

COUNTY OF EL PASO, STATE OF COLORADO

STREET IMPROVEMENT PLANS

 FOR LOCATING
& MARKING
GAS,
ELECTRIC,
WATER &
TELEPHONE
LINES

FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

E-C	CENTERLINE INTERSECTION	WT	WATER
E-L	FLOWLINE INTERSECTION	STRM	STORM SEWER
BT	BEGIN TRANSITION	SI	STREET IMPROVEMENT
ET	END TRANSITION	BOP	BOTTOM OF PIPE
PC	POINT OF CURVE	TOP	TOP OF PIPE
CC	POINT OF COMPOUND CURVE	CL	CENTERLINE
PCR	POINT OF CURB RETURN	MH	MANHOLE
PRC	POINT OF REVERSE CURVE	STA	STATION
PT	POINT OF TANGENT	PUB	PUBLIC
EL	ELEVATION	PRI	PRIVATE
VERT	VERTICAL	PVC	POLYVINYL CHLORIDE
HORZ	HORIZONTAL	RCF	REINFORCED CONCRETE PIPE
DEFL	DEFLECTION	DIA	DIAMETER
LT	LEFT	EAL	ELEVATION
RT	RIGHT	XING	CROSSING
FL	FLOWLINE	CLR	CLEARANCE
FES	FLARE END SECTION	STA	STATION
S	SLOPE	LF	LINEAR FEET
HGL	HYDRAULIC GRADE LINE	EXIST	EXISTING
TBC	TOP BACK OF CURB	PROP	PROPOSED
CRD	GROUND	YR	YEAR
TOB	TOP OF BOX	F4	FILING 4
		NTS	NOT TO SCALE
		SHT	SHEET
		P&P	PLAN & PROFILE
		MOD.	MODIFIED
		NO.	NUMBER
		DR.	DRIVE

3. 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.
4. 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.
5. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
6. 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 DEVELOPMENT SERVICES ENGINEERING DIVISION.
7. 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).
8. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K - 1.2C.
9. 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.
10. 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 INSTALLMENT 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.
11. 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.

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



SCALE: NTS

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



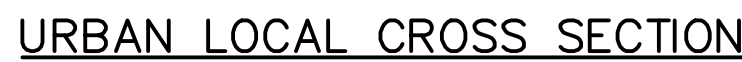
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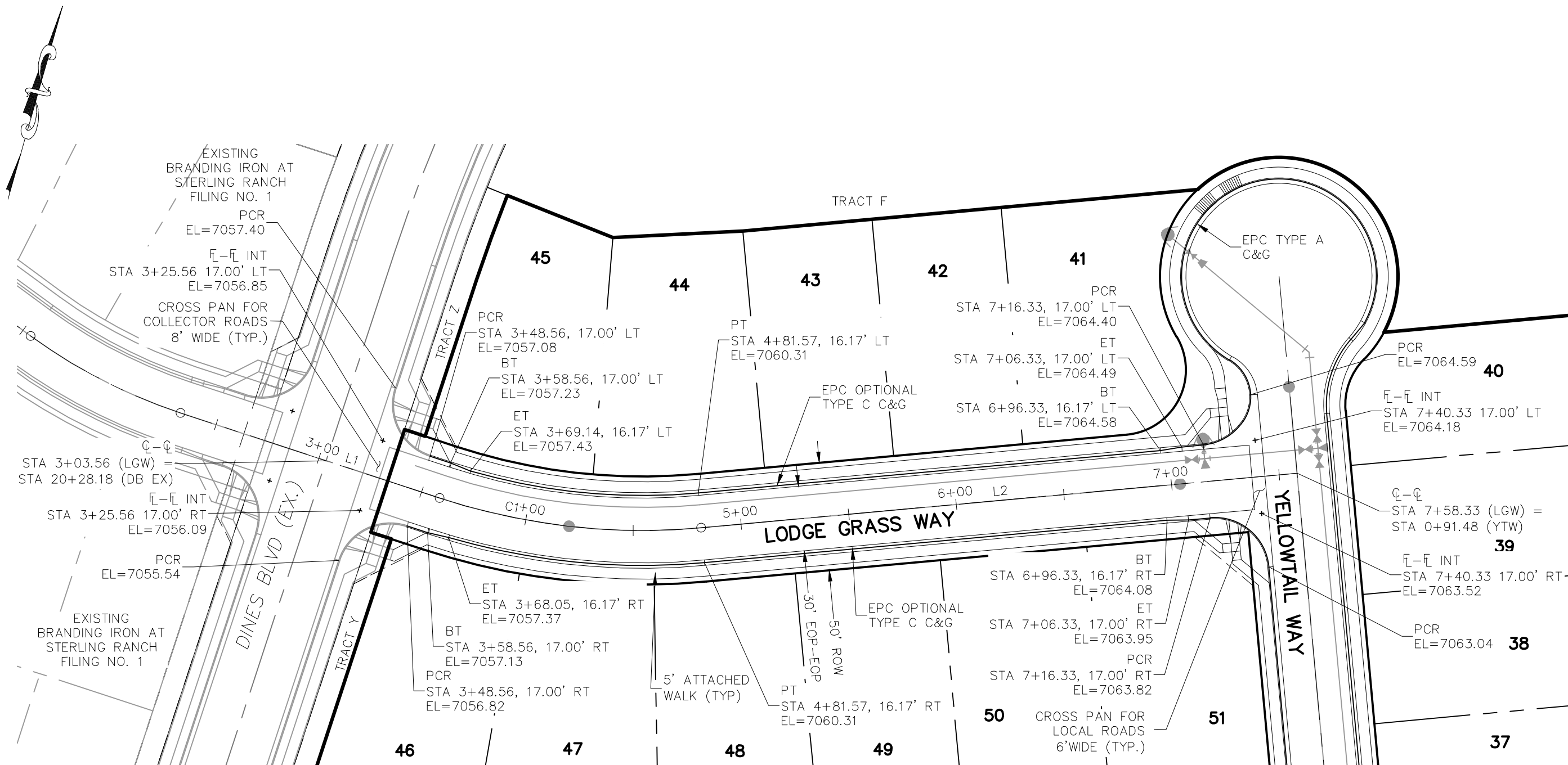
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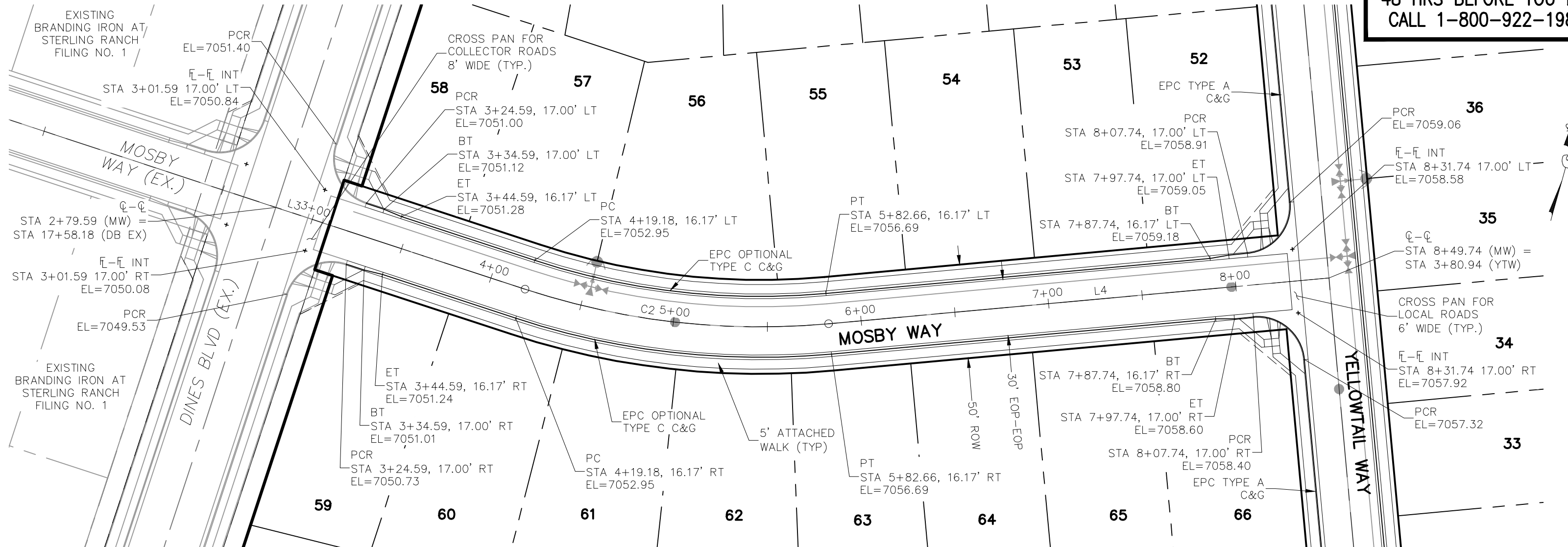
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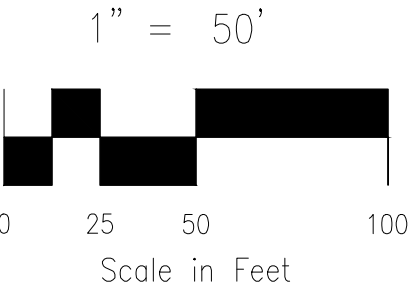
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LODGE GRASS WAY
STA 3+25.56 TO STA 7+40.33

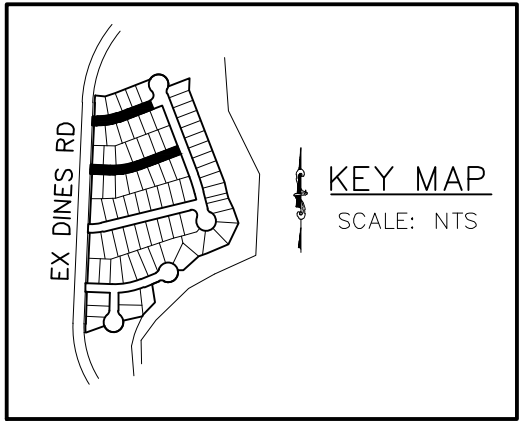


MOSBY WAY
STA 3+01.60 TO STA 8+31.74



CENTERLINE LINE TABLE		
LINE	LENGTH	DIRECTION
L1	55.40'	S87°35'34"E
L2	276.76'	N68°59'22"E
L3	139.58'	S87°35'34"E
L4	267.08'	N68°59'22"E

CENTERLINE CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	300.00'	122.61'	23°25'04"
C2	400.00'	163.49'	23°25'04"

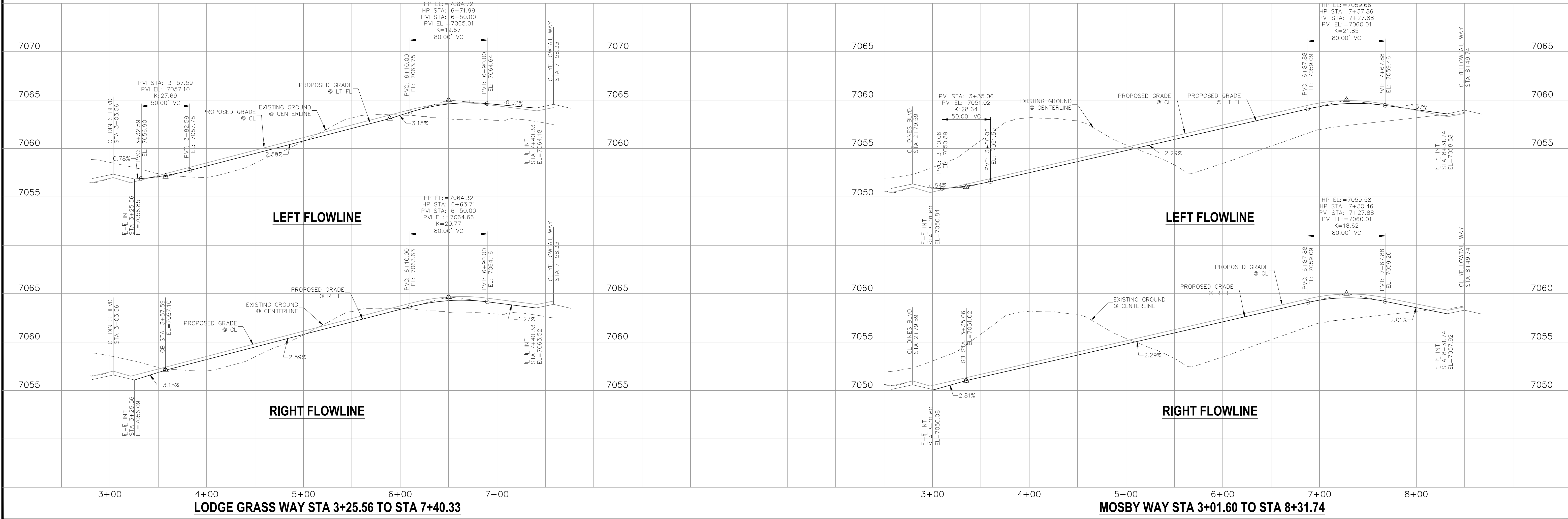


ABBREVIATION LEGEND

C-C CENTERLINE INTERSECTION
F-L FLOWLINE INTERSECTION
BT BEGIN TRANSITION
ET END TRANSITION
PC POINT OF CURVE
PCC POINT OF COMPOUND CURVE
PCR POINT OF CURB RETURB
PRC POINT OF REVERSE CURVE
PT POINT OF TANGENT
EL ELEVATION
LT LEFT
RT RIGHT

STREET ABBREVIATIONS

LGW LODGE GRASS WAY
YTW YELLOWTAIL WAY
MW MOSBY WAY
WFW WHITEFISH WAY
SW SPRAGUE WAY
MLC MISTY LAKE COURT
DB EX EXISTING DINES BOULEVARD
CUL-DE-SAC CUL-DE-SAC
KN KNUCKLE



BRANDING IRON AT STERLING RANCH FILING NO. 2

STREET IMPROVEMENT PLANS

PROJECT NO. 09-012

DATE: 08/21/2019

DESIGNED BY: JWP

DRAWN BY: JWP

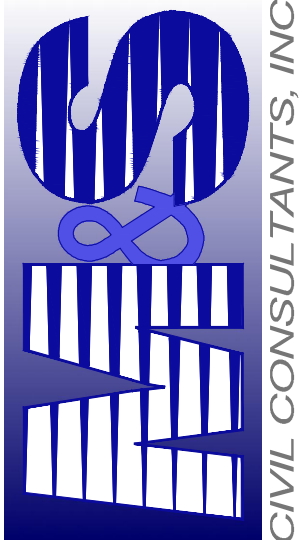
CHECKED BY: GW

SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

SHEET 3 OF 8

SIO3

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485


CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF
M&S CIVIL CONSULTANTS, INC.

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES
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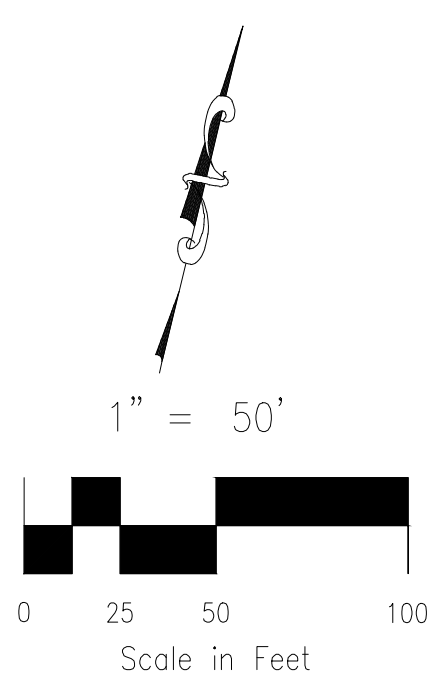
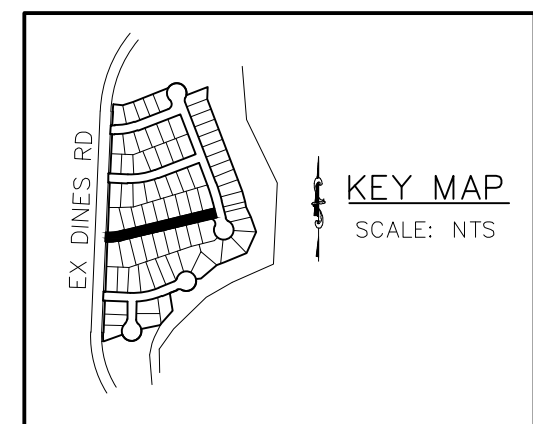
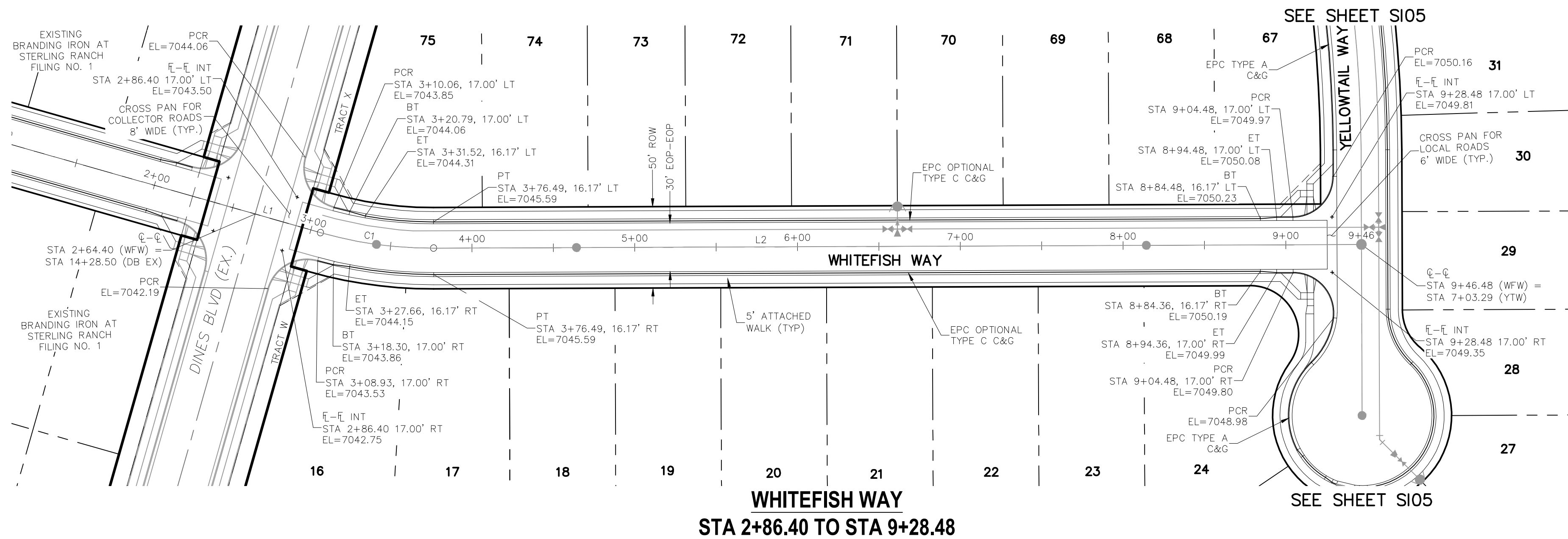
REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPROVED BY:	DATE:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

CENTERLINE CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	250.00'	70.36'	16°07'30"



 FOR LOCATING
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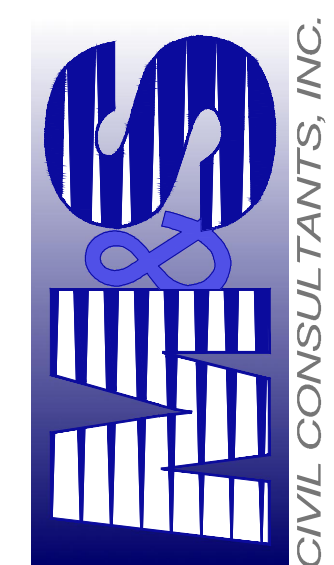
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BRANDING IRON AT STERLING RANCH FILING NO. 2

STREET IMPROVEMENT PLANS

PROJECT NO. 09-012	SCALE:	DATE: 08/21/2019
DESIGNED BY: JWP	HORIZONTAL: 1"=50'	SHEET 4 OF 8
DRAWN BY: JWP	VERTICAL: 1"=10'	
CHECKED BY: GW		

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

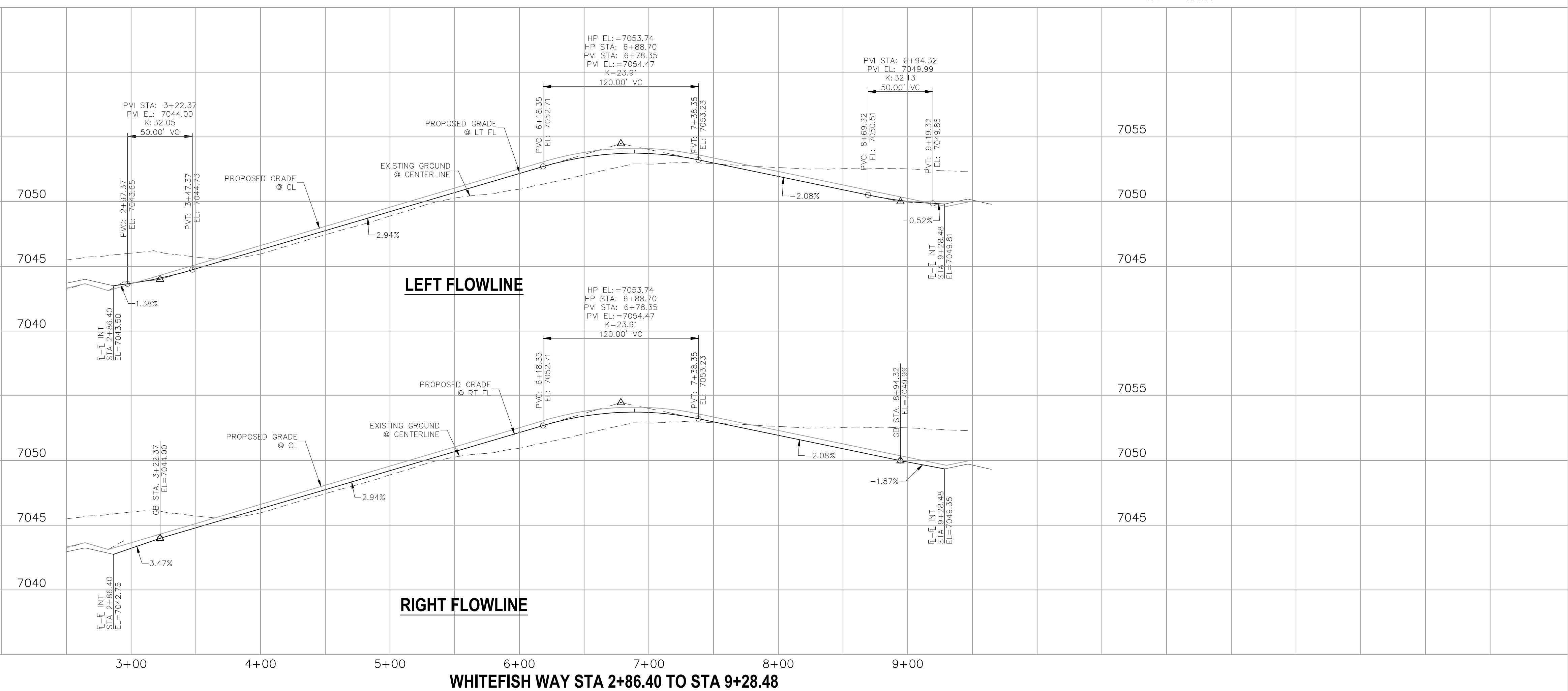


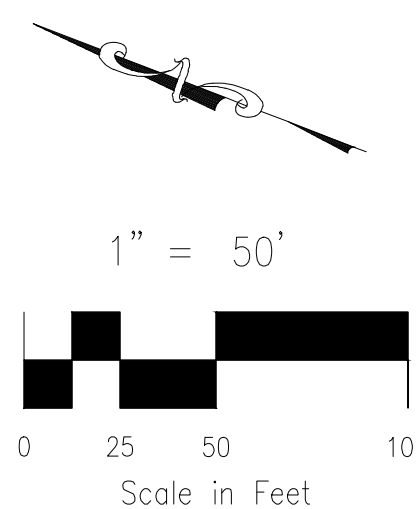
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.

