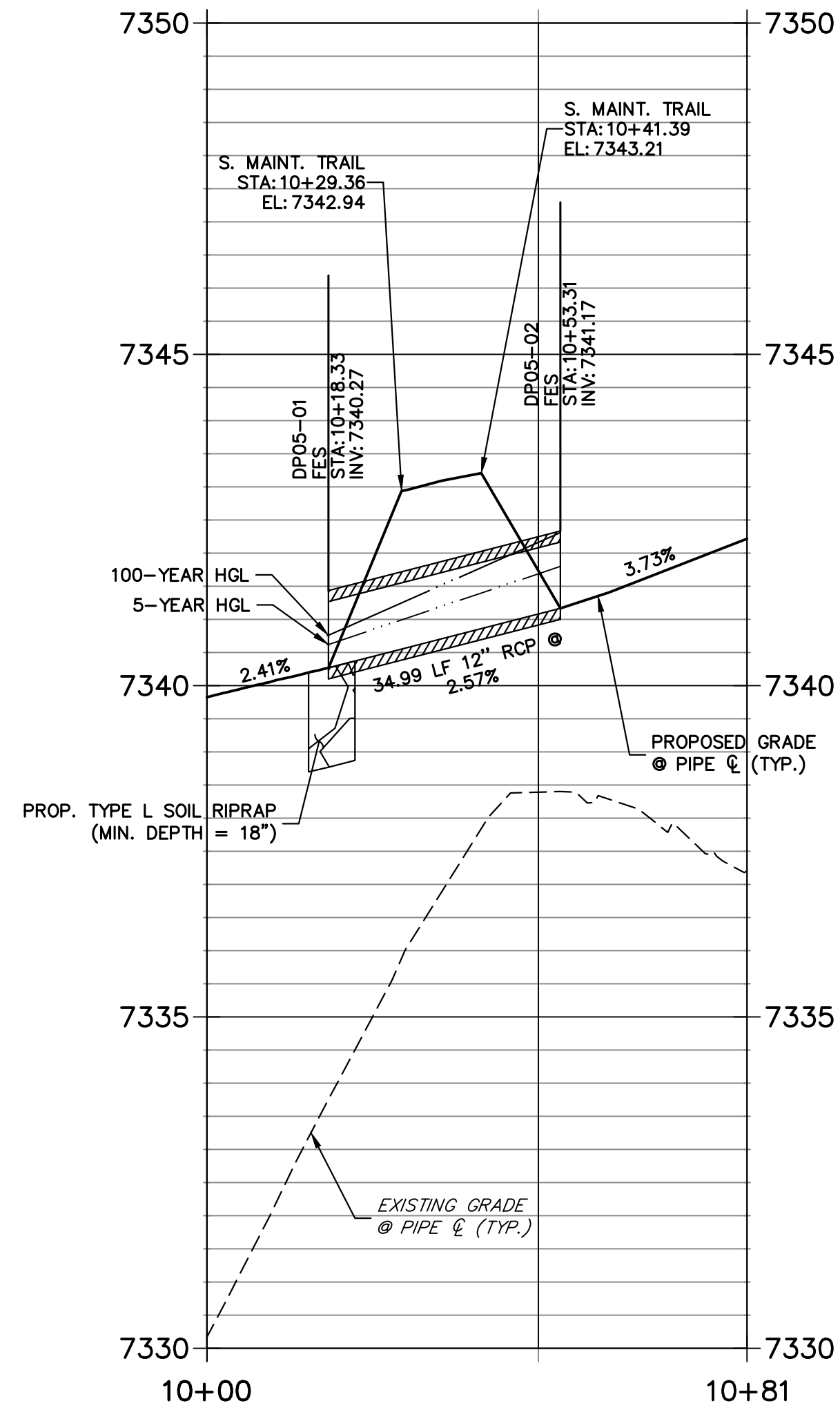
ESTATES AT CATHEDRAL PINES
 STORM SEWER PLAN & PROFILE

SHEET 4 OF 16
 JOB NO. 25260.00

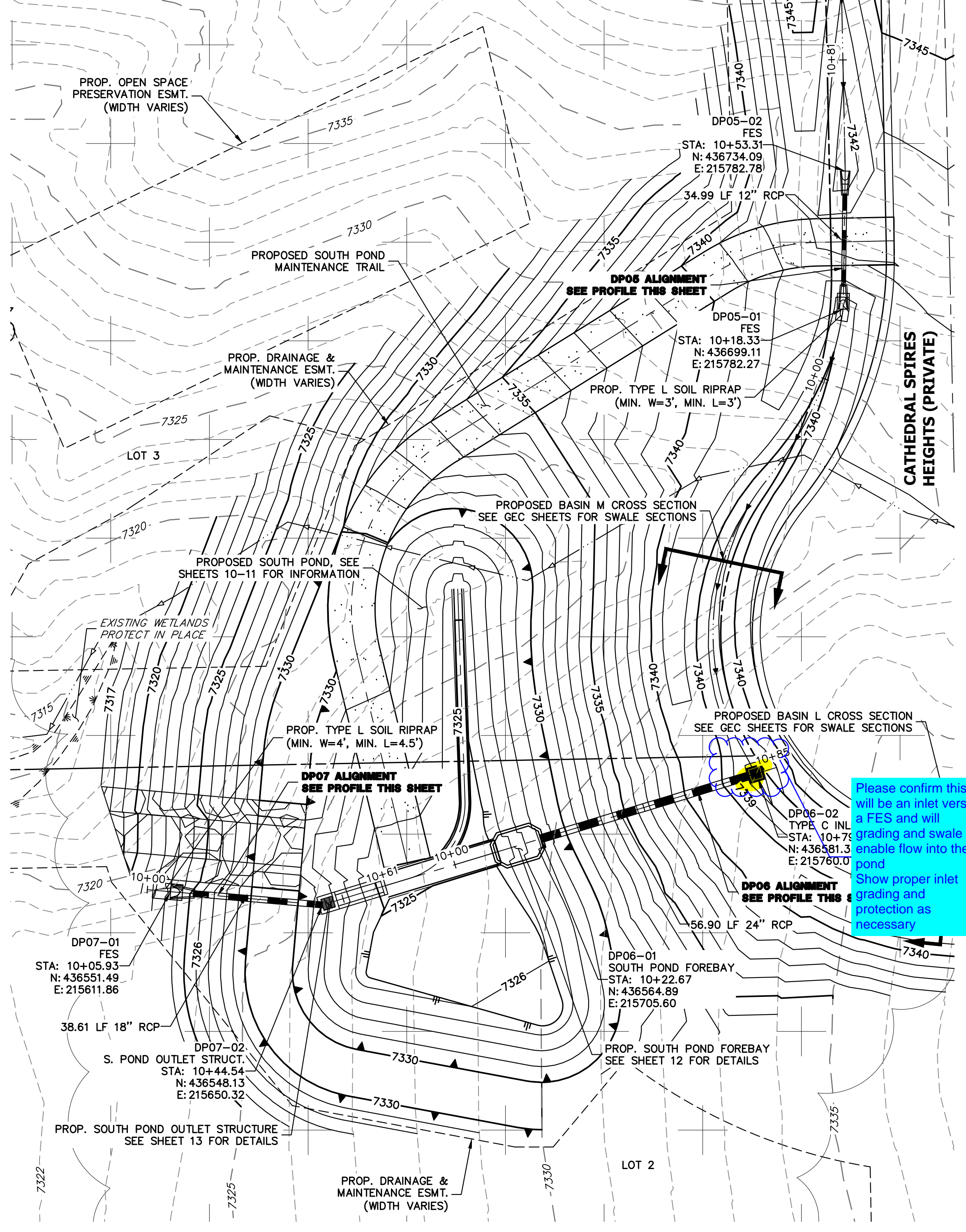
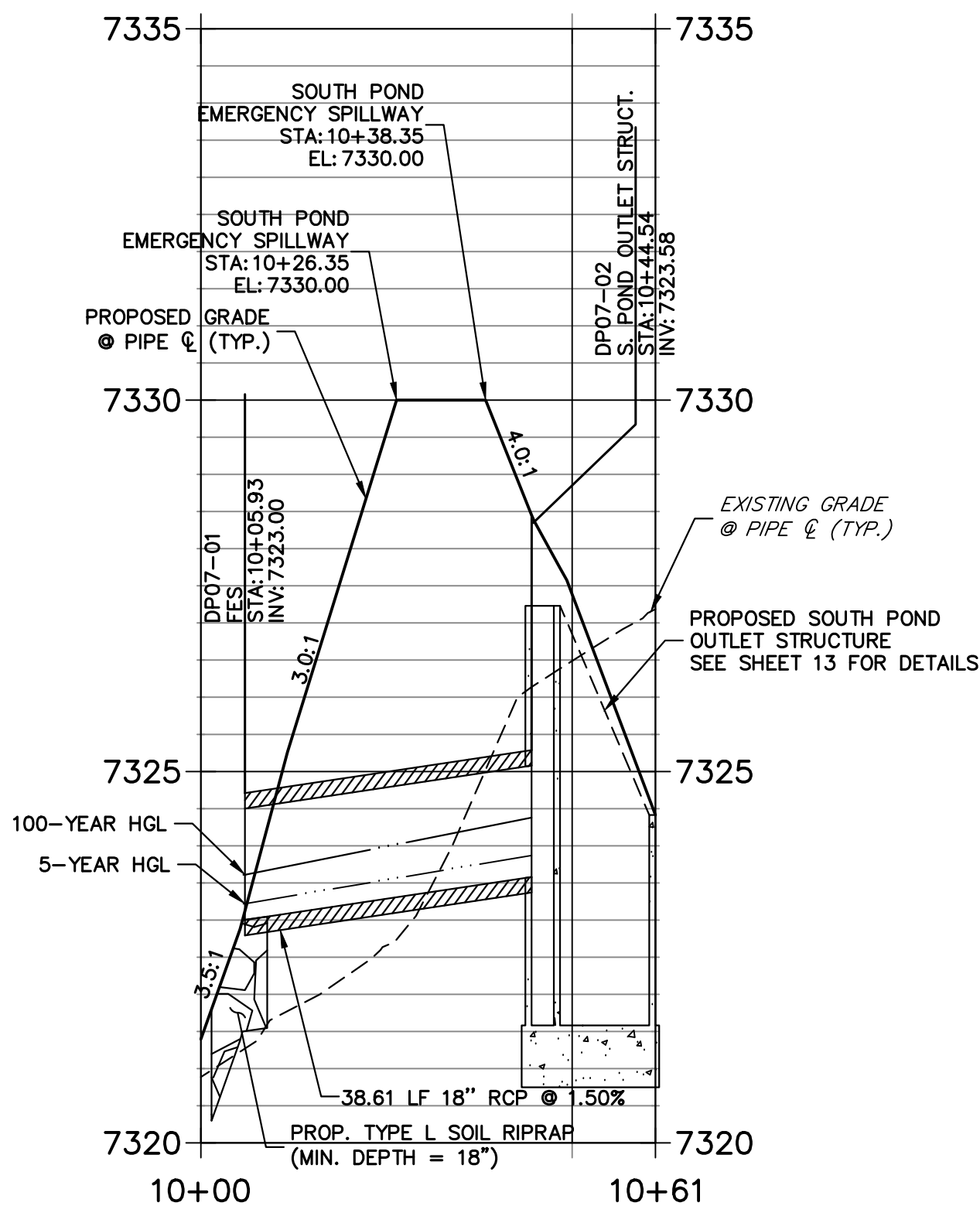
DP06 PROFILE STA 10+00.00 TO 10+85.11



DP05 PROFILE STA 9+99.97 TO 10+81.48



DP07 PROFILE STA 10+00.00 TO 10+61.21



STORM SEWER NOTES

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- ALL PROPOSED RCP STORM SEWER PIPE SHALL BE CLASS III UNLESS OTHERWISE NOTED.
- PIPE LENGTHS ARE FROM INSIDE INLET WALL TO INSIDE INLET WALL, FROM CENTER OF MANHOLE TO INSIDE INLET WALL, OR FROM CENTER OF MANHOLE TO CENTER OF MANHOLE. PIPE LENGTHS INCLUDE FES OR HEADWALL.
- 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.
- PIPES SHALL HAVE JOINT RESTRAINTS ON LAST 3 JOINTS AT PIPE OUTFALL.
- PIPES WITH PRESSURE HEAD SHALL USE WATER TIGHT JOINTS WITH A 100-YEAR SERVICE LIFE.
- 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.
- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH MANUFACTURERS SPECIFICATIONS AND EL PASO COUNTY STANDARDS AND SPECIFICATION.
- SEE DETAIL SHEET 14 FOR APPLICABLE DETAILS.

THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER 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.

CATHEDRAL PINES SUBDIVISION
ESTATES AT CATHEDRAL PINES
FALCON FOREST SUBDIVISION

KEYMAP
SCALE: N.T.S.

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

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

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Fort Collins 970-491-9888 • www.jrengineering.com

BY	DATE	REVISION

ESTATES AT CATHEDRAL PINES
STORM SEWER PLAN & PROFILE

SHEET 5 OF 16
JOB NO. 25260.00

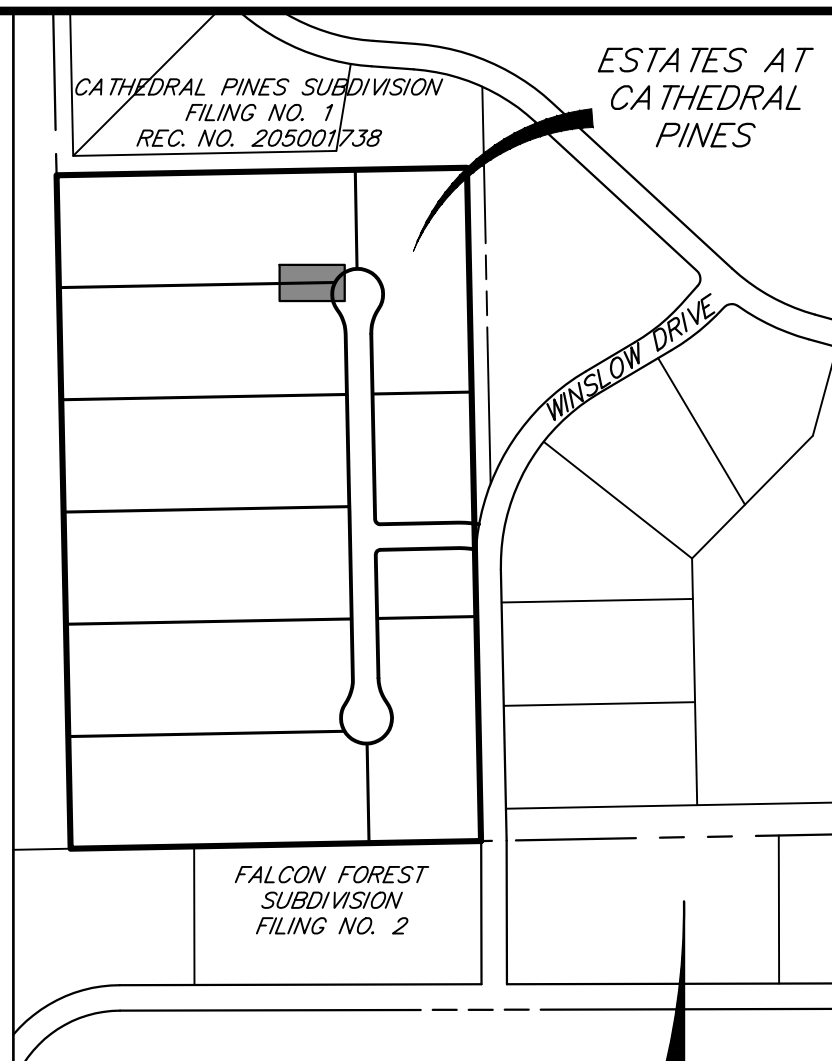
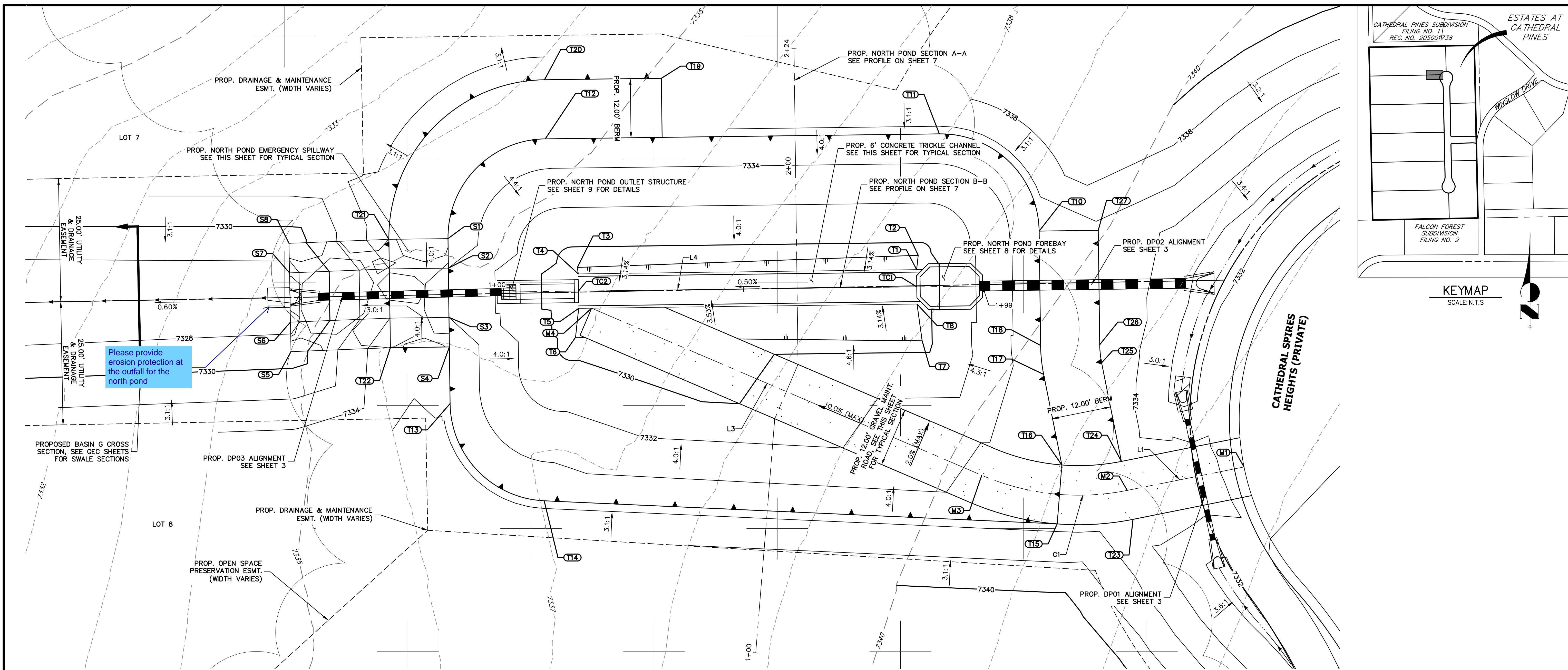
ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING

0054412

811
Know what's below.
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HORIZONTAL
ORIGINAL SCALE: 1" = 20'
VERTICAL
ORIGINAL SCALE: 1" = 2'



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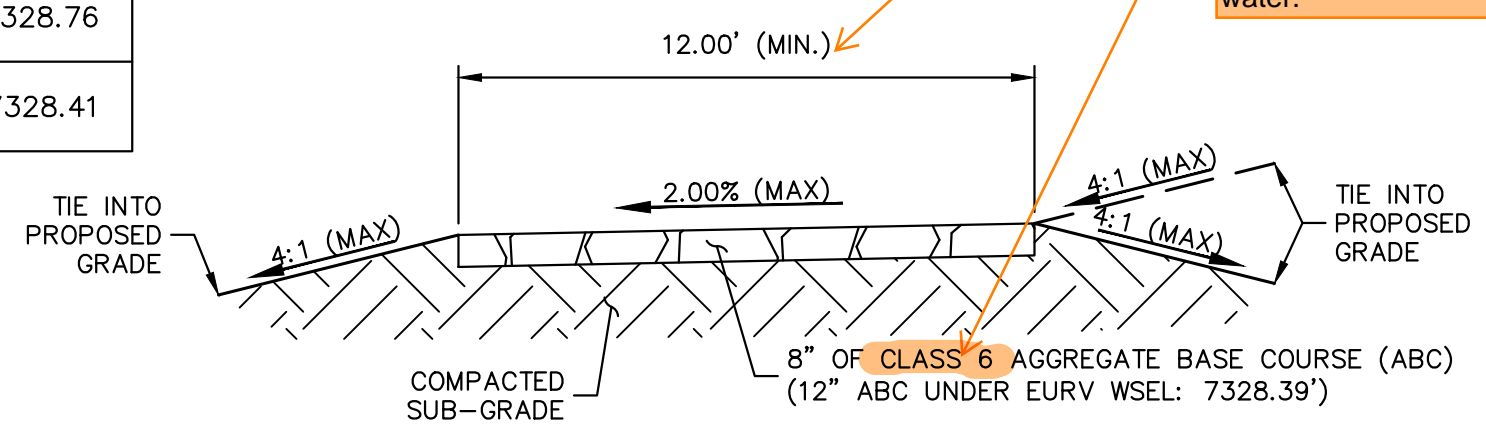
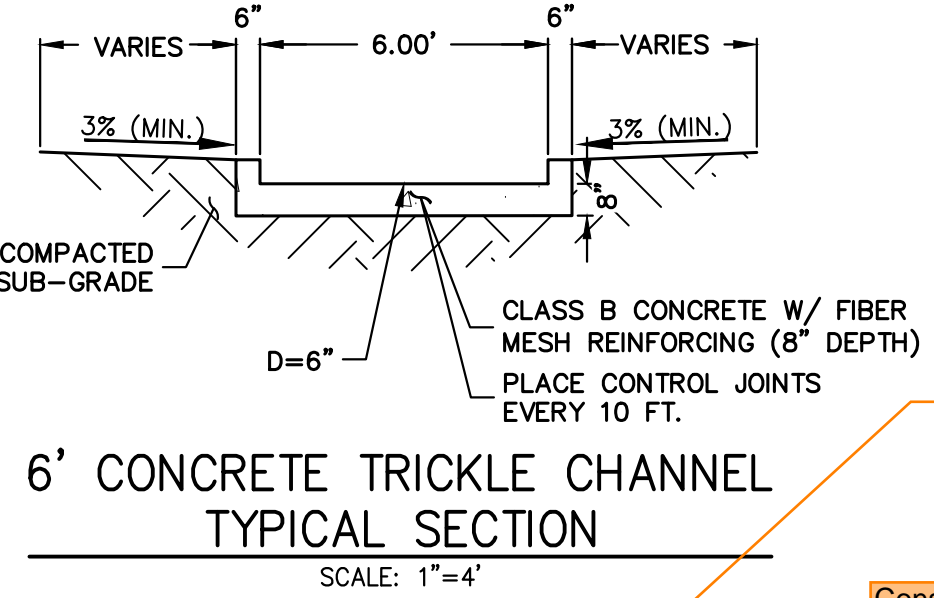
POND GRADING PLAN			
STRUCTURE NAME	DESCRIPTION	NORTHING/EASTING	ELEVATION
M1	MAINT. ROAD CL	N: 437603.57 E: 215741.41	7333.81
M2	MAINT. ROAD CL	N: 437598.81 E: 215717.70	7335.50
M3	MAINT. ROAD CL	N: 437601.88 E: 215688.18	7334.35
M4	MAINT. ROAD CL	N: 437635.81 E: 215608.99	7328.93
S1	SPILLWAY/ TOP	N: 437649.94 E: 215579.84	7335.50
S2	SPILLWAY CREST	N: 437643.94 E: 215579.91	7334.00
S3	SPILLWAY CREST	N: 437633.94 E: 215580.04	7334.00
S4	SPILLWAY/ TOP	N: 437627.94 E: 215580.11	7335.50
S5	SPILLWAY MATCH EX.	N: 437626.98 E: 215547.97	±7328.90
S6	SPILLWAY MATCH EX.	N: 437632.98 E: 215547.86	±7327.40
S7	SPILLWAY MATCH EX.	N: 437642.98 E: 215547.67	±7327.40
S8	SPILLWAY MATCH EX.	N: 437648.98 E: 215547.56	±7328.90
T1	TOE	N: 437643.64 E: 215674.95	7329.26
T2	TOE	N: 437646.54 E: 215675.28	7329.35

POND GRADING PLAN			
STRUCTURE NAME	DESCRIPTION	NORTHING/EASTING	ELEVATION
T3	TOE	N: 437644.09 E: 215606.10	7328.95
T4	TOE	N: 437642.77 E: 215623.15	7328.91
T5	TOE	N: 437635.77 E: 215606.36	7328.91
T6	TOE	N: 437629.89 E: 215605.72	7329.09
T7	TOE	N: 437629.18 E: 215676.08	7329.49
T8	TOE	N: 437636.64 E: 215675.04	7329.26
T10	TOP	N: 437651.46 E: 215699.83	7335.50
T11	TOP	N: 437671.20 E: 215679.57	7335.50
T12	TOP/ BERM	N: 437670.19 E: 215599.58	7335.50
T13	TOP	N: 437616.43 E: 215580.26	7335.50
T14	TOP	N: 437596.70 E: 215599.36	7335.50
T15	TOP/ TRAIL	N: 437592.01 E: 215703.49	7335.50
T16	TOP/ TRAIL	N: 437603.97 E: 215704.43	7335.50
T17	TOP/ BERM	N: 437622.36 E: 215700.74	7335.50

POND GRADING PLAN			
STRUCTURE NAME	DESCRIPTION	NORTHING/EASTING	ELEVATION
T18	TOP/ BERM	N: 437628.25 E: 215700.12	7335.50
T19	TOP/ BERM	N: 437682.49 E: 215623.15	7335.50
T20	TOP/ BERM	N: 437682.19 E: 215599.43	7335.50
T21	TOP/ BERM	N: 437649.79 E: 215567.84	7335.50
T22	TOP/ BERM	N: 437627.79 E: 215568.14	7335.50
T23	TOP/ TRAIL	N: 437592.93 E: 215718.88	7335.50
T24	TOP/ BERM	N: 437604.70 E: 215716.52	7335.50
T25	TOP/ BERM	N: 437624.72 E: 215712.51	7335.50
T26	TOP/ BERM	N: 437628.40 E: 215712.12	7335.50
T27	TOP/ BERM	N: 437651.61 E: 215711.83	7335.50
TC1	TC CL FLOWLINE	N: 437640.14 E: 215675.00	7328.76
TC2	TC CL FLOWLINE	N: 437639.27 E: 215606.32	7328.41

LINE TABLE			
LINE	BEARING	DISTANCE	
L1	N78°39'42"E	24.18'	
L3	S66°48'29"E	86.15'	
L4	N89°16'28"E	68.69'	

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	34°31'50"	50.00'	30.13'



- POND NOTES**
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 - SEE SHEETS 3-5 FOR PROPOSED STORM SEWER DESIGN.
 - SEE PRIVATE STREET IMPROVEMENT PLANS BY JR ENGINEERING FOR PROPOSED PRIVATE STREET DESIGN.
 - SEE GRADING AND EROSION CONTROL PLAN BY JR ENGINEERING.

Stabilized access ramp shall be a minimum of 15ft wide, in accordance with DCMv1, Chap 11.2.2. It may be acceptable to design the access road with a narrower width if the anticipated maintenance vehicles and equipment can still safely access the pond and reach structures. Properly document this in the Pond O&M manual.

