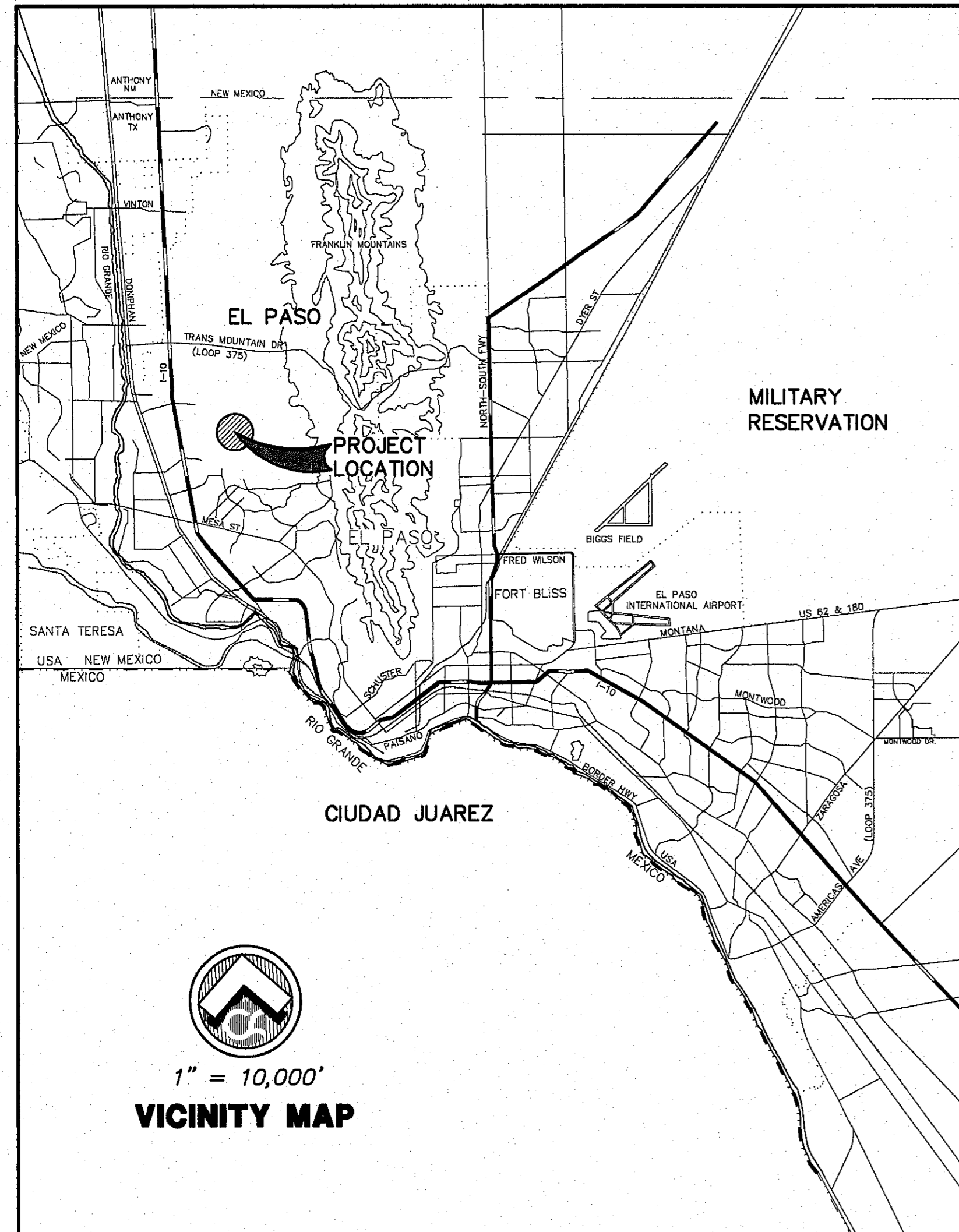
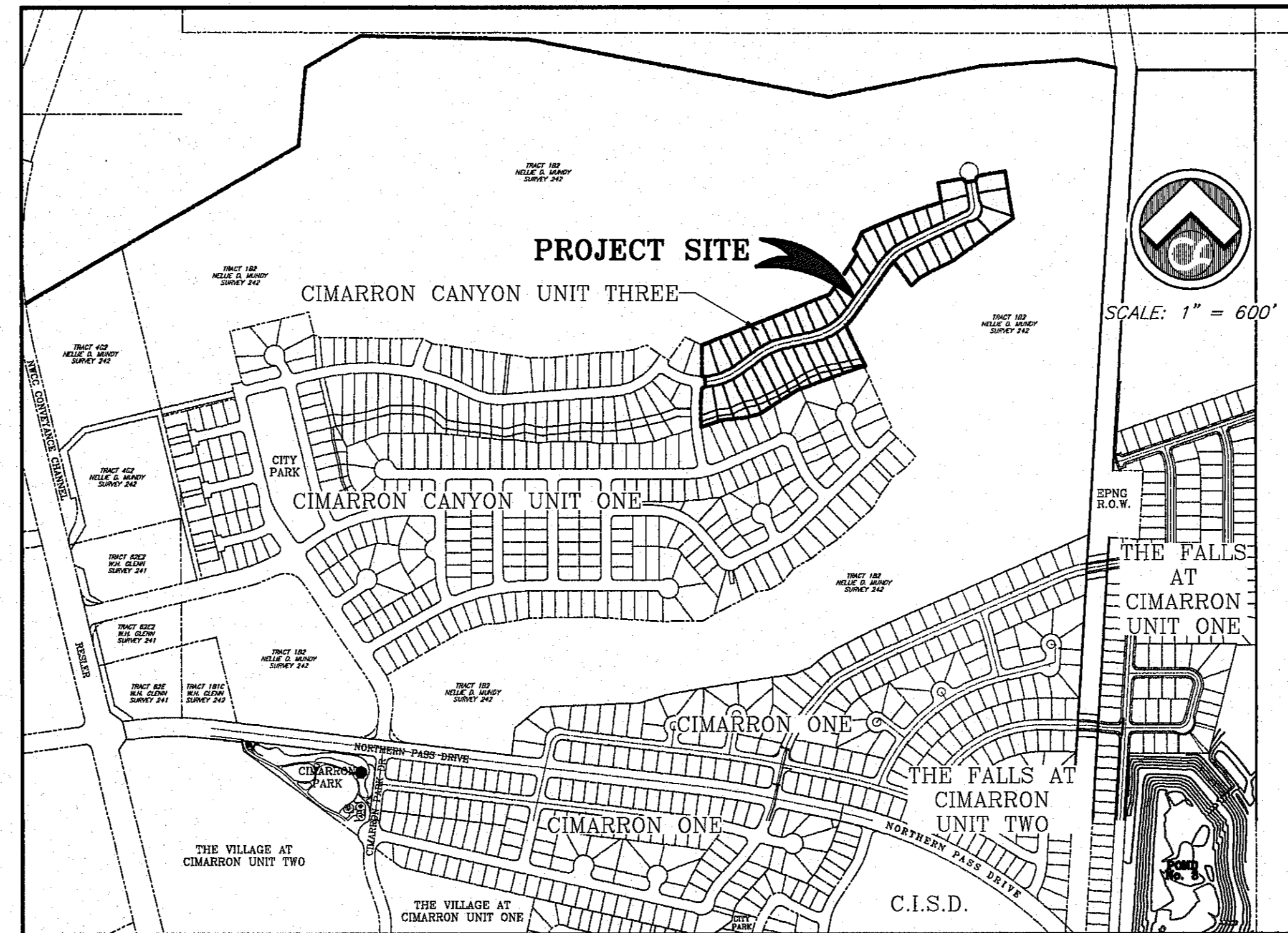
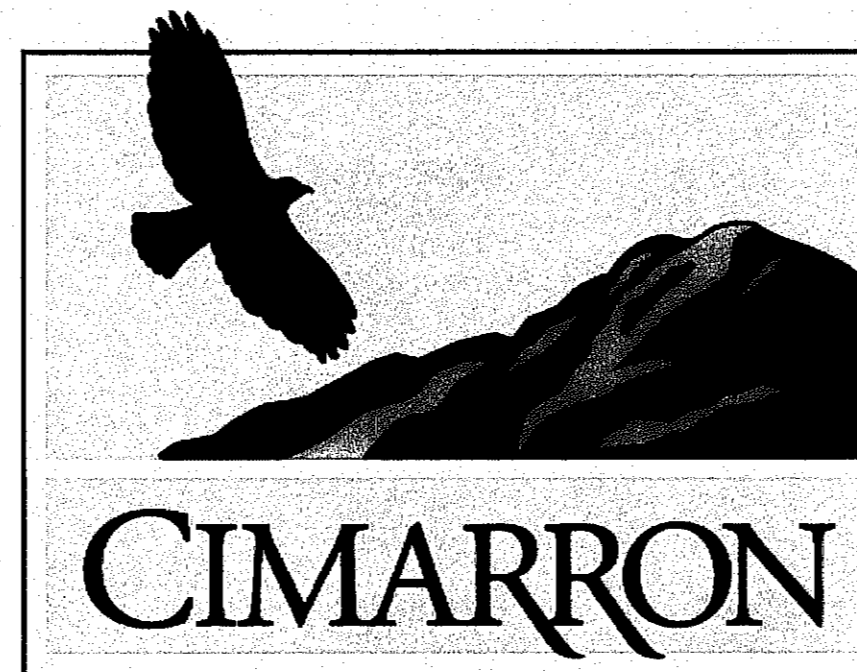


PLANS FOR CONSTRUCTION OF CIMARRON CANYON UNIT THREE SUBDIVISION CITY OF EL PASO, TEXAS

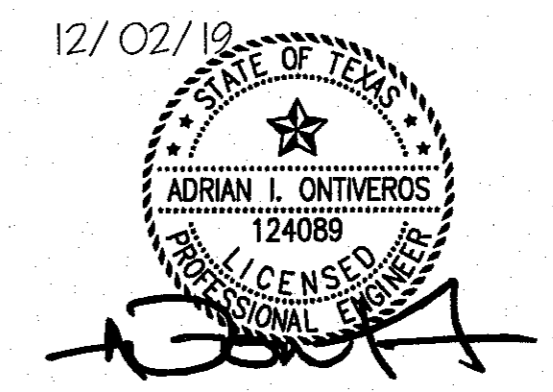


LOCATION MAP



**CITY DEVELOPMENT
DEPARTMENT**
Reviewed For Compliance For Conditions Related To:
 - Streets
 - Grading & Stormwater
 - Wetland Buffer
 - Other Regulatory Issues

Comments: None
 Date: 12/5/2019



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 Texas Registered Engineering Firm F-9997
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 El Paso, Texas 79912
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 fax [915] 877.4334
 www.csaengineers.com

FILE No. 1724

12/02/19 Final City Submittal

1724 CIMARRON CANYON UNIT THREE

1724-01.dwg
 Date: 02/02/2019 - 10:33am
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LEGEND

	LOT LINE
	UTILITY & SIDEWALK EASEMENT
	CENTER LINE OF STREET
	STREET R.O.W.
	DRAINAGE & UTILITY R.O.W.
	4" ROLLED CURB & GUTTER
	FLOW LINE
	SUBDIVISION BOUNDARY LINE
	DRAINAGE AREA BOUNDARY
	DRAINAGE SUB-AREA
	FLOOD ZONE BOUNDARY
	BASE FLOOD ELEVATION (NAVD 88 SHOWN)
	4010 PROPOSED CONTOUR
	4010 EXISTING CONTOUR
	SWALE
	ROCK RETAINING WALL BY DEVELOPER UNLESS NOTED OTHERWISE
	4' or 6' ROCK WALL FROM HIGH SIDE BY DEVELOPER UNLESS NOTED OTHERWISE
	RETAINING WALL BY BUILDER UNLESS NOTED OTHERWISE
	DIRECTION OF RUNOFF FLOW
	HIGH POINT
	LOW POINT
	POINT OF VERTICAL INTERSECTION
	50' PAVEMENT TRANSITION
	PROPOSED CITY MONUMENT
	66 PROPOSED BUILDING PAD W/ FINISHED GRADE AND FINISHED FLOOR ELEVATION
	75.72
	75.72
	75.22
	75.22
	DA#1 DRAINAGE AREA
	POINT OF RUN OFF CONCENTRATION
	3728.85 PROPOSED TOP OF CURB FINISHED GRADES
	75.72TC PROPOSED TOP OF CURB (3729.2) EXISTING GRADE
	TC=08.09 PROPOSED TOP OF CURB ELEVATION
	PVMT=08.85 PROPOSED PAVEMENT ELEVATION
	99.35 3999.35
	00.35 4000.35
	09.35 4009.35
	10.35 4010.35

WARNING! BEFORE YOU DIG

COORDINATION WITH UTILITIES

CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR RELOCATION OF EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION WORK.

EL PASO ELECTRIC CO.	543-5720
AT&T	1-800-DIG-TESS
TEXAS GAS SERVICE	544-6300
EMERGENCY HOTLINE	562-8411/562-2003
PUBLIC SERVICE BOARD (WATER & SEWER)	1-800-DIG-TESS
TEXAS EXCAVATION SAFETY SYSTEM	1-800-344-8377
TIME WARNER COMMUNICATION	775-7414
KINDER-MORGAN EPNG PIPELINES	1-800-238-3764
EL PASO STREETS AND MAINTENANCE	212-0151

GRAPHIC SCALE



SCALE: 1" = 1'

WHEN PRINTED TO SCALE, THE CSA NORTH ARROW USED IN THIS PLAN SET HAS BEEN INSERTED INTO THE DRAWINGS SO THAT THE OUTER RING MEASURES EXACTLY ONE INCH IN DIAMETER AND THEREFORE MAY BE USED AS A GRAPHIC SCALE.

ABBREVIATIONS

AC	ACRES	LONG	LONGITUDINAL
ACFT	ACRE FEET	LP	LOW POINT
AD	ALGEBRAIC DIFFERENCE	MH	MANHOLE
A	AREA	MAX	MAXIMUM
AT,ASPH	ASPHALT	MIN	MINIMUM
BVCE	BEGINNING VERTICAL CURVE ELEVATION	OS	OFF SITE
BVCS	BEGINNING VERTICAL CURVE STATION	OC	ON CENTER
BW	BOTTOM OF WALL	OCEW	ON CENTER EACH WAY
BIW	BOTTOM INSIDE OF WALL	OD	OUTSIDE DIAMETER (DIMENSION)
BOC	BACK OF CURB	O/O	OUTSIDE TO OUTSIDE
BOW	BOTTOM OUTSIDE OF WALL	OW	OVERALL WIDTH
BYP	BY-PASSED FLOW	PKG	PARKING
CAP	CAPACITY	PV, PVMT	PAVEMENT
CAP'D	CAPTURED FLOW	PSI	POUNDS PER SQUARE INCH
C/C	CENTER TO CENTER	PC	POINT OF CURVATURE
CL	CENTER LINE	PCC	POINT OF CONTINUOUS CURVATURE
CC,CONC	CONCRETE	PI	POINT OF INTERSECTION
COEFF	COEFFICIENT	PRC	POINT OF REVERSE CURVATURE
CMP	CORRUGATED METAL PIPE	PT	POINT OF TANGENCY
CFS	CUBIC FEET PER SECOND	PVI	POINT OF VERTICAL INTERSECTION
CY	CUBIC YARDS	PL	PROPERTY LINE
CPI	CURB POINT INTERSECTION	R, RAD	RADIUS
CR	CURB RETURN	RCBC	REINFORCED CONCRETE BOX CULVERT
DIA	DIAMETER	RCP	REINFORCED CONCRETE PIPE
DI	DIAMETER INSIDE	REQ'D	REQUIRED
DO	DIAMETER OUTSIDE	RET	RETAINING
DA	DRAINAGE AREA	ROW, R.O.W.	RIGHT-OF-WAY
EW	EACH WAY	Q	RUN OFF
ESMT	EASEMENT	SS	SANITARY SEWER LINE
EL, ELEV	ELEVATION	SW	SIDEWALK
EVCS	END VERTICAL CURVE ELEVATION	SL	SLOPE
EG	EXISTING GRADE	STD	STANDARD
EXP	EXPECTED, EXPECTANCY	STA	STATION
FPS	FEET PER SECOND	SF	SQUARE FEET
FF	FINISHED FLOOR	SY	SQUARE YARDS
FG	FINISHED GROUND	TEMP	TEMPORARY
FS	FINISHED SURFACE	TC	TOP OF CURB
FH	FIRE HYDRANT	TG	TOP OF GRATE
FL	FLOW LINE	THC	TOP OF HEADER CURB
GALV	GALVANIZED	TP	TOP OF PAVEMENT
GT, GUT	GUTTER	TW	TOP OF WALL
GR	GROUND	TYP	TYPICAL
HC	HEADER CURB	UNO	UNLESS NOTED OTHERWISE
HP	HIGH POINT	VEL	VELOCITY IN FEET PER SECOND
HNE	HIGH WATER ELEVATION	VERT	VERTICAL
HORIZ	HORIZONTAL	W, WL	WATER LINE
HGL	HYDRAULIC GRADE LINE	WM	WATER METER
ID	INSIDE DIAMETER	WS	WATERSHED
I/I	INSIDE TO INSIDE	WV	WATER VALVE
INT	INTENSITY	WWM	WELDED WIRE MESH
INVERT	INVERT	∠	ANGLE
LF	LINEAR FEET	Ø	DIAMETER
		□	SQUARE TUBE



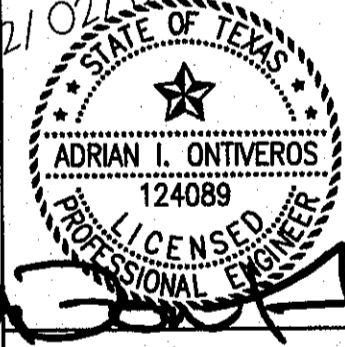
Final Approval

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
1-800-DIG-TESS
TEXAS GAS SERVICE 544-6300
562-8411
PUBLIC SERVICE BOARD (WATER & SEWER) 1-800-DIG-TESS
562-8411
AFTER HOURS EMERGENCY (EPW) 1-800-238-3764
TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377
KINDER-MORGAN EPNG PIPELINES 1-800-238-3764
EL PASO STREETS AND MAINTENANCE 212-0151

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CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE

DRAWING INDEX

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

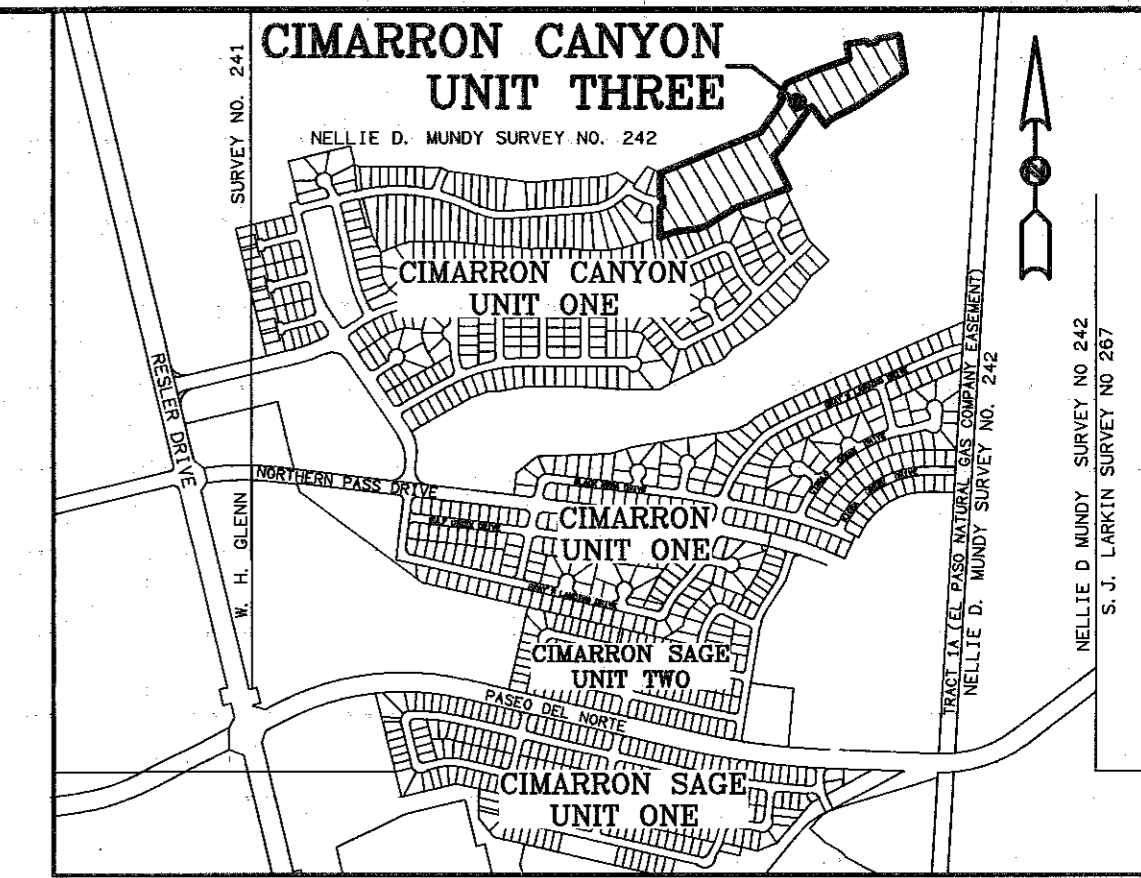
NOTE:
CALLOUTS SUCH AS 'REFER TO SHEET . . .
'REFER TO DETAIL ON SHEET . . .
'SEE SHEET . . .
'SEE DETAIL ON SHEET . . .
NOTES AND MATCHLINES CONTAINED IN THIS
PLAN SET REFER TO THE SHEET NUMBER,
NOT THE SHEET SEQUENCE.

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S:\0911724_Cimarron Canyon Unit Three\1724_2nd Submittal\Drawn\1724_Dt_1-3 (Revised Notes).dwg

- NOTE:
- SET 5/8" REBAR WITH CAP MARKED "RPLS 4178" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE INDICATED.
 - CIMARRON CANYON UNIT ONE IS RECORDED IN COUNTY CLERK'S FILE NO. 20180052184, EL PASO COUNTY, TEXAS.
 - BASIS OF BEARINGS IS THE MONUMENTED CENTERLINE OF NORTHWESTERN DRIVE FROM THE PLAT OF EL PASO WEST UNIT ONE IN BOOK 57, PAGE 5, PLAT RECORDS, EL PASO COUNTY, TEXAS.
 - WATER AND SEWER SERVICES WILL BE PROVIDED TO CIMARRON CANYON UNIT THREE FROM EXISTING FACILITIES ON NORTHERN PASS DRIVE BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE.
 - U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS.
 - THE SUBJECT PROPERTY LIES WITHIN THE CANUTILLO INDEPENDENT SCHOOL DISTRICT.
 - 5/8" REBAR WITH CAP MARKED "RPLS 4178" OR SIMILAR WILL BE SET AT ALL LOT CORNERS UPON COMPLETION OF CONSTRUCTION.

CIMARRON CANYON UNIT THREE

BEING A PORTION OF TRACT 1B2, NELLIE D. MUNDY SURVEY 242, CITY OF EL PASO, EL PASO COUNTY, TEXAS. CONTAINING 13.004 ± ACRES (566,433 SQ. FT.)



SCALE: 1" = 100'

LOCATION MAP
SCALE: 1" = 1200' ±

CHAPTER 395 OF THE TEXAS LOCAL GOVERNMENT CODE AUTHORIZES THE CITY OF EL PASO TO ADOPT AND IMPOSE WATER AND WASTEWATER IMPACT FEES. THIS PLAT NOTE FULFILLS AN OBLIGATION MANDATED BY CHAPTER 395 AND SETS THE ASSESSMENT OF THE IMPACT FEES IN ACCORDANCE WITH THE IMPACT FEE SCHEDULE ADOPTED BY CITY COUNCIL AS SET FORTH BELOW. THE COLLECTION OF THE IMPACT FEE FOR THIS SUBDIVISION SHALL BE PRIOR TO THE TIME A BUILDING PERMIT IS ISSUED IF DEVELOPMENT IS WITHIN THE CITY LIMITS OR AT THE TIME OF THE METER CONNECTION IF DEVELOPMENT IS OUTSIDE THE CITY LIMITS.

METER SIZE	WESTSIDE SERVICE AREA	METER CAPACITY RATIO	WATER*	WASTEWATER
LESS THAN 1 INCH	1.00		\$659.00	\$927.00
1 INCH	1.67		\$1,101.00	\$1,548.00
1 1/2 INCH	3.33		\$2,195.00	\$3,087.00
2 INCH	5.33		\$3,514.00	\$4,941.00
3 INCH	10.00		\$6,593.00	\$9,270.00
4 INCH	16.67		\$10,990.00	\$15,453.00
6 INCH	33.33		\$21,973.00	\$30,897.00
8 INCH	53.33		\$35,158.00	\$49,437.00
10 INCH	76.67		\$50,545.00	\$71,073.00
12 INCH	143.33		\$94,490.00	\$132,867.00

*FEES DO NOT APPLY TO WATER METER OR CONNECTIONS MADE FOR STANDBY FIRE PROTECTION SERVICE.

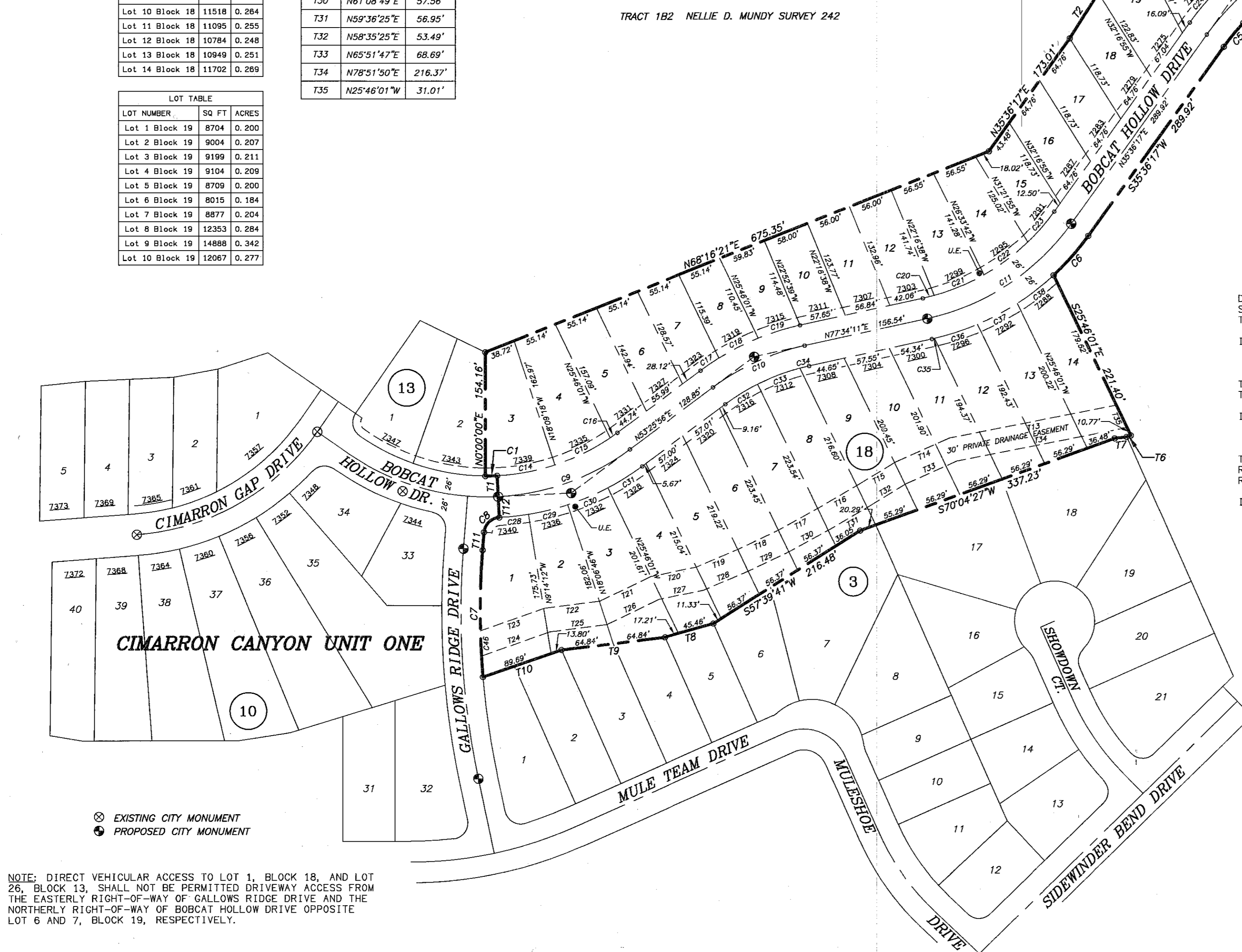
LOT NUMBER	SQ. FT.	ACRES
Lot 1 Block 13	10044	0.231
Lot 4 Block 13	10937	0.244
Lot 5 Block 13	8256	0.190
Lot 6 Block 13	7466	0.171
Lot 7 Block 13	6687	0.154
Lot 8 Block 13	6168	0.142
Lot 9 Block 13	6359	0.146
Lot 10 Block 13	6834	0.157
Lot 11 Block 13	7188	0.165
Lot 12 Block 13	7701	0.177
Lot 13 Block 13	8828	0.203
Lot 14 Block 13	8300	0.191
Lot 15 Block 13	7031	0.161
Lot 16 Block 13	7124	0.164
Lot 17 Block 13	7124	0.164
Lot 18 Block 13	7247	0.166
Lot 19 Block 13	10834	0.249
Lot 20 Block 13	10212	0.234
Lot 21 Block 13	8656	0.199
Lot 22 Block 13	8194	0.188
Lot 23 Block 13	7820	0.180
Lot 24 Block 13	7194	0.165
Lot 25 Block 13	7248	0.166
Lot 26 Block 13	11073	0.254
Lot 27 Block 13	11756	0.270

LINE #	BEARING	DISTANCE
T1	N2°48'32"W	26.00'
T2	N32°19'42"E	66.41'
T3	N32°16'55"W	28.44'
T4	N80°26'54"E	52.00'
T5	S46°49'09"W	54.77'
T6	S71°30'45"W	5.49'
T7	S82°48'21"W	15.05'
T8	S74°23'17"W	62.67'
T9	S87°00'30"W	129.67'
T10	S71°11'15"W	103.49'
T11	N4°29'50"E	22.42'
T12	N2°48'32"W	26.00'
T13	S78°51'50"W	211.95'
T14	S65°51'47"W	74.01'
T15	S58°35'25"W	55.04'
T16	S59°36'25"W	56.28'
T17	S61°08'49"W	56.29'
T18	S64°28'08"W	56.51'
T19	S67°03'41"W	56.59'
T20	S78°31'27"W	57.73'
T21	S64°21'00"W	70.24'
T22	S82°41'47"W	69.48'
T23	S70°37'25"W	84.52'
T24	N70°37'25"E	80.55'
T25	N82°41'47"E	71.15'
T26	N64°21'00"E	71.36'
T27	N78°31'27"E	57.01'
T28	N67°03'41"E	60.28'
T29	N64°28'08"E	58.05'
T30	N61°08'49"E	57.56'
T31	N59°36'25"E	56.95'
T32	N58°35'25"E	53.49'
T33	N65°51'47"E	68.69'
T34	N78°51'50"E	216.37'
T35	N25°46'01"W	31.01'

LOT NUMBER	SQ. FT.	ACRES
Lot 1 Block 18	13592	0.312
Lot 2 Block 18	11342	0.260
Lot 3 Block 18	12850	0.295
Lot 4 Block 18	11694	0.268
Lot 5 Block 18	12158	0.279
Lot 6 Block 18	12395	0.285
Lot 7 Block 18	12847	0.298
Lot 8 Block 18	12299	0.282
Lot 9 Block 18	11723	0.269
Lot 10 Block 18	11518	0.264
Lot 11 Block 18	11095	0.255
Lot 12 Block 18	10784	0.248
Lot 13 Block 18	10949	0.251
Lot 14 Block 18	11702	0.269

LOT NUMBER	SQ. FT.	ACRES
Lot 1 Block 19	8704	0.200
Lot 2 Block 19	9004	0.207
Lot 3 Block 19	9199	0.211
Lot 4 Block 19	9104	0.209
Lot 5 Block 19	8709	0.200
Lot 6 Block 19	8015	0.184
Lot 7 Block 19	8877	0.204
Lot 8 Block 19	12353	0.284
Lot 9 Block 19	14888	0.342
Lot 10 Block 19	12067	0.277

CURVE #	DELTA	RADIUS	ARC	CHORD BEARING	CHORD
C1	3°05'49"	274.00	14.81'	S88°44'23"W	14.81'
C2	14°05'29"	368.59	90.65'	N24°24'24"E	90.42'
C3	89°59'38"	20.00	31.41'	S54°32'52"E	28.28'
C4	89°58'43"	20.00	31.41'	N35°27'14"E	28.28'
C5	7°58'23"	274.00	38.13'	S39°35'29"W	38.10'
C6	11°30'55"	326.00	65.52'	S41°21'45"W	65.41'
C7	9°16'10"	976.00	157.90'	N0°08'15"W	157.73'
C8	82°41'39"	20.00	28.87'	N45°50'39"E	26.42'
C9	33°45'32"	300.00	176.76'	N70°18'42"E	174.22'
C10	24°08'15"	300.00	126.38'	N65°30'04"E	125.45'
C11	41°37'54"	300.00	219.73'	N56°35'14"E	214.85'
C12	28°44'36"	300.00	150.50'	N49°58'35"E	148.93'
C13	73°53'59"	56.00	72.23'	N27°23'54"E	67.32'
C14	15°20'46"	274.00	73.39'	N79°31'05"E	73.17'
C15	18°04'06"	274.00	76.84'	N63°48'39"E	76.59'
C16	2°20'40"	274.00	11.21'	N54°36'16"E	11.21'
C17	4°51'57"	326.00	27.69'	N55°51'55"E	27.68'
C18	9°40'47"	326.00	55.08'	N63°08'17"E	55.01'
C19	9°35'31"	326.00	54.58'	N72°46'26"E	54.51'
C20	3°04'39"	274.00	14.72'	N76°01'52"E	14.71'
C21	14°03'58"	274.00	67.27'	N67°27'33"E	67.10'
C22	14°13'45"	274.00	68.05'	N53°18'42"E	67.87'
C23	10°35'32"	274.00	50.65'	N40°54'03"E	50.58'
C24	8°52'41"	326.00	50.51'	N40°02'38"E	50.46'
C25	11°05'51"	326.00	63.14'	N50°01'54"E	63.04'
C26	8°46'04"	326.00	49.89'	N59°53'51"E	49.84'
C27	73°53'59"	30.00	38.69'	N27°23'54"E	36.07'
C28	6°25'41"	326.00	36.57'	N83°58'38"E	36.55'
C29	8°52'34"	326.00	50.50'	N76°19'31"E	50.45'
C30	9°31'38"	326.00	54.21'	N67°07'25"E	54.15'
C31	8°35'40"	326.00	50.80'	N57°53'46"E	50.75'
C32	9°53'31"	274.00	47.31'	N58°22'42"E	47.25'
C33	11°46'31"	274.00	56.31'	N69°12'43"E	56.21'
C34	2°28'14"	274.00	11.81'	N76°20'05"E	11.81'
C35	0°33'52"	326.00	3.21'	N77°17'16"E	3.21'
C36	9°56'48"	326.00	56.59'	N72°01'56"E	56.52'
C37	9°51'40"	326.00	56.11'	N62°07'42"E	56.04'
C38	10°04'40"	326.00	57.34'	N52°09'32"E	57.27'
C39	13°54'19"	274.00	66.50'	N50°31'50"E	66.33'
C40	6°51'54"	274.00	32.83'	N60°54'58"E	32.81'
C41	2°22'22"	20.00	8.16'	N76°02'04"E	8.10'
C42	39°03'00"	65.00	44.30'	N68°11'45"E	43.45'
C43	60°00'02"	65.00	68.07'	N18°40'14"E	65.00'
C44	21°35'41"	65.00	24.50'	N22°07'37"W	24.35'
C45	23°22'22"	20.00	8.16'	N21°14'17"W	8.10'
C46	1°50'32"	976.00	31.38'	S2°19'39"E	31.38'



NOTE: DIRECT VEHICULAR ACCESS TO LOT 1, BLOCK 18, AND LOT 26, BLOCK 13, SHALL NOT BE PERMITTED DRIVEWAY ACCESS FROM THE EASTERLY RIGHT-OF-WAY OF GALLOWES RIDGE DRIVE AND THE NORTHERLY RIGHT-OF-WAY OF BOBCAT HOLLOW DRIVE OPPOSITE LOT 6 AND 7, BLOCK 19, RESPECTIVELY.

ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP PANELS AND 480214-17C, DATED FEBRUARY 5, 1986, THIS PROPERTY LIES IN FLOOD HAZARD ZONE "C".

ROBERT SEIPEL ASSOCIATES, INC. PROFESSIONAL LAND SURVEYORS
1845 NORTHWESTERN DRIVE EL PASO TX 79912 PHONE (915) 877-1928 FAX (915) 877-2095

NOTE: ALL FRONT LOT UTILITY EASEMENTS ARE 10 FEET WIDE UNLESS OTHERWISE INDICATED.

DEDICATION
We, Cimarron Hunt Communities, LLC, owners of this land, do hereby present this plat and dedicate to the use of the public the street and utility easements as hereon laid down and designated, including easements for overhead of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

CIMARRON HUNT COMMUNITIES, LLC.
By: *Justin Chapman*
Justin Chapman, President

ACKNOWLEDGMENT
STATE OF TEXAS
COUNTY OF EL PASO
This instrument was acknowledged before me on March 5, 2020 by Justin Chapman, President of Cimarron Hunt Communities, LLC.

Given under my hand and seal of office this 5th day of March, 2020.

Nelda Rodriguez
Notary Public, State of Texas
Nelda Rodriguez
NOTARY PUBLIC
My Commission Expires: Texas by commission expires December 16, 2020

CITY PLAN COMMISSION
This subdivision is hereby approved as to the platting and as to the conditions of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 19th day of March, 2020.
Margaret Chairperson
K. Z. Bl Executive Secretary

Approved for filing this 19th day of March, 2020.
Philip Dine
Planning & Inspections Director

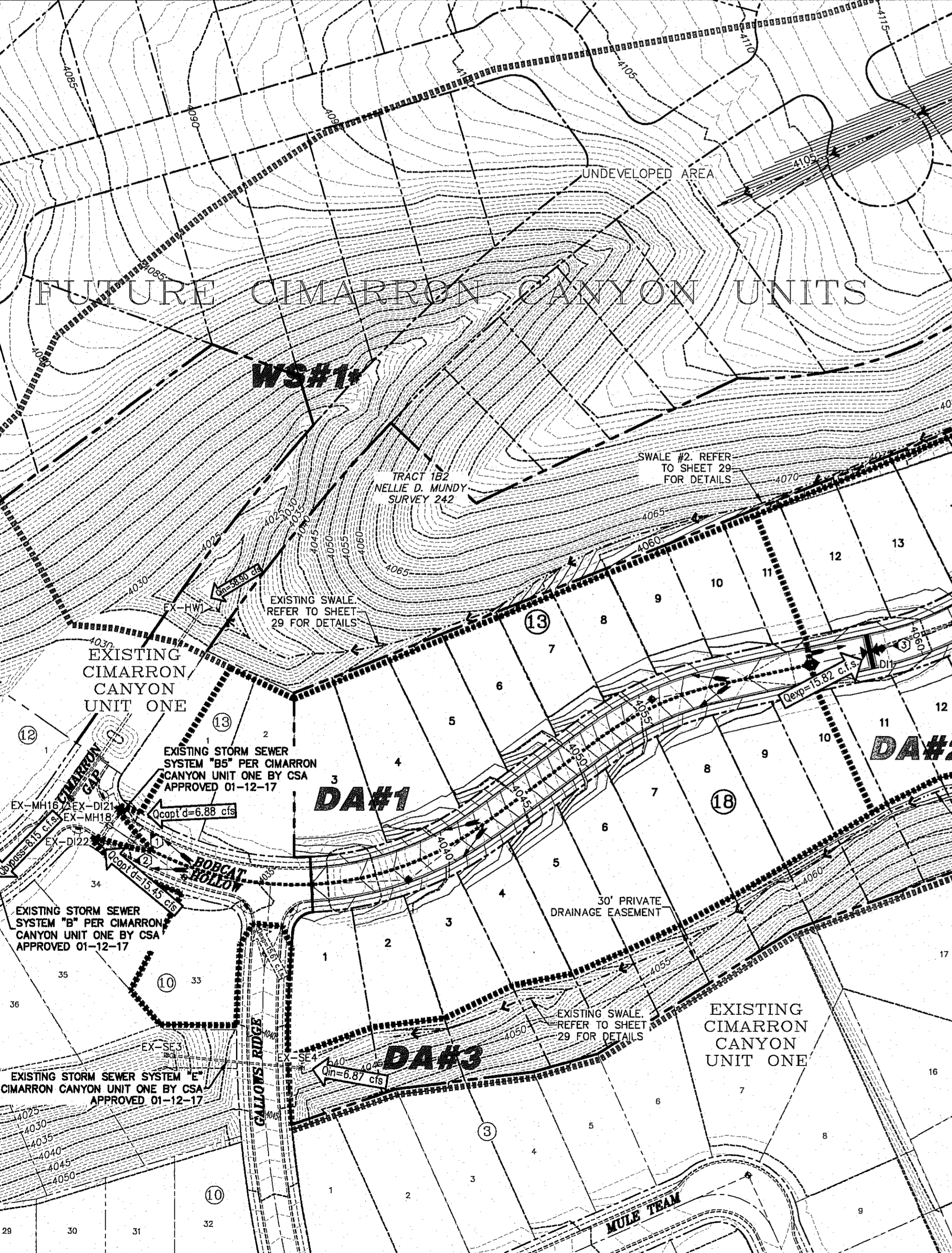
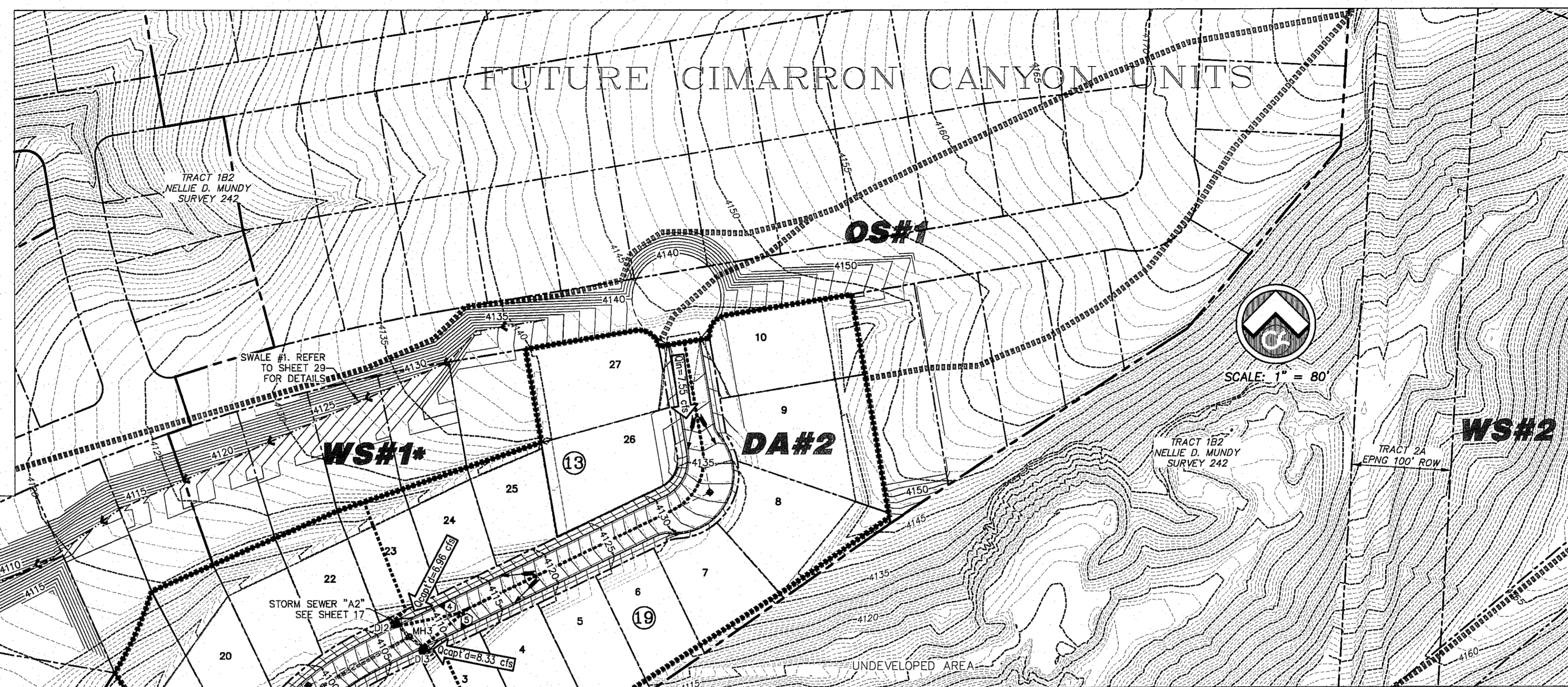
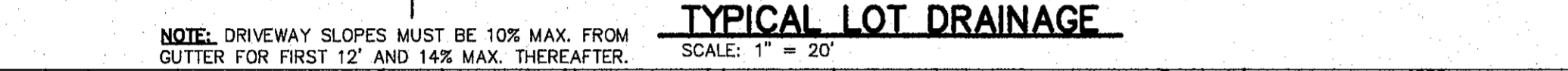
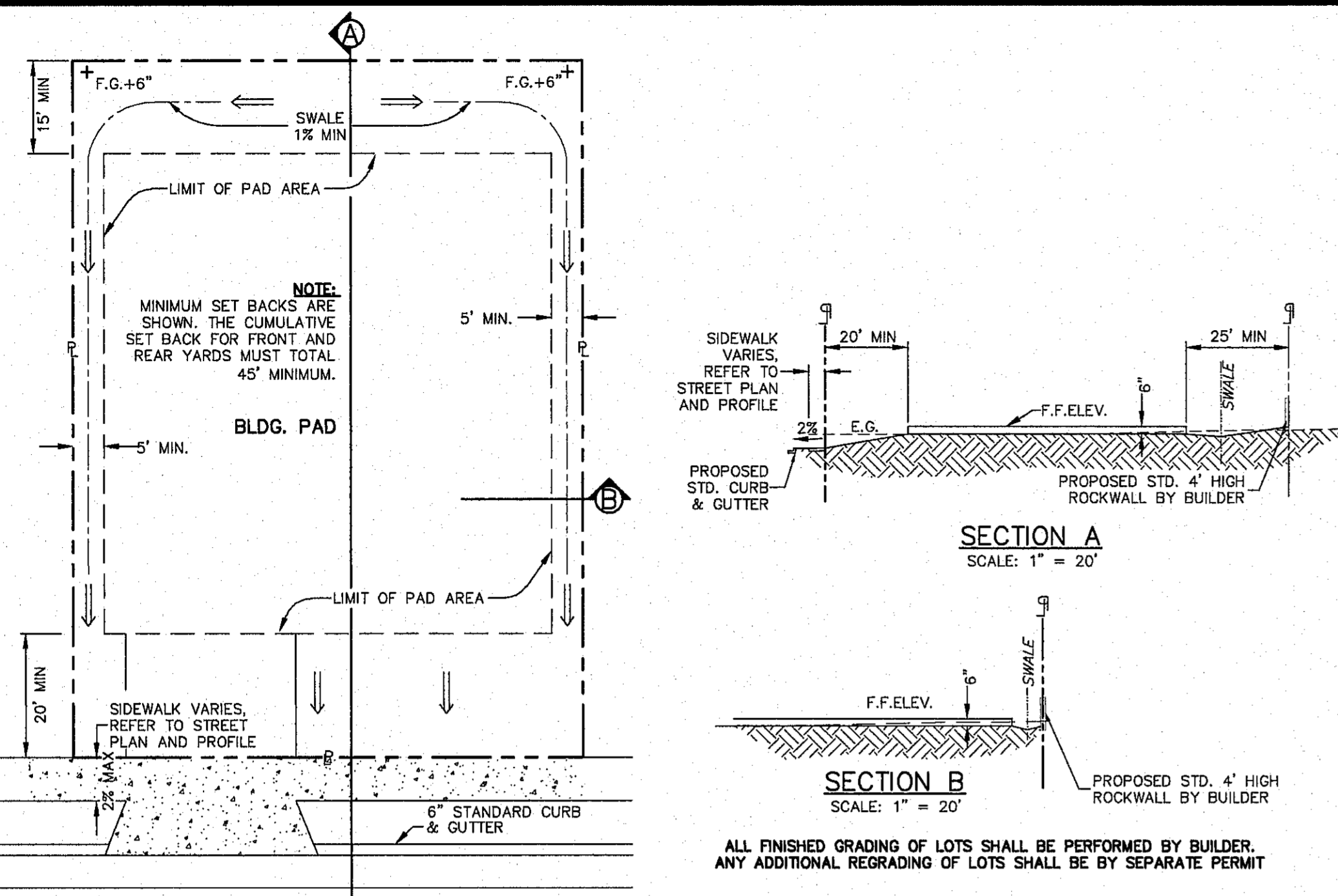
FILING
Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 16th day of June, 2020, in File No. 20200615183 Plat

Records.
Doris Bionich County Clerk
Laura Aquino By Deputy

Subdivision improvement plans prepared by and under the supervision of CSA Design Group, Inc.
Adrian I. Ontiveros
Adrian I. Ontiveros, P.E.
Registered Professional Engineer
Texas License No. 124089
Texas Registered Engineering Firm F-9997
3/14/2020
Adrian I. Ontiveros
124089
PROFESSIONAL ENGINEER

I hereby certify that this plat represents an on-the-ground survey made under my supervision in compliance with current Texas Board of Professional Land Surveying Professional and Technical Standards.

Robert Seipel Associates, Inc.
Professional Land Surveyors
Mark U. Balansay
Mark U. Balansay
Registered Professional Land Surveyor
Texas License No. 6489
Texas Registered Surveying Firm 10060500
STATE OF TEXAS
REGISTERED PROFESSIONAL LAND SURVEYOR
MARK U. BALANSAY
6489
LAND SURVEYOR



INLET CALCULATIONS

DI #1 (TRENCH DRAIN, TYPE II 10 GRATE)
FLOW THROUGH ORIFICE FORMULA
 $Q = CA \cdot 2.95 \sqrt{h}$
 $Q = 7(18.25) \sqrt{2(32.2)(.50)}$
 $Q = 151.93 \text{ cfs } \frac{1}{2} = 101.29 \text{ cfs}$

DI #2 #3 (BEEHIVE INLET, 2 GRATE)
FLOW THROUGH ORIFICE FORMULA
 $Q = CA \cdot 2.95 \sqrt{h}$
 $Q = 7(10.80) \sqrt{2(32.2)(.33)}$
 $Q = 34.85 \text{ cfs } \frac{1}{2} = 23.25 \text{ cfs}$

EXISTING DRAINAGE INLET #21 (BEEHIVE INLET, 2 GRATE)
FLOW THROUGH ORIFICE FORMULA
 $Q = CA \cdot 2.95 \sqrt{h}$
 $Q = 7(16.20) \sqrt{2(32.2)(.33)}$
 $Q = 92.26 \text{ cfs } \frac{1}{2} = 46.13 \text{ cfs}$

EXISTING DRAINAGE INLET #22 (BEEHIVE INLET, 3 GRATE)
FLOW THROUGH ORIFICE FORMULA
 $Q = CA \cdot 2.95 \sqrt{h}$
 $Q = 7(16.20) \sqrt{2(32.2)(.33)}$
 $Q = 92.26 \text{ cfs } \frac{1}{2} = 46.13 \text{ cfs}$

NATURAL POND A CAPACITY BY ELEVATION

BASIN ELEVATION	AREA (ACRES)	CUMM. VOLUME (ACRE FEET)	AVG. CONIC VOLUME (ACRE FEET)	DESCRIPTION
4058.00	1.2878	10.1179	8.8726	POND RIM
4057.00	1.1839	8.8921	8.3726	
4056.51	1.1327	8.3291	8.3198	HIGH WATER
4056.00	0.7927	7.7509	7.7415	
4055.00	0.9824	6.7182	6.7025	
4054.00	0.9027	5.7701	5.7618	
4053.00	0.8133	4.9121	4.9041	
4052.00	0.7260	4.1428	4.1449	
4051.00	0.6500	3.4545	3.4472	
4050.00	0.5749	2.8420	2.8352	
4049.00	0.5058	2.3017	2.2954	
4048.00	0.4384	1.8095	1.8034	
4047.00	0.3723	1.4242	1.4185	
4046.00	0.3087	1.0836	1.0785	
4045.00	0.2542	0.8021	0.7974	
4044.00	0.2036	0.5732	0.5690	
4043.00	0.1568	0.3922	0.3884	
4042.00	0.1137	0.2621	0.2583	
4041.00	0.0851	0.1507	0.1479	
4040.00	0.0578	0.0793	0.0769	
4039.00	0.0343	0.0333	0.0314	
4038.00	0.0124	0.0084	0.0071	
4037.00	0.0014	0.0000	0.0000	POND BOTTOM

NATURAL POND A

ARC = AREA * RATE * COEFFICIENT
 WS#2 = 25.965 * 4.18 * 0.69
 OS#1 = 2.100 * 4.18 * 0.69
 DA#2 = 7.533 * 4.18 * 0.69
 ARC = 99.838

ARC = $Q_{top} \cdot \frac{99.838}{12} = 8.32 \text{ ACF}$

POND IS PRIVATELY MAINTAINED BY HUNT COMMUNITIES

COMPUTATIONS BASED ON RATIONAL FORMULA Q = CA

100 YEAR STORM FREQUENCY CALCULATIONS

DRAINAGE AREA NO.	AREA (ACRES)	TIME OF CONCENTRATION (MINUTES)	RUNOFF COEFFICIENT (C)	INTENSITY (I)	DISCHARGE (Q) (C.F.S.)
DA#1	4.755	10	0.60	5.21	34.86
DA#2	7.533	10	0.69	5.21	23.55
DA#3	1.92	10	0.69	5.21	6.87
OS#1	2.100	10	0.69	5.21	7.55
WS#1	11.900	10	0.95	5.21	58.90
WS#2	25.965	10	0.69	5.21	93.34

STREET CARRYING CAPACITY COMPUTATIONS

(FOR FULLY DEVELOPED CONDITIONS AND INCLUDING THE FUTURE SUBDIVISION UNITS)

SPOT	STREET NAME	STATION	DESIGN AREA (A _G)	ROUGHNESS "C"	AVERAGE LAND USE "C"	VELOCITY (FPS)	L (FT.)	T ₀ (MINUTES)	Q 100 (CFS)	Q 100 (TOTAL) (CFS)	SLOPE (FT/FT)	Q CAP (CFS)	DEPTH (IN)	MOMENTUM (M FT/FT)		
1	BOBCAT HOLLOW	0+91.00	2.277	0.016	0.60	4.94	674.48	10.0	5.21	7.12	NONE	7.12	0.0500	54.00	0.24	0.099
2	BOBCAT HOLLOW	0+91.00	2.478	0.016	0.60	6.95	674.48	10.0	5.21	7.75	15.61 CFS FROM EX-CIM CYN UNIT ONE	23.86	0.0500	54.00	0.37	0.214
3	BOBCAT HOLLOW	0+21.94	4.276	0.016	0.60	3.30	640.73	10.0	5.21	13.37	2.45 CFS FROM SPOTS 4 & 5	15.82	0.0200	129.00	0.15	0.041
4	BOBCAT HOLLOW	15+84.32	1.225	0.016	0.60	5.75	423.60	10.0	5.21	3.83	1/2 OF OS #1	7.61	0.0800	66.31	0.23	0.110
5	BOBCAT HOLLOW	15+98.38	2.033	0.016	0.60	6.48	411.55	10.0	5.21	6.38	1/2 OF OS #1	10.13	0.0800	66.31	0.25	0.135

DRAINAGE INLET DATA

DRAINAGE INLET #	TYPE	NO. OF GRATES	PAVEMENT DESIGN	REQUIRED FLOW CAPACITY Q OF WATERSHED (CFS)	INLET BYPASS FLOW FROM BYPASS FROM DI #2 & #3	REQUIRED FLOW CAPACITY Q TOTAL W/BYPASS (CFS)	INLET FLOW CAPTURE (CFS)	FLOW BYPASS (CFS)	INLET BYPASS FLOW TO	DEPTH OF FLOW AT INLET (IN.)	APPROACH VELOCITY (FPS)	FLOW SPREAD AT INLET (FT.)	ROADWAY WIDTH AT INLET (FT.)
DI #1	II	10	SAG	13.37	15.82	15.82	15.82	NONE	NONE	5.11	N/A	17.40	32.00
DI #2	BEEHIVE	2	ON GRADE	3.83	1/2 OF OS #1	7.61	6.96	0.65	DI #1	5.05	8.34	8.51	16.00
DI #3	BEEHIVE	2	ON GRADE	6.36	1/2 OF OS #1	10.13	8.33	1.80	DI #1	5.39	8.60	9.95	16.00
EX-DI #21	BEEHIVE	2	ON GRADE	7.12	NONE	7.12	6.88	0.24	EX-DI #20	5.25	6.71	9.35	16.00
EX-DI #22	BEEHIVE	3	ON GRADE	7.75	EX-CIM CYN U1	23.36	15.45	7.91	EX-DI #20	6.93	8.18	16.34	16.00

LEGEND

DA#1 DIRECTION OF FLOW
 DRAINAGE AREA
 DRAINAGE AREA BOUNDARY
 SUB-AREA BOUNDARY
 FLOOD ZONE BOUNDARY
 4010 BASE FLOOD ELEVATION (NAVD 88 SHOWN)
 EXISTING STORM PIPE
 PROPOSED STORM PIPE

PROPOSED HIGH POINT
 PROPOSED CONTOUR
 EXISTING CONTOUR
 POINT OF RUN OFF CONCENTRATION
 50' PAVEMENT TRANSITION

FOR INFORMATION REGARDING SOILS, REFER TO THE PRELIMINARY SOILS EVALUATION REPORT FOR CIMARRON CANYON UNIT ONE SUBDIVISION (PROJECT No. SP01178 DATED OCT. 3, 2011; AND THE STREET PAVEMENT DESIGN (PROJECT No. SP011043 DATED APR. 4, 2011) PREPARED BY SPEESOL, INC.

NOTE: THIS AREA LIES WITHIN FLOOD HAZARD ZONE C, AS DESIGNATED BY THE FLOOD INSURANCE RATE MAP (F.I.R.M.), CITY OF EL PASO PANEL NUMBER 480214 0016 C DATED FEBRUARY 05, 1986, AND AMENDED PER A LETTER OF MAP REVISION, EFFECTIVE DATE AUGUST 04, 2011; AND LIES WITHIN FLOOD HAZARD ZONE C AS DESIGNATED BY THE F.I.R.M., CITY OF EL PASO PANEL NUMBER 480214 0017 C DATED FEBRUARY 05, 1986.

WARNING! BEFORE YOU DIG CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submit	AHO
2	11/07/19	Second City Submit	AHO
1	09/23/19	First City Submit	AHO

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 643-5720
 AT&T C&S SERVICE 1-800-DIG-LESS
 TGS EMERGENCY HOTLINE 562-8411/652-2003
 PUBLIC SERVICE BOARD (WATER & SEWER) 1-800-DIG-LESS
 SPECTRUM EMERGENCY (EPW) 975-5415
 TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377
 KINDER-MORGAN EPWC PIPELINES 1-800-238-2764
 EL PASO METRO STREETS AND MAINTENANCE 1-800-238-2764

ADRIAN I. ONTIVEROS
 124089
 LICENSED PROFESSIONAL ENGINEER

Final Approval

csa design group, inc.
 1845 Northwestern Dr., Ste C
 El Paso, Texas 79912
 Tel: (915) 877.4355
 Fax: (915) 877.4334
 www.csaengineers.com

CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE

DRAINAGE PLAN

6 of 46

18.44.220 - PERMIT CLOSEOUT PROCEDURE

AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED. AS A PART OF THE CLOSEOUT PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:

- A STATEMENT FROM THE ENGINEER OF RECORD STATING THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS." THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS BEEN IMPLEMENTED.
- A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE, IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15.

18.44.090 - WARRANTY

ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER.

18.44.200 - ENGINEERING CONTROLS FOR GRADING

- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALES SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION OF IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
- WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPIDE OR INTERFERE WITH THE FLOW OF STORMWATER IN NATURAL DRAINAGE WAYS, UNIMPROVED CHANNELS OR WATERCOURSES OR IMPROVED DITCHES, CHANNELS OR CANALS IN SUCH A MANNER AS TO CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
- CONSTRUCTION EQUIPMENT AND FENCING SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO PERFORM WORK ON THE APPROVED PLANS. ADEQUATE BY-PASS MEASURES SHALL BE INSTALLED WHERE TEMPORARY DRAINAGE BLOCKAGES WILL OCCUR. WHERE WORK WITHIN A CHANNEL IS DESIGNATED ON APPROVED PLANS, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING BED AND BANKS, SHALL ALWAYS BE RESTORED/REESTABLISHED IMMEDIATELY AFTER WORK IN THE CHANNEL IS COMPLETED.
- WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
- MATERIAL STOCKPILING SHALL NOT BE ALLOWED WHEN GRADING OPERATIONS ARE IDLE FOR MORE THAN SEVEN CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
- A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF THE GRADING OPERATION WILL IMPACT TRAFFIC.
- ANY USE OF VIBRATORY EQUIPMENT SHALL NOT BE ALLOWED, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE.
- THE PERMIT OFFICIAL MUST BE NOTIFIED NO LATER THAN 4:00PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

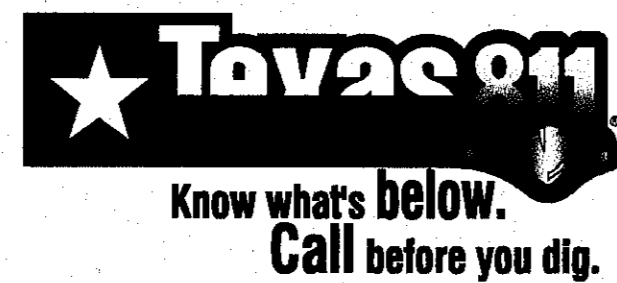
PENALTY - SEVERABILITY

- OVERSLOPPING ON NATURAL SLOPES CAUSED BY GRADING OPERATIONS SHALL NOT BE ALLOWED.
- DEVELOPER SHALL STABILIZE SLOPES, IF DISTURBED, TO MINIMIZE EROSION.
- ALL SLOPES SHALL BE 3' HORIZONTAL TO 1' VERTICAL MAXIMUM UNLESS NOTED OTHERWISE.
- NO CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL BE ALLOWED.
- REFER TO DRAINAGE PLAN, SHEET 6 FOR LOT DESIGN.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL OFF SITE IMPROVEMENTS.

ANY PERSON VIOLATING CHAPTER 18 (GRADING ORDINANCE) SHALL BE DEEMED GUILTY OF A MISDEMEANOR AND SHALL BE PUNISHED BY A FINE NOT TO EXCEED TWO THOUSAND DOLLARS IN THE CASE OF A CONTINUING VIOLATION. EACH DAY'S VIOLATION SHALL BE DEEMED A SEPARATE OFFENSE (PER SECTION 18.44.210) THE SEVERABILITY PROVISIONS OF SECTION 1.04.060 APPLY.

FOR INFORMATION REGARDING SOILS, REFER TO THE PRELIMINARY SOILS EVALUATION REPORT FOR CIMARRON CANYON UNIT ONE SUBDIVISION (PROJECT No. SPG11178 DATED OCT 10, 2011); AND THE STREET PAVEMENT DESIGN (PROJECT No. SPG11043 DATED APR 4, 2011) PREPARED BY SPEEDSOIL, INC.

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL EXISTING
UNDERGROUND IMPROVEMENTS
IN PROJECT AREA



GENERAL NOTES:

- LOCATIONS OF ALL UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL UTILITY COMPANIES FOR THE EXACT LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES INCLUDING UTILITIES NOT SHOWN ON PLANS. THE CONTRACTOR SHALL PROTECT ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES AND ANY UTILITIES NOT SHOWN ON THIS PLAN DURING CONSTRUCTION. THE CONTRACTOR WILL PERFORM ALL UTILITY INSTALLATION, REMOVAL AND RELOCATION'S AS PER LOCAL UTILITY CONSTRUCTION SPECIFICATIONS. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS ON SITE AND SHALL CONTACT THE DESIGN ENGINEER AND REPORT ANY DISCREPANCIES, OMISSIONS AND/OR ERRORS ON PLANS PRIOR TO COMMENCING WORK.
- ALL CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH THE CITY OF EL PASO STANDARD SPECIFICATIONS AND DETAILS.
- CONTRACTOR SHALL PERFORM ALL EARTHWORK REQUIREMENTS AS PER GEOTECHNICAL STUDY REPORT.
- GRADING SHALL BE PERFORMED WITHOUT MAJOR ALTERATION OF WATERSHEDS AND DRAINAGE PATTERNS UNLESS APPROPRIATE AND ADEQUATE MEANS OF WATER RETAINAGE OR CONTROL ARE UTILIZED AND SHOWN OF THE GRADING PLAN.
- THE CITY ENGINEER MUST BE NOTIFIED NO LATER THAN 4:00 PM ONE DAY PRIOR TO ANY GRADING WORK. BACKFILL DENSITIES, INSPECTIONS AND/OR CONSTRUCTION OPERATIONS SUCH AS PLACEMENT OF CURB AND GUTTER, PAVEMENT, AND STORM SEWER STRUCTURES. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.
- A BORROW OR WASTE PERMIT SHALL BE REQUIRED FOR ANY SITE THAT HAS AN UNBALANCED EARTHWORK OF GREATER THAN TEN PERCENT (10%). AN APPROVED HAUL ROUTE SHALL BE REQUIRED FOR MATERIALS ENTERING OR LEAVING THE SITE UTILIZING CITY RIGHTS-OF-WAY FOR TRANSPORT. A WASTE/BORROW PERMIT SHALL NOT BE REQUIRED FOR TRANSPORT OF MATERIALS TO AN ADJACENT SITE OWNED OR UNDER DEVELOPMENT BY THE SAME PROPERTY OWNER.
- A COPY OF ALL CURRENT PERMITS REQUIRED FOR CONSTRUCTION SHALL BE MAINTAINED ON-SITE. THESE PERMITS MUST BE DISPLAYED IN A COMMON AND INCONSPICUOUS LOCATION ON-SITE.
- NO GRADING OF ANY KIND WILL BE CONDUCTED ON LEGAL HOLIDAYS OR WEEKENDS (7:00 PM FRIDAY THROUGH 7:00 AM ON THE FOLLOWING MONDAY) UNLESS THE DEVELOPER OR HIS AUTHORIZED AGENT HAS NOTIFIED THE CITY'S ENGINEERING DEPARTMENT BY NOON THE DAY BEFORE THE HOLIDAY, OR BY NOON ON FRIDAY. GRADING SHALL NOT BE PERMITTED WITHIN THREE HUNDRED (300) FEET OF A RESIDENTIALLY ZONED AREA BEFORE 7:00 AM OR AFTER 7:00 PM ON WEEKENDS OR HOLIDAYS.
- INSTALLATION OF A TRENCH SAFETY SYSTEM IS REQUIRED FOR ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AND MUST CONFORM TO THE CITY OF EL PASO DESIGN STANDARDS AS WELL AS OSHA REQUIREMENTS.
- ALL ORGANIC MATERIAL SHALL BE CLEARED AND GRUBBED TO A DEPTH OF A MINIMUM OF SIX (6) INCHES AND RESERVED FOR GRADING STABILIZATION PLAN. REFER TO SHEETS 25-27 FOR DETAILS.
- SLOPES WHICH ARE TO RECEIVE FILL MUST BE CLEARED OF ALL VEGETATION. OVERSPILL ON NATURAL SLOPES CAUSED BY GRADING OPERATIONS SHALL NOT BE ALLOWED.
- POSITIVE DRAINAGE SHALL BE PROVIDED BY CONTRACTOR DURING ALL PHASES OF CONSTRUCTION AND GRADING. ALL LOTS SHOULD DRAIN TOWARD STREET UNLESS OTHERWISE INDICATED ON THE GRADING PLAN.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF ALL PERMITTING NECESSARY FOR EARTHWORK OPERATIONS AND STORM WATER POLLUTION CONTROL.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL BOUNDARY PERIMETER WALLS AS WELL AS ROCK WALLS RETAINING FOUR (4) FEET OR MORE. ALL OTHER WALLS SHALL BE INSTALLED BY THE BUILDER. NOTE TO BUILDERS: RETAINING WALLS MUST BE PROVIDED WHENEVER THE GRADE DIFFERENTIAL BETWEEN LOT GRADES IS GREATER THAN TWO (2) FEET. WALLS MUST BE DESIGNED AND CERTIFIED BY A CIVIL ENGINEER (FOR APPROVAL) WHEN APPLYING FOR A BUILDING PERMIT.

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMP, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTAL TO 1 FOOT VERTICAL) MUST BE STABILIZED PER ORDINANCE. REFER TO GRADING STABILIZATION PLAN, SHEETS 25-27 FOR DETAILS.

ADDITIONAL GRADING OF LOTS BY BUILDER SHALL BE BY SEPARATE PERMIT.

ALL BOUNDARY PERIMETER WALLS AND RETAINING WALLS GREATER THAN 4' SHALL BE INSTALLED BY THE DEVELOPER.

REFER TO SHEETS 8-9 FOR CROSS SECTION KEY
REFER TO GRADING STABILIZATION PLAN FOR RIP-RAP AND OTHER EROSION CONTROL DETAILS



NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/02/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
BEFORE YOU DIG
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EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-368-5720

AT&T
1-800-368-5720

TEXAS GAS SERVICE LINE
644-6300

PUBLIC SERVICE BOARD (WATER & SEWER)
562-8411

AFTER HOURS EMERGENCY (EPA)
1-800-368-5720

TEXAS EXCAVATION SAFETY SYSTEM
994-5775

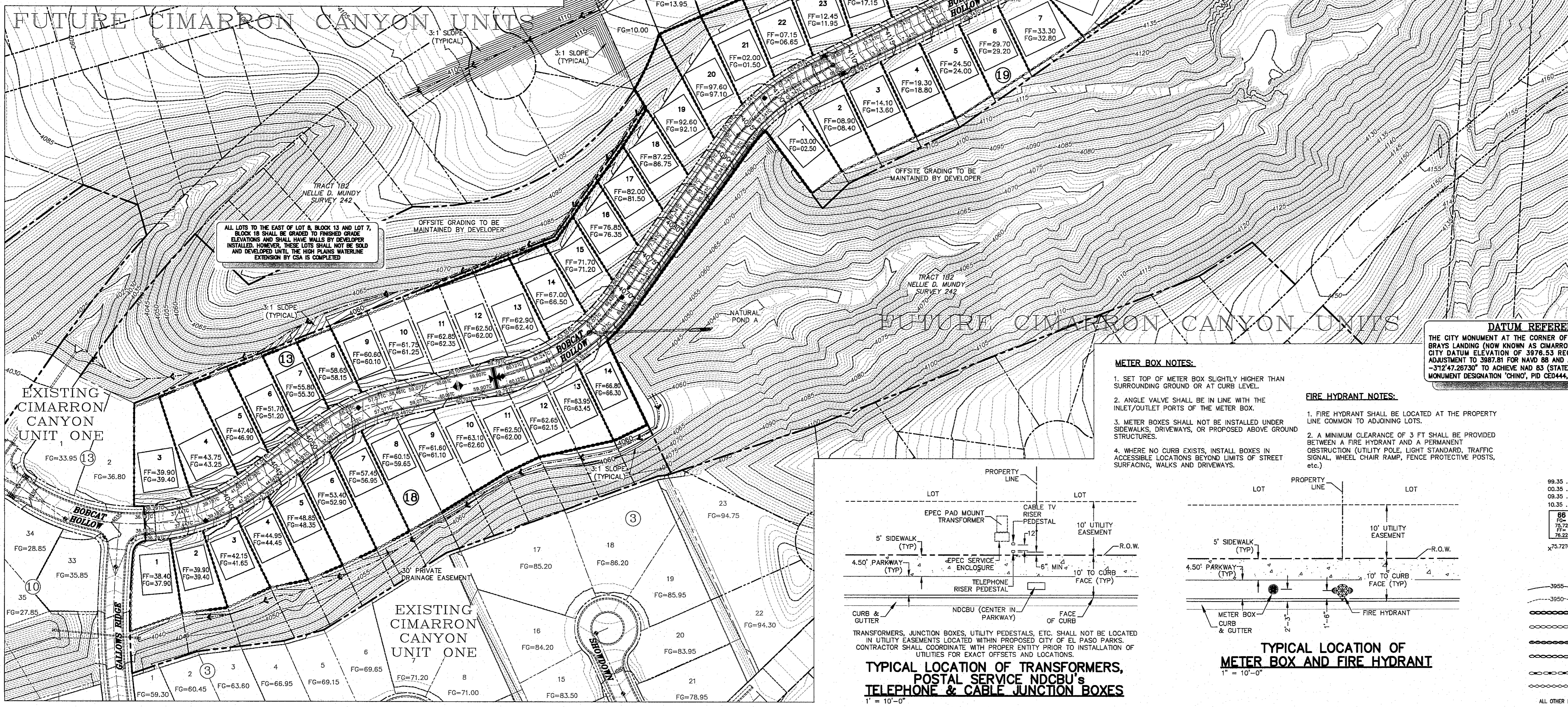
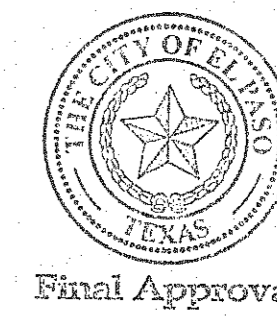
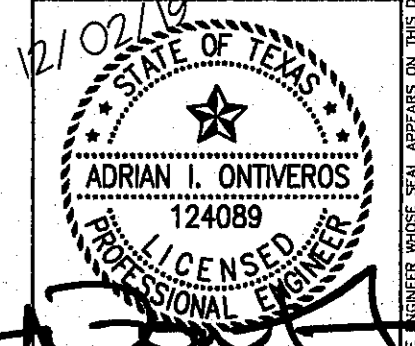
KINDER-MORGAN EPAC PIPELINES
1-800-244-6374

EL PASO STREETS AND MAINTENANCE
1-800-238-3764

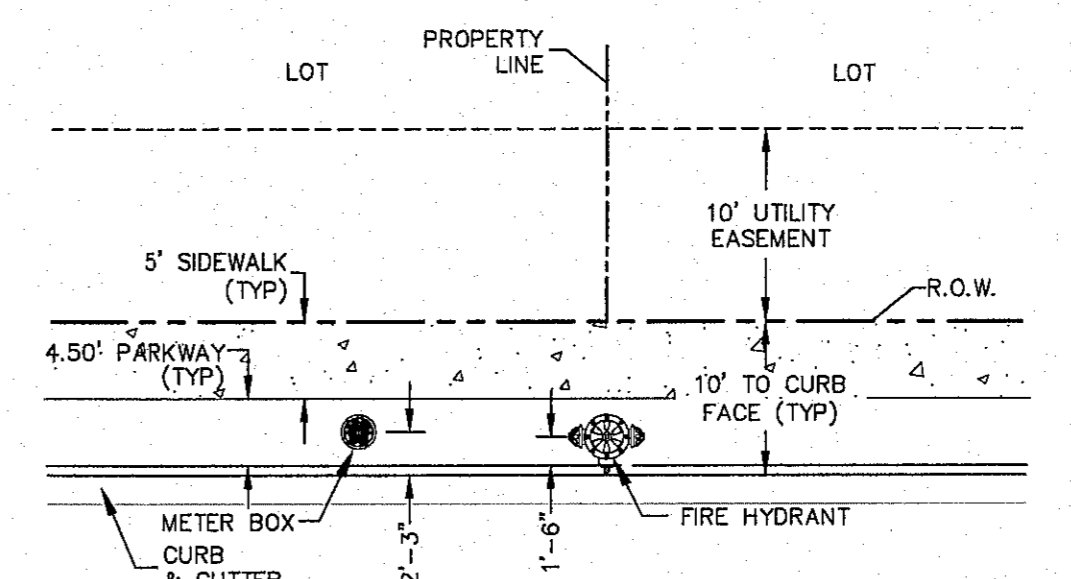
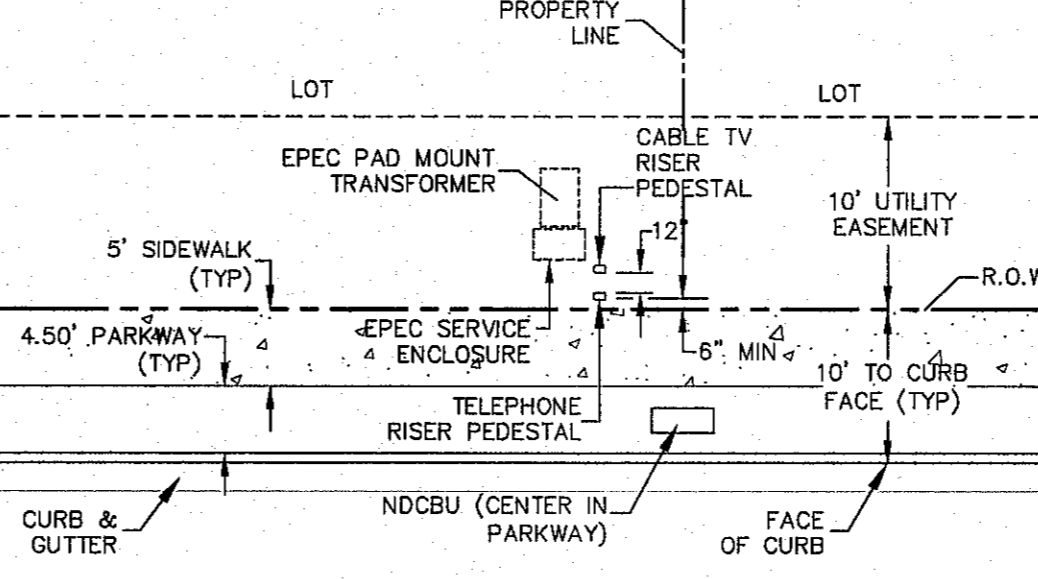
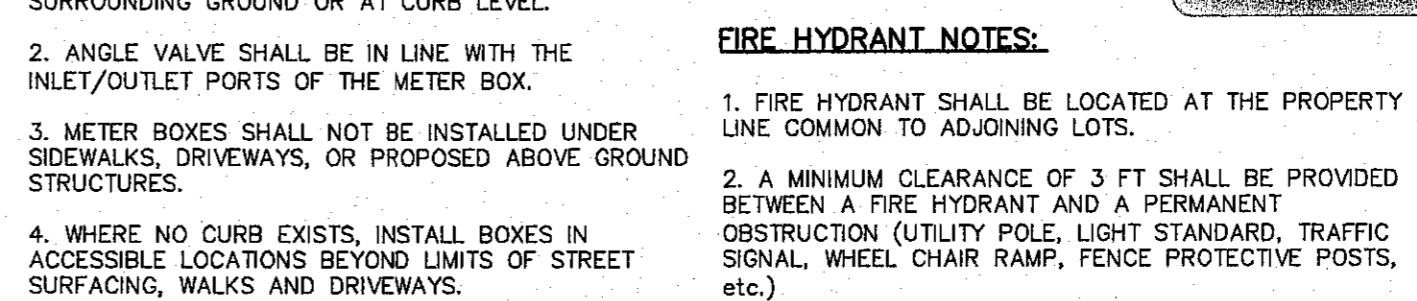
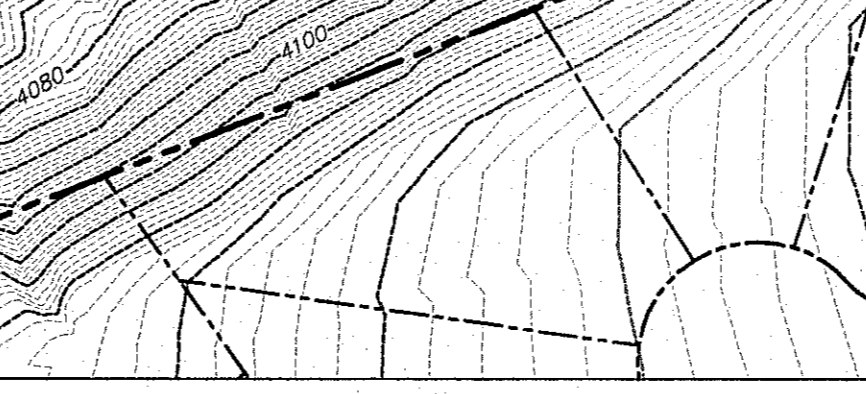
EL PASO STREETS, SIGNALS AND MAINTENANCE
1-800-212-0151

respons@elpasostreets.com

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ALL LOTS TO THE EAST OF LOT 4, BLOCK 13 AND LOT 7, BLOCK 18 SHALL BE GRADED TO FINISHED GRADE ELEVATIONS AND SHALL HAVE WALLS BY DEVELOPER INSTALLED. HOWEVER, THESE LOTS SHALL NOT BE SOLD AND DEVELOPED UNTIL THE HIGH PLAINS WATERLINE EXTENSION BY CSA IS COMPLETED.



LEGEND

99.35	3999.35
00.35	4000.35
09.35	4009.35
10.35	4010.35
86	PROPOSED BUILDING PAD W/ FINISHED GRADE AND FINISHED FLOOR ELEVATION
75.72C	PROPOSED TOP OF CURB
75.72	PROPOSED HIGH POINT
76.22	PROPOSED LOW POINT
3955	PROPOSED CONTOUR
3950	EXISTING CONTOUR
ROCK RETAINING WALL WITH GARDEN WALL EXTENSION BY DEVELOPER, HEIGHTS AS NOTED	
GARDEN OR STEEP WALL BY DEVELOPER, HEIGHTS AS NOTED	
ROCK RETAINING WALL SLOTTED ONLY BY DEVELOPER, GARDEN WALL EXTENSION BY BUILDER	
ROCK RETAINING WALL WITH 4' GARDEN WALL EXTENSION BY BUILDER	
ROCK WALL WITH VEE FENCE, RETAINING AS REQUIRED, BY DEVELOPER, HEIGHTS AS NOTED	
EXISTING ROCK WALL, RETAINING AS REQUIRED, PER CIMARRON CANYON UNIT ONE	
ALL OTHER ROCK WALLS BY BUILDER UNLESS NOTED OTHERWISE	

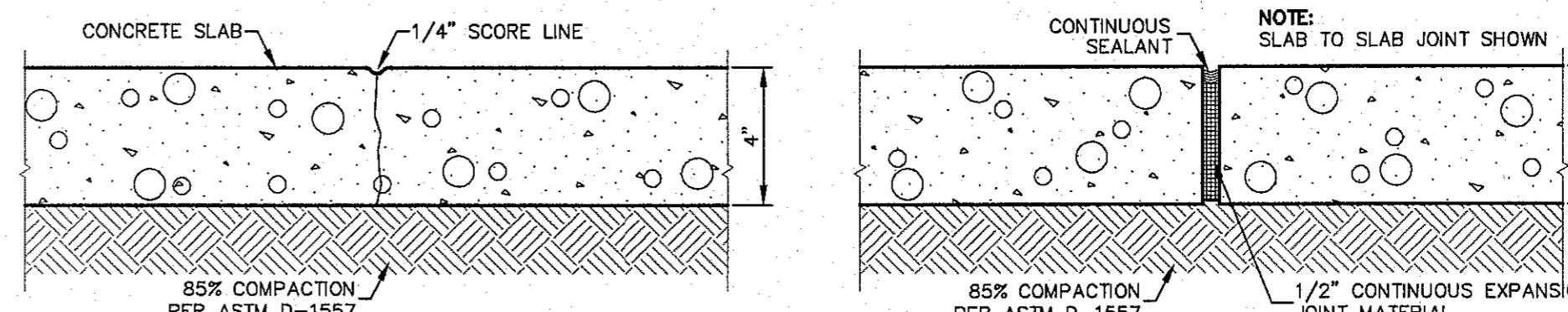
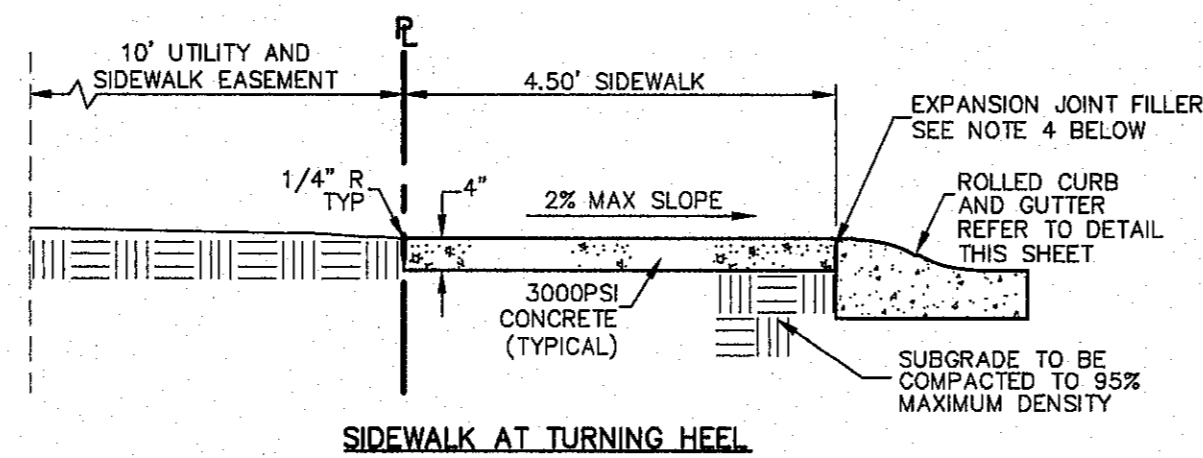
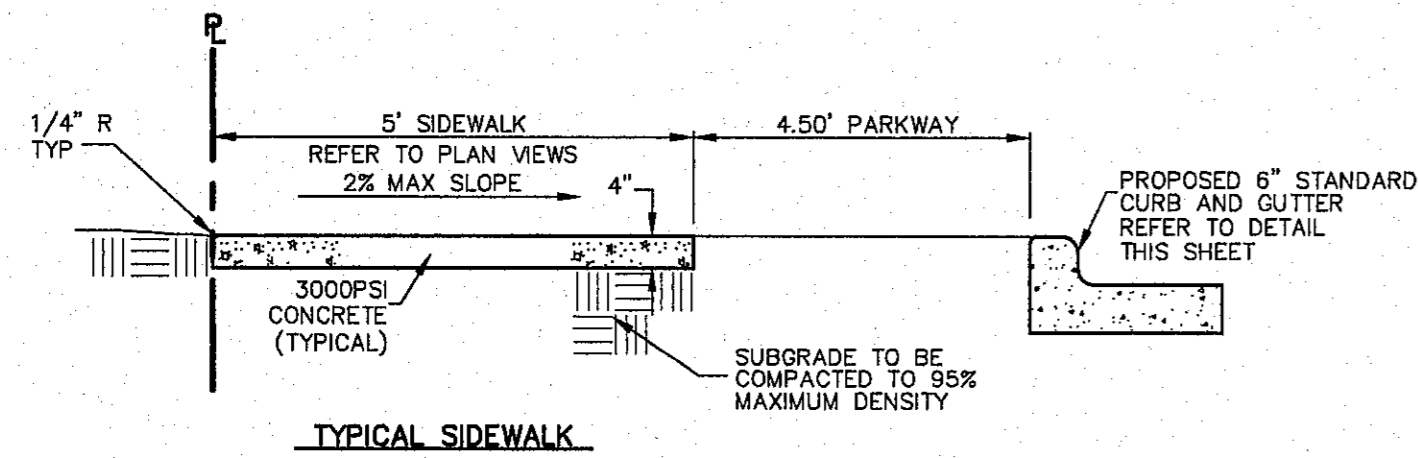
csa design group, inc.
Texas Registered Engineering Firm F-9897
1845 Northwestern Dr. Site C
El Paso, Texas 79912
Tel (915) 877.4165
Tel (915) 877.4334
Fax (915) 877.4334
www.csaengineers.com



CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE	
GRADING PLAN	
COB	1724
COB-SM	08/08/18
DATE BY	DATE
AHO	AS NOTED
CREATED BY	SCALE
SHEET NO. 7	
OF 7	
7 OF 46	

© CSA DESIGN GROUP, INC. - Dec 02, 2018 - 10:27am
C:\Users\1724\Documents\El Paso\1724 Sub Submittal\Current\1724 Sub 7 (Grading).dwg



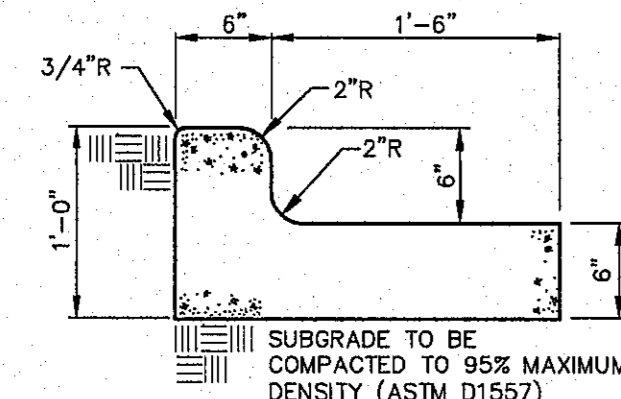
TYPICAL SIDEWALK JOINTS
NOT TO SCALE

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.

- NOTES:**
1. PROVIDE TRANSVERSE CONTRACTION JOINTS AT INTERVALS NOT EXCEEDING 5'-0" O.C.
 2. PROVIDE EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 20'-0" O.C. AND ALONG FEATURES THAT PROJECT THROUGH OR ADJACENT TO SIDEWALK
 3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS
 4. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER, AASHTO M-33.
 5. WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINT FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
 6. ALL SIDEWALKS FRONTING LOTS, AND ALL SIDEWALKS ADJACENT TO THE SIDES OF LOTS SHALL BE INSTALLED BY THE BUILDER OF THAT LOT UNLESS SPECIFIED OTHERWISE IN THE PLANS.

SIDEWALK DETAILS

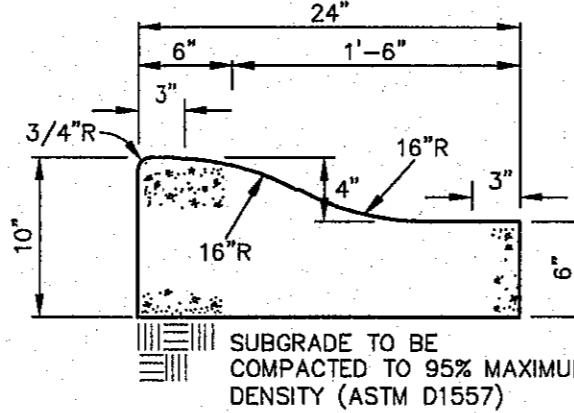
SCALE: 1"=2'



- NOTES:**
1. CONCRETE FOR CURBS, GUTTERS, & RETURNS SHALL BE 3000 P.S.I. MINIMUM.
 2. DUMMY JOINT REQUIRED AT 10' O.C.
 3. EXPANSION JOINTS REQUIRED AT CURB RETURNS. JOINTS TO BE PACKED WITH 1/2" PRE MOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

STANDARD 6" CURB & GUTTER DETAIL

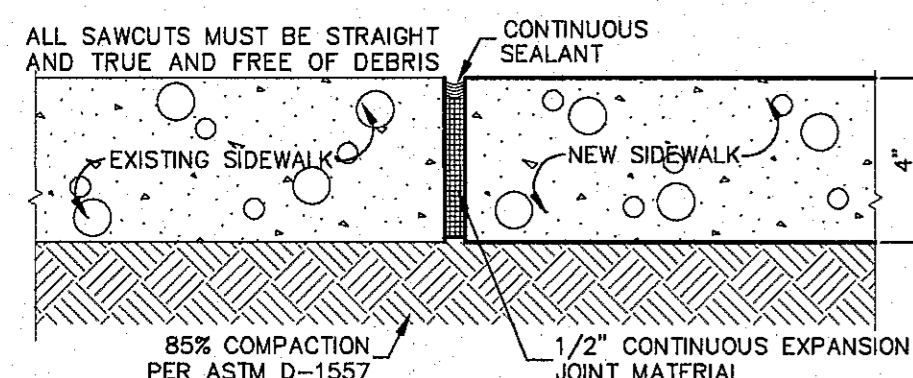
SCALE: 1" = 1'-0"



- NOTES:**
1. CONCRETE FOR CURBS, GUTTERS, & RETURNS SHALL BE 3000 P.S.I. MINIMUM.
 2. DUMMY JOINT REQUIRED AT 10' O.C.
 3. EXPANSION JOINTS REQUIRED AT CURB RETURNS. JOINTS TO BE PACKED WITH 1/2" PRE MOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

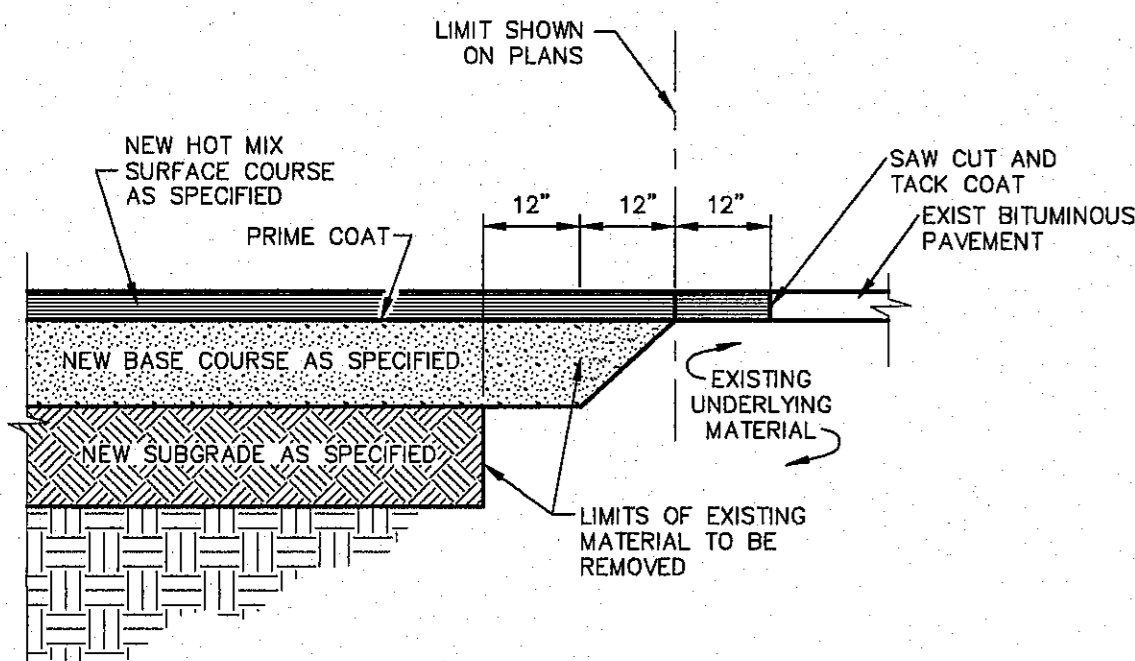
4" ROLLED CURB @ TURNING HEEL

SCALE: 1" = 1'-0"



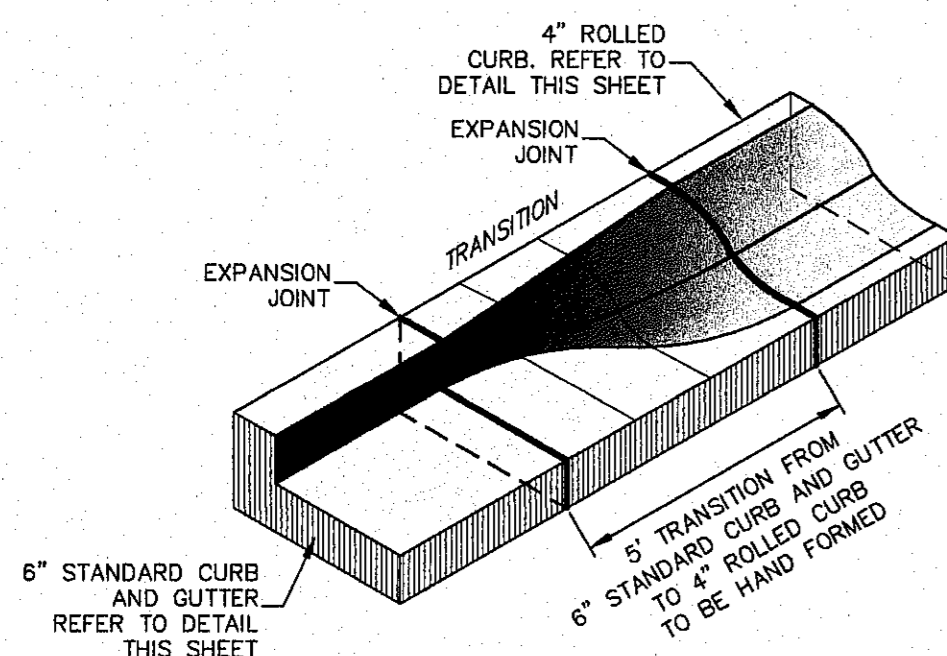
JUNCTURE OF EXISTING SIDEWALK AND NEW SIDEWALK

NOT TO SCALE



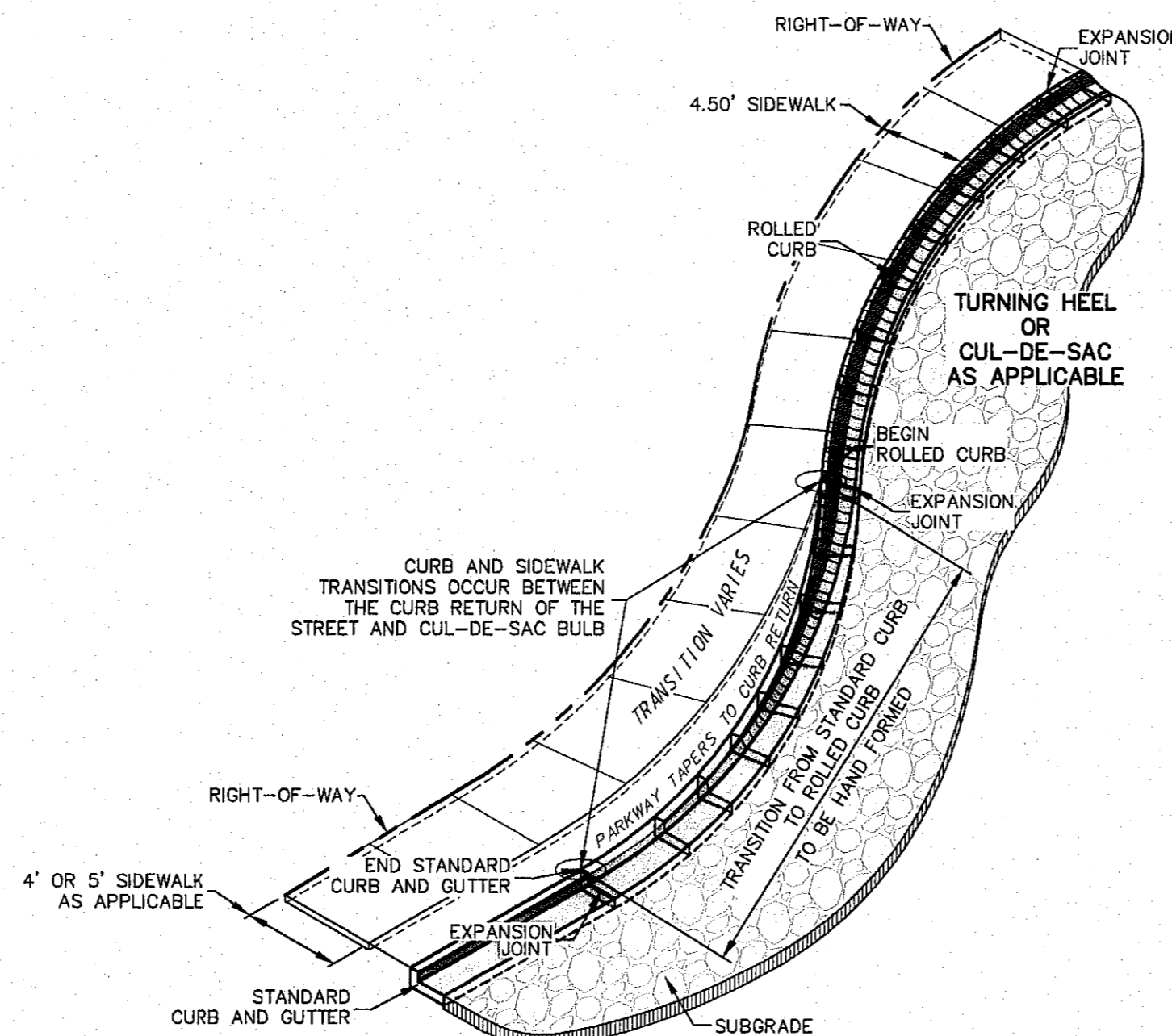
JUNCTURE OF NEW FLEXIBLE AND EXISTING FLEXIBLE PAVEMENT

SCALE: 1"=2'-0"



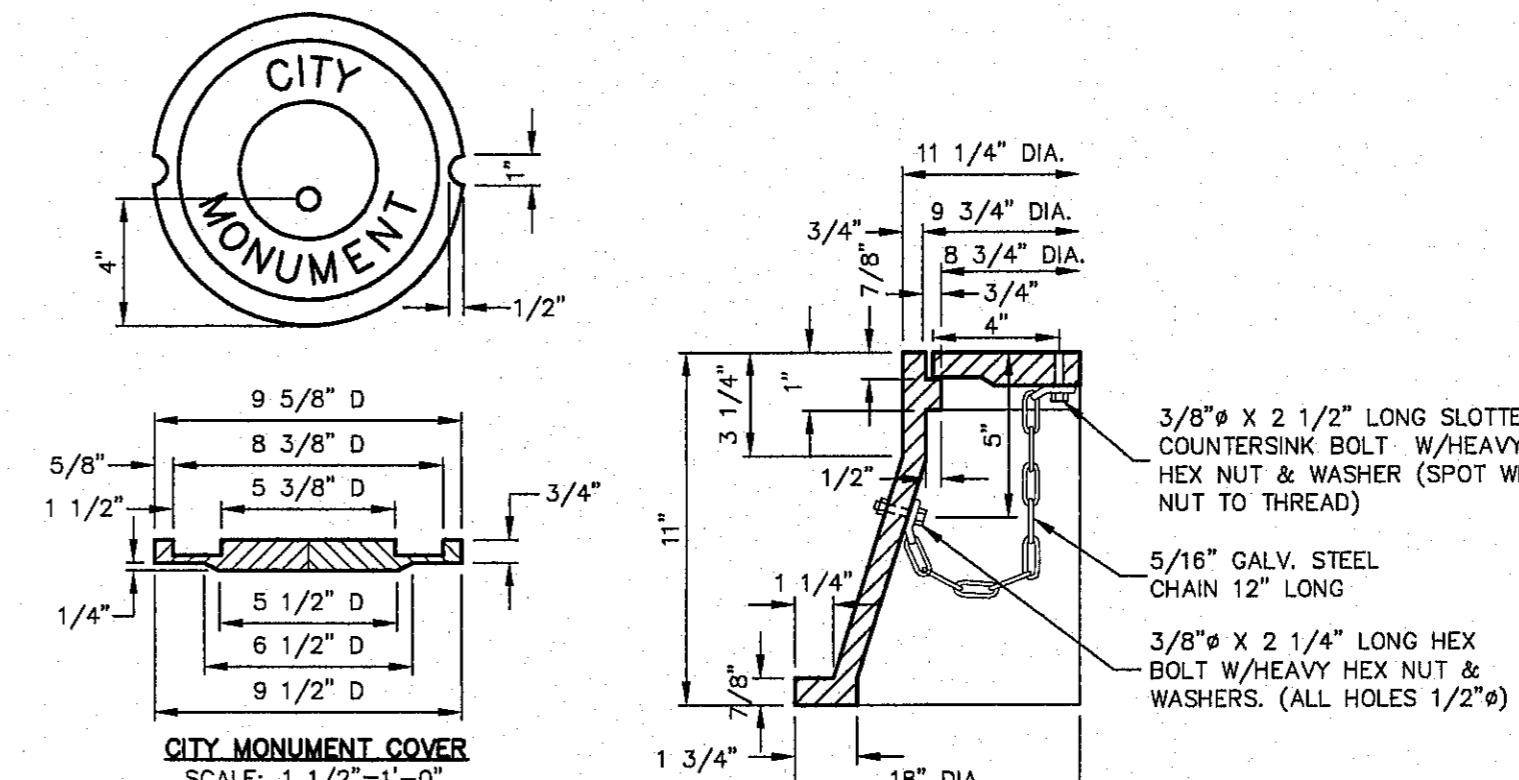
TRANSITION FROM 6" STANDARD CURB & GUTTER TO 4" ROLLED CURB

SCALE: 1/2" = 1'-0"

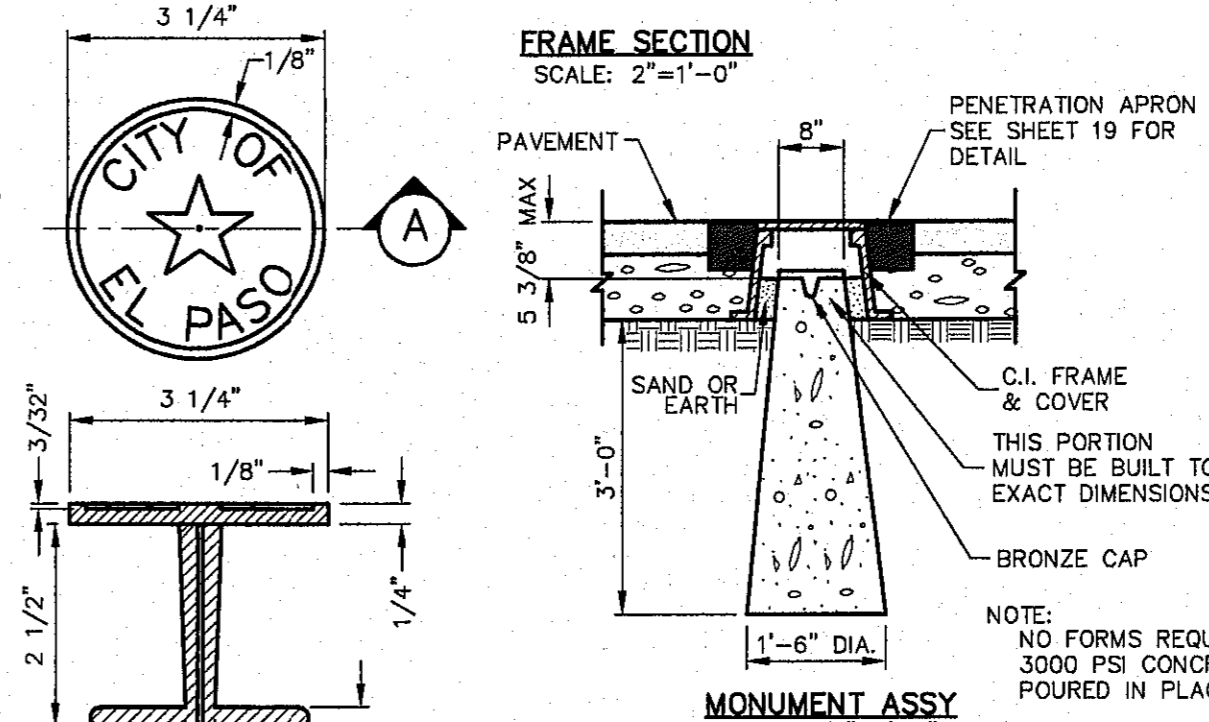


TRANSITION FROM STANDARD CURB & GUTTER TO ROLLED CURB

N.T.S.