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CAUTIC

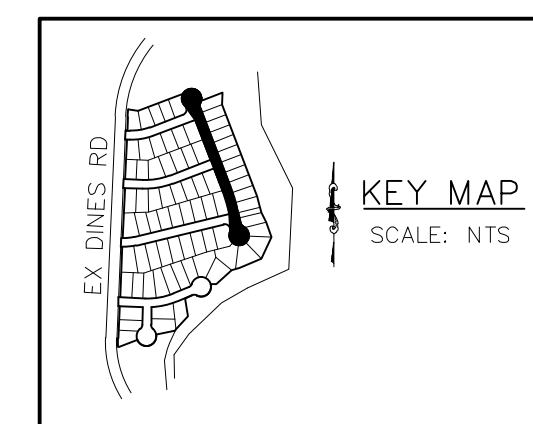




20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485



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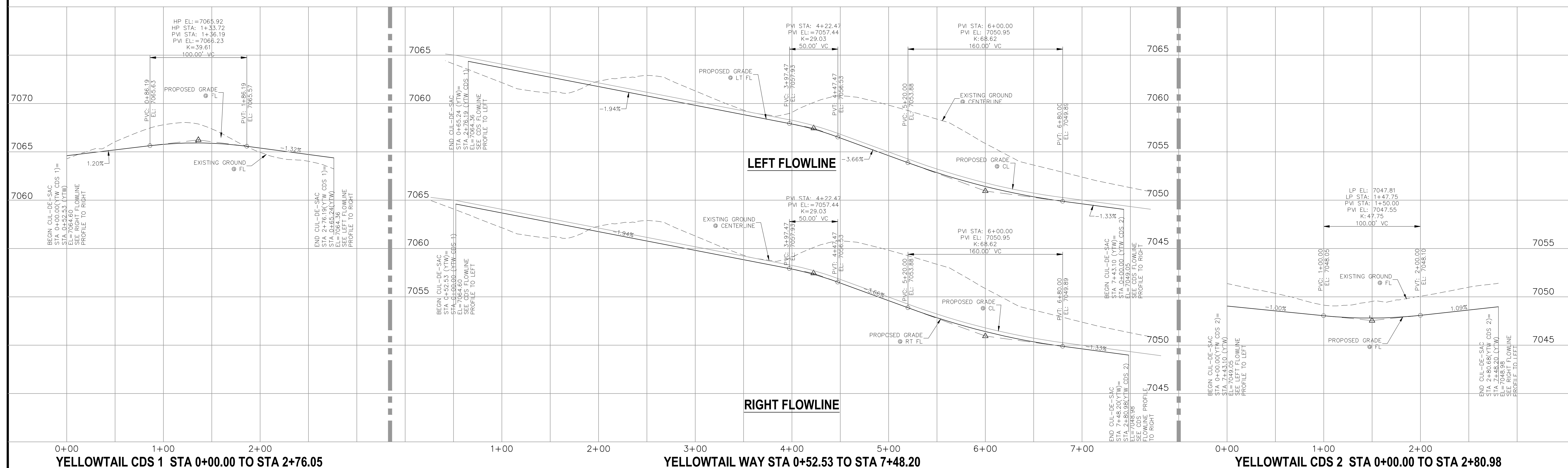


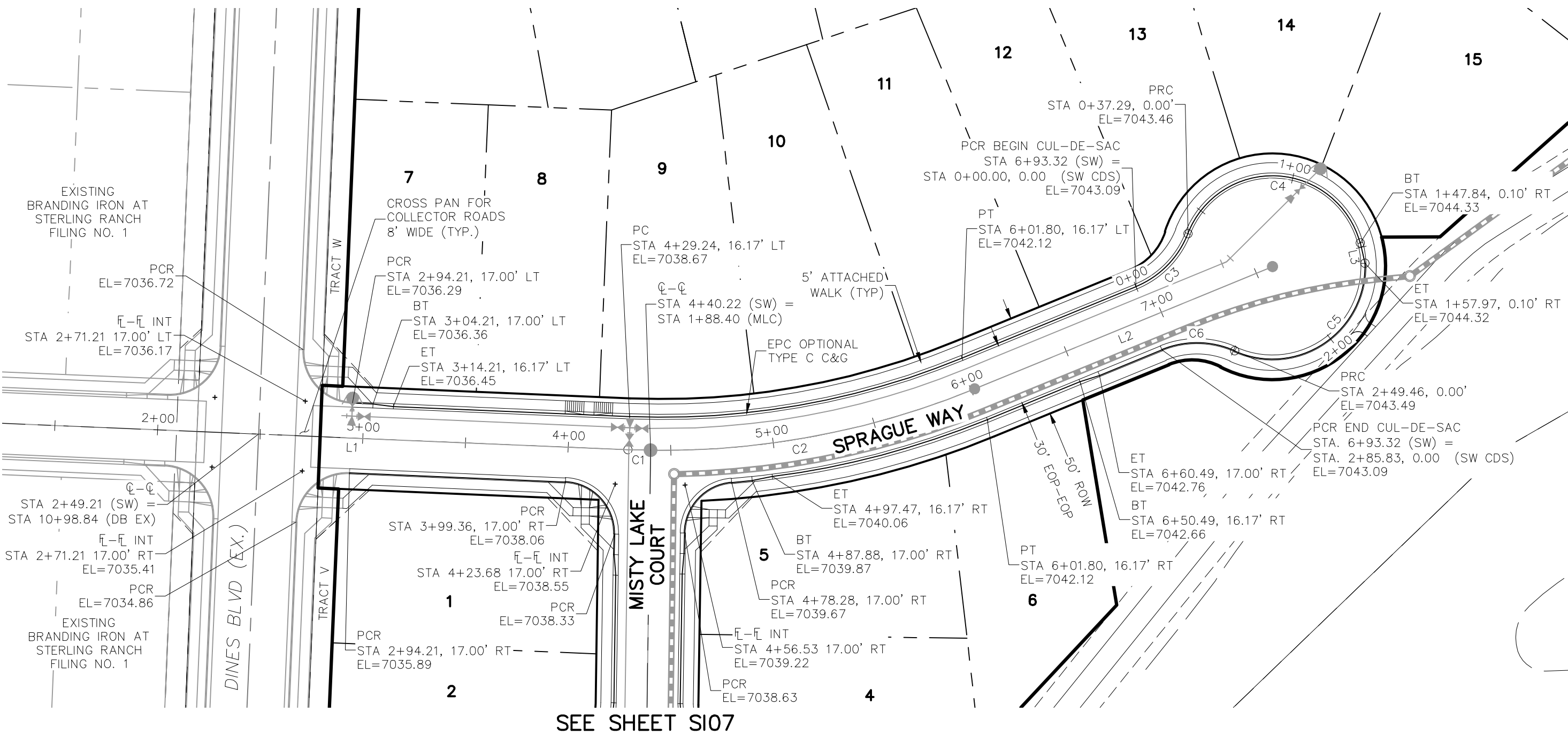
CENTERLINE CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	800.00'	101.82'	71°7'33"
C2	20.00'	18.76'	53°45'12"
C3	45.00'	210.32'	26°74'06"
C4	45.83'	37.16'	46°27'28"
C5	45.83'	37.16'	46°27'28"
C6	44.17'	102.12'	132°28'33"
C7	45.00'	3.00'	34°9'14"
C8	45.00'	31.34'	39°54'05"
C9	45.00'	3.00'	34°9'14"
C10	44.17'	19.23'	24°56'28"
C11	45.00'	58.34'	74°16'49"

ABBREVIATION LEGEND

C-C	CENTERLINE INTERSECTION
$\overline{L-L}$	FLOWLINE INTERSECTION
BT	BEGIN TRANSITION
ET	END TRANSITION
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PCR	POINT OF CURB RETURN
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PT	POINT OF TANGENT
EL	ELEVATION
LT	LEFT
RT	RIGHT

LGW	LODGE GRASS WAY
YTW	YELLOWTAIL WAY
MW	MOSBY WAY
WFW	WHITEFISH WAY
SW	SPRAGUE WAY
MLC	MISTY LAKE COURT
DB EX	EXISTING DINES BOULEVARD
CDS	CUL-DE-SAC
KN	KNUCKLE





SPRAGUE WAY
STA 2+71.21 TO STA 6+93.32

CENTERLINE LINE TABLE		
LINE	LENGTH	DIRECTION
L1	180.03'	S87°35'34"E
L2	156.76'	N67°41'20"E
L3	10.13'	S13°16'34"E

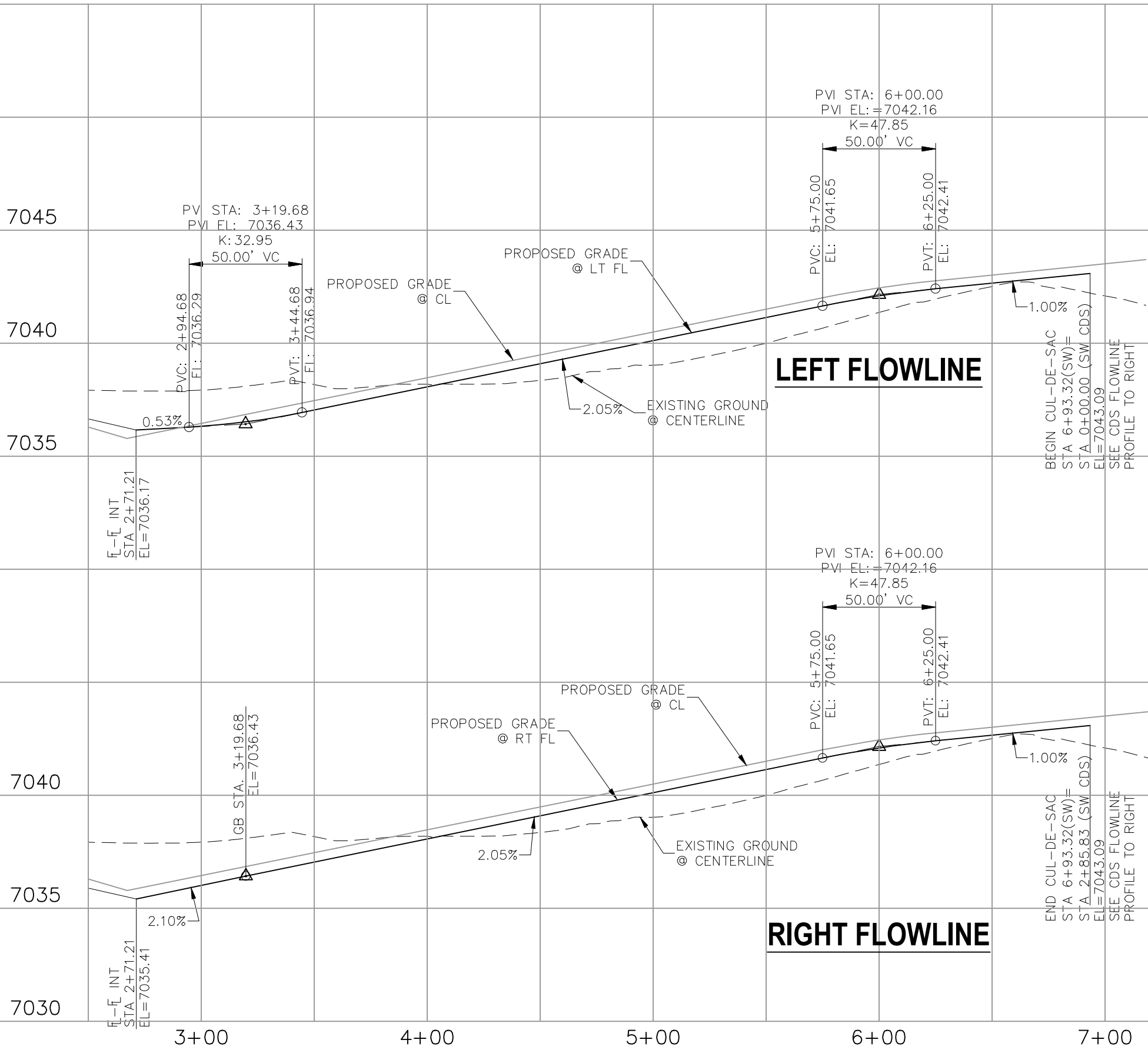
CENTERLINE CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	400.00'	10.98'	1°34'22"
C2	400.00'	161.59'	23°08'44"
C3	45.83'	37.16'	46°27'28"
C4	44.17'	110.76'	143°40'55"
C5	45.00'	91.29'	116°13'59"
C6	45.00'	36.49'	46°27'28"

ABBREVIATION LEGEND

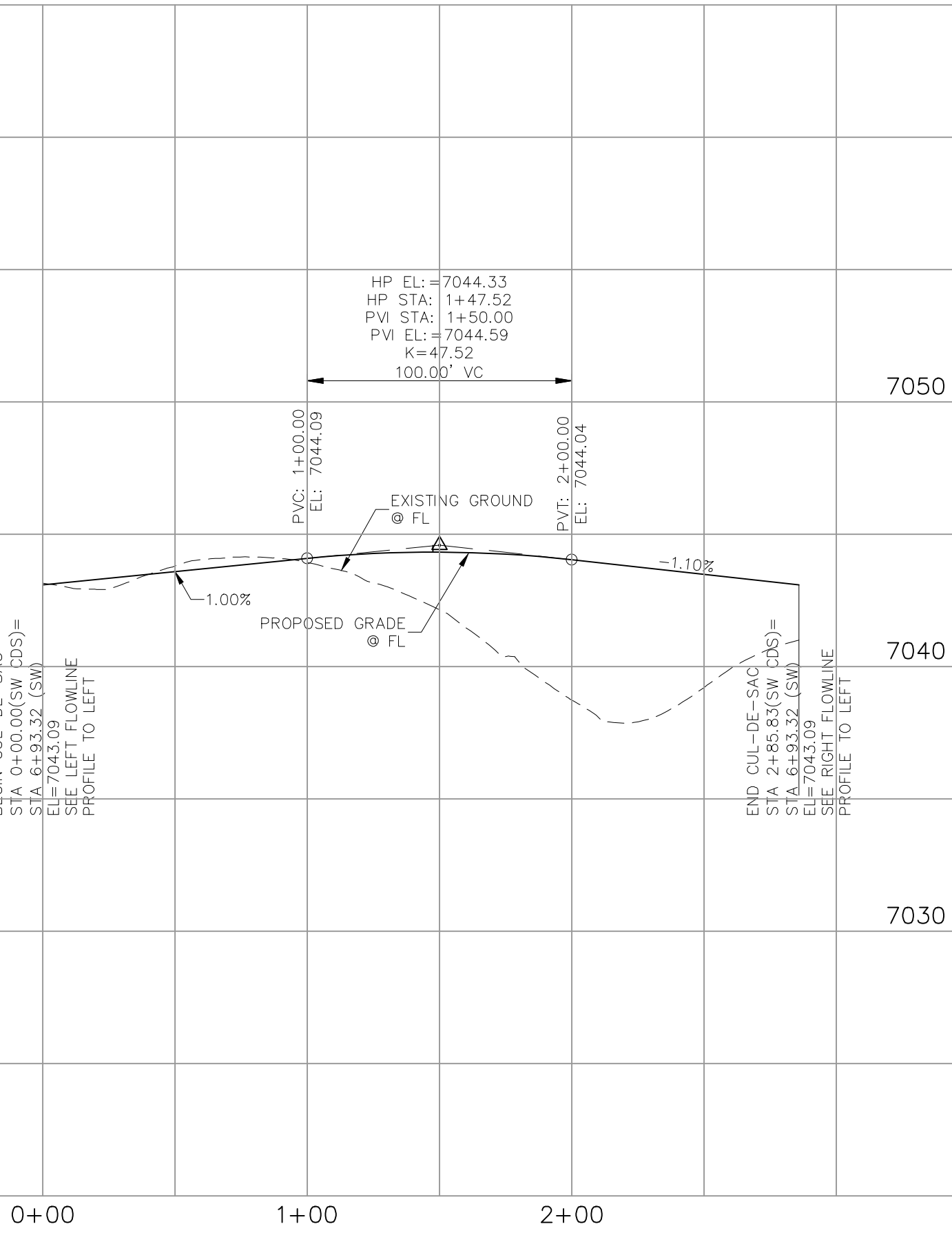
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FL-FL	FLOWLINE INTERSECTION
BT	BEGIN TRANSITION
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LT	LEFT
RT	RIGHT

STREET ABBREVIATIONS

LGW	LODGE GRASS WAY
YTW	YELLOWTAIL WAY
MW	MOSBY WAY
WFW	WHITEFISH WAY
SW	SPRAGUE WAY
MLC	MISTY LAKE COURT
DS EX	EXISTING DINES BOULEVARD
CDS	CUL-DE-SAC
KN	KNUCKLE

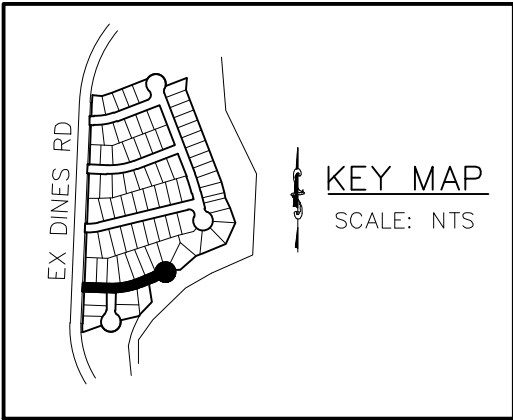
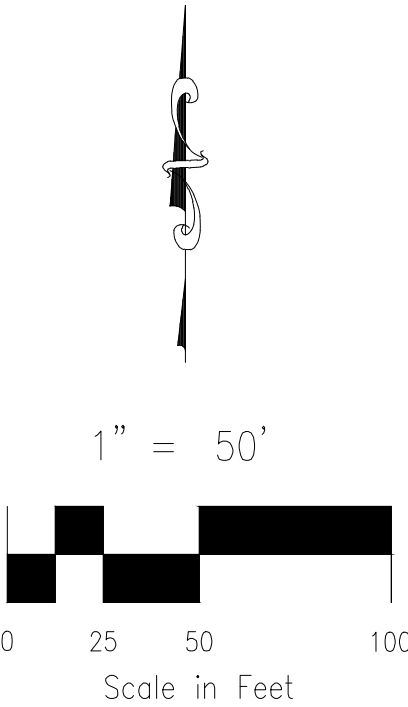


SPRAGUE WAY STA 2+71.21 TO STA 6+93.32



SPRAGUE WAY CDS STA 0+00.00 TO STA 2+85.83

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BRANDING IRON AT STERLING RANCH FILING NO. 2

STREET IMPROVEMENT PLANS

PROJECT NO. 09-012
DATE: 08/21/2019
SCALE: 1"=50'
DESIGNED BY: JWP
DRAWN BY: GW
CHECKED BY: GW
SHEET 6 OF 8
SIO6

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

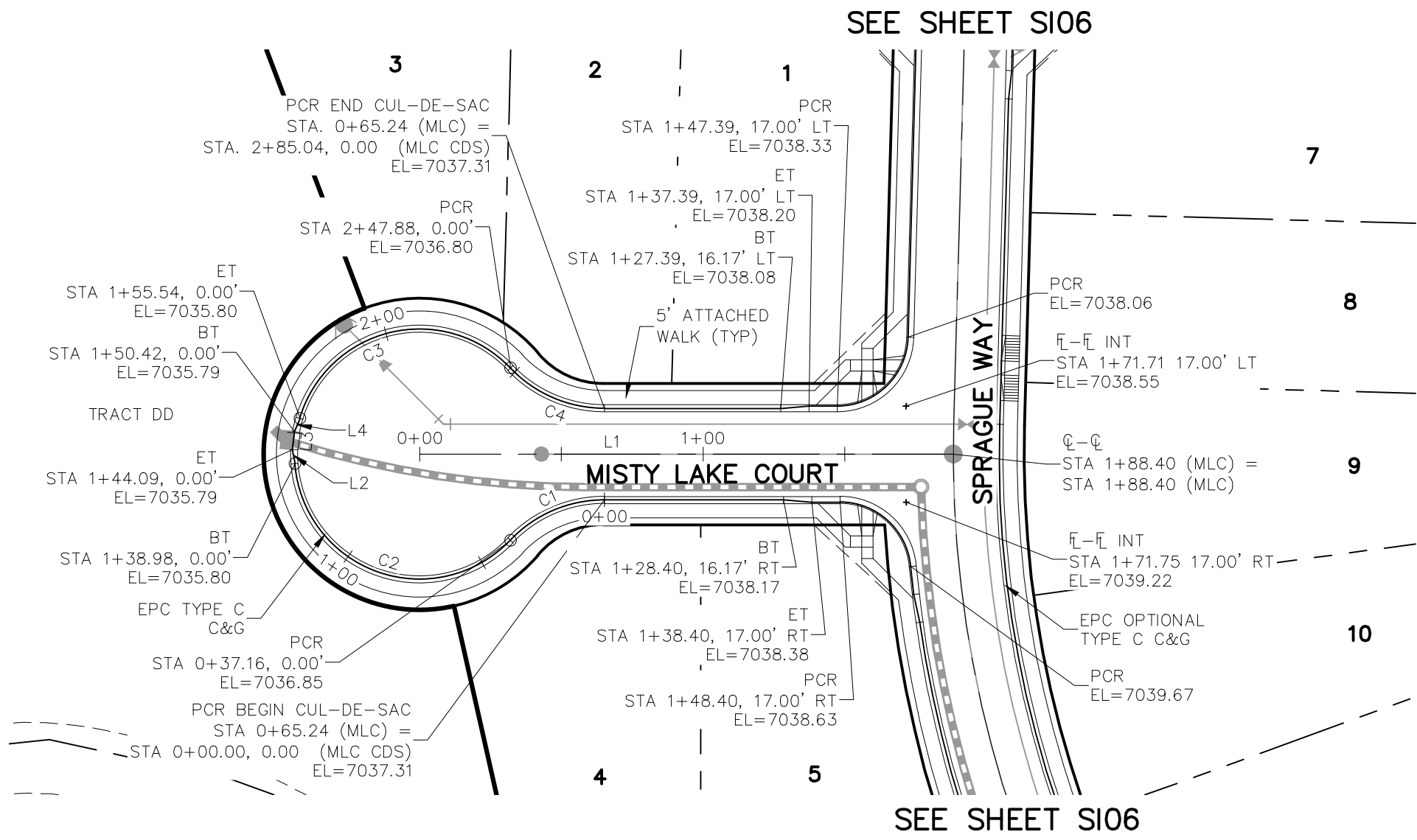
FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.

REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPROVED BY:	DATE:

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CAUTION



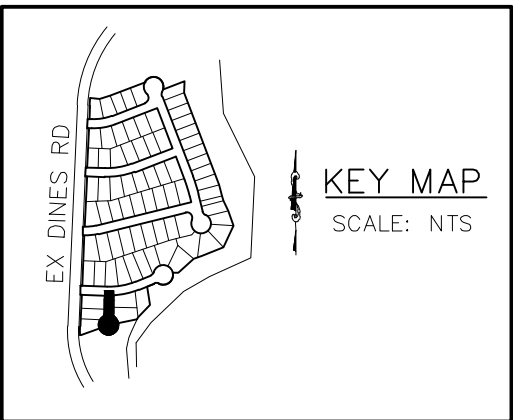
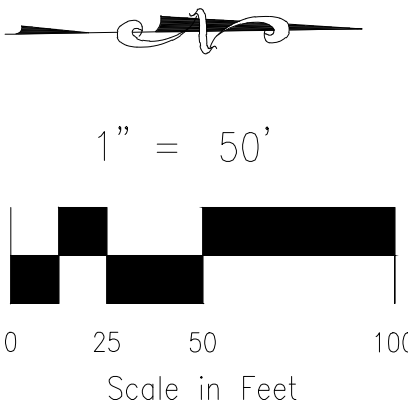
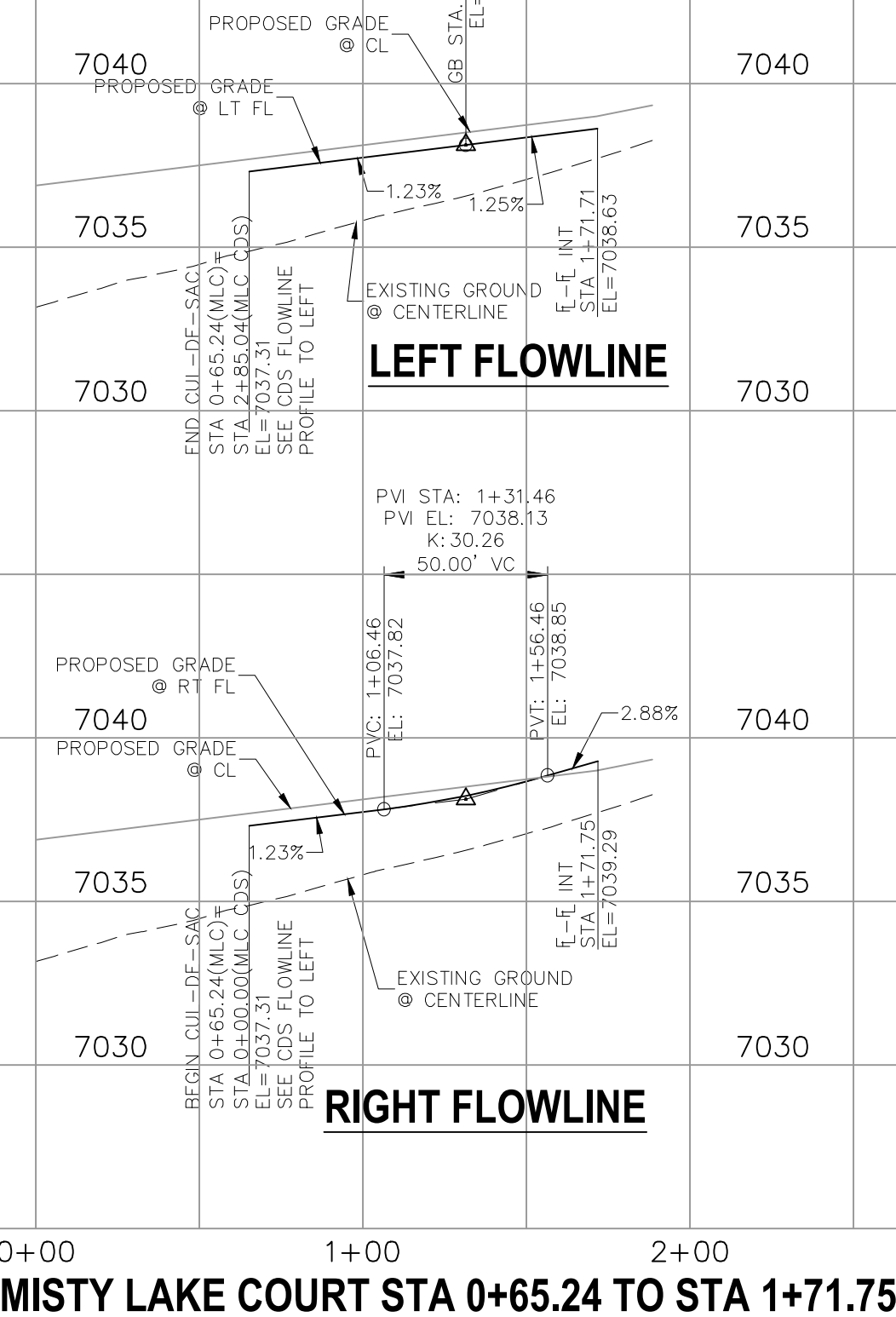
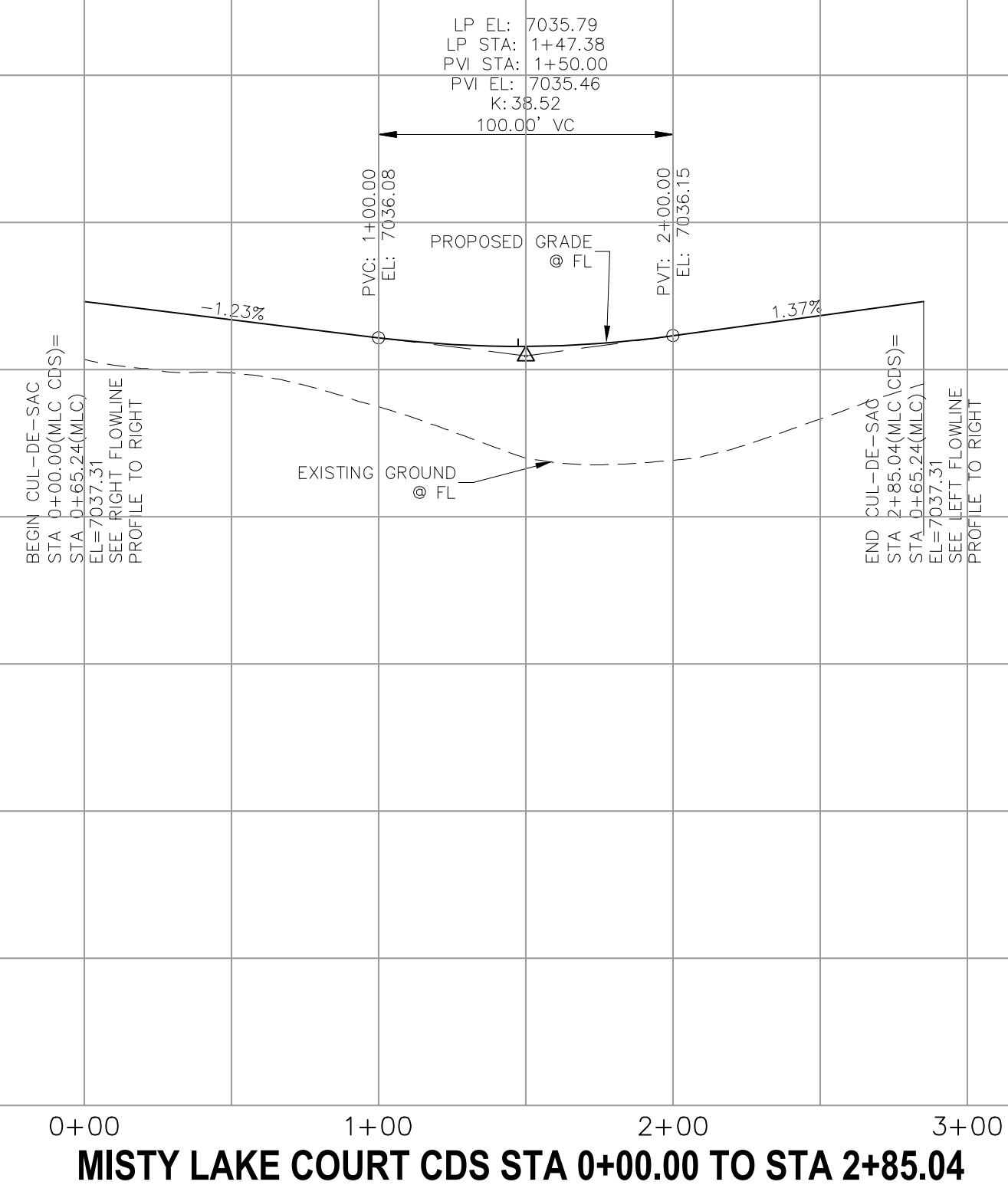
MISTY LAKE COURT STA 0+65.24 TO STA 1+71.75

CENTERLINE LINE TABLE		
LINE	LENGTH	DIRECTION
L1	188.40'	N0°50'04"E
L2	5.11'	S80°19'54"W
L3	6.33'	N83°01'25"W
L4	5.11'	N66°22'43"W

CENTERLINE CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	45.83'	37.16'	46°27'28"
C2	44.17'	101.81'	132°04'42"
C3	44.17'	92.34'	119°47'39"
C4	45.83'	37.16'	46°27'28"

ABBREVIATION LEGEND	
C-I	CENTERLINE INTERSECTION
FL-FL	FLOWLINE INTERSECTION
BT	BEGIN TRANSITION
ET	END TRANSITION
PC	POINT OF CURVE
PCR	POINT OF COMPOUND CURVE
PCR	POINT OF CURB RETURB
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENT
EL	ELEVATION
LT	LEFT
RT	RIGHT

STREET ABBREVIATIONS	
LGW	LODGE GRASS WAY
YTW	YELLOWTAIL WAY
MW	MOSBY WAY
WFW	WHITEFISH WAY
SW	SPRAGUE WAY
MLC	MISTY LAKE COURT
DB EX	EXISTING DINES BOULEVARD
CDS	CUL-DE-SAC
KN	KNUCKLE



BRANDING IRON AT STERLING RANCH FILING NO. 2

STREET IMPROVEMENT PLANS

PROJECT NO. 09-012

DATE: 08/21/2019

DESIGNED BY: JWP

DRAWN BY: JWP

CHECKED BY: GW

SCALE: HORIZONTAL: 1"=50' VERTICAL: 1"=5'

SHEET 7 OF 8

S107

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REVISIONS:
NO. DATE: BY: DESCRIPTION: APPROVED BY: DATE:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION




MARCH 2019

SHEET 5 ST 16
SHEET 6 ST 16 REVISED
SHEET 7 ST 18
SHEET 8 ST19
SHEET 9 ST 20
SHEET 10 ST 20A

REVISIONS:					
NO.	DATE	BY	DESCRIPTION	APPR'D. BY	DATE
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR UNAUTHORIZED CHANGES TO OR OMISSIONS FROM THE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARED OF THESE PLANS.					
CAUTION					

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37760		FOR AND ON BEHALF OF CIVIL CONSULTANTS, INC.	
--	--	---	--

		20 BOULDER CRESCENT, SUITE 110 COLORADO SPRINGS CO 80903 PHONE: 719-555-5465	
--	--	--	--

PROJECT NO. 09-012		SCALE: DATE: 03/15/2019	
DESIGNED BY: JD		HORIZONTAL: N/A	
DRAWN BY: JD		VERTICAL: N/A	
CHECKED BY: WS		SHEET 1 OF 4	

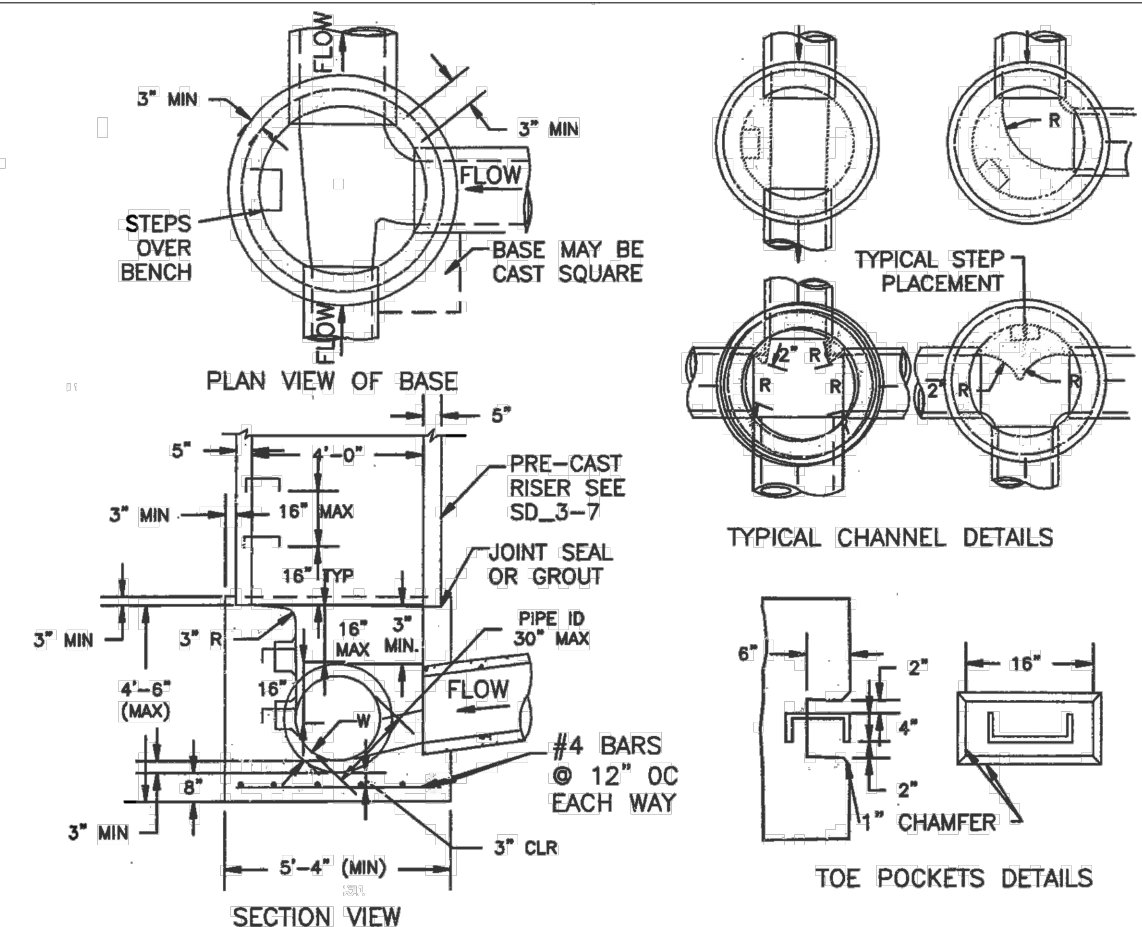
STORM SEWER PLANS		BRANDING IRON AT STERLING RANCH FILING NO. 2	
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STANDARD CONSTRUCTION NOTES:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIME INCLUDING THE FOLLOWING:
 - 3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
 - 3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2.
 - 3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
 - 3.4 CDOT M&S STANDARDS.
4. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ONSITE AND OFFSITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPERS RESPONSIBILITY TO RECTIFY.
5. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FUGITIVE DUST PERMITS.
6. ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS AND MUTCD CRITERIA.
7. 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.
8. 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 OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

STORM SEWER GENERAL NOTES

1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
2. ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
3. HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
4. JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET." IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALIGNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
5. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
6. MANHOLE WIDTHS AND LENGTHS SHOWN ON PLAN REFER TO THE EXTERIOR WALL DIMENSIONS.
7. ALL STORM SEWER SHALL BE A MINIMUM OF CLASS III REINFORCED CONCRETE PIPE. SPECIFIC SEGMENTS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
8. SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
9. THE MH RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
10. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
11. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
12. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
13. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT $\frac{1}{4}$ OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
14. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
15. STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
16. CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
17. THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
18. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

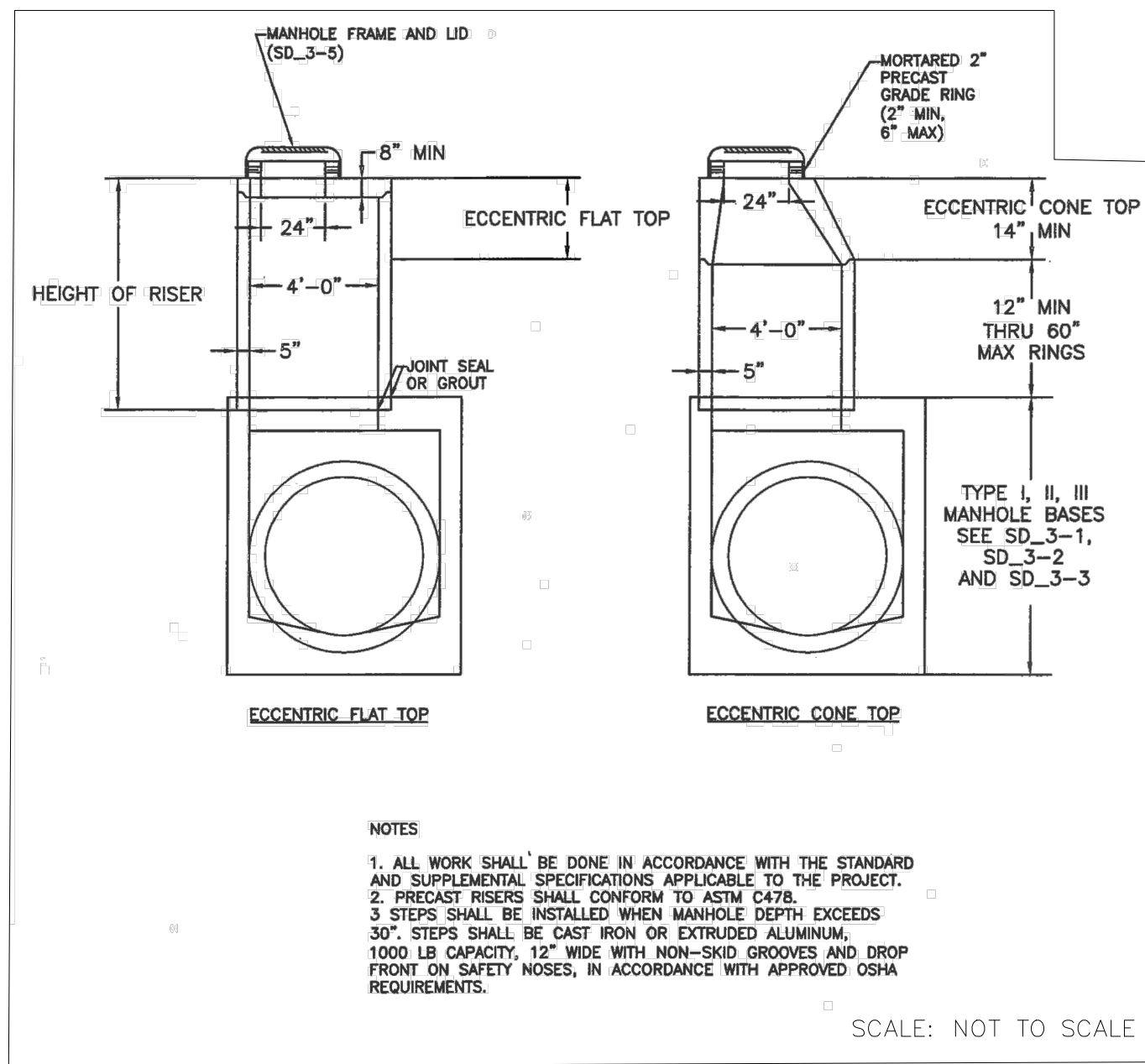


NOTES

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

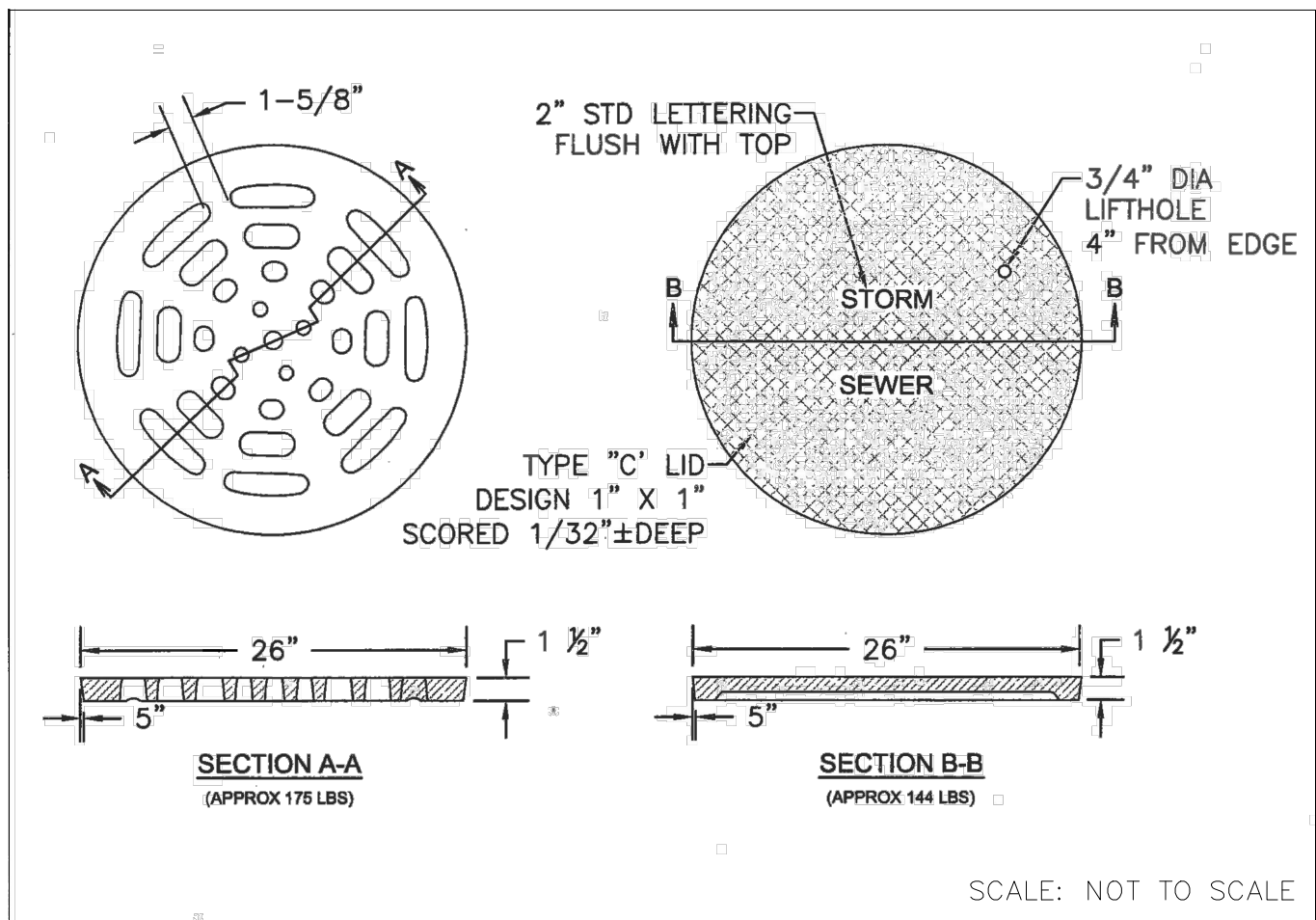
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STORM SEWER MANHOLE DETAIL
TYPE II SD 3-2



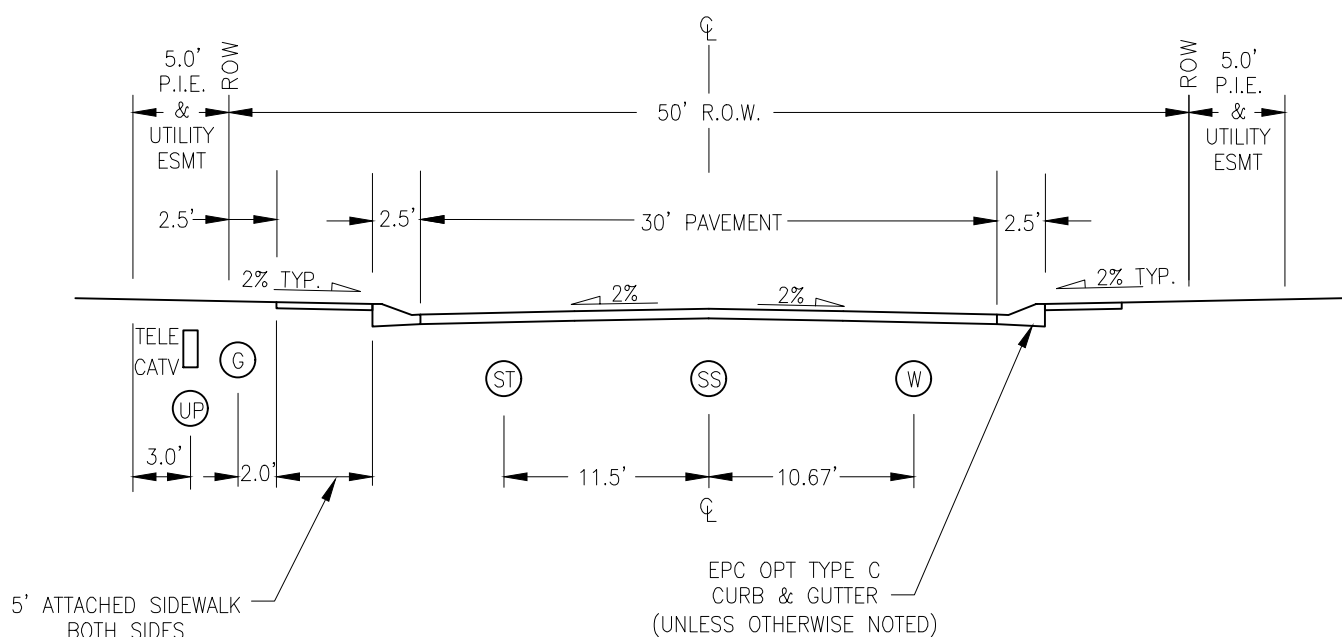
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STORM SEWER MANHOLE
RISER AND COVER DETAIL
TYPE SD 3-7



