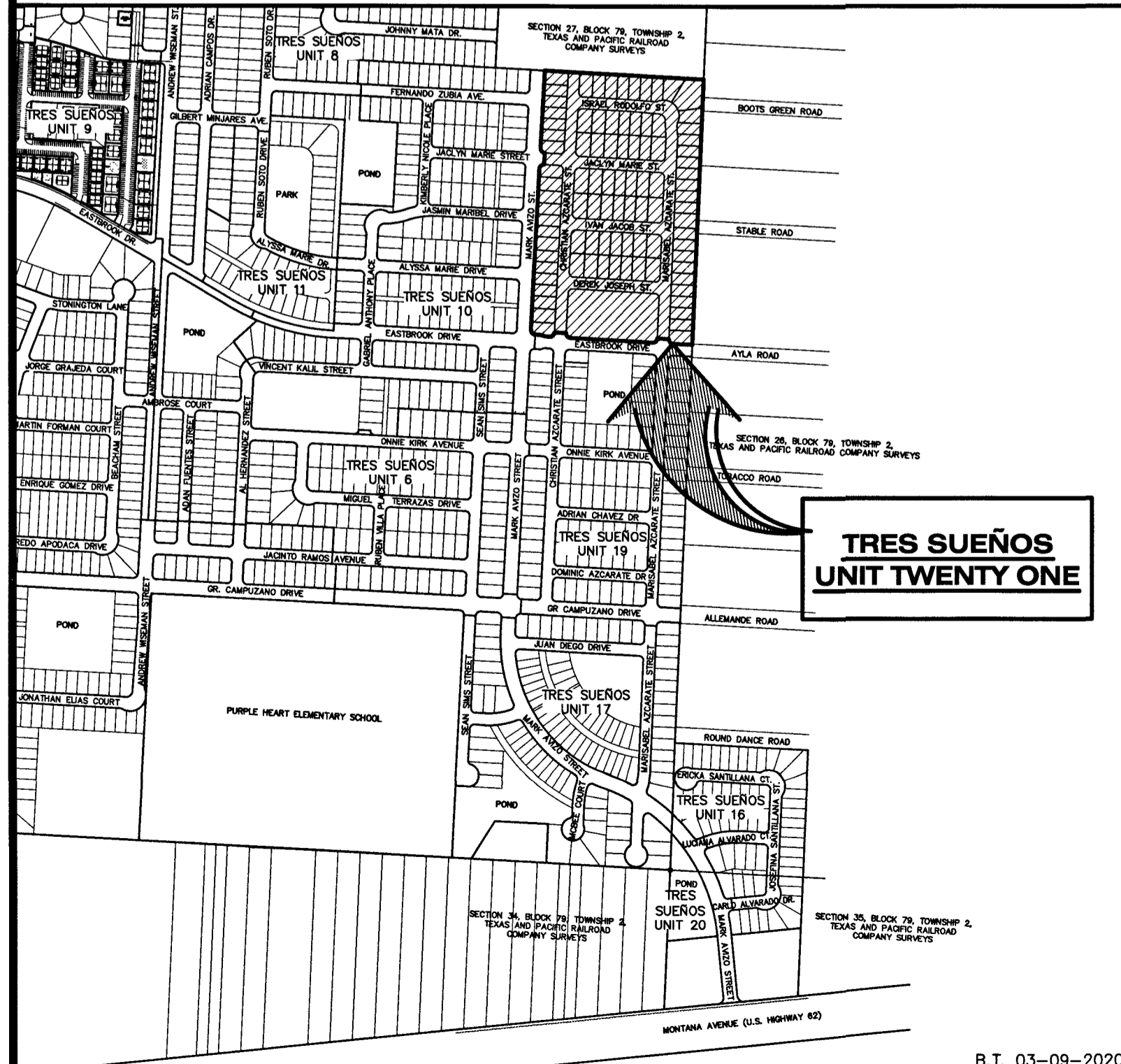


CURVE TABLE						CURVE TABLE						LINE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	LINE	BEARING	LENGTH
C1	20.00'	31.22'	19.81'	28.15'	N42°13'44"W	089°26'23"	C24	426.00'	12.67'	6.33'	12.67'	N86°05'48"W	001°42'14"	L1	N86°56'55"W	85.19'
C2	20.00'	31.61'	20.00'	28.42'	S47°46'16"W	090°33'37"	C25	20.00'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L2	N86°31'04"W	52.01'
C3	20.00'	31.42'	20.00'	28.28'	N41°56'55"W	090°00'00"	C26	20.00'	31.42'	20.00'	28.28'	N48°03'05"E	090°00'00"	L3	N86°56'55"W	52.00'
C4	20.00'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	C27	20.00'	31.42'	20.00'	28.28'	N41°56'55"W	090°00'00"	L4	N86°56'55"W	18.84'
C5	30.00'	13.53'	6.88'	13.42'	N74°01'40"W	025°50'31"	C28	20.00'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L5	N86°56'55"W	20.00'
C6	30.00'	13.53'	6.88'	13.42'	N74°01'40"W	025°50'31"	C29	20.00'	31.22'	19.81'	28.15'	N42°13'44"W	089°26'23"	L6	N03°03'33"E	52.00'
C7	20.00'	31.42'	20.00'	28.28'	N41°56'55"W	090°00'00"	C30	20.00'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L7	N02°28'03"E	39.53'
C8	20.00'	31.41'	20.00'	28.28'	N48°02'47"E	089°59'24"	C31	20.00'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L8	S02°26'47"E	65.48'
C9	20.00'	31.42'	20.00'	28.28'	N41°57'13"W	090°00'36"	C32	20.00'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L9	S02°26'47"E	49.37'
C10	400.00'	34.47'	17.25'	34.46'	N00°01'21"E	004°56'14"	C33	20.00'	31.22'	19.81'	28.15'	N42°13'44"W	089°26'23"	L10	S85°14'42"E	49.37'
C11	56.00'	80.93'	49.37'	74.07'	N43°50'44"W	082°47'55"	C34	20.00'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L11	N86°56'55"W	70.21'
C12	400.00'	11.89'	5.95'	11.89'	N86°05'48"W	001°42'14"	C35	20.00'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L12	N86°56'55"W	52.00'
C13	400.00'	40.86'	20.45'	40.85'	N84°01'19"W	005°51'11"	C36	20.00'	31.96'	20.55'	28.67'	S48°49'53"W	091°33'36"	L13	S02°29'28"W	10.57'
C14	400.00'	40.86'	4.37'	8.73'	N80°28'13"W	001°15'02"	C37	426.00'	11.60'	5.80'	11.60'	S86°10'07"E	001°33'36"	L14	S02°26'47"E	2.98'
C15	400.00'	49.59'	24.83'	49.56'	S83°23'48"E	007°06'14"	C38	20.00'	31.22'	19.81'	28.15'	N42°13'44"W	089°26'23"	L15	S85°14'42"E	16.39'
C16	426.00'	36.71'	18.37'	36.70'	N00°01'21"E	004°56'14"	C39	20.00'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L16	S85°14'42"E	19.07'
C17	40.00'	15.11'	7.65'	15.02'	S08°22'27"W	021°38'27"	C40	374.00'	12.83'	6.42'	12.83'	S85°57'57"E	001°57'56"	L17	N86°56'55"W	18.38'
C18	40.00'	2.53'	1.26'	2.53'	S21°00'18"W	003°37'16"	C41	20.00'	30.73'	19.33'	27.80'	S40°57'57"E	088°02'04"	L18	N86°56'55"W	13.58'
C19	70.00'	50.07'	26.16'	49.01'	N02°19'30"E	040°58'53"	C42	20.00'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L19	N02°28'04"E	39.98'
C20	70.00'	49.61'	25.90'	48.58'	N38°28'06"W	040°36'20"	C43	374.00'	11.12'	5.56'	11.12'	N86°05'48"W	001°42'14"	L20	N02°28'03"E	39.53'
C21	70.00'	40.94'	21.07'	40.36'	N75°31'34"W	033°30'35"	C44	30.00'	43.36'	26.45'	39.68'	N43°50'19"W	082°48'46"			
C22	70.00'	22.24'	11.22'	22.15'	S78°36'58"W	018°12'23"	C45	374.00'	10.23'	5.12'	10.23'	N01°39'46"W	001°34'02"			
C23	40.00'	17.62'	8.96'	17.48'	N82°08'02"E	025°14'32"	C46	374.00'	22.00'	11.00'	22.00'	N00°48'22"E	003°22'12"			

**PLAT NOTES AND RESTRICTIONS:**

- BEARINGS SHOWN ARE GRID BEARINGS DERIVED FROM RTK OBSERVATIONS TO THE TEXAS CO-OP NETWORK. REFERRED TO THE TEXAS COORDINATE SYSTEM (NAD 83) CENTRAL ZONE. DISTANCES ARE GROUND DISTANCES AND MAY BE CONVERTED TO GRID DIVIDING BY 1.0020946.
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO TRES SUEÑOS UNIT TWENTY ONE 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. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON EASTBROOK DRIVE, CHRISTIAN AZCARATE STREET, MARISABEL AZCARATE STREET, AND JACLYN MARIE STREET THAT WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
- TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20200029512 DATE 4-15-2020
- RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20200029514 DATE 4-15-2020
- SUBDIVISION IMPROVEMENTS AGREEMENT & GUARANTEE FOR THIS SUBDIVISION IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20200029514 DATE 4-15-2020
- INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES. SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
- "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
- THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0175 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.
- VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING EASTBROOK DRIVE AND MARK AVIZO STREET SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT NO. 20200029515 DATE 4-15-2020
- △ DENOTES EXISTING MONUMENT. (FOR EXACT LOCATION CONTACT CITY OF EL PASO)
- ⊙ PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION PLEASE CONTACT THE CITY OF EL PASO)
- THE STORM-WATER RUNOFF WITHIN THIS SUBDIVISION'S LIMITS WILL DISCHARGE INTO EXISTING RETENTION PONDS LOCATED IN TRES SUEÑOS UNITS 8 AND 19.
- DEED REFERENCE: DOC# 20160001453, AND DOC# 20120088876, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.
- \*R.P.R.E.P.C. = REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.
- \*P.R.E.P.C. = PLAT RECORDS OF EL PASO COUNTY, TEXAS.
- 10' U.E. = 10' UTILITY EASEMENT

**LOCATION MAP** SCALE: 1" = 600'

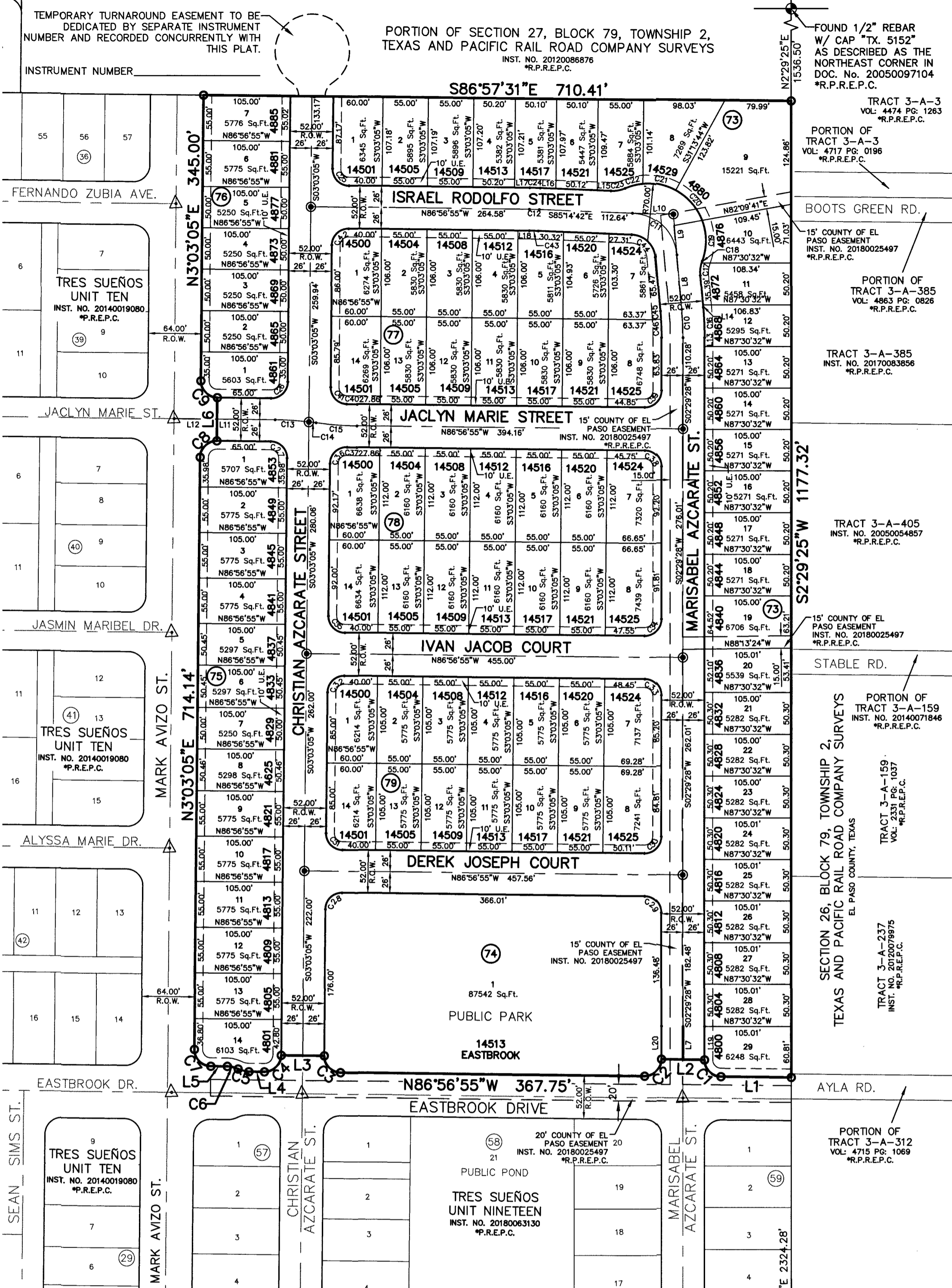


RESIDENTIAL	= 92
PARK	= 1
TOTAL	= 93

**SCHOOL DISTRICT**  
SOCORRO INDEPENDENT SCHOOL DISTRICT  
12440 ROJAS DR, EL PASO, TX 79928

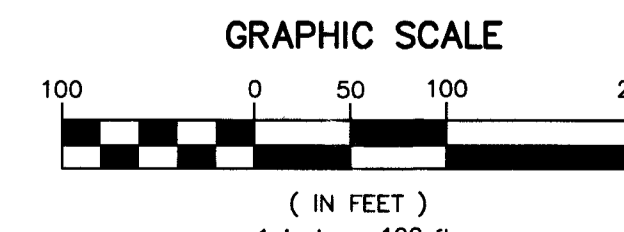
**FLOOD\_ZONE**  
THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0175 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.

**BENCHMARK:**  
CITY MONUMENT AT POINT OF CURVE CENTERLINE, RICH BEEM BLVD., S08°43'3"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.  
ELEVATION: 4005.40 (CITY DATUM)



FOUND 1/2" REBAR W/ CAP "TX 5152" AS DESCRIBED AS THE SOUTHEAST CORNER IN DOC. NO. 20050097104 \*R.P.R.E.P.C.

SECTION 27 SECTION 34



# TRES SUEÑOS UNIT TWENTY ONE

A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS. CONTAINING 19.26± ACRES

**DEDICATION**

G. Bowling Enterprises LLC, the owners of this land, do hereby present this map and dedicate their respective portions of property to the use of the public, the streets, utility and park as hereon laid out and designated, including easements for overhead service wires for pole type utilities and the right for installation of service poles alongside lot lines as may be required, easements for buried service wires, conduits and pipes for underground utilities, and the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness my signature this 12th day of March 2020.

*Gregory B. Bowling*  
Gregory B. Bowling, Manager

**ACKNOWLEDGEMENT**

STATE OF TEXAS  
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared Gregory B. Bowling, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed for the purpose and consideration herein expressed.

Given under my hand and seal of office this 12th day of March 2020.

*Noemi Kelly* 10-13-2021  
Notary Public in and for El Paso County My Commission Expires

**CITY PLANNING COMMISSION**

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas  
this 9th day of April 2020.

*Marianne Houston* *Kristin*  
Chairperson Executive Secretary

Approved for filing this 9th day of April 2020.

*Philip Deane*  
Planning and Inspections Director

**FILING**

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 15th day of April 2020, in File No. 20200029511 of the Plat Records.

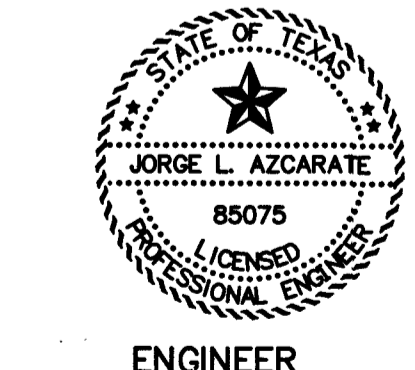
*Quila Bivens* *Rosanna Correa*  
FOR RECORDING PURPOSES ONLY by Deputy

Subdivision improvement plans prepared by and under the supervision of CEA Group.

This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Engineers and Land Surveyors, Professional and Technical Standards.

*Jorge L. Azcarate* 3-12-2020  
JORGE L. AZCARATE, P.E.  
Licensed Professional Engineer  
Texas License No. 85075

*Benito Barragan* 3/9/2020  
Benito Barragan TX, R.P.L.S. No. 5615



**cea group**  
813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564

**Barragan & Associates Inc.**  
LAND PLANNING & LAND SURVEYING  
TEXAS SURVEYING FIRM# 10151200  
10950 Pellicano Dr. Bldg. F - El Paso TX 79935  
Phone (915) 591-5709 Fax (915) 591-5706

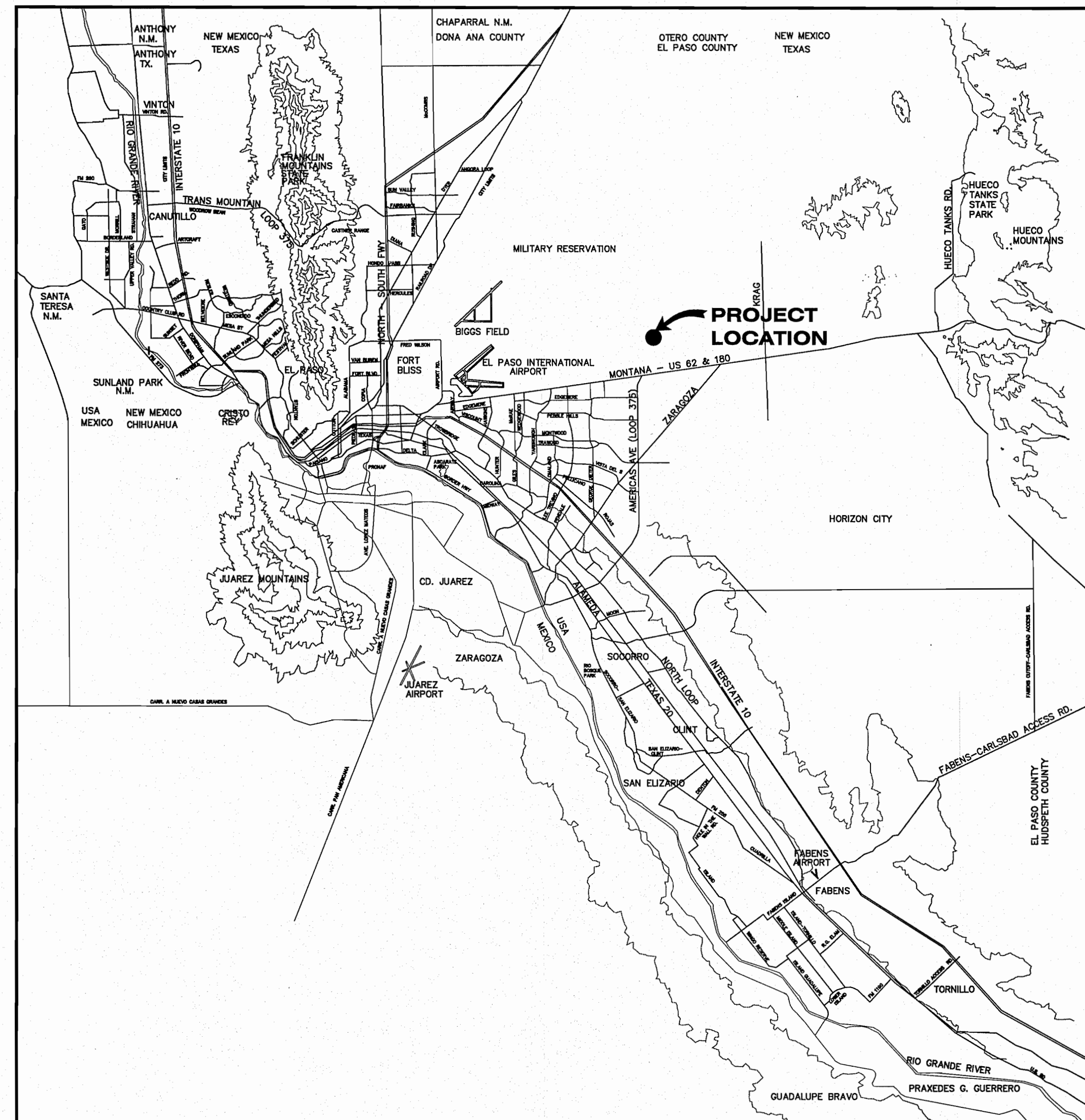
CONTACT: JORGE L. AZCARATE, P.E.

CONTACT: BENITO BARRAGAN, R.P.L.S.

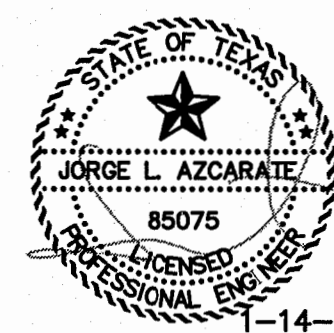
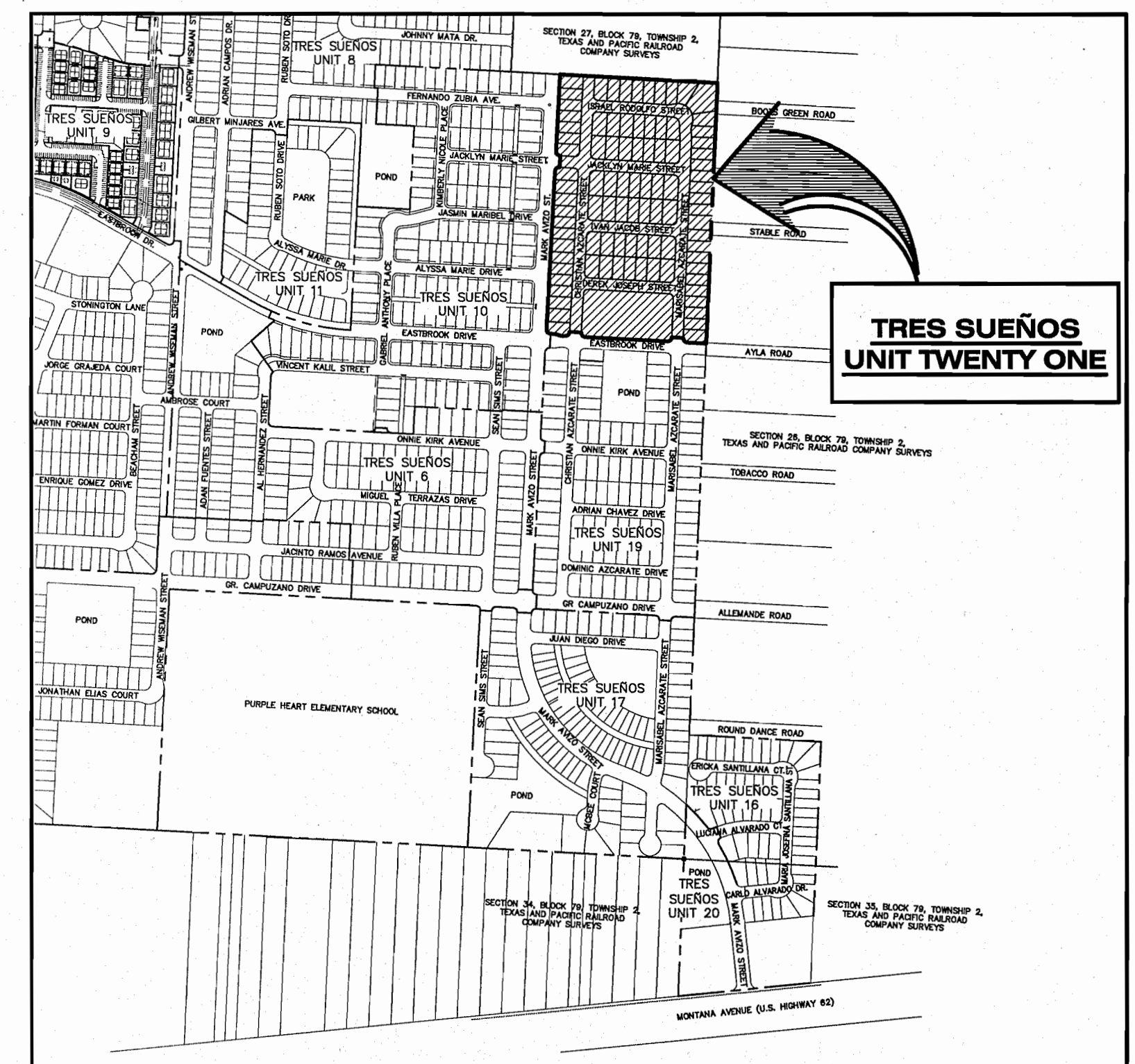
DATE OF PREPARATION: JANUARY 2020

# TRES SUEÑOS UNIT TWENTY ONE SUBDIVISION IMPROVEMENTS

A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2,  
TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS,  
CITY OF EL PASO, EL PASO COUNTY, TEXAS  
CONTAINING 19.26± ACRES



SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1, C3.2	GRADING PLAN, PARK GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1	GRADING SECTIONS
C6.1-C6.8	STREET PLAN & PROFILES
C7.1	STORM SEWER PLAN & PROFILES
C8.1-C8.4	STANDARD DETAILS
C9.1, C9.2	DRAINAGE DETAILS
C10.1, C10.2	ILLUMINATION & SIGNAGE PLAN
C11.1	WATER INDEX / GENERAL INFORMATION
C12.1-C12.4	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C14.1-C14.3	SANITARY SEWER PLAN & PROFILES
C15.1-C15.3	SANITARY SEWER DETAILS
C16.1-C16.3	STORM WATER POLLUTION PREVENTION PLAN
L1-L7	PARK PLANS



JORGE L. AZCARATE, P.E. PROJECT MANAGER

**cea** group  
813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564



Reviewed For Conformance For Condition Related To:

- Grading & Drainage
- Wetland Damage
- On Site Parking Layout
- Stormwater
- Retaining Walls With
- On Site Parking of Storm Water

Contractor Shall Comply With All Rules & Regulations For Construction For Inspections

*J.L.A.* 3/3/2020

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	G. BOWLING ENTERPRISES, LLC.	4712 WOODROW BEAN DR. STE A	EL PASO, TX 79924	(915) 757-1802	(915)-757-1827
ENGINEER:	CEA GROUP	813 N. KANSAS ST. STE 300	EL PASO, TX 79902	(915) 544-5232	
SURVEYOR:	BARRAGAN & ASSOCIATES	10950 PELLICANO DR. BUILDING F	EL PASO, TX 79936	(915) 591-5709	(915) 591-5706

**GENERAL NOTES**

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
2. CONTRACTOR SHALL WATER CONSTRUCTION AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM - ONCE IN THE MORNING AND BEFORE QUITTING TIME. THIS SHALL ALSO BE DONE DURING WEEKENDS AND HOLIDAYS.
3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, PROTECT, AND REPLACE ALL UNDERGROUND UTILITY LINES AT NO EXTRA COST TO THE OWNER WHEN LINES ARE DISTURBED AS A RESULT OF THE WORK.
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM HIS WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF DURING THE COURSE OF HIS OPERATIONS. ALL LABOR, TOOLS, EQUIPMENT, AND SUPERVISION REQUIRED TO ASSURE SUCH PROPER PASSAGE OF RUNOFF WATER AND ANY REMOVAL OR HANDLING OF WATER IN ORDER TO MAINTAIN DRY CONDITIONS SHALL BE CONSIDERED INCIDENTAL TO THE WORK, AND SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
6. ALL EXISTING PAVEMENT, ADJACENT UTILITIES, STRUCTURES, ETC., DISTURBED AS A RESULT OF THE NEW CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. THE OWNER WILL FURNISH HORIZONTAL AND VERTICAL CONTROL REFERENCED POINTS ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES BEFORE PROCEEDING WITH THE WORK. ANY DISCREPANCIES FOUND SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER, OTHERWISE THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THEIR CORRECTNESS.
8. SEE REFERENCED BENCHMARK ON TITLE BLOCK FOR DATUM ELEVATIONS.
9. VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
10. ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
11. THE LOCATION OF THE INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

**GRADING SPECIFICATIONS**

1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION; COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE; FILL DEPRESSIONS CAUSED BY CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY FILL MATERIAL UNLESS FURTHER EXCAVATION OF EARTHWORK IS INDICATED; REMOVE EXISTING ABOVE-GRADE AND BELOW-GRADE IMPROVEMENTS AS INDICATED AND AS NECESSARY TO FACILITATE NEW CONSTRUCTION. BURNING IS NOT PERMITTED ON OWNER'S PROPERTY. REMOVE WASTE MATERIALS FROM OWNER'S PROPERTY.
2. SATISFACTORY FILL MATERIALS: FILL MATERIALS SHALL BE FREE OF ANY ORGANIC OR DELETERIOUS SUBSTANCE AND SHALL NOT CONTAIN ROCKS OR LUMPS OVER 3 INCHES IN GREATEST DIMENSION AND SHALL BE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, GC, SM, SP, SM, AND SC.
3. UNSATISFACTORY FILL MATERIAL: ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS ML, MH, CL, CH, OL, OH, AND PT, OR WHERE THE PLASTICITY INDEX EXCEEDS 12, UNLESS OTHERWISE APPROVED BY ENGINEER, OR CITY ENGINEER.
4. EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
5. GROUND SURFACE PREPARATION FOR FILL: REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIAL, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE UPON WHICH THE FILL IS TO BE PLACED. THE SURFACE SHALL THEN BE SCARIFIED TO A DEPTH OF AT LEAST 6-INCHES, AND UNTIL THE SURFACE IS FREE FROM RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH WOULD PREVENT UNIFORM COMPACTION. PLOW STRIP, OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH 1 VERTICAL TO 4 HORIZONTAL SO THAT FILL MATERIAL WILL BOND WITH EXISTING SURFACE. AFTER PLOWING AND SCARIFYING FILL AREA, IT SHALL THEN BE DISCED OR BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS, BROUGHT TO OPTIMUM MOISTURE, AND COMPACTED TO 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557.
6. PLACEMENT OF FILL: PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIAL UNIFORMLY AROUND SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D-1557.
7. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE, BEFORE COMPACTION, UNIFORMLY APPLY WATER TO SURFACE OF SUBGRADE OR LAYER OF SOIL MATERIAL. APPLY WATER IN MINIMUM QUANTITY AS NECESSARY TO PREVENT FREE WATER FROM APPEARING ON SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS. WATER CONTENT SHALL BE WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE CONTENT. REMOVE AND REPLACE, OR SCARIFY AND AIR DRY SOIL MATERIAL THAT IS TOO WET TO PERMIT COMPACTION TO SPECIFIED DENSITY.
8. QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TEST OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE. WHEN THESE TESTS INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED UNTIL THE REQUIRED DENSITY HAS BEEN OBTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL TESTING AND WHEN REQUIRED DENSITIES ARE NOT MET, SUPERVISION BY THE GEOTECHNICAL ENGINEER DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

**LEGEND**

	SUBDIVISION BOUNDARY
	ROW LINE
	CURB LINE
	PROPERTY LINE
	STREET CENTERLINE
	EASEMENT LINE
	MATCH LINE
	STORM SEWER LINE
	HIGH WATER MARK
	CURB AND GUTTER DROP INLET
	STORM SEWER MANHOLE
	FINISHED GROUND CONTOUR ELEVATION (INDEX)
	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
	EXISTING GROUND CONTOUR ELEVATION (INDEX)
	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
	NEW RETAINING ROCKWALL (2'-3" IN HEIGHT)
	NEW RETAINING ROCKWALL (3'-9" IN HEIGHT)
	STANDARD DETAIL/SECTION NUMBER
	SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
	FINISHED SPOT ELEVATION
	LOT FINISHED GROUND ELEVATION
	TOP OF CURB ELEVATION
	TOP OF PAVEMENT ELEVATION
	SUBDIVISION LOT AND BLOCK NUMBER
	DRAINAGE FLOW
	HIGH POINT
	LOW POINT
	EXISTING HIGH POINT
	EXISTING LOW POINT
	HEADWALL WITH WINGWALLS
	DRAINAGE AREA
	3:1 SLOPE
	WHEELCHAIR RAMP

**ABBREVIATIONS**

LP	LOW POINT
HP	HIGH POINT
ELEV	ELEVATION
STA	STATION
VCS	VERTICAL CURVE STATION
VCE	VERTICAL CURVE ELEVATION
TC	TOP OF CURB
TM	TOP OF MEDIUM
TP	TOP OF PAVEMENT
TYP	TYPICAL
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
AD	ALGEBRAIC DIFFERENCE
CR	CURVE RETURN
ROW	RIGHT OF WAY
CL	CENTER LINE
PL	PROPERTY LINE
FG	FINISH GRADE
FF	FINISH FLOOR
EG	EXISTING GRADE
MIN.	MINIMUM
MAX.	MAXIMUM
RCP	REINFORCED CONCRETE PIPE
Q	QUANTITY
CAP	CAPACITY
EXP	EXPECTED
INV	INVERT
CFS	CUBIC FEET PER SECOND
A	AREA
DA	DRAINAGE AREA
LF	LINEAR FEET
STD	STANDARD
CONC	CONCRETE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
L	LENGTH
R	RADIUS
T	TANGENT
Δ	DELTA ANGLE
S	SLOPE
TEMP	TEMPORARY
V	VELOCITY IN FEET PER SECOND
HGL	HYDRAULIC GRADE LINE
HWE	HIGH WATER ELEVATION
RC	ROLLED CURB

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I  
BEFORE YOU DIG  
CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

**INDEX OF DRAWINGS**

DRAWING NAME	SHEET NO.
COVER	CVR
GENERAL INFORMATION	C1.1
FINAL PLAT	C2.1
GRADING PLAN	C3.1
PARK GRADING PLAN	C3.2
DRAINAGE PLAN (SHEET 1 OF 2)	C4.1
GRADING SECTIONS	C5.1
CHRISTIAN AZCARATE STREET PLAN & PROFILE FROM STA. 12+22.59 TO STA. 18+50.00	C6.1
CHRISTIAN AZCARATE STREET PLAN & PROFILE FROM STA. 18+50.00 TO STA. 23+80.00	C6.2
MARISABEL AZCARATE STREET PLAN & PROFILE FROM STA. 22+91.00 TO STA. 29+50.00	C6.3
MARISABEL AZCARATE STREET PLAN & PROFILE FROM STA. 29+50.00 TO STA. 33+09.05	C6.4
ISRAEL RODOLFO STREET PLAN & PROFILE FROM STA. 33+09.05 TO STA. 37+32.00	C6.5
IVAN JACOB COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 4+55.02	C6.6
JACLYN MARIE STREET PLAN & PROFILE FROM STA. 0+00.00 TO STA. 5+64.00	C6.7
DEREK JOSEPH COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 4+57.58	C6.8
LINE A PLAN & PROFILE FROM STA. 0+00.00 TO STA. 1+75.48	C7.1
LINE B PLAN & PROFILE FROM STA. 0+00.00 TO STA. 00+59.36	C7.1
STANDARD DETAILS (SHEET 1 OF 4)	C8.1
STANDARD DETAILS (SHEET 2 OF 4)	C8.2
STANDARD DETAILS (SHEET 3 OF 4)	C8.3
STANDARD DETAILS (SHEET 4 OF 4)	C8.4
DRAINAGE DETAILS (SHEET 1 OF 2)	C9.1
DRAINAGE DETAILS (SHEET 2 OF 2)	C9.2
ILLUMINATION AND SIGNAGE PLAN	C10.1
ILLUMINATION AND SIGNAGE DETAILS	C10.2
WATER LINE INDEX	C11.1
WATER DETAILS (SHEET 1 OF 4)	C12.1
WATER DETAILS (SHEET 2 OF 4)	C12.2
WATER DETAILS (SHEET 3 OF 4)	C12.3
WATER DETAILS (SHEET 4 OF 4)	C12.4
SANITARY SEWER INDEX	C13.1
SANITARY SEWER PLAN & PROFILE: LINE A & B	C14.1
SANITARY SEWER PLAN & PROFILE: LINE A-1 & C	C14.2
SANITARY SEWER PLAN & PROFILE: LINE D & E	C14.3
SANITARY SEWER DETAILS (SHEET 1 OF 3)	C15.1
SANITARY SEWER DETAILS (SHEET 2 OF 3)	C15.2
SANITARY SEWER DETAILS (SHEET 3 OF 3)	C15.3
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES	C16.1
STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN	C16.2
STORM WATER POLLUTION PREVENTION PLAN: DETAILS	C16.3
PARK PLAN: INDEX AND NOTES	L.1
PARK PLAN: PLANTING AND MATERIALS	L.2
PARK PLAN: IRRIGATION PLAN	L.3
PARK PLAN: LAYOUT PLAN	L.4
PARK PLAN: LANDSCAPE AND IRRIGATION DETAILS (SHEET 1 OF 2)	L.5
PARK PLAN: LANDSCAPE AND IRRIGATION DETAILS (SHEET 2 OF 2)	L.6
PARK PLAN: PUMP AND IRRIGATION DETAILS	L.7

REFERENCES - BENCHMARKS	BY
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BREN BLVD. S084233'E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4006.40 (CITY DATUM)	DATE
	REVISIONS

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceaengr.com

TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL

SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER, 2019
DESIGN BY:	R.O.
DRAWN BY:	T.C.
CHKD. BY:	J.L.A.
APPD. BY:	J.L.A.
JOB NO.	2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**



SHEET TITLE
GENERAL NOTES
SHEET NO.
<b>C1.1</b>

# TRES SUEÑOS UNIT TWENTY ONE

A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS. CONTAINING 19.26± ACRES

## DEDICATION

G. Bowling Enterprises LLC, the owners of this land, do hereby present this map and dedicate their respective portions of property to the use of the public, the streets, utility and park as hereon laid down and designated, including easements for overhead of service wires for pole type utilities and the right for installation of service poles alongside lot lines as may be required, easements for buried service wires, conduits and pipes for underground utilities, and the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness my signature this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Gregory B. Bowling, Manager

## ACKNOWLEDGEMENT

STATE OF TEXAS  
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared Gregory B. Bowling, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed for the purpose and consideration herein expressed.

Given under my hand and seal of office this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Notary Public in and for El Paso County My Commission Expires \_\_\_\_\_

## CITY PLANNING COMMISSION

This subdivision is hereby approved as to the plotting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas  
this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Chairperson Executive Secretary

Approved for filing this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Planning and Inspections Director

## FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this \_\_\_\_\_ day of \_\_\_\_\_, 2020, in File No. \_\_\_\_\_ of the Plat Records.

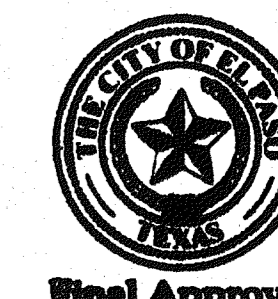
County Clerk by Deputy

Subdivision improvement plans prepared by and under the supervision of CEA Group.

This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Land Survey Professional and Technical Standards.

JORGE L. AZCARATE, P.E.  
Licensed Professional Engineer  
Texas License No. 85075

Benito Barragan TX, R.P.L.S. No. 5165

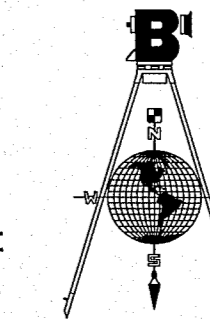


Final Approval

ENGINEER

**cea** GROUP  
813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564

CONTACT: JORGE L. AZCARATE, P.E.



SURVEYOR

**Barragan & Associates Inc.**  
LAND PLANNING & LAND SURVEYING  
TBPLS FIRM # 10151200  
10950 Pellicone Dr. Bldg. F - El Paso TX 79935  
Phone (915) 591-5709 Fax (915) 591-5706

CONTACT: BENITO BARRAGAN, R.P.L.S.