Consider using a base course that will minimize migration of fines when the pond is detaining water.



ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

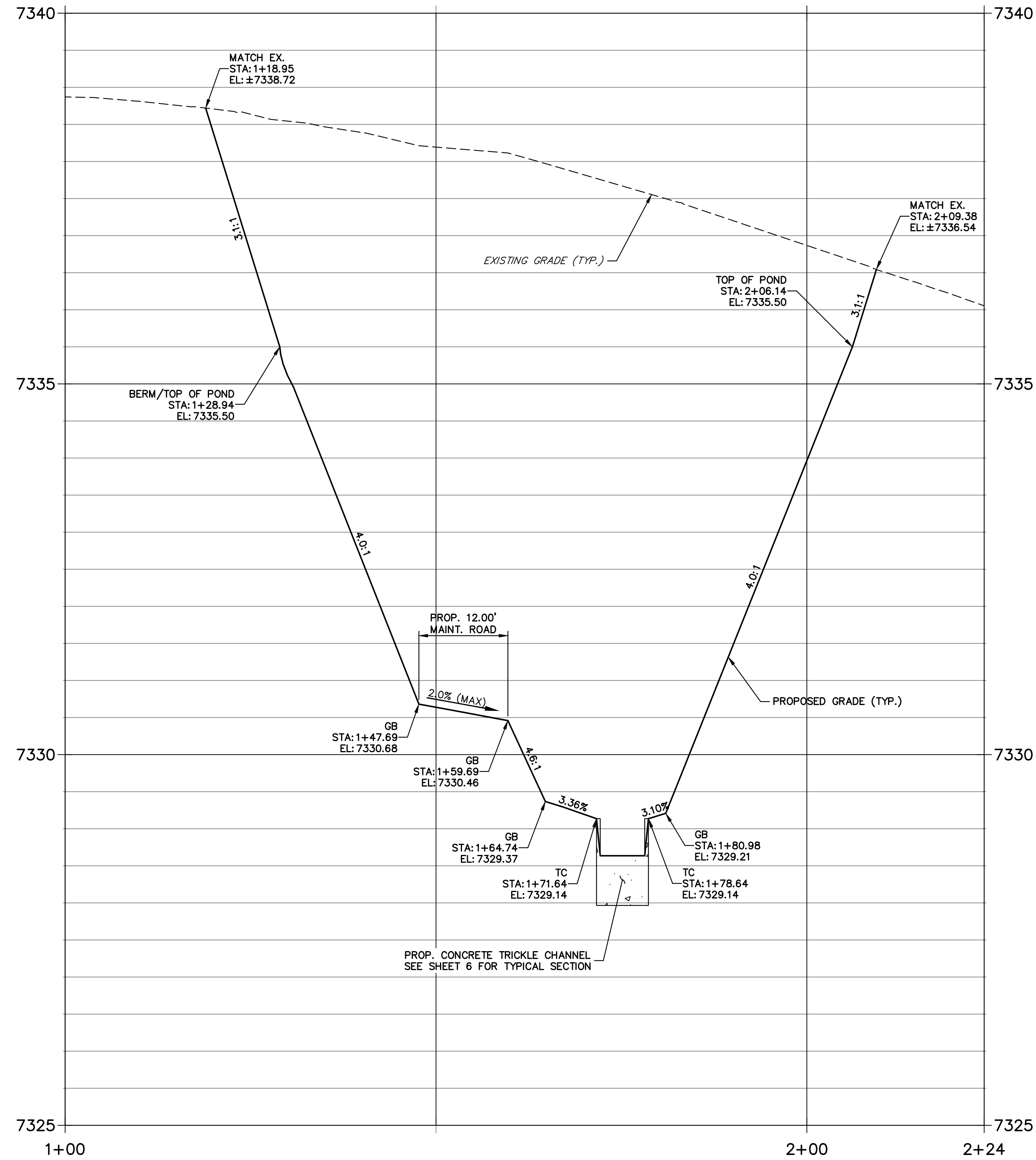
RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

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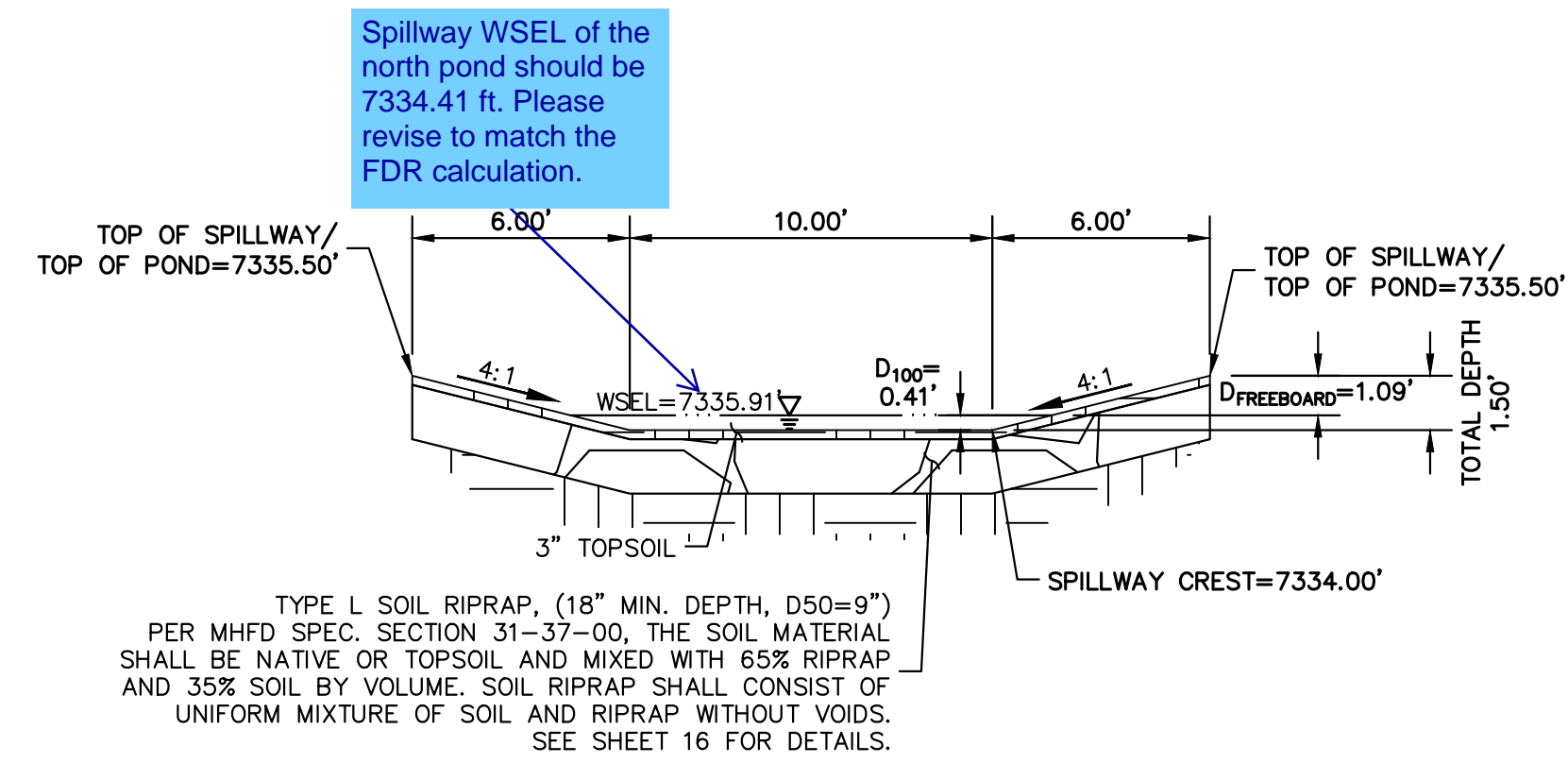
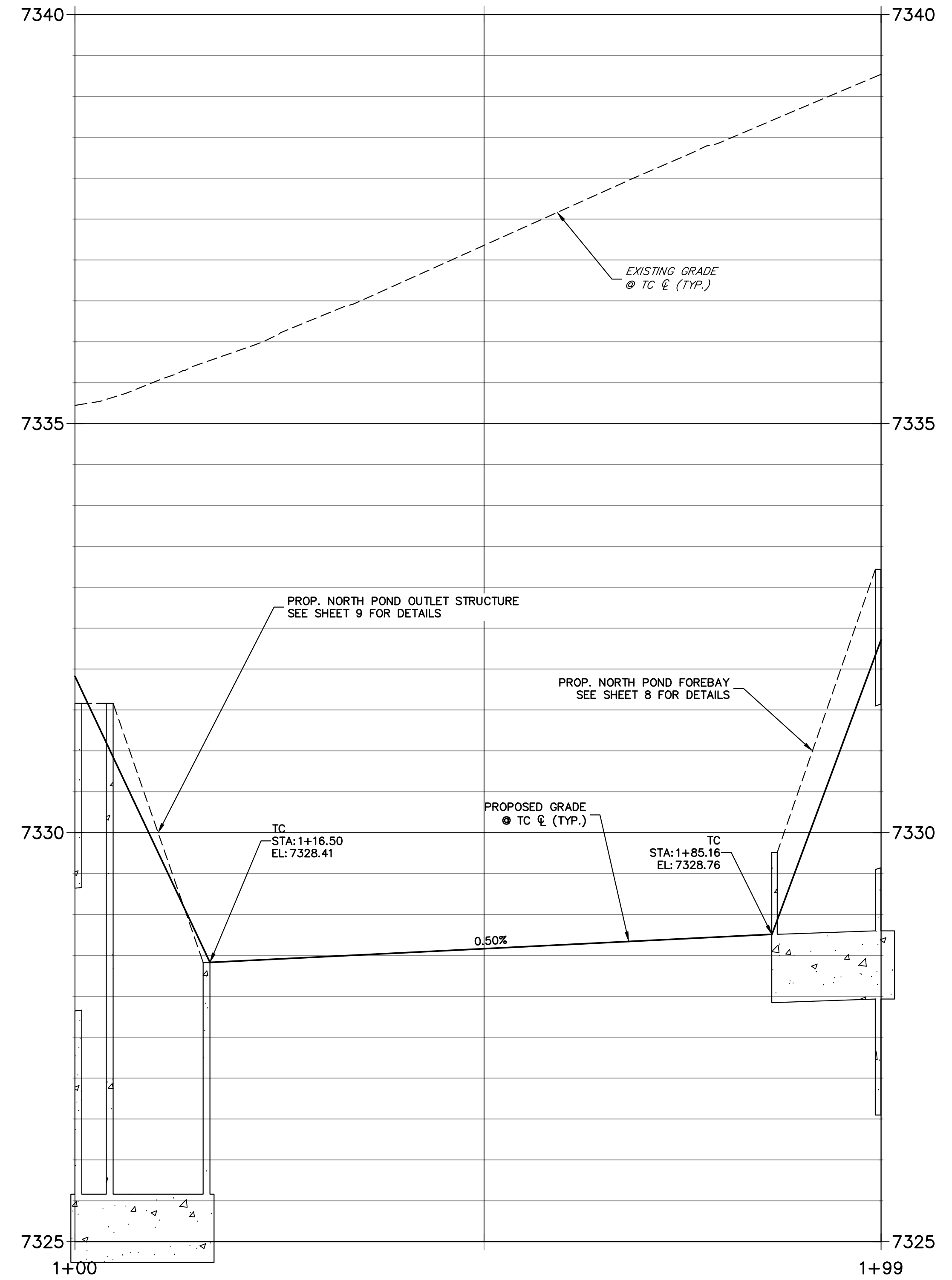
BY	DATE	REVISION	SCALE		DATE	DESIGNED BY	DRAWN BY	CHECKED BY
			H-SCALE	V-SCALE				
			1"=10'	N/A	10/27/23	GAG	GAG	

ESTATES AT CATHEDRAL PINES
 POND PLANS AND DETAILS
 SHEET 6 OF 16
 JOB NO. 25260.00

**NORTH POND SECTION A-A PROFILE
STA 1+00.00 TO 2+23.90**



**NORTH POND SECTION B-B PROFILE
STA 1+00.00 TO 1+98.52**



NORTH POND EMERGENCY SPILLWAY TYP. SECTION
SCALE: 1"=5'

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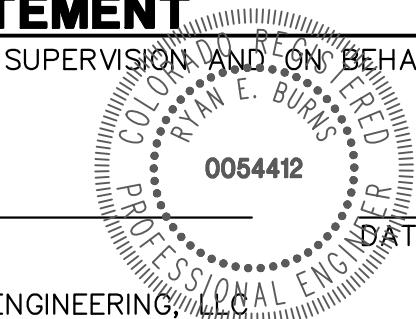
811
Know what's below.
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HORIZONTAL ORIGINAL SCALE: 1" = 10'
VERTICAL ORIGINAL SCALE: 1" = 1'

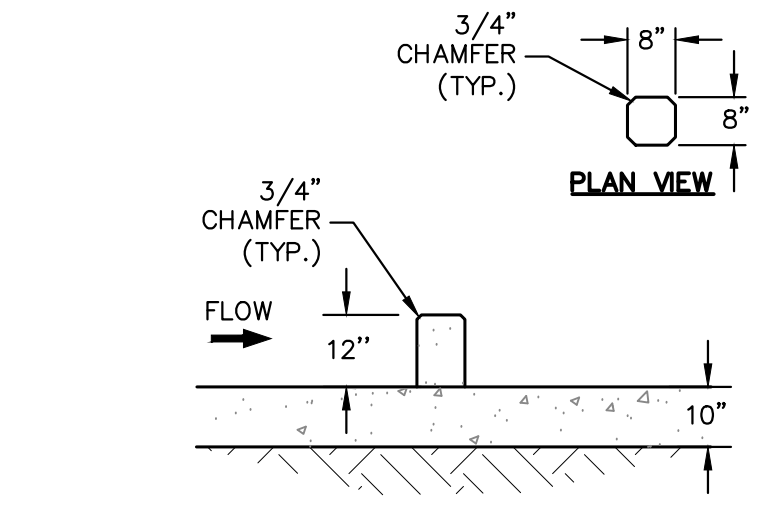
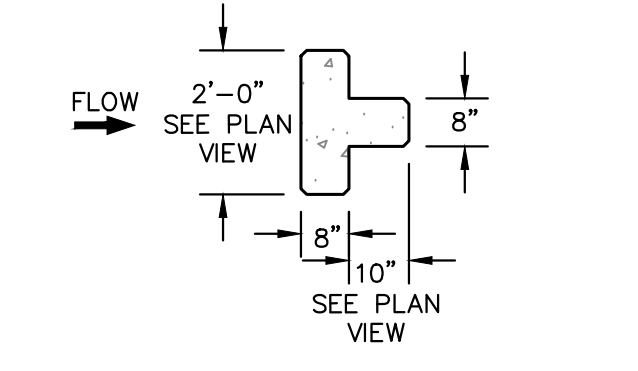
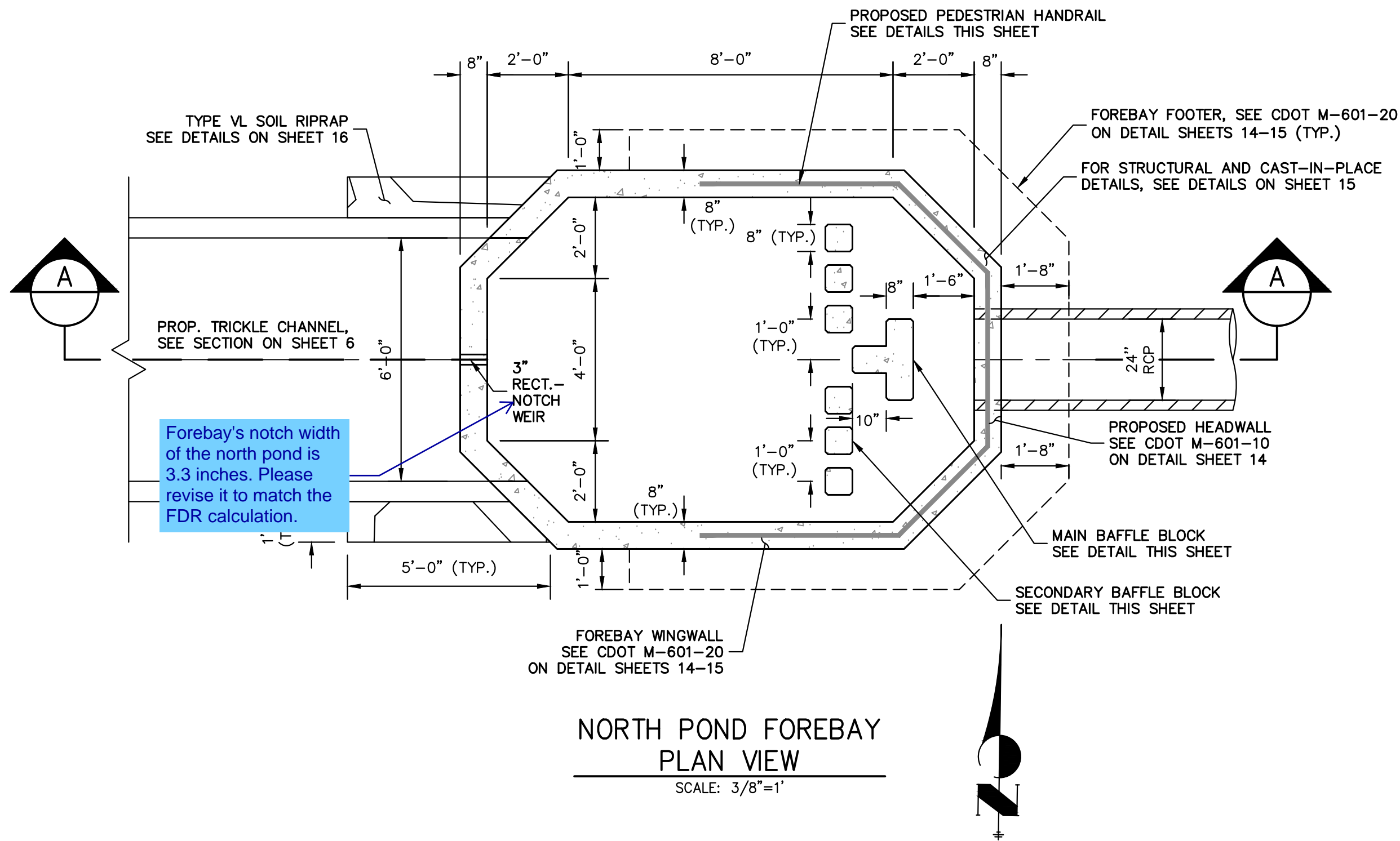
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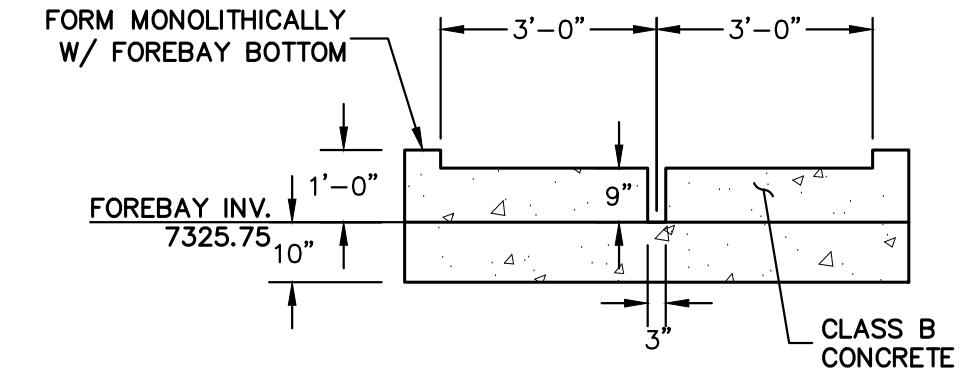
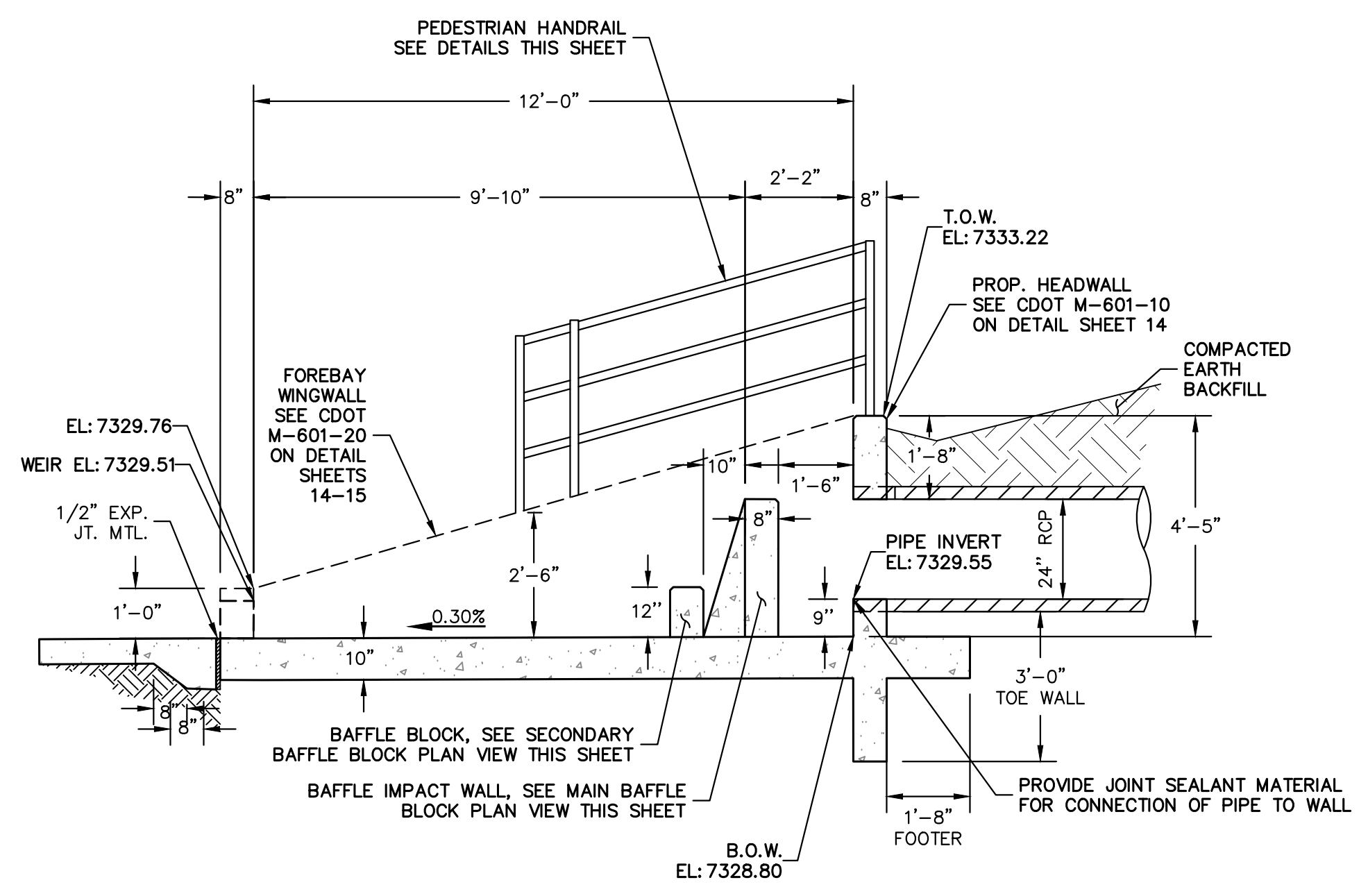


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PREPARED FOR	VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CAWFIELD (719) 413-6900
<p>J.R. ENGINEERING A Westman Company Central 303-740-9888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com</p>	
BY	DATE
No.	REVISION
H-SCALE	1"=10'
V-SCALE	1"=1'
DATE	10/27/23
DESIGNED BY	GAG
DRAWN BY	GAG
CHECKED BY	
ESTATES AT CATHEDRAL PINES	
POND PLANS AND DETAILS	
SHEET	7 OF 16
JOB NO.	25260.00

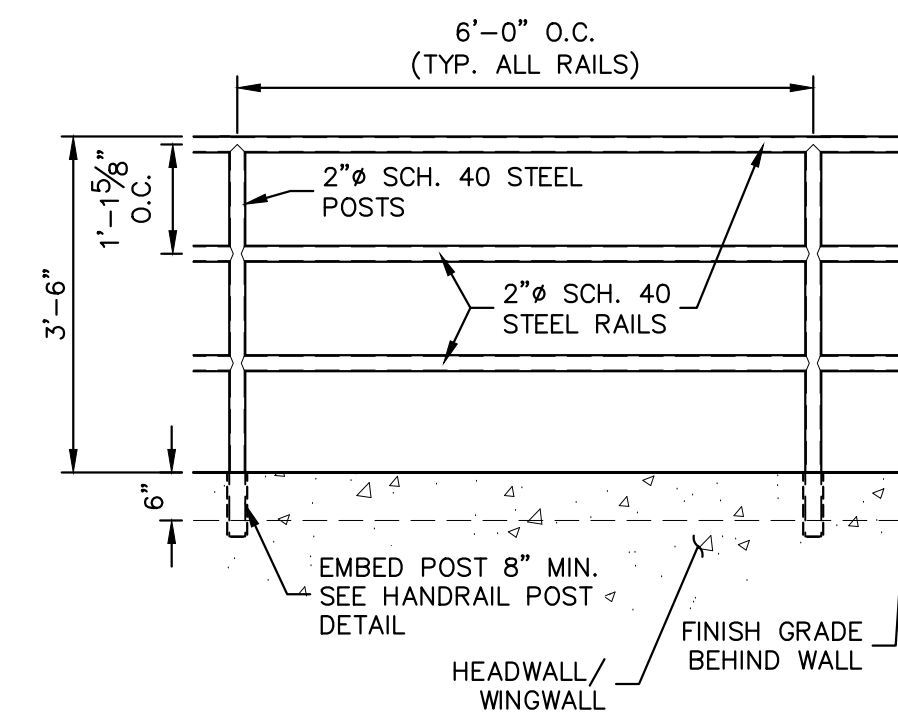


**NORTH POND FOREBAY
MAIN BAFFLE BLOCK PLAN**
SCALE: 3/8"=1'

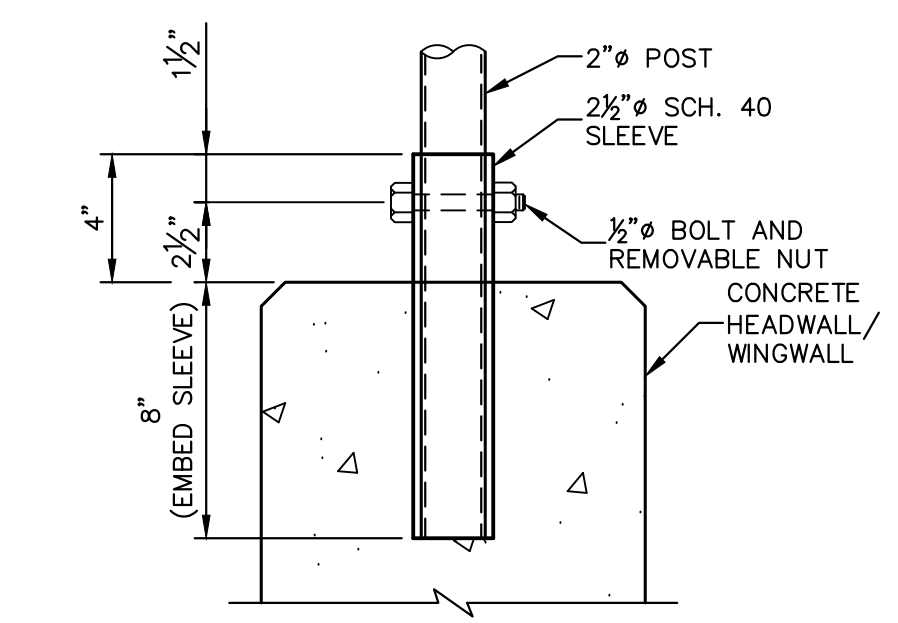
**NORTH POND FOREBAY
SECONDARY BAFFLE BLOCK DETAILS**
SCALE: 3/8"=1'