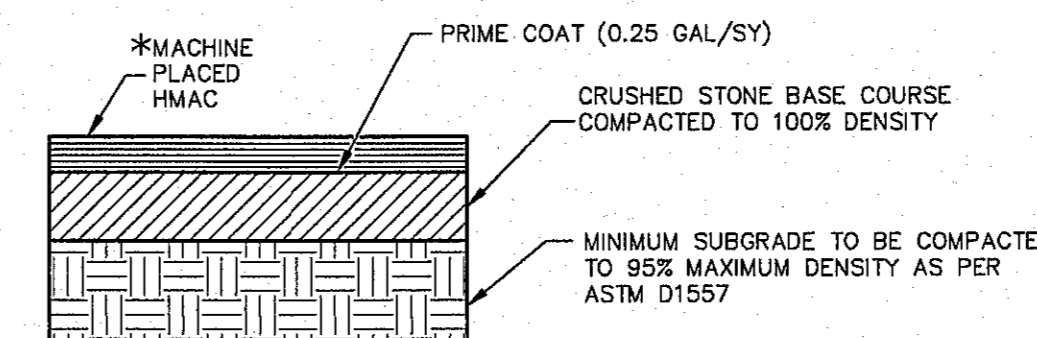
CITY MONUMENT COVER
SCALE: 1 1/2"=1'-0"



CITY MONUMENT DETAIL

AS NOTED

BRONZE MONUMENT CAP
SCALE: 1"=5'-0"



GENERAL H.M.A.C. PAVING NOTES:

1. FOR RECOMMENDATIONS REFER TO THE STANDARD PAVEMENT DESIGN BY SPEEDSOL INC. PROJECT NO. SPG11043, DATED 04 APRIL 2011
2. BASE COURSE SHALL MEET THE REQUIREMENTS FOR TYPE "A", GRADE 1 OR 2 MATERIAL ACCORDING TO ITEM 247, FLEXIBLE BASE, AS DESCRIBED IN THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES. ALL THE REQUIREMENTS OF THIS DOCUMENT SHALL BE MET, EXCEPT WHERE DENSITY IS SPECIFIED. THE DENSITY SHALL BE NOT LESS THAN 100% OF ASTM D1557.
3. THE SURFACE COURSE SHALL MEET THE REQUIREMENTS FOR (HMAC), TXDOT TYPE "C" AS SPECIFIED IN ITEM 340 H.M.A.C. (HOT MIX ASPHALTIC CONCRETE PAVEMENT), AS DESCRIBED IN THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES. STABILITY SHALL BE NOT LESS THAN 1500 POUNDS, WHEN COMPACTED AT 75 BLOWS, FURTHERMORE, THE MIX SHALL HAVE A FLOW BETWEEN 0.08" AND 0.16", ACCORDING TO THE MARSHALL STABILITY ANALYSIS.
4. SUBGRADE TO BE COMPACTED IN 8" LIFTS TO 95% MAXIMUM DENSITY AS PER ASTM D1557.
5. FINAL PAVEMENT DESIGN TO BE DETERMINED BASED UPON FINAL CBR TEST RESULTS (REFER TO APPLICABLE SUBDIVISION ORDINANCE-PAVEMENT THICKNESS DESIGN PROCEDURE).
6. *IF THE THICKNESS FOR "CBR" VALUES ARE HIGHER THAN MINIMUM PAVEMENT THICKNESS SPECIFIED PER ORDINANCE, THE HIGHER VALUE SHALL BE USED.

TYPICAL H.M.A.C. PAVING SECTION

N.T.S.

BENCHMARK CITY MONUMENT AT THE CENTRELINE INTERSECTION OF BRAYS LANDING DRIVE ELEVATION = 3976.53 (EL PASO CITY DATUM)

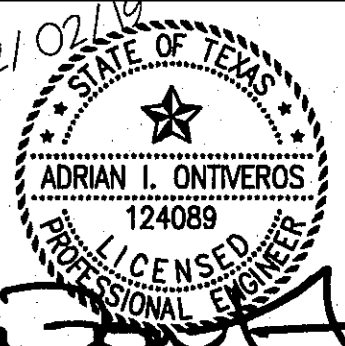
NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720
AT&T 1-800-DIG-TESS
UTCS EMERGENCY HOTLINE 1-800-841-6622-2003
PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
TEXAS POWER EMERGENCY (EPW) 594-7445
TEXAS EXCAVATION SAFETY SYSTEM 594-7445
KINDER-MORGAN EPIC PIPELINES 1-800-344-8377
EL PASO METRIC SIGNS, STREETS AND MAINTENANCE 1-800-238-3764
linemaps@elpaso.gov

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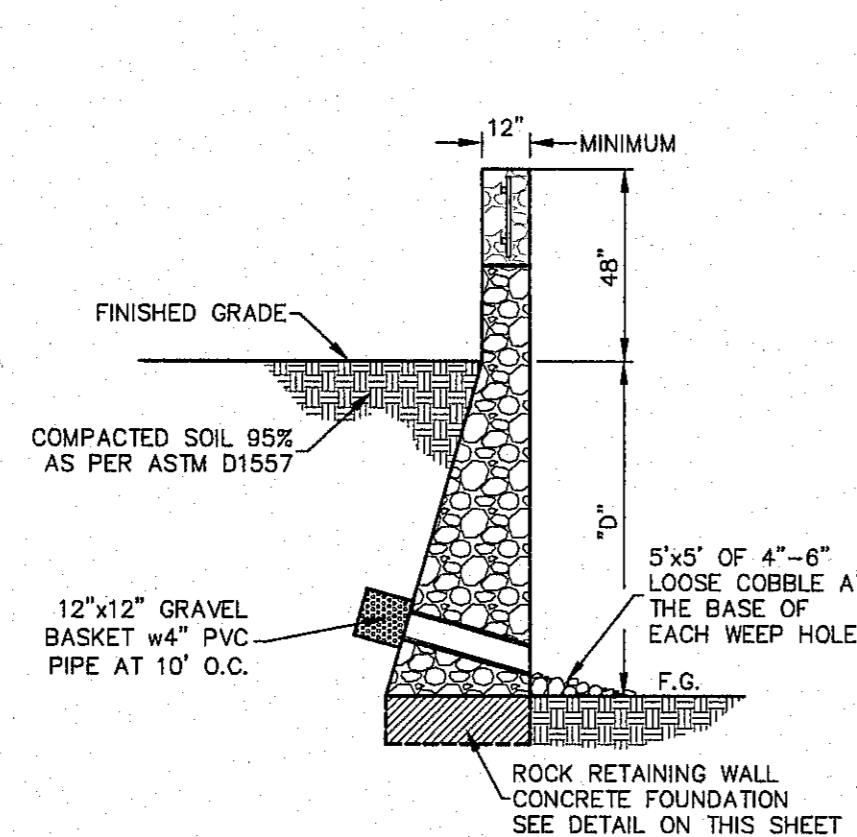


CMARRON CANYON
UNIT THREE
SUBDIVISION

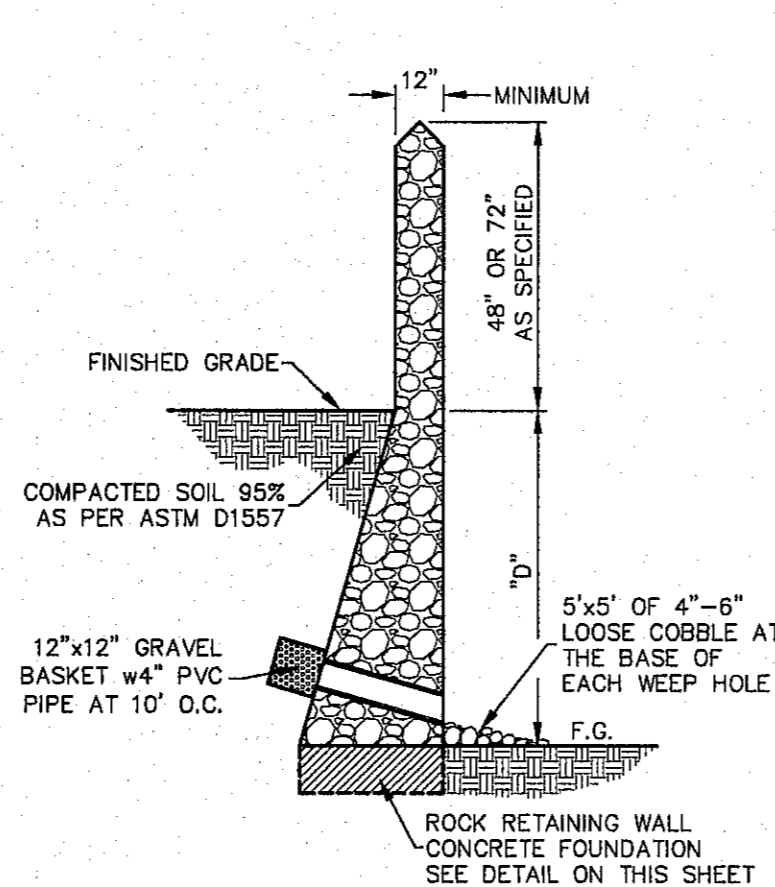
STANDARD DETAILS

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DESIGN BY	JOB NO.
CSB-SM	08/08/18
DRAWN BY	DATE
AHO	AS NOTED
CHECKED BY	SCALE

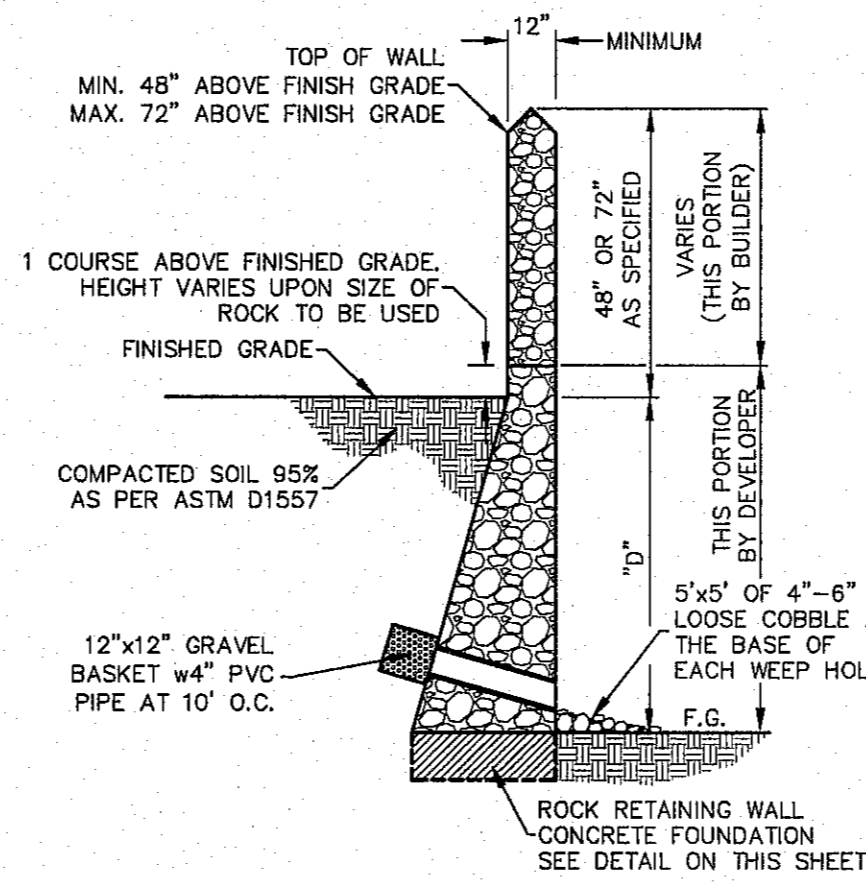
SHEET NO. 10
SHEET SEQUENCE 12 OF 46



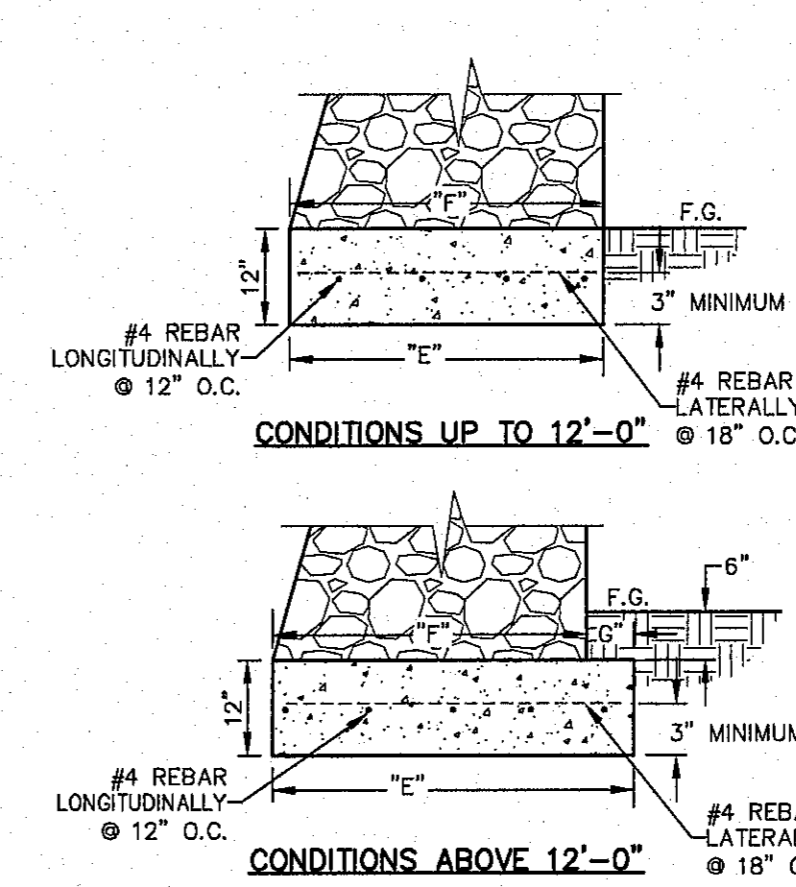
ROCK RETAINING WALL WITH 2' GARDEN WALL AND 2' VIEW FENCE
SCALE: NTS



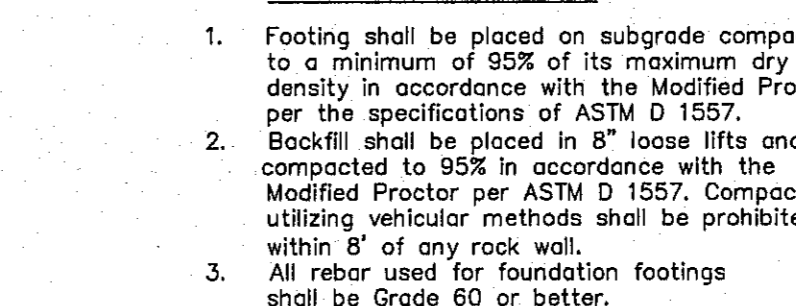
ROCK RETAINING WALL WITH GARDEN WALL EXTENSION
SCALE: NTS



ROCK RETAINING WALL BY DEVELOPER WITH GARDEN WALL EXTENSION BY BUILDER
SCALE: NTS



CONDITIONS UP TO 12'-0"



CONDITIONS ABOVE 12'-0"

GENERAL NOTES:

1. Footing shall be placed on subgrade compacted to a minimum of 95% of maximum dry density in accordance with the Modified Proctor per the specifications of ASTM D 1557.
2. Backfill shall be placed in 8" lifts and compacted to 95% in accordance with the Modified Proctor per ASTM D 1557. Compaction utilizing vehicular methods shall be prohibited within 8' of any rock wall.
3. All rebar used for foundation footings shall be Grade 60 or better.
4. All rebar shall be covered a minimum of 2" or as specified in details. EXCEPTION: Where the footings are to be extended and cold joints are formed, rebar shall be left long a minimum of 12" and shall be lapped and tied for the continuation of the foundation footings. Lap and tie in all rebar in accordance with all A.C.I. Standards for Reinforcement Steel.
5. All concrete for footings shall be 3,000 PSI minimum at 28 days. Contractor shall provide a minimum of three cylinders for testing per 100 linear feet of footing foundations installed.
6. The first course of rock for the construction of the rock walls shall be embedded in the wet concrete a minimum of 4" to a maximum of 6" and allowed to cure a minimum of 24 hours before adding additional courses to the walls.
7. Stem of wall, if required, shall be constructed in 3' courses maximum. Mortar must be allowed to set a minimum of 48 hours before successive courses can be laid.
8. Contractor shall provide a minimum of four mortar cubes per 100 linear feet of rock wall installed for testing.

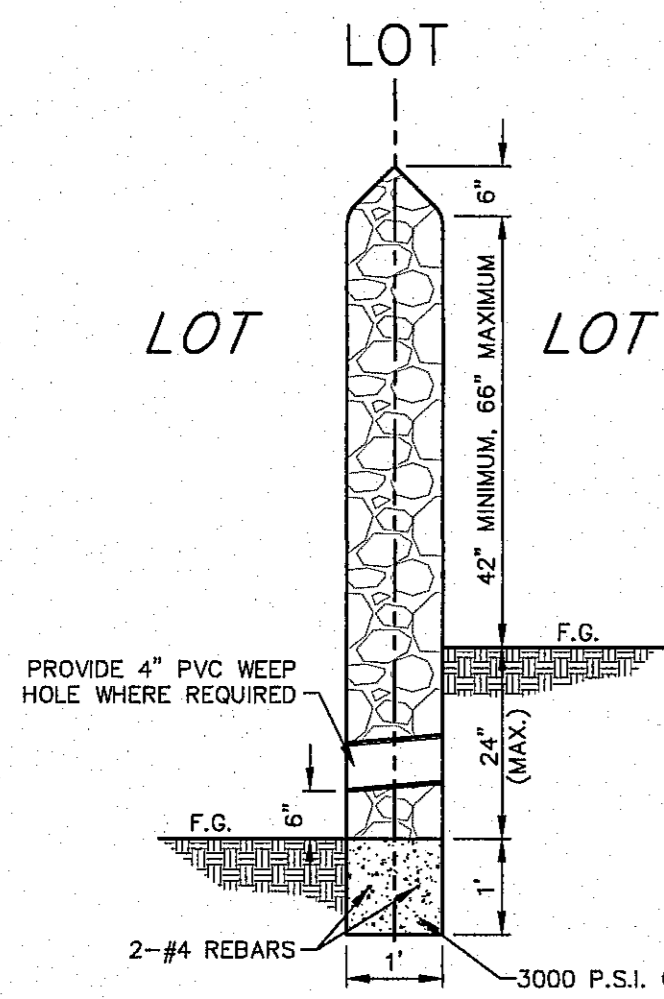
"D"	"E"	"F"	"G"
2'-0"	1'-9"	1'-9"	-
2'-6"	1'-10"	1'-10"	-
3'-0"	2'-3"	2'-3"	-
3'-6"	2'-4"	2'-4"	-
4'-0"	2'-9"	2'-9"	-
4'-6"	2'-11"	2'-11"	-
5'-0"	3'-3"	3'-3"	-
5'-6"	3'-5"	3'-5"	-
6'-0"	3'-9"	3'-9"	-
6'-6"	4'-0"	4'-0"	-
7'-0"	4'-4"	4'-4"	-
7'-6"	4'-9"	4'-9"	-
8'-0"	5'-0"	5'-0"	-
8'-6"	5'-4"	5'-4"	-
9'-0"	5'-9"	5'-9"	-
9'-6"	6'-0"	6'-0"	-
10'-0"	6'-5"	6'-5"	-
10'-6"	6'-9"	6'-9"	-
11'-0"	7'-2"	7'-2"	-
11'-6"	7'-8"	7'-8"	-
12'-0"	8'-6"	8'-6"	-
12'-6"	8'-8"	8'-8"	0'-6"
13'-0"	8'-11"	8'-5"	0'-6"
13'-6"	9'-2"	8'-8"	0'-6"
14'-0"	10'-0"	9'-6"	0'-6"
14'-6"	11'-0"	10'-6"	0'-6"
15'-0"	12'-0"	11'-6"	0'-6"
15'-6"	13'-2"	12'-8"	0'-6"
16'-0"	14'-6"	14'-0"	0'-6"
16'-6"	15'-11"	15'-4"	0'-6"
17'-0"	17'-10"	17'-10"	1'-0"
17'-6"	18'-9"	18'-9"	1'-6"
18'-0"	19'-9"	19'-9"	1'-6"

ROCK RETAINING WALL CONCRETE FOUNDATIONS
SCALE: NTS

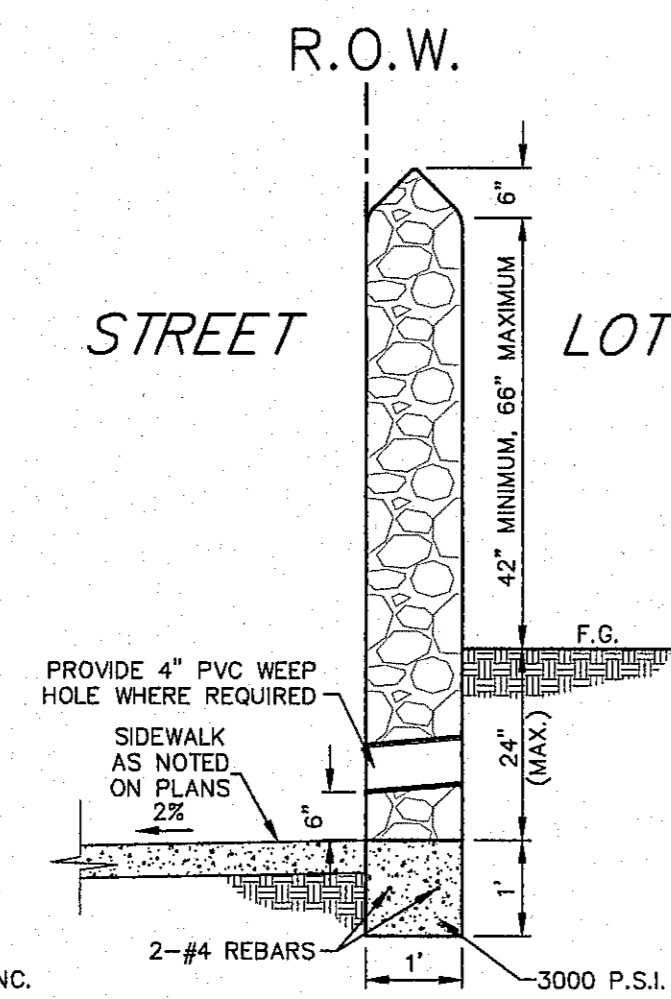
RETAINING WALLS GREATER THAN 4' SHALL BE INSTALLED BY THE DEVELOPER.



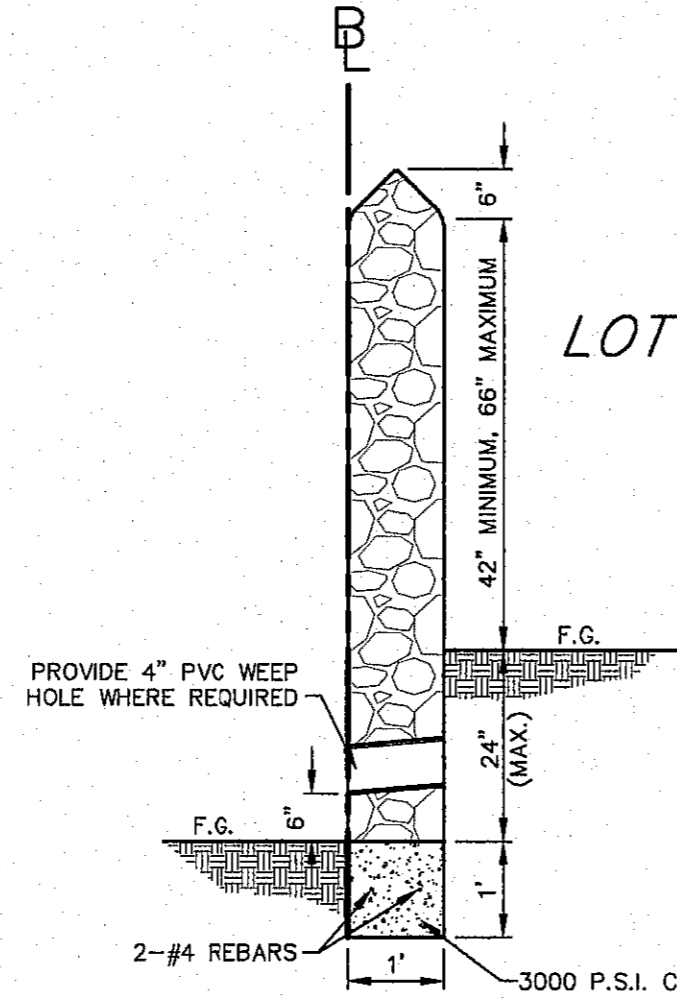
Final Approval



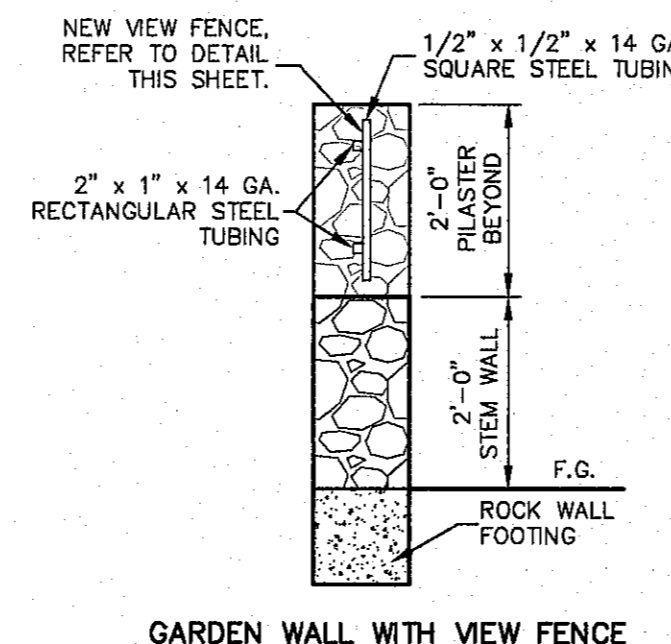
ROCK WALL AT SIDE YARDS
SCALE: 1" = 2'-0"



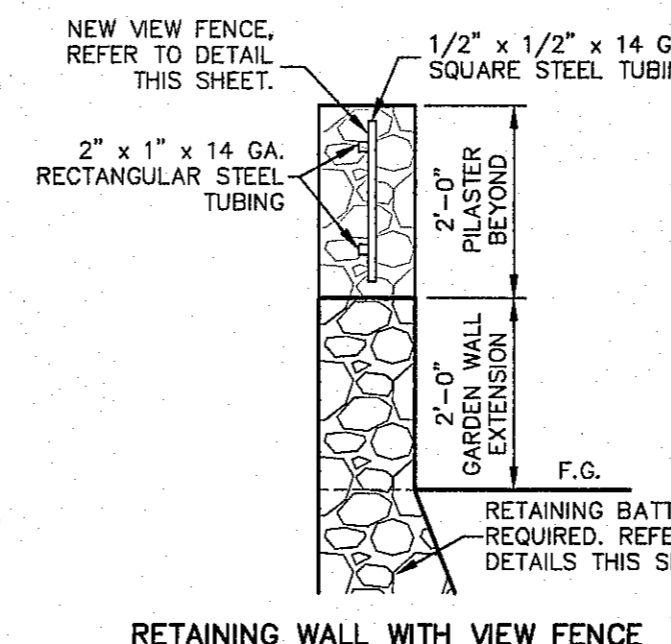
ROCK WALL ABUTTING R.O.W.
SCALE: 1" = 2'-0"



ROCK WALL AT SUBDIVISION BOUNDARY
SCALE: 1" = 2'-0"
ALL ROCK WALLS AT THE SUBDIVISION BOUNDARY SHALL BE INSTALLED BY THE DEVELOPER.



GARDEN WALL WITH VIEW FENCE SECTION



RETAINING WALL WITH VIEW FENCE SECTION

GARDEN WALL WITH VIEW FENCE
SCALE: 1" = 2'-0"

ROCK WALLS

MATERIALS: Stone for rock walls shall consist of quarried limestone as nearly uniform in section as is practicable. Field stone or salvaged stone from rock walls shall be used only here directed by the Engineer. The stone shall be dense, resistant to the action of air and water, clean of and dirt, debris, or old mortar and suitable in all respects for the purpose intended.

Mortar for the rock walls shall consist by volumes of one (1) part Portland cement, one-quarter to one-half (1/4 to 1/2) part hydrated lime, and three (3) parts clean, hard, durable sand (2 1/4 to 3 times the sum of the volumes of cement and lime combined, per City Building Code). Mortar for walls shall be Type S, ASTM Specification C270-73. Compressive strength = 1800 p.s.i. (28 days). Reinforcing steel shall conform to ASTM A 615, Grade 60 and shall be lapped and tied per the A.C.I. Standards for Reinforcing Steel. If rock wall is frequently exposed to water, lime shall not be used and the portions shall be one part Portland cement and three parts sand.

CONSTRUCTION METHODS: Prior to placing the concrete foundation, the excavation for the rock walls shall be made to the proper section, and compacted to 95% of maximum density per ASTM D 1557, modified proctor. If considered necessary by the Engineer, the bottom of excavation shall be hand-tamped and sprinkled prior to placing concrete. The excavated area for rock walls shall be moist when the concrete is placed. Reinforcing steel shall be placed continuously as shown on the plans and properly supported throughout the placement of concrete. The surface of the concrete shall not be troweled. The first course of stone is to be embedded 4" minimum to 6" maximum into the fresh concrete and cured a minimum of 24 hours before any additional stone or mortar is placed on the foundation. The concrete shall be allowed to cure a minimum of 48 hours before more than 300 pounds per square foot of stone and mortar is placed on the foundation.

Stone shall be selected as to size and shape in order to secure fairly large, flat surfaced stone which may be erected with true and even surface faces and a minimum of exposed mortar. All stones shall be thoroughly cleaned, wetted, hand-picked and embedded in mortar so that no stones shall touch each other at the concrete foundation but shall be firmly bound together with mortar. The finished surfaces shall present a neat, clean, workmanlike and true-to-line appearance. The interior of the rock wall shall be completely filled with spalls and pieces of the specified stone, completely embedded and surrounded by mortar with no voids.

The erection of the rock wall shall not be more than three feet in height for every 24-hour period to allow for the lower portions to become sufficiently set. All stones shall be thoroughly wetted before being placed in fresh mortar. The last layer of rock prior to erection phases shall not have any mortar on top. Fresh mortar must be used for continuation of work following erection break. Voids within the interior of the wall construction shall not be left open to the elements during an erection break. All voids shall be filled, or the top of the wall may be protected with a tarp of plastic or other waterproof covering.

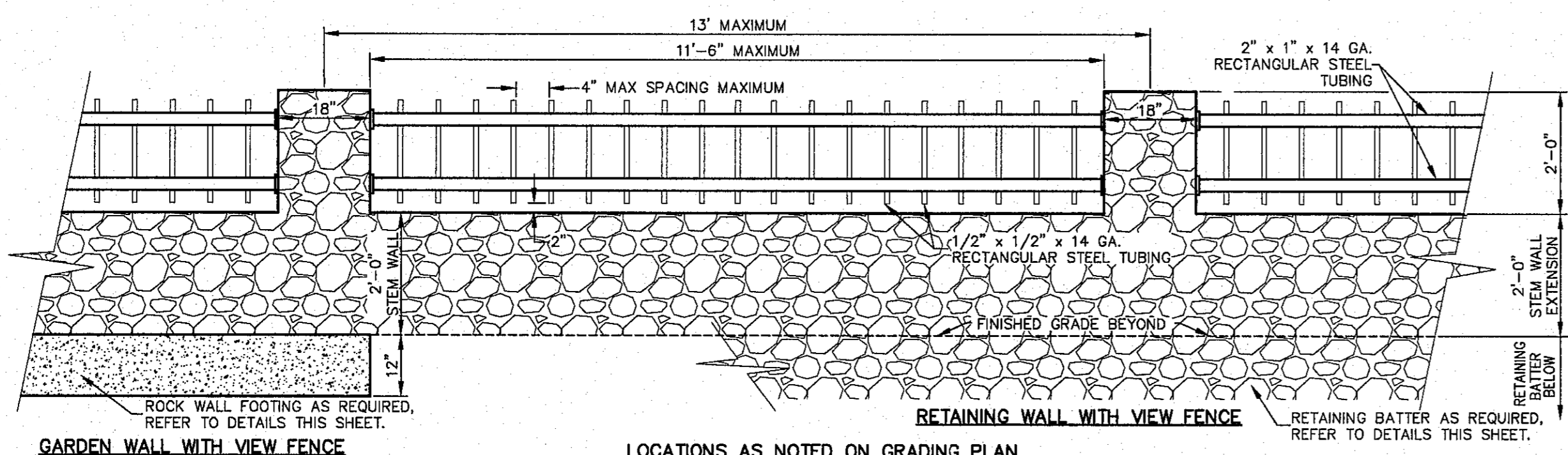
Weep holes shall be placed on the rock wall as shown on the plans. The weep holes shall not be more than ten (10) feet apart on-center horizontally and not more than five (5) feet apart vertically and staggered. The weep holes shall consist of four-inch PVC pipe, Schedule 40 or better, or other pipe as approved by the Engineer, neatly cut to the exposed surface of the rock wall. Gray, black, or other dark neutral colored PVC pipe shall be installed. White or colored PVC shall not be accepted. No less than one cubic foot of one-inch to 3/4-inch of graded gravel shall be placed at the inlet (back side of wall) of each weep hole as shown on the plans.

Where discrepancies may exist between these and other notes and specifications in other details on this or other sheets within this plan set, the notes on the other details shall govern. All rock walls installed shall conform to the notes and details contained within the City of El Paso Design Standards for Construction.

ALL SLOPE PROTECTION WITHIN THE BOUNDS OF THIS SUBDIVISION SHALL BE INSTALLED BY THE BUILDER UNLESS NOTED OTHERWISE IN THE PLANS. METHODS FOR PROTECTION ARE LISTED BUT NOT LIMITED TO THOSE SHOWN IN THE NOTE BELOW. BUILDER MUST RECEIVE APPROVAL FROM DEVELOPMENT SERVICES FOR METHOD(S) PROPOSED PRIOR TO INSTALLATION. SLOPE PROTECTION FOR OFFSITE GRADING SHALL BE INSTALLED AND MAINTAINED BY THE DEVELOPER.

GRADED SLOPES AS SHOWN ON THE GRADING PLAN HAVE BEEN ENGINEERED, BASED ON A GEOTECHNICAL SOILS INVESTIGATION REPORT, TO STAND AT THE SLOPE INDICATED. HOWEVER, EROSION IS INEVITABLE ON ANY SLOPE, EVEN IN HIGHLY COHESIVE SOILS. PROPERTY OWNERS ARE RESPONSIBLE FOR THE MAINTENANCE OF SLOPES WITHIN THEIR LOTS. IF NO MEASURES HAVE BEEN TAKEN PRIOR TO PURCHASE, IT IS HIGHLY RECOMMENDED THAT THE PROPERTY OWNER PROVIDE ANTI-EROSION CONTROLS ON GRADED SLOPES WITHIN THE BOUNDS OF THEIR LOT. THESE MAY INCLUDE BUT ARE NOT LIMITED TO CONCRETE RIP-RAP, MORTARED ROCK RIP-RAP (REQUIRED ON SLOPES 1:1 OR GREATER), LOOSE ROCK RIP-RAP OF A SPECIFIED DIAMETER, SOIL RETENTION BLANKETS, PLANTINGS OF NATIVE SPECIES. (SOD AND OTHER GRASSES ARE NOT RECOMMENDED ON SLOPES GREATER THAN 4:1). BEFORE PERFORMING ANY WORK, PROPERTY OWNERS SHOULD CONSULT A LICENSED, PROFESSIONAL CIVIL ENGINEER. ADDITIONALLY, IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CLEAN AND MAINTAIN ANY WEEP HOLES THAT HAVE BEEN INSTALLED IN WALLS OR RIP-RAP. WEEP HOLES ARE AN INTEGRAL COMPONENT OF DRAINAGE SO AS TO PREVENT GROUND SATURATION BEHIND WALLS AND RIP-RAP THAT COULD CAUSE STRUCTURAL FAILURES. PROPERTY OWNERS SHOULD PERFORM REGULAR INSPECTIONS, ESPECIALLY AFTER HEAVY RAINS, AND CLEAR WEEP HOLES OF ANY SILT AND DEBRIS. PROPERLY INSTALLED WEEP HOLES SHOULD ALLOW THE PASSAGE OF ANY STORM WATER RUN OFF THAT MAY ACCUMULATE BEHIND WALLS OR BENEATH RIP-RAP AS A RESULT OF INFILTRATION. WIRE ENCASED GRAVEL FILTERS WRAPPED IN A GEOTEXTILE FABRIC SHOULD PREVENT LARGE DEBRIS FROM BLOCKING THE WEEP HOLE. HOWEVER, THE PASSAGE OF SILT, SAND, AND OTHER FINE PARTICULATE MATERIAL UP TO ONE-QUARTER INCH IN DIAMETER SHOULD BE CONSIDERED NORMAL. UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLES BE INTENTIONALLY BLOCKED TO PREVENT PASSAGE OF STORM WATER.

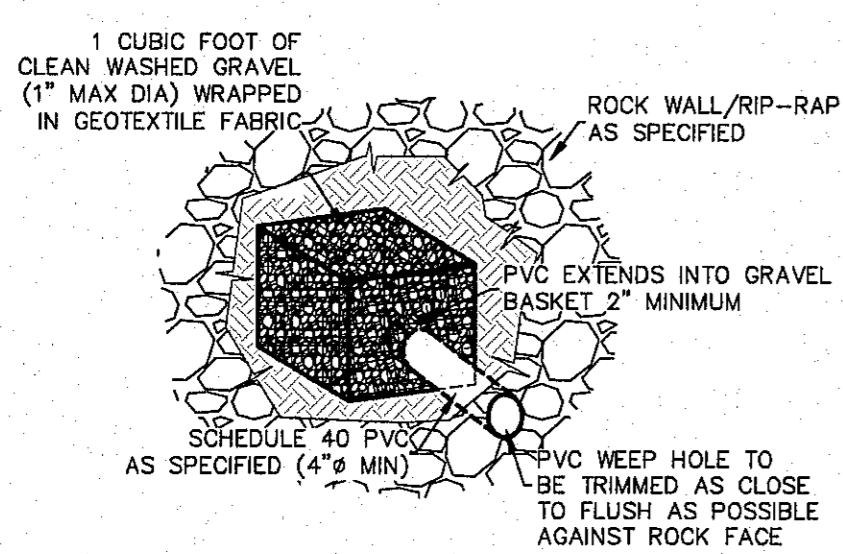
GRADED SLOPES



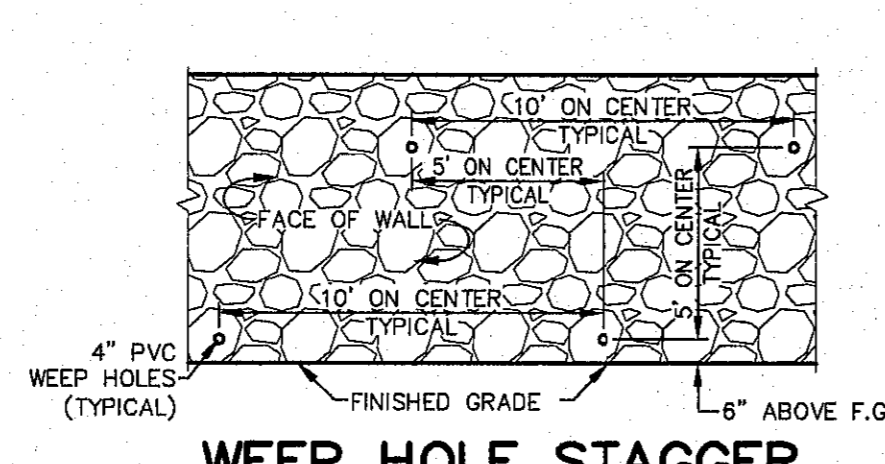
GARDEN WALL WITH VIEW FENCE

LOCATIONS AS NOTED ON GRADING PLAN

VIEW FENCE
SCALE: 1" = 2'-0"

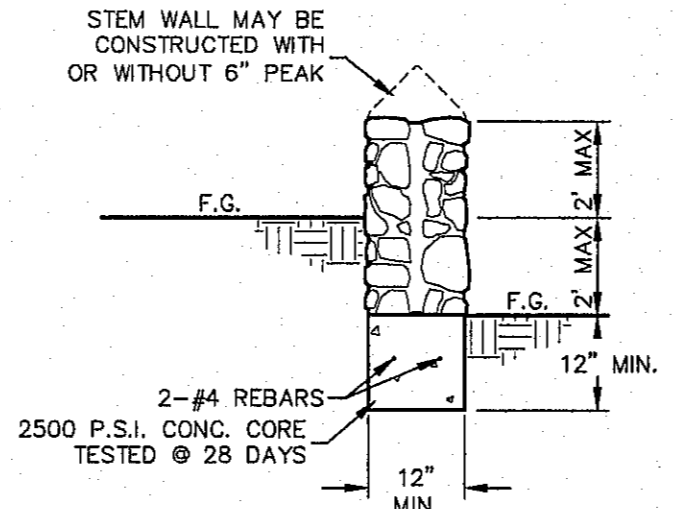


WEEP HOLES
N.T.S.

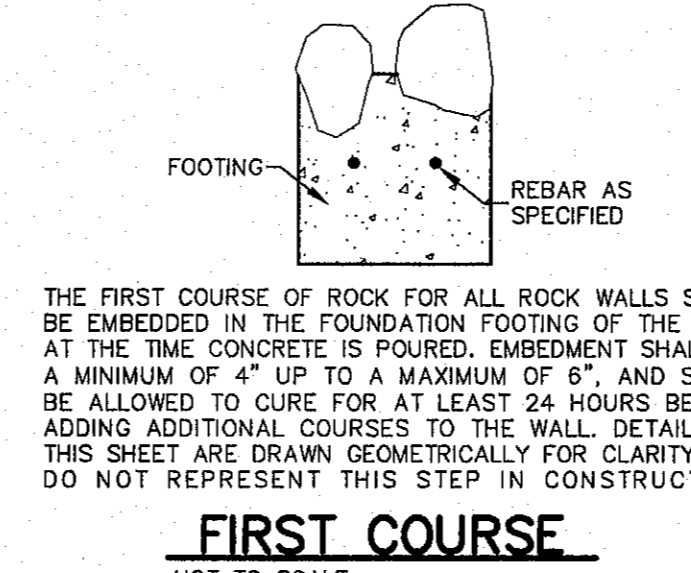


WEEP HOLE STAGGER
NTS

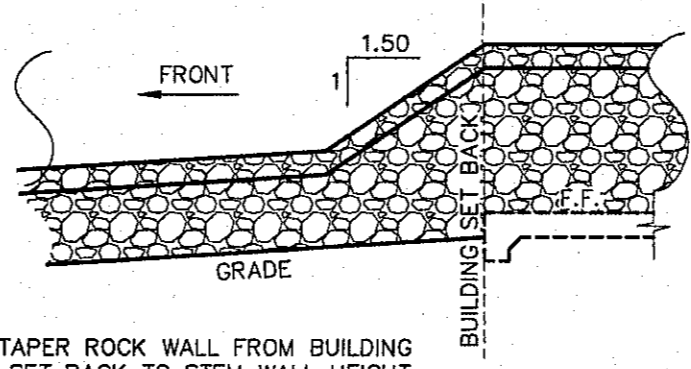
ALL PVC FOR WEEP HOLES SHALL BE 4" DIAMETER SCHEDULE 40 MINIMUM, BLACK OR GRAY. WHITE OR OTHER COLORED PVC SHALL NOT BE ACCEPTED.



2' STEM WALL DETAIL
SCALE: 1/2" = 1'-0"



FIRST COURSE
NOT TO SCALE



TAPER TO STEMWALL
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

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AT&T GAS SERVICE
1-800-444-6300
TELEPHONE SERVICE
1-800-444-6300
PUBLIC SERVICE ROAD (WATER & SEWER)
652-841-3000
AFTER HOURS EMERGENCY (EPW)
562-841-3000
SPECTRUM
774-7414
KINDER-MORGAN ENGINEERING SYSTEM
1-800-238-5764
EL PASO STREETS AND MAINTENANCE
1-800-238-5764
EL PASO STREETS AND MAINTENANCE
1-800-238-5764

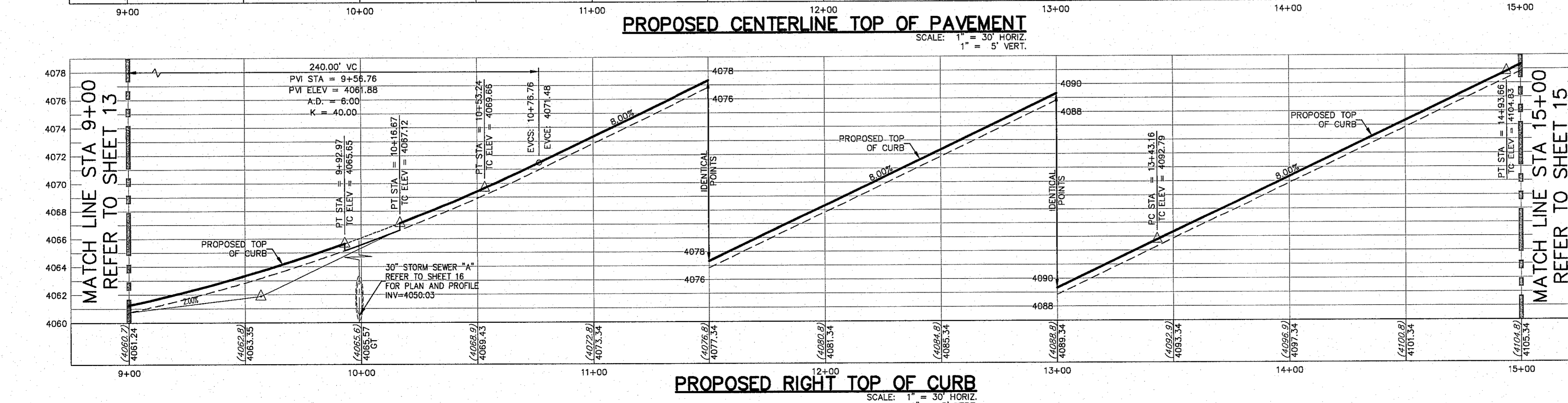
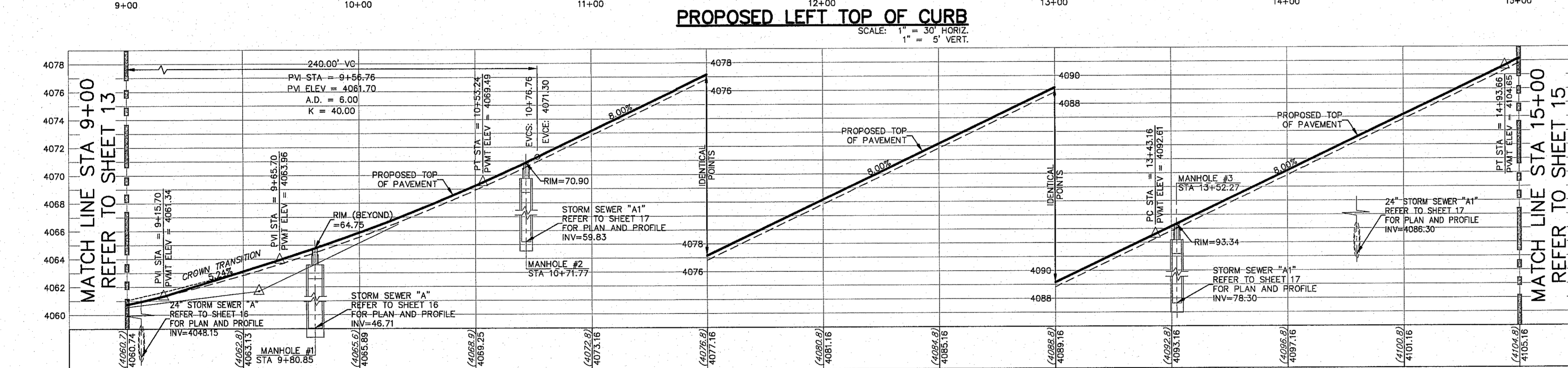
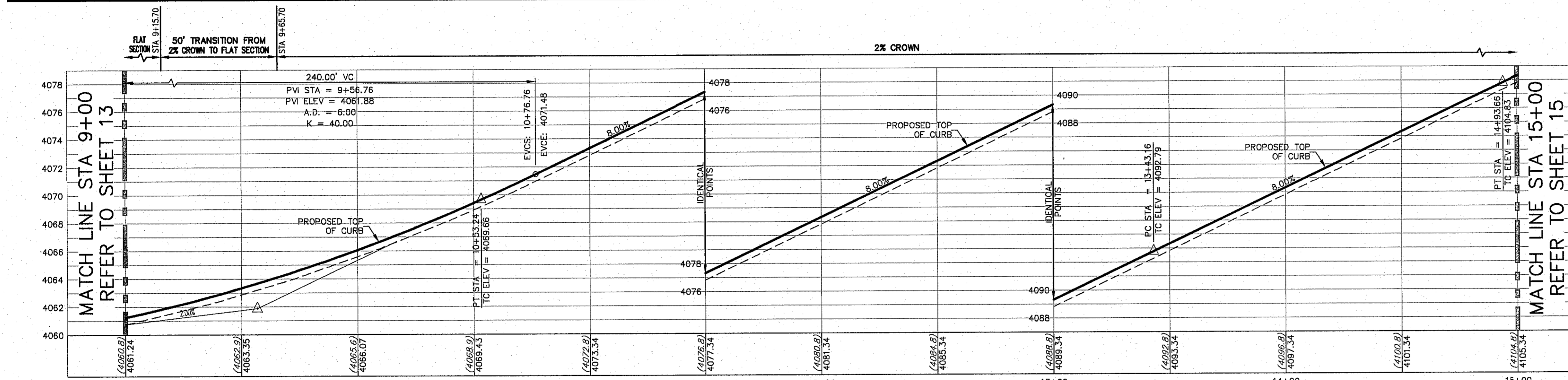
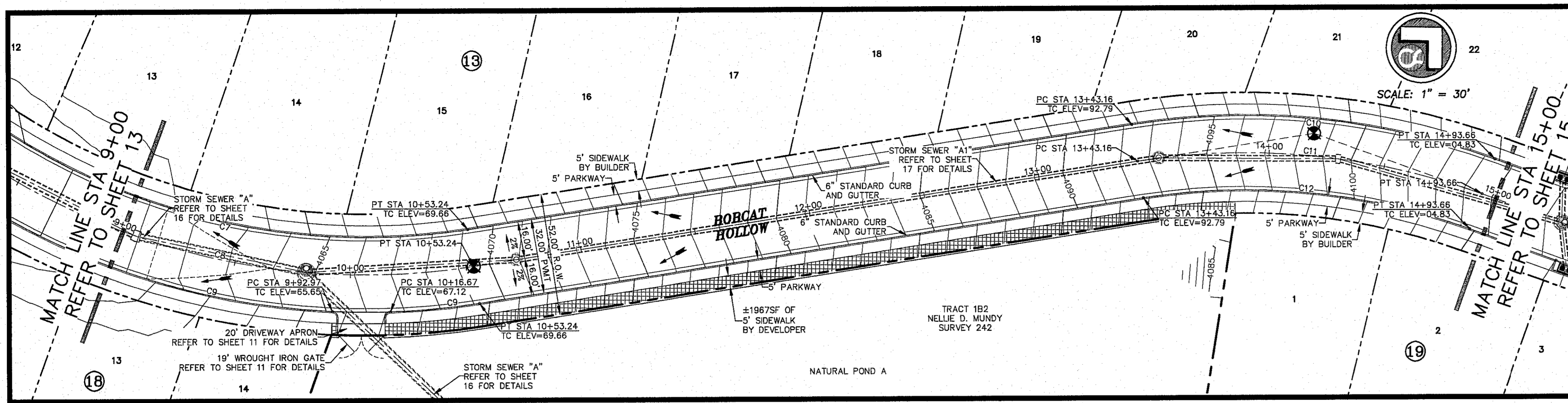
CSA DESIGN GROUP, INC.
Texas Registered Engineering Firm #987
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
Tel (915) 877-4155
Tel (915) 877-4155
Fax (915) 877-4934
www.csaengineers.com

CIMARRON CANYON
UNIT THREE
SUBDIVISION
SHEET TITLE

ROCK WALL DETAILS

JOB NO.	1724
DATE	2/6/19
JOB-SM	08/08/16
DATE	
AHO	AS NOTED
REVISED BY	
SHEET NO.	12
SHEET SEQUENCE	14 OF 46

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S:\Draw\1724 Cimarron Canyon Unit Three\1724 2nd Submittal General\1724_Sht_12 (Rock Wall Details).dwg



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C7	284.00	208.01	108.92	203.39	N56°35'14"E	41°57'54"
C8	300.00	231.73	115.05	214.85	N56°35'14"E	41°57'54"
C9	316.00	231.45	121.19	226.31	N56°35'14"E	41°57'54"
C10	316.00	158.53	80.97	156.87	S49°58'35"W	28°44'36"
C11	300.00	150.50	76.87	148.93	S49°58'35"W	28°44'36"
C12	284.00	142.47	72.77	140.88	S49°58'35"W	28°44'36"

ALL SIDEWALKS TO BE INSTALLED BY BUILDER UNLESS NOTED OTHERWISE

ALL ACCESSIBLE RAMPS WITHIN THE RIGHT-OF-WAY TO BE INSTALLED BY THE DEVELOPER

ALL EXISTING AND PROPOSED SIDEWALKS, BARRIER FREE RAMPS, HANDICAP PARKING, DRIVEWAY CROSSWALKS, DRIVEWAYS AND ACCESSIBLE ROUTES SHALL COMPLY WITH A.D.A., T.A.S. AND CITY OF EL PASO REQUIREMENTS. EXISTING INFRASTRUCTURE NOT COMPLYING SHALL BE REMOVED AND REPLACED TO MEET STANDARDS.



Final Approval

- LEGEND**
- LOT LINE
 - UTILITY & SIDEWALK EASEMENT
 - CENTER LINE OF STREET
 - STREET R.O.W.
 - DRAINAGE & UTILITY R.O.W.
 - 4" ROLLED CURB & GUTTER
 - SUBDIVISION BOUNDARY LINE
 - FINISHED GRADES
 - PROPOSED TOP OF CURB FINISHED GRADES
 - EXISTING GRADE
 - PROPOSED TOP OF CURB ELEVATION
 - TC=08.09
 - PROPOSED PAVEMENT ELEVATION
 - PWMT=08.65
 - DIRECTION OF RUNOFF FLOW
 - HIGH POINT
 - LOW POINT
 - POINT OF VERTICAL INTERSECTION
 - 50' TRANSITION AT INTERSECTION
 - PROPOSED CITY MONUMENT

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASSES DRIVE ELEVATION = 3976.53 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submitted	AHO
2	11/07/19	Second City Submitted	AHO
3	12/02/19	Final City Submitted	AHO

WARNING! BEFORE YOU DIG CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-842-8720

TEXAS GAS SERVICE
1-800-811-7253

UTILITY SERVICE (WATER & SEWER)
1-800-594-9775

AFTER HOURS EMERGENCY (EPM)
1-800-594-9775

SPECTRUM LOCATION SAFETY SYSTEM
1-800-348-8377

MINDEK-NORGAN EPCG PIPELINES
1-800-238-3764

EL PASO COUNTY STREETS AND MAINTENANCE
1-800-212-2101

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ADRIAN I. ONTIVEROS
124089
REGISTERED PROFESSIONAL ENGINEER

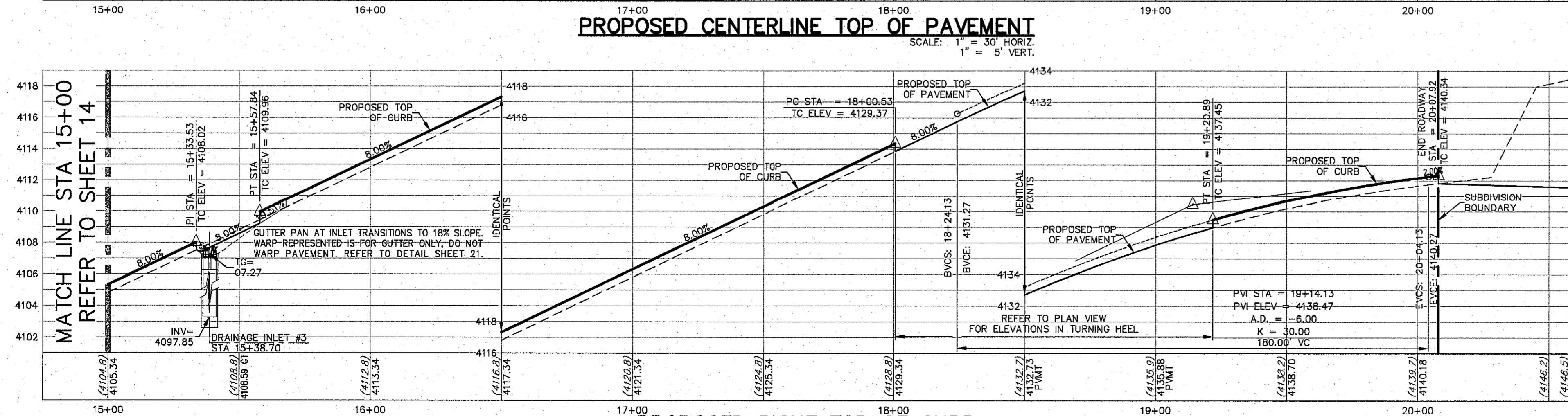
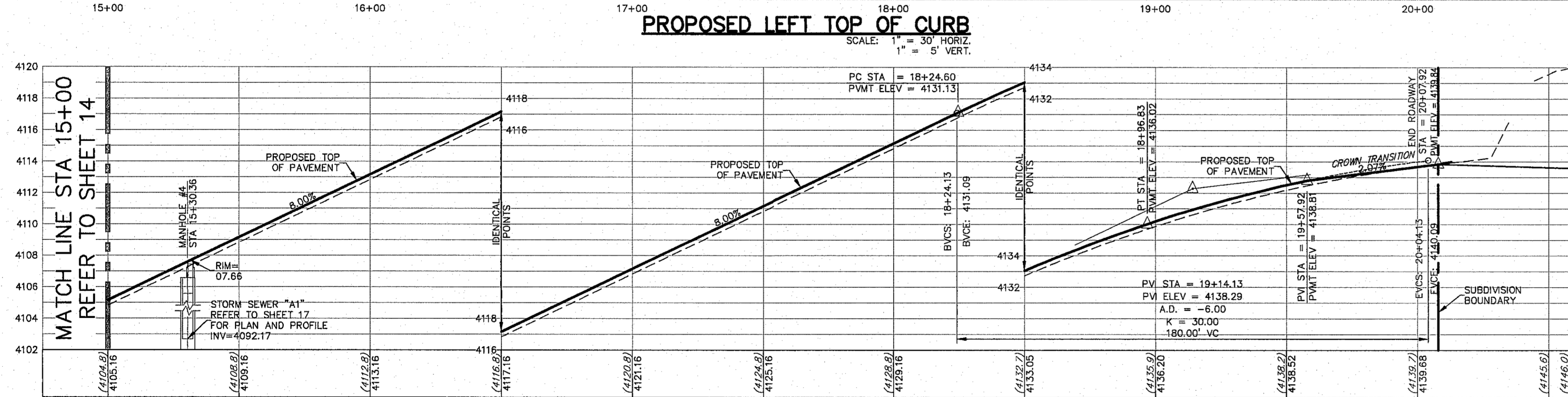
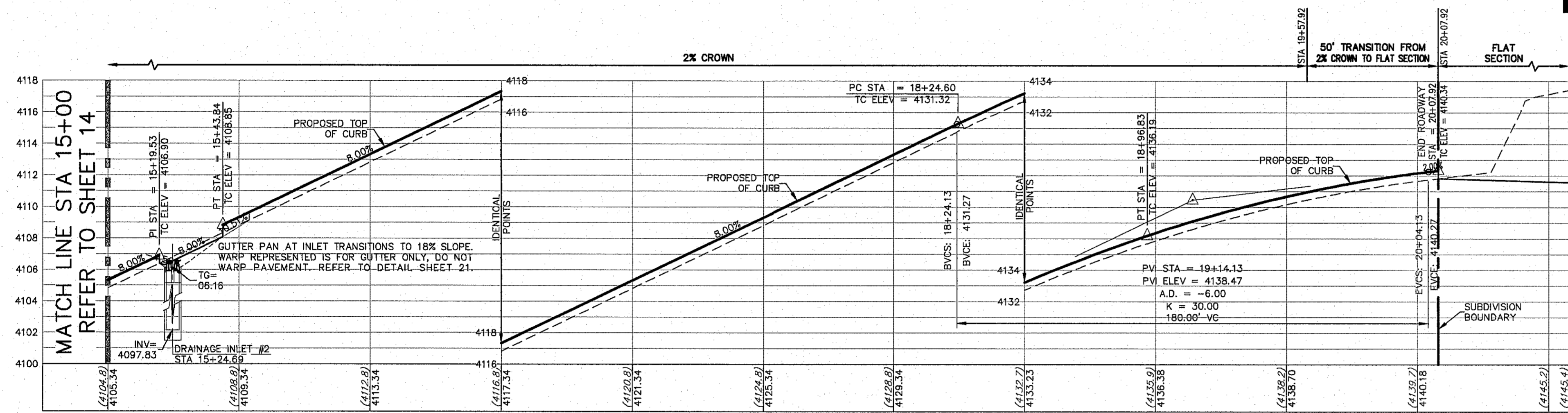
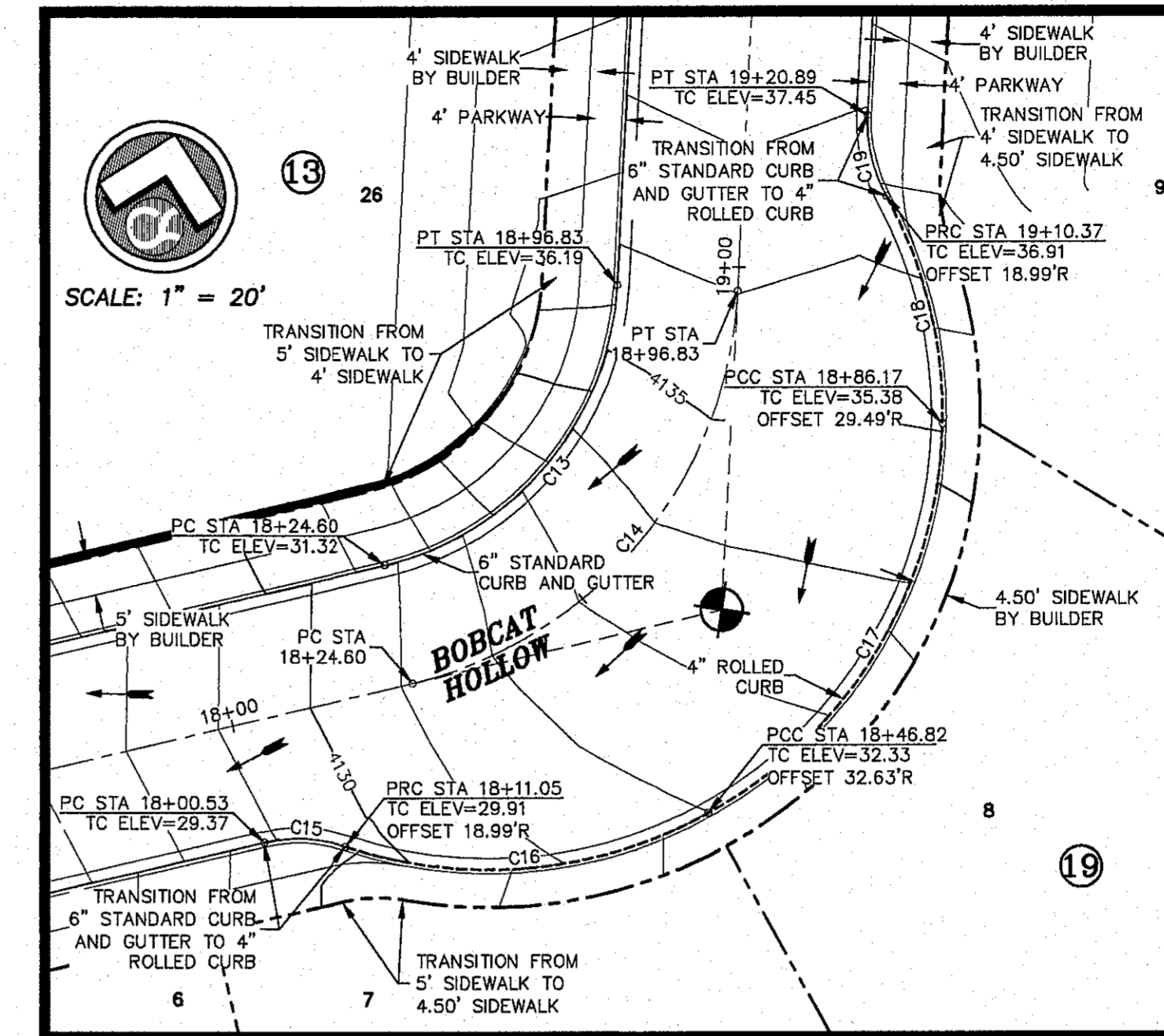
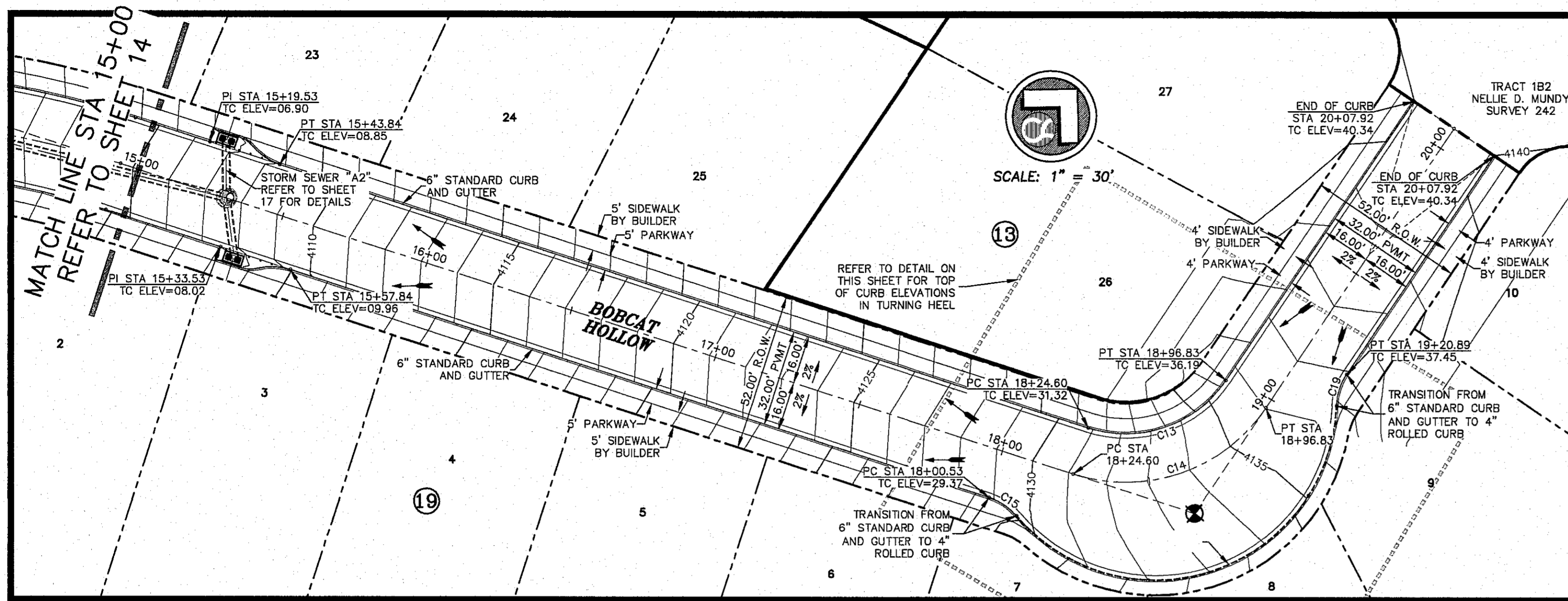
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Texas Registered Engineering Firm E-9887
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel (915) 877.4155
fax (915) 877.4334
www.csaengineers.com

CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE

BOBCAT HOLLOW PLAN AND PROFILE

DESIGN BY	1724
DATE	JOB NO.
DESIGN BY	08/08/18
DATE	DATE
DESIGNED BY	AS NOTED
SCALE	SCALE
SHEET NO.	
14	
SHEET SEQUENCE	
16 of 46	



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C13	40.00	51.99	30.09	48.09	N27°23'54"E	73°53'59"
C14	56.00	72.23	42.12	67.32	N27°23'54"E	73°53'59"
C15	20.00	11.08	5.69	10.94	S80°13'31"W	31°45'15"
C16	60.00	49.67	26.36	48.26	N72°23'12"E	47°25'53"
C17	60.00	62.83	34.64	60.00	N18°40'14"E	60°00'02"
C18	60.00	31.39	16.06	31.03	N28°19'04"W	29°58'34"
C19	20.00	11.08	5.69	10.94	S29°25'43"E	31°45'15"

ALL SIDEWALKS TO BE INSTALLED BY BUILDER UNLESS NOTED OTHERWISE

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- LEGEND**
- LOT LINE
 - UTILITY & SIDEWALK EASEMENT
 - CENTER LINE OF STREET
 - STREET R.O.W.
 - DRAINAGE & UTILITY R.O.W.
 - 4" ROLLED CURB & GUTTER
 - SUBDIVISION BOUNDARY LINE
 - PROPOSED TOP OF CURB
 - FINISHED GRADES (3728.85)
 - EXISTING GRADE (3729.2)
 - PROPOSED TOP OF CURB ELEVATION (TC=08.09)
 - PROPOSED PAVEMENT ELEVATION (PWMT=08.65)
 - DIRECTION OF RUNOFF FLOW
 - ▲ HIGH POINT
 - ▼ LOW POINT
 - ▲ POINT OF INTERSECTION
 - ▲ VERTICAL ALIGNMENT AT INTERSECTION
 - ▲ PROPOSED CITY MONUMENT

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

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1-800-802-1655

AT&T
1-800-802-1655

TEXAS GAS SERVICE
1-800-841-6300

UTILITY SERVICE CENTER
562-841-6300

PUBLIC WORKS EMERGENCY (EWP)
594-5775

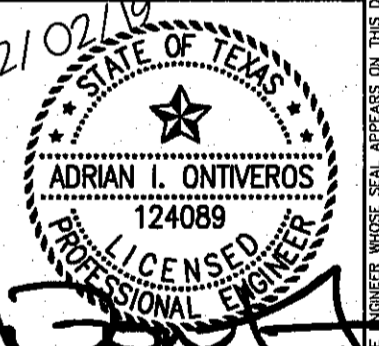
UTILITY SERVICE CENTER (WATER & SEWER)
594-5775

TEXAS EXCAVATION SAFETY SYSTEM
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KINDER-MORGAN EPMS SYSTEM
1-800-238-3764

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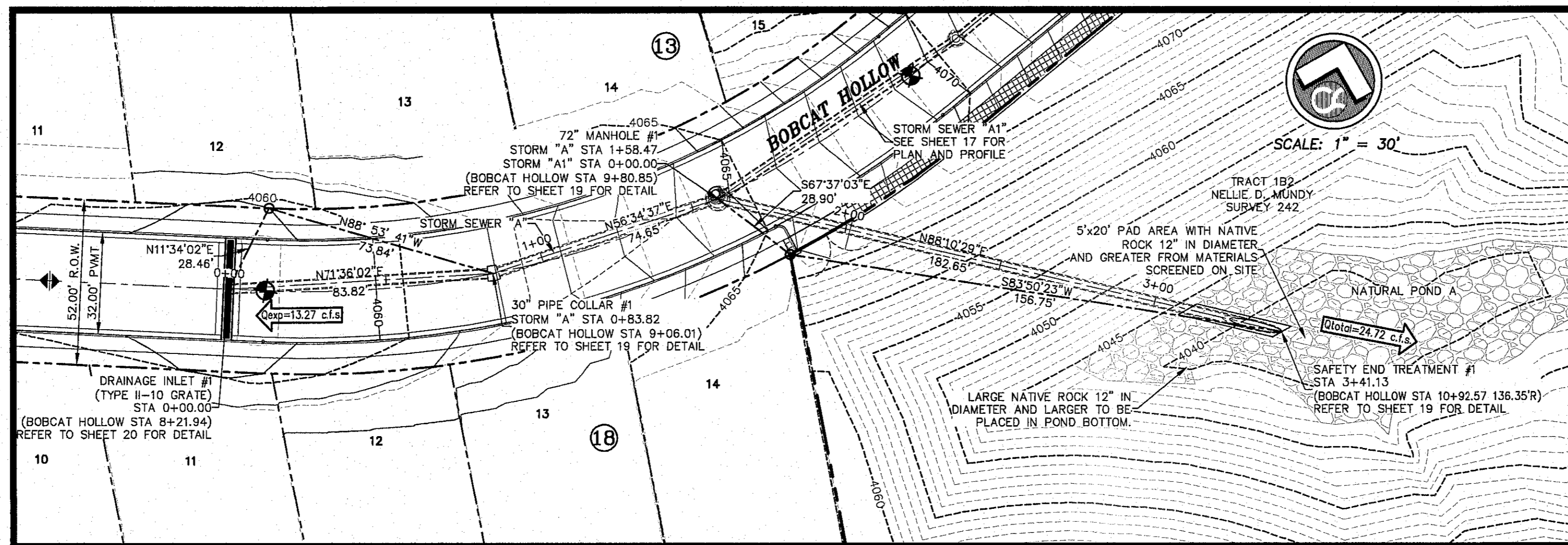
**CIMARRON CANYON
UNIT THREE
SUBDIVISION**

SHEET TITLE

**BOBCAT HOLLOW
PLAN AND
PROFILE**

JOB NO.	1724
JOB DATE	06/08/18
DATE	AS NOTED
SCALE	AS NOTED
SHEET NUMBER 15 OF 46	

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N:\1724 Cimarron Canyon Unit Three\1724 Sub Submittal\1724 Sub 15-15 (Sheet) 7/8/19.dwg



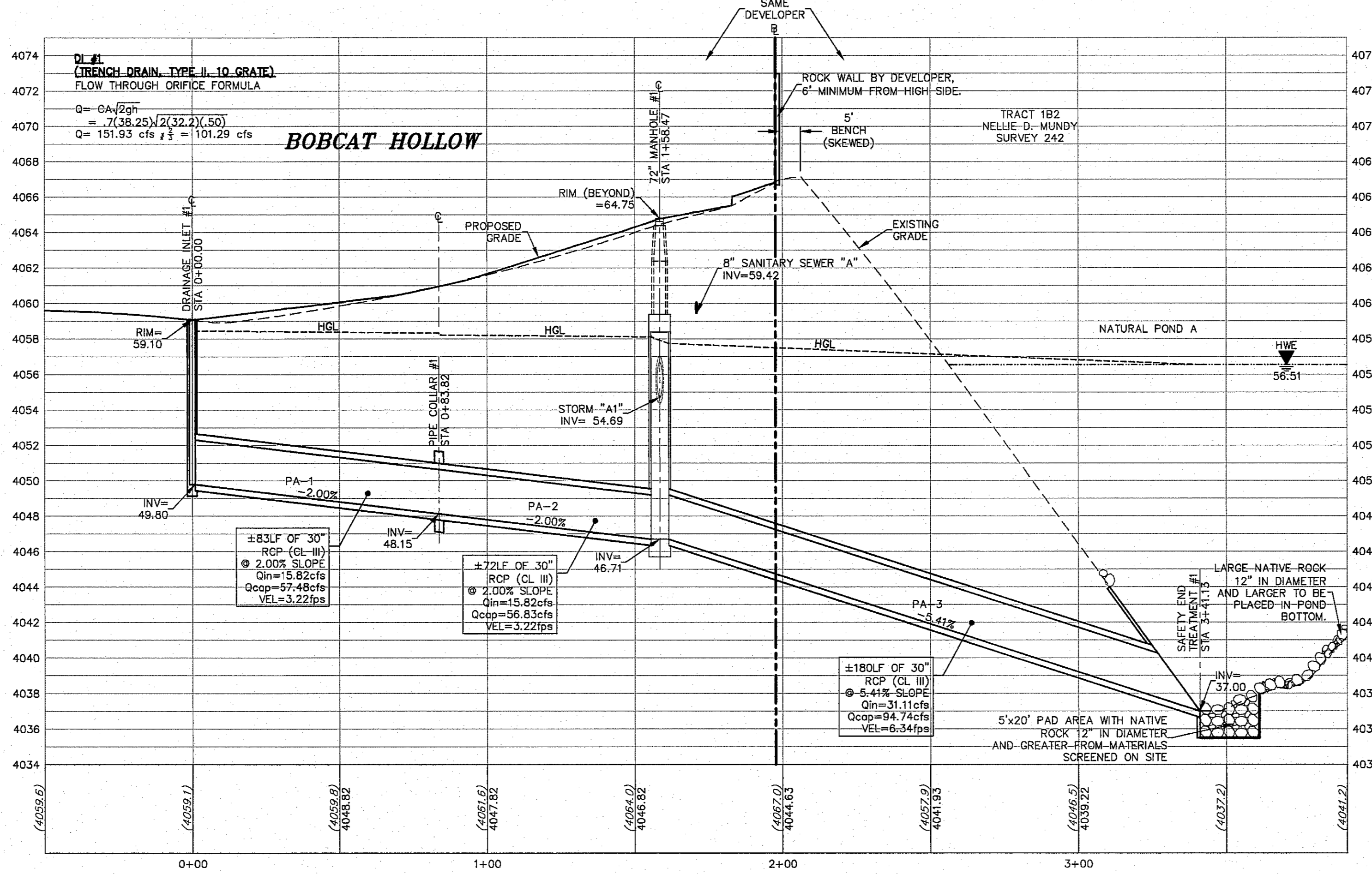
INLETS ARE STATIONED TO THE CENTER OF THE STRUCTURE AT THE CURB LINE UNLESS NOTED OTHERWISE. ALL OTHER STATIONING IS TO THE CENTER OF THE STRUCTURES. BEARINGS AND DISTANCES ARE FOR FIELD LOCATION OF STRUCTURES ONLY. REFER TO PROFILE FOR ACTUAL PIPE LENGTHS.

HYDRAULIC GRADE LINE (HGL) ARE BASED ON THE 100-YEAR EVENT

ALL RUN OFF CALCULATIONS ARE BASED ON THE 100-YEAR STORM FREQUENCY.

SANITITE HP (PLASTIC PIPE) MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS (ADS) HAS BEEN APPROVED BY EPWU STORMWATER MANAGEMENT AS AN APPROVED EQUAL TO REINFORCED CONCRETE PIPE (RCP). SANITITE HP IS AVAILABLE IN DIAMETERS UP TO 60 INCHES.

SEE SHEET 6 FOR HYDRAULIC DATA AND CALCULATIONS RELATIVE TO CAPACITY, BYPASS AND CLOGGING FOR INLETS.



STORM SEWER "A"
 SCALE: 1" = 30' HORIZ.
 SCALE: 1" = 5' VERT.

Pipe	Section	Length (ft)	Constructed Slope (ft/ft)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Inlet C Coefficient	Inlet CA (acres)	Total CA (acres)	System Flow Time (min)	Discharge (cfs)	Capacity (cfs)	Average Velocity (ft/s)	Downstream Node	Downstream Rim Elevation (ft)	Downstream HGL (ft)	Upstream Node	Upstream Rim Elevation (ft)	Upstream HGL (ft)
PA-1	30 inch	89	0.0200	4,049.80	4,048.15	0.60	4.28	4.28	10.00	15.82	57.48	3.22	PC-1	4,061.00	4,058.32	DI-1	4,059.30	4,058.45
PA-2	30 inch	72	0.0200	4,048.15	4,046.71	N/A	N/A	4.28	10.43	15.82	56.83	3.22	MH-1	4,064.75	4,058.11	PC-1	4,061.00	4,058.22
PA-3	30 inch	180	0.0541	4,046.71	4,037.00	N/A	N/A	7.53	11.17	31.11	94.74	6.34	SE-1	4,058.00	4,056.54	MH-1	4,064.75	4,057.74

BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF BOB CAT HOLLOW DRIVE ELEVATION = 3976.53 (EL. PASO CITY DATUM)

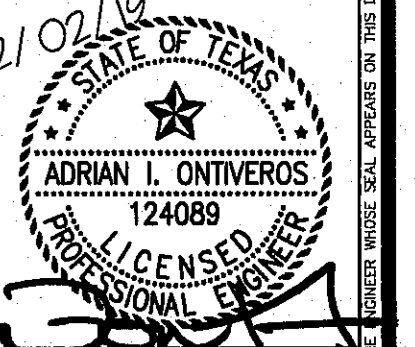
NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

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 AT&T GAS SERVICE 1-800-DIG-TESS
 TEXAS ENERGY HOLDINGS 562-8411/565-3000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411/565-3000
 AFTER HOUR EMERGENCY (EPA) 994-3775
 TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-8377
 KINDER-MORGAN EPNG PIPELINES 1-800-238-5555
 EL PASO WATER, SANITARY AND MAINTENANCE Department@elpaso.com

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CIMARRON CANYON
 UNIT THREE
 SUBDIVISION

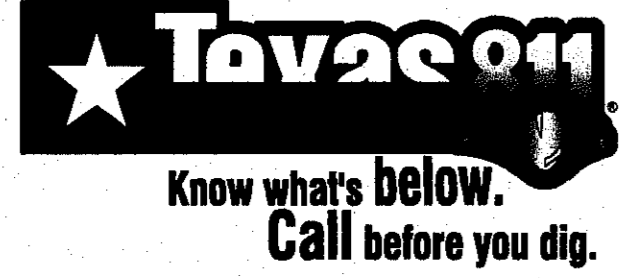
SHEET TITLE
**STORM SEWER
 A
 PLAN AND
 PROFILE**

COB	1724
DESIGN BY	JOB NO.
COB-SM	08/08/18
DRAWN BY	DATE
AHO	AS NOTED
CHECKED BY	SCALE

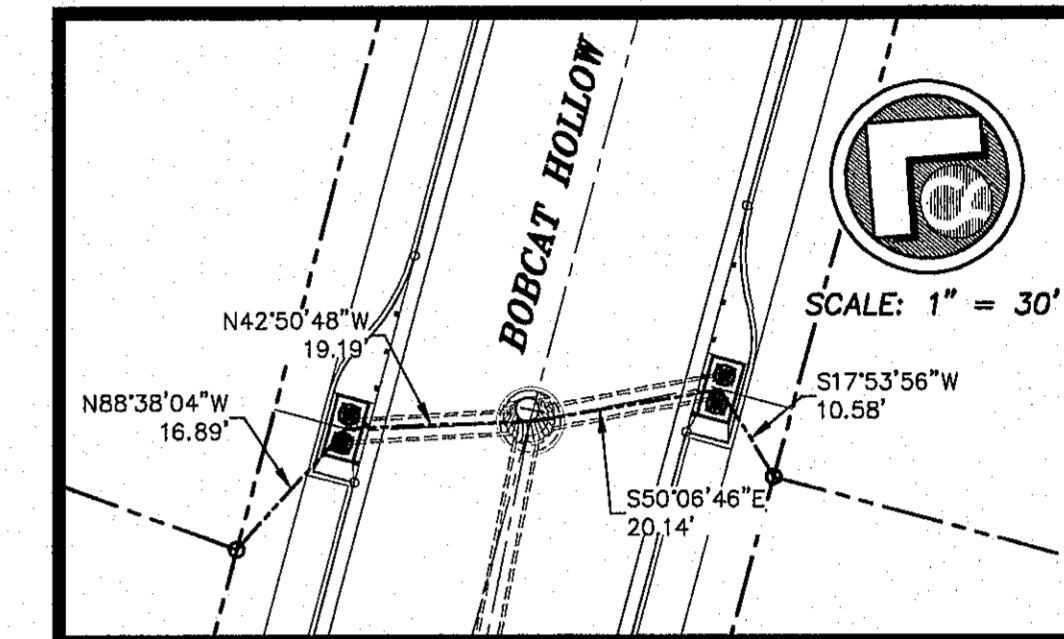
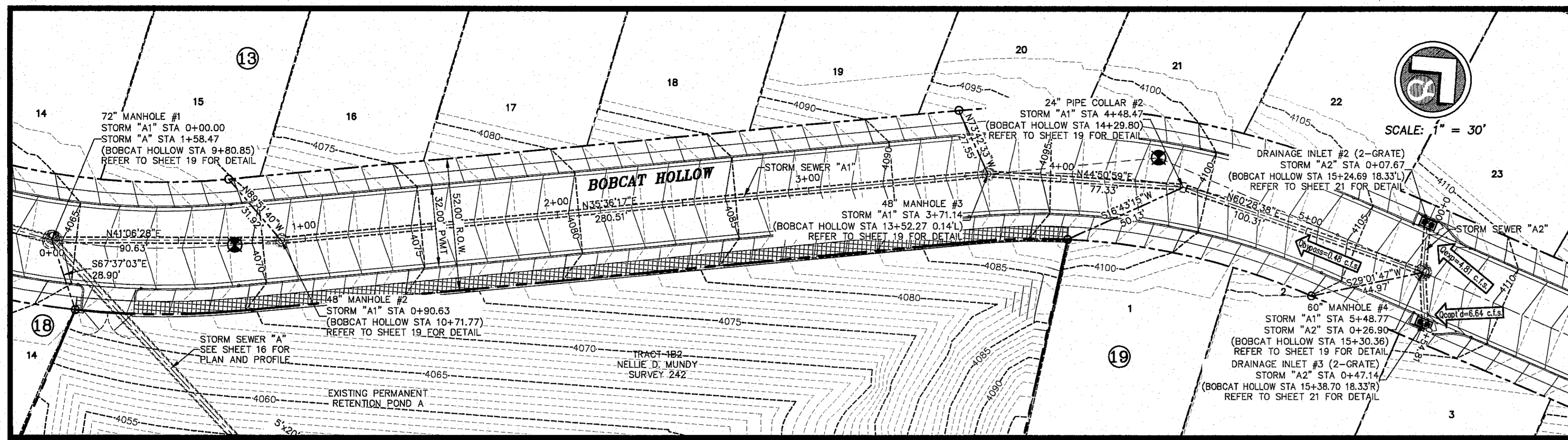
SHEET NO.
16
 SHEET REQUIRED
 18 OF 46



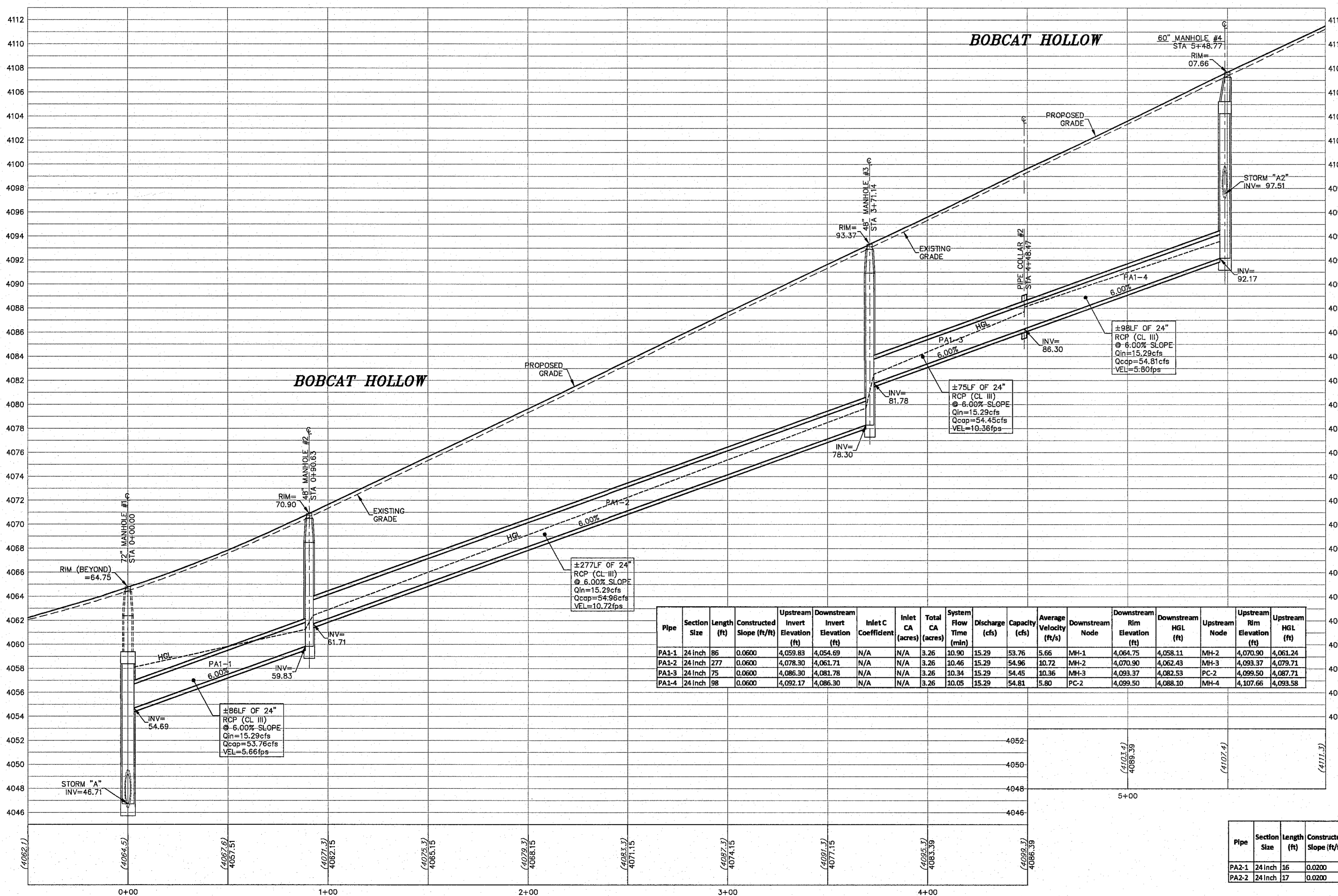
Final Approval



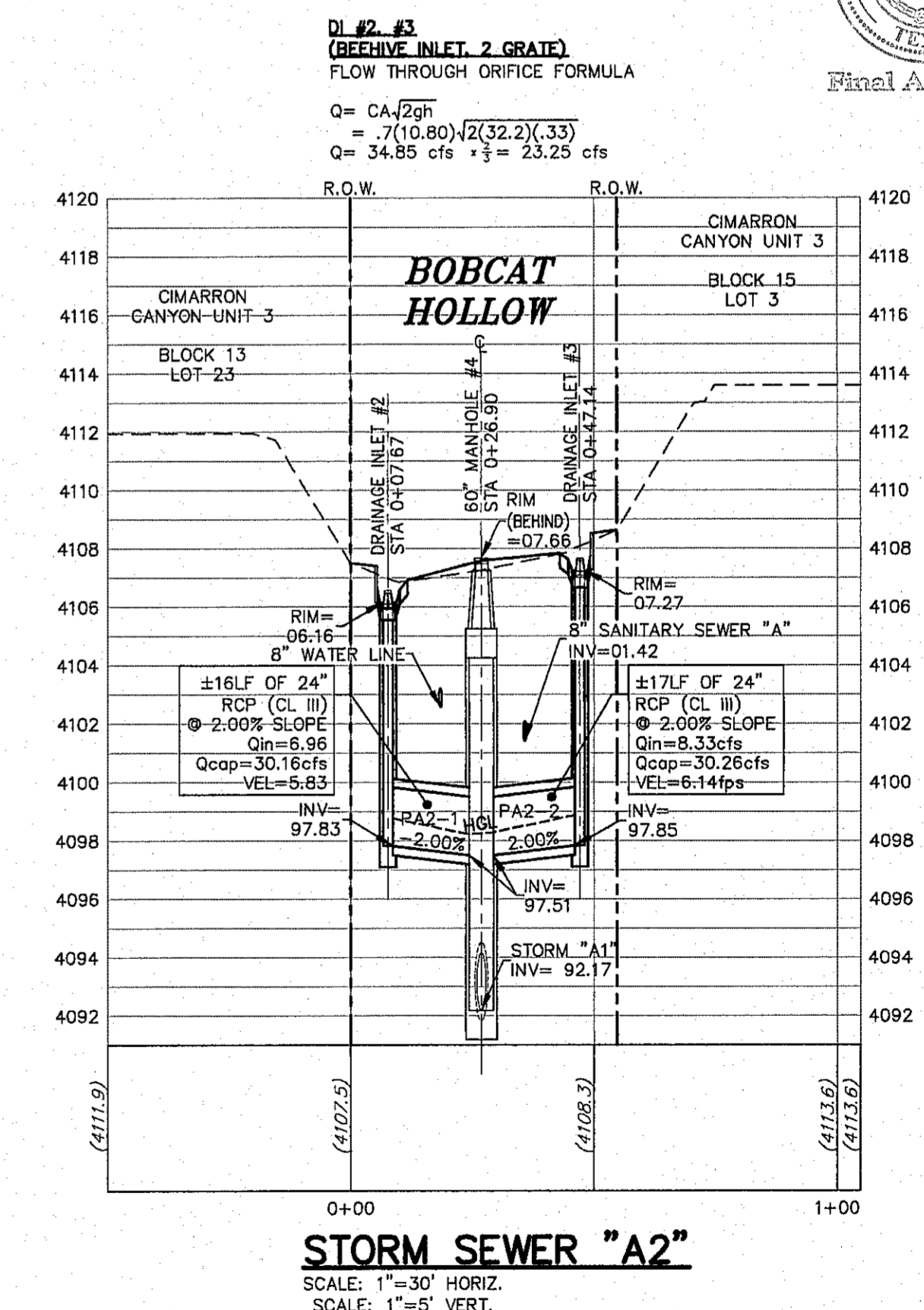
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 UNDERGROUND IMPROVEMENTS
 IN PROJECT AREA



STORM SEWER "A2" INLET TIE



STORM SEWER "A1"
SCALE: 1" = 30' HORIZ.
SCALE: 1" = 5' VERT.



STORM SEWER "A2"
SCALE: 1" = 30' HORIZ.
SCALE: 1" = 5' VERT.