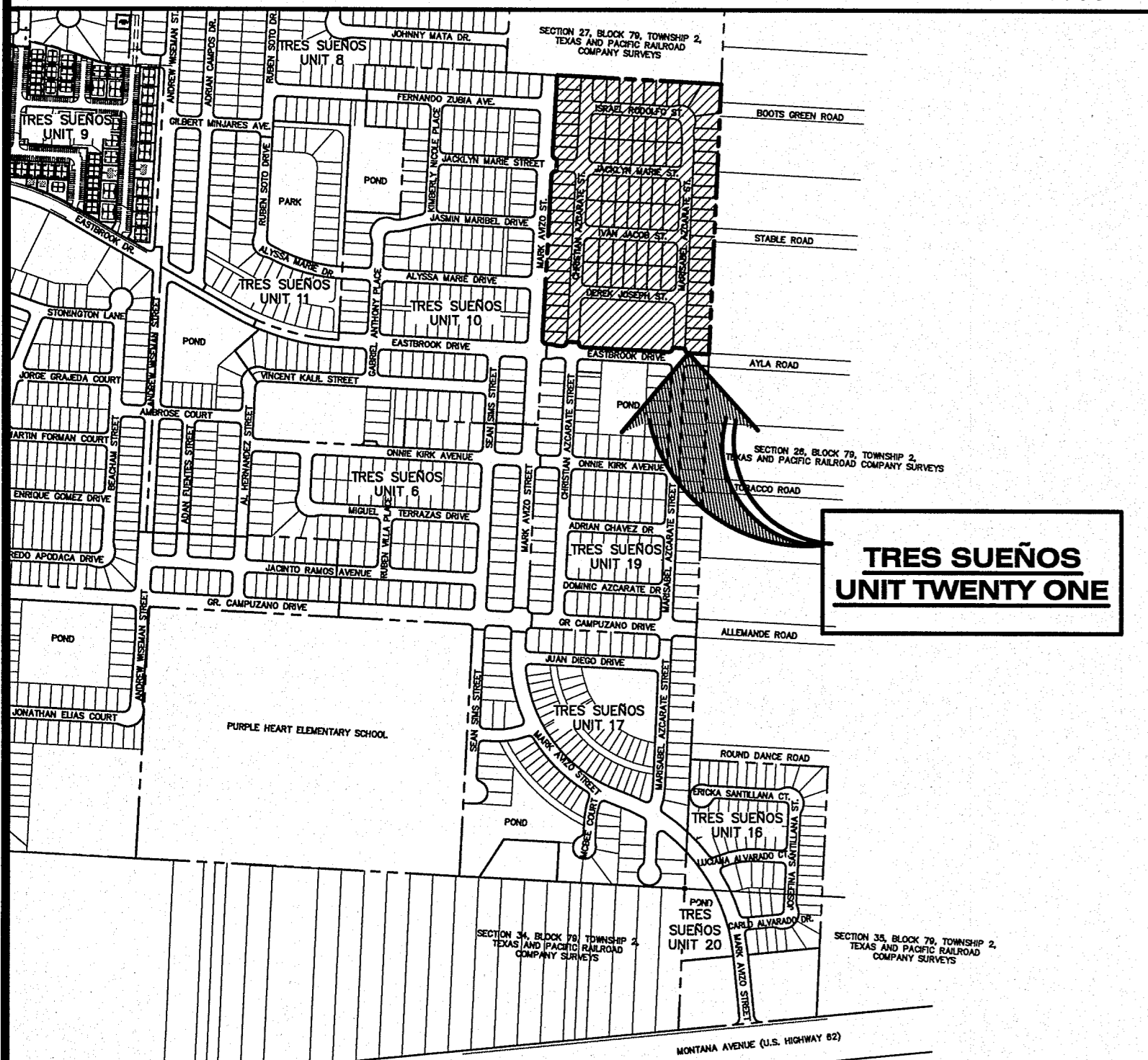
DATE OF PREPARATION: JANUARY 2020

CURVE TABLE						CURVE TABLE						LINE TABLE				
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	LINE	BEARING	LENGTH
C1	20.0'	31.22'	19.81'	28.15'	S42°13'44"E	089°26'23"	C24	426.00'	12.67'	6.33'	12.67'	N86°05'48"W	001°42'14"	L1	N86°56'55"W	85.19'
C2	20.0'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	C25	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L2	N86°31'04"W	52.01'
C3	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	C26	20.0'	31.42'	20.00'	28.28'	N48°03'05"E	090°00'00"	L3	N86°56'55"W	52.00'
C4	20.0'	31.42'	20.00'	28.28'	N48°03'05"E	090°00'00"	C27	20.0'	31.42'	20.00'	28.28'	N41°56'55"W	090°00'00"	L4	N86°56'55"W	18.84'
C5	30.0'	13.53'	6.88'	13.42'	S74°01'40"E	025°50'31"	C28	20.0'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L5	N86°56'55"W	20.00'
C6	30.0'	13.53'	6.88'	13.42'	N74°01'40"W	025°50'31"	C29	20.0'	31.22'	19.81'	28.15'	N42°13'44"W	089°28'23"	L6	N03°03'05"E	52.00'
C7	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	C30	20.0'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L7	N02°28'03"E	39.53'
C8	20.0'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	C31	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L8	S02°26'47"E	65.48'
C9	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	C32	20.0'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L9	S02°26'47"E	49.37'
C10	400.0'	34.47'	17.25'	34.46'	N00°01'21"E	004°56'14"	C33	20.0'	31.22'	19.81'	28.15'	N42°13'44"W	089°28'23"	L10	S85°14'42"E	49.37'
C11	56.0'	80.93'	49.37'	74.07'	N43°50'44"W	082°47'55"	C34	20.0'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L11	N86°56'55"W	70.21'
C12	400.0'	11.89'	5.95'	11.89'	N86°05'48"W	001°42'14"	C35	20.0'	31.42'	20.00'	28.28'	S41°56'55"E	090°00'00"	L12	N86°56'55"W	52.00'
C13	400.0'	40.86'	20.45'	40.85'	N84°01'19"W	005°51'11"	C36	20.0'	31.96'	20.55'	28.67'	S48°49'53"W	091°33'36"	L13	S02°29'28"W	10.57'
C14	400.0'	8.73'	4.37'	8.73'	N80°28'13"W	001°15'02"	C37	426.00'	11.60'	5.80'	11.60'	S86°10'07"E	001°33'36"	L14	S02°26'47"E	2.98'
C15	400.0'	49.59'	24.83'	49.56'	S83°23'48"E	007°06'14"	C38	20.0'	31.22'	19.81'	28.15'	N42°13'44"W	089°28'23"	L15	S85°14'42"E	16.39'
C16	428.00'	36.71'	18.37'	36.70'	N00°01'21"E	004°56'14"	C39	20.0'	31.61'	20.20'	28.42'	N47°46'16"E	090°33'37"	L16	S85°14'42"E	19.07'
C17	40.0'	15.11'	7.65'	15.02'	S08°22'27"W	021°38'27"	C40	374.00'	12.83'	6.42'	12.83'	S85°57'57"E	001°57'56"	L17	N86°56'55"W	18.38'
C18	40.0'	2.53'	1.26'	2.53'	S21°00'18"W	003°37'16"	C41	20.0'	30.73'	19.33'	27.00'	S40°57'57"E	088°02'04"	L18	N86°56'55"W	13.58'
C19	70.0'	50.07'	26.16'	49.01'	N02°19'30"E	040°58'53"	C42	20.0'	31.42'	20.00'	28.28'	S48°03'05"W	090°00'00"	L19	N02°28'04"E	39.98'
C20	70.0'	49.61'	25.90'	48.58'	N38°28'06"W	040°36'20"	C43	374.00'	11.12'	5.56'	11.12'	N86°05'48"W	001°42'14"	L20	N02°28'03"E	39.53'
C21	70.0'	40.94'	21.07'	40.94'	N75°31'34"W	033°30'35"	C44	30.0'	43.36'	26.45'	39.68'	N43°50'19"W	082°48'46"			
C22	70.0'	22.24'	11.22'	22.15'	S78°36'58"W	018°12'23"	C45	374.00'	10.23'	5.12'	10.23'	N01°38'46"W	001°34'02"			
C23	40.0'	17.62'	8.96'	17.48'	N82°08'02"E	025°14'32"	C46	374.00'	22.00'	11.00'	22.00'	N00°48'22"E	003°22'12"			

## PLAT NOTES AND RESTRICTIONS:

- BEARINGS SHOWN ARE GRID BEARINGS DERIVED FROM DISTANCE OBSERVATIONS TO THE TEXAS CO-OP NETWORK, REFERRED TO THE TEXAS COORDINATE SYSTEM (NAD 83) CENTRAL ZONE. DISTANCES ARE GROUND DISTANCES AND MAY BE CONVERTED TO GRID DIVIDING BY 1.00020946.
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO TRES SUEÑOS UNIT TWENTY ONE 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. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON EASTBROOK DRIVE, CHRISTIAN AZCARATE STREET, MARISABEL AZCARATE STREET, AND JACKLYN MARIE STREET THAT WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
- TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. \_\_\_\_\_ DATE \_\_\_\_\_
- RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. \_\_\_\_\_ DATE \_\_\_\_\_
- SUBDIVISION IMPROVEMENTS AGREEMENT & GUARANTEE FOR THIS SUBDIVISION IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. \_\_\_\_\_ DATE \_\_\_\_\_
- INTERIOR LOT CORNERS WILL BE SET UP UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES. SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
- "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
- THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0175 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.
- VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING EASTBROOK DRIVE AND MARK AVIZO STREET SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. \_\_\_\_\_ DATE \_\_\_\_\_
- △ DENOTES EXISTING MONUMENT. (FOR EXACT LOCATION CONTACT CITY OF EL PASO)
- ⊙ PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION PLEASE CONTACT THE CITY OF EL PASO)
- THE RETENTION OF ALL STORM-WATER RUNOFF DISCHARGE VOLUMES IS REQUIRED WITHIN THIS SUBDIVISION'S LIMITS IN COMPLIANCE WITH ALL PROVISIONS OF (DSC, MUNICIPAL CODE CHAPTER 19.19.010A, AND DDM, 11.1).
- DENOTES A SET 1/2" REBAR W/CAP "B&A, INC." (UNLESS OTHERWISE SHOWN)
- DENOTES A FOUND 1/2" REBAR W/CAP "B&A, INC."
- DEED REFERENCE: DOC# 20160001453, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.

## LOCATION MAP SCALE: 1" = 600'

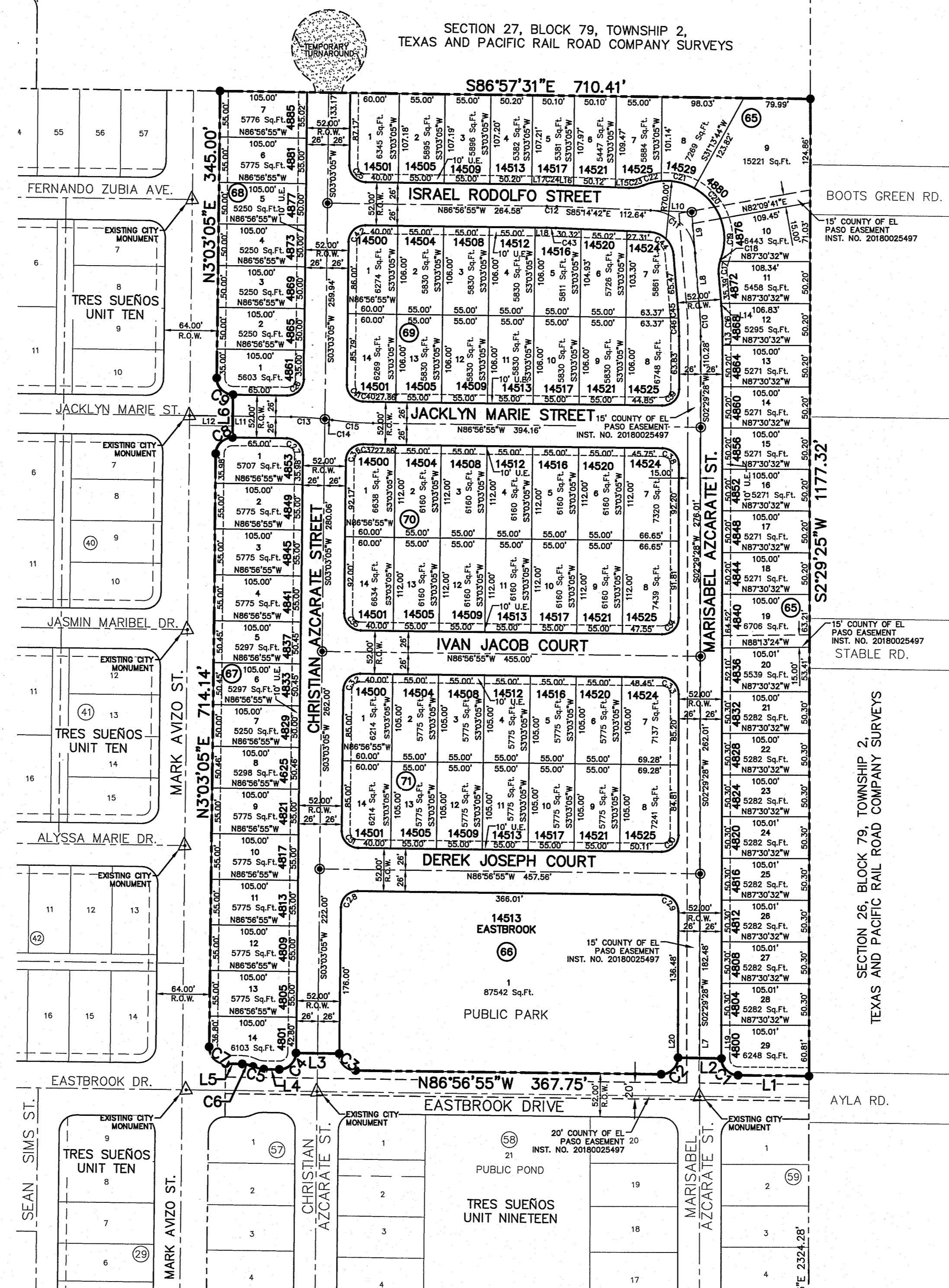


RESIDENTIAL	=	92
PARK	=	1
TOTAL	=	93

**SCHOOL DISTRICT**  
SOCORRO INDEPENDENT SCHOOL DISTRICT  
12440 ROJAS DR, EL PASO, TX 79928

**FLOOD ZONE**  
THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0175 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.

**BENCHMARK:**  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

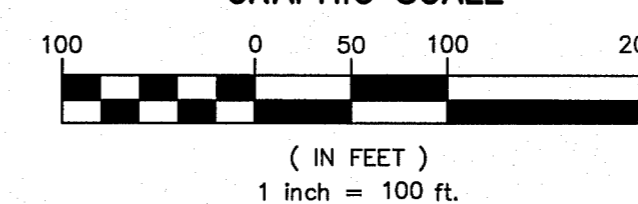


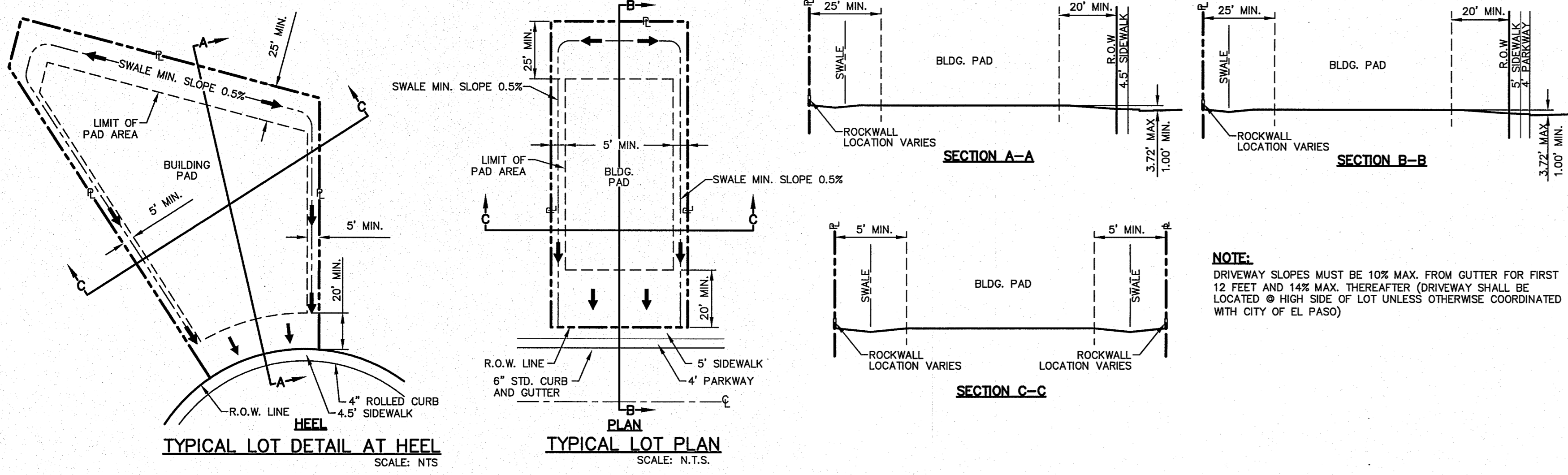
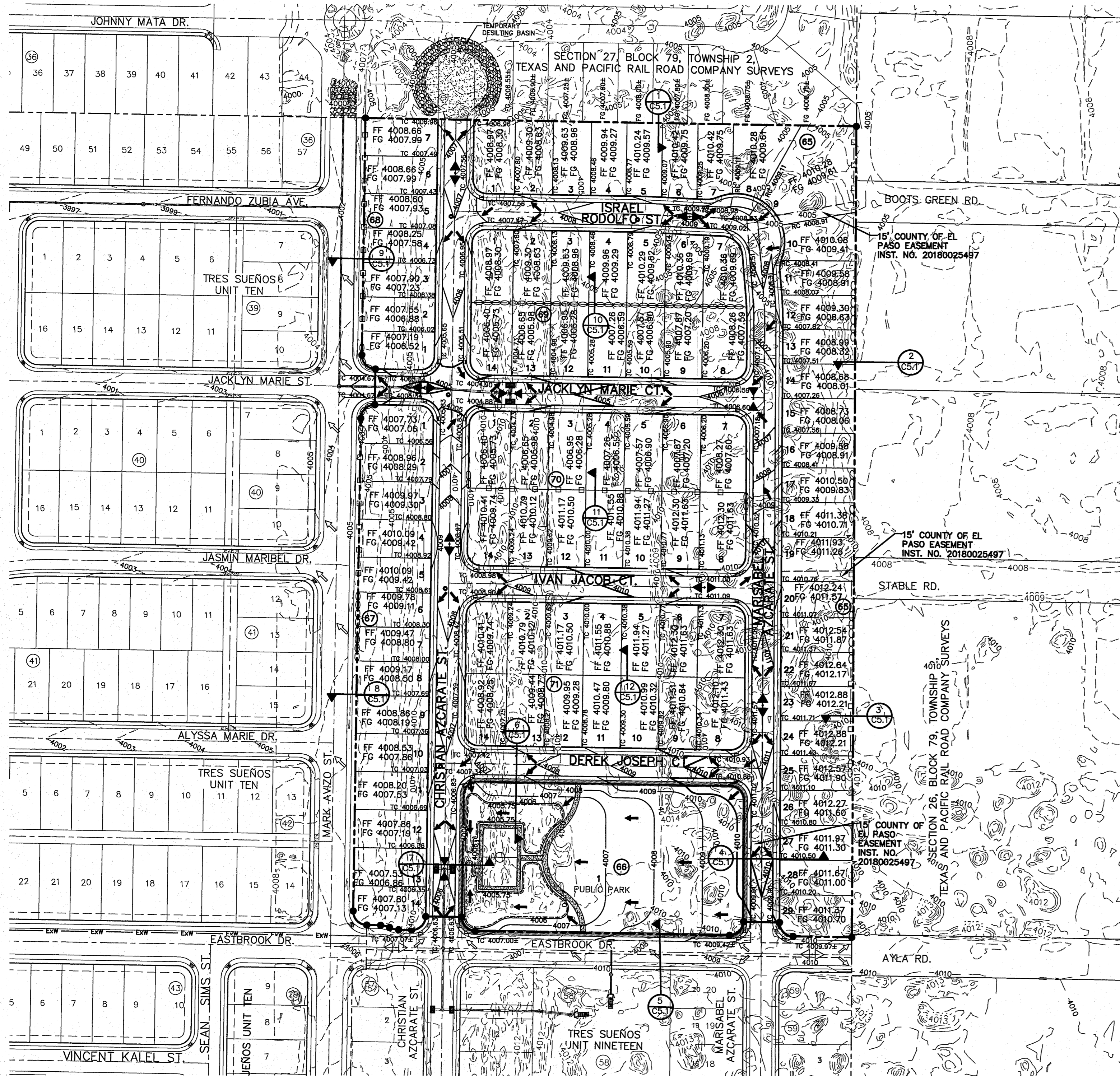
FOUND 1/2" REBAR W/CAP "TX 5152" AS DESCRIBED IN DOC. NO. 20050097104 W.P.R.E.P.C. (SOUTHEAST CORNER)

## FINAL PLAT

SCALE: 1" = 100'

GRAPHIC SCALE





UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

**BENCHMARK**

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

**FLOOD ZONE:**

THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0175 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.

**NOTES:**

- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2-FEET.
- SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
- ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER.
- RETAINING ROCKWALLS (RETAINING PORTIONS ONLY) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
- DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
- IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU'S, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
- IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
- WHEELCHAIR RAMPS SHALL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.

**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.

(Ord. No. 17516, § 1, 3-29-2011)

**18.44.220 - PERMIT CLOSEOUT PROCEDURE**

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

- A STATEMENT FROM THE ENGINEER OF RECORD 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. THE CITY WILL ISSUE A LETTER STATING GENERAL CONFORMANCE TO THE PERMIT HAS BEEN MET AND THAT THE WARRANTY PERIOD REQUIREMENTS WILL CONTINUE TO BE IN EFFECT.

(Ord. No. 17516, § 1, 3-29-2011)

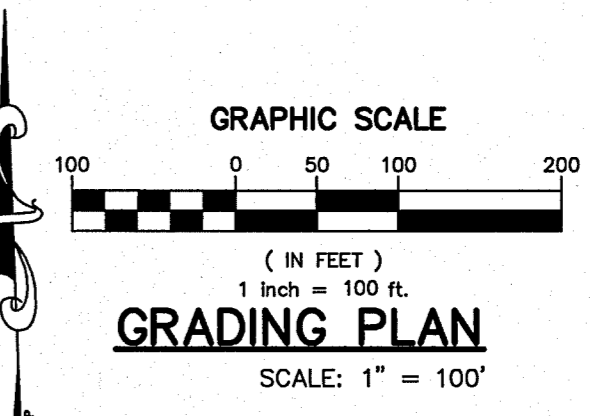
**18.44.200 - ENGINEERING CONTROLS FOR GRADING**

CONSTRUCTION ACTIVITY REQUIREMENTS:

- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALE 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, 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 THE 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 PLAN, 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 4:00 PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

**LEGEND:**

- NEW RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
- EXISTING RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
- EXISTING RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- TOP OF CURB ELEVATION
- FINISH GROUND ELEVATION
- FINISH FLOOR ELEVATION
- EXISTING FINISH GROUND ELEVATION
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- PROPOSED TEMPORARY DESILTING BASIN



REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceegroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
SCALE: 1"=100'  
Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPROV. BY: J.L.A.  
JOB No. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**GRADING PLAN**

SHEET NO.  
**C3.1**

Final Approval

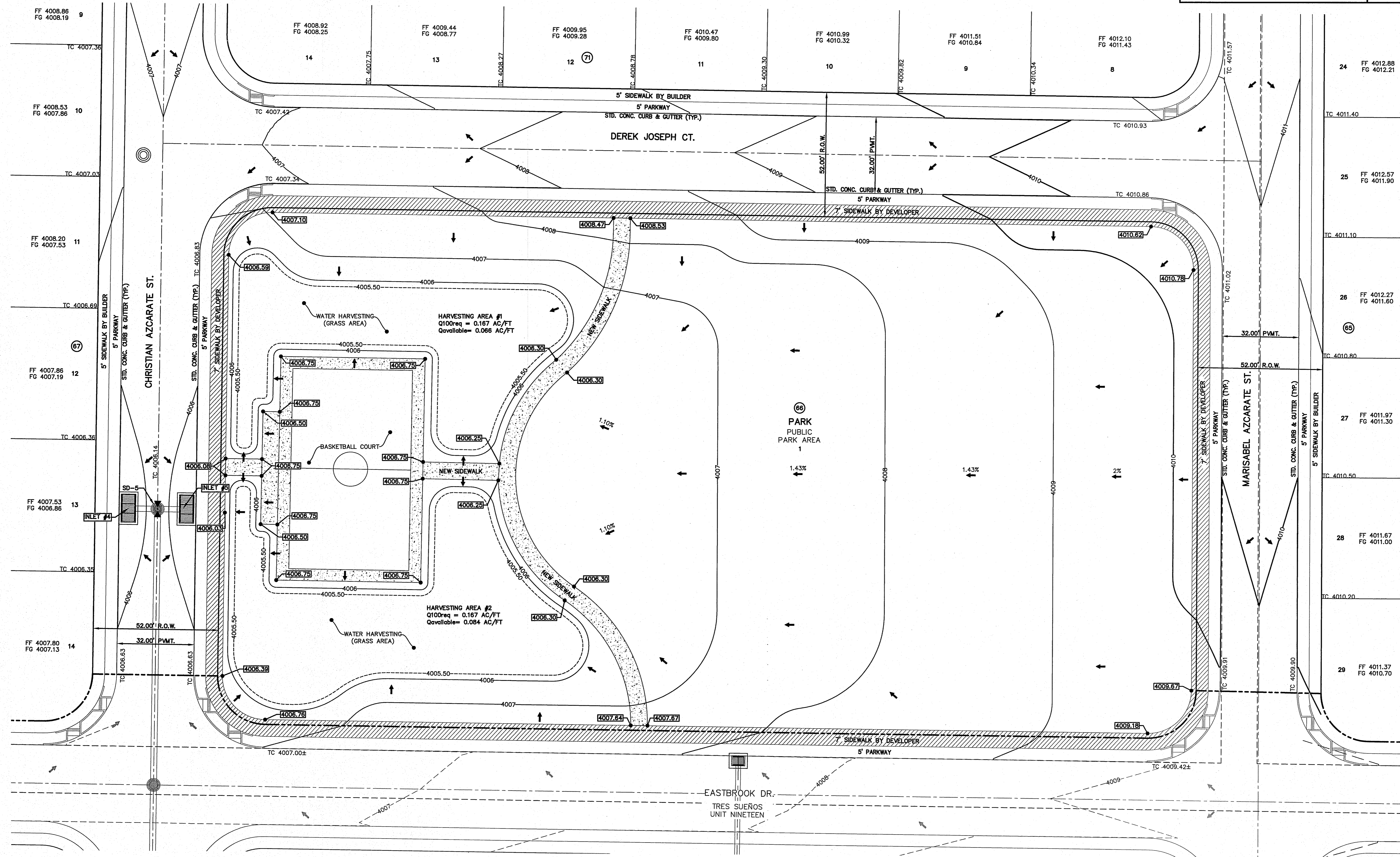
S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C3.2 PARK GRADING PLAN.dwg, 1/14/2020 10:16:46 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I  
BEFORE YOU DIG  
CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

**LEGEND:**

	4000	PROPOSED MAJOR CONTOURS
		PROPOSED MINOR CONTOURS
	4000	EXISTING MAJOR CONTOURS
		EXISTING MINOR CONTOURS
	TC 4075.00	TOP OF CURB ELEVATION
	FG 4075.00	FINISH GROUND ELEVATION
	FF 4075.00	FINISH FLOOR ELEVATION
		DRAINAGE FLOW
		HIGH POINT
		LOW POINT
		7' CONCRETE SIDEWALK BY DEVELOPER
		NEW SIDEWALK BY DEVELOPER



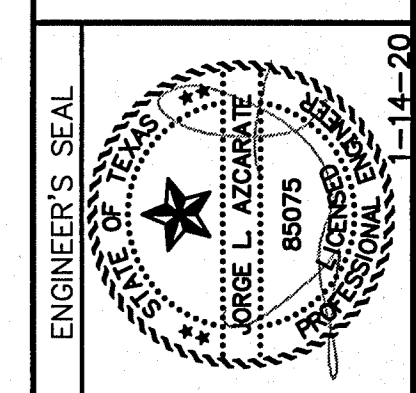
REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S042437E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

DATE	REVISIONS	BY

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232

**CEA GROUP**  
TEXAS REGISTERED ENGINEERING FIRM F-4564



ENGINEER'S SEAL

SCALE: 1"=20'

Horizontal:	1"=20'
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER, 2019
DESIGN BY:	R.O.
DRAWN BY:	T.C.
CHKD. BY:	J.L.A.
APPD. BY:	J.L.A.
JOB NO.:	2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

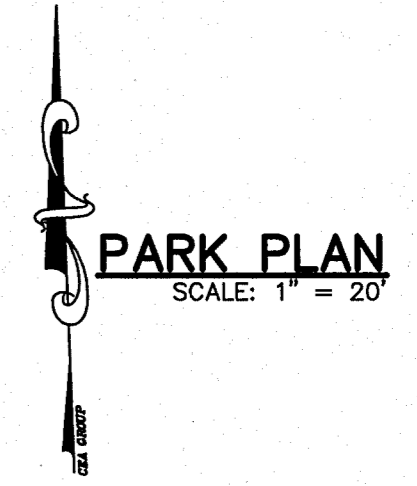
**PARK GRADING PLAN**

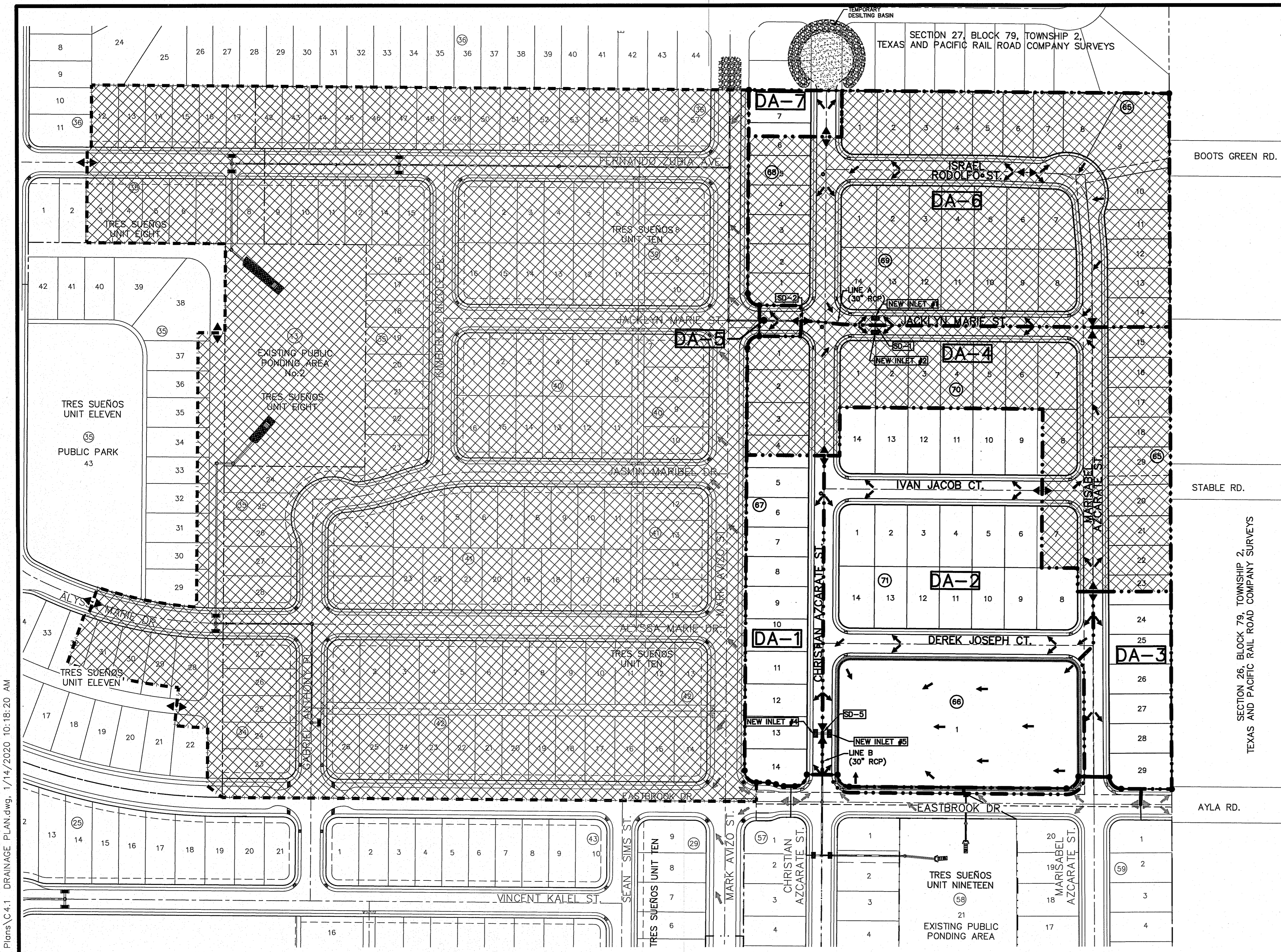
SHEET NO.

**C3.2**

**PARK POND CALCULATIONS**

QT = (ARC)/12	SILT VOLUME = 0.012 AC-FT/AC
QT = 0.306	2.295 X 0.012 = 0.028 AC-FT
A = 2.295	0.306 + 0.028 = 0.334 AC-FT
R = 4"	
C = 0.400	
	<b>TOTAL = 0.334 AC-FT</b>





**UTILITY LOCATOR SERVICES**

EL PASO ELECTRIC COMPANY	(915) 543-5720
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EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I BEFORE YOU DIG CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

**LEGEND:**

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- ▲ HIGH POINT
- ▼ LOW POINT
- DROP INLET
- STORM SEWER MANHOLE
- RCP
- DA-10 DRAINAGE AREA
- ▨ TOTAL DRAINAGE GOING INTO PONDING AREA No. 2 (TRES SUEÑOS UNIT EIGHT)

**DROP INLETS**

NO.	REQ. FLOW Q REQ. (CFS)	ADDITIONAL FLOW Q (CFS) FROM INLET #	CROWN Q OVERTOP (CFS)	Q EXP. (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	FLOW BYPASS Q (CFS) TO INLET #	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	12.192	0	2.099	10.093	19.267	0	2	I	ON SUMP
2	7.994	2.099	0	10.093	19.267	0	2	I	ON SUMP
4	3.439	4.278	0	7.717	17.748	0	2	III	ON SUMP
5	11.995	0	4.278	7.717	19.267	0	2	I	ON SUMP

AVAILABLE FLOW CAPACITY SHOWN AT ON-GRADE INLETS REFLECTS CAPACITIES WITH INLET GRATE EFFICIENCIES.

**STREET CAPACITIES**

STREET NAME	AT INLET(S)	CAPACITY (CFS)	VELOCITY (FT/S)
JACKLYN MARIE ST.	1 & 2	31.034	2.659
CHRISTIAN AZCARATE ST.	4 & 5	32.390	2.568

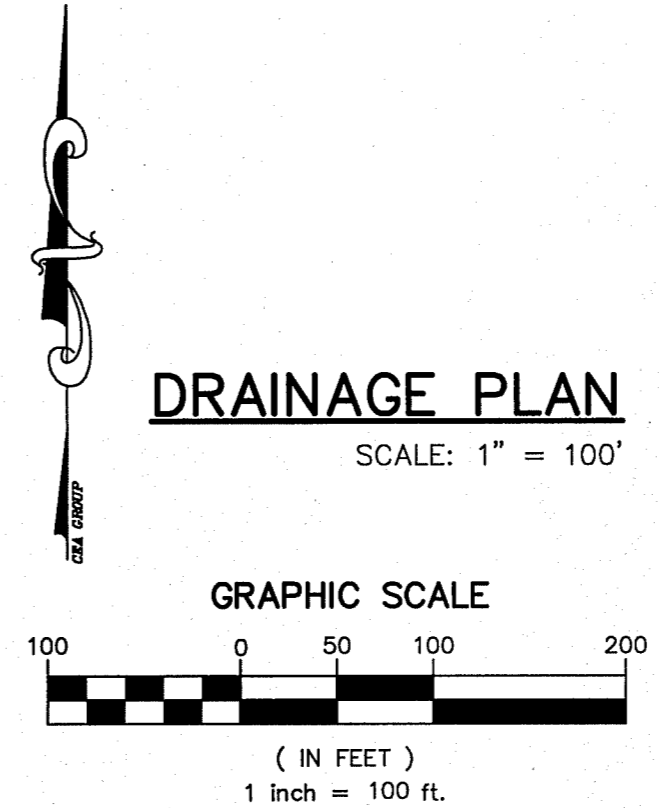
**MOMENTUM COMPUTATION**

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.354	2.659	0.941
2	0.354	2.659	0.941
4	0.315	2.568	0.809
5	0.315	2.568	0.809

**50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS**

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I <sub>50</sub> ) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q <sub>50</sub> (CFS) (6)
DA-1	1.662	3.449	21.30	0.60	3.439
DA-2	6.127	3.263	24.18	0.60	11.995
DA-3	0.991	3.568	19.62	0.60	2.121
DA-4	4.001	3.330	23.10	0.60	7.994
DA-5	0.084	4.461	10.00	0.90	0.337
DA-6	6.137	3.311	23.40	0.60	12.192
DA-7	0.281	3.778	16.92	0.60	0.637

- REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)
- (1) WATERSHED AREA IDENTIFICATION
  - (2) AREA FROM DRAINAGE PLAN
  - (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO. 2-14
  - (4) TIME OF CONCENTRATION: TC= T (OVERLAND) + T (GUTTER)
  - (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A  
RESIDENTIAL AREA = 0.60  
PARK AREA = 0.90
  - (6) Q<sub>50</sub> = C X A X I<sub>50</sub>



**SHOWN FOR REFERENCE ONLY TRES SUEÑOS UNIT 19**

**50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS**

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I <sub>50</sub> ) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q <sub>50</sub> (CFS) (6)
DA-1	1.255	4.020	19.60	0.60	3.028
DA-2	5.615	3.235	28.30	0.60	10.900
DA-3	4.345	3.297	27.40	0.60	8.595
DA-4	6.310	3.525	28.20	0.60	12.986
DA-5	1.479	5.606	10.00	0.33	2.738
DA-6	1.07	10.146	20.70	0.60	6.561
DA-7	0.383	5.606	10.00	0.90	1.932
DA-8	0.116	5.606	10.00	0.90	0.585
DA-9	0.07	5.606	10.00	0.90	0.353
DA-10	0.06	5.606	10.00	0.90	0.302
DA-11	0.06	5.606	10.00	0.90	0.302
WS-1	1.775	3.807	21.60	0.60	4.057
WS-2	6.206	3.546	24.40	0.57	12.544
WS-3	1.081	3.717	22.50	0.60	2.411

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)

- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO. 2-14
- (4) TIME OF CONCENTRATION: TC= T (OVERLAND) + T (GUTTER)
- (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A  
RESIDENTIAL AREA = 0.60  
PARK AREA = 0.90
- (6) Q<sub>50</sub> = C X A X I<sub>50</sub>

**EXISTING POND CALCULATIONS**

QT = (ARC)/12  
QT = 4.498 AC-FT  
A = 23.241 AC  
R = 4"  
Cw = 0.581  
QT X 25% = 1.124  
4.498 + 1.124 = 5.622

SILT VOLUME = 23.241 X 0.012 AC-FT/AC  
= 0.279 AC-FT  
5.622 + 0.279 = 5.901 AC-FT  
TOTAL<sub>req</sub> = 5.901 AC-FT

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)	TOP ELEVATION
1	5.901	7.452	53.351	0	4005.26	4005	1.74	4007

NOTE: THE HGL REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO. THE HGL DOES NOT INCLUDE 25% FREEBOARD. HOWEVER, THE TOTAL POND CAPACITY SHALL HOLD TOTAL REQUIRED STORM WATER RUNOFF.

HGL = QT  
HGL = 4.498 AC-FT  
CONTOUR 4003, ACCUMULATED VOLUME=4.141 AC-FT  
CONTOUR 4004, ACCUMULATED VOLUME=4.884 AC-FT  
HYDRAULIC GRADE LINE ELEVATION=4003.48

HWSE = QT+SILT VOLUME+25% EMERGENCY  
HWSE = 4.498+1.124+0.279= 5.901 AC-FT  
CONTOUR 3995.00, ACCUMULATED VOLUME= 13.869 AC-FT  
CONTOUR 4006, ACCUMULATED VOLUME=6.537 AC-FT  
HIGH WATER SURFACE ELEVATION=4005.26

**SHOWN FOR INFORMATION ONLY TRES SUEÑOS UNIT 8**

**EXISTING POND No.2 CALCULATIONS**

QT = (ARC)/12  
QT = 11.587  
A = 51.143  
R = 4"  
C = 0.680  
QT X 25% = 2.897  
11.587 + 2.897 = 14.484

SILT VOLUME = 0.012 AC-FT/AC  
51.143 X 0.012 = 0.614 AC-FT  
14.484 + 0.614 = 15.098 AC-FT  
TOTAL<sub>req</sub> = 15.098 AC-FT

POND NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET PIPE FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)
2	15.098 (1)	16.906	144.145	0	3993.834 (1)	3979.00	1.17

NOTES FOR RETENTION POND No.2

1. THE TOTAL STORAGE HWSE REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO AND INCLUDES 25% EMERGENCY STORAGE.  
HWSE = QT + SILT VOLUME + 25%  
HWSE = 11.587 + 0.614 + 2.897 = 15.098 AC-FT  
CONTOUR 3995.00, ACCUMULATED VOLUME = 13.869 AC-FT  
CONTOUR 3994.00, ACCUMULATED VOLUME = 15.350 AC-FT  
HIGH WATER SURFACE ELEVATION = 3993.834

NOTE:  
--- ACTUAL TOTAL AREA TO POND = 37.405 AC.  
DESIGNED TOTAL AREA TO POND = 51.143 AC.

