



**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 PCD PRIOR TO CONSTRUCTION.

**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 SOILS 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 FOR ROAD 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 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.
- 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 PCD - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- 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.
- 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.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- 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 AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DPW AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, 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.

**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.

**SPECIAL NOTE:**

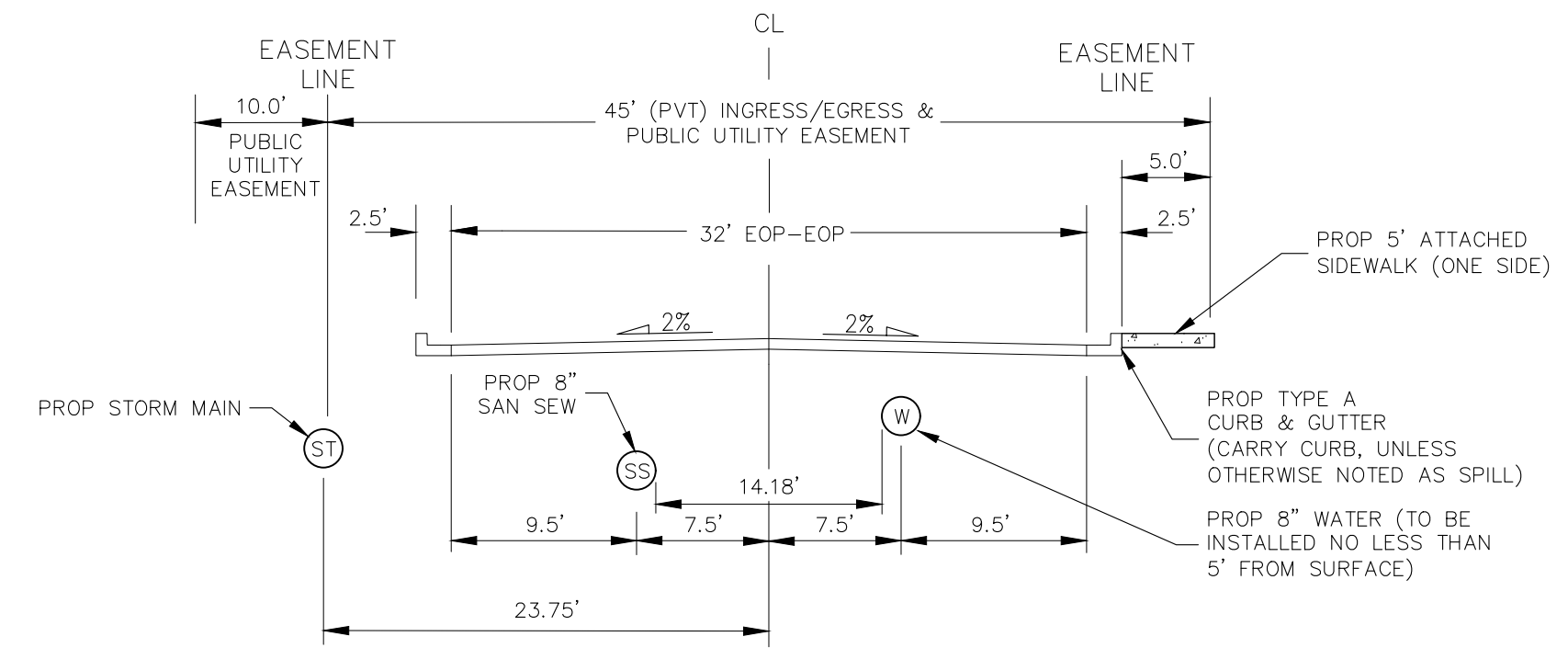
THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATIONS AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY EL PASO COUNTY DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

**ABBREVIATION LEGEND:**

CL	CENTERLINE INTERSECTION	LT	LEFT
FL-FL	FLOWLINE INTERSECTION	RT	RIGHT
BT	BEGIN TRANSITION	FL	FLOWLINE
ET	END TRANSITION	TBC	TOP BACK OF CURB
PC	POINT OF CURVE	XPAN	CROSSSPAN
PCC	POINT OF COMPOUND CURVE	STD	STANDARD
PCR	POINT OF CURB RETURN	SHT	SHEET
PRC	POINT OF REVERSE CURVE	P&P	PLAN AND PROFILE
PT	POINT OF TANGENT	C&G	CURB AND GUTTER
EL	ELEVATION	W	WEST
CDS	CU-DE-SAC	E	EAST
KN	KNUCKLE	ROW	RIGHT OF WAY
LP	LOW POINT	EOP	EDGE OF PAVEMENT
N	NORTH	WTR	WATER
S	SOUTH	SAN	SANITARY SEWER
HP	HIGH POINT	PVT	PRIVATE
PUB	PUBLIC	WV	WATER VALVE
C&G	CURB AND GUTTER	PED	PEDESTRIAN
CMD	CHEROKEE METRO DISTRICT		

**LEGEND:**

SAWCUT LINE	---
SITE BOUNDARY	— — — — —
ADJACENT PROPERTY	— — — — —
EXIST STORM SEWER LINE	— — — — —
EX. UNDERGROUND ELECTRIC LINE	— UE —
EX. SANITARY SEWER LINE	— SS —
EX. WATER LINE	— WL —
EX. GAS MAIN	— UG —
EX. FENCE	— [ ] —
EASEMENT	— — — — —
PROP C&G	====
EX. STORM MH	⊙
EX. SANITARY MANHOLE	⊙
EX. WATER VALVE	⊙



**EL JEFFE HEIGHTS  
URBAN LOCAL CROSS SECTION (PRIVATE)**  
\*POSTED SPEED 25 MPH\*  
\*DESIGN SPEED 30 MPH\*



CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
CONSTRUCTION NOTES, LEGEND & DETAILS  
PROJECT NO. 10-020  
DATE: 07/20/23  
SCALE: HORIZONTAL: N/A VERTICAL: N/A  
DESIGNED BY: GW  
DRAWN BY: CLP  
CHECKED BY: VAS  
SHEET 2 OF 14  
CD02

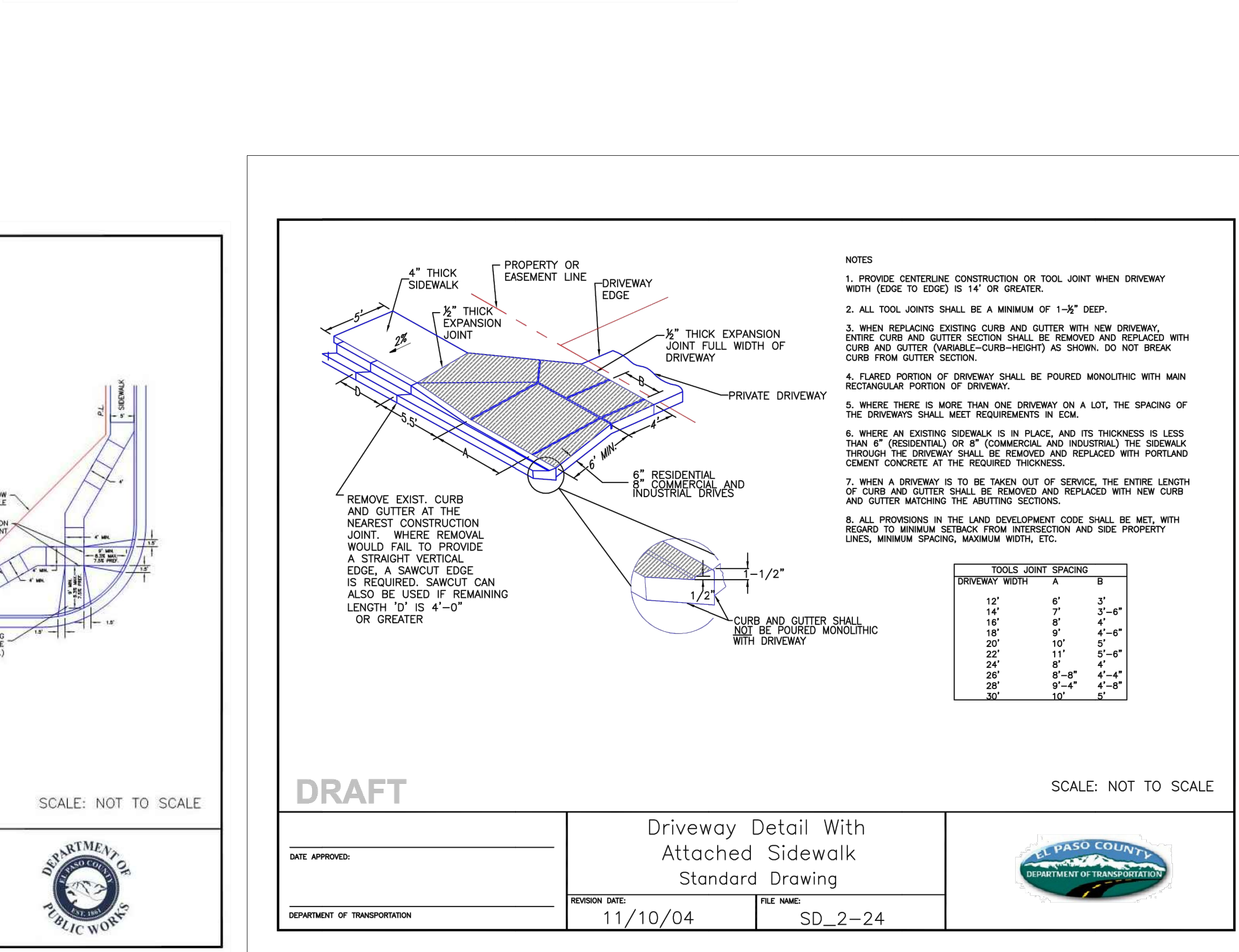
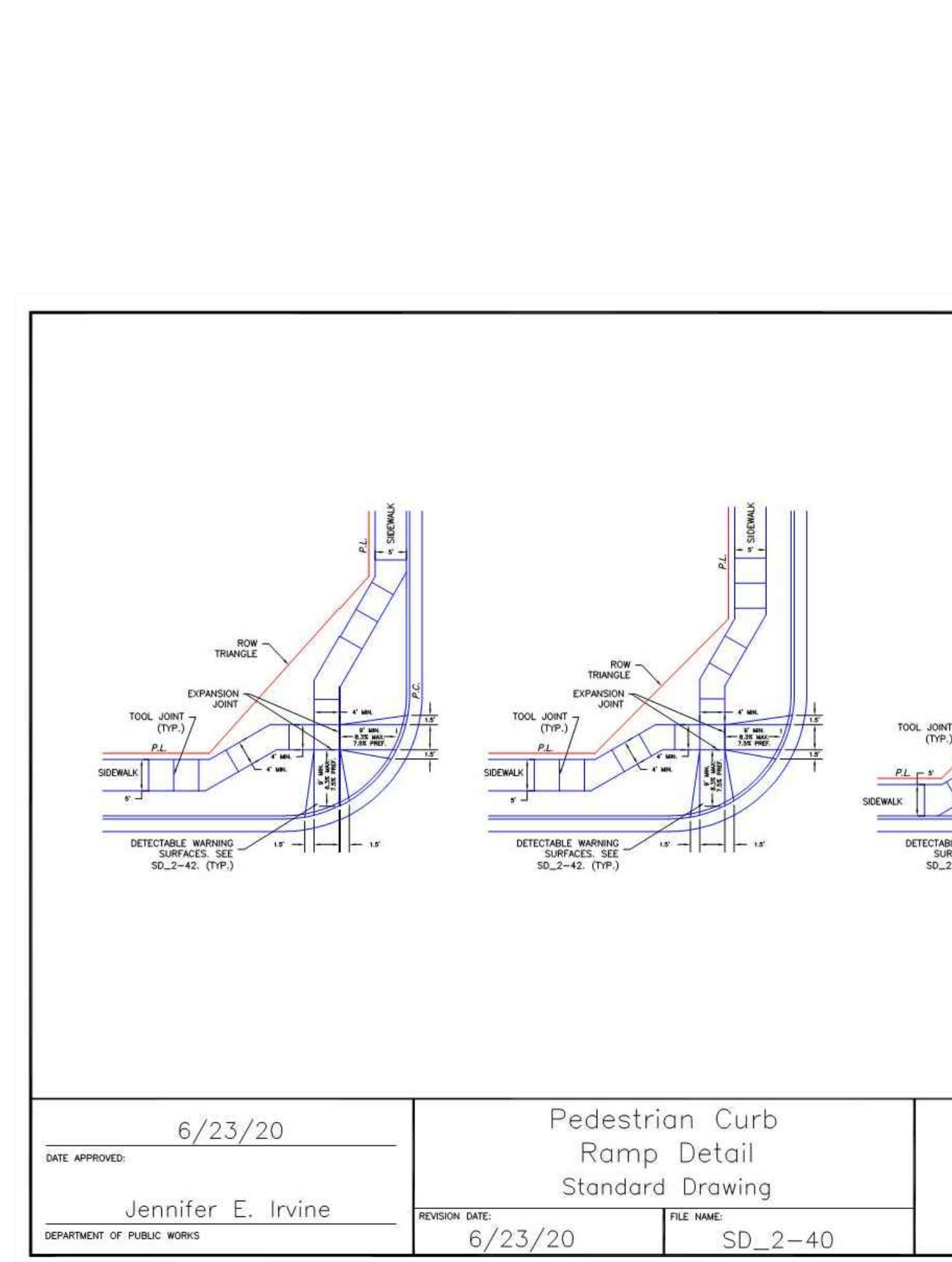
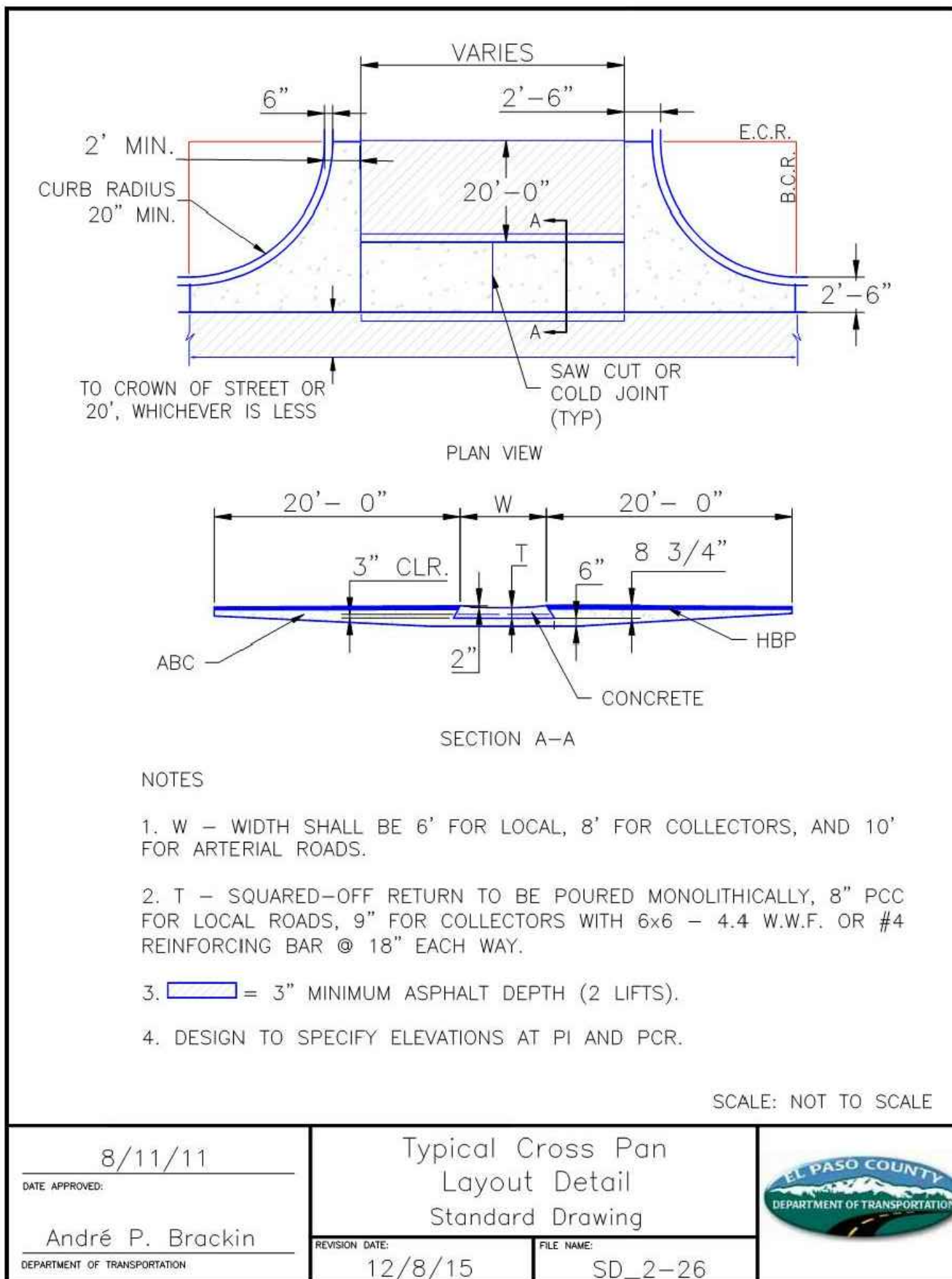
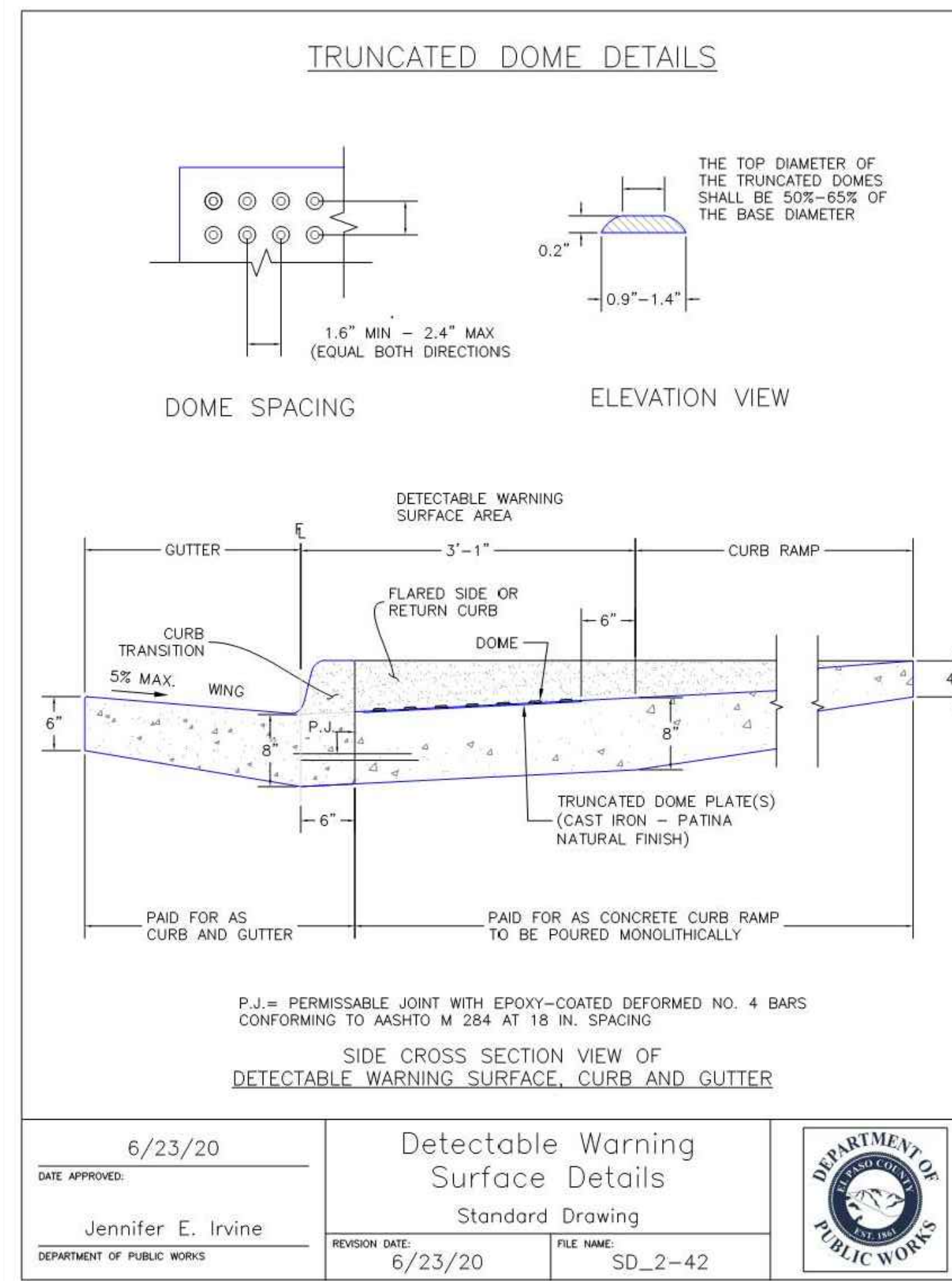
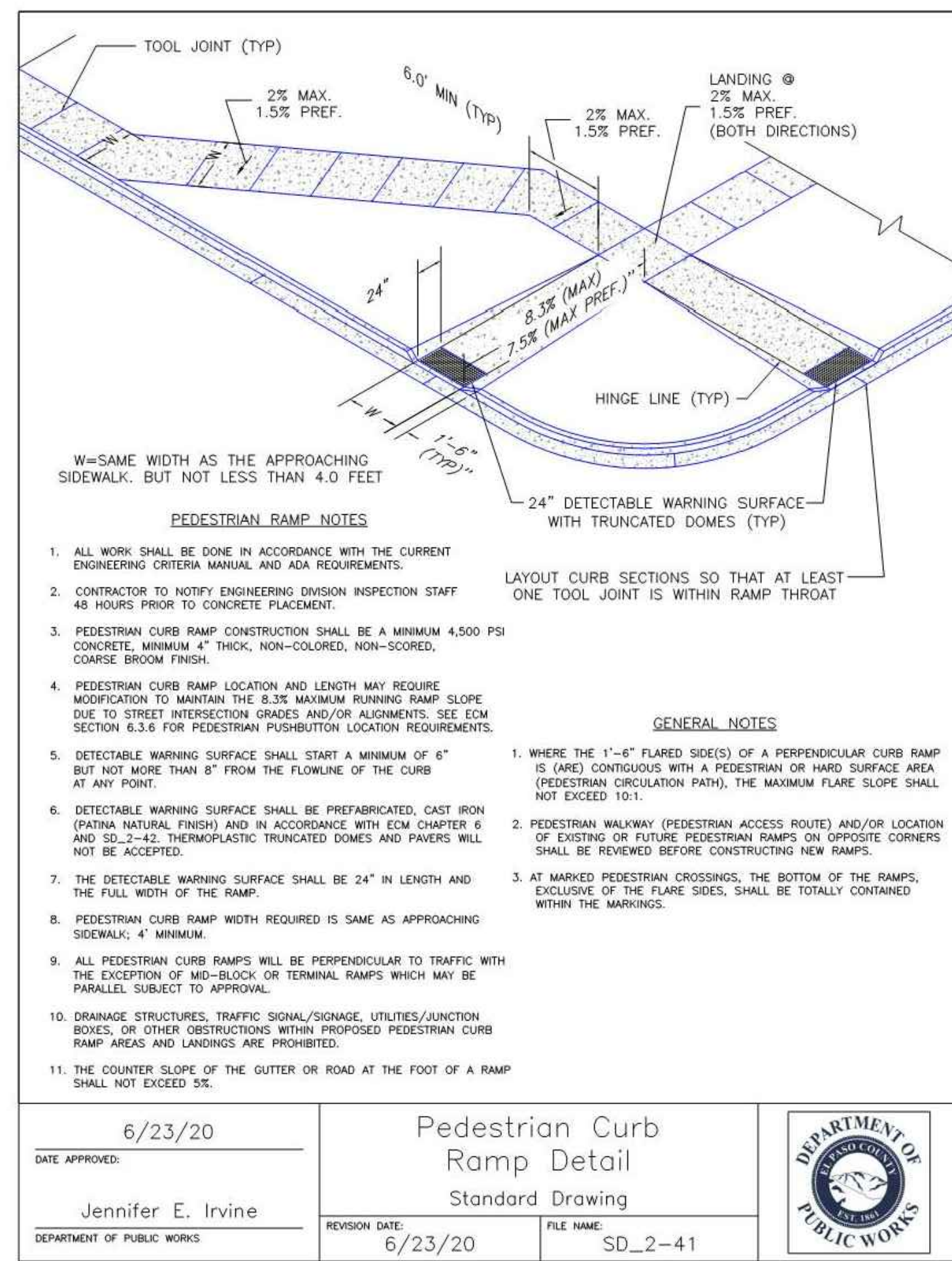
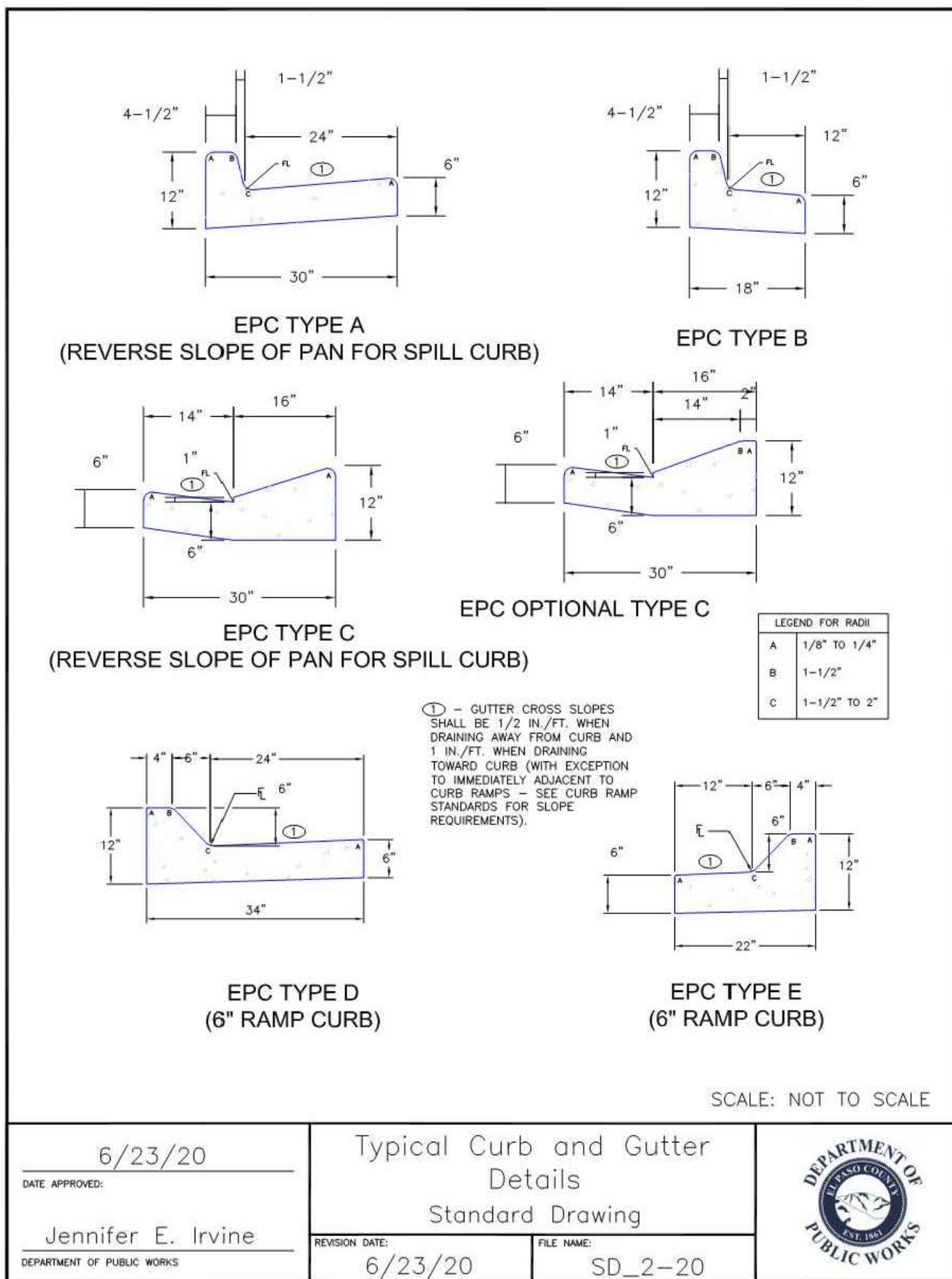
212 N. WASHATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5465  
**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF  
MKS CIVIL CONSULTANTS, INC.  
VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 37160  
REGISTERED PROFESSIONAL ENGINEER  
07/28/2023