Pipe	Section	Length	Constructed	Upstream	Downstream	Inlet	Inlet	Total	System	Discharge	Capacity	Average	Downstream	Downstream	Upstream	Upstream		
		(ft)	Slope (ft/ft)	Invert Elevation (ft)	Invert Elevation (ft)	CA	CA	CA	Flow Time (min)	(cfs)	(cfs)	Velocity (ft/s)	Node	Rim Elevation (ft)	HGL (ft)	Rim Elevation (ft)	HGL (ft)	
PA2-1	24 inch	16	0.0200	4,097.83	4,097.51	0.60	1.23	1.23	10.00	6.96	30.16	5.83	MH-4	4,107.66	4,098.23	DI-2	4,106.16	4,098.77
PA2-2	24 inch	17	0.0200	4,097.85	4,097.51	0.60	2.03	2.03	10.00	8.33	30.26	6.14	MH-4	4,107.66	4,098.30	DI-3	4,107.27	4,098.88

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

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1-800-DIG-LESS
EL PASO GAS SERVICE
1-800-841-6662
EL PASO WATER UTILITY
562-8411-6662
PUBLIC SERVICE BOARD (WATER & SEWER)
AFTER HOURS EMERGENCY (EPW)
TEXAS EXCAVATION SAFETY SYSTEM
KINDER-MORGAN EPWC PIPELINES
1-800-338-3764
EL PASO METRIC SIGNS AND MAINTENANCE
EL PASO POLICE DEPARTMENT

ADRIAN I. ONTIVEROS
124088
LICENSED PROFESSIONAL ENGINEER

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www.csaengineers.com

CMARRON CANYON
UNIT THREE
SUBDIVISION

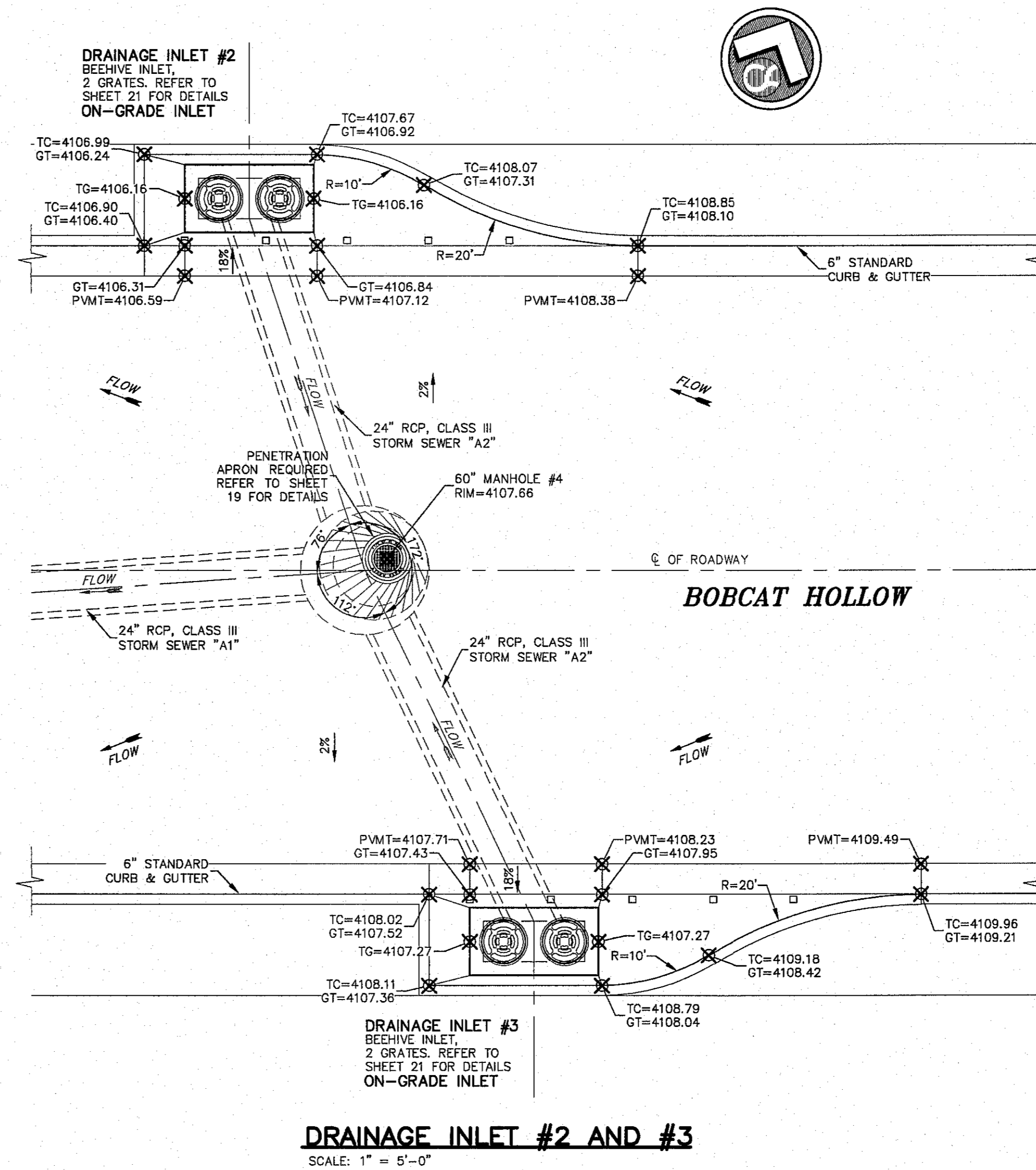
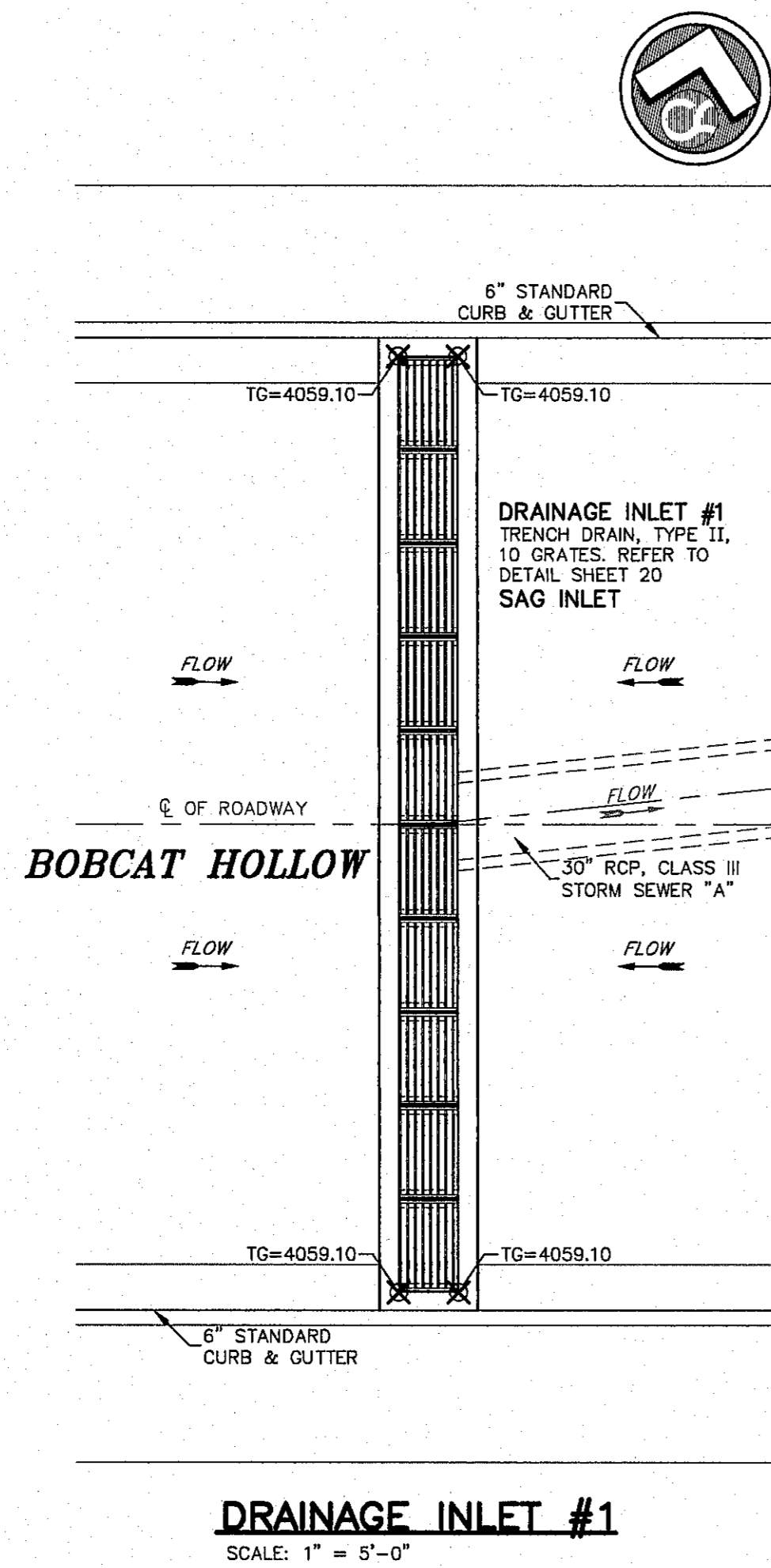
**STORM SEWER
A1 & A2
PLAN AND
PROFILE**

JOB NO.	1724
DATE	08/08/18
AHO	AS NOTED
DRAWN BY	SCALE
CHECKED BY	SCALE
SHEET NO.	17
TOTAL SHEETS	19 OF 46

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WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL EXISTING
UNDERGROUND IMPROVEMENTS
IN PROJECT AREA





SEE SHEET 6 FOR HYDRAULIC
DATA AND CALCULATIONS
RELATIVE TO CAPACITY, BYPASS
AND CLOGGING FOR INLETS.

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submitted	AHO
2	11/07/19	Second City Submitted	AHO
1	09/23/19	First City Submitted	AHO

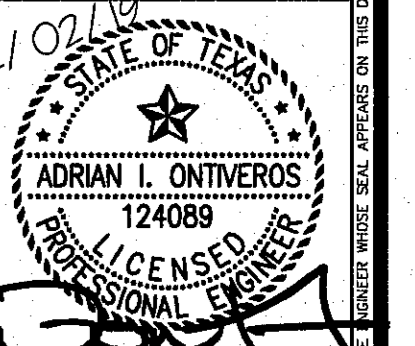
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PROJECT AREA

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543-5720
1-800-DIG-TESS
562-8411/562-2003
562-8411/562-2003
SPECTRUM 775-7412
775-7412
1-800-344-8377
1-800-344-3034
1-800-231-0105

EL PASO ELECTRIC COMPANY
AT&T GAS SERVICE
TGS EMERGENCY HOTLINE
PUBLIC SERVICE BOARD (WATER & SEWER)
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TEXAS EXCAVATION SAFETY SYSTEM
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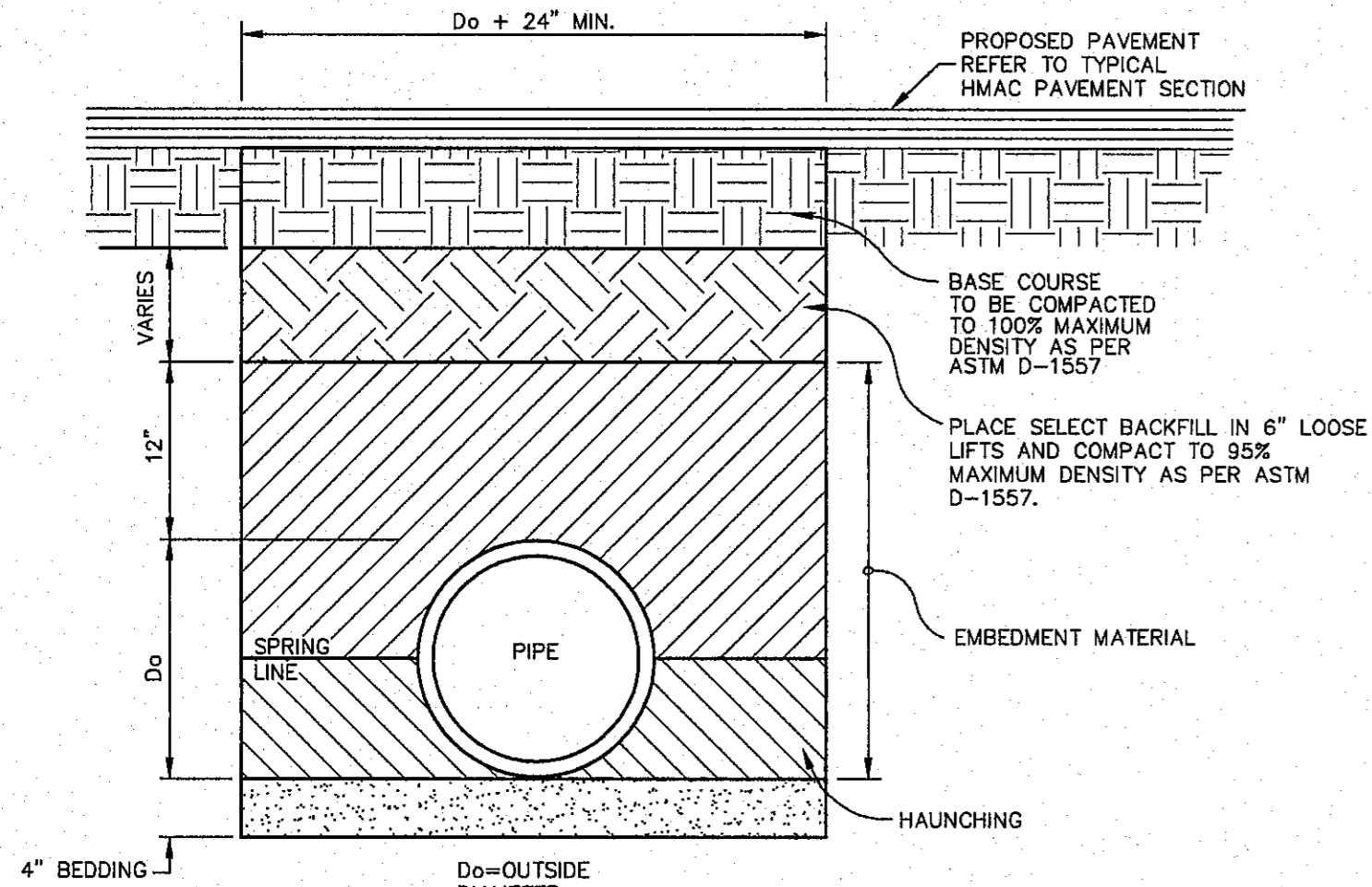


CIMARRON CANYON
UNIT THREE
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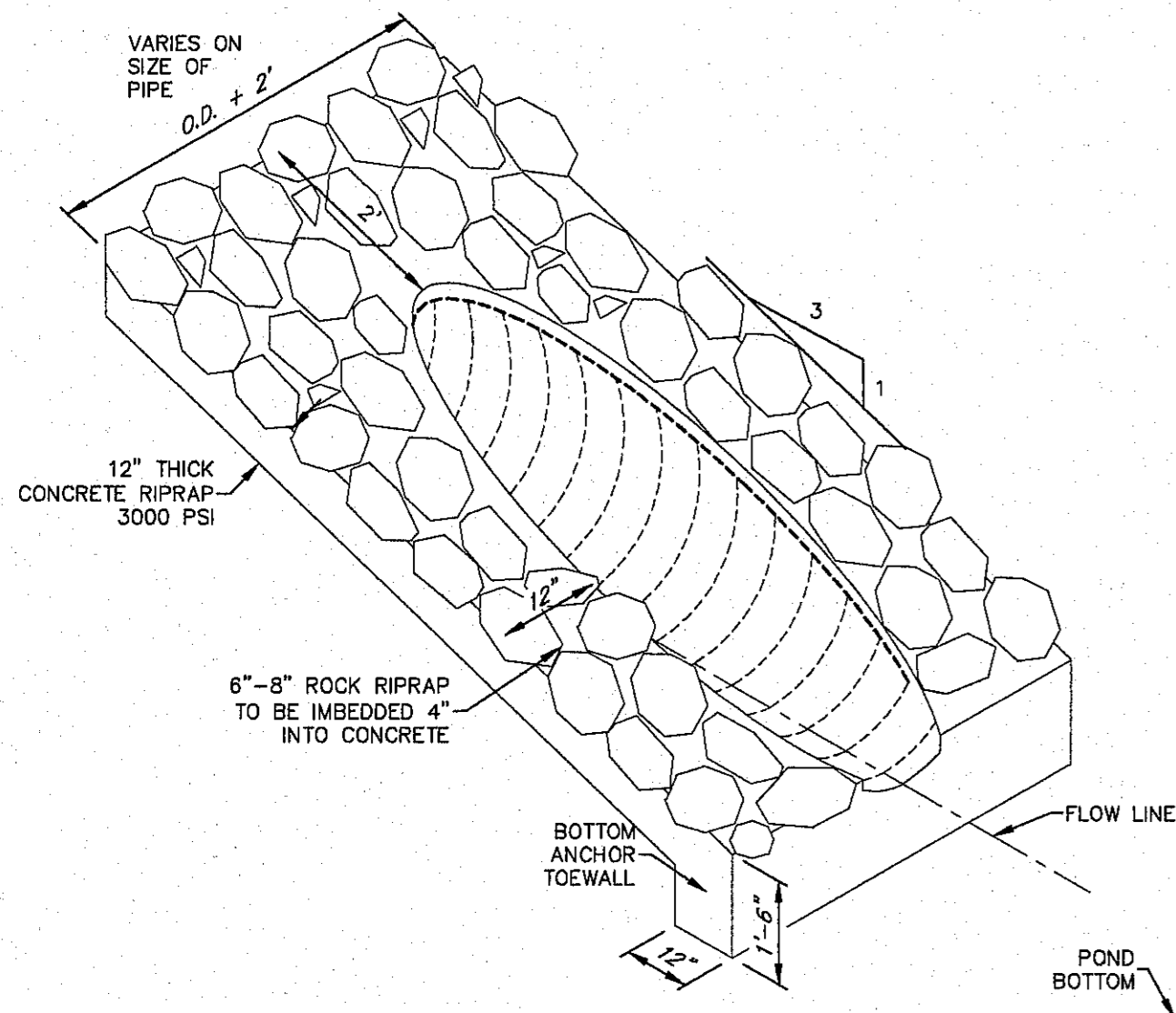
SHEET TITLE
**DRAINAGE
INLETS
1-3**

JOB NO.	1724
DESIGN BY	SM
DATE	08/08/18
DRAWN BY	SM
CHECKED BY	AS NOTED
SCALE	SCALE

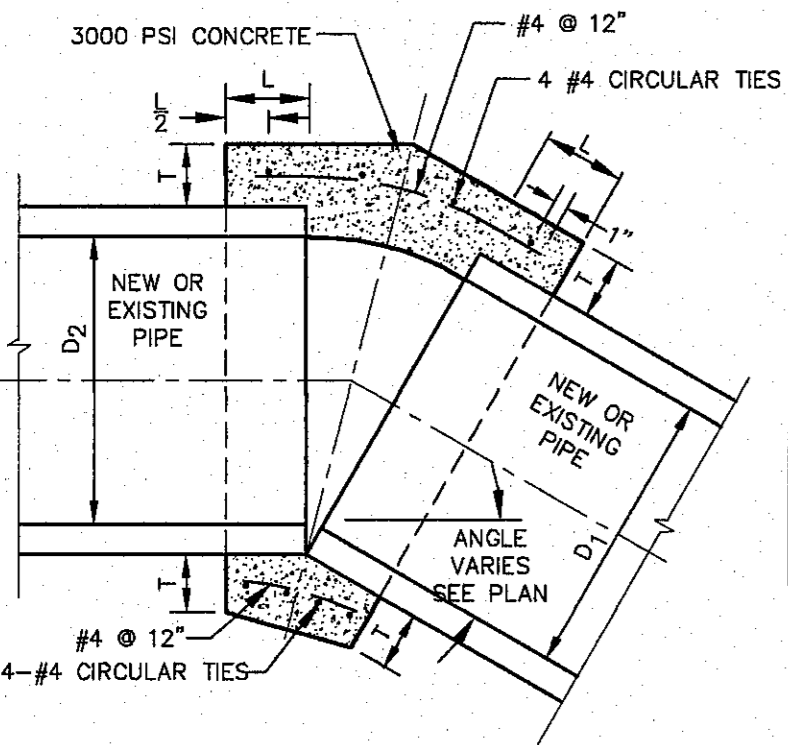
SHEET NO.
18
OF 20
20 OF 46



TYPICAL TRENCH BACKFILL FOR STORM SEWER INSTALLATION
SCALE: 1" = 1'-0"



SAFETY END TREATMENT
NTS



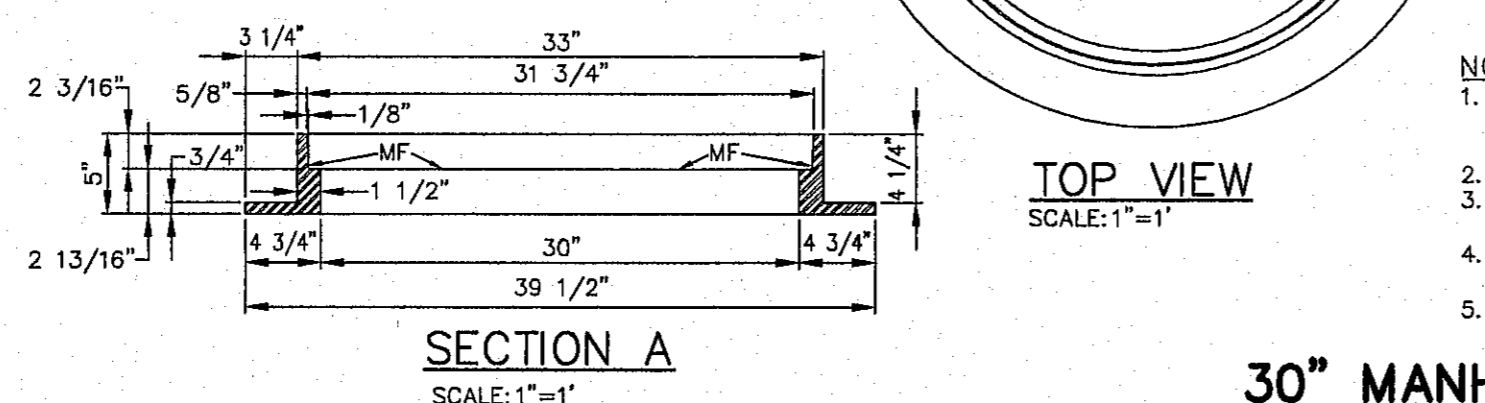
- NOTES:**
- SMALLER STONES TO BE USED TO FILL IN GAPS.
 - WEED BARRIER - 28 MIL GEOTEXTILE FABRIC OR APPROVED EQUAL.
 - FABRIC SHALL BE NEEDLE PUNCHED OR WOVEN. NON-PERVIOUS FABRIC SHALL NOT BE ACCEPTED.

RIP-RAP DETAIL
SCALE: N.T.S.

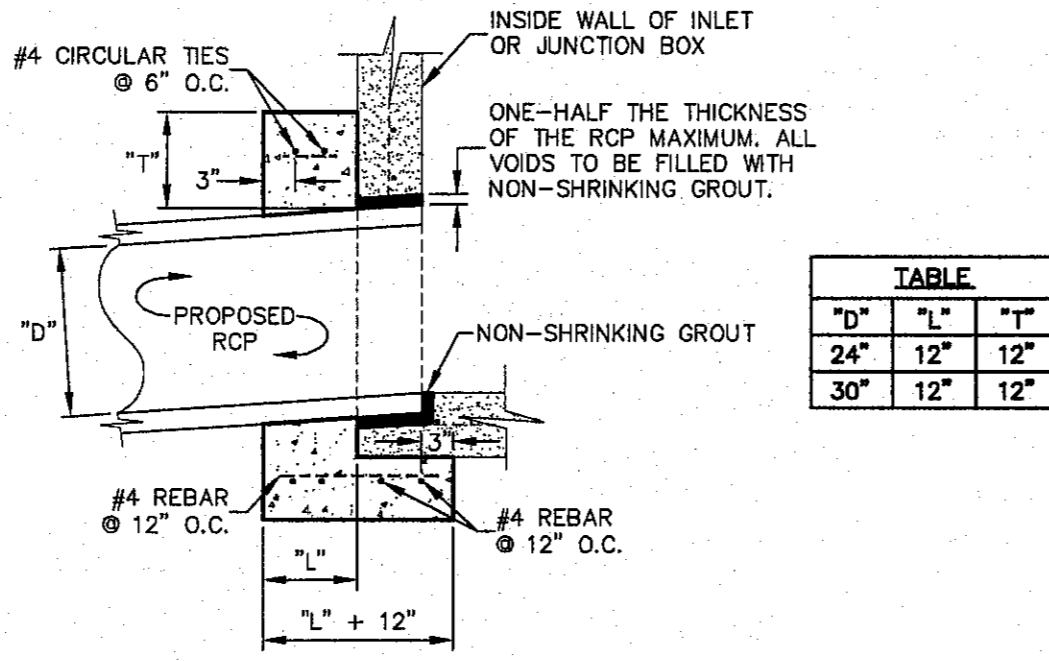
D	L	T
24"	1.0	6"
30"	1.5	8"

- NOTES:**
- A CONCRETE COLLAR IS REQUIRED WHERE PIPES OF DIFFERENT DIAMETERS OR MATERIALS ARE JOINED, OR WHERE THE CHANGE IN ALIGNMENT OR GRADE EXCEEDS THAT ALLOWED FOR AN ORDINARY JOINT.
 - WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, L & T SHOULD BE THOSE OF THE LARGER PIPE, D₁ OR D₂ WHICHEVER IS GREATER.
 - FOR PIPE SIZES NOT LISTED USE NEXT SIZE LARGER.
 - OMIT REINFORCING ON PIPES 24" OR LESS IN DIAMETER.
 - WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D + (2 x WALL THICKNESS) + 8"
 - FIELD CLOSURES OF PIPE OF THE SAME DIAMETER AND WITHOUT CHANGE IN GRADE OR ALIGNMENT SHALL BE MADE WITH A CONCRETE COLLAR.

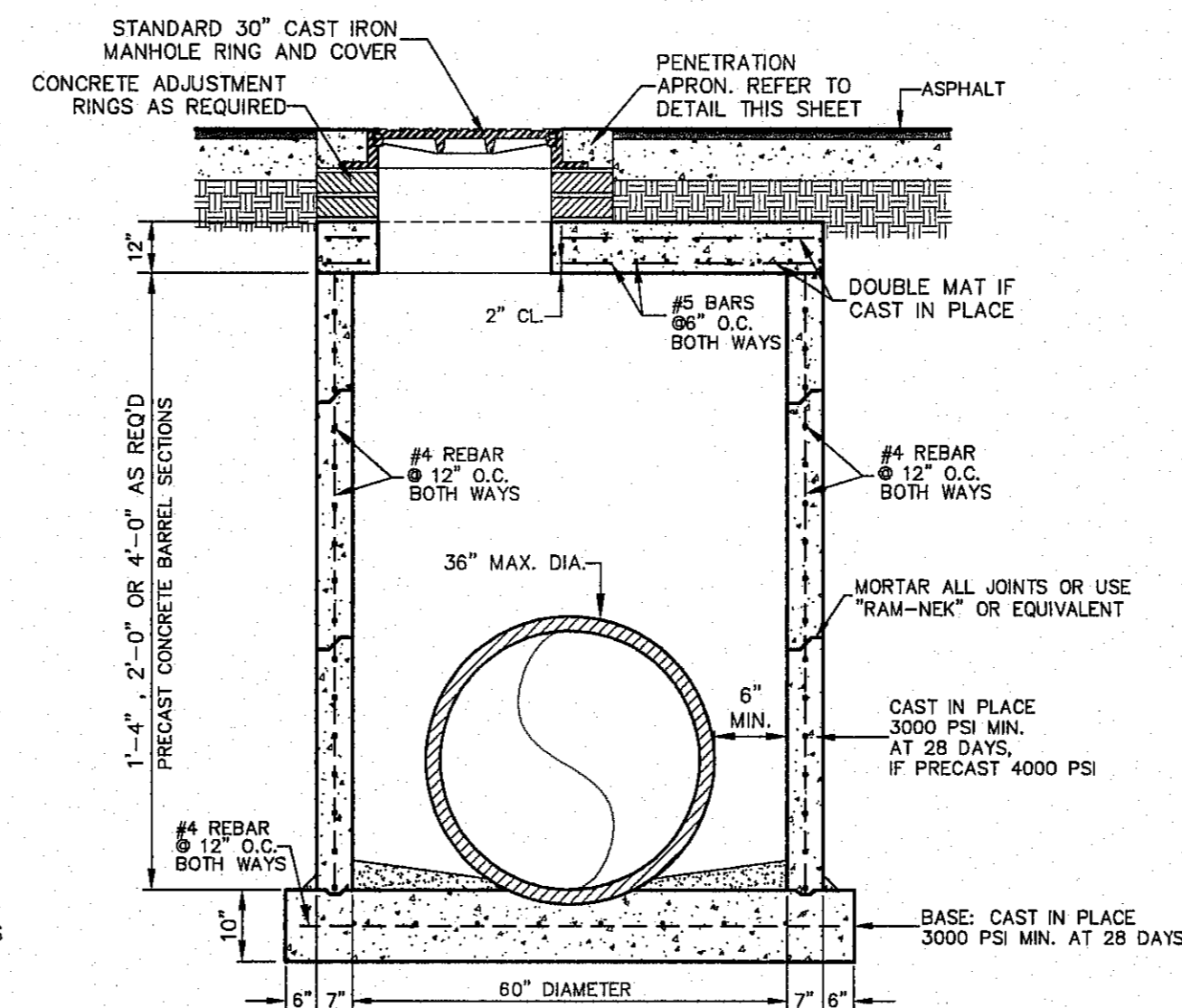
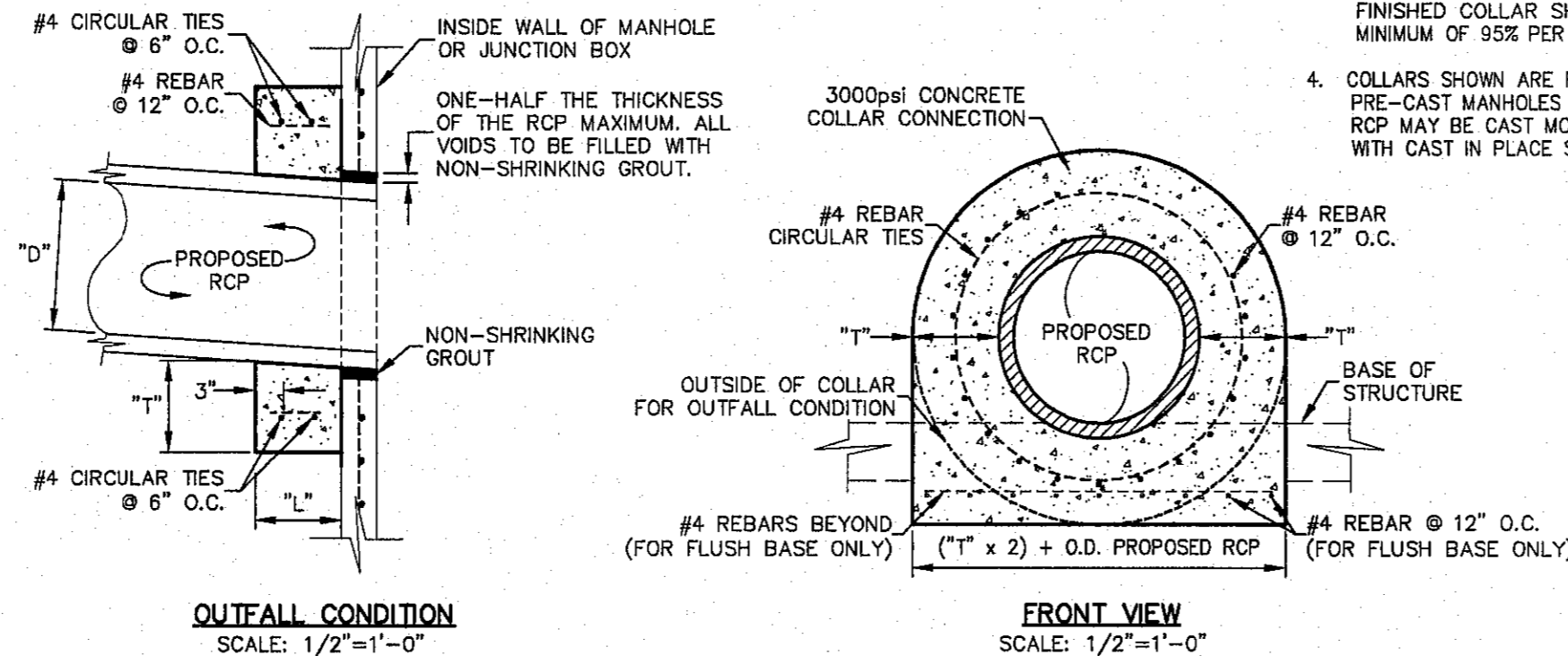
CONCRETE PIPE COLLAR
SCALE: 1" = 1'-0"



- NOTES:**
- MATCHING SURFACES MARKED "MF" TO BE FINISHED TO CONFORM TO THE RIM ELEVATION SHOWN ON THE PLAN AND PROFILES. FINAL ADJUSTMENT TO THE FINISHED PAVEMENT ELEVATION SHALL BE MADE WITH CONCRETE ADJUSTMENT RINGS AND LOCKED INTO PLACE WITH THE INSTALLATION OF THE PENETRATION APRON. PRE-FABRICATED CONCRETE ADJUSTMENT RINGS ARE AVAILABLE FROM 2"-8" IN HEIGHT.
 - CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 - AS-CAST DIMENSIONS MAY VARY ± PER FOOT (AASHTO M306-07).
 - WEIGHT MAY VARY 5%± (AASHTO M306-07).

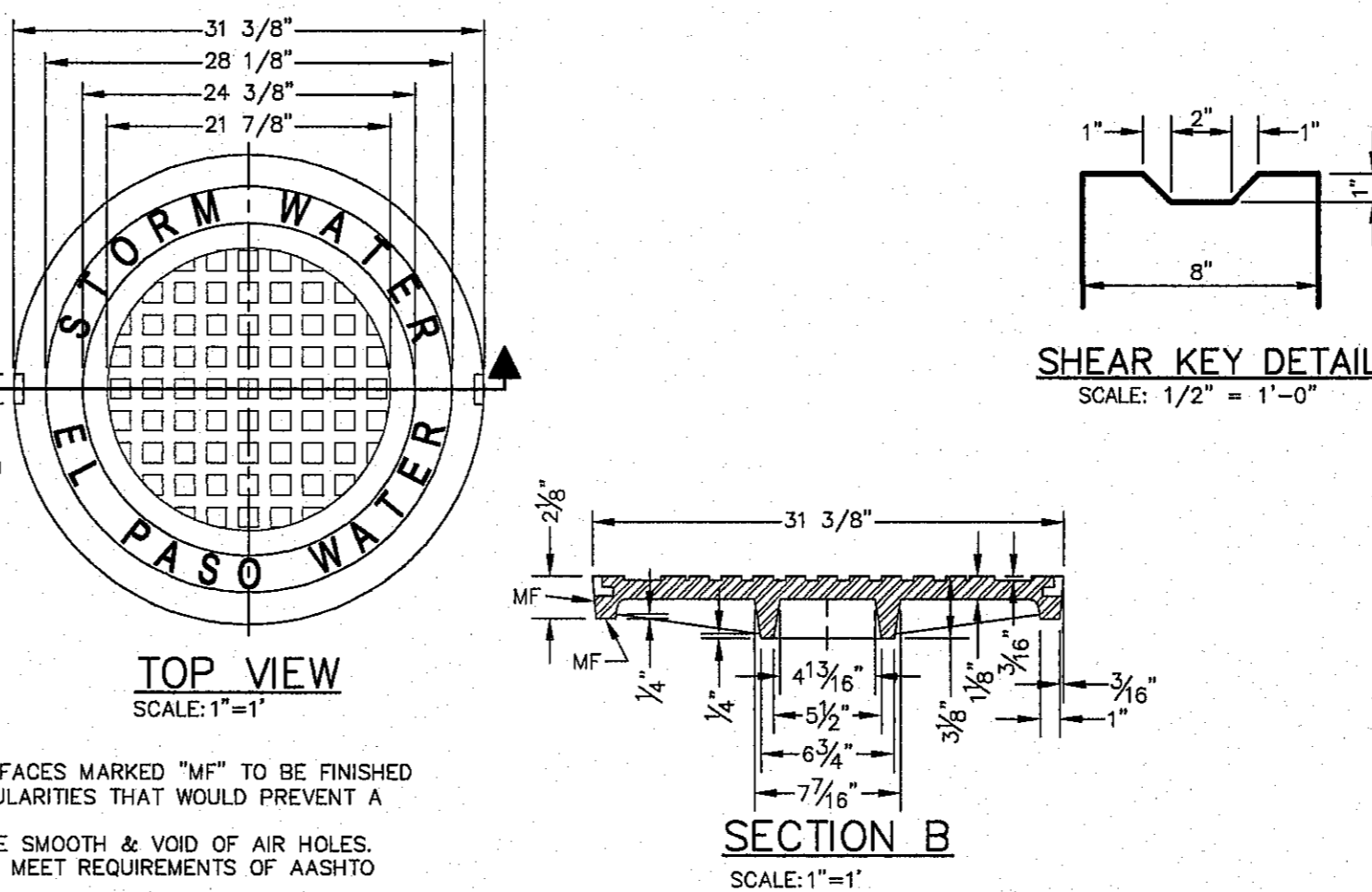


RCP CONNECTION AT STRUCTURE
SCALE: AS NOTED



48" PRE-CAST MANHOLE
SCALE: 1" = 2'-0"

60" PRE-CAST MANHOLE
SCALE: 1" = 2'-0"



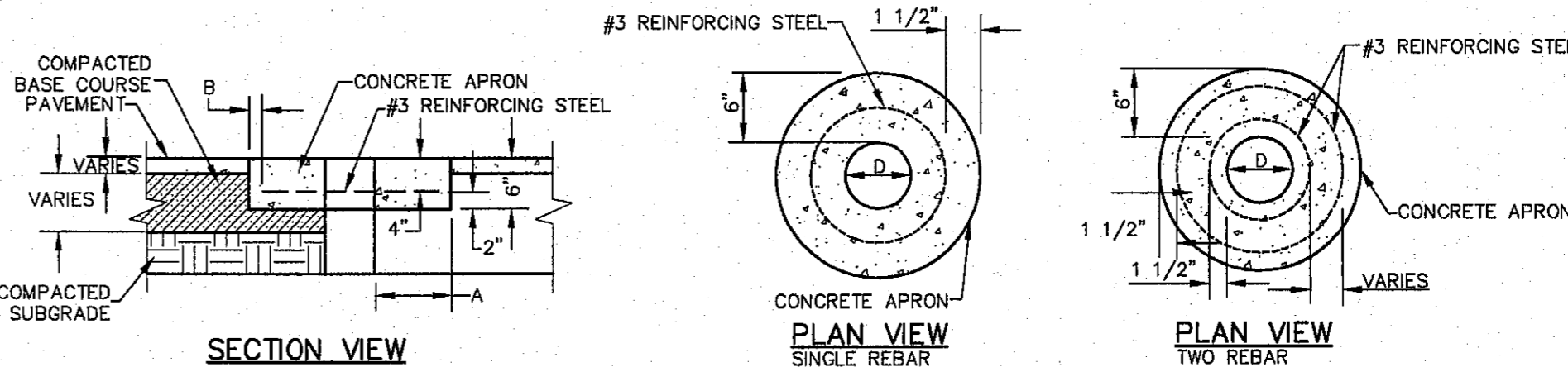
- NOTES:**
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 - AS-CAST DIMENSIONS MAY VARY ± PER FOOT (AASHTO M306-07).
 - WEIGHT MAY VARY 5%± (AASHTO M306-07).

30" MANHOLE RING AND COVER
SCALE: AS NOTED

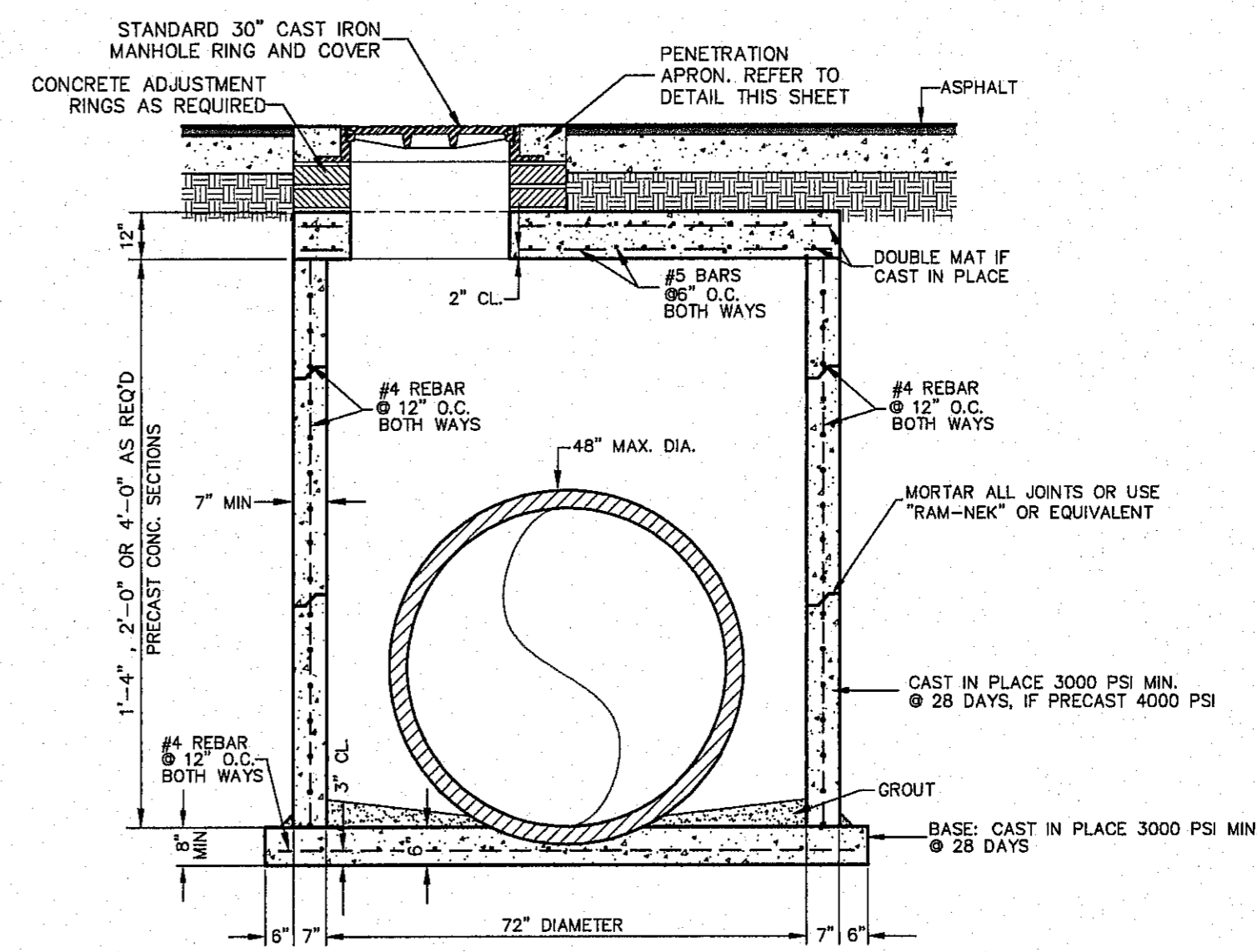
CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENT				
"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (INCHES)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR (INCHES)
0 TO 6.00	6	1	1 1/2	1 1/2
6.01 TO 18.00	8	2	1 1/2	1 1/2
18.01 AND OVER	12	3	1 1/2	1 1/2

- CONSTRUCTION NOTES:**
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY ± 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY ± 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
 - REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
 - NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

- GENERAL NOTES:**
- THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
 - TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISH GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.



PENETRATION APRON
SCALE: N.T.S.



72" PRE-CAST MANHOLE
SCALE: 1" = 2'-0"

JUNCTION BOX NOTES:

- STANDARD STRUCTURAL DESIGN SHALL BE BASED ON AASHTO HS20 WHEEL LOADING.
- THE PRE-CAST MANHOLE RISER AND CONICAL SECTIONS SHALL CONFORM TO ASTM SPECIFICATIONS C-478.
- THE CONICAL SECTIONS SHALL BE ECCENTRIC WHERE LADDER RUNGS ARE REQUIRED.
- THE PRE-CAST CONCRETE SHALL HAVE A MINIMUM ALLOWABLE COMPRESSIVE STRENGTH AT 28 DAYS OF 4000 POUNDS PER SQUARE INCH FOR THE RISER AND CONICAL SECTIONS.
- THE RISER SECTIONS SHALL BE REINFORCED WITH STEEL WIRE MESH 6x6,10-10 AND THE CONICAL SECTION SHALL HAVE 6x6,10-10 STEEL WIRE MESH REINFORCEMENT AND 3/8" ROD AT TOP AND BOTTOM (SEE ASTM STANDARDS PART 18-C-478).
- REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS.
- REINFORCING STEEL FOR CAST IN PLACE JUNCTION BOX SHALL COMPLY WITH ASTM A615 GRADE 60, A706 GRADE 60 OR A497 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI SPECIFICATIONS.
- ALL CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

ECCENTRIC CONES MAY BE SUBSTITUTED. HOWEVER, THE RIM ELEVATIONS IN THIS PLAN SET ARE BASED ON THE INSTALLATION OF STANDARD MANHOLE CONES UNLESS NOTED OTHERWISE. IF ECCENTRIC CONES ARE SUBSTITUTED, THE CONTRACTOR MUST FIELD ADJUST THE RIM ELEVATION.

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AT&T
1-800-443-5770

TEXAS GAS SERVICE LINE
1-800-443-5770

EL PASO GAS SERVICE LINE
1-800-443-5770

PUBLIC SERVICE BOARD (WATER & SEWER)
562-8411

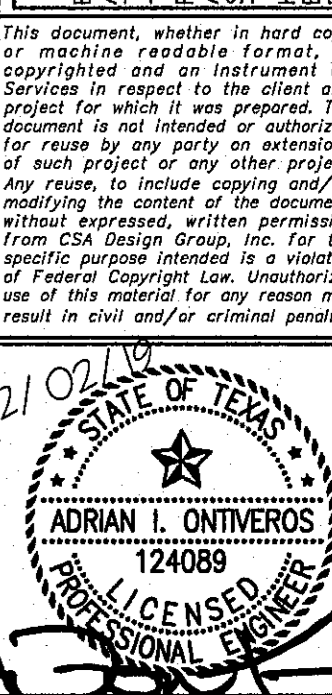
UTILITY SERVICE EMERGENCY (EPW)
994-5775

TEXAS EXCAVATION SAFETY SYSTEM
994-5775

KINDER-MORGAN EPC SYSTEM
1-800-238-3764

EL PASO STREETS AND MAINTENANCE
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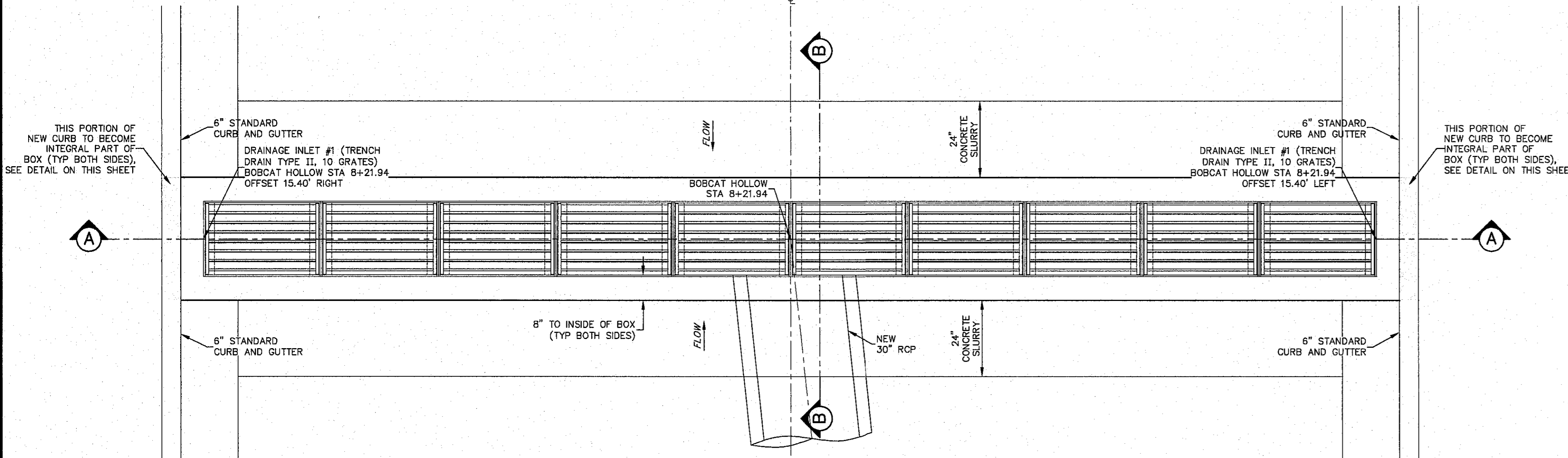
CIMARRON CANYON
UNIT THREE
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SHEET TITLE

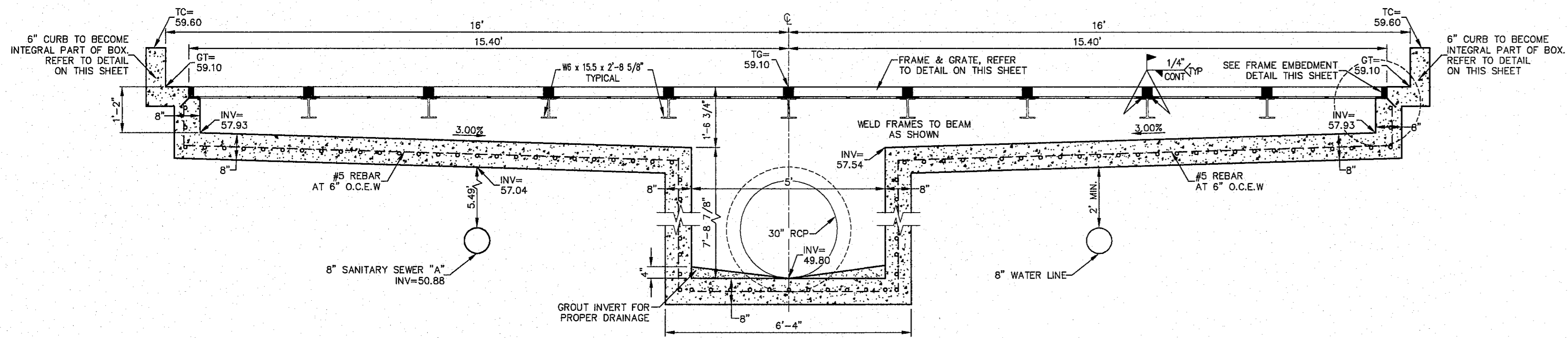
STORM SEWER DETAILS

JOB NO.	1724
DESIGNED BY	JOB
DATE	08/09/18
DRWN BY	SCALE
AHO	AS NOTED
DATE	SCALE
SHEET NO.	
19	
SHEET TOTAL	
21 OF 46	

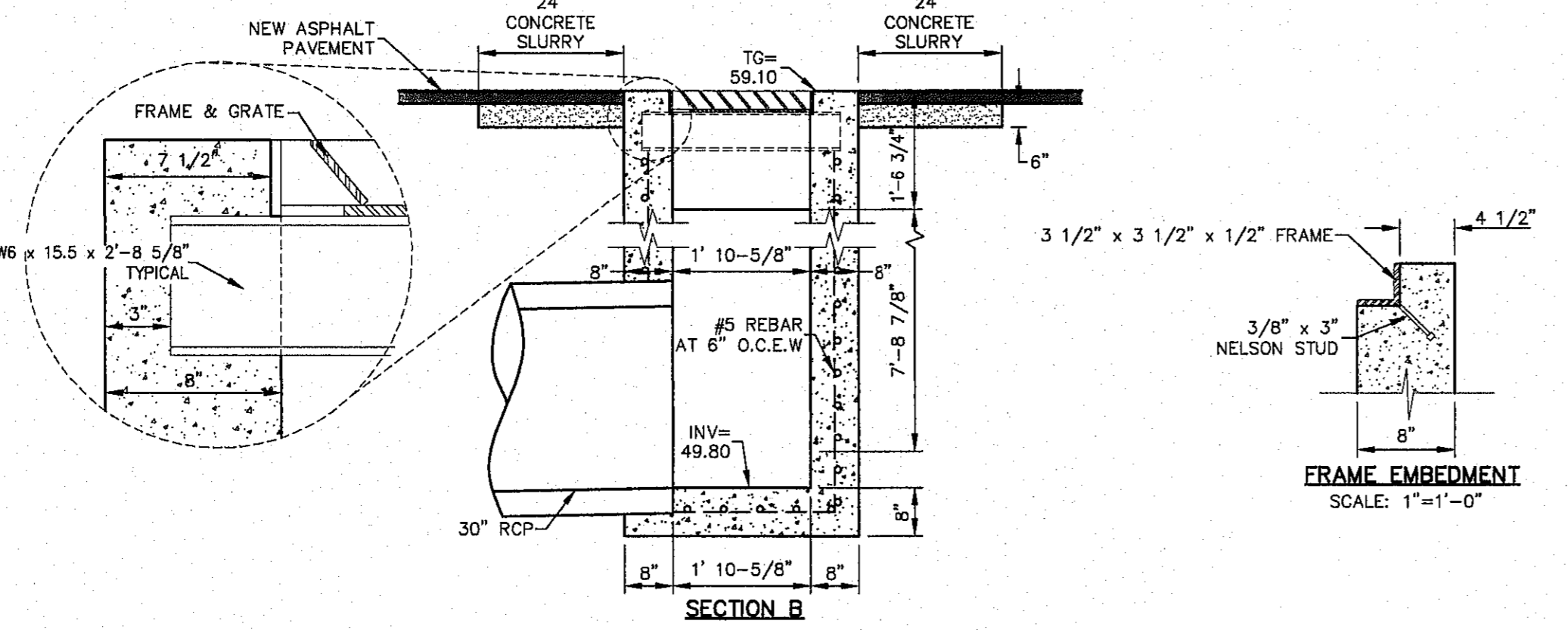
BOBCAT HOLLOW



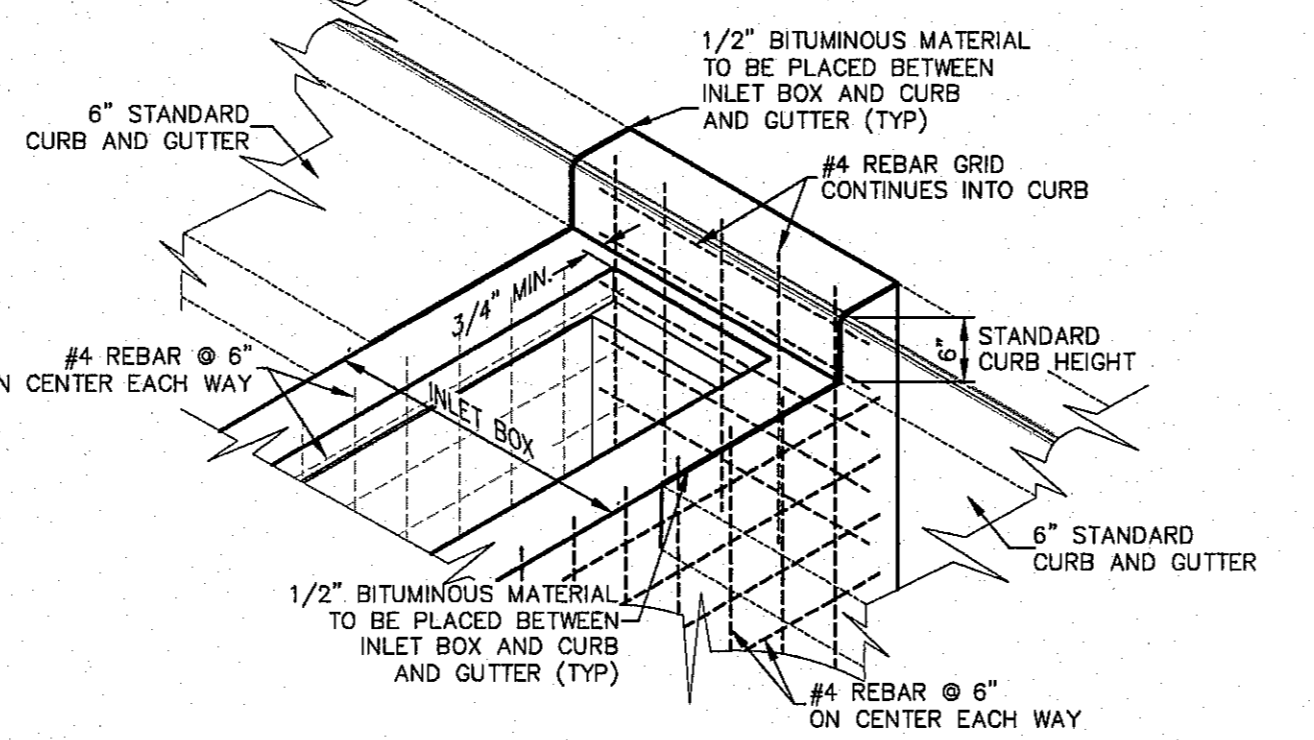
PLAN VIEW



SECTION A



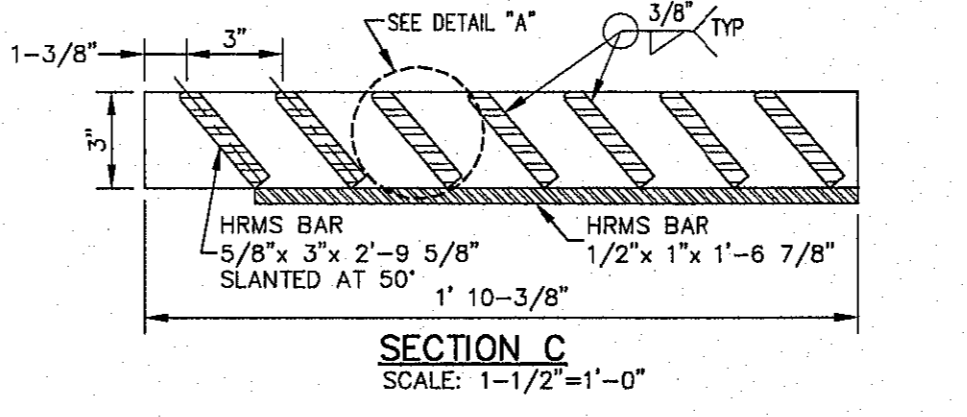
DRAINAGE INLET #1 (TRENCH DRAIN TYPE II)
SCALE: 1/2"=1'-0"



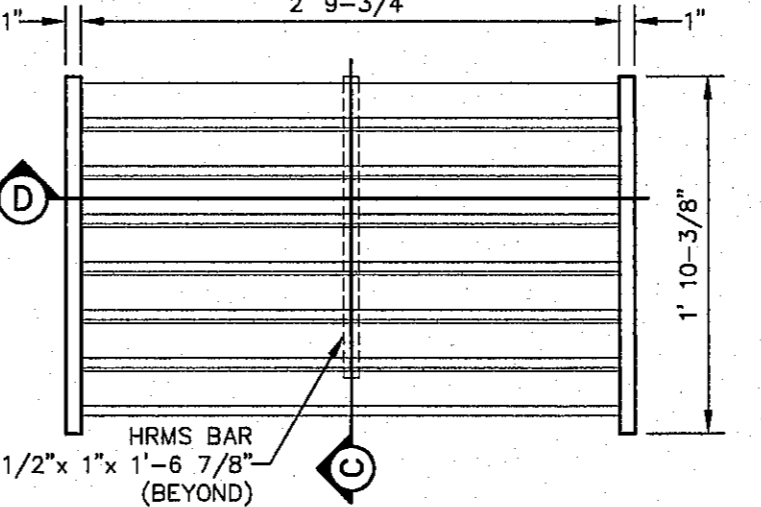
INTEGRAL CURB DETAIL
SCALE: 1"=2'-0"

DROP INLET NOTES

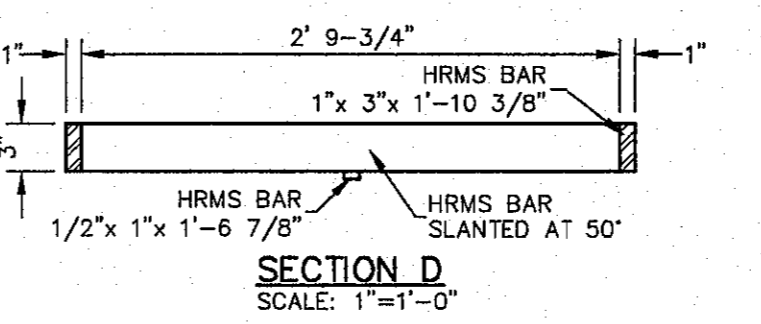
1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY AND HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRATES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
6. GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL BE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY NOR BRITTLE.
10. ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000 p.s.i., CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND TO BE PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH T.H.D. ITEM 446 "PAINT AND PAINTING".
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. (UNLESS NOTED OTHERWISE) GRADE 60. BEND BARS AROUND PIPE OPENINGS.
17. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
18. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
19. 2 - 3/8" DIA. x 4" LONG CONC. ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
20. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.
21. EXCAVATION WHICH WILL EXCEED FIVE (5) FEET IN DEPTH SHALL PROVIDE FOR TRENCH SAFETY AS PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES.



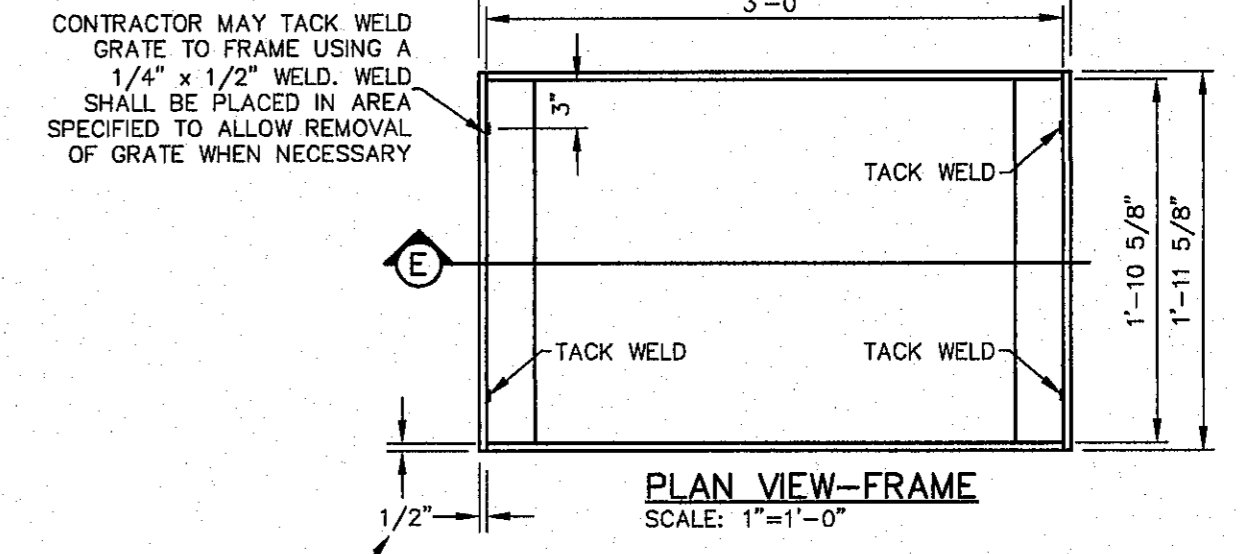
SECTION C
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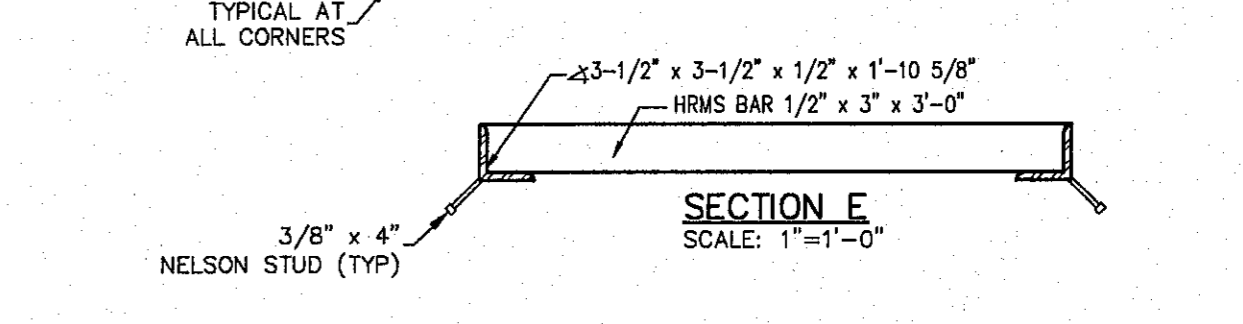
PLAN VIEW-GRATE
SCALE: 1"=1'-0"



SECTION D
SCALE: 1"=1'-0"



PLAN VIEW-FRAME
SCALE: 1"=1'-0"



SECTION E
SCALE: 1"=1'-0"

TYPICAL WELDED STEEL FRAME AND GRATE
SCALE: AS NOTED

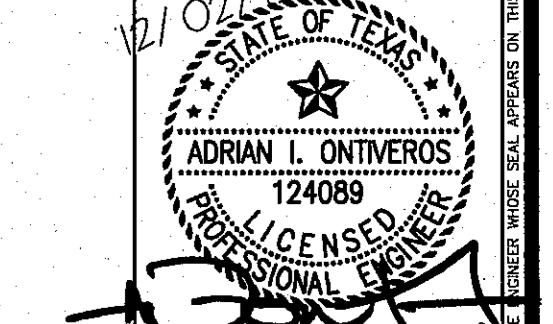


NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

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EL PASO GAS SERVICE
TEXAS GAS SERVICE
PUBLIC WORKS DEPARTMENT
WATER & SEWER
EL PASO POLICE DEPARTMENT
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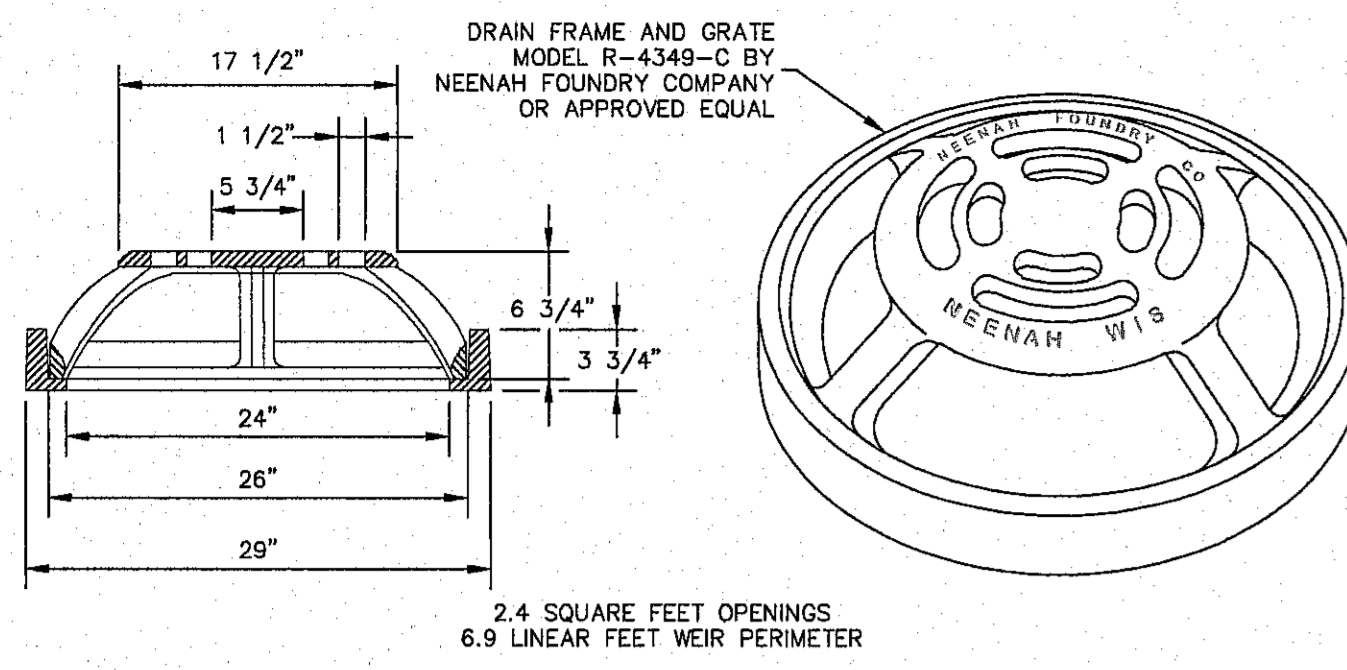


**CIMARRON CANYON
UNIT THREE
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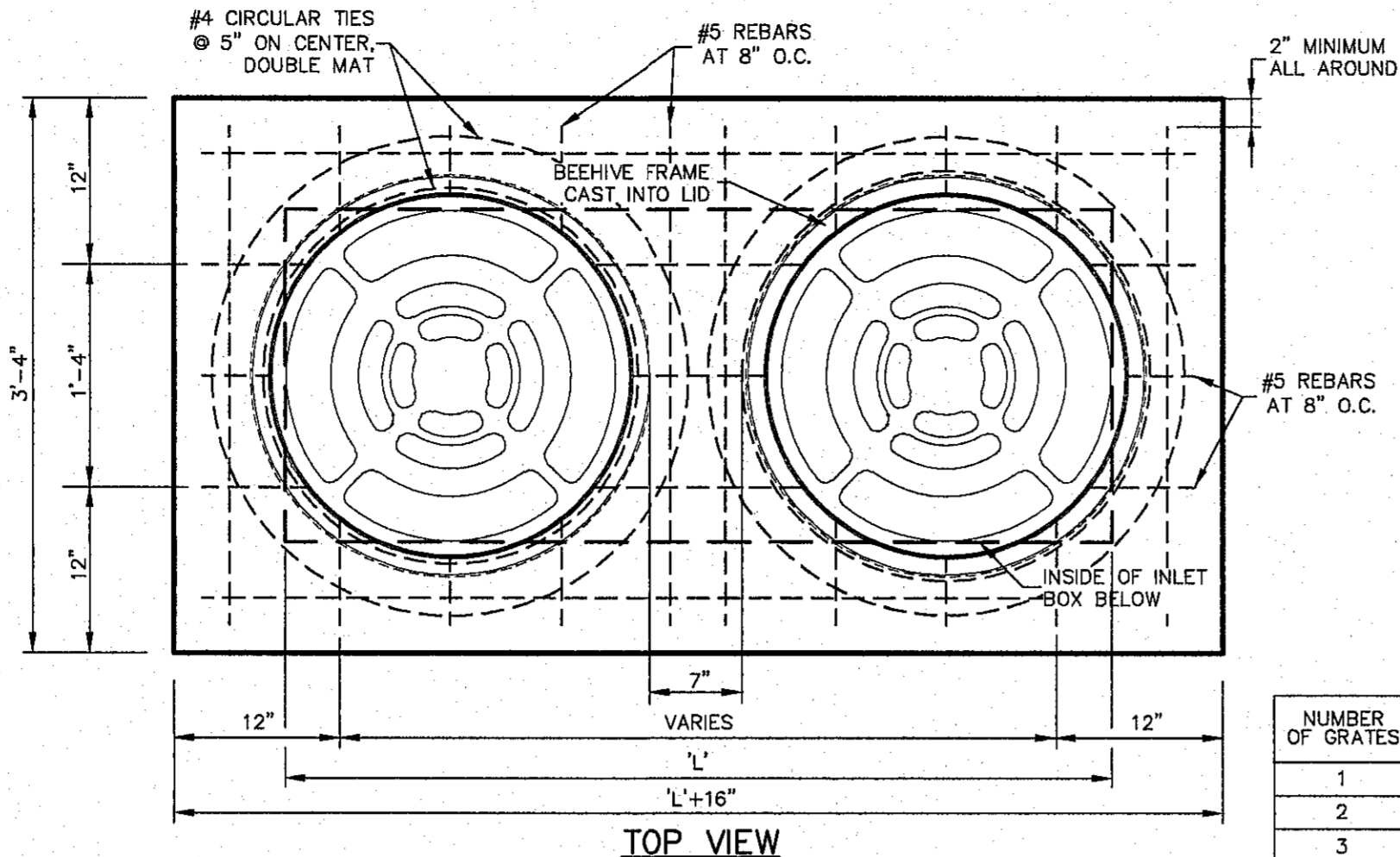
**STORM
SEWER
DETAILS**

JOB NO.	1724
DESIGN BY	JOB NO.
DESIGN-SM	08/08/18
DATE	DATE
AND	AS NOTED
SCALE	SCALE
SHEET NO.	20
SHEET SUBSEQUENCE	22 OF 46

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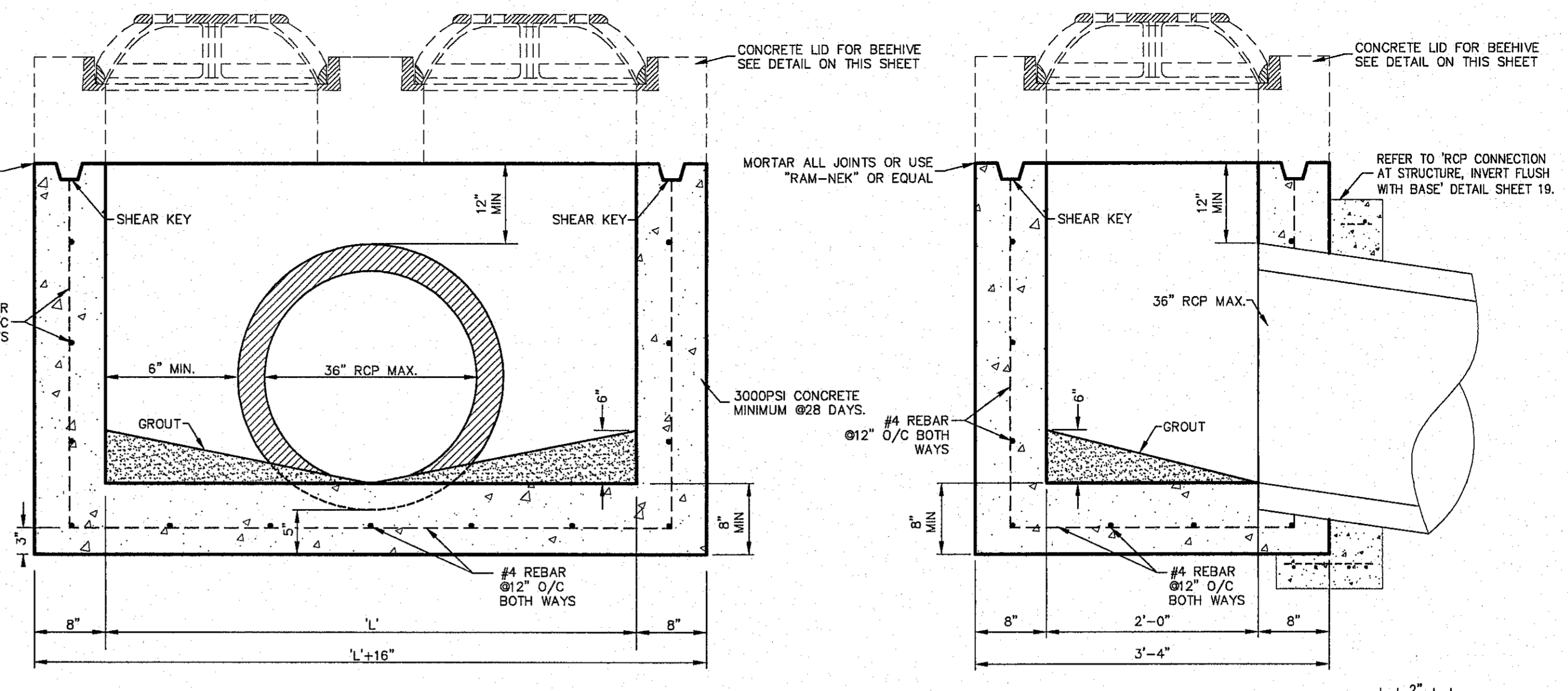


BEEHIVE FRAME AND GRATE FOR DROP INLETS
SCALE: 1" = 1'-0"



TOP VIEW

NUMBER OF GRATES	'L'
1	3'-8"
2	5'
3	8'
4	11'

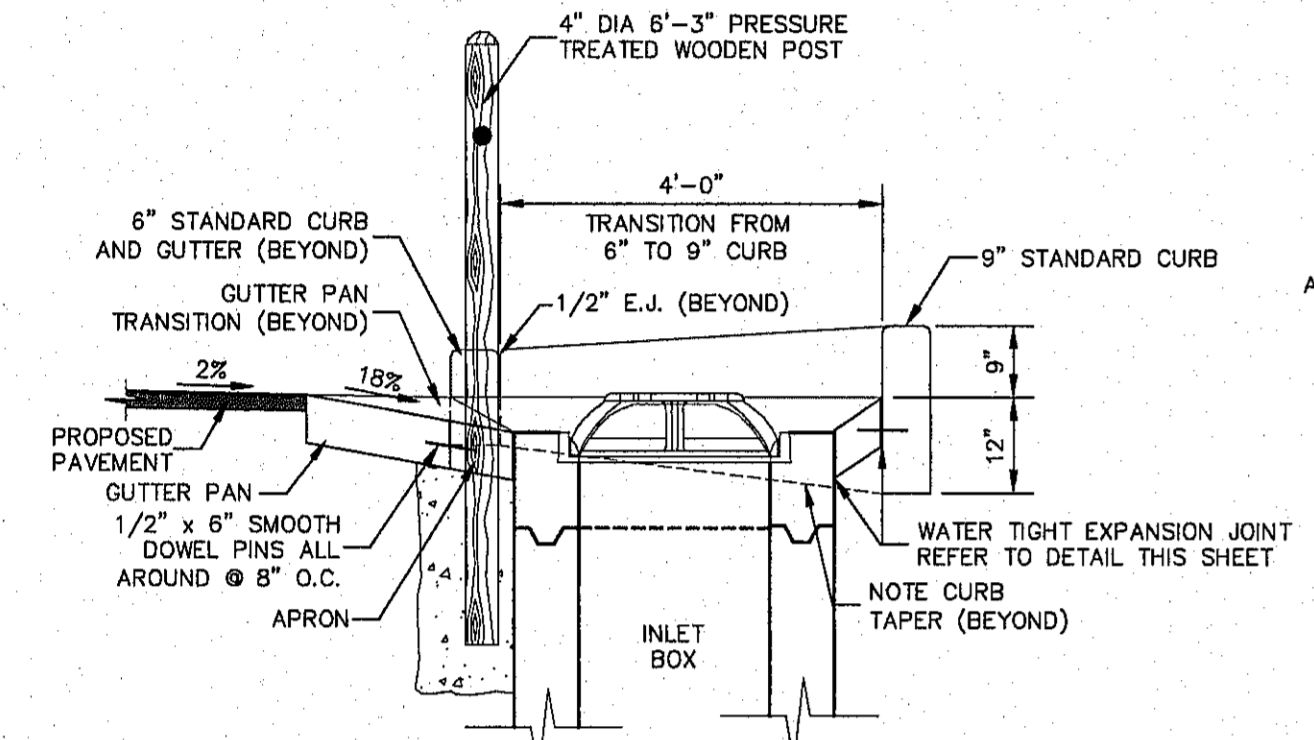


CAST-IN PLACE INLET BOX
SCALE: 1" = 1'-0"

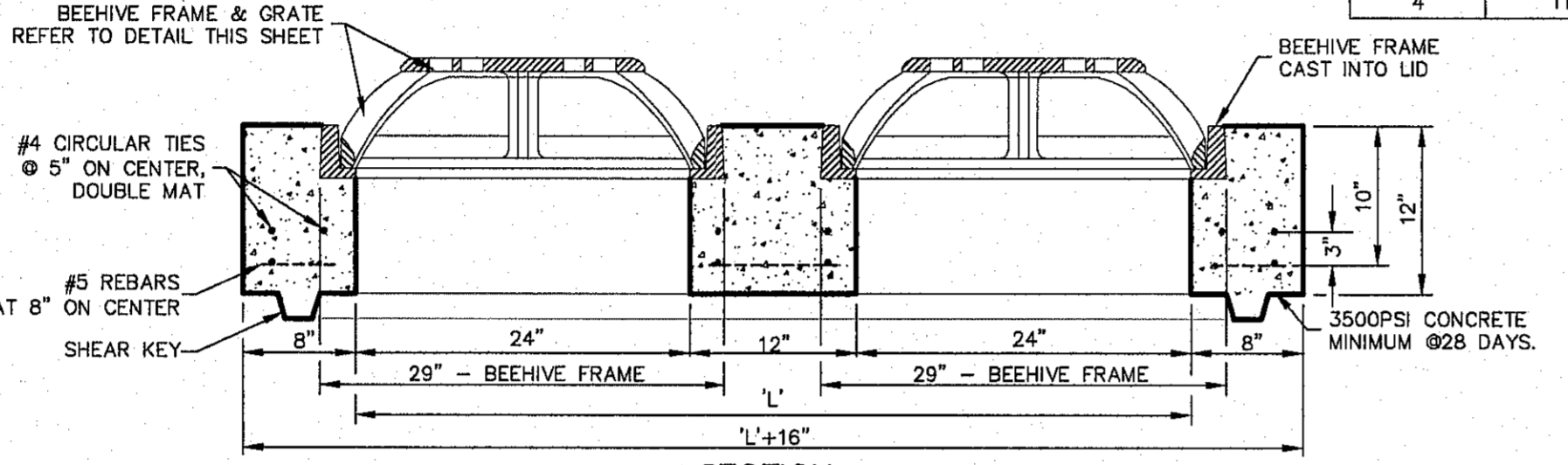
PRE-CAST NOTES:

WHILE CAST IN PLACE DETAILS ARE SHOWN, IT IS STRONGLY RECOMMENDED THAT THE INLET BOX AND LID BE CONTRACTED AS PRE-CAST. FOR PRECAST, SUBSTITUTE 6" X 6" W4.0 X W4.0 IN PLACE OF #4 REBARS. FOR THE INLET BOX LID, SUBSTITUTE 6" X 6" W4.0 X W4.0 DOUBLE MAT IN PLACE OF #4 REBARS. #3 REBAR CIRCULAR TIES MAY BE SUBSTITUTED FOR #4 CIRCULAR TIES SHOWN. RING FOR NEENAH BEEHIVE INLET SHALL BE CAST INTO LID AND ALL KNOCKOUTS SHALL BE PERFORMED AT FACTORY. INSTALL #3 REBAR CIRCULAR TIES AT ALL KNOCKOUTS, 4" GREATER IN DIAMETER THAN THE SIZE OF EACH KNOCKOUT, AND TIED TO THE WIRE MESH. ALL CONCRETE FOR PRE-CAST INLET BOXES SHALL BE 4000 PSI MINIMUM AT 28 DAYS PER ACI 308. DETAILED SHOP DRAWINGS MUST BE SUBMITTED TO DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDER OF PRE-CAST UNITS.

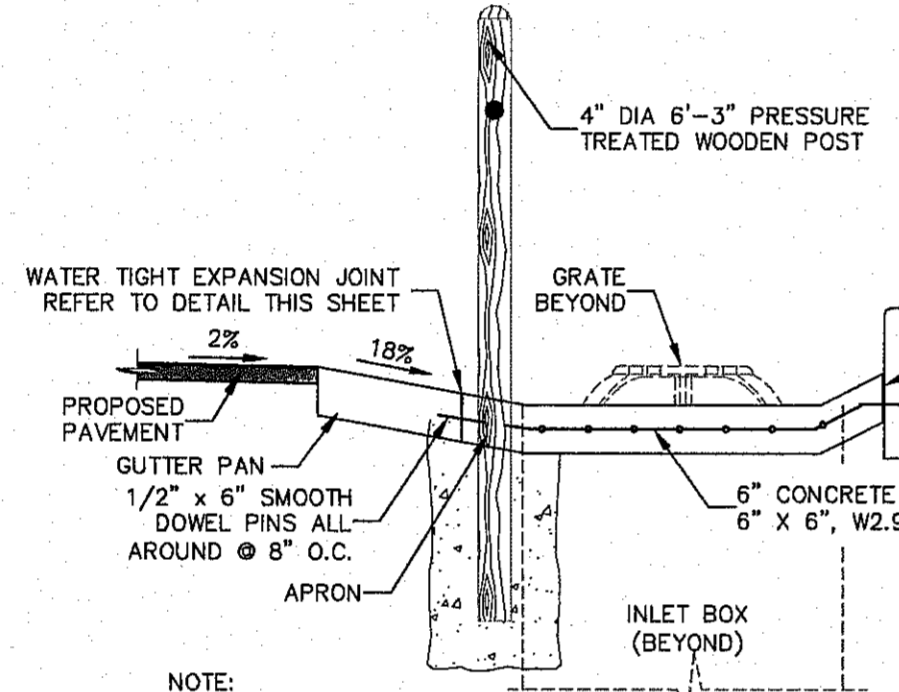
SHEAR KEY DETAIL
SCALE: 1/2" = 1'-0"



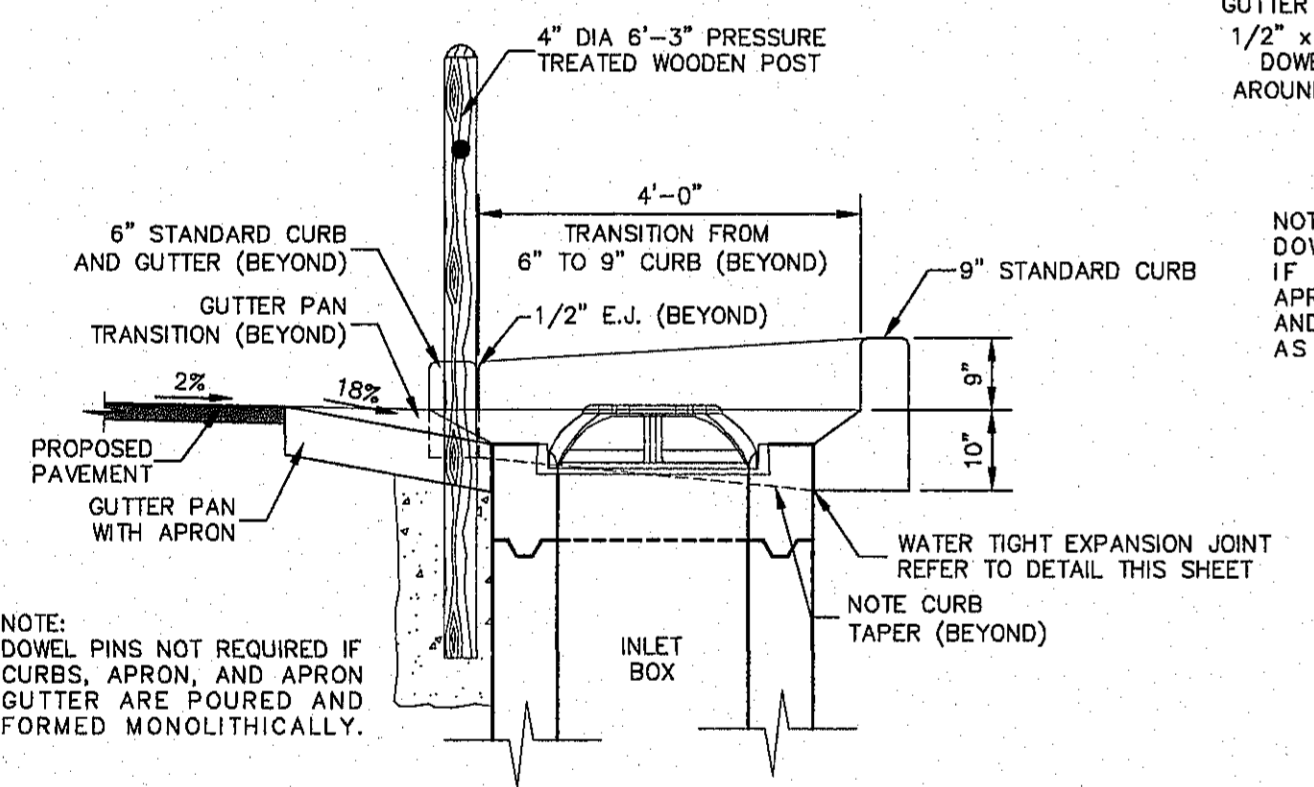
**SECTION A
CURB & GUTTER AND
APRON POURED SEPARATELY**
SCALE: 1/2" = 1'-0"



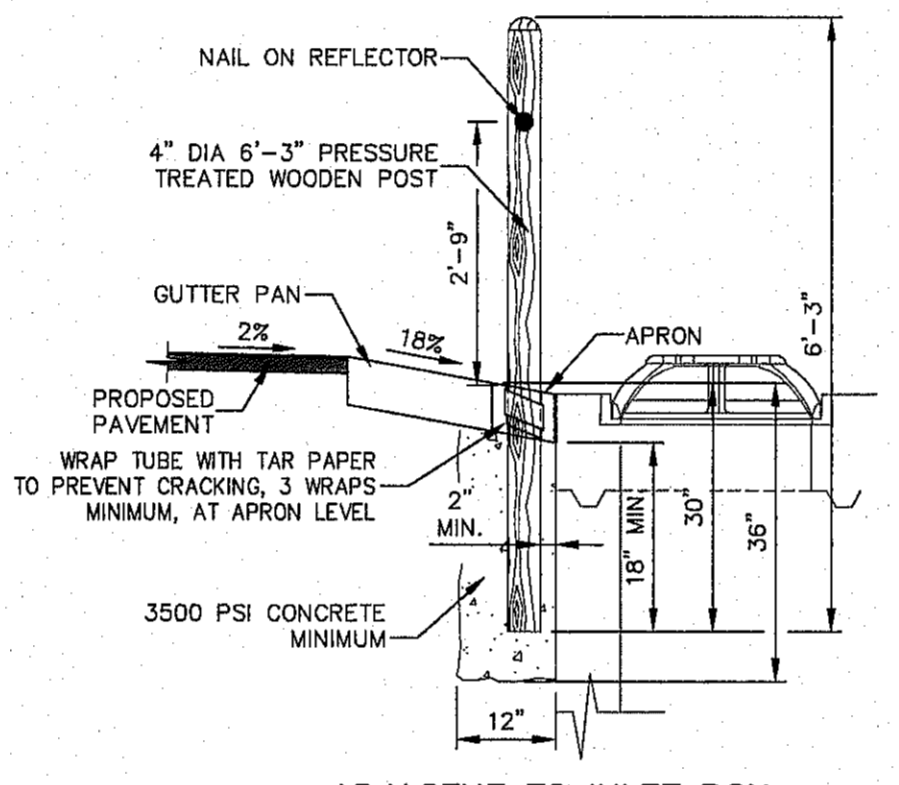
**SECTION
INLET BOX LID**
SCALE: 1" = 1'-0"



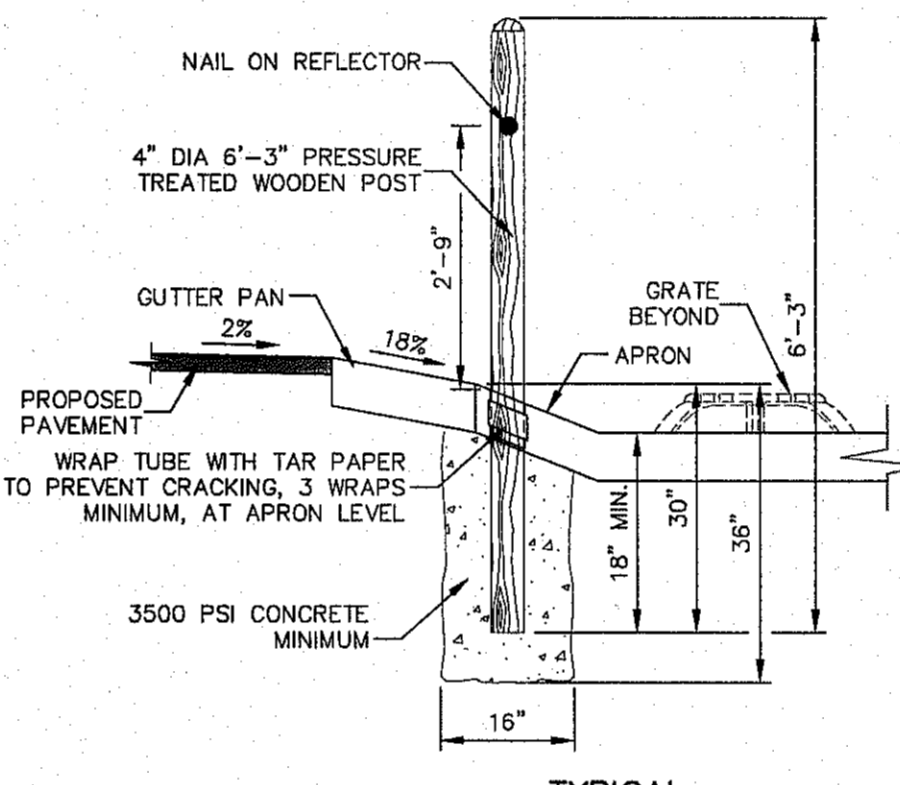
SECTION B
SCALE: 1/2" = 1'-0"



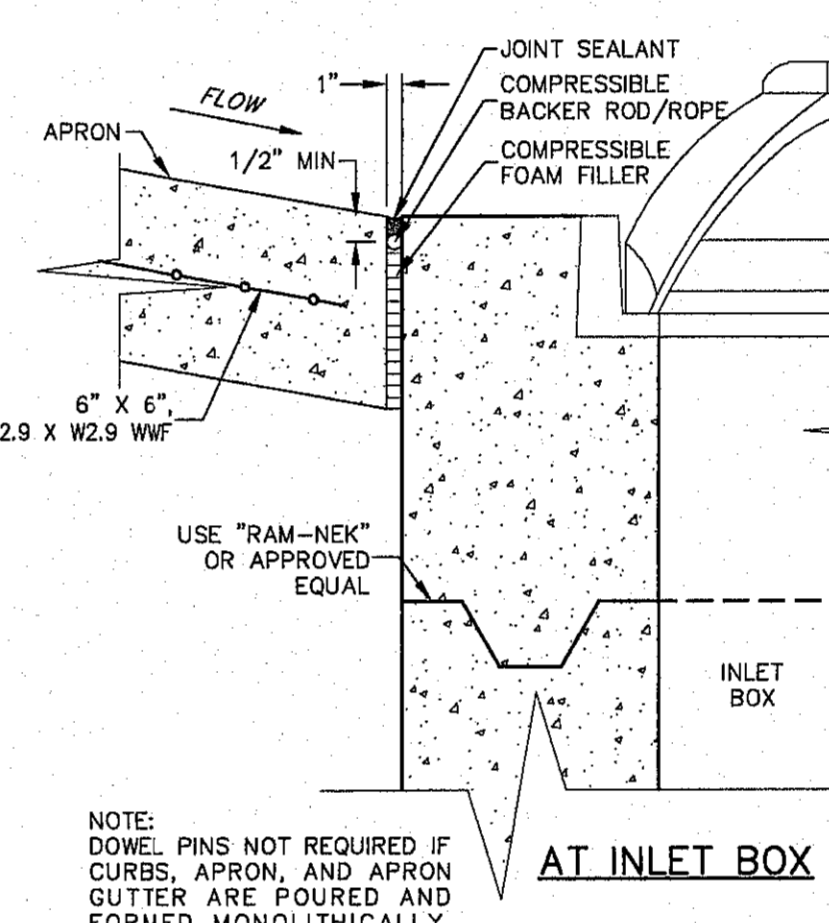
**SECTION A
CURB & GUTTER AND
APRON POURED MONOLITHICALLY**
SCALE: 1/2" = 1'-0"



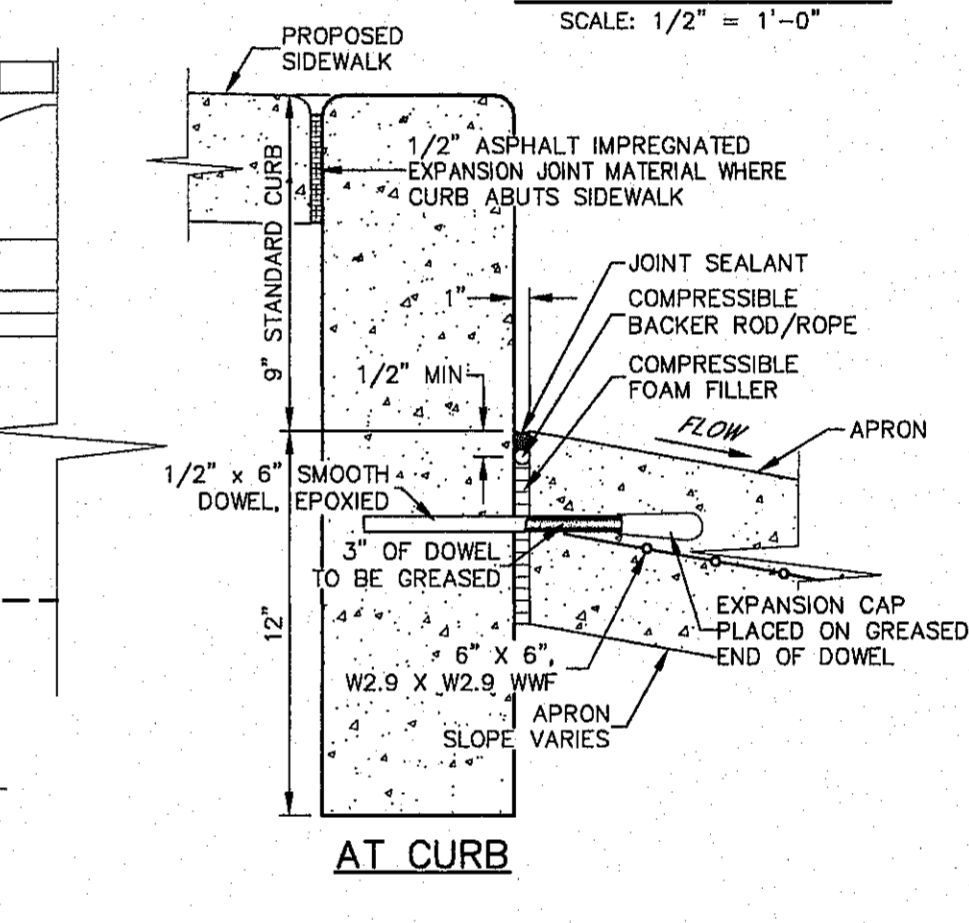
ADJACENT TO INLET BOX



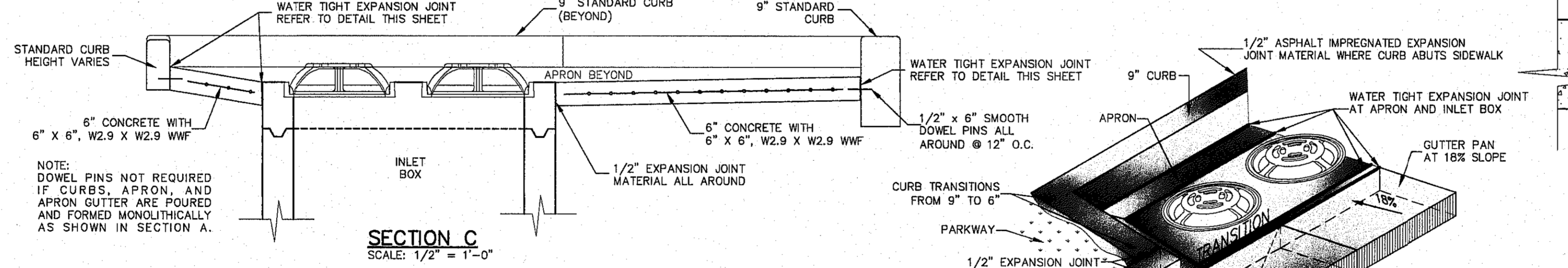
TYPICAL



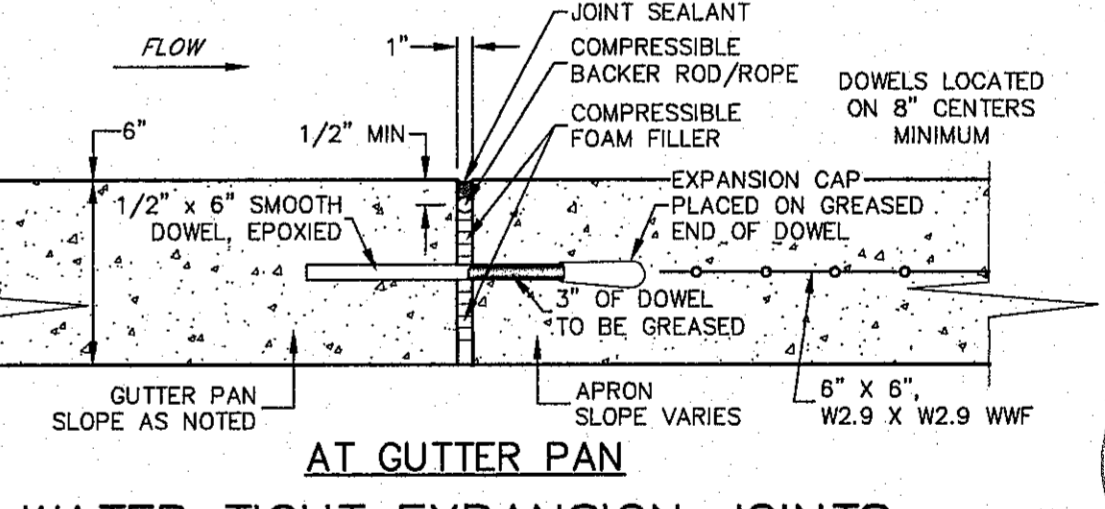
AT INLET BOX



AT CURB

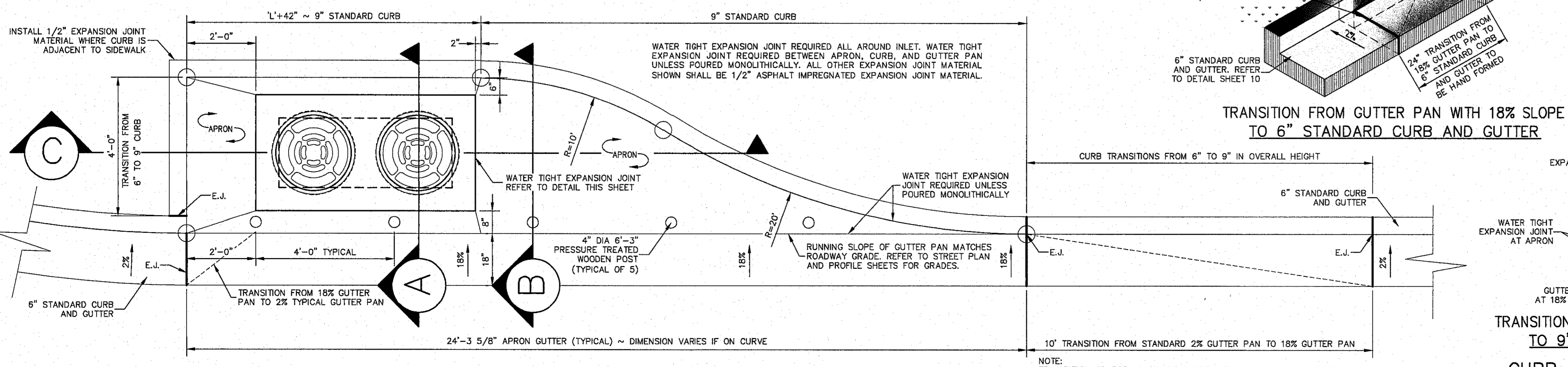


SECTION C
SCALE: 1/2" = 1'-0"



AT GUTTER PAN

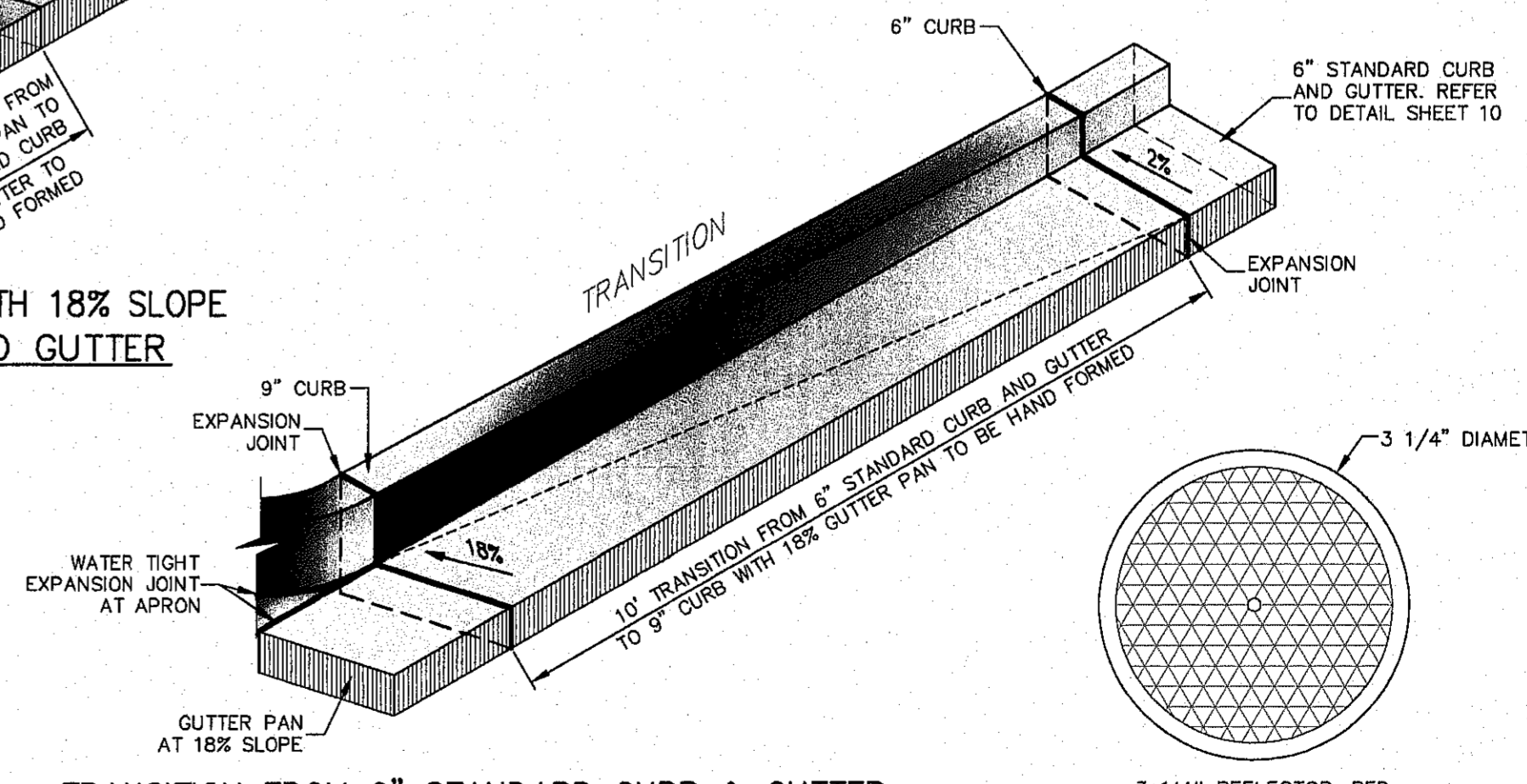
WATER TIGHT EXPANSION JOINTS
N.T.S.