**NORTH POND FOREBAY
SECTION AT WEIR**
SCALE: 3/8"=1'



PEDESTRIAN RAILING DETAIL
SCALE: 1/2"=1'



**PEDESTRIAN RAILING
POST DETAIL**
SCALE: 1"=6"

**NORTH POND FOREBAY
CROSS SECTION A-A**
SCALE: 3/8"=1'



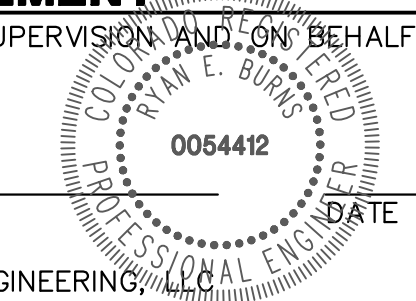
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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412

FOR AND ON BEHALF OF JR ENGINEERING



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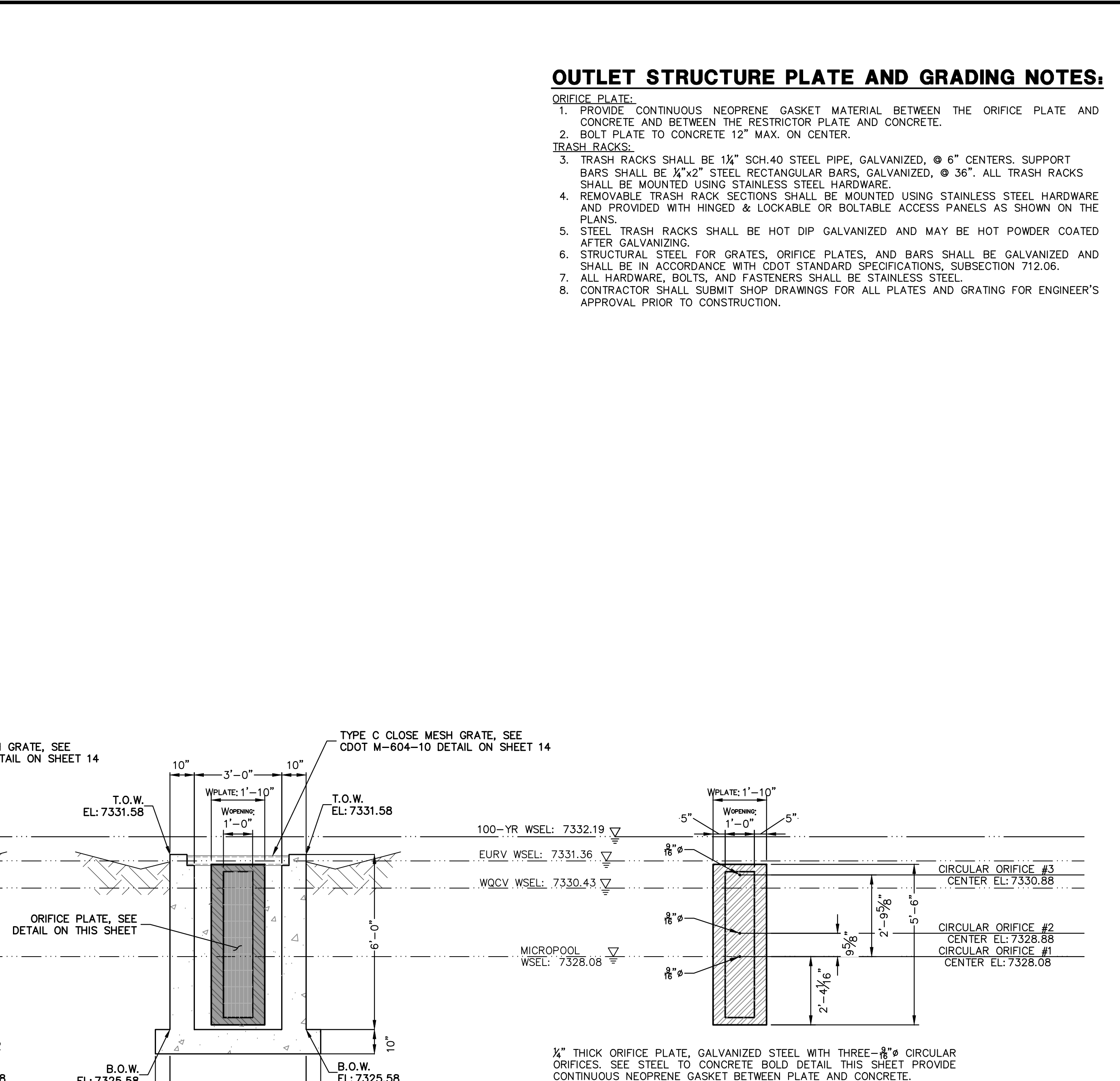
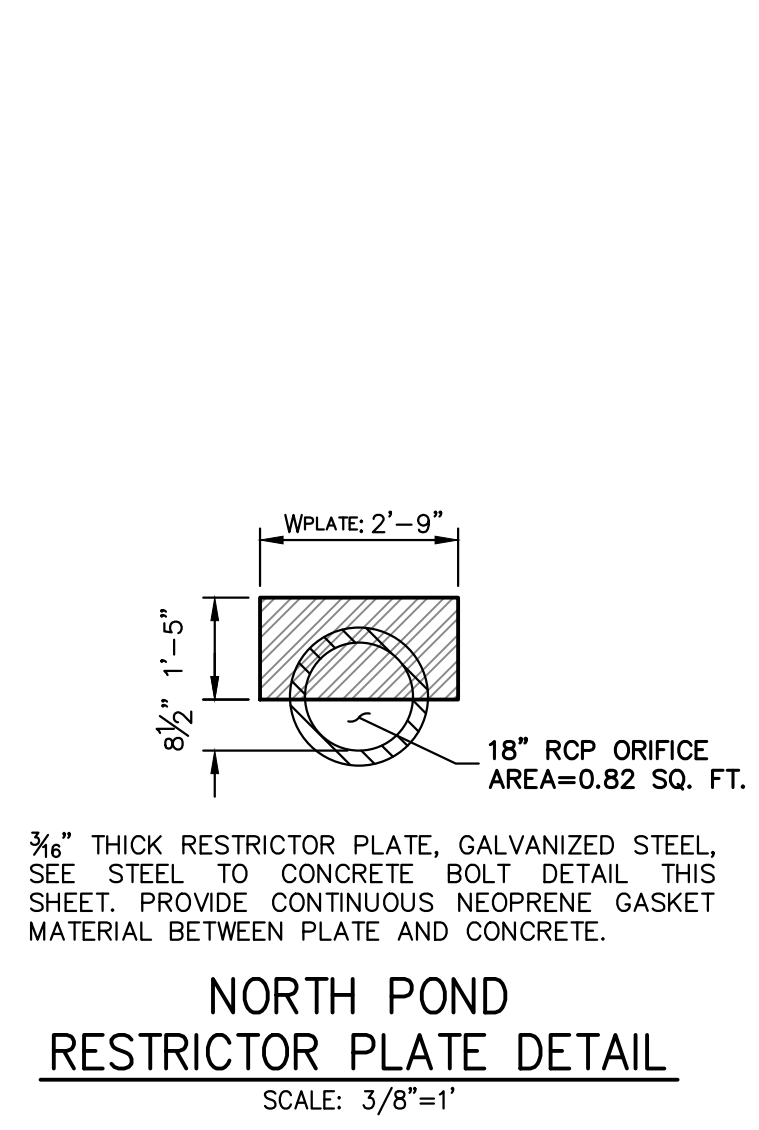
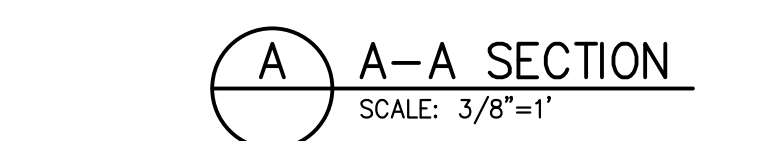
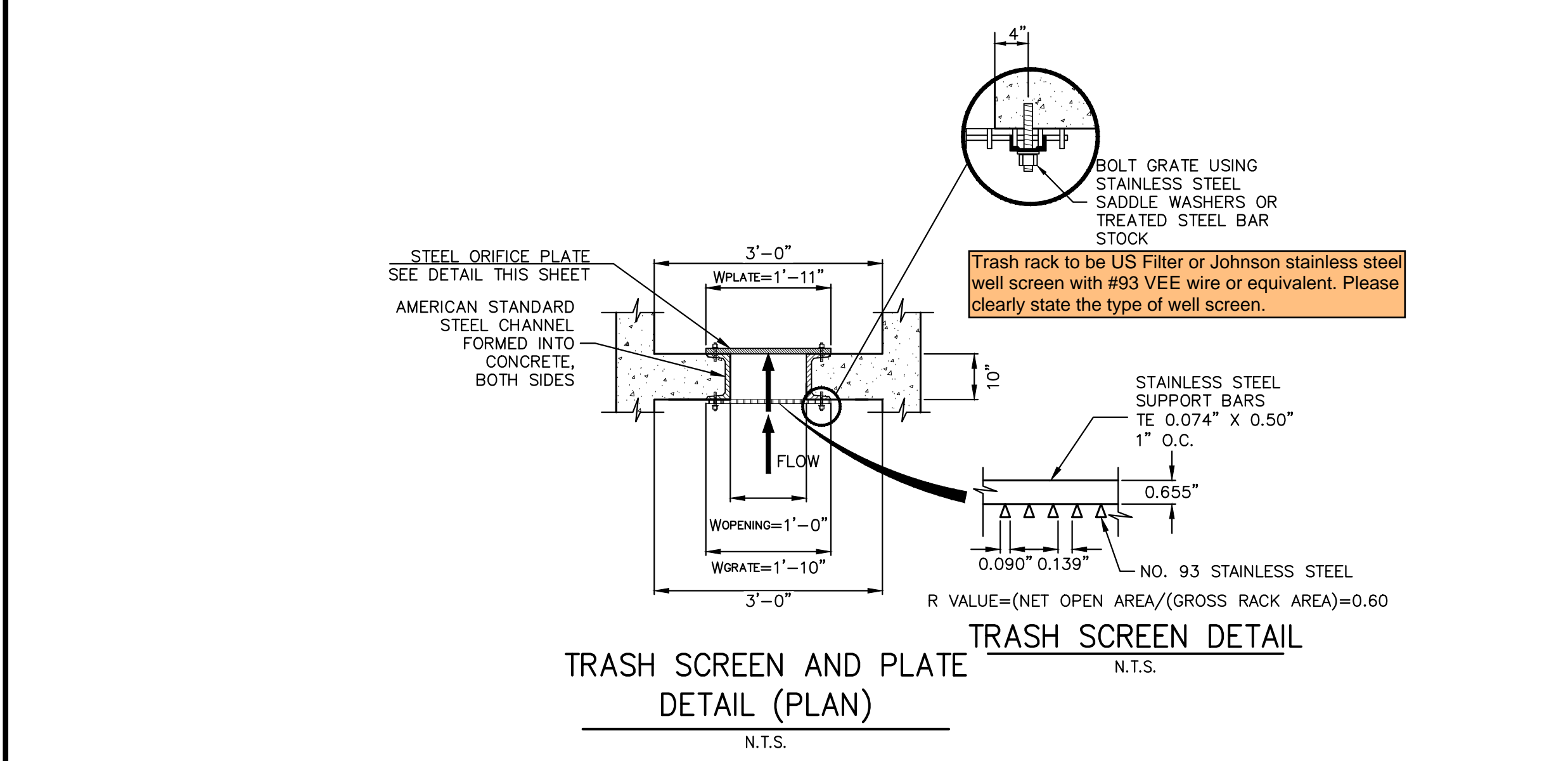
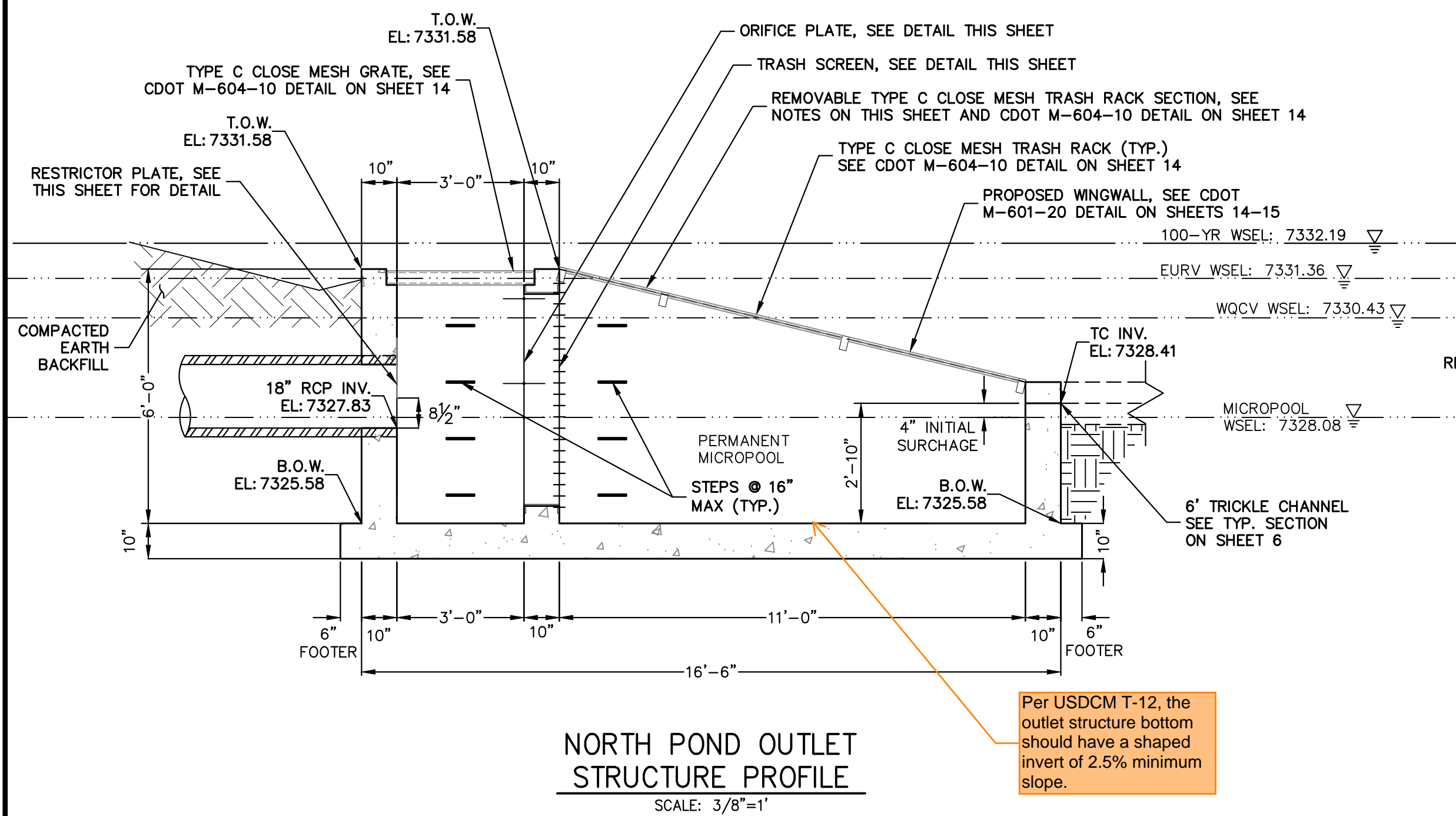
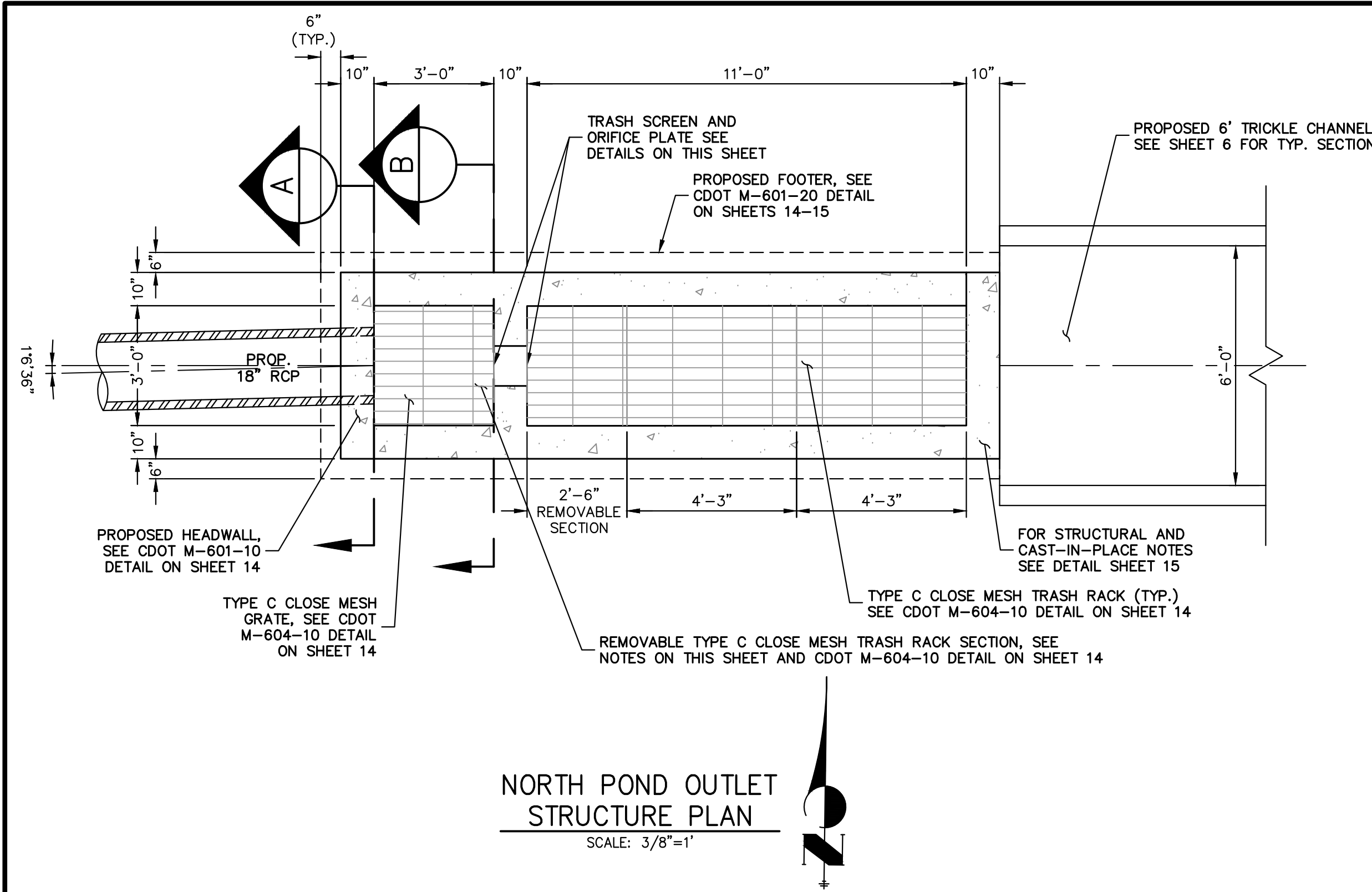
No.	REVISION	BY		DATE	

H-SCALE 3/8"=1'
V-SCALE 3/8"=1'
DATE 10/27/23
DESIGNED BY GAG
DRAWN BY GAG
CHECKED BY

ESTATES AT CATHEDRAL PINES
POND PLANS AND DETAILS

SHEET 8 OF 16
JOB NO. 25260.00

X:\25260000\all25260000\Drawings\Sheet\Drawings\CD\Storm and Pond Plans\25260000_North Pond Forebay and Pond Plans\25260000_North Pond Forebay, DT, 10/27/2023, 8:41:58 AM, CS



- OUTLET STRUCTURE PLATE AND GRADING NOTES:**
- ORIFICE PLATE:**
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE AND BETWEEN THE RESTRICTOR PLATE AND CONCRETE.
 2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.
- TRASH RACKS:**
3. TRASH RACKS SHALL BE 1/4" SCH.40 STEEL PIPE, GALVANIZED, @ 6" CENTERS. SUPPORT BARS SHALL BE 1/2"x2" STEEL RECTANGULAR BARS, GALVANIZED, @ 36". ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE.
 4. REMOVABLE TRASH RACK SECTIONS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED & LOCKABLE OR BOLTABLE ACCESS PANELS AS SHOWN ON THE PLANS.
 5. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 6. STRUCTURAL STEEL FOR GRATES, ORIFICE PLATES, AND BARS SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS, SUBSECTION 712.06.
 7. ALL HARDWARE, BOLTS, AND FASTENERS SHALL BE STAINLESS STEEL.
 8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PLATES AND GRATING FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

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No.	REVISION	BY	DATE

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
3/8"=1'	3/8"=1'	10/27/23	GAG	GAG	

ESTATES AT CATHEDRAL PINES
POND PLANS AND DETAILS

SHEET 9 OF 16
JOB NO. 25260.00



ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

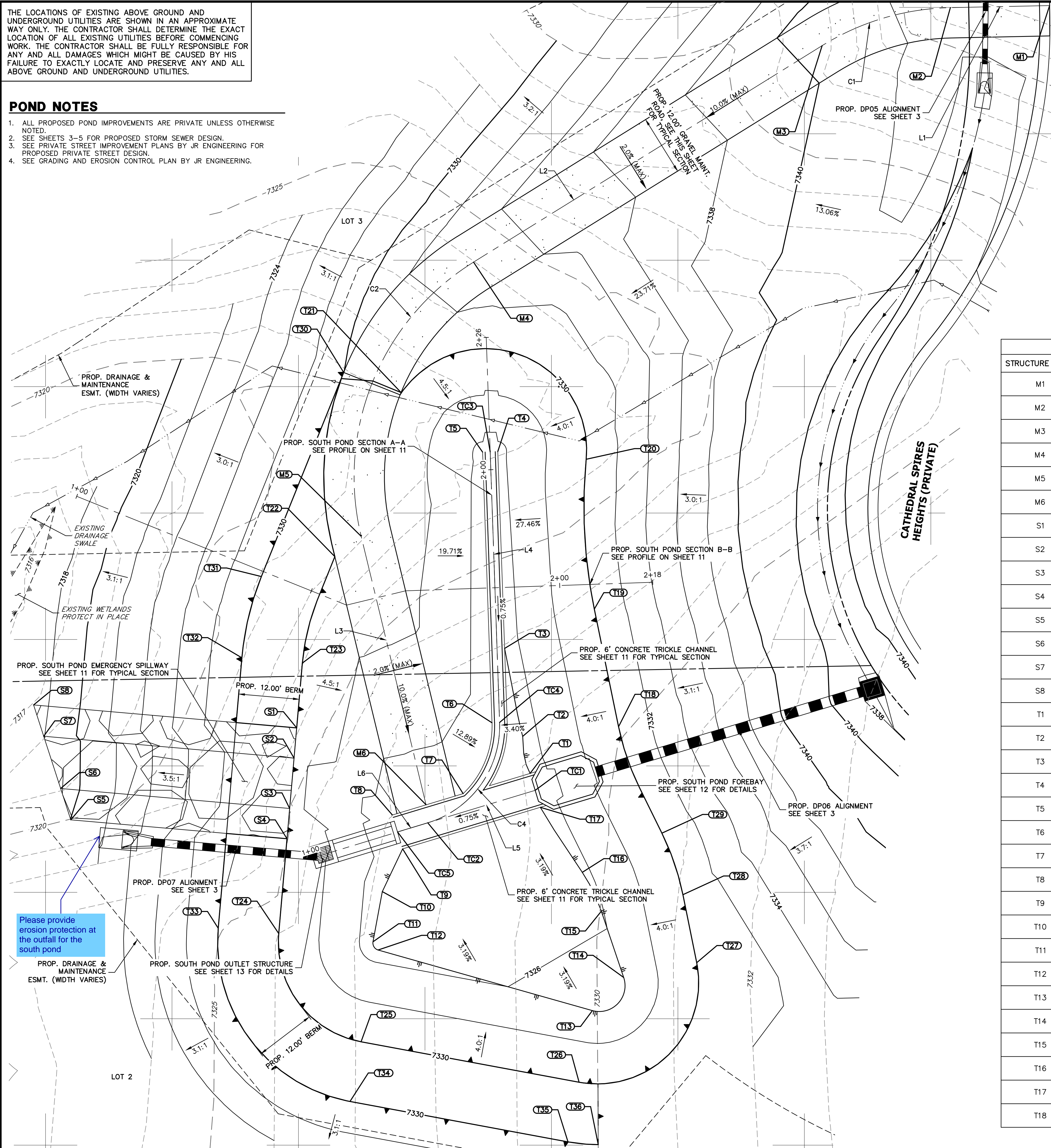
RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING

0054412
DATE

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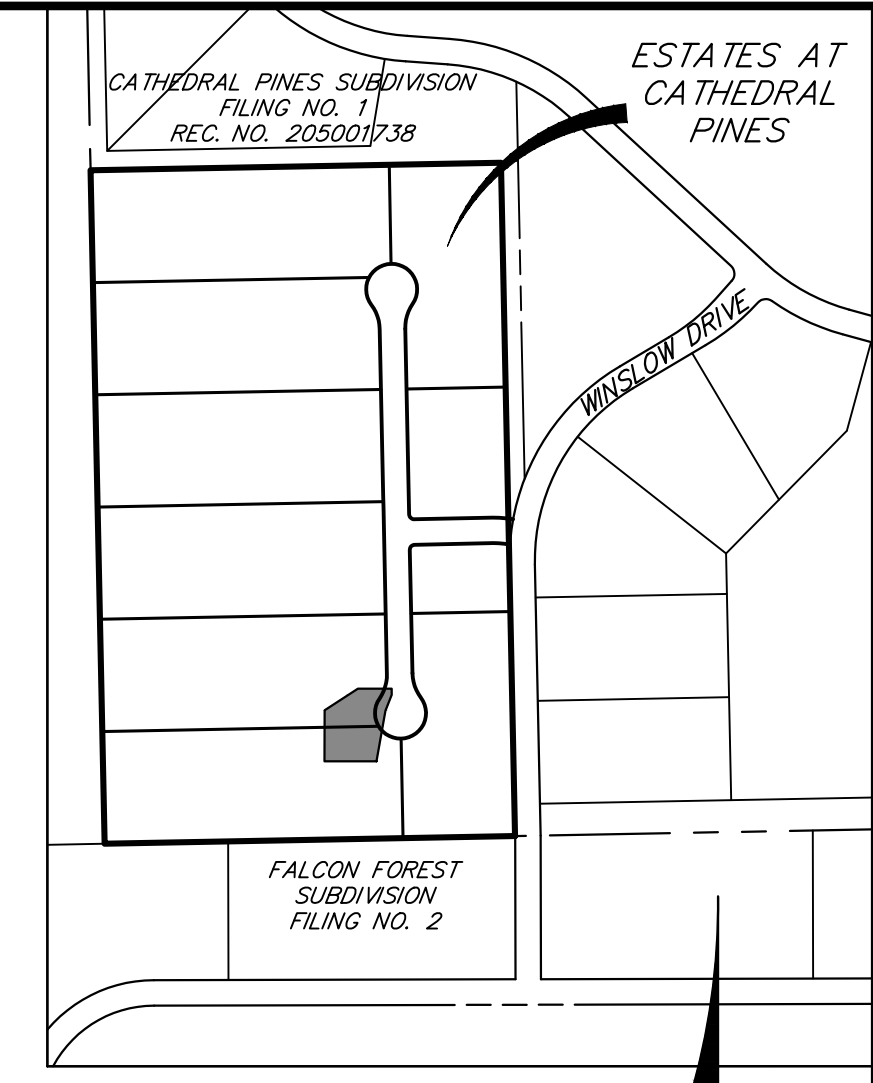
POND NOTES

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3. SEE PRIVATE STREET IMPROVEMENT PLANS BY JR ENGINEERING FOR PROPOSED PRIVATE STREET DESIGN.
4. SEE GRADING AND EROSION CONTROL PLAN BY JR ENGINEERING.