REVISIONS:	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 PREPARE OF THESE PLANS.

CAUTION



CLAREMONT BUSINESS PARK 2 FIL. NO. 2

CONSTRUCTION STANDARD DETAILS

PROJECT NO. 10-020

DATE: 07/20/23

SCALE: HORIZONTAL: N/A VERTICAL: N/A

DESIGNED BY: GW

DRAWN BY: CLP

CHECKED BY: VAS

212 N. WABATCH AVE. STE 305  
 COLORADO SPRINGS CO 80903  
 PHONE: 719.555.5465

FOR AND ON BEHALF OF  
 WKS CIVIL CONSULTANTS, INC.

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

FOR AND ON BEHALF OF  
 WKS CIVIL CONSULTANTS, INC.

REVISIONS:

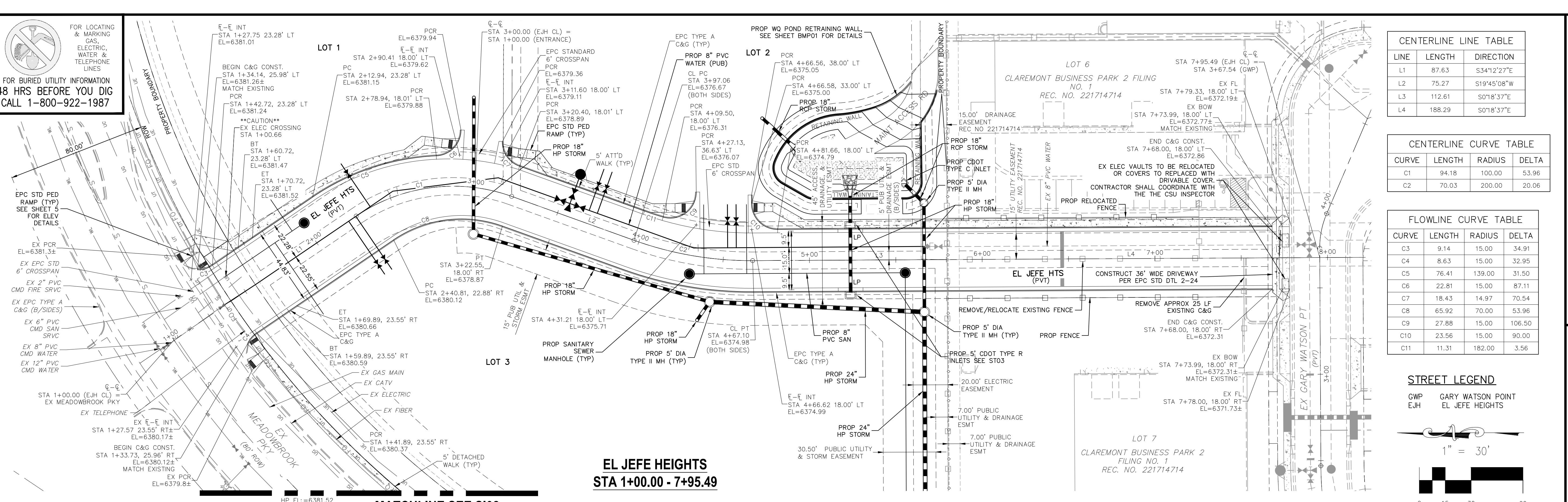
NO.	DATE	BY	DESCRIPTION

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CAUTION

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

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



**CENTERLINE LINE TABLE**

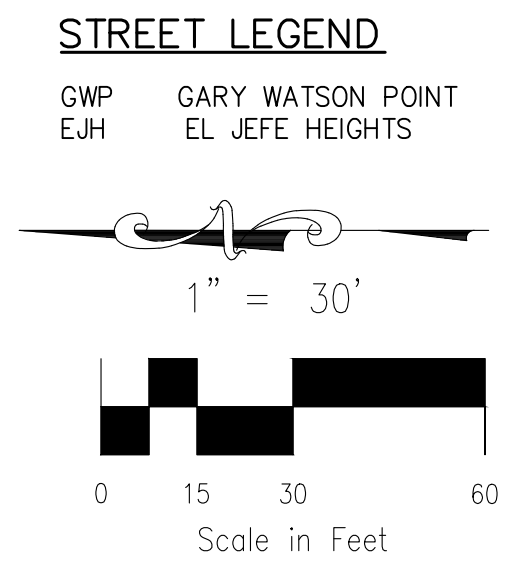
LINE	LENGTH	DIRECTION
L1	87.63	S34°12'27"E
L2	75.27	S19°45'08"W
L3	112.61	S01°8'37"E
L4	188.29	S01°8'37"E

**CENTERLINE CURVE TABLE**

CURVE	LENGTH	RADIUS	DELTA
C1	94.18	100.00	53.96
C2	70.03	200.00	20.06

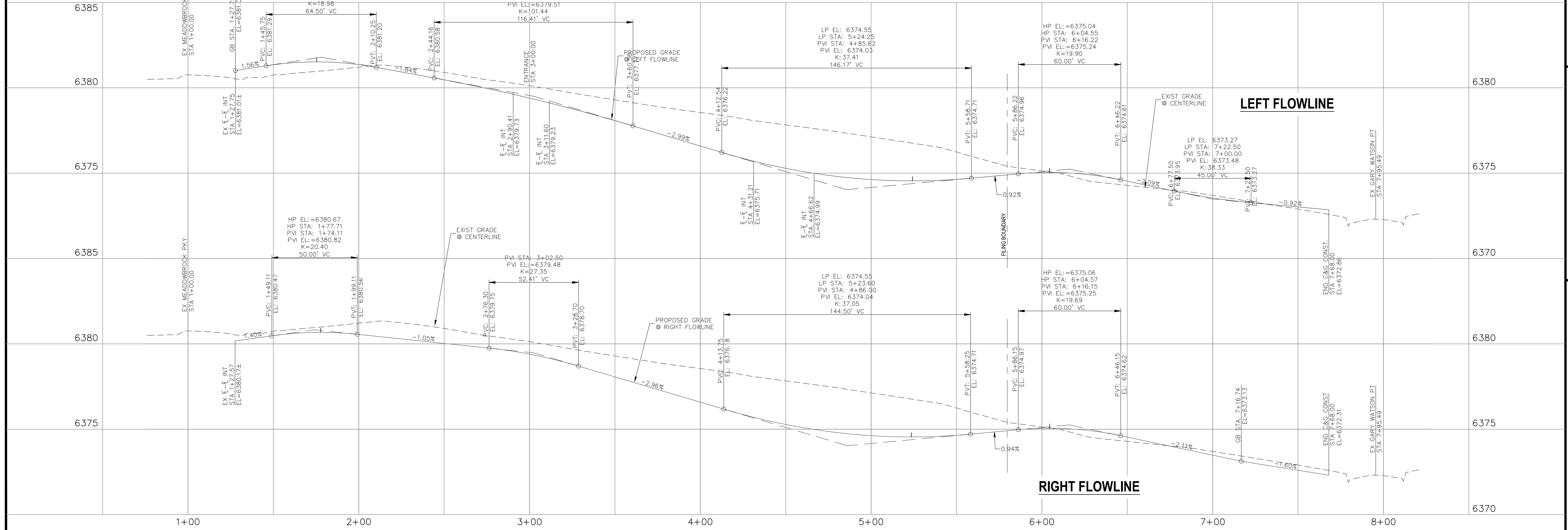
**FLOWLINE CURVE TABLE**

CURVE	LENGTH	RADIUS	DELTA
C3	9.14	15.00	34.91
C4	8.63	15.00	32.95
C5	76.41	139.00	31.50
C6	22.81	15.00	87.11
C7	18.43	14.97	70.54
C8	65.92	70.00	53.96
C9	27.88	15.00	106.50
C10	23.56	15.00	90.00
C11	11.31	182.00	3.56



MATCHLINE SEE S102

**EL JEFE HEIGHTS  
STA 1+00.00 - 7+95.49**



**EL JEFE HEIGHTS**

CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
STREET IMPROVEMENT PLAN

PROJECT NO. 10-020  
SCALE: HORIZONTAL: 1"=30'  
VERTICAL: 1"=3'

DESIGNED BY: GW  
DRAWN BY: CLP  
CHECKED BY: VAS

DATE: 07/20/23  
SHEET 4 OF 14  
S101

212 N. WABATCH AVE, STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5465

**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF  
MKS CIVIL CONSULTANTS, INC.

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

REVISIONS:

NO.	DATE	BY	DESCRIPTION

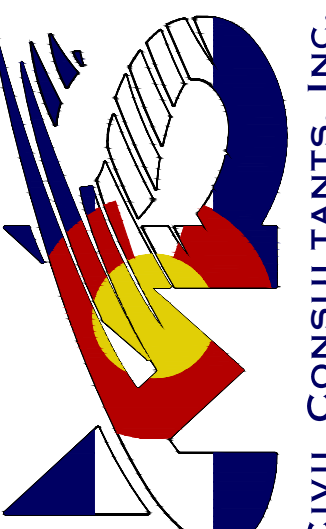
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APPROVED BY: \_\_\_\_\_

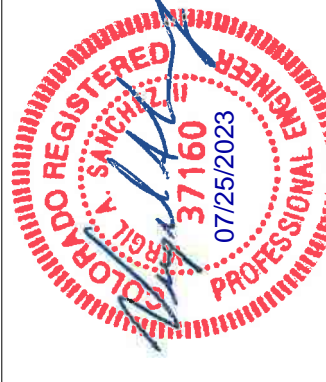
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARED OF THESE PLANS.

CAUTION

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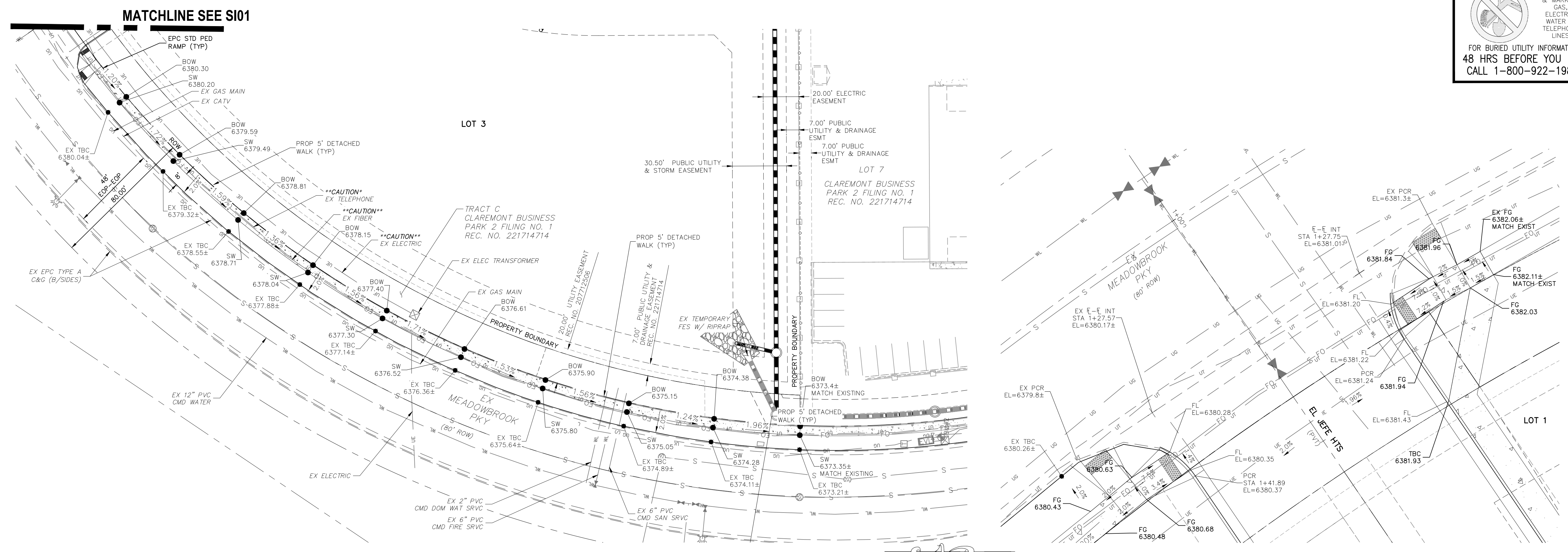
CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
 SIDEWALK & INTERSECTION DETAILS  
 PROJECT NO. 10-020  
 DATE: 07/20/23  
 SCALE: HORIZONTAL: VARIES VERTICAL: N/A  
 DESIGNED BY: GW  
 DRAWN BY: CLP  
 CHECKED BY: VAS

212 N WABATCH AVE, STE 305  
 COLORADO SPRINGS CO 80903  
 PHONE: 719.555.5465  
  
 CIVIL CONSULTANTS, INC.

FOR AND ON BEHALF OF  
 MKS CIVIL CONSULTANTS, INC.  