**SHOWN FOR INFORMATION ONLY TRES SUEÑOS UNIT 10**

**50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS**

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I <sub>50</sub> ) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	ADDITIONAL FLOW (CFS) (6)	Q <sub>50</sub> (CFS) (6)
DA-1	0.720	4.153	18.50	0.656	2.650	1.962
DA-2	0.707	4.123	18.75	0.657	2.650	1.915
DA-3	1.419	3.737	22.29	0.660	0.000	3.500
DA-4	7.515	3.745	22.22	0.702	0.000	19.575
DA-5	5.279	3.388	26.25	0.697	0.000	12.466
DA-6	3.436	3.768	21.98	0.706	0.816	9.140
DA-7	2.483	3.657	23.13	0.705	0.000	6.402
DA-8	0.611	2.591	39.51	0.900	0.000	1.425
DA-9	5.080	3.261	27.91	0.710	0.000	11.762
DA-10	2.506	3.453	25.44	0.697	0.000	6.031
DA-11	2.814	5.573	10.00	0.310	0.000	4.861
DA-12	0.716	4.335	17.08	0.639	0.000	1.983
DA-13	0.142	5.573	10.00	0.900	0.000	0.712
DA-14	0.499	5.058	12.50	0.600	0.000	1.514

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)

- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO. 2-14
- (4) TIME OF CONCENTRATION: TC= T (OVERLAND) + T (GUTTER)
- (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A  
RESIDENTIAL AREA = 0.60  
PARK AREA = 0.90
- (6) Q<sub>50</sub> = C X A X I<sub>50</sub>

**EXISTING DROP INLETS**

NO.	REQ. FLOW Q REQ. (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW Q (CFS) FROM INLET #	FLOW BYPASS Q (CFS) TO INLET #	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	11.633	8.983	0	2.650	2	TYPE I	ON-GRADE
2	11.633	6.983	0	2.650	2	TYPE I	ON-GRADE
3	6.403	7.383	0	0.816	2	TYPE I	ON-GRADE
4	8.895	19.267	0	0	2	TYPE I	SUMP
5	8.895	19.267	0	0	2	TYPE I	SUMP

THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5 AVAILABLE FLOW CAPACITIES SHOWN AT ON-GRADE INLETS REFLECTS CAPACITIES WITH INLET GRATE EFFICIENCIES.

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net

**CEAG**  
GROUP  
TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
JOSÉ L. AZCARATE  
BOBBI

SCALE: Horizontal: Vertical: Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.C.  
DRAWN BY: J.C.  
CHKD. BY: J.L.A.  
APPRD. BY: J.L.A.  
JOB NO.: 2000-213

PROJECT TITLE  
**TRES SUEÑOS UNIT TWENTY ONE SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**DRAINAGE PLAN**

SHEET NO.  
**C4.1**

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S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C5.1 GRADING SECTIONS.dwg, 1/14/2020 10:19:02 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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TEXAS GAS SERVICE	(915) 680-7200
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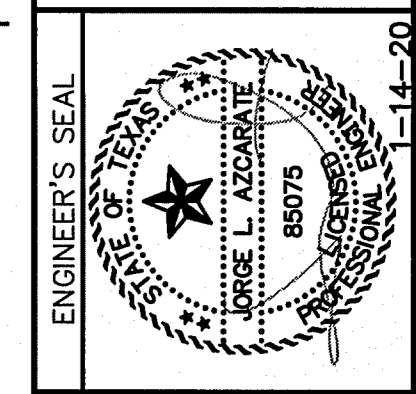
**WARNING!**  
BEFORE YOU DIG  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

- GENERAL NOTES:**
- WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4') FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEEP WALL IF THE RETAINING HEIGHT DOES NOT EXCEED THE FOUR (4') FEET, THEN THE DEVELOPER SHALL CONSTRUCT A TEMPORARY SLOPE AT 3(H):1(V).

DATE	REVISIONS	BY

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net

**CEAG**  
GROUP  
TEXAS REGISTERED ENGINEERING FIRM F-4564

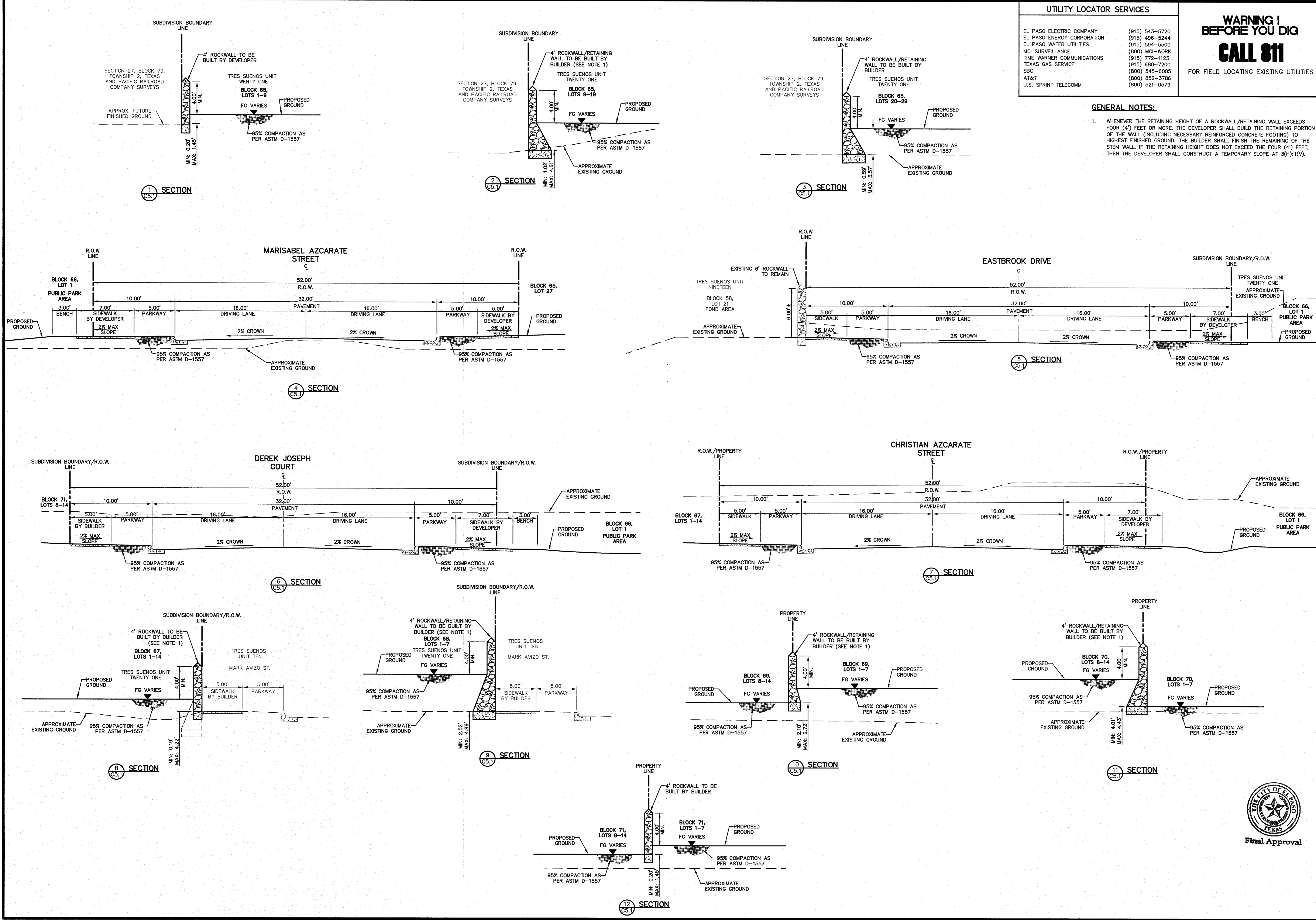


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Horizontal: 1"=5'  
Vertical: Contour Interval: 1/4'  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: J.L.A.  
CHKD. BY: J.L.A.  
APP'D. BY: J.L.A.  
JOB No. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
GRADING SECTIONS

SHEET NO.  
**C5.1**





S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C6.1 CHRISTIAN & MARISABELA STREET P&P.dwg, 1/14/2020 10:20:35 AM

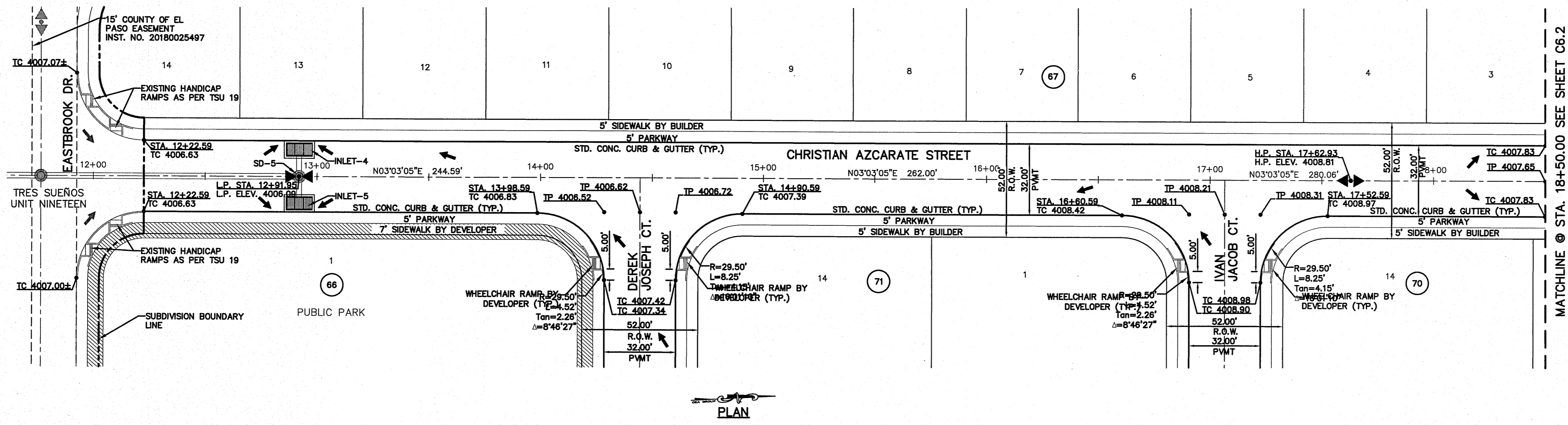
UTILITY LOCATOR SERVICES	
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EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SSC	(800) 545-8005
AT&T	(800) 552-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
BEFORE YOU DIG  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

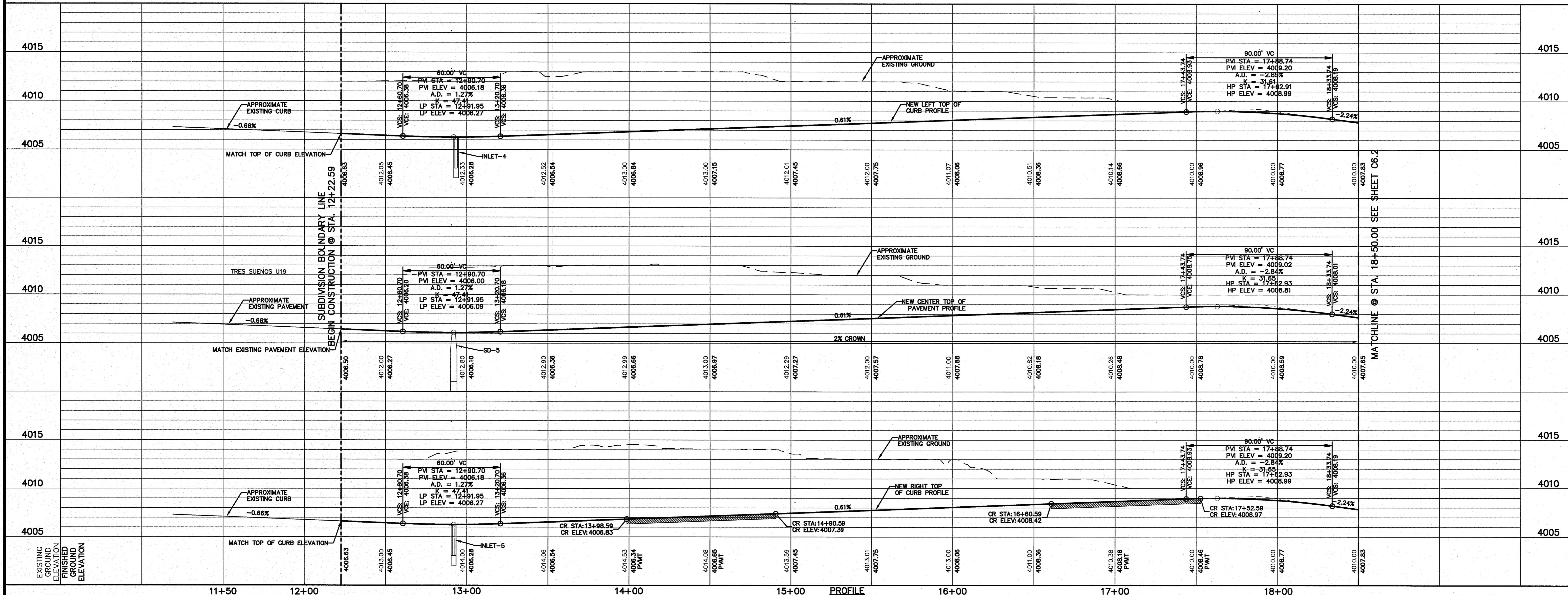
REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE BEING FROM BLVD. SOUTH 1/2 MILE A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.  
ELEVATION: 4005.40 (CITY DATUM)

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TEXAS REGISTERED ENGINEERING FIRM F-4564



**LEGEND**

- WHEELCHAIR RAMP BY DEVELOPER (TYP.)
- PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.
- SIDEWALK BY DEVELOPER



SCALE: 1"=30'  
Horizontal: 1"=5'  
Vertical: 1"=5'  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB No. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**CHRISTIAN AZCARATE ST.  
PLAN & PROFILE  
FROM STA. 12+22.59  
TO STA. 18+50.00**

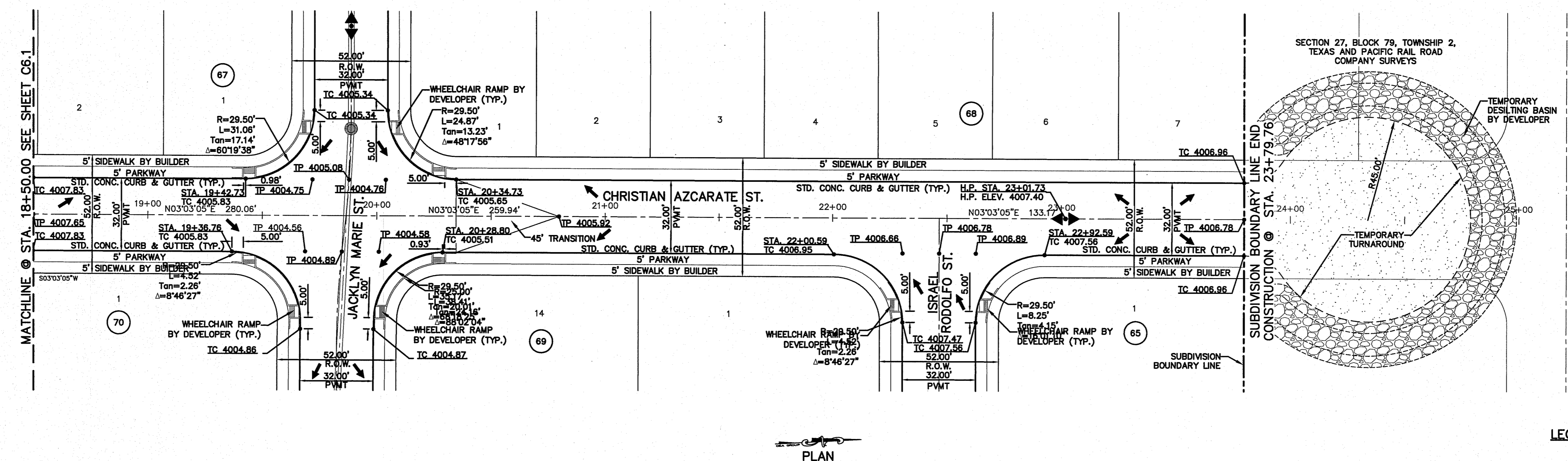
SHEET NO.  
**C6.1**

S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C6.1-CHRISTIAN & MARISABELA STREET P&P.dwg, 1/14/2020 10:21:03 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SSC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

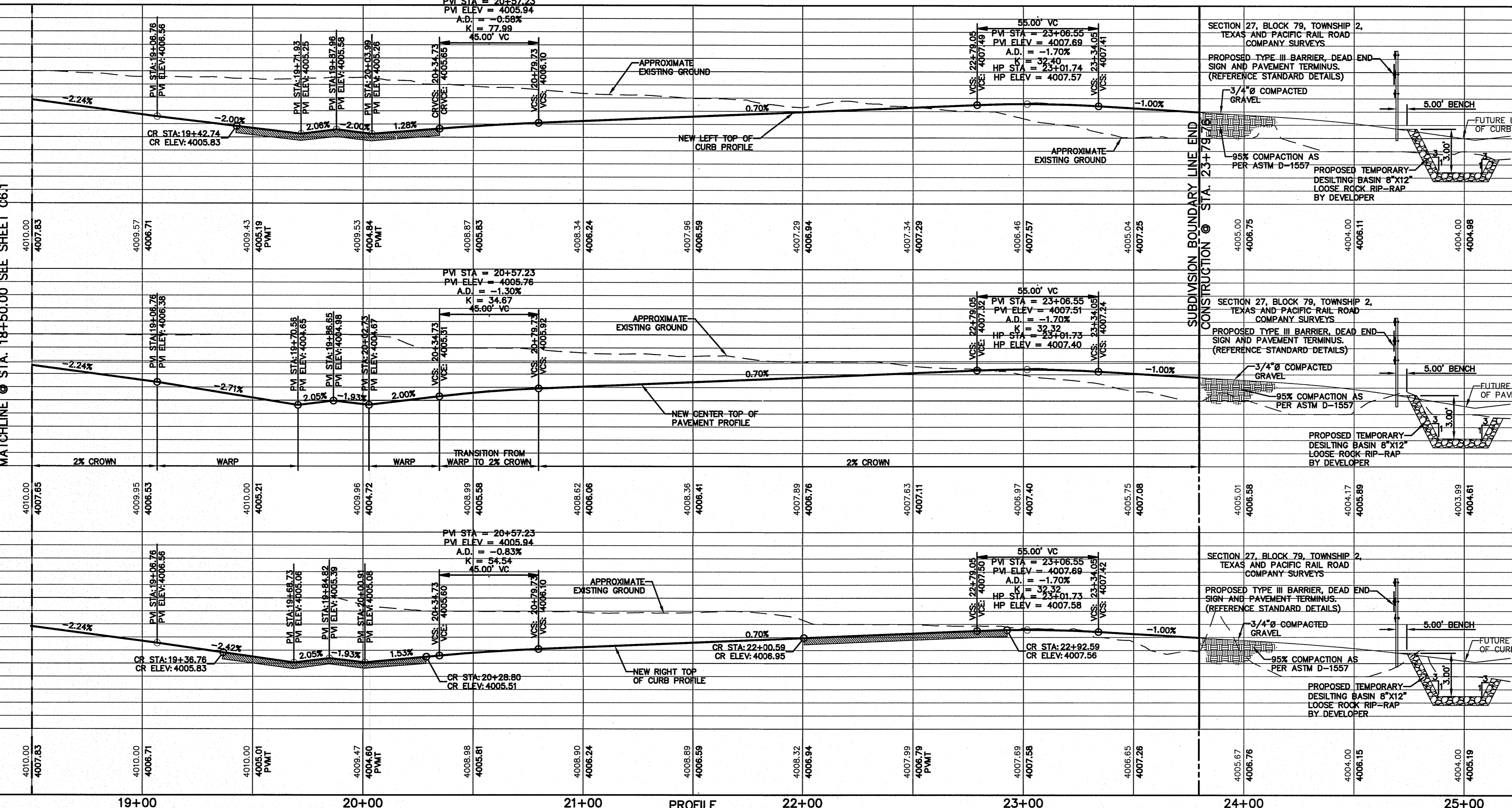
**WARNING I  
BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
CITY MONUMENT AT POINT OF CURVE, CENTERLINE RICH BEEM BLVD. S08°33'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.			
ELEVATION: 4005.40 (CITY DATUM)			



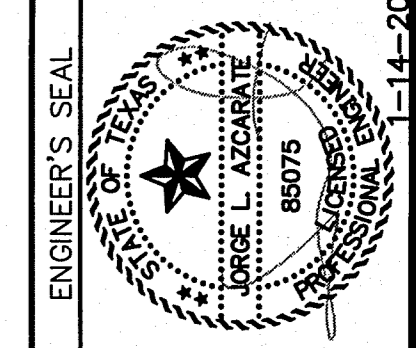
**LEGEND**

	WHEELCHAIR RAMP BY DEVELOPER (TYP.)
	PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



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**CEA**  
CORPORATION  
TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE: "1" = 30'

Horizontal: "1" = 5'

Vertical: "1" = 5'

Contour Interval: 1' / 4"

DATE: NOVEMBER, 2019

DESIGN BY: R.O.

DRAWN BY: T.C.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**CHRISTIAN AZCARATE ST.  
PLAN & PROFILE  
FROM STA. 18+50.00  
TO STA. 23+80.00**

SHEET NO.  
**C6.2**

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 690-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

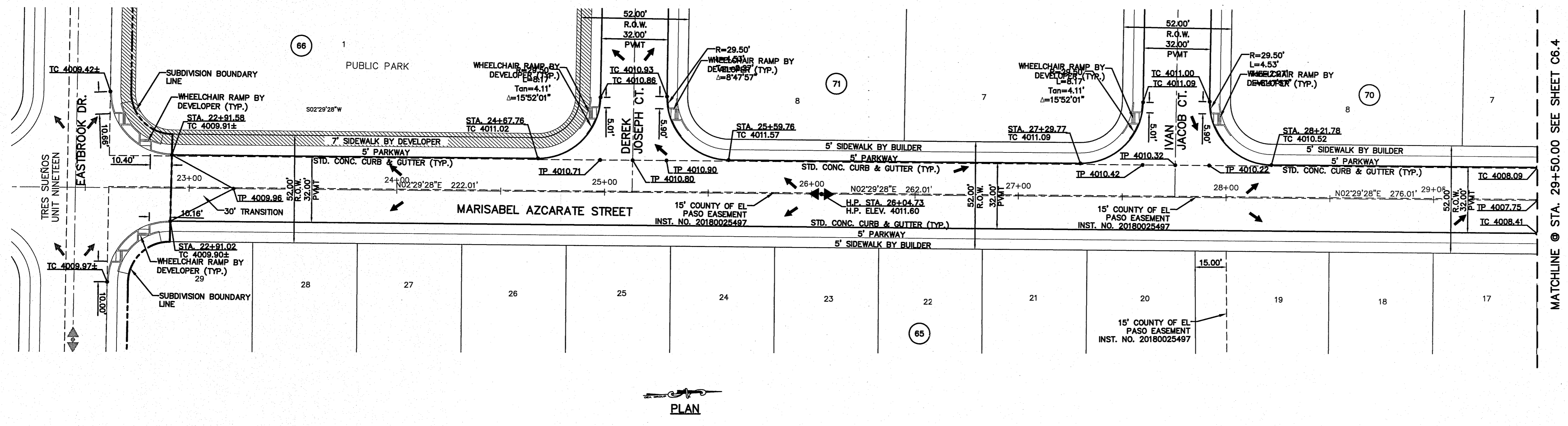
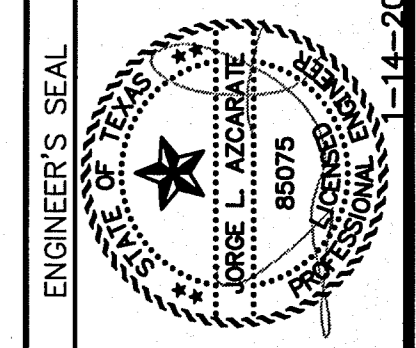
**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
 FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 508+33.1'E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.  
 ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 915.544.5282

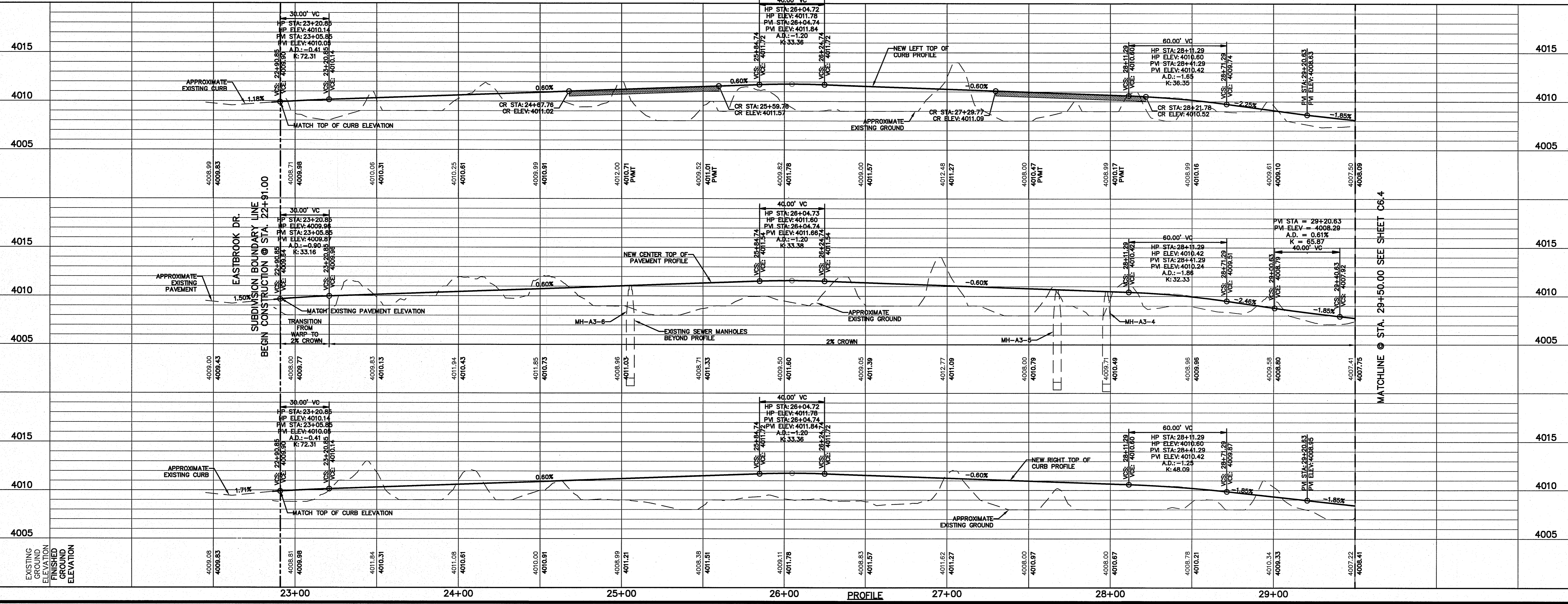
**CEA**  
 GROUP  
 TEXAS REGISTERED ENGINEERING FIRM F-4564



**LEGEND**

- WHEELCHAIR RAMP BY DEVELOPER (TYP.)
- PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.
- SIDEWALK BY DEVELOPER

S:\2000\2000-213-Tres Suenos Unit 2\DWG\Construction Drawings\Improvement Plans\C6.1 CHRISTIAN & MARISABELA STREET P&P.dwg, 1/14/2020 10:21:44 AM



SCALE: 1"=30'  
 Horizontal: 1"=50'  
 Vertical: 1"=5'

DATE: NOVEMBER, 2019  
 DESIGN BY: R.O.  
 DRAWN BY: T.C.  
 CHKD. BY: J.L.A.  
 APPD. BY: J.L.A.  
 JOB No. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**MARISABEL AZCARATE ST. PLAN & PROFILE FROM STA. 22+91.00 TO STA. 29+50.00**

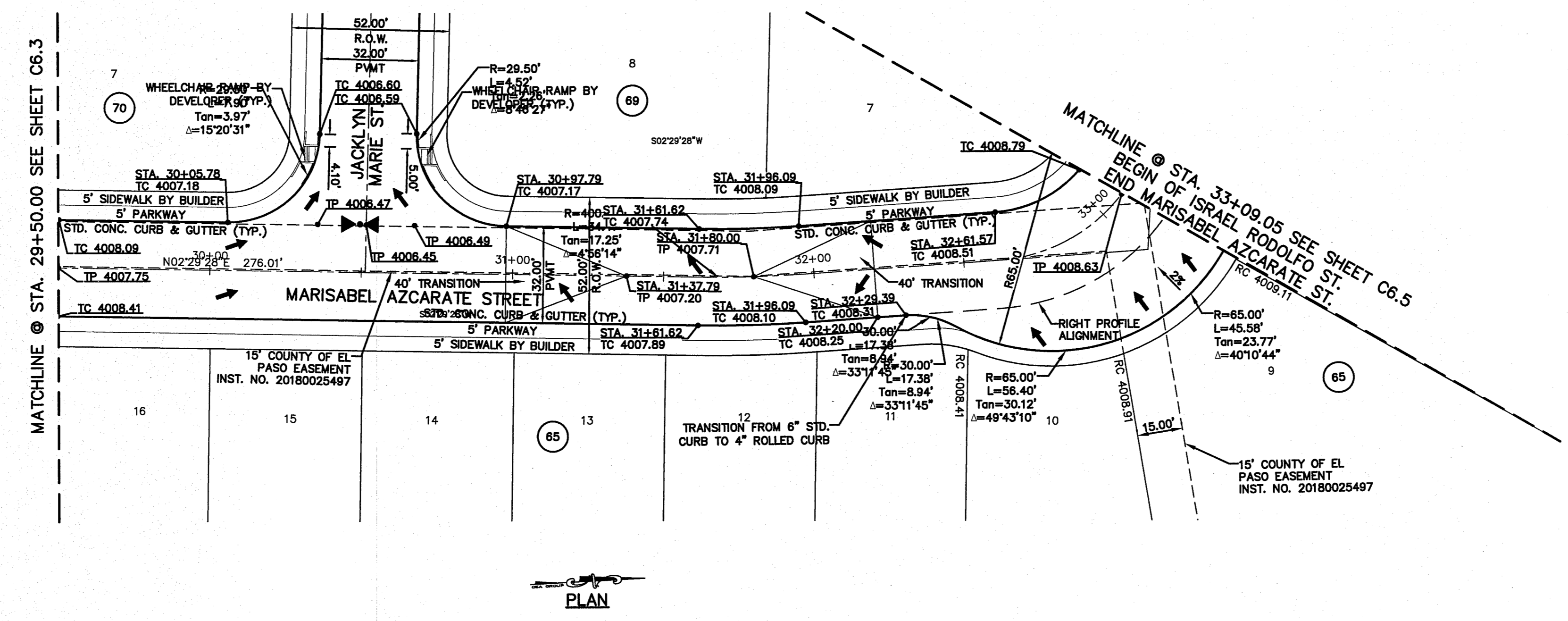
SHEET NO.  
**C6.3**

S:\2000\2000-213-Tres Suenos Unit 21\DWGS\Construction Drawings\Improvement Plans\C6.1 CHRISTIAN & MARISABELA STREET P&P.dwg, 1/14/2020 10:23:42 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 690-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
BEFORE YOU DIG  
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FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



**LEGEND**

▬ WHEELCHAIR RAMP BY DEVELOPER (TYP.)

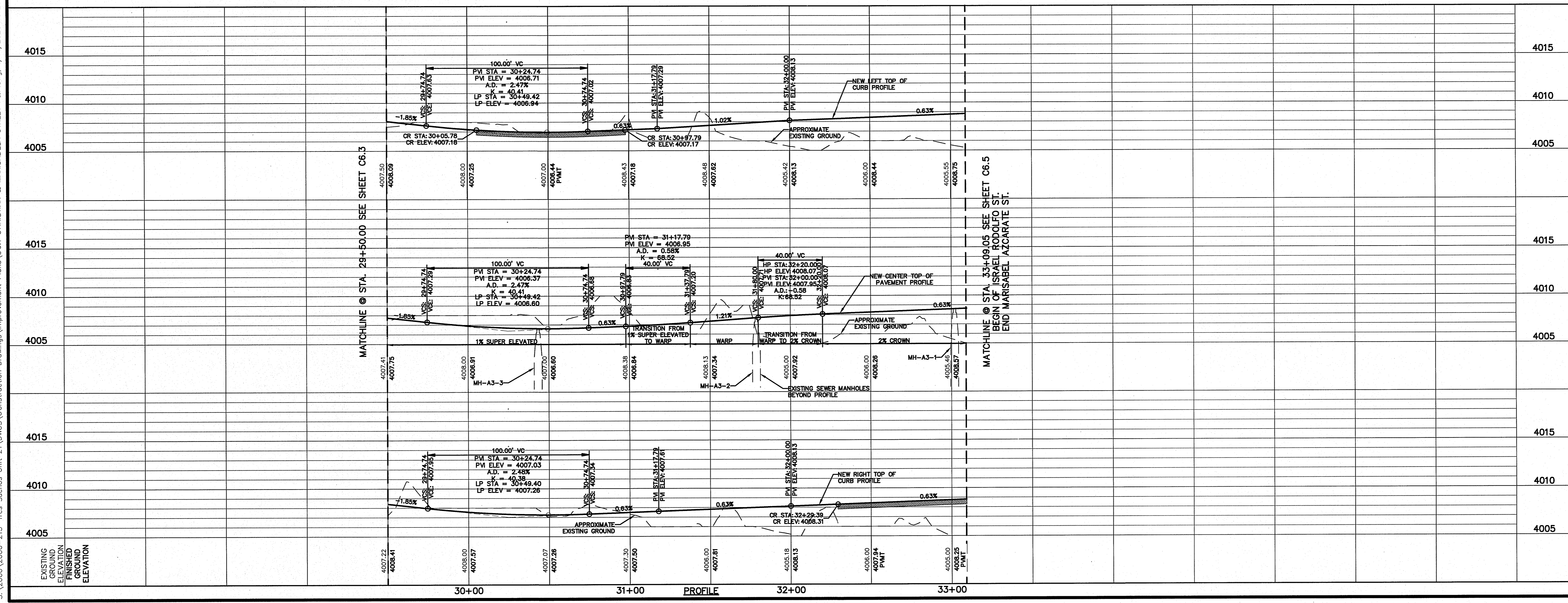
▬ PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.

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**CEG**

TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL



SCALE: Horizontal: 1"=30'  
Vertical: 1"=5'

DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: J.L.A.  
CHKD BY: J.L.A.  
APPVD BY: J.L.A.  
JOB No.: 2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**MARISABEL AZCARATE ST.  
PLAN & PROFILE  
FROM STA. 29+50.00  
TO STA. 33+09.05**

SHEET NO.

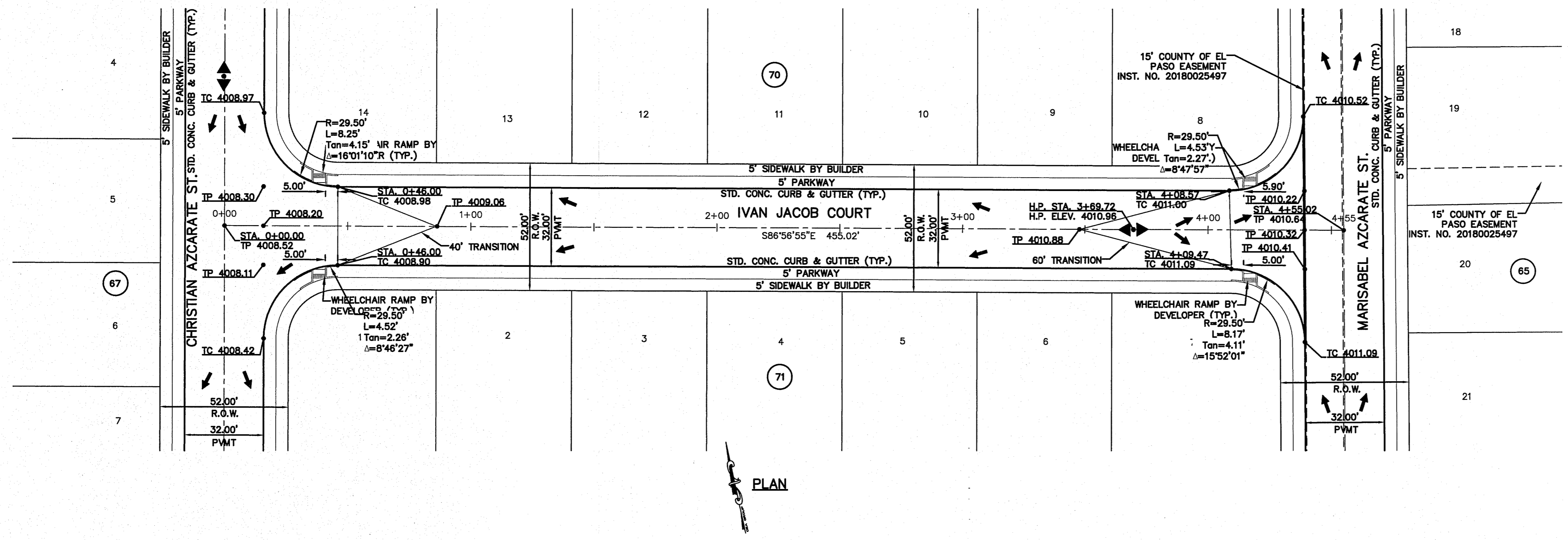
**C6.4**



S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C6.6 ISRAEL RODOLFO & IVAN JACOB STREET P&P.dwg, 1/14/2020 10:28:03 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

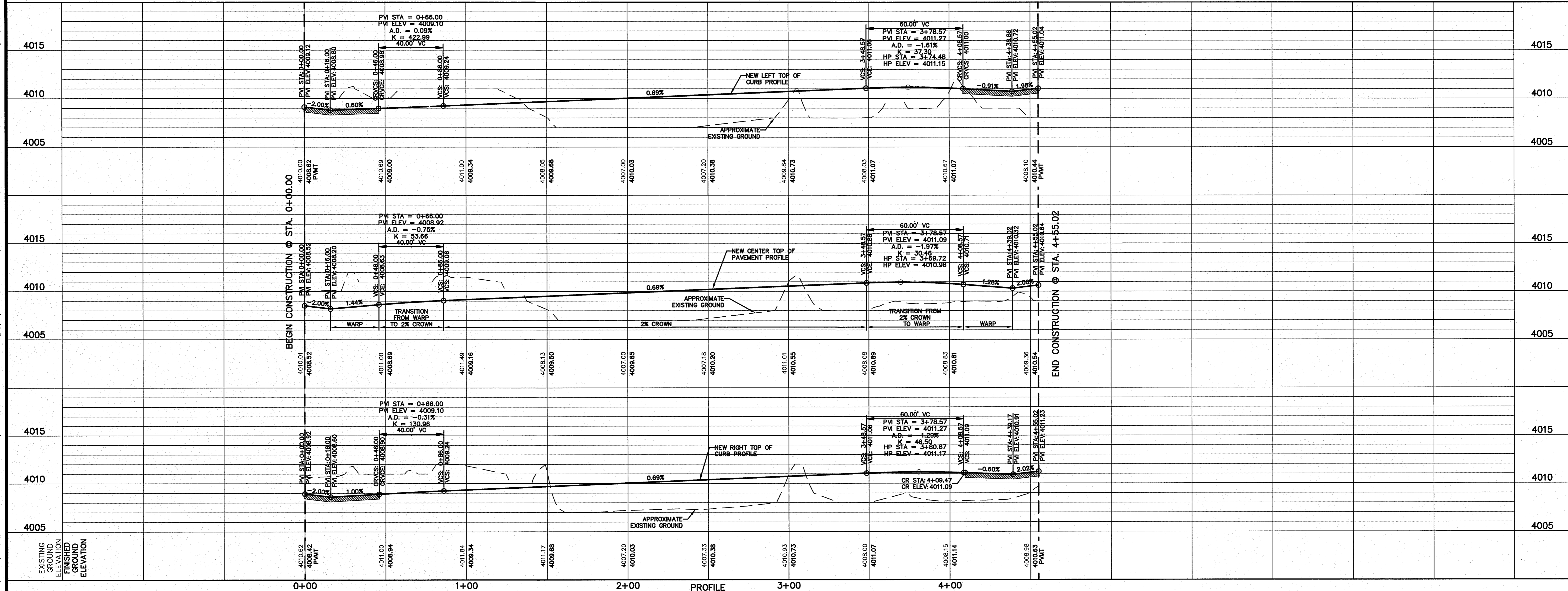
**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
 FOR FIELD LOCATING EXISTING UTILITIES



**LEGEND**

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

PAV ELEVATIONS ARE SHOWN AT TOP OF CURB, REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



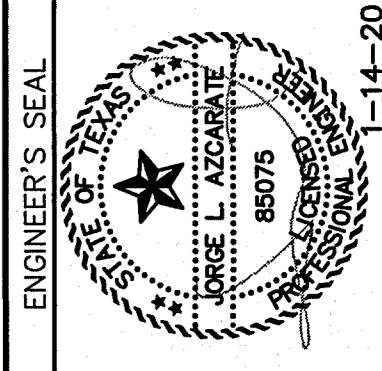
REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE GENERATE RICH CITY MONUMENT AT POINT OF CURVE GENERATE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

DATE	REVISIONS	BY

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**TEXAS REGISTERED ENGINEERING FIRM F-4564**



SCALE: 1"=30'

Vertical: 1"=5'

Contour Interval: N/A

DATE: NOVEMBER, 2019

DESIGN BY: R.C.

DRAWN BY: J.L.A.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB NO.: 2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**IVAN JACOB CT. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 4+55.02**

SHEET NO.