LINE	BEARING	DISTANCE
L1	S88°48'16"W	19.62'
L2	S58°08'56"W	81.12'
L3	S13°34'54"E	54.64'
L4	N01°59'19"W	53.56'
L5	N73°11'18"E	22.18'

CURVE	DELTA	RADIUS	LENGTH
C1	30°39'20"	50.00'	26.75'
C2	71°43'51"	50.00'	62.60'
C4	75°10'37"	20.00'	26.24'



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 COLORADO SPRINGS, CO 80908
 GREGG & ELAINE CAWFIELD
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 A Westman Company

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 Fort Collins 970-491-9888 • www.jrengineering.com

STRUCTURE NAME	DESCRIPTION	NORTHING/EASTING	ELEVATION
M1	MAINT. ROAD CL	N: 436716.43 E: 215795.15	7343.21
M2	MAINT. ROAD CL	N: 436716.02 E: 215775.54	7343.03
M3	MAINT. ROAD CL	N: 436708.50 E: 215750.19	7340.52
M4	MAINT. ROAD CL	N: 436665.69 E: 215681.29	7332.93
M5	MAINT. ROAD CL	N: 436611.48 E: 215659.07	7329.90
M6	MAINT. ROAD CL	N: 436558.38 E: 215671.90	7324.97
S1	SPILLWAY/ TOP	N: 436573.58 E: 215601.67	7330.00
S2	SPILLWAY CREST	N: 436567.61 E: 215645.81	7328.50
S3	SPILLWAY CREST	N: 436557.64 E: 215644.94	7328.50
S4	SPILLWAY/ TOP	N: 436551.67 E: 215644.42	7330.00
S5	SPILLWAY MATCH EX.	N: 436555.40 E: 215601.67	± 7320.03
S6	SPILLWAY MATCH EX.	N: 436561.60 E: 215599.67	± 7318.93
S7	SPILLWAY MATCH EX.	N: 436571.93 E: 215596.33	± 7317.94
S8	SPILLWAY MATCH EX.	N: 436578.13 E: 215594.32	± 7317.05
T1	TOE	N: 436564.58 E: 215692.46	7325.13
T2	TOE	N: 436571.91 E: 215691.00	7325.27
T3	TOE	N: 436589.30 E: 215687.43	7325.27
T4	TOE	N: 436628.23 E: 215686.08	7325.56
T5	TOE	N: 436628.12 E: 215683.08	7325.56
T6	TOE	N: 436574.60 E: 215684.94	7325.16
T7	TOE	N: 436560.58 E: 215679.23	7325.02
T8	TOE	N: 436556.36 E: 215665.25	7324.91
T9	TOE	N: 436549.66 E: 215667.27	7324.91
T10	TOE	N: 436541.21 E: 215663.25	7325.08
T11	TOE	N: 436531.29 E: 215661.41	7325.32
T12	TOE	N: 436529.66 E: 215662.42	7325.39
T13	TOE	N: 436517.67 E: 215704.78	7326.40
T14	TOE	N: 436524.22 E: 215710.97	7326.32
T15	TOE	N: 436537.33 E: 215706.55	7325.89
T16	TOE	N: 436545.01 E: 215702.79	7325.61
T17	TOE	N: 436557.88 E: 215694.48	7325.13
T18	TOP	N: 436573.82 E: 215709.95	7330.00

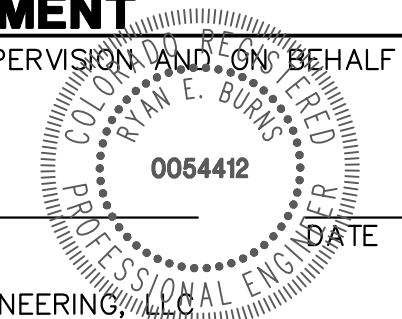
STRUCTURE NAME	DESCRIPTION	NORTHING/EASTING	ELEVATION
T19	TOP	N: 436597.08 E: 215705.16	7330.00
T20	TOP	N: 436626.70 E: 215703.55	7330.00
T21	TOP/ TRAIL	N: 436639.90 E: 215666.96	7330.00
T22	TOP/ TRAIL	N: 436607.45 E: 215647.45	7330.00
T23	TOP/ BERM	N: 436586.40 E: 215647.45	7330.00
T24	TOP/ BERM	N: 436532.91 E: 215642.78	7330.00
T25	TOP/ BERM	N: 436511.51 E: 215659.05	7330.00
T26	TOP/ BERM	N: 436503.51 E: 215702.15	7330.00
T27	TOP	N: 436527.15 E: 215725.40	7330.00
T28	TOP	N: 436540.60 E: 215722.67	7330.00
T29	TOP	N: 436552.77 E: 215718.52	7330.00
T30	TOP/ BERM	N: 436643.87 E: 215655.62	7330.00
T31	TOP/ BERM	N: 436603.51 E: 215639.35	7330.00
T32	TOP/ BERM	N: 436587.44 E: 215635.49	7330.00
T33	TOP/ BERM	N: 436533.96 E: 215630.82	7330.00
T34	TOP/ BERM	N: 436499.71 E: 215656.86	7330.00
T35	TOP/ BERM	N: 436491.71 E: 215699.96	7330.00
T36	TOP/ BERM	N: 436491.18 E: 215705.93	7330.00
TC1	TC CL FLOWLINE	N: 436561.23 E: 215693.47	7324.63
TC2	TC CL FLOWLINE	N: 436554.81 E: 215672.23	7324.46
TC3	TC CL FLOWLINE	N: 436628.18 E: 215684.58	7325.06
TC4	TC CL FLOWLINE	N: 436574.65 E: 215686.44	7324.66
TC5	TC CL FLOWLINE	N: 436553.01 E: 215666.26	7324.41



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING



BY	DATE	No.	REVISION	H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
				1"=10'	N/A				

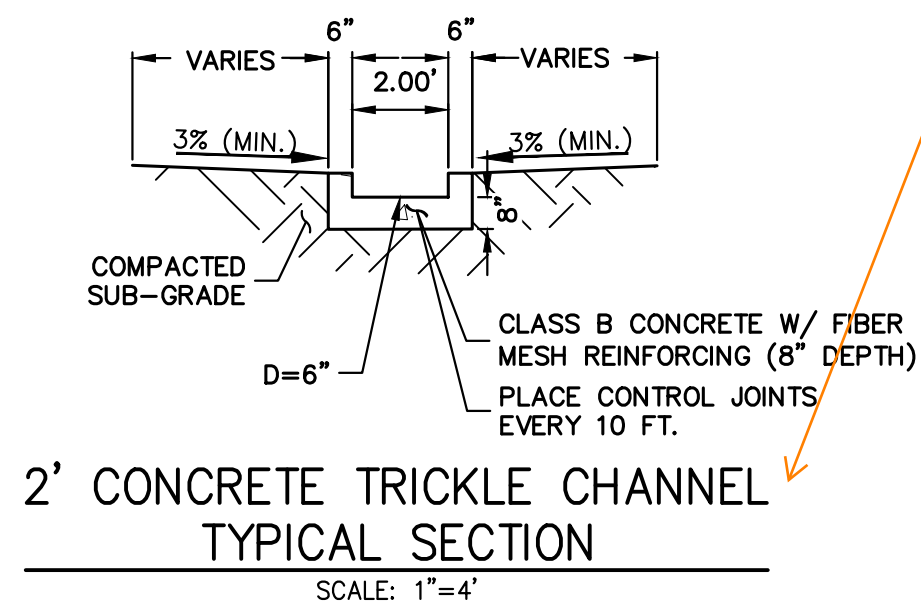
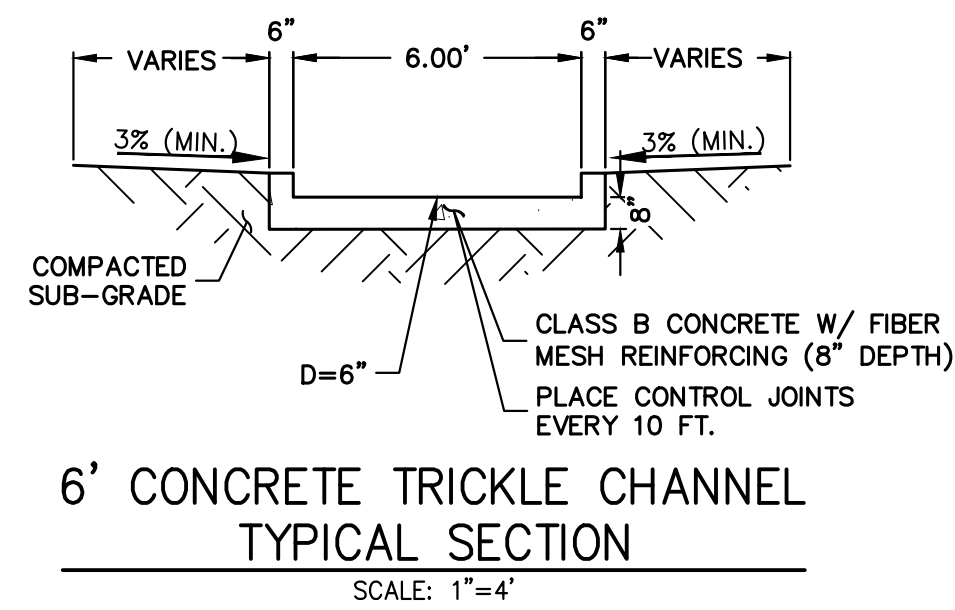
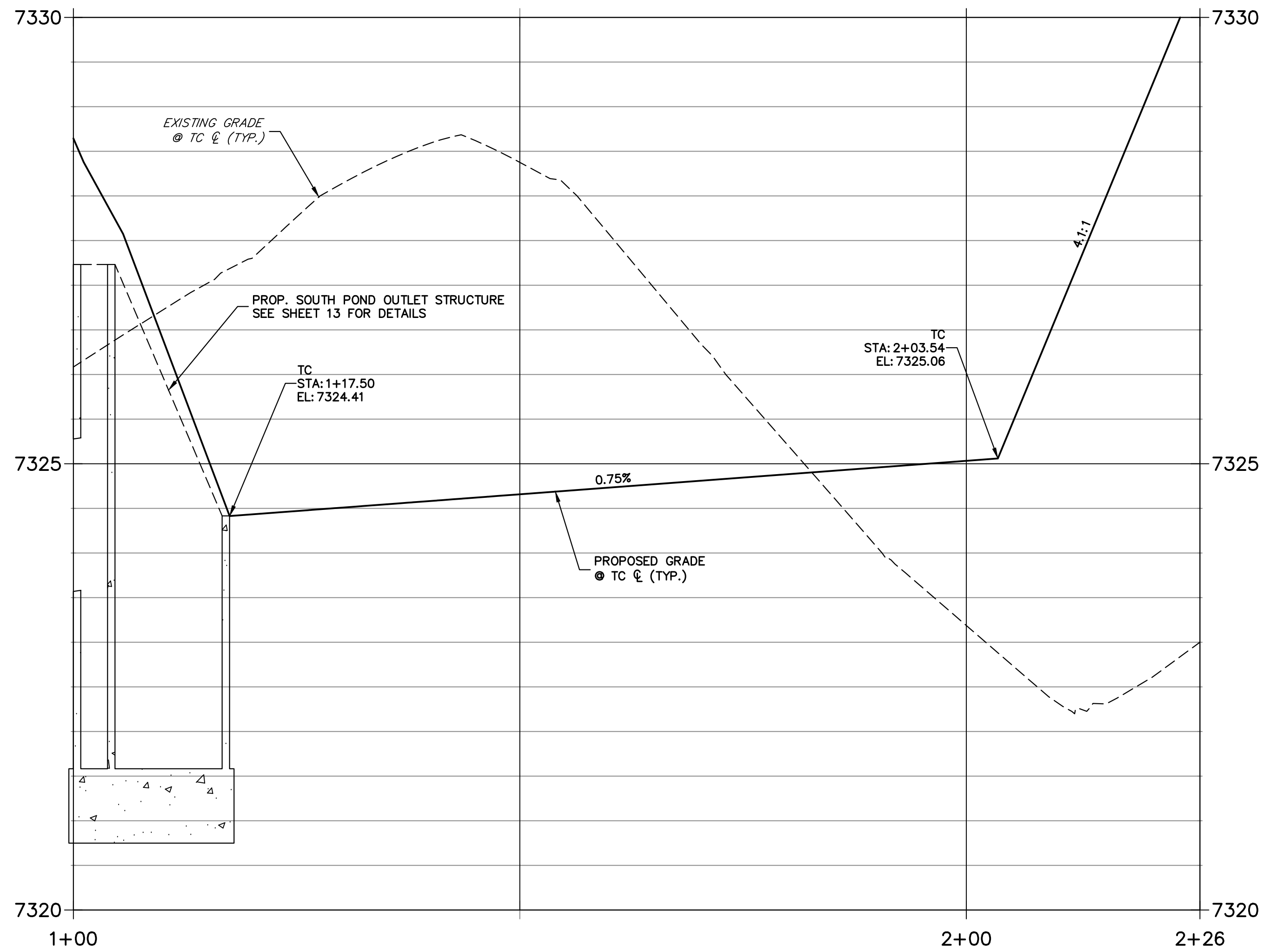
ESTATES AT CATHEDRAL PINES
 POND PLANS AND DETAILS

SHEET 10 OF 16
 JOB NO. 25260.00

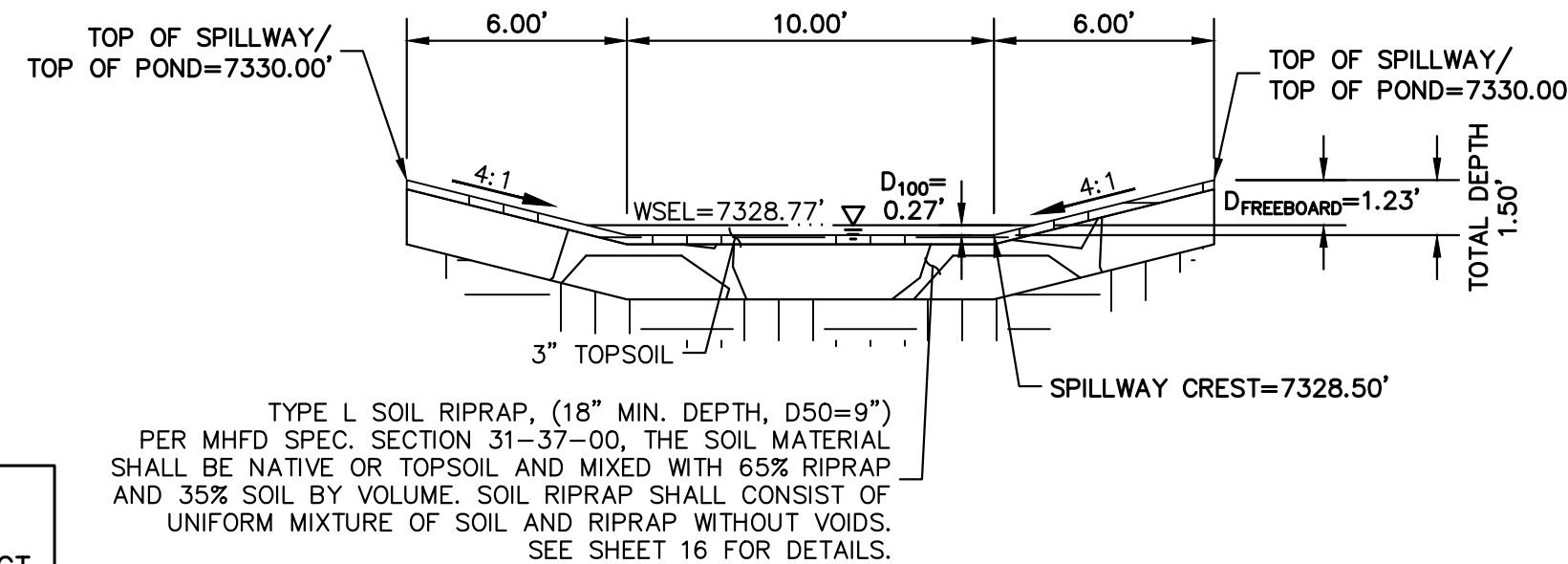
POND NOTES

1. ALL PROPOSED POND IMPROVEMENTS ARE PRIVATE UNLESS OTHERWISE NOTED.
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.

**SOUTH POND SECTION A-A PROFILE
STA 1+00.00 TO 2+26.17**

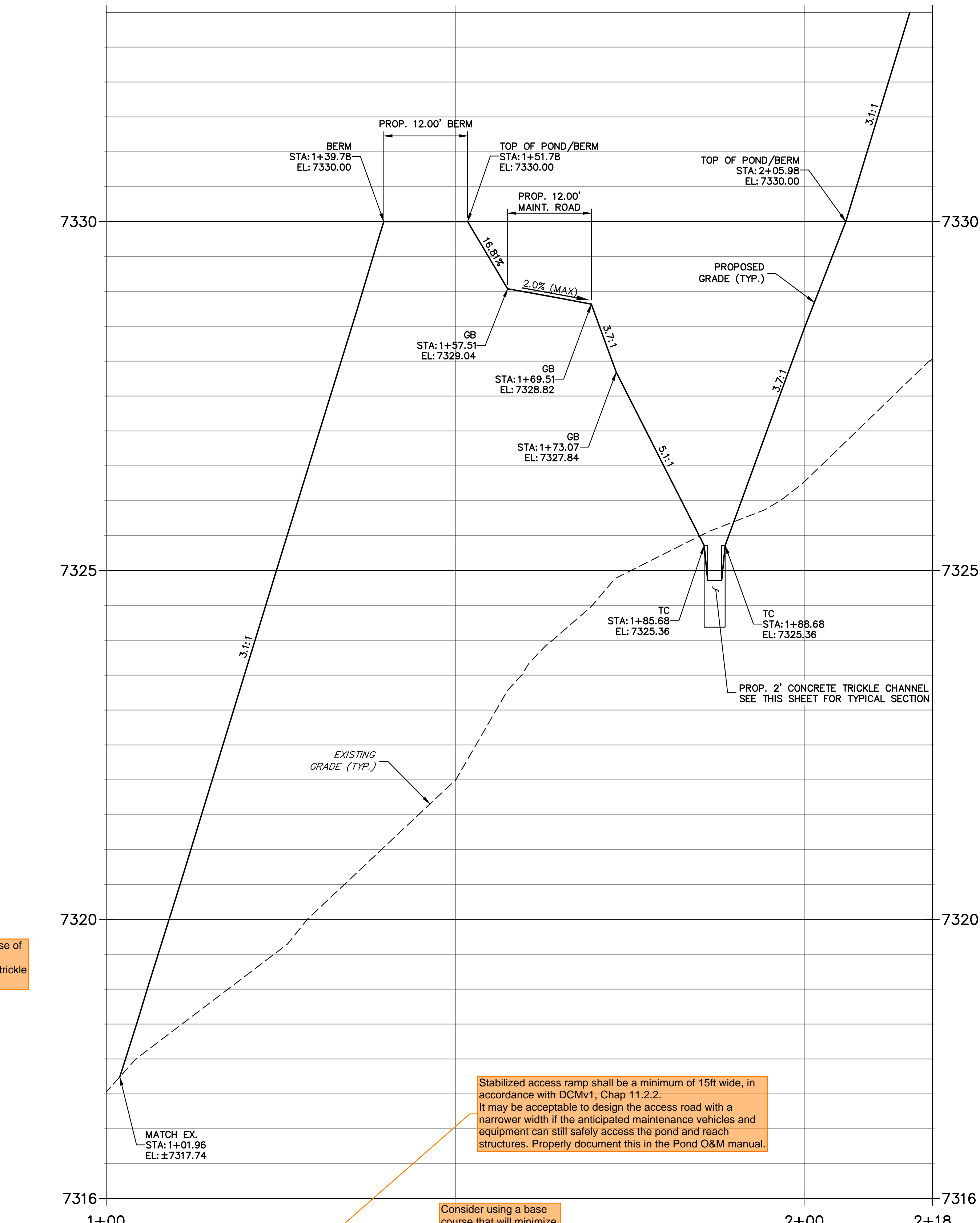


Consider widening the trickle channel for ease of maintenance. The bucket width of a small walk-behind skid steer is 36" wide, so a 40" trickle channel can allow for ease of maintenance.



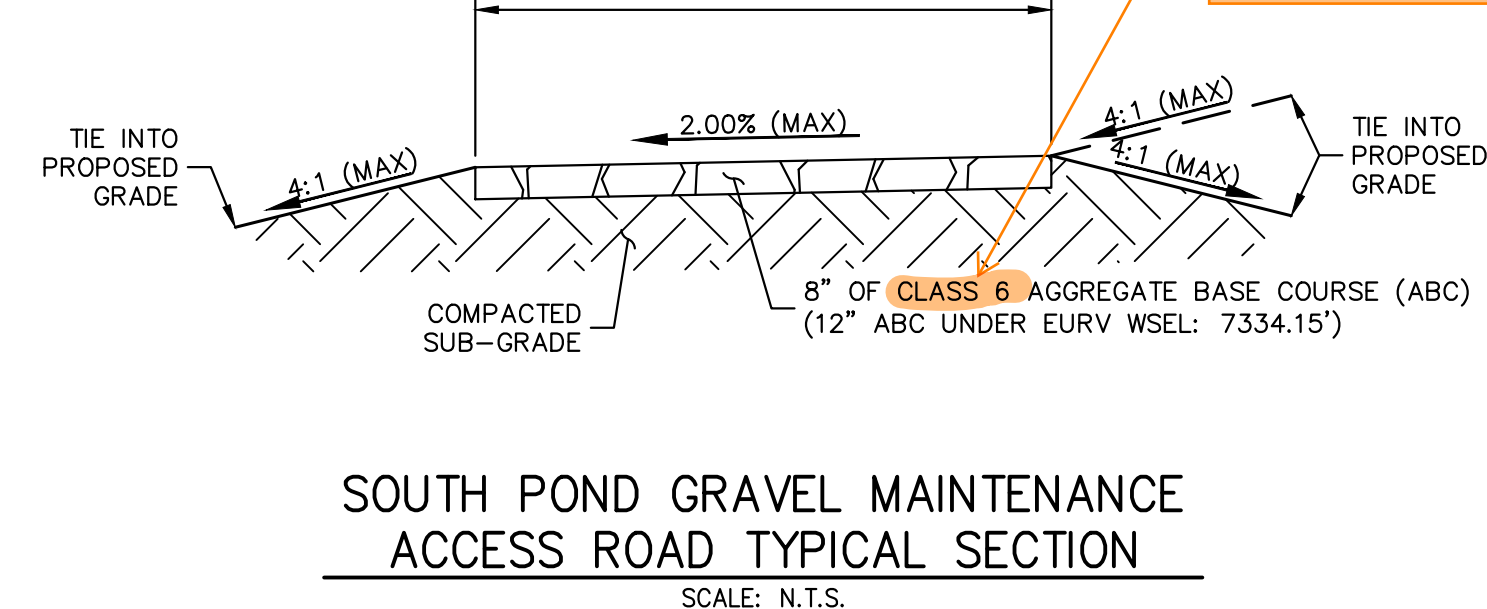
THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE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

**SOUTH POND SECTION B-B PROFILE
STA 1+00.00 TO 2+18.39**

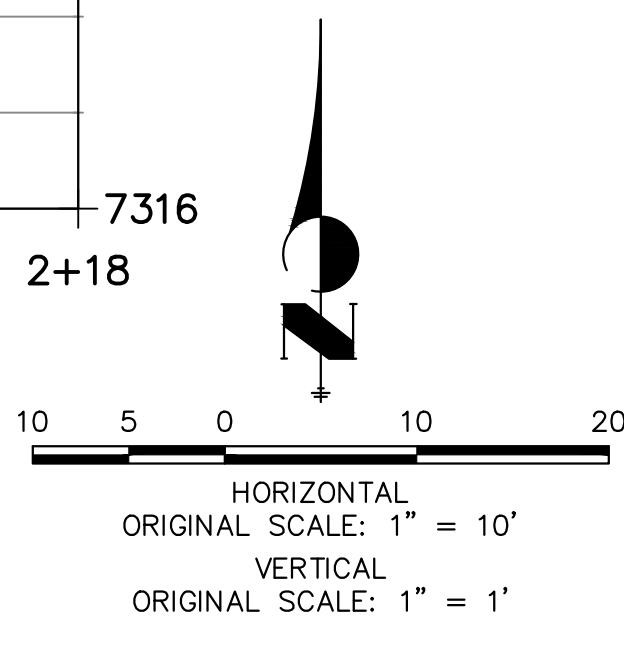


Stabilized access ramp shall be a minimum of 15ft wide, in accordance with DCMv1, Chap 11.2.2. It may be acceptable to design the access road with a narrower width if the anticipated maintenance vehicles and equipment can still safely access the pond and reach structures. Properly document this in the Pond O&M manual.

Consider using a base course that will minimize migration of fines when the pond is detaining water.



Know what's below.
Call before you dig.



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COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING

UNTI SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USES DESIGNATED BY WRITTEN AUTHORIZATION.