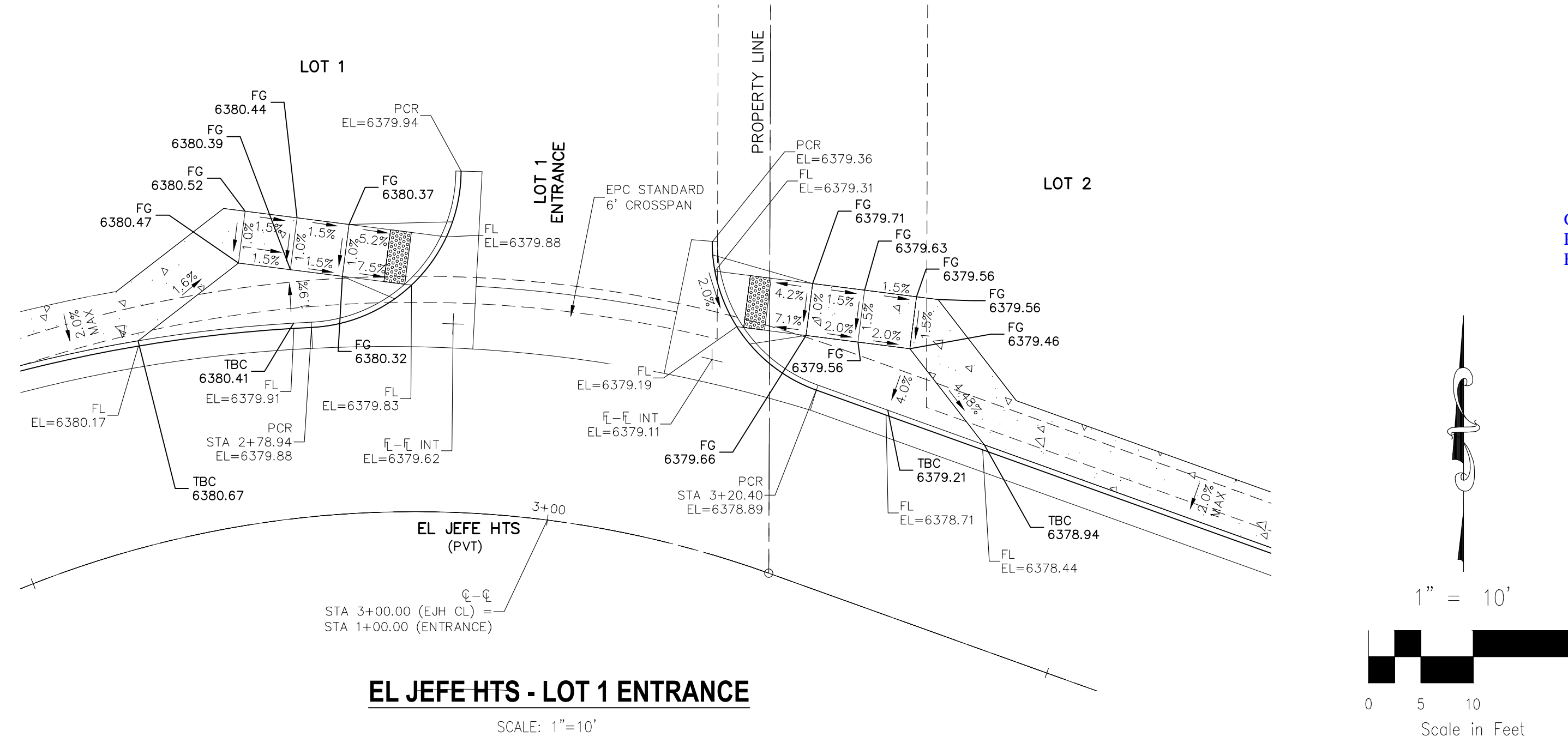
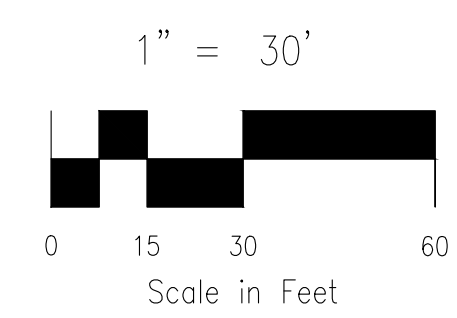
REV. NO.	DATE	BY	DESCRIPTION

DATE: \_\_\_\_\_  
 APP'D. BY: \_\_\_\_\_  
 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 PREPARED OF THESE PLANS.  
 CAUTION

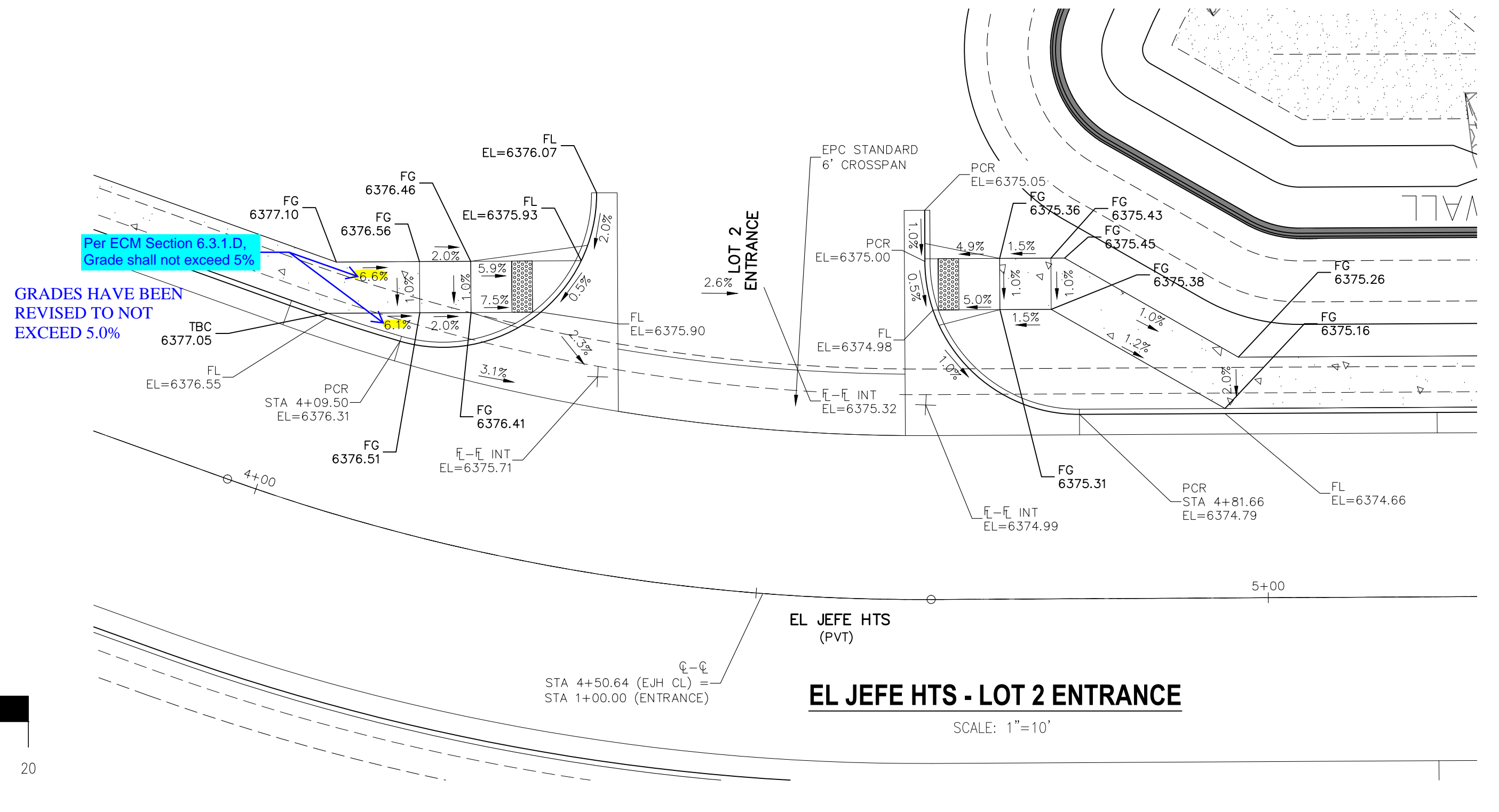
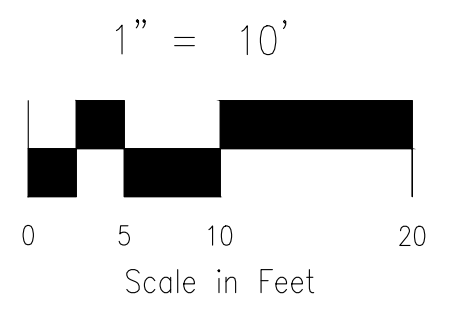


**MEADOWBROOK PARKWAY SIDEWALK**  
 SCALE: 1"=30'

**EX MEADOWBROOK PKY - EL JEFE HTS**  
 SCALE: 1"=10'

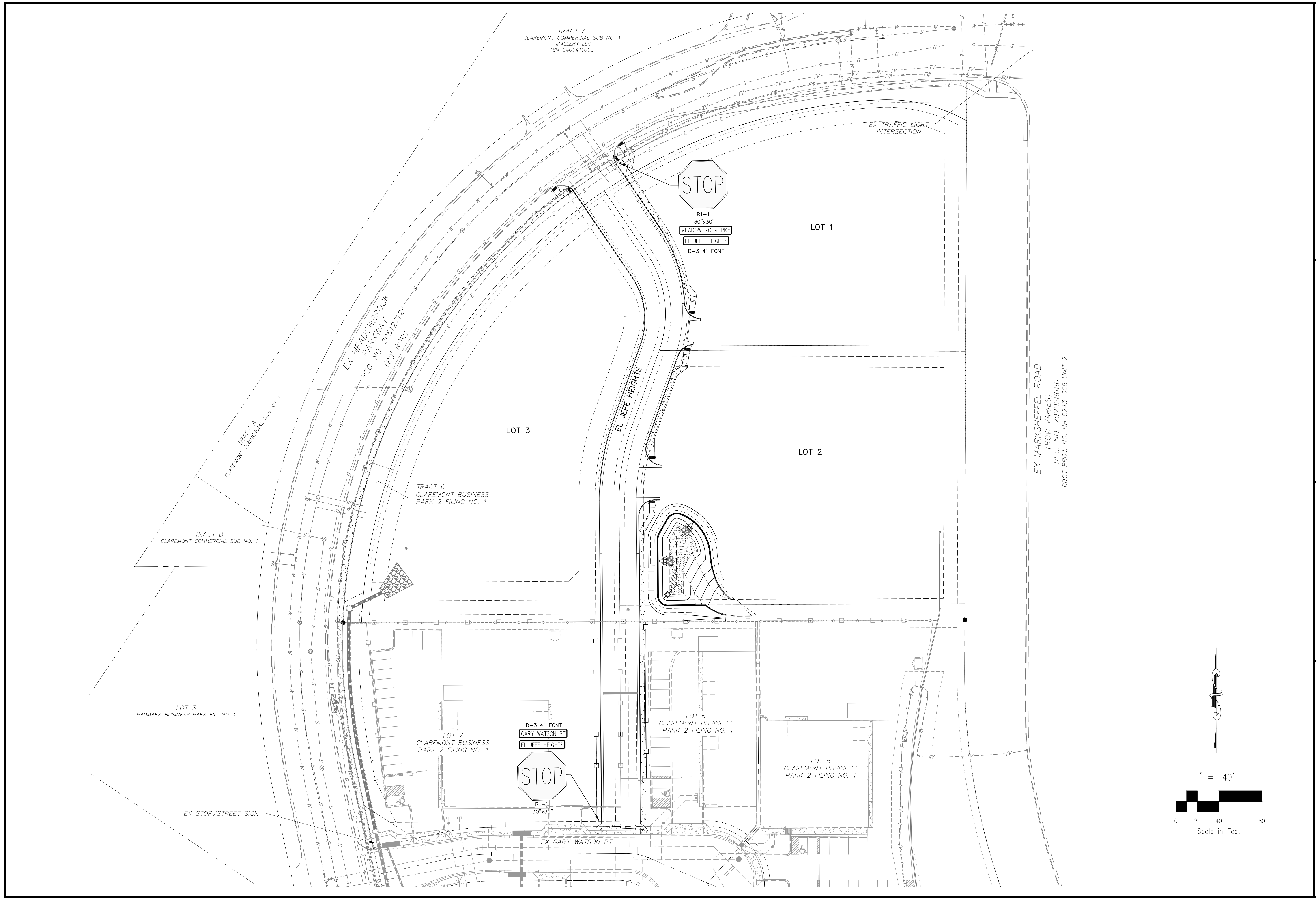


**EL JEFE HTS - LOT 1 ENTRANCE**  
 SCALE: 1"=10'



**EL JEFE HTS - LOT 2 ENTRANCE**  
 SCALE: 1"=10'

File: 0:\10020A-CBP-Dunkin Donuts\Const Dwg\Street\S102.dwg PlotStamp: 7/25/2023 10:55 AM



<b>CLAREMONT BUSINESS PARK 2 FIL. NO. 2</b>		<b>SIGNAGE AND STRIPING PLAN</b>	
PROJECT NO. 10-020	SCALE: HORIZONTAL: 1"=40' VERTICAL: N/A	DATE: 07/20/23	
DESIGNED BY: GW	CLP		
DRAWN BY: VAS	CHECKED BY: VAS		
		SHEET 6 OF 14	
		S103	

212 N. WASHCATCH AVE., STE. 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.955.5465

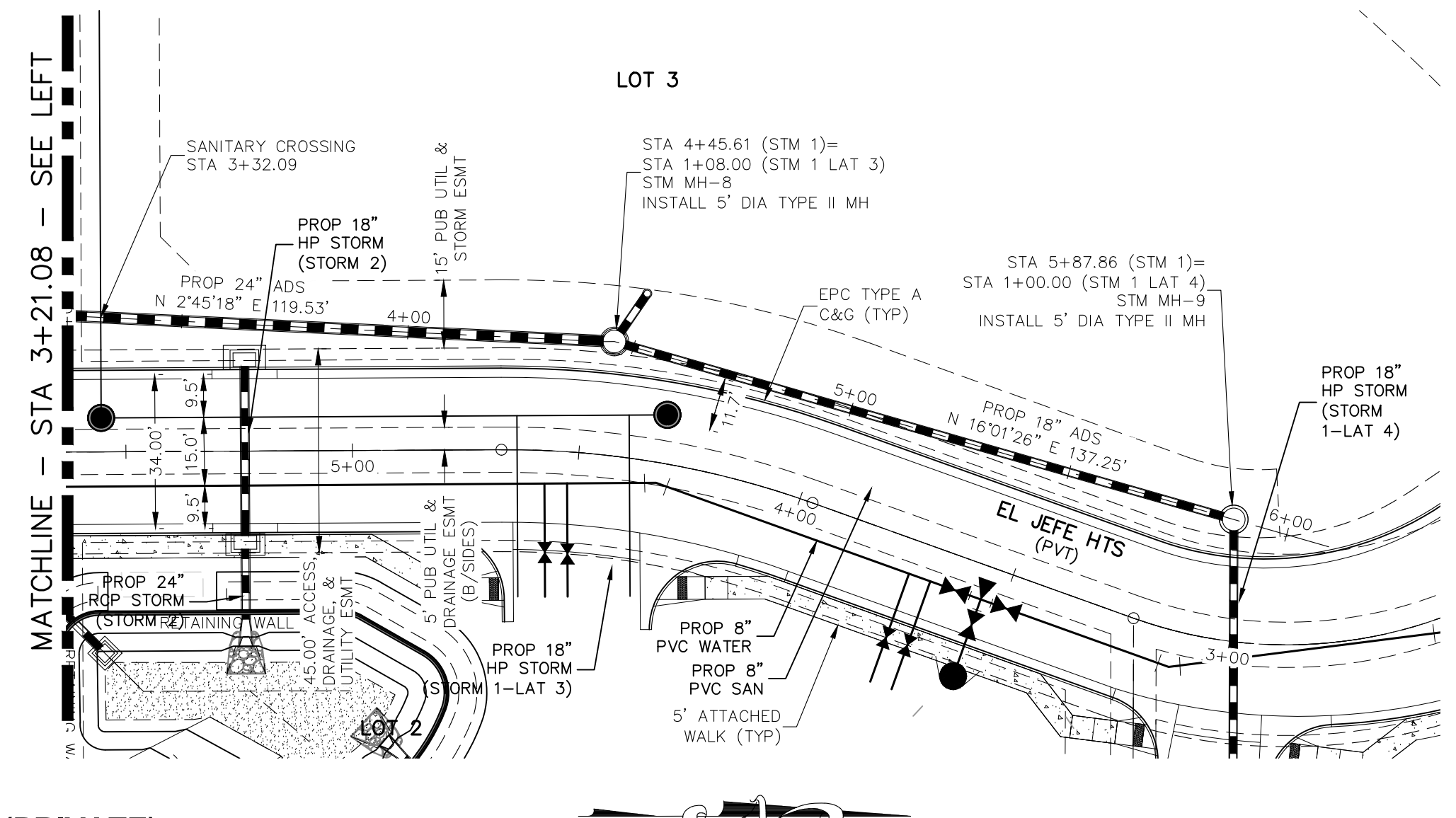
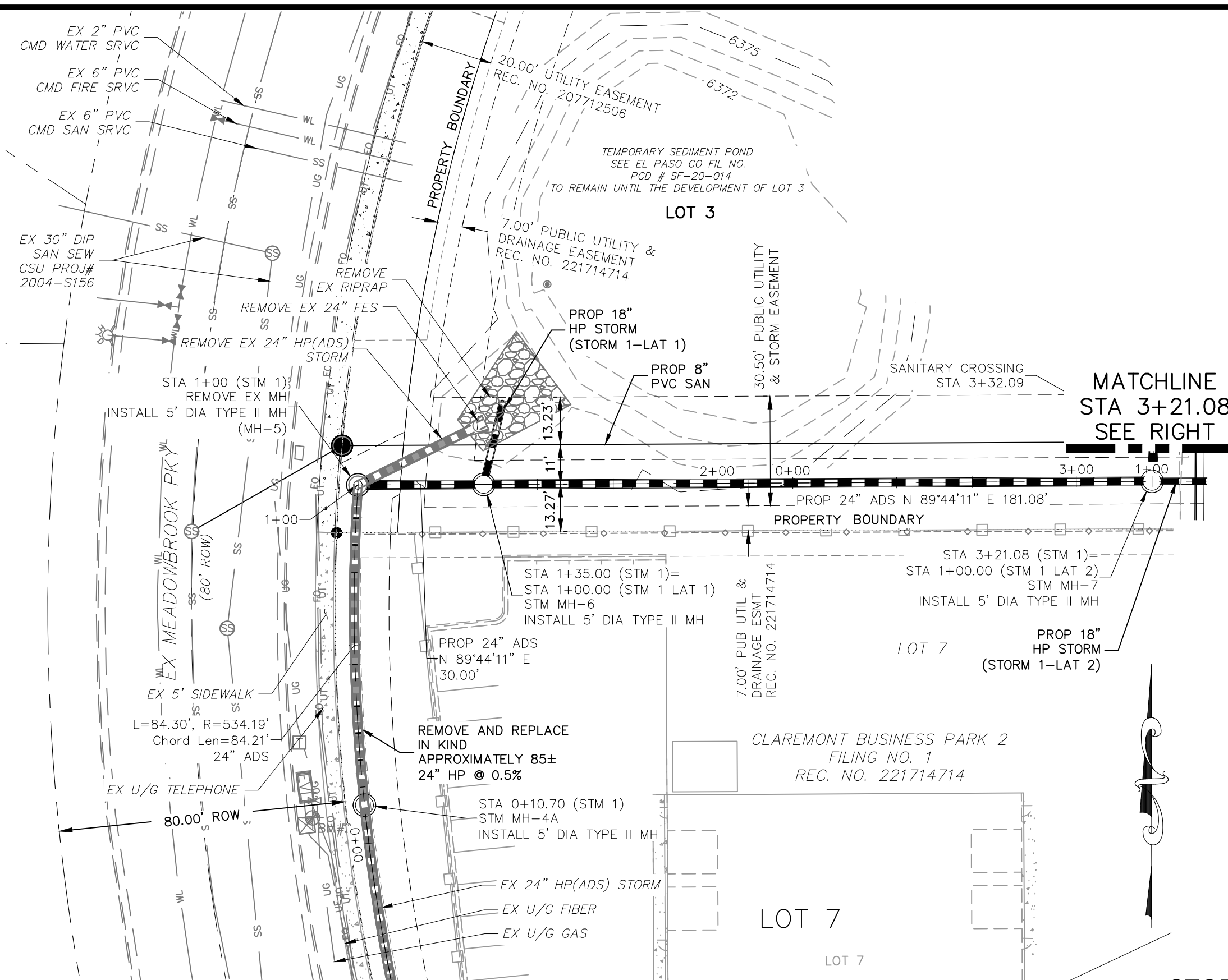
**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF  
 WKS CIVIL CONSULTANTS, INC.

NO.	DATE	BY	DESCRIPTION	APPR'D. BY	DATE

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CAUTION



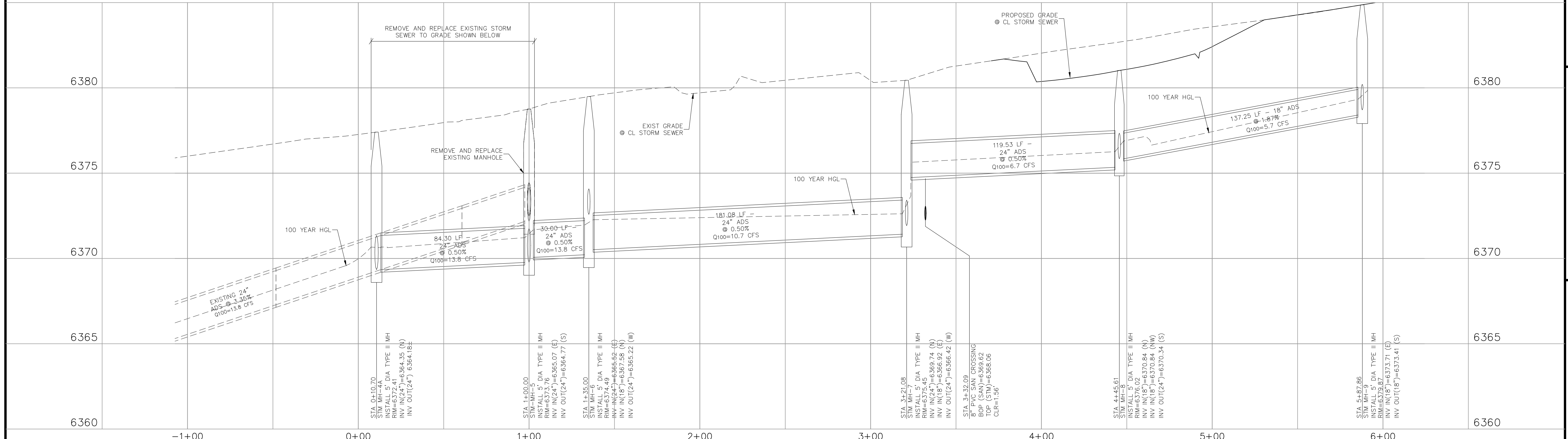
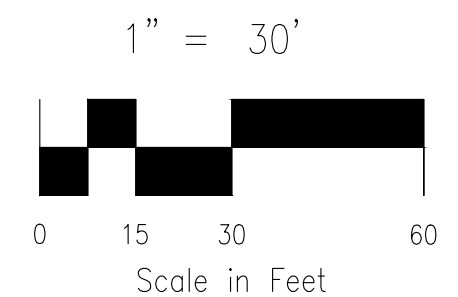
**STORM 1 (PRIVATE)**  
**STA 0+10.70 TO STA 5+87.86**

**NOTE:**

- ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
- GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR

**ABBREVIATION LEGEND**

C&G	CURB AND GUTTER
CL	CENTERLINE
CONST	CONSTRUCTION
EL	ELEVATION
EX	EXISTING
LT	LEFT
N	NORTH
NTS	NOT TO SCALE
PUB	PUBLIC
PVT	PRIVATE
PROP	PROPOSED
RT	RIGHT
S	SOUTH
SAN	SANITARY SEWER
SLV	SLEEVE
SRV	SERVICE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER



**STORM 1**

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

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**CLAREMONT BUSINESS PARK 2 FIL. NO. 2**

**STORM SEWER PLAN & PROFILE**

PROJECT NO. 10-020 DATE: 07/20/23

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

DESIGNED BY: GW CLP  
DRAWN BY: VAS  
CHECKED BY: VAS

SHEET 7 OF 14 **ST01**

212 N. WABATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5865

**CIVIL CONSULTANTS, INC.**

FOR AND ON BEHALF OF MRS. CIVIL CONSULTANTS, INC.