SCALE: NOT TO SCALE

STORM SEWER MANHOLE L
LID DETAILS SD 3-2



URBAN LOCAL CROSS SECTION

SCALE: NTS

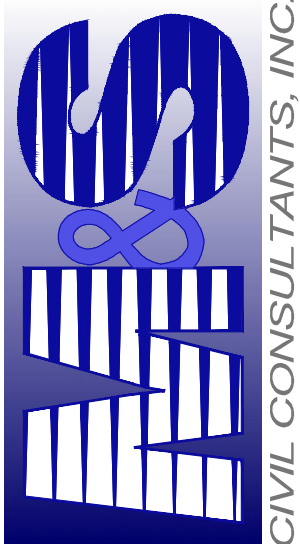


BRANDING IRON AT STERLING RANCH FILING NO. 2

STORM SEWER NOTES & DETAILS

DESIGNED BY:	JD
DRAWN BY:	JD
CHECKED BY:	VAS

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485



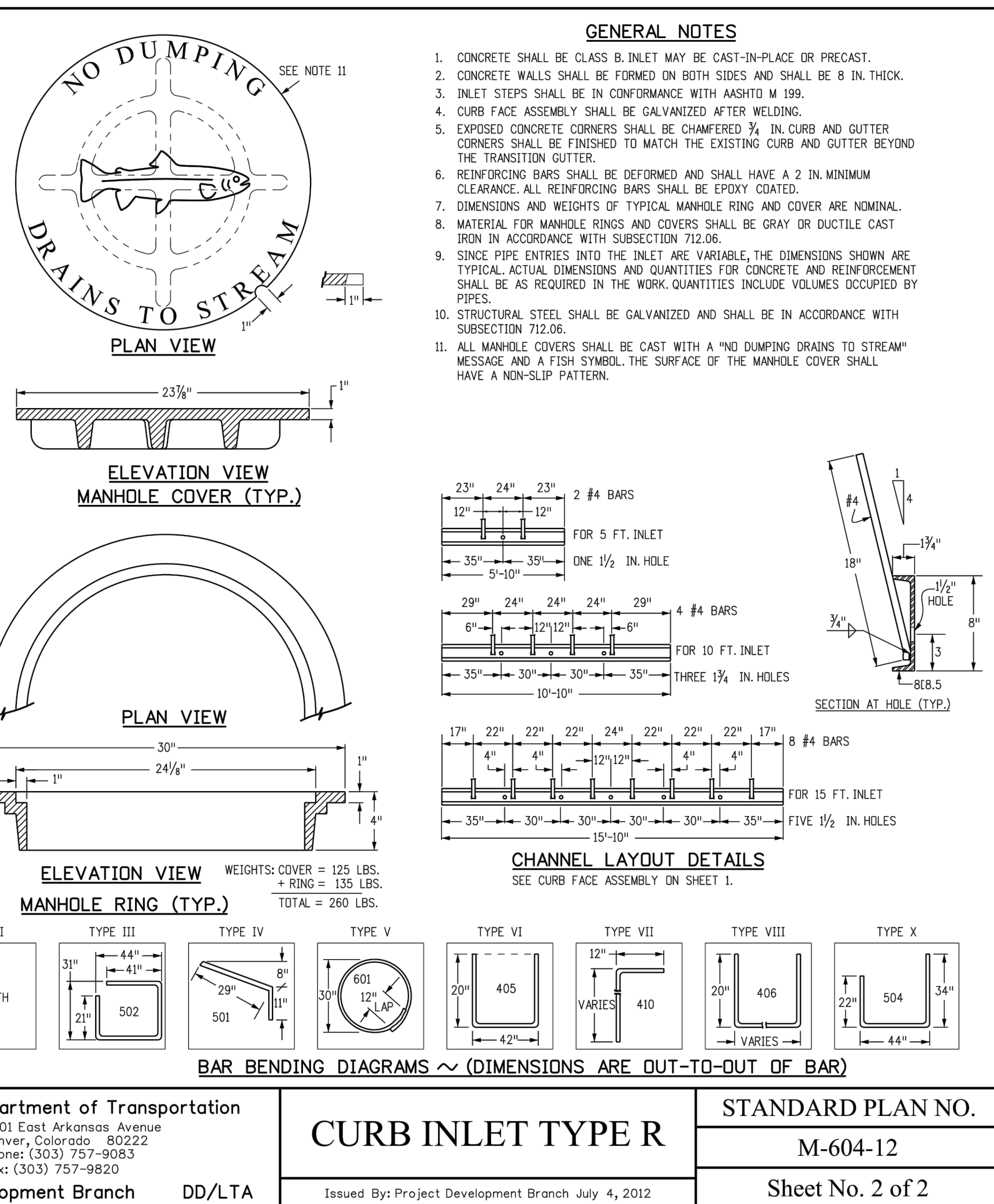
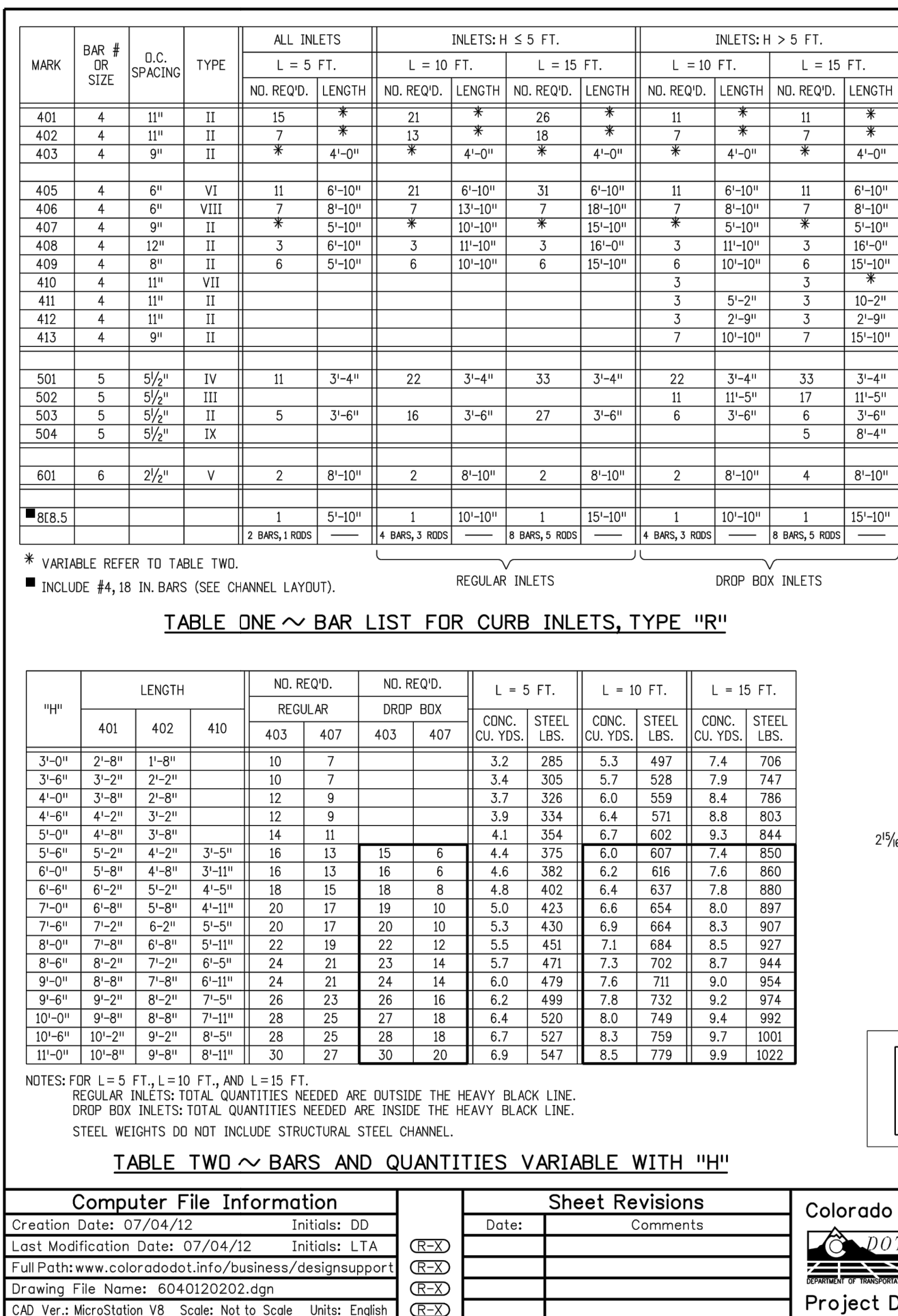
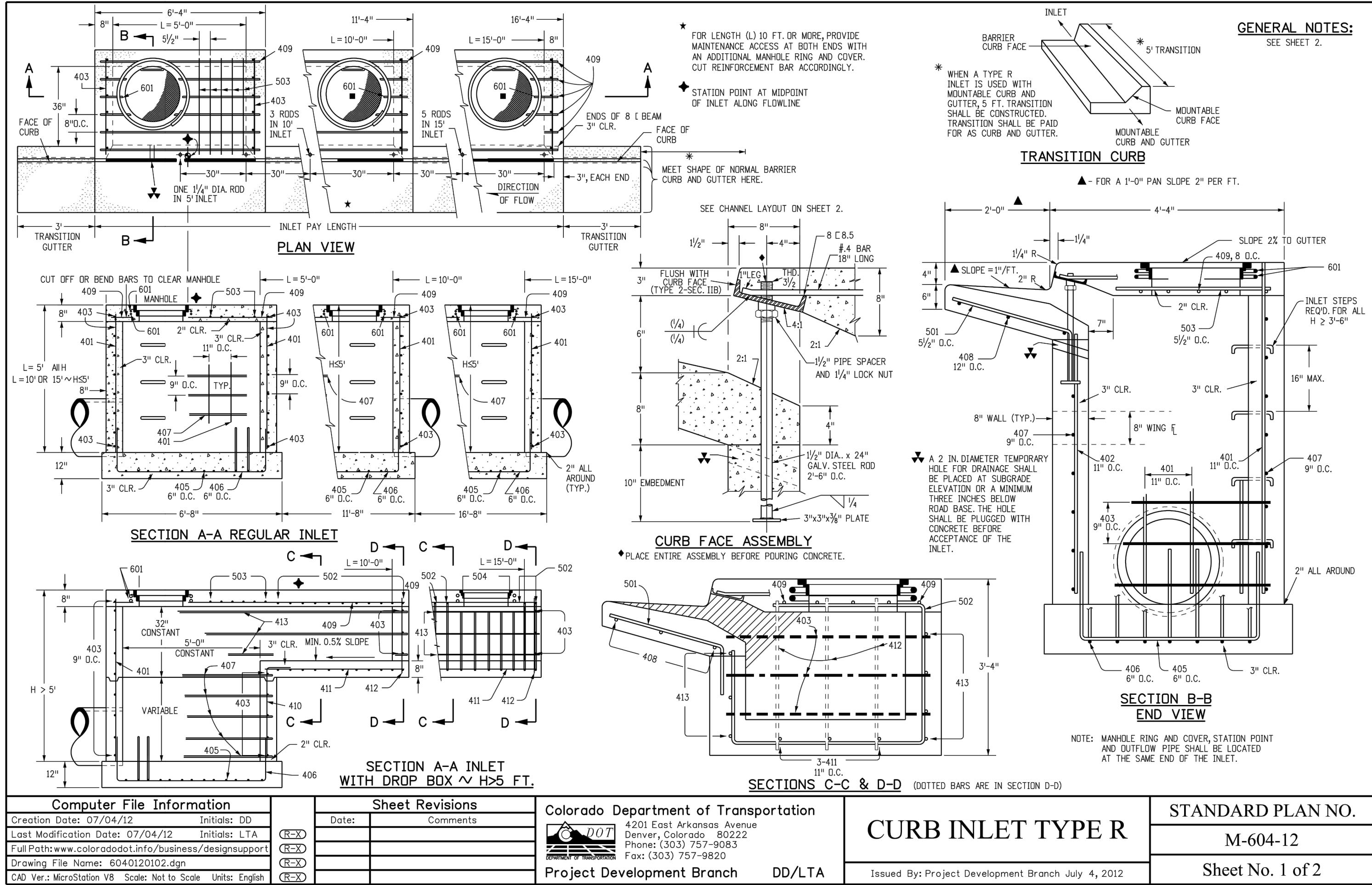
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.

[illegible]

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CAUTION



Computer File Information			Sheet Revisions		<div>Colorado Department of Transportation</div> <div> 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9083 Fax: (303) 757-9820</div> <div>Project Development Branch DD/LTA</div>	STANDARD PLAN NO.	
Creation Date: 07/04/12	Initials: DD		Date:	Comments		CURB INLET TYPE R	
Last Modification Date: 07/04/12	Initials: LTA	(R-X)				M-604-12	
Full Path: www.coloradodot.info/business/designsupport		(R-X)				Sheet No. 1 of 2	
Drawing File Name: 6040120102.dgn		(R-X)				Issued By: Project Development Branch July 4, 2012	
CAD Ver: MicroStation V8 Scale: Not to Scale Units: English		(R-X)					

Computer File Information			Sheet Revisions		<div>Colorado Department of Transportation</div> <div></div> <div>4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9083 Fax: (303) 757-9820 Project Development Branch DD/LTA</div>	STANDARD PLAN NO.	
Creation Date: 07/04/12	Initials: DD		Date:	Comments		CURB INLET TYPE R	
Last Modification Date: 07/04/12	Initials: LTA	(E)(X)				M-604-12	
Full Path: www.coloradodot.info/business/designsupport		(E)(X)				Sheet No. 2 of 2	
Drawing File Name: 6040120202.dgn		(E)(X)				Issued By: Project Development Branch July 4, 2012	
CAD Ver: MicroStation V8 Scale: Not to Scale Units: English		(E)(X)					

BRANDING IRON AT STERLING RANCH FILING NO. 2

STORM SEWER NOTES & DETAILS

PROJECT NO. 09-012

DATE: 03/15/2019

DESIGNED BY: JD

DRAWN BY: JD

CHECKED BY: VAS

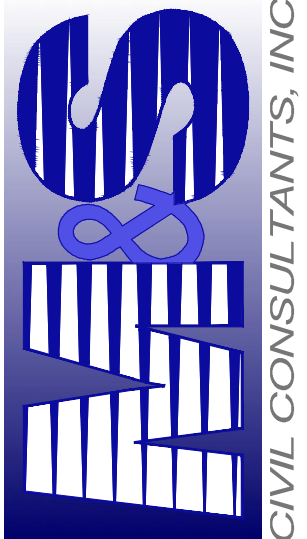
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VERTICAL: N/A

SHEET 3 OF 4

ST03

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

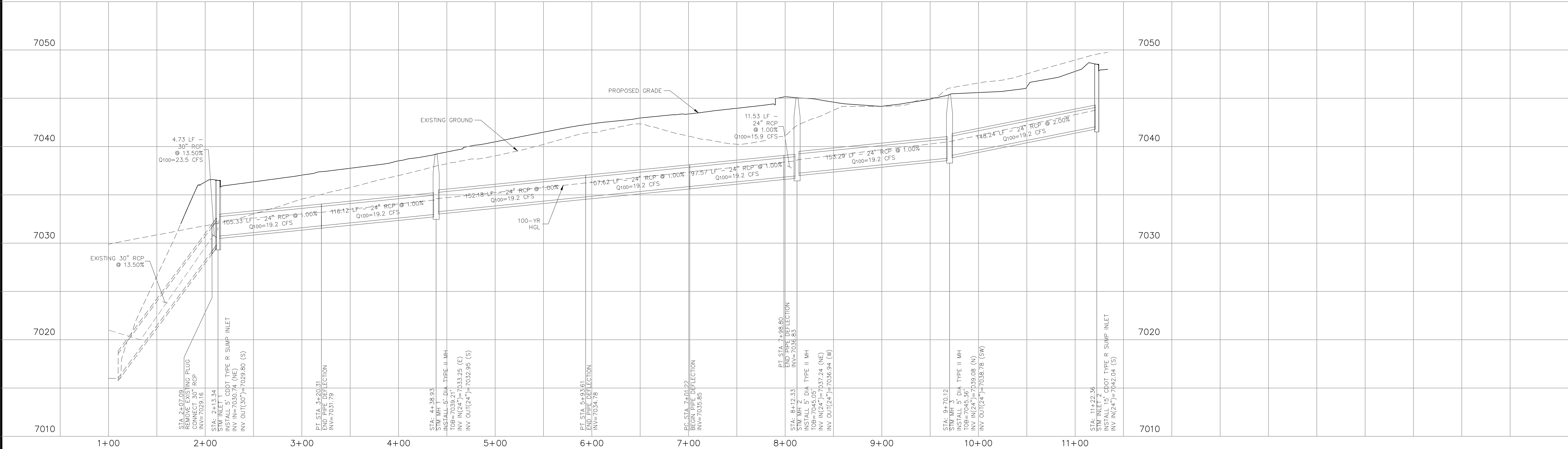

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FOR AND ON BEHALF OF
M&S CIVIL CONSULTANTS, INC.

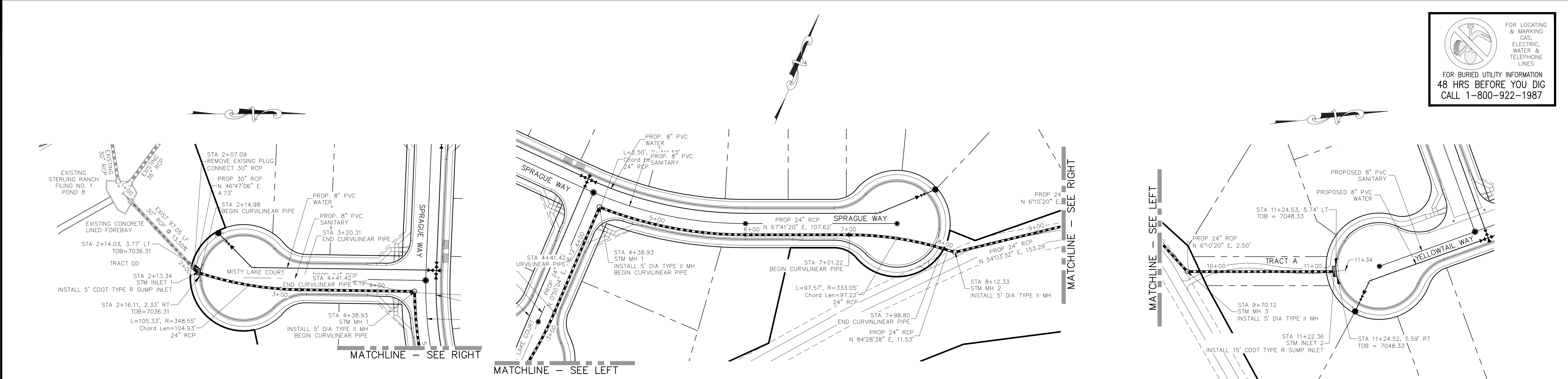
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NO. DATE: BY: DESCRIPTION: APPROVED BY: DATE:

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CAUTION

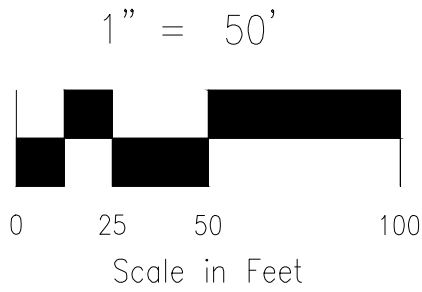
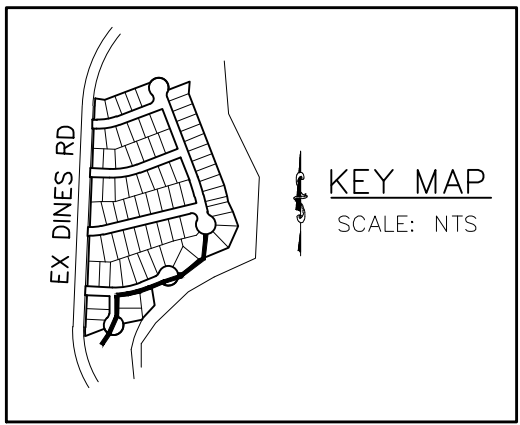


STORM 1 STA 1+00.00 TO STA 11+22.36



STORM 1
STA 1+00.00 TO STA 11+22.36

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CALL 1-800-922-1987

BRANDING IRON AT STERLING RANCH FILING NO. 2

STORM SEWER PLANS

PROJECT NO. 09-012
DATE: 03/15/2019
DESIGNED BY: JD
DRAWN BY: JAS
CHECKED BY: VAS
SCALE: 1"=50'
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

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FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
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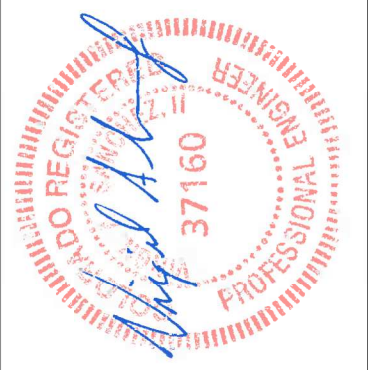
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CAUTION



FOR AND ON
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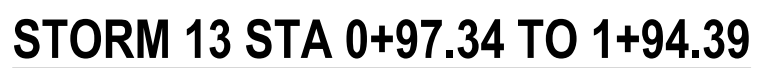
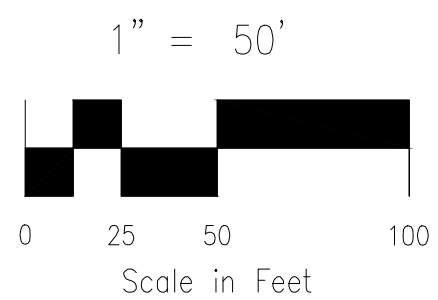
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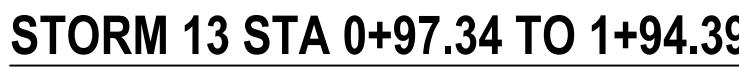
NOTES:
STA 0+99.94 TO STA 1+24.00
(NEXT FULL JOINT) TIE PIPE
SEGMENTS TOGETHER W/4- $\frac{3}{4}$ "
CANOPY TYPE ROD LUG JOINT
FASTENERS.

REINFORCED CONCRETE PIPE INSTALLED
BETWEEN STA 0+99.94 AND STA 1+66.68
SHALL BE FABRICATED USING A CONCRETE
MIX DESIGN THAT RESULTS IN A MIN. 5000 PSI
COMPRESSIVE STRENGTH.



NOTE:
STA 1+00.00 TO STA 1+24.00 (NEXT FULL
JOINT) TIE THE PIPE SEGMENTS TOGETHER
W/4- $\frac{3}{8}$ " CANOPY TYPE ROD LUG JOINT
FASTENERS.

Same note?