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

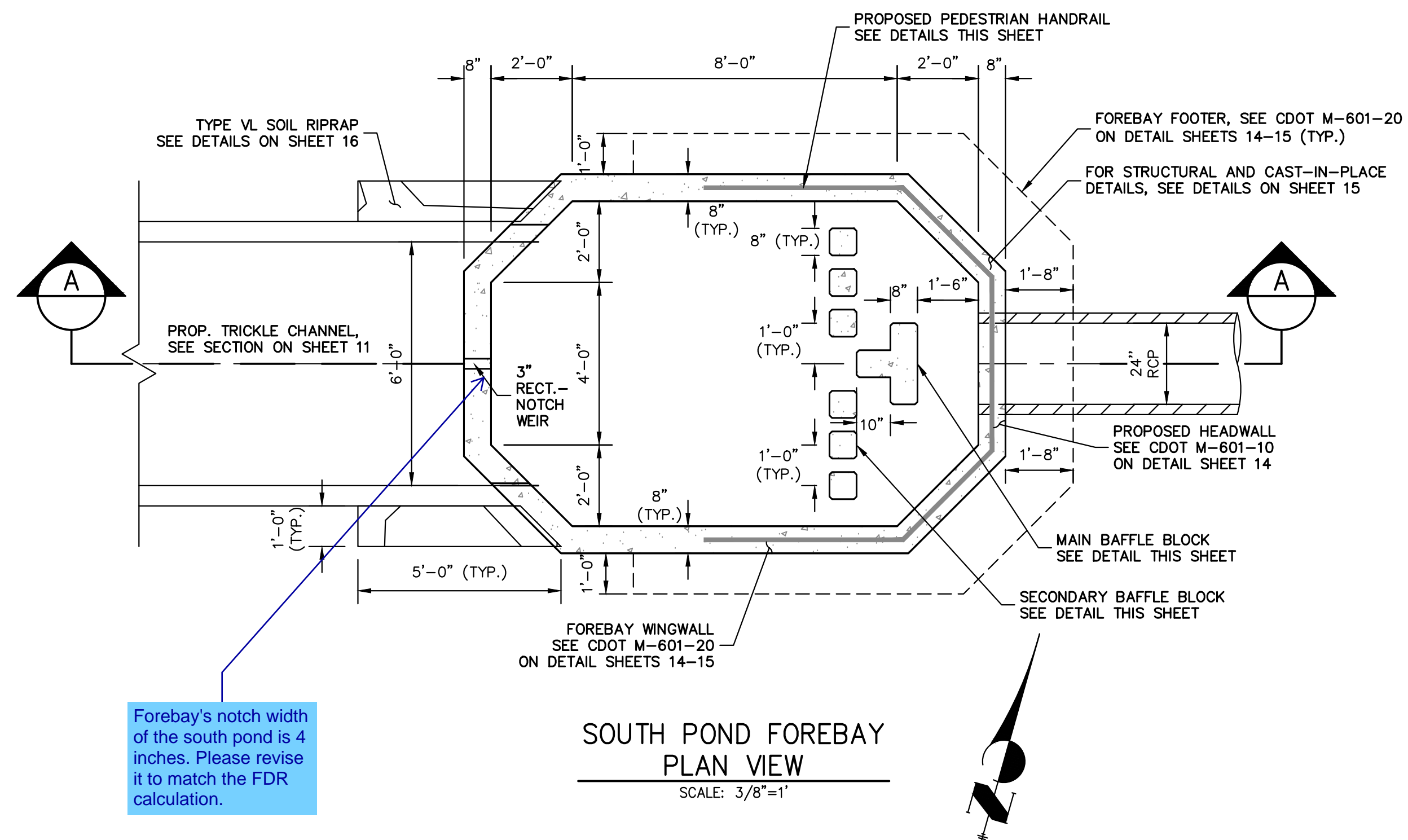
J.R. ENGINEERING
A Westman Company
Central 303-740-0888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

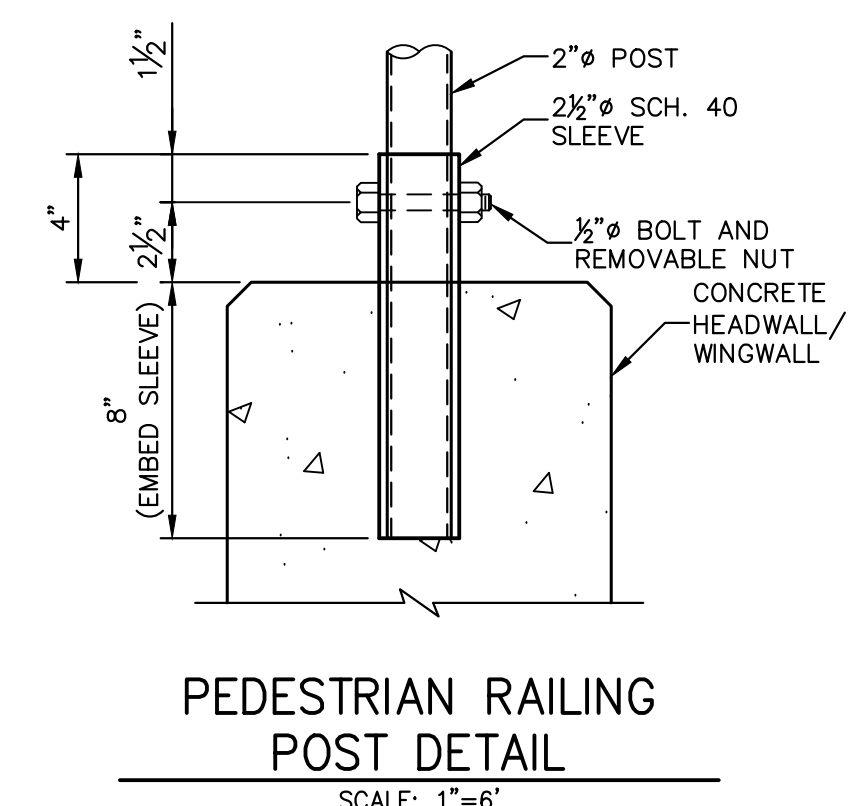
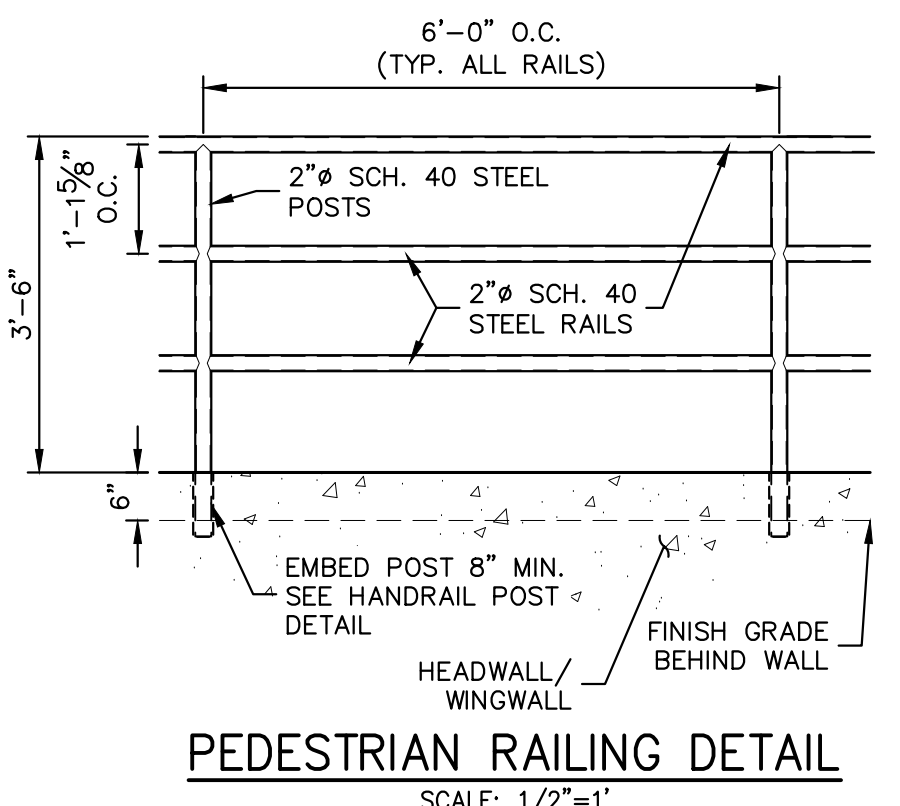
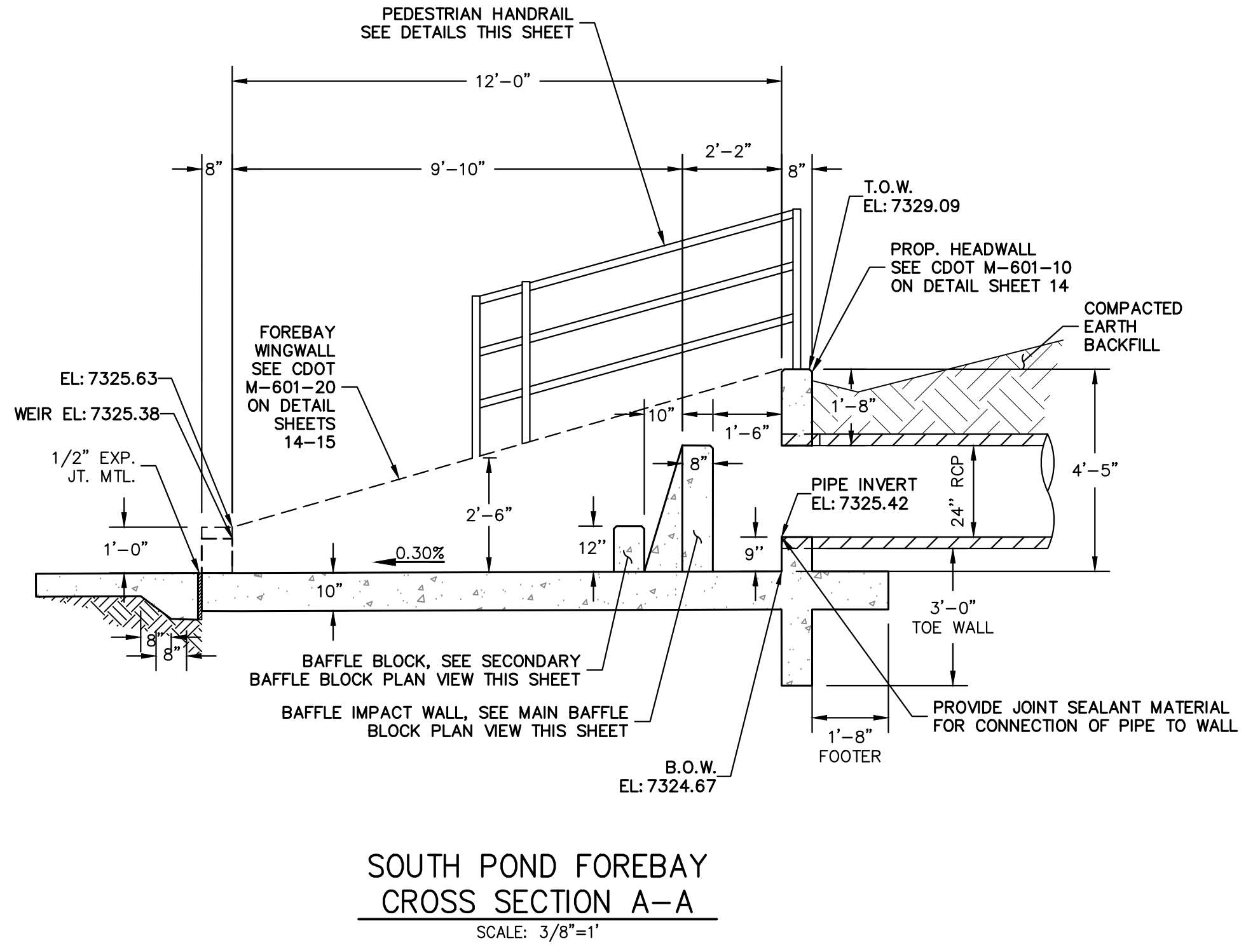
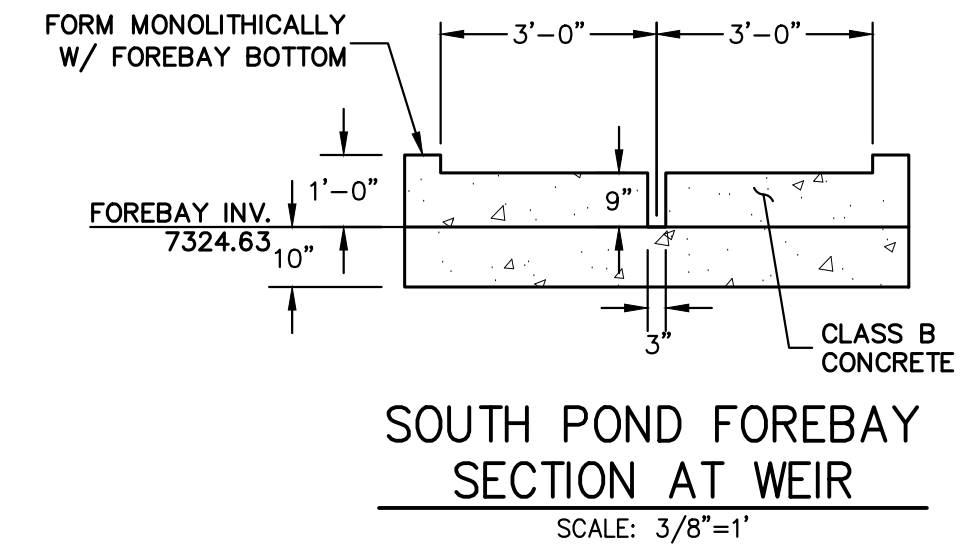
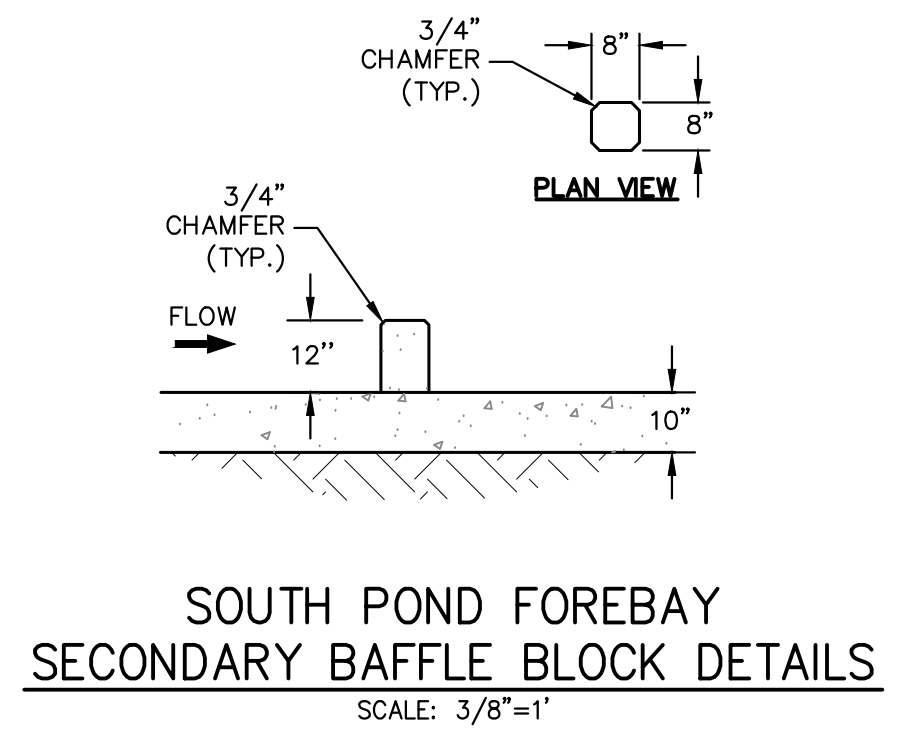
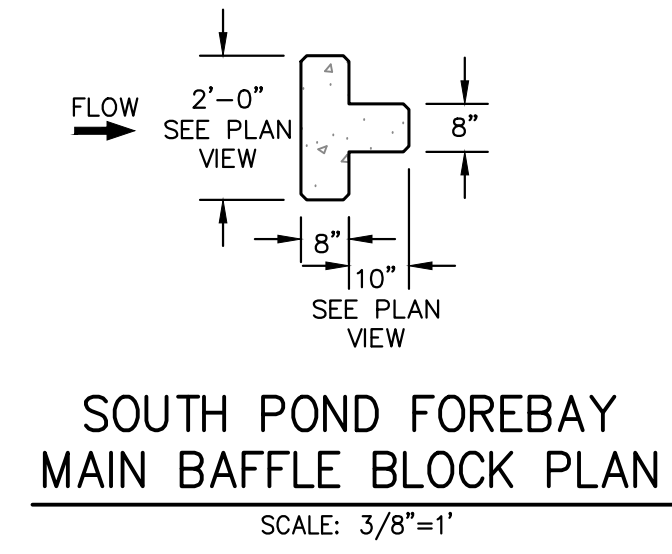
H-SCALE 1"=10'
V-SCALE 1"=1'
DATE 10/27/23
DESIGNED BY GAG
DRAWN BY GAG
CHECKED BY

ESTATES AT CATHEDRAL PINES
POND PLANS AND DETAILS

SHEET 11 OF 16
JOB NO. 25260.00

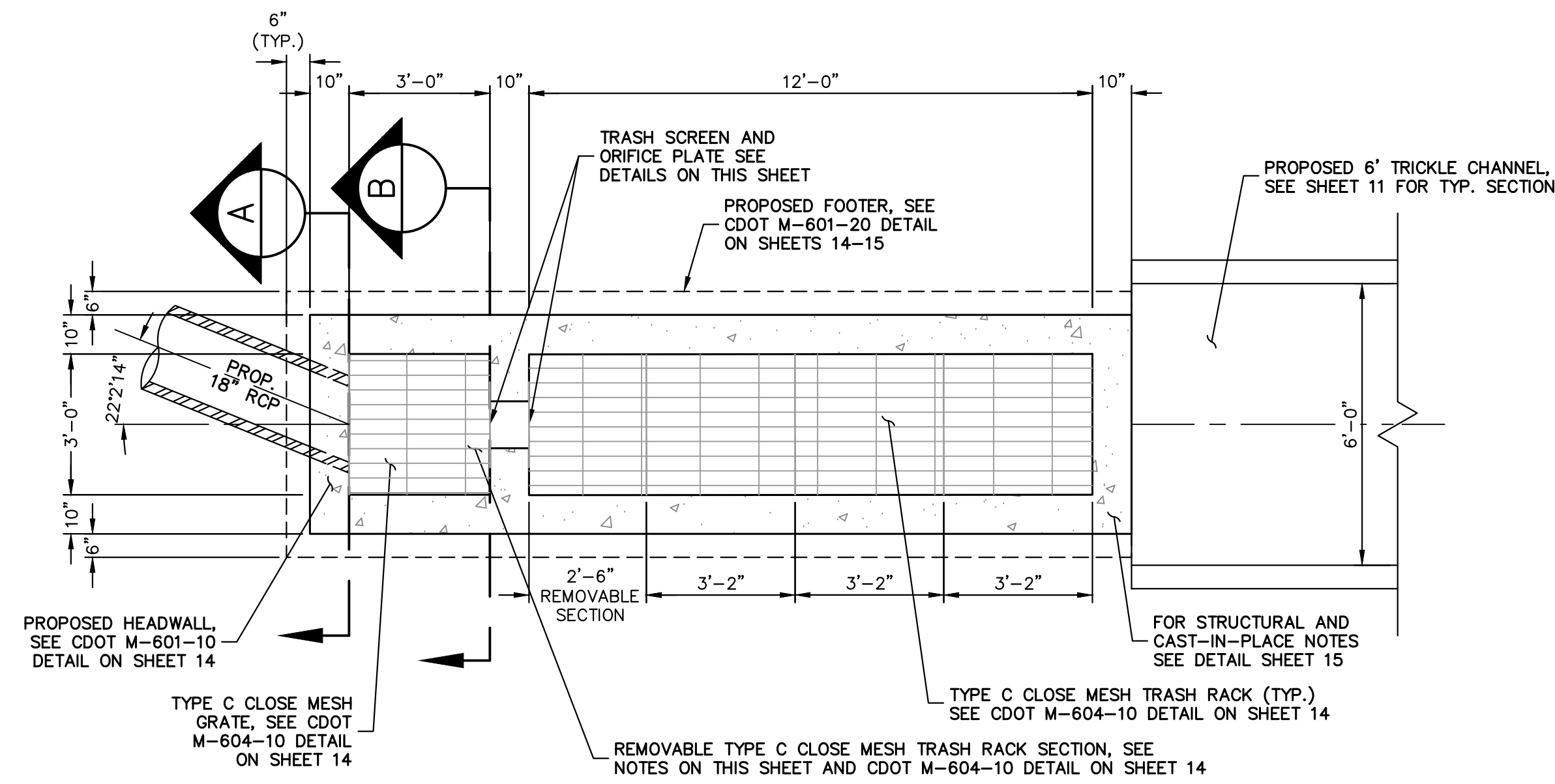


Forebay's notch width of the south pond is 4 inches. Please revise it to match the FDR calculation.

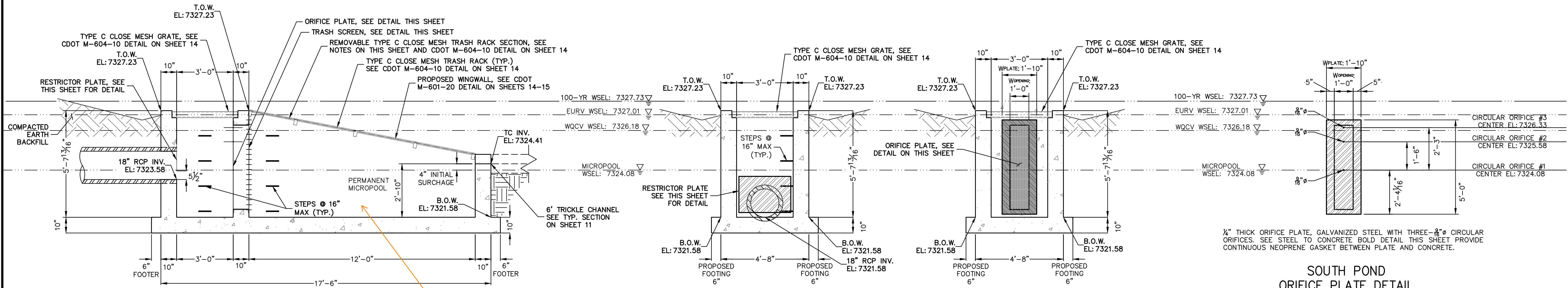


ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.	
PREPARED FOR	VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CAWFIELD (719) 413-6900
BY	DATE
No.	REVISION
H-SCALE	3/8"=1'
V-SCALE	3/8"=1'
DATE	10/27/23
DESIGNED BY	GAG
DRAWN BY	GAG
CHECKED BY	
ESTATES AT CATHEDRAL PINES	
POND PLANS AND DETAILS	
SHEET	12 OF 16
JOB NO.	25260.00



SOUTH POND OUTLET STRUCTURE PLAN
SCALE: 3/8"=1'

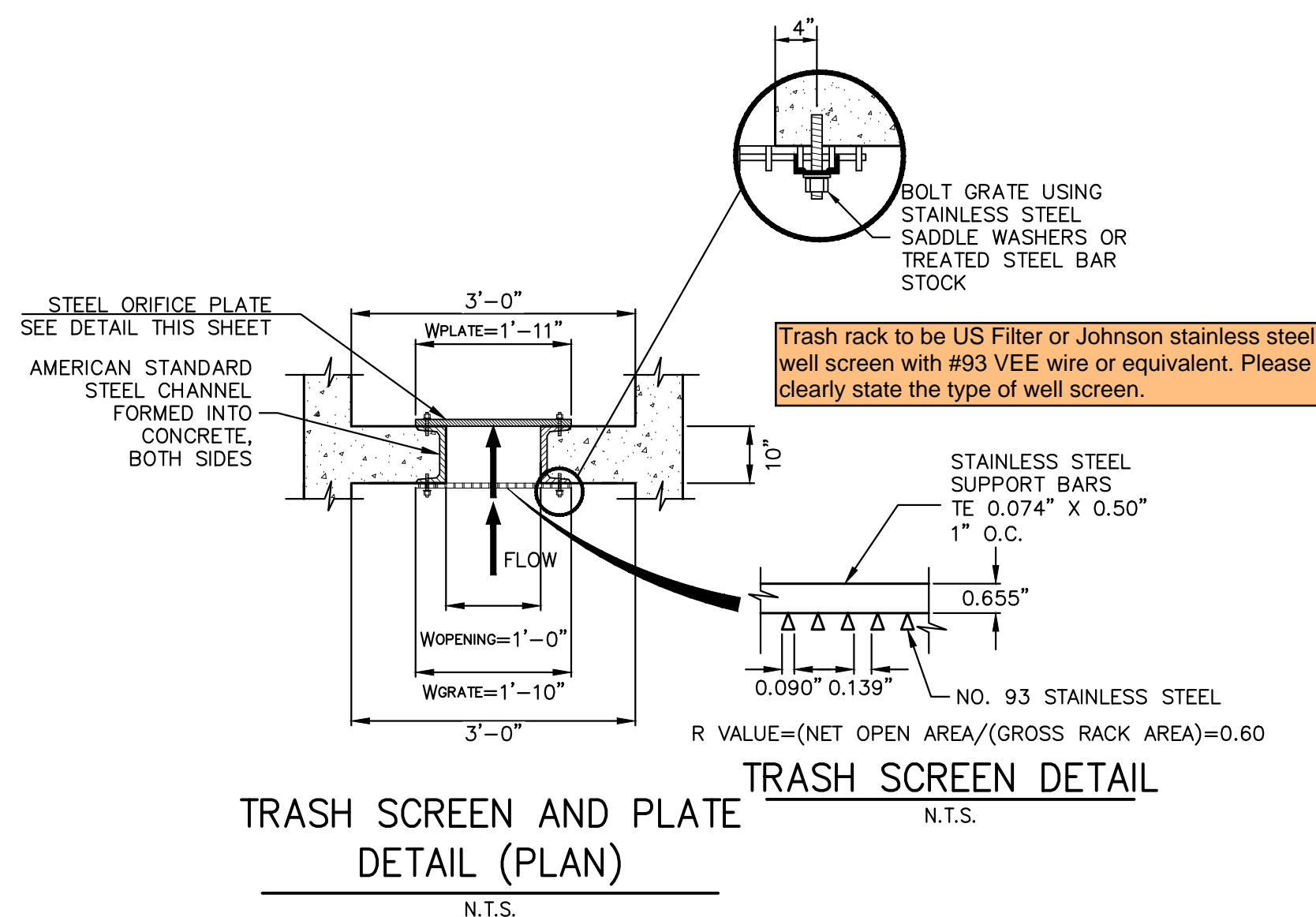


SOUTH POND OUTLET STRUCTURE PROFILE
SCALE: 3/8"=1'

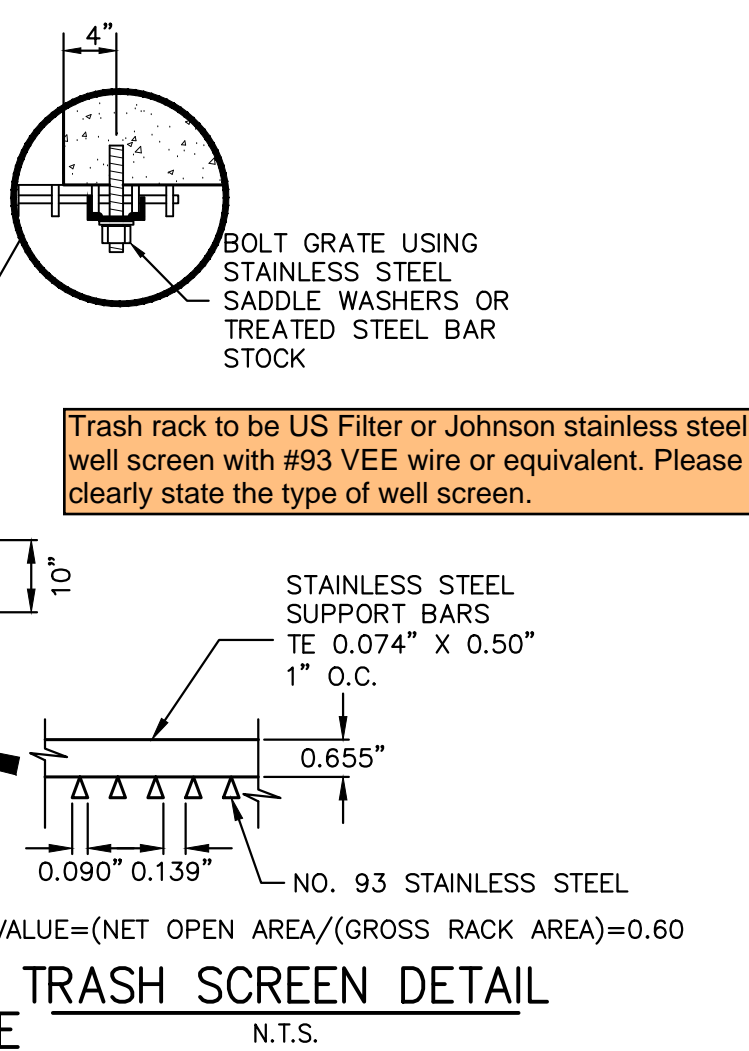
A-A SECTION
SCALE: 3/8"=1'