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

REVISIONS:

NO.	DATE	BY	DESCRIPTION

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

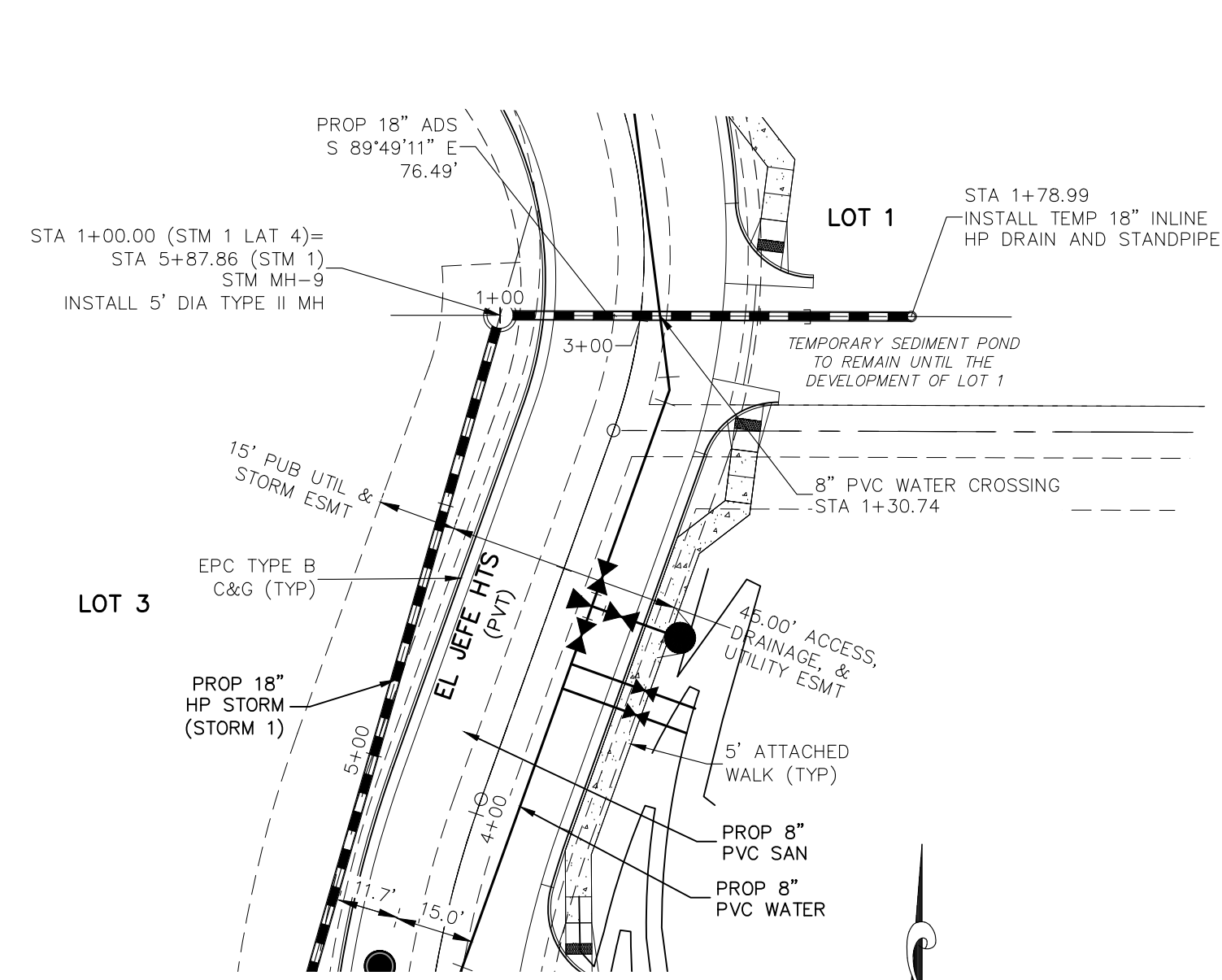
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

**CAUTION**

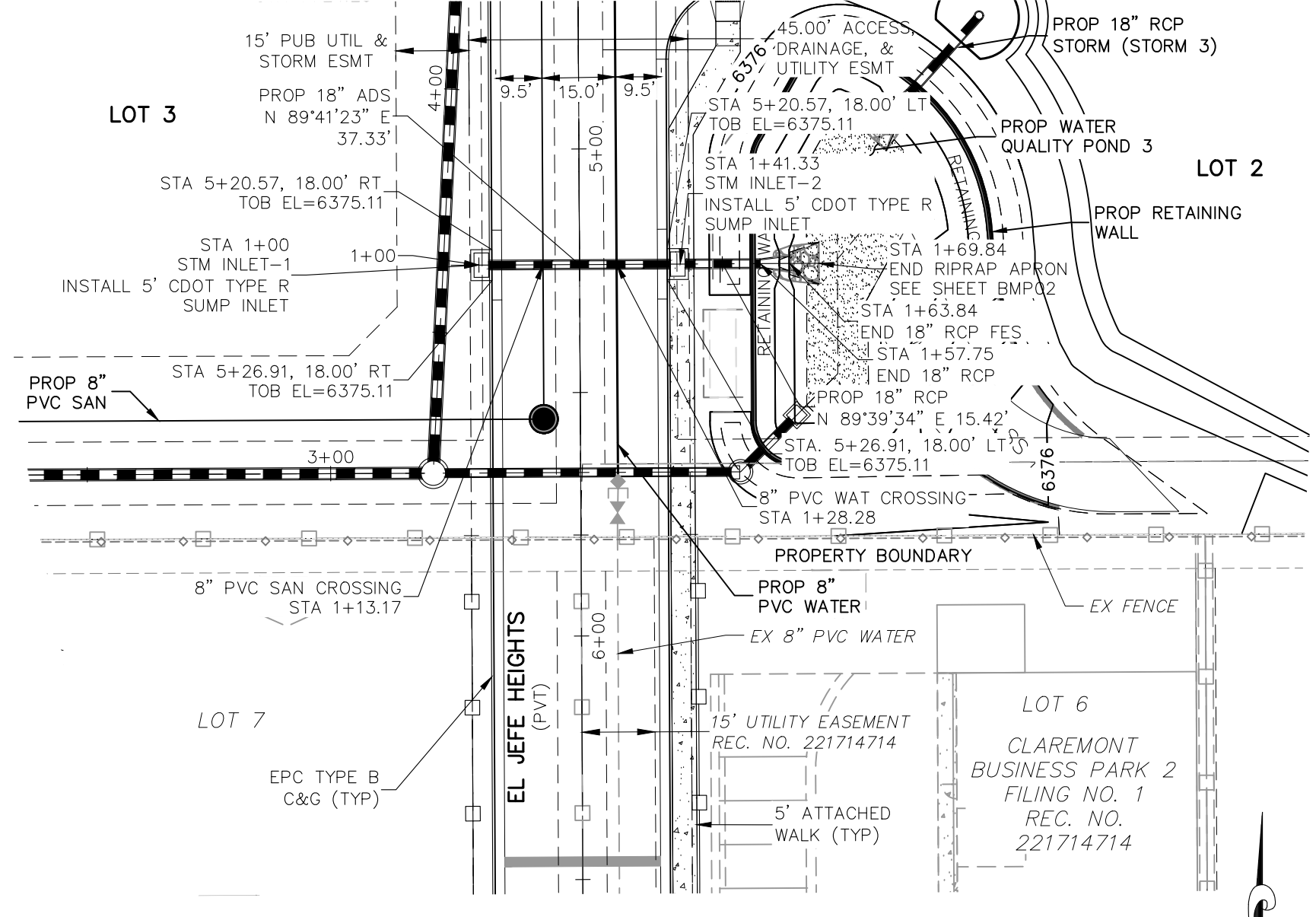




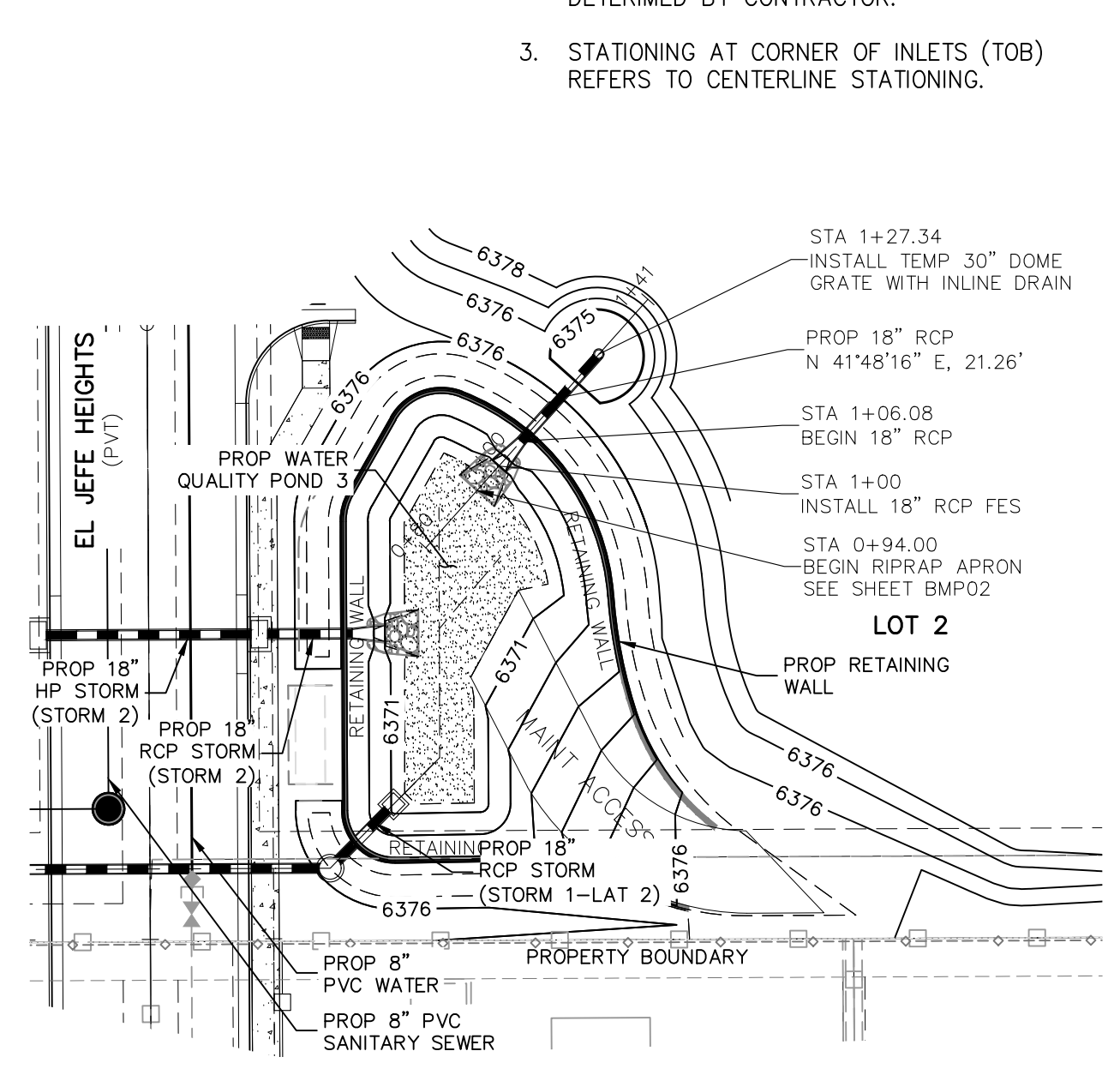
File: 0:\100204-CBP-Dunkin Donuts\Const Dwg\Storm\ST03.dwg Plotstamp: 7/25/2023 10:54 AM



**STORM 1 LAT-4 (PRIVATE)**  
STA 1+00.00 TO STA 1+78.99



**STORM 2 (PRIVATE)**  
STA 1+00.00 TO STA 1+69.84



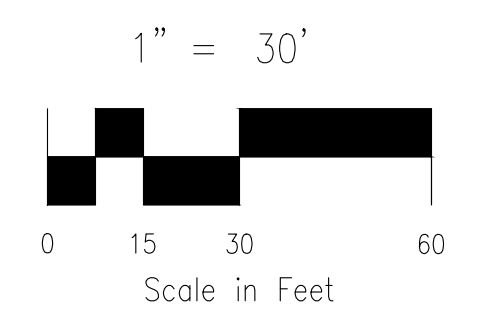
**STORM 3 (PRIVATE)**  
STA 0+94.00 TO STA 1+30.08

**NOTE:**

1. ALL STORM SEWER CONSTRUCTED WITH THESE PLANS SHALL BE CONSIDERED PRIVATE.
2. GAS LINE NOT LOCATED, LOCATION TO BE DETERMINED BY CONTRACTOR.
3. STATIONING AT CORNER OF INLETS (TOB) REFERS TO CENTERLINE STATIONING.

**ABBREVIATION LEGEND**

C&G	CURB AND GUTTER
CL	CENTERLINE
CONST	CONSTRUCTION
EL	ELEVATION
EX	EXISTING
LT	LEFT
N	NORTH
NTS	NOT TO SCALE
PUB	PUBLIC
PVT	PRIVATE
PROP	PROPOSED
RT	RIGHT
S	SOUTH
SLV	SLEEVE
SRV	SERVICE
STA	STATION
STM	STORM SEWER
W	WEST
WTR	WATER
TOB	TOP OF BOX AT CORNER OF INLET



6380	EXIST GRADE CL STORM SEWER	PROPOSED GRADE CL STORM SEWER	6380	EXIST GRADE CL STORM SEWER	PROPOSED GRADE CL STORM SEWER	6380	EXIST GRADE CL STORM SEWER	PROPOSED GRADE CL STORM SEWER	6380	
6375	100 YEAR HGL	76.49 LF - 18" ADS @ 0.50% Q100=5.7 CFS	6375	100 YEAR HGL	15.42 LF - 18" RCP @ 0.88% Q100=3.9 CFS	6375	100 YEAR HGL	21.26 LF - 18" RCP @ 1.00% Q100=11.6 CFS	6375	
6370			6370		37.33 LF - 18" ADS @ 0.50% Q100=1.7 CFS	6370			6370	
6365	STA 1+00.00 INSTALL 5' DIA TYPE II MH RM=6379.67 INV IN(18")=6373.71 (E) INV OUT(18")=6373.41 (S)	STA 1+78.99 INSTALL TEMP 18" INLINE HP DRAIN AND STANDPIPE INV=6374.09	6365	STA 1+00.00 INSTALL 5' CDOT TYPE R SUMP INLET INV OUT(18")=6371.03 (E)	STA 1+13.17 8" PVC SAN CROSSING TOP (SAN)=6368.93 CLR=1.88'	6365	STA 1+28.28 8" PVC WAT CROSSING BOP (STM)=6370.73 TOP (WAT)=6368.21 CLR=2.52'	STA 1+69.84 INSTALL 5' CDOT TYPE R SUMP INLET INV IN(18")=6370.84 (W) INV OUT(18")=6370.54 (E)	STA 1+06.08 BEGIN RIPRAP APRON EL=6370.41	6365
1+00	<b>STORM 1 LAT-4</b>		2+00	<b>STORM 2</b>		1+00	<b>STORM 3</b>		2+00	

FOR LOCATING & MARKING GAS, ELECTRIC, WATER & TELEPHONE LINES  
FOR BURIED UTILITY INFORMATION 48 HRS BEFORE YOU DIG CALL 1-800-922-1987

**CIVIL CONSULTANTS, INC.**  
212 N. WABATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5465

**STORM SEWER PLAN & PROFILE**

PROJECT NO. 10-020  
DATE: 07/20/23  
SCALE: HORIZONTAL: 1"=30' VERTICAL: 1"=3'  
DESIGNED BY: GW  
DRAWN BY: CLP  
CHECKED BY: VAS

CAREMONT BUSINESS PARK 2 FIL. NO. 2  
SHEET 9 OF 14  
ST03

VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160  
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.

REGISTERED PROFESSIONAL ENGINEER  
371160  
07/28/2023

REVISIONS:  
NO. DATE BY DESCRIPTION APPROVD. BY DATE

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CAUTION

**STANDARD CONSTRUCTION NOTES:**

- 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 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).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN (SWMP), 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:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2.
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION.
  - CDOT M&S STANDARDS.
- 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.
- 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.
- ANY TEMPORARY SIGNAGE AND STRIPING SHALL COMPLY WITH EL PASO COUNTY DOW AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT 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 OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

**STORM SEWER GENERAL NOTES**

- ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
- ALL STORM SEWER BENDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
- 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.
- INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
- ALL REINFORCED CONCRETE PIPE STORM SEWER SHALL BE A MINIMUM OF CLASS III. ALL POLYPROPYLENE PIPE SHALL BE ADS N-12 DUAL WALL PIPE OR APPROVED EQUAL. 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.
- 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.
- 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.
- PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (AASHTO M 199).
- CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
- STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
- ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT 1/4 OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
- FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
- STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
- CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
- THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

**RIPRAP NOTES:**

- RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFIRM TO TABLE 1.
- THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT BE LARGER THAN THE THICKNESS OF THE RIPRAP.
- NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/3) OF ITS LENGTH
- THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE HALF (2.5) OR GREATER.
- RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDANCE THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T85.
- THE BULK DENSITY FROM THE RIPRAP SHALL BE 1.3 TON/CY OR GREATER.
- THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN FORTY PERCENT (40%) AFTER FIVE HUNDRED (500) REVOLUTIONS WHEN TESTED IN ACCORDANCE WITH AASHTO T96.
- THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN TEN PERCENT (10%) AFTER FIVE (5) CYCLES WHEN TESTED IN ACCORDANCE WITH AASHTO T104 FOR LEDGE ROCK USING SODIUM SULFATE.
- THE RIPRAP SHALL HAVE A PERCENTAGE LOSS OF NOT MORE THAN TEN PERCENT (10%) AFTER TWELVE (12) CYCLES OF FREEZING AND THAWING WHEN TESTED IN ACCORDANCE WITH AASHTO T103 FOR LEDGE ROCK PROCEDURE A.
- ROCK SHALL BE FREE OF CALCITE INTRUSIONS.
- ROUND RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATE ON THE DRAWINGS.

**STRUCTURAL CONCRETE NOTES:**

- ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
- STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPlicing, LAP SPlicing SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED:  

BAR SIZE	#4	#5	#6	#7	#8
SPLICE LENGTH	1'-9"	2'-2"	2'-7"	3'-4"	4'-3"

 ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.
- CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (fc) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
- EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
- BACKFILL AGAINST STRUCTURES SHALL NOT COMMENCE UNTIL ALL SUPPORTING DIAPHRAGMS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
- FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
- PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).

**ABBREVIATIONS**

EC --- EPOXY COATED O.F. --- OUTSIDE FACE E.F. --- EACH FACE E.W. --- EACH WAY I.F. --- INSIDE FACE N.F. --- NEAR FACE  
 T.O.C. --- TOP OF CONCRETE B.O.C. --- BOTTOM OF CONCRETE CONT. --- CONTINUOUS

ADS, Inc. Drainage Handbook Specifications • 1-22

**ADS N-12® HP 12" - 60" PIPE SPECIFICATION**

**Scope**  
 This specification describes 12- through 60-inch (300 to 1500 mm) ADS N-12 HP pipe for use in gravity-flow storm drainage applications.

**Pipe Requirements**

- 12- through 30-inch (300 to 750 mm) pipe shall have a smooth interior and annular exterior corrugations and meet or exceed ASTM F2736 and AASHTO MP-21-11.
- 36- through 60-inch (900 to 1500 mm) pipe shall have a smooth interior and annular exterior corrugations and meet or exceed ASTM F2881 and AASHTO MP-21-11.
- Manning's "n" value for use in design shall be 0.012.