PLAN VIEW ~ TYPICAL INLET INSTALLATION
SCALE: 1/2" = 1'-0"

ALL POURED CONCRETE 3500 PSI MINIMUM
APRON MUST BE "HAND FORMED"

**TRANSITION FROM GUTTER PAN WITH 18% SLOPE
TO 6" STANDARD CURB AND GUTTER**



**TRANSITION FROM 6" STANDARD CURB & GUTTER
TO 9" CURB WITH 18% GUTTER PAN**

CURB AND GUTTER TRANSITIONS
SCALE: 1/2" = 1'-0"

3 1/4" REFLECTOR, RED
MCMASTER-CARR PART NO. 5953118

NOTE:
1. SHALL BE MOUNTED ON ALL POSTS AND FACED TOWARD TRAFFIC FLOW.
2. SHALL BE MOUNTED 2'-0" ABOVE FINISHED GRADE.

NAIL ON POST REFLECTOR

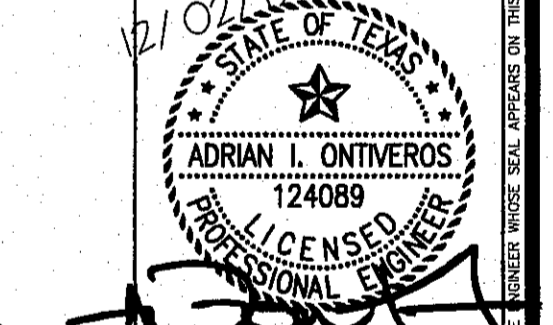
NO.	DATE	DESCRIPTION
1	09/23/19	First City Submittal
2	11/07/19	Second City Submittal
3	12/02/19	Final City Submittal

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND W. 12TH STREET (AS SHOWN ON PLAT 124089)
ELEVATION = 3985.5 (AS SHOWN ON PLAT 124089)

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
1-800-200-7252
EL PASO GAS SERVICE
1-800-200-7252
TEXAS GAS SERVICE
1-800-200-7252
PUBLIC SERVICE COMPANY
1-800-200-7252
UTILITY SERVICE EMERGENCY (E.P.W.)
594-5775
EL PASO WATER UTILITY
594-5775
EL PASO SANITARY UTILITY
594-5775
UTILITY SERVICE EMERGENCY (E.P.W.)
1-800-200-7252
UTILITY SERVICE EMERGENCY (E.P.W.)
1-800-200-7252

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Texas Registered Engineering Firm F-6877
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel: (915) 877-4155
fax: (915) 877-4334
www.csaengineers.com



**CIMARRON CANYON
UNIT THREE
SUBDIVISION**

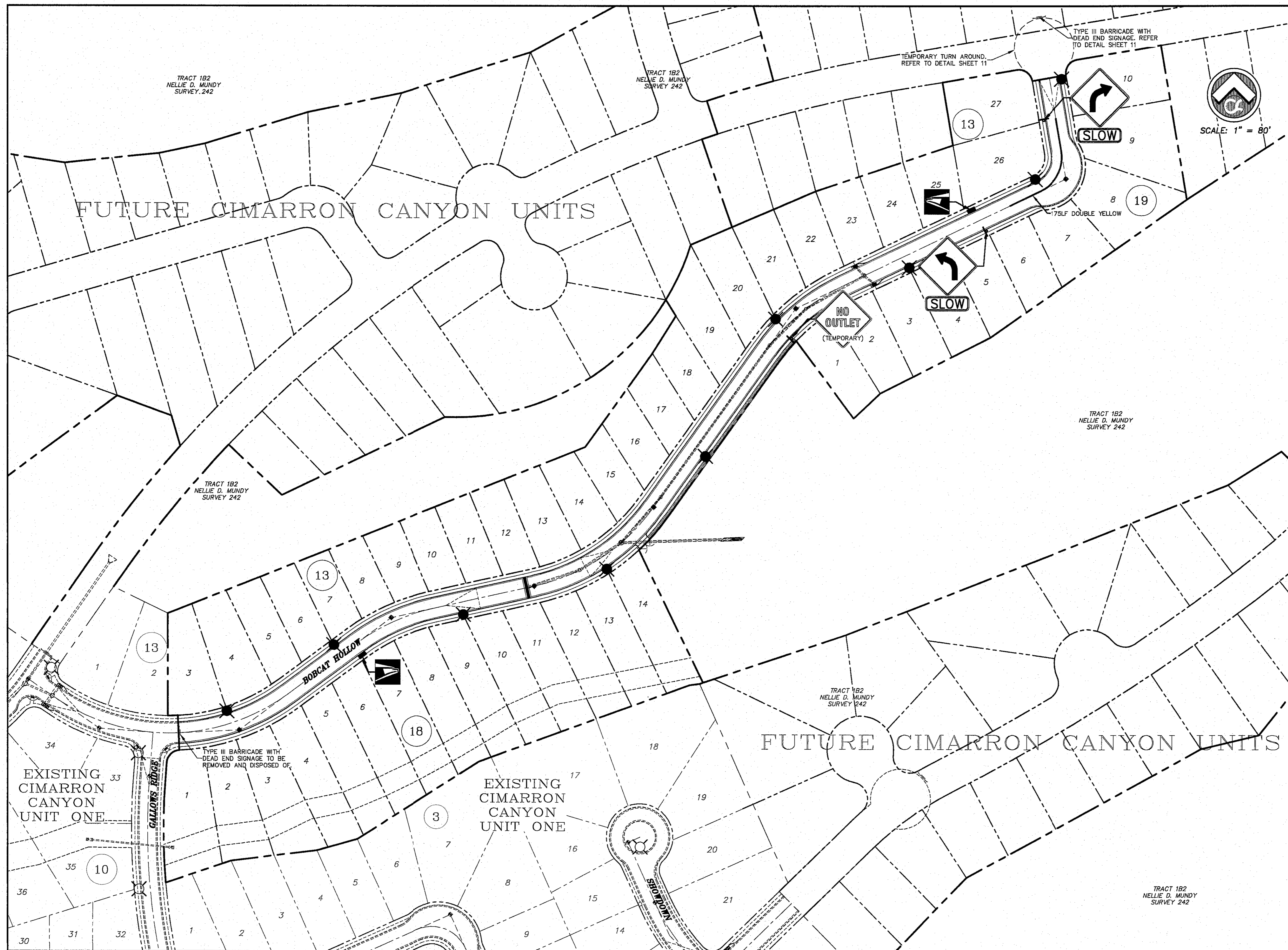
SHEET TITLE

**STORM
SEWER
DETAILS**

DOB	1724
DESIGN BY	JOB NO.
DOB-SM	08/08/18
DATE	DATE
AHO	AS NOTED
SCALE	SCALE

SHEET NO.
21
OF 23

23 OF 46



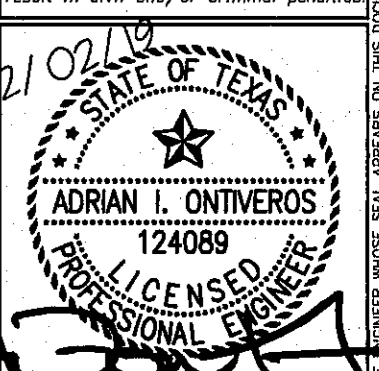
BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND BRAYS LANDING DRIVE
ELEVATION = 3985 (C. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
1-800-333-5770
AT&T GAS SERVICE LINE
1-800-333-6300
TEXAS GAS SERVICE LINE
1-800-333-6300
PUBLIC SERVICE BOARD (WATER & SEWER)
650-841-1800
AFTER HOURS EMERGENCY (EPW)
650-841-1800
SPECIFIC INFORMATION: SAFETY SYSTEM
KINDER-MORGAN EPNG PIPELINES
1-800-239-5764
EL PASO STREETS AND MAINTENANCE
1-800-239-5764
EL PASO STREETS AND MAINTENANCE
1-800-239-5764
EL PASO STREETS AND MAINTENANCE
1-800-239-5764

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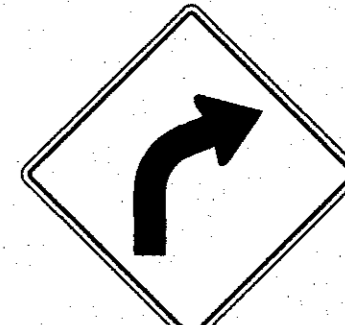
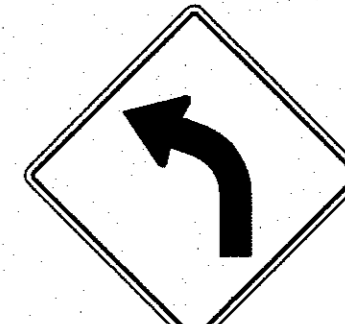
csa design group, inc.
Texas Registered Engineering Firm F-9987
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El Paso, Texas 79912
tel (915) 877.4155
fax (915) 877.4334
www.csaengineers.com



CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE
**SIGNAGE,
STRIPING AND
ILLUMINATION
PLAN AND
DETAILS**

DOB	1724
REVISION BY	JOB NO.
DOB-SM	08/09/19
DATE	SCALE
AHO	AS NOTED
PROJECT NO.	SCALE
SHEET NO. 22	
SHEET TOTAL 24 OF 46	



ALL SIGNAGE AND STRIPING COMPLIES WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, 2011 EDITION.

ALL ROADWAYS INTERSECTING EXISTING PUBLIC ROADWAYS SHALL REMAIN COMPLETELY CLOSED FOR PUBLIC USE UNTIL ACCEPTED FOR MAINTENANCE BY THE COUNTY.

NOTE:
ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.

SIGN PLACEMENT IS CRITICAL. IN ORDER TO MAINTAIN ADA COMPLIANCE, A MINIMUM OF 36" UNOBSTRUCTED PASSAGE MUST BE MAINTAINED BETWEEN ANY STRUCTURES OR FIXTURES AND THE FACE OF CURB AND/OR BACK OF SIDEWALK.

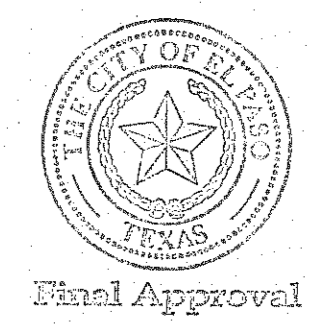
THE SUBDIVIDER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND ASSOCIATED COST OF ELECTRICAL ENERGY OF THE STREET LIGHTS UNTIL SUCH LIGHTS ARE ACCEPTED BY THE CITY OR COUNTY FOR MAINTENANCE AS PROVIDED IN SECTION 19.36.010. THE CITY OR COUNTY SHALL ACCEPT THE STREET LIGHT FOR MAINTENANCE AND ELECTRICAL ENERGY COSTS AT THE TIME IT ACCEPTS THE STREET AND OTHER PUBLIC IMPROVEMENTS WITHIN THE SUBDIVISION FOR MAINTENANCE.

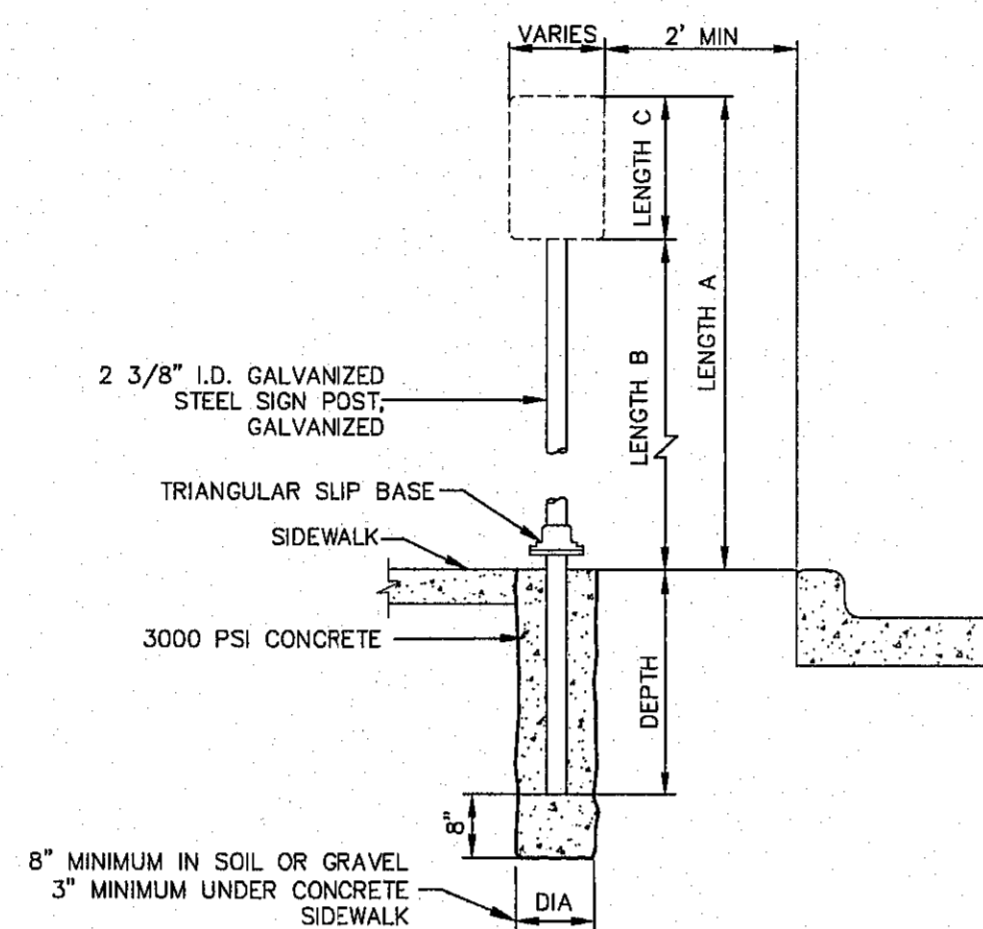
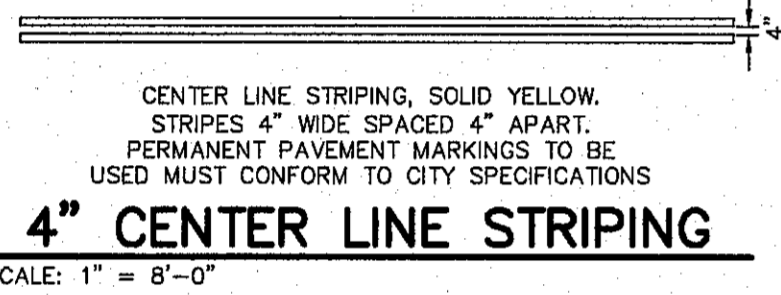
PRIOR TO THE ACCEPTANCE OF THE STREET LIGHTS FOR MAINTENANCE BY THE CITY OR COUNTY, AN AMENDED ILLUMINATION PLAN SHOWING THE FINAL LOCATION OF THE STREET LIGHT INSTALLED BY THE SUBDIVIDER SHALL BE SUBMITTED TO THE DEPUTY DIRECTOR FOR ENGINEERING OR COUNTY ENGINEER.

UNITED STATES POSTAL SERVICE
THIS SUBDIVISION SHALL RECEIVE MAIL DELIVERIES VIA NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) AS INDICATED IN THE PLAN VIEW. THE NUMBER, STYLE, AND FINAL LOCATION OF THE NDCBU'S SHALL BE DETERMINED AT A LATER DATE BY PERSONNEL WITH THE U.S. POSTAL SERVICE.

LEGEND

- PROPOSED STREET LIGHTS
9 REQUIRED AS PER ORDINANCE
- EXISTING STREET LIGHTS
- PROPOSED SIGN LOCATION
- NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNIT (NDCBU)

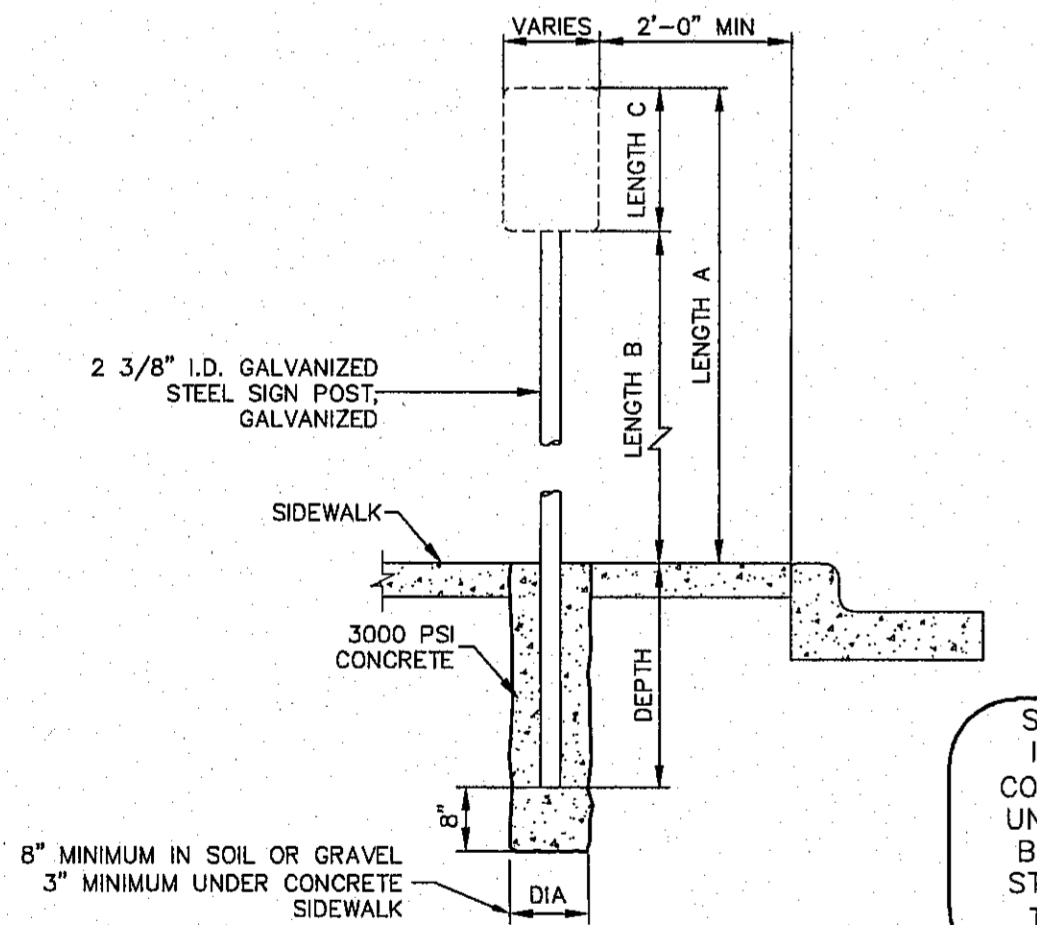




LENGTH A	LENGTH B	LENGTH C	DEPTH
10 FEET	7 FEET	LARGER THAN 24"	3.5 FEET
9 FEET	7 FEET	SMALLER THAN 24"	3.5 FEET
4 FEET	1 FOOT	OBJECT MARKERS ONLY	3.5 FEET

SIGN POST INSTALLATION WITH TRIANGULAR SLIP BASE

SCALE: 1/2"=1'-0"



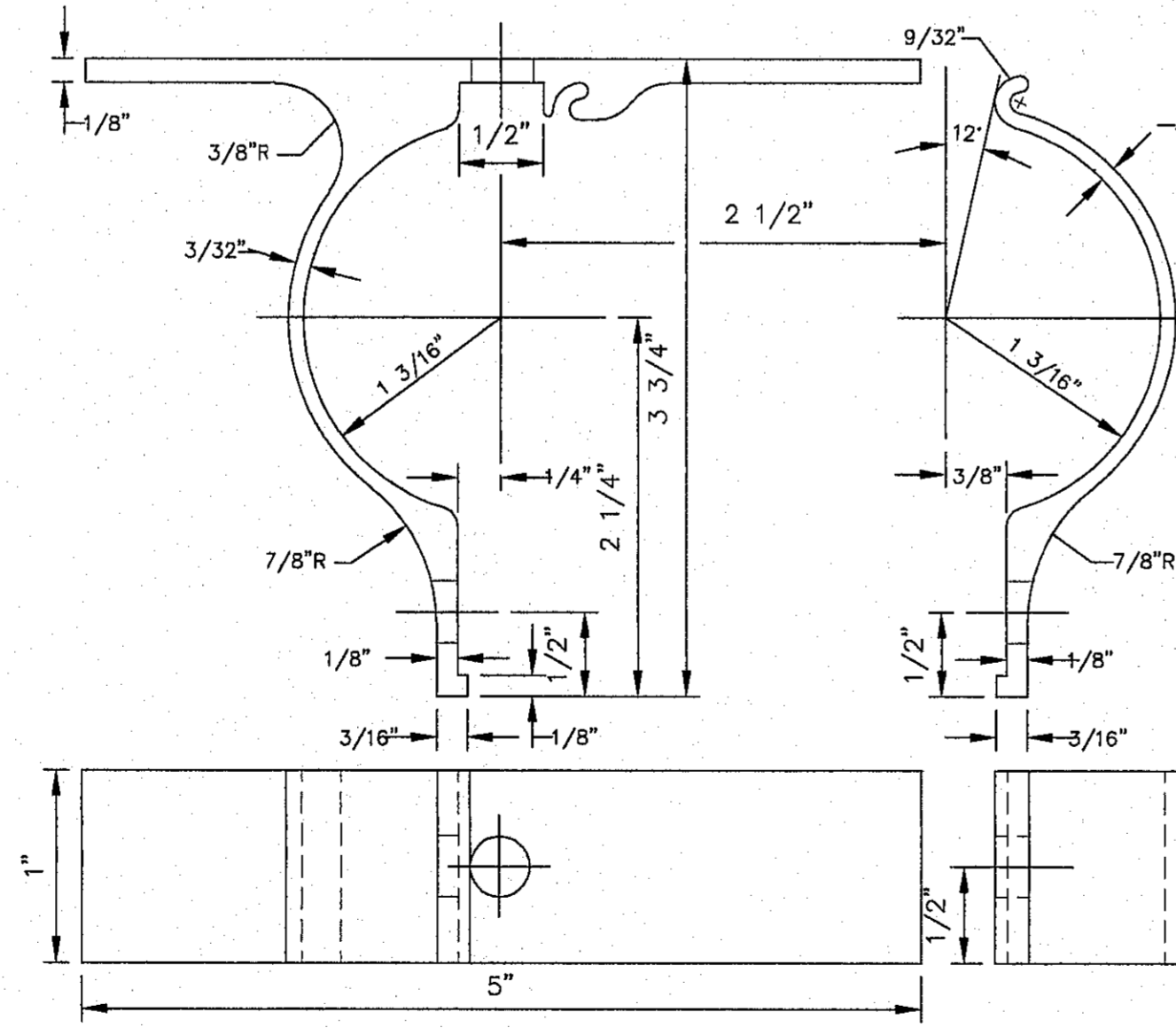
LENGTH A	LENGTH B	LENGTH C	DEPTH
10 FEET	7 FEET	LARGER THAN 24"	2 FEET
9 FEET	7 FEET	SMALLER THAN 24"	1.5 FEET

STANDARD SIGN POST INSTALLATION

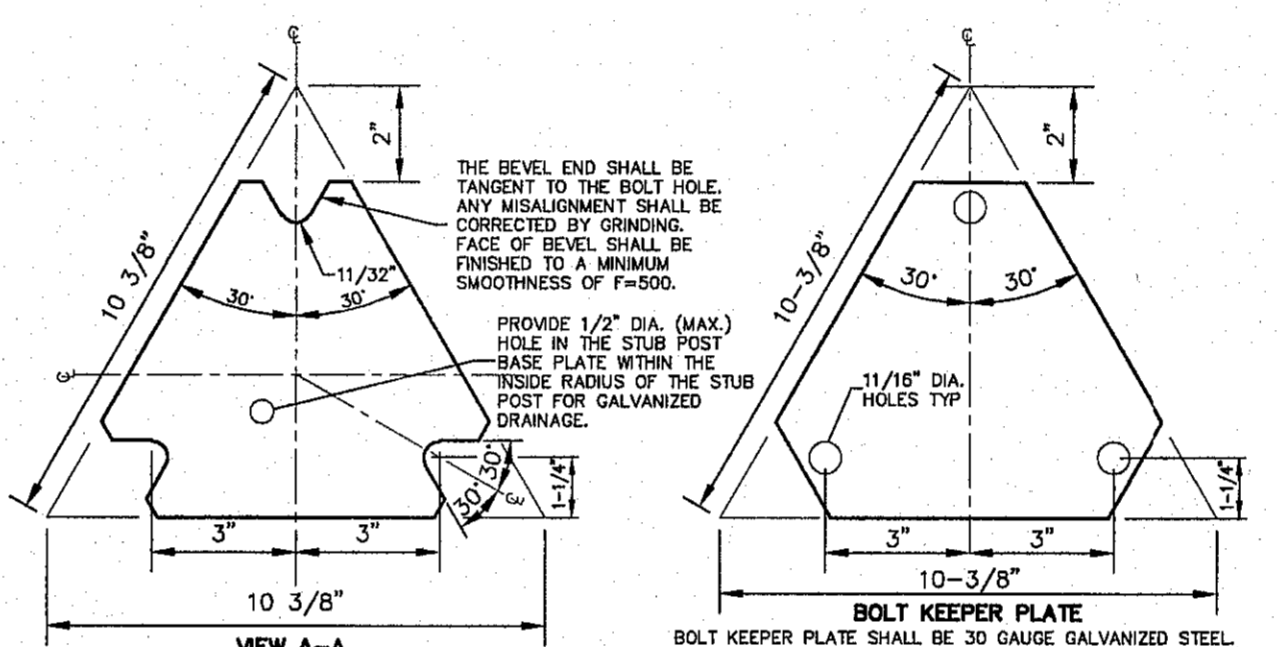
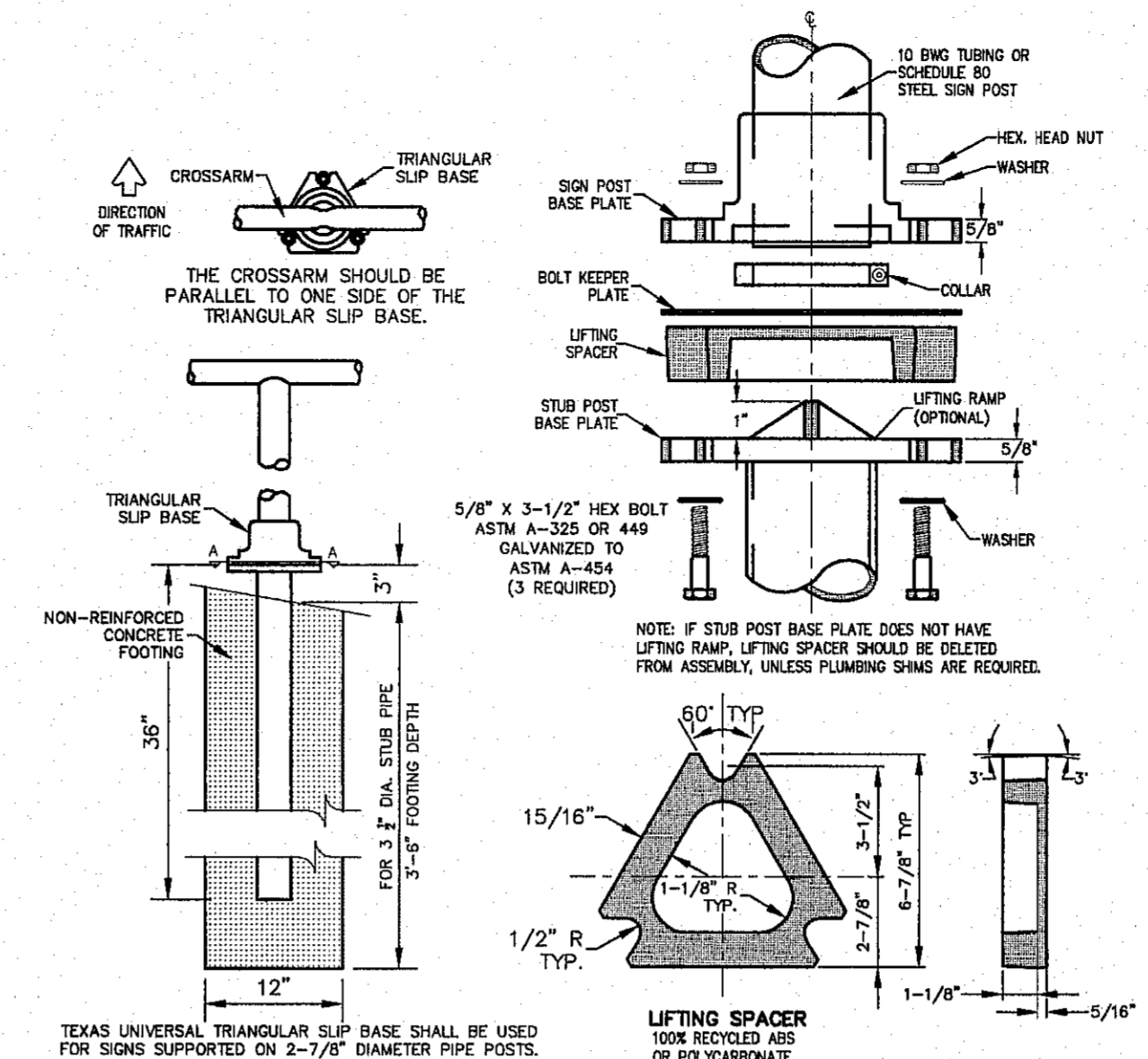
SCALE: 1/2"=1'-0"

ALL SIGNAGE INSTALLED WITHIN THE CITY RIGHTS-OF-WAY MUST BE INSTALLED USING THE TEXAS UNIVERSAL TRIANGULAR SLIP BASE (SEE DETAIL THIS SHEET). ALL OTHER SIGNS LOCATED OUTSIDE THE CITY RIGHTS-OF-WAY SUCH AS SIGNAGE AT PARKING AREAS AND WITHIN PARKS OR DRAINAGE AND ACCESS RIGHTS-OF-WAY OR EASEMENTS MAY BE INSTALLED USING THE STANDARD DETAIL SHOWN ON THE LEFT.

SIGN PLACEMENT IS CRITICAL. IN ORDER TO MAINTAIN ADA COMPLIANCE, A MINIMUM OF 36" UNOBSTRUCTED PASSAGE MUST BE MAINTAINED BETWEEN ANY STRUCTURES OR FIXTURES AND THE FACE OF CURB AND/OR BACK OF SIDEWALK.

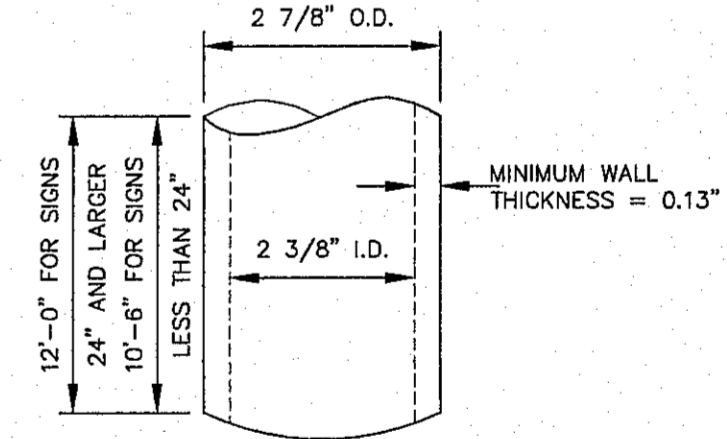


- ALUMINUM SIGN CLAMP BRACKET FOR TRAFFIC CONTROL SIGNS**
- SCALE: N.T.S.



TEXAS UNIVERSAL TRIANGULAR SLIP BASE

NOT TO SCALE



- NOTES:**
- WELD ALONG LENGTH TO FORM VIRTUALLY SEAMLESS PIPE.
 - POST SHALL BE HOT-DIPPED ZINC GALVANIZED UNIFORMLY ON THE OUTSIDE WITH A NOMINAL ZINC WEIGHT OF 1.0 OUNCE PER SQUARE FOOT.
 - THE ZINC COATING IS TO BE OVER-COATED WITH A CHROMIUM CONVERSION AND AN ACRYLIC TOP COAT TO PROVIDE RESISTANCE TO RUST AND CORROSION.
 - THE INSIDE OF THE POST SHALL BE COATED WITH AN ORGANIC MATERIAL FOR PROTECTION AGAINST RUST.
 - BOTH ENDS SHALL BE SQUARELY CUT WITHOUT FLARE.
 - POST SHALL BE FREE OF WARPS, CORROSION, OR OTHER DEFECTS.
 - RING WELDS OR SPLICES SHALL NOT BE ACCEPTABLE.
 - BENDING STRENGTH AS SPECIFIED BY AASHTO FOR SCHEDULE 40 PIPE.
 - POSTS SHALL BE BUNDLED WITH METAL STRAPS AND SHALL NOT EXCEED 37 POSTS PER BUNDLE.

SIGN POST SPECIFICATIONS

SCALE: N.T.S.

BENCHMARK: CITY MONUMENT AT THE CENTRELINE INTERSECTION OF NORTHERN PASS DRIVE ELEVATION = 3076.53 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!

BEFORE YOU DIG - CALL

CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY 543-5720

EL PASO GAS SERVICE 1-800-DIG-TESS

TEXAS GAS SERVICE 1-800-841-2622

TEXAS WATER SERVICE 1-800-841-2622

TEXAS PUBLIC SERVICE BOARD (WATER & SEWER) 562-841-2622

AFTER HOURS EMERGENCY (EPW) 594-5775

TEXAS EXCAVATION SAFETY SYSTEM 994-344-8377

KINDER-MORGAN EPAC PIPELINES 1-800-238-3764

EL PASO DRAINAGE DISTRICT 1-800-238-3764

EL PASO METRO STREETS AND MAINTENANCE 1-800-238-3764

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Texas Registered Engineering Firm E-689

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El Paso, Texas 79912

tel: (915) 877.4155

fax: (915) 877.4334

www.csaengineers.com



CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE

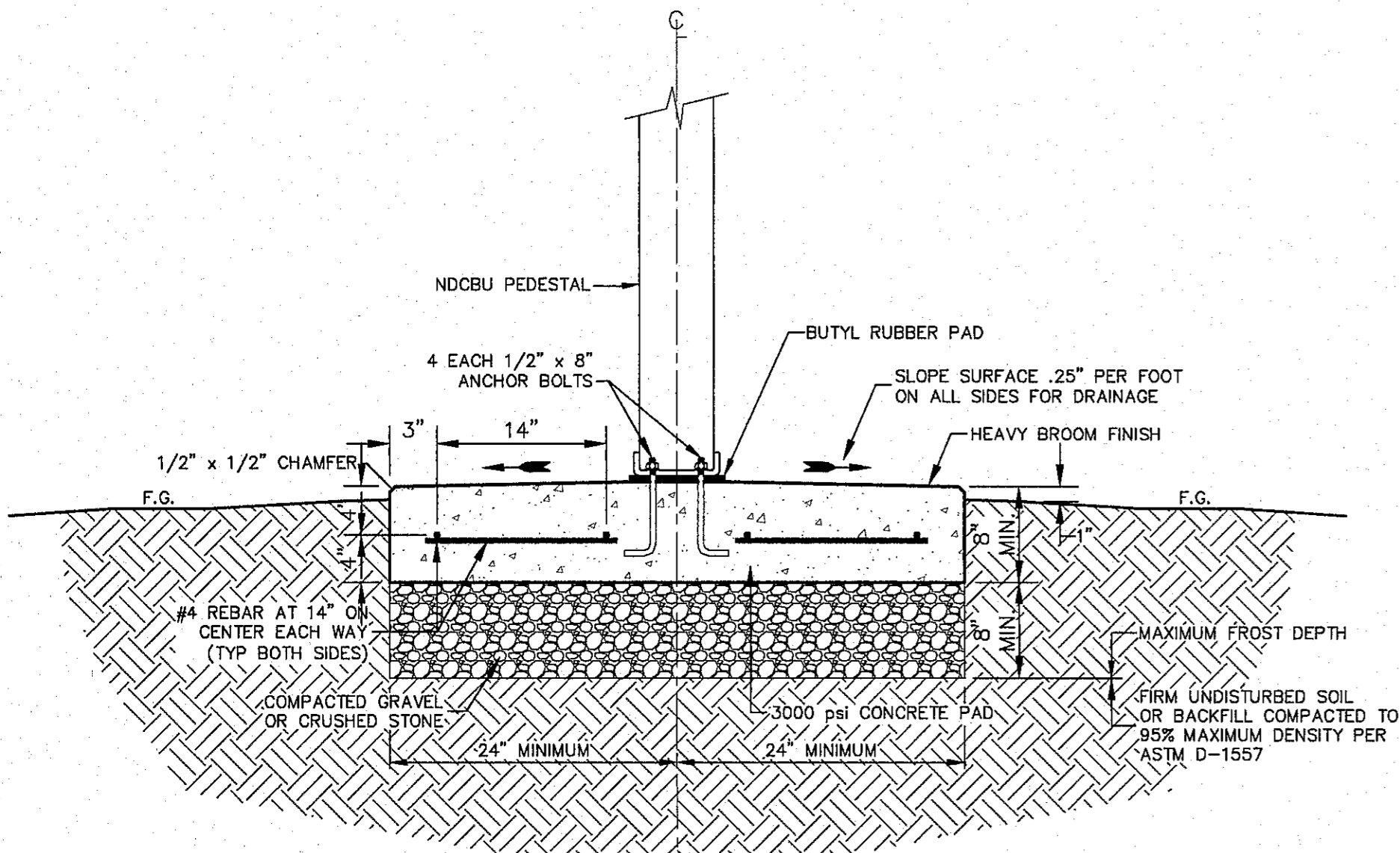
SIGNAGE AND STRIPING DETAILS

GSB	1724
DATE	08/08/18
CSB-SM	08/08/18
DATE	
AHO	AS NOTED
SCALE	

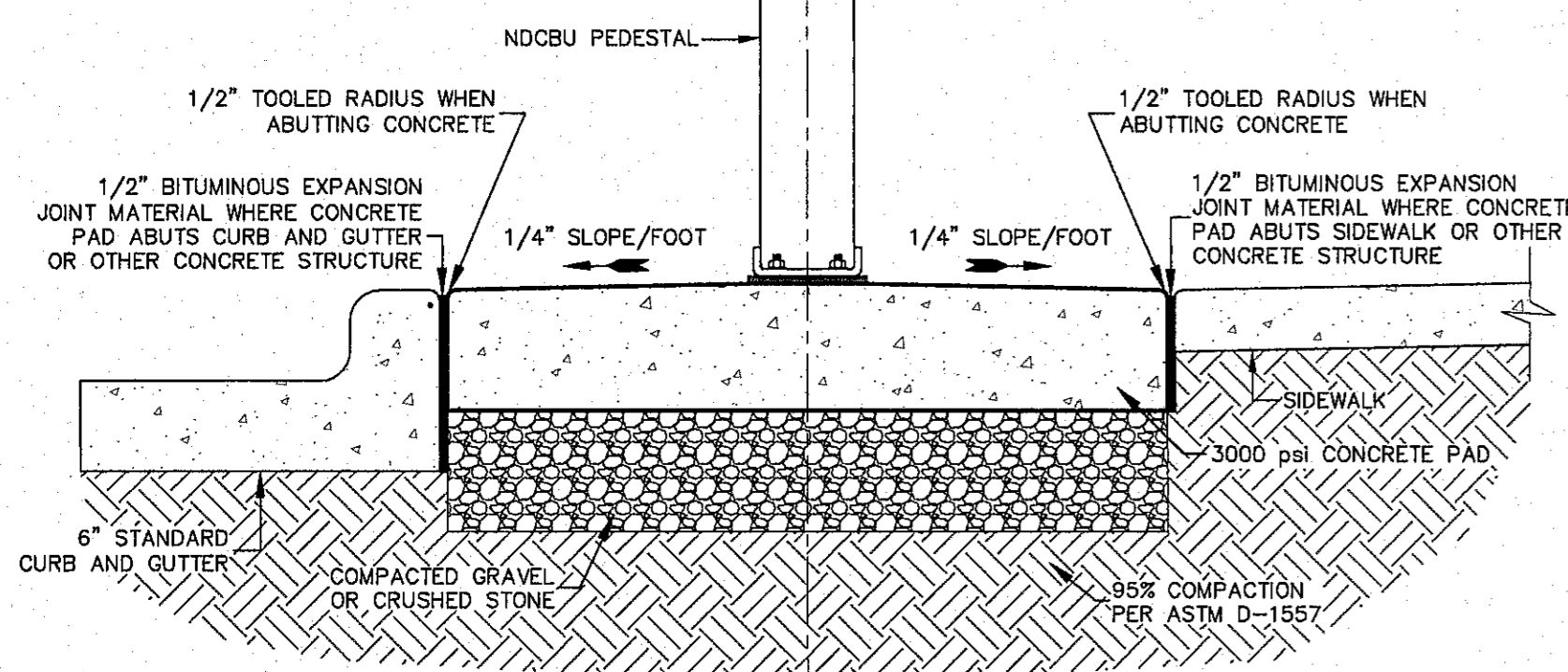
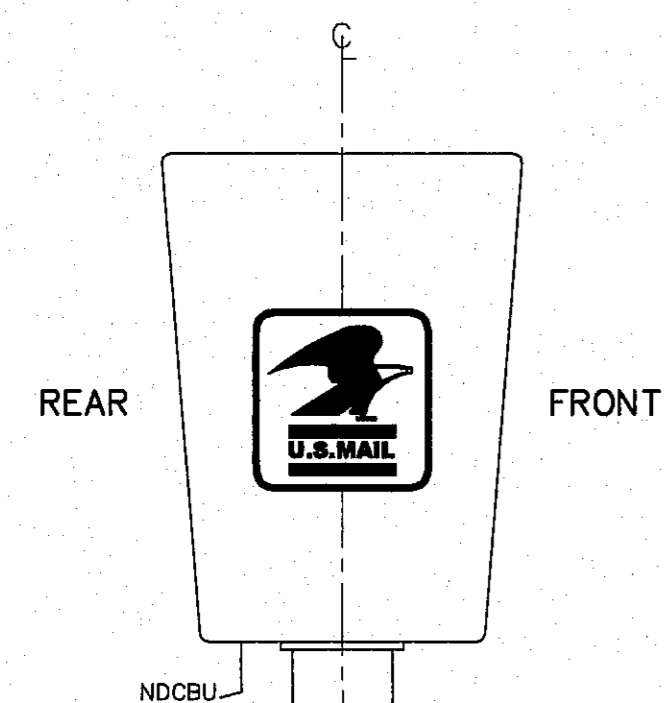
SHEET NO. 23

SHEET SEQUENCE 25 OF 46

CSA DESIGN GROUP, INC. - Box 65, 2015 - 10100th
 15300th 1724, Cimarron Canyon Unit Three, 2nd Submittal, Current\1724 Sub 12-21 (Final) (11/19/2019).dwg
 smt



SECTION A-A
CONCRETE PAD FOR NDCBU
SCALE: 1" = 1'-0"

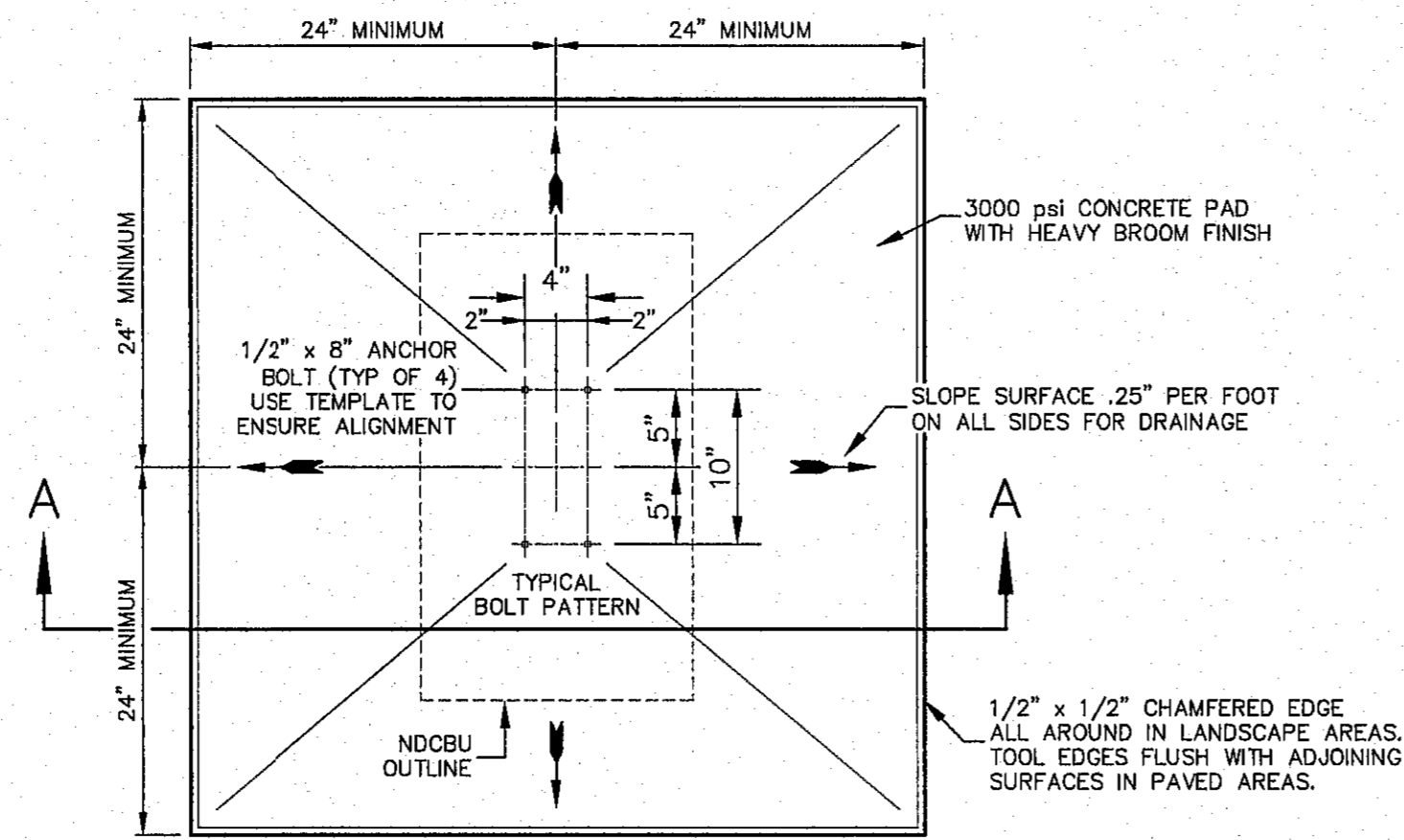


SIDE VIEW
SCALE: 1" = 1'-0"

UNITED STATES POSTAL SERVICE
THIS SUBDIVISION SHALL RECEIVE MAIL DELIVERIES VIA NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) AS INDICATED IN THE PLAN VIEW. THE NUMBER, STYLE, AND FINAL LOCATION OF THE NDCBU'S SHALL BE DETERMINED AT A LATER DATE BY PERSONNEL WITH THE U.S. POSTAL SERVICE.

GENERAL NOTES:

1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000psi MINIMUM AT 28 DAYS. CONCRETE SHALL CONTAIN 4% MINIMUM, 6% MAXIMUM AIR ENTRAINMENT AND SHALL BE PLACED WITH A SLUMP OF 3.50 - 4.50 SLUMP IN ACCORDANCE WITH ACI 301.
2. STEEL REINFORCING BARS SHALL CONFORM TO ASTM A515, GRADE 60.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM A193, GRADE 88M, TYPE 316 STAINLESS STEEL.
4. CONTRACTOR SHALL CONTACT THE USPS (UNITED STATES POSTAL SERVICE) CUSTOMER SERVICE REPRESENTATIVE IN CHARGE OF NDCBU (NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS) PRIOR TO INSTALLATION OF MAIL BOXES.
5. DETAILS SHOWN MEET OR EXCEED USPS APPROVED SPECIFICATIONS.

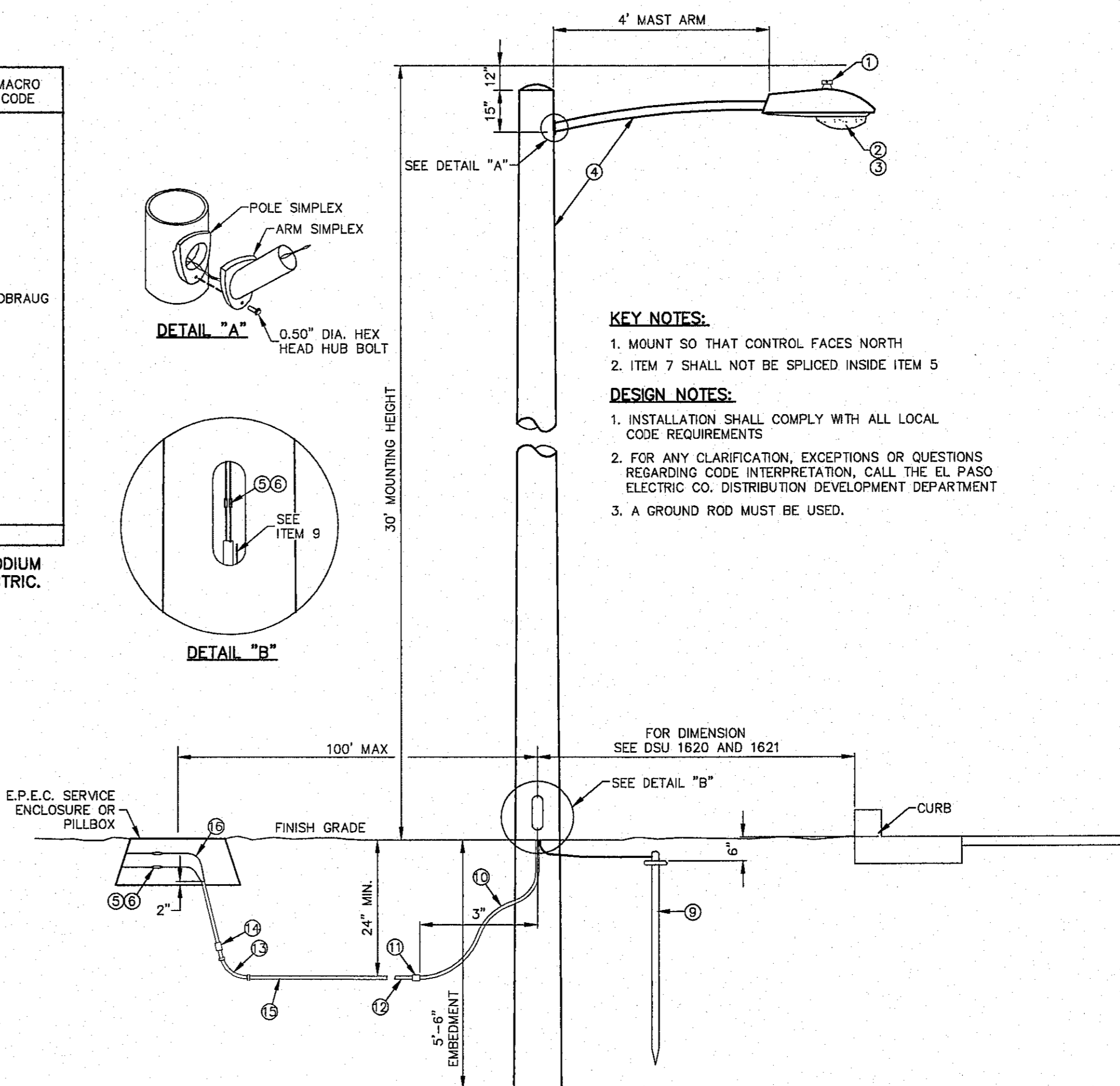
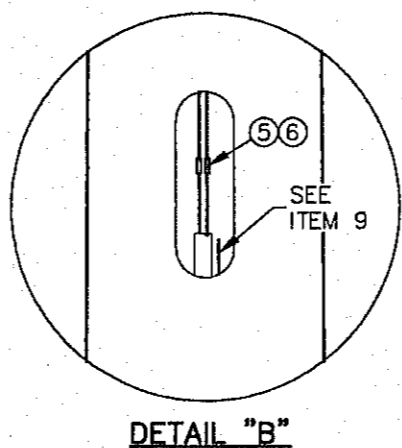
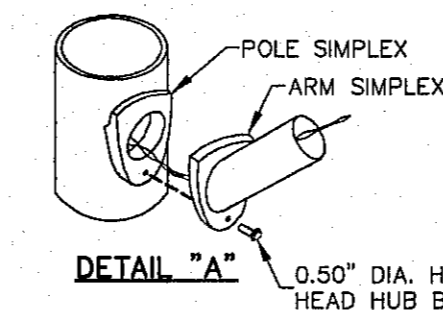


PLAN VIEW

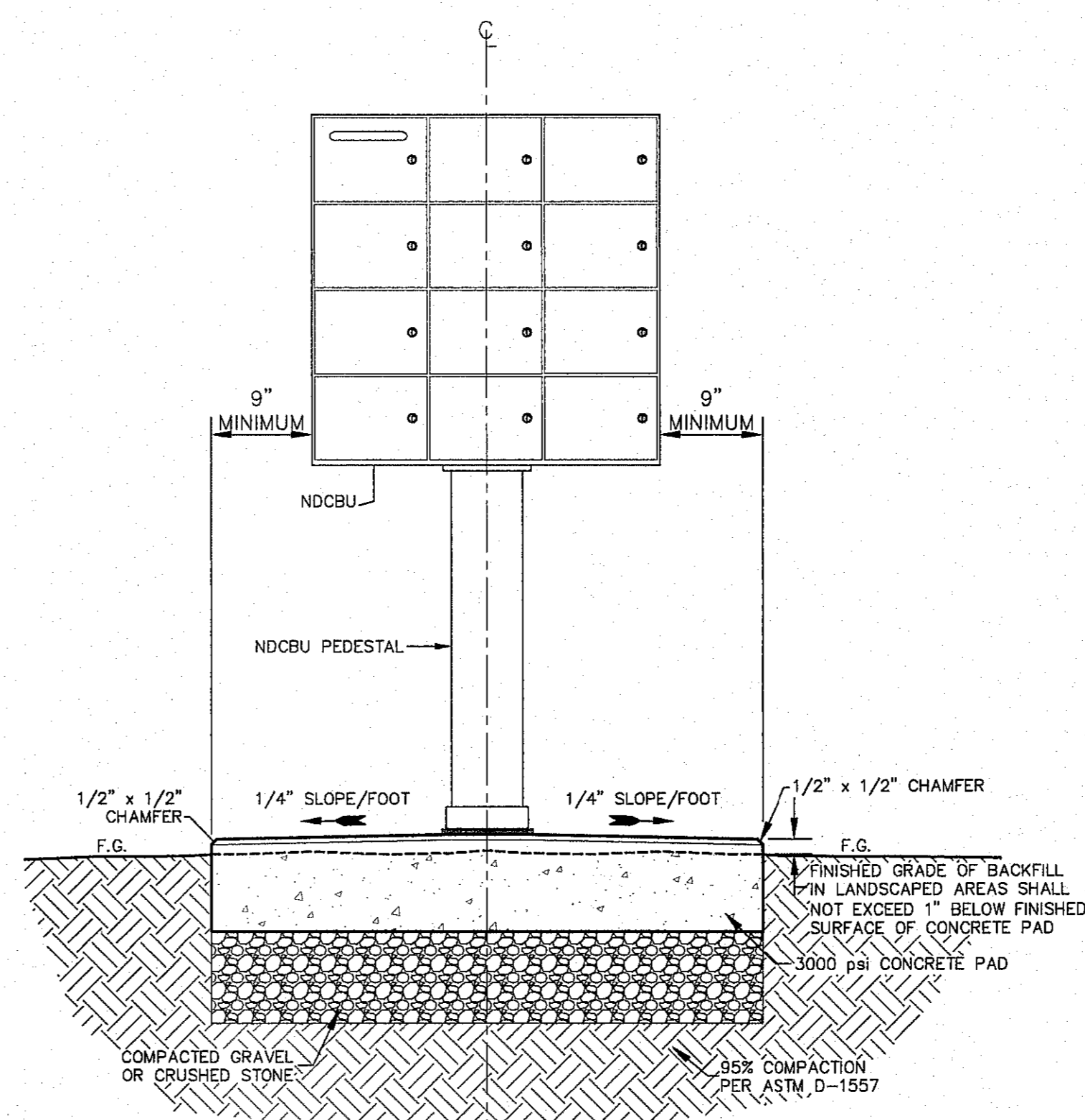
ALL OTHER STREET LIGHTS AS NOTED IN PLAN VIEW

ITEM No.	DESCRIPTION	STOCK/DSU No.	QTY PER UNIT	C/U CODE	MACRO CODE
1	PHOTO CELL, 240v - SEE NOTE 1	21-225	1		
2	HPS LAMP, 100W	21-085	1		LCOBRAHD
3	LUMINAIRE, 100W H.P.S.	21-335	1		
4	SLEEVES, #12-10	05-140	2		
5	MAST ARM, 6" x 1 1/4"	21-200	1		LBRKT1+6
6	MACHINE BOLT, 5/8" x 12"	02-470	1		
7	SQUARE GALV. WASHER, 2 1/4" x 2 1/4"	02-760	1		LMB5/812
8	COIL SPRING WASHER, 5/8"	02-788	1		
9	LOCK NUT, 5/8"	02-705	1		
10	SERVICE ENTRANCE CAP FOR 1" PVC CONDUIT	17-281	1		LSVCCAP1
11	LAG BOLT, 3/8" x 3"	02-343	2		LLAG38*3
12	CABLE, #10, 2 CONDUCTOR, 600v UF	13-600	8'		L2C#10S
13	COPPER CABLE, #12, 19 SOLID, 600v, BLUE	13-702	60'		LC#12CU
14	SCHEDULE 80 1" PVC CONDUIT	17-280	30'		LSCH801
15	PIPE STRAP FOR 1" PVC CONDUIT, 2 HOLE	17-283	9		LPVCTRIP
16	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-247	.25#		LNAL14*2
17	POLE, 35 FT. - CLASS 4	09-035	1		L354UG
18	1" PVC 90 DEGREE ELBOW	17-297	1		LEL901
19	1" PVC 45 DEGREE ELBOW	17-298	1		LEL451
20	1" PVC COUPLING	17-296	1		LCPLG1
21	1" PVC CONDUIT	17-299	AS REQ'D		LPVC1

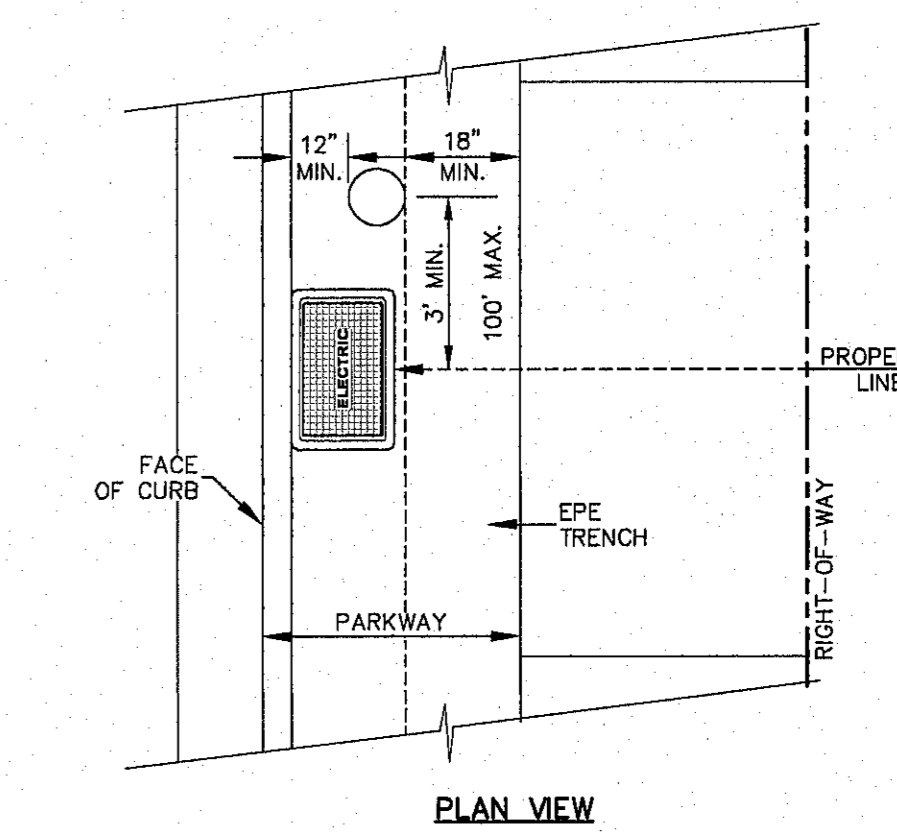
LED EQUIVALENTS MAY BE SUBSTITUTED FOR THE HIGH PRESSURE SODIUM LUMINAIRES NOTED. COORDINATE SUBSTITUTIONS WITH EL PASO ELECTRIC.



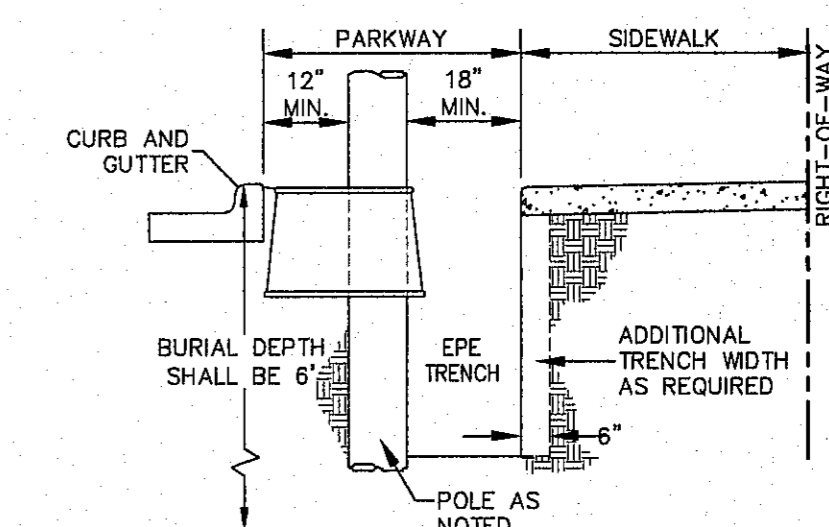
DIRECT EMBEDDED STANDARD FOR RESIDENTIAL STREET LIGHTING
SCALE: 1" = 2'-0"



FRONT VIEW
SCALE: 1" = 1'-0"

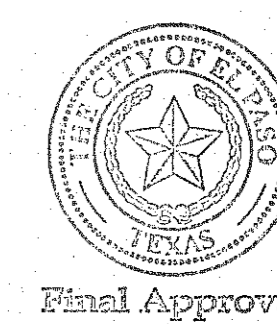


PLAN VIEW



SECTION

LOCAL RESIDENTIAL STREET LIGHT POLE SHALL BE INSTALLED A MINIMUM OF 12" FROM BACK OF CURB TO FACE OF POLE.
EPEC DISTRIBUTION STANDARD DSU 1620
TYPICAL (PRIMARY) TRENCH LOCATION ON LOCAL RESIDENTIAL STREET
N.T.S.

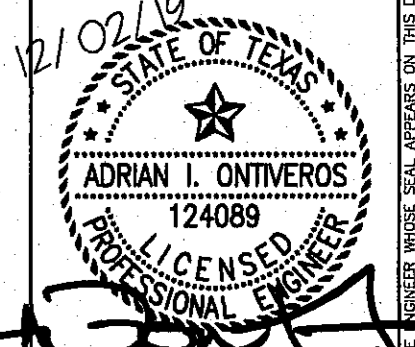


NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

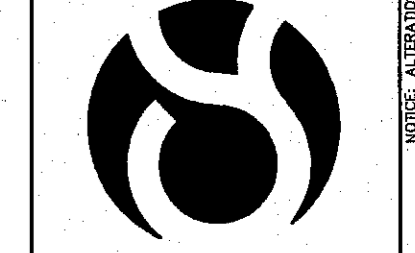
WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
843-5170
1-800-DIG-ELPS
AT&T
843-5170
1-800-DIG-ELPS
TEXAS GAS SERVICE
843-5170
1-800-DIG-ELPS
PUBLIC SERVICE BOARD (WATER & SEWER)
562-8411
1-800-DIG-ELPS
AFTER HOURS EMERGENCY (EPW)
994-5775
1-800-244-5377
KINDER-MORGAN EPNG PIPELINES
1-800-238-3764
EL PASO GAS SERVICE
843-5170
1-800-DIG-ELPS
EL PASO WATER SERVICE
843-5170
1-800-DIG-ELPS

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CMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE
**ILLUMINATION
AND US
POSTAL
SERVICE
DETAILS**

JOB NO.	1724
DATE	08/08/18
SCALE	AS NOTED
SHEET NO.	24
TOTAL SHEETS	26 OF 46



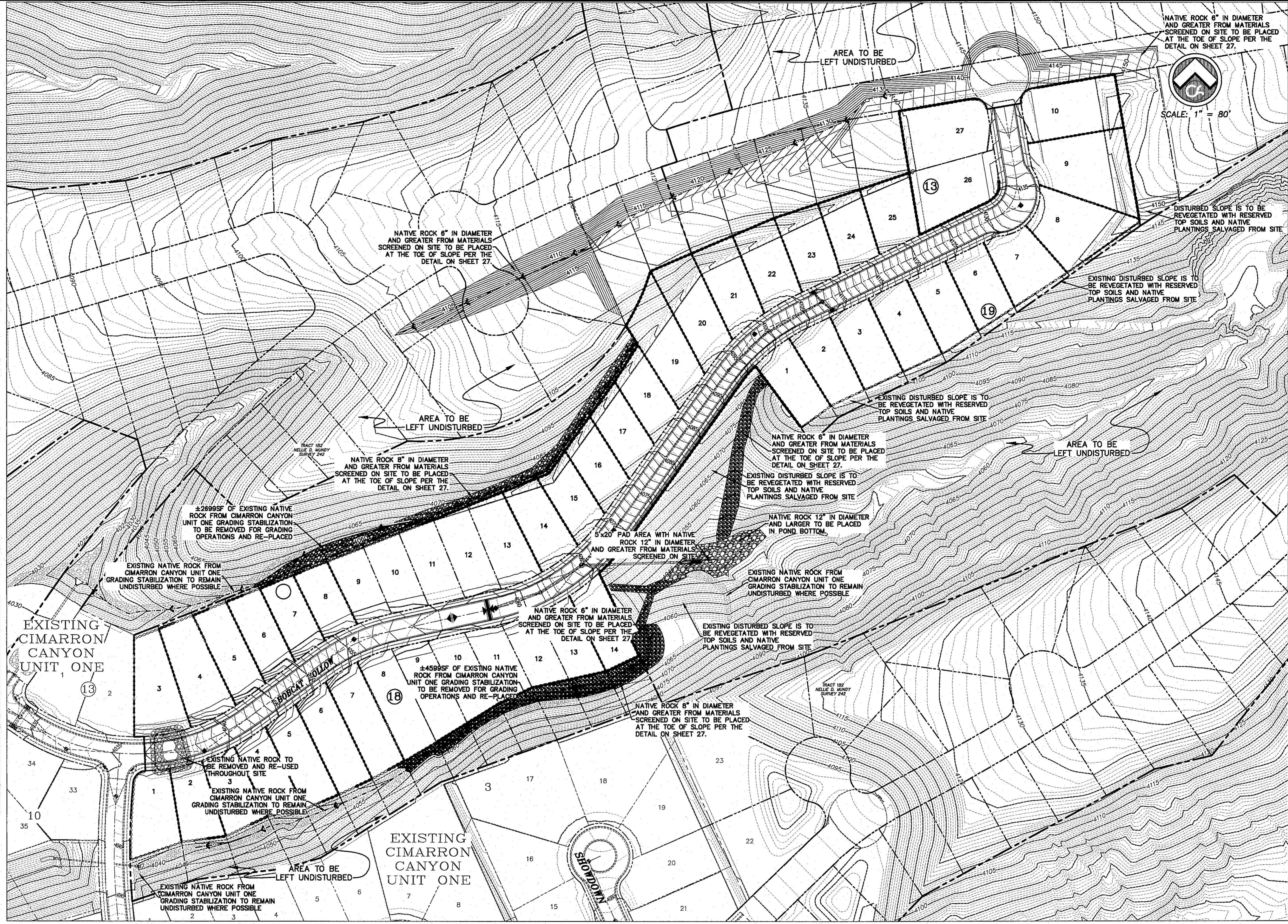
EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL EROSION CONSERVATION AND SILTATION ORDINANCES.
2. ALL EROSION CONTROL DEVICES (WITH THE EXCEPTION OF TEMPORARY BERMS AND SWALES) SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE AND SHALL REMAIN IN PLACE UNTIL FINAL GRADING AND THE INSTALLATION OF PROPOSED STORM SEWERS ARE COMPLETE AND A STAND OF NATURAL VEGETATION WITH 70% COVERAGE IS ACHIEVED. TOP SOIL SHOULD BE RESERVED AND STOCKPILED DURING CLEARING AND GRUBBING OPERATIONS. THE RESERVED TOP SOIL SHOULD BE SPREAD EVENLY UPON THE FINISHED SURFACE ONCE GRADING OPERATIONS ARE COMPLETE IN ORDER TO PROMOTE A NATURAL REVEGETATION OF THE DISTURBED AREA.
3. PLACE INLET PROTECTION AROUND ALL PROPOSED DRAINAGE INLETS DURING CONSTRUCTION.
4. THE CONTRACTOR MUST USE SEDIMENT FILTERS OR OTHER MEASURES APPROVED BY THE ENGINEER TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM CLOGGING STORM SEWER LINES AND EXISTING OR PROPOSED DRAINAGE INLETS. LIKEWISE, THE CONTRACTOR MUST USE SEDIMENT FILTERS OR OTHER MEASURES TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM BEING TRANSPORTED TO ADJACENT PROPERTIES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-ESTABLISHING ANY EROSION CONTROL DEVICE WHICH THEY DISTURB. THE CONTRACTOR SHALL CONTACT THE OWNER/DEVELOPER OR THEIR REPRESENTATIVE REGARDING ANY DEFICIENCIES IN THE ESTABLISHED EROSION CONTROL MEASURES WHICH MAY LEAD TO THE UNAUTHORIZED DISCHARGE OF STORM WATER, SEDIMENTATION, OR OTHER POLLUTANTS. THESE INCLUDE, BUT ARE NOT LIMITED TO: EXCESS CONCRETE DUMPING OR CONCRETE RESIDUE, ASPHALT REMAINS, PAINTS, SOLVENTS, GREASES, FUEL AND LUBRICATION OILS, PESTICIDES, AND SOLID WASTE MATERIALS.
6. MAINTENANCE OF THE EROSION CONTROL DEVICES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION. REGULAR INSPECTION OF THE EROSION CONTROL DEVICES SHOULD BE MADE BY THE CONTRACTOR AND ACCUMULATED SILT IN DEVICES SHOULD BE REMOVED IN A TIMELY FASHION AND SHALL BE DISTRIBUTED ON SITE IN A MANNER THAT SHALL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY SILT OR CONSTRUCTION DEBRIS FROM OFF-SITE PROPERTIES AND ROADWAYS THAT IS THE RESULT OF THE PROPOSED CONSTRUCTION.
8. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE AND FOR INSURING THAT ALL CONSTRUCTION TRAFFIC UTILIZES THE STABILIZED ENTRANCE AT ALL TIMES FOR INGRESS/EGRESS TO THE SITE.
9. THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. THE CONTRACTOR MAY WATER DOWN THE SITE ON A REGULAR BASIS, OR UTILIZE OTHER MEANS AS APPROVED BY THE CITY ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
10. CONTRACTOR STAGING AREA TO BE AGREED UPON BY THE OWNER PRIOR TO CONSTRUCTION.
11. BEFORE ANY EARTHWORK COMMENCES, THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF CONSTRUCTION AND ANY OTHER ITEMS ESTABLISHED IN THESE PLANS. THE CONTRACTOR SHALL PROTECT AND PRESERVE THE CONTROL POINTS AT ALL TIMES DURING THE COURSE OF THE PROJECT. THE GRADING CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORKS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A CLEAN WORK SITE TO INCLUDE ALL EROSION CONTROL DEVICES UNTIL CONSTRUCTION IS COMPLETE AND THE OWNER/DEVELOPER HAS ACCEPTED THE SITE.
13. THE CITY ENGINEER, OR HIS REPRESENTATIVE, MAY MAKE REGULAR INSPECTIONS OF THE SITE AND RESERVES THE RIGHT TO REQUEST ADDITIONAL MEASURES.
14. IN ADDITION TO THE NOTES ABOVE, THE CONTRACTOR SHALL OBSERVE AND ADHERE TO ALL NOTES FOUND ON THE GRADING AND DRAINAGE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN, OR ELSEWHERE IN THIS PLAN SET, AS WELL AS CHAPTER 15 OF THE ORDINANCE.

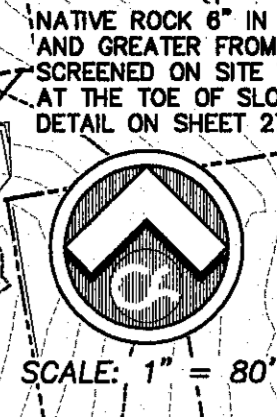
OWNER/DEVELOPER RESPONSIBILITY:

1. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO INSURE THAT THE CONTRACTOR ADHERES TO THE NOTES SET FORTH IN THIS PLAN SET. IN THE EVENT THAT A CONTRACTOR DEFAULTS ON THE PROJECT, THE OWNER/DEVELOPER SHALL ASSUME THE RESPONSIBILITIES OF THE CONTRACTOR FOR THE MAINTENANCE OF THE SITE.
2. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO NOTIFY THE CITY IN WRITING WHEN A SITE IS OR WILL BECOME IDLE FOR MORE THAN 180 CONSECUTIVE DAYS. DURING THIS TIME, THE PERMITTEE RESPONSIBLE FOR THE GRADING STABILIZATION PLAN SHALL MAKE REGULAR INSPECTIONS OF THE PROJECT AREA TO INSURE THE SITE IS PROPERLY MAINTAINED AND ADEQUATELY PROTECTED.
3. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO ASSUME THE MAINTENANCE OF THE SITE ONCE THE PROJECT IS CLOSED AND HAS BEEN ACCEPTED AS COMPLETE. THE OWNER/DEVELOPER SHALL ADHERE TO THE NOTES SET FORTH IN THIS PLAN SET AND MAINTAIN THE SITE AT THEIR EXPENSE DURING THE WARRANTY PERIOD.
4. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER TO WATER THE SITE UNTIL THE ESTABLISHMENT OF VEGETATION AS OUTLINED IN THE EROSION CONTROL NOTES HAS BEEN ACHIEVED. LIKEWISE, THE OWNER/DEVELOPER SHALL WATER AS NECESSARY TO PREVENT WIND EROSION OF THE SITE. THE OWNER/DEVELOPER MAY UTILIZE OTHER MEANS TO CONTROL WIND EROSION AS APPROVED BY THE CITY ENGINEER.
5. THE OWNER/DEVELOPER SHOULD MAKE REGULAR VISITS TO THE SITE (AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS) TO INSPECT THE EROSION CONTROL DEVICES DURING THE WARRANTY PERIOD. ADDITIONALLY, SITE VISITS SHOULD BE MADE WITHIN 24 HOURS PRIOR TO AN ANTICIPATED STORM EVENT AND IMMEDIATELY FOLLOWING A RAINFALL EVENT OF ONE-HALF INCH OR MORE. AND LIKEWISE, FOLLOWING A SIGNIFICANT WIND EVENT TO INSPECT THE EROSION CONTROL DEVICES. ANY DEVICES REQUIRING REPAIR OR REPLACEMENT SHOULD BE ADDRESSED WITHIN 24 HOURS FOLLOWING THE VISUAL INSPECTION.
6. THE OWNER/DEVELOPER SHALL MAINTAIN A CLEAN SITE BY REMOVING AND PROPERLY DISPOSING OF ANY TRASH, SOLID WASTE, OR OTHER DEBRIS THAT MAY ACCUMULATE ON THE PROPERTY.
7. THE OWNER/DEVELOPER MUST ADHERE TO TITLE 9 (HEALTH AND SAFETY), CHAPTER 9.04 (SOLID WASTE MANAGEMENT), ARTICLE XVII WEEDS AND VEGETATION, SECTION 9.04.860 (WEEDS AND VEGETATION PROHIBITED) AND MAINTAIN A SITE THAT IS FREE OF WEEDS AND VEGETATION OTHER THAN THOSE DEEMED AS "ACCEPTABLE" PER SECTION 9.04.870 (EXCEPTIONS).
8. THE CITY ENGINEER OR HIS REPRESENTATIVE, AS WELL AS REPRESENTATIVES OF THE SOLID WASTE MANAGEMENT DEPARTMENT MAY MAKE PERIODIC VISITS TO THE SITE DURING THE WARRANTY PERIOD AND RESERVES THE RIGHT TO REQUEST ADDITIONAL MEASURES PER TITLE 9 (HEALTH AND SAFETY) ARTICLE XVII - WEEDS AND VEGETATION, SECTION 9.04.880 (CITY ABATEMENT).

ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE STABILIZED PER ORDINANCE. REFER TO NOTES AND DETAILS ON SHEETS 26 AND 27.



NATIVE ROCK 6" IN DIAMETER AND GREATER FROM MATERIALS SCREENED ON SITE TO BE PLACED AT THE TOE OF SLOPE PER THE DETAIL ON SHEET 27.

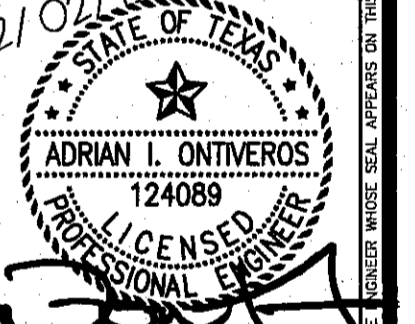


NO.	DATE	DESCRIPTION	BY
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2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
843-5720
1-800-DIG-TESS
AT&T
1-800-841-1555
TEXAS GAS SERVICE
644-5000
PUBLIC SERVICE BOARD (WATER & SEWER)
AFTER HOURS EMERGENCY (EPW)
562-8411
1-800-DIG-TESS
594-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-244-6377
KINDER-MORGAN EPAC PIPELINES
1-800-238-3764
EL PASO METRIC STEEL AND MANUFACTURING
1-800-238-3764
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1-800-238-3764

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CIMARRON CANYON UNIT THREE SUBDIVISION

GRADING STABILIZATION PLAN

COB DESIGNED BY	1724
COB-SM	08/08/18
SHOWN BY	DATE
AHO	AS NOTED
DESIGNED BY	DATE
SHEET NO. 25	
OF 27	

18.44.220 - PERMIT CLOSEOUT PROCEDURE

AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED, AS A PART OF THE CLOSEOUT PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:

- A STATEMENT FROM THE ENGINEER OF RECORD STATING THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS." THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS BEEN IMPLEMENTED.
- A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE, IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15.

18.44.090 - WARRANTY

ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER.

18.44.200 - ENGINEERING CONTROLS FOR GRADING

1. NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALES SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION OF IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
2. WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPEDE OR INTERFERE WITH THE FLOW OF STORMWATER IN NATURAL DRAINAGE WAYS, UNIMPROVED CHANNELS OR WATERCOURSES, OR IMPROVED DITCHES, CHANNELS OR CANALS IN SUCH A MANNER AS TO CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
3. CONSTRUCTION EQUIPMENT AND FENCING SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO PERFORM WORK ON THE APPROVED PLANS. ADEQUATE BY-PASS MEASURES SHALL BE INSTALLED WHERE TEMPORARY DRAINAGE BLOCKAGES WILL OCCUR. WHERE WORK WITHIN A CHANNEL IS DESIGNATED ON APPROVED PLANS, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING BED AND BANKS, SHALL ALWAYS BE RESTORED/RE-STABILIZED IMMEDIATELY AFTER WORK IN THE CHANNEL IS COMPLETED.
4. WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
5. MATERIAL STOCKPILING SHALL NOT BE ALLOWED WHEN GRADING OPERATIONS ARE IDLE FOR MORE THAN SEVEN CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
6. A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF THE GRADING OPERATION WILL IMPACT TRAFFIC.
7. ANY USE OF VIBRATORY EQUIPMENT SHALL NOT BE ALLOWED, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE.
8. THE PERMIT OFFICIAL MUST BE NOTIFIED NO LATER THAN 4:00PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

LEGEND

- PROPOSED HIGH POINT
- PROPOSED LOW POINT
- PROPOSED CONTOUR
- EXISTING CONTOUR
- ROCK RETAINING WALL WITH GARDEN WALL EXTENSION BY DEVELOPER, HEIGHTS AS NOTED
- GARDEN OR STEM WALL BY DEVELOPER, HEIGHTS AS NOTED
- ROCK RETAINING WALL, BATTER ONLY, BY DEVELOPER, GARDEN WALL EXTENSION BY BUILDER
- ROCK RETAINING WALL WITH 4" GARDEN WALL EXTENSION BY BUILDER
- EXISTING ROCK WALL, RETAINING AS REQUIRED, PER CIMARRON CANYON UNIT ONE
- ALL OTHER ROCK WALLS BY BUILDER UNLESS NOTED OTHERWISE
- SWALE

PENALTY -- SEVERABILITY

ANY PERSON VIOLATING CHAPTER 18 (GRADING ORDINANCE) SHALL BE DEEMED GUILTY OF A MISDEMEANOR AND SHALL BE PUNISHED BY A FINE NOT TO EXCEED TWO THOUSAND DOLLARS. IN THE CASE OF A CONTINUING VIOLATION, EACH DAY'S VIOLATION SHALL BE DEEMED A SEPARATE OFFENSE (PER SECTION 18.44.210) THE SEVERABILITY PROVISIONS OF SECTION 1.04.060 APPLY.

FOR INFORMATION REGARDING SOILS, REFER TO THE PRELIMINARY SOILS EVALUATION REPORT FOR CIMARRON CANYON UNIT ONE SUBDIVISION (PROJECT NO. SP611178 DATED OCT 3, 2011), AND THE STREET PAVEMENT DESIGN (PROJECT NO. SP611043 DATED APR 4, 2011) PREPARED BY REEFOR, INC.



SITE PREPARATION:

- PRIOR TO GRADING OF THE SITE, NATIVE PLANTS THAT ARE OF A DESIRABLE SPECIES AND THAT ARE OF SUFFICIENT MATURITY WILL BE TAGGED FOR EASE OF IDENTIFICATION. THESE PLANTS WILL BE HARVESTED, REMOVED FROM THE SITE, AND RESERVED FOR THE PURPOSES OF REVEGETATING GRADED SLOPES AND OTHER AREAS THAT ARE IDENTIFIED ON THE PLAN, OR OTHER AREAS THAT MAY HAVE BEEN DISTURBED BY GRADING OPERATIONS AND NOT IDENTIFIED ON THE PLAN.
- THE SITE SHOULD BE CLEARED OF ALL TRASH, RUBBISH, AND DEBRIS THAT IS NOT OF NATURAL ORIGIN. THIS SHOULD INCLUDE BUT IS NOT LIMITED TO PLASTICS, PAPER, CARDBOARD, CANS AND OTHER METAL CONTAINERS, PACKING MATERIALS, PALLETS, LUMBER AND OTHER CONSTRUCTION DEBRIS, TIRES, DISCARDED FURNISHINGS, APPLIANCES, ETC., AND CONCRETE OR ASPHALT RUBBLE. ALL SHOULD BE PLACED IN APPROPRIATE TRANSPORT CONTAINERS AND REMOVED TO A DISPOSAL SITE AUTHORIZED TO ACCEPT THE REFUSE.
- ONCE CLEARED OF UNDESIRABLE MATERIALS, TOPSOILS WITHIN THE LIMITS OF DISTURBANCE IS TO BE REMOVED TO A DEPTH OF 6" TO 12" AND RESERVED IN STOCKPILES AT AREAS WITHIN THE SITE AS IDENTIFIED IN THE PLAN VIEWS. THE TOPSOILS ARE NOT TO BE SCREENED AND ANY ORGANIC MATERIALS SCRUBBED IN THE GRADING OPERATIONS ARE TO BE LEFT INTERMINGLED WITHIN THE RESERVED MATERIALS. THE MATERIALS THAT ARE RESERVED WILL SERVE AS THE SEED BANK AND WILL BE THE BASE FOR OPERATIONS THAT WILL BE PERFORMED FOLLOWING THE GRADING OF AREAS NOTED FOR REVEGETATION ON THE PLANS.
- ANY NATIVE ROCK THAT MAY BE GATHERED WITH THE TOPSOILS ARE TO BE LEFT WITH THE MATERIALS RESERVED. THIS NATIVE ROCK IS A CRUCIAL MEMBER OF THE SOILS MAKE UP WILL AND HELP TO INTERLOCK THE SOIL MATERIALS WHEN TRANSFERRED AND PLACED ON NEWLY GRADED AREAS. ONLY LARGER DIAMETER STONES THAT ARE ENCOUNTERED (12" DIAMETER AND LARGER) SHALL BE REMOVED FROM THE MATERIALS THAT ARE TO BE STOCKPILED. THESE LARGER STONES SHOULD BE SET ASIDE AND RESERVED FOR USE ELSEWHERE ON SITE AS SHOWN IN THE DETAILS ON THESE SHEETS.
- AREAS IDENTIFIED AS STOCKPILES FOR THE SEED BANK ON THE PLANS SHALL BE THOROUGHLY WETTED PRIOR TO PLACING THE TOPSOILS IN RESERVE. MATERIALS SHALL BE SPREAD LOOSELY AND LEFT UNCOMPACTED IN LAYERS NOT GREATER THAN 4" TO 6" IN DEPTH. RESERVED MATERIALS SHALL BE RETWETTED PRIOR TO PLACING ADDITIONAL MATERIALS ON TO THE STOCKPILE. MATERIALS STOCKPILED SHALL NOT EXCEED FOUR (4) FEET IN OVERALL HEIGHT. ONCE MATERIALS HAVE BEEN STOCKPILED, THE SEED BANK SHALL BE WATERED ON A FAIRLY REGULAR BASIS, NOT LESS THAN ONCE PER WEEK, UNTIL SUCH TIME THE MATERIALS ARE REMOVED FOR PLACEMENT WITHIN THE GRADED AREAS NOTED ON THE PLANS. FREQUENCY OF WATERING AND WATER VOLUMES SHALL BE AS DIRECTED BY THE BOTANIST.
- DURING THE PERIOD THAT THE SEED BANK IS IN RESERVE, ONLY UNDESIRABLE GROWTH THAT MAY OCCUR SHALL BE REMOVED. PLANTS SUCH AS TUMBLEWEEDS AND OTHER SPECIES AS IDENTIFIED IN THE CITY CODE AS UNDESIRABLE SHALL BE REMOVED. [Ref: TITLE 9 (HEALTH AND SAFETY), CHAPTER 9.04 (SOLID WASTE MANAGEMENT), SECTION 9.04.860 (WEEDS AND VEGETATION PROHIBITED) AND MAINTAIN A SITE THAT IS FREE OF WEEDS AND VEGETATION OTHER THAN THOSE DEEMED AS 'ACCEPTABLE' PER SECTION 9.04.870 (EXCEPTIONS).]
- PLANT HARVESTING, RESERVATION AND PRESERVATION OF THE SEED BANK, AND THE REVEGETATION OF THE AREAS NOTED IN THE PLAN SHALL BE PERFORMED UNDER THE SUPERVISION OF MICHAEL GAGLIO, BOTANIST AND MANAGING MEMBER OF HIGH DESERT NATIVE PLANTS AND MAY BE CONTACTED VIA EMAIL AT mike@hd-env.com.

GENERAL GRADING NOTES:

- AREAS NOTED ON THE PLANS AS 'TO BE LEFT UNDISTURBED' SHOULD BE CORDONED OFF USING ORANGE CONSTRUCTION FENCING AND ALL MECHANIZED EQUIPMENT SHOULD BE RESTRICTED FROM OPERATIONS WITHIN THESE AREAS.
- ON HIGHER GROUND, GRADING OPERATIONS SHOULD BE CATEGORIZED AS 'HILL TOPPING' AND THE LIMITS OF GRADING SHOULD NOT EXTEND BEYOND WHAT IS SHOWN ON THE PLANS, ESPECIALLY THE GRADING SHOWN WITHIN BLOCKS 2, 3 AND 10. INITIAL GRADING CAN BE PERFORMED UTILIZING SCRAPERS, BUT AS THE FINISHED GRADE IS APPROACHED, GRADING AT THE EDGE OF THE LOTS SHOULD BE 'RAKED' IN TOWARD THE LOT. RAKED MATERIALS PULLED IN FROM THE EDGE OF SLOPE CAN BE REMOVED UTILIZING SCRAPERS. LEAVING A CLEAN CUT TO FULLER GRADE IN THE NOTED AREAS IS CRUCIAL TO THE LOOK DESIRED AS A PART OF THE GRADING DESIGN.
- WHILE NOT EXPECTED, IT IS POSSIBLE THAT CLAYS OR OTHER SOILS WITH HIGHER PLASTICITY CAN BE ENCOUNTERED, ESPECIALLY WHEN GRADING OPERATIONS ARE PERFORMED WITHIN LOWER AREAS NEAR RESLER DRIVE AND WITHIN WATER COURSES AND WASHES. REMOVAL AND REPLACEMENT OF THESE SOILS WILL ONLY BE NECESSARY WHERE PAVEMENT IS PROPOSED, OR WHERE IT WILL IMPOSE ISSUES UPON THE PLACEMENT OF FOUNDATIONS BY THE BUILDERS. IT WILL NOT BE NECESSARY TO MITIGATE THESE SOILS WHERE FILL IS PROPOSED AND ENCAPSULATION OF THE UNDESIRABLE SOILS WILL OCCUR.

SCREENING OPERATIONS:

- DURING SCREENING OPERATIONS PERFORMED THROUGHOUT THE DURATION OF CONSTRUCTION, NATIVE ROCK OF ALL SIZES SHALL BE RESERVED AND STOCKPILED FOR FUTURE PLACEMENT ON SITE AS SHOWN ON THE PLAN AND PER THE DETAILS SHOWN ON THESE SHEETS.
- NATIVE ROCK SHOULD BE SORTED BY SIZE AND KEPT SEPARATED DURING THE PERIOD THE MATERIAL IS STOCKPILED. A SIGNIFICANT AMOUNT OF NATIVE ROCK PLACEMENT IS SPECIFIED AS A PART OF THE STABILIZATION PLAN AND ALL EFFORTS SHOULD BE MADE BY THE CONTRACTOR TO SORT AND RESERVE ALL NATIVE ROCK AS IS PERMITTED BY TIME AND BUDGETARY CONSTRAINTS.
- IN THE EVENT THAT SIGNIFICANTLY SIZED SANDSTONE CAPS ARE ENCOUNTERED DURING GRADING OPERATIONS, EFFORTS SHOULD BE MADE TO RESERVE SLABS OF THE SANDSTONE INTACT. LARGE SLABS MAY BE INCORPORATED INTO THE PARKS AS PART OF THE NATIVE DESIGN SCHEMES BEING PROPOSED.

GRADED SLOPES:

- ALL GRADED SLOPES GREATER THAN 3:1 (THREE FEET HORIZONTALLY TO 1 FOOT VERTICALLY) MUST BE STABILIZED PER ORDINANCE. OTHER GRADED SLOPES THAT ARE 3:1 OR LESS SHALL BE STABILIZED PER THE RECOMMENDATIONS OF THE SLOPE STABILITY REPORT PERFORMED BY THE GEOTECHNICAL ENGINEER.
- AS A STANDARD, THE CONTRACTOR SHOULD MAINTAIN REGULAR CONTACT WITH THE GEOTECHNICAL ENGINEER AND REQUEST TESTING OF SOILS TO BE USED IN THE CONSTRUCTION OF FILL SLOPES, WHENEVER POSSIBLE, IT IS DESIRABLE TO PLACE SOILS WITH HIGHER PLASTICITY LEVELS AT THE LOWER LEVELS OF FILL AND RESERVE THE LESSER COHESIVE SOILS FOR PLACEMENT NEARER THE TOPS OF THE CONSTRUCTED SLOPES, ESPECIALLY WHERE THOSE SOILS WILL BE CONTAINED WITHIN RETAINING WALLS.
- CONSTRUCTED SLOPES (FILL) SHOULD INCORPORATE A SOILS STITCHING METHODOLOGY WHEN PLACING LIFTS. IN ADDITION TO THE TESTING OF SOILS, FILL SLOPES SHOULD BE INSPECTED ON A REGULAR BASIS BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS. AT A MINIMUM FILL SLOPES SHOULD BE EVALUATED FOR SLOPE STABILITY BY THE ENGINEER UPON COMPLETION OF EVERY FIVE (5) FEET OF VERTICAL FILL.
- SIGNIFICANT CUT SLOPES ARE PROPOSED AS A PART OF THE GRADING OPERATIONS FOR THIS SUBDIVISION. GRADING CONTRACTOR SHALL PAY VERY CLOSE ATTENTION TO THE MATERIALS THAT ARE ENCOUNTERED WHEN CUTTING SLOPES. WHILE MATERIALS WITH HIGH COHESIVE VALUES ARE DESIRED, IN THE EVENT THAT FLOWABLE MATERIALS SUCH AS QUIN, BLOW, OR SUGAR SANDS ARE DISCOVERED DURING CONSTRUCTION, THE GRADING CONTRACTOR SHALL IMMEDIATELY CONTACT THE GEOTECHNICAL ENGINEER TO INSPECT THE SITE CONDITIONS AND RECOMMEND OPTIONS TO COMPLETE THE SLOPE AS DESIGNED. ALL GRADING OF THE CUT SLOPE SHALL CEASE UNTIL OPTIONS CAN BE OFFERED AND A PLAN IS IMPLEMENTED TO MITIGATE THE POOR SOIL CONDITION.
- ALL SLOPES WITHIN THESE PLANS SHALL BE RE-INSPECTED BY THE GEOTECHNICAL ENGINEER AND THE DESIGN ENGINEER UPON COMPLETION. AT THAT TIME, FURTHER RECOMMENDATIONS MAY BE MADE TO ENSURE THE FUTURE STABILITY OF THE COMPLETED SLOPES. THESE RECOMMENDATIONS MAY INCLUDE BUT ARE NOT LIMITED TO THE INCORPORATION OF SOIL RETENTION BLANKETS SUCH AS PYRAMAT OR OTHER GEOTEXTILE GRID MATERIALS, APPLICATION OF HAY OR OTHER ORGANIC MULCHES, SPRAY MULCH APPLICATIONS, OR SOILS BLENDING TO ENCAPSULATE AND PRESERVE THE FINISHED GRADE OF THE SLOPES.
- MOST SLOPES WITHIN THE DISTURBED LIMITS ARE TO BE REVEGETATED BY THE DEVELOPER UNLESS NOTED OTHERWISE IN THE PLANS. THE FIRST STEP IN THE REVEGETATION PROCESS IS THE APPLICATION OF TOPSOILS THAT HAVE BEEN RESERVED HELD IN STOCKPILE. APPLICATION OF THE TOPSOIL CAN BE PERFORMED AS THE SLOPES ARE DEVELOPED BUT ONLY AFTER INSPECTION OF THE PORTION OF THE SLOPE TO RECEIVE THE TOPSOIL HAS BEEN INSPECTED BY THE GEOTECHNICAL ENGINEER AND PASSED FOR STABILITY OF THE SLOPE SPECIFIED. APPLICATION OF THE TOPSOIL SHALL BE PERFORMED PER THE 'REVEGETATION OF SLOPES' NOTES IN THESE PLANS.
- SLOPES THAT ARE NOT NOTED FOR REVEGETATION IN THESE PLANS ARE TEMPORARY IN NATURE AND WILL BE FURTHER AMENDED BY FUTURE DEVELOPMENT OF THIS AREA. ALTHOUGH TEMPORARY, THESE SLOPES ARE TO BE EVALUATED BY THE GEOTECHNICAL ENGINEER UPON COMPLETION AS NOTED ABOVE, AND IF DEEMED NECESSARY, ADDITIONAL SLOPE STABILITY MEASURES WILL BE IMPLEMENTED PER THE ENGINEER'S RECOMMENDATIONS.
- ALL SLOPES, WHETHER CONSTRUCTED BY FILL, OR CREATED BY CUT, AND THAT ARE TO BE REVEGETATED OR LEFT NATURAL, SHALL BE REINFORCED AND PROTECTED BY PLACING NATIVE ROCK SCREENED FROM MATERIALS ON SITE AT THE TOE OF ALL SLOPES PER THE DETAILS IN THIS PLAN UNLESS NOTED OTHERWISE.