B-B SECTION
SCALE: 3/8"=1'

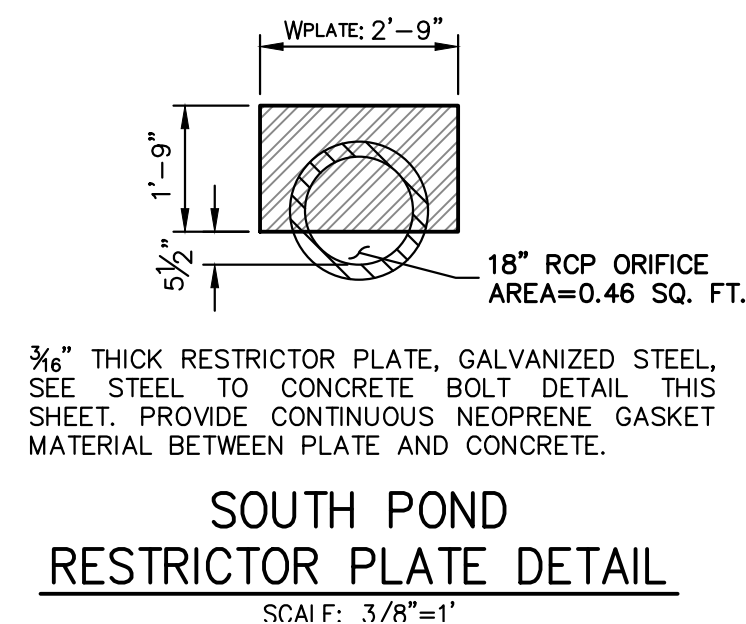
SOUTH POND ORIFICE PLATE DETAIL
SCALE: 3/8"=1'



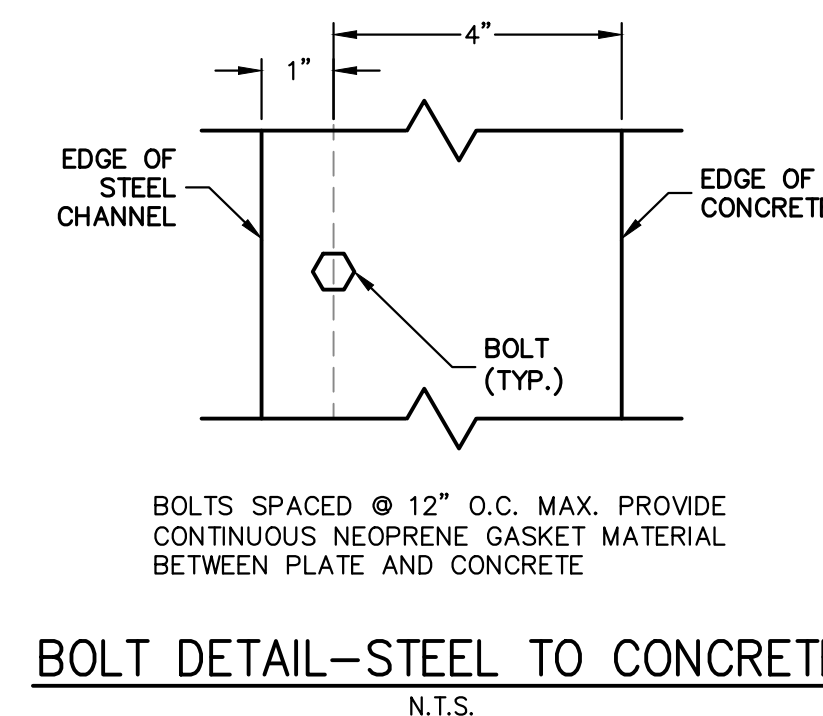
TRASH SCREEN AND PLATE DETAIL (PLAN)
N.T.S.



TRASH SCREEN DETAIL
N.T.S.



SOUTH POND RESTRICTOR PLATE DETAIL
SCALE: 3/8"=1'



BOLT DETAIL-STEEL TO CONCRETE
N.T.S.

OUTLET STRUCTURE PLATE AND GRADING NOTES:

- ORIFICE PLATE:**
1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE AND BETWEEN THE RESTRICTOR PLATE AND CONCRETE.
 2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.
- TRASH RACKS:**
3. TRASH RACKS SHALL BE 1/2" SCH.40 STEEL PIPE, GALVANIZED, @ 6" CENTERS. SUPPORT BARS SHALL BE 1/2"x2" STEEL RECTANGULAR BARS, GALVANIZED, @ 36". ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE.
 4. REMOVABLE TRASH RACK SECTIONS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED & LOCKABLE OR BOLTABLE ACCESS PANELS AS SHOWN ON THE PLANS.
 5. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 6. STRUCTURAL STEEL FOR GRATES, ORIFICE PLATES, AND BARS SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH CDOT STANDARD SPECIFICATIONS, SUBSECTION 712.06.
 7. ALL HARDWARE, BOLTS, AND FASTENERS SHALL BE STAINLESS STEEL.
 8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PLATES AND GRATING FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE AGENCIES, OR ENGINEERING APPROVES THEIR USE, THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

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

J.R. ENGINEERING
A Westman Company
Central 303-740-9888 • Colorado Springs 719-583-2583
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	V-SCALE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY
3/8"=1'	3/8"=1'	10/27/23	GAG	GAG	GAG

ESTATES AT CATHEDRAL PINES
POND PLANS AND DETAILS

SHEET 13 OF 16
JOB NO. 25260.00

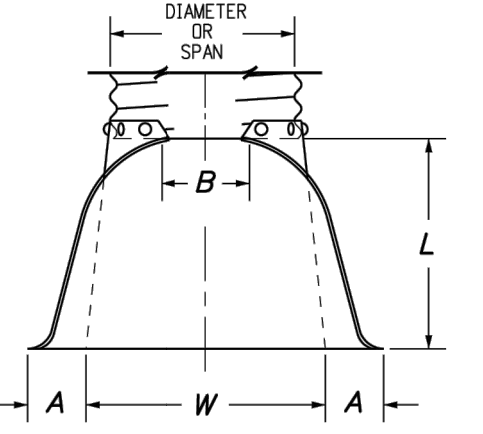


ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

RYAN E. BURNS, P.E.
COLORADO P.E. 0054412
FOR AND ON BEHALF OF JR ENGINEERING

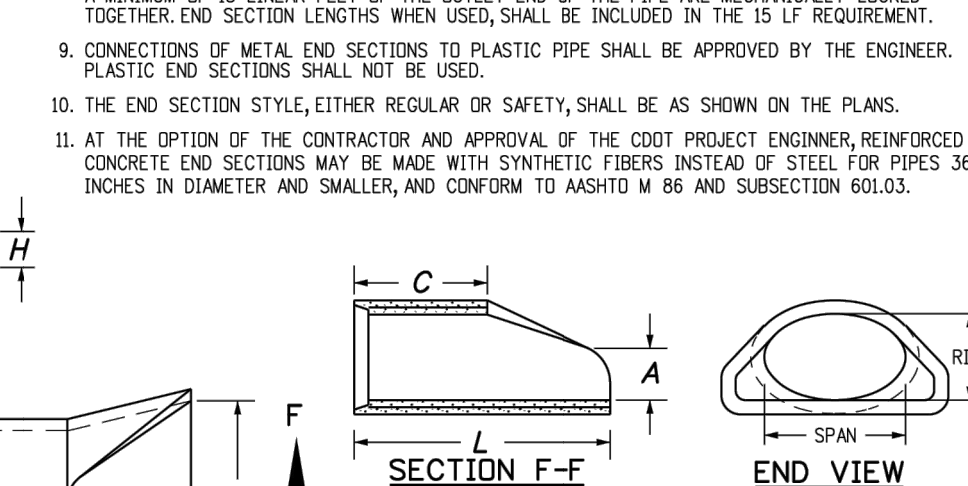
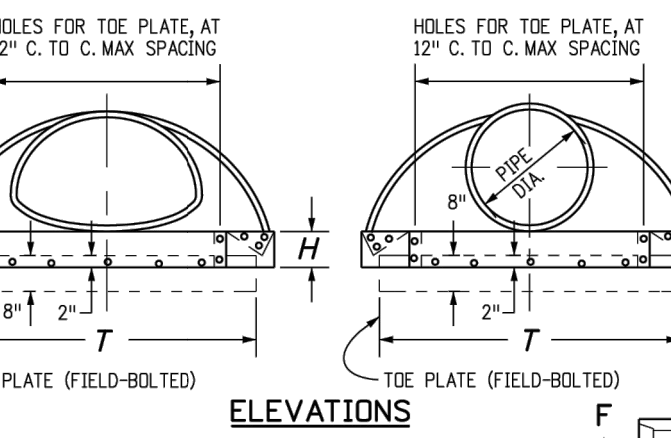
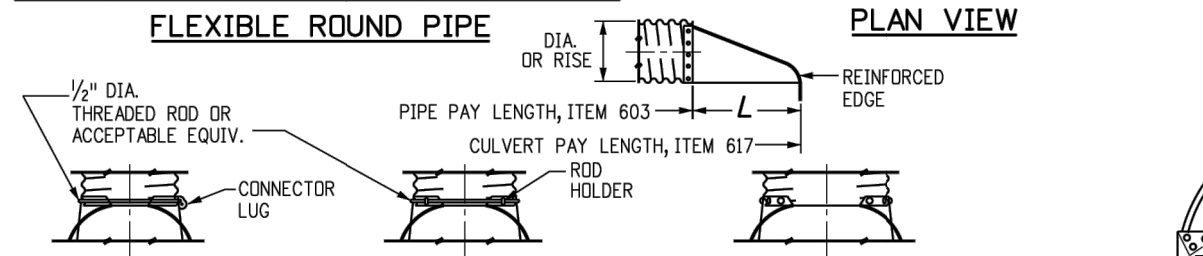
0054412

PIPE DIA.	THICKNESS	A	B	H	L	W	T
12	0.064	6	6	21	24	34	46
18	0.064	8	10	6	31	36	46
24	0.064	10	12	6	41	46	58
30	0.079	12	16	8	51	60	70
36	0.079	14	18	9	60	72	84
42	0.109	16	22	11	69	84	106
48	0.109	18	27	12	78	90	112
54	0.109	18	30	12	84	102	124
60	0.109	18	33	12	87	114	136
66	0.109	18	36	12	87	120	142
72	0.109	18	39	12	87	126	154
78	0.109	18	42	12	87	132	160
84	0.109	18	45	12	87	138	166



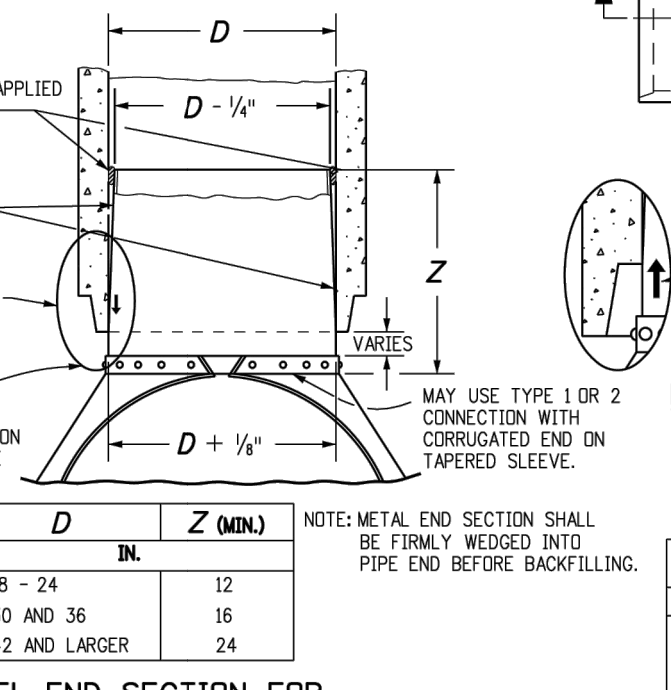
PIPE ARCH SPAN × RISE	THICKNESS	DIMENSIONS					
		A	B	H	L	W	T
24 × 15	0.064	7	10	6	23	36	46
24 × 18	0.064	8	12	6	28	42	52
28 × 20	0.064	9	14	6	32	48	58
32 × 24	0.064	10	16	6	38	60	70
32 × 29	0.079	12	18	6	46	70	85
48 × 33	0.109	13	21	9	53	80	103
57 × 38	0.109	18	26	12	63	90	108
64 × 43	0.109	18	30	12	70	102	120
74 × 47	0.109	18	33	12	77	114	132

- ### GENERAL NOTES
- DIMENSIONS OF END SECTIONS MAY VARY SLIGHTLY FROM THOSE SHOWN ON THE TABLES DUE TO DIFFERENT MANUFACTURERS' CONFIGURATIONS.
 - CONCRETE END SECTIONS SHALL BE FURNISHED WITH TONGUE OR GROOVE AS REQUIRED.
 - DESIGN LENGTH OF PIPE OR SIDE DRAIN IS BASED ON LENGTH OF END SECTION SHOWN IN TABLE. ANY ADDITIONAL PIPE REQUIRED TO PROVIDE DESIGN LENGTH SHALL BE FURNISHED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
 - THE INSIDE CONFIGURATION AND JOINT OF CONCRETE END SECTION AND PIPE SHALL MATCH ON THE PLANS.
 - END SECTIONS FOR CMP ARCH PIPE SHALL MATCH THE DIMENSIONS OF THE PIPE SHOWN ON THE PLANS.
 - GALVANIZED STEEL SHALL BE USED ON END SECTIONS FOR CORRUGATED STEEL PIPE AND SHALL BE THE SAME THICKNESS AS END SECTIONS. TOE PLATE SHALL BE FIELD-BOLTED TO END SECTION WITH 1/2" IN GALVANIZED NUTS AND WASHERS.
 - GALVANIZED STEEL SHALL CONFORM TO ASTM A 118, M 218 OR M 232.
 - CONCRETE PIPE JOINT FASTENERS, WHEN SHOWN ON PLANS, SHALL BE INSTALLED SO THAT A MINIMUM OF 15 LINEAR FEET OF THE OUTLET END OF THE PIPE ARE MECHANICALLY LOCKED TOGETHER. END SECTION LENGTHS WHEN USED SHALL BE IN THE 15 FT. REQUIREMENT.
 - CONNECTIONS OF METAL END SECTIONS TO PLASTIC PIPE SHALL BE APPROVED BY THE ENGINEER. PLASTIC END SECTIONS SHALL NOT BE USED.
 - THE END SECTION STYLE, EITHER REGULAR OR SAFETY, SHALL BE AS SHOWN ON THE PLANS.
 - AT THE OPTION OF THE CONTRACTOR AND APPROVAL OF THE CDDT PROJECT ENGINEER, REINFORCED CONCRETE END SECTIONS MAY BE MADE WITH SYNTHETIC FIBERS INSTEAD OF STEEL FOR PIPES 36 INCHES IN DIAMETER AND SMALLER, AND CONFORM TO ASTM M 96 AND SUBSECTION 601.03.



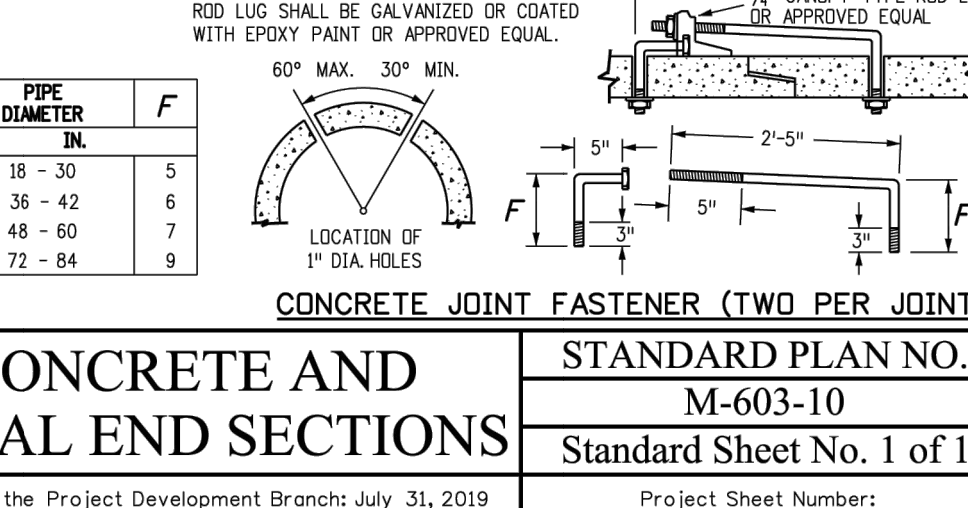
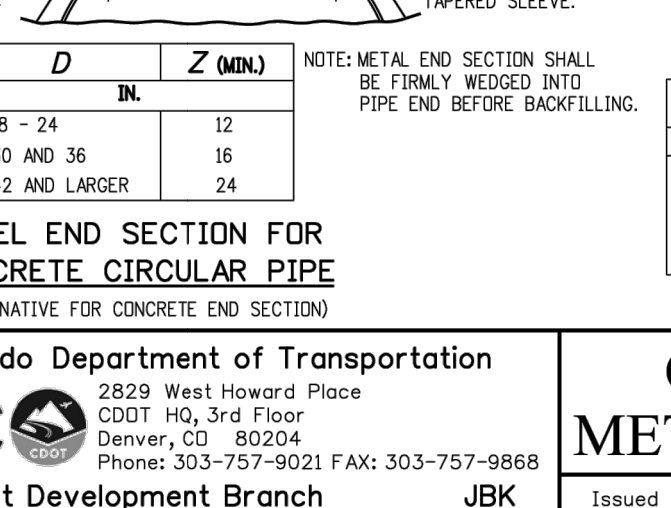
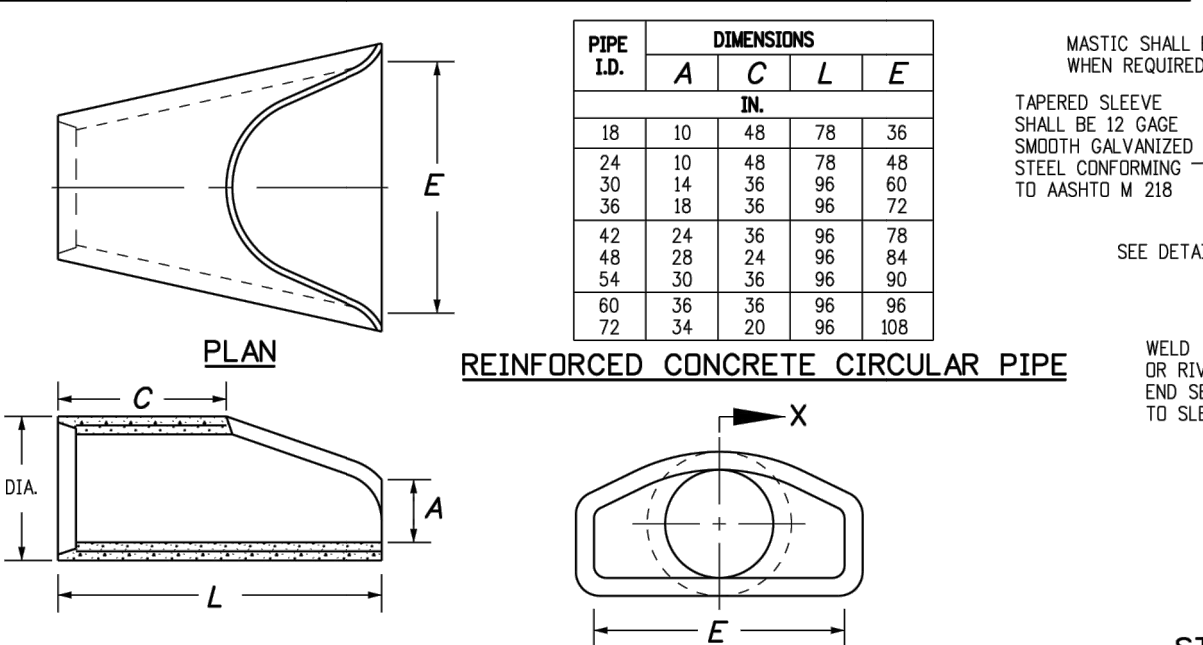
REINFORCED CONCRETE CIRCULAR PIPE

PIPE DIA.	C	L	E	
18	10	48	78	36
24	10	48	78	48
30	14	36	96	60
36	16	36	96	72
42	24	36	96	78
48	28	24	96	84
54	30	36	96	96
60	36	36	96	96
72	34	20	96	108



CONCRETE JOINT FASTENER (TWO PER JOINT)

PIPE DIA. IN.	F
18 - 30	5
36 - 42	6
48 - 60	7
72 - 84	9

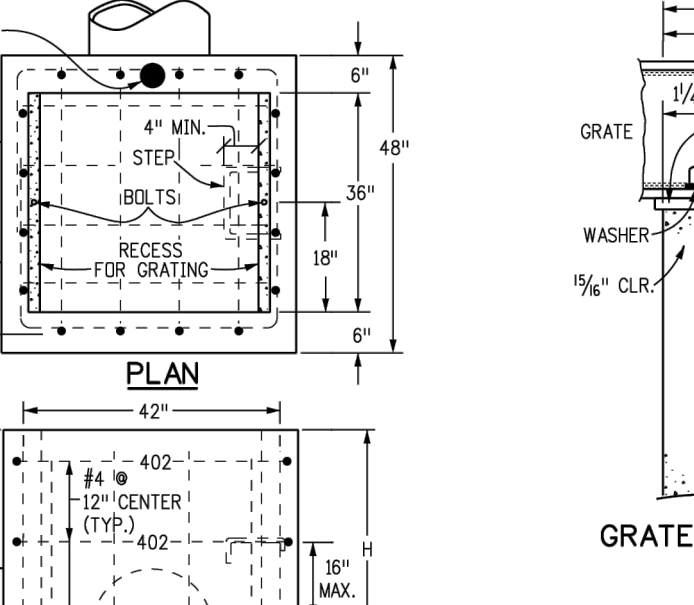
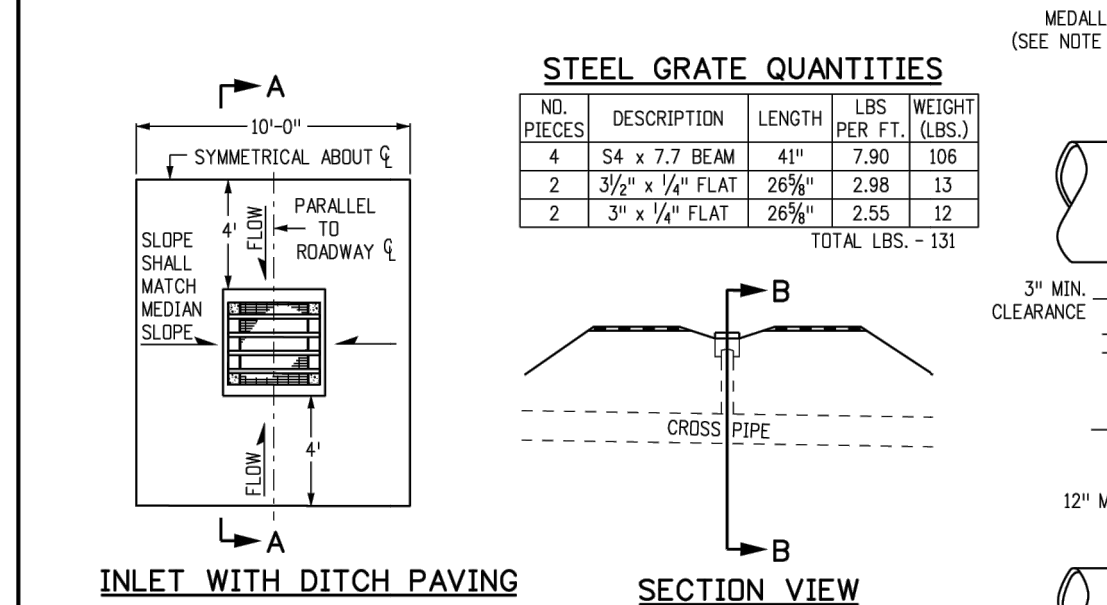


Computer File Information

Creation Date: 07/31/19
 Designer Initials: JBK
 Last Modification Date: 07/31/19
 Detailer Initials: LTA
 CAD Ver.: MicroStation V8
 Scale: Not to Scale
 Units: English

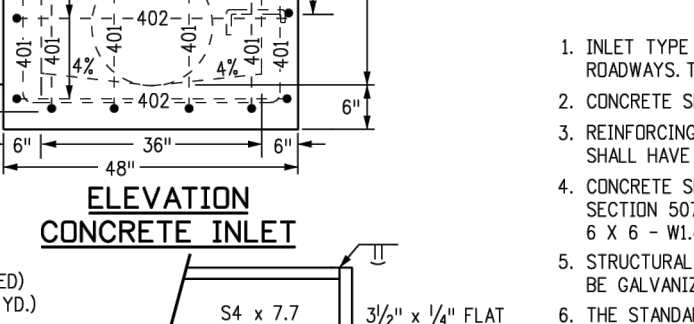
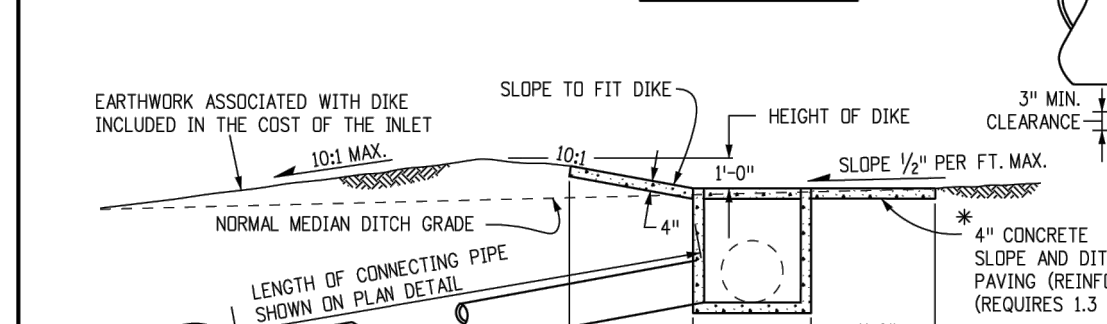
Standard Plan No. M-603-10