**Joint Performance**  
 Pipe shall be joined with a gasketed integral bell & spigot joint meeting the requirements of ASTM F2736 and F2881, for the respective diameters.

12- through 60-inch (300 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Spigots shall have gaskets meeting the requirements of ASTM F477. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

12- through 60-inch (300 to 1500 mm) diameters shall have a reinforced bell with a polymer composite band installed by the manufacturer.

**Fittings**  
 Fittings shall conform to ASTM F2736, ASTM F2881 and AASHTO MP-21-11, for the respective diameters. Bell & spigot connections meeting the requirements of ASTM F477. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during assembly.

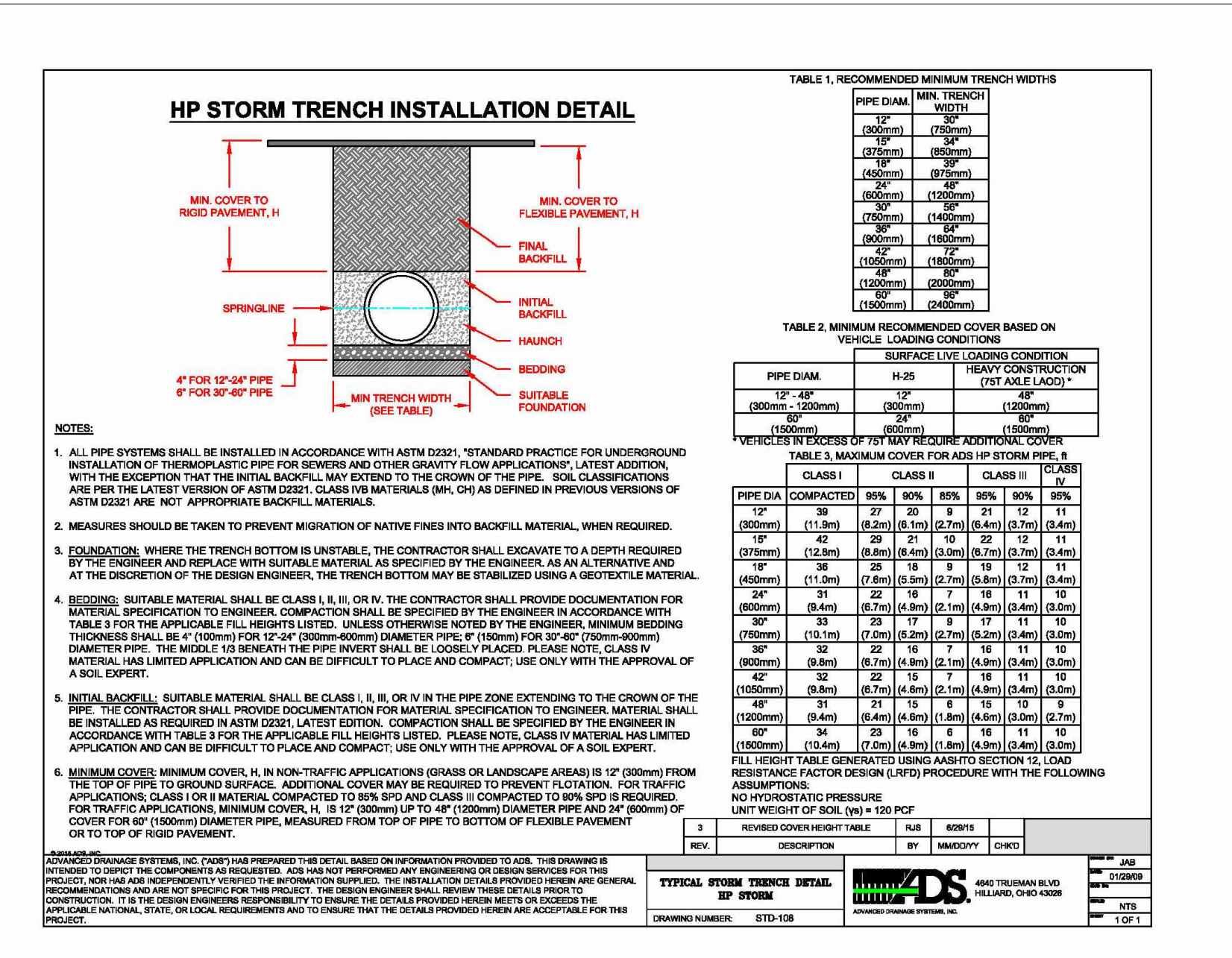
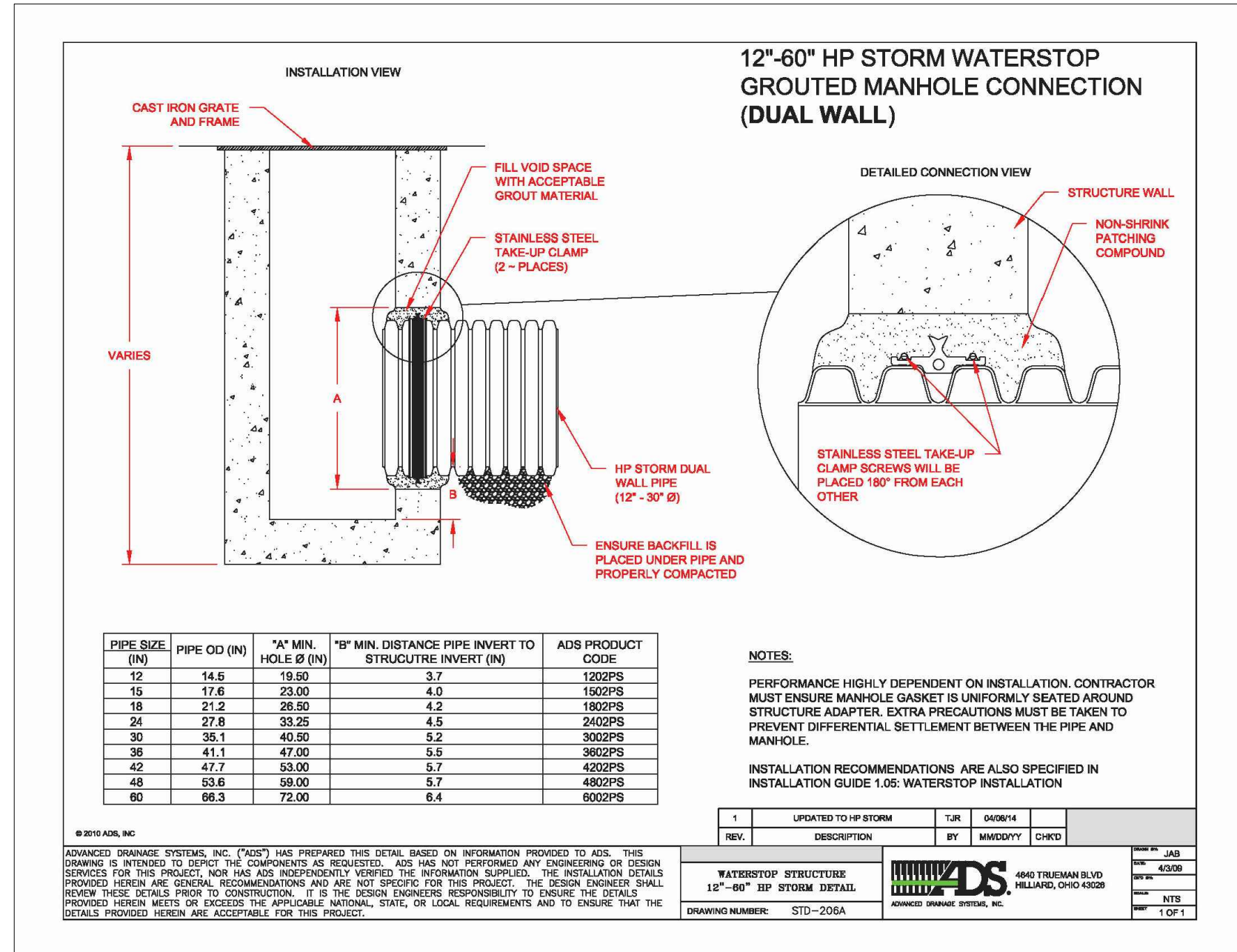
**Field Pipe and Joint Performance**  
 To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the manufacturer for recommended leakage rates.

**Material Properties**  
 Polypropylene compound for pipe and fitting production shall be impact modified copolymer meeting the material requirements of ASTM F2736, Section 4, ASTM F2881, Section 5 and AASHTO MP-21-11, Section 6.1, for the respective diameters.

**Installation**  
 Installation shall be in accordance with ASTM D2321 and ADS recommended installation guidelines, with the exception that minimum cover in traffic areas for 12- through 48-inch (300 to 1200 mm) diameters shall be one foot (0.3 m) and for 60-inch (1500 mm) diameters, the minimum cover shall be 2 ft (0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1, Class 2 (minimum 90% STD) or Class 3 (minimum 95% material). Maximum fill heights depend on embedment material and compaction level; please refer to Technical Note 2.04. Contact your local ADS representative or visit our website at [www.ads-inc.com](http://www.ads-inc.com) for a copy of the latest installation guidelines.

Minimum Pipe Stiffness* (E <sub>3%</sub> @ 0.01in)	12	15	18	24	30	36	42	48	60
in (mm)	1000 (25.4)	1420 (36.0)	1840 (46.7)	2260 (57.4)	2680 (68.1)	3100 (78.7)	3520 (89.4)	3940 (100.1)	4360 (110.8)
ksi (MPa)	1.0 (6.9)	1.4 (9.7)	1.8 (12.4)	2.3 (15.9)	2.7 (18.6)	3.2 (22.1)	3.7 (25.8)	4.1 (28.4)	4.6 (31.9)

\*Minimum pipe stiffness values listed; contact a representative for maximum values.



CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
**STORM SEWER NOTES**  
 PROJECT NO. 10-020  
 SCALE: HORIZONTAL: N/A VERTICAL: N/A  
 DATE: 07/20/23  
 DESIGNED BY: GW  
 DRAWN BY: CLP  
 CHECKED BY: VAS  
 SHEET 10 OF 14  
**ST04**

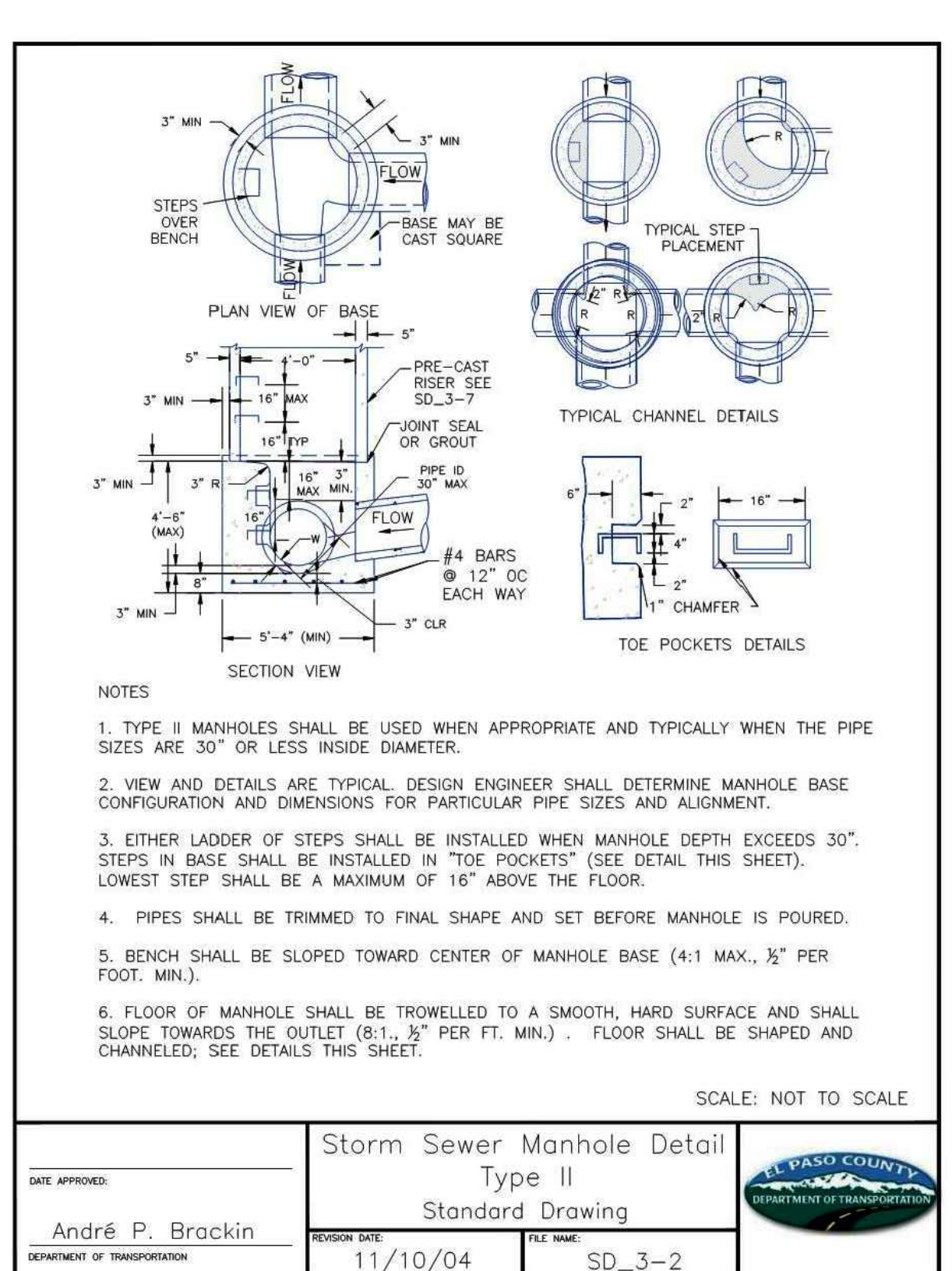
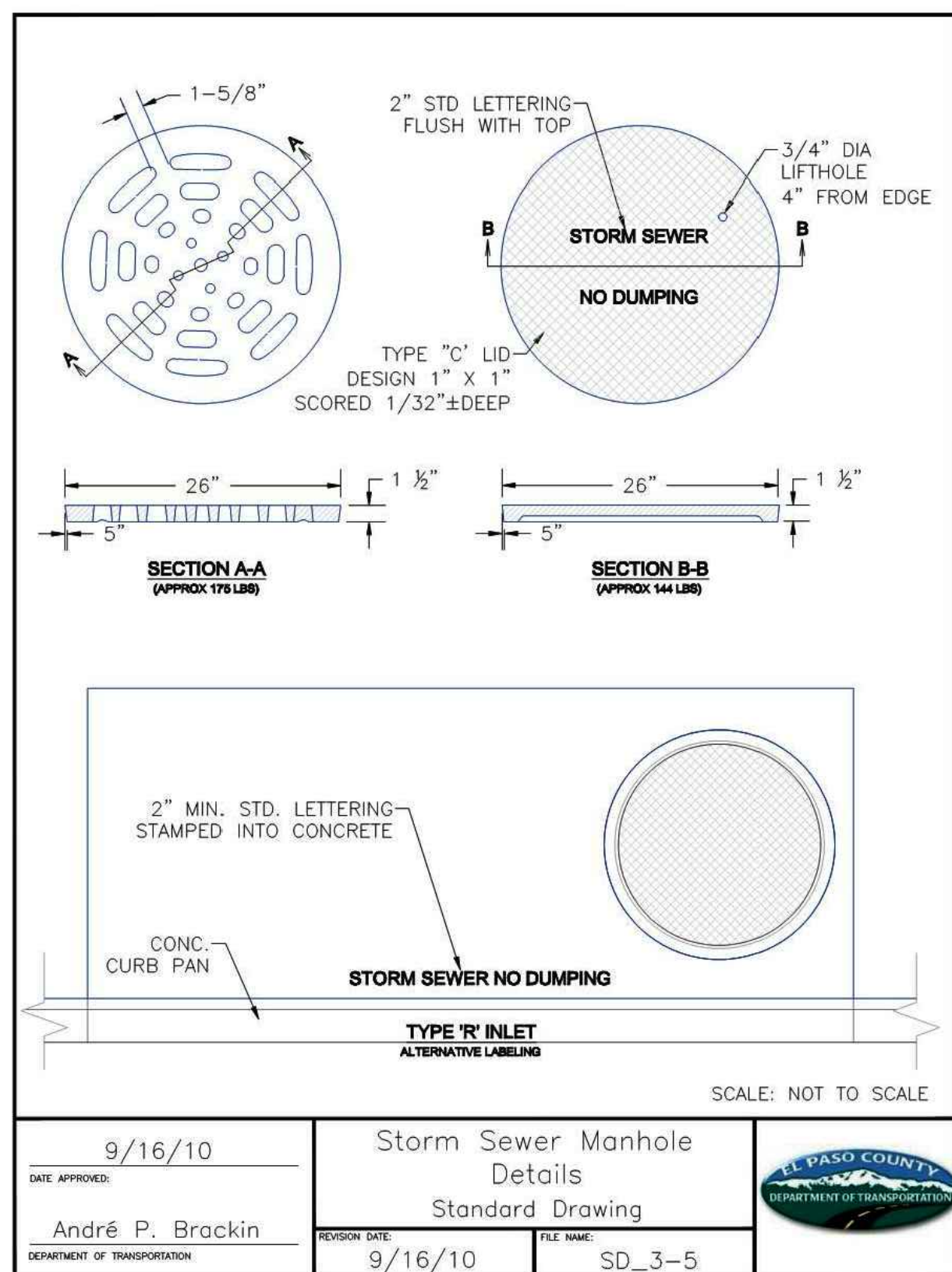
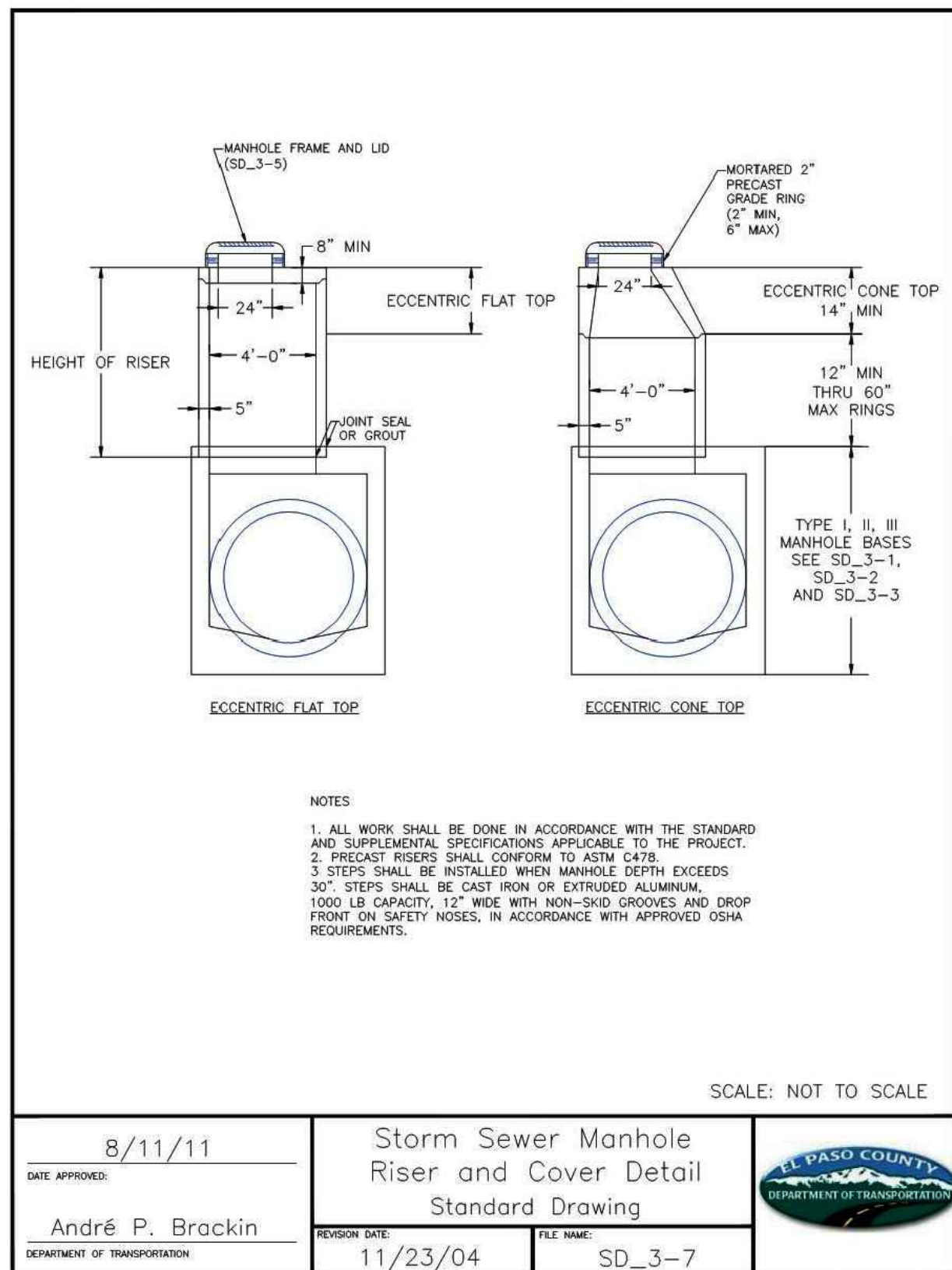
212 N. WABASH AVE., STE. 305  
 COLORADO SPRINGS, CO 80903  
 PHONE: 719.555.5465



FOR AND ON BEHALF OF  
 ADS CIVIL CONSULTANTS, INC.  
 REGISTERED PROFESSIONAL ENGINEER  
 NO. 37160  
 EXPIRES 07/29/2023

REV. NO.	DATE	BY	DESCRIPTION

CAUTION



### Inline Drains

**HOW DO YOU BUILD A PART NUMBER?**  
 See page (32) for Inline Drains

Part#/Prefix	Product Description	Available Outlets
2708AG_X	8" Inline Drain	4" thru 8"
2710AG_X	10" Inline Drain	4" thru 10"
2712AG_X	12" Inline Drain	4" thru 12"
2715AG_X	15" Inline Drain	4" thru 15"
2718AG_X	18" Inline Drain	4" thru 18"
2724AG_X	24" Inline Drain	4" thru 24"
2730AG_X	30" Inline Drain	4" thru 30"

**When are Inline Drains Used?**

- To enter a new or existing line by means of a riser and a tee.
- At the beginning of a drain line.