9. ALL SLOPES THAT ARE NOTED TO BE STABILIZED BY BUILDER SHALL BE COMPLETED AND SHOULD BE CONSIDERED AS A PARAMETER TO BE COMPLETED PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY. ALL WORK IS TO BE PERFORMED OR SUBCONTRACTED BY THE INDIVIDUAL BUILDER OF THE LOT IN WHICH A SLOPE IS INDICATED AND SHALL CONFORM TO THE INSTRUCTIONS CONTAINED IN THE 'SLOPE STABILIZATION FOR BUILDERS' NOTE.

REVEGETATION OF SLOPES AND OTHER SCARRED AREAS:

- WHILE THE EROSION OF LAND IS INEVITABLE AND CAN ONLY BE MITIGATED BUT NEVER ERADICATED, IN THAT RESPECT, THE REVEGETATION OF SLOPES AND OTHER AREAS LEFT SCARRED BY GRADING OPERATIONS IS A CRUCIAL PORTION OF THE GRADING STABILIZATION PROCESS AS DETAILED IN THIS PLAN. AS NOTED, THE REVEGETATION PROCESS IS TO BE PERFORMED BY THE DEVELOPER AS A FINAL STEP IN ABATING THE FUTURE EROSION OF SCARRED AREAS, ESPECIALLY GRADED SLOPES.
- ONCE GRADED SLOPES ARE COMPLETED, AND HAVE BEEN INSPECTED BY THE GEOTECHNICAL ENGINEER PER THE OTHER NOTES AND DETAILS IN THIS PLAN, TO INCLUDE THE APPLICATION OF ANY ADDITIONAL RECOMMENDATIONS REQUIRED BY THE SLOPE STABILITY ANALYSIS PERFORMED BY THE ENGINEER, THE REVEGETATION PROCESS CAN BEGIN.
- THE FIRST STEP IN THE REVEGETATION PROCESS IS THE PLACEMENT OF RESERVED TOPSOILS STOCKPILED AS THE SEED BANK UPON SCARRED AREAS LEFT UNPROTECTED TO THE ELEMENTS. IN PREPARATION FOR THIS STEP, THE SCARRED AREA SHOULD BE 'TRACK WALKED' TO PROVIDE A FOOT HOLD FOR THE SOILS TO BE APPLIED. WHERE TRACK WALKING MAY NOT BE POSSIBLE, THE USE OF A SHEEPSFOOT ROLLER DRUM ATTACHED TO AN EXCAVATOR CAN BE AN EFFECTIVE ALTERNATIVE. AT THIS TIME, ANY ADDITIONAL APPLICATION OF MULCHES SUCH AS HAY BEDDING SHALL BE PLACED AND THE SCARRED AREA SHALL BE WETTED THOROUGHLY BEFORE APPLYING THE RESERVED TOPSOILS. HYDROSEEDING SHOULD ONLY BE CONSIDERED IF A NATIVE SEED BLEND CAN BE OBTAINED.
- PRIOR TO REMOVING TOPSOILS FROM THE SEED BANK, THE STOCKPILE SHALL ALSO BE THOROUGHLY WETTED, IN THE EVENT THAT THE RESERVED MATERIAL HAS SETTLED TO A POINT WHERE IT HAS BECOME HARDPAN. THE MATERIAL SHALL BE SCARIFIED PRIOR TO WETTING. AT THIS TIME, ANY SOIL AMENDMENTS THAT MAY HAVE BEEN RECOMMENDED SHALL BE INCORPORATED INTO THE MATERIAL. THE RESERVED MATERIALS ARE TO BE REMOVED FROM THE SEED BANK IN LIFTS RELATIVE TO THE DEPTH IN WHICH THEY WERE PLACED. THIS SHOULD ENSURE A DEPTH OF SEEDING RELATIVE TO THAT WHICH WAS NATURAL WHEN THE MATERIALS WERE HARVESTED.
- ONCE THE MATERIALS ARE TRANSPORTED TO THE SITE THAT IS TO BE REVEGETATED, THE MATERIAL SHALL BE PLACED UPON THE EXPOSED SOILS AT A DEPTH OF NOT MORE THAN SIX TO EIGHT INCHES. THE APPLIED MATERIAL SHOULD BE TRACK WALKED BUT SHOULD ONLY BE COMPACTED TO A POINT AT WHICH A FIRM ADHESION TO THE SCARRED AREA IS ACHIEVED. THE TOPSOIL SHALL BE RETWETTED AS NECESSARY TO ADDITIONALLY ENSURE A FIRM ADHESION. THE USE OF SPRAY MULCH TACKIFIERS, OR AN UNDERLAYMENT OF JUTE, BURLAP, OR OTHER NATURAL DIAPHANOUS BIODEGRADABLE MATERIAL, OR SYNTHETIC POLYGRIDS, PRIOR TO THE PLACEMENT OF MATERIALS MAY ALSO BE CONSIDERED TO ENSURE ADHESION OF THE TOPSOIL TO THE GRADED SLOPES. THE REVEGETATED AREA SHALL BE RETWETTED ONE FINAL TIME ONCE THE APPLICATION OF THE TOPSOIL IS COMPLETE. WATERING SHOULD BE PERFORMED FROM THE TOE OF SLOPE AND UPWARD TO PREVENT POSSIBLE SLIDING OF WETTER SOILS TOWARDS THE TOP OF SLOPE.
- AREAS THAT HAVE RECEIVED TOPSOILS FROM THE SEED BANK SHALL BE WATERED BY THE DEVELOPER ON A REGULAR BASIS TO PROMOTE NEW GROWTH WITHIN THE APPLIED SOILS. ADDITIONAL SOIL AMENDMENTS MAY BE RECOMMENDED AND APPLIED DURING THIS PROCESS. WHILE IRRIGATION OF THE AREAS SLATED FOR REVEGETATION ARE NOT A PART OF THIS PLAN, A LOW WATERING IRRIGATION SYSTEM MAY BE INSTALLED AS A PERMANENT IN-GROUND APPLICATION, OR INSTALLED AS AN ABOVE-GROUND TEMPORARY MEASURE. IT IS HIGHLY RECOMMENDED THAT A PERMANENT DRIP IRRIGATION SYSTEM BE INSTALLED WITHIN THE COMMON OPEN SPACE AREAS, LOT 31, BLOCK 4 AND LOT 75 BLOCK 10 SINCE THEY WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION FOR THE SUBDIVISION. THE USE OF PUNCE WICKS, POLYMER PRODUCTS, OR DIATOMACEOUS EARTH CAN BE CONSIDERED FOR USE TO ENHANCE THE WATER RETENTION OF THE TOPSOILS.
- ONCE THE APPLIED TOPSOILS HAVE BECOME WELL ESTABLISHED, NATIVE PLANTS THAT WERE HARVESTED FROM THE SITE PRIOR TO THE COMMENCEMENT GRADING OPERATIONS WILL BE RETURNED FOR REPLANTING. THE PLANTING OF THE VEGETATION SHOULD BE SUCH THAT IT APPEARS RANDOM. ANY SOIL AMENDMENTS THAT MAY BE REQUIRED OR THAT HAS BEEN RECOMMENDED WILL BE APPLIED AT THE TIME REPLANTING OCCURS. EXCAVATED PLANTING PITS WILL BE THOROUGHLY WETTED PRIOR TO PLACEMENT OF PLANTS AND WILL BE WETTED AGAIN ONCE COVERED. DEVELOPER WILL KEEP NEWLY REPLANTED VEGETATION WATERED UNTIL THE ROOT SYSTEM HAS BECOME WELL REESTABLISHED. THIS PERIOD MAY VARY AS COULD THE AMOUNT AND FREQUENCY OF WATERING AND SHALL BE PERFORMED PER THE RECOMMENDATIONS OF THE SUPERVISING BOTANIST.
- ON GRADED SLOPES, PLANTING BENCHES MAY BE INCORPORATED AS AN ADDED ENHANCEMENT. IF USED, THESE AMENITIES SHOULD BE INSTALLED IN A RANDOM PATTERN AND SHALL BE CONSTRUCTED PER THE DETAILS FOUND IN THIS PLAN.
- AT THE SAME TIME OF THE REPLANTING OF THE HARVESTED PLANTS, SMALLER DIAMETER NATIVE ROCK RETAINED FROM MATERIALS SCREENED ON SITE SHALL BE PLACED RANDOMLY IN REVEGETATED AREAS. ON SLOPE, NATIVE ROCK OF NOT GREATER THAN EIGHT (8) INCHES IN DIAMETER MAY BE PLACED BY SIMPLY TAMPING THE STONE INTO THE SURFACE. LARGER STONE CAN BE INCORPORATED, BUT SHALL BE EMBEDDED PER THE BOULDER EMBEDMENT DETAIL ON THIS PLAN.
- IN THE EVENT A SOIL RETENTION BLANKET HAS BEEN INSTALLED AS A SLOPE STABILITY MEASURE PER THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, THE BLANKET SHALL BE CUT AND REFINED PER THE MANUFACTURER'S DETAILS AND SPECIFICATIONS IN AREAS WHERE PLANTING PITS OR BOULDER EMBEDMENTS ARE REQUIRED.

NATIVE ROCK, BOULDERS, AND RIP-RAP NOTES:

- WHERE INDICATED IN THE PLAN VIEW, NATIVE ROCK OBTAINED FROM MATERIALS SCREENED ON SITE SHALL BE PLACED PER THE DETAILS CONTAINED IN THIS PLAN. NATIVE ROCK OF SIMILAR AVERAGE DIAMETER SHALL BE USED AS SPECIFIED, AND SMALLER NATIVE ROCK OF NOT LESS THAN ONE HALF THE DIAMETER OF THE COBBLE SPECIFIED CAN BE USED AS INFILL. INFILL NATIVE ROCK SHALL NOT EXCEED THIRTY (30) PERCENT OF THE OVERALL VOLUME OF THE INDICATED COBBLE FIELD. NATIVE ROCK SHALL BE PLACED TO A DEPTH OF AT LEAST ONE AND A HALF TIMES THE SIZE OF THE COBBLE DIAMETER SPECIFIED UNLESS NOTED OTHERWISE.
- WHERE A MIXTURE OF SIZES IS NOTED, THE MIX SHALL CONSIST OF SIXTY (60) PERCENT OF THE LARGER DIAMETER AND FORTY (40) PERCENT OF THE SMALLER DIAMETER. INFILL NATIVE ROCK USED SHALL NOT BE OF A LESSER DIAMETER OF THE LARGER COBBLE SPECIFIED AND SHALL NOT BE CONSIDERED IN THE CALCULATIONS FOR THE DIAMETER MIXTURE.
- MOST OF THE LOOSE COBBLE SPECIFIED IS TO BE PLACED ON FINISHED GRADE. THE EXCEPTION TO THIS RULE IS WHERE NATIVE ROCK ARE USED IN SWALES. THE AREAS INDICATED TO FUNCTION AS SWALES SHALL BE OVER EXCAVATED ONE HALF THE DIAMETER OF THE COBBLE SPECIFIED, ONE HALF THE DIAMETER OF THE LARGEST DIAMETER SPECIFIED IF A MIX IS NOTED, AND THE COBBLE IS TO BE PLACED EMBEDDED.
- THE USE OF SALVAGED COBBLE IS AN EXTENSIVE PART OF THIS PLAN. IN THE EVENT THAT COBBLE RESERVES ARE DEPLETED, ATTEMPTS SHOULD BE MADE BY THE CONTRACTOR TO RECEIVE SCREENED MATERIALS FROM OTHER JOB SITES THAT MIGHT OTHERWISE BE DISCARDED BY ANOTHER DEVELOPER. IN THE EVENT THAT STONE MUST BE PURCHASED FROM A SUPPLIER TO SUPPLEMENT NEEDED COBBLE, THE STONE PURCHASED SHOULD NOT BE A QUARRIED ROCK IF AT ALL POSSIBLE. HOWEVER, WHAT IS GENERALLY MARKETED AS 'RIVER ROCK' BY SUPPLIERS SHOULD BE AVOIDED, AS A NATURAL LOOK TO THE LAND IS THE DESIRED RESULT. PURCHASED ROCK SHOULD BE OF THE SAME APPEARANCE AS THE NATIVE ROCK SCREENED FROM THE SITE. STONE SPOILS THAT A SUPPLIER MAY HAVE SLATED FOR THE ROCK CRUSHER IS LIKELY AN ACCEPTABLE ALTERNATIVE. PURCHASED ROCK SHOULD BE AS INEXPENSIVE AS IS POSSIBLE.
- GEOTEXTILE FABRIC UNDERLAYMENT IS NOT REQUIRED FOR THE PLACEMENT OF NATIVE ROCK. PLANT GROWTH IS DESIRED WITHIN THE LOOSE COBBLE FIELDS SPECIFIED. RANDOM PLANT GROWTH SHOULD BE ANTICIPATED AND WILL ADD TO THE NATURAL LOOK OF THE COMPLETED INSTALLATIONS.
- STONE 30" IN DIAMETER AND GREATER SHALL BE CLASSIFIED AS BOULDERS. IN FLAT AREAS, THESE SHALL BE EMBEDDED PER THE DETAIL IN THIS PLAN. ON SLOPES 4:1 (ONE FOOT VERTICALLY TO FOUR FEET HORIZONTALLY) AND GREATER, ALL STONE 12" IN DIAMETER AND GREATER SHALL BE EMBEDDED.
- WHERE BOULDER WASHES ARE INDICATED ON THIS PLAN, NATIVE ROCK OF THE SPECIFIED DIAMETER SHALL BE USED AND EMBEDDED PER THE DETAIL IN THIS PLAN. NATIVE ROCK NOT LESS THAN TWELVE (12) INCHES IN DIAMETER MAY BE USED AS INFILL IN BOULDER WASHES. AS SPECIFIED ABOVE, THE INFILL SHALL NOT ACCOUNT FOR MORE THAN THIRTY (30) PERCENT OF THE BOULDER FIELD INDICATED.
- RIp-RAP, AND ROCK NOTED TO BE DRIVABLE STONE SHALL BE CLASSIFIED AS PURCHASED ROCK AND MAY BE QUARRIED STONE. THIS ROCK SHOULD BE GRAY, BROWN, OR OTHER NEUTRAL COLOR UNLESS IT IS SPECIFIED OTHERWISE IN THE PLANS. IF DEPTHS OF PLACEMENT ARE NOT INDICATED, THE DEPTH SHALL BE A MINIMUM OF ONE AND ONE HALF THE DIAMETER OF THE STONE SPECIFIED. AS WITH THE NATIVE ROCK, WHERE A RANGE OF SIZES IS INDICATED, THE MIX SHALL CONSIST OF SIXTY (60) PERCENT OF THE LARGER DIAMETER AND FORTY (40) PERCENT OF THE SMALLER DIAMETER SPECIFIED.
- GEOTEXTILE UNDERLAYMENT SHALL BE REQUIRED BENEATH ALL RIP-RAP OR DRIVABLE STONE. ONLY PERMEABLE FABRICS SUCH AS WOVEN OR NEEDLE PUNCHED MATERIALS SHALL BE USED. NON PERVIOUS PLASTICS OR OTHER MATERIALS SHALL NOT BE ACCEPTED.

10. SCREENING MAY BE RECOMMENDED BY THE GEOTECHNICAL ENGINEER FOR PLACEMENT ON TRAILS, OR ON BENCHES AS AN ADDITIONAL ANTI-EROSIVE MEASURE. SCREENINGS PLACED ON WALKABLE SURFACES SUCH AS TRAILS SHOULD BE GREATER THAN ONE INCH IN DIAMETER AND PLACED IN A MINIMUM LIFT OF TWO (2) INCHES. NO. 57 STONE SHALL BE CONSIDERED AS AN ACCEPTABLE ALTERNATIVE SHOULD ROCK BE PURCHASED FOR PLACEMENT ON WALKABLE SURFACES.

SLOPE STABILIZATION FOR BUILDERS:

GRADED SLOPES AS SHOWN ON THE GRADING PLAN HAVE BEEN ENGINEERED, BASED ON A GEOTECHNICAL SOILS INVESTIGATION REPORT, TO STAND AT THE SLOPE INDICATED. HOWEVER, EROSION IS INEVITABLE ON ANY SLOPE, EVEN IN HIGHLY COHESIVE SOILS. PROPERTY OWNERS ARE RESPONSIBLE FOR THE MAINTENANCE OF SLOPES WITHIN THEIR LOTS. IF NO MEASURES HAVE BEEN TAKEN PRIOR TO PURCHASE, IT IS HIGHLY RECOMMENDED THAT THE PROPERTY OWNER PROVIDE ANTI-EROSION CONTROLS ON GRADED SLOPES WITHIN THE BOUNDS OF THEIR LOT. THESE MAY INCLUDE BUT ARE NOT LIMITED TO CONCRETE RIP-RAP, GRADED ROCK RIP-RAP (REQUIRED ON SLOPES 1:1 OR GREATER), LOOSE ROCK RIP-RAP OF A SPECIFIED DIAMETER, SOIL RETENTION BLANKETS, PLANTINGS OF NATIVE SPECIES. (SOIL AND OTHER GRASSES ARE NOT RECOMMENDED ON SLOPES GREATER THAN 4:1). BEFORE PERFORMING ANY WORK, PROPERTY OWNERS SHOULD CONSULT A LICENSED PROFESSIONAL CIVIL ENGINEER. ADDITIONALLY, IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CLEAN AND MAINTAIN ANY WEEP HOLES THAT HAVE BEEN INSTALLED IN WALLS OR RIP-RAP. WEEP HOLES ARE AN INTEGRAL COMPONENT OF DRAINAGE SO AS TO PREVENT GROUND SATURATION BEHIND WALLS AND RIP-RAP THAT COULD CAUSE STRUCTURAL FAILURES. PROPERTY OWNERS SHOULD PERFORM REGULAR INSPECTIONS, ESPECIALLY AFTER HEAVY RAINS, AND CLEAR WEEP HOLES OF ANY SILT AND DEBRIS. PROPERLY INSTALLED WEEP HOLES SHOULD ALLOW THE PASSAGE OF ANY STORM WATER RUN OFF THAT MAY ACCUMULATE BEHIND WALLS OR BENEATH RIP-RAP AS A RESULT OF INFILTRATION. WIRE ENCASED GRAVEL FILTERS WRAPPED IN A GEOTEXTILE FABRIC SHOULD PREVENT LARGE DEBRIS FROM BLOCKING THE WEEP HOLE. HOWEVER, THE PASSAGE OF SILT, SAND, AND OTHER FINE PARTICULATE MATERIAL UP TO ONE-QUARTER INCH IN DIAMETER SHOULD BE CONSIDERED NORMAL. UNDER NO CIRCUMSTANCES SHOULD THE WEEP HOLES BE INTENTIONALLY BLOCKED TO PREVENT PASSAGE OF STORM WATER.

REFERENCE:

DRYLAND SEEDING IS A COMMON TECHNIQUE USED IN ATTEMPTS TO RESTORE VEGETATION ON DISTURBED SITES IN ARID REGIONS. COX AND OTHERS (1982) STUDIED DRYLAND SEEDING ATTEMPTS ON MULTIPLE SITES IN THE CHIHUAHUA DESERT AND CONCLUDED THAT SIGNIFICANT PLANT ESTABLISHMENT COULD BE EXPECTED ONLY ONCE OUT OF EVERY TEN ATTEMPTS. GRANITZ AND OTHERS (1998) INVESTIGATED THE EFFECTIVENESS OF UTILIZING THE SEED BANK METHOD TO MITIGATE DUST ON RETIRED CROPLAND IN THE MOJAVE DESERT OF CALIFORNIA. THEY CONCLUDED THAT THIS METHOD CAN LEAD TO PLANT ESTABLISHMENT IN YEARS WITH ABOVE AVERAGE RAINFALL BUT IS LIKELY TO YIELD MINIMAL RESULTS IN MOST YEARS. BAINBRIDGE AND OTHERS (1995) STATE THAT REVEGETATION OF LAND WITHOUT SUPPLEMENTAL IRRIGATION CAN BE A COST EFFECTIVE RESTORATION STRATEGY, ALTHOUGH PERFORMED WITH LIMITED RESULTS WHEN ATTEMPTED IN ARID LANDS BECAUSE OF UNPREDICTABLE AND INFREQUENT OCCURRENCE OF CONDITIONS FAVORABLE FOR SEED GERMINATION AND SEEDLING ESTABLISHMENT. TESTING PROVED THAT THE INSTALLATION OF MINIMALIST IRRIGATION SYSTEMS IN AREAS WHERE SEED BANK APPLICATIONS ARE UTILIZED VASTLY IMPROVED THE LIKELIHOOD OF SUCCESS FOR A REESTABLISHMENT OF NATIVE GROWTH IN SCARRED AREAS. WHERE SLOPES WERE THE RESTORATION OF VEGETATION WAS PROPOSED, BAINBRIDGE FOUND THAT A SINGLE DRIP IRRIGATION LINE PLACED IN AN 'ESS' PATTERN AND SPACED ONE PER EVERY TEN FEET OF VERTICAL RISE WAS EFFICIENT ENOUGH TO PROMOTE AN ESTIMATED 50% INCREASE IN THE EXPECTED GROWTH.

SALVAGE EXISTING NATIVE PLANT MATERIAL PRIOR TO CONSTRUCTION. THE SPECIES TO BE SALVAGED DEPENDS ON LOCATION, SOILS AND ANALYSIS OF PLANT VALUE INCLUDING THE POTENTIAL SURVIVAL RATE. SALVAGED PLANTS CAN READILY IMPROVE THE AESTHETICS OF A SITE BY PROVIDING MATURE PLANTS THAT WOULD NORMALLY TAKE MANY YEARS TO ESTABLISH. IN ADDITION, ENSURE NATIVE TOPSOIL IS COLLECTED AND STORED FOR REUSE. NATIVE TOPSOIL PROVIDES A SEED SOURCE AND IMPORTANT BACTERIA FOR SALVAGED PLANT ESTABLISHMENT AND GROWTH. CAREFULLY REMOVE, STOCKPILE, AND STORE THE NATIVE TOP SOIL OF NEW CONSTRUCTION PROJECTS TO BE USED AS FINAL BEDDING MATERIAL. ENSURE NATIVE SOIL STOCKPILES ARE PROTECTED FROM THE WIND TO AVOID EROSION AND THE CREATION OF A DUST HAZARD.

EVERY REVEGETATION PROJECT REQUIRES A PRESCRIBED SOIL TREATMENT. SOIL TREATMENTS INCLUDE PLOWING, DISKING, HARROWING, FURROWING, HYDROSEEDING, APPLYING MULCHES (SUCH AS STRAW), AND USING TACKIFIERS (SUCH AS JUTE OR DARK COLORED NETTING) TO FIRMLY ANCHOR THE MULCHES TO THE SITE. SOILS SHOULD BE ROUGHENED BEFORE AND AFTER PLANTING TO CREATE FAVORABLE SEED SITES. PARTICULARLY FOR GRASS AND FORD SEEDS. IN SILTY CONDITIONS, A SOIL STABILIZER, SUCH AS A HYDROMULCH OR A MATTING MATERIAL, SHOULD BE APPLIED TO REDUCE POTENTIAL DUST PROBLEMS. SOME SITES REQUIRE DEEP RIPPING IN ORDER TO LOOSEN HARDPAN AND IMPROVE SEEDING SUCCESS. IN CONDITIONS OF STEEP CUT AND SLOPES GREATER THAN 40 PERCENT, SLOPE DISKING IS REQUIRED TO CREATE SEED POCKETS.

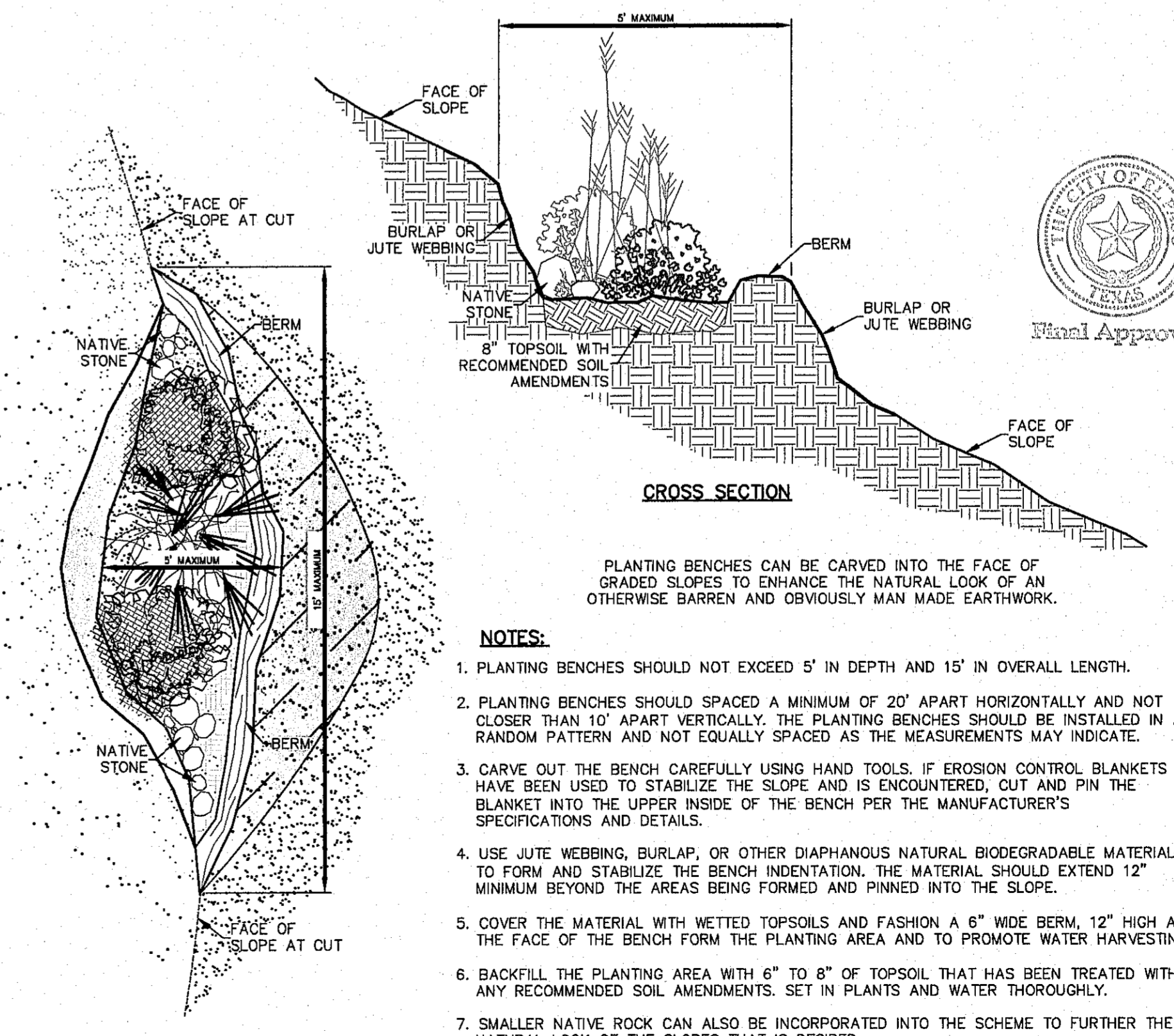
IN MOST CASES, ORGANIC MATERIAL WILL NEED TO BE ADDED TO THE SITE TO IMPROVE SOIL QUALITY. EACH SITE SHOULD BE CAREFULLY ANALYZED TO DETERMINE THE TYPE OF FERTILIZER APPLICATION. ON SITES WITH HARDPAN AND SALTS NEAR THE SURFACE, AN AMENDMENT TO CONTROL OR AMELIORATE pH SHOULD BE APPLIED. SCATTERED ROCK MULCH IS TO BE USED WITH THIS SOFTSCAPE TYPE AS GROUND COVER. IT WILL PROVIDE SEED POCKETS AND PROTECTION THAT WILL ASSIST IN THE ESTABLISHMENT OF SEED.

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PLANTING BENCHES

N.T.S.

- NOTES:**
- PLANTING BENCHES SHOULD NOT EXCEED 5' IN DEPTH AND 15' IN OVERALL LENGTH.
 - PLANTING BENCHES SHOULD SPACED A MINIMUM OF 20' APART HORIZONTALLY AND NOT CLOSER THAN 10' APART VERTICALLY. THE PLANTING BENCHES SHOULD BE INSTALLED IN A RANDOM PATTERN AND NOT EQUALLY SPACED AS THE MEASUREMENTS MAY INDICATE.
 - CARVE OUT THE BENCH CAREFULLY USING HAND TOOLS. IF EROSION CONTROL BLANKETS HAVE BEEN USED TO STABILIZE THE SLOPE AND IS ENCOUNTERED, CUT AND PIN THE BLANKET INTO THE UPPER INSIDE OF THE BENCH PER THE MANUFACTURER'S SPECIFICATIONS AND DETAILS.
 - USE JUTE WEBBING, BURLAP, OR OTHER DIAPHANOUS NATURAL BIODEGRADABLE MATERIAL TO FORM AND STABILIZE THE BENCH INDENTATION. THE MATERIAL SHOULD EXTEND 12" MINIMUM BEYOND THE AREAS BEING FORMED AND PINNED INTO THE SLOPE.
 - COVER THE MATERIAL WITH WETTED TOPSOILS AND FASHION A 6" WIDE BERM, 12" HIGH AT THE FACE OF THE BENCH FORM THE PLANTING AREA AND TO PROMOTE WATER HARVESTING.
 - BACKFILL THE PLANTING AREA WITH 6" TO 8" OF TOPSOIL THAT HAS BEEN TREATED WITH ANY RECOMMENDED SOIL AMENDMENTS. SET IN PLANTS AND WATER THOROUGHLY.
 - SMALLER NATIVE ROCK CAN ALSO BE INCORPORATED INTO THE SCHEME TO FURTHER THE NATURAL LOOK OF THE SLOPES THAT IS DESIRED.

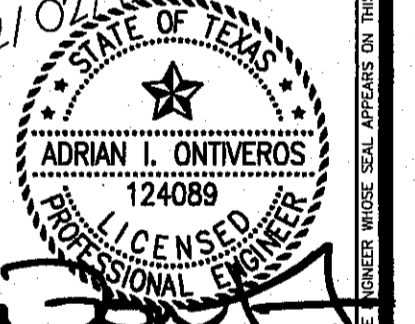
BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF BRAYS AND RAINING DRIVES
ELEVATION = 3976.53 (EL PASO CITY DATUM)

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3	12/02/19	Final City Submitted	AHO

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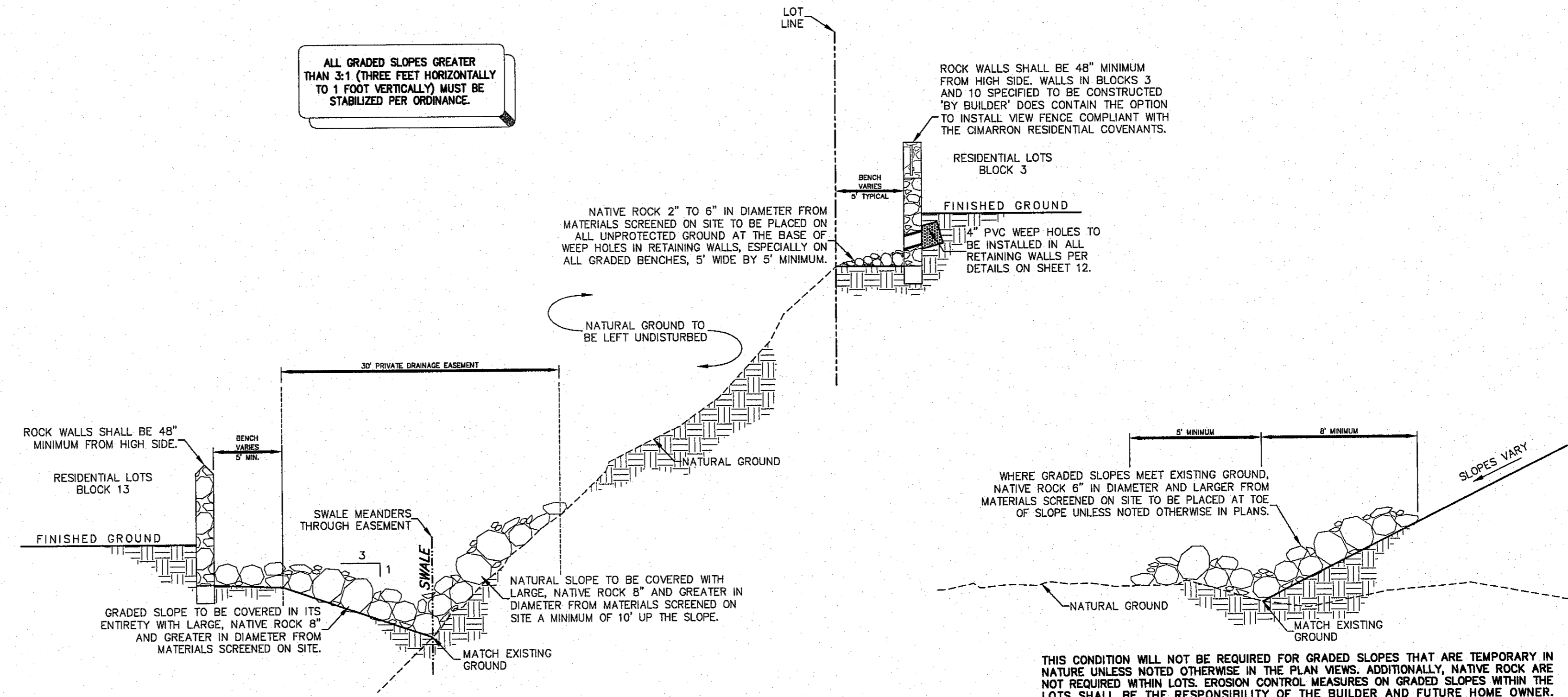
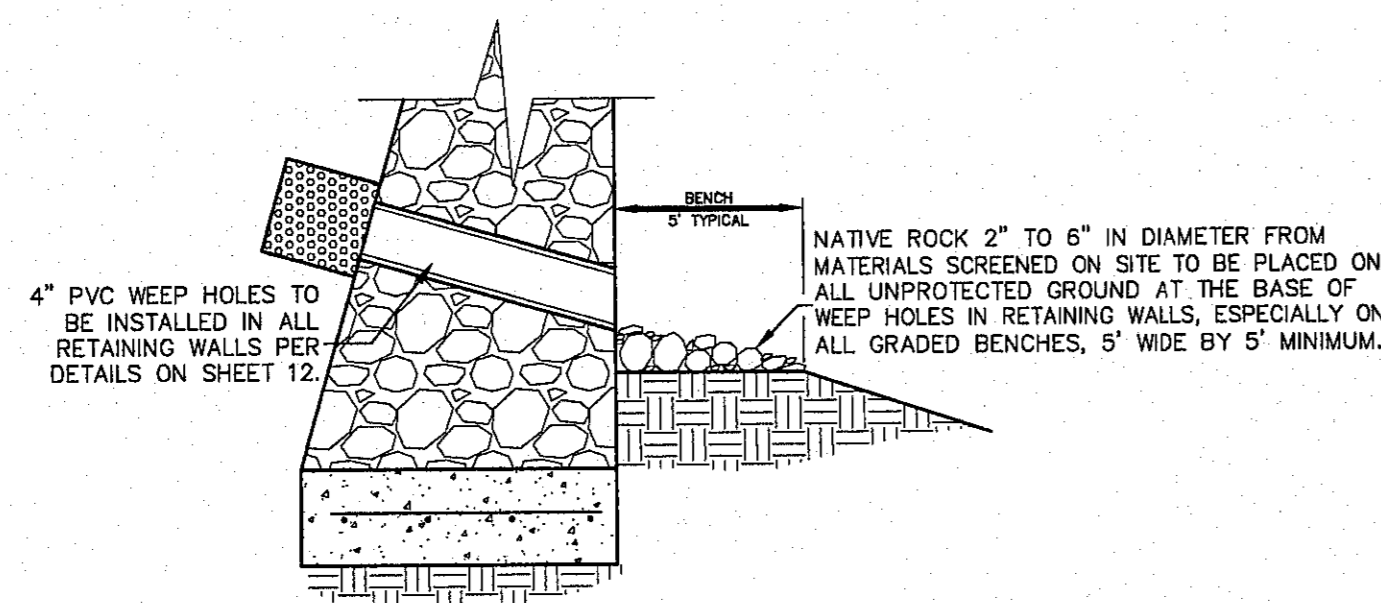


CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET NO.
**GRADING
STABILIZATION
NOTES AND
DETAILS**

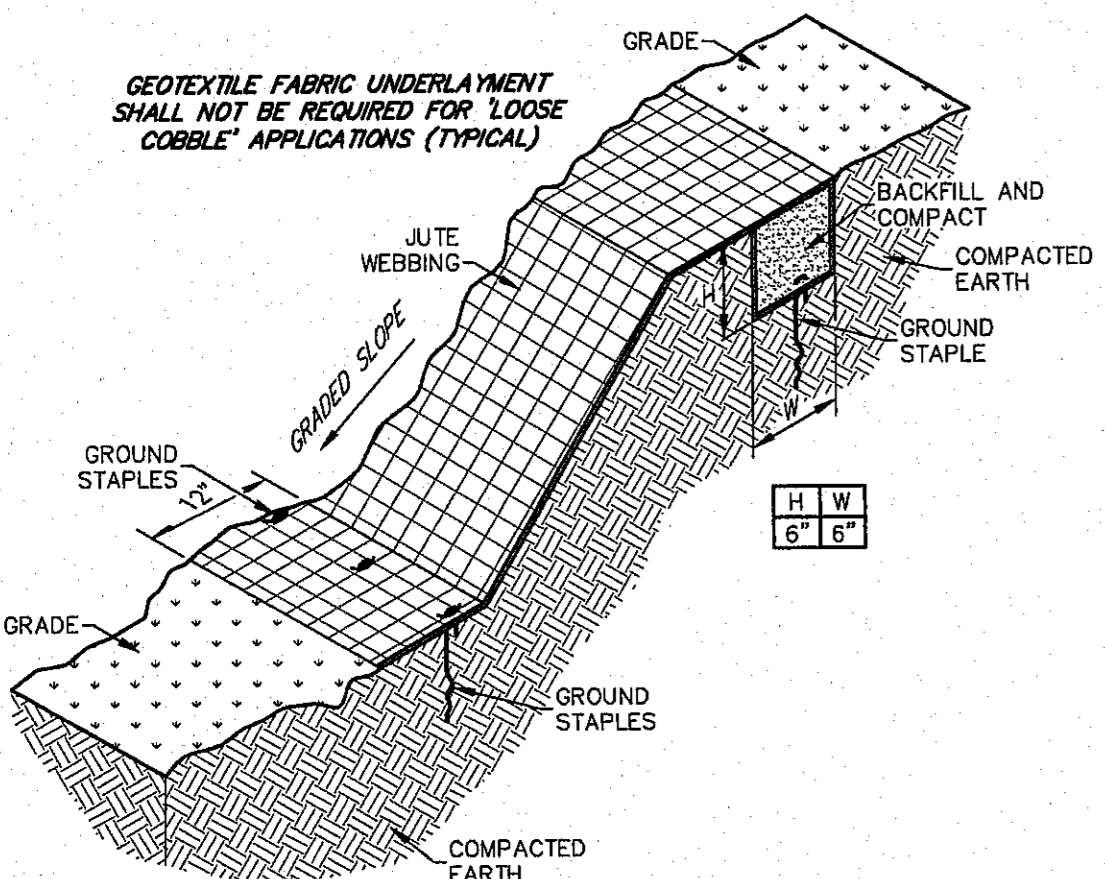
COB SCALE BY	1724 JOB NO.
COB-SM SCALE BY	08/08/18 DATE
AHO GRADE BY	AS NOTED SCALE
SHEET NO. 26	
OF 46	

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 1845 Northwest Blvd, Ste C, El Paso, Texas 79912
 (915) 877-4165 (915) 877-4334
 www.csadesigngroup.com



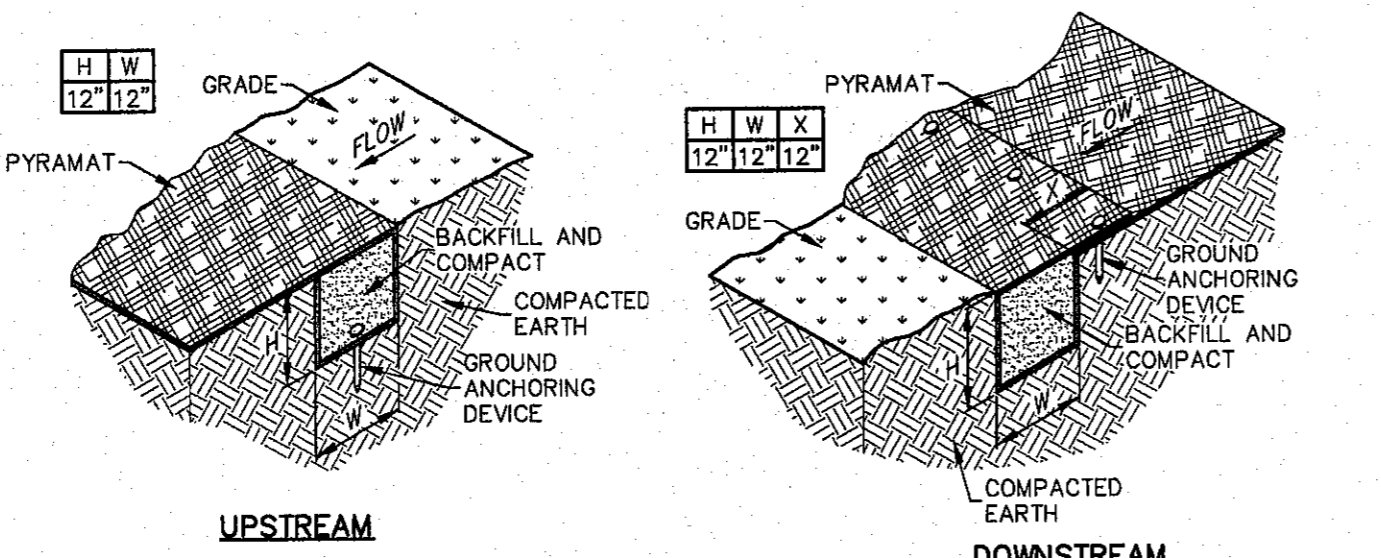
ROCK WALL AND RIP-RAP APPLICATIONS
NOT TO SCALE

REFER TO SHEET 12 FOR ADDITIONAL ROCK WALL DETAILS.



TACKIFIERS, HYDROMULCHES, AND NETTING

SPRAY APPLIED TACKIFIERS AND HYDROMULCHES SUCH AS 'EARTHBOUND' PRODUCTS MANUFACTURED BY LSC ENVIRONMENTAL PRODUCTS, LLC / TERRA NOVO OR 'GUARDIAN' AND 'SUPER TACK' BY RANTEC CAN BE CONSIDERED. RANTEC ALSO CARRIES A FULL LINE OF BOTH SYNTHETIC AND NATURAL SOIL WEBBINGS, AND CONVED GLOBAL NETTING SOLUTIONS HAS A FEATURE LINE OF WEBBING AND OTHER PRODUCTS THAT ARE EXCELLENT FOR SOIL STABILIZATION. GROW ORGANIC CARRIES JUTE WEBBING BY THE ROLL THAT IS QUITE INEXPENSIVE AND VERY EFFECTIVE FOR USE IN SOIL STABILIZATION. ENVIROSCAPE ECM, LTD. CARRIES A FULL LINE OF NATURAL EROSION CONTROL BLANKETS THAT INCLUDE AGRICULTURAL STRAW, ASPEN SHAVINGS, AND COCONUT FIBERS. ALL ARE ENCASED IN PHOTO OR BIODEGRADABLE NETTINGS, AND PROVIDE PROTECTION FROM 12 TO 36 MONTHS. THEIR COIR SERIES BLANKETS ARE SPECIFICALLY ENGINEERED FOR SLOPES OF 1:1 OR GREATER AND FOR USE AS LININGS FOR CHANNELS WITH HIGH RATES OF FLOW.



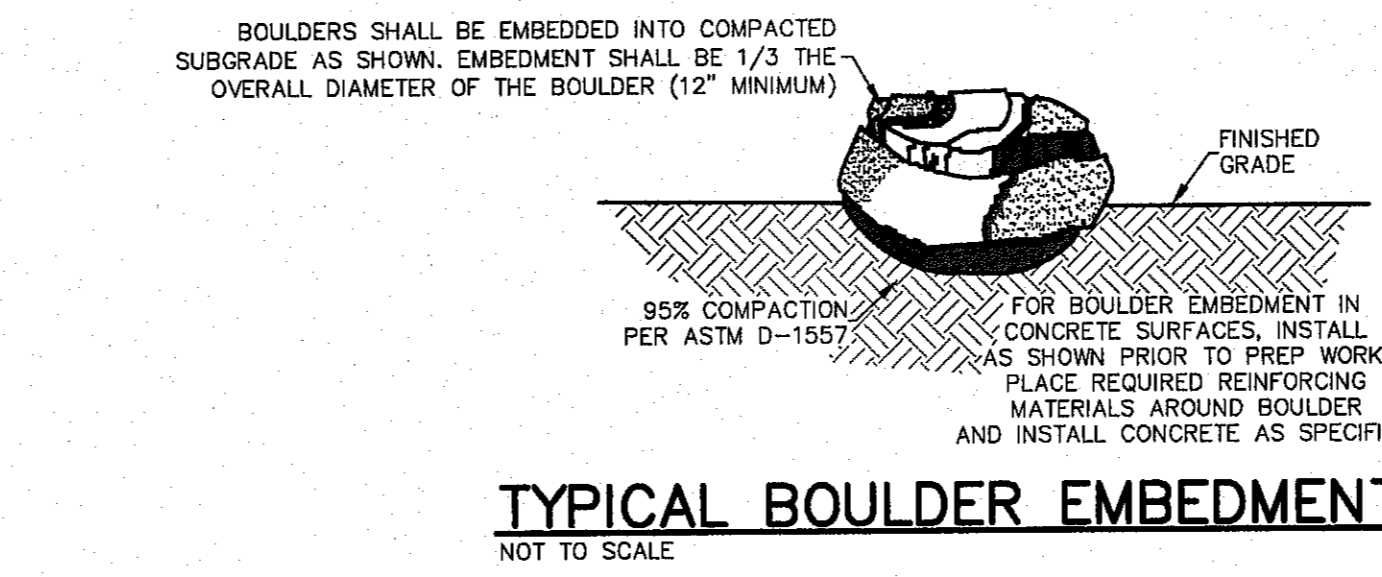
- SLOPE STABILIZATION FABRIC SHALL BE A HIGH PERFORMANCE TRM MATERIAL SUCH AS PYRAMAT BY SI GEOSOLUTIONS, OR APPROVED EQUAL.
- PRIOR TO INSTALLATION, SUBGRADE SHALL BE UNIFORM AND SMOOTH. REMOVE ALL ROCKS, CLDS, VEGETATION OR OTHER OBJECTS SO THE INSTALLED MAT WILL HAVE DIRECT CONTACT WITH SOIL SURFACE.
- EXCAVATE TRENCH AS SHOWN IN DETAIL AND INSTALL TOP END OF MAT INTO TRENCH AND SECURE TO BOTTOM USING GROUND ANCHORING DEVICES SPACED EVERY 12 INCHES MINIMUM. BACKFILL AND COMPACT SOIL INTO TRENCH.
- OVERLAPS SHALL BE 12" MINIMUM AND ANCHORED EVERY 18 INCHES ALONG THE OVERLAP. SECURE USING GROUND ANCHORING DEVICES. OVERLAPS ARE SHINGLED AWAY FROM PREVAILING WINDS.
- UNROLL MAT IN A MANNER TO MAINTAIN DIRECT CONTACT WITH SOIL. SECURE MAT TO GROUND SURFACE USING GROUND ANCHORING DEVICES.
- FOLLOWING INSTALLATION OF SLOPE STABILIZATION FABRIC, MAT SHALL BE COVERED IN A MINIMUM OF TWO (2) FOUR INCH LIFTS OF SOIL AND COMPACTED TO A MINIMUM OF 95% DENSITY, MODIFIED PROCTOR, PER ASTM D1557 EACH LIFT. FILL MATERIALS SHALL NOT CONTAIN NATIVE ROCK GREATER THAN 2" IN DIAMETER.
- OTHER DETAILS OR SPECIFICATIONS MAY APPLY. CONTRACTOR SHOULD REFER TO LITERATURE PROVIDED BY THE MANUFACTURER FOR MORE INFORMATION.

PYRAMAT EROSION CONTROL MATTING
N.T.S.

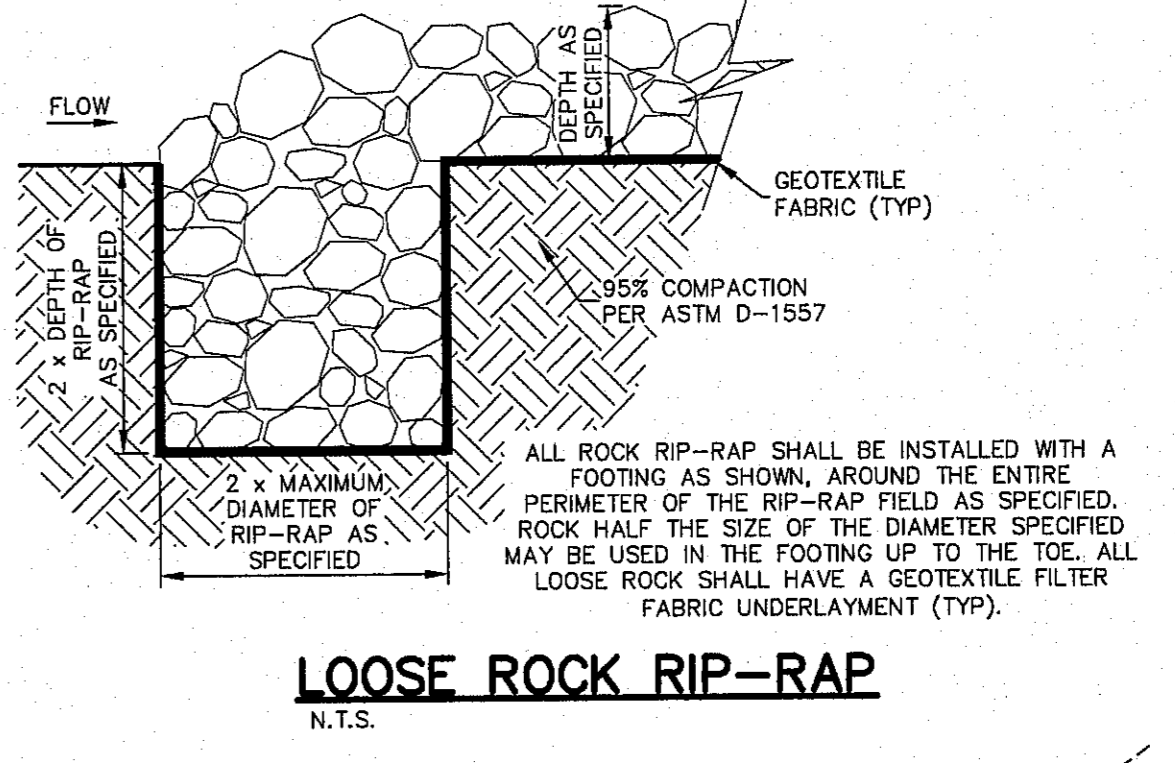
JUTE WEBBING
N.T.S.

DETAILS SHOWN ARE ACCEPTABLE EXAMPLES OF SLOPE STABILIZATION AND WILL ONLY BE INSTALLED AT THE DIRECTION OF AND PER THE METHOD(S) PRESCRIBED BY THE GEOTECHNICAL AND DESIGN ENGINEERS.

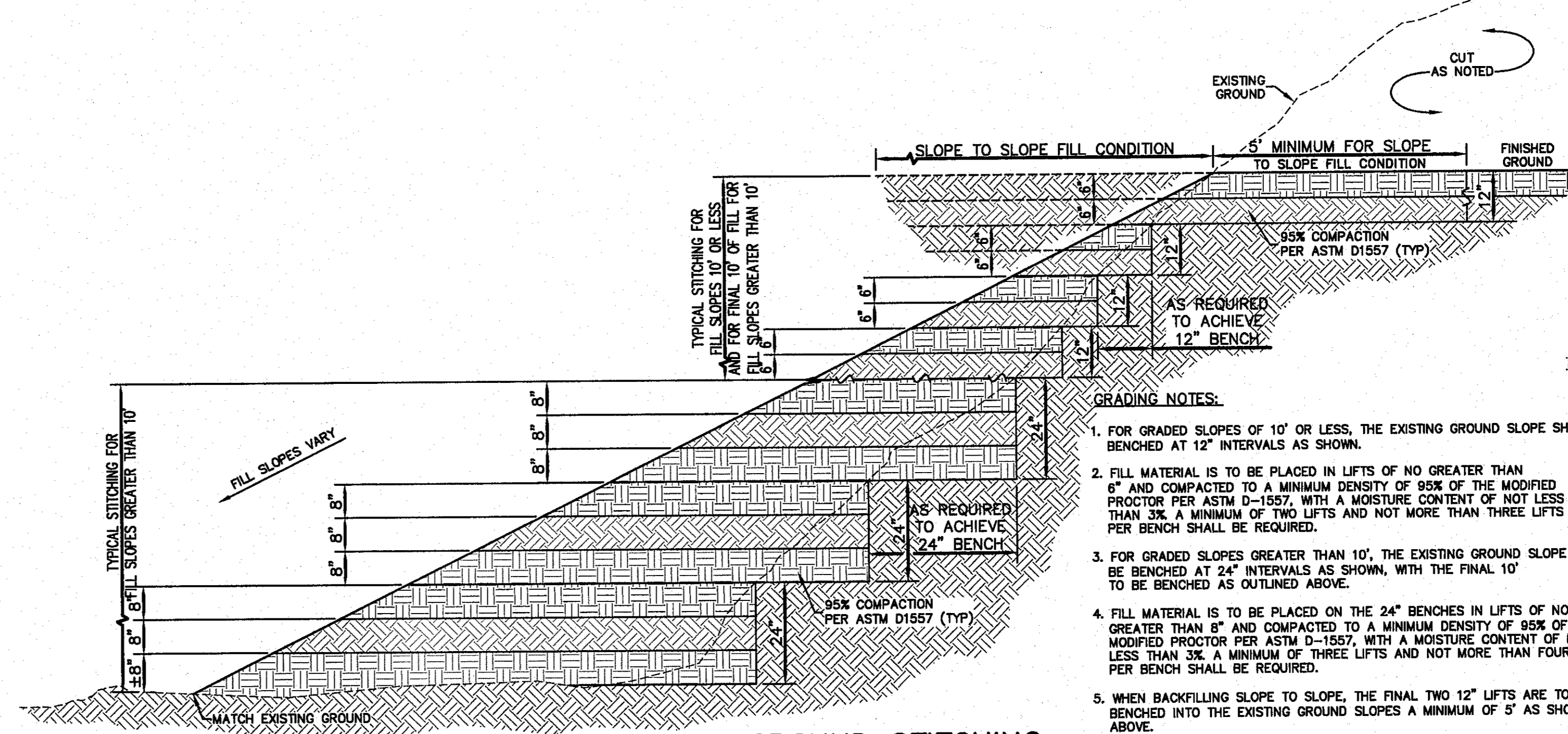
SLOPE STABILIZATION METHODS
N.T.S.



TYPICAL BOULDER EMBEDMENT
NOT TO SCALE



LOOSE ROCK RIP-RAP
N.T.S.



GROUND STITCHING
SCALE: 1" = 2'-0"

- GRADING NOTES:**
- FOR GRADED SLOPES OF 10' OR LESS, THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 12" INTERVALS AS SHOWN.
 - FILL MATERIAL IS TO BE PLACED IN LIFTS OF NO GREATER THAN 6" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF TWO LIFTS AND NOT MORE THAN THREE LIFTS PER BENCH SHALL BE REQUIRED.
 - FOR GRADED SLOPES GREATER THAN 10', THE EXISTING GROUND SLOPE SHALL BE BENCHMARKED AT 24" INTERVALS AS SHOWN, WITH THE FINAL 10' TO BE BENCHMARKED AS OUTLINED ABOVE.
 - FILL MATERIAL IS TO BE PLACED ON THE 24" BENCHES IN LIFTS OF NO GREATER THAN 6" AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR PER ASTM D-1557, WITH A MOISTURE CONTENT OF NOT LESS THAN 3%. A MINIMUM OF THREE LIFTS AND NOT MORE THAN FOUR LIFTS PER BENCH SHALL BE REQUIRED.
 - WHEN BACKFILLING SLOPE TO SLOPE, THE FINAL TWO 12" LIFTS ARE TO BE BENCHMARKED INTO THE EXISTING GROUND SLOPES A MINIMUM OF 5' AS SHOWN ABOVE.
 - ALL BENCHES CUT INTO THE EXISTING GROUND SLOPES SHALL BE SCARIFIED TO A DEPTH OF 6" MINIMUM AND SHALL BE WETTED PRIOR TO PLACING FILL MATERIALS.

BENCHMARK CITY ANCHOR AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND BRAYS LANDING DRIVE
ELEVATION = 3976.53 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

BEFORE YOU DIG - CALL
543-5720
1-800-DIG-TESS
562-8411/562-2003
1-800-DIG-TESS
1-800-344-8377
1-800-239-3764
EL PASO TRAFFIC SIGNALS AND MAINTENANCE
EL PASO TRAFFIC SIGNALS AND MAINTENANCE

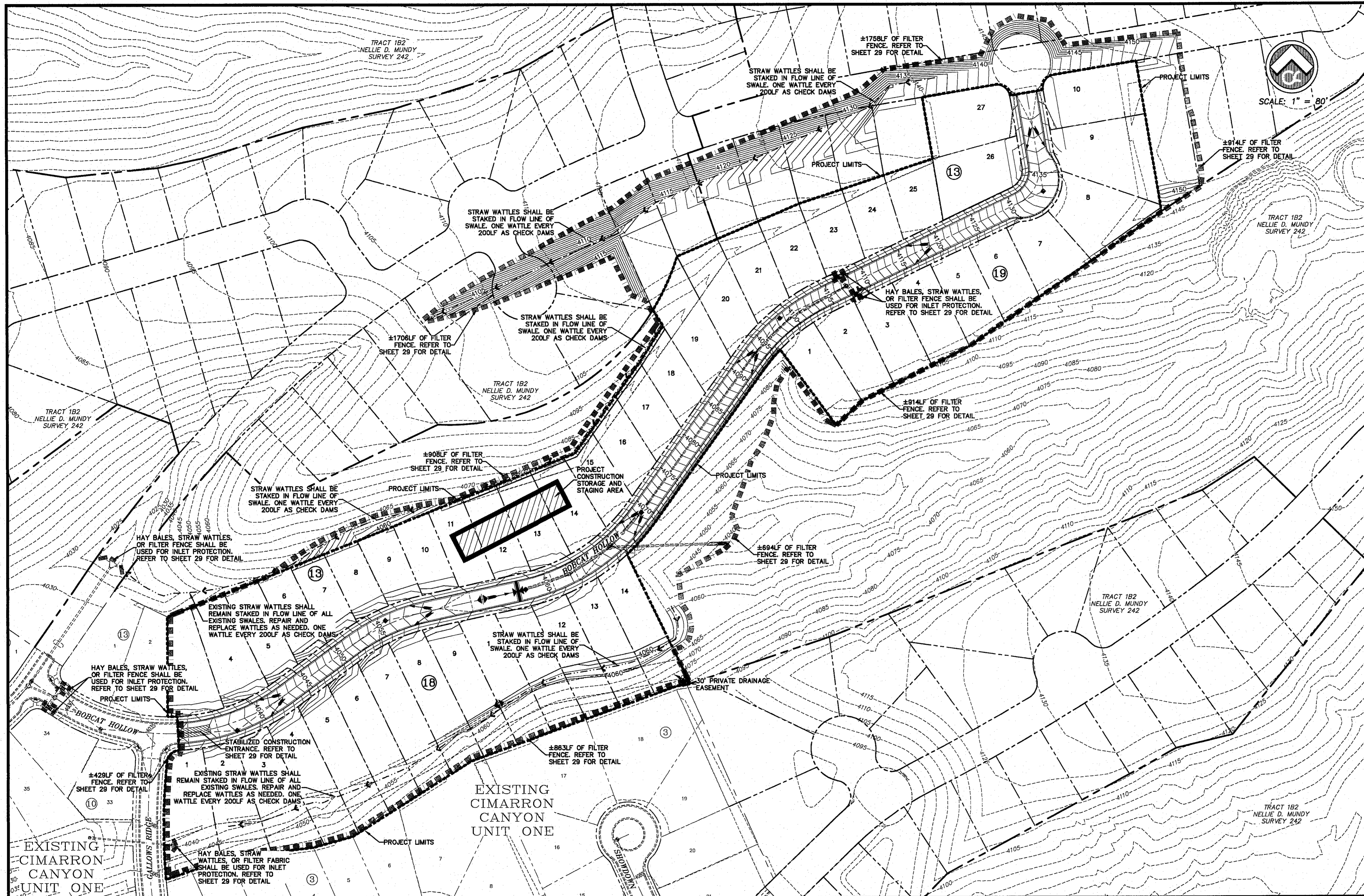
STATE OF TEXAS
ADRIAN I. ONTIVEROS
124088
LICENSED PROFESSIONAL ENGINEER

csa design group, inc.
Texas Registered Engineering Firm E-5897
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel (915) 877-4155
fax (915) 877-4334
www.csaengineers.com



CMARRON CANYON UNIT THREE SUBDIVISION
SHEET TITLE
GRADING STABILIZATION NOTES AND DETAILS

DOB	1724
ISSUED BY	08/08/18
DATE	DATE
AHO	AS NOTED
SCALE	SCALE
SHEET NO. 27	
29 of 46	

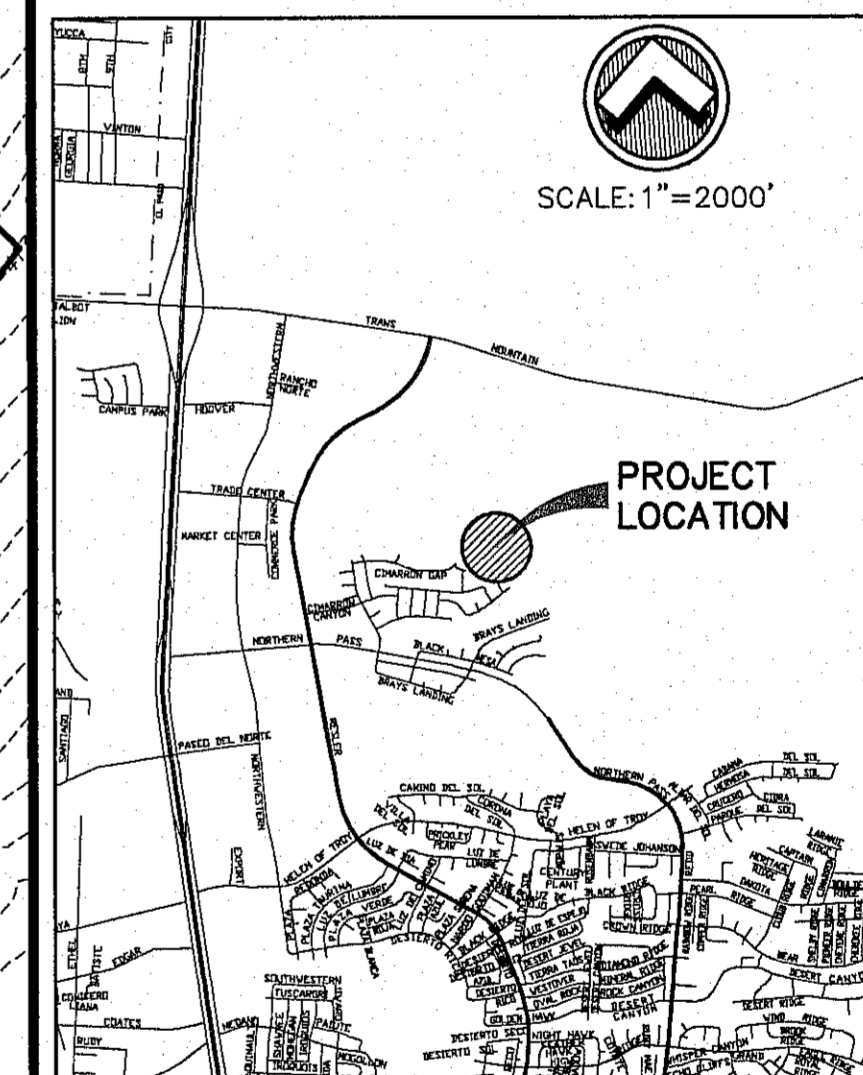


LEGEND

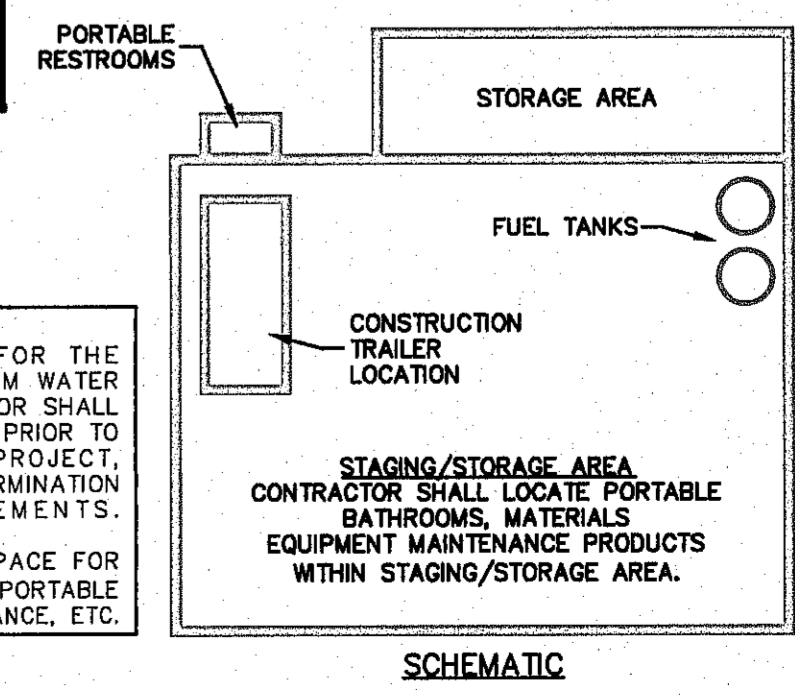
	HIGH POINT
	LOW POINT
	RUNOFF OUTFALL
	PROPOSED FILTER FENCE, HAY BALE BARRIER OR STRAW WATTLE
	DIRECTION OF DRAINAGE FLOW
	4130 PROPOSED CONTOUR
	LOT LINE
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	DRAINAGE EASEMENT
	PROJECT LIMITS

DRAINAGE NOTE:
REFER TO CIVIL DRAINAGE PLAN FOR DRAINAGE AREAS AND DISCHARGE COMPUTATIONS.

DUST AND EROSION CONTROL NOTE:
CONTRACTOR SHALL MAKE PROVISIONS FOR TEMPORARY DUST AND EROSION CONTROL WHERE EXTENSIVE DIRT OR DUST OPERATIONS ARE PERFORMED. USE WATER SPRINKLING AND OTHER METHODS TO LIMIT DUST AND DIRT MIGRATION IN COMPLIANCE WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.



VICINITY MAP
Approx. Latitude = 31°53'40"N
Approx. Longitude = 106°33'47"W



NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREPARATION AND SUBMITTAL OF ALL STORM WATER POLLUTION CONTROL PERMITS. THE CONTRACTOR SHALL SUBMIT A NOI AND SDPCP APPLICATION FORM PRIOR TO CONSTRUCTION. AFTER COMPLETION OF PROJECT, CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION FORM TO COMPLETE NPDES REQUIREMENTS.

STAGING AREA SHALL PROVIDE ADEQUATE SPACE FOR TRAILER STORAGE, FUEL/LUBRICANT STORAGE, PORTABLE RESTROOMS, EQUIPMENT STORAGE AND MAINTENANCE, ETC.

BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE ELEVATION = 3976.53 (EL. PASO CITY DATUM)

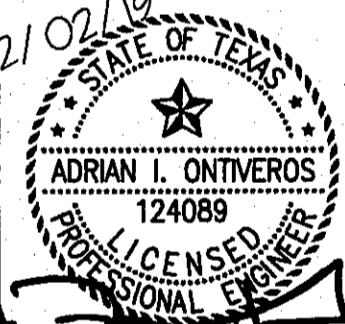
NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-543-5720
1-800-DIG-1234
A&T GAS SERVICE
1-800-544-3300
1-800-544-3300
TEXAS GAS SERVICE
562-8411-0000
PUBLIC SERVICE BOARD (WATER & SEWER)
1-800-506-1234
AFTER HOURS EMERGENCY (EPW)
594-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-244-5377
KINDER-MORGAN PIPE LINES
1-800-238-2764
EL PASO STREETS, UTILITIES AND MAINTENANCE
1-800-272-0151
EL PASO STREETS, UTILITIES AND MAINTENANCE
ELPASO@ELPASO.CITY.ORG

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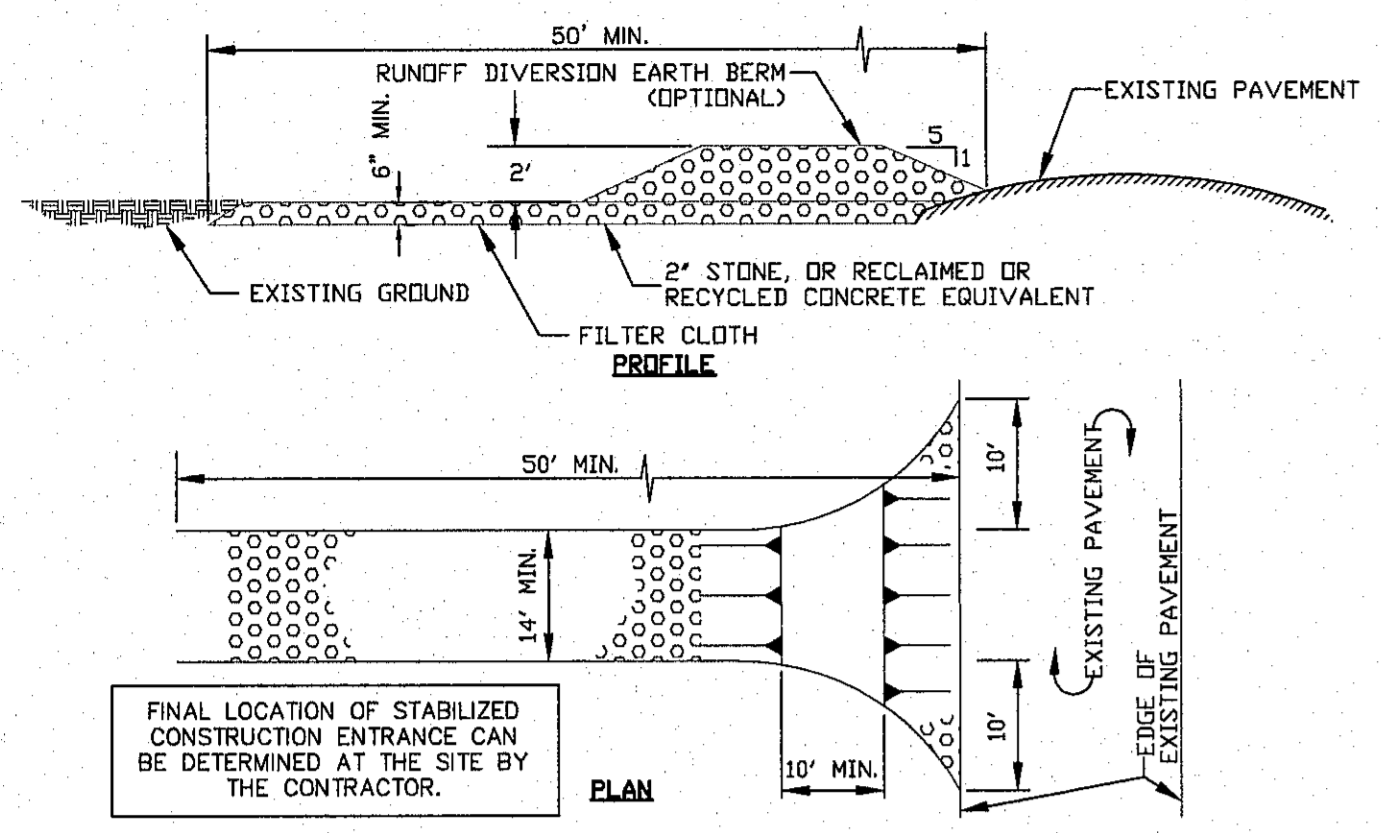


CIMARRON CANYON
UNIT THREE
SUBDIVISION

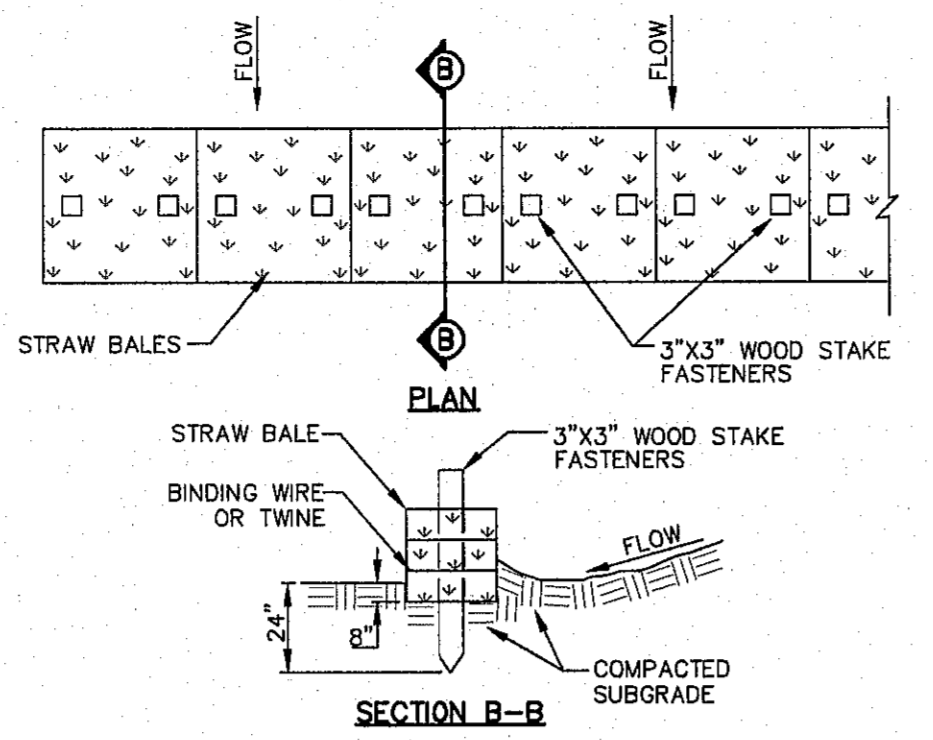
SHEET TITLE
**STORM
WATER
POLLUTION
PREVENTION
PLAN**

DOB	1724
DESIGN BY	JOB NO.
CSA-SM	08/08/18
DATE	
AHO	AS NOTED
DESIGNED BY	SCALE

SHEET NO.
28
SHEET SEQUENCE
30 OF 46

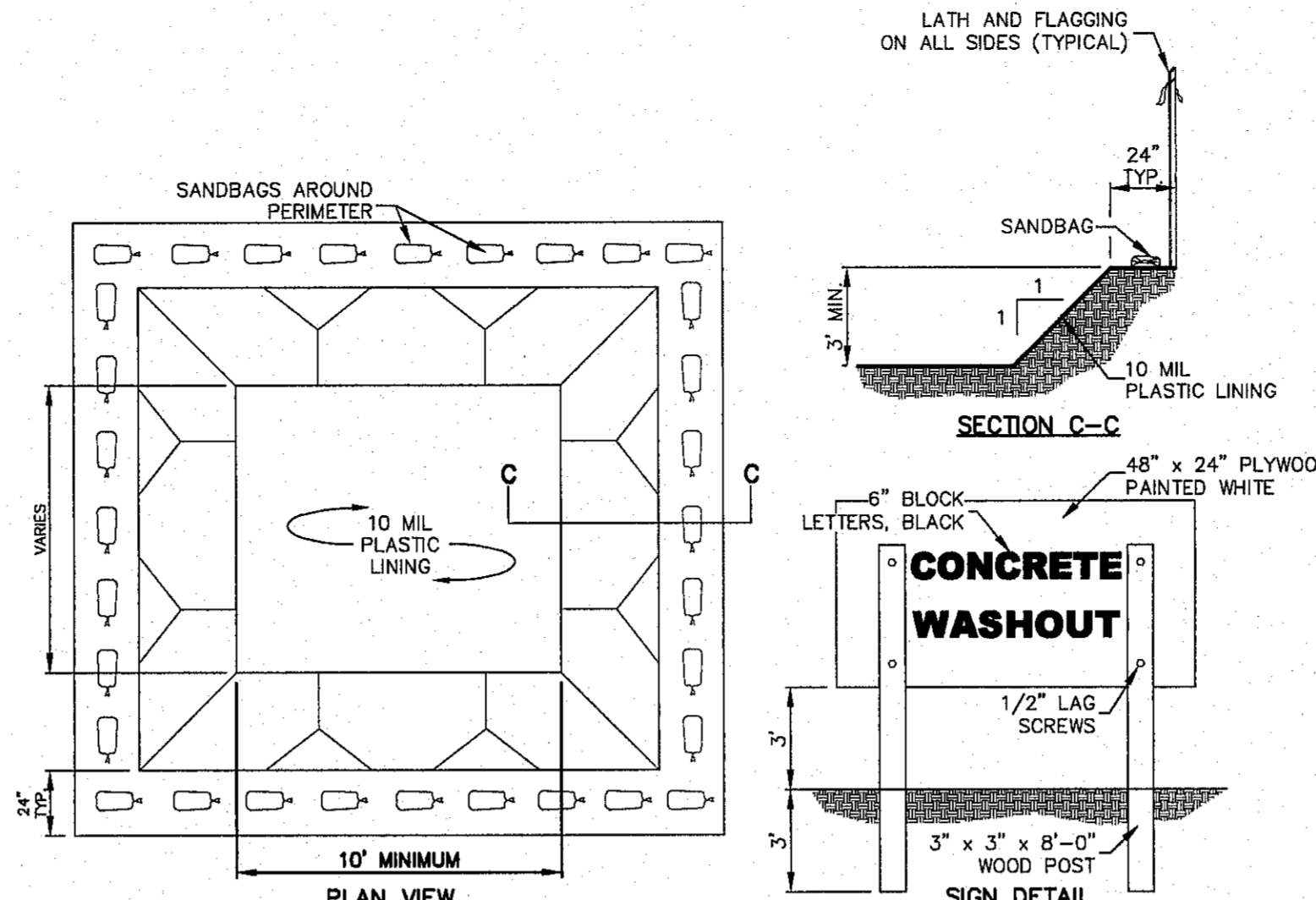


STABILIZED CONSTRUCTION ENTRANCE
SCALE: 1" = 2'-0"

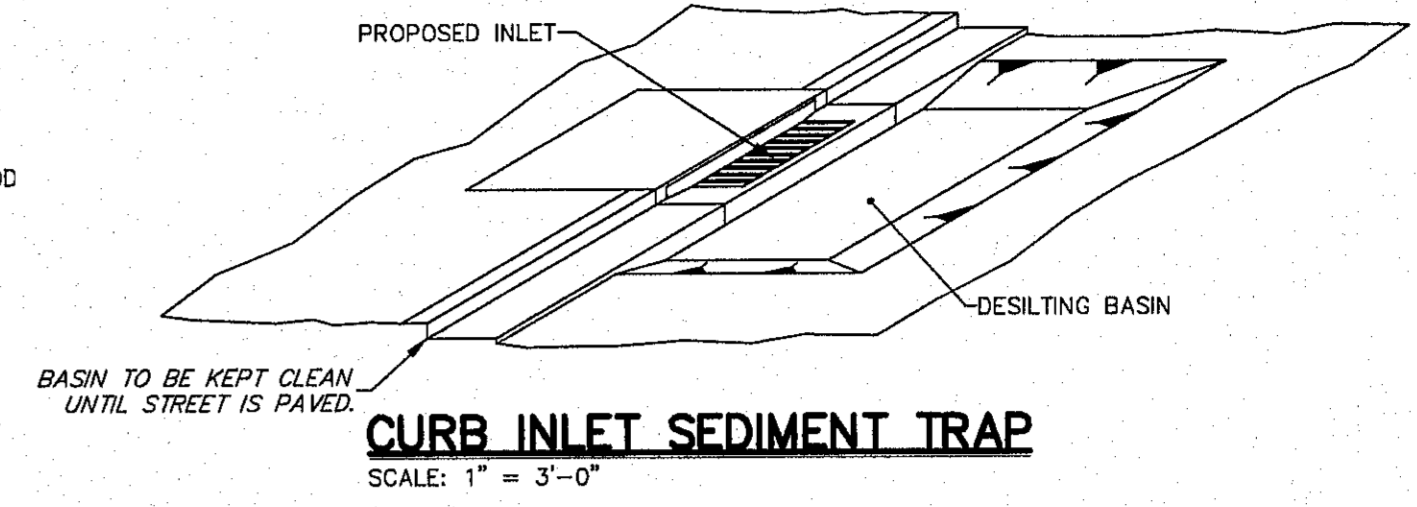


- NOTES (BALE BARRIER):**
- BALES TO BE PLACED PERPENDICULAR TO FLOW. HAY BALES PLACED IN 4" DITCH MUST BE STAGGERED.
 - BALES MUST BE FIRMLY STAKED INTO THE ENTRENCHMENT AND THE ENTRENCHMENT BE PROPERLY BACKFILLED.
 - BALES MUST BE PLACED END TO END AND THERE CAN BE NO GAPS BETWEEN THE BALES.
 - BARRIERS MUST BE INSPECTED AND REPAIRED IMMEDIATELY AFTER EACH RAINFALL OR DAILY IF THERE IS PROLONGED RAINFALL.
 - DAMAGED STRAW BALES REQUIRE IMMEDIATE REPLACEMENT.
 - TRAPPED SEDIMENTS MUST BE REMOVED AND DISPOSED OF PROPERLY.

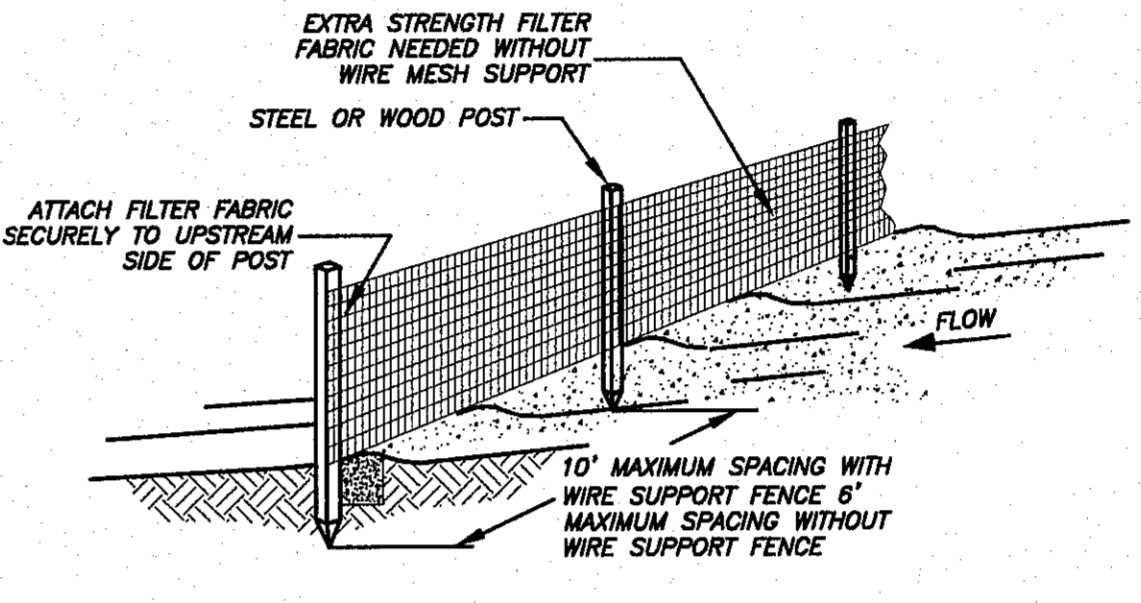
STRAW BALE BARRIER
SCALE: 1" = 5'-0"



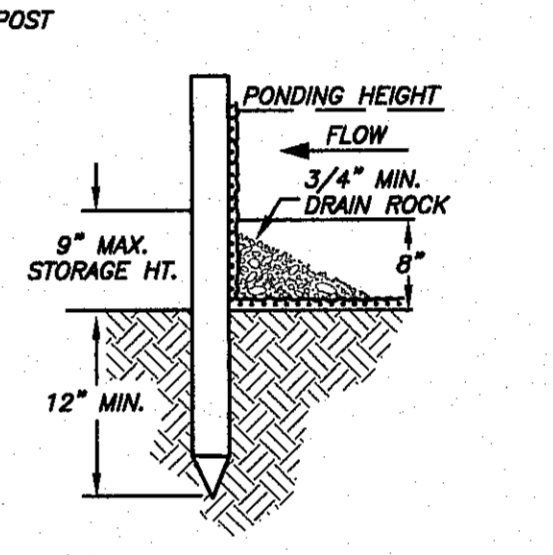
- CONCRETE WASHOUT**
N.T.S.
- ACTUAL LAYOUT TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD. WASHOUT SHALL BE INSTALLED PRIOR TO ANY CONCRETE WORK.



CURB INLET SEDIMENT TRAP
SCALE: 1" = 3'-0"



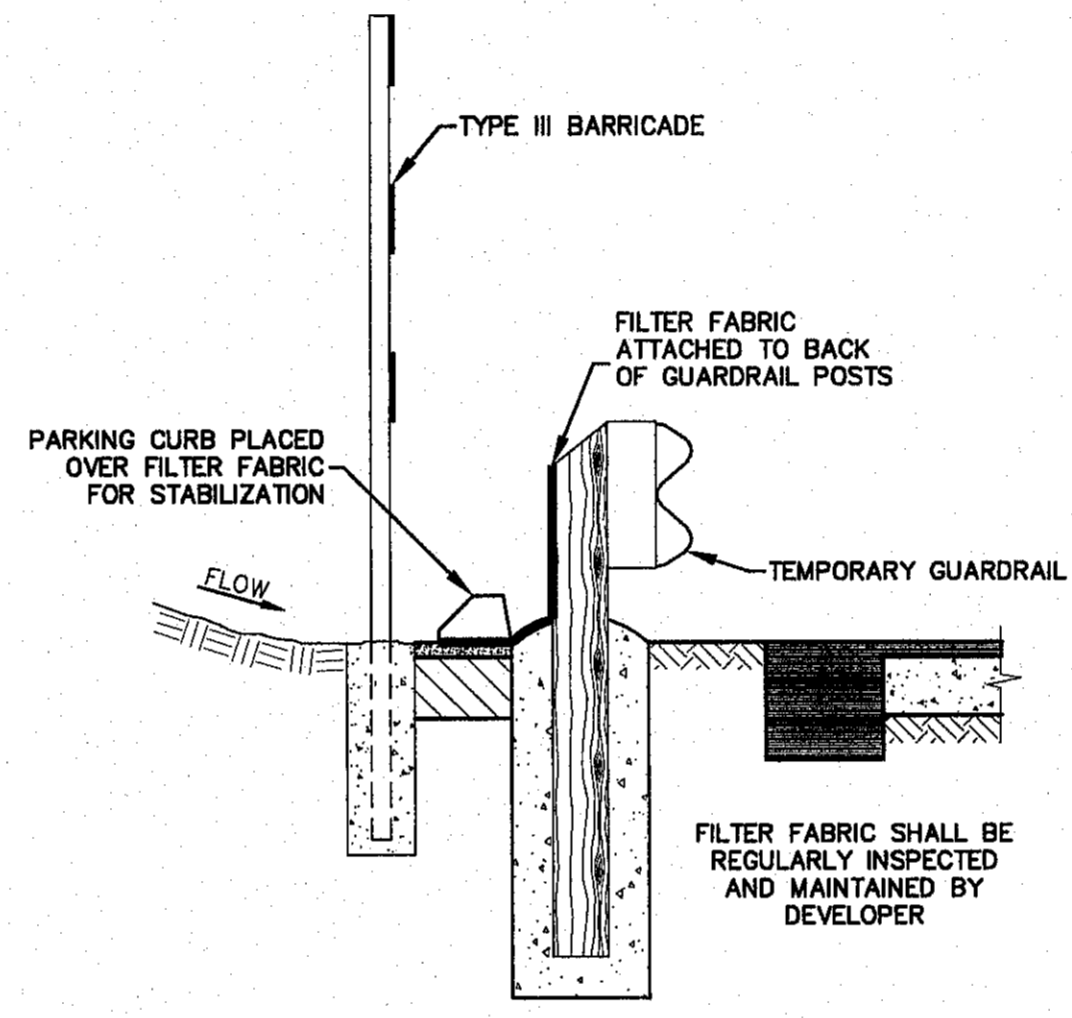
TRENCH DETAIL



INSTALLATION WITHOUT TRENCHING

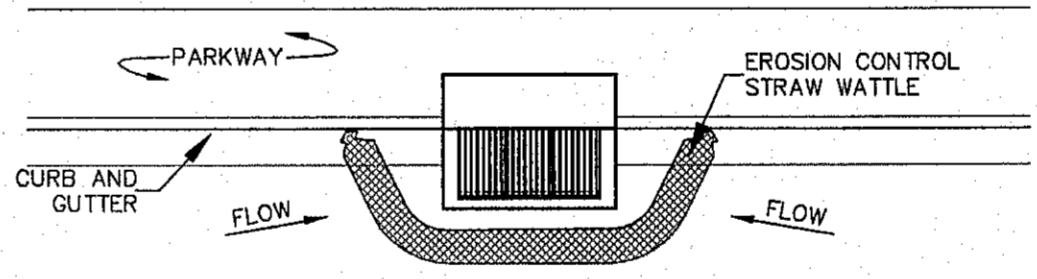
- NOTES:**
- THE FENCE REQUIRES FREQUENT INSPECTION AND PROMPT MAINTENANCE TO MAINTAIN ITS EFFECTIVENESS.
 - INSPECT THE FENCE AFTER EACH RAINFALL.
 - CHECK FOR AREAS WHERE RUN-OFF HAS ERODED A CHANNEL BENEATH THE FENCE, OR WHERE THE FENCE WAS CAUSED TO SAG OR COLLAPSE.
 - ALL NEEDED REPAIRS SHALL BE PERFORMED IMMEDIATELY.
 - REMOVE AND PROPERLY DISPOSE OF SEDIMENT WHEN IT IS ONE-THIRD TO ONE-HALF THE HEIGHT OF THE FENCE OR AFTER EACH STORM.
 - 4' MIN. STEEL OR WOOD POSTS SPACED AT 6' O.C. SOFTWOOD POSTS SHALL HAVE A 3" MIN. DIAMETER OR NOMINAL 2"x4". HARDWOOD POSTS SHALL HAVE A MINIMUM CROSS SECTION OF 1.5"x1.5"

INSTALLATION WITHOUT TRENCHING
SCALE: 1" = 5'-0"

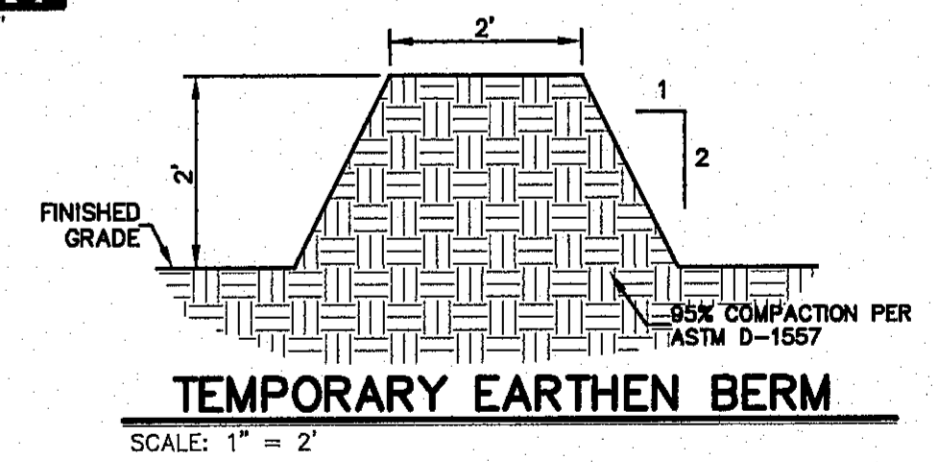


INSTALLATION WITHOUT TRENCHING
SCALE: 1" = 2'-0"

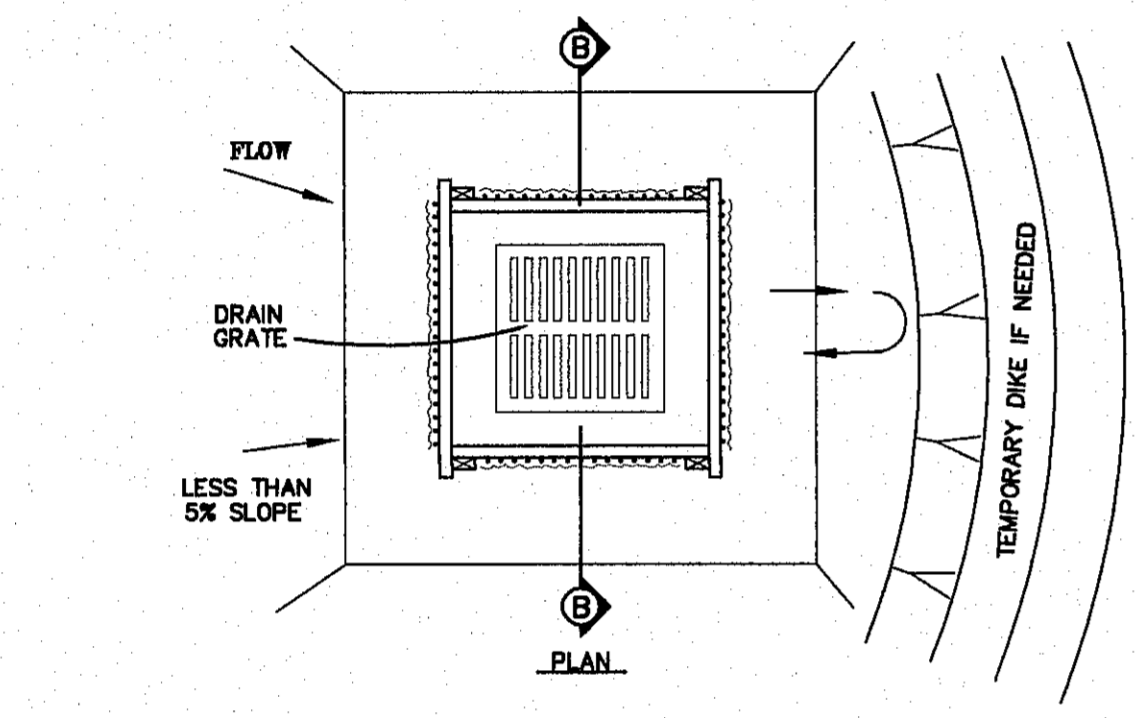
- NOTES:**
- LENGTHS OF EROSION CONTROL STRAW WATTLES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED. MAXIMUM LENGTH OF STRAW WATTLES SHALL BE 60' FOR 18" DIAMETER OR 30' FOR 12" DIAMETER STRAW WATTLES.
 - UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE STRAW WATTLES WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
 - STUFF STRAW WATTLES WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION.
 - STAKES SHALL BE 2" x 2" WOOD OR #3 REBAR, 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE STRAW WATTLES, OR AS DIRECTED.
 - DO NOT PLACE STAKES THROUGH CONTAINMENT MESH.



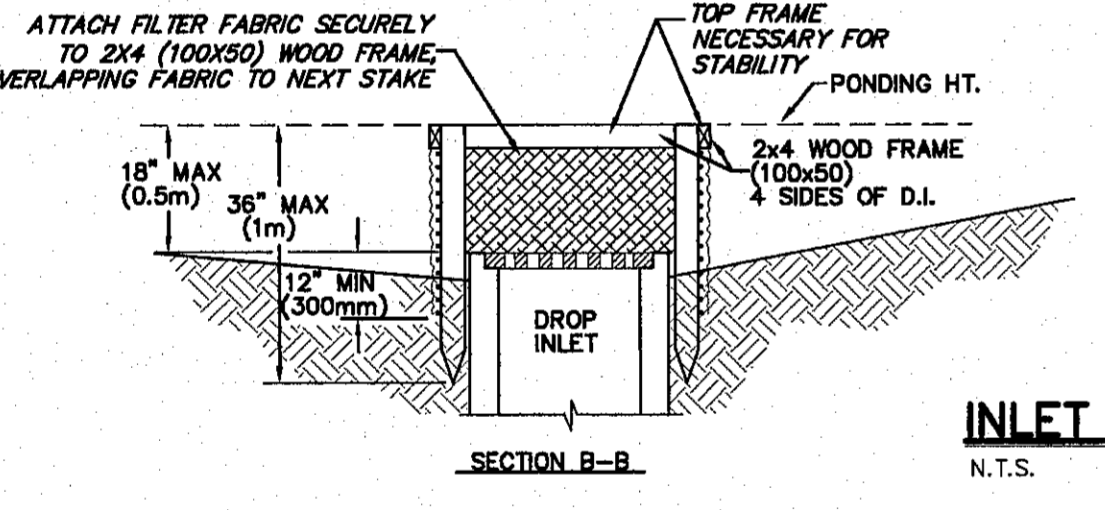
INSTALLATION WITHOUT TRENCHING
SCALE: 1" = 5'-0"



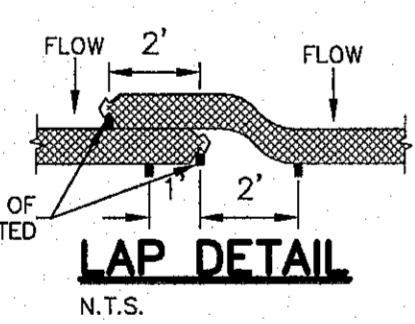
TEMPORARY EARTHEN BERM
SCALE: 1" = 2'



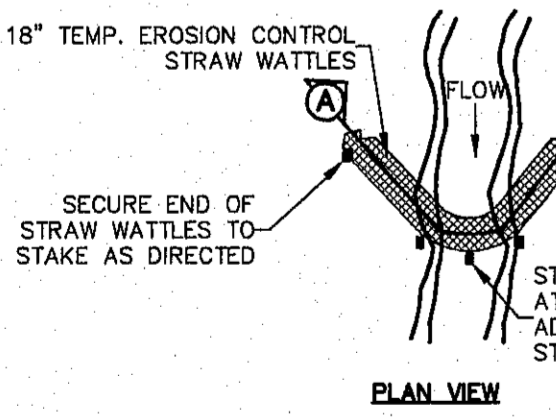
- NOTES:**
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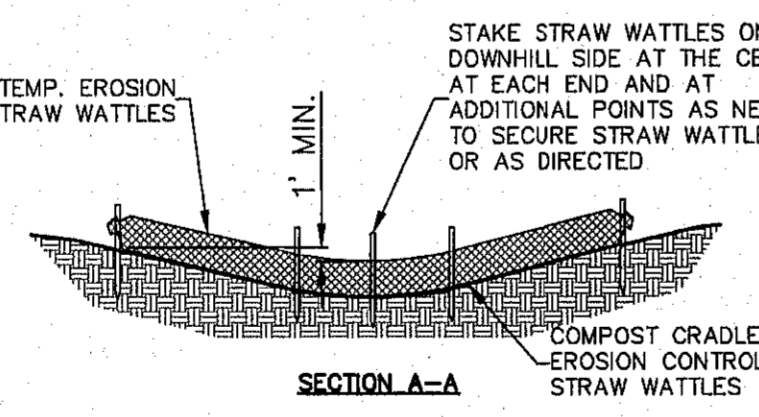
LAP DETAIL
N.T.S.



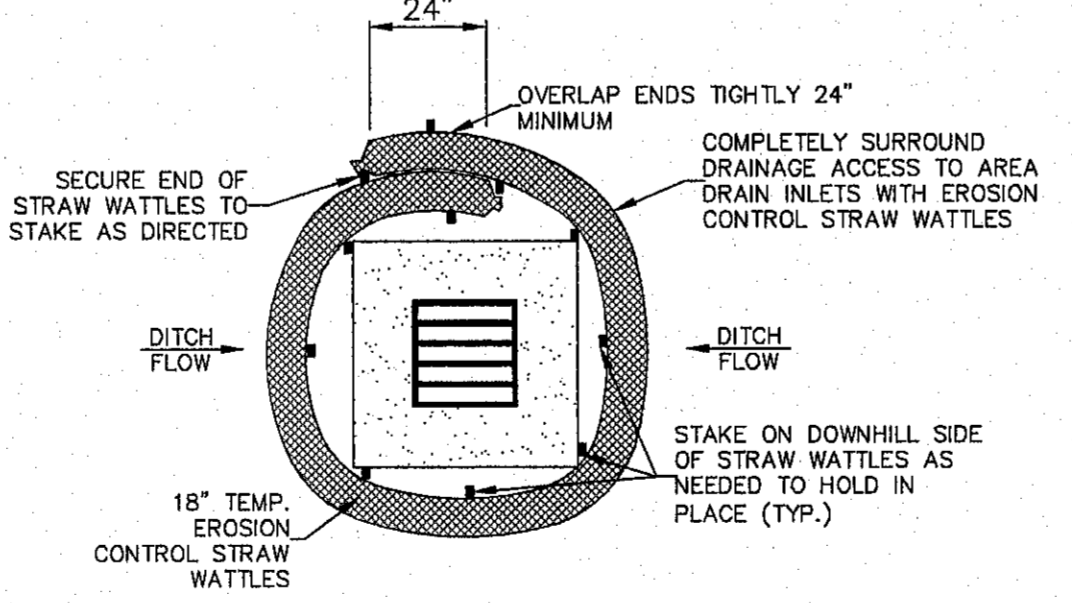
INLET PROTECTION
N.T.S.