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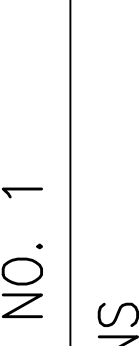
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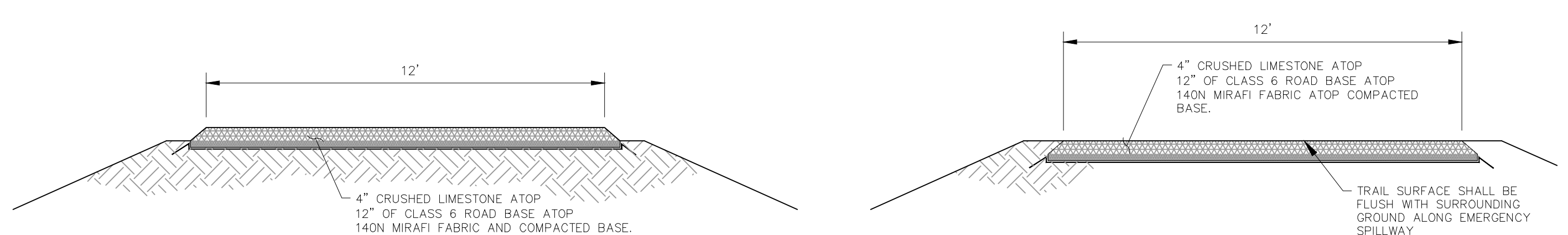
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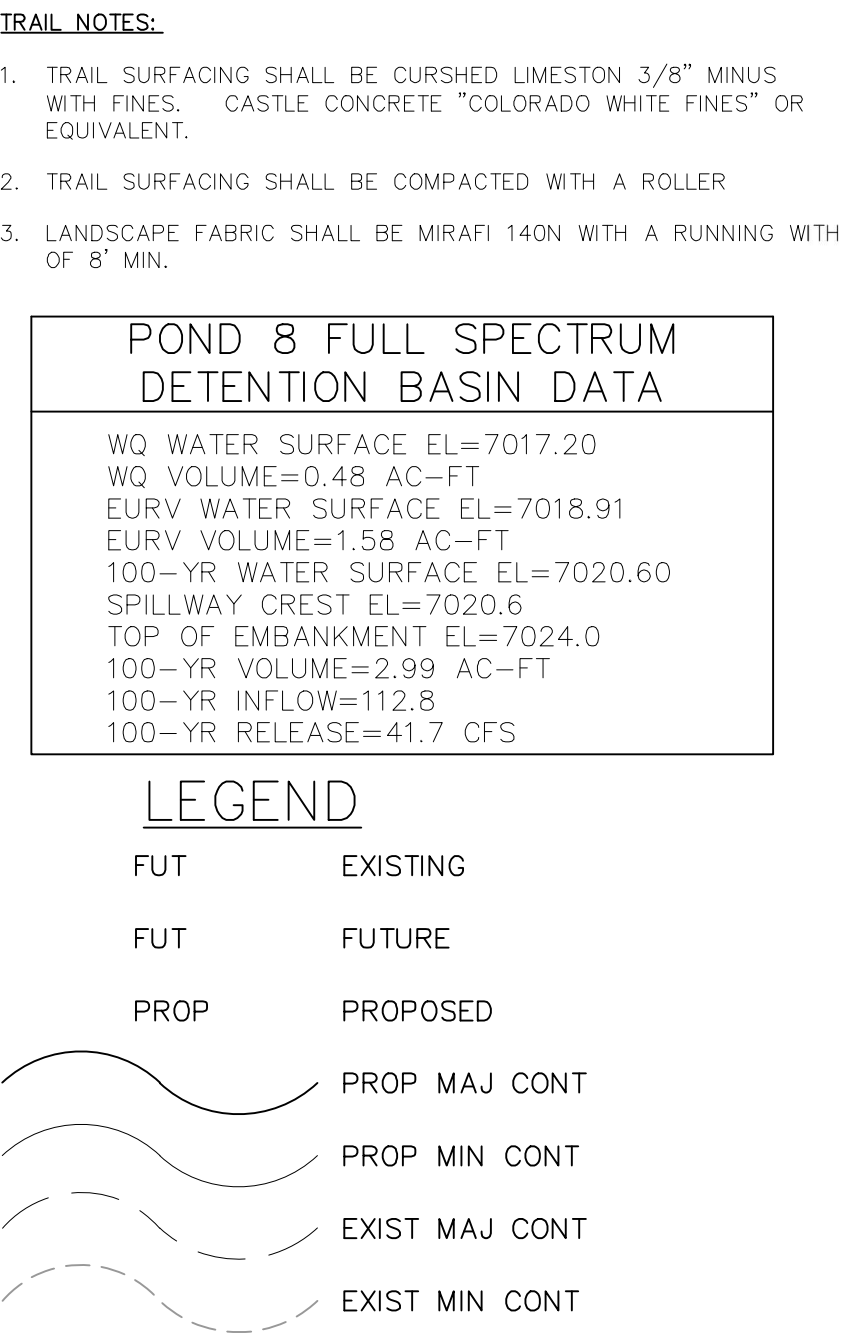
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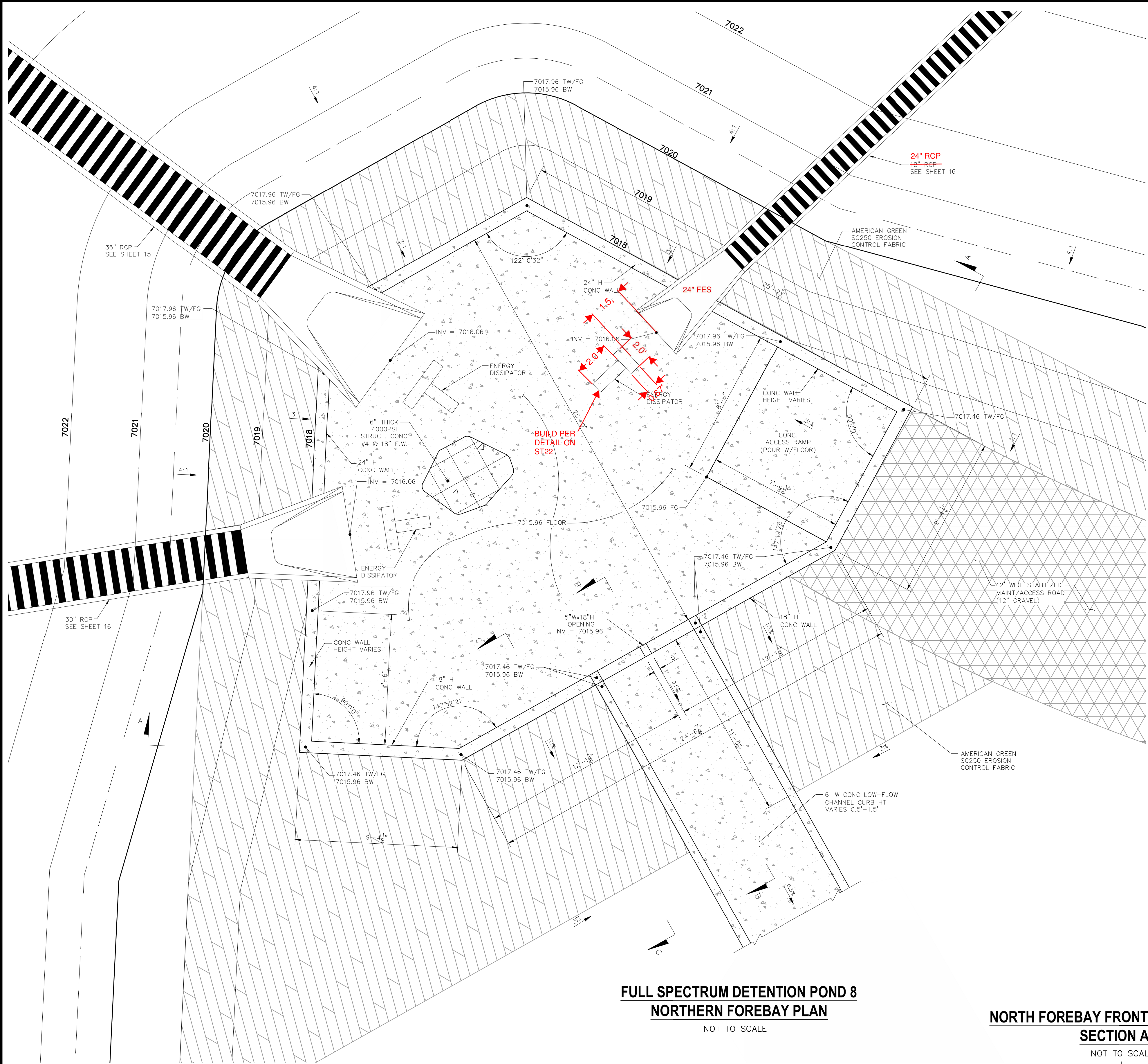




STERLING RANCH DET. POND 8 SITE PLAN	
FULL SPECTRUM DET. POND 8 SITE PLAN	
PROJECT NO. 09-002	FILE: \eng\Const Draw\Storm - District\ST18.dwg
DESIGNED BY: ET	DATE: 01/02/2018
DRAWN BY: ELY	HORIZ: 1"=20'
CHECKED BY: VAS	VERT: N/A
SHEET 22 OF 28	
ST18	

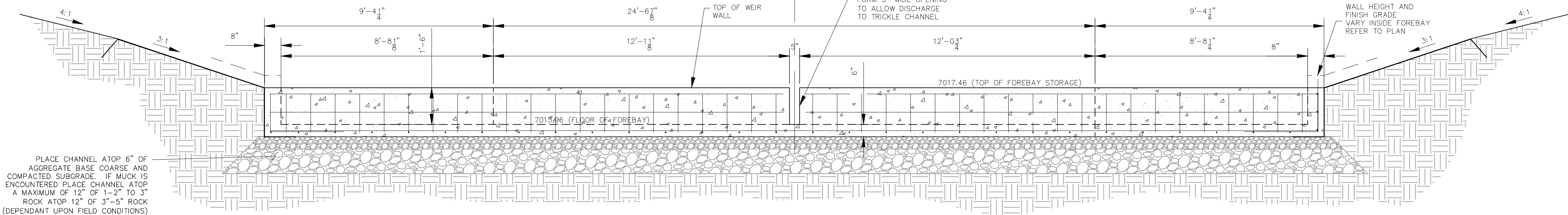
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FULL SPECTRUM DETENTION POND 8
NORTHERN FOREBAY PLAN
NOT TO SCALE

NORTH FOREBAY FRONT WALL W/NOTCH
SECTION A-A
NOT TO SCALE

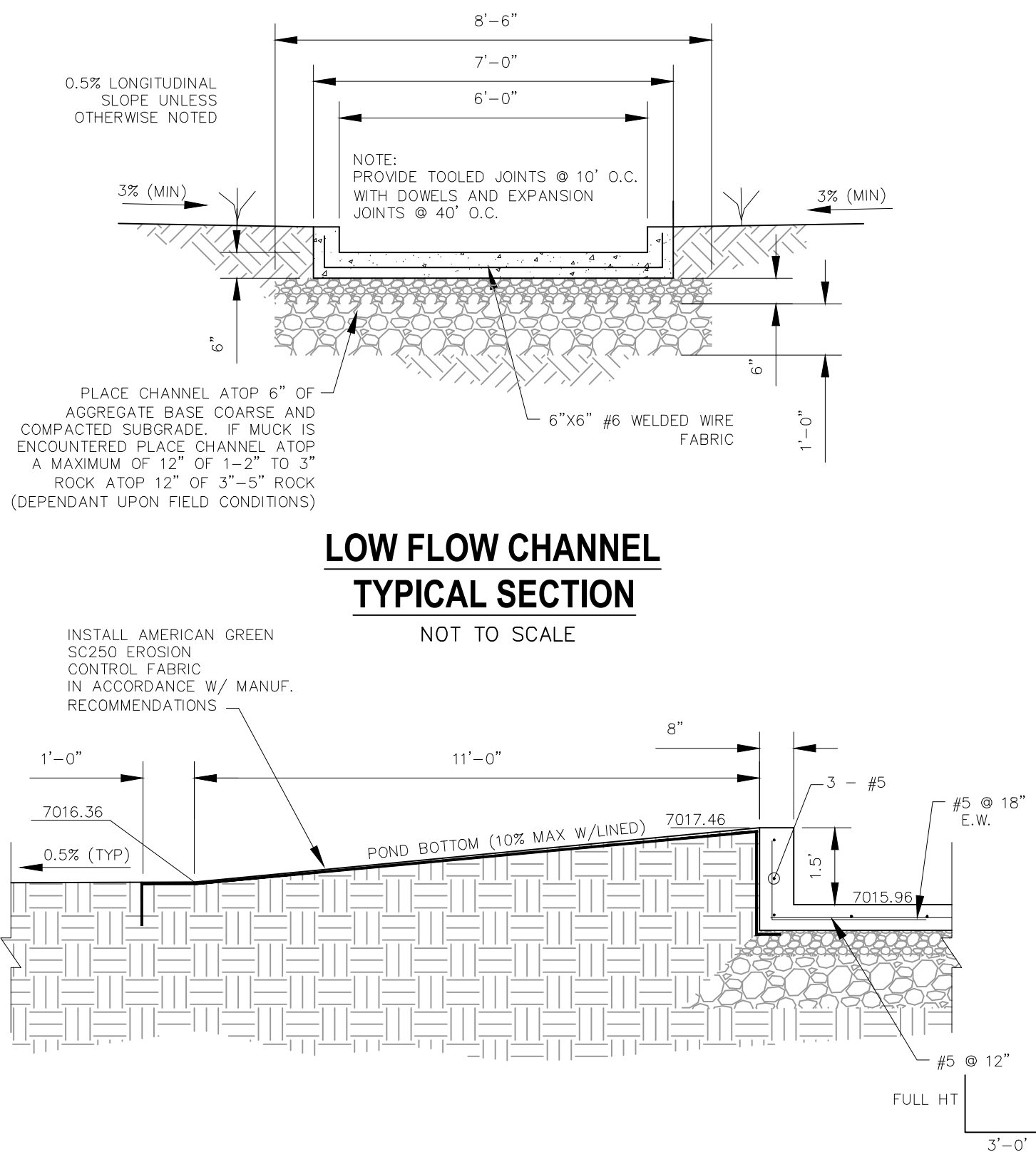


PLACE CHANNEL ATOP 6" OF
AGGREGATE BASE COARSE AND
COMPACTED SUBGRADE. IF MUCK IS
ENCOUNTERED PLACE CHANNEL ATOP
A MAXIMUM OF 12" OF 1'-2" TO 3"
ROCK ATOP 12" OF 3"-5" ROCK
(DEPENDANT UPON FIELD CONDITIONS)

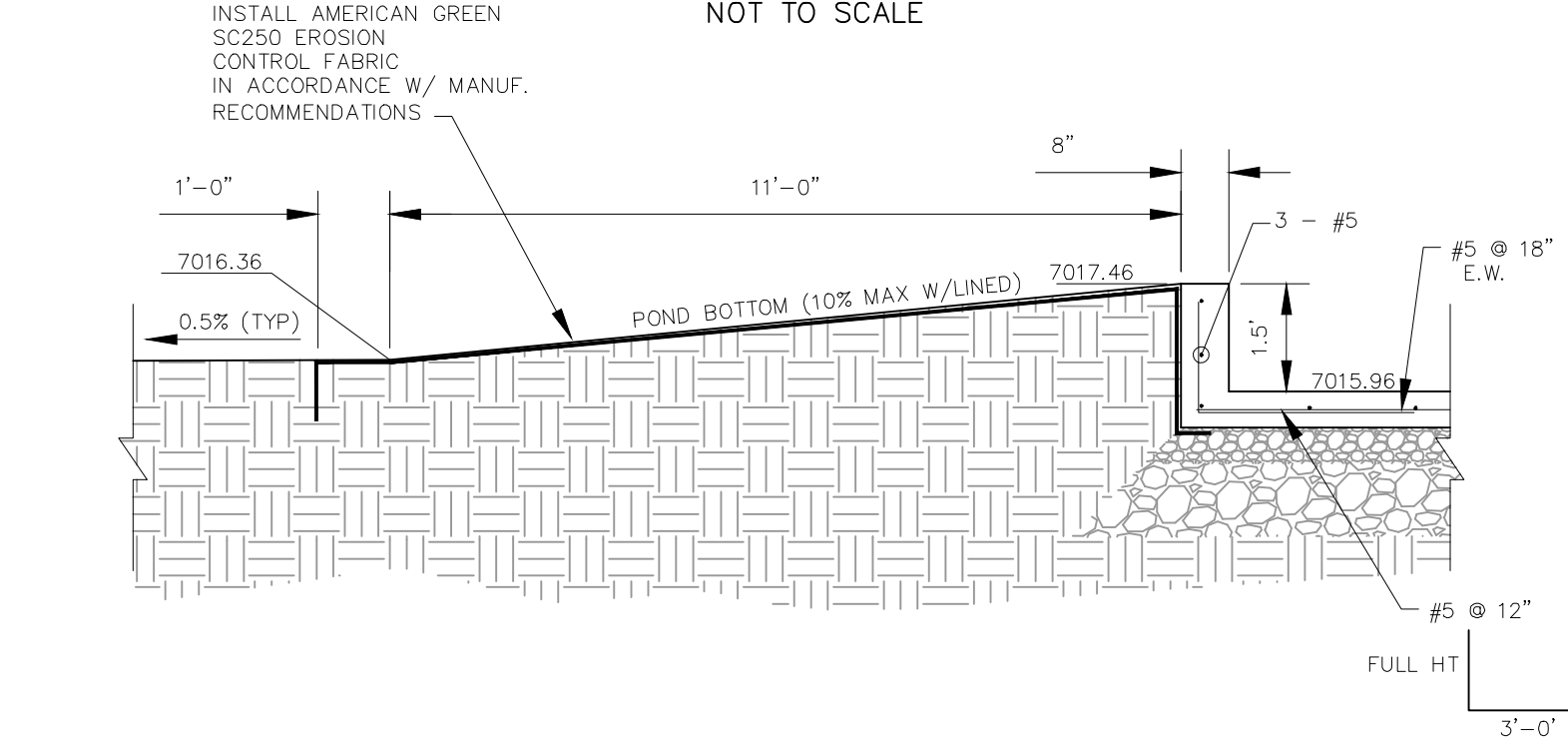


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TELEPHONE
LINES

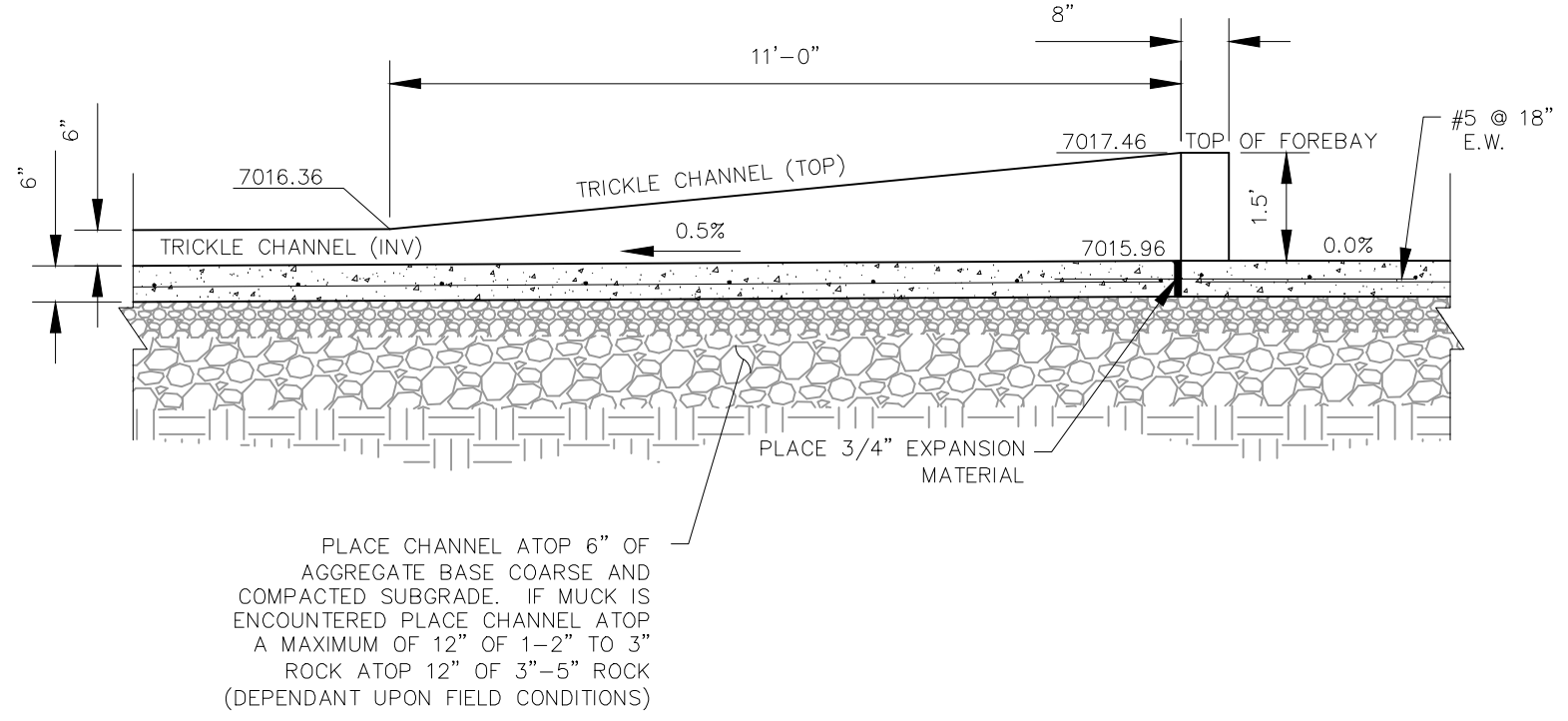
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LOW FLOW CHANNEL
TYPICAL SECTION
NOT TO SCALE



SLOPE GRADING BELOW NORTHERN FOREBAY
SECTION C-C
NOT TO SCALE



LOW FLOW CHANNEL AT NORTH FOREBAY
SECTION B-B
NOT TO SCALE

STERLING RANCH FILING NO. 1

FULL SPECTRUM DET. POND 8 DETAILS

PROJECT NO. 09-002

FILE: \eng\Const Draw\Storm Plans\ST19.dwg

DATE: 01/02/2018

DESIGNED BY: ET

DRAWN BY: ELY

CHECKED BY: WAS


SCALE: HORIZ: 1"=50'

VERT: 1"=5'

ST19


SHEET 23 OF 28

20 BOULDER CRESCENT SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485



CIVIL CONSULTANTS, INC.

FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.



REVISIONS:

NO.	DATE:	BY:	DESCRIPTION:	APPROVED BY:	DATE:

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CAUTION

GRATE PLAN
NOT TO SCALE

GRATE
DETAIL "A"

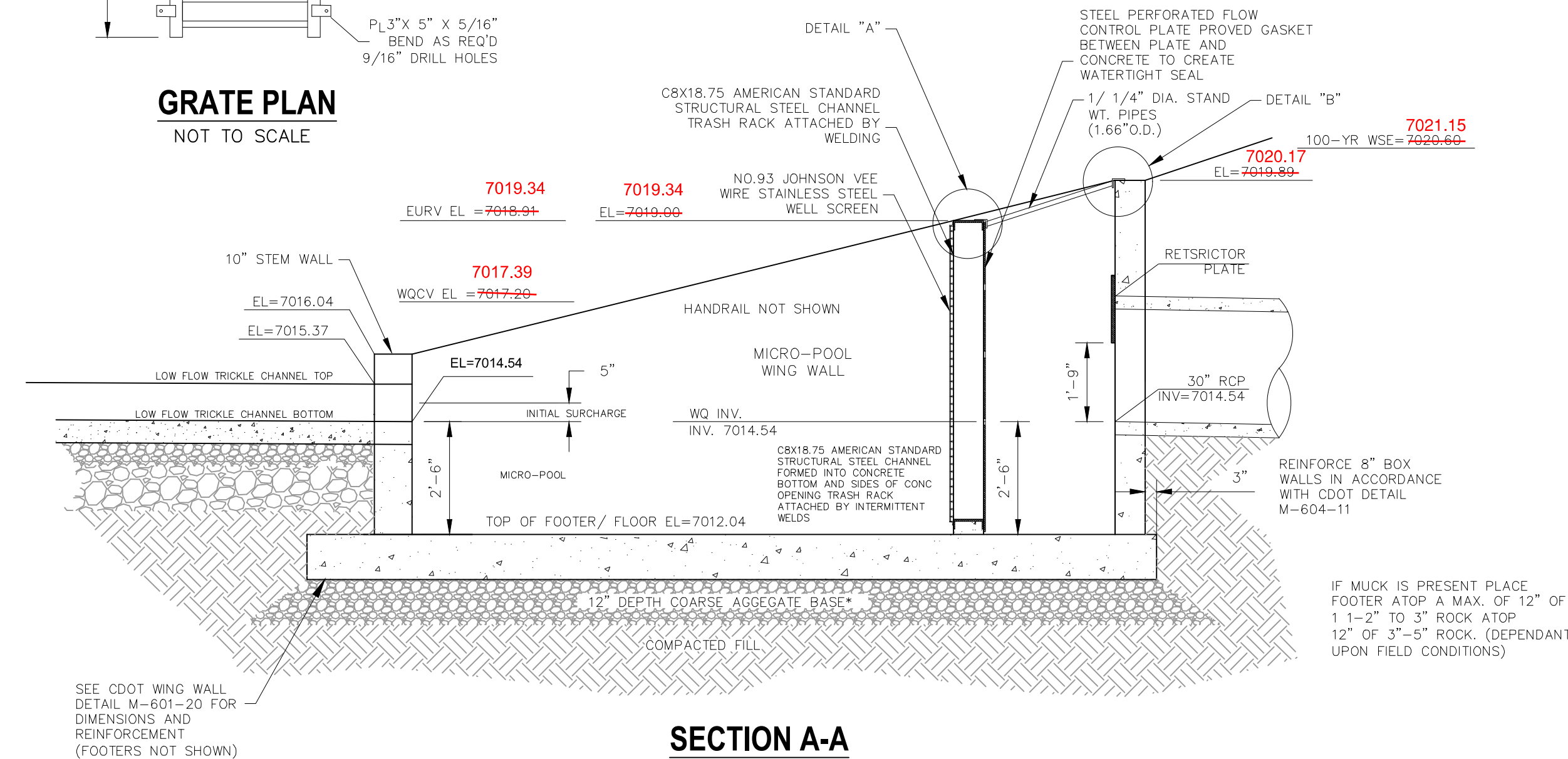
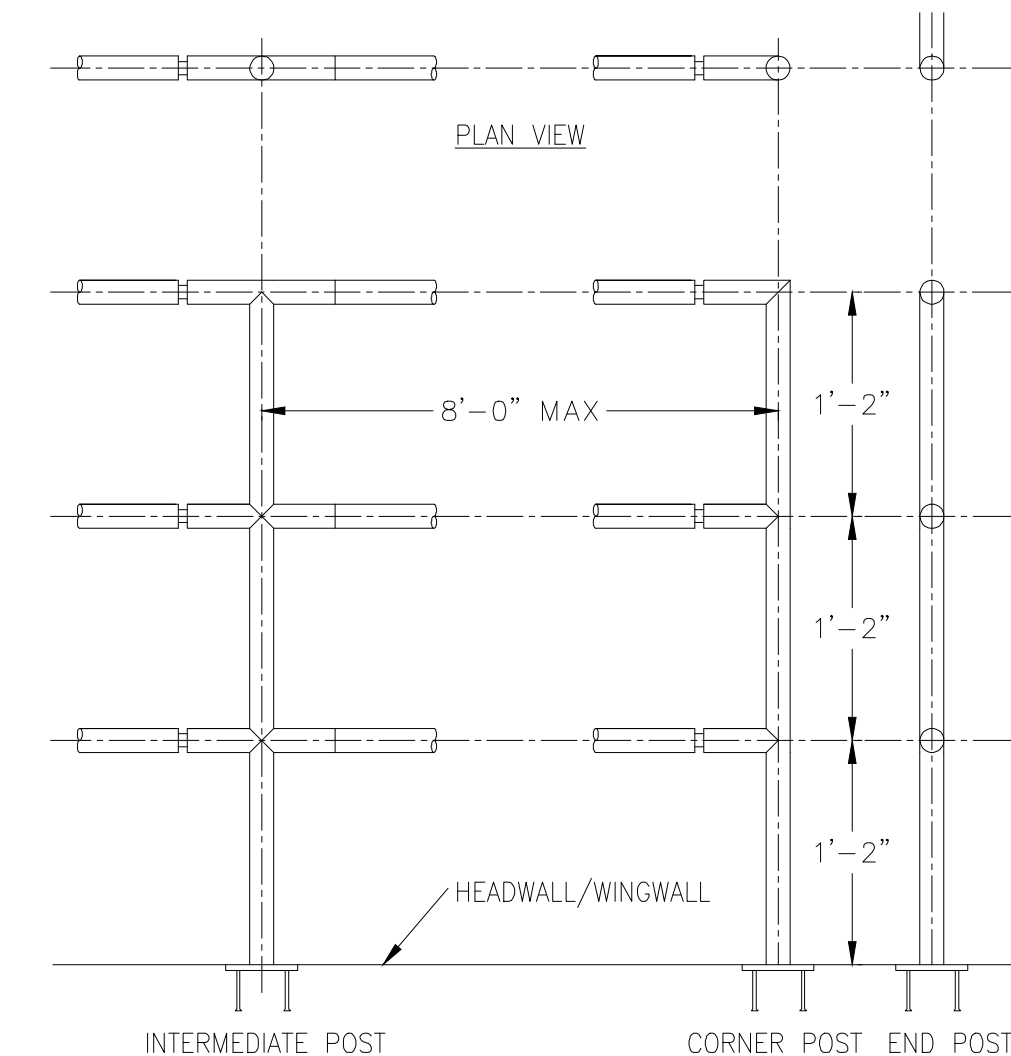
GRATE
DETAIL "B"