**CURB INLET TYPE R STANDARD PLAN NO. M-604-12**

DATE APPROVED: 7/24/06  
 DESIGNER: [Redacted]  
 REVISION DATE: 07/24/06  
 FILE NAME: [Redacted]

**CURB INLET TYPE R STANDARD PLAN NO. M-604-12**

DATE APPROVED: 07/24/06  
 DESIGNER: [Redacted]  
 REVISION DATE: 07/24/06  
 FILE NAME: [Redacted]

### Grate Options

for Inline Drains & Drain Basins

**Grate Markers**  
 Public education and outreach is part of the NPDES requirement. Storm drain marking is an established method of involving the public and increasing community awareness about non-point source pollution.

**Grate Riser Extensions**  
 Extension rings can be used to quickly raise the grade of existing grates when resurfacing is required. Nyloplast extension rings are only to be used with Nyloplast ductile iron castings.

Size	Part #
18" Round with 2.0" Rise	2490GSEF200
24" Round with 2.0" Rise	2490GSEF200
30" Round with 2.0" Rise	2490GSEF200
18" Round with 1.5" Rise	2490GSEF150
24" Round with 1.5" Rise	2490GSEF150
30" Round with 1.5" Rise	2490GSEF150

**Curb Inlet and Road & Highway Grates**

Curb Inlet	Road & Hwy
18" Round with 2.0" Rise	2x2" Square Grate
24" Round with 2.0" Rise	2x2" Square Grate
30" Round with 2.0" Rise	2x2" Square Grate
18" Round with 1.5" Rise	2x2" Square Grate
24" Round with 1.5" Rise	2x2" Square Grate
30" Round with 1.5" Rise	2x2" Square Grate

File: 0:\100204-CBP-Dunkin Donuts\Const Dwg\Storm\SD05.dwg Plotstamp: 7/25/2023 10:54 AM

CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
**STORM SEWER DETAILS**  
 PROJECT NO. 10-020  
 SCALE: HORIZONTAL: N/A VERTICAL: N/A  
 DATE: 07/20/23  
 DESIGNED BY: GW  
 DRAWN BY: CLP  
 CHECKED BY: VAS  
 SHEET 11 OF 14  
**ST05**

212 N. WASHCATCH AVE. STE 303  
 COLORADO SPRINGS CO 80903  
 PHONE: 719.555.5485

**CIVIL CONSULTANTS, INC.**

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

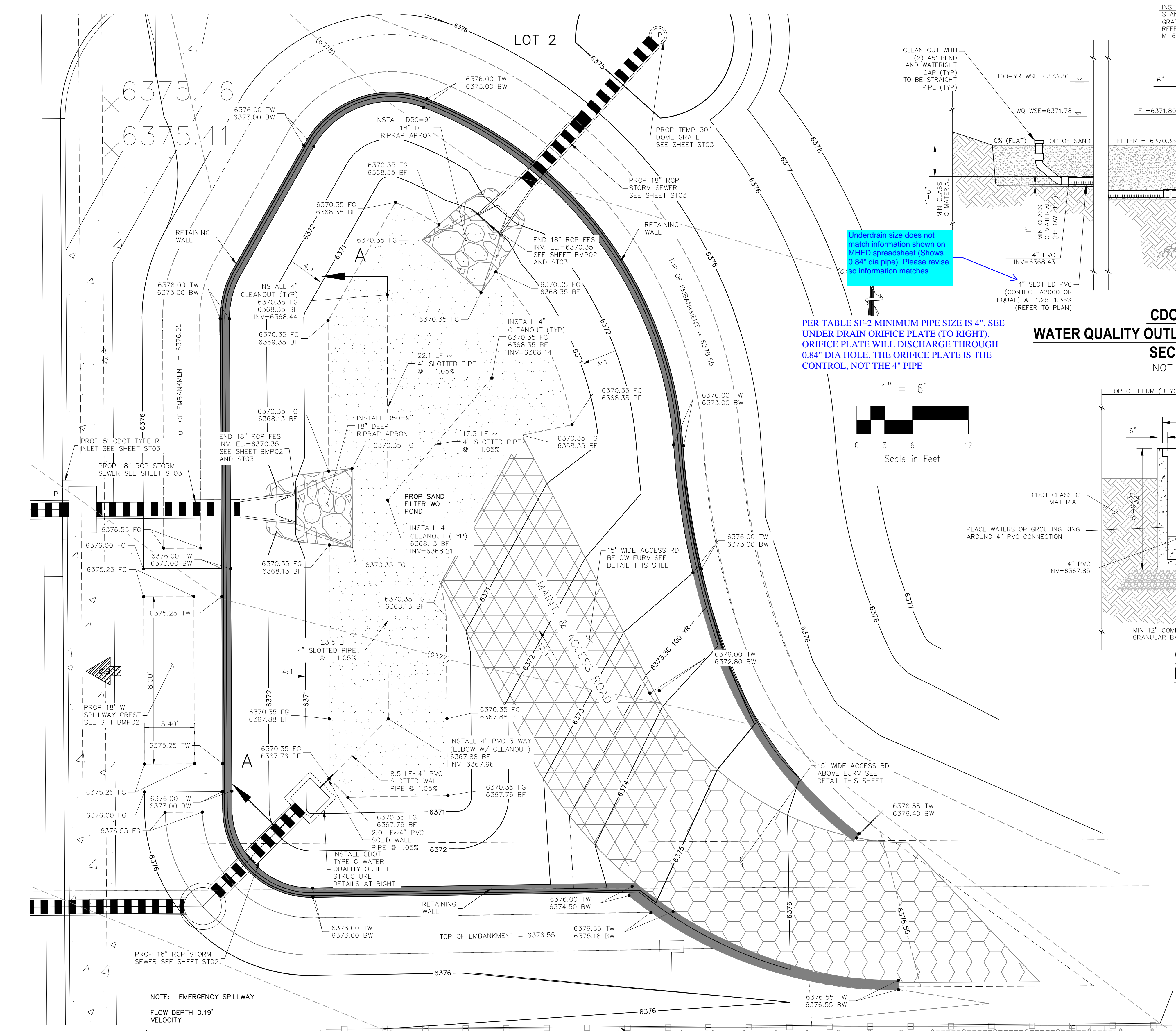
VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 371160

DATE: [Redacted]  
 APPROVED BY: [Redacted]

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CAUTION

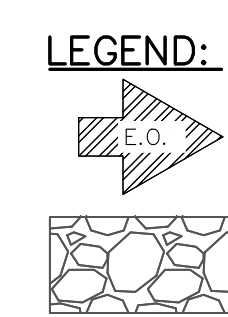
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**POND 3 SAND FILTER DETENTION BASIN DATA**

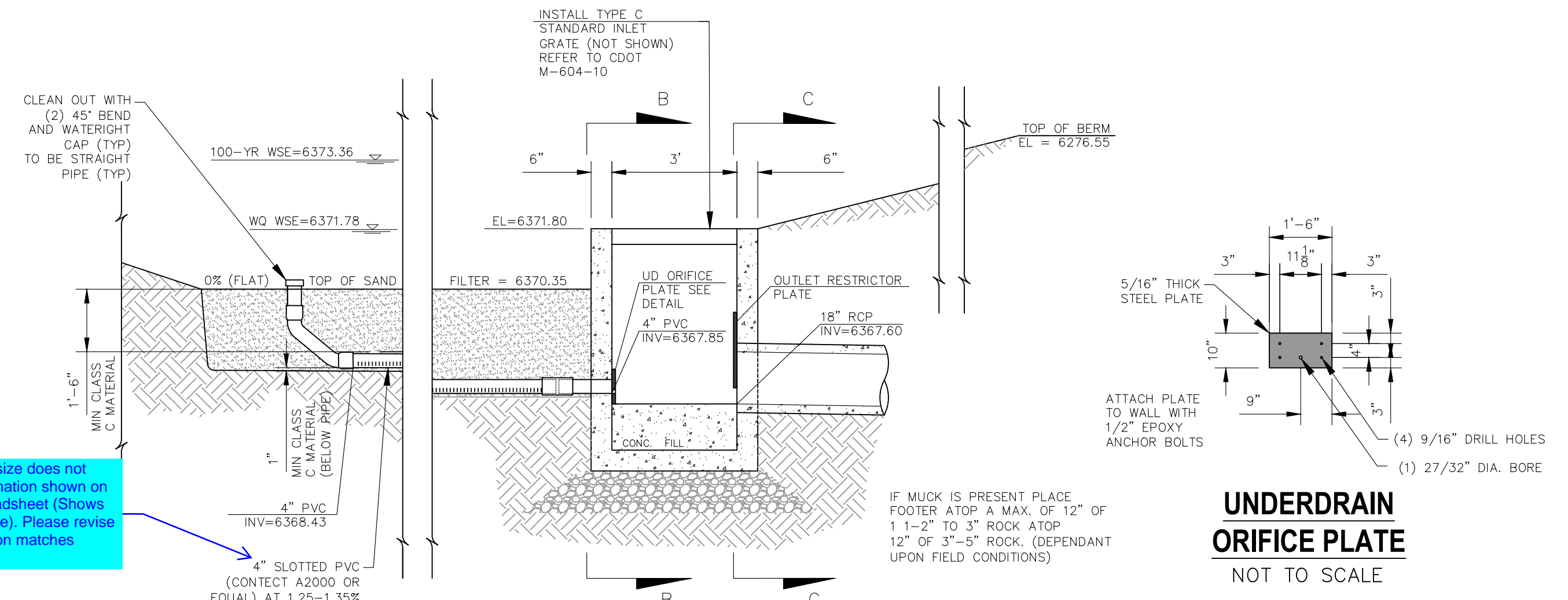
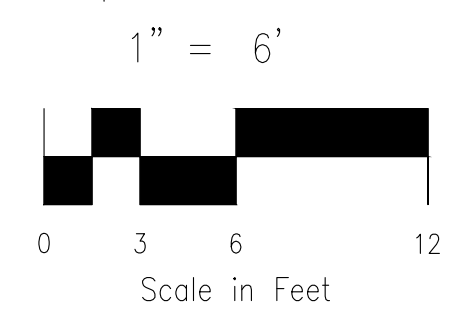
WQ WATER SURFACE EL = 6371.78
WQ VOLUME=0.051 AC-FT
100-YR WATER SURFACE EL=6373.36
100-YR VOLUME=0.153 AC-FT
SPILLWAY CREST EL=6375.30
TOP OF EMBANKMENT EL=6376.55
RATIONAL 100-YR INFLOW=14.8 CFS
MHFD 100-YR INFLOW = 9.0 CFS
MHFD 100-YR RELEASE = 4.0 CFS

**LOT 2 - SAND FILTER POND 3  
SITE PLAN  
SCALE 1"=6"**



Underdrain size does not match information shown on MHFD spreadsheet (Shows 0.84" dia pipe). Please revise so information matches

PER TABLE SF-2 MINIMUM PIPE SIZE IS 4". SEE UNDER DRAIN ORIFICE PLATE (TO RIGHT). ORIFICE PLATE WILL DISCHARGE THROUGH 0.84" DIA HOLE. THE ORIFICE PLATE IS THE CONTROL, NOT THE 4" PIPE

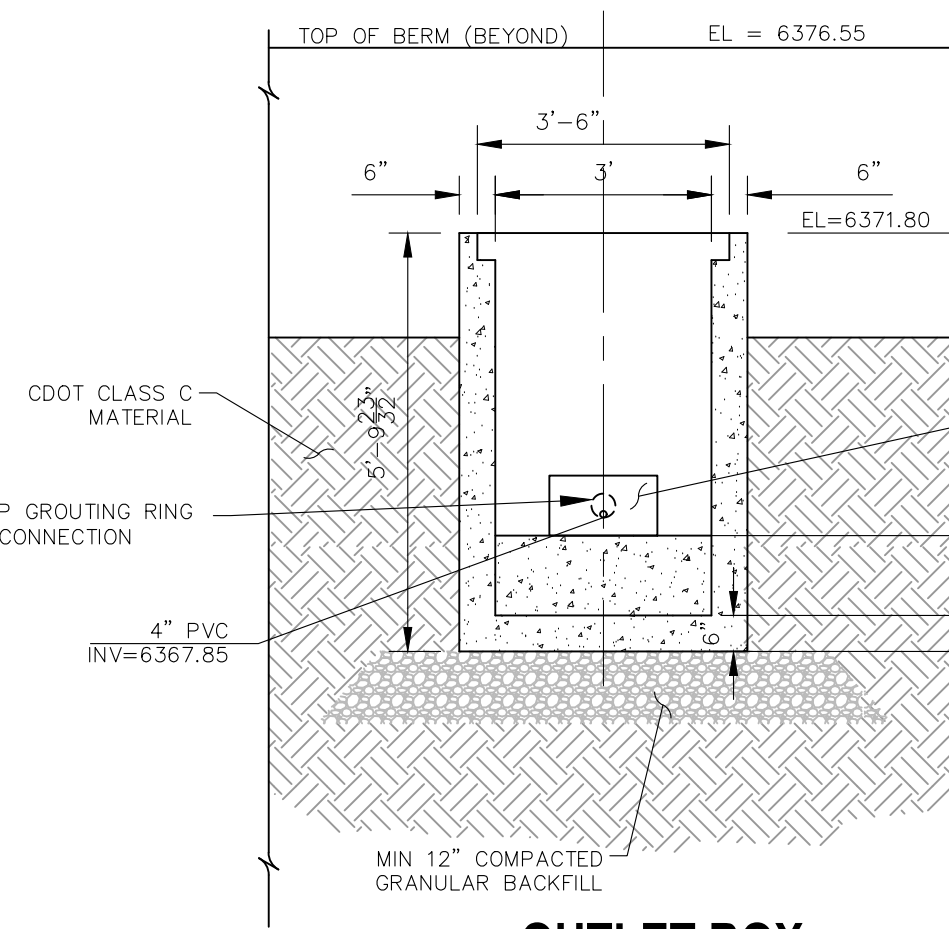


**CDOT TYPE C WATER QUALITY OUTLET BOX AND SAND FILTER SECTION A-A NOT TO SCALE**

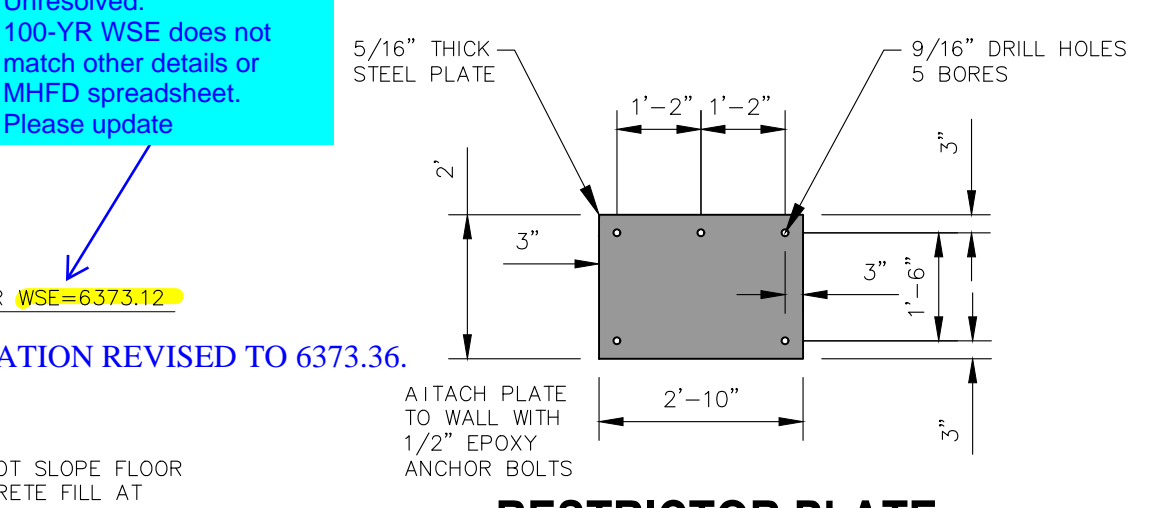
Unresolved: 100-YR WSE does not match other details or MHFD spreadsheet. Please update

100-YR WSE=6373.12  
ELEVATION REVISED TO 6373.36.

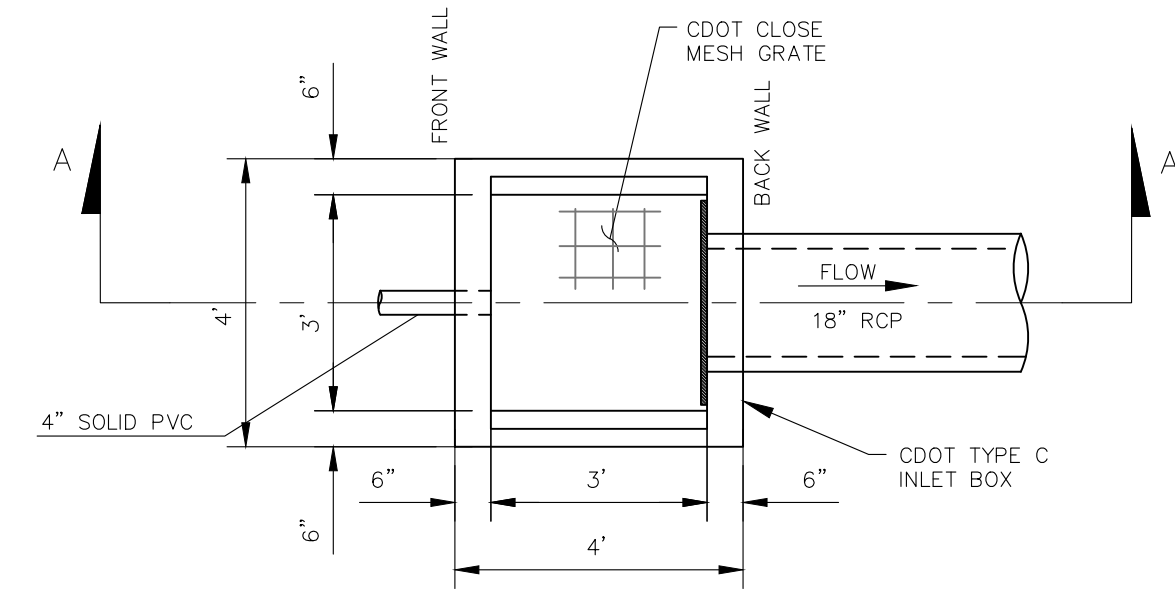
NOTE: DO NOT SLOPE FLOOR CONCRETE FILL AT FRONT FACE OF BOX TO ENSURE THAT PLATE FITS. UNDERDRAIN ORIFICE PLATE ON BACKSIDE OF WALL. FLOOR AT FF=6367.85. EL=6366.49 EL=6365.99



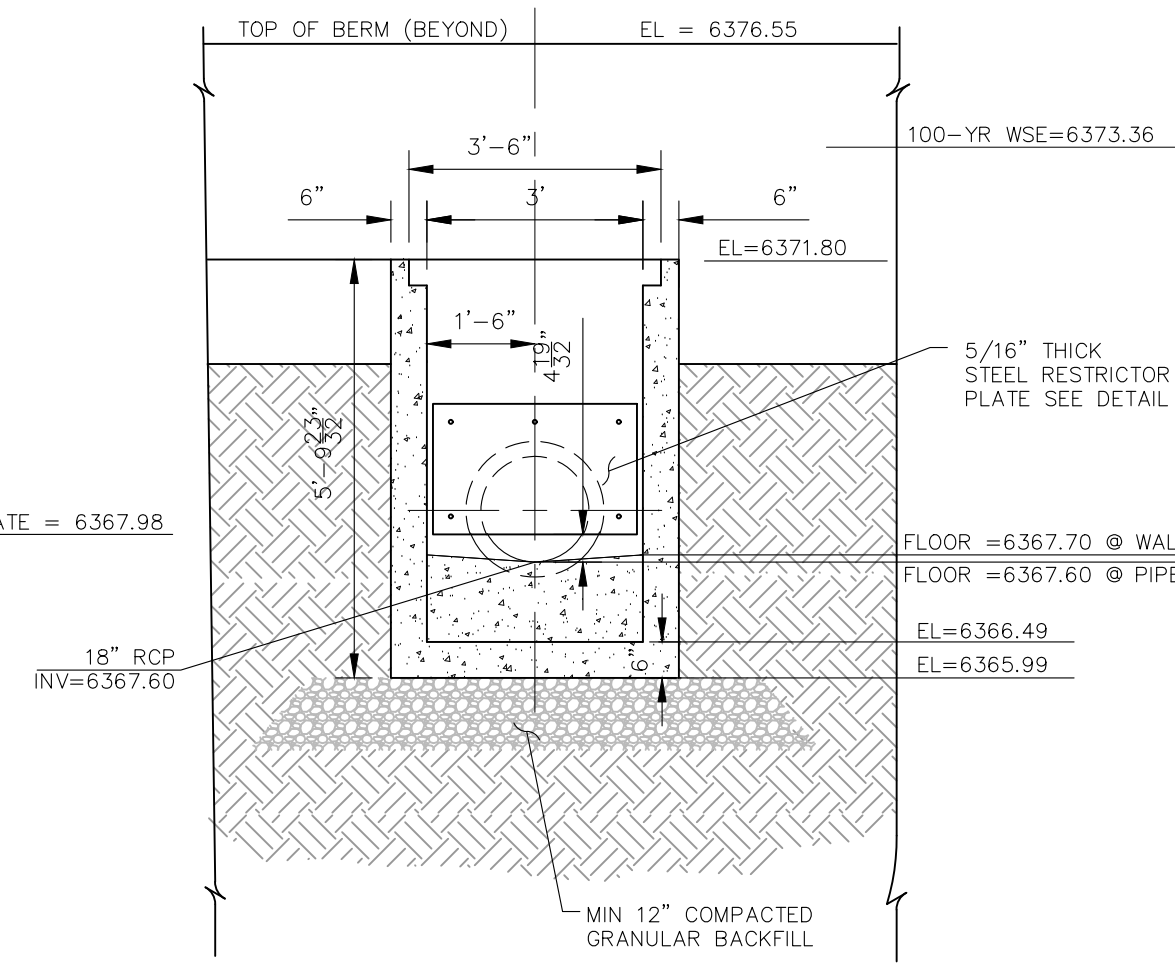
**OUTLET BOX FRONT WALL NOT TO SCALE**



**RESTRICTOR PLATE FOR 18" RCP OUTLET NOT TO SCALE**



**CDOT TYPE C PLAN NOT TO SCALE**



**OUTLET BOX REAR WALL NOT TO SCALE**

CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
OUTLET STRUCTURE POND 3 DETAILS

PROJECT NO. 10-020  
DATE: 07/20/23  
SCALE: HORIZONTAL: 1"=6' VERTICAL: N/A  
DESIGNED BY: GW  
DRAWN BY: CLP  
CHECKED BY: VAS

212 N. WABATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5485

M&S CIVIL CONSULTANTS, INC.