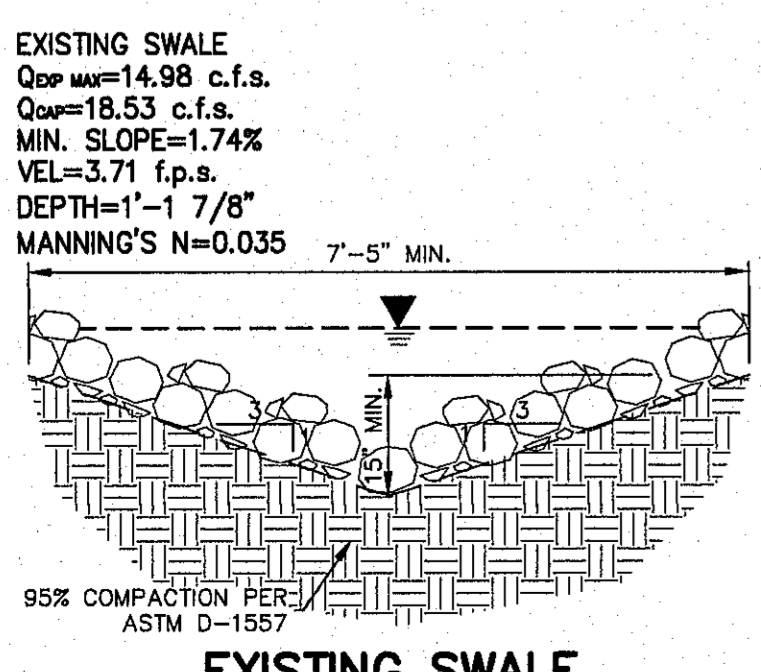
EROSION CONTROL STRAW WATTLE CHECK DAM
N.T.S.



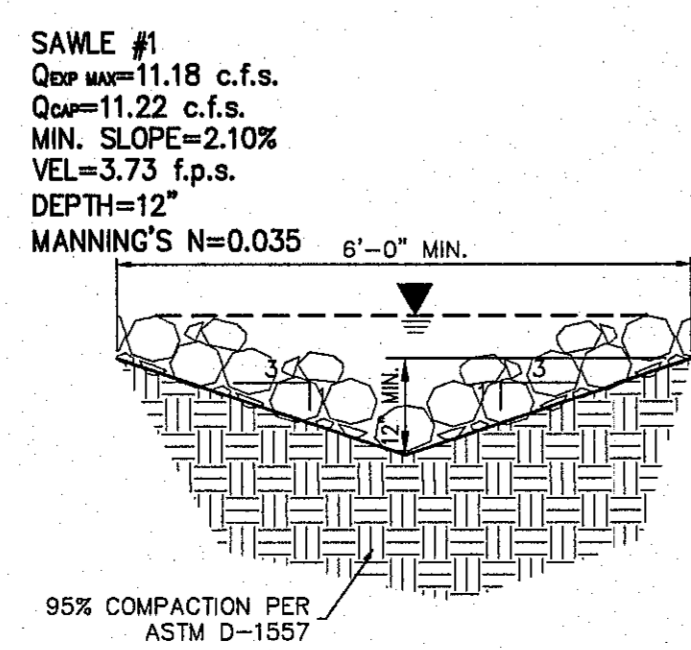
SECTION A-A
SCALE: 1" = 5'-0"



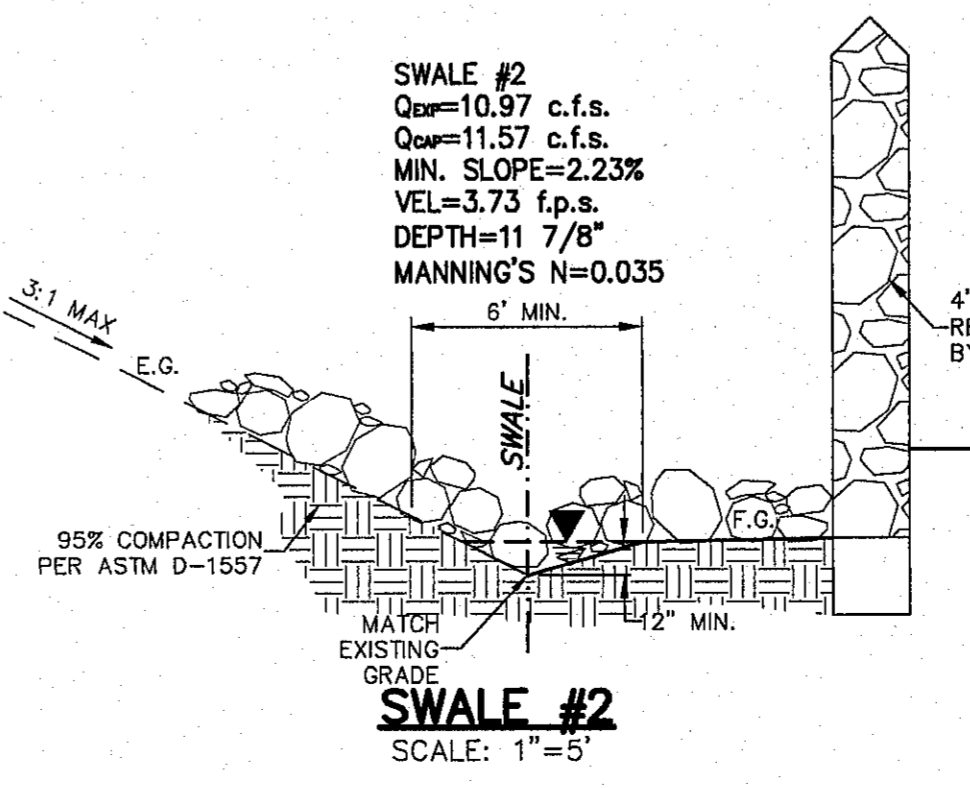
STRAW WATTLE PLACED AT AREA DRAIN INLETS
N.T.S.



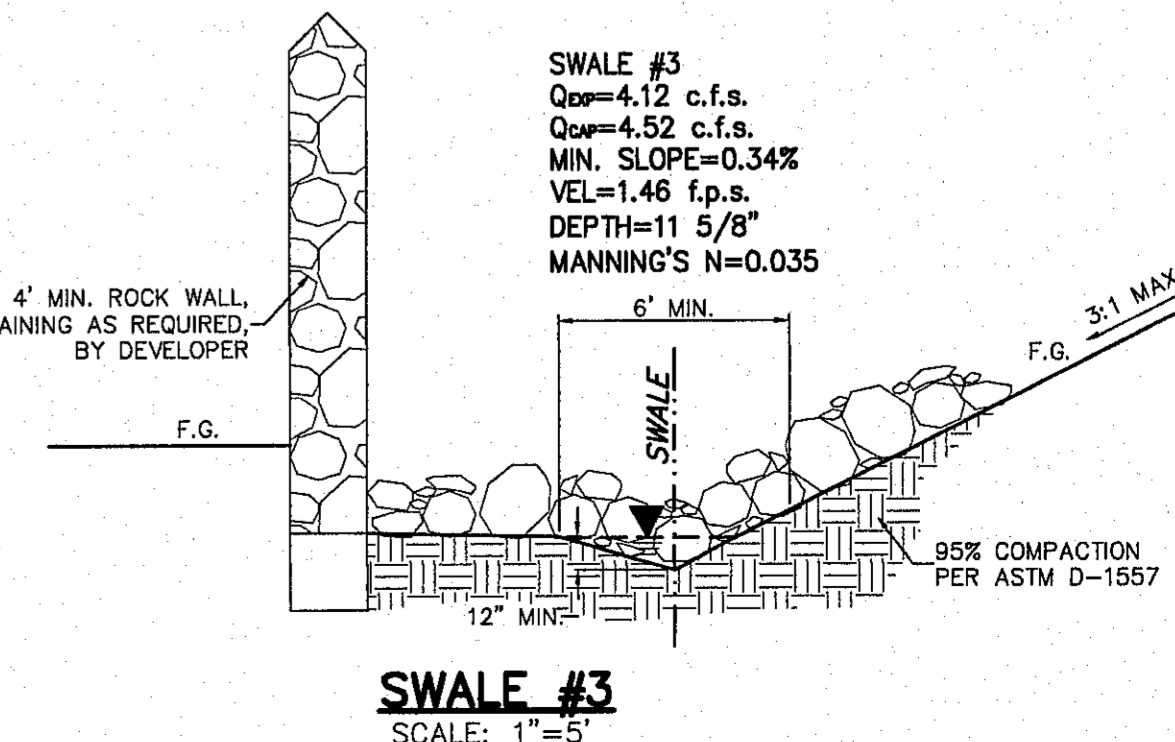
EXISTING SWALE
SCALE: 1" = 2'-0"



SWALE #1
SCALE: 1" = 5'



SWALE #2
SCALE: 1" = 5'



SWALE #3
SCALE: 1" = 5'

BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASEO DRIVE ELEVATION = 3976.53 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING! BEFORE YOU DIG CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-DIG-1570
44-54-5720

EL PASO GAS SERVICE, INC.
1-800-DIG-3300
644-44-3300

EL PASO WATER & SEWER
562-8411
1-800-506-5555

PUBLIC SERVICE BOARD (WATER & SEWER)
594-54-5775

EL PASO EXCAVATION SAFETY SYSTEM
1-800-244-4371
1-800-244-4371

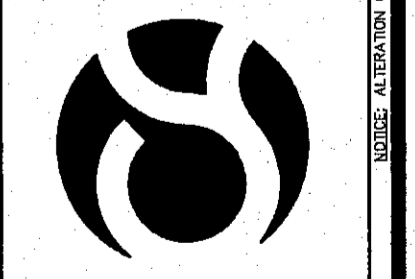
KINDER-MORGAN ENGINEERING
1-800-238-2764
EL PASO STREETS AND MAINTENANCE
EL PASO STREETS AND MAINTENANCE
EL PASO STREETS AND MAINTENANCE

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ADRIAN I. ONTIVEROS
124089
LICENSED PROFESSIONAL ENGINEER

csea design group, inc.
Texas Registered Engineering Firm #997
1845 Northwestern Dr., Ste C
El Paso, Texas 79912
tel (915) 877.4155
fax (915) 877.4334
www.cseainc.com



CIMARRON CANYON UNIT THREE SUBDIVISION

STORM WATER POLLUTION PREVENTION PLAN DETAILS

JOB NO.	1724
DESIGN BY	AS NOTED
DESIGN DATE	08/08/18
DESIGNED BY	SCALE
CHECKED BY	SCALE
DATE	SCALE
SHEET NO.	29
SHEET SEQUENCE	31 OF 46

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

PROJECT TITLE CIMARRON CANYON UNIT THREE SUBDIVISION	
OPERATOR WITH CONTROL OVER CONSTRUCTION PLANS AND SPECIFICATIONS (COMPANY NAME AND ADDRESS) CSA DESIGN GROUP INC. 1845 NORTHWESTERN DR. STE C EL PASO, TEXAS 79902-3329	
OPERATOR'S REPRESENTATIVE: GLEN BROOKS, SUPERVISOR	PHONE #: (915) 877-4155
PREPARED BY ADRIAN HOLGUIN-ONTIVEROS, P.E.	DATE: ---/---/---

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

SIGNATORY NAME AND TITLE: **ADRIAN HOLGUIN-ONTIVEROS, P.E. PROJECT MANAGER** SIGNATURE: _____

OPERATOR WITH DAY-TO-DAY OPERATIONAL CONTROL OVER ACTIVITIES TO ENSURE COMPLIANCE WITH SWPPP

COMPANY NAME AND ADDRESS: HUNT COMMUNITIES GP, LLC 4401 N. MESA	
OPERATOR'S REPRESENTATIVE: MICHAEL S. VIRAMONTES, VICE PRESIDENT	PHONE #: (915) 298-4252

REVISIONS No.	DATE	DESCRIPTION OF CHANGES	SIGNATURE

COPY OF NOI(S) OR SITE NOTICE(S) AND TPDES GENERAL PERMIT TXR150000 ATTACHED? YES NO N/A

NAME OF RECEIVING WATER(S) _____

NAME OF MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) RECEIVING DISCHARGE (IF APPLICABLE) **NOT APPLICABLE**

TOTAL AREA OF PROPERTY 13.005 ACRES
 TOTAL AREA OF SITE TO BE DISTURBED 16.507 ACRES
 TOTAL AREA OF OFF-SITE MATERIAL STORAGE AND BORROW/FILL/SITE 0 ACRES

DESCRIPTION OF PROJECT/CONSTRUCTION ACTIVITY
 ROUGH GRADING OF SPOLS FROM CIMARRON CANYON UNIT ONE CONSTRUCTION

NOTE: CONTRACTOR RESPONSIBLE FOR PROPER WASTE REMOVAL AND TRUCK WASH.

GENERAL CONTRACTOR CERTIFICATION
 I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS OF CONDITIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT THAT AUTHORIZES STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

COMPANY: HUNT COMMUNITIES GP, LLC	DATE: _____
ADDRESS: 4401 N. MESA	SIGNED: _____
TELEPHONE: (915)-298-4252	NAME: MICHAEL S. VIRAMONTES
	TITLE: VICE PRESIDENT

SUB-CONTRACTOR CERTIFICATION
 I CERTIFY UNDER PENALTY OF LAW THAT I WILL COORDINATE, EITHER THROUGH THE GENERAL CONTRACTOR, OWNER OR DIRECTLY WITH THE CONTRACTOR(S) AND/OR SUBCONTRACTOR(S) IDENTIFIED IN THE POLLUTION PREVENTION PLAN HAVING RESPONSIBILITY FOR IMPLEMENTING STORM WATER CONTROL MEASURES TO MINIMIZE ANY IMPACT MY ACTIONS MAY HAVE ON THE EFFECTIVENESS OF THESE STORM WATER CONTROL MEASURES.

SIGNED: _____	SIGNED: _____
NAME: _____	NAME: _____
TITLE: _____	TITLE: _____
COMPANY: _____	COMPANY: _____
ADDRESS: _____	ADDRESS: _____
TELEPHONE: _____	TELEPHONE: _____
DATE: _____	DATE: _____

OWNER CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED, IS TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF A FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

OWNER: _____	COMPANY: _____
DATE: _____	ADDRESS: _____
TITLE: _____	
SIGNATURE: _____	TELEPHONE: _____

TEN ELEMENTS OF A CONSTRUCTION SWPP

FOR EACH OF THE FOLLOWING TEN ELEMENTS, DESCRIBE THE MEASURES USED TO ADDRESS THE ELEMENT, INCLUDE THE TYPE AND LOCATION OF BMPs USED TO SATISFY THE REQUIRED ELEMENT AND THE GENERAL TIMING OR SEQUENCE FOR IMPLEMENTATION. IF AN ELEMENT IS NOT APPLICABLE TO A PROJECT PROVIDED, A WRITTEN JUSTIFICATION FOR WHY IT IS NOT.

1. LIMIT SOIL DISTURBANCE
 PROVIDE A DESCRIPTION OF THE AREAS INCLUDING NATURAL DRAINAGE FEATURES TREES AND OTHER VEGETATION, AND APPROPRIATE BUFFERS THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA AND THE MEASURES TO BE IMPLEMENTED TO ENSURE PROTECTION.

1. CONTRACTOR'S SITE DISTURBANCE WILL BE LIMITED TO THE PROPOSED ELEVATIONS AS SHOWN ON THE GRADING PLAN.
2. ALL VEGETATION AND TREES WITHIN SAID AREAS AND/OR IMPENDING THE ACCESS TO SAID AREAS WILL BE REMOVED.

2. PREVENT SOIL EROSION
 DESCRIBE THE TEMPORARY AND PERMANENT STABILIZATION PRACTICES FOR DISTURBED AREAS OF THE SITE, INCLUDING A SCHEDULE OF WHEN THE PRACTICES WILL BE IMPLEMENTED.

1. CONTRACTOR SHALL WATER DOWN THE GRADING AREA PERIODICALLY SO AS TO LIMIT THE DISTRIBUTION OF DUST FROM THE WORK SITE IN COMPLIANCE WITH CITY APPROVED GRADING ORDINANCE.
2. CONTRACTOR SHALL INSTALL SILT FENCE IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS, OUTLINED ON THIS SHEET.

REVISION _____ DATE _____ PAGE _____ OF _____

3. PROTECT SLOPES
 DESCRIBE PRACTICES USED TO PROTECT SLOPES AND DIVERT FLOWS AWAY FROM EXPOSED SOILS OR DISTURBED AREAS.

1. AREAS WITH CONCENTRATED FLOW WILL BE PROTECTED WITH CURB OR ROCK RIP-RAP.

4. MINIMIZE SEDIMENT LOSS FROM SITE
 DESCRIBE PRACTICES TO LESSEN THE OFF-SITE TRANSPORT OF SEDIMENT AND TO REDUCE GENERATION OF DUST. SEDIMENT BASINS ARE REQUIRED, WHERE FEASIBLE FOR COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH TEN OR MORE ACRES DISTURBED AT ONE TIME.

1. WATER SHALL BE APPLIED AS NECESSARY, DEPENDING ON WEATHER CONDITIONS.
2. CONTRACTOR SHALL BE AWARE OF QUANTITY OF WATER USED TO PREVENT EROSION PROBLEMS.

5. CONTROL FLOW RATES AND STABILIZE CHANNELS/OUTFALLS. PROVIDE A DESCRIPTION OF VELOCITY DISSIPATION DEVICE USED AT DISCHARGE LOCATIONS AND CHANNEL STABILIZATION MEASURES TO PROVIDE NON-EROSIVE FLOWS.

LOOSE ROCK RIP-RAP AND CONCRETE FLUMES.

6. ESTABLISH CONSTRUCTION ACCESS. PROVIDE A DESCRIPTION OF MEASURES TO MINIMIZE THE OFF-SITE, TRACKING OF SEDIMENT BY VEHICLES.

1. HAIL ROADS SHALL BE DAMPENED FOR DUST CONTROL, (IF APPLICABLE)
2. LOADED HAUL TRUCKS SHALL BE COVERED WITH TARP.
3. INSTALL A WHEEL WASH IF SPACE IS LIMITED AND DOESN'T ALLOW FOR SUFFICIENT TIRE REVOLUTIONS (4-5) NEEDED BEFORE EXITING THE SITE.
4. EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY.

REVISION _____ DATE _____ PAGE _____ OF _____

7. PROTECT DRAIN INLETS. PROVIDE A DESCRIPTION OF INLET PROTECTION MEASURES TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM

NOT APPLICABLE.

8. CONTROL DEWATERING. PROVIDE A DESCRIPTION OF CONTROLS TO PREVENT THE OFF-SITE TRANSPORT OF SUSPENDED SEDIMENTS AND OTHER POLLUTANTS IN DISCHARGES FROM DEWATERING OPERATIONS.

1. DEWATERING THAT MAY HAVE TURBID OR SEDIMENT LOADED DISCHARGE WATER MUST BE DISCHARGED TO A TEMPORARY OR PERMANENT SEDIMENTATION BASIN ON THE PROJECT SITE. WHENEVER POSSIBLE COORDINATION WITH EL PASO WATER IS REQUIRED.
2. DISCHARGE SHOULD NOT ADVERSELY AFFECT THE RECEIVING WATER OR DOWNSTREAM LANDWATERS.
3. DISCHARGE POINTS ARE ADEQUATELY PROTECTED FROM EROSION AND SOLID.
4. ADEQUATE SEDIMENTATION CONTROL MEASURES ARE REQUIRED FOR DISCHARGE WATER THAT CONTAINS SUSPENDED SOLIDS.

9. CONTROL WASTE AND POLLUTANTS. PROVIDE A DESCRIPTION OF CONTROLS TO REDUCE POLLUTANTS AND SPILL PREVENTION AND RESPONSE PROCEDURES ASSOCIATED WITH CONSTRUCTION AND WASTE MATERIALS. ALSO PROVIDED, A DESCRIPTION OF CONTROLS AND MEASURES THAT WILL BE IMPLEMENTED TO MINIMIZE POLLUTANTS IN ANY DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY OTHER THAN CONSTRUCTION (I.E., DEDICATED ASPHALT OR CONCRETE PLANTS) COVERED BY THE CONSTRUCTION GENERAL PERMIT.

1. ALL WASTE MATERIALS INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED MATERIAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURNED OR STOCKPILED ON SITE. THE TRASH DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE & REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION) THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 SOLID WASTE MANAGEMENT AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.
2. ALL SPILLS TO BE REPORTED TO THE E.P.E. ENVIRONMENTAL DEPARTMENT. CONTRACTOR SHALL NOT CALL REGULATORY AGENCIES (NATIONAL RESPONSE CENTER EPA, TCEQ, NMED)

10. CONSTRUCTION PHASING AND PROJECT MANAGEMENT. PROVIDE A DESCRIPTION OF CONSIDERATIONS GIVEN TO PROJECT PHASING IN ORDER TO REDUCE THE AMOUNT OF SOIL EXPOSED AT ONE TIME.

NOT APPLICABLE.

REVISION _____ DATE _____ PAGE _____ OF _____

NARRATIVE SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:

- INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS (E.G. SILT FENCE AND/OR STABILIZED CONSTRUCTION ENTRANCE). FROM 2018, TO 2018
- PERFORM CLEANING AND GRUBBING: FROM 2018, TO 2018
- ROUGH GRADING AND EXCAVATION FOR SITE: FROM 2018, TO 2018
- ROUGH AND FINAL GRADING IN RETENTION POND: FROM 2018, TO 2018
- AFTER STABILIZATION OF 70% OF SITE IS COMPLETE, REMOVE TEMPORARY CONTROLS IN #1 ABOVE AND SUBMIT NOTICE OF TERMINATION FORM TO CITY ENGINEERING AND TCEQ.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES. PROVIDE A DESCRIPTION OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES THAT WILL DISTURB SOILS. DESCRIBE THE GENERAL TIMING OR SEQUENCE FOR IMPLEMENTATION (AND REMOVAL) OF BMPs THAT WILL BE USED TO MINIMIZE POLLUTION IN RUNOFF.

ACTIVITY/BMP	ESTIMATED START	ESTIMATED COMPLETION
SILT FENCE/BMP		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		
SILT FENCE/SILT FENCE		

EXISTING TOPOGRAPHY AND DRAINAGE FEATURES. DESCRIBE THE EXISTING TOPOGRAPHY, DRAINAGE PATTERNS, AND NATURAL DRAINAGE FIXTURES INCLUDING CHANNELS, CREEKS, WATERCOURSES, ETC. PROVIDE NAME (IF AVAILABLE) OF CREEKS, STREAMS, ETC. AND PROTECTION MEASURES SUCH AS BUFFERS.

REVISION _____ DATE _____ PAGE _____ OF _____

SOIL TYPES & NAMES EROSION/FACTOR (K) UNIFIED CLASSIFICATION SITE COVERAGE %

EXISTING (PRE-CONSTRUCTION) GROUND COVER. DESCRIBE EXISTING VEGETATION ON THE DRAWING, SUCH FEATURES AS TREE CLUSTERS, GRASSY AREAS, AND UNIQUE OR SENSITIVE VEGETATION SHOULD BE SHOWN.

WEEDS AND DESERT ACCOUNT FOR THE MAJORITY OF GROUND COVER.

TYPE OF GRASS/VEGETATION/TREES WEEDS/BRUSH	APPROXIMATE DENSITY (%)	SITE COVERAGE (%)
	75%	100%

CRITICAL AREAS. DESCRIBE THE LOCATION, SIZE, AND CHARACTERISTICS OF ANY WETLANDS, STREAMS, OR LAKES THAT ARE ADJACENT OR IN CLOSE PROXIMITY TO THE SITE, AND/OR WILL RECEIVE DISCHARGES FROM DISTURBED AREAS OF THE PROJECTS. ALSO DELINEATE AREAS WITH HIGH EROSION POTENTIAL INCLUDING STEEP SLOPES.

NONE. REFERENCE GRADING STABILIZATION PLAN FOR EROSION CONTROL MEASURES.

DESCRIPTION OF POTENTIAL POLLUTANTS. DESCRIBE POTENTIAL POLLUTANTS, INCLUDING CONSTRUCTION AND WASTE MATERIALS, CHEMICALS, PAINTS, SOLVENTS, ETC. EXPECTED TO BE STORED ON-SITE.

AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES SHALL BE CONSIDERED HAZARDOUS PAINT, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SPILL STABILIZATION, CURING COMPOUNDS AND ADDITIVES IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS. THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION AND CONTACT THE FIRE DEPARTMENT.

EXISTING STORM SEWER SYSTEM. DESCRIBE ANY EXISTING ONSITE STORM SEWER SYSTEMS INCLUDING LOCATION OF INLETS AND OUTFALLS, PIPE SIZES, ETC.

CONSTRUCTION SPECIFICATIONS

- THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES. STORAGE HEIGHT SHALL NEVER EXCEED 18."
- THE FENCE LINE SHALL FOLLOW THE CONTOUR AS CLOSELY AS POSSIBLE.
- IF POSSIBLE, THE FILTER FABRIC SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPUNCE ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP AND BOTH ENDS SECURELY FASTENED TO THE POST.
- POSTS SHALL BE SPACED A MINIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET.
- TURN THE ENDS OF THE FENCE UPHILL.
- A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
- WHEN STANDARD-STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG. THE WIRES OR HOOD RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MAXIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- THE STANDARD-STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 6 INCHES OF THE FABRIC SHALL EXTEND INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
- WHEN EXTRA-STRENGTH FILTER AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POST.
- THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE TOE OF THE FABRIC.
- SILT FENCES PLACED AT THE TOE OF A SLOPE SHALL BE SET AT LEAST 6 FEET FROM THE TOE IN ORDER TO INCREASE PONDING VOLUME.
- SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED AND ANY SEDIMENT STORED BEHIND THE SILT FENCE HAS BEEN REMOVED.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

- TEMPORARY SEEDING
- PERMANENT PLANTING, SODDING, OR SEEDING
- MULCHING
- SOIL RETENTION BLANKET
- BUFFER ZONES
- PRESERVATION OF NATURAL RESOURCES

OTHER: _____

STRUCTURAL PRACTICES: (P-PERMANENT T-TEMPORARY)

- T SILT FENCES
- T HAY BALES
- T ROCK BERMS
- T DIVERSION, INTERCEPTOR, OR PERIMETER BERMS
- T DIVERSION DIKE AND SWALE COMBINATIONS
- T PIPE SLOPE DRAINS
- T CONCRETE FLUMES
- T ROCK BEDDING AT CONSTRUCTION EXIT
- T TIMBER MATTING AT CONSTRUCTION EXIT
- T CHANNEL LINERS
- T SEDIMENT TRAPS
- T SEDIMENT BASINS
- T STORM INLET SEDIMENT TRAP
- T STONE OUTLET STRUCTURES
- T CURBS
- T STORM DRAINS
- T VELOCITY CONTROL DEVICES
- T NATURAL SWALES & NATURAL DEPRESSIONS

OTHER: _____

NON-STORMWATER DISCHARGES ALLOWED

NO PERSON SHALL INTRODUCE OR CAUSE TO BE INTRODUCED INTO THE MUNICIPAL SEWER SYSTEM (MS4) OR WATERS WITHIN THE JURISDICTION OF THE CITY DISCHARGE THAT IS NOT COMPOSED ENTIRELY OF STORMWATER.

A. IT IS AN AFFIRMATIVE DEFENSE TO ANY ENFORCEMENT ACTION FOR VIOLATION OF SUBSECTION A OF THIS SECTION THAT THE DISCHARGE WAS COMPOSED ENTIRELY OF ONE OR MORE OF THE FOLLOWING CATEGORIES OF DISCHARGES:

- A DISCHARGE AUTHORIZED BY, AND IN FULL COMPLIANCE WITH, AN NPDES PERMIT (OTHER THAN THE NPDES PERMIT FOR DISCHARGES FROM THE MS4).
- A DISCHARGE RESULTING FROM FIRE FIGHTING:
- AGRICULTURAL STORMWATER RUNOFF:
- A DISCHARGE FROM WATERLINE FLUSHING, BUT NOT INCLUDING A DISCHARGE FROM WATER LINE DISINFECTION BY SUPERCHLORINATION OR OTHER MEANS UNLESS IT CONTAINS NO HARMFUL QUANTITY OF CHLORINE OR ANY OTHER CHEMICAL USED IN LINE DISINFECTION;
- A DISCHARGE FROM LAWN WATERING, LANDSCAPE IRRIGATION, OR OTHER IRRIGATION;
- A DISCHARGE FROM A DIVERTED STREAM FLOW OR NATURAL SPRING;
- A DISCHARGE FROM UNCONTAMINATED PUMP GROUNDWATER OR RISING GROUNDWATER;
- UNCONTAMINATED GROUNDWATER INFILTRATION (AS DEFINED AS 40 CFR SECTION 35.2005 (20)) TO THE MS4;
- UNCONTAMINATED DISCHARGE FROM A FOUNDATION DRAIN, CRAWL SPACE PUMP, FOOTING DRAIN OR SUMP PUMP;
- A DISCHARGE FROM A POTABLE WATER SOURCE NOT CONTAINING ANY HARMFUL SUBSTANCE OR MATERIAL FROM THE CLEANING OR DRAINING OF A STORAGE TANK OR OTHER CONTAINER;
- A DISCHARGE FROM AIR CONDITIONING CONDENSATION THAT IS UNMIXED WITH WATER FROM A COOLING TOWER, EMISSIONS SCRUBBER, EMISSIONS FILTER OR ANY OTHER SOURCE OF POLLUTANT;
- A DISCHARGE FROM INDIVIDUAL RESIDENTIAL OR CHARITY CAR WASHING;
- AN UNCONTAMINATED DISCHARGE FROM RIPARIAN HABITAT OR WETLAND;
- A DISCHARGE FROM WATER USED IN STREET WASHING; PROVIDED THAT THE WATER IS NOT CONTAMINATED WITH ANY HARMFUL CLEANING SUBSTANCE;

B. NO AFFIRMATIVE DEFENSE SHALL BE AVAILABLE UNDER SUBSECTION B OF THIS SECTION IF THE DISCHARGE OR FLOW IN QUESTION HAS BEEN DETERMINED BY THE CITY TO BE A SOURCE OF A POLLUTANT OR POLLUTANTS TO THE WATERS OF THE UNITED STATES OR TO THE MS4, AND WRITTEN NOTICE OF SUCH DETERMINATION HAS BEEN PROVIDED TO THE DISCHARGER. (ORD. 13477 & 1 (PART), 1998)

BEST MANAGEMENT PRACTICES CONTROLS

STRUCTURAL MEASURES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN EFFECTIVE OPERATING CONDITIONS.

DOCUMENTATION OF MAINTENANCE ACTIVITIES INCLUDING FREQUENCY, LOT DESIGNATION INSPECTION OF STRUCTURAL CONTROLS, MTL STORAGE AREAS VEHICLES ENTRANCE AND EXITS. ACTIONS TAKEN AND INSPECTIONS NAME:

- CONSTRUCTION SITE NOTICE WILL BE MAINTAINED ON SITE.
- COPY OF SWPPP SHALL BE KEPT ON SITE.
- PERMITTEE MUST RETAIN THE SWPPP NOI AND INSPECTION LOG FOR MINIMUM OF THREE YEARS FROM THE TERMINATION AND FINAL STABILIZATION OF PROJECT.

1. WASTE MATERIALS
 ALL WASTE MATERIALS INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURED LIDDED DUMPSTER. NO CONSTRUCTION MTL SHALL BE BURIED ON SITE. THE DUMPSTER SHALL BE EMPTIED AS NECESSARY AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH BE HAULED TO A LICENSED LANDFILL.

2. HAZARDOUS WASTE
 AT A MINIMUM ANY PRODUCTS IN THE FOLLOWING CATEGORIES SHALL BE CONSIDERED HAZARDOUS PAINT, ACIDS FOR CLEANING MASONRY SURFACES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SPILL STABILIZATION, CURING COMPOUNDS AND ADDITIVES. IN THE EVENT OF A SPILL, WHICH MAY BE HAZARDOUS, THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION AND CONTACT THE FIRE DEPARTMENT NMD.

3. SANITARY WASTE
 ALL SANITARY WASTE SHALL BE COLLECTED FROM THE CONSTRUCTION PORTABLE UNITS AS NECESSARY OR AS REQUIRED, CHAPTER 18.08 (BUILDING CODE), BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR. ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4. SPILL PREVENTION
 THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OF OTHER ACCIDENT EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.

- GOOD HOUSEKEEPING**
- STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB
 - NEATLY STORE MATERIALS ON-SITE IN AN ORDERLY MANNER
 - KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER
 - DO NOT MIX SUBSTANCES WITH ONE ANOTHER, UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER
 - USE ENTIRE CONTENTS OF A PRODUCT BEFORE DISPOSING THE CONTAINER
 - FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL

HAZARDOUS PRODUCTS

- KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER IF AT ALL POSSIBLE
- RETAIN ORIGINAL LABELS, PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEETS (MSDS)
- DISPOSE SURPLUS PRODUCT IN ACCORDANCE WITH MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS

PETROLEUM PRODUCTS
 ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

5. SPILL CONTROL PRACTICES

- MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE.
- ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
- SPILL AREA SHALL BE WELL VENTILATED AND APPROPRIATE CLOTHING WILL BE WORN.
- ANY SPILL SHALL BE REPORTED TO THE APPROPRIATE GOVERNMENTAL AGENCY.

6. MAINTENANCE AND INSPECTION PROCEDURES

ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED AT LEAST ONCE A MONTH OR WITHIN 24-HOURS PRIOR TO ANTICIPATED STORM EVENT AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR MORE. INSPECTION IN FINAL STABILIZED AREAS OR DURING ARID PERIODS WILL BE CONDUCTED MONTHLY. BEST MANAGEMENT PRACTICES AND POLLUTION CONTROL PROCEDURES SHALL BE INSPECTED FOR ADEQUACY. A REPORT SUMMARIZING THE SCOPE OF INSPECTION SHALL BE DONE & RETAINED ALONG WITH THE SDPP.

7. REMARKS

DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLANDS, WATERBODY OR STREAMED CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEANED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PLUMB DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

NARRATIVE
 CIMARRON CANYON UNIT THREE SUBDIVISION
 EL PASO, TEXAS

LEGAL DESCRIPTION
 BEING A PORTION OF TRACT 182
 NELLIE D. MUNDT SURVEY 242,
 CITY OF EL PASO, EL PASO COUNTY, TEXAS,
 CONTAINING ±13.005 ACRES (566,513 SQ. FT.)

CONSTRUCTION START DATE: _____ CONSTRUCTION END DATE: _____

- NOTES**
- THERE ARE NO LISTED ENDANGERED OR THREATENED SPECIES OR DESIGNATED CRITICAL HABITAT IN THE PROTECTION AREA.
 - THERE IS NO HISTORICAL IMPACT WITHIN THE PROJECT LIMITS.
 - A COPY OF THE TPDES GENERAL PERMIT TXR150000 (PERMIT LANGUAGE) SHALL BE READ, UNDERSTOOD, AND MAINTAINED ON SITE BY THE OPERATOR.
 - NO ASPHALT/BATCH PLANT

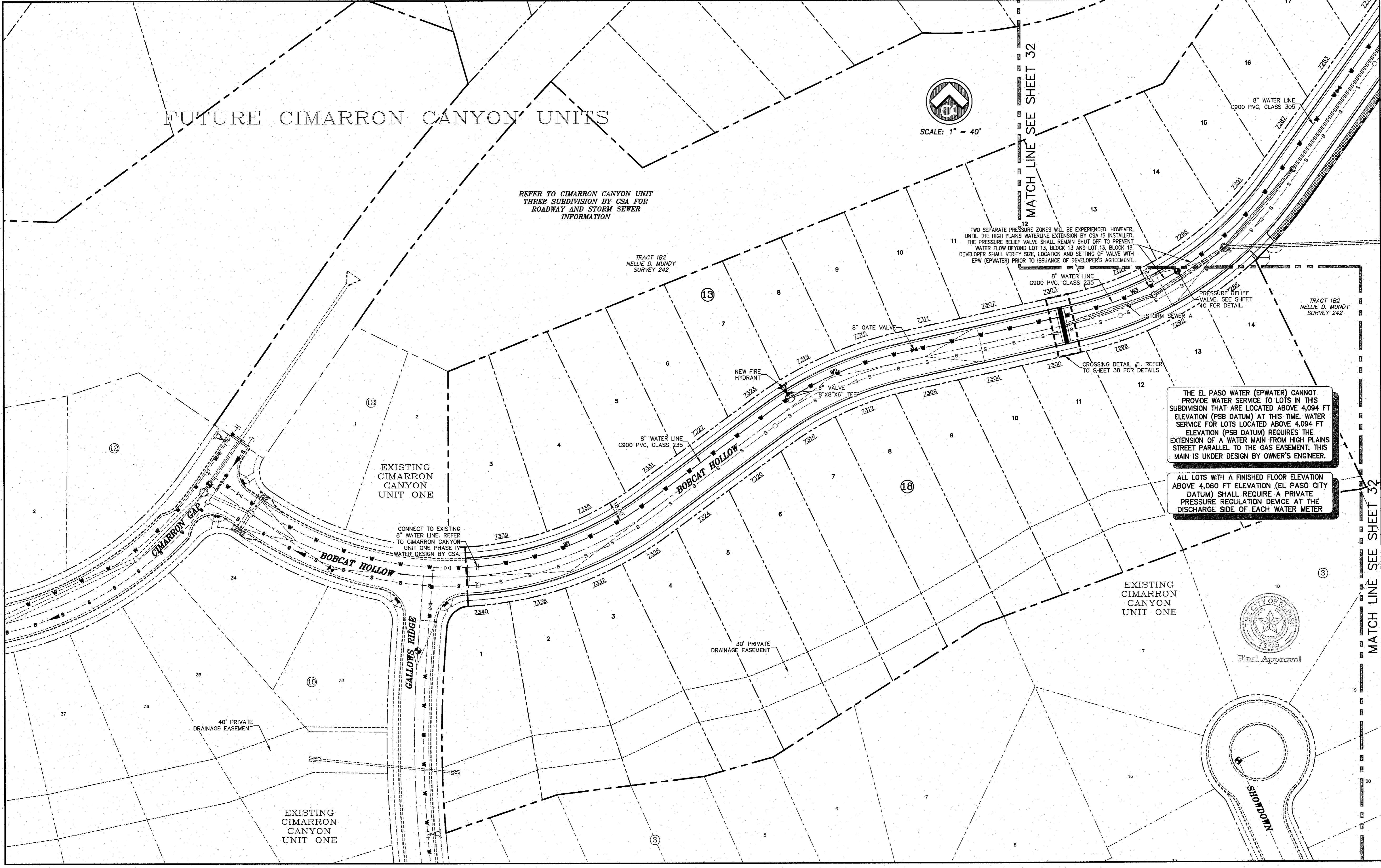
NO.	DATE	DESCRIPTION	BY

BENCHMARK: CITY MONUMENT AT THE CORNER OF INTERSECTION OF NORTHERN PASS DRIVE AND EL PASO DRIVE
 ELEVATION = 3978.53 (EL PASO CITY DATUM)

WARNING!
 BEFORE YOU DIG
 CONTRACTOR SHALL
 FIELD LOCATE ALL
 EXISTING UNDERGROUND
 IMPROVEMENTS IN
 PROJECT AREA

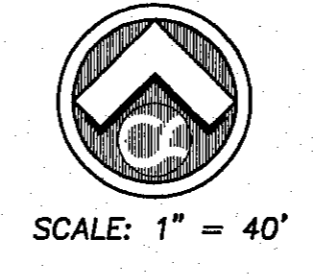
BEFORE YOU DIG - CALL
 EL PASO ELECTRIC COMPANY 843-5720
 AT&T 1-800-DIG-1233
 TEXAS GAS SERVICE 1-800-445-5000
 TEXAS WATER SERVICE 1-800-445-5000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-8411
 AFTER HOURS EMERGENCY (EPW) 994-5775
 TEXAS EXCAVATION SAFETY SYSTEM 1-800-344-5777
 KINDER-MORGAN EPAC PIPELINES 1-800-238-3764
 TEXAS STATE HIGHWAY DEPARTMENT 1-800-392-7368
 EL PASO COUNTY SOILS, STREETS AND MAINTENANCE 1-800-392-7368

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FUTURE CIMARRON CANYON UNITS

REFER TO CIMARRON CANYON UNIT THREE SUBDIVISION BY CSA FOR ROADWAY AND STORM SEWER INFORMATION



MATCH LINE SEE SHEET 32

MATCH LINE SEE SHEET 33

THE EL PASO WATER (EPWATER) CANNOT PROVIDE WATER SERVICE TO LOTS IN THIS SUBDIVISION THAT ARE LOCATED ABOVE 4,094 FT ELEVATION (PSB DATUM) AT THIS TIME. WATER SERVICE FOR LOTS LOCATED ABOVE 4,094 FT ELEVATION (PSB DATUM) REQUIRES THE EXTENSION OF A WATER MAIN FROM HIGH PLAINS STREET PARALLEL TO THE GAS EASEMENT. THIS MAIN IS UNDER DESIGN BY OWNER'S ENGINEER.

ALL LOTS WITH A FINISHED FLOOR ELEVATION ABOVE 4,060 FT ELEVATION (EL PASO CITY DATUM) SHALL REQUIRE A PRIVATE PRESSURE REGULATION DEVICE AT THE DISCHARGE SIDE OF EACH WATER METER

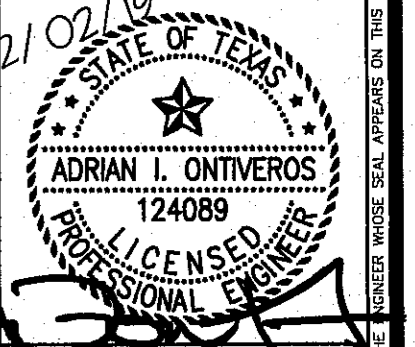
TWO SEPARATE PRESSURE ZONES WILL BE EXPERIENCED. HOWEVER, UNTIL THE HIGH PLAINS WATERLINE EXTENSION BY CSA IS INSTALLED, THE PRESSURE RELIEF VALVE SHALL REMAIN SHUT OFF TO PREVENT WATER FLOW BEYOND LOT 13, BLOCK 13 AND LOT 13, BLOCK 18. DEVELOPER SHALL VERIFY SIZE, LOCATION AND SETTING OF VALVE WITH EPW (EPWATER) PRIOR TO ISSUANCE OF DEVELOPER'S AGREEMENT.

BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASTOR DRIVE ELEVATION = 3976.53 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
1-800-416-5720
EL PASO GAS SERVICE
1-800-416-5720
EL PASO WATER (EPWATER)
562-8411
EL PASO PUBLIC SERVICE BOARD (WATER & SEWER)
594-5776
EL PASO PUBLIC SAFETY SYSTEM
1-800-244-4374
EL PASO POLICE DEPARTMENT
1-800-238-2764
EL PASO FIRE DEPARTMENT
1-800-212-0151



csa design group, inc.
Texas Registered Engineering Firm #-9897
1845 Northwestern Dr., Ste C
El Paso, Texas 79912
tel (915) 877.4155
fax (915) 877.4334
www.csaengr.com



CIMARRON CANYON UNIT THREE SUBDIVISION

POTABLE WATER DISTRIBUTION PLAN

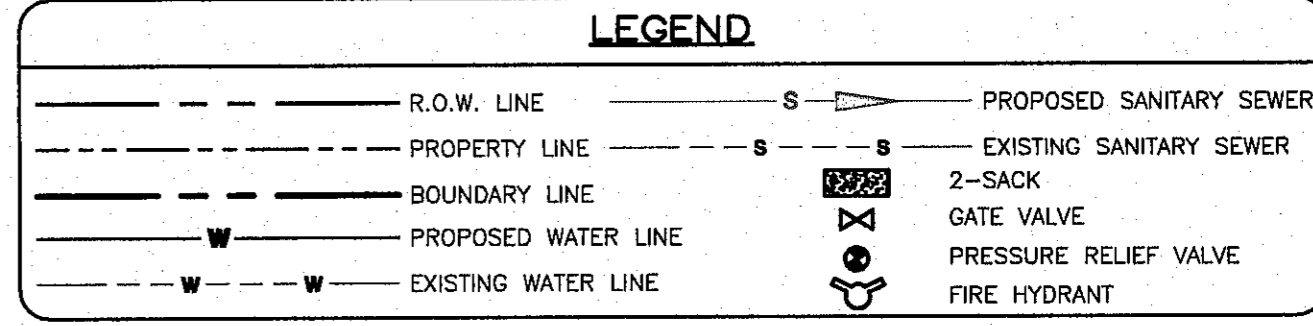
JOB NO.	1724
DESIGN BY	AS NOTED
DATE	08/08/18
SCALE	AS NOTED
SHEET NO.	31
TOTAL SHEETS	33 OF 46

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
W1	292.00	162.05	83.17	159.97	N69°19'50"E	31°47'47"
W2	308.00	129.75	65.85	128.80	S65°30'04"W	24°08'15"
W3	292.00	213.87	111.99	209.12	N56°35'14"E	41°57'54"

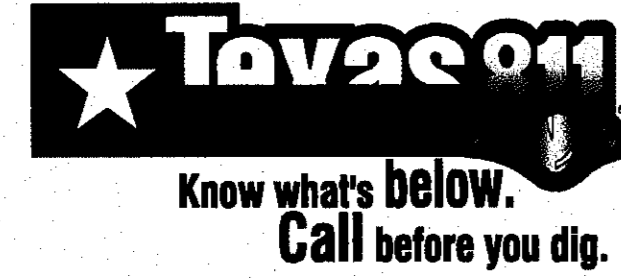
STREET NAME	NUMBER OF FIRE HYDRANTS
BOBCAT HOLLOW	3

STREET NAME	LENGTH, SIZE, & TYPE OF PIPE
BOBCAT HOLLOW (LOW PRESSURE ZONE)	676 FT. OF 8" C900 PVC (CL235)
BOBCAT HOLLOW (HIGH PRESSURE ZONE)	1,116 FT. OF 8" C900 PVC (CL305)

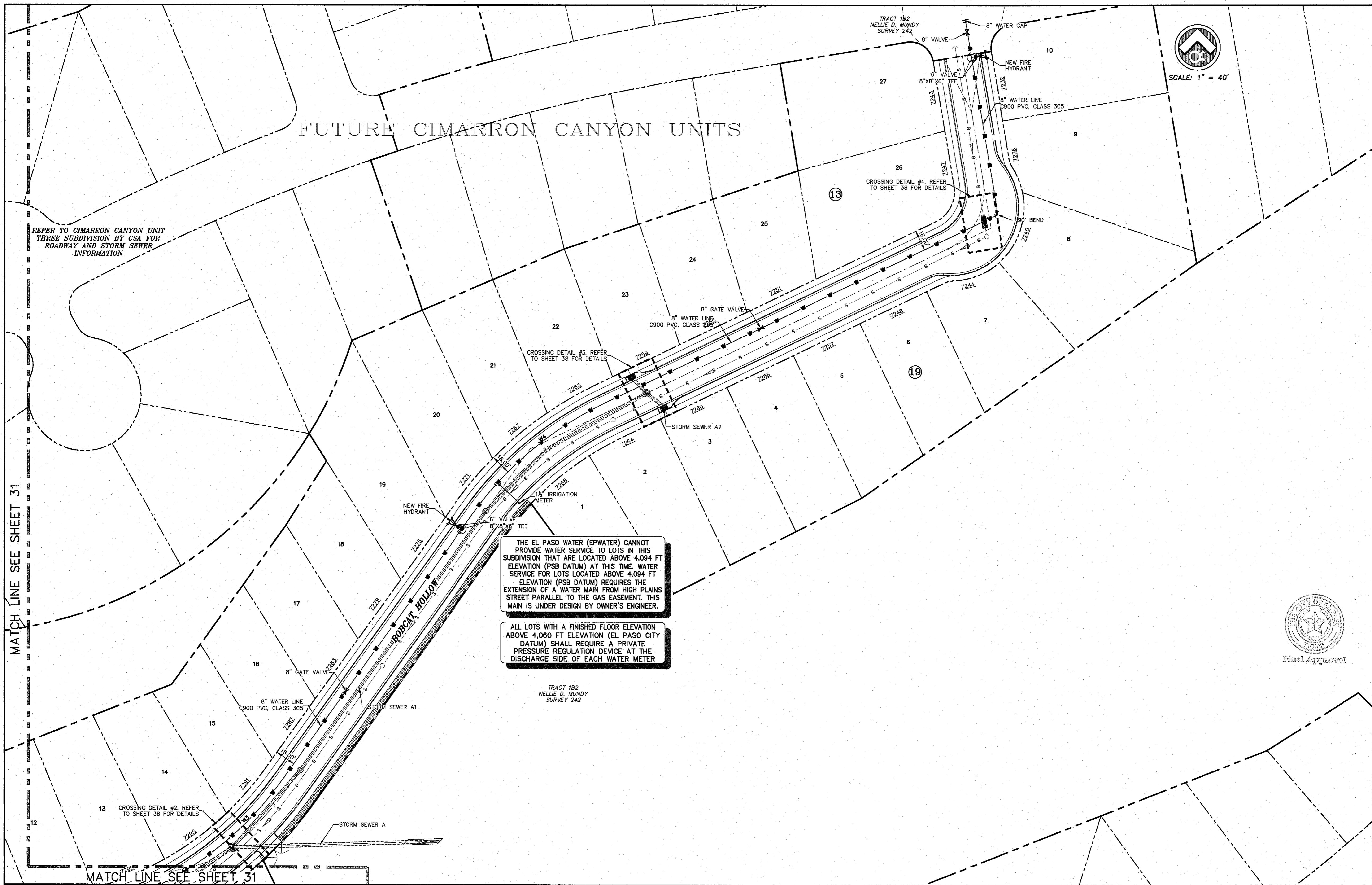
- WATER NOTES:**
- CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
 - INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
 - PROVIDE ADEQUATE CONCRETE THRUST BLOCKING AT THE FOLLOWING TAPPING SLEEVES, TEES, BENDS, PLUGS AND ALL FITTINGS.
 - ALL VALVES ON P.V.C. WATER MAINS SHALL BE ANCHORED IN CONCRETE.
 - P.V.C. PIPES SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.



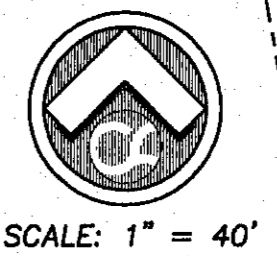
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IN PROJECT AREA



© CSA DESIGN GROUP, INC. - Dec 04, 2019 - 12:11pm
S:\New\1724 Cimarron Canyon Unit Three\1724_2nd Submittal\Draw\1724_S1_31-32 (Water Distribution).dwg



FUTURE CIMARRON CANYON UNITS



REFER TO CIMARRON CANYON UNIT THREE SUBDIVISION BY CSA FOR ROADWAY AND STORM SEWER INFORMATION

THE EL PASO WATER (EPWATER) CANNOT PROVIDE WATER SERVICE TO LOTS IN THIS SUBDIVISION THAT ARE LOCATED ABOVE 4,094 FT ELEVATION (PSB DATUM) AT THIS TIME. WATER SERVICE FOR LOTS LOCATED ABOVE 4,094 FT ELEVATION (PSB DATUM) REQUIRES THE EXTENSION OF A WATER MAIN FROM HIGH PLAINS STREET PARALLEL TO THE GAS EASEMENT. THIS MAIN IS UNDER DESIGN BY OWNER'S ENGINEER.

ALL LOTS WITH A FINISHED FLOOR ELEVATION ABOVE 4,060 FT ELEVATION (EL PASO CITY DATUM) SHALL REQUIRE A PRIVATE PRESSURE REGULATION DEVICE AT THE DISCHARGE SIDE OF EACH WATER METER

TRACT 182
NELLIE D. MUNDY
SURVEY 242

MATCH LINE SEE SHEET 31

MATCH LINE SEE SHEET 31

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
W3	292.00	213.87	111.99	209.12	N66°35'14"E	41°57'54"
W4	308.00	154.51	78.92	152.90	S49°38'35"W	28°44'36"

STREET NAME	NUMBER OF FIRE HYDRANTS
BOBCAT HOLLOW	3

STREET NAME	LENGTH, SIZE, & TYPE OF PIPE
BOBCAT HOLLOW (LOW PRESSURE ZONE)	676 FT. OF 8" (CL235)
BOBCAT HOLLOW (HIGH PRESSURE ZONE)	1,116 FT. OF 8" (CL305)

- WATER NOTES:**
- CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
 - INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
 - PROVIDE ADEQUATE CONCRETE THRUST BLOCKING AT THE FOLLOWING TAPPING SLEEVES, TEES, BENDS, PLUGS AND ALL FITTINGS.
 - ALL VALVES ON P.V.C. WATER MAINS SHALL BE ANCHORED IN CONCRETE.
 - P.V.C. PIPES SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

LEGEND

— R.O.W. LINE	— S —	— PROPOSED SANITARY SEWER
— PROPERTY LINE	— S —	— EXISTING SANITARY SEWER
— BOUNDARY LINE	— S —	— 2-SACK
— PROPOSED WATER LINE	— S —	— GATE VALVE
— EXISTING WATER LINE	— S —	— PRESSURE RELIEF VALVE
	— S —	— FIRE HYDRANT

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND BRAYS LANDING DRIVE
ELEVATION = 3923.85 (EL. PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-DIG-TESS
1-800-630-6300

AT&TS GAS SERVICE LINE
544-6300

PUBLIC SERVICE (WATER & SEWER)
659-8411
1-800-594-7775

UTILITY LOCATIONS EMERGENCY (EPW)
594-5775

EL PASO WATER (EPWATER)
775-4774

EL PASO WATER (EPWATER) SAFETY SYSTEM
KINDER-MORGAN EPWC PIPELINES
1-800-238-3764

EL PASO STREETS AND MAINTENANCE
1-800-212-0151

EL PASO STREETS, SIDEWALKS AND MAINTENANCE
EL PASO STREETS AND MAINTENANCE
EL PASO STREETS AND MAINTENANCE

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fax (915) 877-4334
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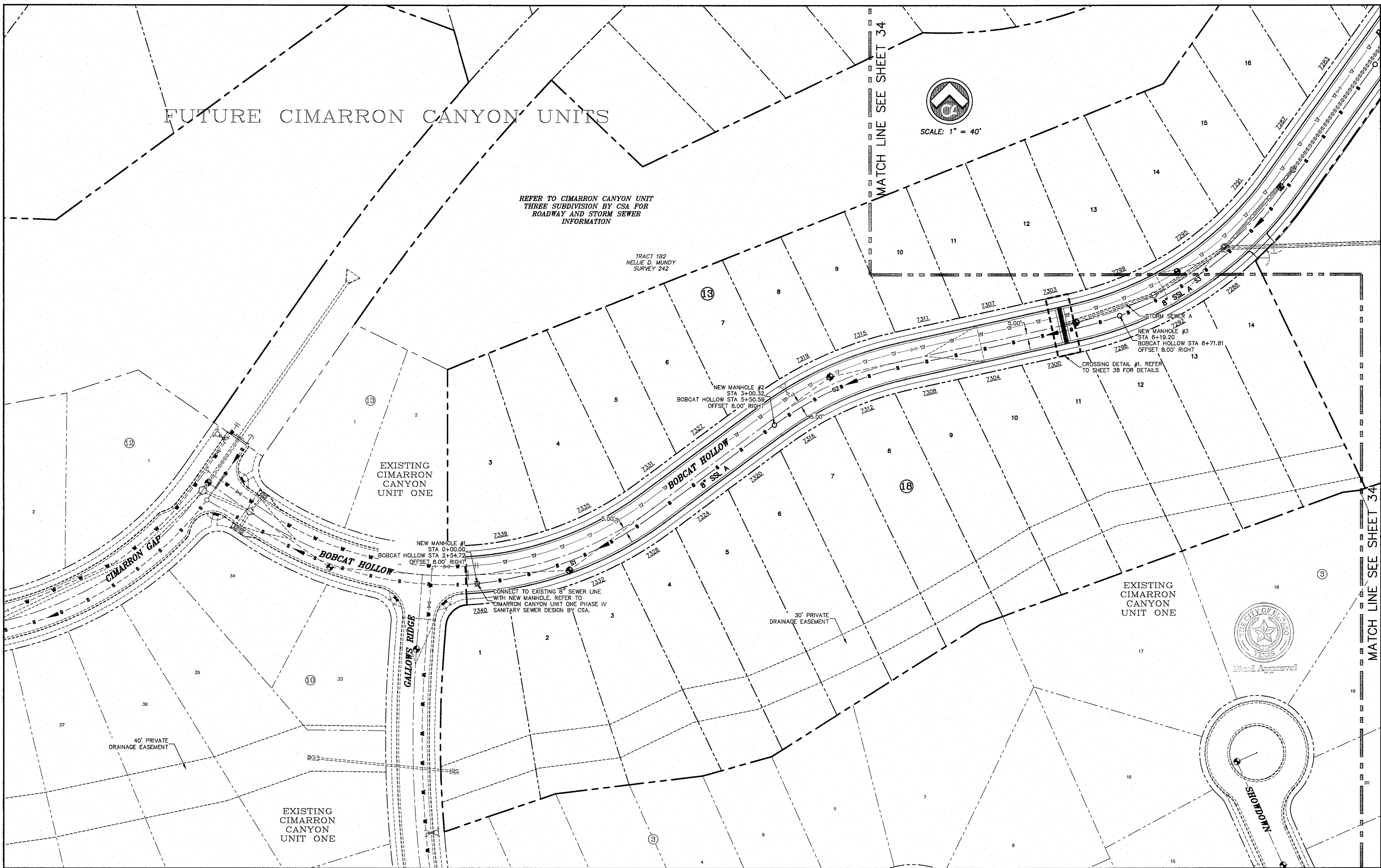
CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE
**POTABLE
WATER
DISTRIBUTION
PLAN**

DOB	1724
REVISION	JOB NO.
DOB-SM	08/08/18
DATE	
AHO	AS NOTED
SCALE	
SHEET NO. 32 SHEET SEQUENCE 34 OF 46	

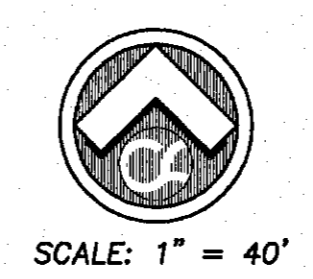
WARNING!
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IN PROJECT AREA





FUTURE CIMARRON CANYON UNITS

REFER TO CIMARRON CANYON UNIT THREE SUBDIVISION BY CSA FOR ROADWAY AND STORM SEWER INFORMATION



MATCH LINE SEE SHEET 34

MATCH LINE SEE SHEET 34

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
S1	308.00	171.47	88.02	169.27	N69°22'53"E 315°3'54"
S2	292.00	123.01	62.43	122.11	S65°30'04"W 24°08'15"
S3	308.00	225.59	118.12	220.58	N56°35'14"E 41°57'54"

STREET NAME	NUMBER OF MANHOLES
BOBCAT HOLLOW	6

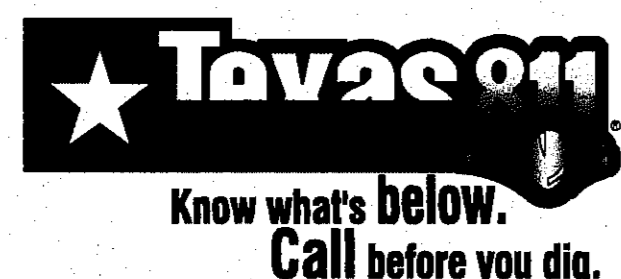
STREET NAME	LENGTH, SIZE, & TYPE OF PIPE
BOBCAT HOLLOW	1,778 FT. OF 8" (SDR35)

- SANITARY SEWER NOTES:**
- CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
 - INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
 - PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.
 - P.V.C. PIPES SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

LEGEND

	R.O.W. LINE		PROPOSED SANITARY SEWER
	PROPERTY LINE		EXISTING SANITARY SEWER
	BOUNDARY LINE		2-SACK GATE VALVE
	PROPOSED WATER LINE		PRESSURE RELIEF VALVE
	EXISTING WATER LINE		FIRE HYDRANT

WARNING!
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UNDERGROUND IMPROVEMENTS
IN PROJECT AREA



BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASSES DRIVE AND 3RD STREET, EL PASO, TEXAS (EL PASO CITY DATUM)
ELEVATION = 3978.53 (EL PASO CITY DATUM)

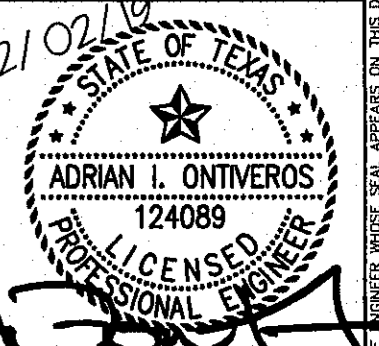
NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
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IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-310-7253
EL PASO GAS SERVICE
1-800-310-7253
TEXAS GAS SERVICE
1-800-310-7253
PUBLIC SERVICE BOARD (WATER & SEWER)
562-8417 / 800-310-7253
AFTER HOURS EMERGENCY (EPW)
594-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-244-8377
TEXAS MORCAN EPNG PIPELINES
1-800-238-3764
EL PASO PUBLIC WORKS, STREET AND MAINTENANCE
1-800-212-0151
EL PASO PUBLIC WORKS, STREET AND MAINTENANCE
1-800-212-0151

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El Paso, Texas 79912
Tel: (915) 877-4155
Fax: (915) 877-4334
www.csaengineers.com



CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE

SANITARY SEWER COLLECTION PLAN

DOB	1724
REVISED BY	JWH/IC
DOB-SM	08/08/18
DATE	
AHO	AS NOTED
SCALE	
SHEET NO.	33
TOTAL SHEETS	35 OF 46



BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND BOBCAT HOLLOW. ELEVATION = 3976.55 (CL. PASO CITY DATUM)

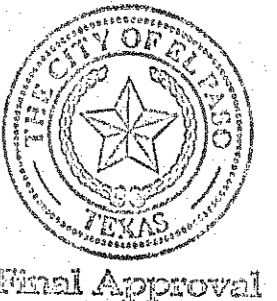
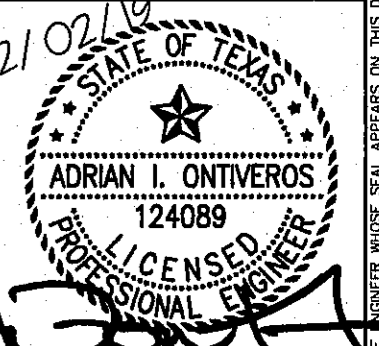
NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
BEFORE YOU DIG
 CONTRACTOR SHALL
 FIELD LOCATE ALL
 EXISTING UNDERGROUND
 IMPROVEMENTS IN
 PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
 1-800-312-7253
 AT&T
 1-800-312-7253
 TEXAS GAS SERVICE
 1-800-312-7253
 PUBLIC SERVICE BOARD (WATER & SEWER)
 562-8417 / 1-800-312-7253
 AFTER HOURS EMERGENCY (EPW)
 994-5775
 TEXAS EXCAVATION SAFETY SYSTEM
 1-800-244-6377
 TEXAS-KINDERMORGAN EPNG PIPELINES
 1-800-238-3764
 EL PASO PUBLIC SAFETY SERVICES JOB CENTER
 1-800-212-0151
 EL PASO POLICE DEPARTMENT
 1-800-312-7253

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 tel (915) 877.4155
 fax (915) 877.4334
 www.csaengineers.com



CIMARRON CANYON
 UNIT THREE
 SUBDIVISION

SHEET TITLE
**SANITARY
 SEWER
 COLLECTION
 PLAN**

DOB	1724
REVISION BY	JAC
DOB-SM	08/08/18
DATE	
AHO	AS NOTED
SCALE	
SHEET NO.	34
TOTAL SHEETS	36 OF 46

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
S3	308.00	225.59	118.12	220.59	N56°35'14"E	41°57'54"
S4	292.00	146.49	74.82	144.96	S49°58'35"W	28°44'36"

STREET NAME	NUMBER OF MANHOLES
BOBCAT HOLLOW	6

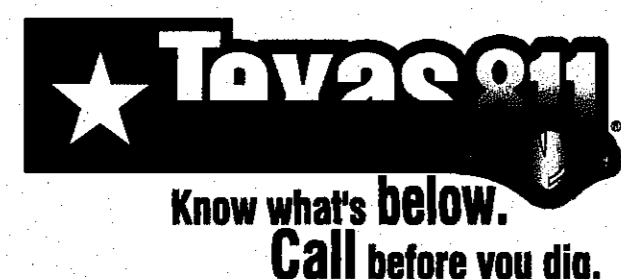
STREET NAME	LENGTH, SIZE, & TYPE OF PIPE
BOBCAT HOLLOW	1,778 FT. OF 8" (SDR35)

- SANITARY SEWER NOTES:**
- CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.
 - INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.
 - PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.
 - P.V.C. PIPES SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

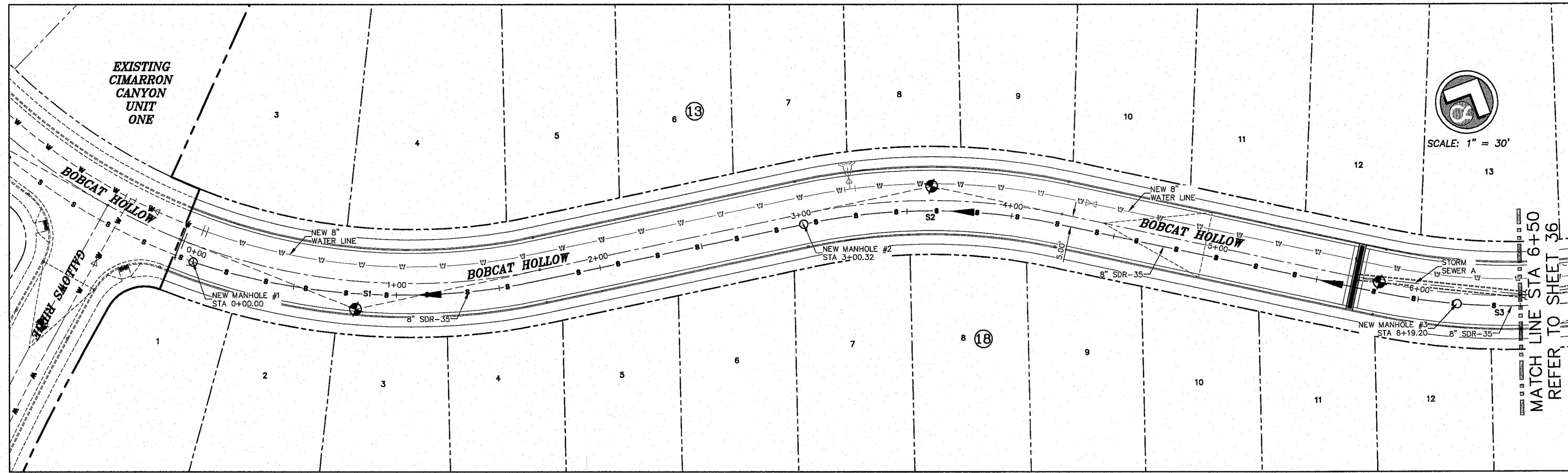
LEGEND

--- R.O.W. LINE	--- PROPOSED SANITARY SEWER
--- PROPERTY LINE	--- EXISTING SANITARY SEWER
--- BOUNDARY LINE	--- 2-SACK
--- PROPOSED WATER LINE	--- GATE VALVE
--- EXISTING WATER LINE	--- PRESSURE RELIEF VALVE
	--- FIRE HYDRANT

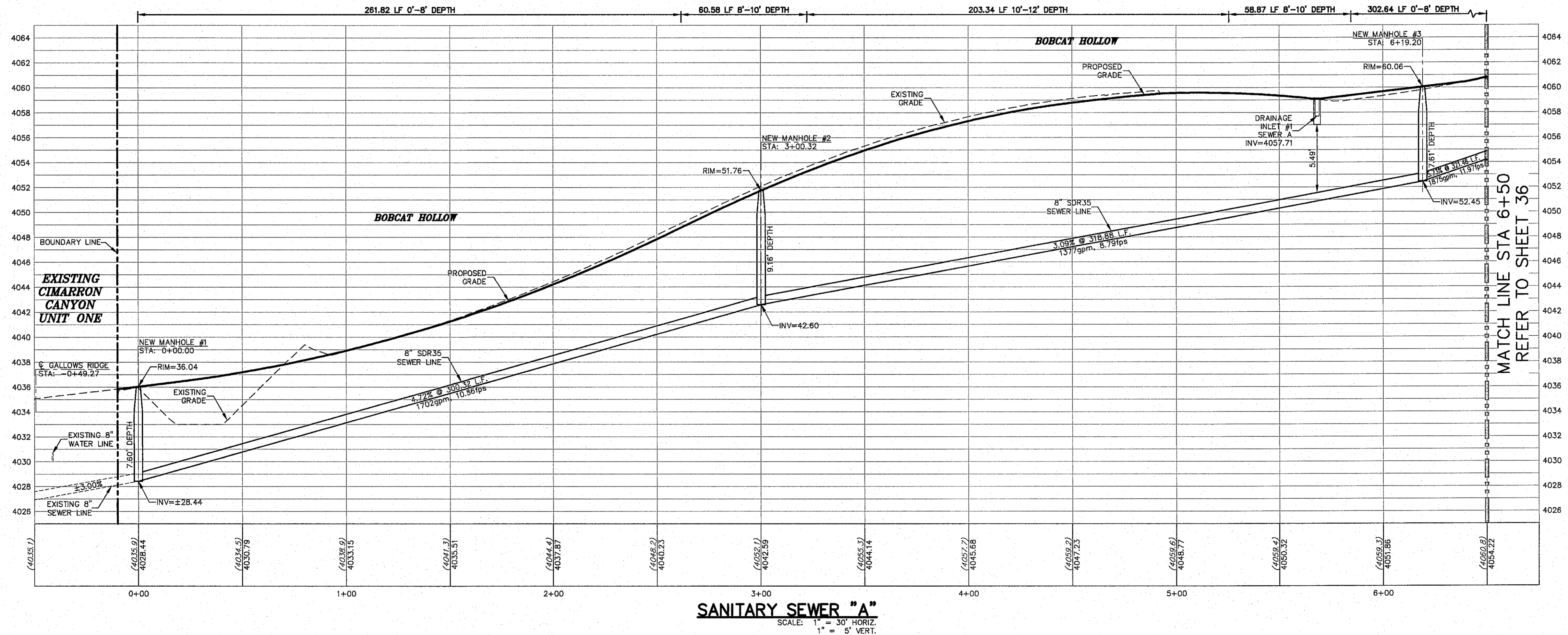
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 IN PROJECT AREA



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 1724 CIMARRON CANYON UNIT THREE SUBDIVISION SHEET 34 OF 46 (Owner: Collection) JAC



CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
S1	308.00	171.47	88.02	169.27	N69°22'53"E	31°53'54"
S2	292.00	123.01	62.43	122.11	S65°30'04"W	24°08'15"
S3	308.00	225.59	118.12	220.58	N56°35'14"E	41°57'54"



SANITARY SEWER "A"
SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

LEGEND	
---	R.O.W. LINE
---	PROPERTY LINE
---	BOUNDARY LINE
---	PROPOSED WATER LINE
---	EXISTING WATER LINE
---	PROPOSED SANITARY SEWER
---	EXISTING SANITARY SEWER
---	2-SACK
---	GATE VALVE
---	PRESSURE RELIEF VALVE
---	FIRE HYDRANT

SEWER NOTES

CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.

INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.

PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.

P.V.C. PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

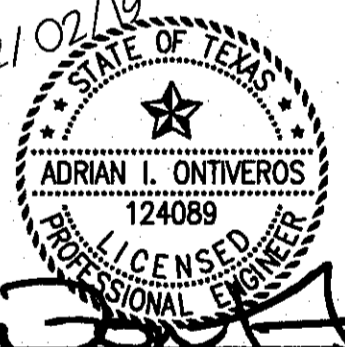
NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
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IMPROVEMENTS IN
PROJECT AREA

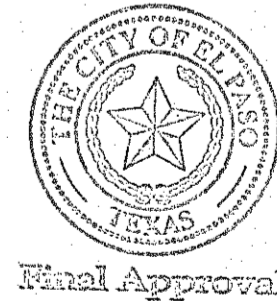
BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
A&S GAS SERVICE
TSS EMERGENCY HOTLINE
PUBLIC SERVICE BOARD (WATER & SEWER)
ELECTRIC UTILITY EMERGENCY (EPU)
TEXAS EXCAVATION SAFETY SYSTEM
KINDER-MORGAN EPIC PIPELINES
EL PASO POLICE DEPARTMENT
EL PASO FIRE DEPARTMENT

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1845 Northwestern Dr., Site C
El Paso, Texas 79912
tel (915) 877-4165
fax (915) 877-4334
www.csadesigngroup.com



CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE

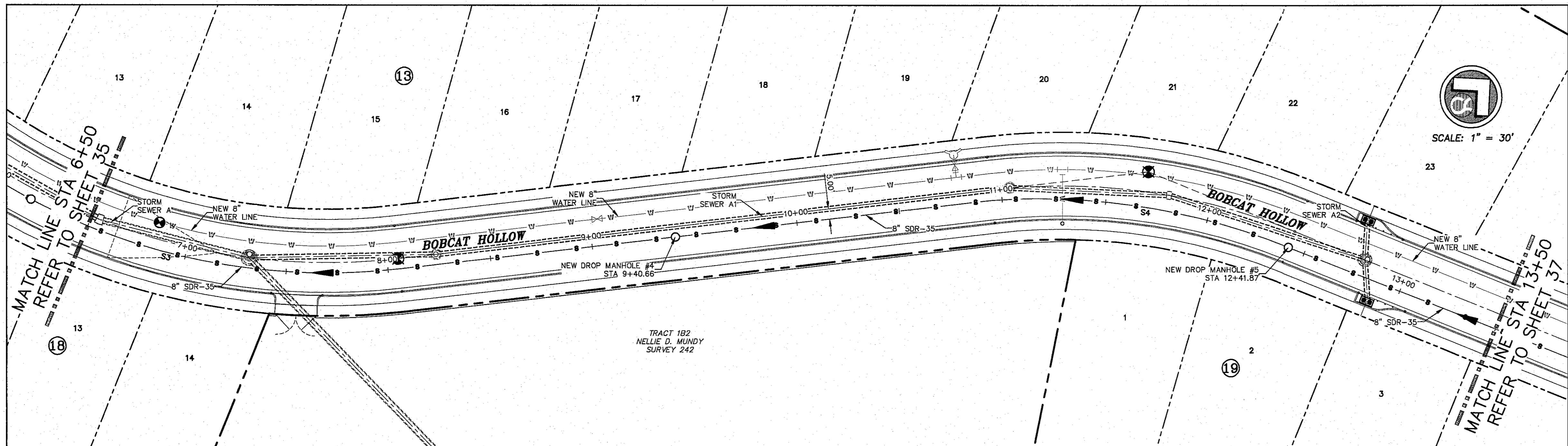
**SANITARY
SEWER PLAN
AND PROFILE**

COB	1724
COB-SM	08/08/18
DRAWN BY	AS NOTED
DATE	08/08/18
BY	AS NOTED
DATE	08/08/18
SHEET NO. 35	
SHEET SEQUENCE 37 OF 46	

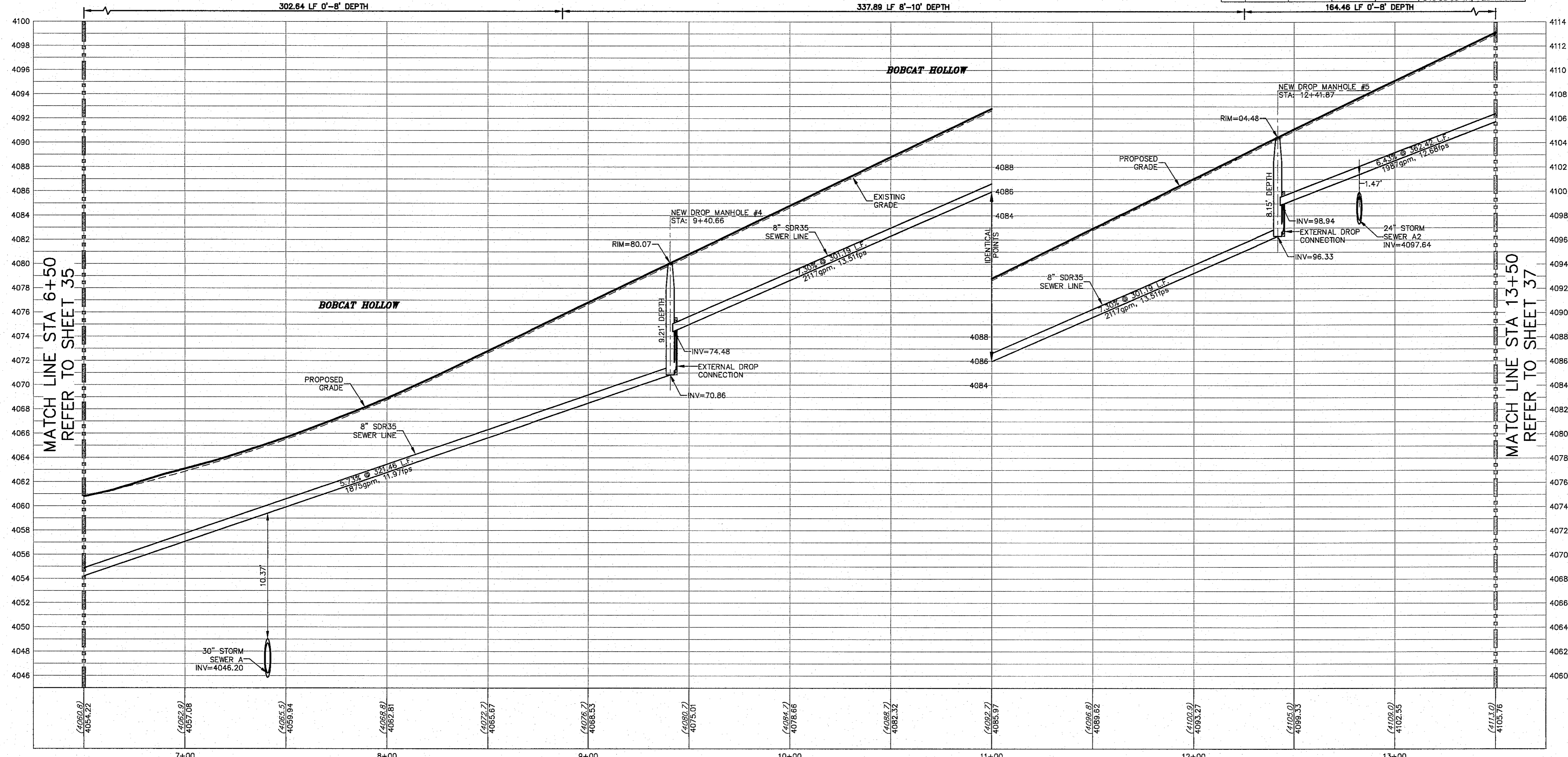
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CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
S3	308.00	225.59	118.12	220.58	N56°35'14"E	41°57'54"
S4	292.00	146.49	74.82	144.96	S49°58'35"W	28°44'36"



SANITARY SEWER "A"
SCALE: 1" = 30' HORIZ.
1" = 5' VERT.

LEGEND	
---	R.O.W. LINE
---	PROPERTY LINE
---	BOUNDARY LINE
---	PROPOSED WATER LINE
---	EXISTING WATER LINE
---	PROPOSED SANITARY SEWER
---	EXISTING SANITARY SEWER
---	2-SACK
---	GATE VALVE
---	PRESSURE RELIEF VALVE
---	FIRE HYDRANT

SEWER NOTES

CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.

INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.

PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.

P.V.C. PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

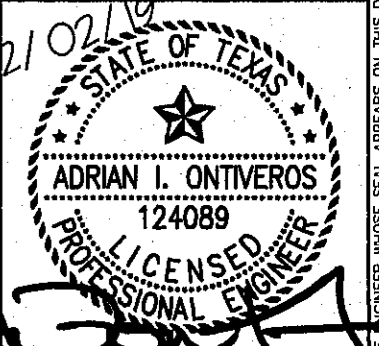
NO.	DATE	DESCRIPTION	BY
1	09/23/19	Final City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
1-800-306-7253
AT&T TEXAS SERVICE LINE
1-800-306-7253
TEXAS GAS SERVICE LINE
1-800-306-7253
PUBLIC SERVICE ROAD (WATER & SEWER)
1-800-306-7253
AFTER HOURS EMERGENCY (EPM)
1-800-306-7253
SPECTRUM
1-800-306-7253
KINDER-MORGAN EPAC PIPELINES
1-800-306-7253
EL PASO STREETS AND MAINTENANCE
1-800-306-7253
EL PASO TRAFFIC SIGNALS, STREETS AND MAINTENANCE
1-800-306-7253

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**CMARRON CANYON
UNIT THREE
SUBDIVISION**

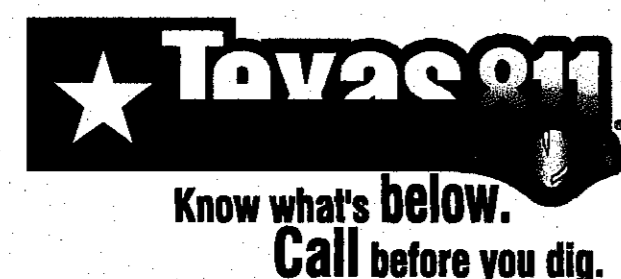
SHEET TITLE

**SANITARY
SEWER PLAN
AND PROFILE**

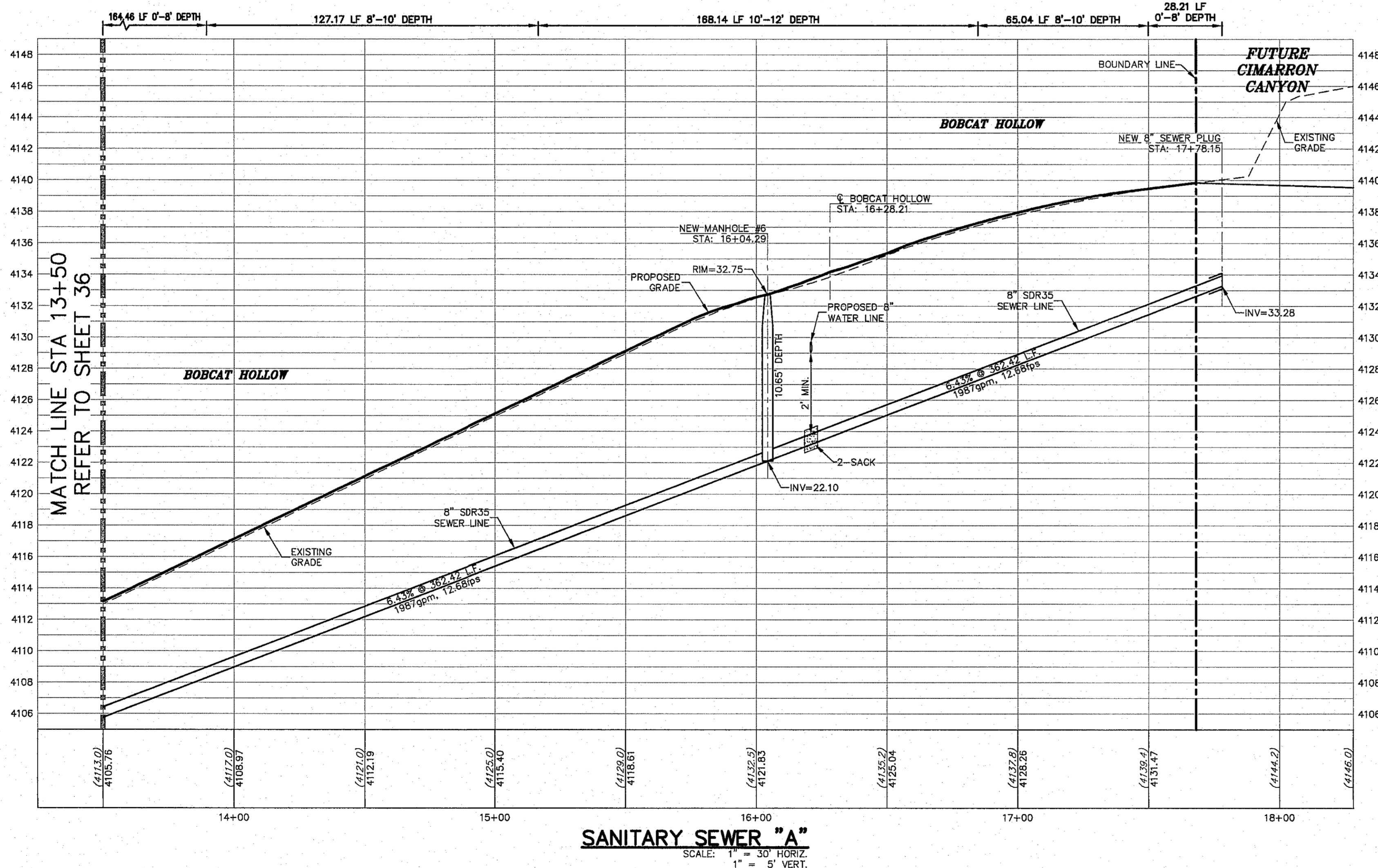
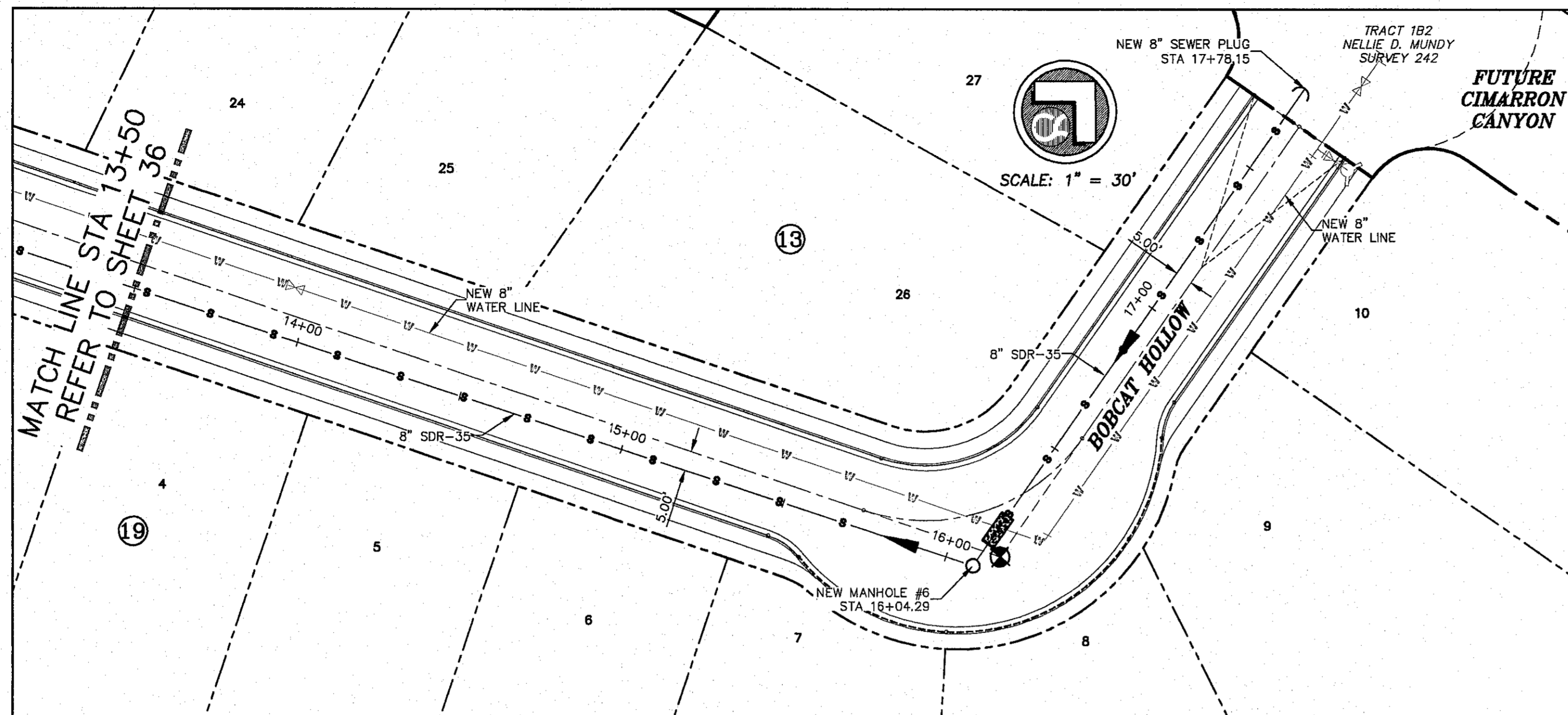
DESIGNED BY	1724
DESIGNED BY	JOB NO.
DATE	08/08/18
DATE	DATE
AS NOTED	AS NOTED
DATE	DATE
SHEET NO. 36	
TOTAL SHEETS 38 OF 46	

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S:\Drawings\1724 CMarron Canyon Unit Three\1724 Sub Submittal\1724 Sub 36-37 (San Sewer P&P).dwg

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SCALE: 1" = 30' HORIZ. 1" = 5' VERT.



LEGEND

---	R.O.W. LINE	—S—	PROPOSED SANITARY SEWER
---	PROPERTY LINE	—S—	EXISTING SANITARY SEWER
---	BOUNDARY LINE	—S—	2-SACK
---	PROPOSED WATER LINE	—W—	GATE VALVE
---	EXISTING WATER LINE	—W—	PRESSURE RELIEF VALVE
		—FH—	FIRE HYDRANT

SEWER NOTES

CONTACT UTILITY COMPANIES FOR EXACT LOCATION OF UNDERGROUND UTILITIES IN THIS AREA BEFORE EXCAVATION.

INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF (5') FEET AS PER O.S.H.A. STANDARDS.

PROVIDE MANHOLE ADAPTER WHERE P.V.C. PIPE CONNECTS TO MANHOLE.

P.V.C. PIPE SHALL BE PLACED WITH SELECT BEDDING MATERIAL ALL AROUND.