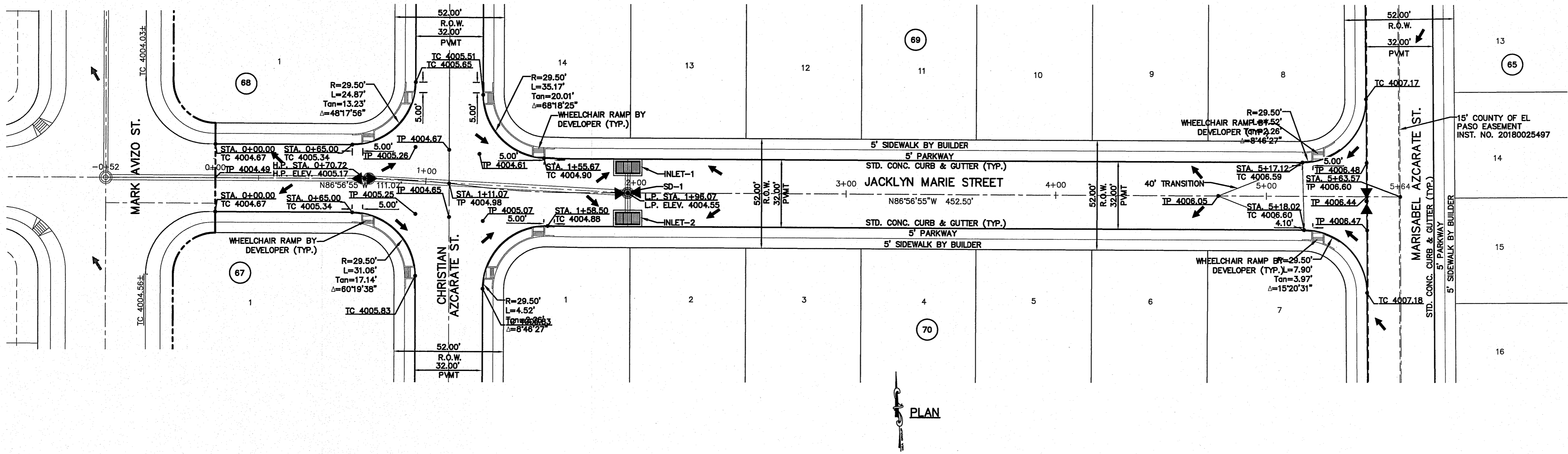
**C6.6**

S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C6.7 JACKLYN MARIE & DEREK JOSEPH STREET P&P.dwg, 1/14/2020 10:29:38 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I  
BEFORE YOU DIG  
CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

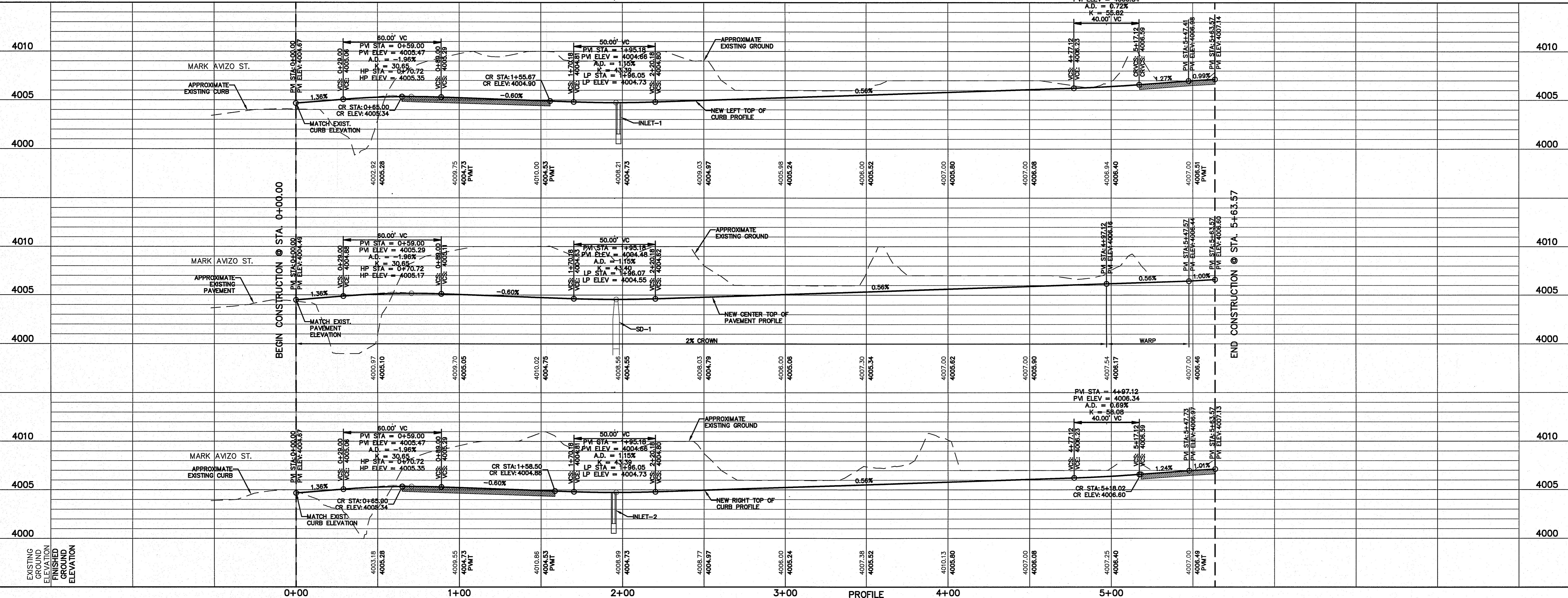
REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 508°43'31" E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4008.40 (CITY DATUM)			



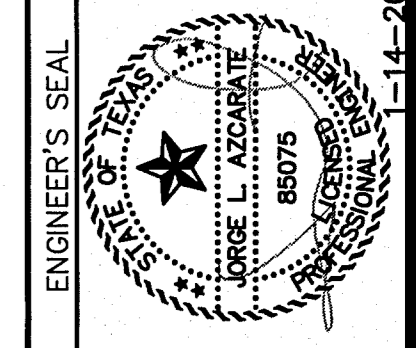
**LEGEND**

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



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TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE: 1"=30'  
Horizontal: 1"=50'  
Vertical: 1"=5'  
Contour Interval: N/A

DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPD. BY: J.L.A.  
JOB NO.: 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**JACKLYN MARIE ST.  
& PROFILE FROM  
STA. 0+00.00  
TO STA. 5+63.57**

SHEET NO.  
**C6.7**

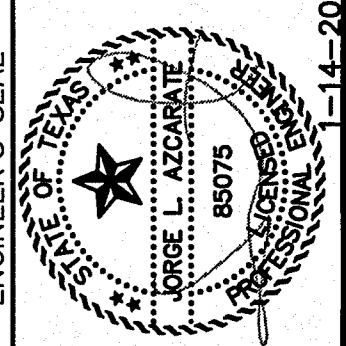
S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C6.8 JACKLYN MARIE & DEREK JOSEPH STREET P&P.dwg, 1/14/2020 10:30:40 AM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
**BEFORE YOU DIG**  
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 FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

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 Suite 300  
 El Paso, TX 79902  
 915.544.5232  
 www.ceagroup.net  
**TEXAS REGISTERED ENGINEERING FIRM F-4564**

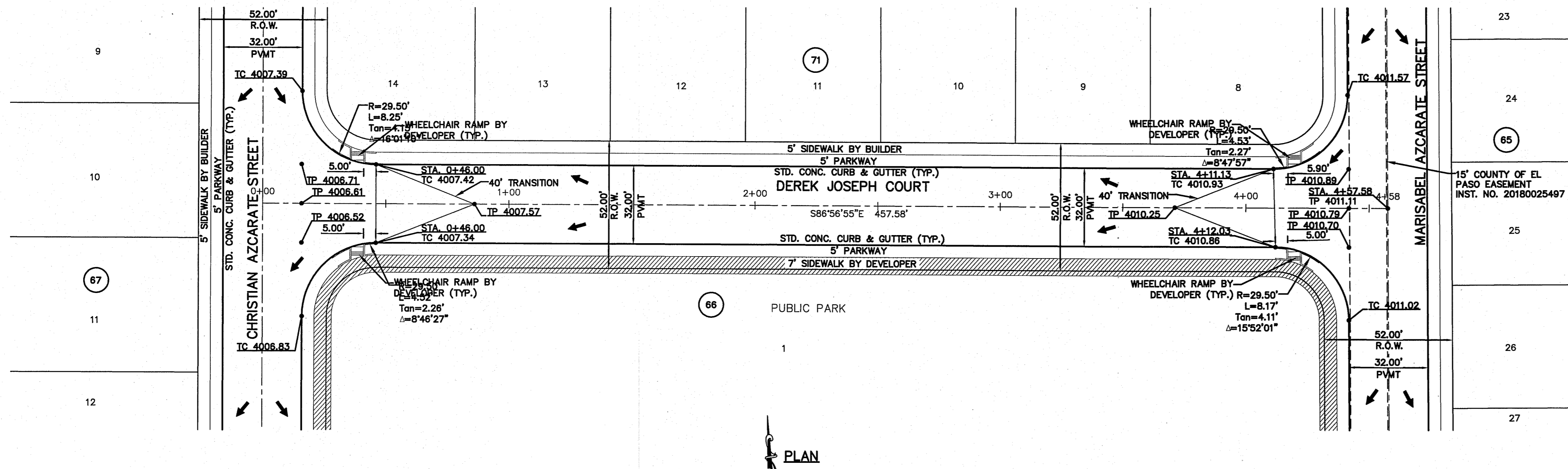


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 Horizontal: 1"=5'  
 Vertical: 1"=5'  
 Contour Interval: N/A  
 DATE: NOVEMBER, 2019  
 DESIGN BY: R.O.  
 DRAWN BY: T.C.  
 CHKD. BY: J.L.A.  
 APPVD. BY: J.L.A.  
 JOB No.: 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**DEREK JOSEPH CT.**  
**PLAN & PROFILE**  
**FROM STA. 0+00.00**  
**TO STA. 4+57.58**

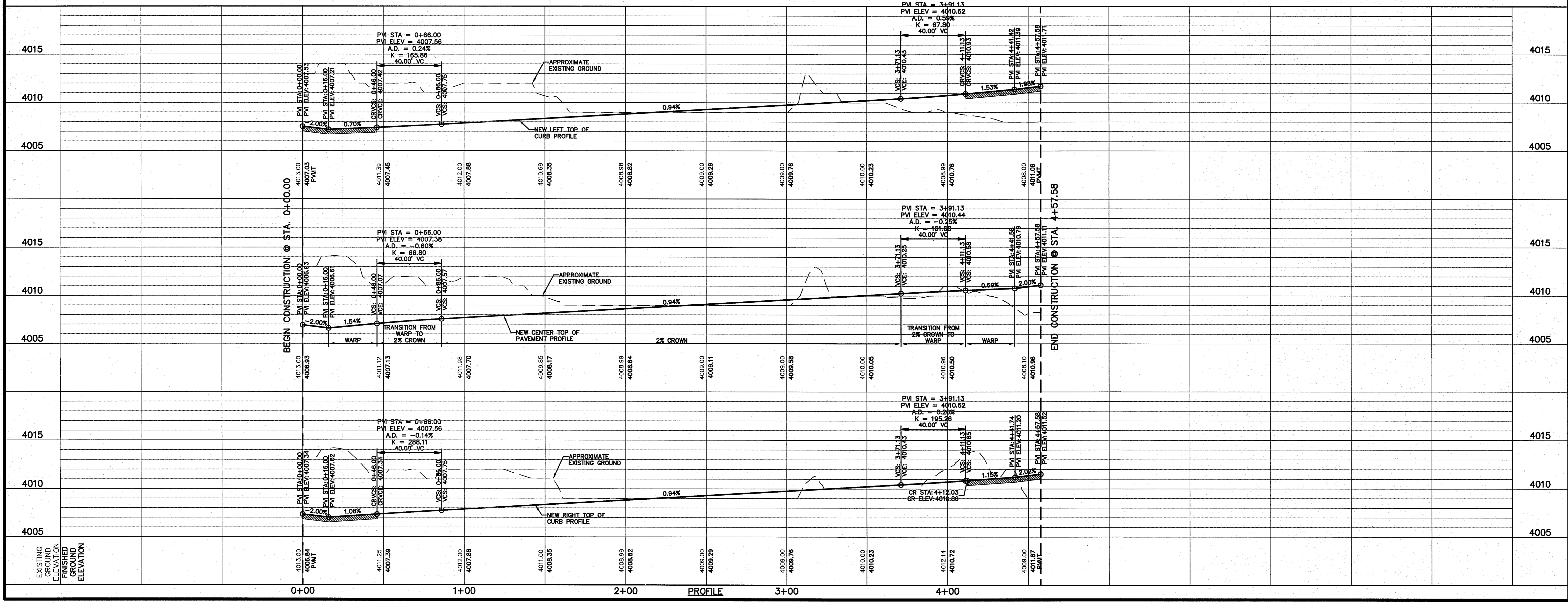
SHEET NO.  
**C6.8**



PLAN

**LEGEND**

	WHEELCHAIR RAMP BY DEVELOPER (TYP.)
	PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.
	SIDEWALK BY DEVELOPER



C6.8



S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C7.1 STORM P&P LINE A - LINE B.dwg, 1/14/2020 10:31:23 AM

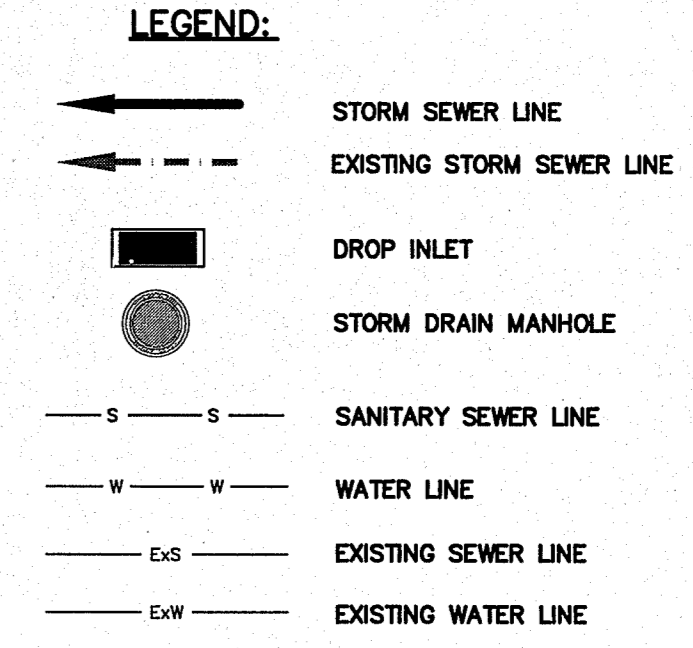
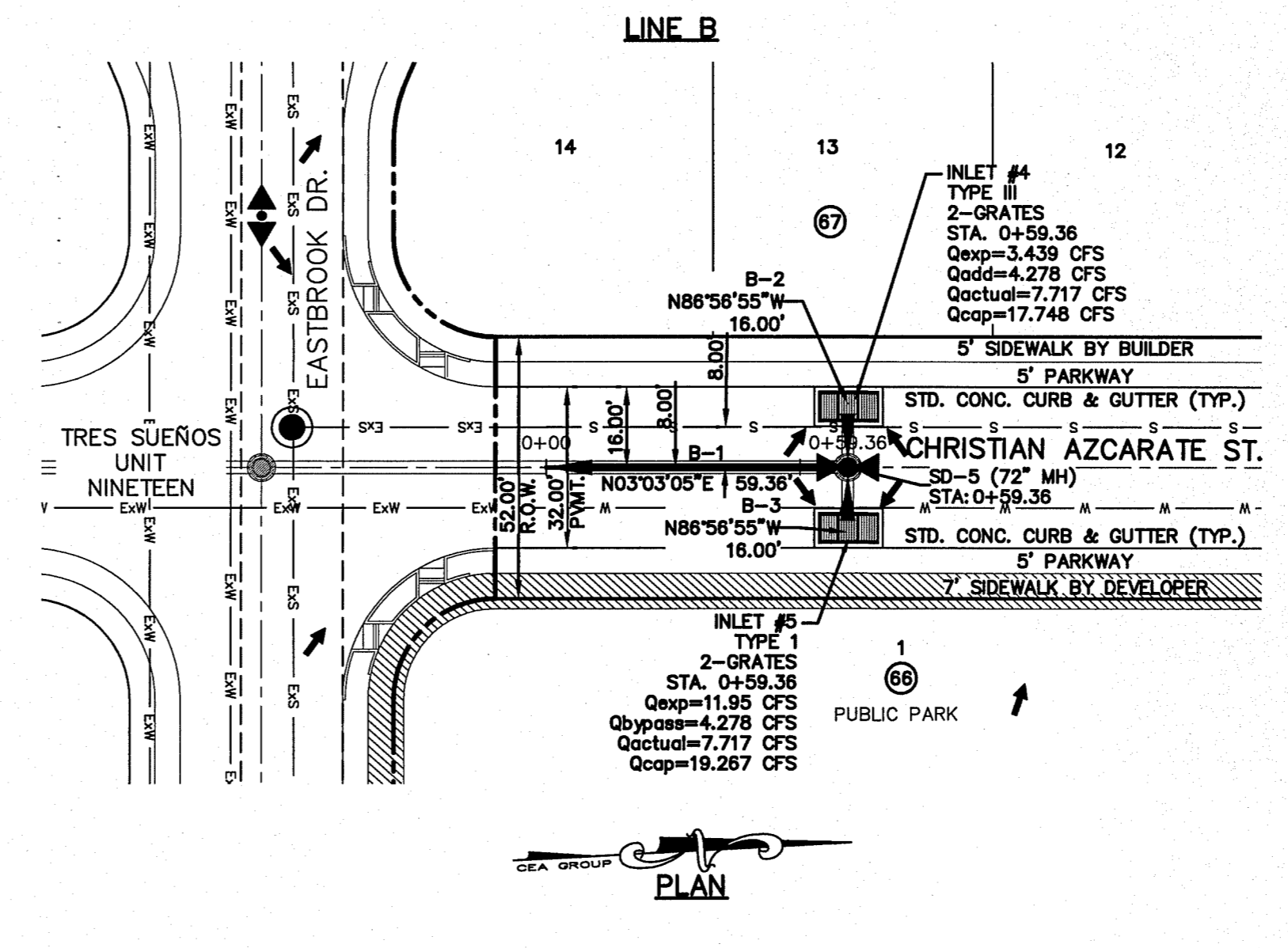
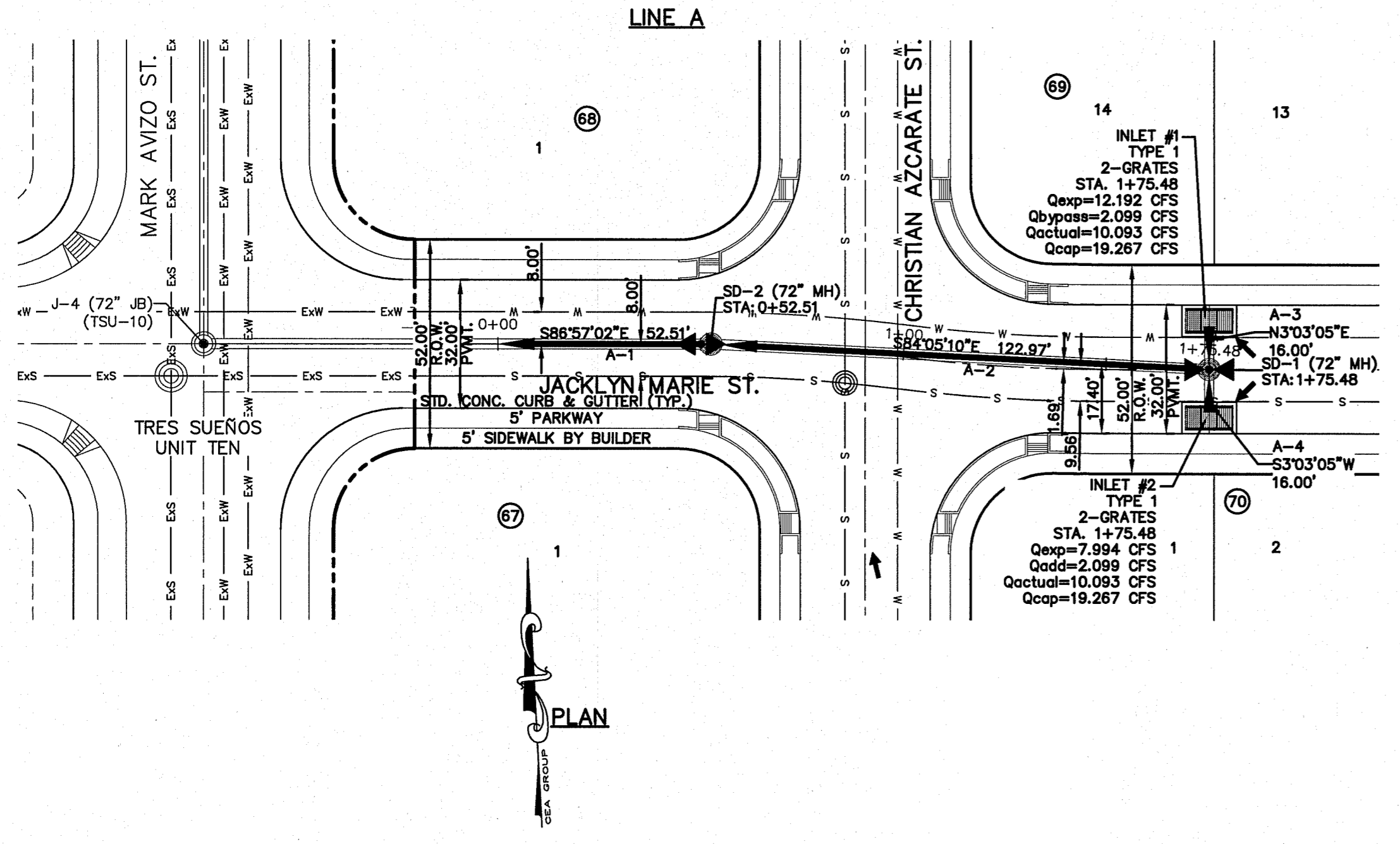
STORM PIPE LINE A OUTPUT INFORMATION						
PIPE	DOWNSTREAM INVERT ELEVATION (ft)	UPSTREAM INVERT ELEVATION (ft)	HYDRAULIC GRADE DOWNSTREAM (ft)	HYDRAULIC GRADE UPSTREAM (ft)	Q(100) EXPECTED (cfs)	Q(100) CAPACITY (cfs)
A-1	3998.00	3999.38	3999.59	4001.18	22.04	43.10
A-2	3999.55	3999.87	4001.18	4002.13	20.28	20.93
A-3	3999.87	3999.94	4002.13	4002.66	10.09	14.96
A-4	3999.87	4000.44	4002.53	4002.60	10.09	19.83

STORM PIPE LINE B OUTPUT INFORMATION						
PIPE	DOWNSTREAM INVERT ELEVATION (ft)	UPSTREAM INVERT ELEVATION (ft)	HYDRAULIC GRADE DOWNSTREAM (ft)	HYDRAULIC GRADE UPSTREAM (ft)	Q(100) EXPECTED (cfs)	Q(100) CAPACITY (cfs)
B-1	4001.70	4002.28	4003.80	4004.03	15.01	29.00
B-2	4002.28	4002.44	4004.03	4004.18	7.72	22.85
B-3	4002.28	4002.44	4004.01	4004.16	7.72	22.85

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

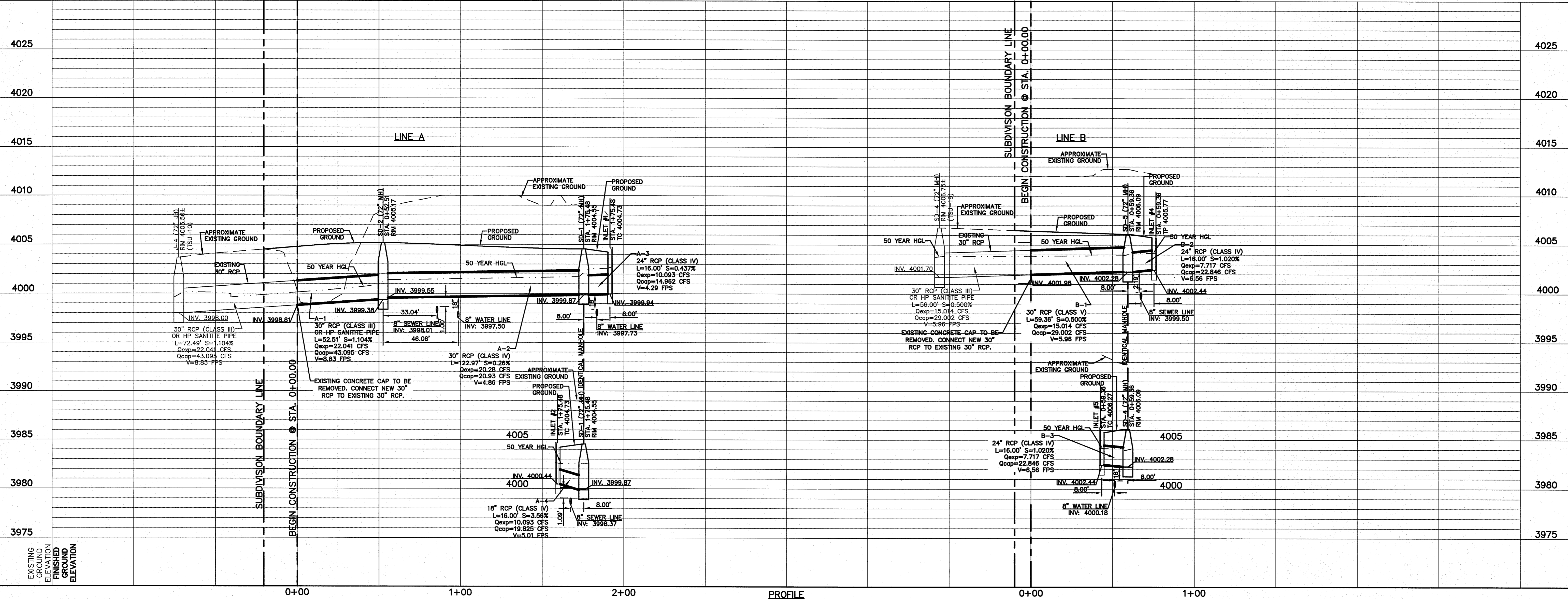
**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE, CENTERLINE RICH BEEM BLVD. SURVEY 3333'VE A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)



813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB NO. 2000-213

TEXAS REGISTERED ENGINEERING FIRM F-4564

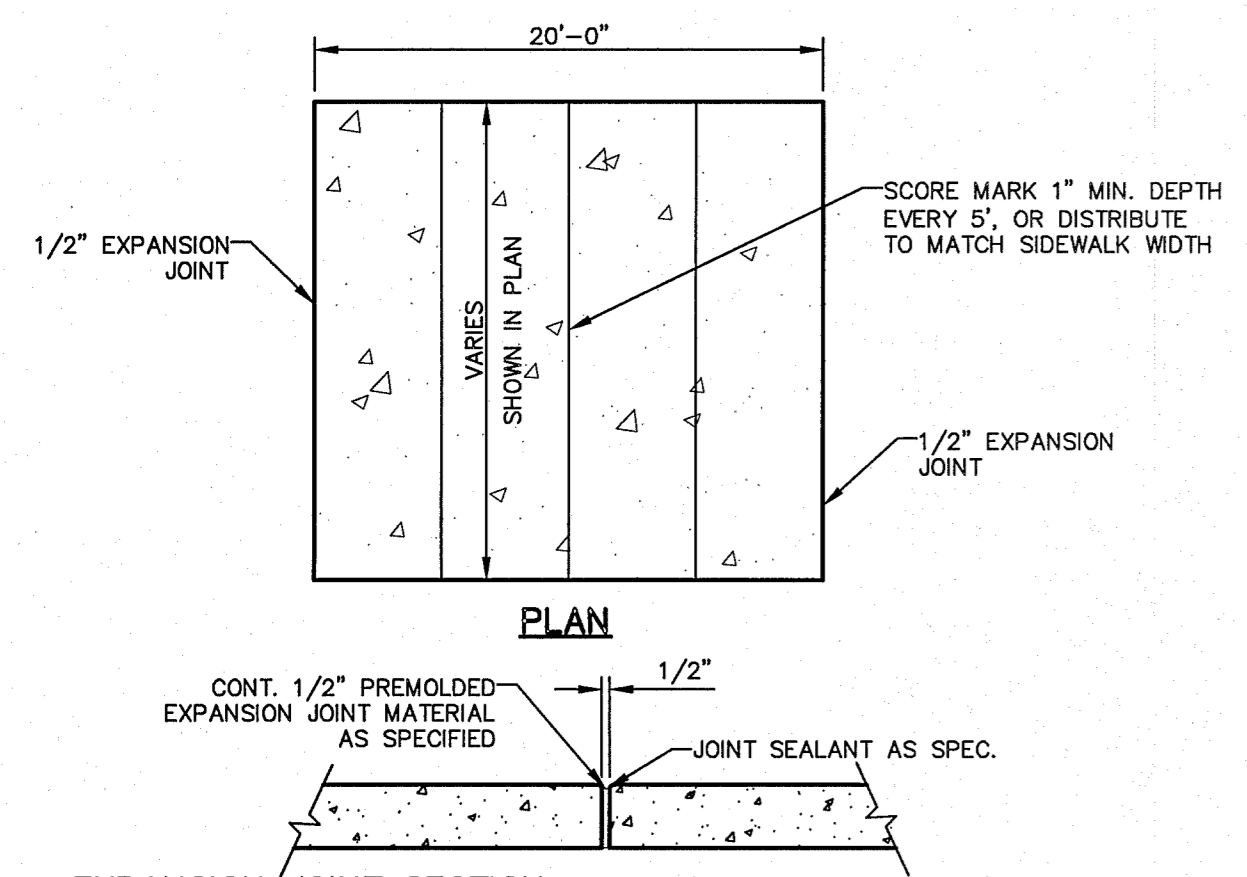


SCALE: Horizontal: 1"=50'  
Vertical: 1"=5'  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB NO. 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

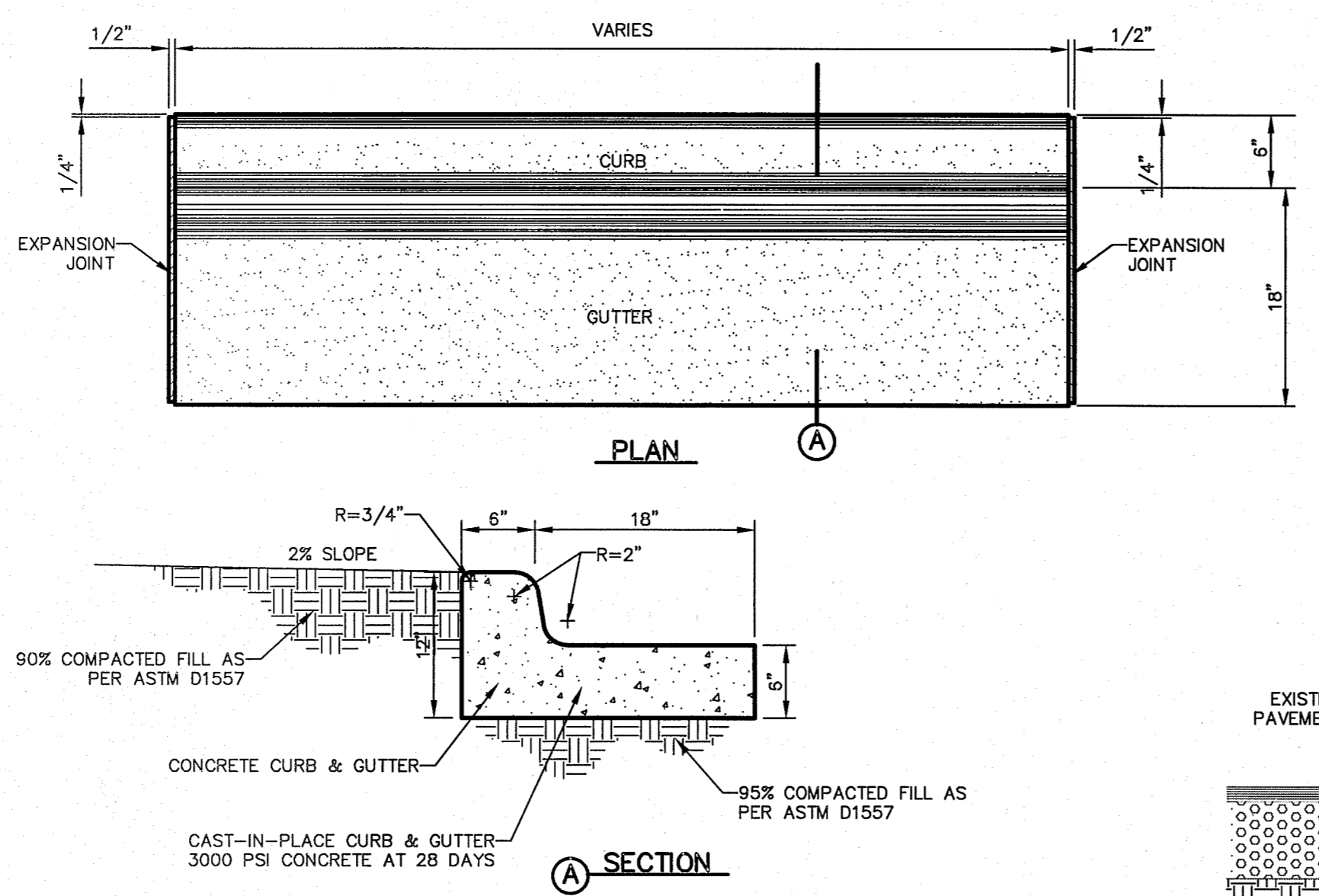
SHEET TITLE  
**LINE A**  
**PLAN & PROFILE**  
**FROM STA. 0+00.00**  
**TO STA. 1+75.48**  
**LINE B**  
**PLAN & PROFILE**  
**FROM STA. 0+00.00**  
**TO STA. 0+59.36**  
SHEET NO.

**C7.1**



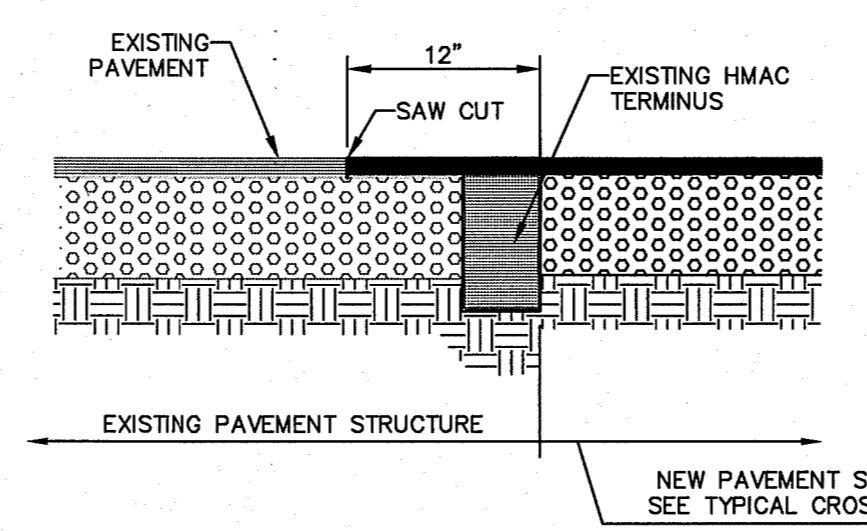
- NOTES:**
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33).
  - EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
  - WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
- SIDEWALK NOTES:**
- CONCRETE SIDEWALK SHALL BE 3,000 P.S.I.
  - DUMMY JOINTS REQUIRED AT 5' O.C.
  - EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM. USE 1/2" PREFORMED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
  - EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
  - SUBGRADE TO BE COMPACTED TO 95% AS PER ASTM D1557.
  - REFER TO PARK SIDEWALK DETAIL WHEN ABUTTING A PARK SITE AND/OR A PEDESTRIAN WALKWAY.

1 SECTION-SIDEWALK/SLAB  
SCALE: N.T.S.

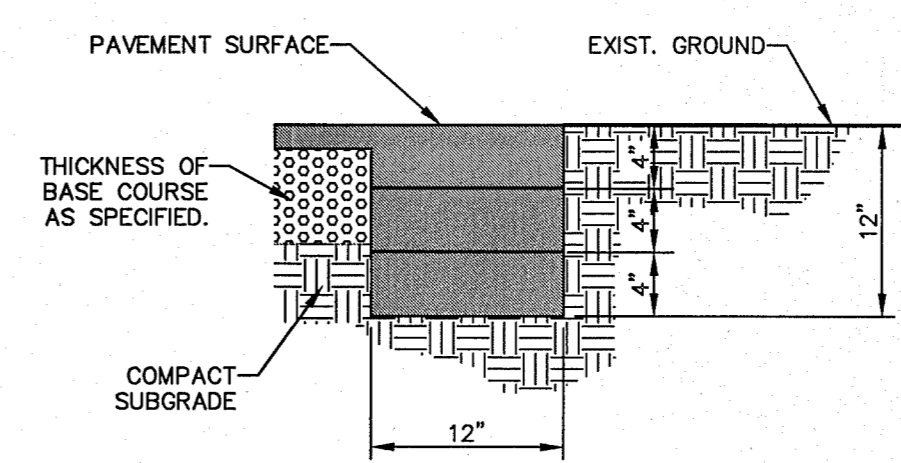


- NOTES:**
- CONCRETE CURB, GUTTER AND RETURNS SHALL BE 3,000 P.S.I. MIN.
  - DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK
  - 1/2" PREFORMED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB AND GUTTER DIMENSION.
  - SUBGRADE UNDER CURBS MUST BE FORMED AND COMPACTED TO 95% ASTM D1557
  - EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

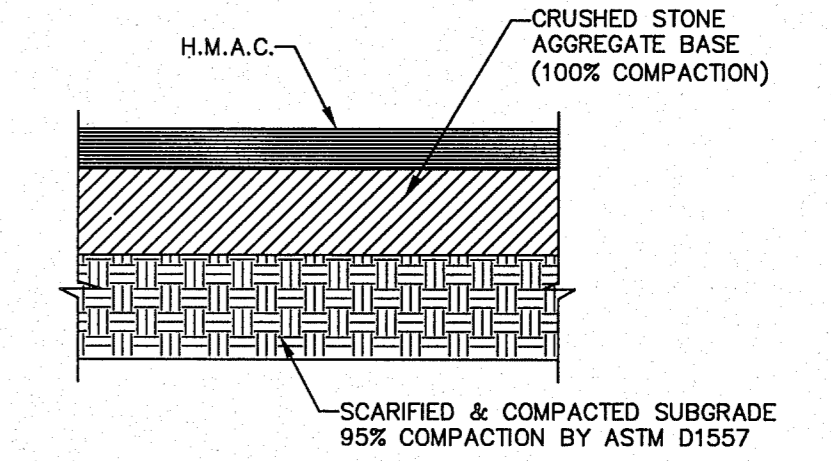
2 CURB & GUTTER DETAIL  
SCALE: 1"=1'-0"



3 TYPICAL PAVEMENT JOINT SECTION  
SCALE: N.T.S.

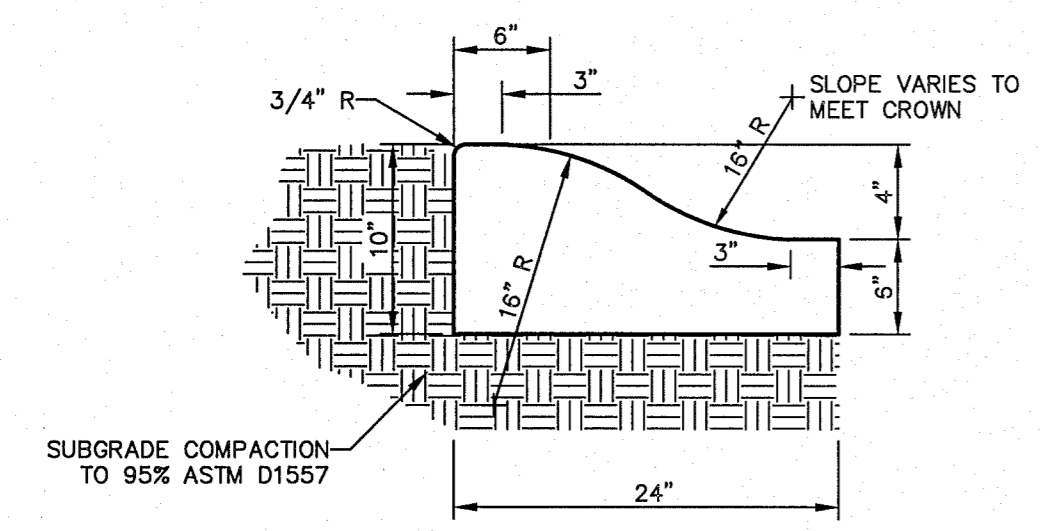


4 TERMINUS OF STREET  
SCALE: 1"=1'-0"



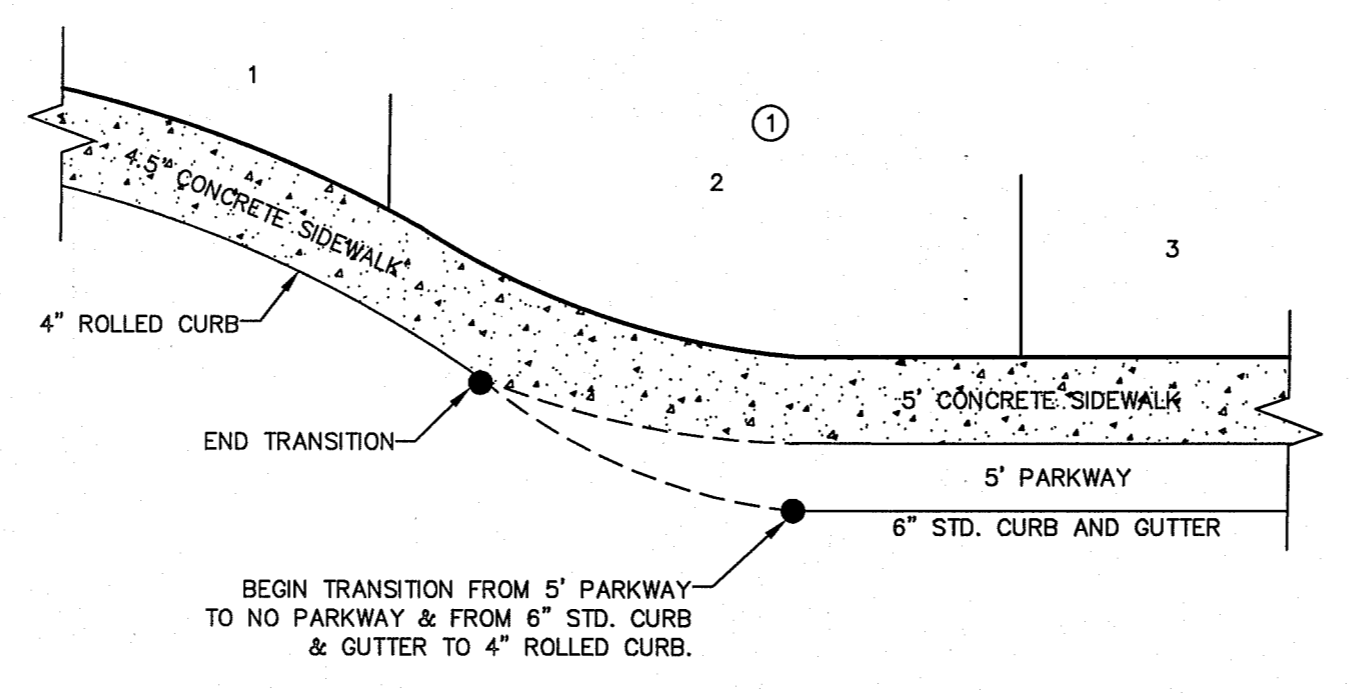
5 TYPICAL PAVEMENT SECTION  
SCALE: N.T.S.