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

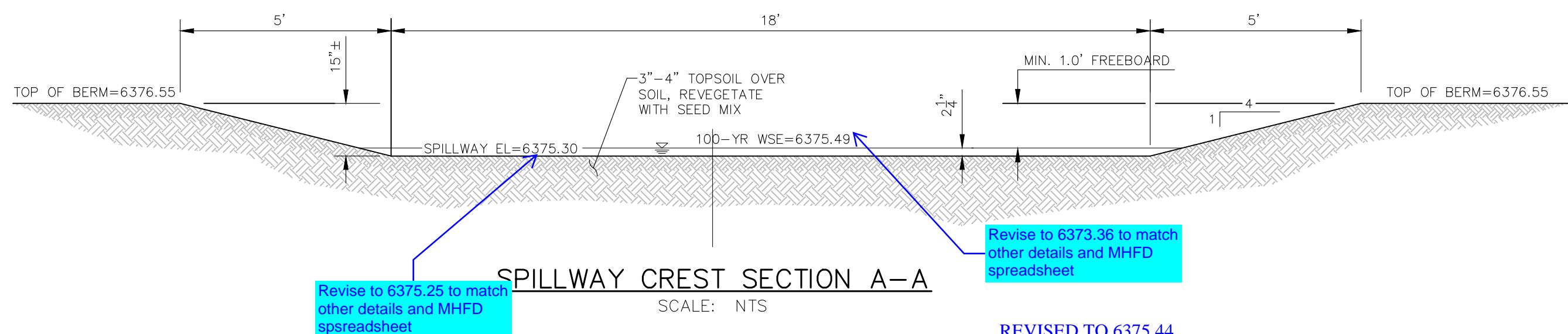
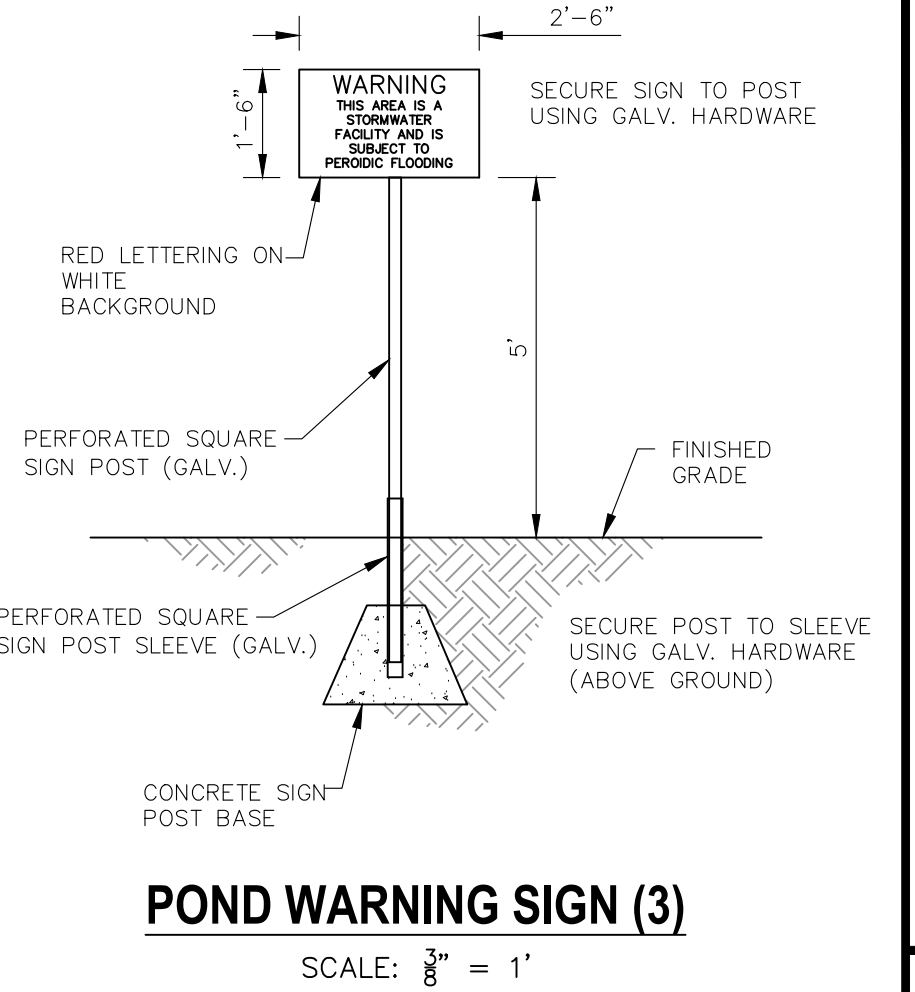
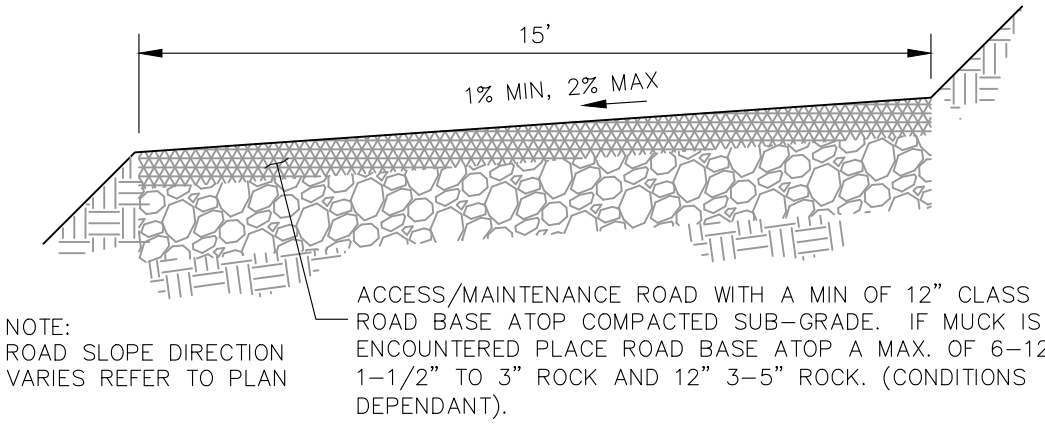
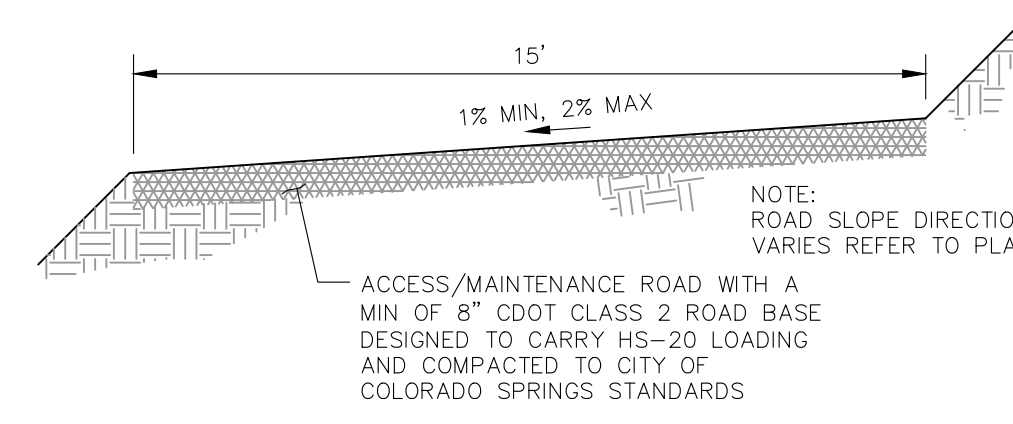
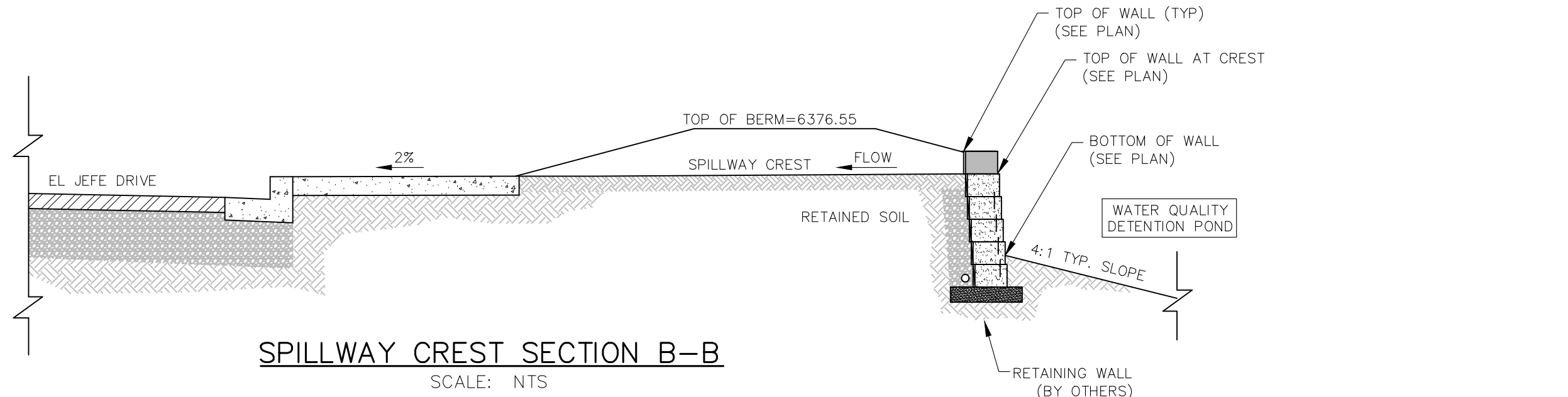
Virgil A. Sanchez, Colorado, P.E. No. 37160

REVISIONS:

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 PREPARED BY THESE PLANS.

CAUTION

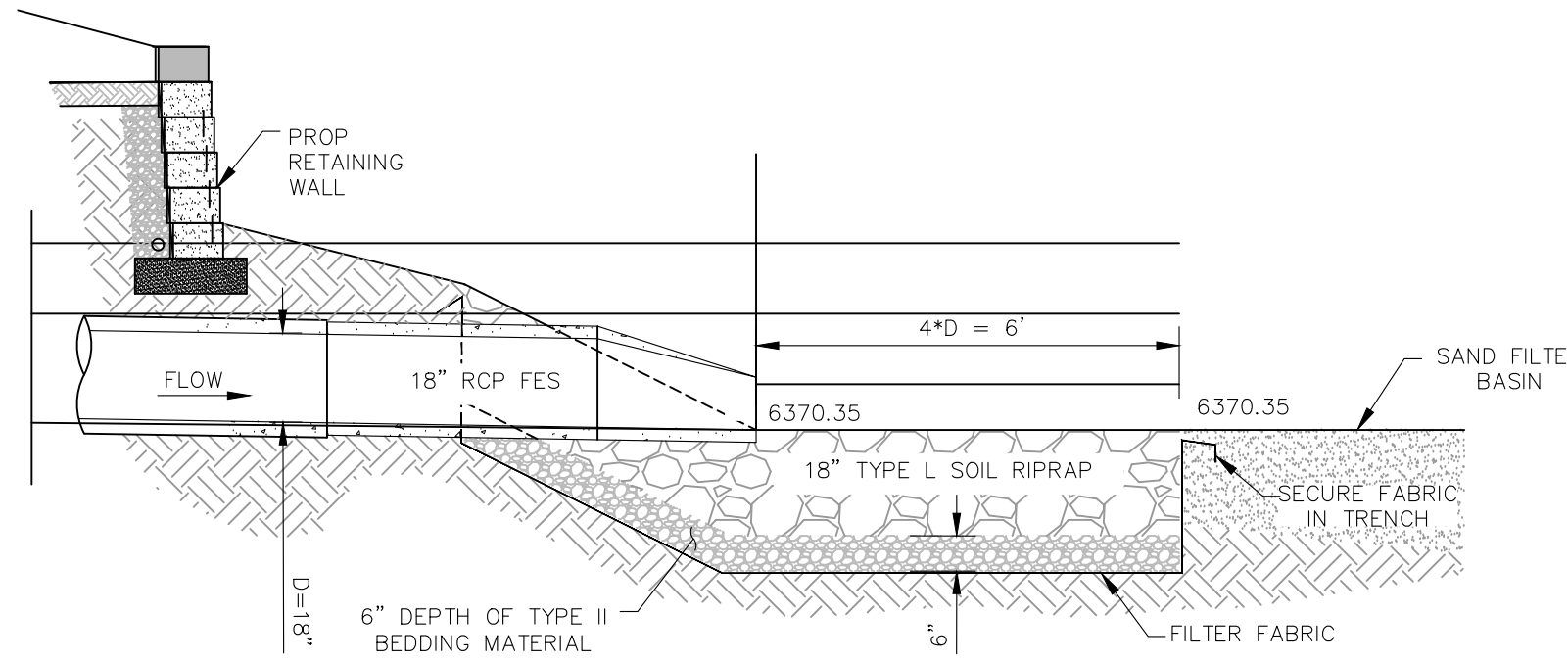


Revise to 6375.25 to match other details and MHFD spreadsheet

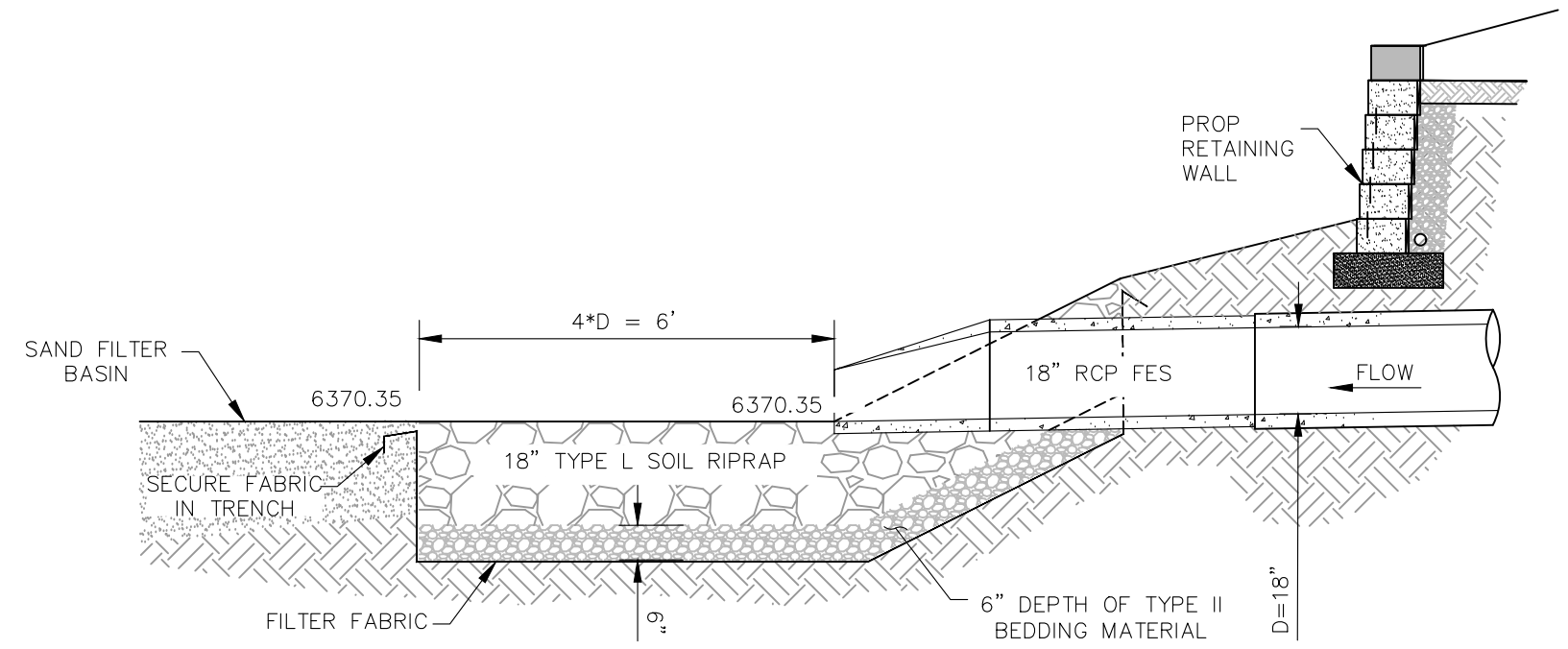
Revise to 6373.36 to match other details and MHFD spreadsheet

REVISED TO 6375.44.

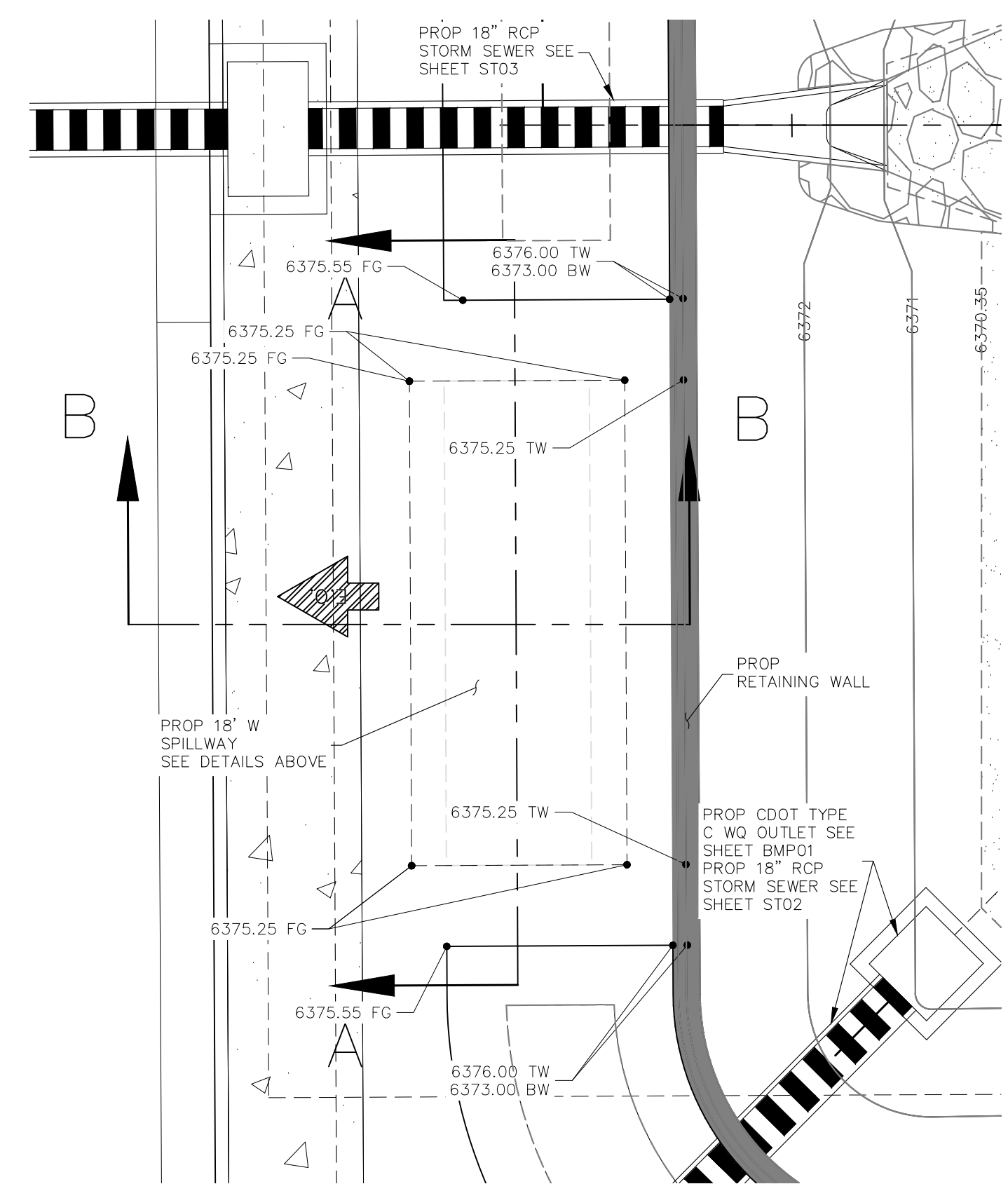
REVISED TO 6375.25.