Standard Sheet No. 1 of 1



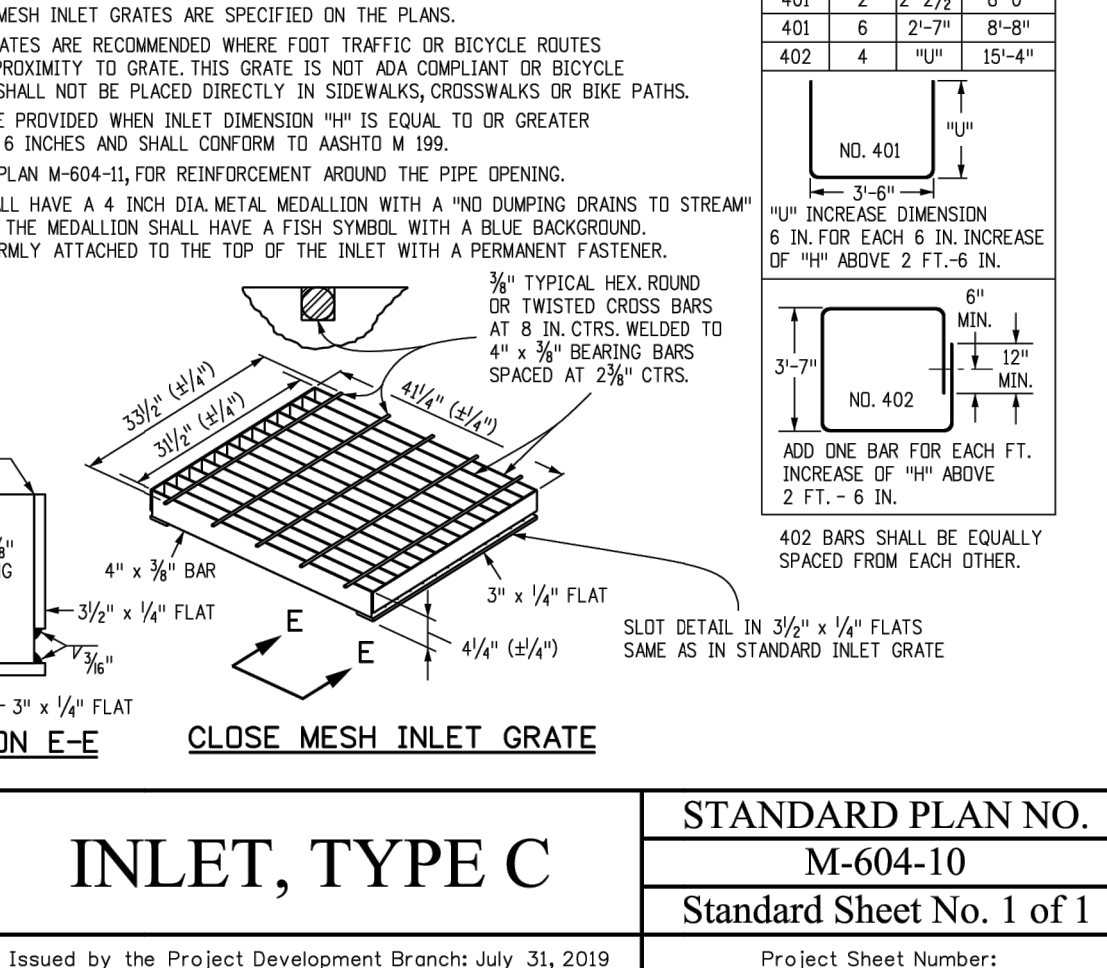
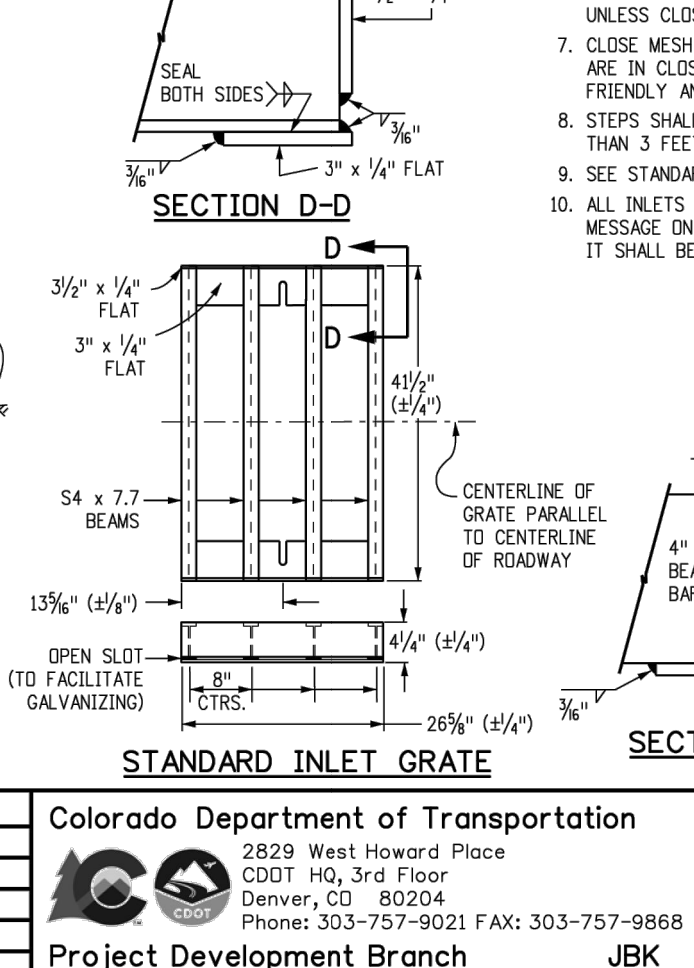
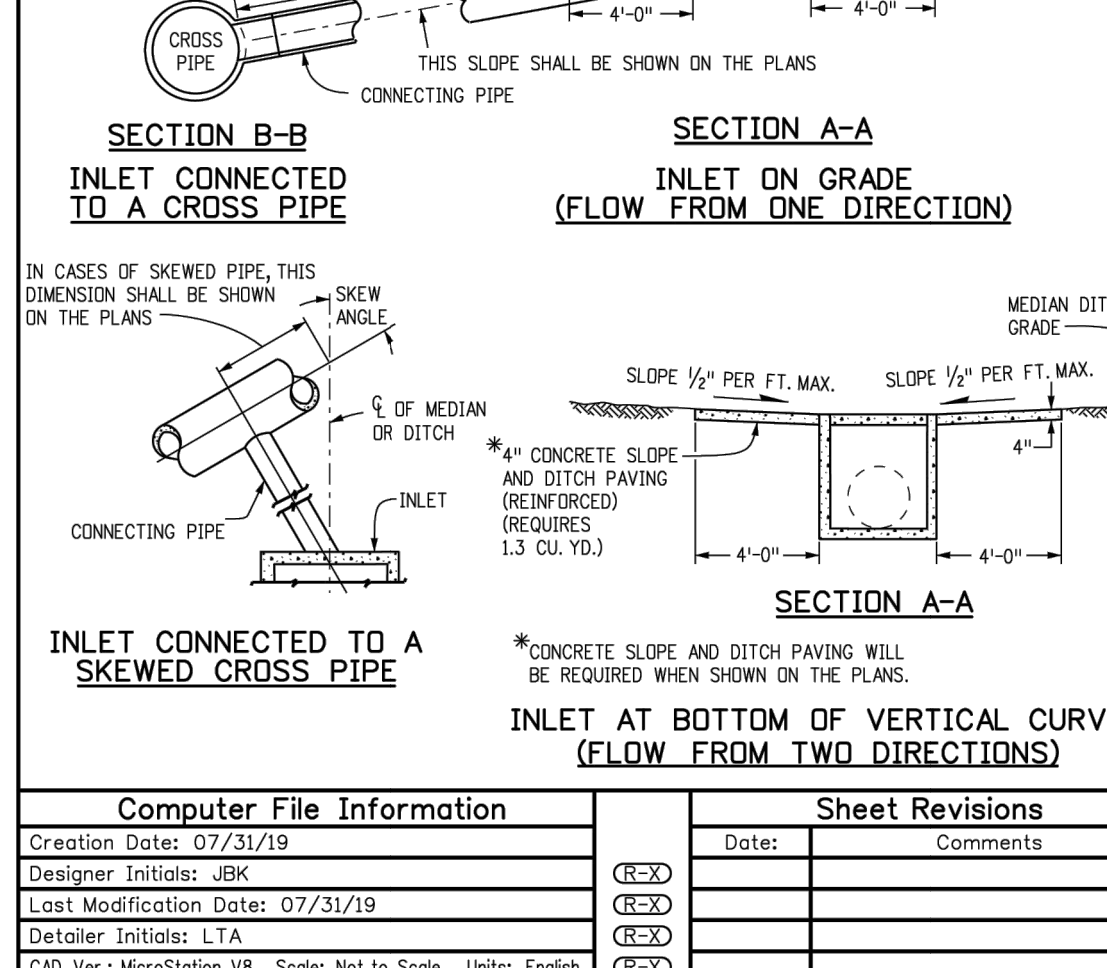
QUANTITIES FOR ONE INLET

H	CONCRETE (CU. YDS.)	STEEL (LBS.)	NO. STEPS REQ'D.
2'-0"	1.0	76	0
3'-0"	1.1	81	0
3'-6"	1.2	97	0
4'-0"	1.3	102	1
4'-6"	1.5	117	2
5'-0"	1.6	123	2
5'-6"	1.7	138	2
6'-0"	1.9	143	3
6'-6"	2.0	159	3
7'-0"	2.1	164	3
7'-6"	2.2	180	4
8'-0"	2.4	185	4
8'-6"	2.5	200	4
9'-0"	2.6	206	5
9'-6"	2.8	221	5
10'-0"	2.9	236	6
11'-6"	3.3	252	6



BAR LIST FOR H = 2 FT.-6 IN. AND ENDING DIAGRAM

MARK	NO.	HEIGHT	LENGTH
401	2	12'-0"	8'-0"
402	1	2'-0"	8'-0"
402	4	1'-0"	15'-4"

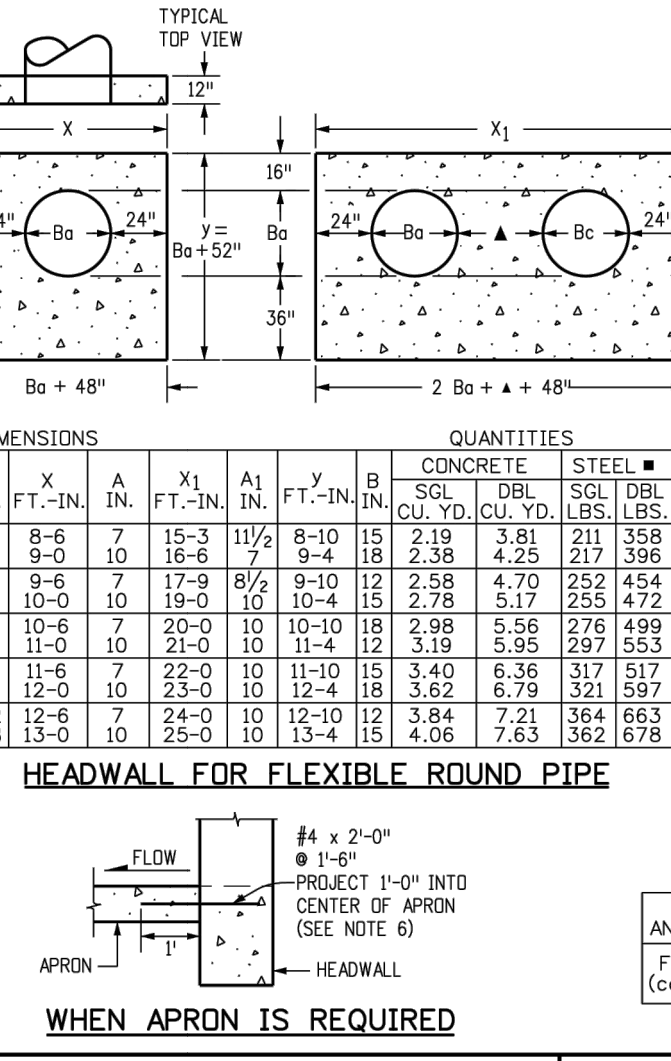
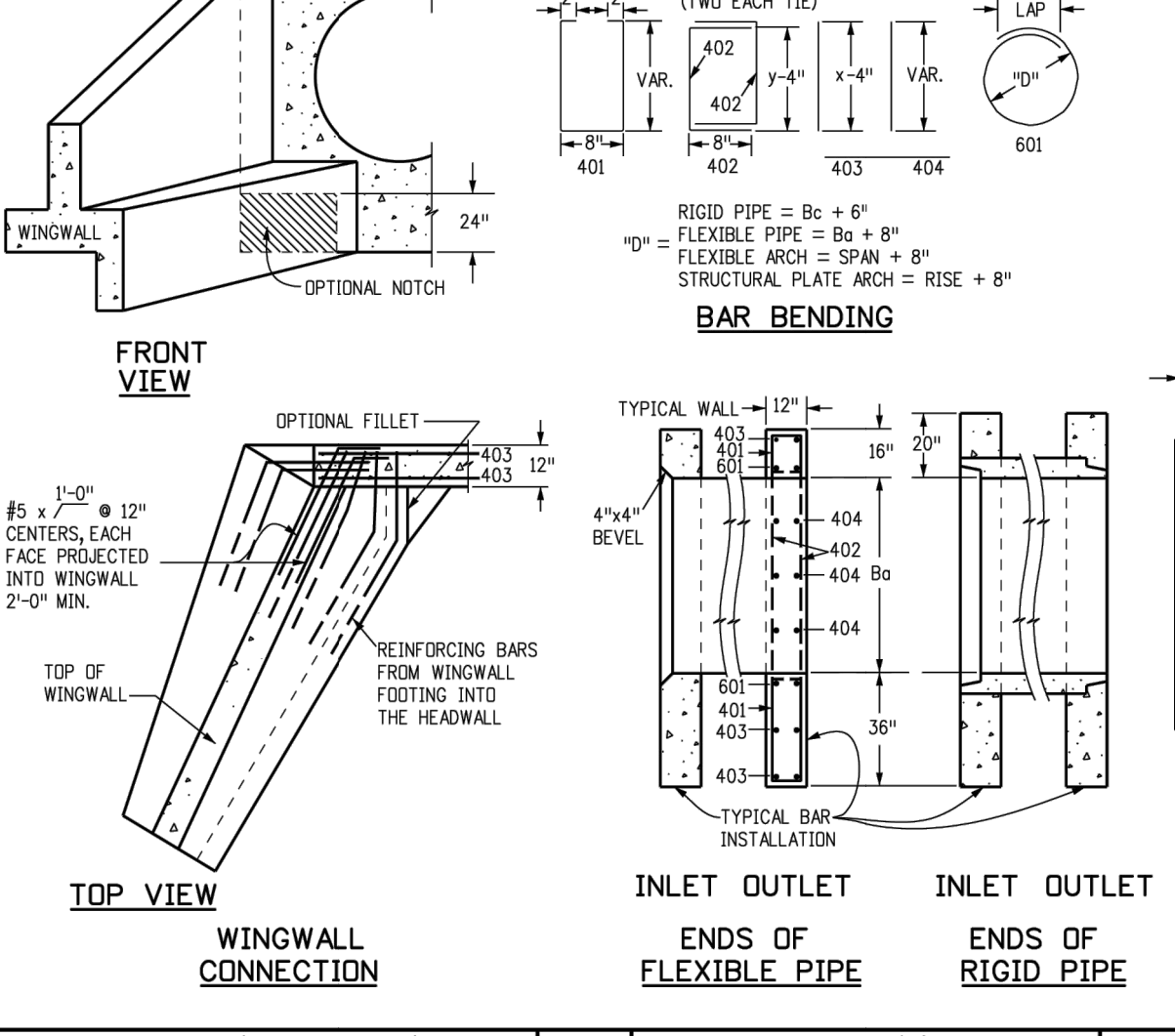
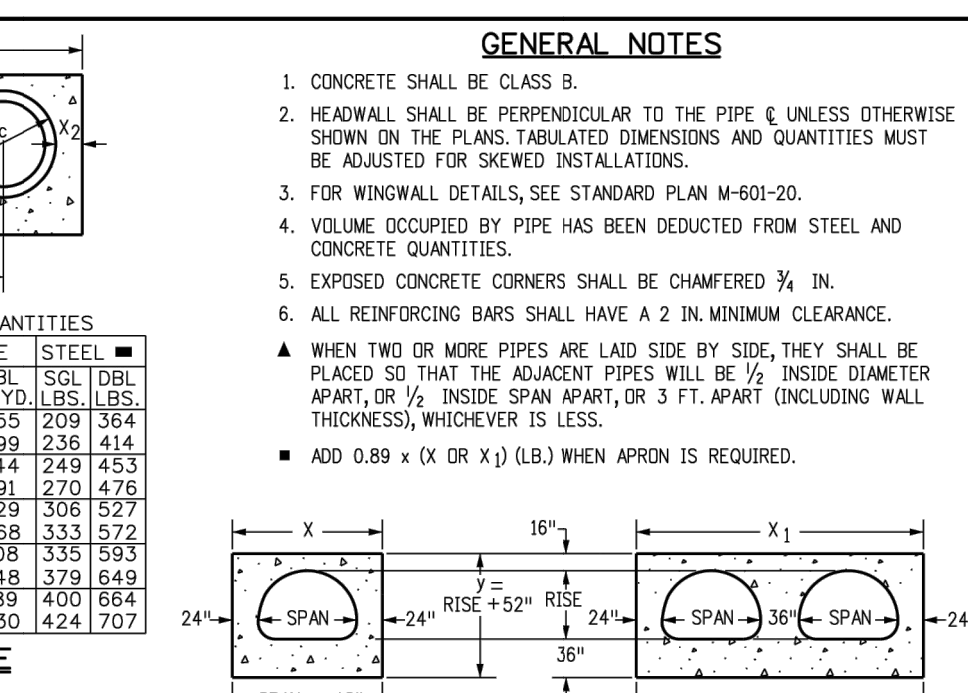
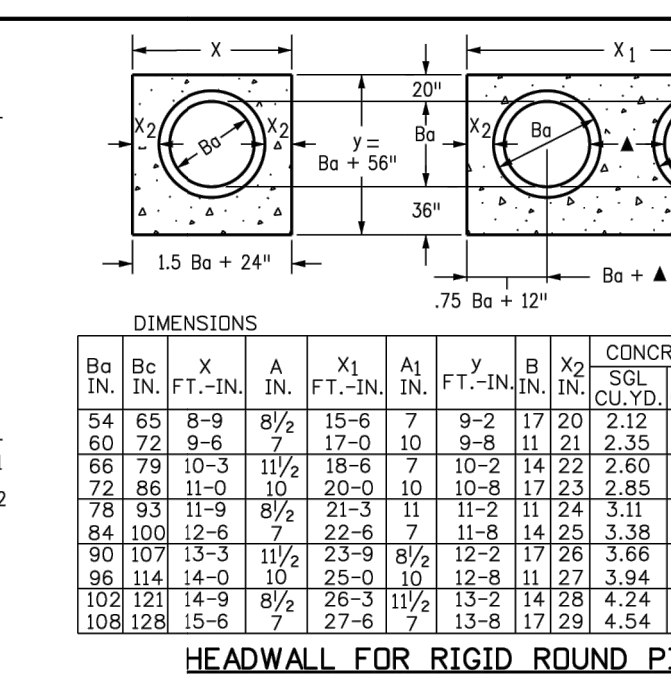
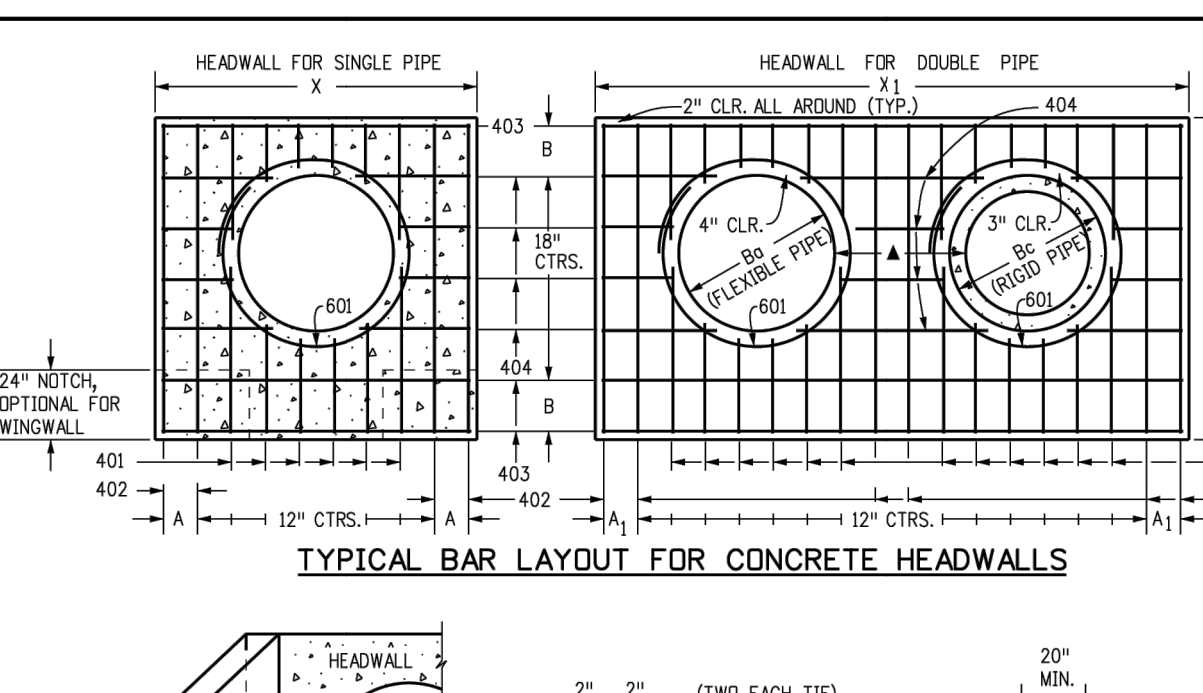


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 Scale: Not to Scale
 Units: English