- PAVEMENT SECTION NOTES:**
- SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
  - MINIMUM PAVEMENT DESIGN DETAILS ARE SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.
  - STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS. CBR EVERY 500' RESULTS TO BE SUBMITTED TO EL PASO COUNTY FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT. THE CBR RESULTS WILL DICTATE THE REQUIRED THICKNESS OF THE PAVEMENT STRUCTURE BASED ON CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

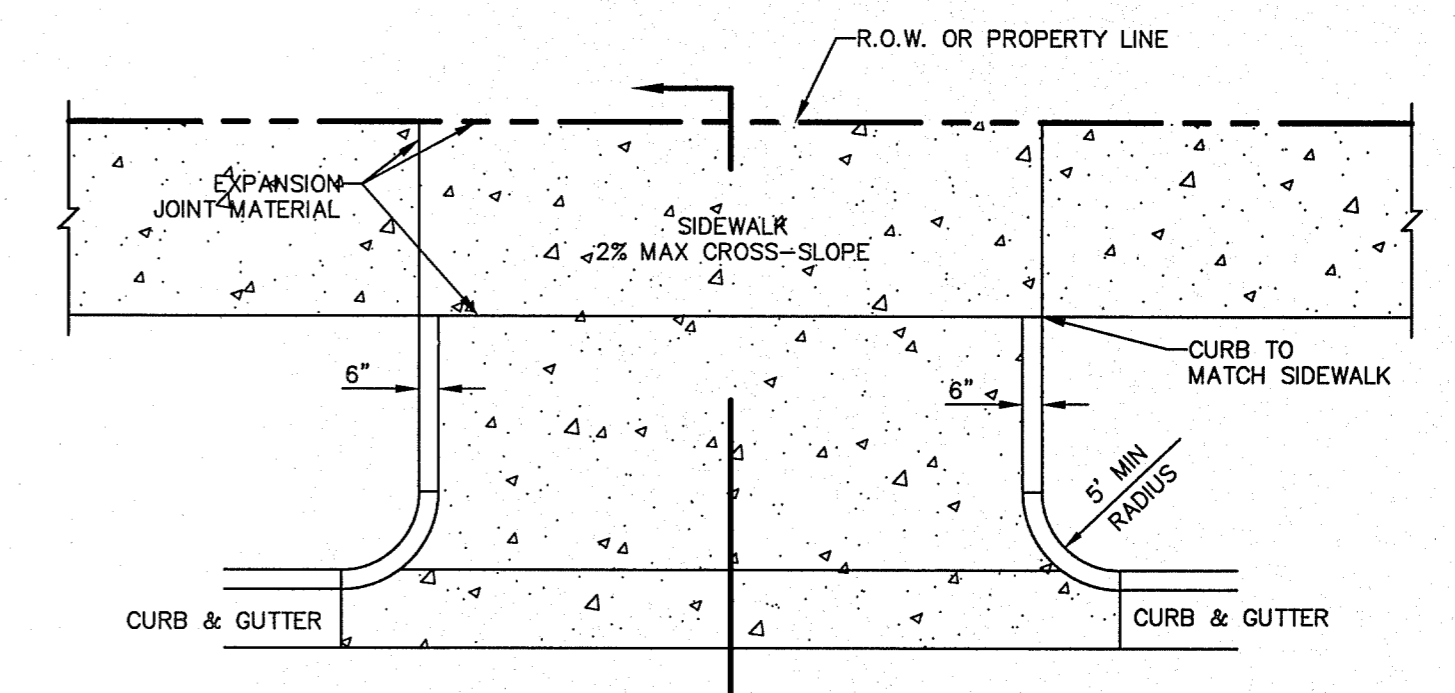


- CONCRETE TO BE 3000 PSI MIN.
- DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK
- EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREFORMED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
- EXPANSION JOINTS REQUIRED FOR SIDEWALK AT 20' O.C.
- \* FOR CUL-DE-SAC AND HEEL ONLY.

6 4" CONCRETE ROLLED CURB DETAIL  
SCALE: 1"=1'-0"



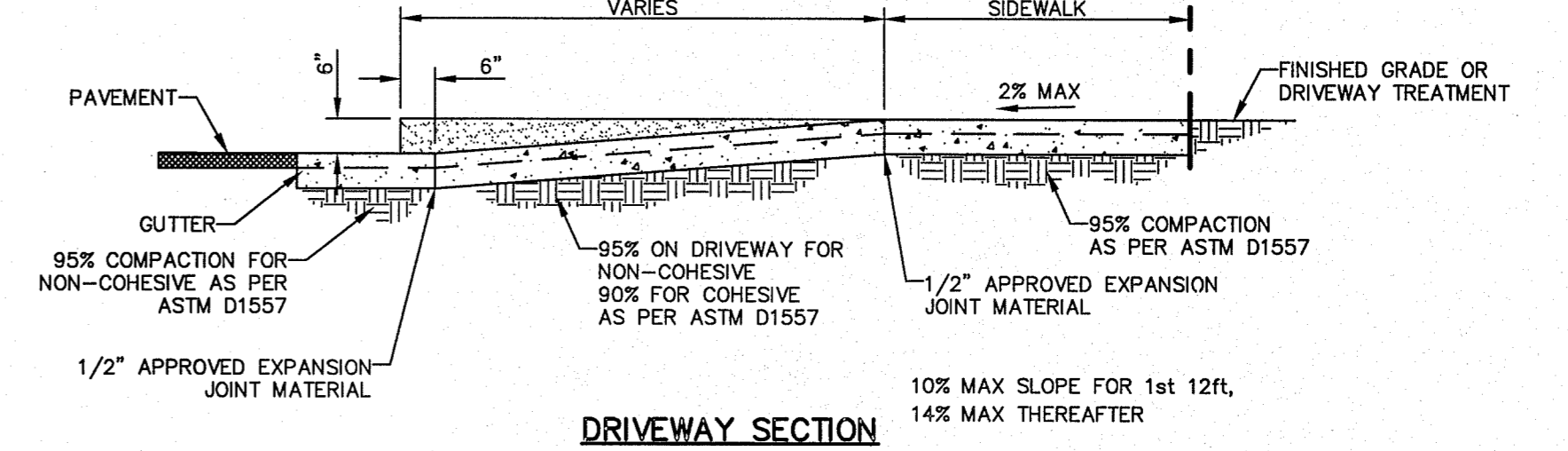
7 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION  
SCALE: N.T.S.



DRIVEWAY WIDTH	MIN	MAX
COMMERCIAL/INDUSTRIAL	24'	35'
RESIDENTIAL (SINGLE FAMILY 60' LOTS)	10'	20'
LESS THAN 60' LOTS, DUPLEX AND TOWN HOMES	15'	25'

(REFER TO PLATE 6-16)

- RESIDENTIAL**  
6" CONC WITHOUT W.W.F.  
4" CONC WITH 6X6-10/10
- COMMERCIAL/INDUSTRIAL**  
6" CONC WITH 6X6-6/6

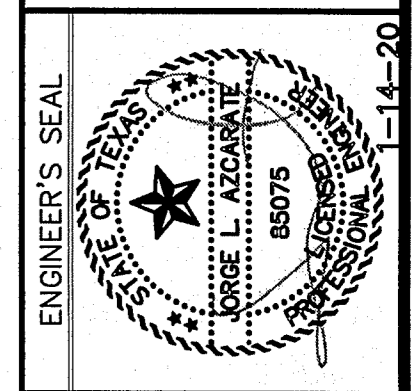


8 CONCRETE APRON FOR DRIVEWAYS/ALLEYS  
SCALE: N.T.S.

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084331E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF ELEVATION: 4608.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.6282  
www.ceegroup.net

TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE: N/A  
Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APP'D. BY: J.L.A.  
JOB No.: 2000-213

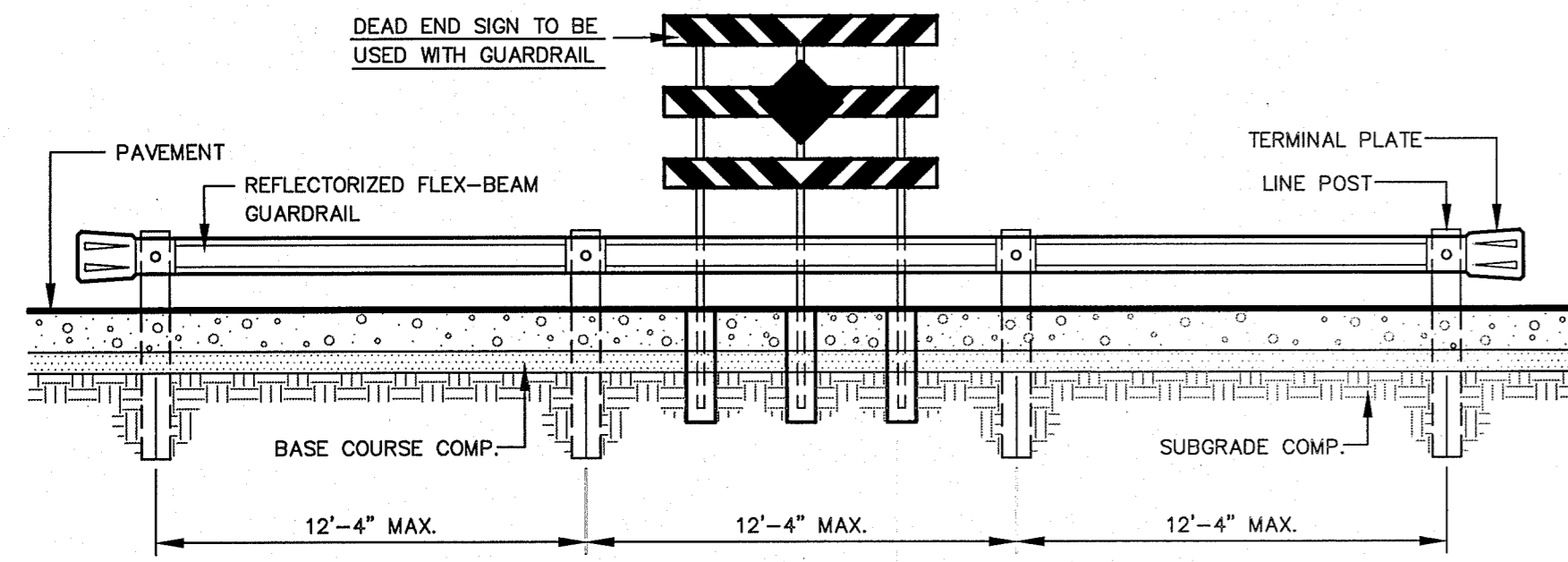
PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
STANDARD DETAILS  
(SHEET 1 OF 3)  
SHEET NO.

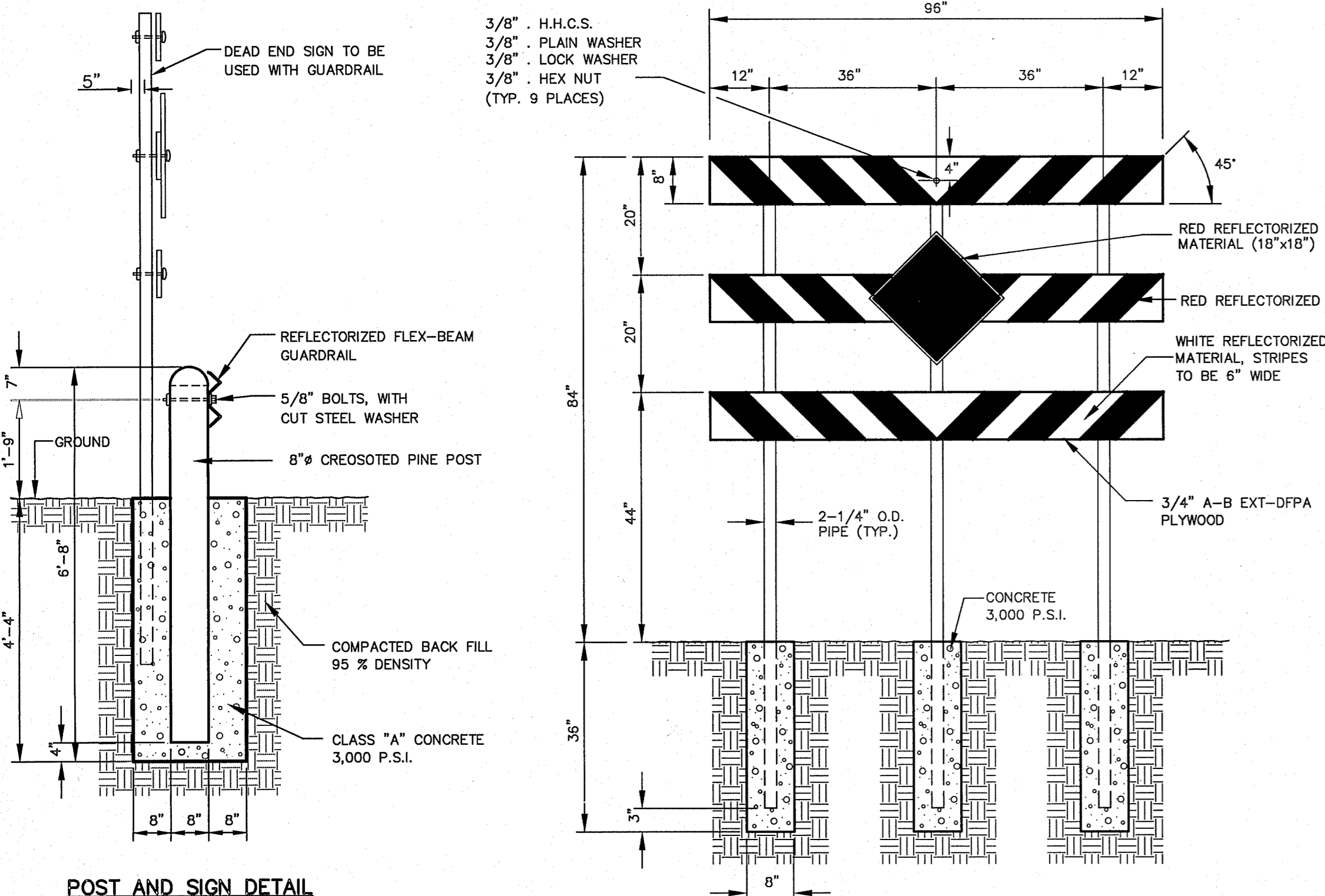
C8.1



S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C8.1 STANDARD DETAILS.dwg, 1/17/2020 1:16:31 PM



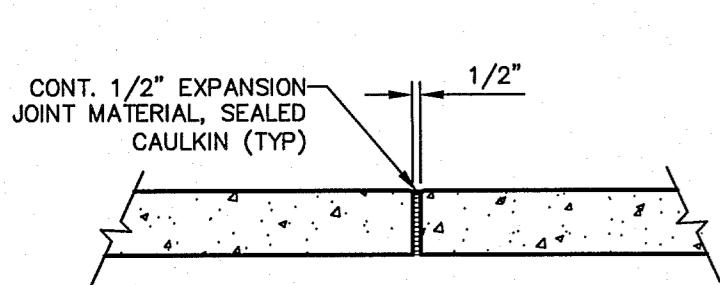
ELEVATION SCALE: 1"=5'



POST AND SIGN DETAIL SCALE: N.T.S.

1 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL SCALE: AS SHOWN

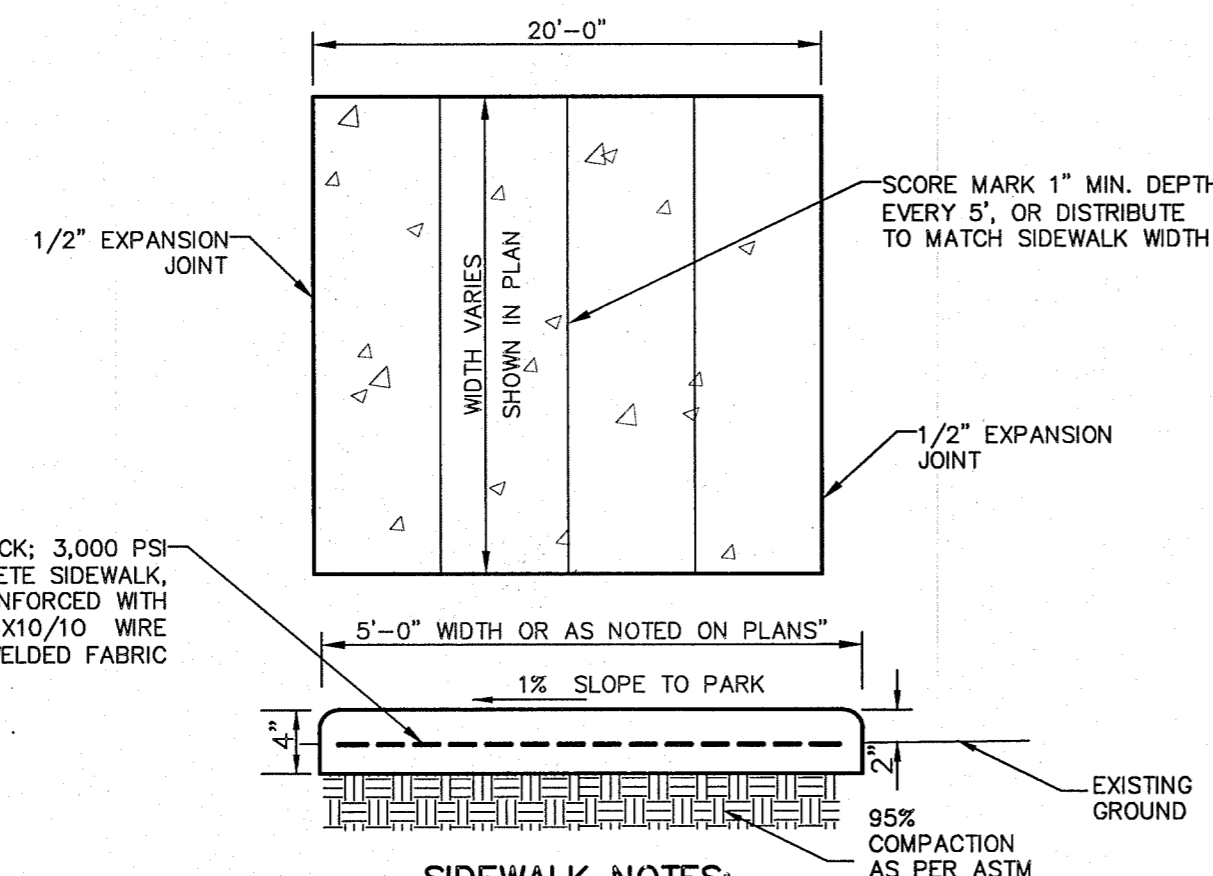
2 DEAD END SIGN DETAIL SCALE: 1"=2'-0"



EXPANSION JOINT SECTION SCALE: N.T.S.

- NOTES:**
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33).
  - EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
  - WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

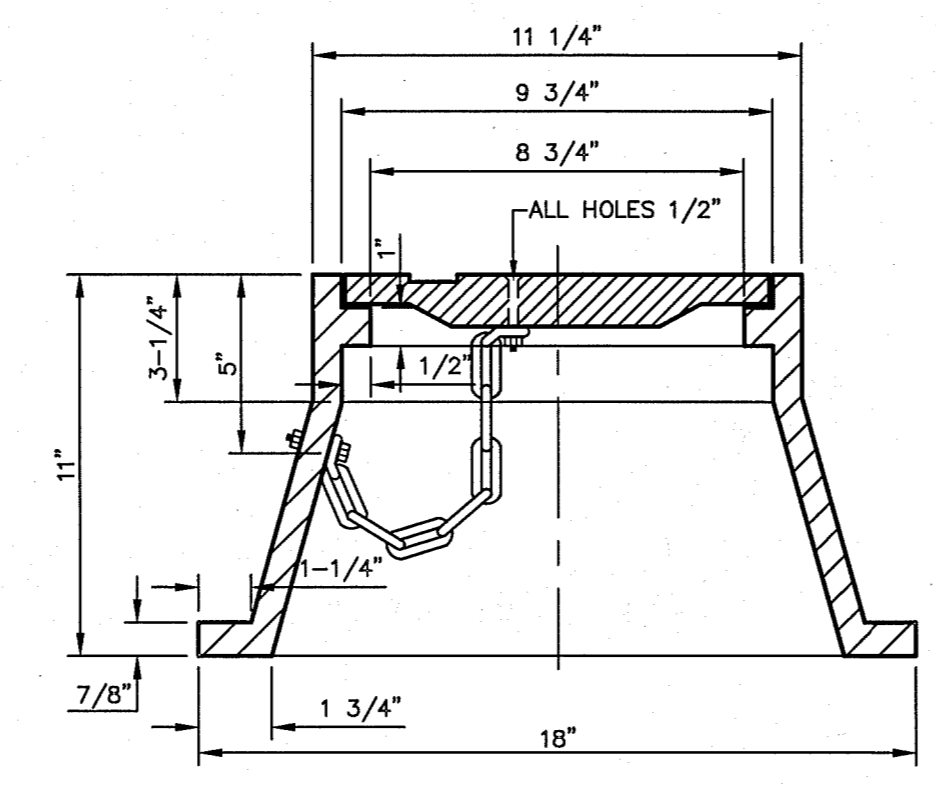
3 EXPANSION JOINT DETAIL SCALE: N.T.S.



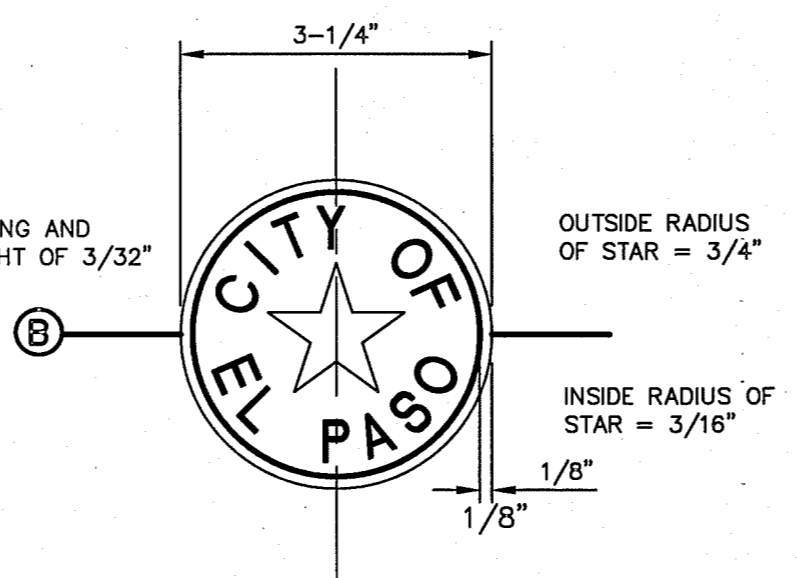
SIDEWALK NOTES:

- CONCRETE SIDEWALK SHALL BE 3,000 P.S.I.
- CONTROL JOINT REQUIRED AT 5' O.C FOR SIDEWALKS OR AS SHOWN ON PLANS. CONTROL JOINTS SHALL BE 1/2" THICK AND 1" DEEP.
- EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM. USE 1/2" PREFORMED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
- EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
- SUBGRADE TO BE COMPACTED TO 95% AS PER ASTM D1557.
- REINFORCEMENT (6X8-10/10 W.W.F.) SHALL BE PLACED WHEREVER SIDEWALK ABUTS A PEDESTRIAN WALKWAY AND/OR PARK.

4 SIDEWALK ABUTTING PARK SITE SCALE: N.T.S.

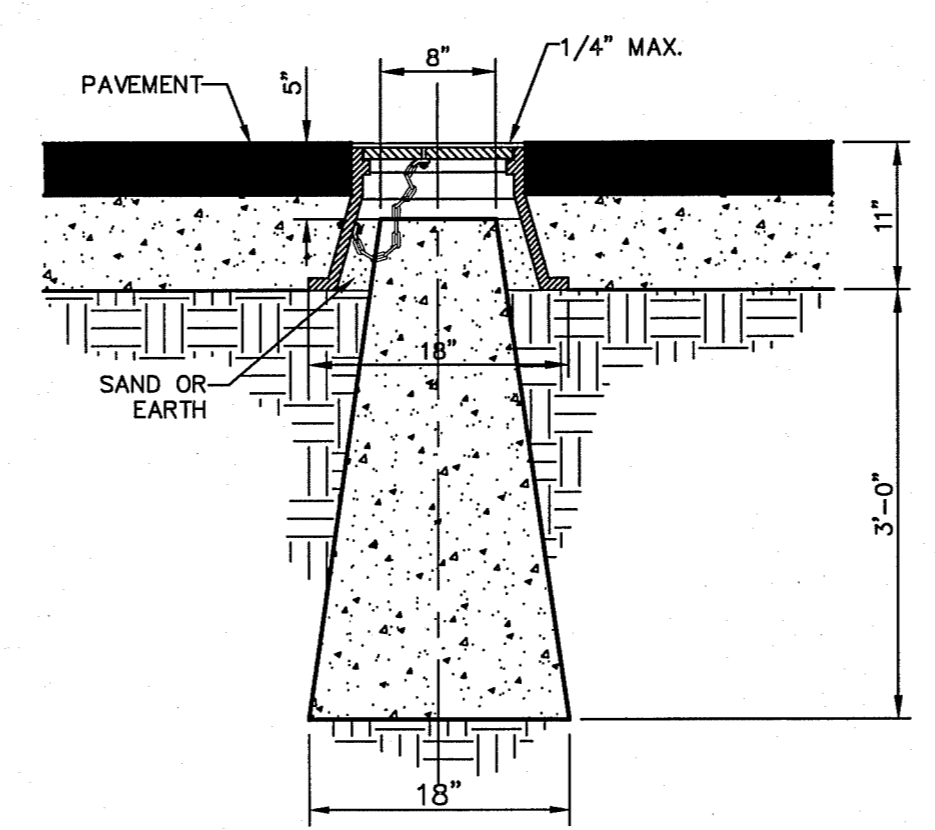


FRAME SECTION

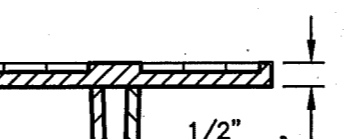


BRONZE MONUMENT CAP

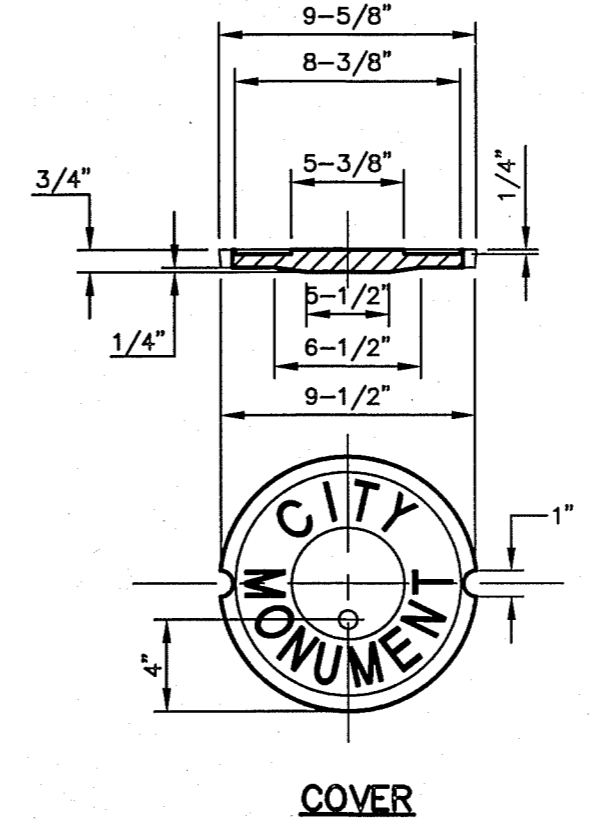
2 CITY SURVEY MONUMENT DETAILS SCALE: N.T.S.



NO FORMS REQUIRED. CONCRETE TO BE POURED IN PLACE 3000 P.S.I. CONC.



B SECTION



COVER

**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 WHERE DIRECTED BY THE ENGINEER. THE STONE SHALL BE DENSE, RESISTANT TO THE ACTION OF AIR AND WATER, CLEAN OF OLD MORTAR AND SUITABLE IN ALL RESPECTS FOR THE PURPOSE INTENDED.

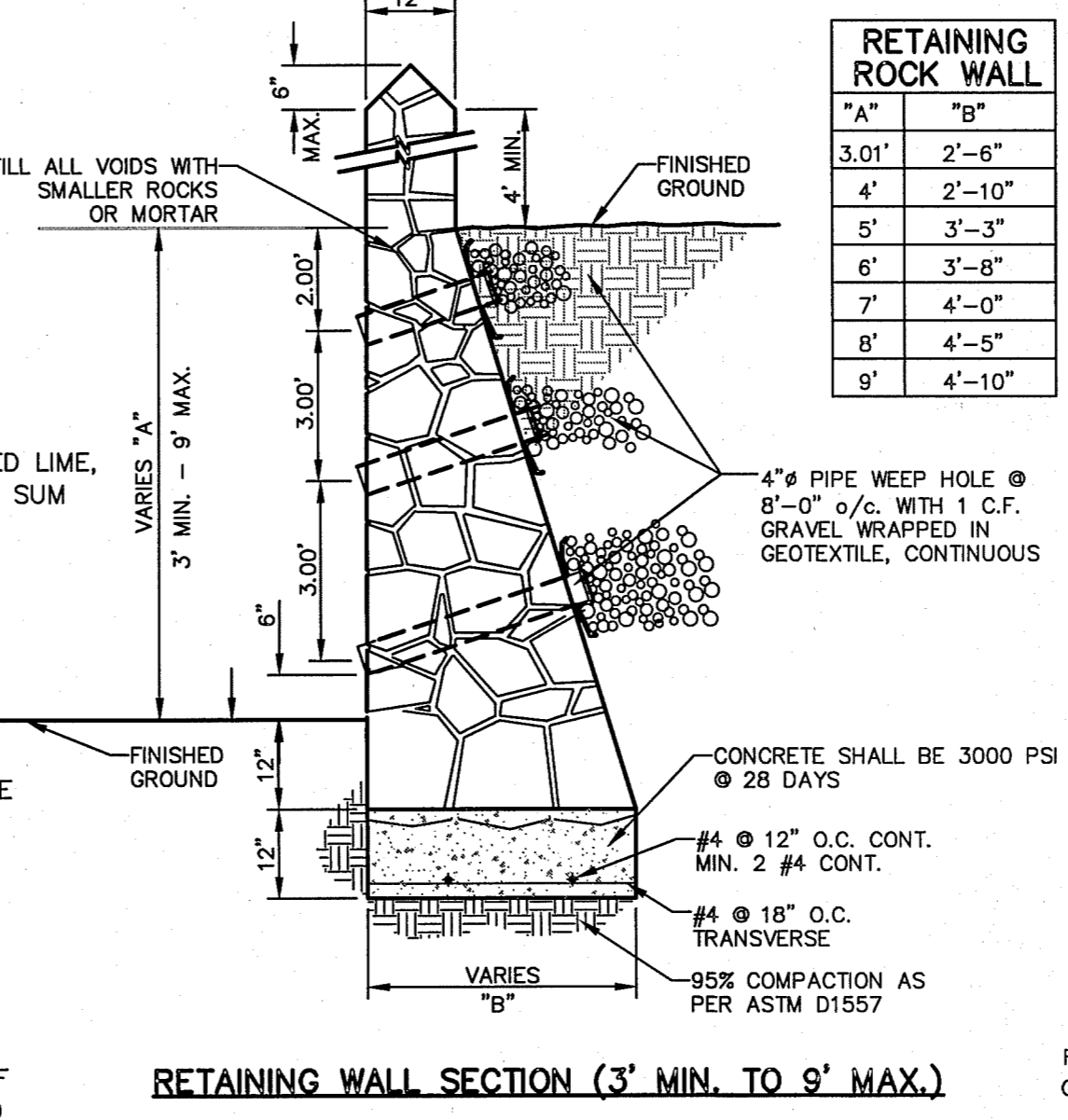
MORTAR FOR THE ROCK WALLS SHALL CONSIST BY VOLUMES OF ONE (1) PART PORTLAND CEMENT, ONE-QUARTER TO ONE-HALF (1/4 TO 1/2) PART HYDRATED LIME, AND THREE (3) PARTS CLEAN, HARD, DURABLE SAND (2 1/4 TO 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME COMBINED. SEE CITY BUILDING CODE FP-14-3 AND 14-4). MORTAR SHALL BE TYPE S, ASTM SPECIFICATION C270-73. COMPRESSIVE STRENGTH = 1800 P.S.I. (28 DAYS). CONCRETE FOR THE FOUNDATION SHALL BE CLASS "A" (3000 P.S.I.). REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. 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, IF CONSIDERED NECESSARY BY THE ENGINEER, THE BOTTOM OF EXCAVATION SHALL BE HAND-TAMPED AND SPRINKLED. 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 CONCRETE SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE ANY STONE OR MORTAR IS PLACED ON THE FOUNDATION. THE CONCRETE SHALL BE CURED A MINIMUM OF 48 HOURS BEFORE MORE THAN 300 POUNDS PER SQUARE FOOT OF STONE AND MORTAR IS PLACED ON THE FOUNDATION. CONTRACTOR SHALL EMBED THE FIRST FOUR INCHES OF THE FIRST LAYER INTO THE FRESH CONCRETE OF THE FOOTING.

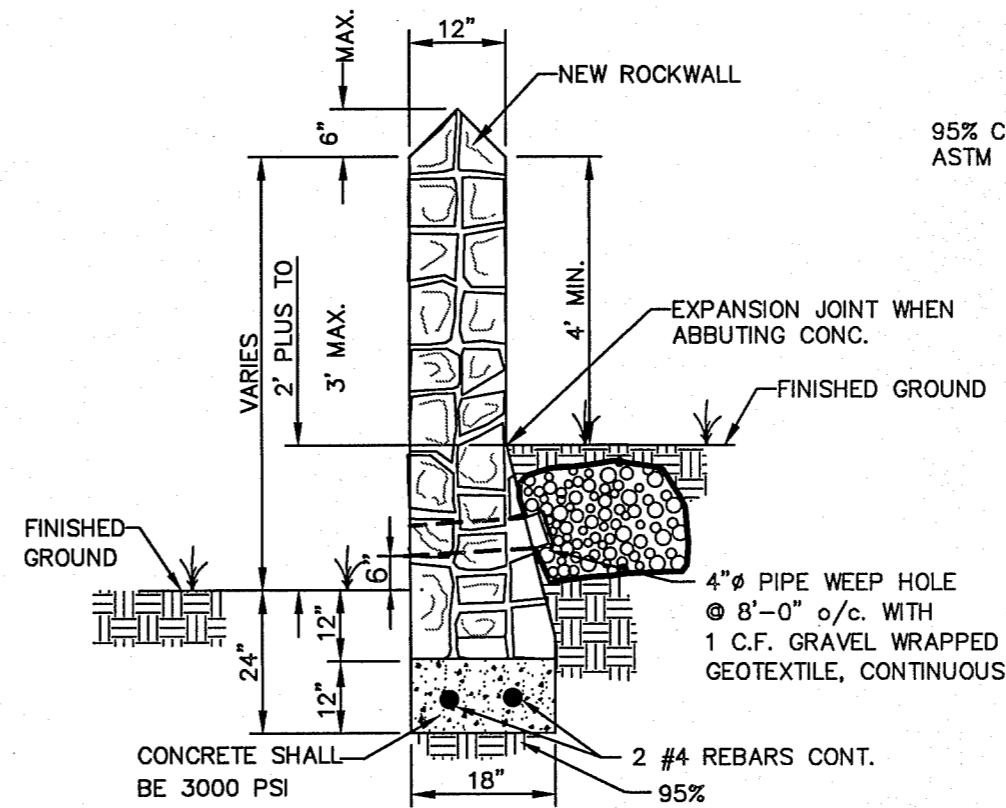
STONE SHALL BE SELECTED AS TO SIZE AND SHAPE IN ORDER TO SECURE FAIRLY LARGE, FLAT-SURFACED STONE WHICH MAY BE ERECTED WITH TRUE AND EVEN SURFACE FACES AND A MINIMUM OF EXPOSED MORTAR. ALL STONES SHALL BE THOROUGHLY CLEANED, WETTED, HAND-PLACED AND EMBEDDED IN MORTAR SO THAT NO STONES SHALL TOUCH EACH OTHER OR THE CONCRETE FOUNDATION BUT SHALL BE FIRMLY BOUND TOGETHER WITH MORTAR. THE FINISHED SURFACE 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 WET BEFORE BEING PLACED IN FRESH MORTAR. THE LAST LAYER OF ROCK PRIOR TO BREAK OF CONSTRUCTION PHASE SHALL NOT HAVE ANY MORTAR ON TOP. FRESH MORTAR MUST BE USED FOR CONTINUATION OF WORK FOLLOWING ERECTION BREAK.

WEEP HOLES SHALL BE PLACED ON THE ROCK WALL AS SHOWN ON THE PLANS. THE WEEP HOLES SHALL BE NOT MORE THAN TEN FEET APART ON-CENTER. THE WEEP HOLES SHALL CONSIST OF FOUR-INCH VITRIFIED CLAY PIPE, OR OTHER PIPE AS APPROVED BY THE ENGINEER, NEATLY CUT TO THE EXPOSED SURFACE OF THE ROCK WALL. NO LESS THAN ONE CUBIC FOOT OF ONE-INCH TO 3/4-INCH OF GRADED GRAVEL SHALL BE PLACED AT THE INLET OF EACH WEEP HOLE AS SHOWN ON THE PLANS.



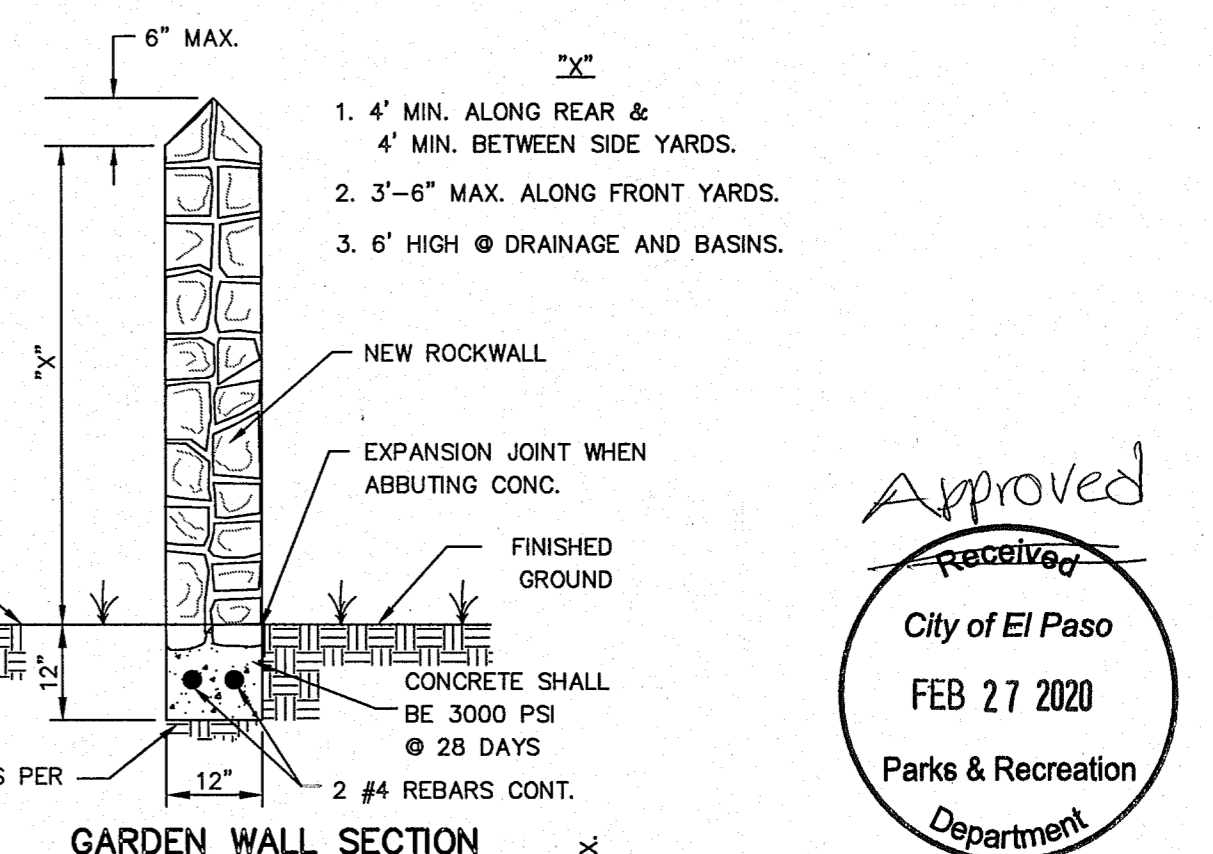
RETAINING WALL SECTION (3' MIN. TO 9' MAX.)