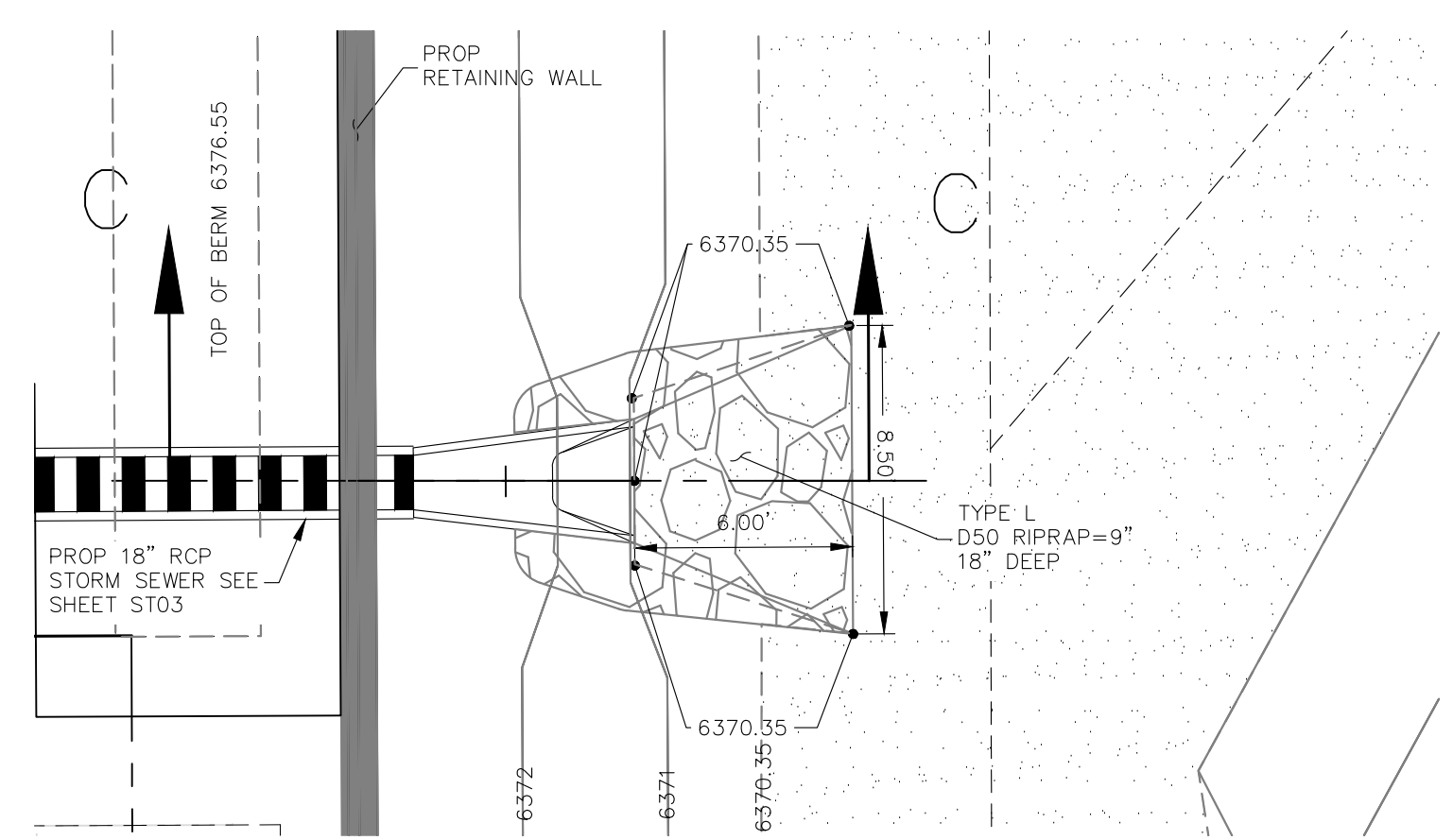
18" RCP RIPRAP APRON SECTION C-C  
SCALE: NTS



18" RCP RIPRAP APRON SECTION D-D  
SCALE: NTS



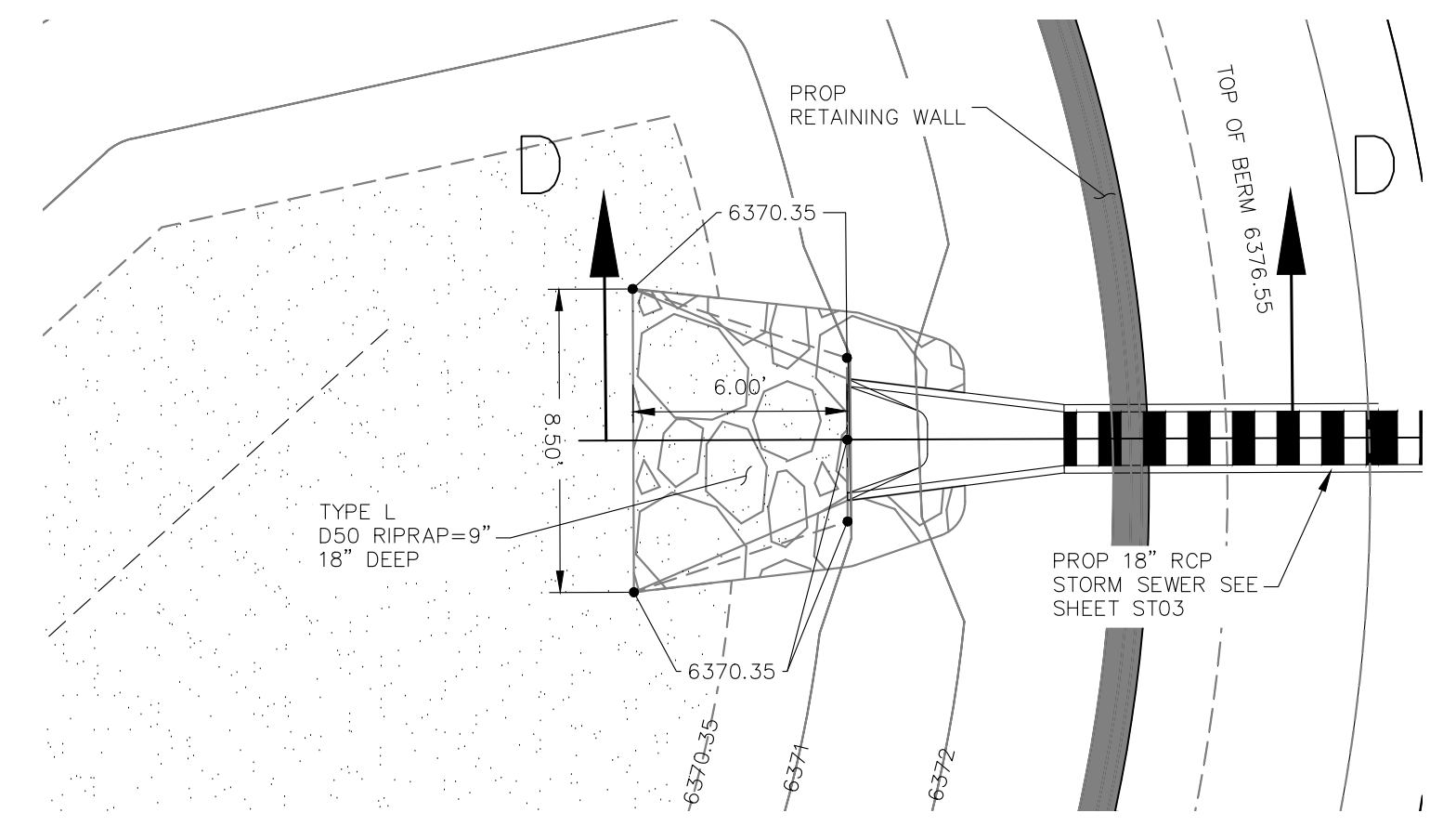
LOT 2 - SAND FILTER POND 3  
SPILLWAY PLAN  
SCALE 1"=10'



LOT 2 - SAND FILTER POND 3  
WEST RIPRAP APRON (TYPICAL)  
SCALE 1"=5'

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	D <sub>50</sub> (INCHES)
TYPE VL	70-100	12	6
	50-70	9	
	35-50	6	
	2-10	2	
TYPE L	70-100	15	9
	50-70	12	
	35-50	9	
	2-10	3	
TYPE M	70-100	21	12
	50-70	18	
	35-50	12	
	2-10	4	
TYPE H	70-100	30	18
	50-70	24	
	35-50	18	
	2-10	6	
TYPE VH	70-100	41	24
	50-70	33	
	35-50	24	
	2-10	9	

\*D<sub>50</sub> = MEAN PARTICLE SIZE  
REFER TO SECTION 506 RIPRAP OF CDOT SPECIFICATIONS



LOT 2 - SAND FILTER POND 3  
NORTHEAST RIPRAP APRON (TYPICAL)  
SCALE 1"=5'

CLAREMONT BUSINESS PARK 2 FIL. NO. 2  
OUTLET STRUCTURE POND 3 DETAILS

PROJECT NO. 10-020  
DATE: 07/20/23  
SCALE: HORIZONTAL: N/A  
VERTICAL: N/A  
DESIGNED BY: GW  
DRAWN BY: CLP  
CHECKED BY: VAS

212 N. WABATCH AVE. STE 305  
COLORADO SPRINGS CO 80903  
PHONE: 719.555.5485

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

VIRGIL A. SANCHEZ, COLORADO, P.E. NO. 37160  
REGISTERED PROFESSIONAL ENGINEER  
37160  
07/28/2023

REVISIONS:  
NO. DATE BY DESCRIPTION

DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_

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CAUTION

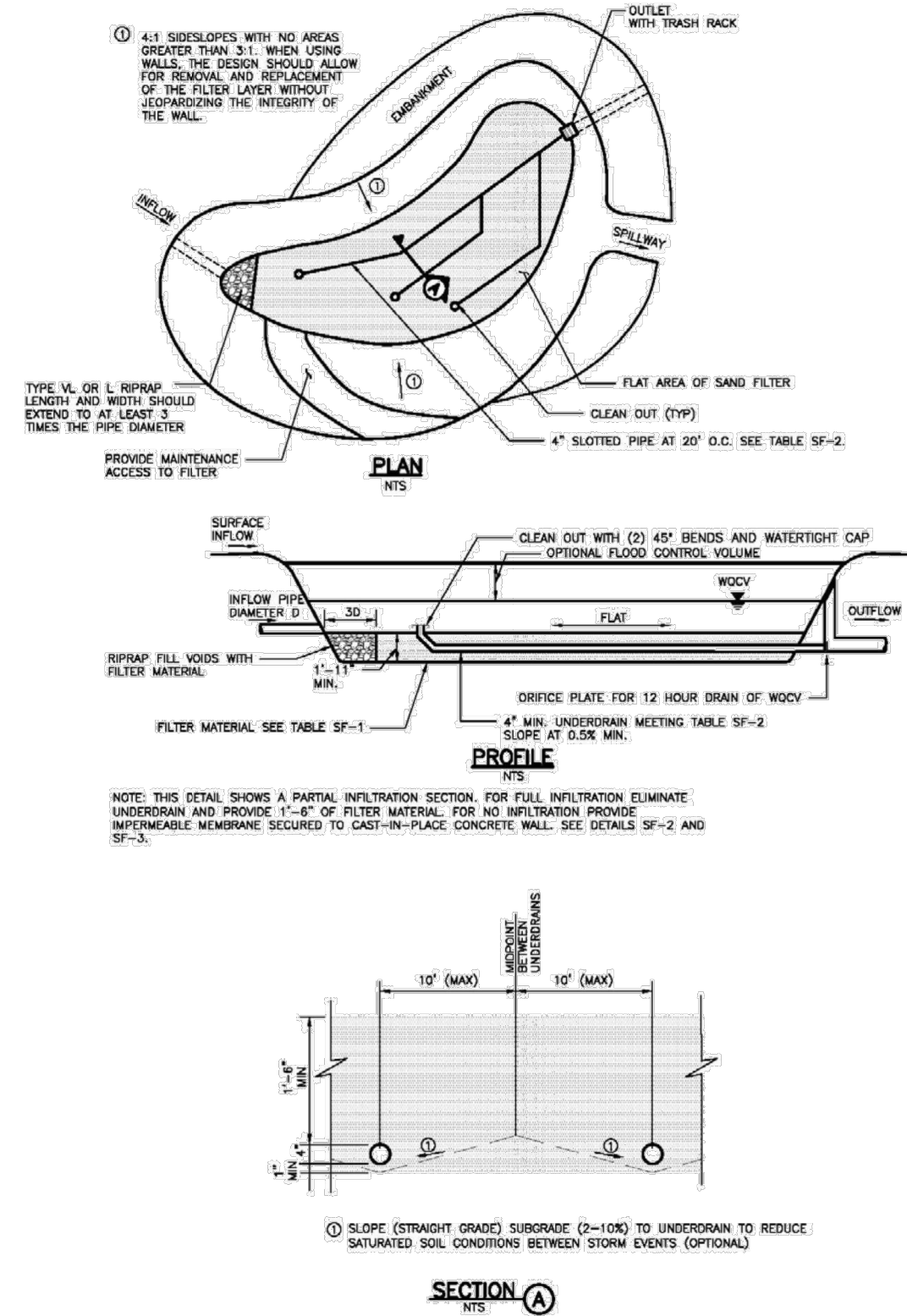
**Table SF-1. Gradation Specifications for CDOT Class C Filter Material**  
(Source: CDOT Table 703-7)

Sieve Size	Mass Percent Passing Square Mesh Sieves
19.0 mm (3/4")	100
4.75 mm (No. 4)	60 - 100
300 µm (No. 50)	10 - 30
150 µm (No. 100)	0 - 10
75 µm (No. 200)	0 - 3

**Table SF-2. Dimensions for Slotted Pipe**

Pipe Size	Slot Length <sup>1</sup>	Maximum Slot Width	Slot Centers <sup>1</sup>	Open Area <sup>1</sup> (per foot)
4"	1-1/16"	0.032"	0.413"	1.90 in <sup>2</sup>
6"	1-3/8"	0.032"	0.516"	1.98 in <sup>2</sup>

<sup>1</sup> Some variation in these values is acceptable and is expected from various pipe manufacturers. Be aware that both increased slot length and decreased slot centers will be beneficial to hydraulics but detrimental to the structure of the pipe.



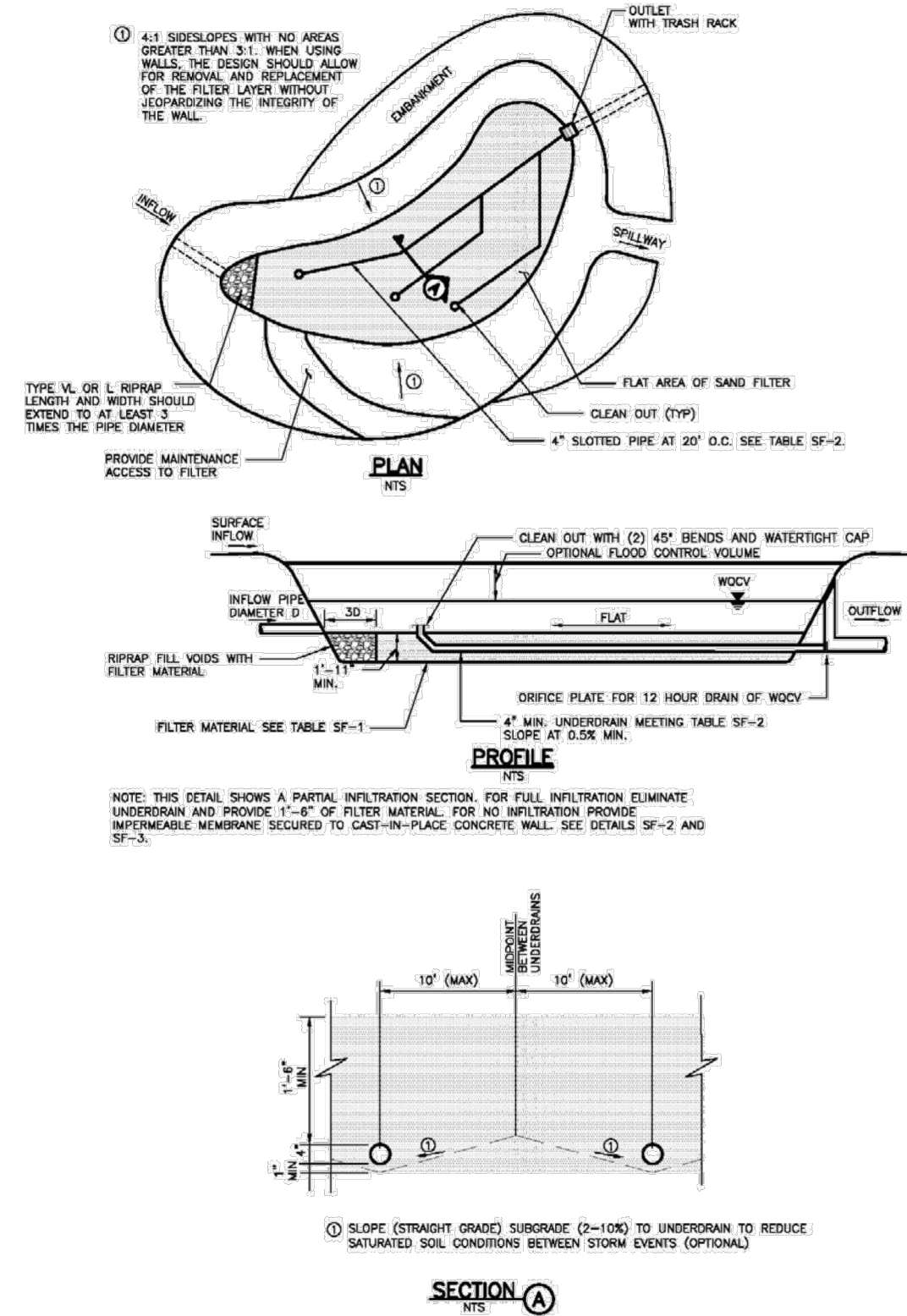
**Table SF-1. Gradation Specifications for CDOT Class C Filter Material**  
(Source: CDOT Table 703-7)

Sieve Size	Mass Percent Passing Square Mesh Sieves
19.0 mm (3/4")	100
4.75 mm (No. 4)	60 - 100
300 µm (No. 50)	10 - 30
150 µm (No. 100)	0 - 10
75 µm (No. 200)	0 - 3

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<sup>1</sup> Some variation in these values is acceptable and is expected from various pipe manufacturers. Be aware that both increased slot length and decreased slot centers will be beneficial to hydraulics but detrimental to the structure of the pipe.



212 N. WASHATCH AVE., STE 305  
COLORADO SPRINGS, CO 80903  
PHONE: 719.555.5465



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

FOR AND ON  
BEHALF OF  
MKS CIVIL  
CONSULTANTS,  
INC.



REVISIONS:  
NO. DATE BY DESCRIPTION APPROVED BY DATE

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 PREPARE OF THESE PLANS.

CAUTION

CLAREMONT BUSINESS PARK 2 FIL. NO. 2

OUTLET STRUCTURE POND 3 DETAILS

PROJECT NO. 10-020

SCALE: HORIZONTAL: 1"=10'

VERTICAL: N/A

DESIGNED BY: GW

DRAWN BY: CLP

CHECKED BY: VAS

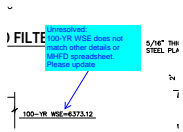
DATE: 07/20/23

SHEET 14 OF 14

BMP03

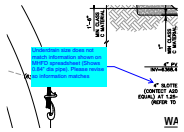
# V3\_Construction Drawings.pdf Markup Summary

## Callout (5)



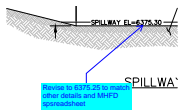
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Unresolved:  
100-YR WSE does not match other details or  
MHFD spreadsheet. Please update



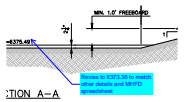
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Underdrain size does not match information shown  
on MHFD spreadsheet (Shows 0.84" dia pipe).  
Please revise so information matches



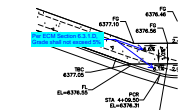
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Revise to 6375.25 to match other details and  
MHFD spreadsheet



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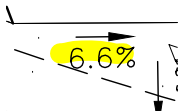
Revise to 6373.36 to match other details and  
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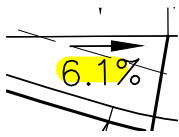
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Per ECM Section 6.3.1.D, Grade shall not exceed  
5%

## Highlight (3)



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-YR WSE=6373.12

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