Standard Plan No. M-604-10

Standard Sheet No. 1 of 1



SKREW FACTOR TABLE

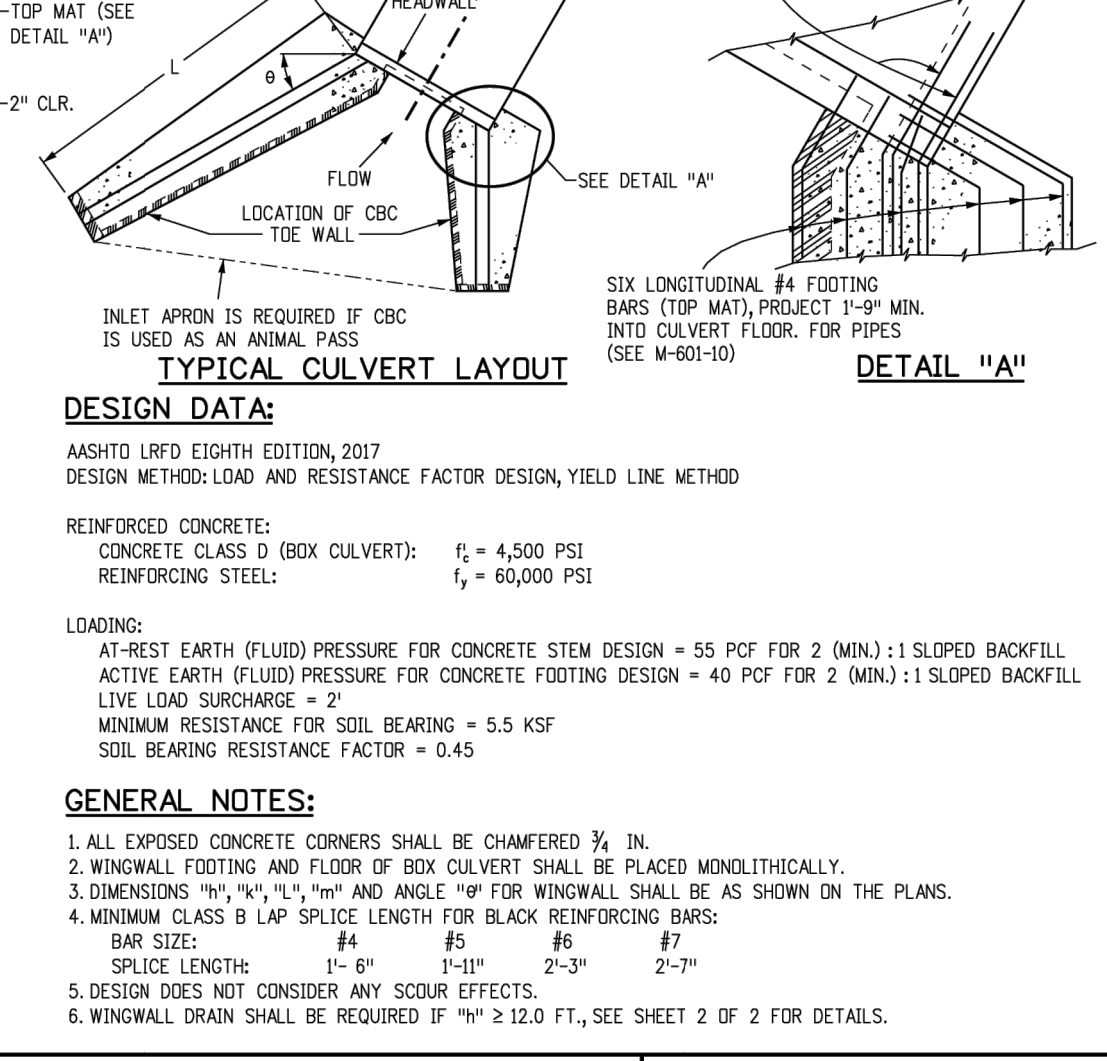
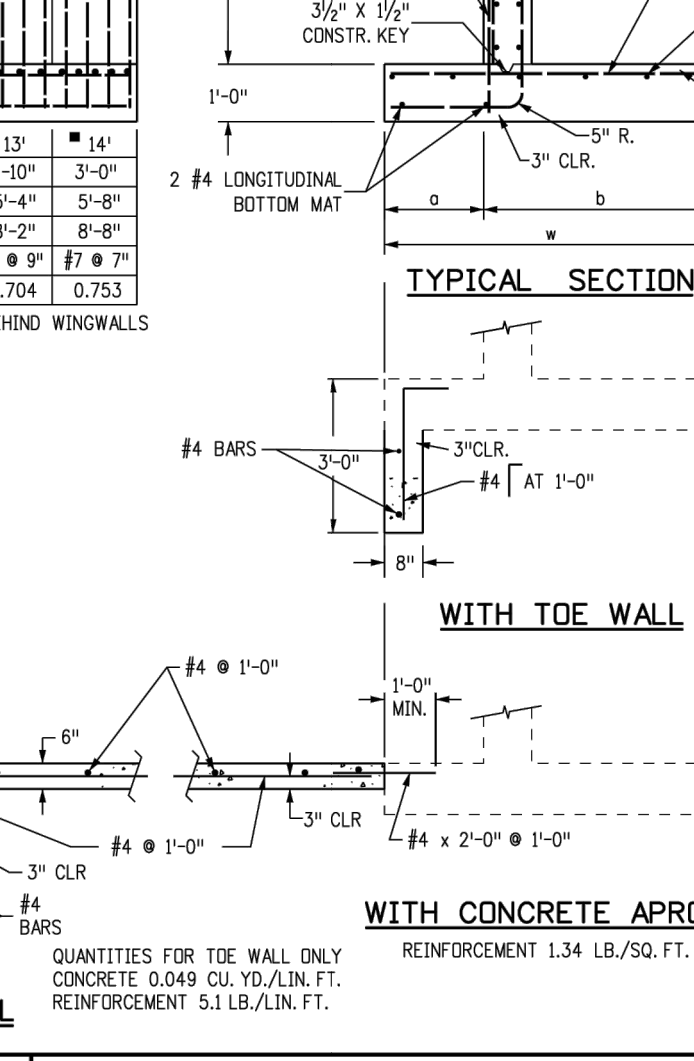
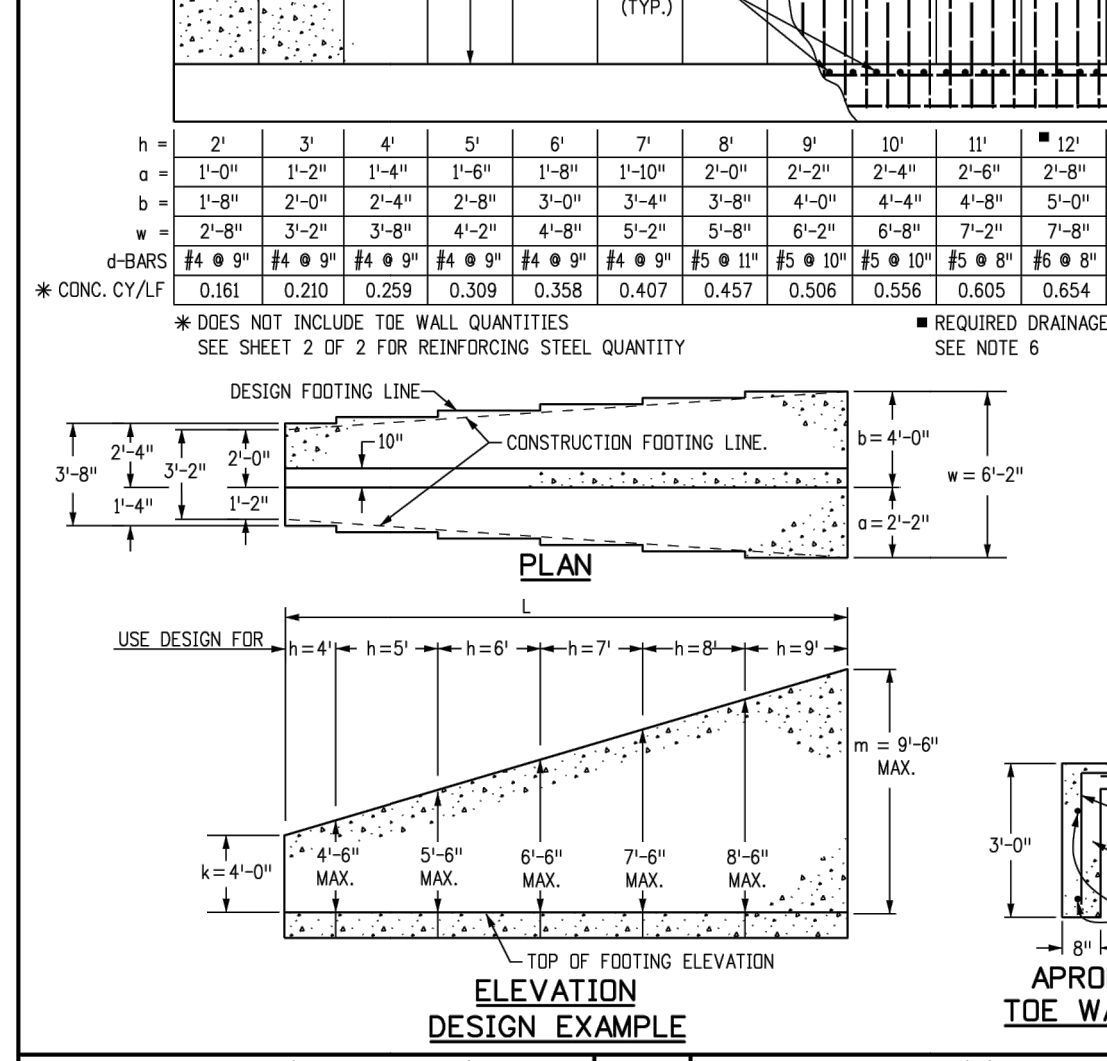
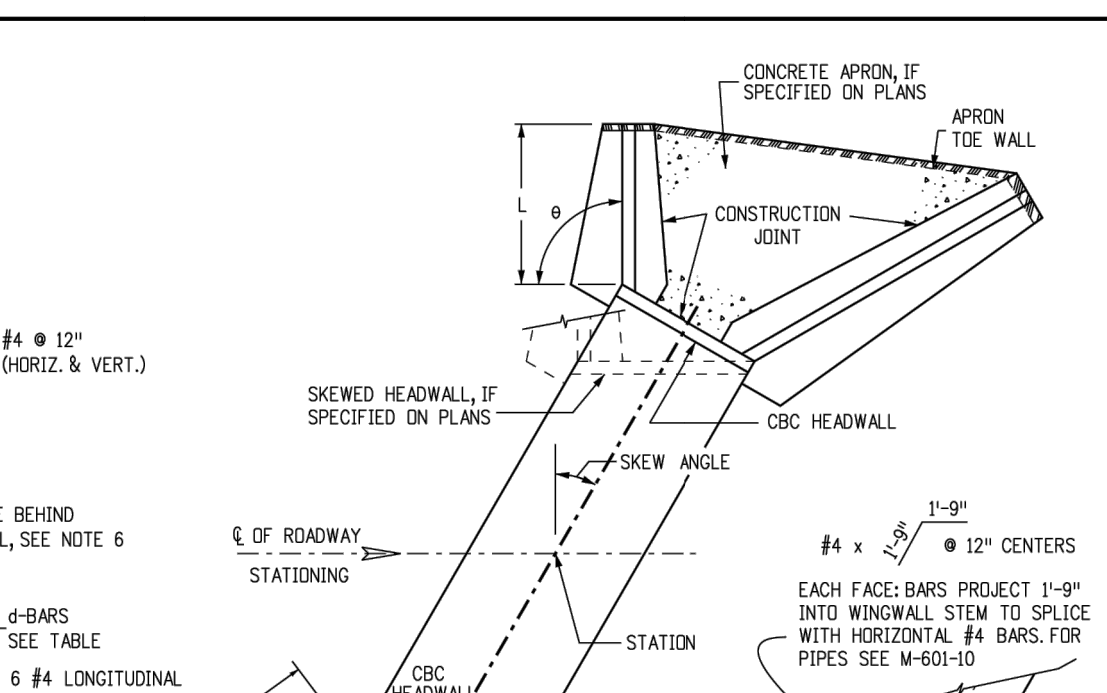
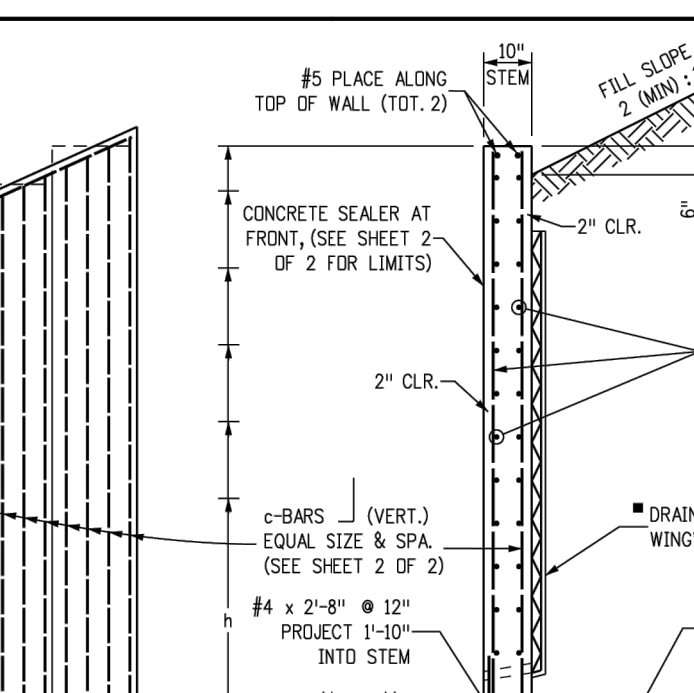
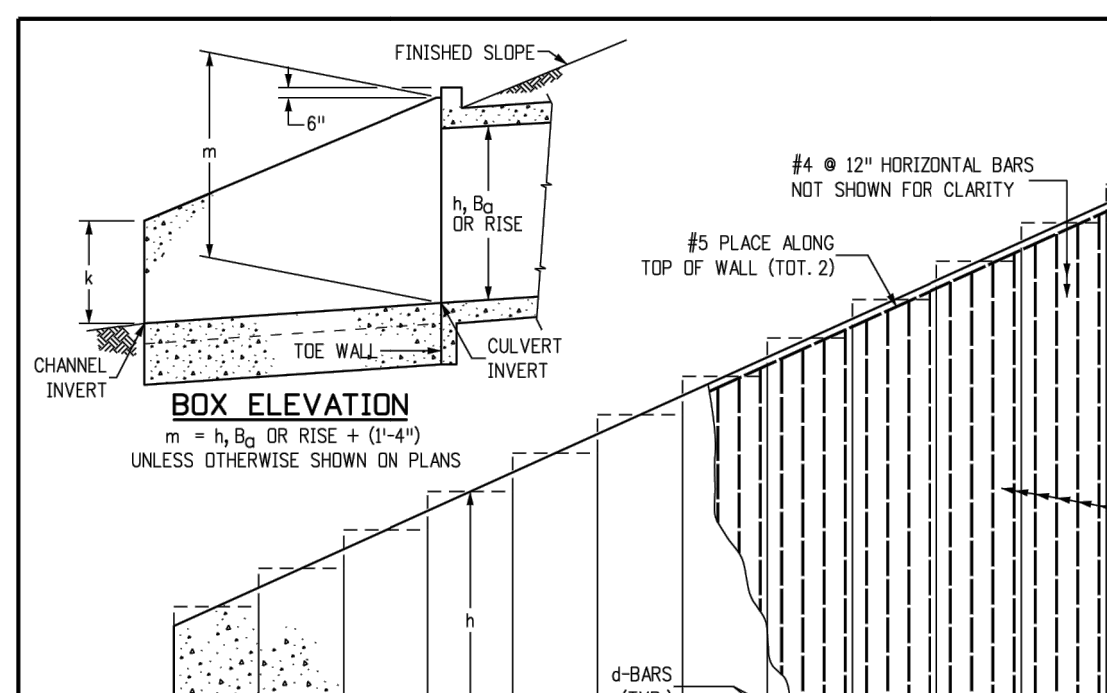
SKREW ANGLE A°	90	85	80	75	70	65	60	55	50	45	40	35	30
FACTOR	1.000	1.004	1.015	1.035	1.064	1.103	1.155	1.221	1.305	1.414	1.556	1.743	2.000

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Standard Plan No. M-601-10

Standard Sheet No. 1 of 1



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Standard Plan No. M-602-10

Standard Sheet No. 1 of 2

HEADWALL FOR PIPES

Colorado Department of Transportation, CDOT HQ, 3rd Floor, Denver, CO 80204, Phone: 303-757-9021 FAX: 303-757-9868, Project Development Branch, JBK, Issued by the Project Development Branch: July 31, 2019, Project Sheet Number:

WINGWALLS FOR PIPE OR BOX CULVERTS

Colorado Department of Transportation, CDOT HQ, 3rd Floor, Denver, CO 80204, Phone: 303-757-9021 FAX: 303-757-9868, Project Development Branch, JBK, Issued by the Project Development Branch: July 31, 2019, Project Sheet Number:

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UNLIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING, COLORADO SPRINGS, CO 80908 APPROVES THEIR USE FOR THE PROJECTS DESIGNATED BY THE ARTIST'S AUTHORIZATION.

PREPARED FOR VILLAGRE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CRAWFIELD (719) 413-6800

J.R. ENGINEERING A Westman Company Central 303-740-0888 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com

ESTATES AT CATHEDRAL PINES DETAILS

BY: DATE: NO. REVISION: N/A, N/A, 10/27/23, N/A, GAC

H-SCALE: V-SCALE: DATE: 10/27/23, DESIGNED BY: N/A, DRAWN BY: GAC, CHECKED BY:

ENGINEER'S STATEMENT: STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT. RYAN E. BURNS, P.E., COLORADO P.E. 0054412. FOR AND ON BEHALF OF JR ENGINEERING.

c-BARS AND REINFORCING STEEL QUANTITY (EXCLUDE TOE WALL)		* REINFORCING STEEL QUANTITY INCLUDES STEM AND FOOTING QUANTITIES, BUT DOES NOT INCLUDE TOE WALL QUANTITIES.													
m (FT)	k (FT)	≤ (1.0 x m)		≤ (1.25 x m)		≤ (1.5 x m)		≤ (1.75 x m)		≤ (2.0 x m)		≤ (2.25 x m)		≤ (2.5 x m)	
		c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)	c-BARS	* REINFORCING STEEL QUANTITY (LB./L.F.)
14	4	#4	53.80	#5	57.10	#5	59.60	#5	60.22	#5	62.43	#5	62.09	#5	65.15
	5	#4	55.86	#5	59.00	#5	61.80	#5	62.49	#5	64.88	#5	64.54	#5	67.60
	6	#4	57.00	#5	60.20	#5	63.00	#5	63.69	#5	66.08	#5	65.74	#5	68.80
	7	#4	58.20	#5	61.40	#5	64.20	#5	64.89	#5	67.28	#5	66.94	#5	70.00
	8	#4	59.40	#5	62.60	#5	65.40	#5	66.09	#5	68.48	#5	68.14	#5	71.20

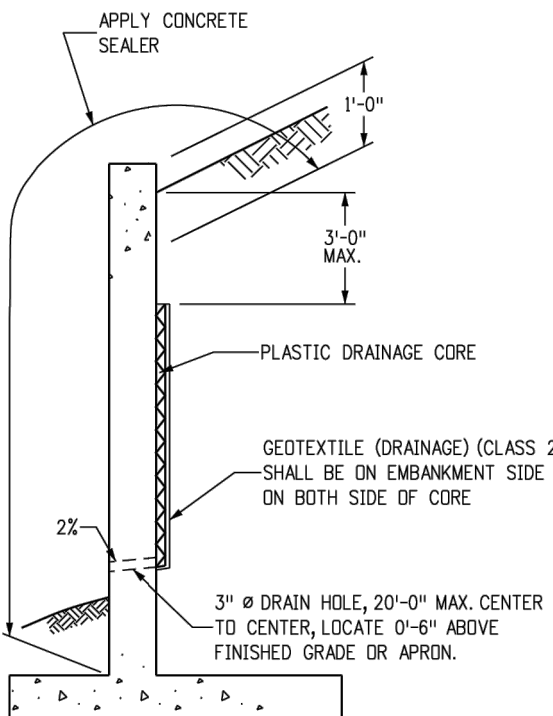
EXAMPLE:
SELECT THE c-BARS SIZE, SPACING AND STEEL QUANTITY FOR A 25.0 FEET LONG WINGWALL WITH m = 18.8 FT. AND k = 6.3 FT.

SOLUTION:
1. DETERMINE WINGWALL LENGTH IN MULTIPLE OF 'm'
L / m = 25.0 / 18.8 = 1.33
L = (2.12 x m), USE L = (2.25 x m)

2. ROUND TO NEAREST WHOLE NUMBER FOR m AND k:
m = 18.8 FT., USE m = 12.0 FT.
k = 6.3 FT., USE k = 6.0 FT.

3. DETERMINE c-BARS BY USING THE TABLE:
L ≤ (2.25 x m)
m = 12
k = 6
c-BARS: #6 @ 10"
REIN. STEEL = 60.60 LB / LF

4. DETERMINE REINFORCING STEEL QUANTITY OF WHOLE WINGWALL:
REINFORCING STEEL QUANTITY = 25.0 x 60.60 = 1,515 LB.



LIMITS OF CONCRETE SEALER AND WINGWALL DRAIN DETAILS

NOTES: 1. THE GEOTEXTILE SHALL BE SECURED TO THE WALL TO PREVENT MOVEMENT DURING BACKFILLING.
2. COST OF GEOTEXTILE DRAIN AND CONCRETE SEALER SHALL BE INCLUDED IN THE WORK.

- CAST-IN-PLACE STRUCTURAL NOTES:**
- 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.
 - DO NOT BACKFILL UNTIL CONCRETE HAS REACHED DESIGN STRENGTH, F_c.
 - ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4".
 - CONTRACTOR SHALL SUBMIT STEEL REINFORCING SHOP DRAWINGS FOR ALL CAST-IN-PLACE STRUCTURES FOR ENGINEER'S APPROVAL PRIOR TO CONSTRUCTION.
 - HEADWALLS FOR PIPES SHALL BE CONSTRUCTED PER CDDT M-601-10.
 - WINGWALLS SHALL BE CONSTRUCTED PER CDDT M-601-20.

Computer File Information Creation Date: 07/31/19 Designer Initials: JBK Last Modification Date: 07/31/19 Detailer Initials: LJA CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	Sheet Revisions <table border="1"> <tr><th>Date</th><th>Comments</th></tr> <tr><td> </td><td> </td></tr> </table>	Date	Comments			Colorado Department of Transportation 2829 West Howard Place CDDT HQ, 3rd Floor Denver, CO 80204 Phone: 303-757-9021 FAX: 303-757-9868 Project Development Branch JBK	WINGWALLS FOR PIPE OR BOX CULVERTS Issued by the Project Development Branch, July 31, 2019	STANDARD PLAN NO. M-601-20 Standard Sheet No. 2 of 2 Project Sheet Number:
Date	Comments							

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 CDDT 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, 0.8f_c'.

REINFORCED CONCRETE:
 CLASS D CONCRETE: f_c'=4,500 psi
 REINFORCING STEEL: f_y=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"	#5	1'-10"
#6	2'-5"	#7	2'-10"
#8	3'-8"	#9	4'-8"
#10	5'-11"	#11	7'-3"

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

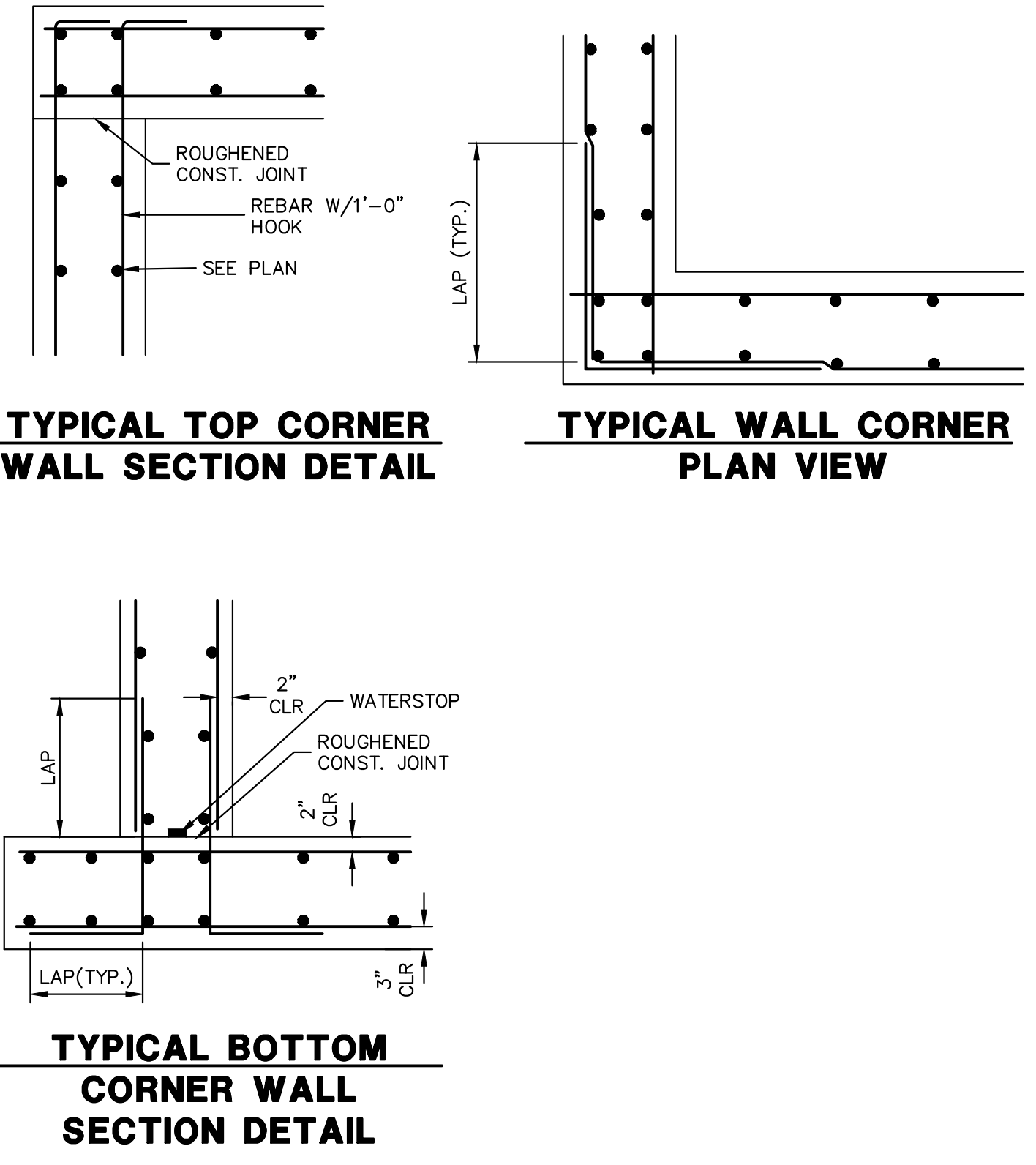
STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

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
 F.E. = FAR FACE
 N.F. = NEAR FACE
 I.F. = INSIDE FACE
 T.W. = TWO WAY
 E.S. = EACH SIDE

O.F. = OUTSIDE FACE
 T.&B. = TOP AND BOTTOM
 T.F. = TOP FACE
 B.F. = BOTTOM FACE
 T.F. = TWO FACES
 Lp = LAP LENGTH



UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, OR ENGINEER APPROVES THEIR USES DESIGNATED BY THESE AUTHORIZATION.	VILLAGREE DEVELOPMENT LLC 5710 VESSEY RD COLORADO SPRINGS, CO 80908 GREGG & ELAINE CRAWFIELD (719) 413-6800	J.R. ENGINEERING A Westman Company Centennial 303-740-0383 • Colorado Springs 719-583-2583 Fort Collins 970-491-9888 • www.jrengineering.com	BY	DATE										
			No.	REVISION										
			H-SCALE	N/A	V-SCALE	N/A	DATE	10/27/23	DESIGNED BY	N/A	DRAWN BY	GAG	CHECKED BY	
ESTATES AT CATHEDRAL PINES DETAILS														

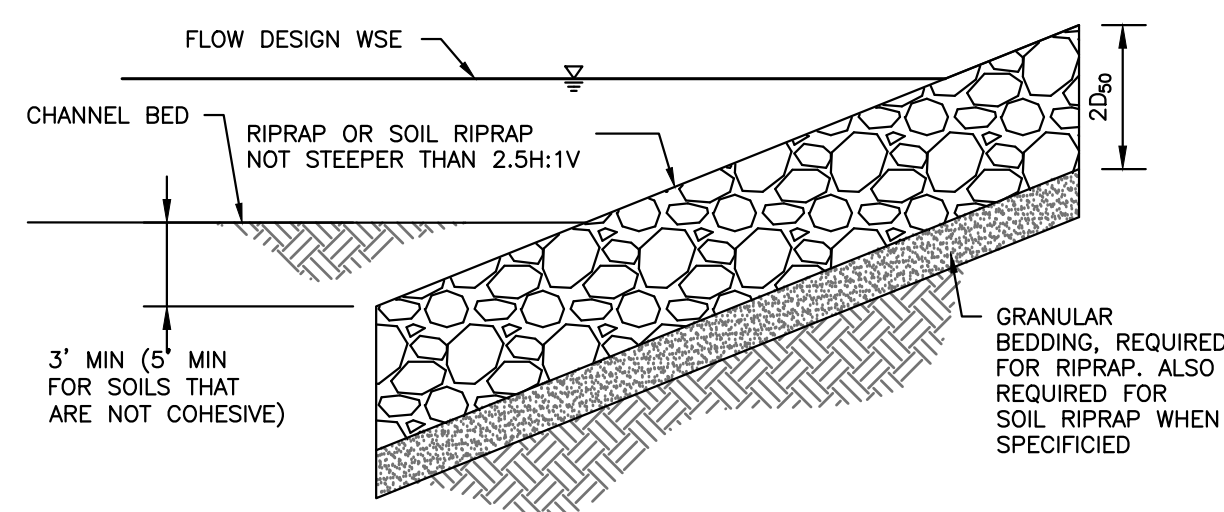


ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

0054412

RYAN E. BURNS, P.E.
 COLORADO P.E. 0054412
 FOR AND ON BEHALF OF JR ENGINEERING



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

*D₅₀ = MEAN ROCK SIZE

SOIL RIPRAP NOTES:

- 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.
- 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.
- 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.
- ALL SOIL RIPRAP THAT IS BURIED WITH TOPSOIL SHALL BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ANY TOPSOIL PLACEMENT.

U.S. STANDARD SIEVE SIZE	GRADATION FOR GRANULAR BEDDING	
	PERCENT PASSING BY WEIGHT	
	TYPE I CDOT SECT. 703.01	TYPE II CDOT SECT. 703.09 CLASS A
3 INCHES	-	90 - 100
1½ INCHES	-	-
¾ INCHES	-	20 - 90
⅜ INCHES	100	-
#4	95 - 100	0 - 20
#16	45 - 80	-
#50	10 - 30	-
#100	2 - 10	-
#200	0 - 2	0 - 3

RIPRAP BEDDING

RIPRAP DESIGNATION	THICKNESS REQUIREMENTS FOR GRANULAR BEDDING		
	MINIMUM BEDDING THICKNESS (INCHES)		
	FINE-GRAINED SOILS ¹		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 IN)	4	6	8

- NOTES:
- 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.
 - FIFTY PERCENT OR MORE BY WEIGHT RETAINED ON THE #40 SIEVE.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE. THESE DRAWINGS ARE DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
VILLAGREE DEVELOPMENT LLC
 5710 VESSEY RD
 COLORADO SPRINGS, CO 80908
 GREGG & ELAINE CAWFIELD
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BY	DATE	No.	REVISION

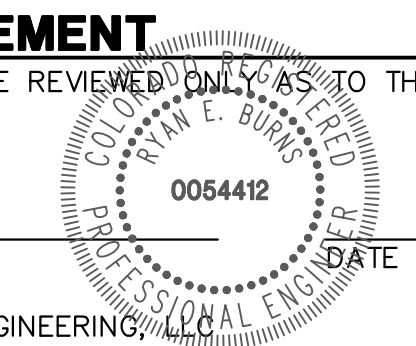
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				10/27/23	N/A	GAG	

ESTATES AT CATHEDRAL PINES
 DETAILS



ENGINEER'S STATEMENT
 STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

RYAN E. BURNS, P.E.
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