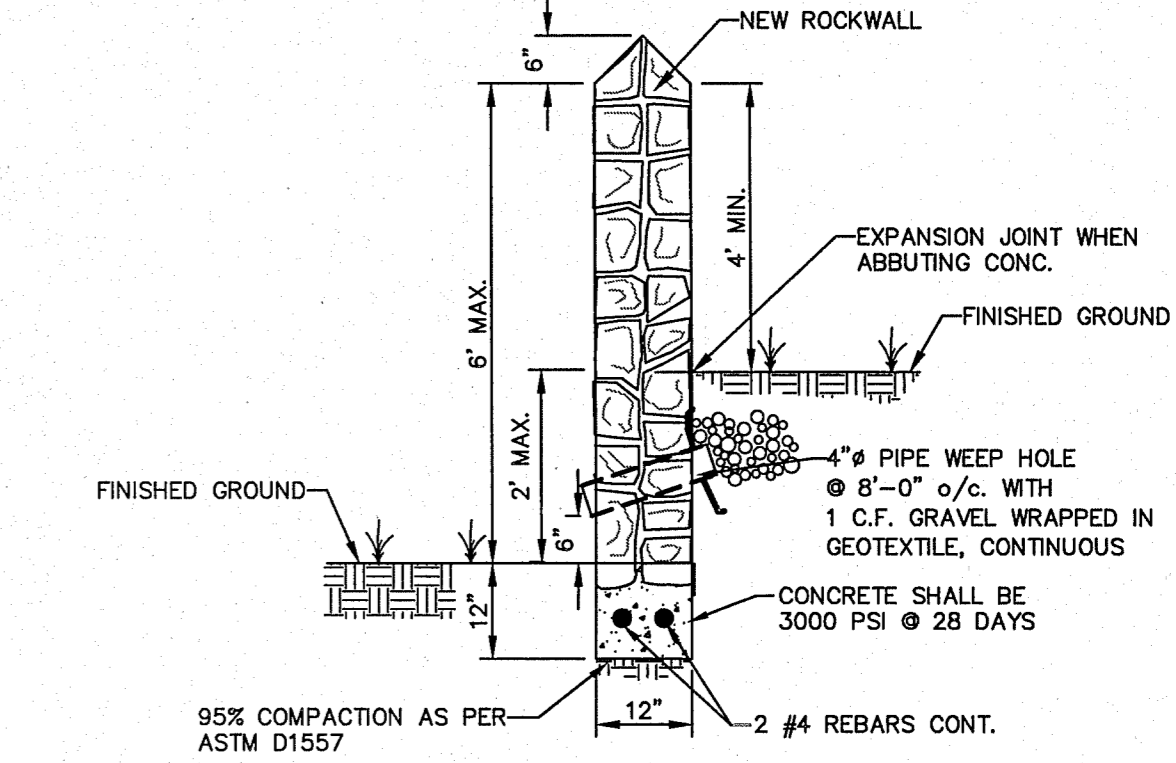
RETAINING WALL SECTION (2' PLUS TO 3' MAX.)

5 TYPICAL ROCKWALL DETAILS SCALE: 1/2"=1'-0"

RETAINING ROCK WALL	
"A"	"B"
3.01'	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-8"
7'	4'-0"
8'	4'-5"
9'	4'-10"



GARDEN WALL SECTION



GARDEN WALL SECTION (2' MAX.)

**PROPOSED MONUMENT LOCATIONS**

- MONUMENTS SHALL BE INSTALLED SO THAT ALL FRONT PROPERTY CORNERS OF ALL LOTS IN THE SUBDIVISION ARE WITHIN LINE OF SIGHT OF A MONUMENT, OR WITHIN SIGHT OF THE LINE BETWEEN TWO ADJACENT MONUMENTS.
- EACH MONUMENT SHALL BE WITHIN LINE OF SIGHT OF ANOTHER MONUMENT.
- MONUMENTS SHALL BE NO FARTHER THAN 2000 FEET APART.
- AT LEAST ONE (1) MONUMENT SHALL BE PLACED ON EACH HORIZONTAL CURVE (PI) OF THE TANGENTS LEADING INTO THE CURVE FALLS OUTSIDE THE CURB LINE.
- NO FEWER THAN TWO MONUMENTS SHALL BE PLACED IN ONE (1) STREET SUBDIVISIONS.

**ROCK WALL NOTES**

- STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IS PRACTICABLE THE STONE SHALL BE DENSE AND RESISTANT OF AIR AND WATER
- MORTAR MUST BE TYPE "S" 1800 P.S.I. AS PER ASTM C270
- MASONRY WALL OVER SIX (6) FEET IN HEIGHT AND THOSE USED FOR EARTH RETENTION OVER TWO (2) FEET MUST BE DESIGNED AS STRUCTURAL WALLS.
- WALLS ADJACENT TO PONDING AREAS OR DRAINAGE DITCHES MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH.
- ROCKWALL MORTAR JOINTS MUST NOT EXCEED TWO (2) INCHES
- PROVIDE ONE (1) INCH EXPANSION JOINTS AT EVERY 100 FEET
- ALL STONE SHALL BE THOROUGHLY SOAKED BEFORE BEING PLACED
- ALL STONE FOR ROCKWALLS SHALL BE FRACTURED QUARRIED ROCK OR ROUND ROCK, NO RIVER ROCK SHALL BE ALLOWED.
- REINFORCING STEEL SHALL BE ASTM A615 GRADE 40.
- ALLOWABLE SOIL BEARING PRESSURE = 2,500 PSI (MINIMUM)
- BACKFILL MATERIALS SHALL CONSIST OF COARSE GRAINED, WELL-DRAINED SOILS (WITH NO CLAY CONTENT).
- ALL THE RETAINING WALLS OVER 4' IN DEPTH SHALL BE BUILT BY DEVELOPER. REMAINING ROCKWALL TO BE BUILT BY BUILDER.

**NOTE:**  
BUILDER SHALL SUBMIT ROCKWALL AND RETAINING ROCKWALL COMPUTATIONS TO THE COUNTY OF EL PASO FOR APPROVAL, IF IN EXCESS OF THOSE SHOWN.

Approved  
City of El Paso  
FEB 27 2020  
Parks & Recreation Department

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceegrup.net

TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
SCALE: N/A  
Horizontal: N/A  
Vertical: N/A  
Date: NOVEMBER, 2019  
Contour Interval: N/A  
DESIGN BY: R.O.  
DRAWN BY: J.C.  
CHKD. BY: J.L.A.  
APPRO. BY: J.L.A.  
JOB NO. 2000-213

PROJECT TITLE  
TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS

SHEET TITLE  
STANDARD  
DETAILS

(SHEET 2 OF 3)  
SHEET NO.

C8.2

**LEGEND**

DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN. A NOMINAL HEIGHT OF 0.2 IN AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN. AND SHALL NOT BE STAGGERED. THE SURFACE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE CITY OF EL PASO ROAD AND BRIDGE DEPARTMENT. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. ADA TILE SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF SURFACE SHALL BE PERMITTED.

**NOTES:**

1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
2. THE MINIMUM SIDEWALK WIDTH IS 5'. WHERE A 5' SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM 3' SIDEWALK WITH 5' X 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200 FT IS REQUIRED.
3. LANDINGS SHALL BE 5' X 5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
4. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4' X 4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
5. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED.
6. ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
7. RAMP TEXTURES MUST CONSIST OF TRUNCATED DOMED SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED. REFER TO TRUNCATED DOME DETAIL.
8. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
9. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%.
10. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR).

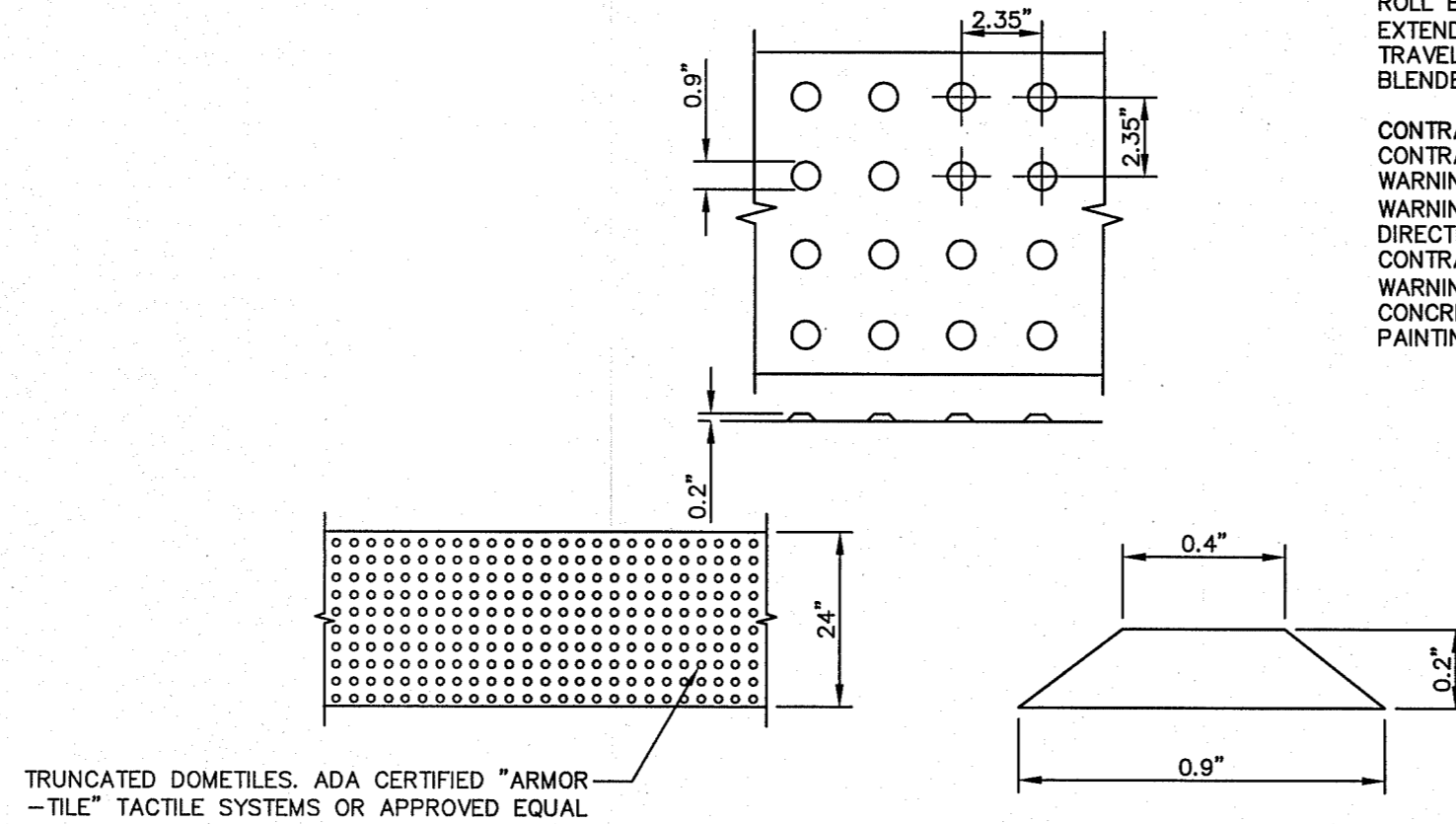
**NOTES:**

1. RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIREHYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
2. THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
3. CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
4. ALL PARKING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH CURRENT CITY OF EL PASO.

TRUNCATED DOME SIZE AND SPACING. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCHES (23 mm) AT THE BOTTOM, A DIAMETER OF 0.4 INCH (10 mm) AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES (5 mm), AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 mm) MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.

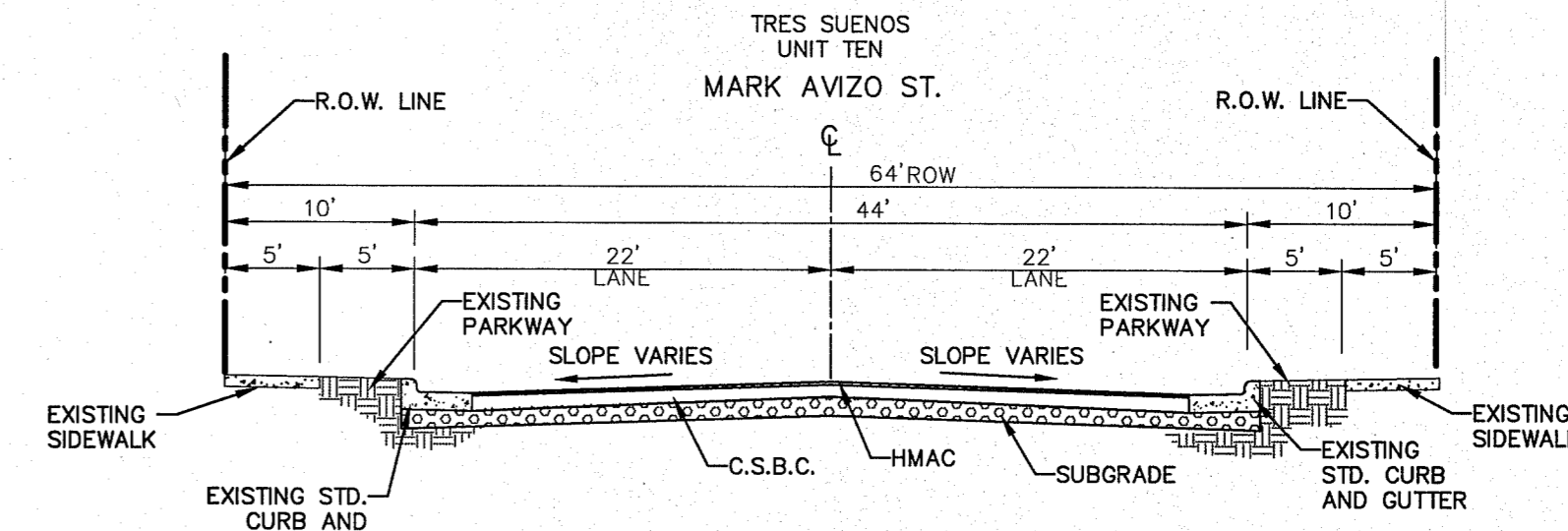
TRUNCATED DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING SURFACES SHALL EXTEND 24 INCHES (610 mm) MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION.

CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. ADA CERTIFIED "ARMOR-TILE" (REQUIRED). CONCRETE POURED TRUNCATED DOMES NOT ALLOWED. NO PAINTING OF SURFACE SHALL BE PERMITTED.

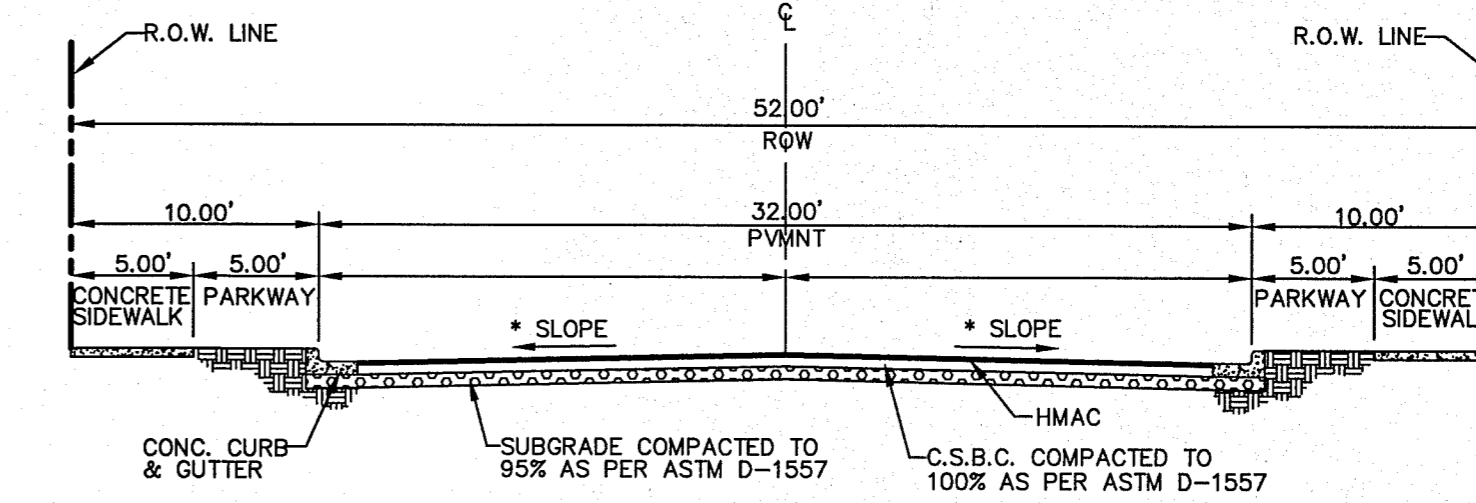


TRUNCATED DOMETILES. ADA CERTIFIED "ARMOR-TILE" TACTILE SYSTEMS OR APPROVED EQUAL

**2** TRUNCATED DOME SIZE AND SPACING  
SCALE: N.T.S.

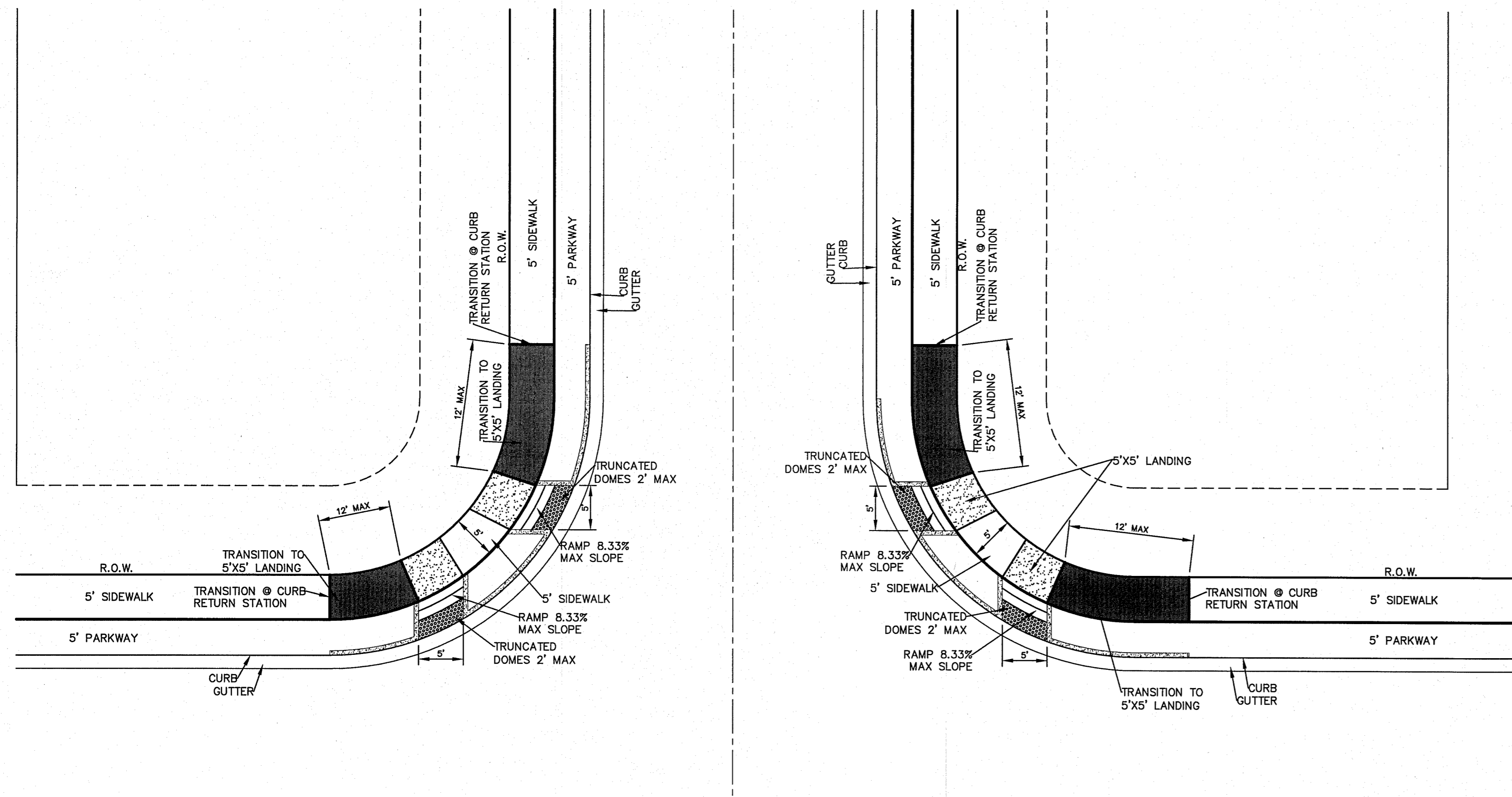


**3** EXISTING MARK AVIZO ST. SECTION  
(COLLECTOR ARTERIAL) EXISTING  
SCALE: N.T.S.



**\*CBR NOTE:**  
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS. CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT. THE CBR RESULTS WILL DICTATE THE REQUIRED THICKNESS OF THE PAVEMENT STRUCTURE BASED ON CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

**4** TYPICAL 52' ROW STREET SECTION DETAIL  
(RESIDENTIAL SUBCOLLECTOR)  
SCALE: N.T.S.



**1** DIRECTIONAL RAMP @ INTERSECTION  
SCALE: N.T.S.

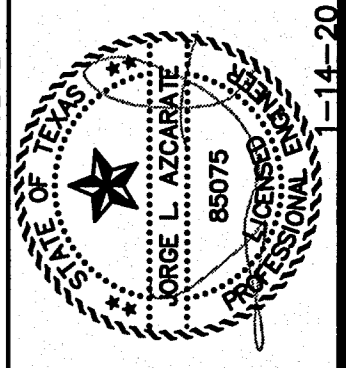
REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURB CENTERLINE RICH BEEM BLVD. S884337E A DISTANCE OF 467.68 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.	DATE	REVISIONS	BY
ELEVATION: 4005.40 (CITY DATUM)			

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.6282  
www.ceagroup.net

**CEA**

REGISTERED ENGINEERING FIRM F-4564



SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER, 2019
DESIGN BY:	T.C.
DRAWN BY:	J.L.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

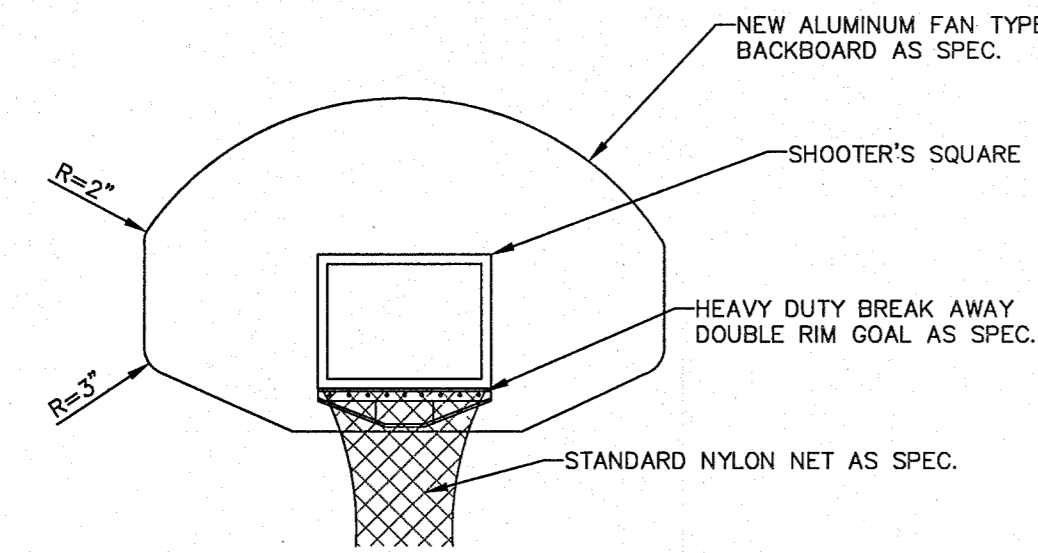
SHEET TITLE

STANDARD  
DETAILS

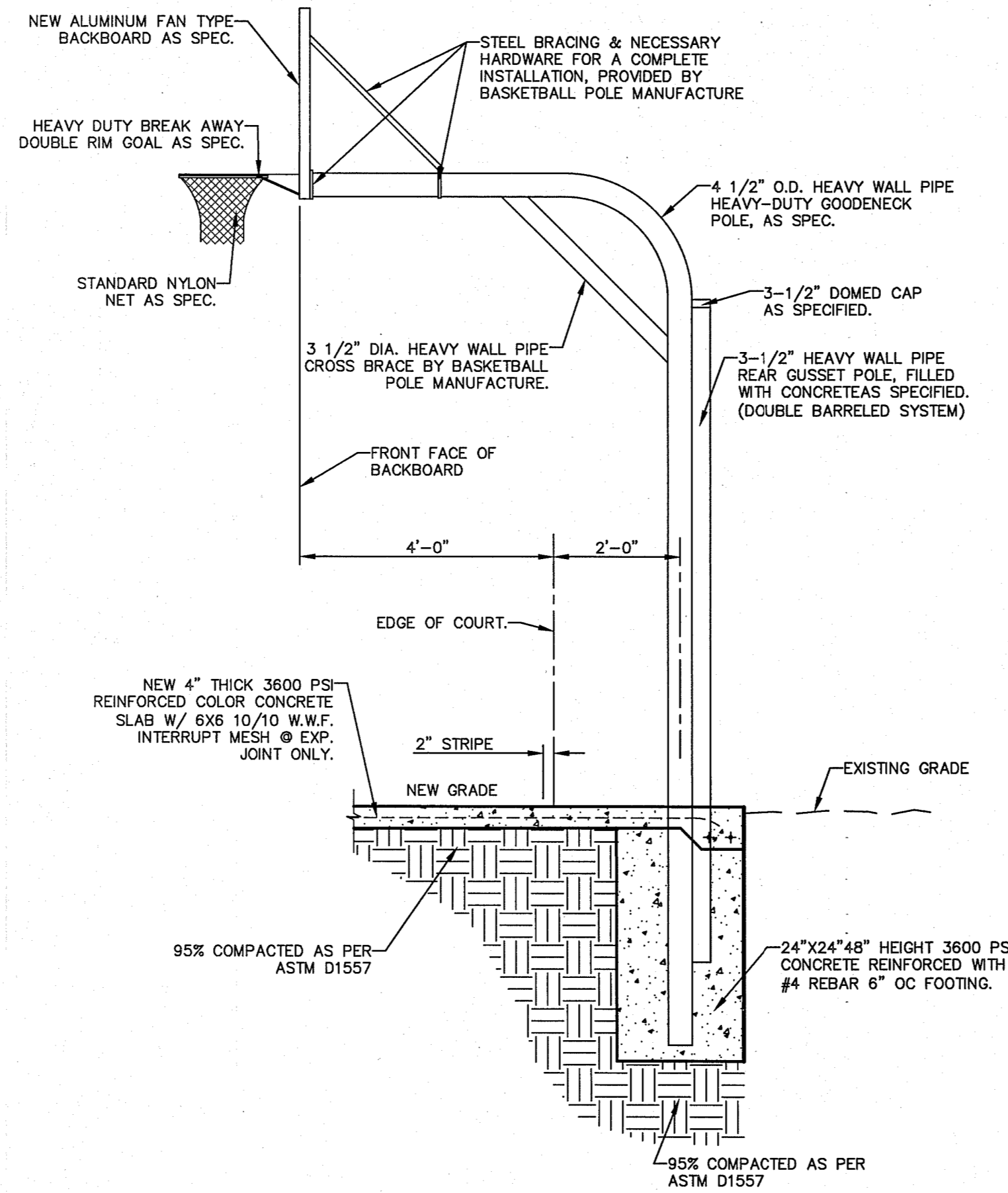
(SHEET 3 OF 3)  
SHEET NO.

**C8.3**

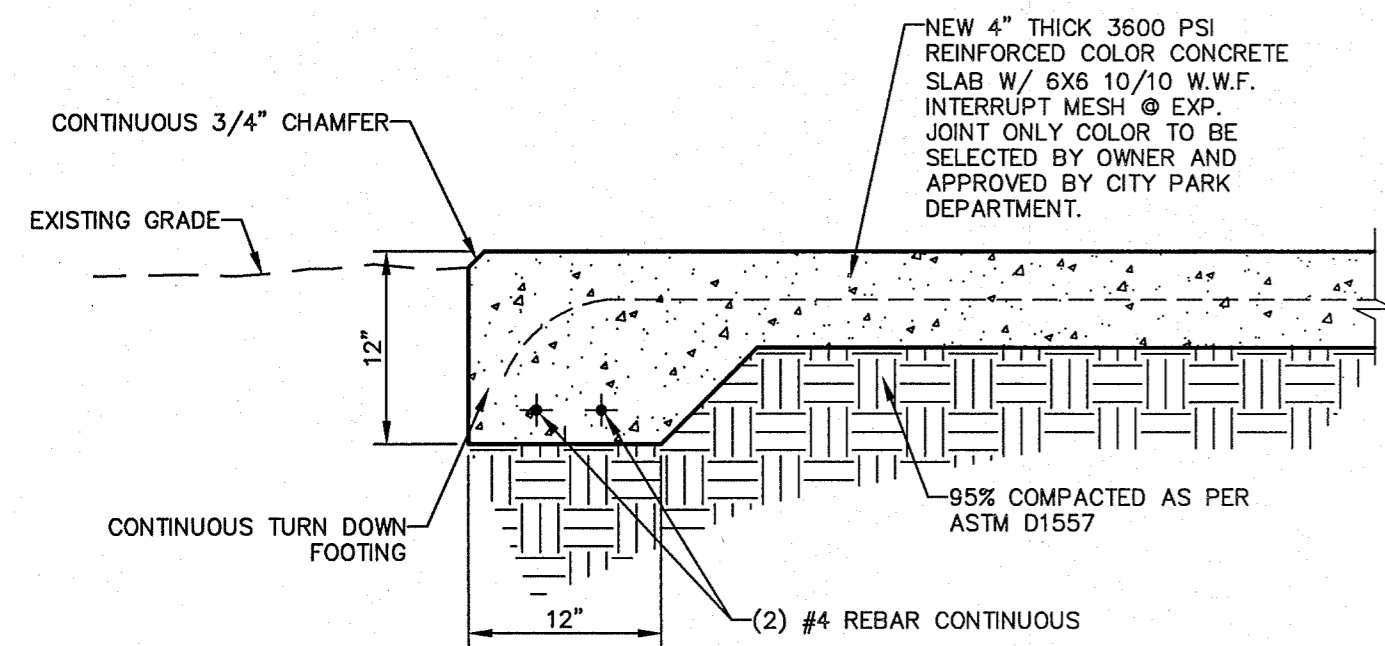




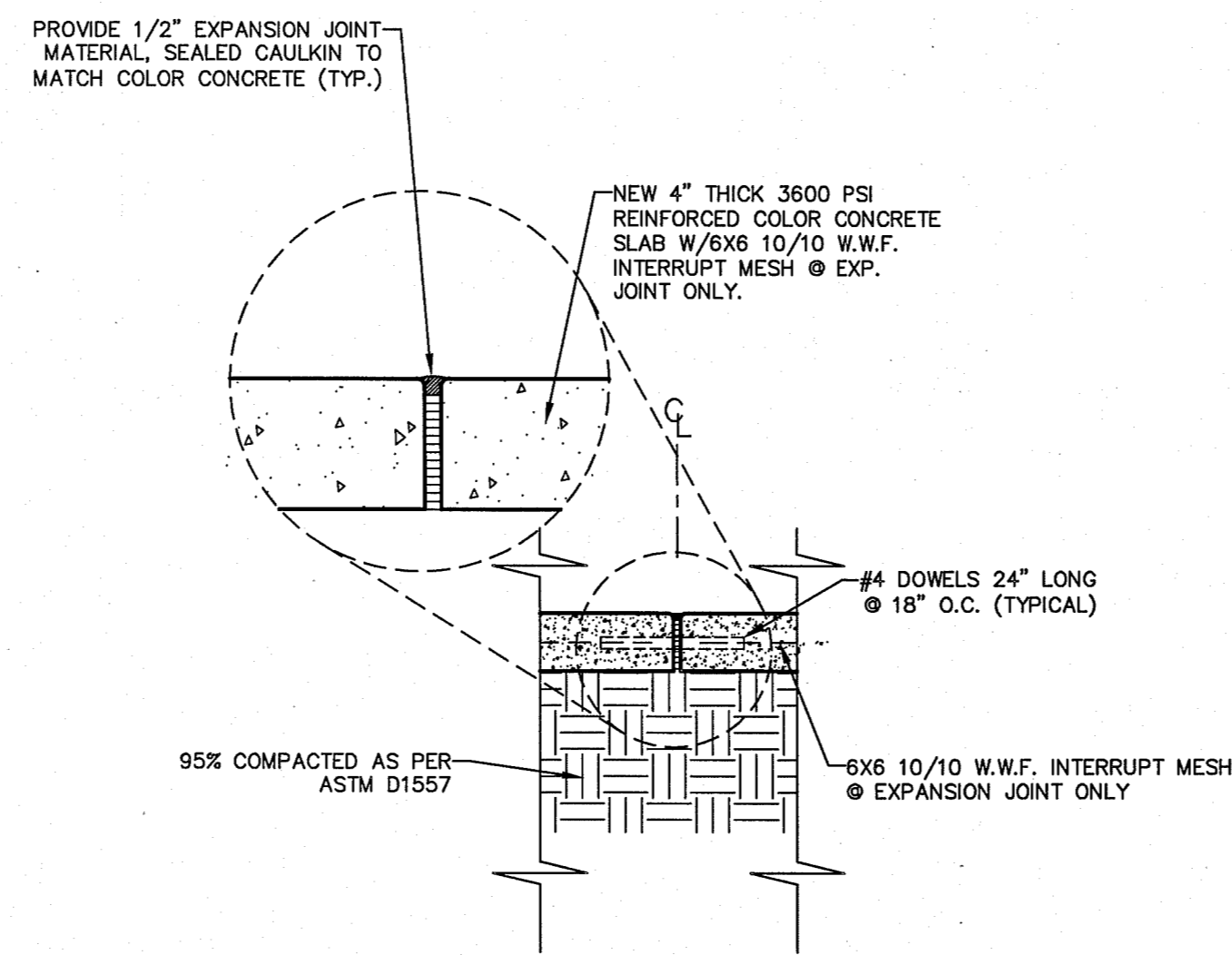
1 BASKETBALL BACKBOARD DETAIL  
SCALE: N.T.S.



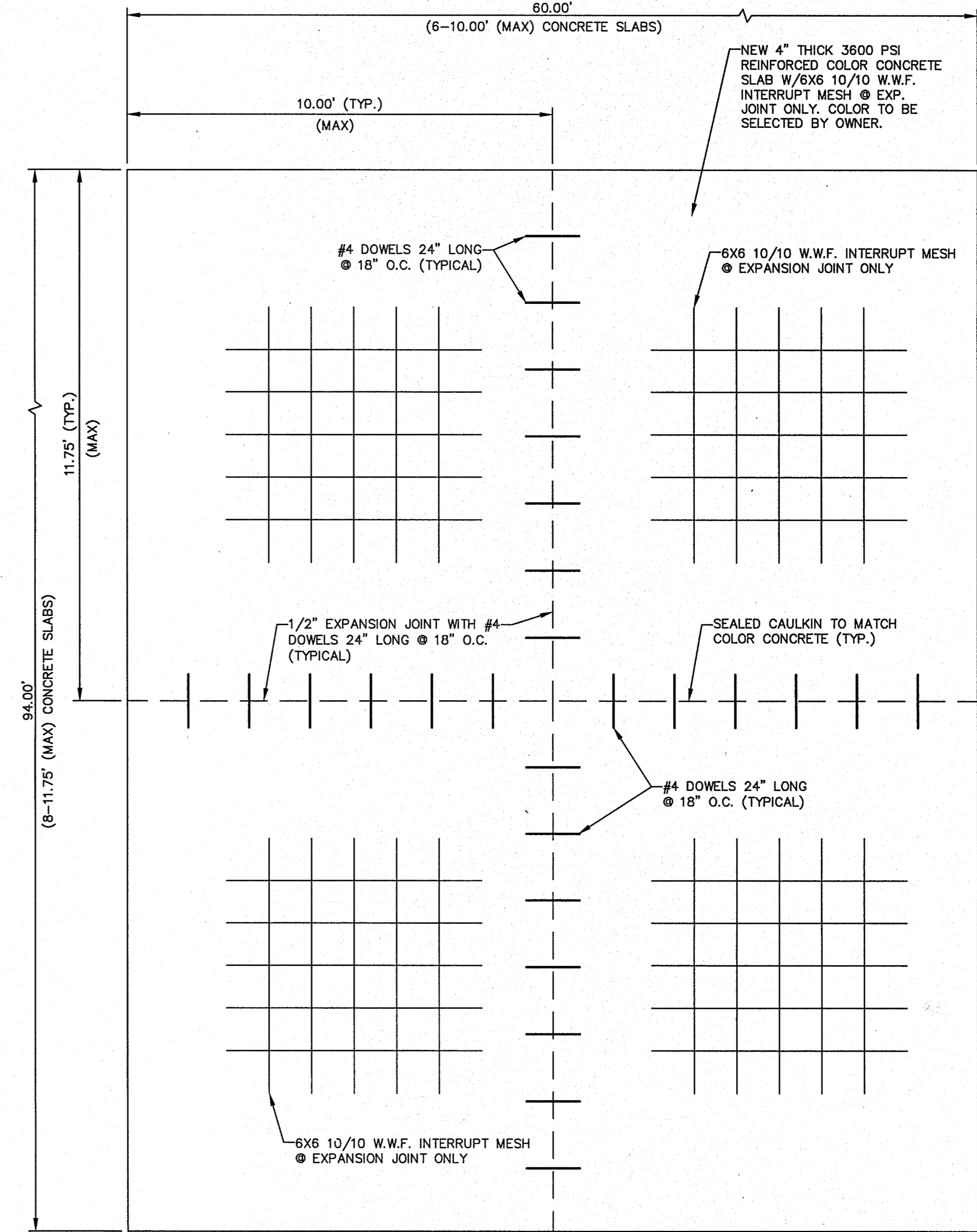
2 BASKETBALL POLE DETAIL  
SCALE: N.T.S.



3 BASKETBALL COURT FOOTING DETAIL  
SCALE: N.T.S.



4 BASKETBALL COURT EXPANSION JOINT DETAIL  
SCALE: N.T.S.



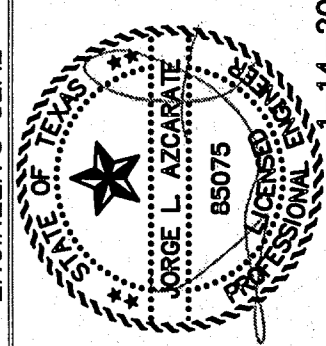
5 REINFORCED CONCRETE SLAB DETAIL  
SCALE: N.T.S.