BENCHMARK: CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND W. 3RD ST. (EL. PASO CITY DATUM) ELEVATION = 3978.53

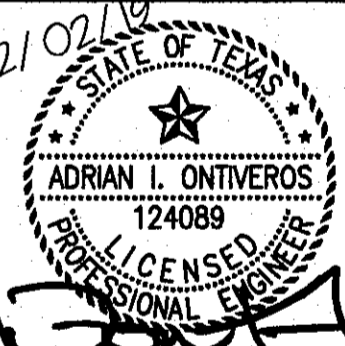
NO.	DATE	DESCRIPTION	BY
3	12/02/19	Final City Submitted	AHO
2	11/07/19	Second City Submitted	AHO
1	09/23/19	First City Submitted	AHO

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AT&T
1-800-306-7270
TEXAS GAS SERVICE
1-800-306-7270
TELECOM TEXAS
1-800-306-7270
PUBLIC SERVICE BOARD (WATER & SEWER)
562-841/306-7270
AFTER HOURS EMERGENCY (EPW)
594-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-244-8374
KINDER-MORGAN EPNG PIPELINES
1-800-238-3764
EL PASO STREETS AND MAINTENANCE
1-800-212-0151
EL PASO STREETS, SHELTER AND MAINTENANCE
1-800-212-0151

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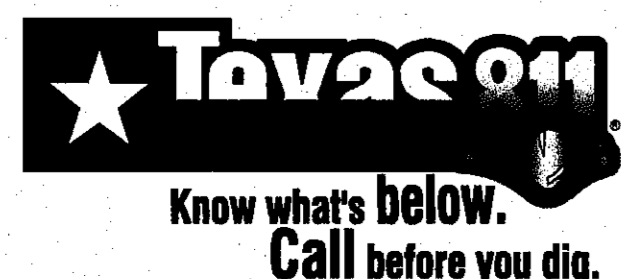
CIMARRON CANYON
UNIT THREE
SUBMISSION

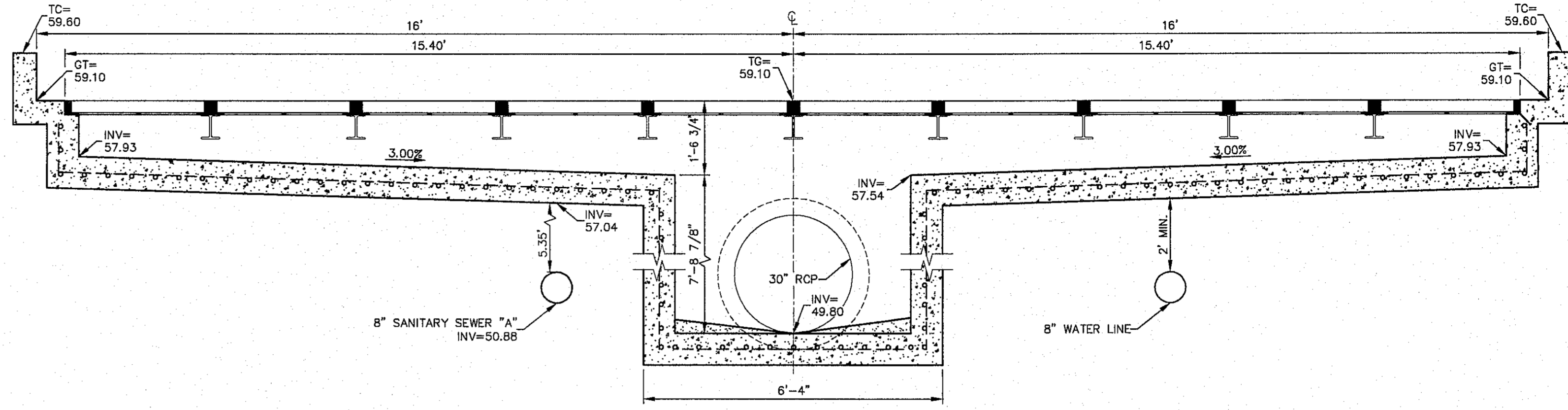
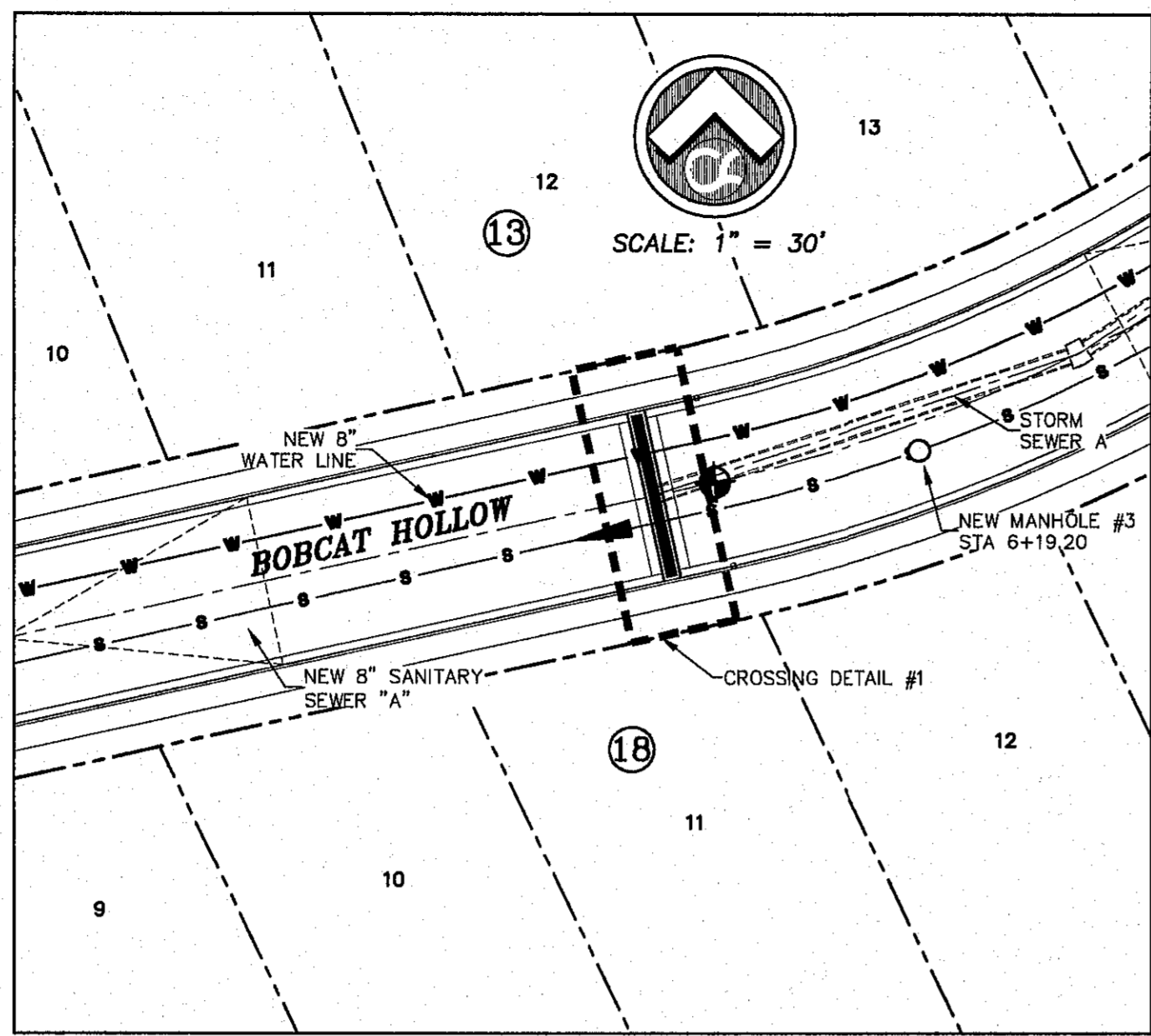
SANITARY SEWER PLAN AND PROFILE

DOB	1724
DESIGN BY	JWB/SL
DOB-SM	08/08/18
DRAWN BY	DATE
AHO	AS NOTED
SCALE	SCALE
SHEET NO.	37
TOTAL SHEETS	39 OF 46

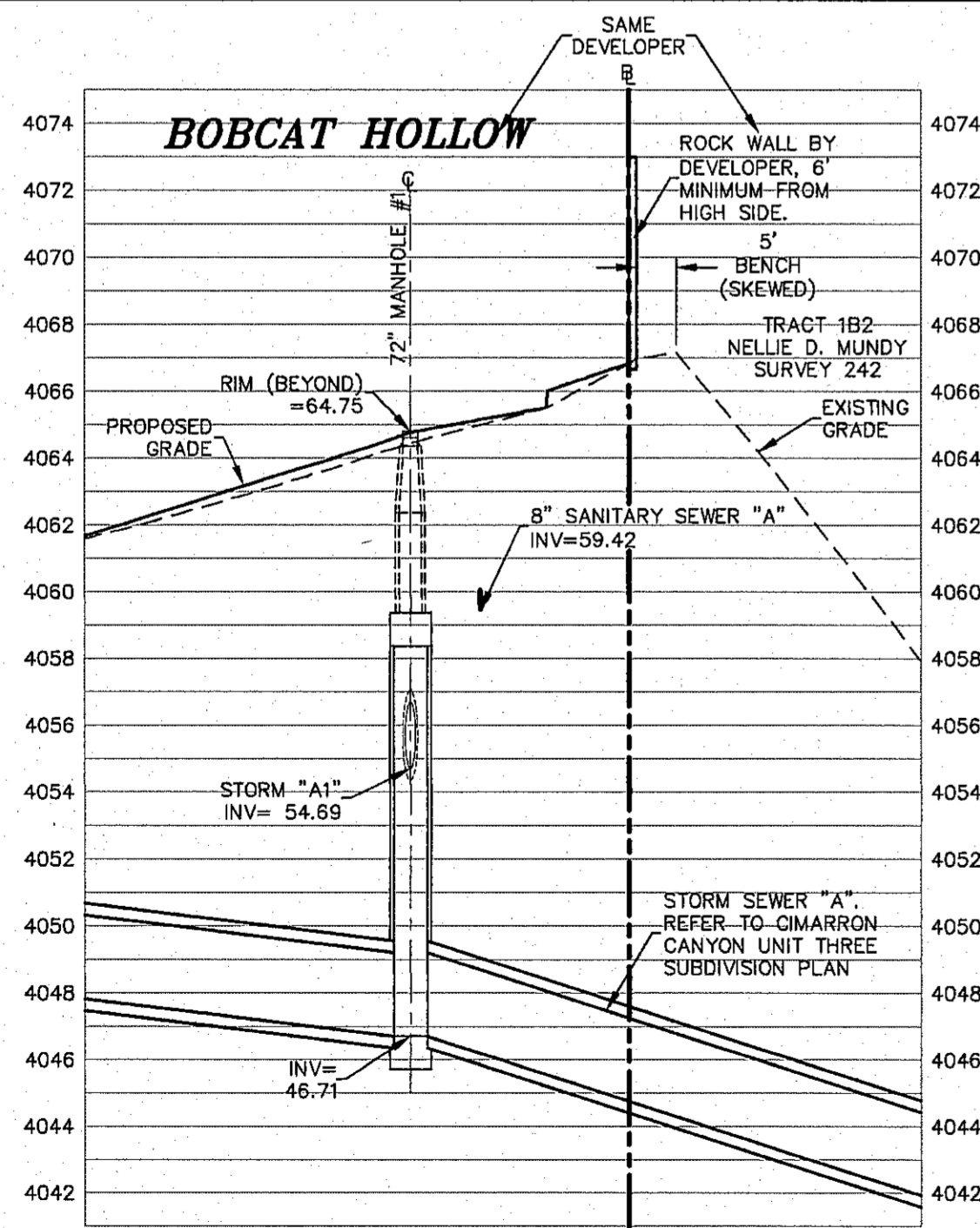
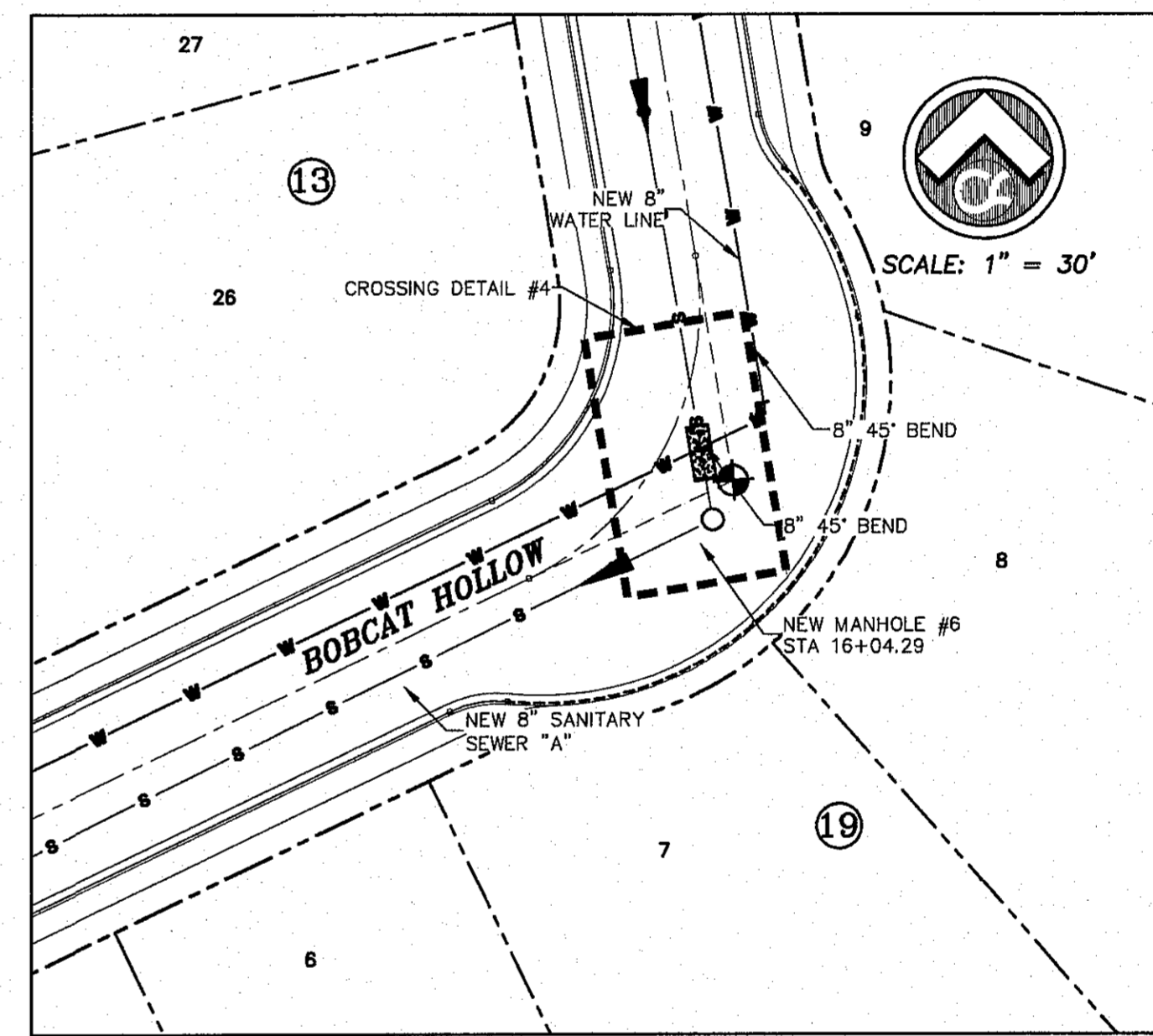
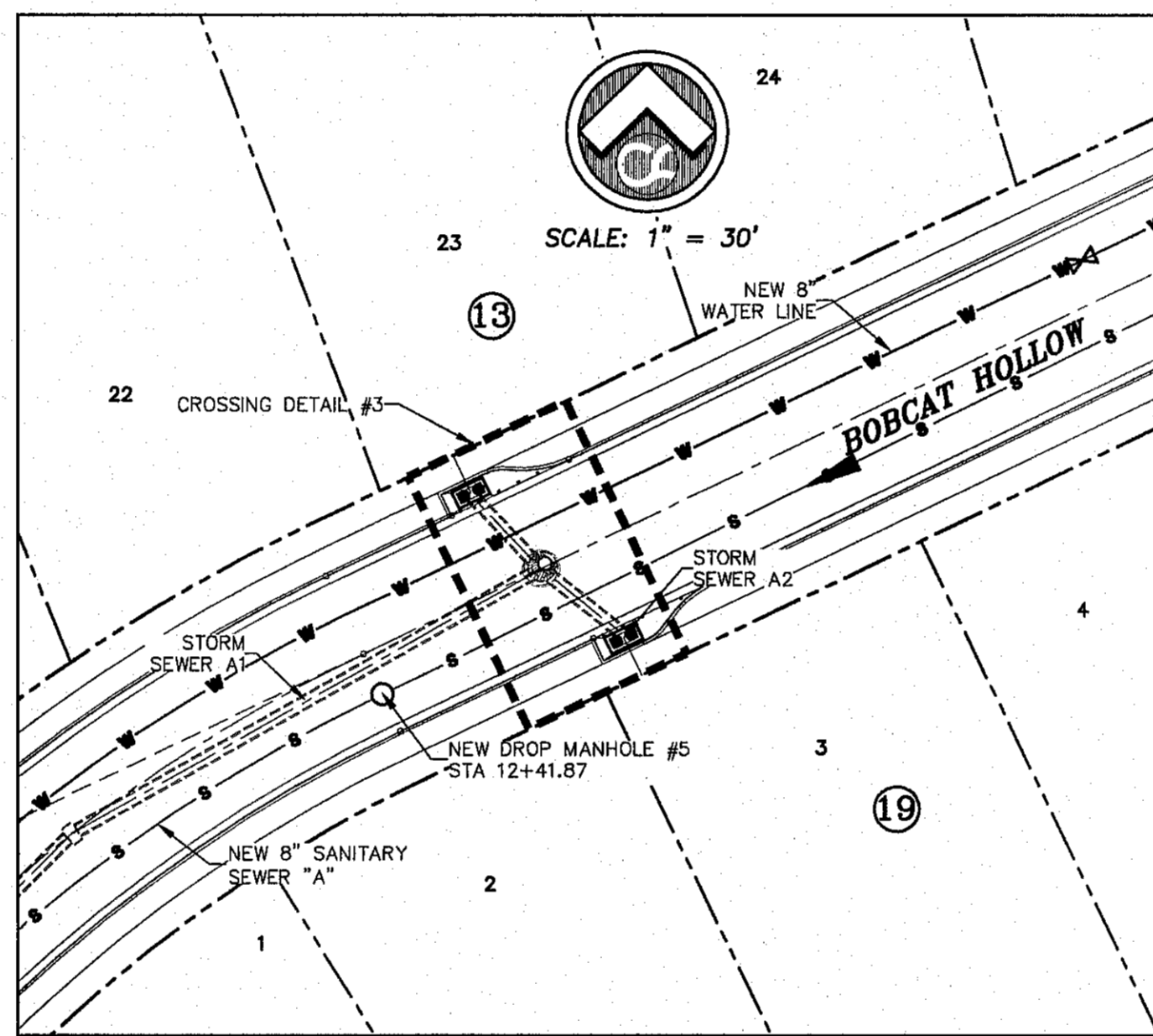
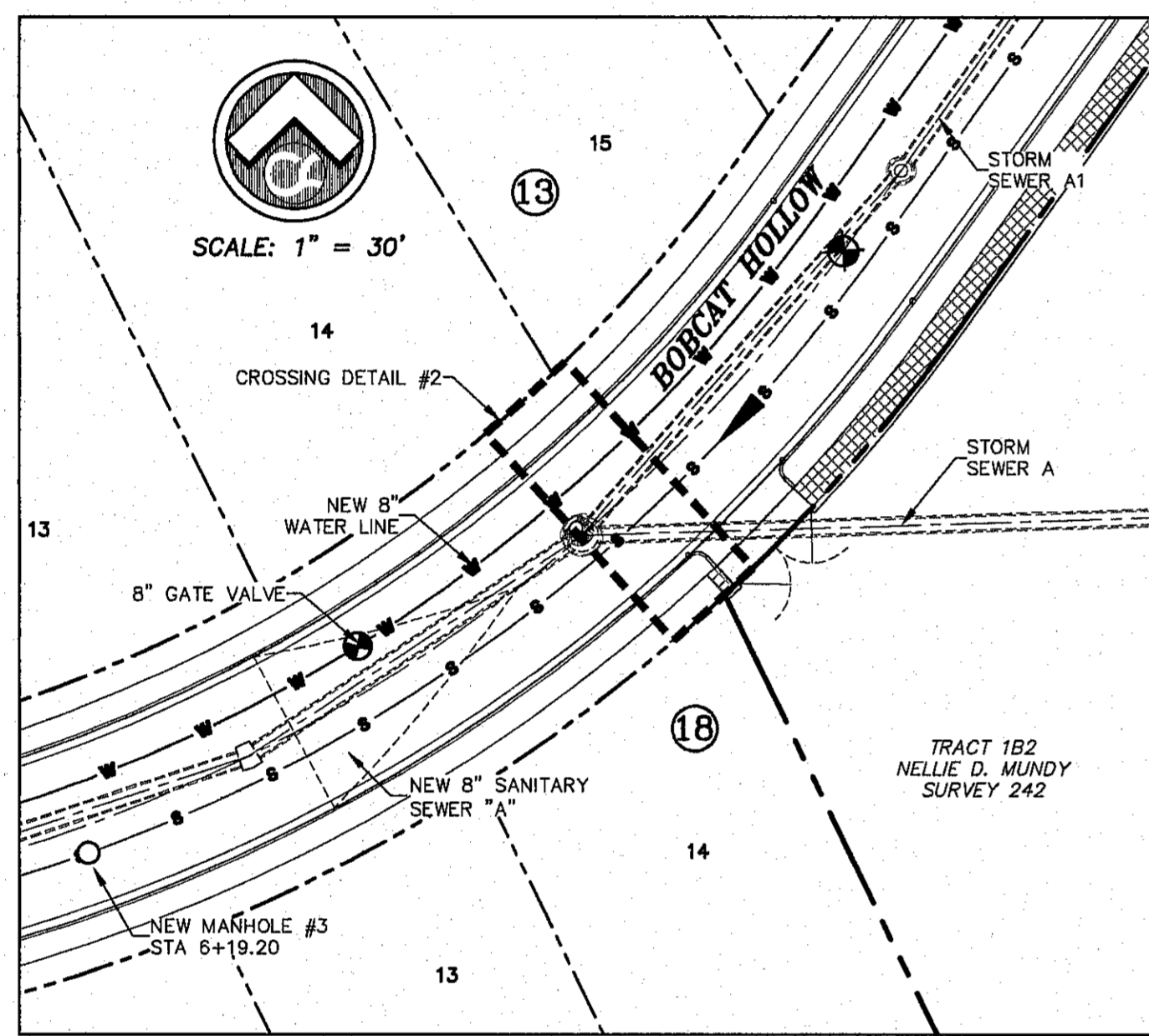
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1714_S1_35-37_San Sewer R189.dwg

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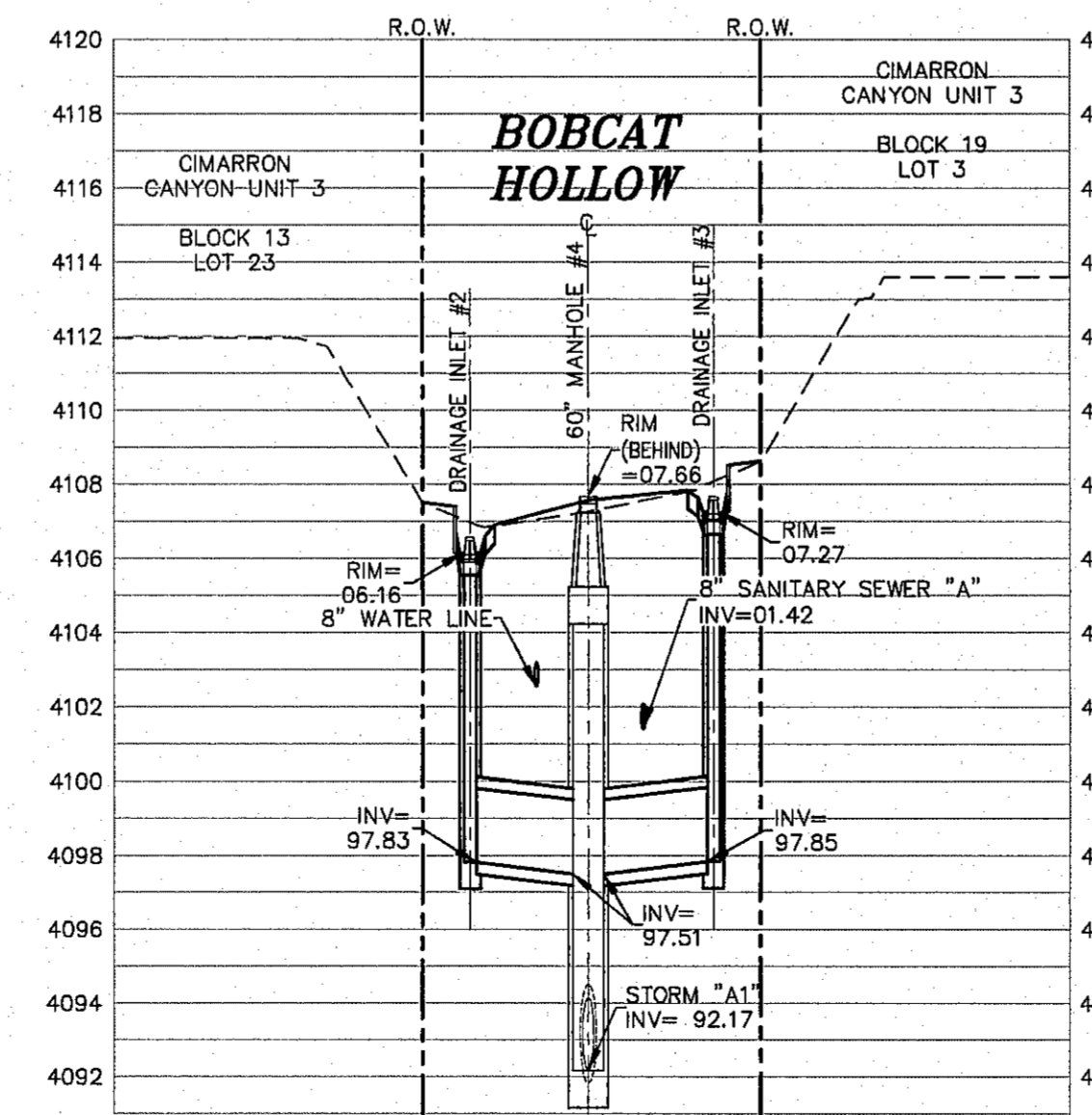




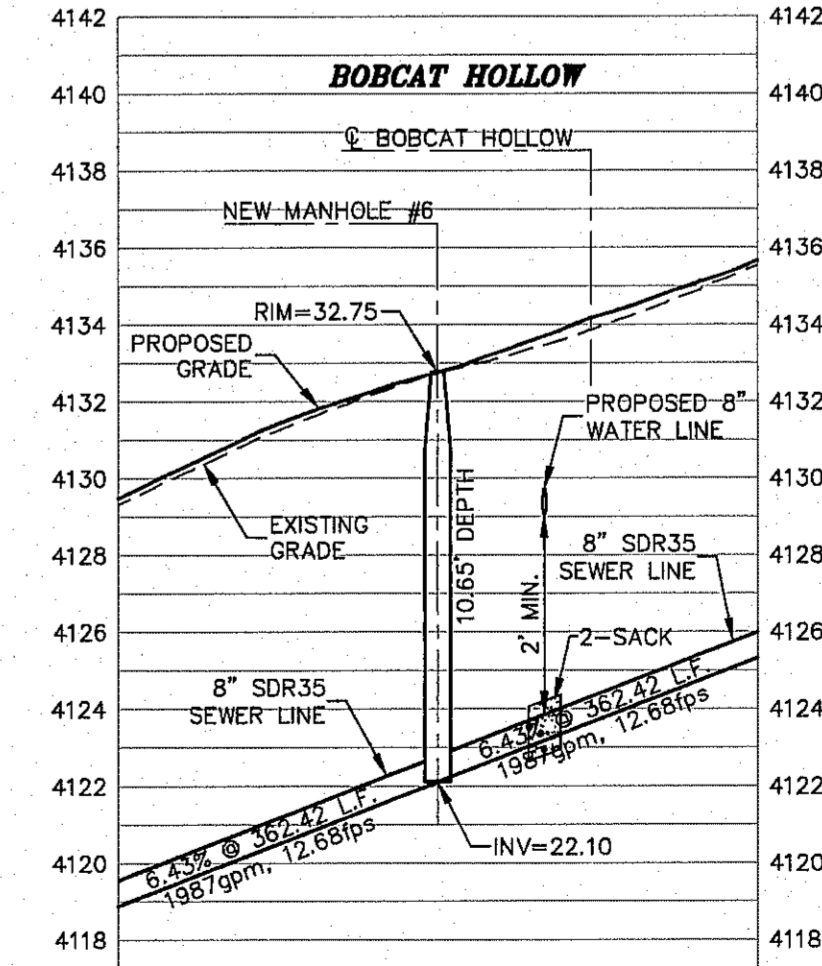
CROSSING DETAIL #1
SCALE: 1/2"=1'-0"



CROSSING DETAIL #2
SCALE: 1"=30' HORIZ.
SCALE: 1"=5' VERT.



CROSSING DETAIL #3
SCALE: 1"=30' HORIZ.
SCALE: 1"=5' VERT.



CROSSING DETAIL #4
SCALE: 1"=30' HORIZ.
SCALE: 1"=5' VERT.

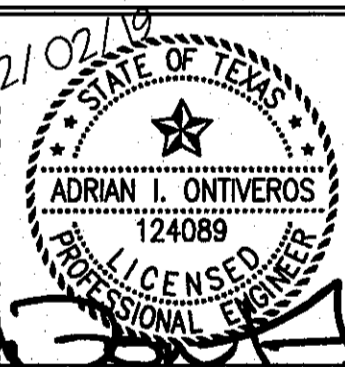
BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASS DRIVE AND BOBCAT HOLLOW (CL. PASO CITY DATUM)
ELEVATION = 59.65

NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

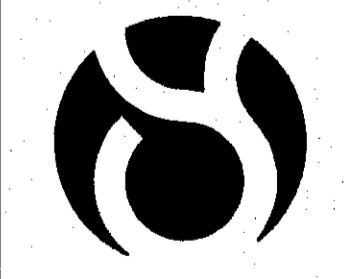
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TEXAS GAS SERVICE LINE
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959-244-5775
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1-800-238-3764

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CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE

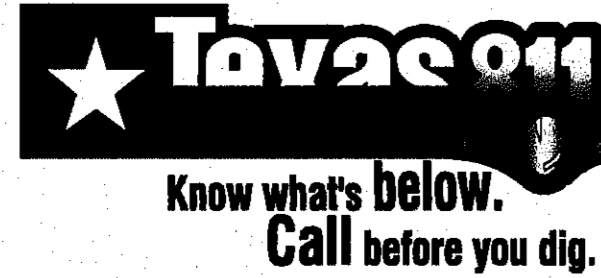
CROSSING DETAILS #1-#3

JOB NO.	1724
DESIGN BY	SM
DATE	08/09/18
SCALE	AS NOTED

SHEET NO. **38**
OF 46

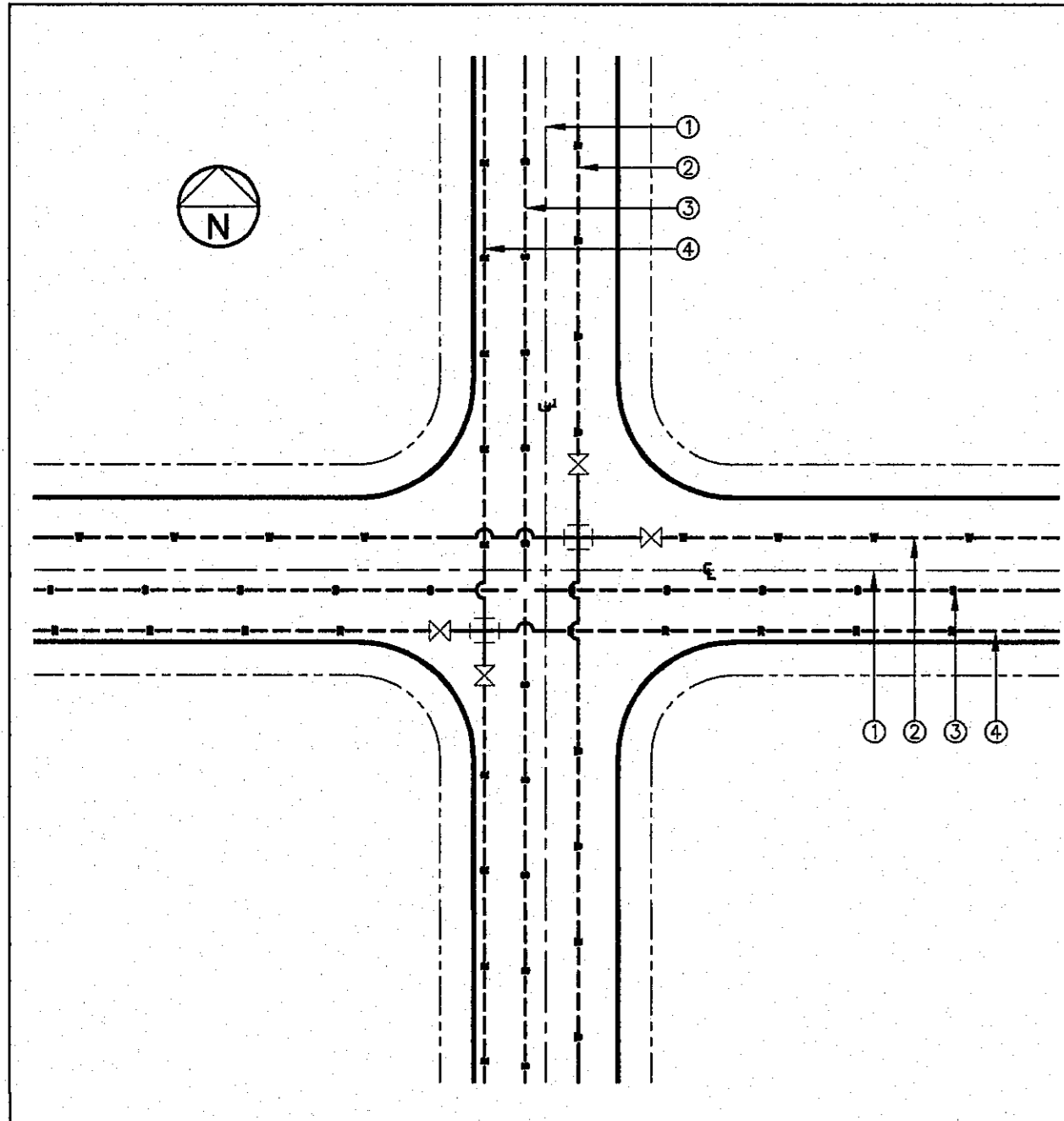
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C:\Users\j\OneDrive\Desktop\Cimarron Canyon Unit Three\1724 Sub Submittal Current\1724_Sht_38 (Utility Crossing).dwg

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UNDERGROUND IMPROVEMENTS
IN PROJECT AREA



Final Approval

SCALE: 1"=30' HORIZ. SCALE: 1"=5' VERT. SCALE: 1"=30' HORIZ. SCALE: 1"=5' VERT. SCALE: 1"=30' HORIZ. SCALE: 1"=5' VERT.



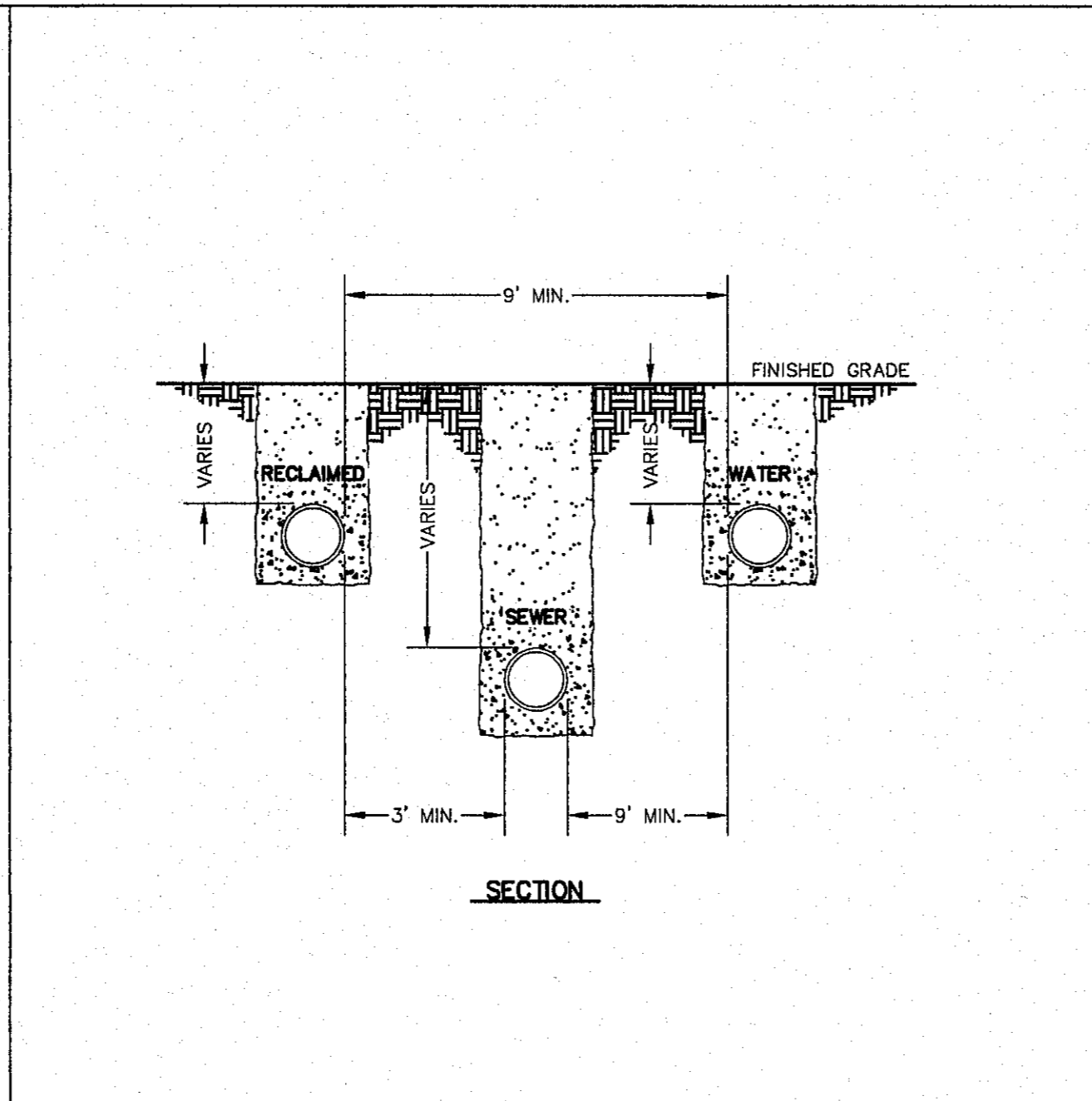
- GENERAL NOTES:**
- REFERENCE CENTERLINE SHALL BE CENTERLINE OF RIGHT OF WAY.
 - WATER LINES SHALL BE LOCATED ON NORTH OR EAST SIDES OF DEDICATED STREETS OR ALLEYS.
 - SEWER LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.
 - RECLAIMED LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.

CONSTRUCTION KEY NOTES:

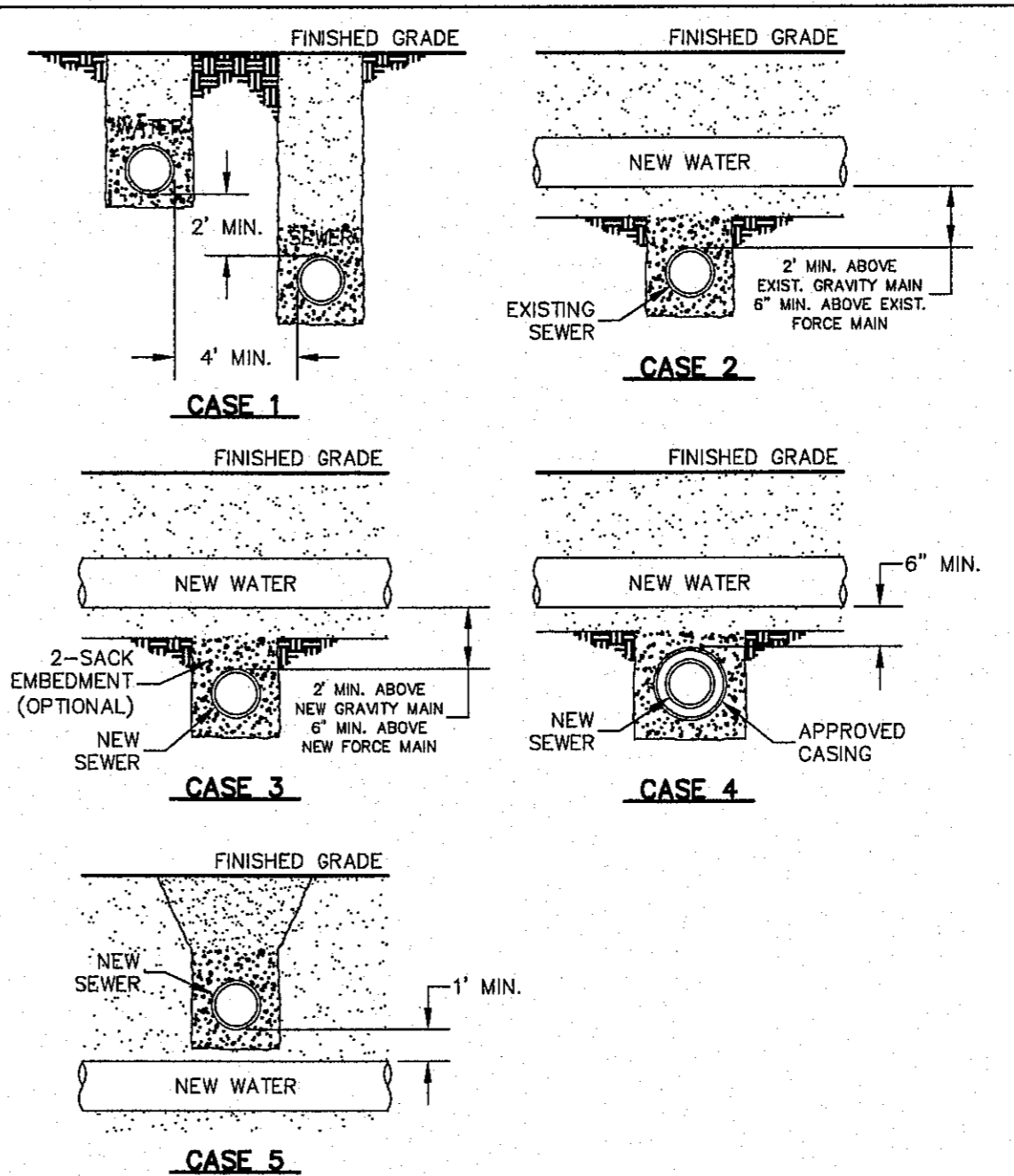
A. DISTANCES ON CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

RIGHT-OF-WAY WIDTH*	OFFSET FROM CENTERLINE**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
44 FT.	8 FT.	3 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
76 FT.	10 FT.	5 FT.	10 FT.
84 FT.	20 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

*RIGHT OF WAY WIDTH SUBJECT TO CHANGE. VERIFY WITH CITY SUBDIVISION ORDINANCE.
 **DISTANCES MAY BE MODIFIED AS NEEDED TO MEET TCEQ SEPARATION REQUIREMENTS. REFER TO DETAILS 160 THRU 163 FOR ADDITIONAL INFORMATION.



- GENERAL NOTES:**
- SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.
 - MINIMUM SEPARATION DISTANCES SHOWN. IF CONDITIONS DO NOT ALLOW FOR INDICATED DISTANCES REFER TO DETAILS 161, 162 & 163.
 - RECLAIMED WATER LINE AT OR ABOVE SEWER LINE.



- GENERAL NOTES:**
- NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 - SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.
- CONSTRUCTION KEY NOTES:**
- SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:
- CASE 1: GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §200.44(a)(4)(B)(i) AND §200.44(a)(4)(B)(ii)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC 80R30S OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR CL. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR CL.
 - SEPARATE TRENCHES SHALL BE USED.
- CASE 2: NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §200.44(a)(4)(B)(i) AND §200.44(a)(4)(B)(ii)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC 80R30S OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.
- CASE 3: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §200.44(a)(4)(B)(i) AND §200.44(a)(4)(B)(ii)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI REQUIRED; CENTER UNDER WATER MAIN. NEW FORCE MAIN - STEEL ACCEPTABLE. NEW FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL. THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 - FOR NEW GRAVITY SEWER ONLY: IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SPOCS SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL. THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
- CASE 4: NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §200.44(a)(4)(B)(i) AND §200.44(a)(4)(B)(ii)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: NEW GRAVITY MAIN - STEEL ACCEPTABLE. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER CASING PIPE ON WATER MAIN.
- CASE 5: NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §200.44(a)(4)(B)(i) AND §200.44(a)(4)(B)(ii)).
- LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 - NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

STANDARD DETAIL DATE: 03/1994 REV: 3/28/2007

LOCATION FOR UTILITY LINES

el paso WATER N.T.S. DETAIL No. 140

STANDARD DETAIL DATE: 8/3/2006 REV: 3/28/2007

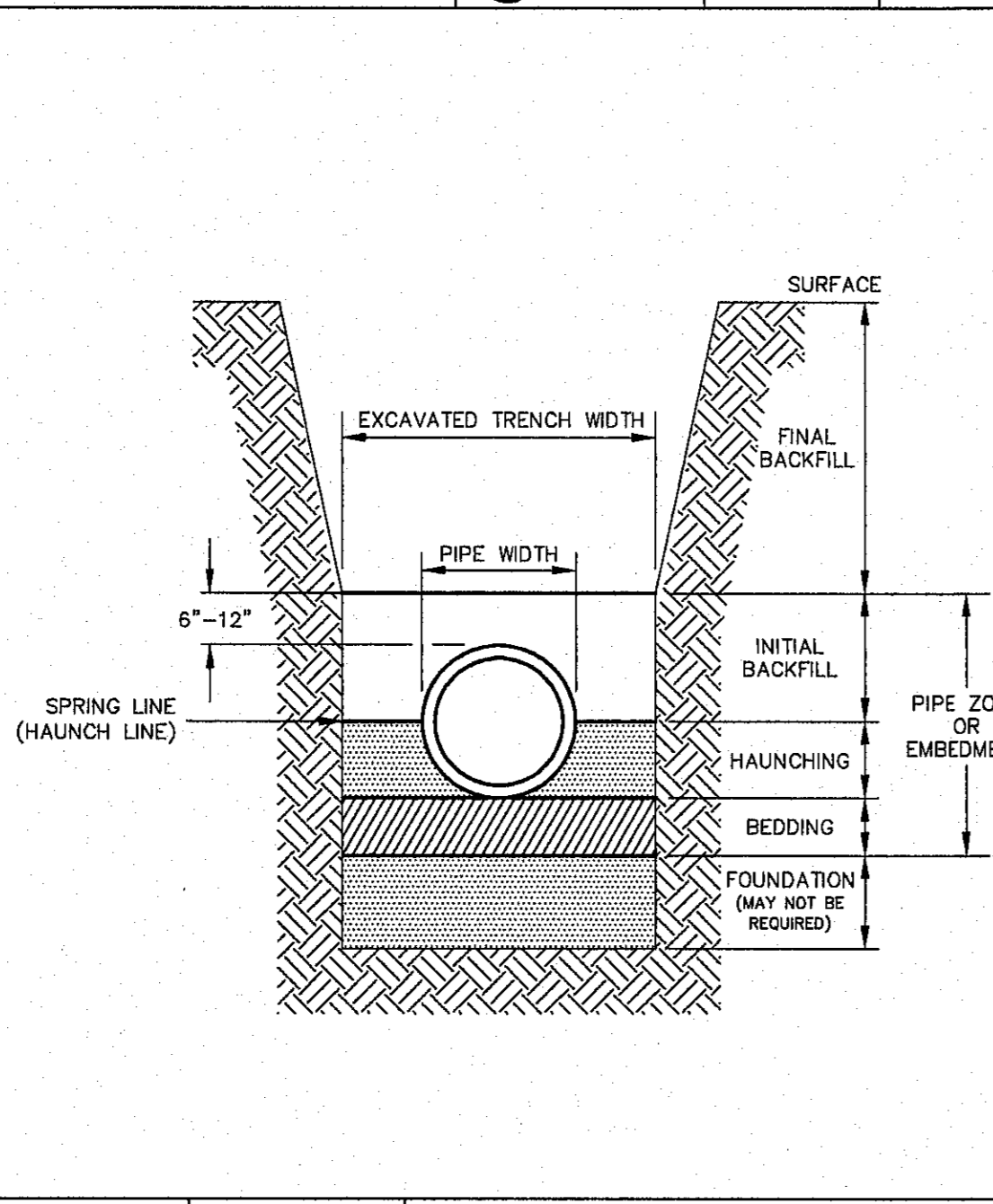
SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER

el paso WATER N.T.S. DETAIL No. 160

STANDARD DETAIL DATE: 8/3/2006 REV: 8/21/2007

SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)

el paso WATER N.T.S. DETAIL No. 161

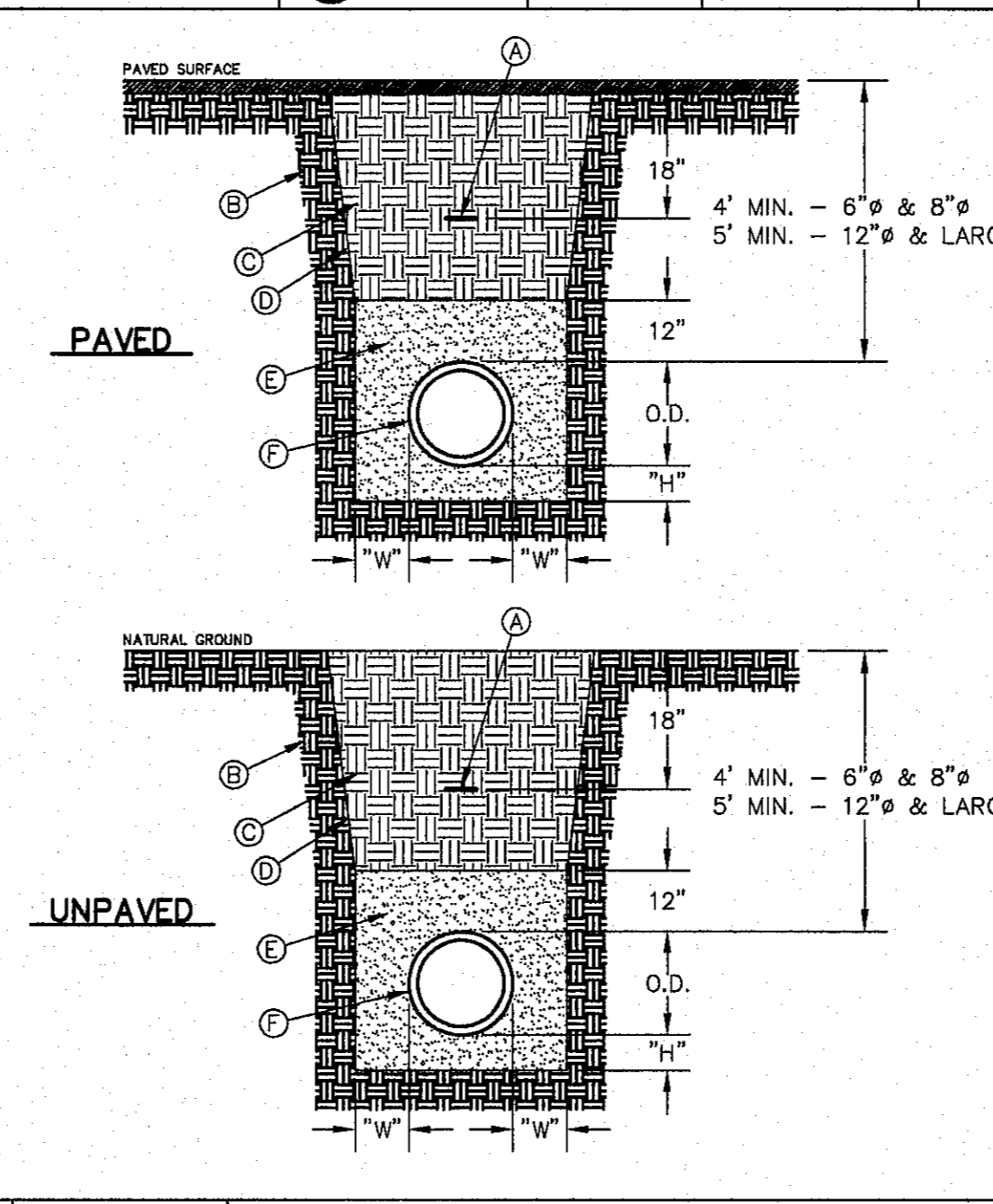


- GENERAL NOTES:**
- DETAIL DRAWING TERMINOLOGY IS IN ACCORDANCE WITH ASTM D-2321.
 - UNLESS OTHERWISE PERMITTED BY THE ENGINEER, ALL MATERIAL IN THE EMBEDMENT ZONE SHALL BE HOMOGENOUS.

STANDARD DETAIL DATE: 11/1992 REV: 3/28/2007

TRENCH CROSS SECTION TERMINOLOGY

el paso WATER N.T.S. DETAIL No. 170



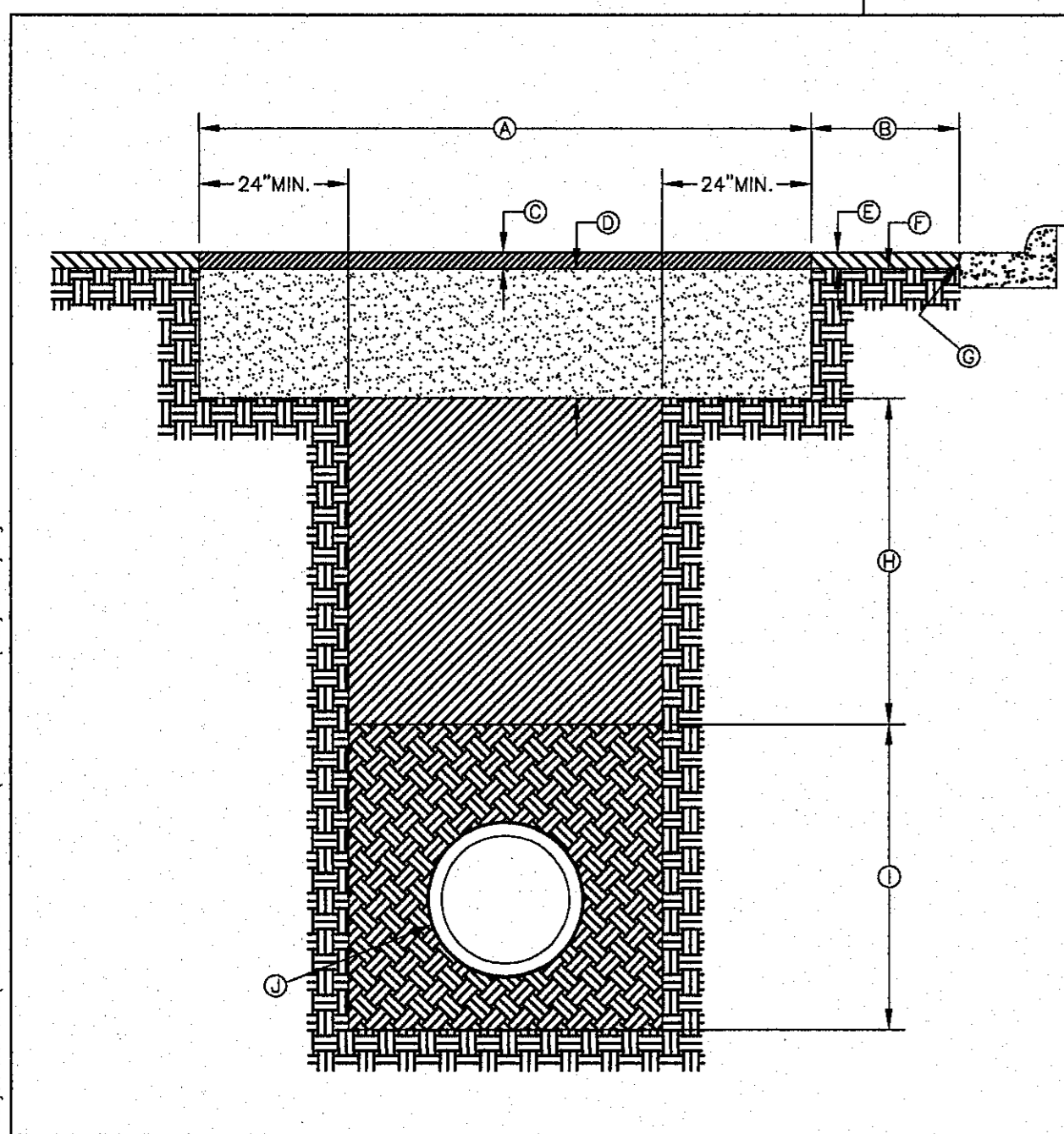
- GENERAL NOTES:**
- BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 - PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 - IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

- CONSTRUCTION KEY NOTES:**
- A. APPROVED MARKING TAPE.
 B. UNDISTURBED STABLE MATERIAL.
 C. NATIVE MATERIAL BACKFILL.
 PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
 UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
 (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET).
 D. SLOPE TRENCH IN SANDY SOIL CONDITIONS.
 E. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
 F. APPROVED PIPE.
 G. TRENCH DIMENSIONS AS FOLLOWS:
- | | |
|------------------|-----|
| PIPE DIAMETER | "H" |
| 6" - 30" | 4" |
| GREATER THAN 30" | 6" |
| PIPE DIAMETER | "W" |
| 6" - 30" | 6" |
| GREATER THAN 30" | 12" |

STANDARD DETAIL DATE: 4/24/2007 REV: 2/21/2011

EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS

el paso WATER N.T.S. DETAIL No. 171

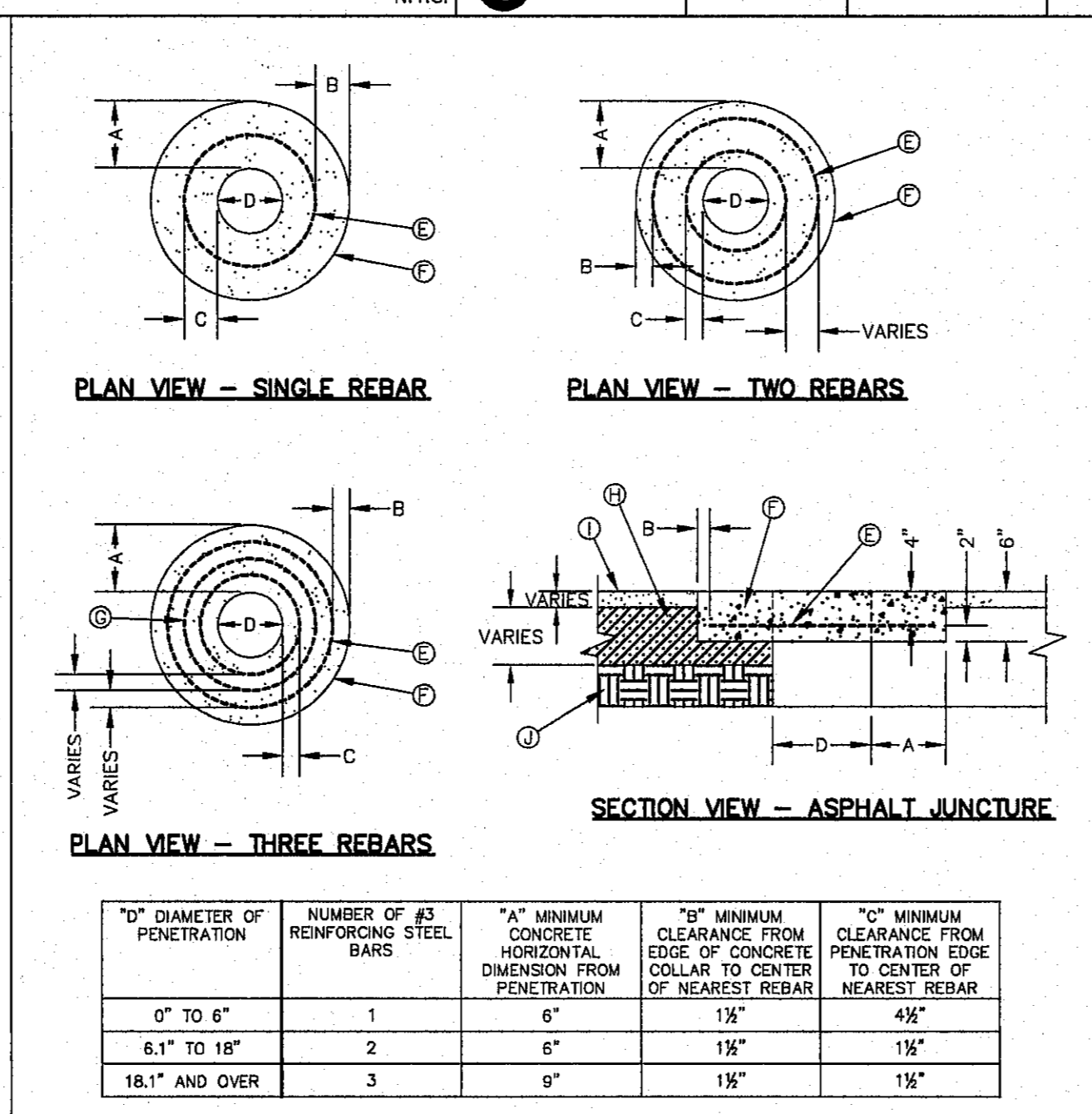


- GENERAL NOTES:**
- ALL ASPHALT CUTS MUST BE SAW CUT.
 - SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.
- CONSTRUCTION KEY NOTES:**
- A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
 B. DIMENSION VARIES, WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING H.M.A.C. IN THIS AREA.
 C. 2" ASPHALT MIN.
 D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOL).
 E. EXISTING H.M.A.C.-THICKNESS MAY VARY.
 F. EXISTING BASE COURSE-THICKNESS MAY VARY.
 G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
 H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
 I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
 J. APPROVED PIPE.

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011

PAVEMENT REPLACEMENT

el paso WATER N.T.S. DETAIL No. 179



- GENERAL NOTES:**
- THE CONCRETE COLLAR SHOULD BE CAST IN-PLACE CONCRETE. (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI. HIGH EARLY CONCRETE IS REQUIRED).
 - TOPS OF CONCRETE COLLAR SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
 - ANY DISTURBED SUBGRADE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 95% DENSITY ± 3% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - ANY DISTURBED BASE COARSE UNDER THE CONCRETE COLLAR SHALL BE COMPACTED TO 100% DENSITY ± 2% OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - PROVIDE A MINIMUM OF 1 1/2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
 - REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
 - NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

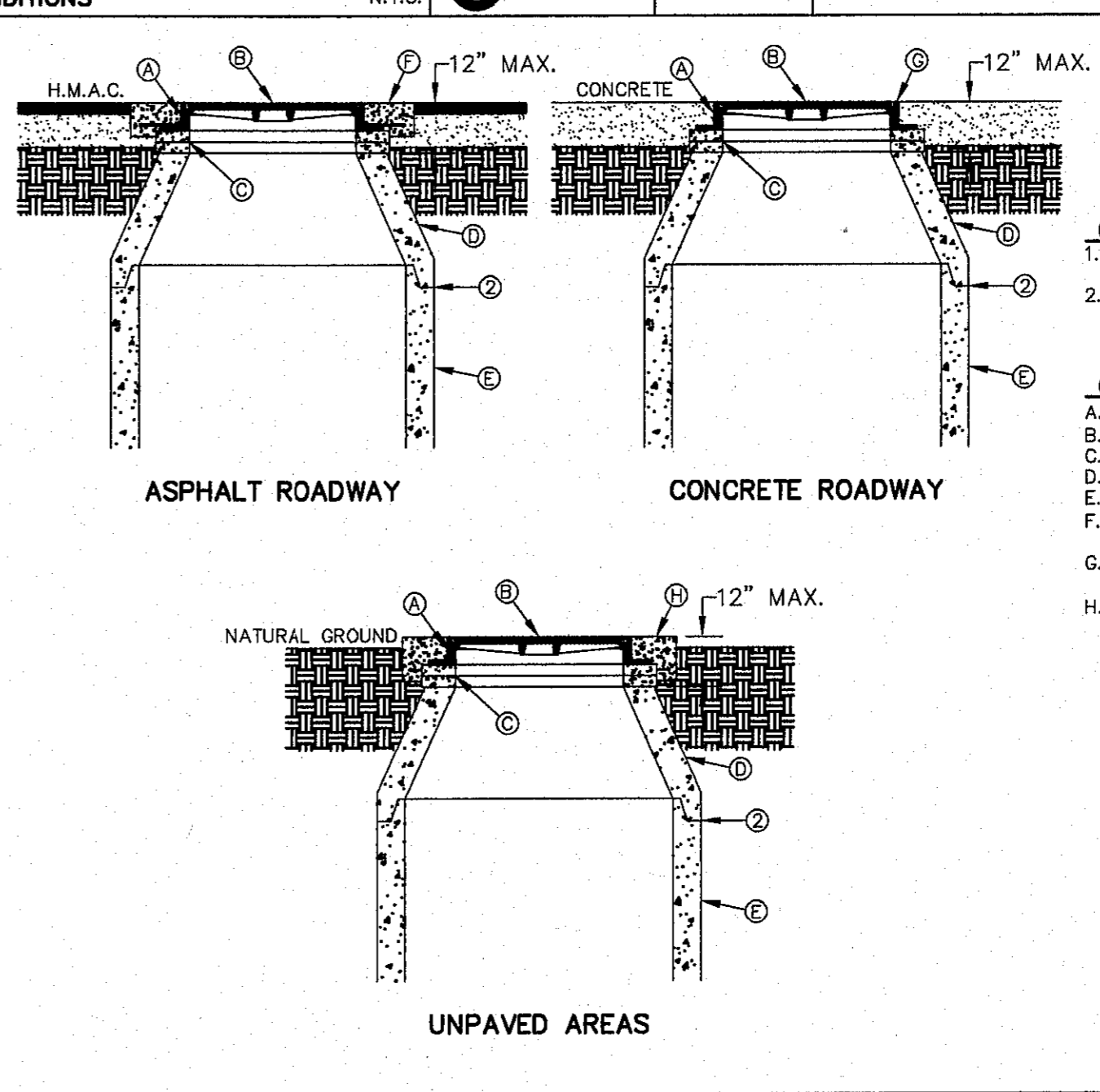
- CONSTRUCTION KEY NOTES:**
- E. #3 REINFORCING STEEL TYP.
 F. CONCRETE COLLAR.
 G. #3 REINFORCING STEEL EQUALLY SPACED.
 H. COMPACTED BASE COARSE.
 I. PAVEMENT.
 J. COMPACTED SUBGRADE.

"D" DIAMETER OF PENETRATION	NUMBER OF #3 REINFORCING STEEL BARS	"A" MINIMUM CONCRETE HORIZONTAL DIMENSION FROM PENETRATION	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE COLLAR TO CENTER OF NEAREST REBAR	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR
0" to 6"	1	6"	1 1/2"	4/2"
6.1" to 18"	2	6"	1 1/2"	1 1/2"
18.1" AND OVER	3	9"	1 1/2"	1 1/2"

STANDARD DETAIL DATE: 8/9/2006 REV: 11/6/2008

CONCRETE COLLAR INSTALLATION IN PAVED AREAS

el paso WATER N.T.S. DETAIL No. 184-1



- GENERAL NOTES:**
- MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
 - SEAL JOINTS PER SPECIFICATIONS.
- CONSTRUCTION KEY NOTES:**
- A. MANHOLE RING (SEE DETAIL 377).
 B. MANHOLE COVER (SEE DETAIL 378).
 C. CONCRETE ADJUSTMENT RINGS AS REQUIRED.
 D. MANHOLE CONE SECTION.
 E. MANHOLE BARREL SECTION.
 F. CONCRETE COLLAR (SEE DETAIL 184-1) FLUSH WITH TOP OF H.M.A.C.
 G. MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
 H. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH MANHOLE RING AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL DATE: 6/22/2009 REV:

MANHOLE RING AND COVER INSTALLATION

el paso WATER N.T.S. DETAIL No. 185

NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

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EL PASO ELECTRIC COMPANY
 843-5720
 1-800-DIG-TESS
 1-800-444-8000
 TEXAS GAS SERVICE
 544-6000
 1-800-444-8000
 PUBLIC SERVICE BOARD (WATER & SEWER)
 562-8417 / 506-TESS
 AFTER HOURS EMERGENCY (EPW)
 594-5775
 1-800-244-8377
 TEXAS EXCAVATION SAFETY SYSTEM
 KINDER-MORGAN EPNG PIPELINES
 1-800-238-3764
 1-800-238-3720-0151
 EL PASO PUBLIC SAFETY AND UTILITIES
 1-800-238-3764

STATE OF TEXAS
 ADRIAN L. ONTIVEROS
 124089
 LICENSED PROFESSIONAL ENGINEER

csa design group, inc.
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 Fax: (915) 877-4334
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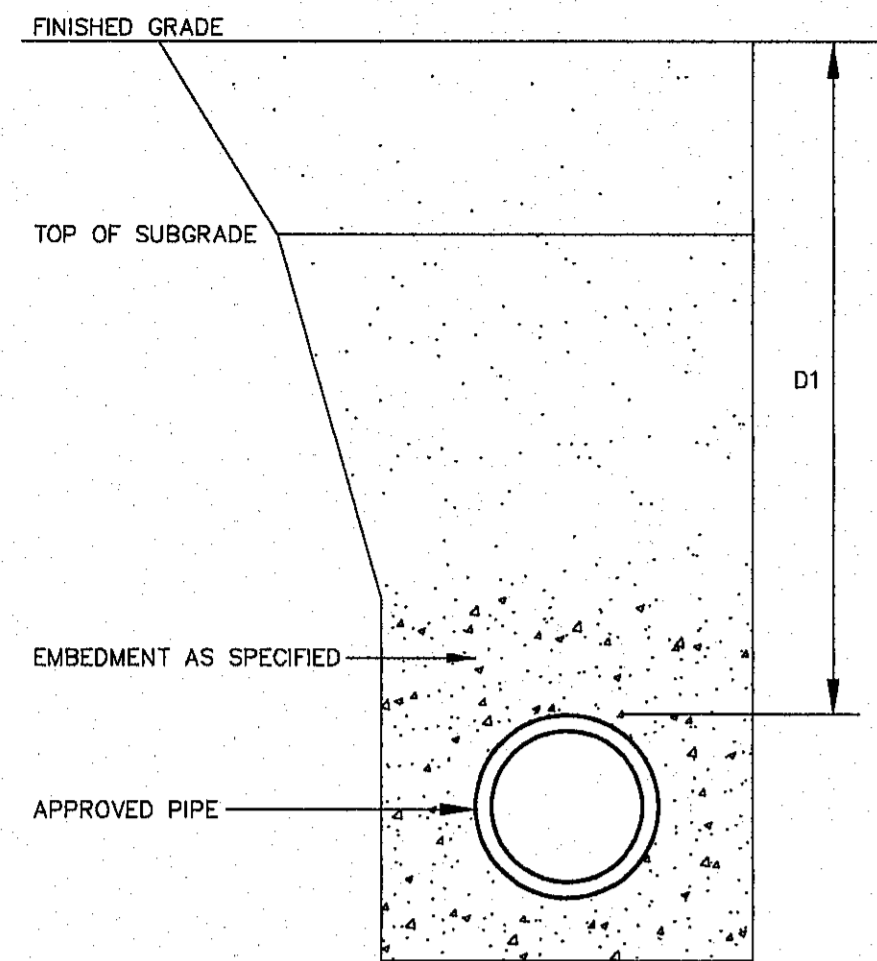
SHEET TITLE

UTILITY
 DETAILS

GOB 1724
 DESIGNED BY 208 10
 CDB-SM 08/08/18
 DRAWN BY DATE
 AHO AS NOTED
 CHECKED BY DATE

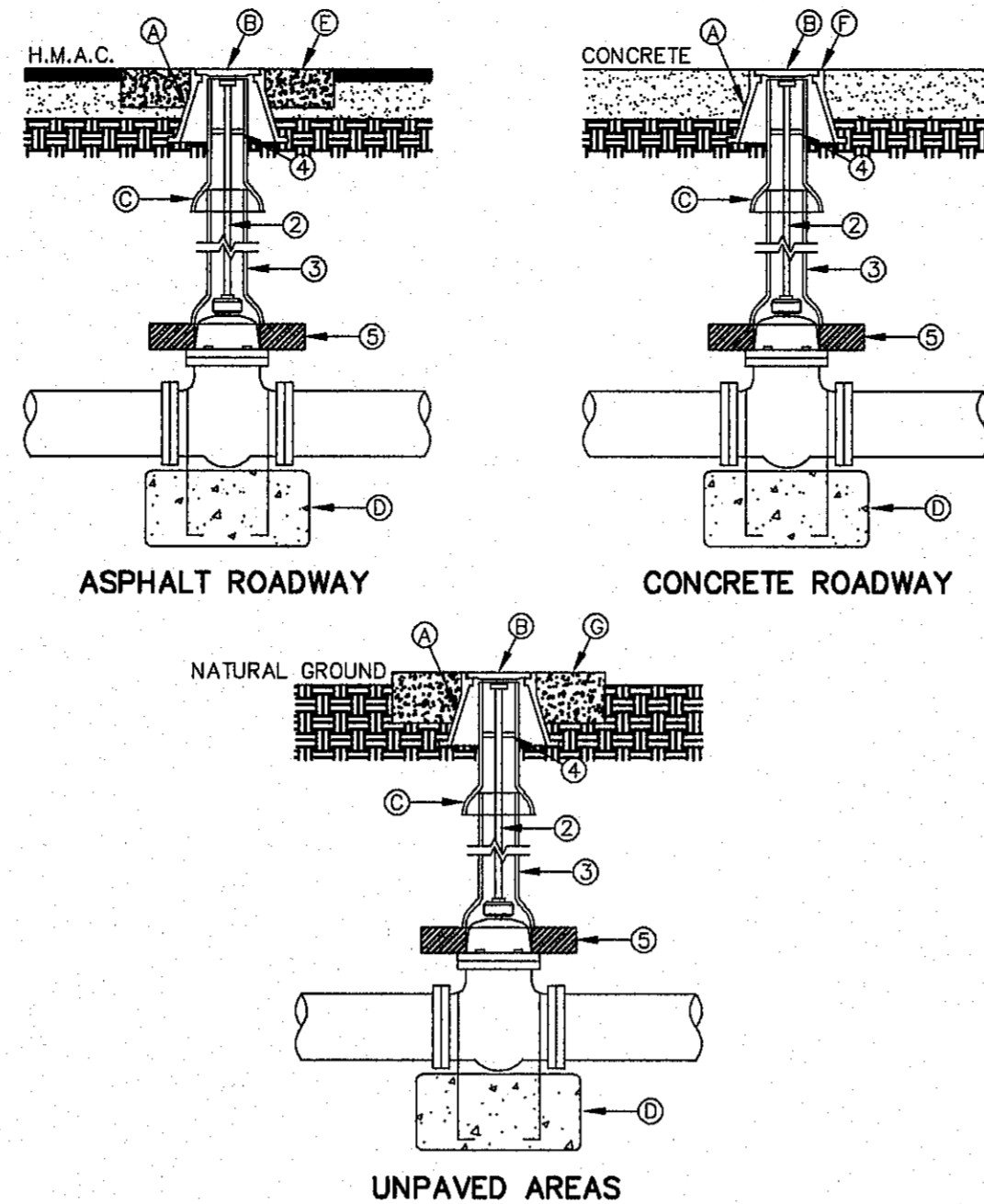
SHEET NO. 39
 OF 46

© CSA DESIGN GROUP, INC. - Dec. 04, 2019 - 12:19pm
 17129 Cimarron Canyon Unit Three (1729 2nd Submittal) (1729 2nd Submittal) (1729 2nd Submittal) (1729 2nd Submittal)



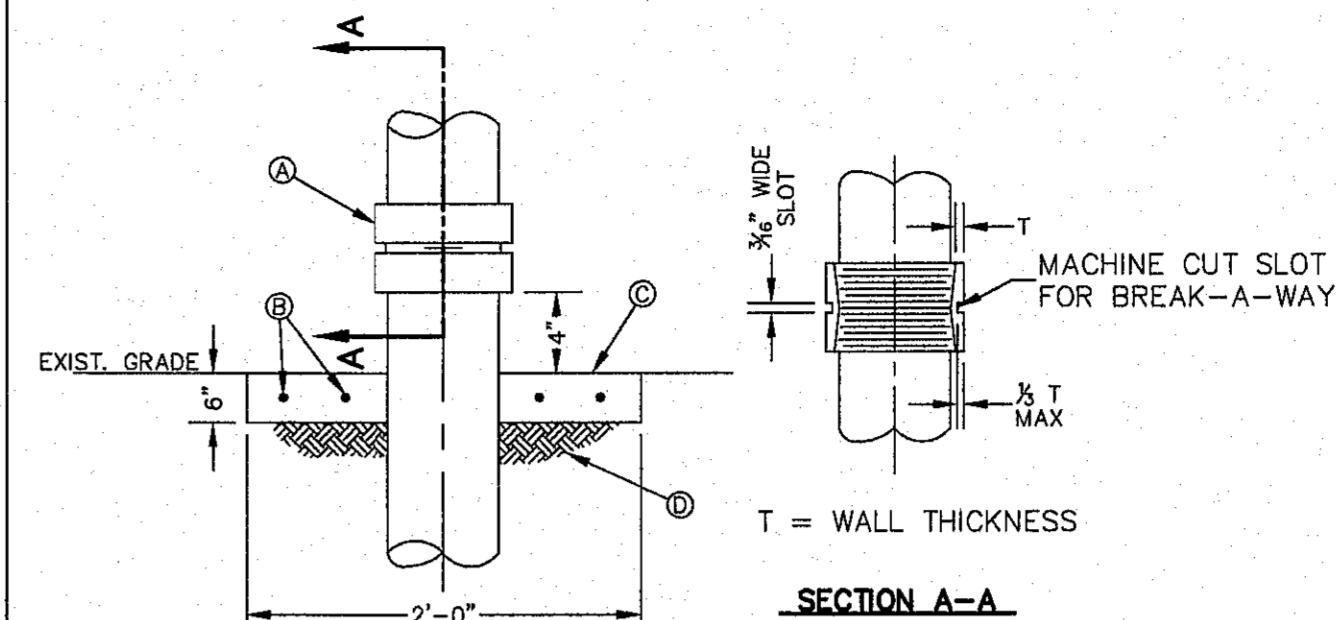
- GENERAL NOTES:**
- REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
 - TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.
- CONSTRUCTION KEY NOTES:**
- A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS.
- CONDITION A - NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION
- CONDITION B - NEW SUBDIVISIONS, NON-PAVED AREA AND SHALL BE AS FOLLOWS:

PIPE SIZE	CONDITION	DIMENSION
6", 8"	A	D1 = 4"
6", 8"	B	D1 = 4"
12" & LARGER	A OR B	D1 = 5"



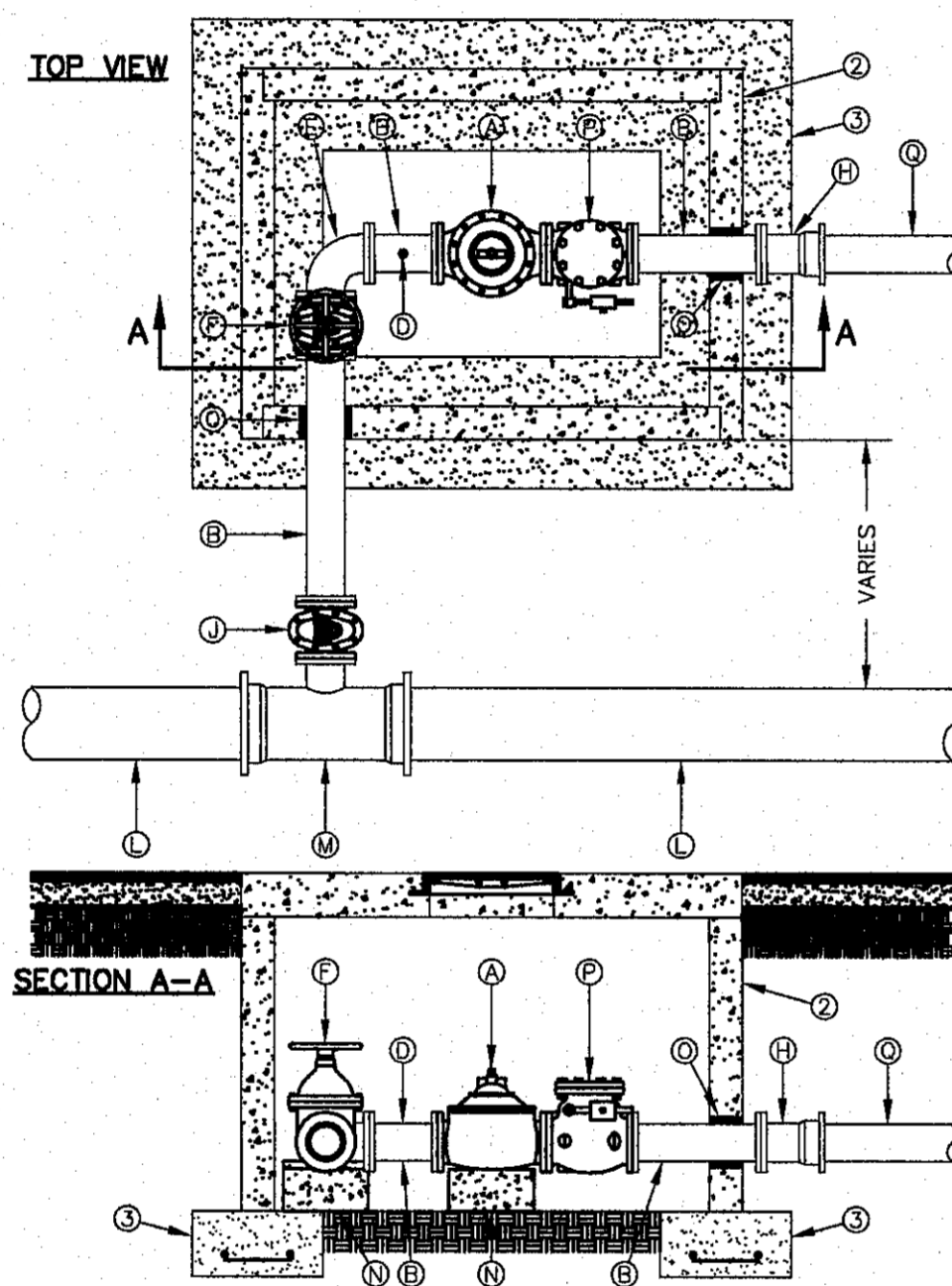
- GENERAL NOTES:**
- VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
 - ALL BURIED VALVES 6" AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
 - 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
 - 1/2" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS 3/8"
 - MINIMUM 2 1/2" CONCRETE OR BRICK ALL AROUND.
 - CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
 - COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS. VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

- CONSTRUCTION KEY NOTES:**
- BONNET BOX (SEE DETAIL 258).
 - BONNET BOX COVER (SEE DETAILS 269-1 & 269-2).
 - FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).
 - CONCRETE VALVE ANCHOR (SEE DETAIL 271).
 - CONCRETE COLLAR (SEE DET 184-1) FLUSH WITH TOP OF H.M.A.C.
 - BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
 - CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.



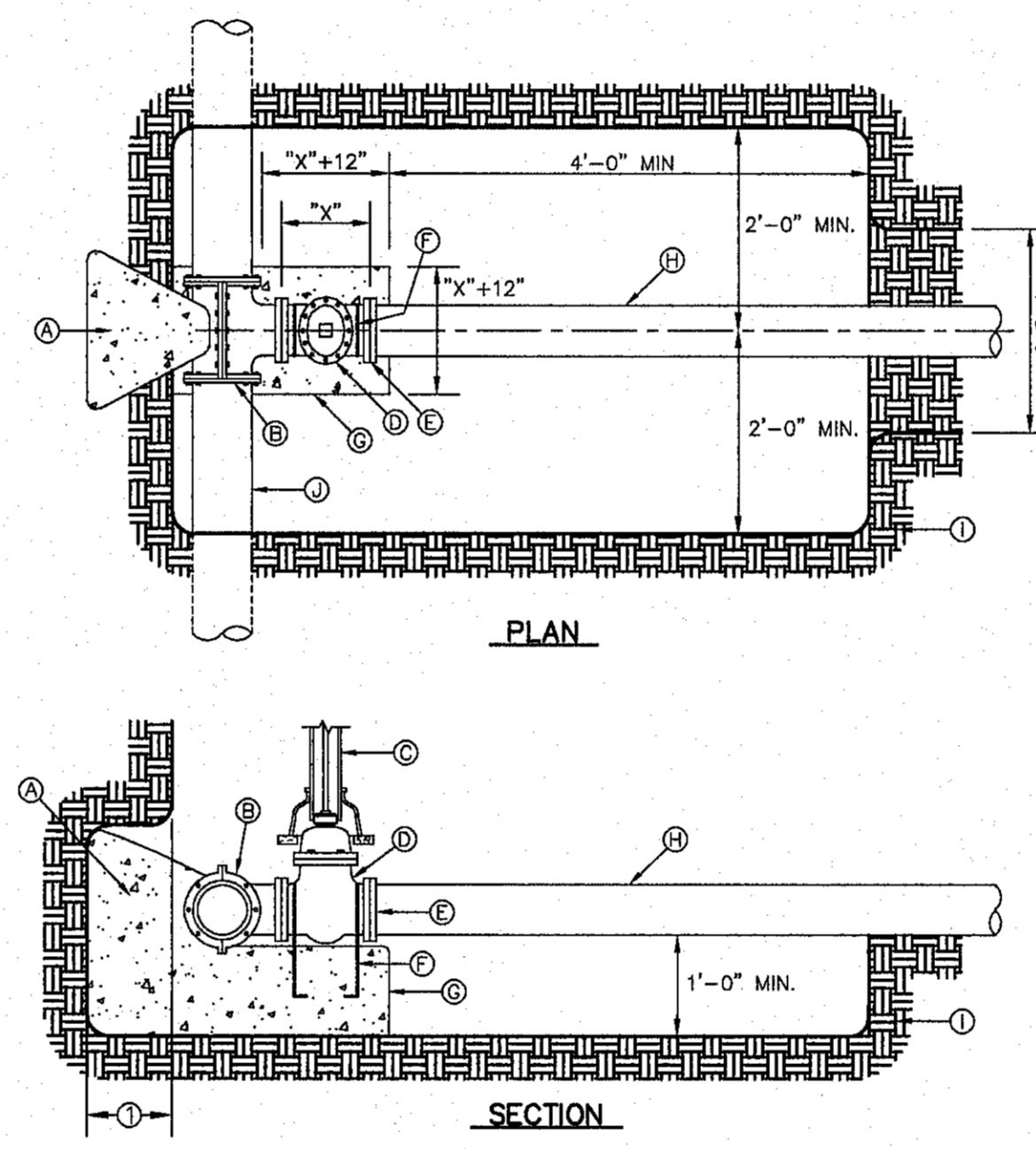
- CONSTRUCTION KEY NOTES:**
- SCHEDULE 40 THREADED STEEL COUPLING.
 - 2 - No. 4 REBAR CONTINUOUS, EACH WAY.
 - MINIMUM 3500psi CONCRETE 2'x2' SQUARE COLLAR.
 - 12" SUBGRADE @ 95% PER ASTM D-1557.

STANDARD DETAIL	FEB. 1994 REV. 8/3/2006	COVER FOR WATER MAINS	N.T.S.	el PASO WATER	DETAIL No. 250	STANDARD DETAIL	DATE: 5/1994 REV: 6/22/2009	GATE VALVE INSTALLATION	N.T.S.	el PASO WATER	DETAIL No. 260	STANDARD DETAIL	DATE: 8/21/2006 REV:	BREAK-A-WAY COUPLING	N.T.S.	el PASO WATER	DETAIL No. 263-5
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- GENERAL NOTES:**
- INSTALLATION SHOWN FOR A 6" VALVE. INSTALLATION OF OTHER SIZED VALVES IS SIMILAR.
 - VALVE VAULT SHALL BE TYPE "F", SEE DETAIL 295-2. FOR PRESSURE RELIEF VALVES LARGER THAN 6", VAULT SIZE SHALL BE INCREASED TO ACCOMMODATE LARGER APPURTENANCES. LARGER VAULT DIMENSIONS MUST BE APPROVED BY THE EPWU.
 - 12"x24" FOOTING WITH No.5 REBAR AT 12" ON CENTER EACH WAY IS REQUIRED.
 - TEST OUTLET TO BE PLACED BEFORE PRESSURE RELIEF.
 - DISCHARGE TO AN OPEN ATMOSPHERE INCLUDES BUT IS NOT LIMITED TO STORM DRAINS, CULVERTS, AND PONDING AREAS OR ANY APPROVED STRUCTURE/LOCATION.

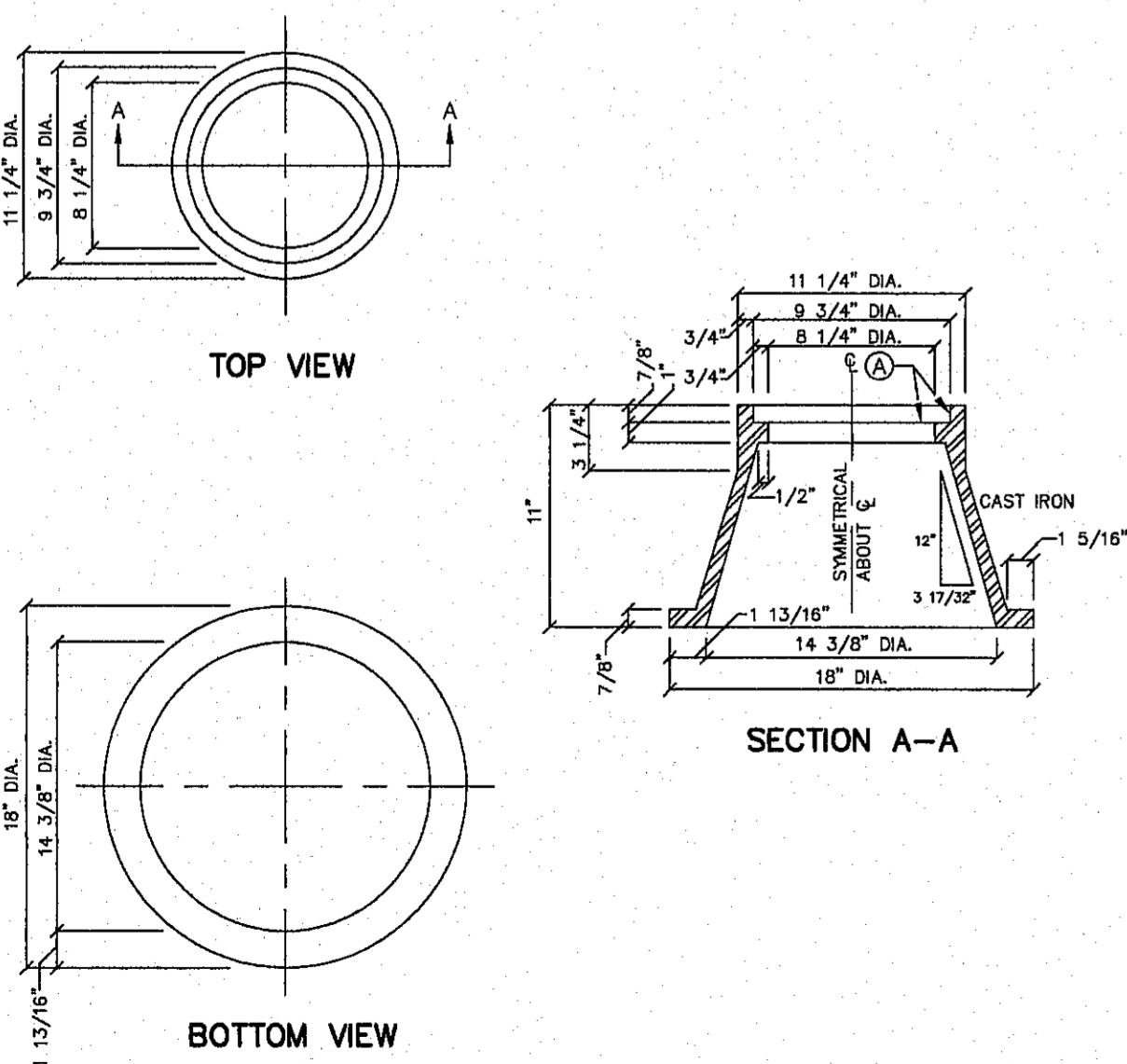
- CONSTRUCTION KEY NOTES:**
- 6" FLANGED PRESSURE RELIEF VALVE.
 - 6" FLANGED DUCTILE IRON SPOOL.
 - 3/4" TEST OUTLET WITH CORPORATION STOP
 - 6" FLANGED 90° BEND.
 - 6" FLANGED GATE VALVE WITH HANDWHEEL
 - 6" FLANGED TO MECHANICAL JOINT ADAPTER
 - 6" GATE VALVE WITH VALVE BONNET BOX AND COVER.
 - MAINLINE, SIZE AS SPECIFIED.
 - MECHANICAL JOINT TEE WITH A 6" FLANGED BRANCH, MAINLINE SIZE AS SPECIFIED.
 - VALVES INSTALLED ON NATURAL GROUND WITH CONCRETE SUPPORTS AS REQUIRED.
 - WALL SLEEVES AND/OR GROUT.
 - 6" CHECK VALVE.
 - 6" P.V.C. DISCHARGE TO ATMOSPHERE (SEE NOTE 5).



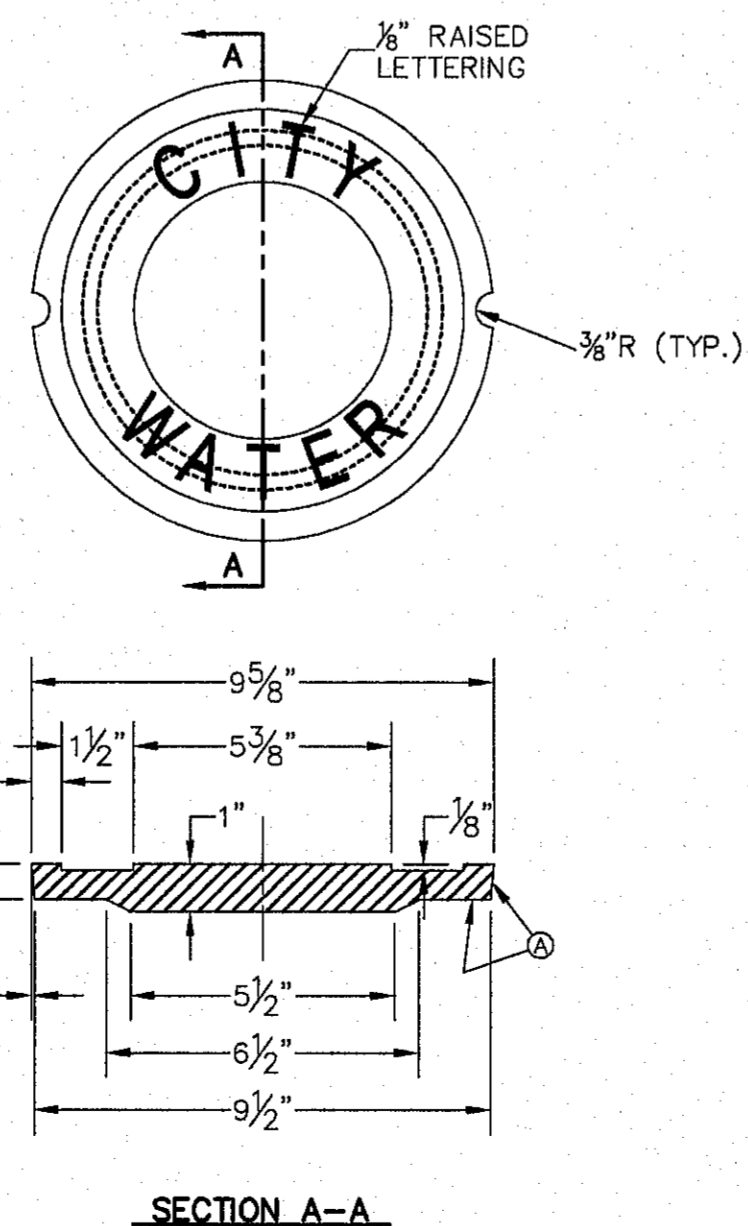
- GENERAL NOTES:**
- THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
 - TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
 - REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
 - JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.
 - INSTALL PERMANENT THRUST BLOCKING UNDER VALVE BEFORE TAP IS MADE. JOINTS AND BOLTS TO BE CLEAR OF CONCRETE.

- CONSTRUCTION KEY NOTES:**
- CONCRETE THRUST BLOCKING, PER DETAIL 270.
 - TAPPING SLEEVE.
 - RISER INSTALLATION, PER DETAIL 260.
 - TAPPING VALVE.
 - VALVE ENDS FOR TYPE OF PIPE INSTALLED.
 - 2#-#5 REBAR HARRIS, PAINT UNEMBEDDED PORTION OF BARS WITH 2-COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR.
 - CONCRETE VALVE SUPPORT, PER DETAIL 271.
 - NEW WATER LINE TO BE INSTALLED.
 - UNDISTURBED EARTH.
 - EXISTING WATER MAIN TO BE TAPPED.

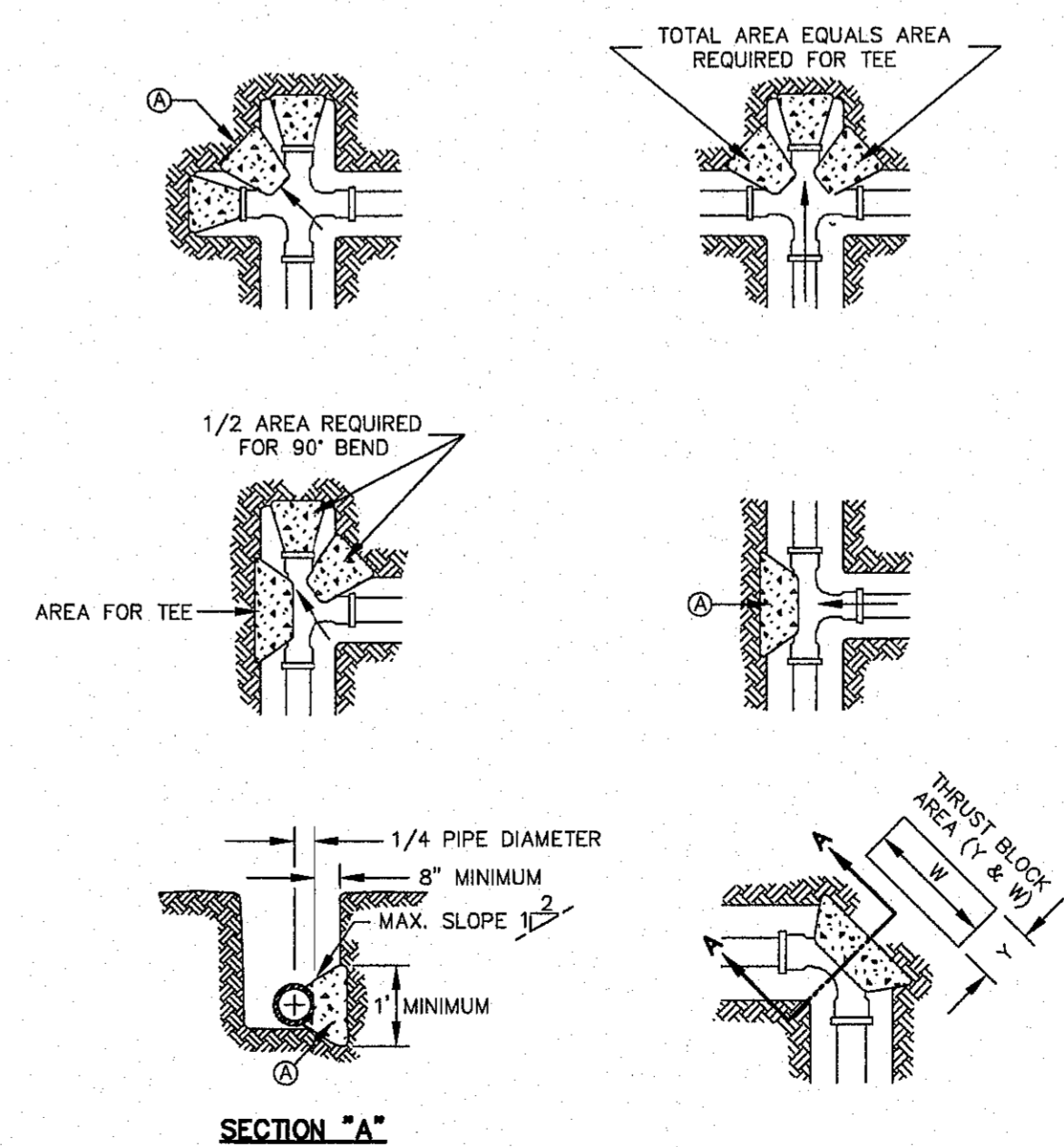
STANDARD DETAIL	DATE: 11/13/2006 REV: 7/20/2009	PRESSURE RELIEF 3" AND LARGER VALVE (DISCHARGE TO ATMOSPHERE) BENEATH PAVING INSTALLATION	N.T.S.	el PASO WATER	DETAIL No. 265-7	STANDARD DETAIL	DATE: 9/1994 REV: 8/9/2006	TAPPING SLEEVE AND VALVE INSTALLATION	N.T.S.	el PASO WATER	DETAIL No. 266
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- GENERAL NOTES:**
- CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
 - WEIGHT OF BONNET BOX IS 95 POUNDS.
- CONSTRUCTION KEY NOTES:**
- TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.



- GENERAL NOTES:**
- CASTINGS TO BE SMOOTH AND VOID OF AIR HOLES.
 - WEIGHT OF COVER IS 10 POUNDS.
- CONSTRUCTION KEY NOTES:**
- TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.



- GENERAL NOTES:**
- TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
 - AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
 - CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
 - THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
 - SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
 - KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
 - BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
 - WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE-RODS (INSTALLED PER MANUFACTURERS' RECOMMENDATIONS) OR OTHER APPROVED METHODS.
- CONSTRUCTION KEY NOTES:**
- LENGTH "Y" & "W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
 - ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
 - MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR ("Y" & "W") AS FOLLOWS:

PIPE SIZE	WATER PIPE	
	TEE, DEAD END 90° BEND	45° AND 22 1/2° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

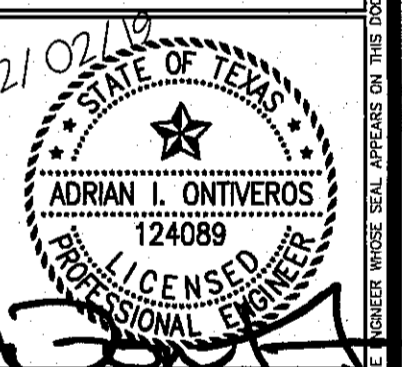
STANDARD DETAIL	DATE: 2/1994 REV:	BONNET BOX	N.T.S.	el PASO WATER	DETAIL No. 268	STANDARD DETAIL	DATE: 2/1994 REV: 11/1/2007	BONNET BOX COVER	N.T.S.	el PASO WATER	DETAIL No. 268-1	STANDARD DETAIL	DATE: 2/1994 REV: 8/7/2006	CONCRETE THRUST BLOCKING	N.T.S.	el PASO WATER	DETAIL No. 270
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BENCHMARK: CITY MONUMENT AT THE CENTRELINE INTERSECTION OF NORTHERN PASS DRIVE AND 1724th STREET (E. SIDE OF 1724th STREET) ELEVATION = 3895.5 (E. PASO CITY DATUM)		DESCRIPTION	BY
NO.	DATE		
3	12/02/19	Final City Submittal	AHO
2	11/02/19	Second City Submittal	AHO
1	09/23/19	First City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL

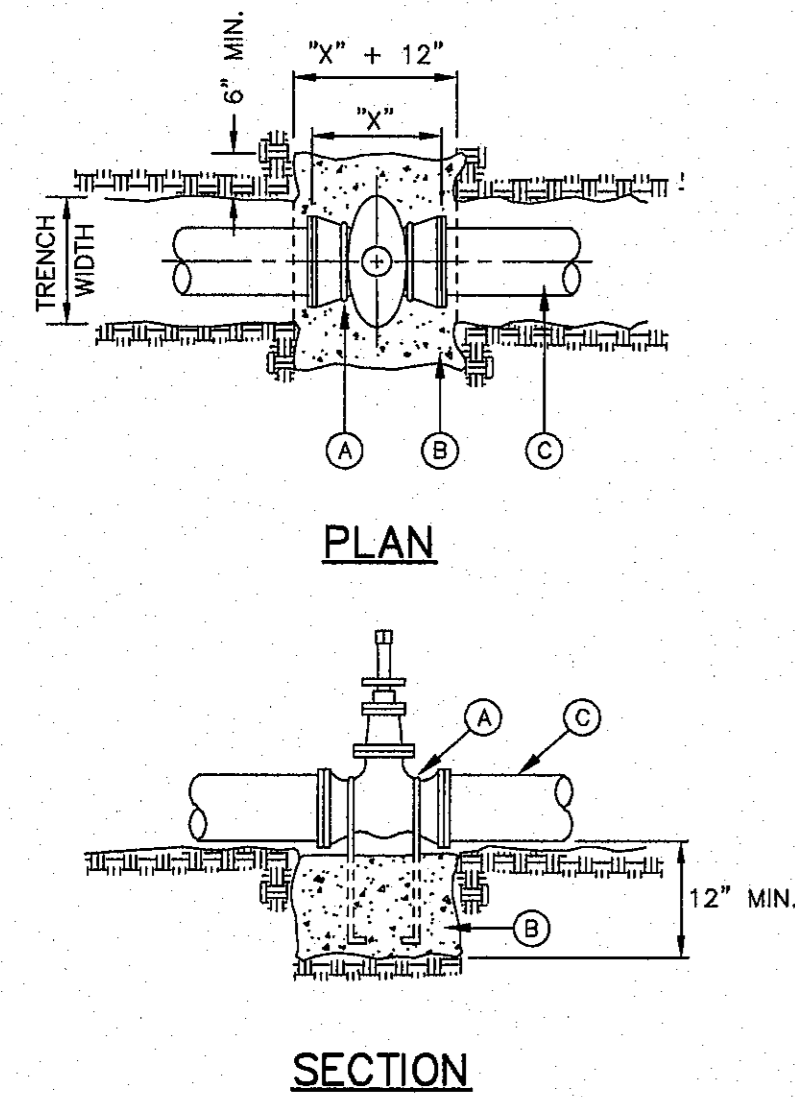
EL PASO ELECTRIC COMPANY
1-800-306-TESS
EL PASO GAS SERVICE
1-800-306-TESS
TEXAS GAS SERVICE
1-800-306-TESS
PUBLIC SERVICE EDGAR (WATER & SEWER)
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AFTER HOURS EMERGENCY (EPW)
994-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-244-6777
KINDER-MORGAN EPMS PIPELINES
1-800-238-3764
EL PASO STREETS AND MAINTENANCE
1-800-212-0151
EL PASO STREETS, SIGNALS, TRAFFIC AND MAINTENANCE
1-800-212-0151



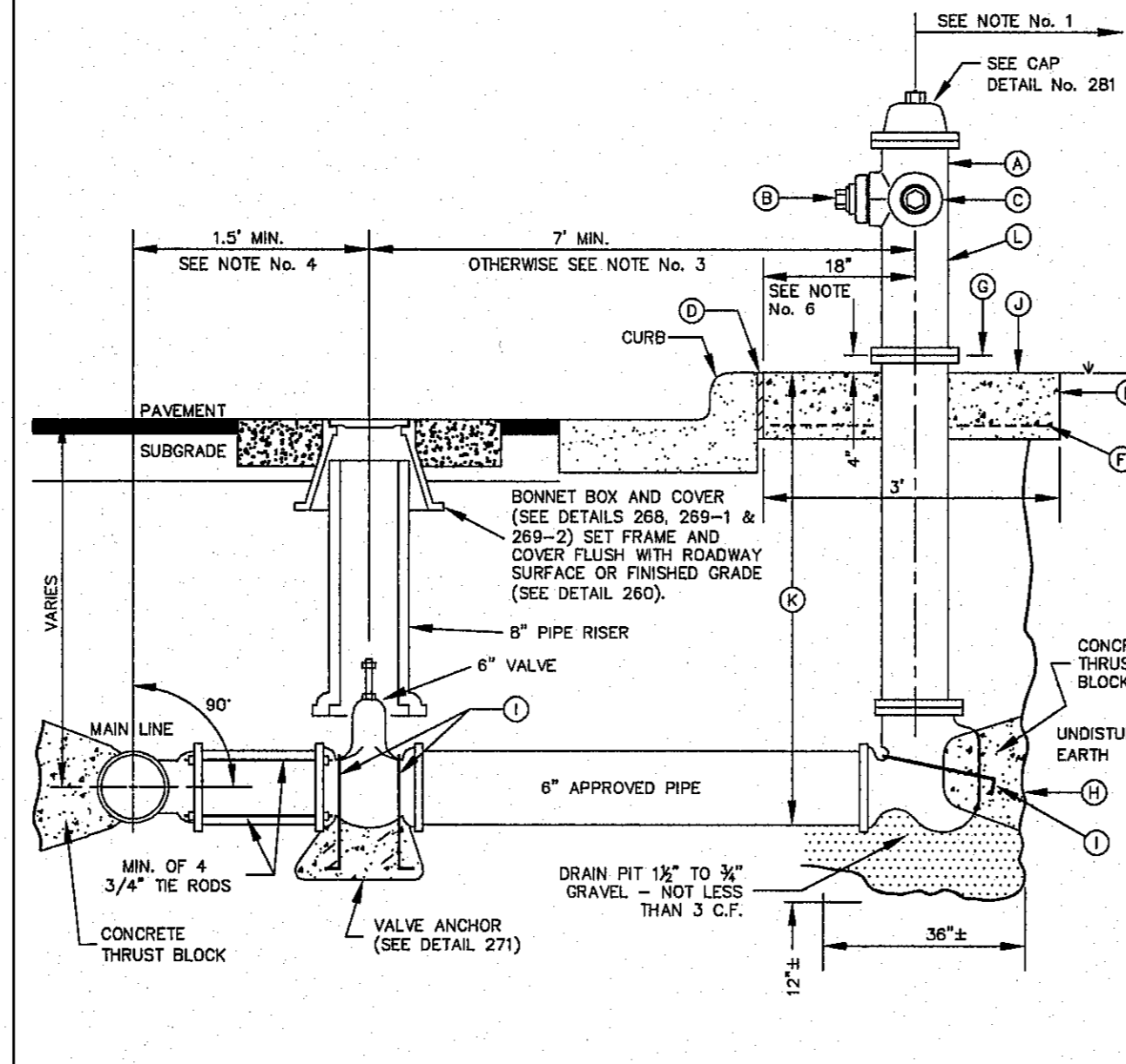
csa design group, inc.
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1845 Northwestern Dr. Ste C
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fax: (915) 877-4334
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UNIT THREE
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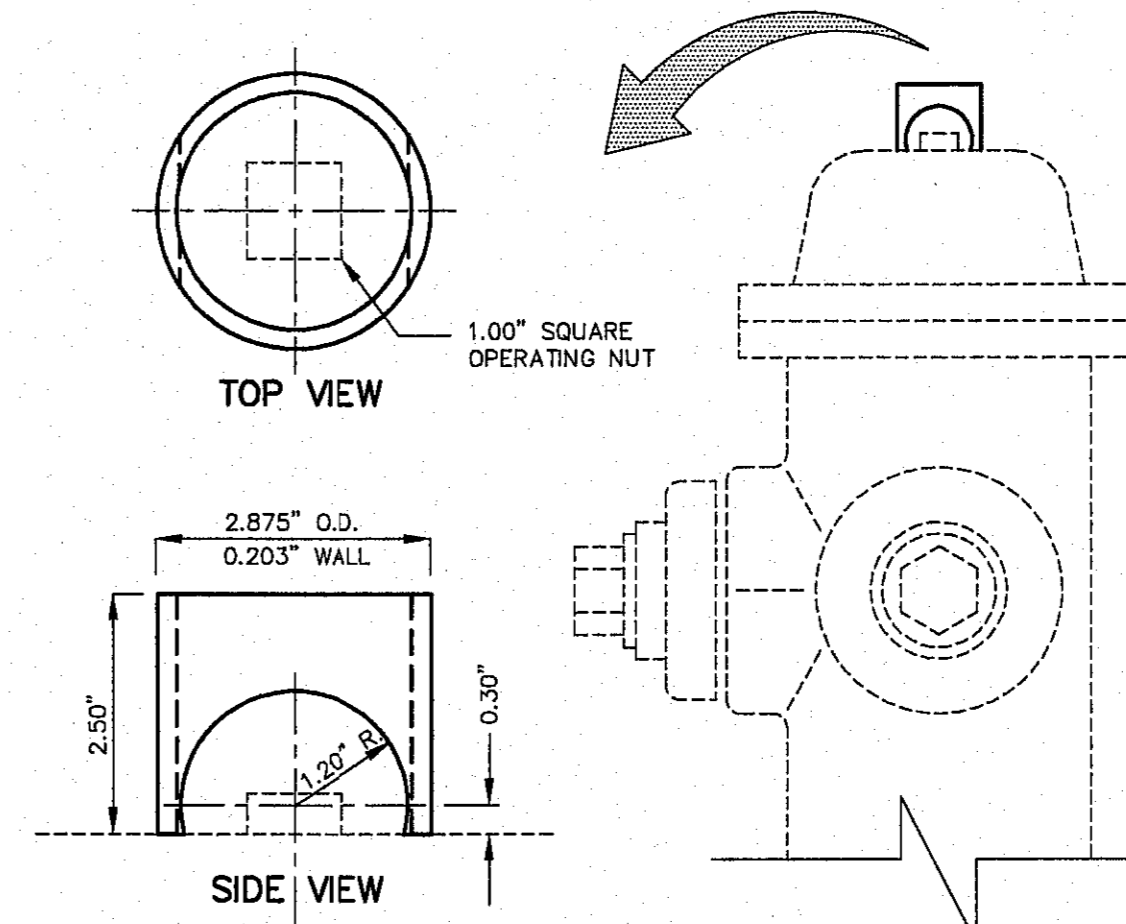
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UTILITY DETAILS	
DOB	1724
DESIGN BY	JOB NO.
DOB-SM	08/08/18
DRAWN BY	DATE
AHO	AS NOTED
CHECKED BY	SCALE
SHEET NO. 40	
SHEET REVISIONS 46	



GENERAL NOTES:
 1. THE ENGINEER SHALL PROVIDE DESIGN FOR ALL VALVES GREATER THAN 12".
 2. COMPLY WITH REQUIREMENTS OF AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES.
CONSTRUCTION KEY NOTES:
 A. TWO NO. 5 REBAR HAIR PINS, PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.
 B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE.
 C. APPROVED PIPE.