SET PLATE ANCHOR DETAILS
(NTS)

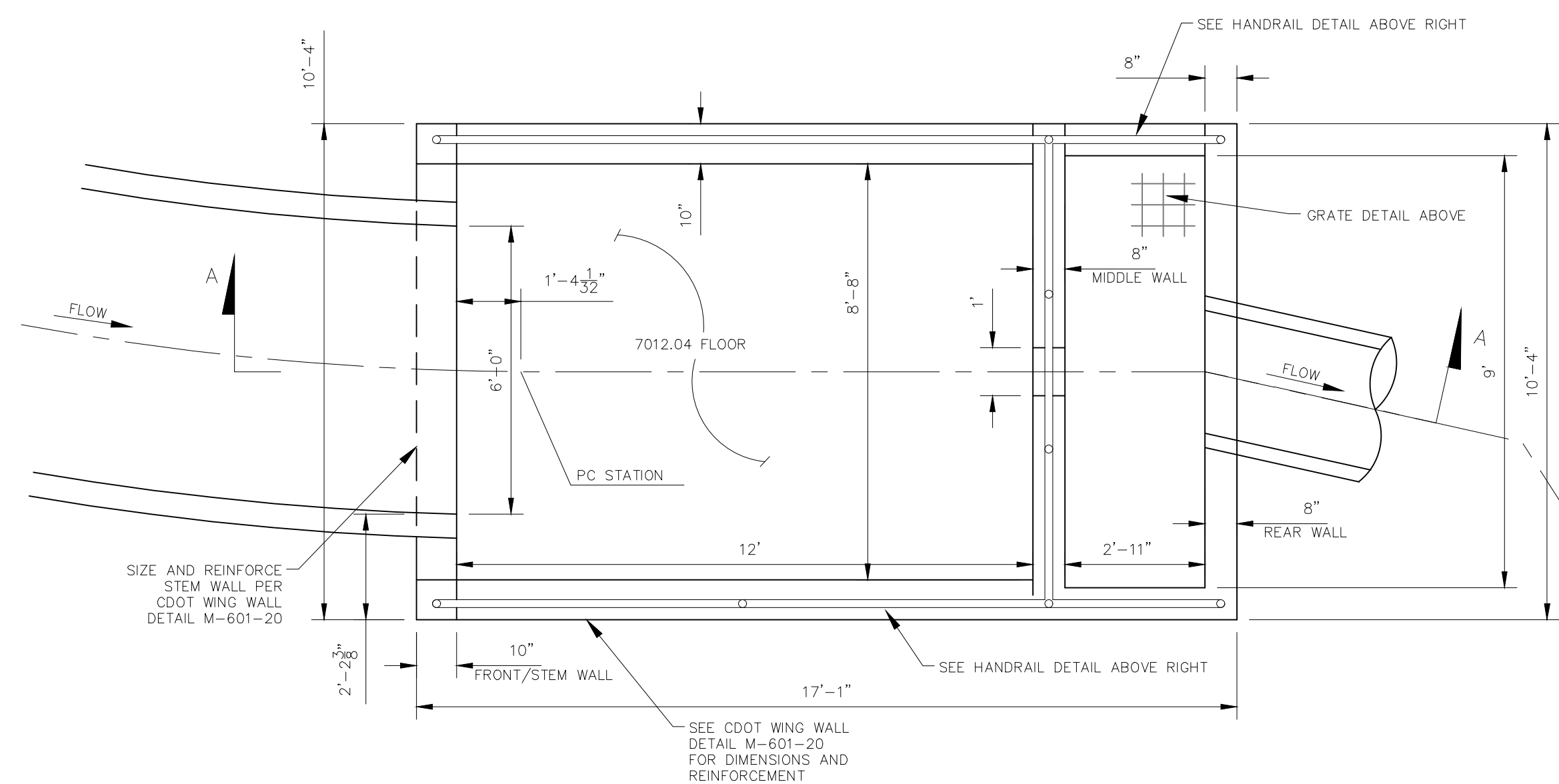
EXPANSION JOINT
DETAIL
(NTS)

MECHANICAL TUBING, 1/4"
MIN. WALL THICKNESS, 1/16"
CHAMFER BOTH ENDS. REAM
PIPE FOR SLIP FIT 0.03" MAX.
CLEARANCE

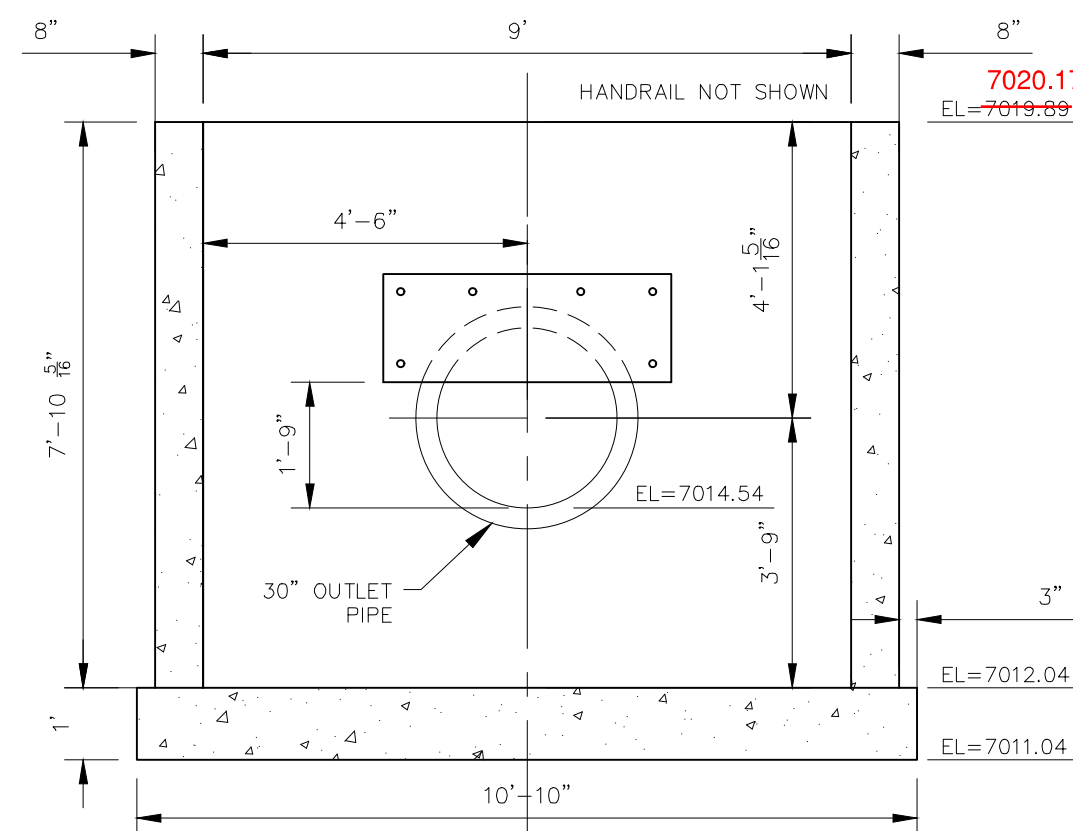
FIXED JOINT
DETAIL
(NTS)



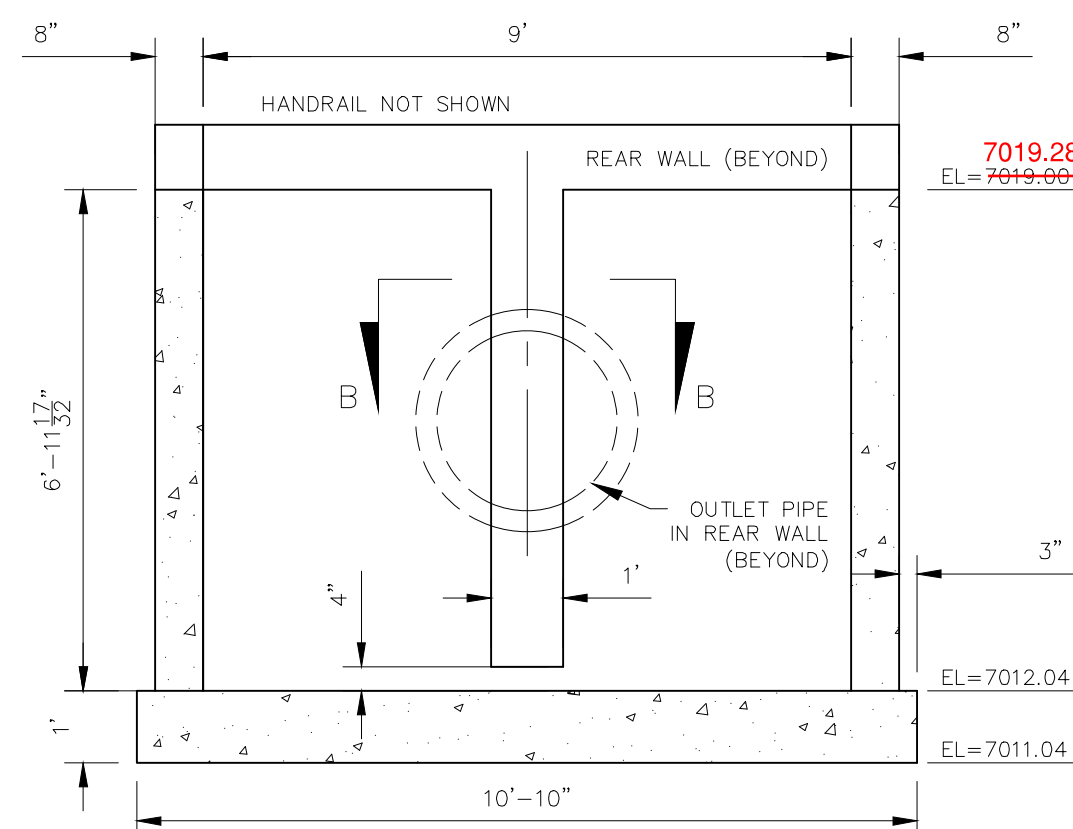
SECTION A-A
NOT TO SCALE



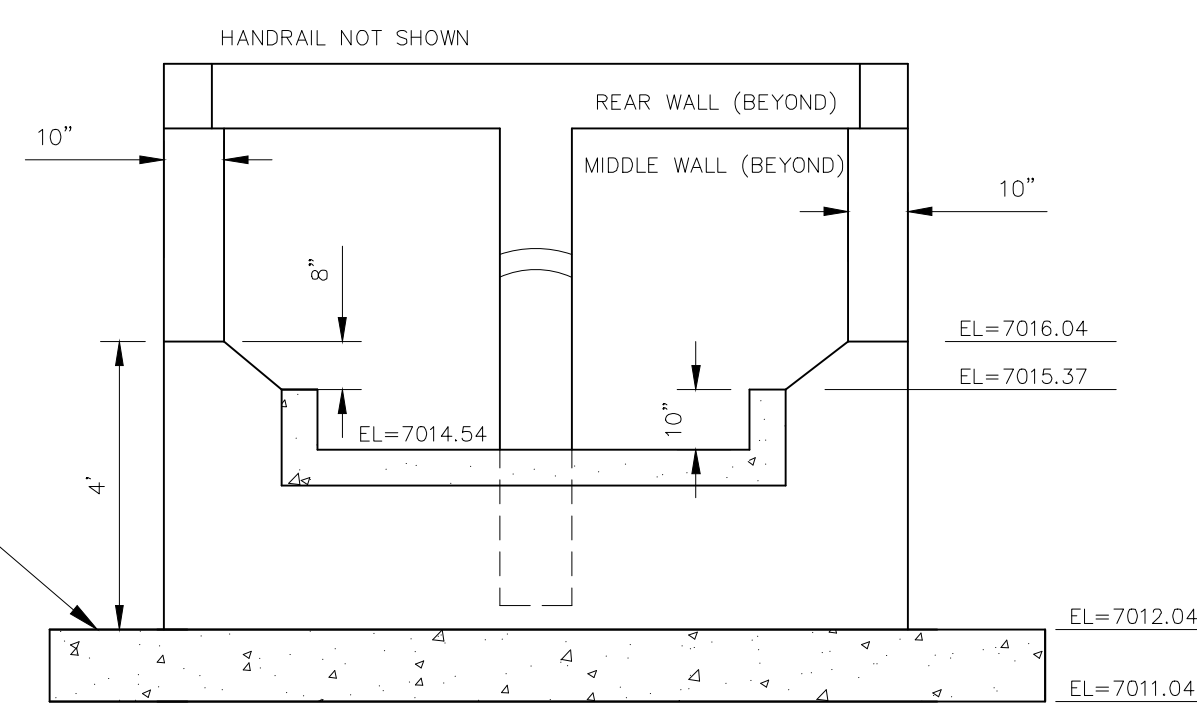
POND 8 WATER QUALITY OUTLET STRUCTURE



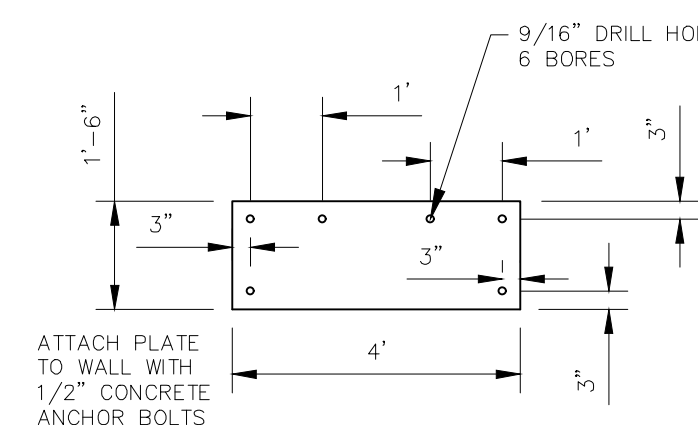
REAR WALL
NOT TO SCALE



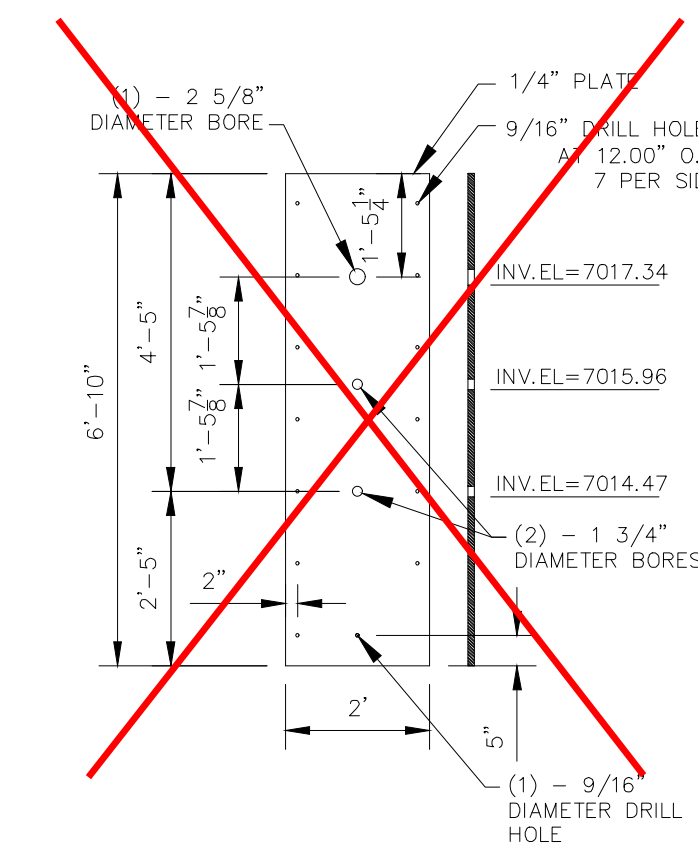
MIDDLE WALL
NOT TO SCALE



FRONT/STEM WALL
NOT TO SCALE

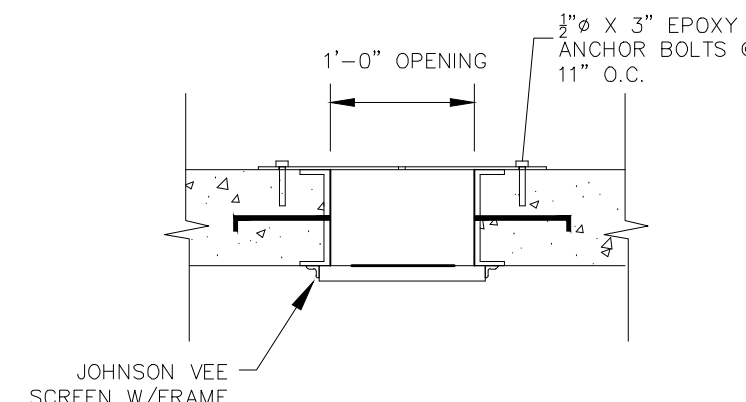


RESTRICTOR PLATE
NOT TO SCALE

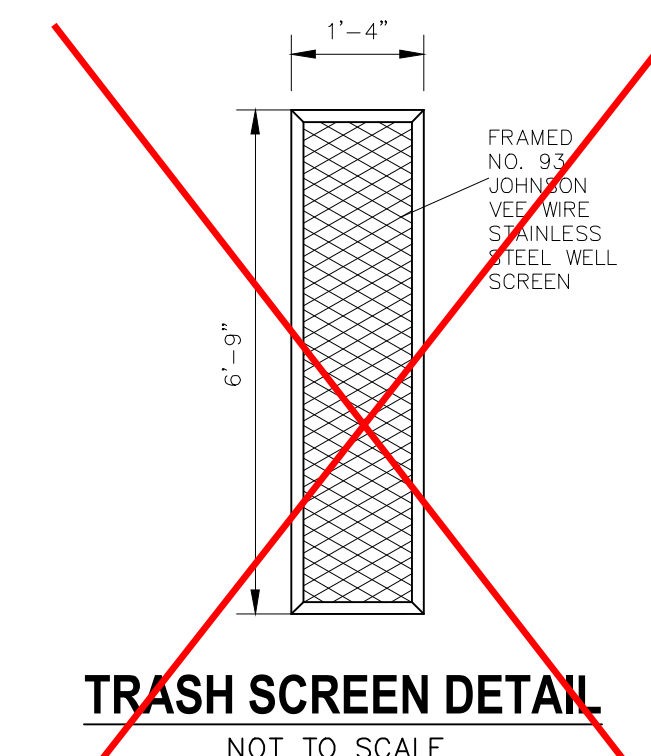


ORIFICE PLATE
NOT TO SCALE

SEE UPDATED ORIFICE PLATE DETAIL
ON NEXT PAGE SHEET ST20A



SECTION B-B
NOT TO SCALE



TRASH SCREEN DETAIL
NOT TO SCALE

NOTE:
CENTER ORIFICE PLATE AND TRASH SCREEN
HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE

SEE UPDATED TRASH
SCREEN DETAIL ON NEXT
PAGE SHEET ST20A

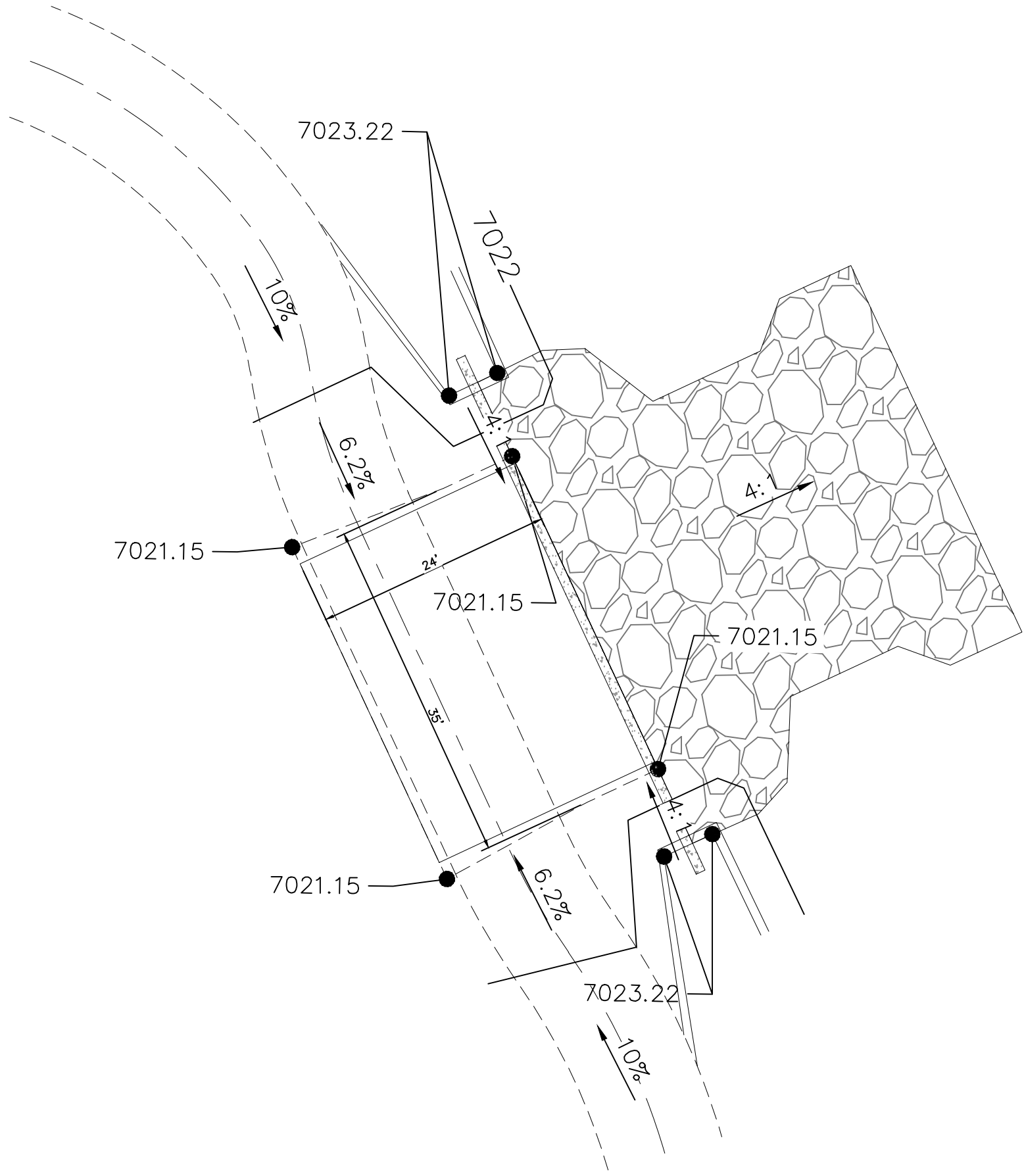


FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

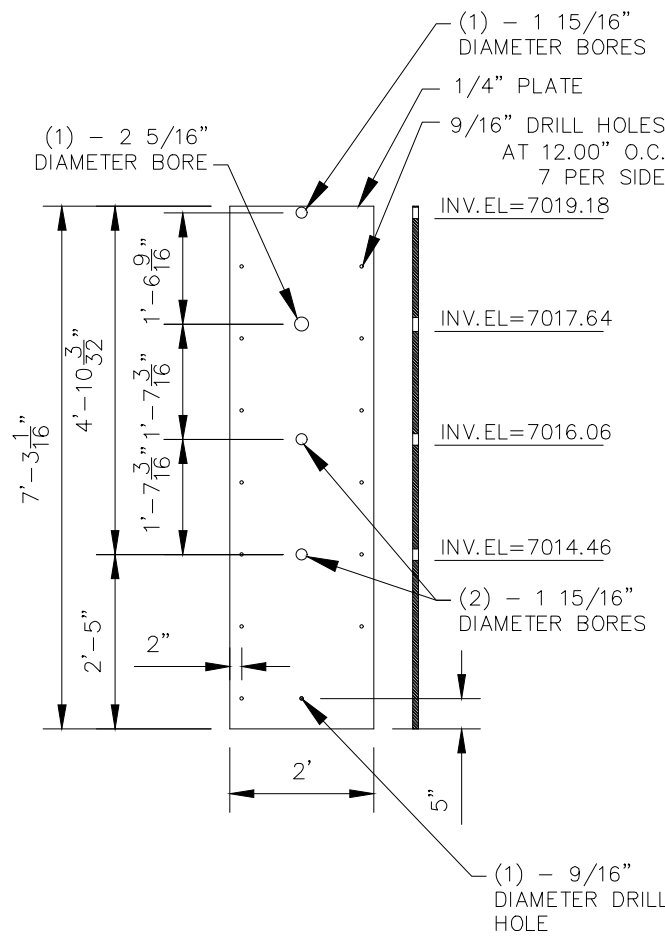


FOR LOCATING
& MARKING
GAS,
ELECTRIC,
WATER &
TELEPHONE
LINES

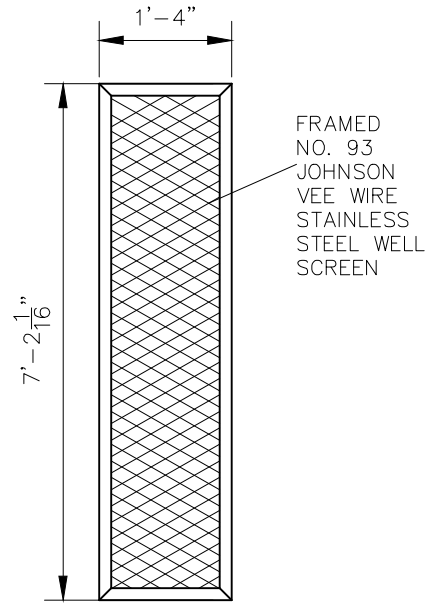
FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987



UPDATED SPILLWAY DETAILS



UPDATED ORIFICE PLATE
NOT TO SCALE



UPDATED TRASH SCREEN DETAIL
NOT TO SCALE

NOTE:
CENTER ORIFICE PLATE AND TRASH SCREEN
HORIZONTALLY ACROSS 1'-0" OPENING IN STRUCTURE

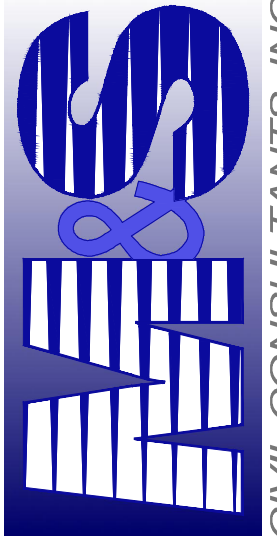
REVISIONS:		APPROVED BY:	DATE:
NO.	DATE:	BY:	DESCRIPTION:

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CAUTION

VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37760

FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.