Approved  
City of El Paso  
FEB 27 2020  
Parks & Recreation  
Department

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. 5084337E A DISTANCE OF 487.58 FEET FROM THE CENTERLINE TO THE RIGHT OF WAY LINE OF MONTANA AVENUE. ONLY RIGHT OF WAY LINE OF ELEVATION: 4055.40 (CITY DATUM)

DATE	REVISIONS	BY

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE:	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER 2019
DESIGN BY:	T.C.
CHECK BY:	J.L.A.
APP. NO. BY:	J.L.A.
JOB NO.:	2000-213

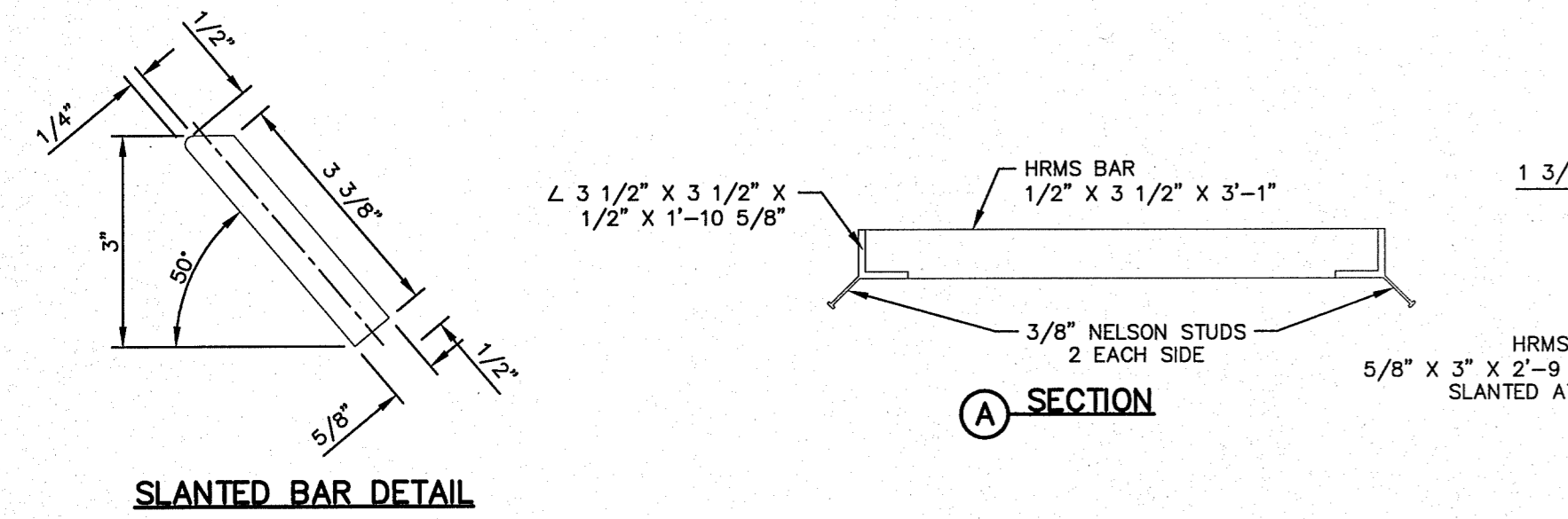
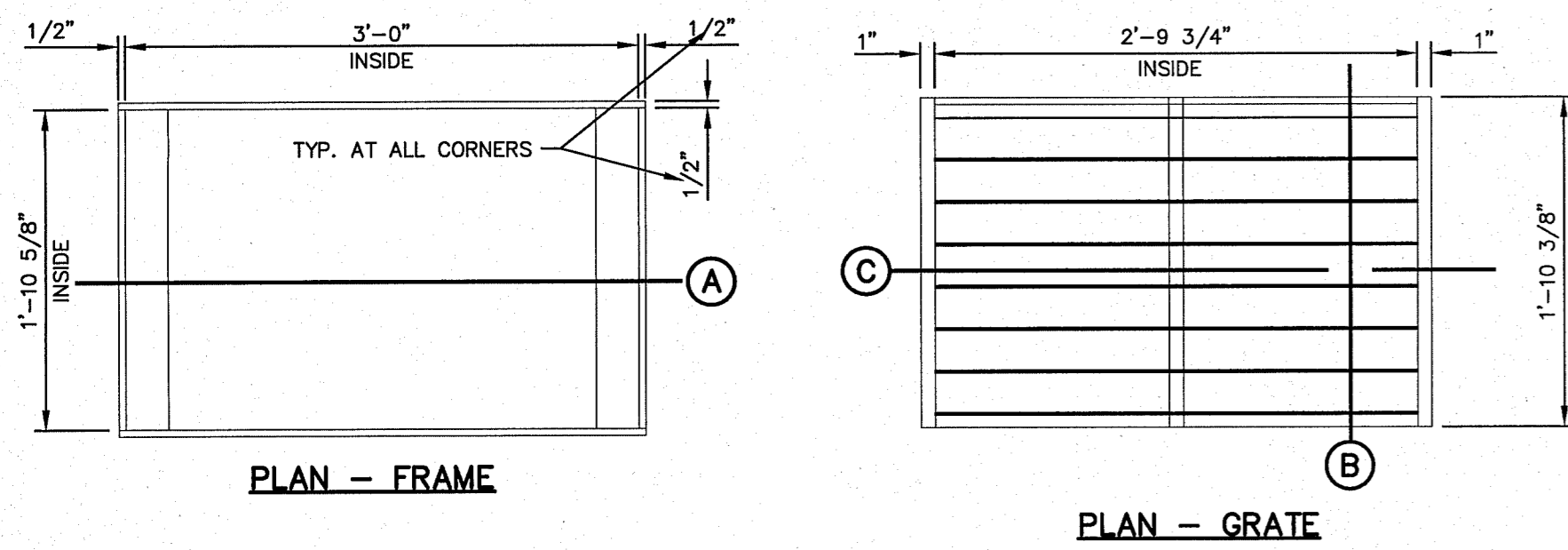
PROJECT TITLE  
TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS

SHEET TITLE

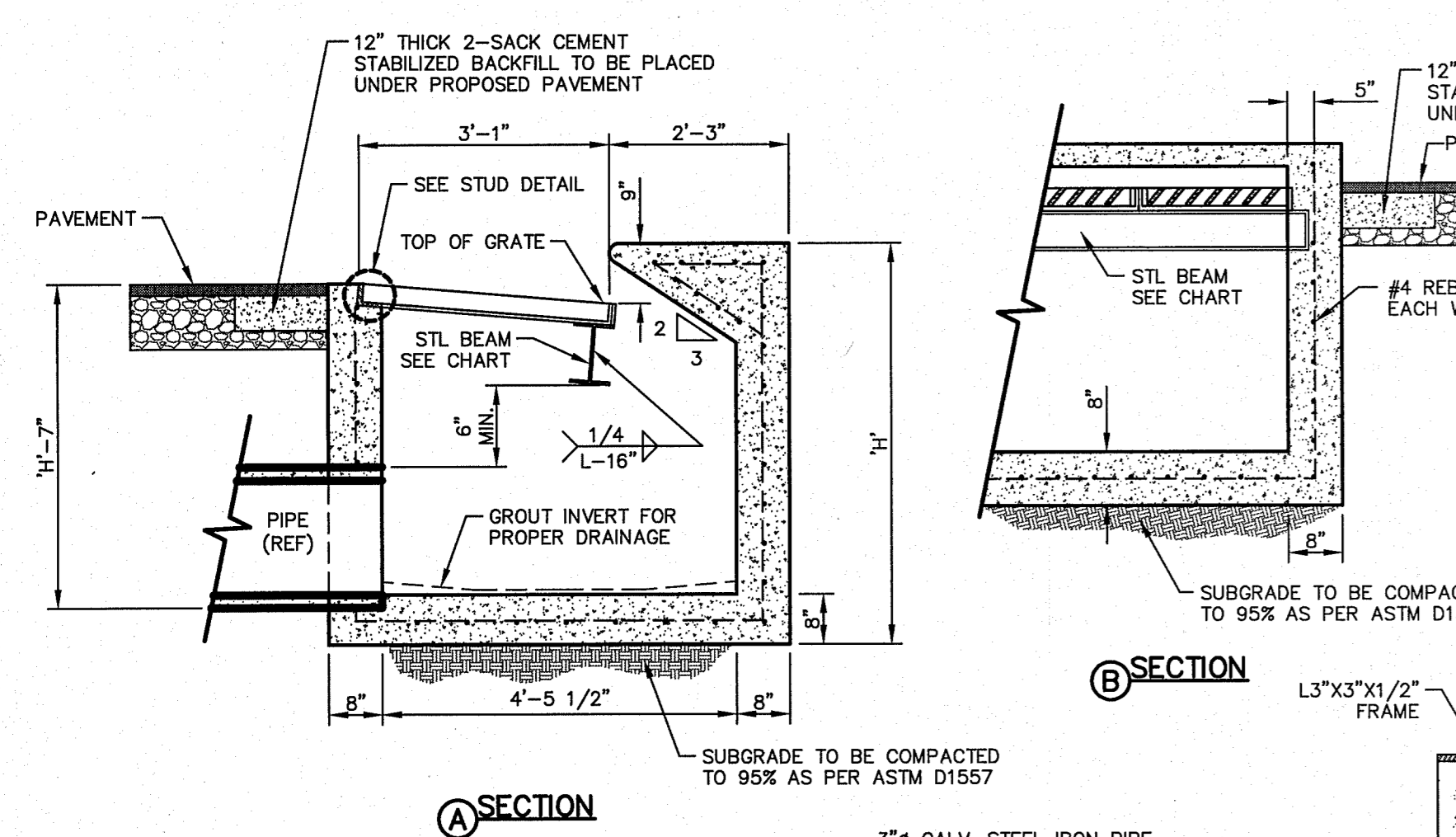
STANDARD  
DETAILS

(SHEET 4 OF 4)  
SHEET NO.

C8.4

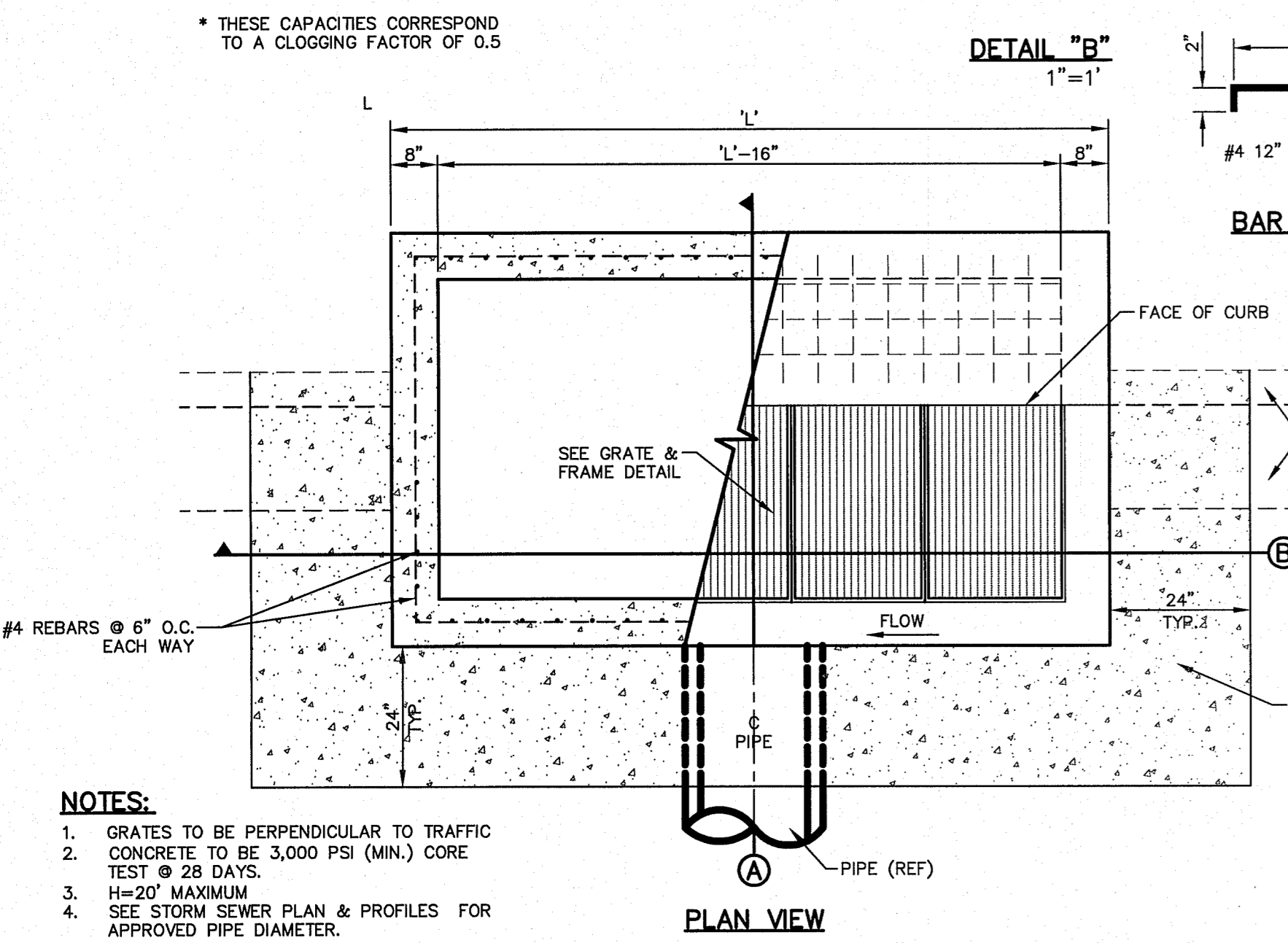


1 GRATE AND FRAME DETAILS  
 SCALE: 1" = 1'-0"

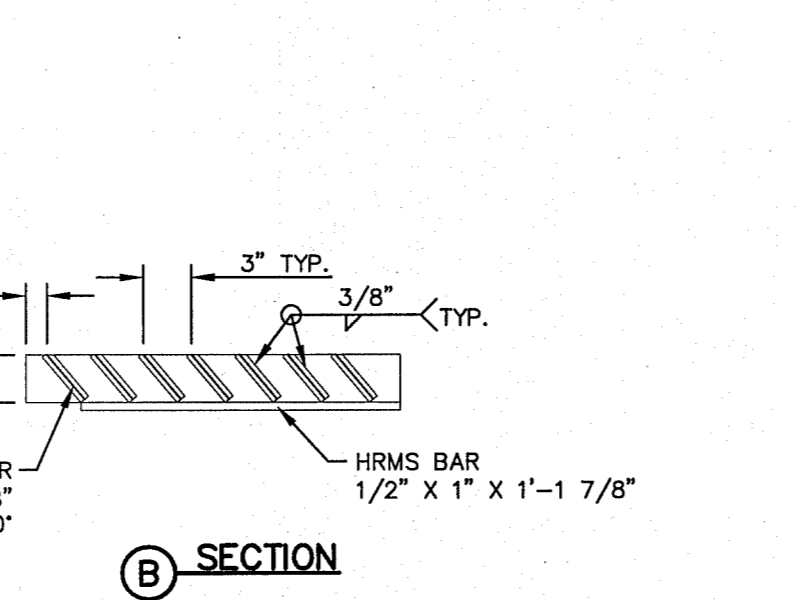
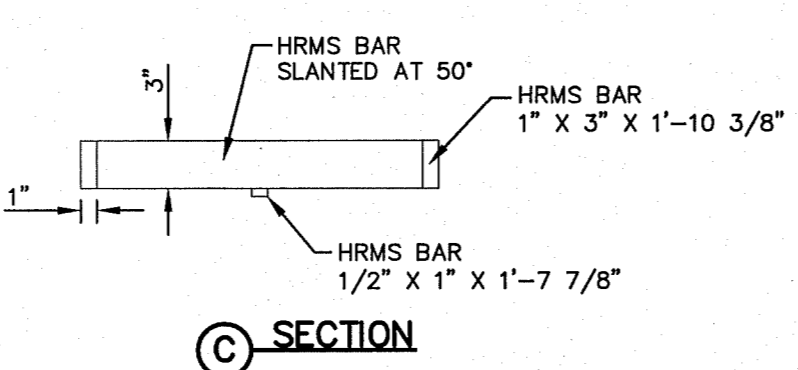


NO. GRATES	CAPACITY	"I" BEAM LENGTH	BEAM (MIN. SIZES)
2	19.63 CFS	5'-1 1/8"	W6x12, S6x12.5, MC6x15.1
3	29.69 CFS	7'-0 1/4"	W8x15, S7x15.3, MC7x17.8
4	39.10 CFS	8'-9 7/8"	W9x18, S8x18.4, MC9x21.9
5	48.72 CFS	10'-8"	W12x16, S8x21, MC10x21.9

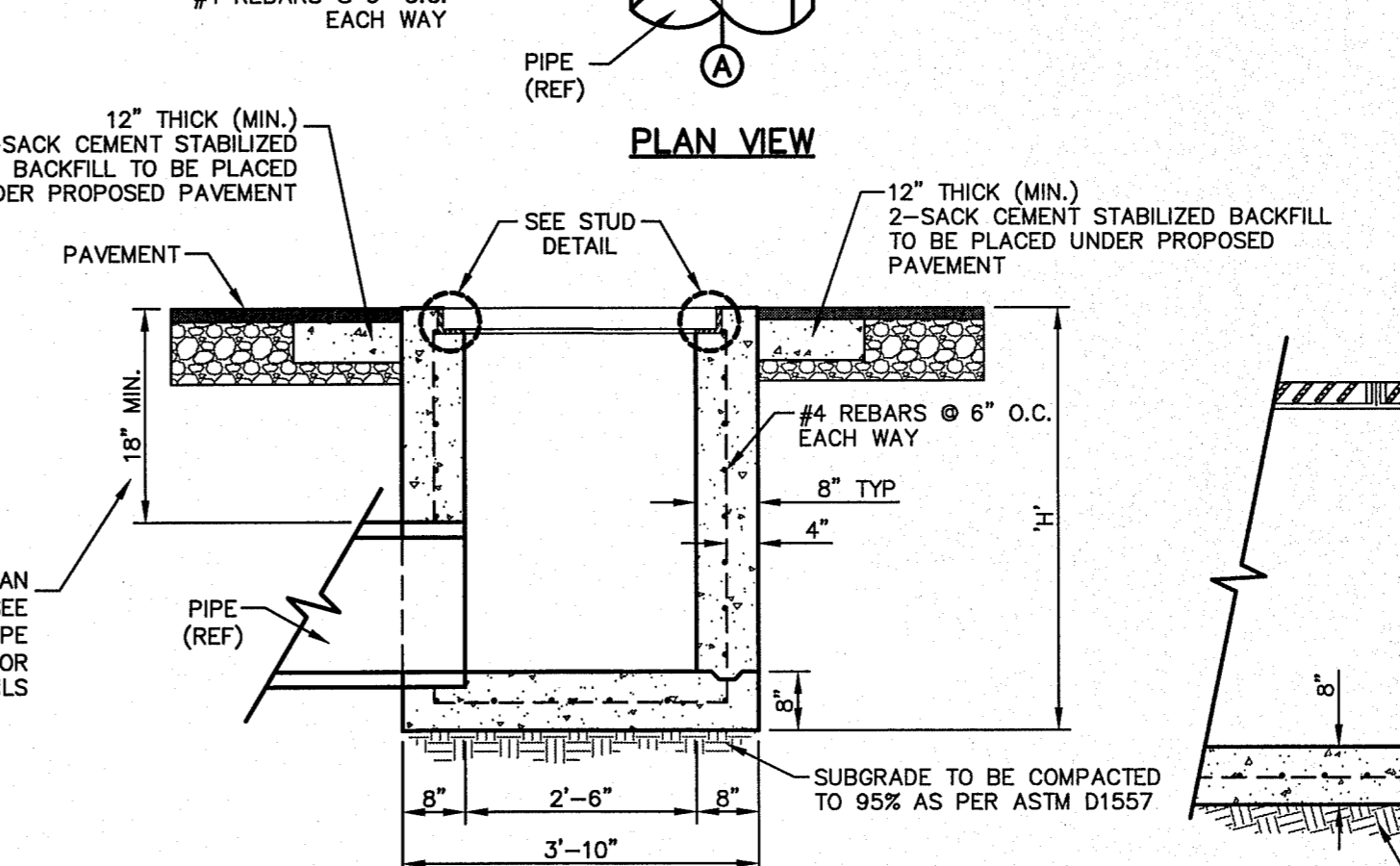
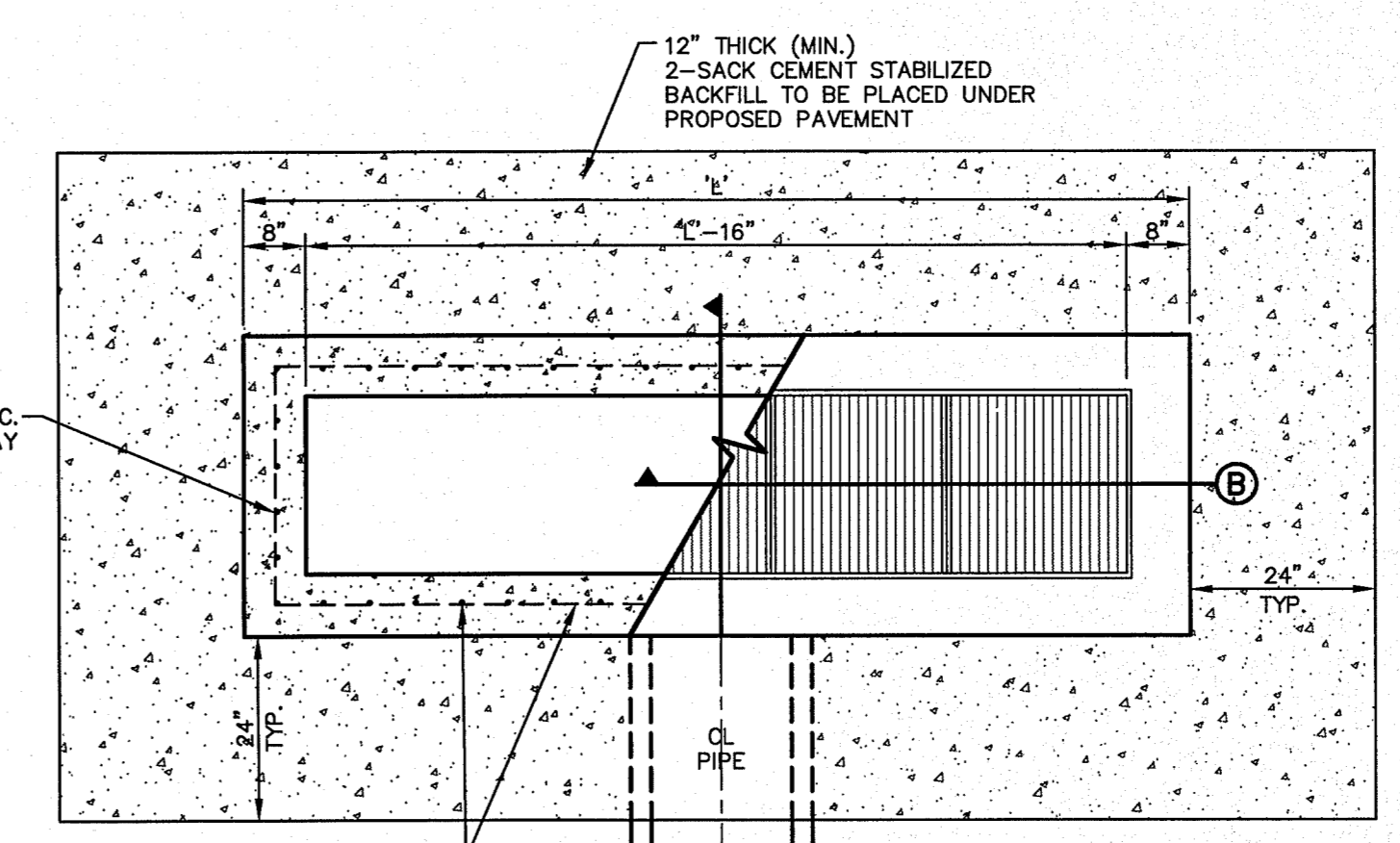
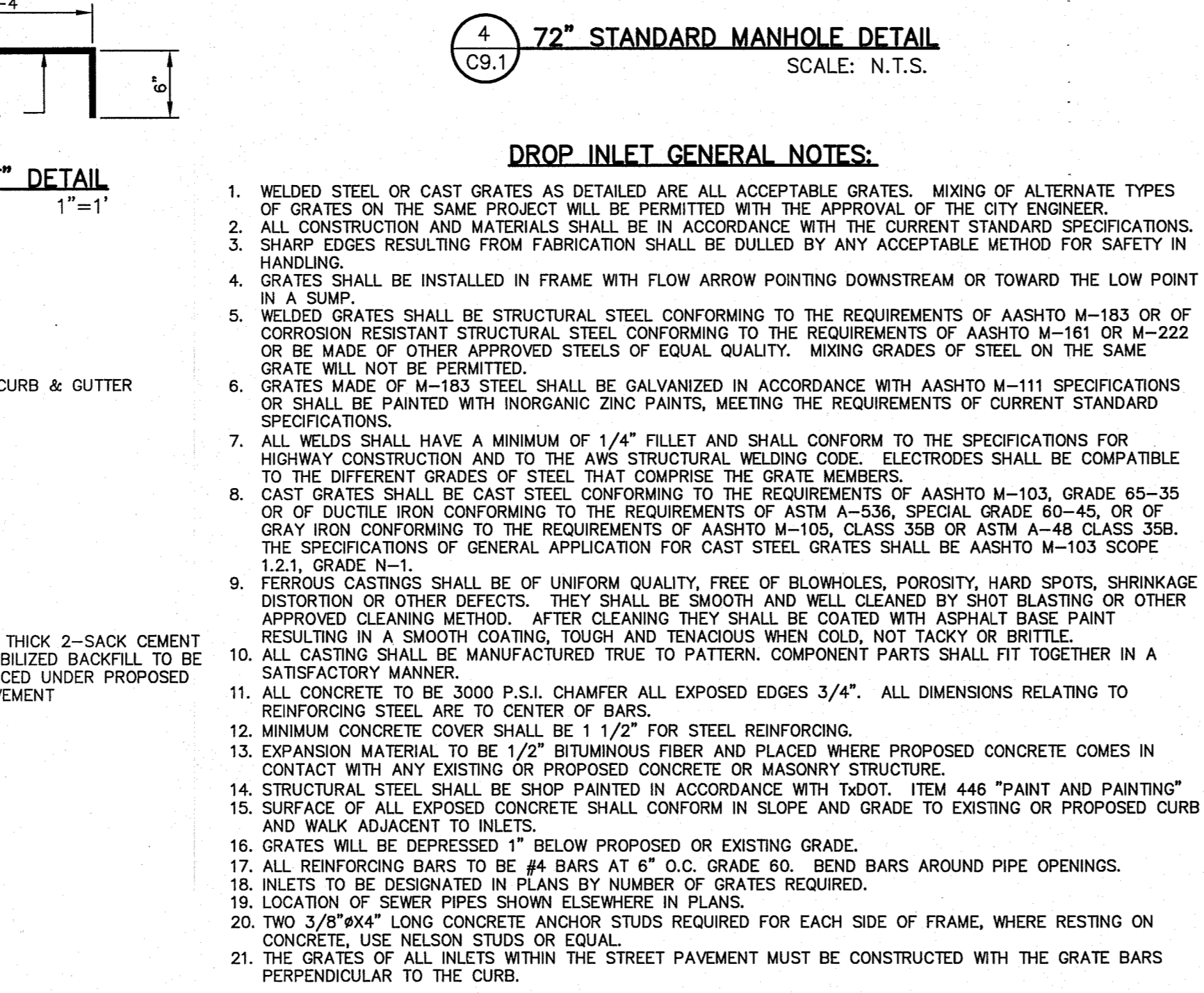
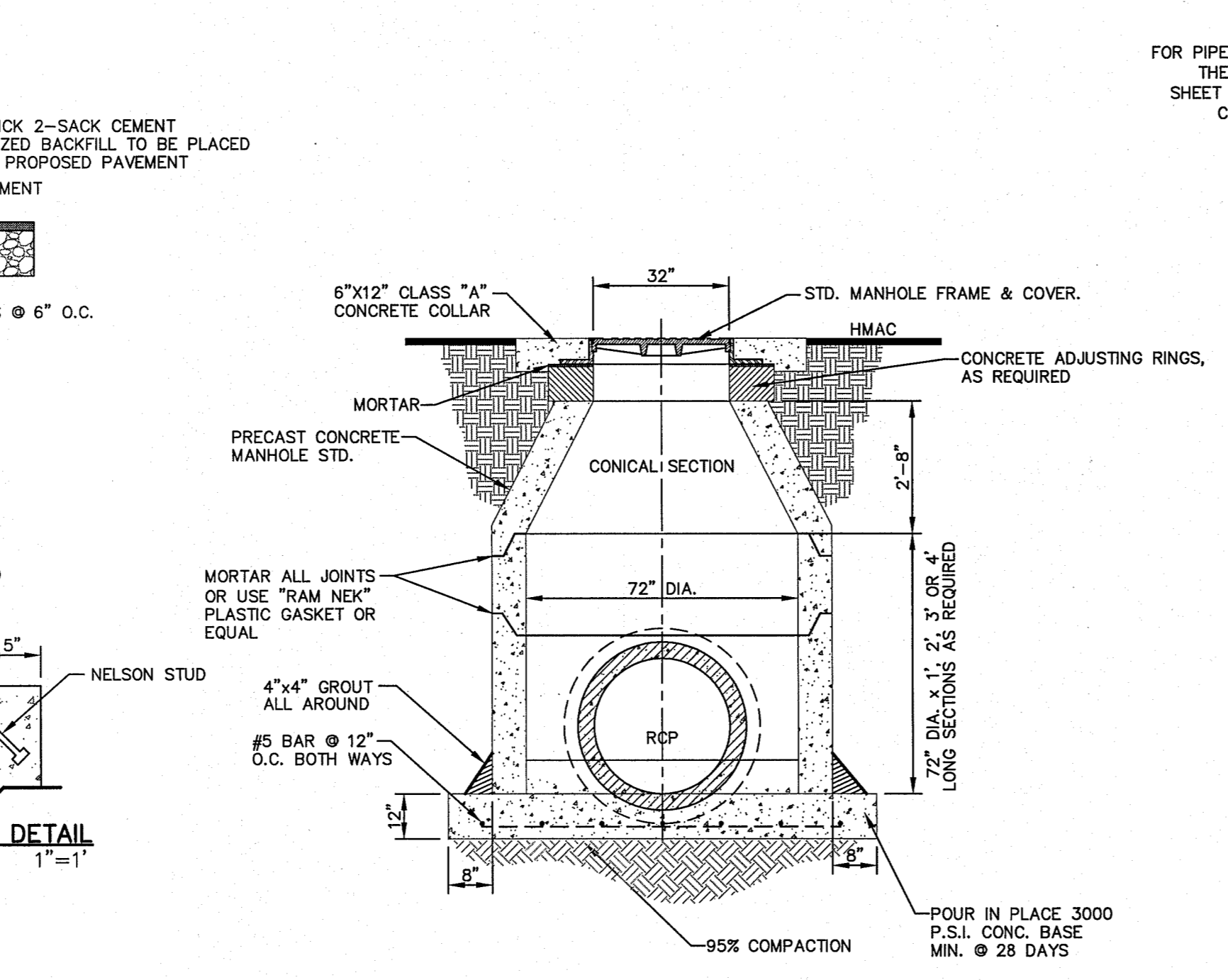
\* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5



3 DROP INLET (TYPE I) DETAILS  
 SCALE: 1" = 2'-0"



2 72" STANDARD MANHOLE DETAIL  
 SCALE: N.T.S.



2 DROP INLET (TYPE III) DETAILS  
 SCALE: 1" = 2'-0"

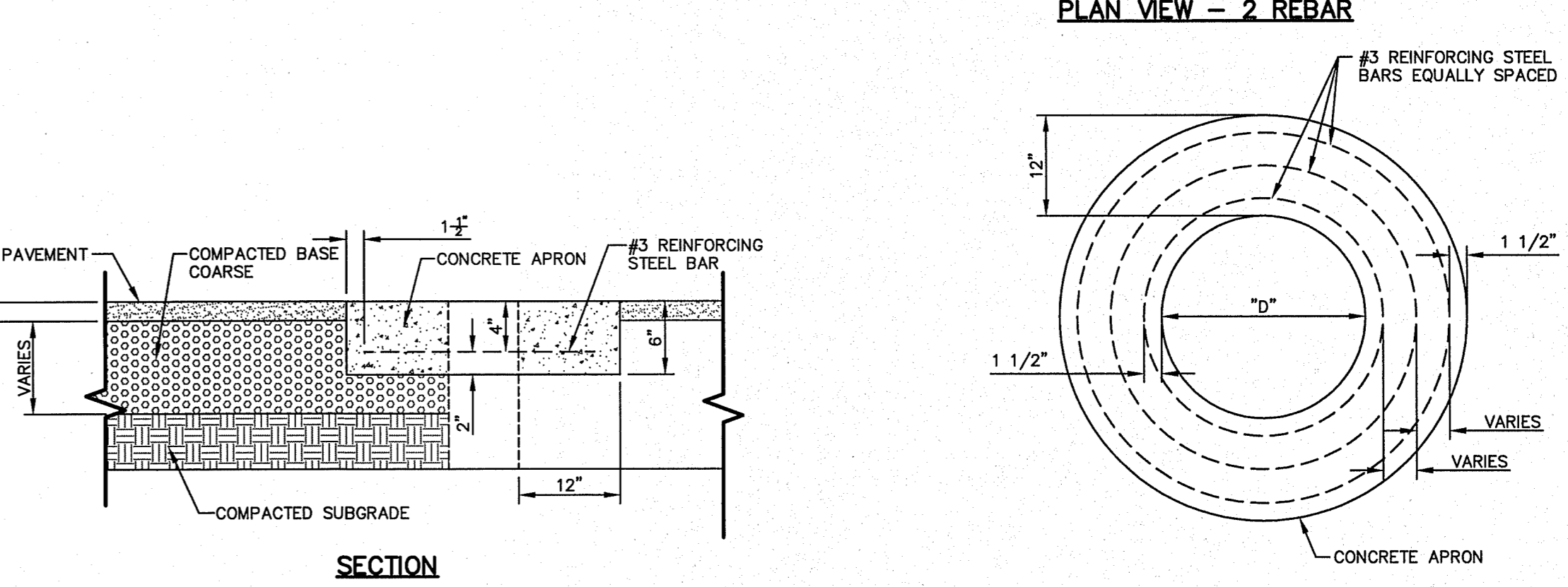
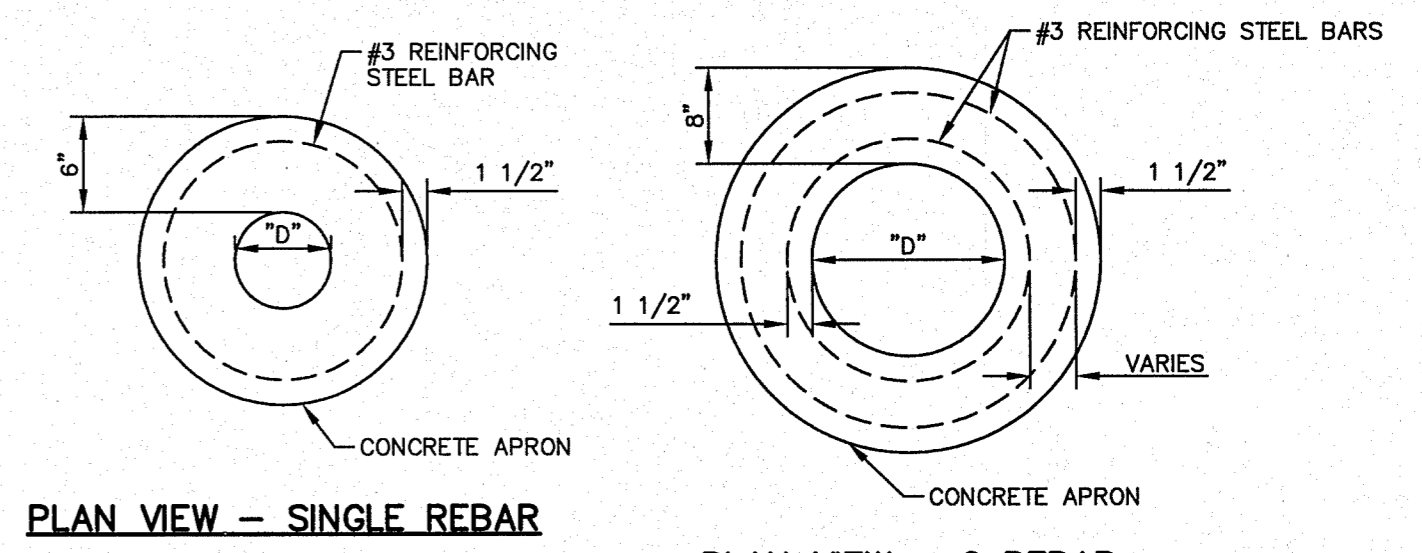
**GENERAL NOTES:**

- 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 FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.

"D" DIAMETER OF PENETRATION (INCHES)	CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENTS			
	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	"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 6.01	6	1	1 1/2	1 1/2
6.01 TO 18.01	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 REINFORCING STEEL.
- REINFORCING SHALL MEET ASTM C-478 AND TRAFFIC LOADING (HS-20).
- NO. 3 REINFORCING STEEL HOOPS SHALL BE SPACED EQUALLY.

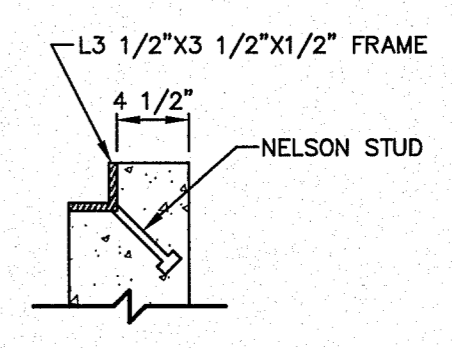


5 PENETRATION APRON DETAILS  
 SCALE: N.T.S.

3 DROP INLET (TYPE I) DETAILS  
 SCALE: 1" = 2'-0"

NUMBER OF GRATES	"L" "
2	5'-2 1/4"
3	7'-1 7/8"
4	9'-1 1/2"
5	11'-1 1/8"

- NOTES:**
- GRATES TO BE PERPENDICULAR TO TRAFFIC
  - CONCRETE TO BE 3,000 PSI (MIN.) CORE TEST @ 28 DAYS.
  - H=20' MAXIMUM
  - SEE STORM SEWER PLAN & PROFILES FOR APPROVED PIPE DIAMETER.