GENERAL NOTES:
 1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
 2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
 3. WHERE DISTANCE IS LESS THAN 7", HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
 4. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS, WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE. USE FLANGED MECHANICAL ENDS WITH 1/2" DIAMETER THE RODS.
 5. COMPLY WITH REQUIREMENTS OF AWWA C-550, DRY BARREL FIRE HYDRANTS AND AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
 6. WHEN INSTALLATION IS WITHIN 1'± RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.
CONSTRUCTION KEY NOTES:
 A. FIRE HYDRANT PER SPEC.
 B. PUMPER NOZZLE 4" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
 C. HOSE NOZZLE 2 1/2".
 D. 1/2" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
 E. 3x3x8" CONC. SO. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
 F. #10; 6/8 WWP.
 G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION.
 H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F.H. WEEP HOLE MUST BE UNDISTURBED.
 I. 2"x1/4" STEEL ANCHOR PINS.
 J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT, UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
 K. MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB. ADDITIONAL ADJUSTMENT MUST BE MADE WITH OFFSETS & FITTINGS AS NEEDED.
 L. REQUIRED - DAVIDSON ANTI-TERRORISM CORROSION RESISTANT VALVE KIT (DATV).



GENERAL NOTES:
 1. STEEL CAPS TO BE MACHINED FROM STEEL PIPE. NOMINAL SIZE = 2 1/2" DIA. OUTSIDE DIA. = 2.875" WALL THICKNESS = 0.203 LBS./FT. = 5.79
 2. CAPS ARE TO BE TACK WELDED OR BRAZED ON FIRE HYDRANT BONNET OR WEATHER CAP.
 3. THE CAPS OVER THE OPERATING NUT WILL PREVENT ACCESS TO THE UNAUTHORIZED USE OF HYDRANT WATER.

STANDARD DETAIL DATE: 2/1994 REV: 12/12/2011

VALVE ANCHOR



DETAIL No. 271

STANDARD DETAIL DATE: 2/1993 REV: 10/1/2013

FIRE HYDRANT INSTALLATION



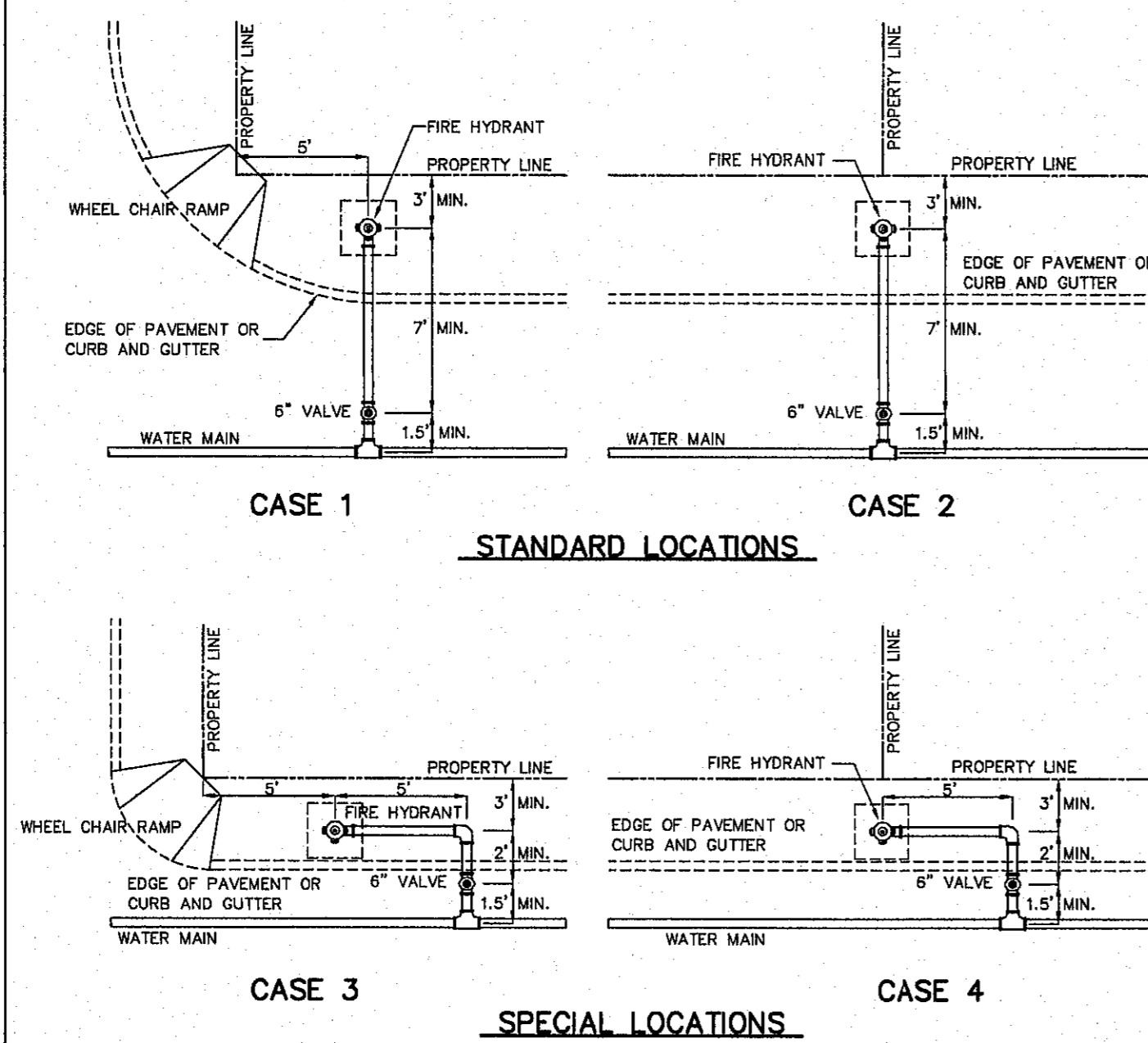
DETAIL No. 280-1

STANDARD DETAIL FEB. 1993 REV: FEB. 1994

FIRE HYDRANT CAP



DETAIL No. 281



GENERAL NOTES:
 1. FOR CASE 1 FIRE HYDRANT SHALL BE LOCATED AT A DISTANCE OF 5 FT. MINIMUM FROM THE PROPERTY LINE OR AT THE BEGINNING OF CURB RETURN TO ADJOINING LOTS.
 2. FOR CASE 2 FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS.
 3. FOR CASE 3 AND IV WHERE THE DISTANCE BETWEEN THE VALVE AND THE HYDRANT IS LESS THAN 7 FT. PLACE HYDRANT AS SHOWN.
 4. FOR INSTALLATION OF FIRE HYDRANT SEE DETAIL 280-1 OR 280-2.
 5. A MINIMUM CLEARANCE OF 3 FT. WILL BE PROVIDED BETWEEN A FIRE HYDRANT AND A PERMANENT OBSTRUCTION (UTILITY POLE, LIGHT STANDARD, TRAFFIC SIGNAL, WHEEL CHAIR RAMP, FENCE PROTECTIVE POSTS, ETC.).
 6. WHEN INSTALLATION IS WITHIN 1'± RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

STANDARD DETAIL DATE: 5/1994 REV: 6/25/2007

FIRE HYDRANT LOCATIONS



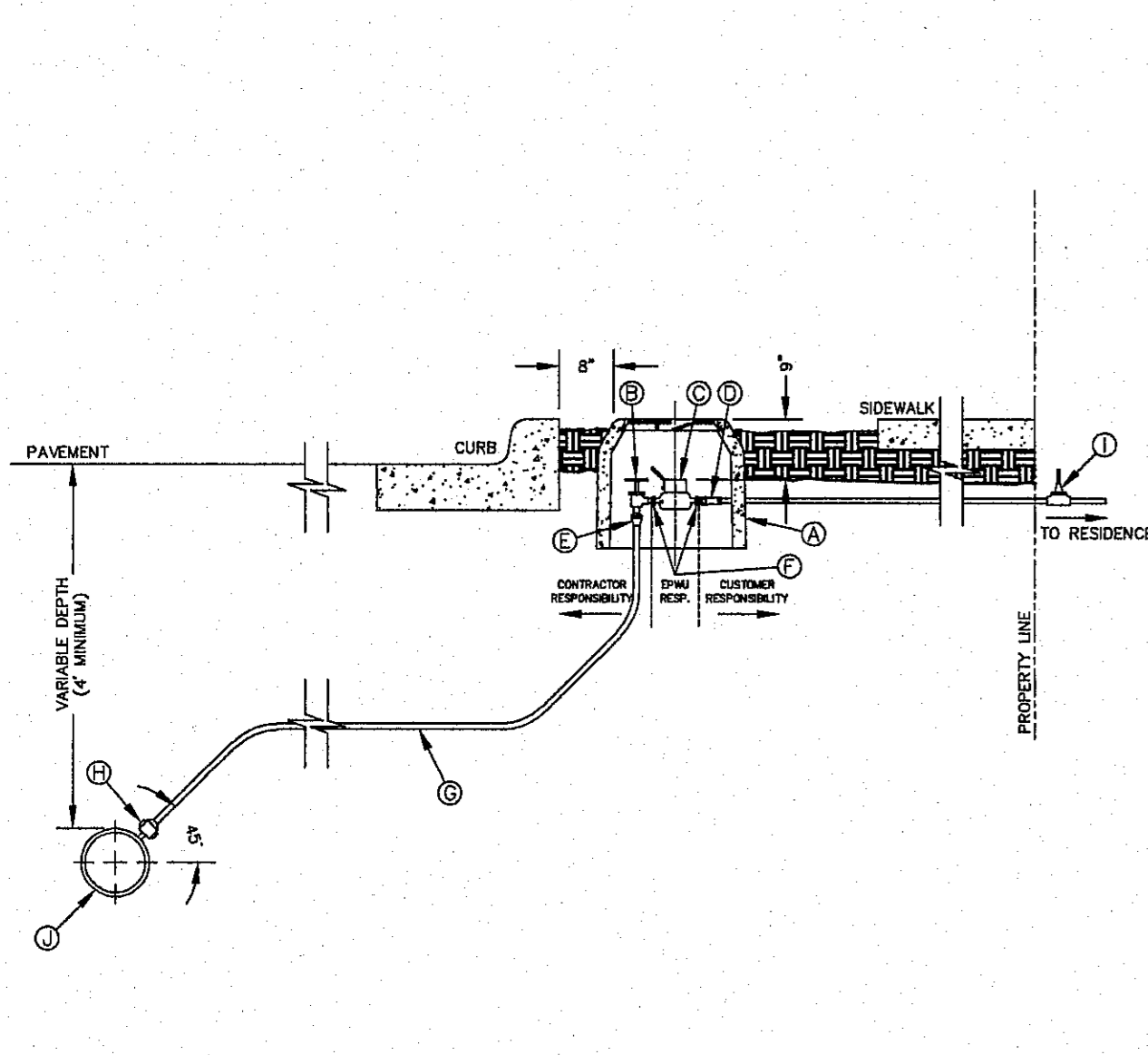
DETAIL No. 282

STANDARD DETAIL JAN. 1995 REV:

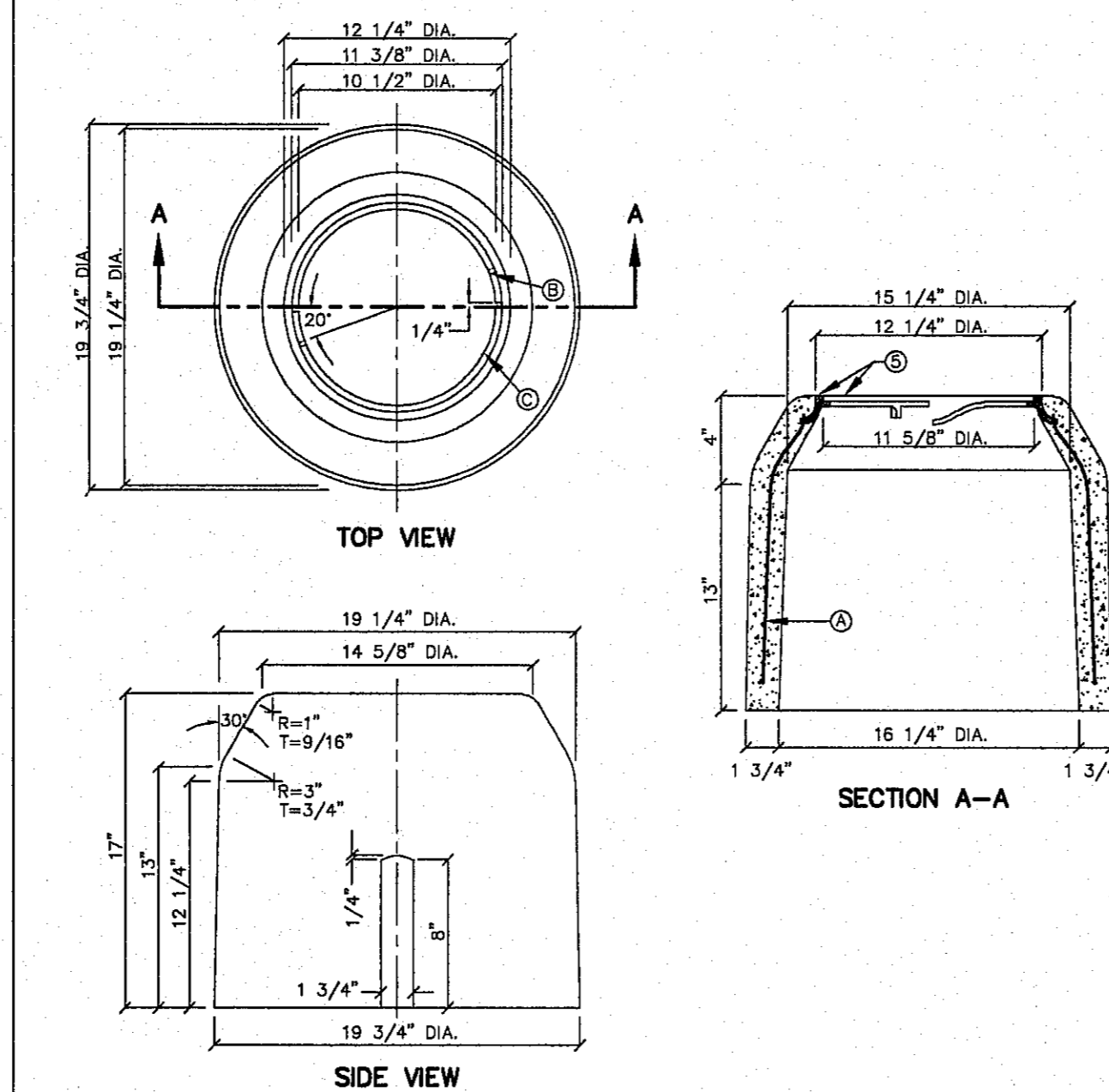
FIRE HYDRANT STEAMER NOZZLE



DETAIL No. 283



GENERAL NOTES:
 1. DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
 2. WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
 3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER BOXES REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE PRIVATE OWNER TO HAVE A CERTIFIED PLUMBER INSTALL A BACKFLOW PREVENTER AND EXTEND SERVICE LINE ON DISCHARGE SIDE OF METER.
 4. NO SPLING SHALL BE ALLOWED. FULL LENGTH OF PIPING SERVICE SHALL BE INSTALLED.
 5. THE EPWU WILL FURNISH AND INSTALL THE METER.
CONSTRUCTION KEY NOTES:
 A. METER BOX TYPE "A" (SEE DETAILS 291 & 292) SHALL BE SET SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
 B. 3/4" ANGLE SERVICE VALVE.
 C. WATER METER (CENTER INSIDE METER BOX).
 D. WHEN REQUIRED BY EPWU, A DUAL CHECK BACKFLOW PREVENTER SHALL BE INSTALLED ON THE OUTLET SIDE OF THE METER.
 E. END FLARE OF SERVICE LINE.
 F. INLET AND OUTLET COUPLING.
 G. 3/4" COPPER SERVICE LINE (SEE NOTE 4).
 H. 5/8" X 3/4" CORPORATION STOP.
 I. PRESSURE REGULATOR SOMETIMES LOCATED NEAR THE RESIDENCE.
 J. WATER MAIN



GENERAL NOTES:
 1. INSTALL TO GRADE MATCHING TOP OF CURB.
 2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS TO THE METER BOX.
 3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
 4. WHERE NO CURBING EXISTS, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS OF STREET SURFACING, WALKS AND DRIVEWAYS.
 5. METER BOX RING AND COVER PER EPWU DETAILS 300 AND 301.
 6. WHERE IT IS NECESSARY TO INSTALL A TYPE "A" BOX FOR 3/4" METER UNDER ROADWAYS OF TRAFFIC BEARING SURFACES, BOX SHALL BE ENCASED IN 12" CONCRETE, 3000 PSI. MINIMUM.
 7. METER BOX SHALL BE SINGLE UNIT CONSTRUCTION; CONCRETE TO HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4000 PSI.
CONSTRUCTION KEY NOTES:
 A. 3/16" 9 GAUGE BLACK ANNEALED WIRE
 B. LUG-STOP C. CAST IRON RING

STANDARD DETAIL DATE: 4/1994 REV: 8/24/2006

METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION



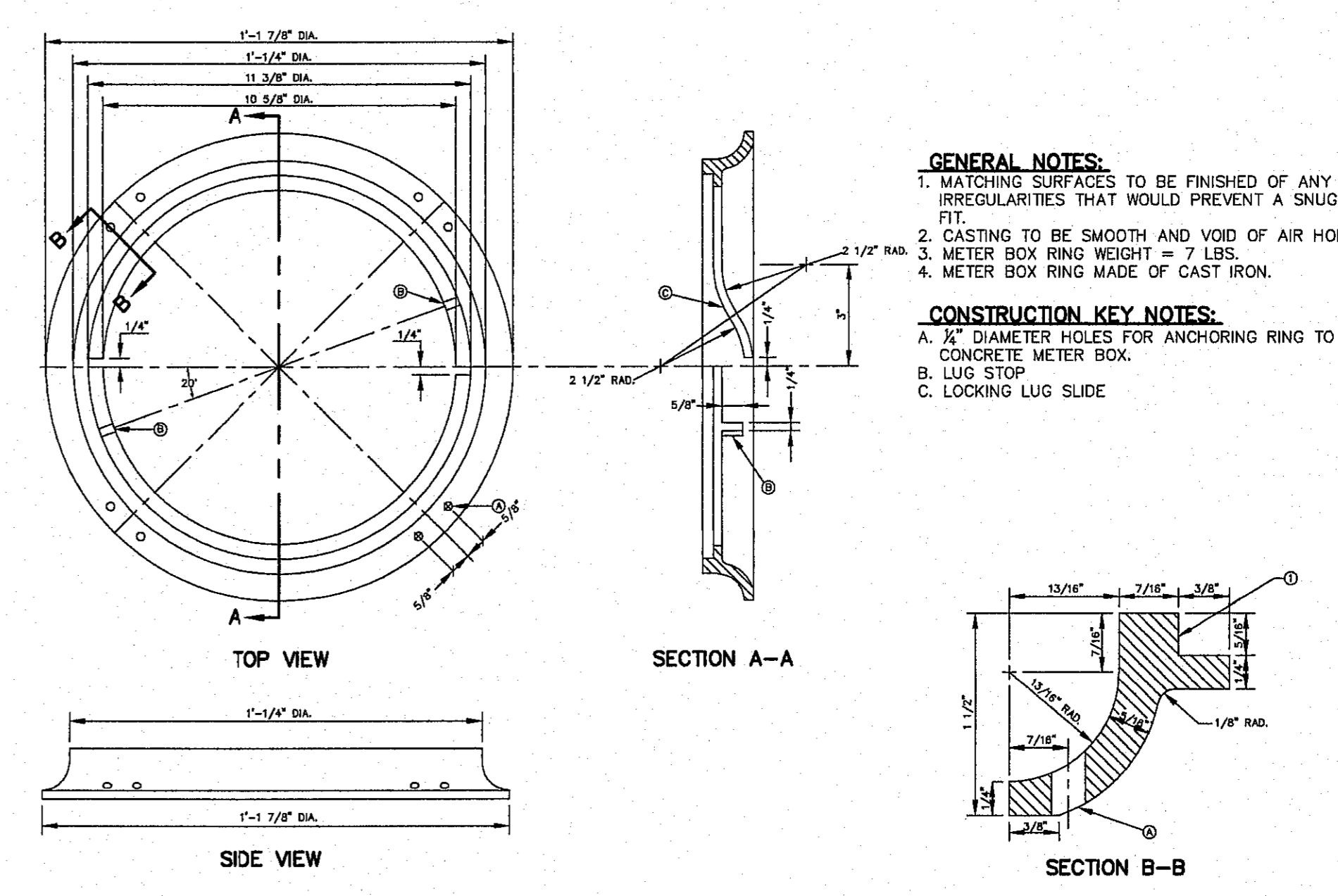
DETAIL No. 291

STANDARD DETAIL DATE: 1/1995 REV: 8/10/2006

METER BOX RING FOR TYPE "A" & "B" METER BOXES



DETAIL No. 300



GENERAL NOTES:
 1. MATCHING SURFACES TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
 3. METER BOX RING WEIGHT = 7 LBS.
 4. METER BOX RING MADE OF CAST IRON.
CONSTRUCTION KEY NOTES:
 A. 1/2" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
 B. LUG STOP
 C. LOCKING LUG SLIDE

STANDARD DETAIL DATE: 10/20/2000 REV: 5/24/2007

SERVICE LINE 3/4" AND 1" INSTALLATION BY CONTRACTOR



DETAIL No. 290-4

NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING! BEFORE YOU DIG - CALL CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUNDS IN PROJECT AREA

BEFORE YOU DIG - CALL

EL PASO ELECTRIC COMPANY
 1-800-DIG-TESS
 1-841-865-7000
 TESS ENERGY HOTLINE
 562-841-865-7000
 PUBLIC SERVICE BOARD (WATER & SEWER)
 594-5775
 AFTER HOURS EMERGENCY (EPW)
 594-5775
 TEXAS EXCAVATION SAFETY SYSTEM
 1-800-344-6377
 KINDER-MORGAN EPWC PIPELINES
 1-800-238-3764
 EL PASO WATER MAINS AND MAINTENANCE
 1-800-238-3764

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ADRIAN L. GONZALEZ
 124089
 LICENSED PROFESSIONAL ENGINEER

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 Texas Registered Engineering Firm E-6897
 1845 Northwestern Dr. Ste C
 El Paso, Texas 79912
 Tel: (915) 877-4155
 Fax: (915) 877-4334
 www.csaengineers.com

CIMARRON CANYON UNIT THREE SUBDIVISION

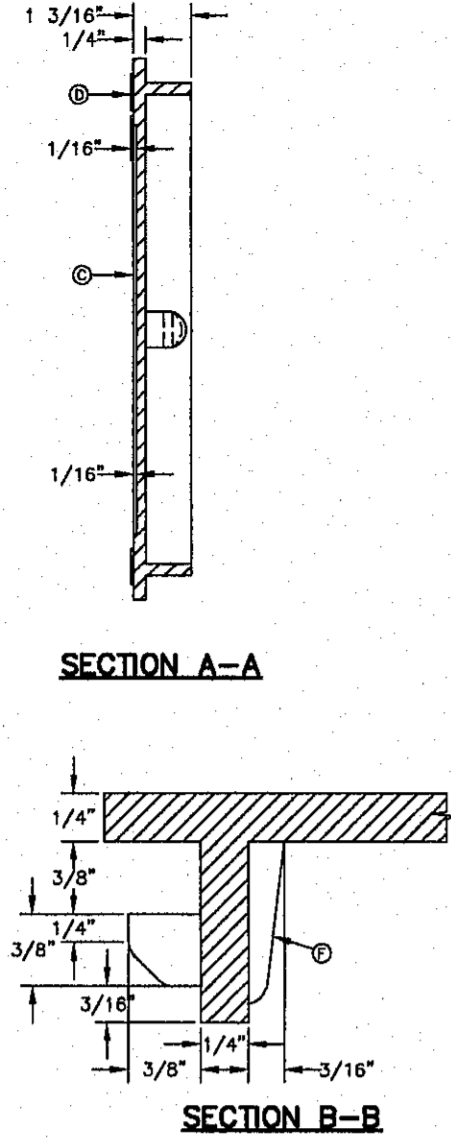
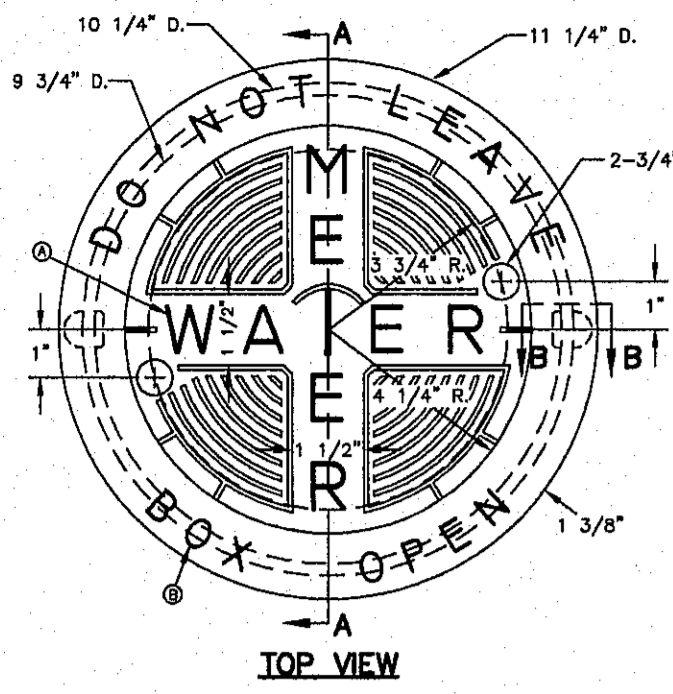
SHEET TITLE

UTILITY DETAILS

DOB	1724
DOB-SM	08/08/18
DATE	DATE
AHO	AS NOTED
SCALE	SCALE

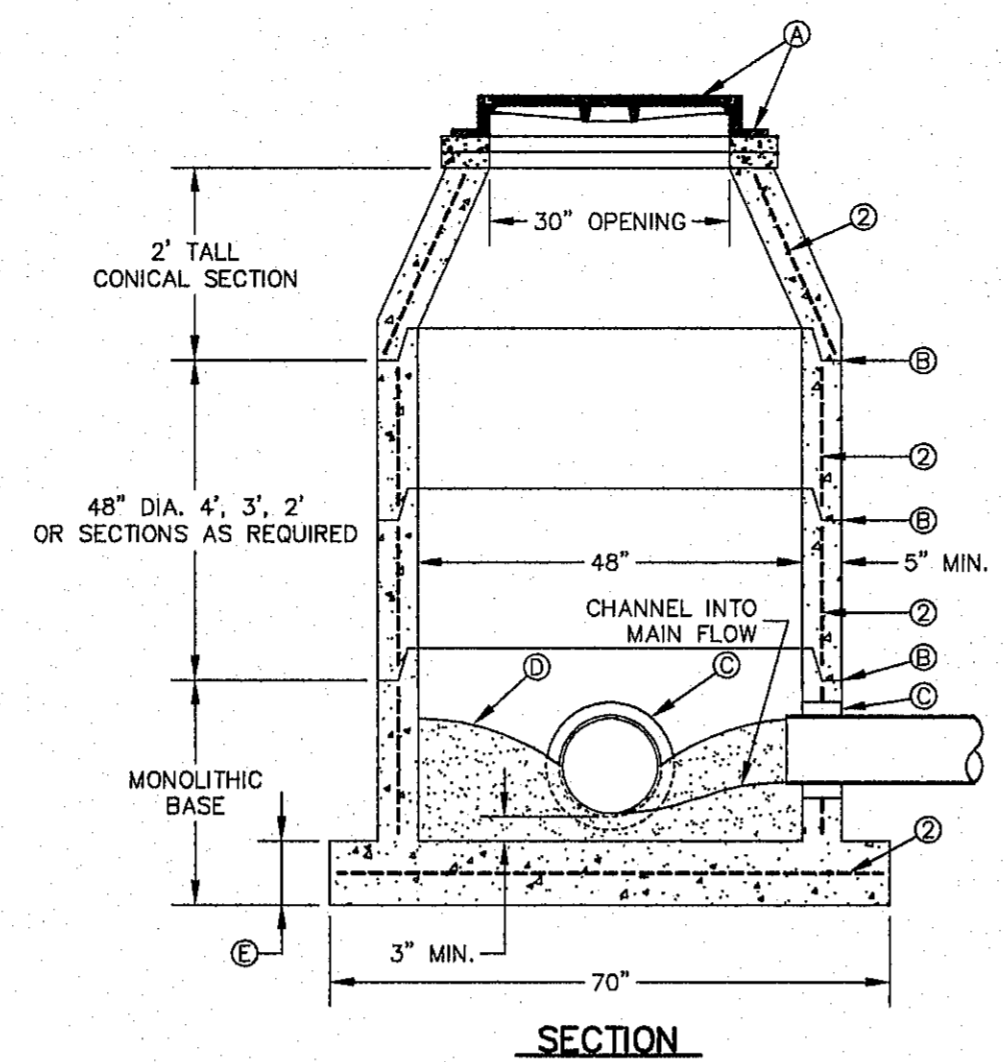
SHEET NO. **41**

SHEET SEQUENCE **43** OF **46**



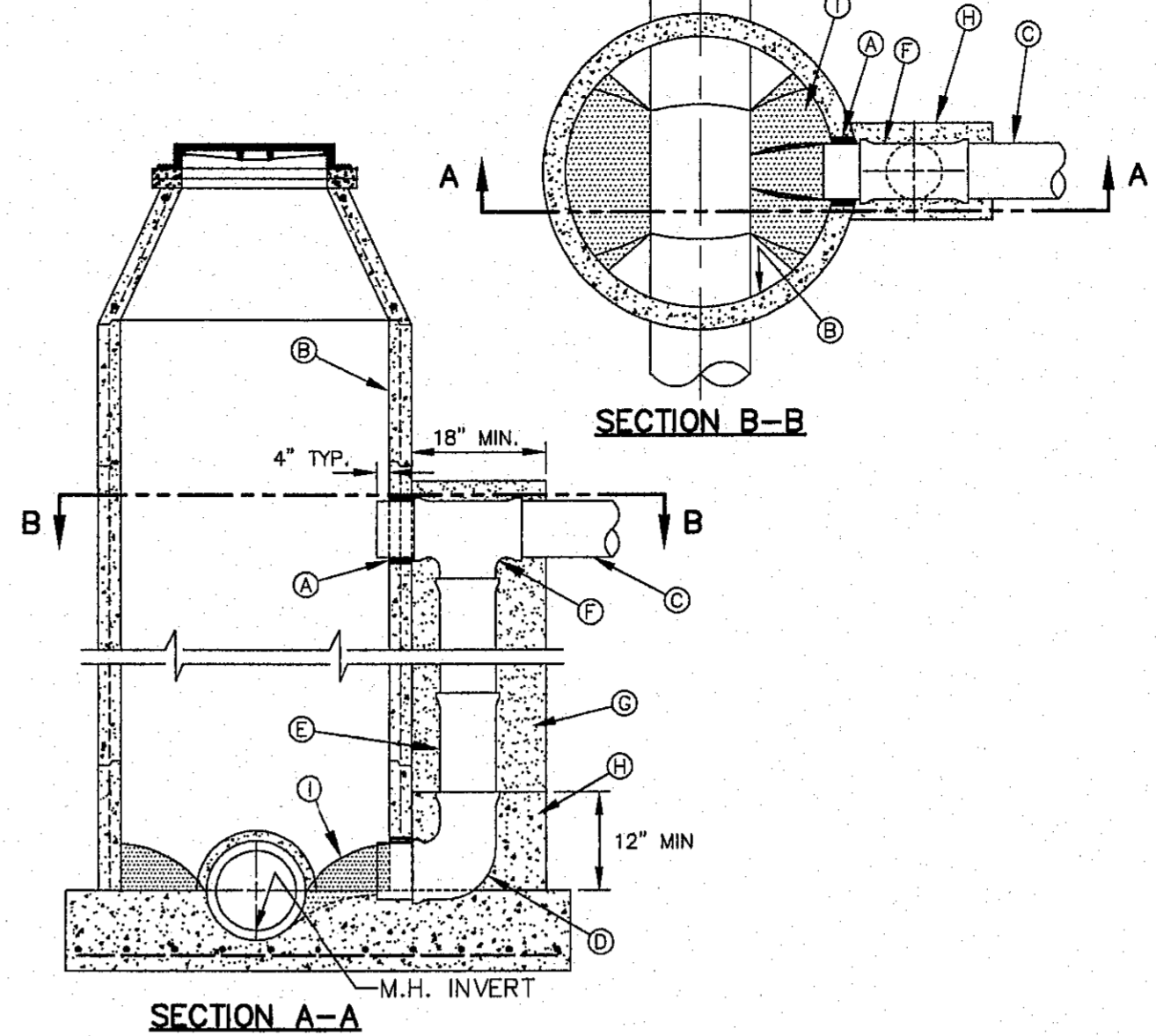
GENERAL NOTES:
 1. MATCHING SURFACES TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
 3. METER BOX COVER WEIGHT = 1 1/4 lbs.

CONSTRUCTION KEY NOTES:
 A. LETTERS TO BE 1\"/>



GENERAL NOTES:
 1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
 2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3\"/>

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
 B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
 C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923), "KOR-N-SEAL" OR APPROVED EQUAL. D. GROUT AS REQUIRED.
 E. CONCRETE BASE SHALL BE 8\"/>



GENERAL NOTES:
 1. DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
 2. DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

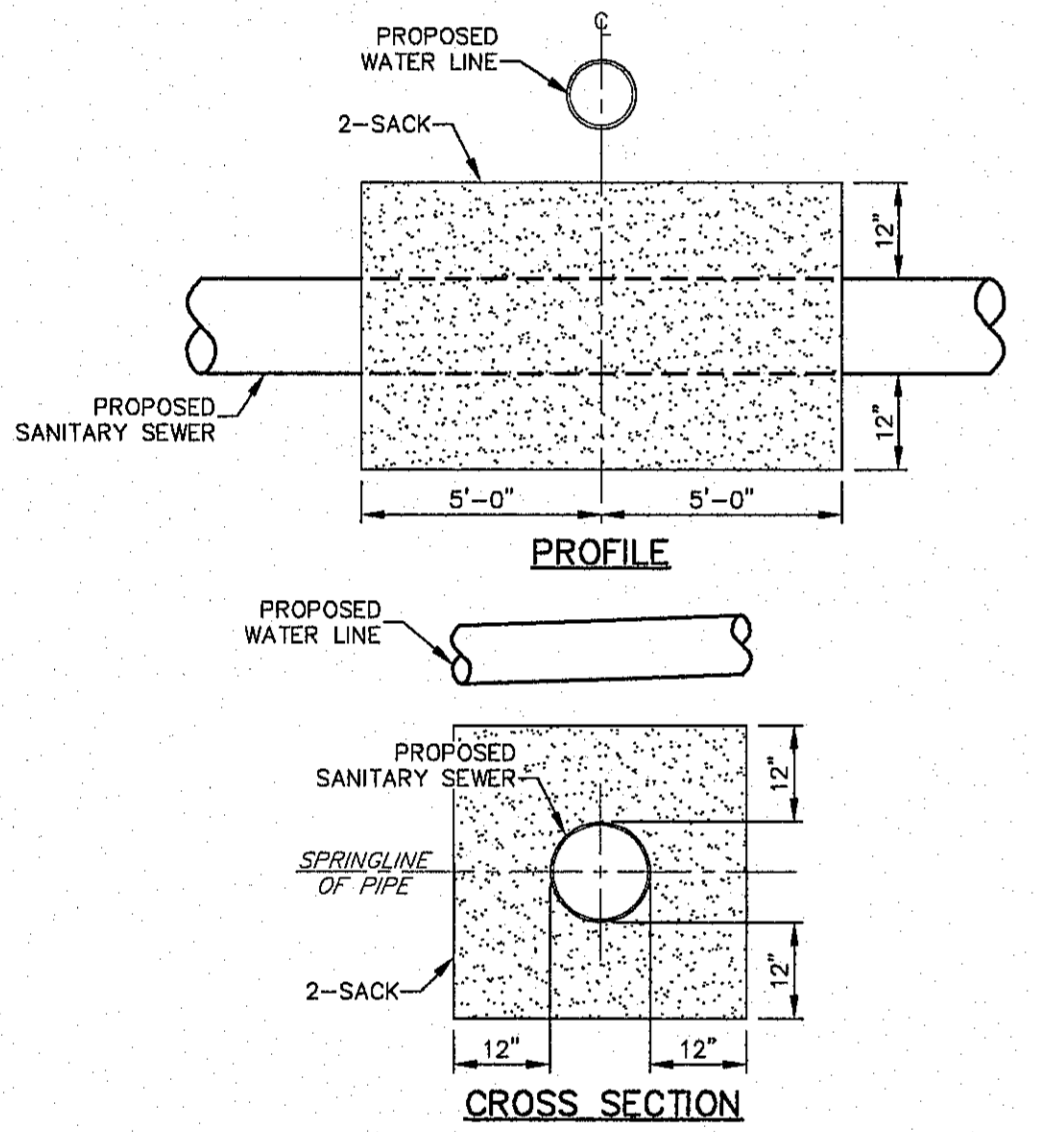
CONSTRUCTION KEY NOTES:
 A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
 B. MANHOLE WALL.
 C. INFLUENT SEWER PIPE.
 D. 90° BEND (P.V.C.)
 E. P.V.C. PIPE (SDR. 35)
 F. P.V.C. TEE
 G. CONCRETE FLOWABLE FILL
 H. 2500 PSI CONCRETE
 I. USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT

STANDARD DETAIL DATE: 4/1994 REV: 8/10/2006
 METER BOX COVER FOR TYPE "A" & "B" METER BOXES
 N.T.S.

el paso WATER DETAIL No. 301
 STANDARD DETAIL DATE: 11/1992 REV: 2/8/2013
 MANHOLE TYPE "A"
 N.T.S.

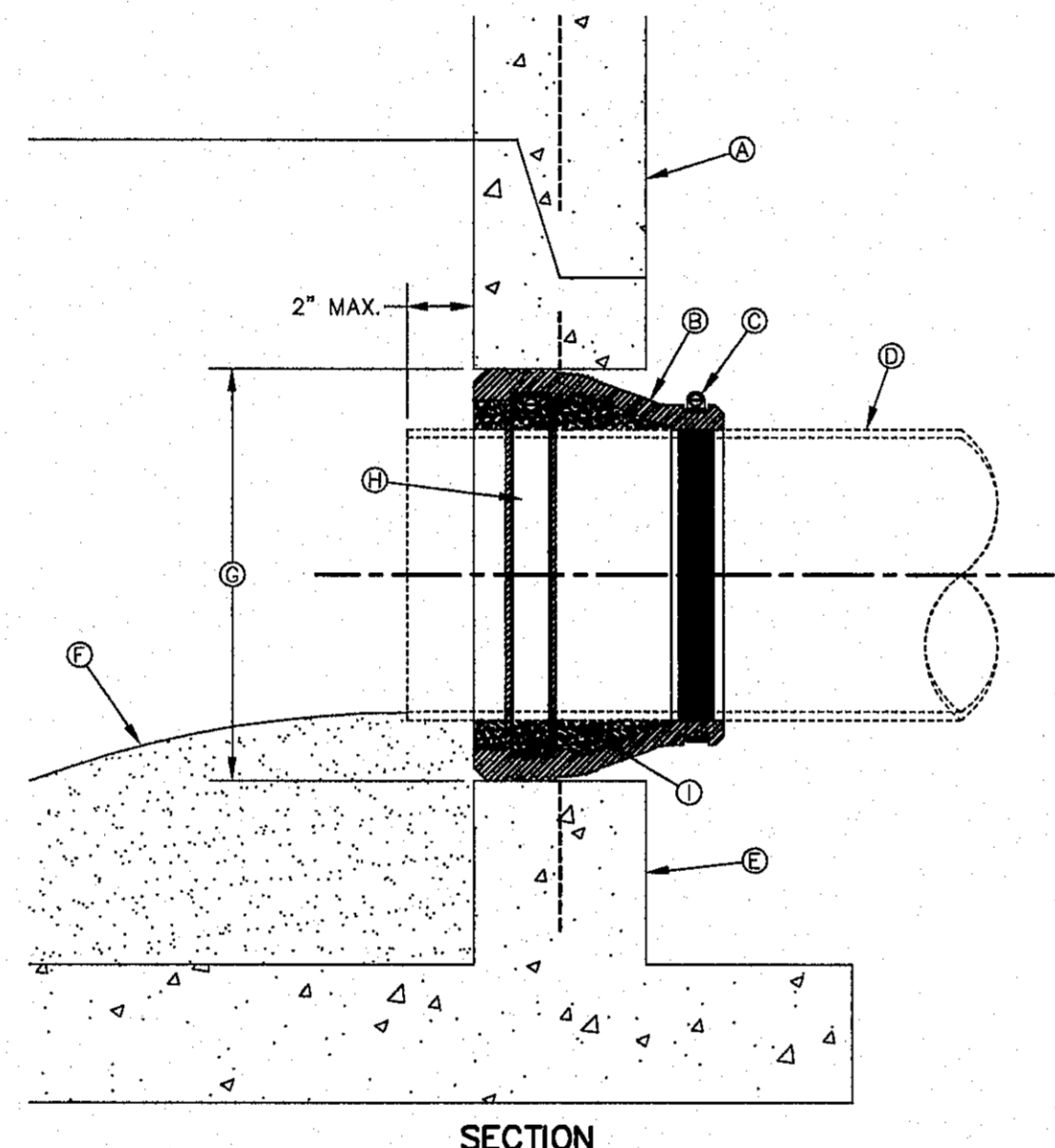
el paso WATER DETAIL No. 370-1
 STANDARD DETAIL DATE: 3/18/1998 REV: 6/19/2009
 DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION
 N.T.S.

el paso WATER DETAIL No. 375-1
 STANDARD DETAIL DATE: 11/1992 REV: 8/13/2009
 PIPE CONNECTION TO MANHOLE
 N.T.S.



WHERE PROPOSED WATER LINES CROSS EXISTING SANITARY SEWER LINES, 2-SACK WILL BE INSTALLED AS SHOWN. 2-SACK MIX SHALL NOT BE LESS THAN 185 POUNDS OF CEMENT PER CUBIC YARD AND SHALL REACH A COMPRESSIVE STRENGTH OF NOT LESS THAN 100PSI WHEN TESTED AT 28 DAYS PER ASTM D4832.

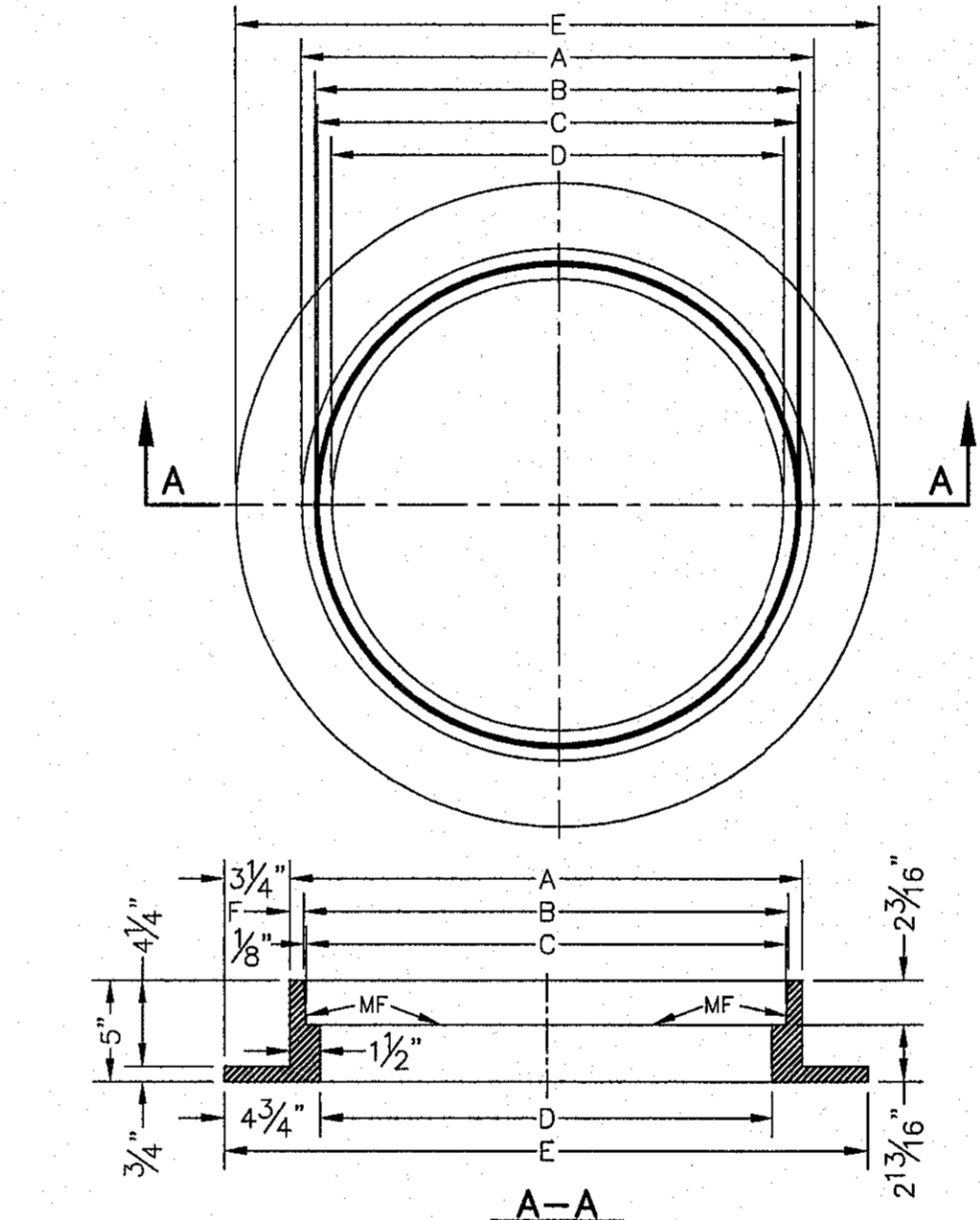
2-SACK DETAIL
 N.T.S.



GENERAL NOTES:
 1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

CONSTRUCTION KEY NOTES:
 A. PRECAST MANHOLE BARREL.
 B. FLEXIBLE CONNECTOR.
 C. PIPE CLAMP SS 316.
 D. APPROVED PIPE.
 E. PRECAST MANHOLE BASE.
 F. GROUT AS REQUIRED TO FORM SMOOTH CHANNEL TO MANHOLE INVERT.
 G. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE.
 H. EXPANSION BAND SS 316.
 I. FILL SPACE WITH GROUT.

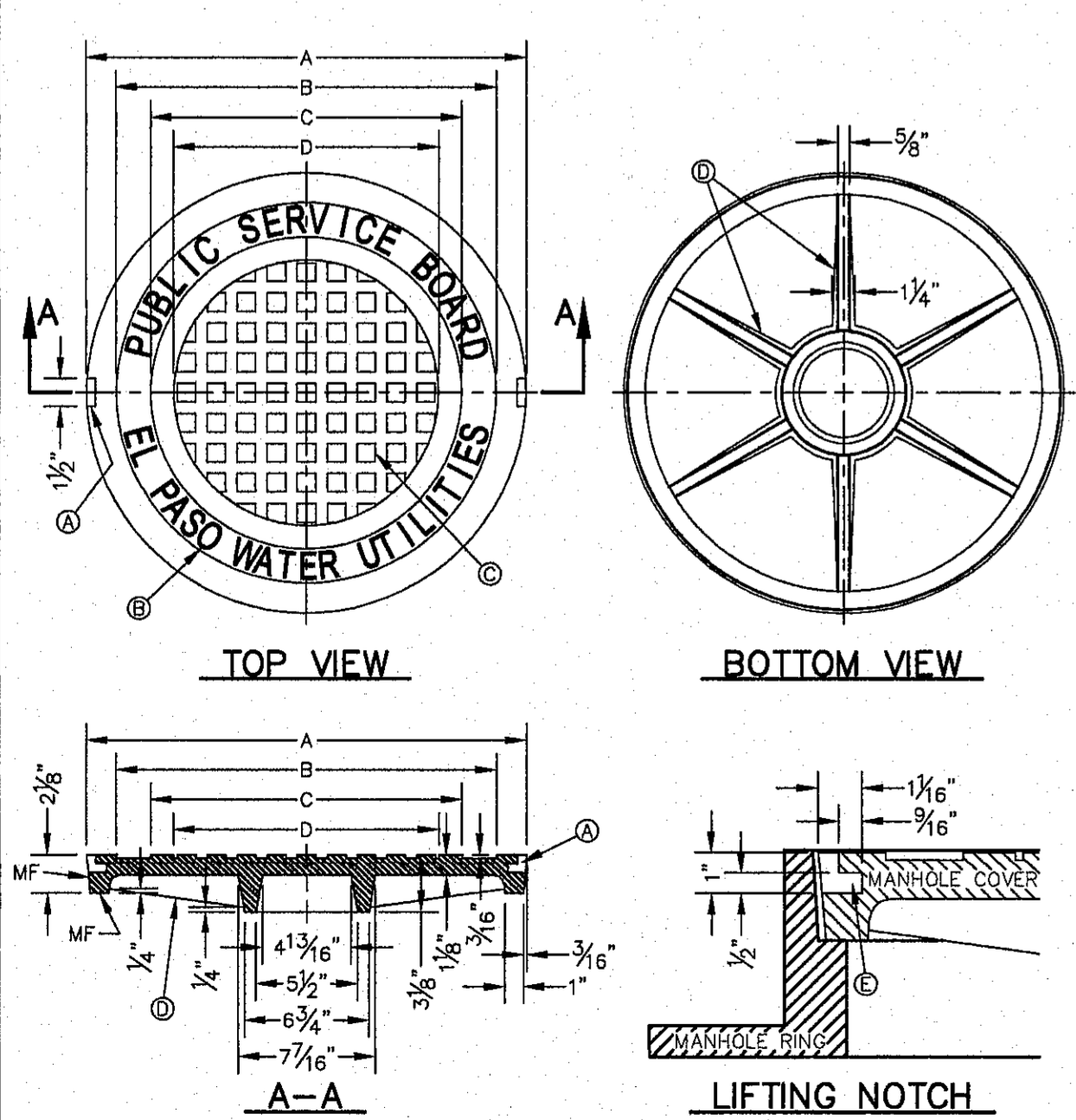
el paso WATER DETAIL No. 376
 STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011
 SEWER MANHOLE RING
 N.T.S.



GENERAL NOTES:
 1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY 1/8\"/>

MANHOLE RING	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	33"	25 1/2"
B	31 3/4"	24 3/8"
C	31 1/2"	23 7/8"
D	30"	22 1/2"
E	29 1/2"	32"
F	5 1/2"	1 1/2"
WEIGHT	205 lbs.	170 lbs.

*OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)



GENERAL NOTES:
 1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY 1/8\"/>

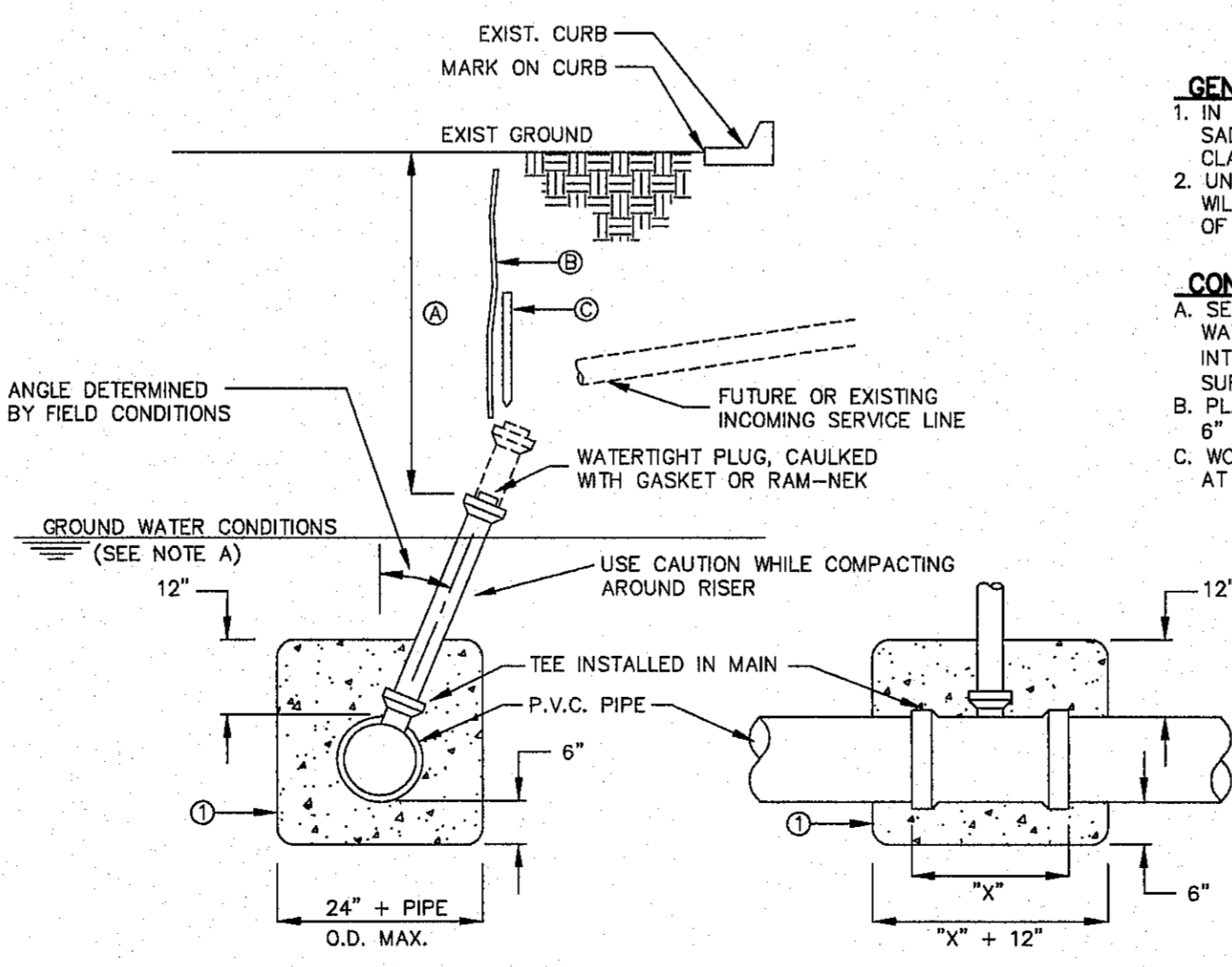
CONSTRUCTION KEY NOTES:
 A. LIFTING NOTCH.
 B. 3/4\"/>

MANHOLE COVER	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31 3/8"	23 7/8"
B	28 3/8"	20 3/8"
C	24 3/8"	16 7/8"
D	21 7/8"	14 3/8"
WEIGHT	200 lbs.	165 lbs.

*OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL DATE: 11/1992 REV: 2/21/2011
 SEWER MANHOLE COVER
 N.T.S.

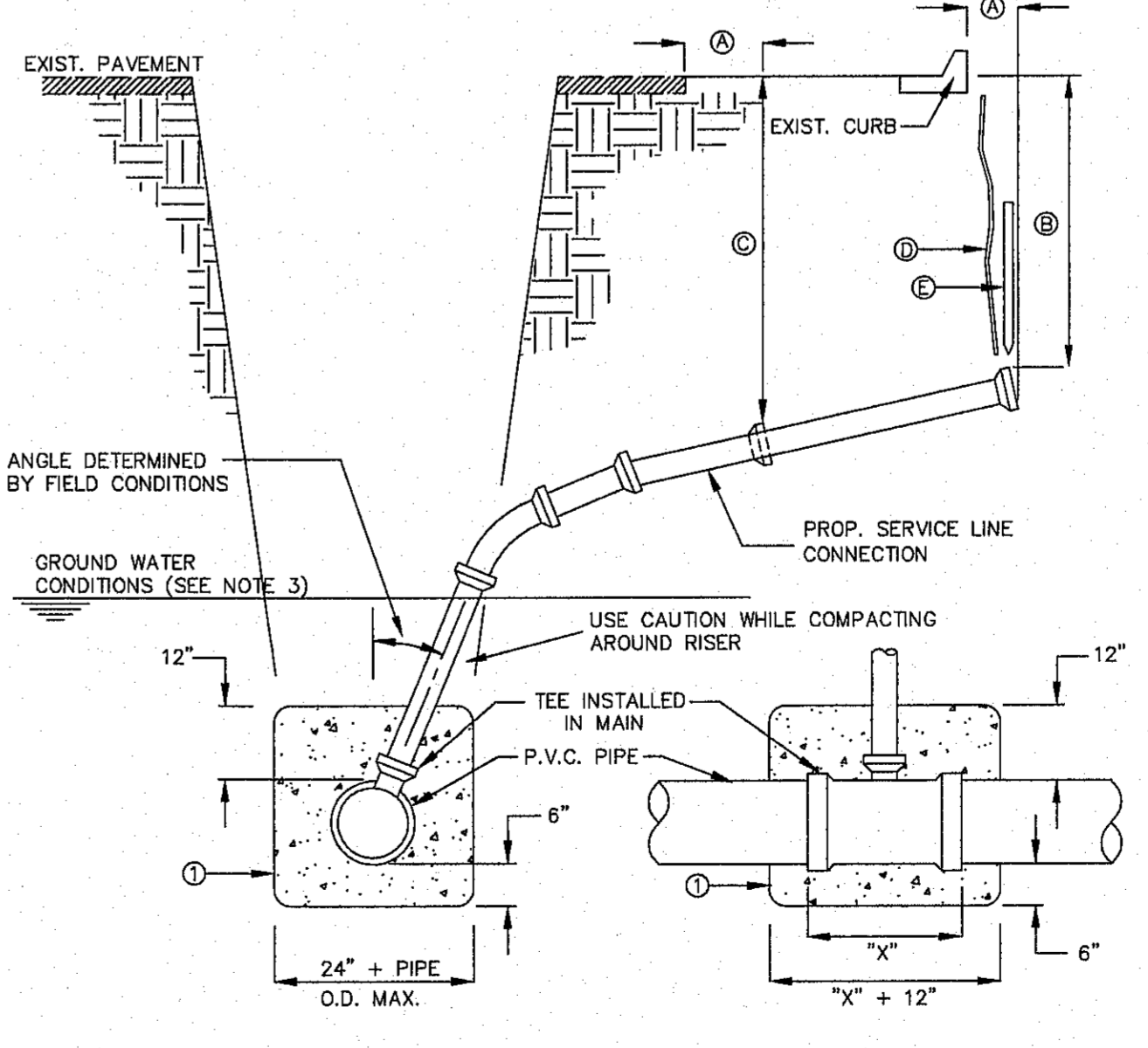
el paso WATER DETAIL No. 378
 STANDARD DETAIL DATE: 11/1992 REV: 1/23/2009
 SEWER SERVICE RISER CONNECTION
 N.T.S.



GENERAL NOTES:
 1. IN GROUND WATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
 2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.

CONSTRUCTION KEY NOTES:
 A. SERVICE LINE TO BE EXTENDED ABOVE GROUND WATER LEVEL OR TO A DEPTH OF THE INTERSECTING SERVICE LINE, OR TO WITHIN 6' OF SURFACE (WHICH EVER IS APPROPRIATE & SAFER).
 B. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6\"/>

el paso WATER DETAIL No. 390
 STANDARD DETAIL DATE: 11/1992 REV: 1/23/2009
 SEWER SERVICE RISER AND SERVICE LINE CONNECTION
 N.T.S.



GENERAL NOTES:
 1. IN GROUND WATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
 2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
 3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED ABOVE ANTICIPATED WATER TABLE LEVEL.

CONSTRUCTION KEY NOTES:
 A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6\"/>

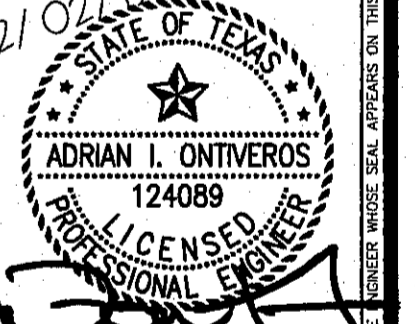
el paso WATER DETAIL No. 391
 STANDARD DETAIL DATE: 11/1992 REV: 1/23/2009
 SEWER SERVICE RISER AND SERVICE LINE CONNECTION
 N.T.S.

BENCHMARK CITY MONUMENT AT THE CENTERLINE INTERSECTION OF NORTHERN PASE DRIVE ELEVATION = 3976.53 (EL PASO CITY DATUM)

NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO
3	12/02/19	Final City Submittal	AHO

WARNING!
 BEFORE YOU DIG CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

BEFORE YOU DIG - CALL
 EL PASO ELECTRIC COMPANY 843-5770
 TEXAS GAS SERVICE LINE 1-800-DIG-TESS
 TEXAS GAS SERVICE LINE 1-800-444-6000
 PUBLIC SERVICE BOARD (WATER & SEWER) 562-841
 AFTER HOURS EMERGENCY (EPW) 994-5775
 TEXAS EXCAVATION SAFETY SYSTEM 1-800-444-8377
 KINDER-MORGAN EPWC PIPELINES 1-800-238-3764
 EL PASO PUBLIC WORKS AND MAINTENANCE 1-800-272-0151
 EL PASO POLICE DEPARTMENT 562-5353

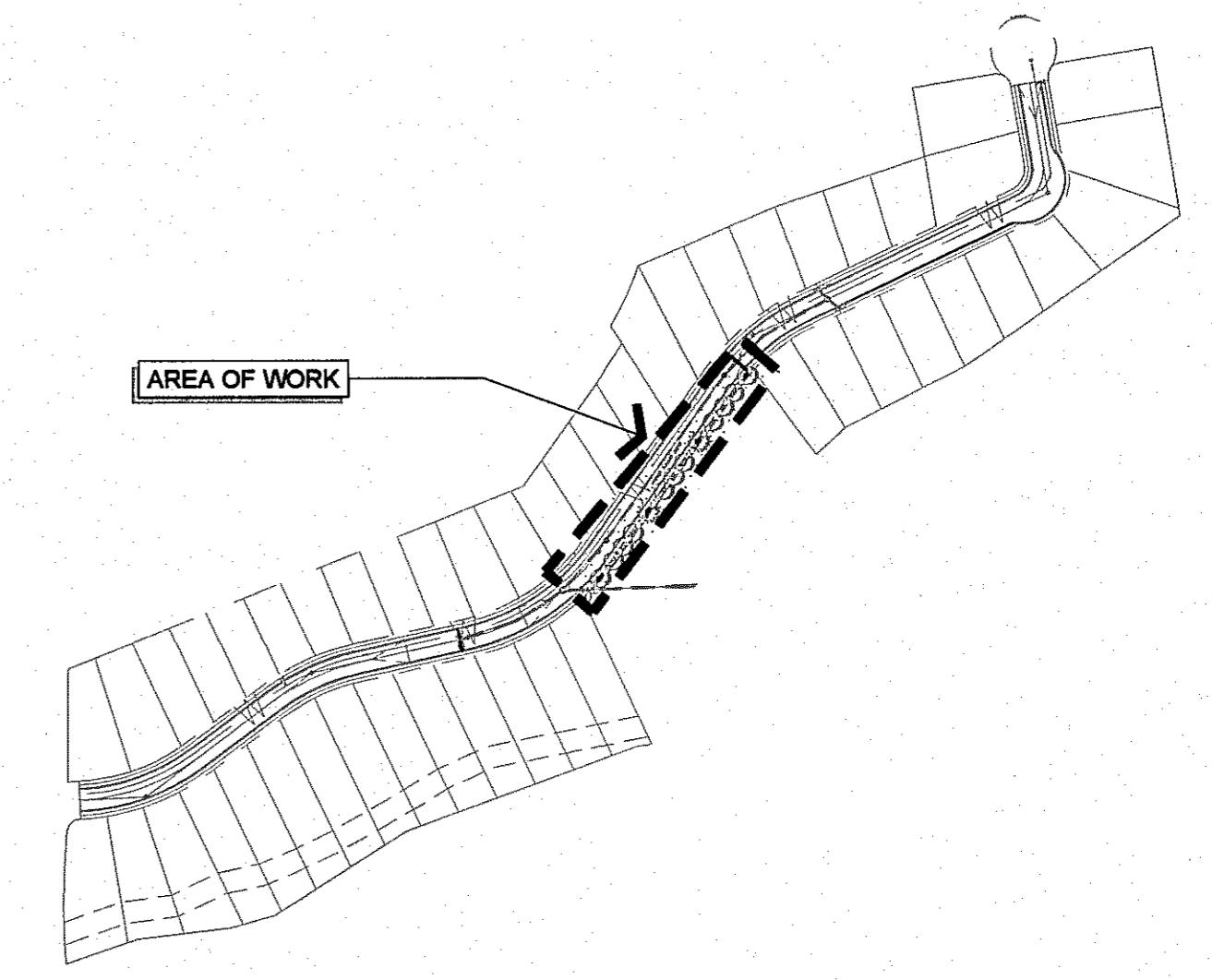
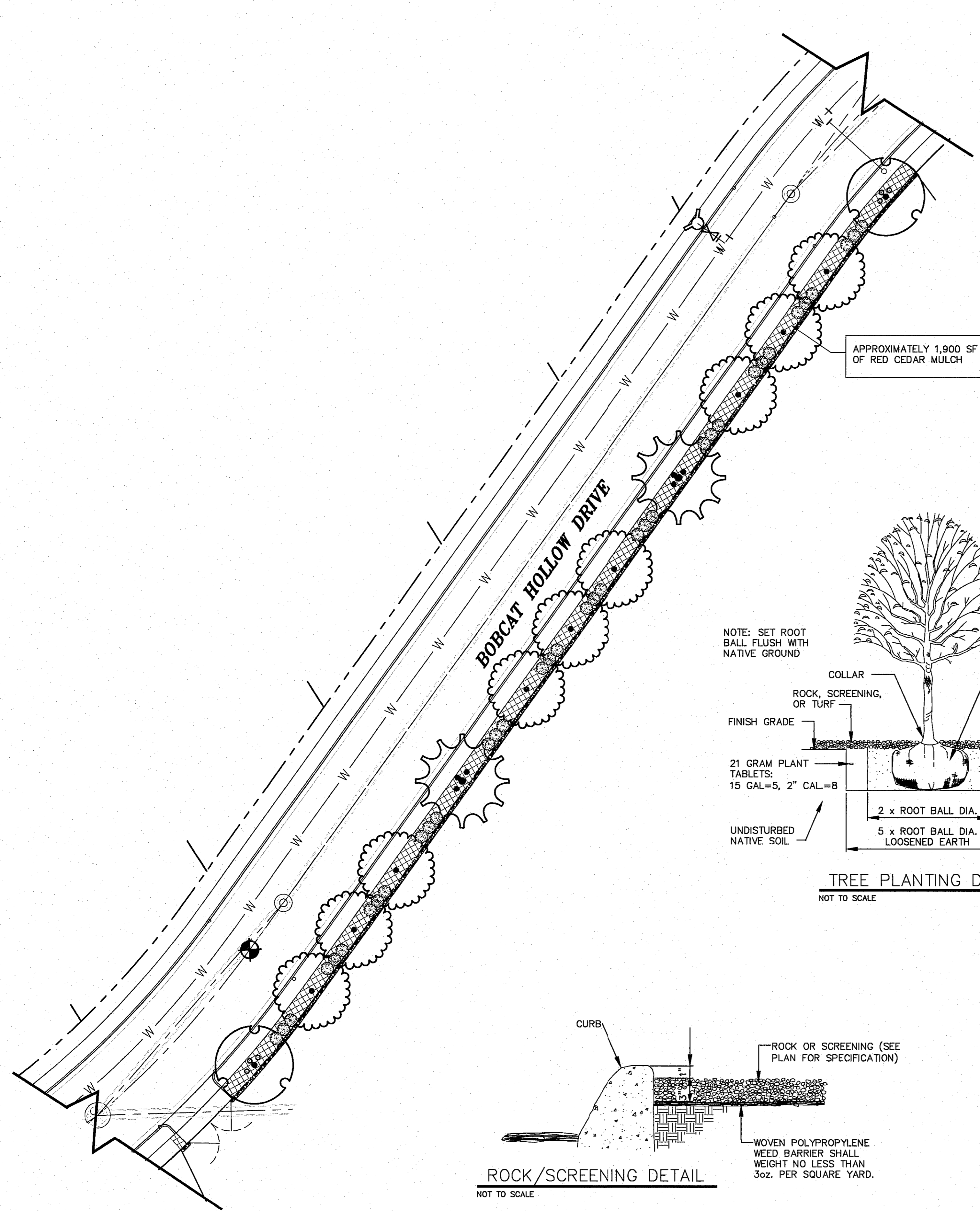


csa design group, inc.
 Texas Registered Engineering Firm F-687
 1845 Northwestern Dr., Ste C
 El Paso, Texas 79912
 tel [915] 877-4155
 fax [915] 877-4934
 www.csaengineers.com

CIMARRON CANYON UNIT THREE SUBDIVISION

UTILITY DETAILS

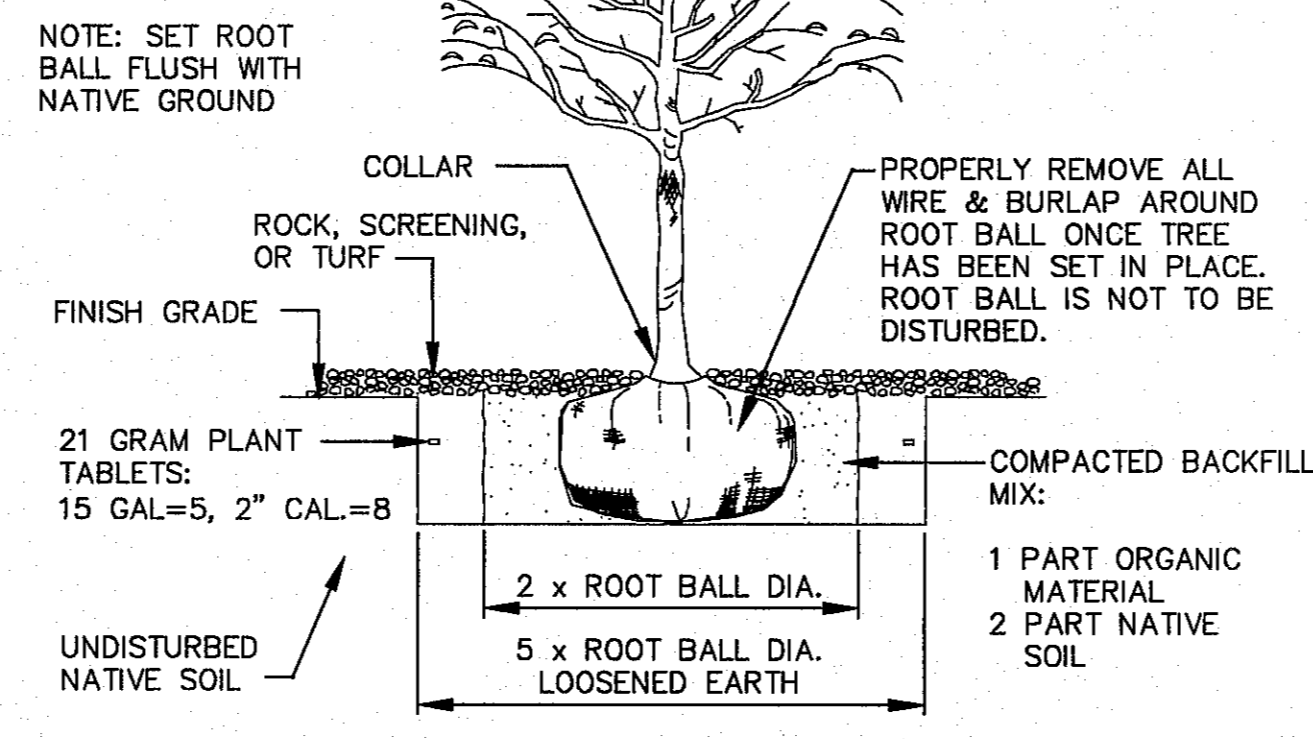
COB	1724
DESIGN BY	208 30
COB-SM	08/08/18
DRAWN BY	DATE
AHO	AS NOTED
CHECKED BY	SCALE



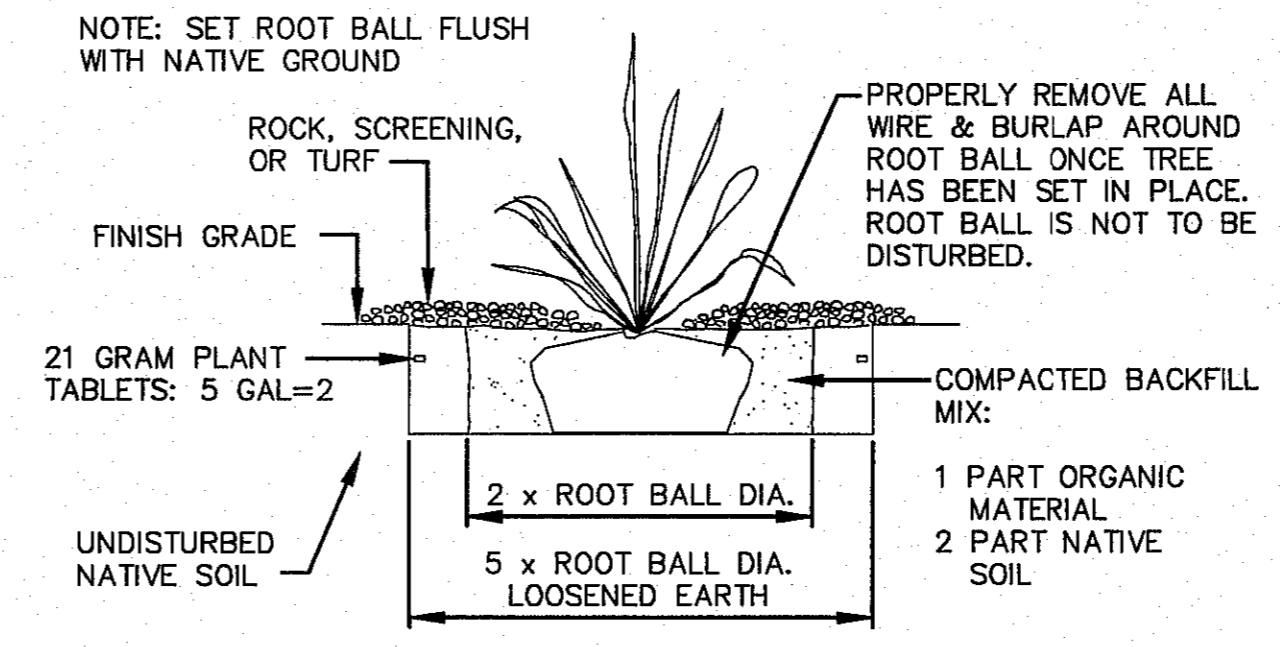
KEY PLAN
N.T.S.

PLANT SCHEDULE

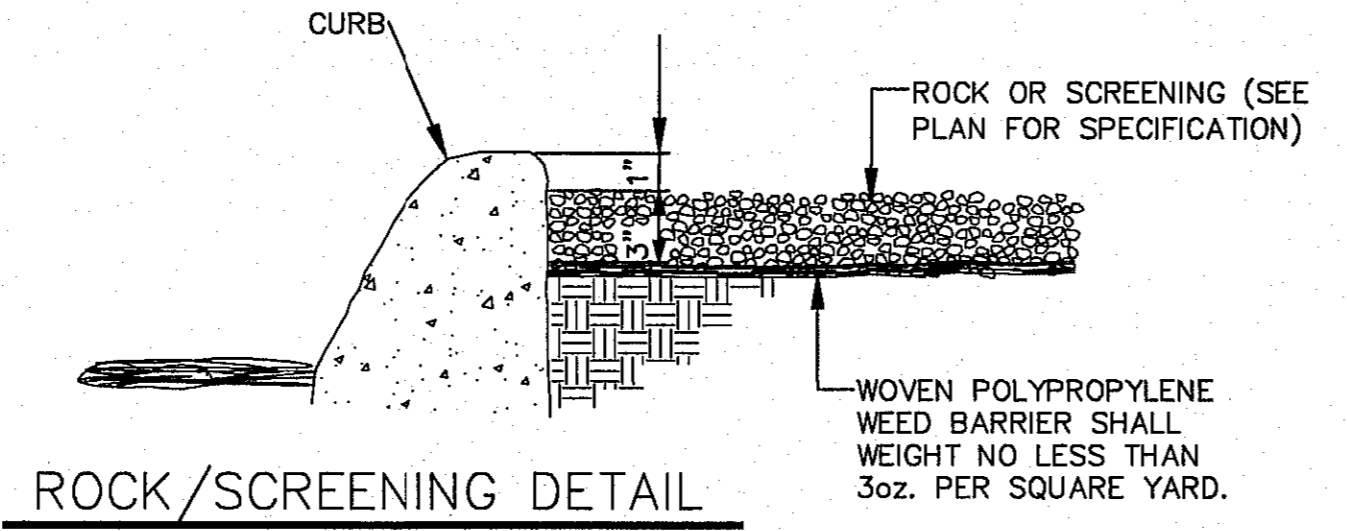
TREES	QTY	COMMON / BOTANICAL NAME	CONT	CAL	SIZE
	2	CHASTE TREE / VITEX AGNUS-CASTUS	B & B	2" CAL	10'-12' H
	1	SWEET ACACIA / ACACIA FARNESIANA SMALLII	B & B	2" CAL	10'-12' H
	2	TEXAS HONEY MESQUITE / PROSOPIS GLANDULOSA 'THORNLESS AZT'	B & B	2" CAL	10'-12' H
SHRUBS	QTY	COMMON / BOTANICAL NAME	CONT	SIZE	
	36	CIMMERON / LEUCOPHYLLUM ZYGOPHYLLUM 'CIMARRON' TM	5 GAL	18"-24" H	
	6	DAMIANITA / CHRYSACTINIA MEXICANA	5 GAL	18"-24" H	
	6	FLIRT NANDINA / NANDINA DOMESTICA 'MURASAKI'	5 GAL	18"-24" H	



TREE PLANTING DETAIL
NOT TO SCALE



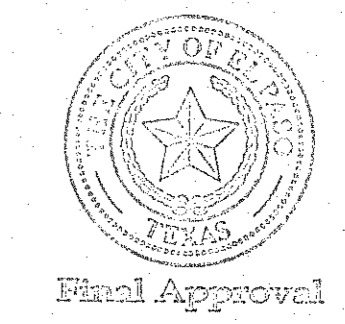
SHRUB PLANTING DETAIL
NOT TO SCALE



ROCK/SCREENING DETAIL
NOT TO SCALE

LANDSCAPE GENERAL NOTES

- A. THE SUB-CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE CAUSED BY THE SUB-CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- B. ALL LANDSCAPED AREAS MUST BE COVERED WITH ROCK (UNLESS OTHERWISE SPECIFIED ON PLANS) AND INSTALLED 3" THICK, 1" BELOW TOP OF CURB UNDERLAID WITH NON-WOVEN POLYPROPYLENE WEED BARRIER (ASTM D 5199). WEED BARRIER MUST NOT WEIGH LESS THAN 3oz. PER SQUARE YARD. MATCH EXISTING ROCK/MULCH.
- C. ANY PLANT CHANGES AND/OR SUBSTITUTIONS MUST BE APPROVED BY DESIGNER BEFORE SUCH CHANGES ARE MADE.
- D. NO TREES ARE TO BE PLANTED WITHIN 10' OF ANY UTILITY LINES.



Final Approval

LANDSCAPE PLAN
SCALE: 1" = 20'

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL EXISTING
UNDERGROUND IMPROVEMENTS
IN PROJECT AREA

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

Essential
Landscaping & Sprinklers, INC.

5505 Rosa El Paso, Tx 79905
Phone: 533-4111 essentials@att.net

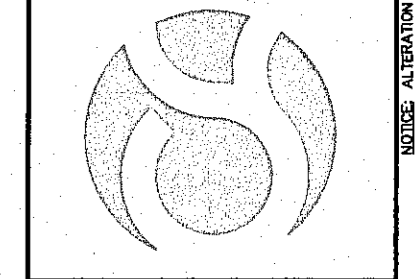
NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO

WARNING!
BEFORE YOU DIG
CONTRACTOR SHALL
FIELD LOCATE ALL
EXISTING UNDERGROUND
IMPROVEMENTS IN
PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
1-800-301-TESS
AT&T
1-800-301-TESS
EL PASO GAS SERVICE
1-800-301-TESS
EL PASO WATER
1-800-301-TESS
EL PASO PUBLIC SERVICE BOARD (WATER & SEWER)
562-8411
AFTER HOURS EMERGENCY (EPW)
594-5775
TEXAS EXCAVATION SAFETY SYSTEM
1-800-344-6377
KINDER-MORGAN EPAG PIPELINES
1-800-238-3764
EL PASO PUBLIC SNAKES, STREETS AND UTILITIES
1-800-238-3764
EL PASO PUBLIC SNAKES, STREETS AND UTILITIES
1-800-238-3764

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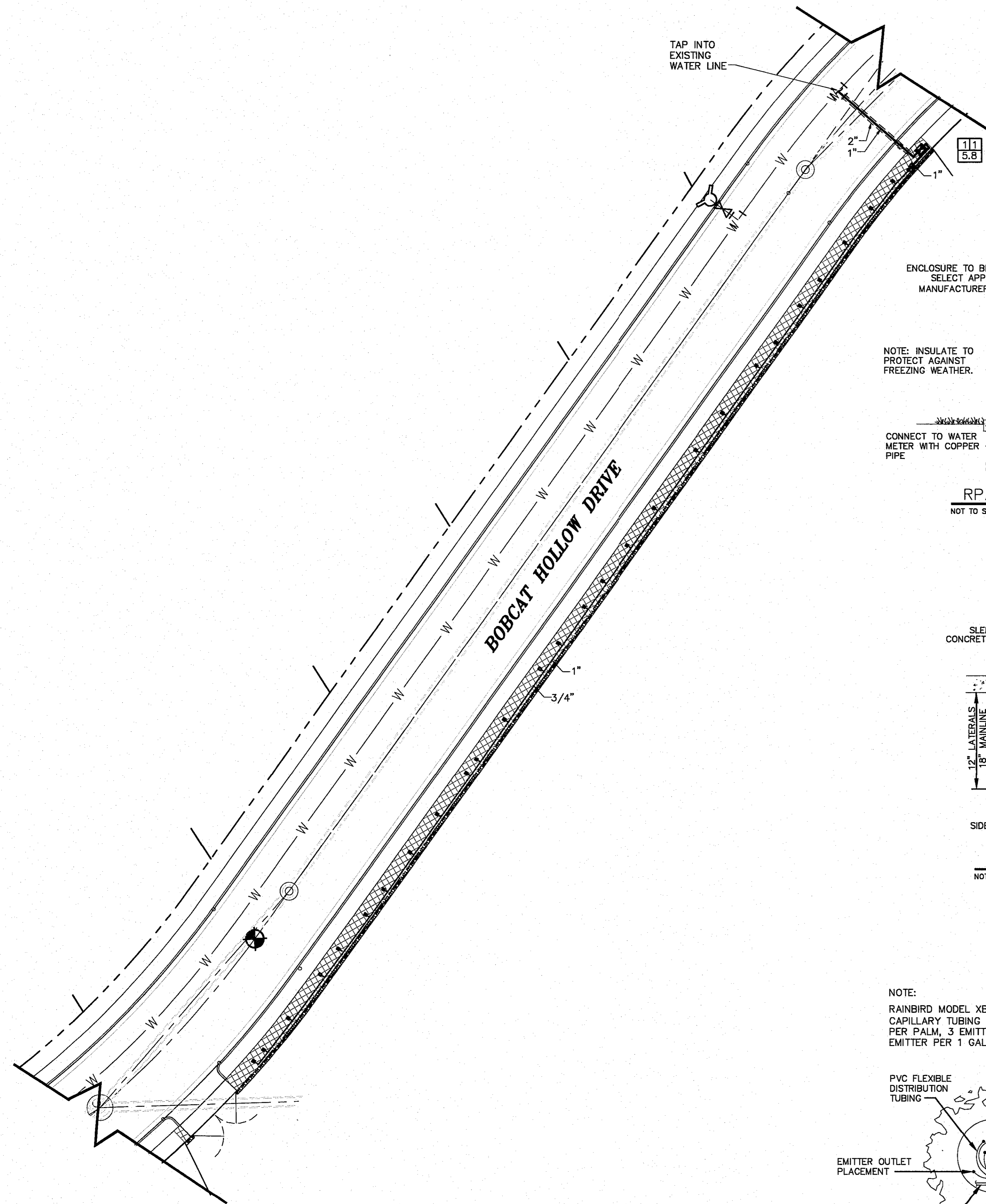
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Texas Registered Engineering Firm F-5897
1845 Northwestern Dr. Ste C
El Paso, Texas 79912
tel [915] 877.4155
fax [915] 877.4334
www.csaengineers.com



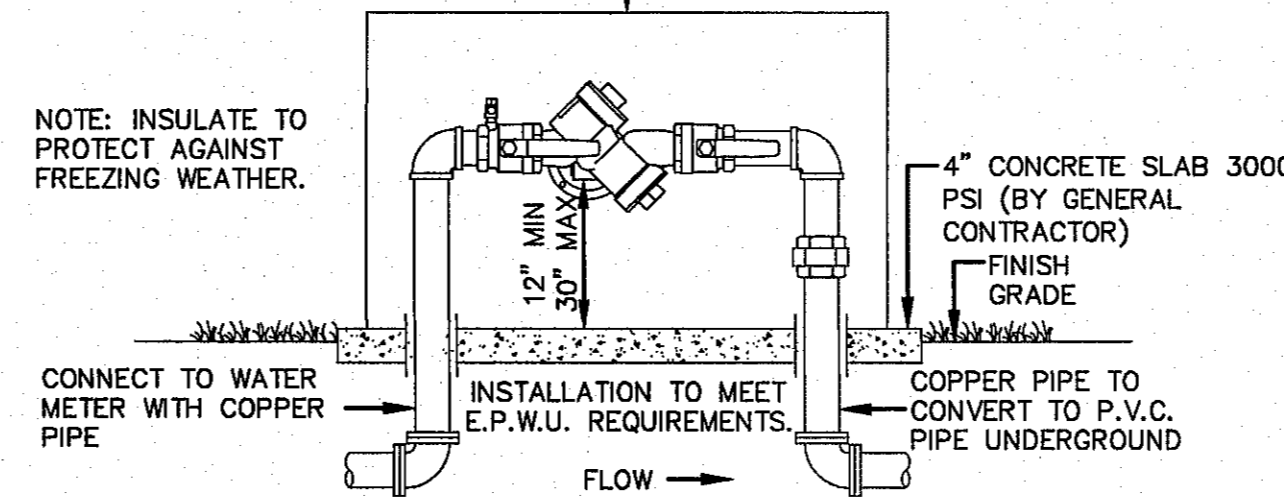
CIMARRON CANYON
UNIT THREE
SUBDIVISION

SHEET TITLE
LANDSCAPE
PLAN

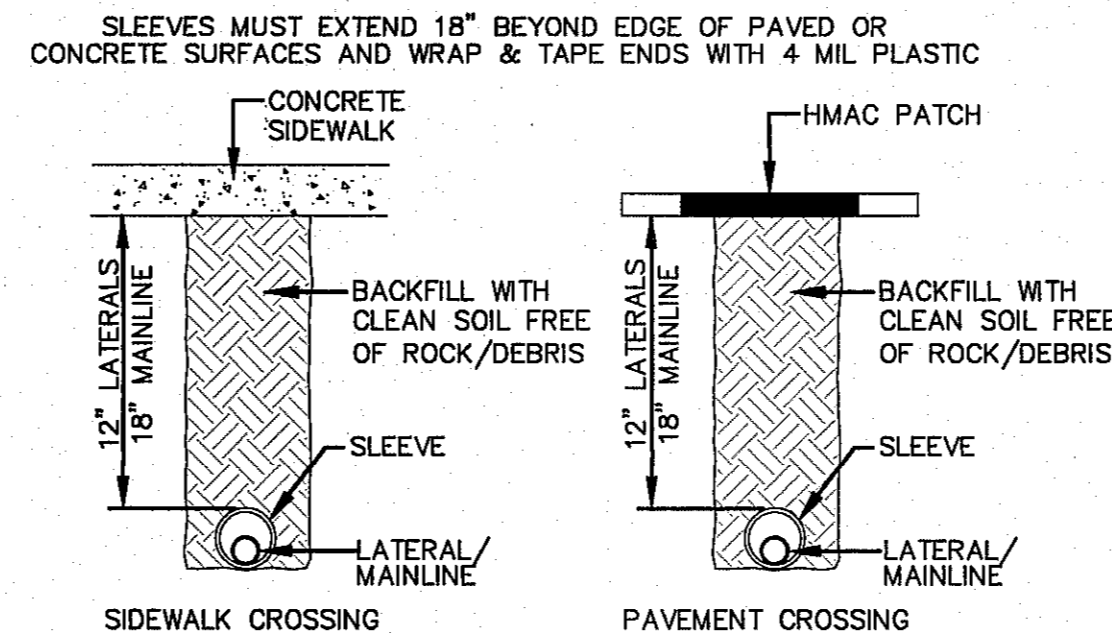
JOB NO.	1724
JOB DATE	08/08/18
DATE	AS NOTED
SCALE	SCALE
SHEET NO.	45
TOTAL SHEETS	46



ENCLOSURE TO BE BY HYDRO COM. MODEL No.2005-AL. IRRIGATOR IS TO SELECT APPROPRIATE SIZE OF ENCLOSURE AND INSTALL AS PER MANUFACTURER'S INSTRUCTIONS AND MUST BE ASSE-1060 CERTIFIED.

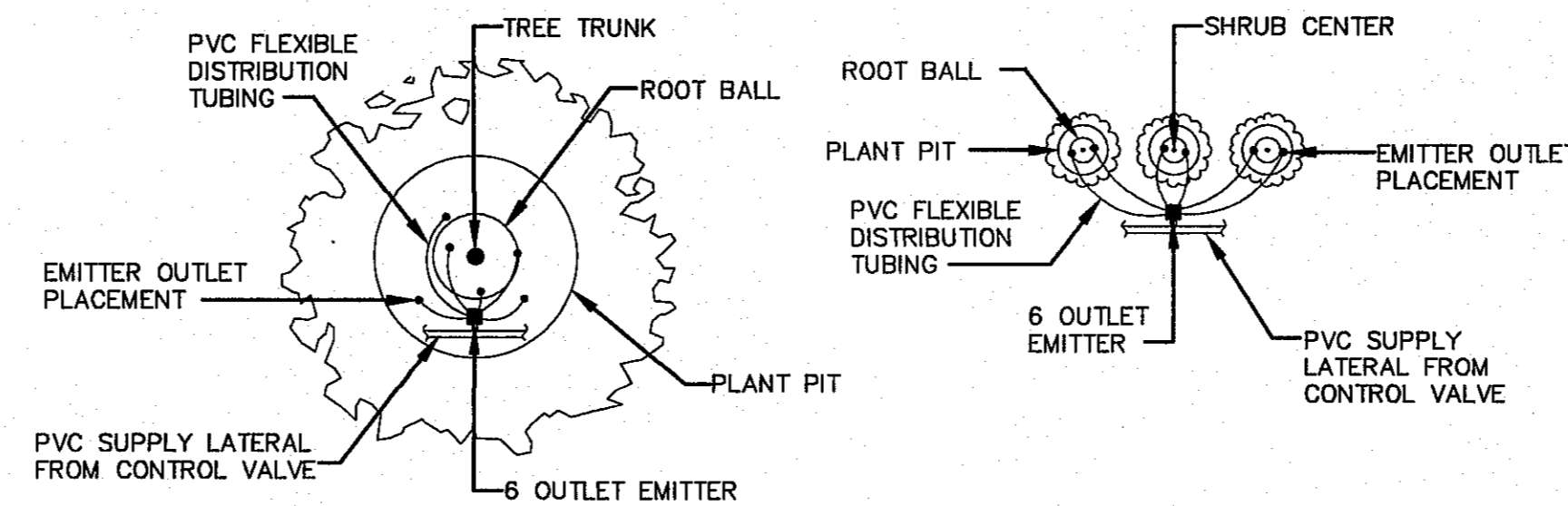


RPA FEBCO Mo.825Y DETAIL
NOT TO SCALE



SLEEVING STANDARD DETAIL
NOT TO SCALE

NOTE:
RAINBIRD MODEL XB-20PC (USE 3/4" POLYETHYLENE TUBING). 2 GPH DRIP EMITTER. CAPILLARY TUBING WITH E.O.C.V.S./STAKES, INSTALL 6 EMITTERS PER TREE, 4 EMITTERS PER PALM, 3 EMITTERS PER 15 GAL SHRUB, 2 EMITTERS PER 5 GAL SHRUB AND 1 EMITTER PER 1 GAL SHRUB.



EMITTER OUTLET PLACEMENT DETAIL
NOT TO SCALE

IRRIGATION LEGEND		
	1" FEBCO 825Y REDUCED PRESSURE BACKFLOW PREVENTER W/COVER AS PER DETAIL	
	DIG LEIT 1" ILV-1" GLOBE VALVE SINGLE STATION SOLAR POWERED CONTROLLER WITH A DC LATCHING SOLENOID	
	RAINBIRD MODEL XBT-20-6 DRIP EMITTER 2 GPH, WITH CAPILLARY TUBING WITH E.O.C.V.S./STAKES INSTALL 2 EMITTERS PER SHRUB AND 6 PER TREE AND ENCLOSE IN AGRIFIM EMITTER BOX EB-6 (COLOR OF EMITTER BOXES TO MATCH COLOR OF ROCK)	
	1" WILKINS MODEL 600C PRESSURE REDUCING VALVE (USE VALVE ONLY IF STATIC PRESSURE IS OVER 80 PSI)	
	1" PVC, CLASS 200, MAIN LINE	
	ALL UNSIZED PIPE TO BE 3/4" PVC, CLASS 200, SIZED ON PLAN.	
	ALL LATERALS UNDER CONCRETE OR PAVED SURFACES MUST BE ENCASED IN A PVC SLEEVE 2 TIMES PIPE DIAMETER. USE CLASS 200 PIPE.	
	A) STATION NUMBER	B) SIZE OF VALVE IN INCHES
	C) TOTAL GPM	
	NEW 1" YARD METER. INSTALL WITH TYPE "K" COPPER FROM METER TO BACKFLOW	

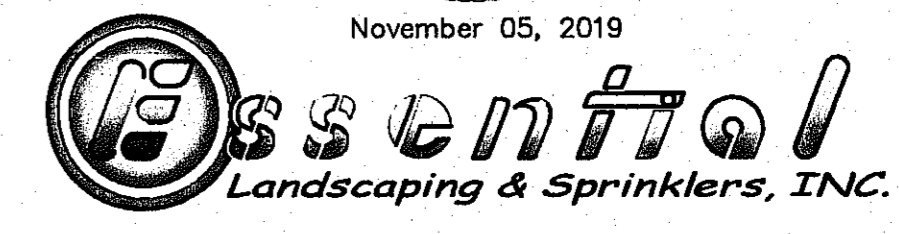
IRRIGATION IS REGULATED BY TEXAS NATURAL RESOURCE CONSERVATION COMMISSION, P.O. BOX 13087, AUSTIN TEXAS 78711-3087.

GENERAL NOTES	
A.	THE SUB-CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE CAUSED BY THE SUB-CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
B.	LOCATE ALL VALVES AWAY FROM LOW SPOTS OR AREAS OF DRAINAGE FLOW.
C.	MAINTAIN 4" MINIMUM CLEARANCE BETWEEN PIPE RUNNING IN THE SAME TRENCH. CONTROL WIRE SHALL ALWAYS BE TO THE SIDE AND BELOW THE TOP OF THE PIPE RUNNING IN THE SAME TRENCH.
D.	ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, SIDEWALKS, ETC.) SHALL BE INSTALLED IN CLASS 200 PVC SLEEVES. SLEEVES SHALL BE OF THE SIZE SO THAT THE INSIDE DIAMETER OF THE SLEEVE IS 2 PIPE SIZES GREATER THAN THAT OF THE COMBINED OUTER DIAMETER OF ALL ITEMS INSTALLED IN THE SLEEVES.
E.	THE SUB-CONTRACTOR WILL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS DESIGNED, WHEN IT IS OBVIOUS THAT FIELD CONDITIONS EXIST, THAT WERE NOT CONSIDERED AT TIME OF DESIGNING THE SYSTEM. ANY CONDITIONS NOTED AS SUCH, SHALL BE REPORTED TO THE ARCHITECT AND IRRIGATION DESIGNER. IF THE SUB-CONTRACTOR FAILS TO DO SO, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY CORRECTIONS NEEDED.
F.	ALL CONTROL WIRING FROM THE VALVES TO THE CONTROLLER MUST BE INSTALLED IN A 1" PVC CONDUIT PIPE IF BURIED BENEATH CONCRETE OR ASPHALT SURFACES.
G.	SUB-CONTRACTOR IS RESPONSIBLE FOR CONNECTING AUTOMATIC CONTROLLER TO ELECTRICITY.

Final Approval

Patricia Garcia

November 05, 2019



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Phone: 533-4111 essentials@att.net

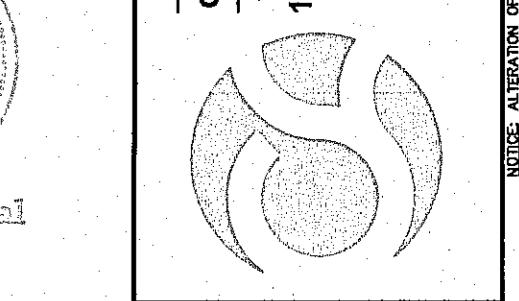
NO.	DATE	DESCRIPTION	BY
1	09/23/19	First City Submittal	AHO
2	11/07/19	Second City Submittal	AHO

WARNING! BEFORE YOU DIG
CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

BEFORE YOU DIG - CALL
EL PASO ELECTRIC COMPANY
AT&T
TEXAS GAS SERVICE
PUBLIC SERVICE BOARD (WATER & SEWER)
TEXAS EXCAVATION SAFETY SYSTEM
KINDER-MORGAN EPNG PIPELINES
EL PASO WATER MAINS

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CIMARRON CANYON UNIT THREE SUBDIVISION

SHEET TITLE
IRRIGATION PLAN

COB	1724
COB-SM	08/08/18
AHO	AS NOTED
SCALE	AS SHOWN

SHEET NO.	L2
SHEET SEQUENCE	46 of 46

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11/15/19 (VNS) George Dineen/El Paso Water/EPW (C&S Design Group) El Paso Water

IRRIGATION PLAN
SCALE: 1" = 20'

WARNING! BEFORE YOU DIG
CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UNDERGROUND IMPROVEMENTS IN PROJECT AREA

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