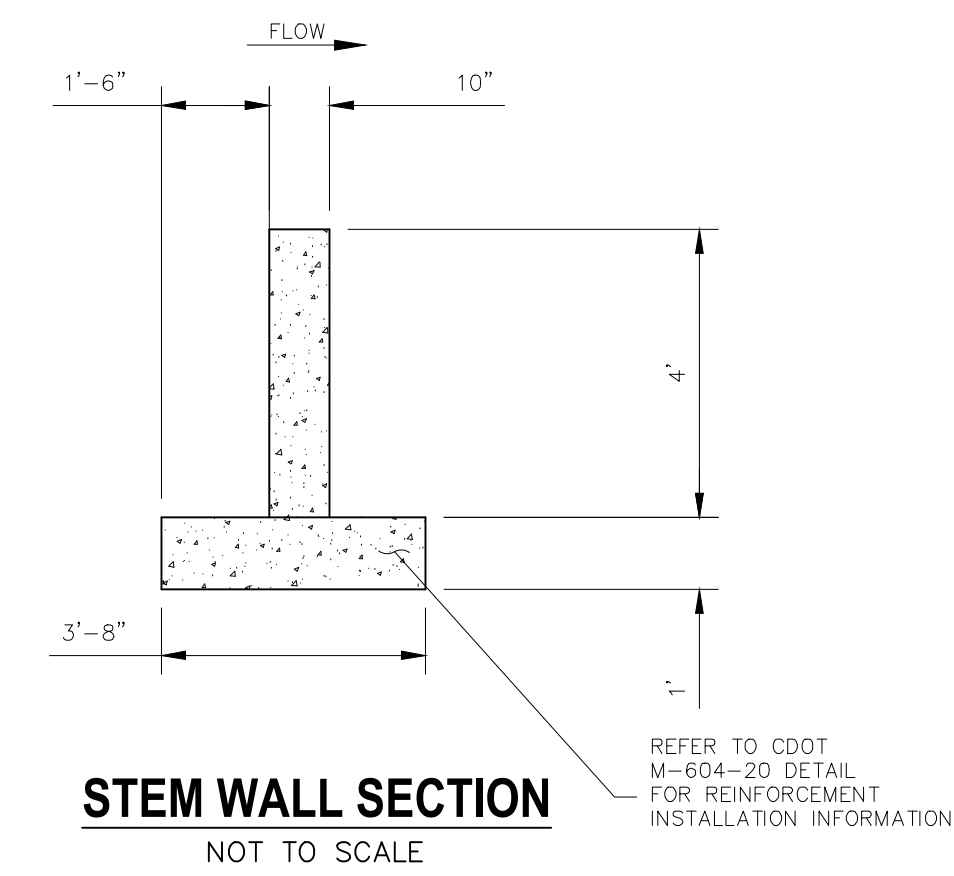
CIVIL CONSULTANTS, INC.

20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.555.5485

STERLING RANCH FILING NO. 1

UPDATED FULL SPEC. DET. POND 8 DETAILS

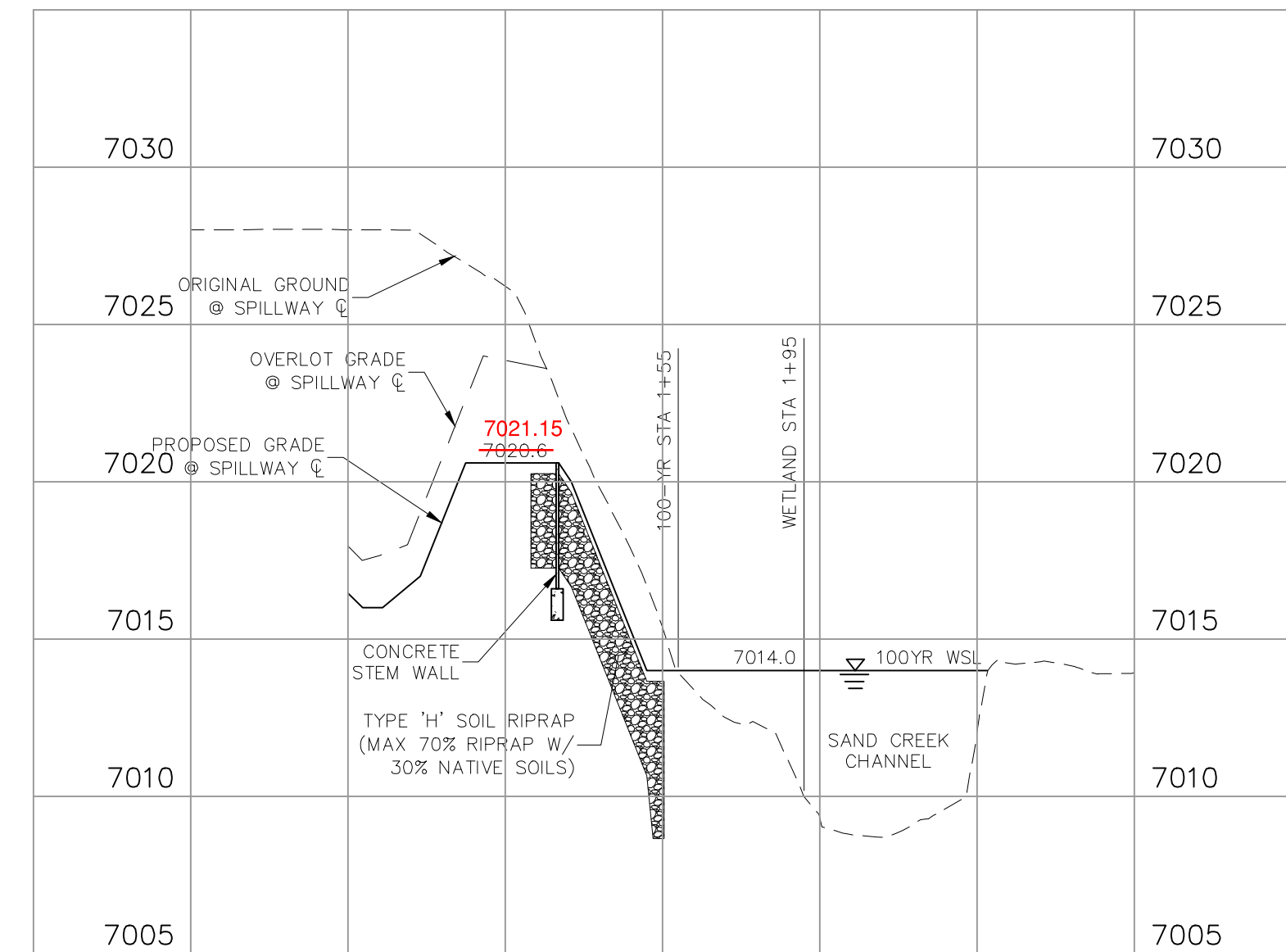
PROJECT NO. 09-002	FILE: \Eng\Const Dwg\Storm - District\ST20A.dwg	DATE: 01/02/2018
DESIGNED BY: ET	SCALE: N/A	SHEET 20 OF 28
DRAWN BY: WAS	HORIZ: N/A	
CHECKED BY:	VERT: N/A	ST20A



STEM WALL SECTION

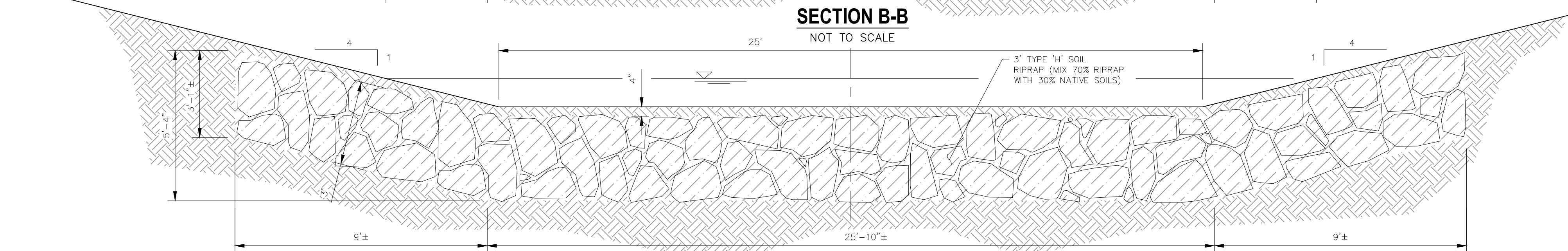
NOT TO SCALE

REFER TO CDOT
M-604-20 DETAIL
FOR REINFORCEMENT
INSTALLATION INFORMATION

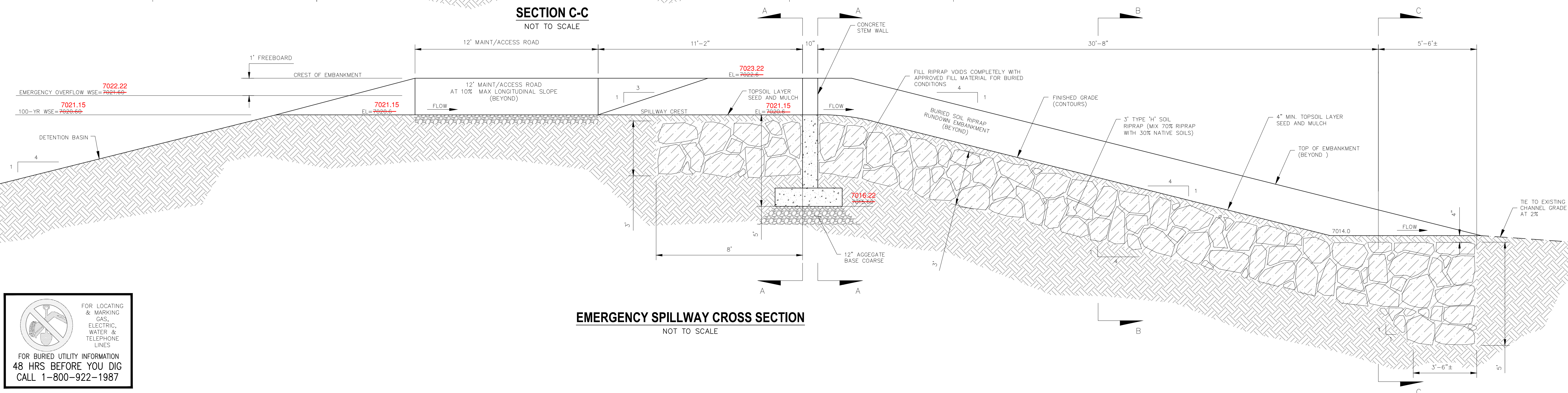


EMERGENCY SPILLWAY PROFILE

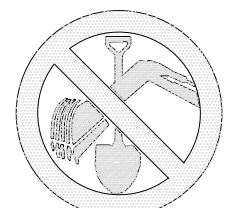
HORIZ. SCALE: 1"=50'
VERT. SCALE: 1"=5'



SECTION C-C
NOT TO SCALE



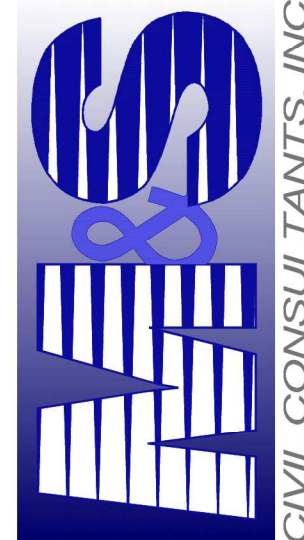
EMERGENCY SPILLWAY CROSS SECTION
NOT TO SCALE



FOR BURIED UTILITY INFORMATION
48 HRS BEFORE YOU DIG
CALL 1-800-922-1987

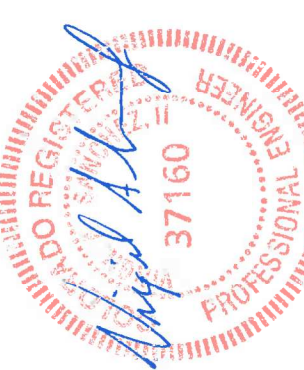
STERLING RANCH FILING NO. 1	
FULL SPECTRUM DET. POND 8 DETAILS	
PROJECT NO: 09--002	FILE: <u>Wvg\Const.dwg\Storm - District\ST21.dwg</u>
DESIGNED BY: EL	SCALE
DRAWN BY: TY	HORIZ: AS NOTED
CHECKED BY: WAS	VERT: AS NOTED
DATE: 01/02/2018	
SHEET 25 OF 28	
ST21	

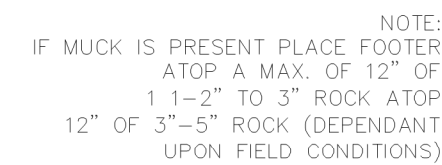
20 BOULDER CRESCENT, SUITE 110
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485



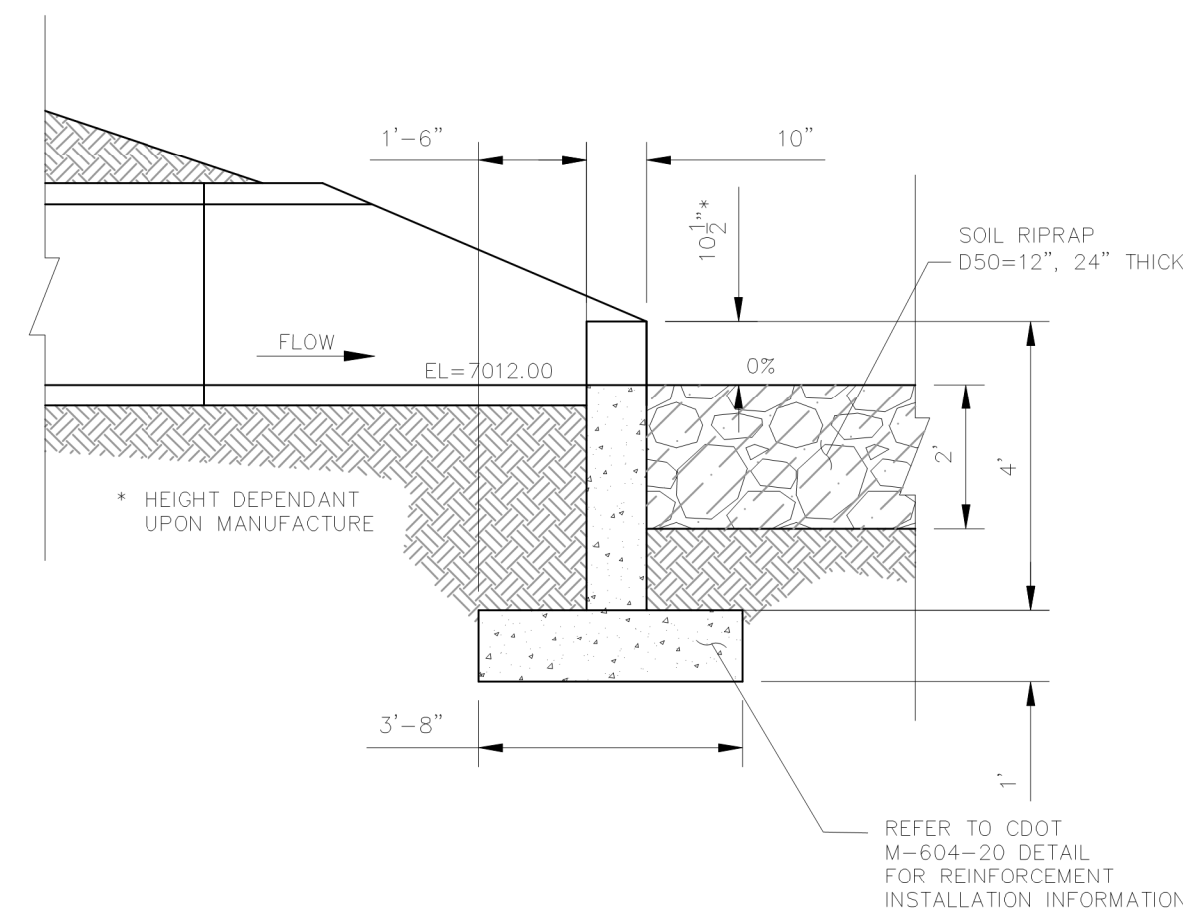
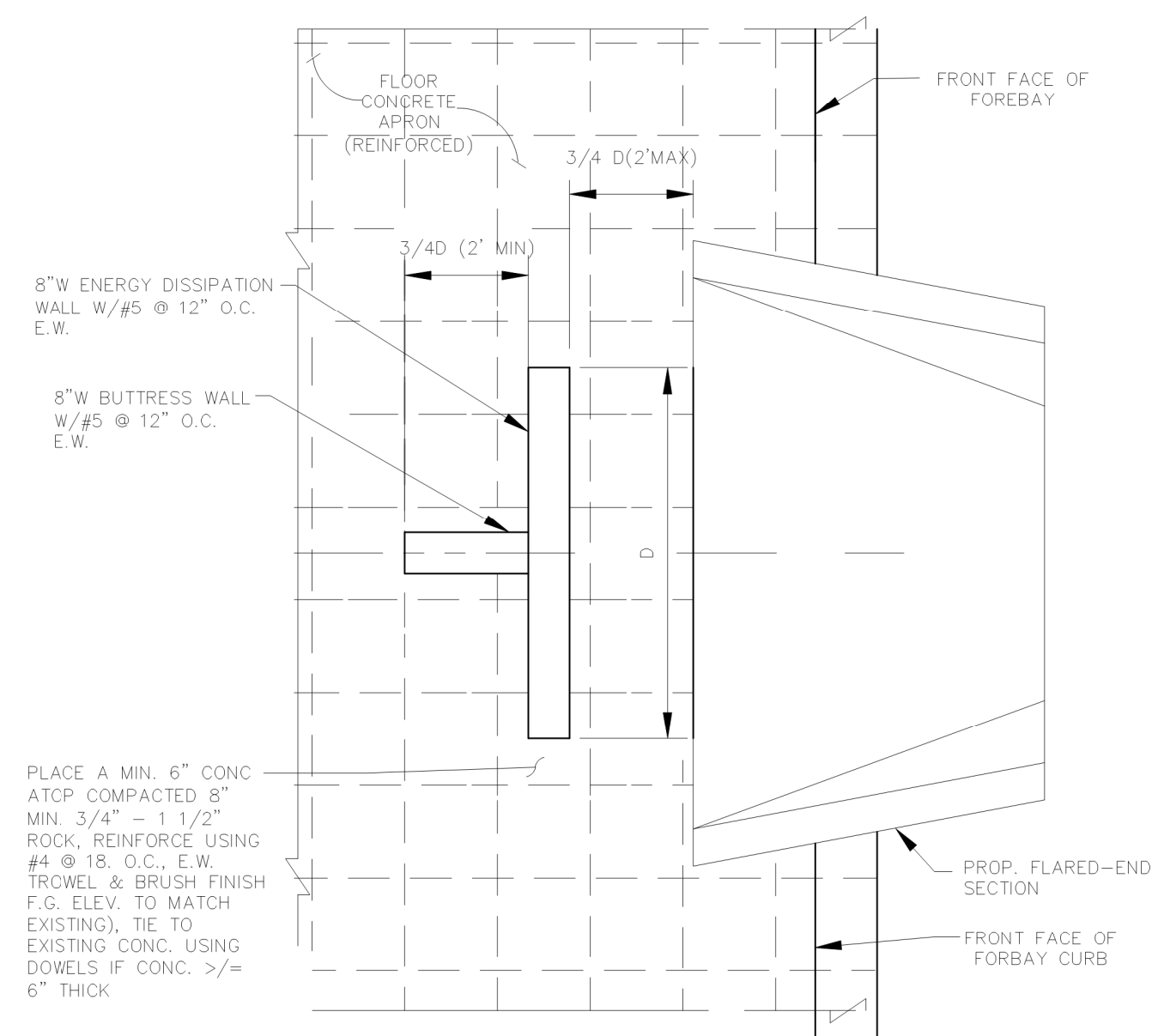
VIRGIL A. SANCHEZ, COLORADO P.E. NO. 37160

FOR AND ON
BEHALF OF
M&S CIVIL
CONSULTANTS,
INC.

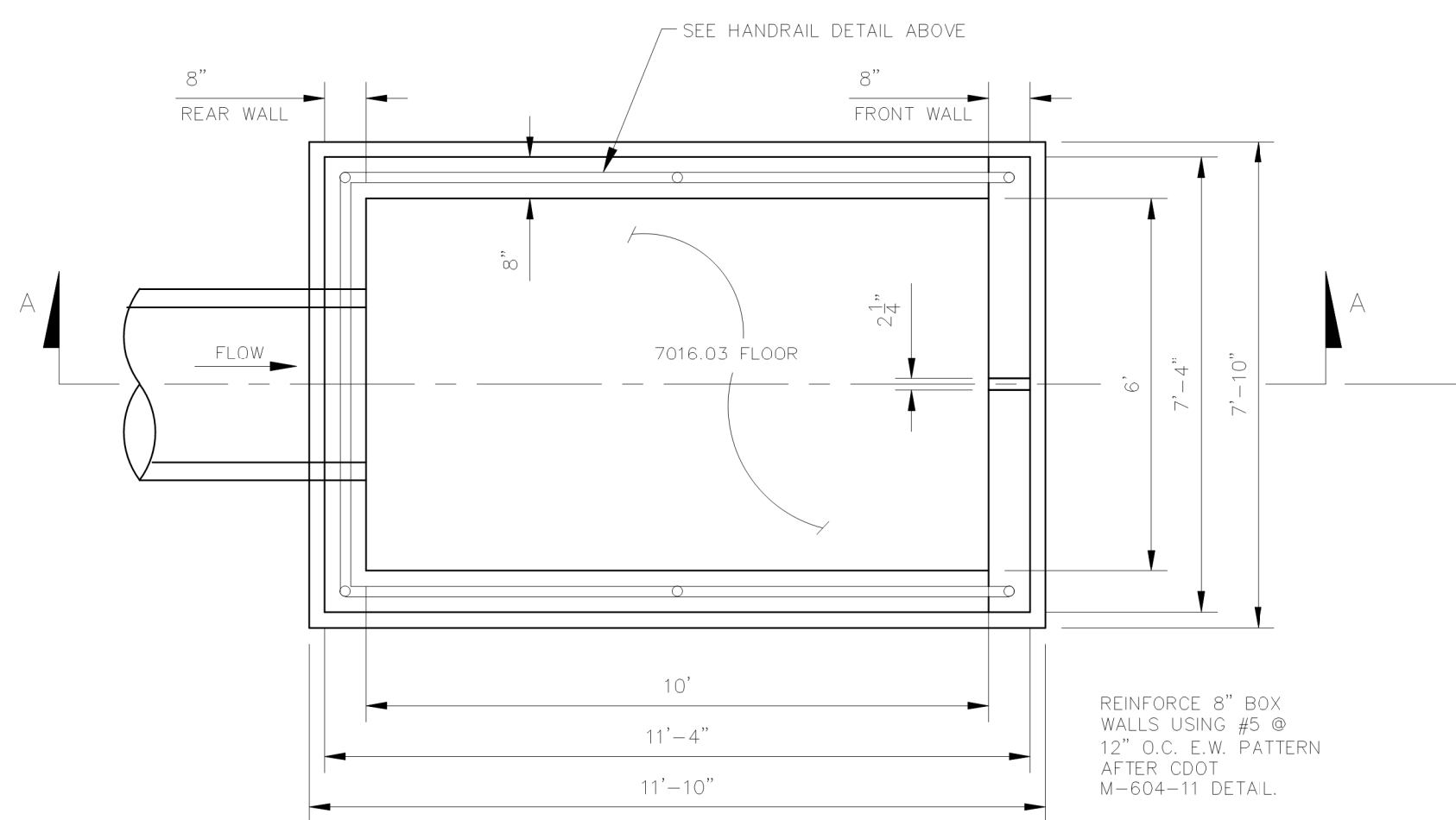
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SECTION A-A
NOT TO SCALE



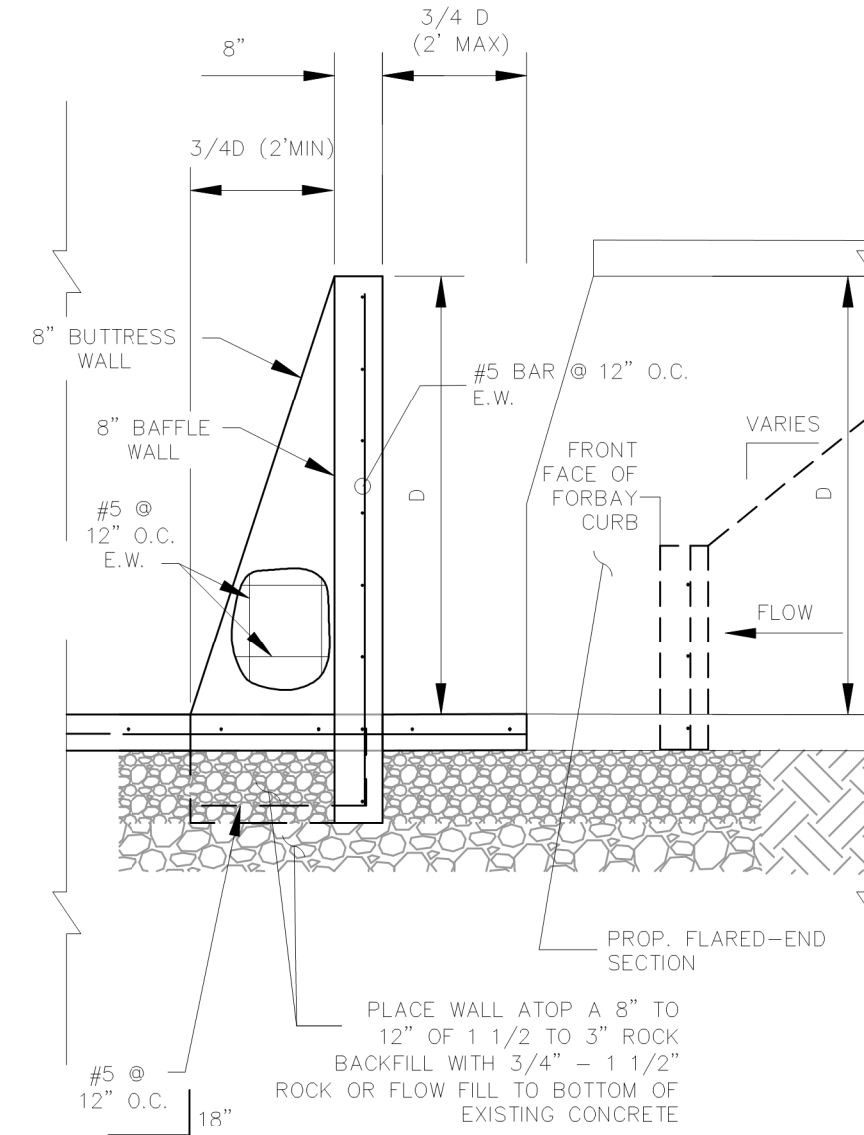
POND 8 - STORM 8 OUTFALL RIPRAP
APRON W/HEADWALL SECTION (TYP.)



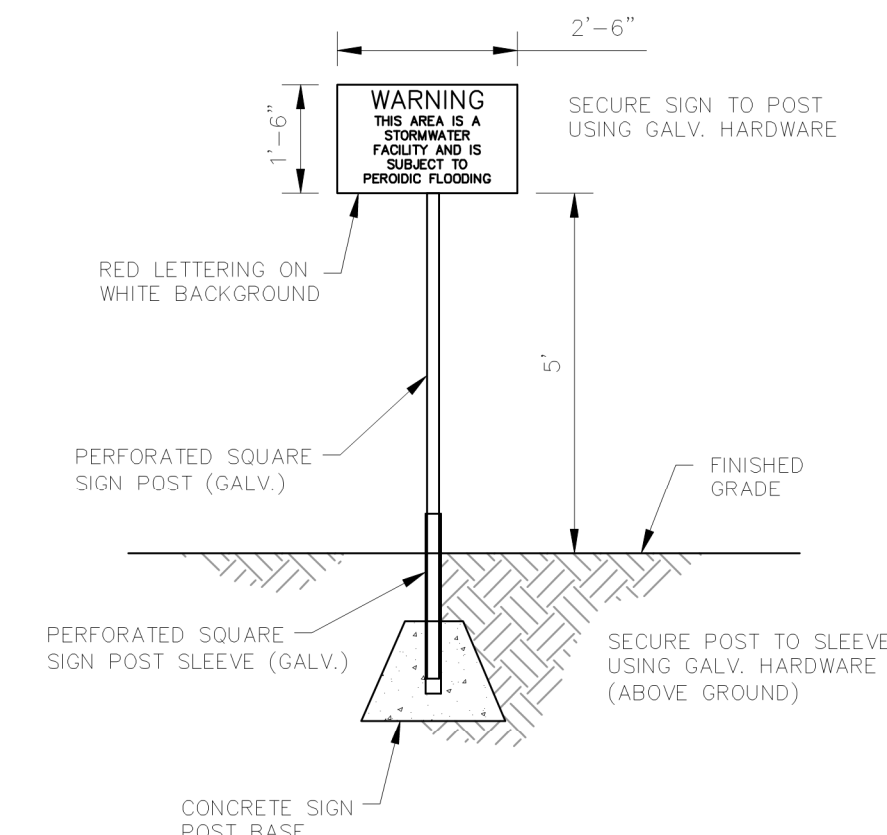
POND 8 - SOUTH FOREBAY PLAN



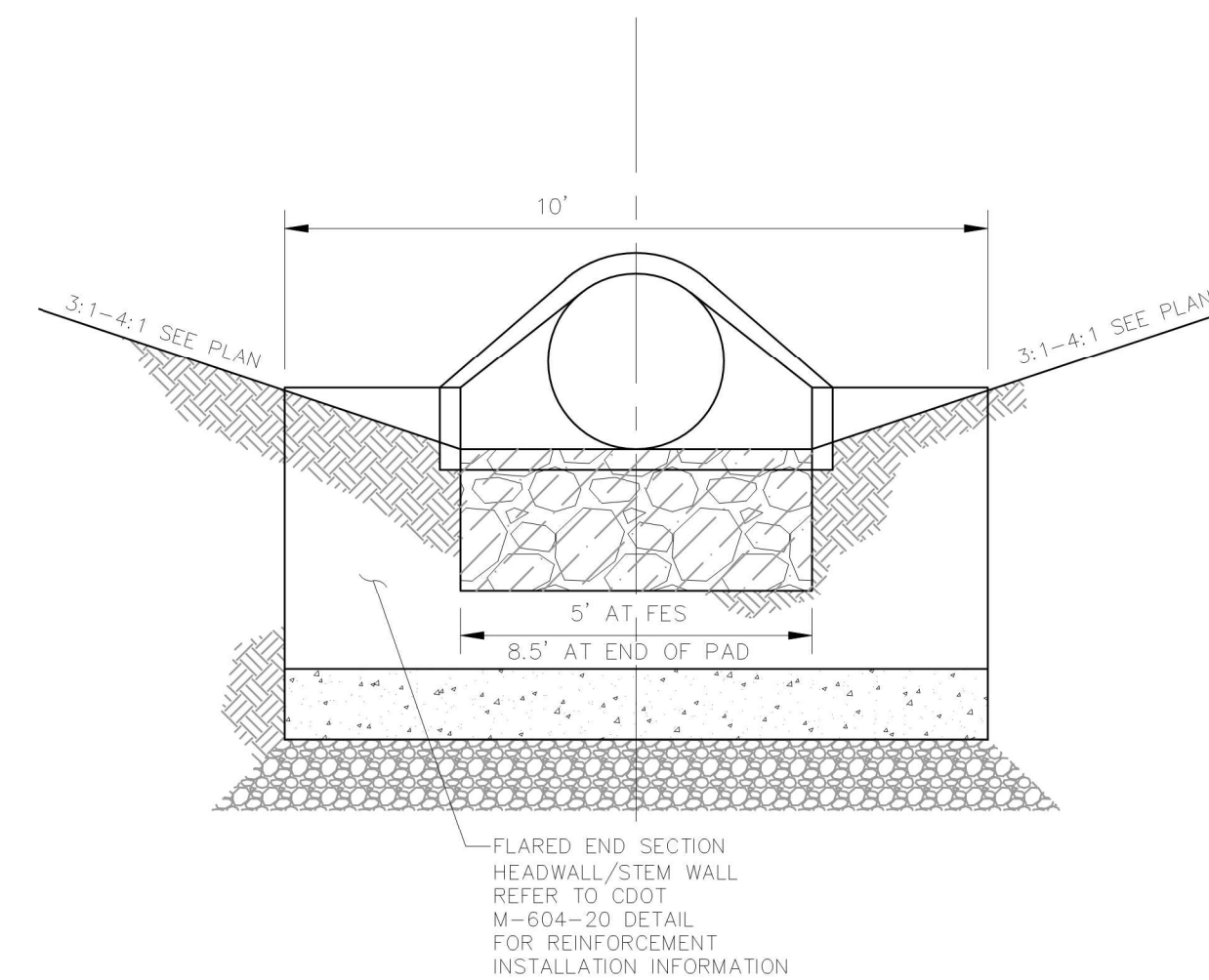
POND 8- ENERGY DISSIPATION WALL TYPICAL PLAN
NOT TO SCALE



POND WARNING SIGN
NOT TO SCALE



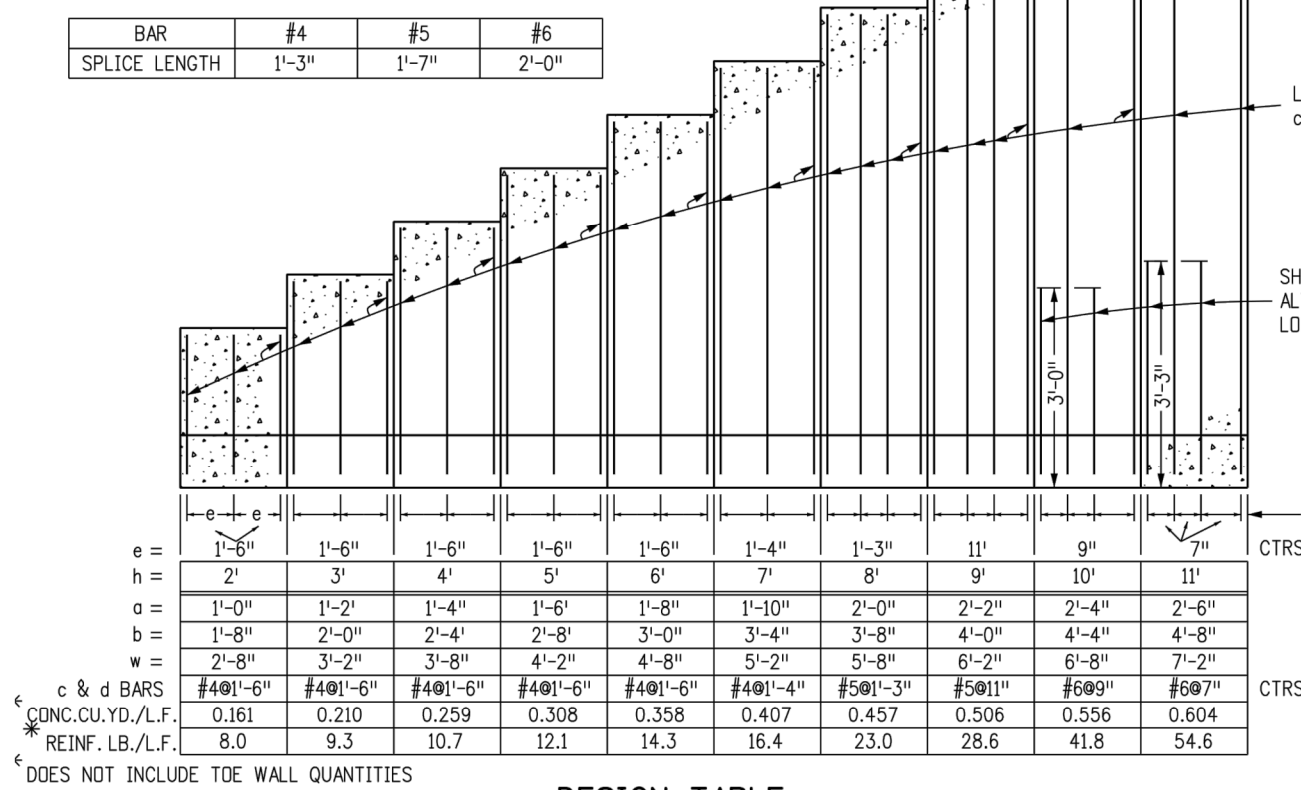
POND 8 - STORM 8 OUTFALL RIPRAP
APRON W/HEADWALL ELEVATION (TYP.)



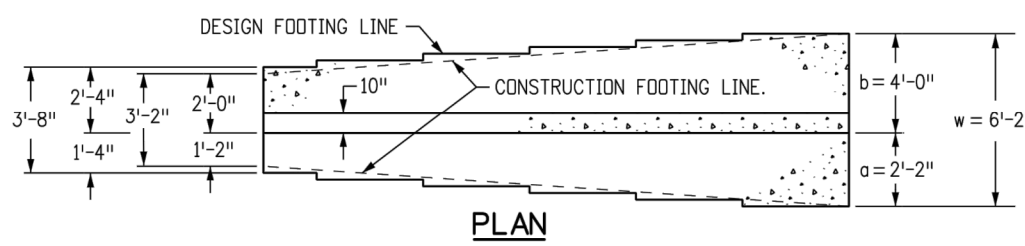
GENERAL NOTES

1. ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ IN.
2. WINGWALL FOOTINGS AND FLOOR OF BOX CULVERT SHALL BE PLACED MONOLITHICALLY.
3. DIMENSIONS "H", "Bd", "RISE", "K", "L", "m" AND ANGLES FOR WINGWALLS SHALL BE AS SHOWN ON THE PLANS.
4. REINFORCING STEEL SHALL BE GRADE 60.
5. THE MINIMUM SPLICE LENGTH FOR COMMON BAR SIZES SHALL BE

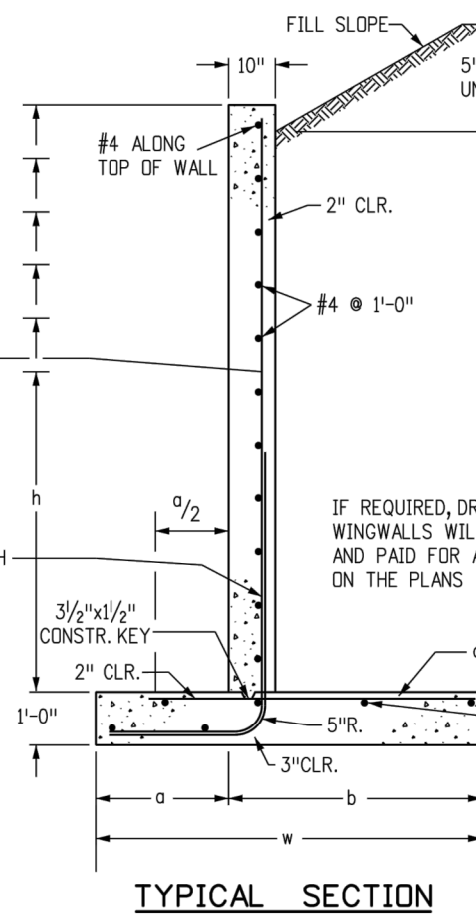
BAR	#4	#5	#6
SPLICE LENGTH	1'-3"	1'-7"	2'-0"



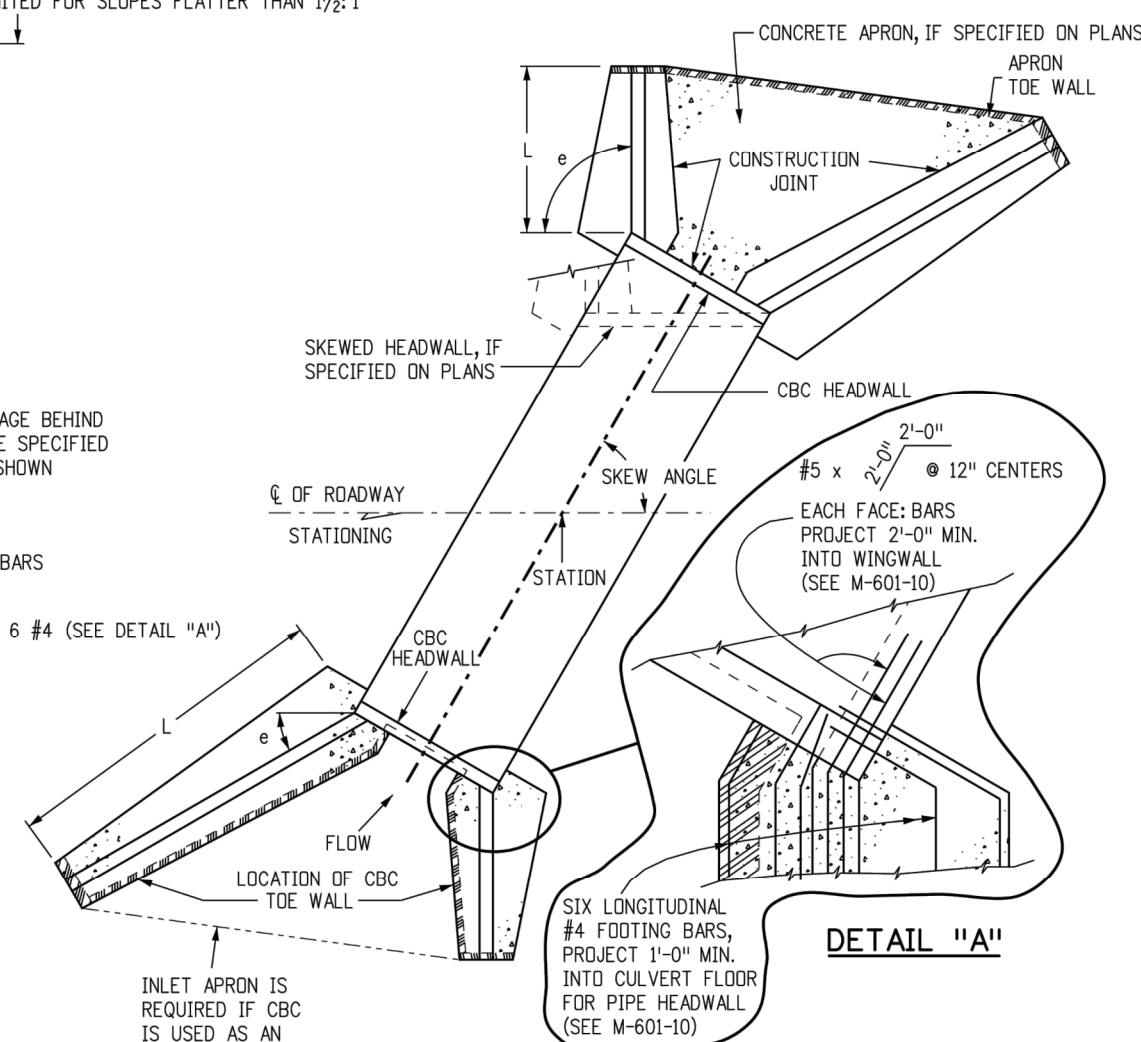
DESIGN TABLE



PLA



TYPICAL SECTION



DETAIL "A"

TYPICAL CULVERT LAYOUT

DESIGN DATA:

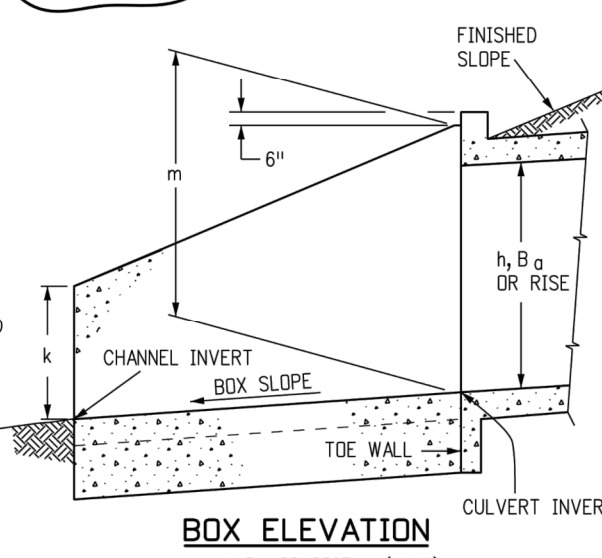
UNIT STRESSES: $f_s = 24,000$ PS
 $f_c = 1,200$ PSI
 $n = 9$

EQUIVALENT FLUID PRESSURE = 36 LBS./CU. FT.
MAXIMUM TOE PRESSURE = 1 TON/SQ. FT.
ALL CONSTRUCTION JOINTS SHALL BE THOROUGH

WINGWALL AND APRON CONCRETE SHALL BE:
CONCRETE CLASS B, OR D (BOX CULVERT) FOR CBC's.

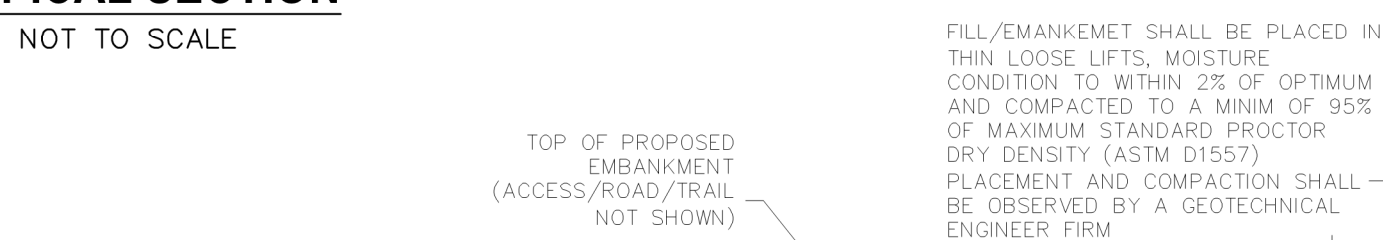
LIVE LOAD SURCHARGE HAS NOT BEEN CONSIDERED. WALL WITHIN $\frac{1}{2}$ OF THE EDGE OF THE ROADWAY SHOULDER V

REQUIRE A SPECIAL DESIGN IN ACCORDANCE WITH AASH STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.



BOX ELEVATION

m = h, B₀ OR RISE + (1'-4")
UNLESS OTHERWISE SHOWN ON PLANS



TYPICAL EMBANKMENT WITH SOIL KEYWAY
NOT TO SCALE