813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 915.544.5232  
 www.cegroup.net

**cegroup**  
 TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
 JORGE L. ALZARATE  
 LICENSE NO. 18075

SCALE: N/A  
 Vertical: N/A  
 Horizontal: N/A  
 Contour Interval: N/A  
 DATE: NOVEMBER, 2019  
 DESIGN BY: R.O.  
 DRAWN BY: J.L.A.  
 CHKD. BY: J.L.A.  
 APPROV. BY: J.L.A.  
 JOB NO.: 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
 SUBDIVISION IMPROVEMENTS**

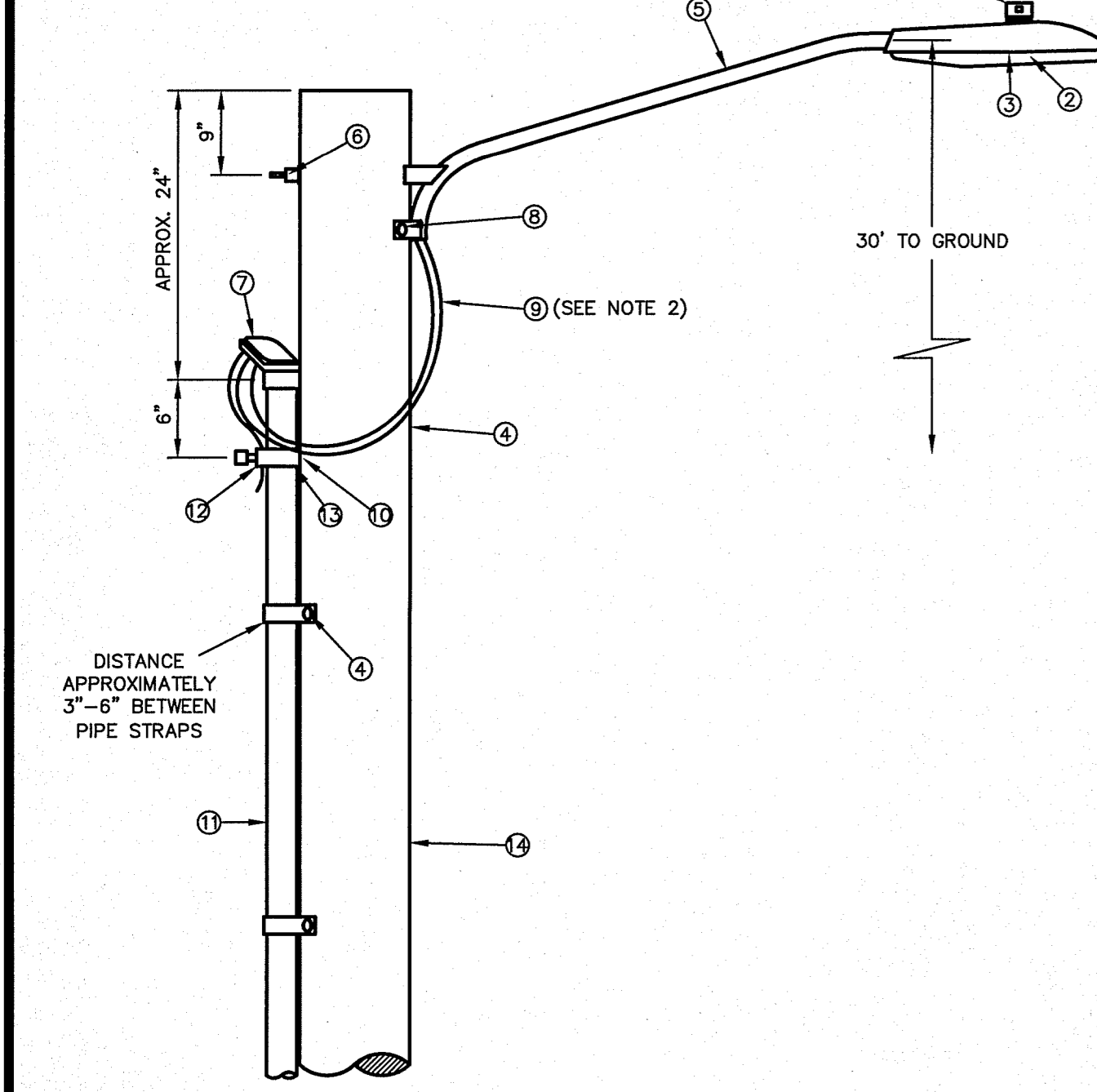
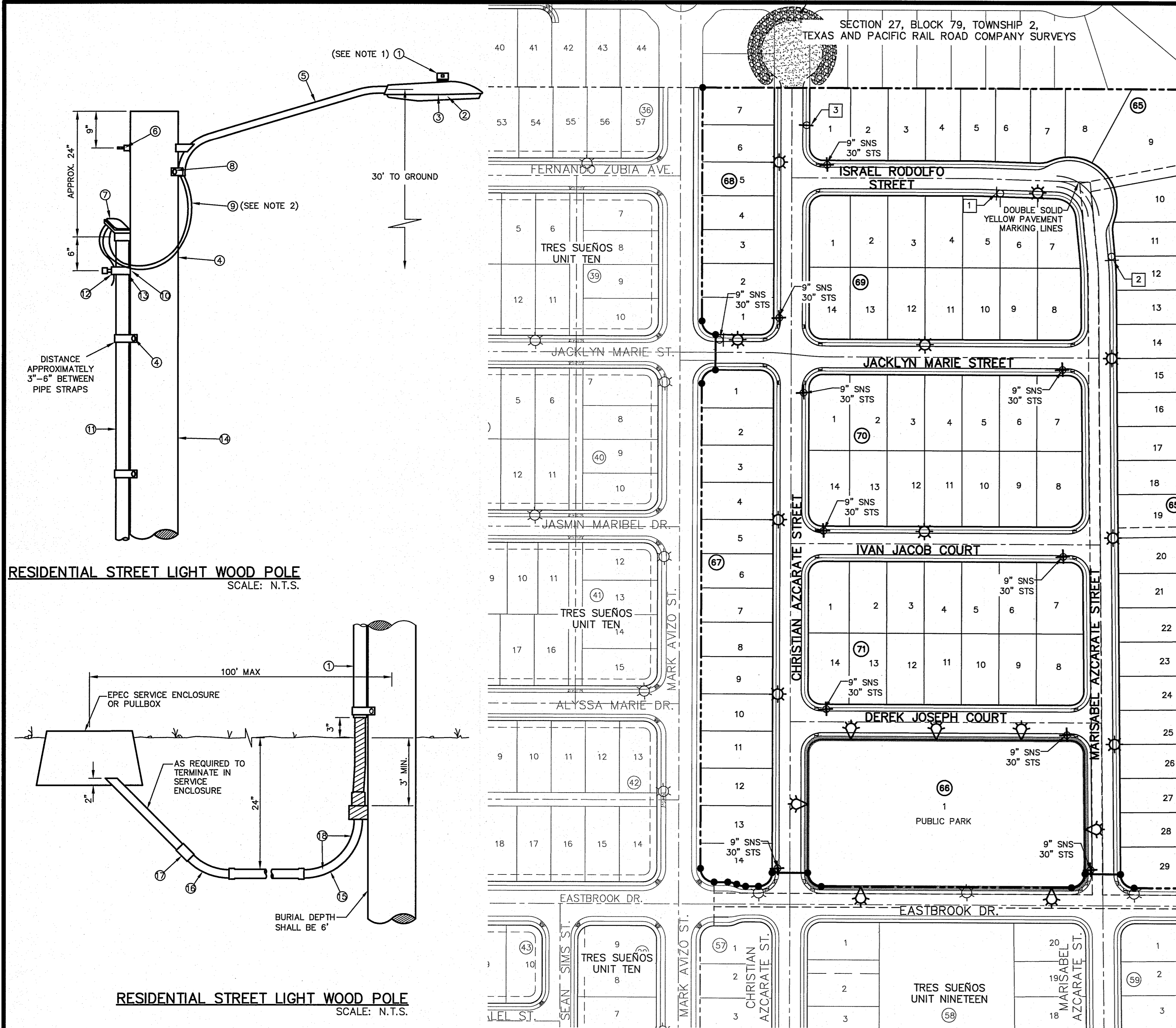
SHEET TITLE  
**DRAINAGE  
 DETAILS**

(SHEET 1 OF 2)  
 SHEET NO.

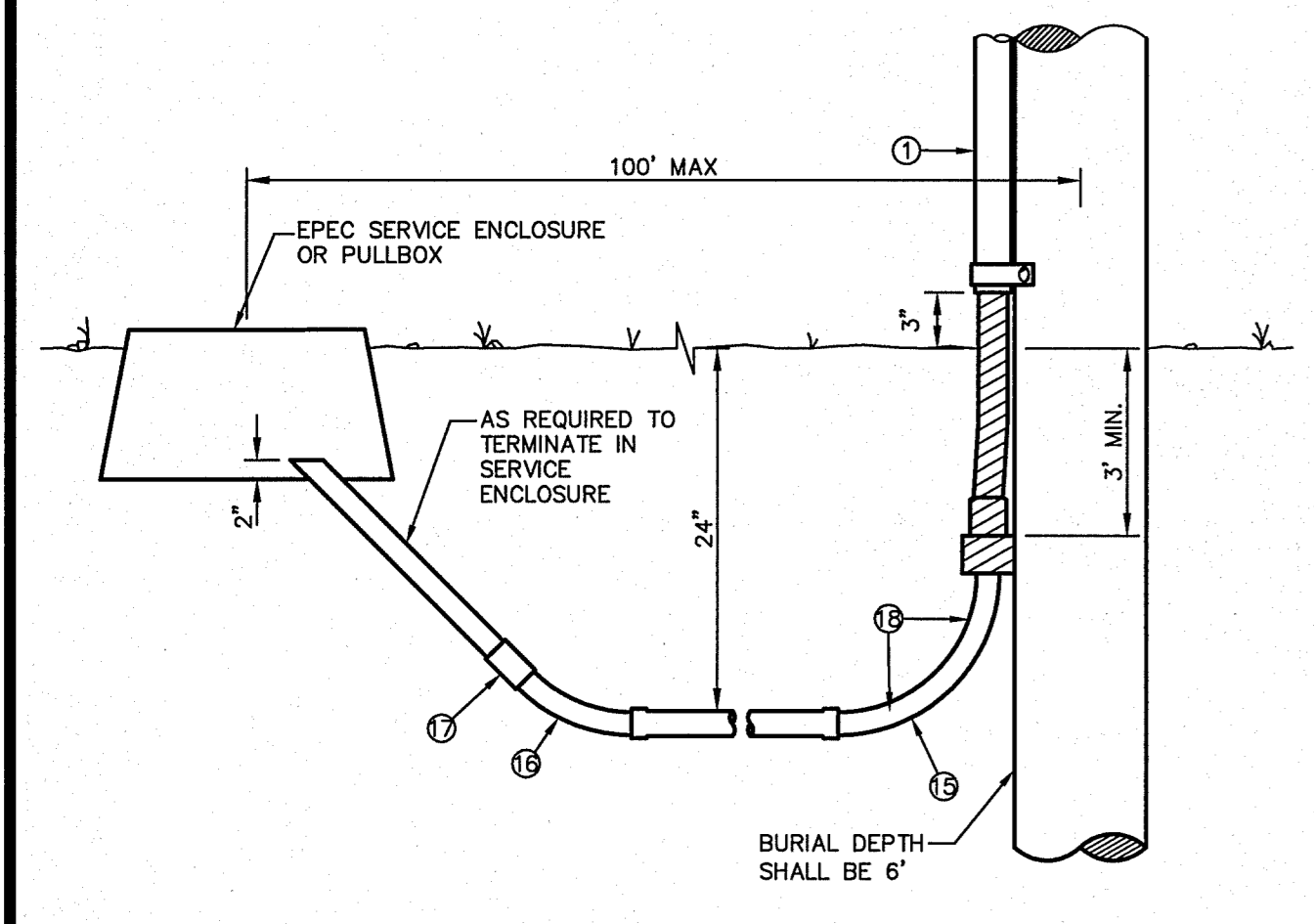
C9.1



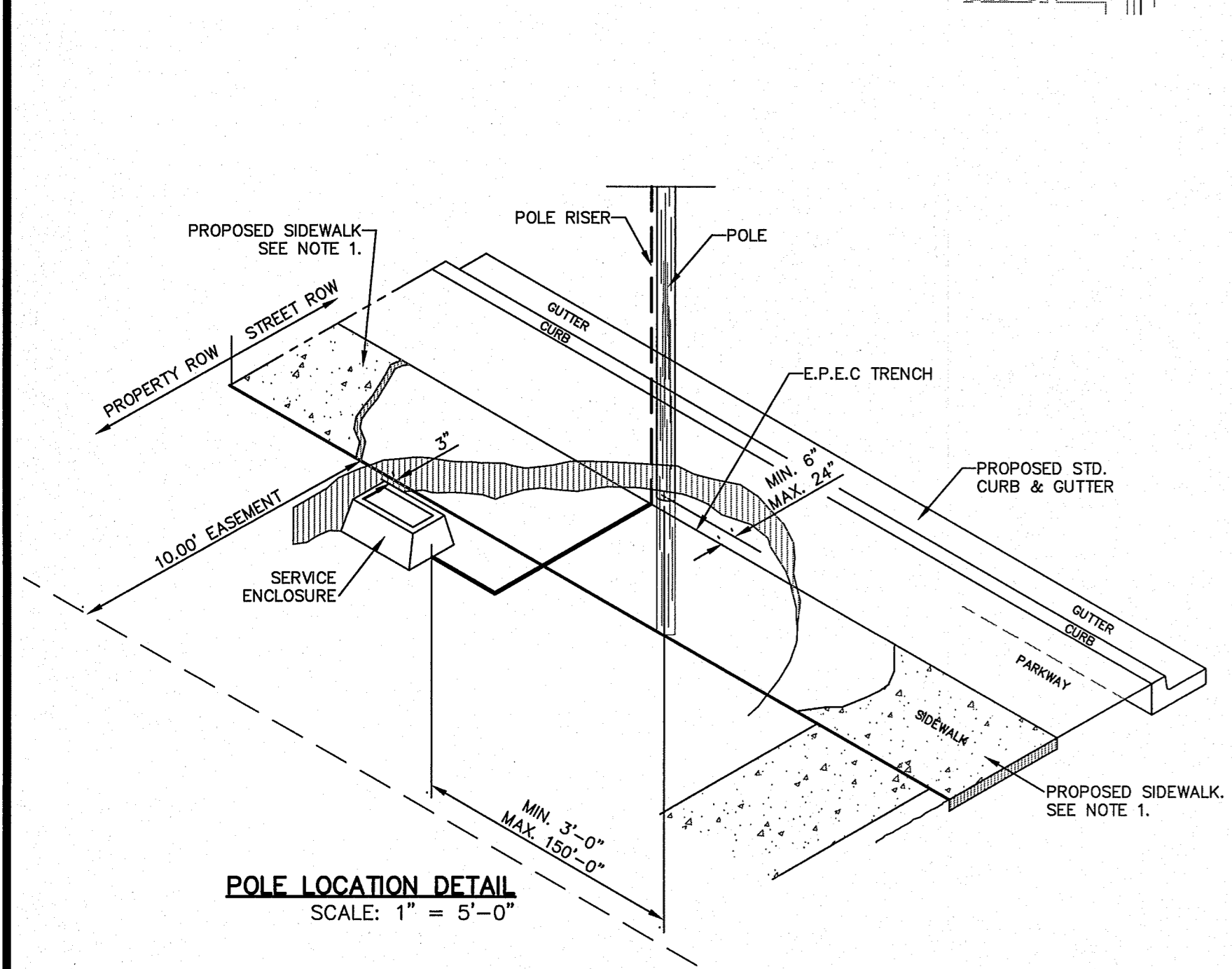
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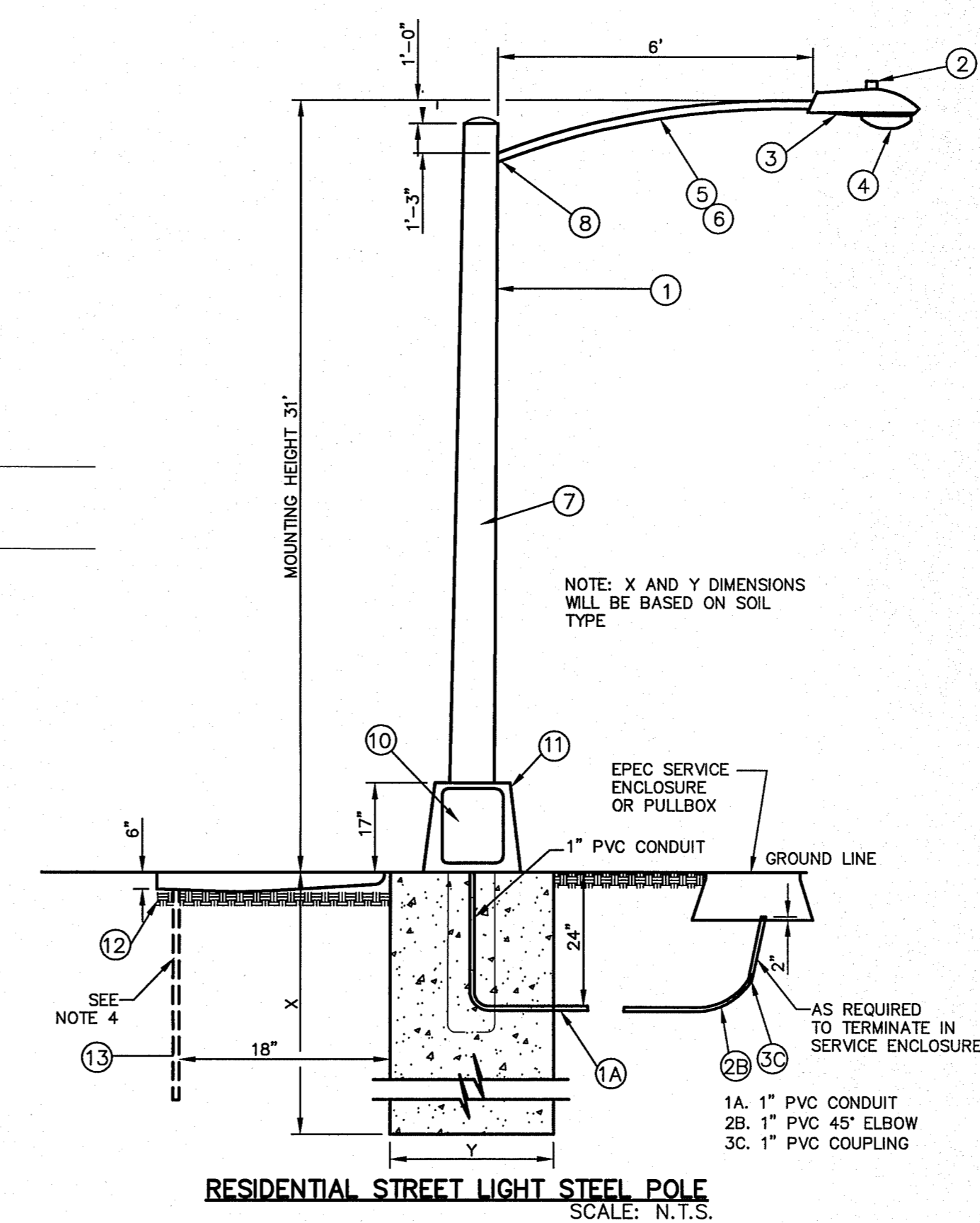
RESIDENTIAL STREET LIGHT WOOD POLE SCALE: N.T.S.



RESIDENTIAL STREET LIGHT WOOD POLE SCALE: N.T.S.



ITEM NO.	DESCRIPTION	STOCK NO.	QTY.	MANUFACTURER
1	PHOTO CELL, 240 V-SEE NOTE 1	21-225	1	LCOBRAHD
2	LED LAMP, 65W 31W/32W L.E.D.	21-085	1	
3	LUMINAIRE, 65W L.E.D. 31W/32W L.E.D.	21-335	1	
4	SLEEVES, #12-10	05-140	2	LSLV1210
5	MAST ARM, 6" X 1 1/4"	21-200	1	LBRKT1*6
6	MACHINE BOLT, 5/8" X 12"	02-470	1	LM85/812
	SQUARE GALV. WASHER, 2 1/4" X 2 1/4"	02-760	1	
	COIL SPRING WASHER, 5/8"	02-786	1	
	LOCK NUT, 5/8"	02-705	1	LCOBRAUG
7	SERVICE ENTRANCE GAP FOR 1" PVC CONDUIT	17-281	1	LSVCCAP1
8	LAG BOLT, 3/8" X 3"	02-343	1	LLAG38*3
9	CABLE, #10, 2 CONDUCTOR, 600V, UF	13-600	8'	L2C#10S
10	COPPER CABLE, #12, SOLID, 600V, BLUE	13-702	60'	LC#12CU
11	SCHEDULE 80 1" PVC CONDUIT	17-280	30'	LSCH801
12	PIPE STRAP FOR 1" PVC CONDUIT, 2-HOLE	17-283	9'	LPVCS1RP
13	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-427	.25#	LNAL14*2
14	POLE, 35 FT. - CLASS 4	09-035	1	L354UG
15	1" PVC 90 DEGREE ELBOW	17-297	1	LEL901
16	1" PVC 45 DEGREE ELBOW	17-298	1	LEL451
17	1" PVC COUPLING	17-296	1	LCPLG1
18	1" PVC CONDUIT	17-299	AS REQ	LPVC1



RESIDENTIAL STREET LIGHT STEEL POLE SCALE: N.T.S.

- KEY NOTES**
1. MOUNT SO THAT PHOTO CELL IS FACING NORTH.
  2. ITEM # 9 SHALL NOT BE SPLICED INSIDE ITEM # 5.
  3. INSTALLATION MUST COMPLY WITH LOCAL CODE REQUIREMENTS.
  4. FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.
  5. ON STREETS WHERE SIDEWALK IS ADJACENT TO CURBS, STREET LIGHT POLE SHALL BE INSTALLED IN THE SIDEWALK NEXT TO PROPERTY LINE. 36 INCHES REQUIRED FROM BACK OF CURB TO COMPLY WITH AMERICAN DISABILITY'S ACT AND LOCAL CODES.
  6. THE CONDUIT RISER SHALL BE INSTALLED ON THE BACK OF THE WOOD POLE (AWAY FROM THE STREET).
  7. THE WIRE LEADS FROM THE WEATHER HEAD TO THE MAST ARM SHALL HAVE A MINIMUM 4" DRIP LOOP BELOW THE WEATHER HEAD.

**UTILITY LOCATOR SERVICES**

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3788
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

**NOTE:**

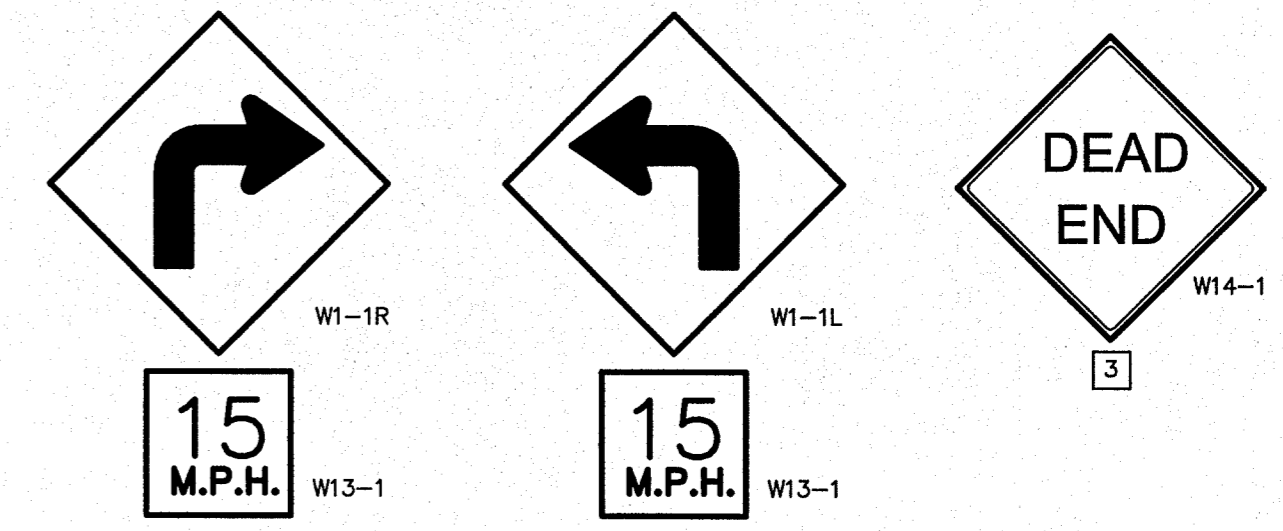
1. POSTS MUST BE BREAK-AWAY TYPE AS SHOWN ON THIS SHEET.
2. TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.

**10 RESIDENTIAL STREET LIGHTS**

**7 STEEL STREET LIGHTS**

**LEGEND:**

- ☼ PROPOSED STEEL STREET LIGHT
- ☼ PROPOSED RESIDENTIAL STREET LIGHT
- ☼ EXISTING RESIDENTIAL STREET LIGHT
- ⊕ PROPOSED 9" STREET NAME SIGN (TWO SIGNS) AND 30" STOP SIGN
- ⊖ NO OUTLET SIGN
- ⊙ PROPOSED TRAFFIC SIGN



**NOTE:**

SIGNS SHOULD COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

**SIGNS DETAIL**  
SCALE: N.T.S.

ITEM NO.	DESCRIPTION	STOCK No.	QTY.
1	POLE, 35 FT.-CLASS IV		1
2	PHOTOCELL, 240V-SEE NOTE 1	021-225	1
3	LUMINAIRE, 100W H. P. S.	021-335	1
4	HPS LAMP, 100W	021-085	1
5	MAST ARM, 6" X 1 1/4"	21-200	1
6	#10 SOLID CABLE 600 V	013-600	AS REQ
7	CABLE, #10, 3 CONDUCTOR, 600 V, UF	013-600	1
8	SLEEVES, #12	05-145	1
9	ROADWAY LUMINAIRE HPS 150 WATTS	21-340	1
10	BREAK-A-WAY FUSES 30 AMP.	21-250	1
11	ALUMINUM TRANSFORMER BASE	21-608	1
12	5/8" GROUND ROD CLAMP	07-561	1
13	5/8" X 10" CU BONDED GROUND ROD	08-626	1

**KEY NOTES**

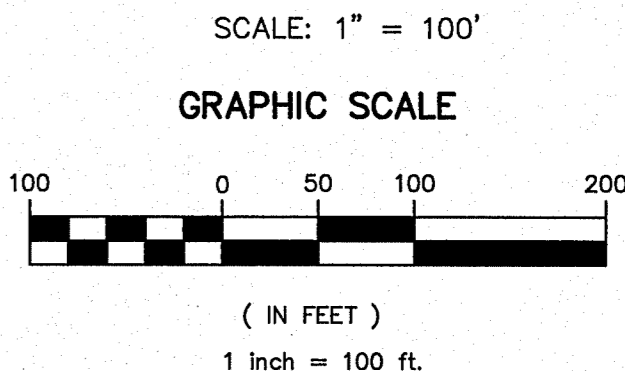
1. MOUNT SO THAT CONTROL FACES NORTH.
2. ITEM 7 SHALL NOT BE SPLICED INSIDE ITEM 5.

**DESIGN NOTES**

1. INSTALLATION SHALL COMPLY WITH ALL LOCAL CODE REQUIREMENTS.
2. FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING CODE INTERPRETATION, CALL EL PASO ELECTRIC CO. DISTRIBUTION DEVELOPMENT DEPARTMENT.
3. A GROUND ROD MUST BE USED.



**ILLUMINATION AND SIGNAGE PLAN**  
SCALE: 1" = 100'



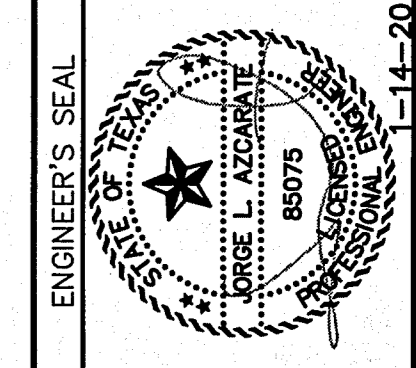
**REFERENCES - BENCHMARKS**

CITY MONUMENT AT POINT OF CURVE, CENTERLINE RICH BEEM BLVD. 8084333VE A DISTANCE OF 467.68 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

DATE	REVISIONS	BY

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
DATE: NOVEMBER, 2019  
DESIGN BY: T.C.  
DRAWN BY: J.L.A.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB No. 2000-213

TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE: 1" = 100'  
Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: T.C.  
DRAWN BY: J.L.A.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB No. 2000-213

**TRES SUEÑOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

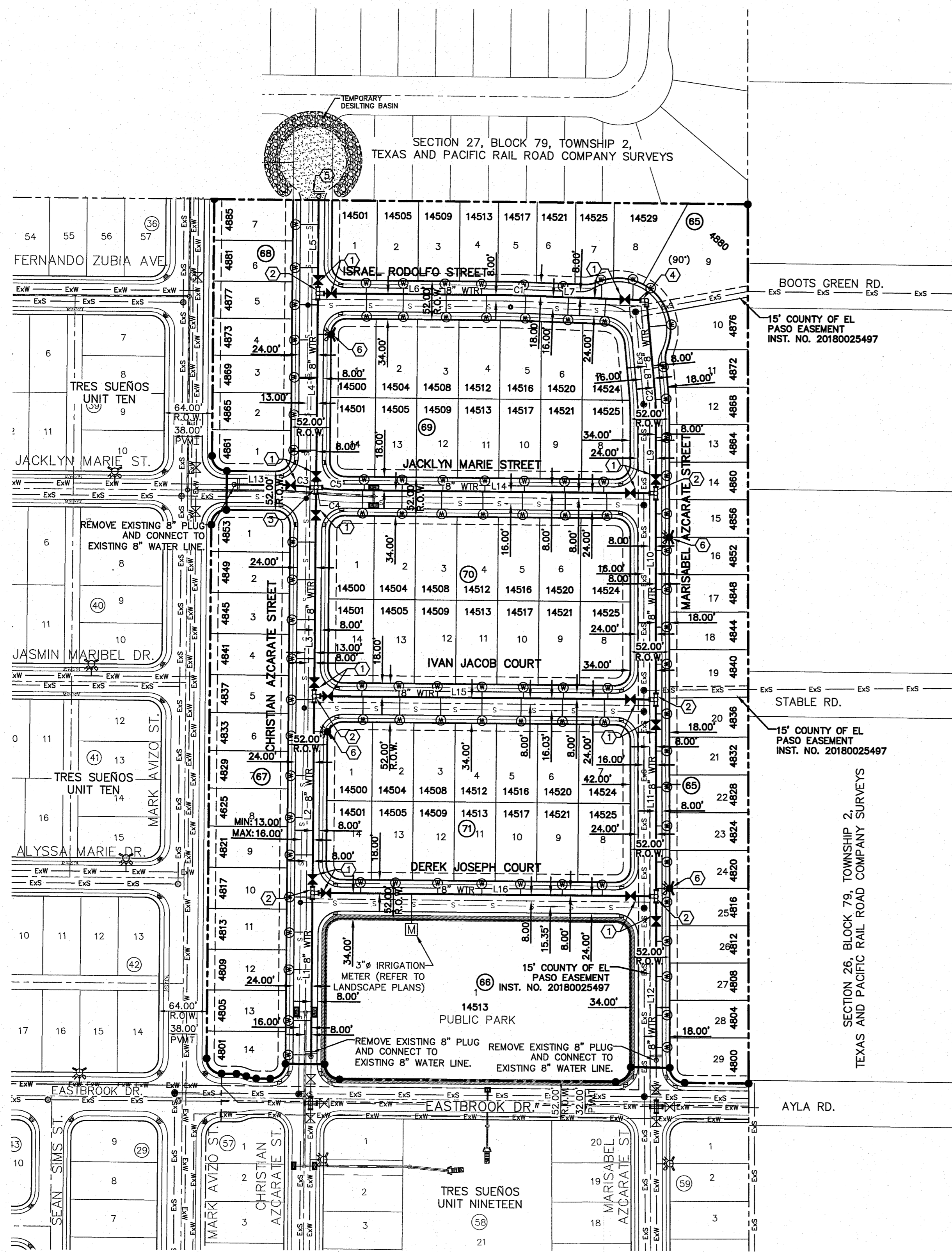
SHEET TITLE  
ILLUMINATION AND SIGNAGE PLAN  
(SHEET 1 OF 2)  
SHEET NO.

C10.1





S:\2000\2000-213-Tres Suenos Unit 21\DWGS\Construction Drawings\Improvement Plans\C11.1 WATER INDEX SHEET.dwg, 1/14/2020 10:34:16 AM



LINE	BEARING	LENGTH
L1	S03°03'05\"/>	

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	408.00'	12.13'	6.07'	12.13'	N86°05'48\"/>	

SHEET NO.	DESCRIPTION
C11.1	TRES SUENOS UNIT TWENTY ONE WATER MAIN PIPE LAYOUT
C12.1	WATER DETAILS
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS

- NOTES:**
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
  - ALL WATER LINES SHALL BE PVC C-900, CLASS 235 (DR18).
  - REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
  - REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

**LEGEND**

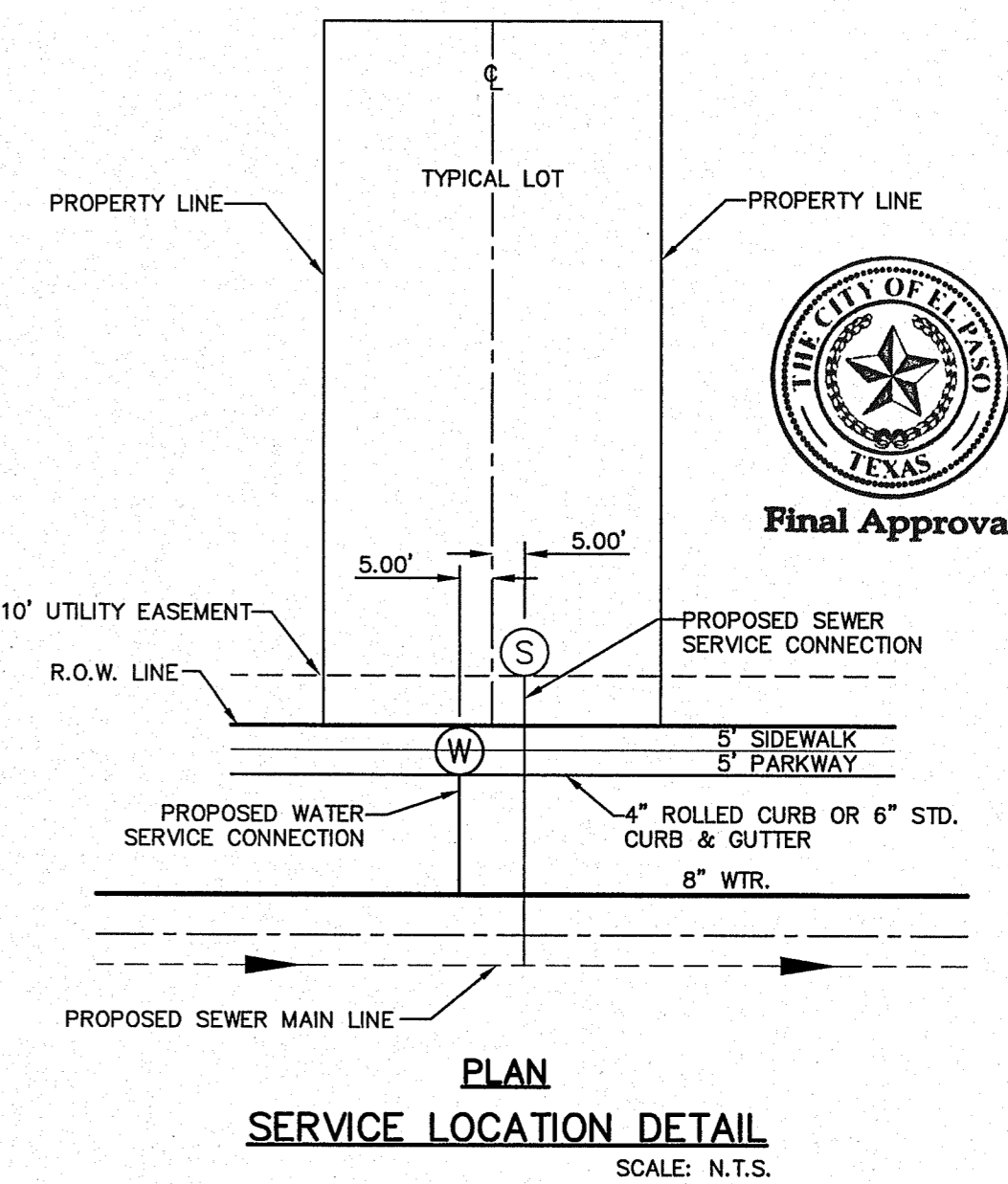
SYMBOL	DESCRIPTION
8" WTR	PROPOSED 8" C-900, CLASS 235 (DR 18) P.V.C. PIPE
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LOT LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED STORM SEWER
+	PROPOSED WATER CROSS CONNECTION
+	PROPOSED WATER TEE CONNECTION
+	PROPOSED WATER BEND CONNECTION
+	PROPOSED SERVICE CONNECTION (PLAN VIEW)
+	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
+	PROPOSED 8" PLUG
+	PROPOSED GATE VALVE
+	POINT OF TANGENCY
+	REDUCER
+	EXISTING GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING PLUG
---	EXISTING SEWER LINE
---	EXISTING WATER LINE
M	3" IRRIGATION METER (REFER TO LANDSCAPE PLANS)

DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	4,082	LF
8" GATE VALVE	16	EA
8" PLUG	1	EA
FIRE HYDRANT	4	EA
3/4" SERVICE LINE	92	EA
DUCTILE IRON PIPE	60	LF

SYMBOL	DESCRIPTION
1	8" # GATE VALVE
2	8" TEE
3	8" CROSS
4	8" BEND
5	8" PLUG
6	FIRE HYDRANT

CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

**WATER INDEX MAP**  
SCALE: 1" = 100'



**GENERAL NOTES**

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN TEN (10') FEET AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
- THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST SIXTY (60") INCHES FROM THE TOP OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SACS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE WATER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO.
- TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
- AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH VALVE, FIRE HYDRANT, ELBOW, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
- THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
- EXISTING STREETS, DRIVEWAYS, PARKING LOTS, MAILBOXES, SIGNS, CHAIN-LINK FENCES, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
- TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
- ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ACTUAL CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATER SYSTEM.
- ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM EPWU-PSB SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
- FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
- THE WATER METERS FOR THE PROPOSED WATER SERVICE CONNECTIONS SHALL BE INSTALLED ON THE PARKWAYS. SYMBOLS ARE ONLY SHOWN FOR DEPICTION PURPOSES ONLY.

**GENERAL UTILITIES:**  
TEXAS EXCAVATION SAFETY SERVICE  
11884 GREENVILLE AVENUE,  
DALLAS, TX. 75223  
(800) 344-8377

**WATER & SEWER:**  
EL PASO WATER UTILITIES  
1154 HAWKINS BOULEVARD  
EL PASO, TX. 79961  
(915) 594-5530

**TELEPHONE:**  
SBC  
11200 PELICANO  
EL PASO, TX. 79935  
(915) 595-5151

**ENGINEER:**  
CEA GROUP  
CASTNER CENTER @ TRANSMOUNTAIN  
4712 WOODROW BEAN, STE. F  
EL PASO, TX. 79924  
(915) 544-5232

**ELECTRIC:**  
EL PASO ELECTRIC CO.  
501 W. SAN ANTONIO ST.  
EL PASO, TX. 79902  
(915) 543-2076

**FIBER OPTICS:**  
AT&T  
P.O. BOX 1650  
EL PASO, TX. 79949  
1(800) 852-3786

**FIBER OPTICS:**  
U.S. SPRINT  
151 N. BOONE ST.  
EL PASO, TX. 79905  
(915) 534-7910

**EL PASO STREETS**  
CITY OF EL PASO  
DEPARTMENT OF TRANSPORTATION  
7869 SAN PAULO DRIVE  
EL PASO, TX. 79907  
(915) 621-6750

**RESIDENTIAL GAS LINES:**  
TEXAS GAS SERVICE  
4700 POLLARD ST.  
EL PASO, TX. 79930  
(915) 680-7218

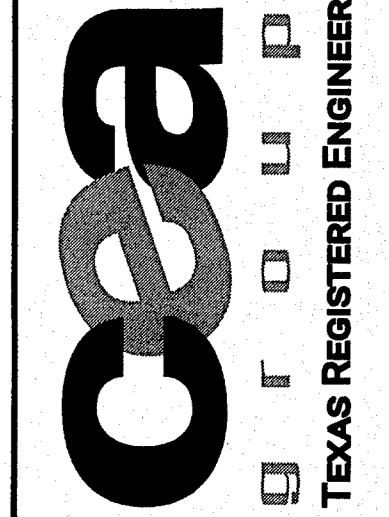
**FIBER OPTICS:**  
MCI TELECOMMUNICATIONS CORP.  
4045 DONIPHAN PARK CIRCLE  
EL PASO, TX. 79922  
(915) 542-2770 EXT. 201

**CABLE TELEVISION:**  
TIME WARNER COMMUNICATIONS  
7010 AIRPORT ROAD  
EL PASO, TX. 79906  
(915) 772-1123

**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5292  
www.ceagroup.net



**ENGINEER'S SEAL**  
Jorge L. Azcarate  
88075  
STATE OF TEXAS

**SCALE:**  
Horizontal: Interval: 1/4"  
Vertical: Interval: 1/8"  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: J.C.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB No. 2000-213

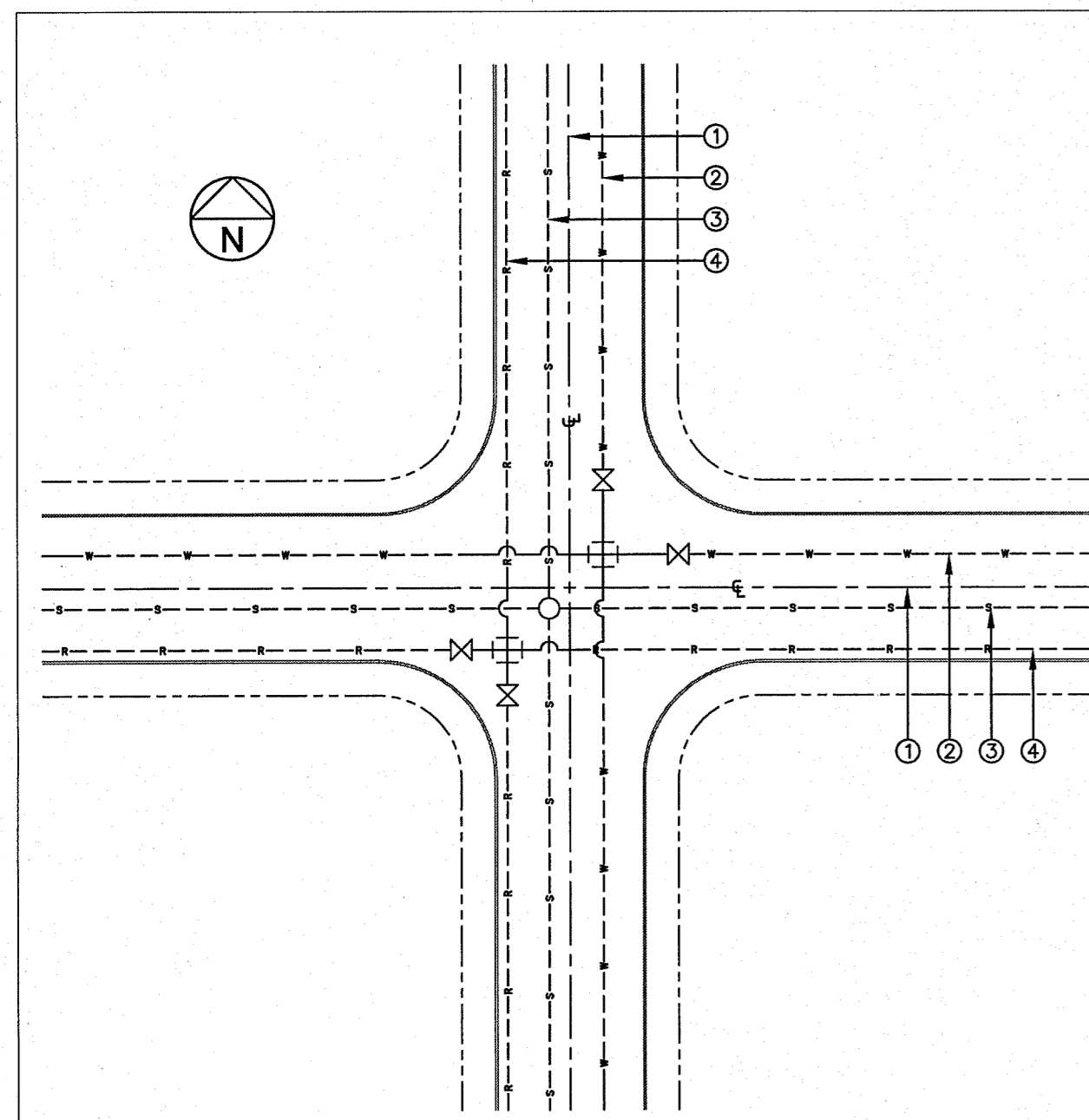
**PROJECT TITLE**  
TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS

**SHEET TITLE**

**WATER LINE INDEX**

**SHEET NO.**

**C11.1**



- 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.

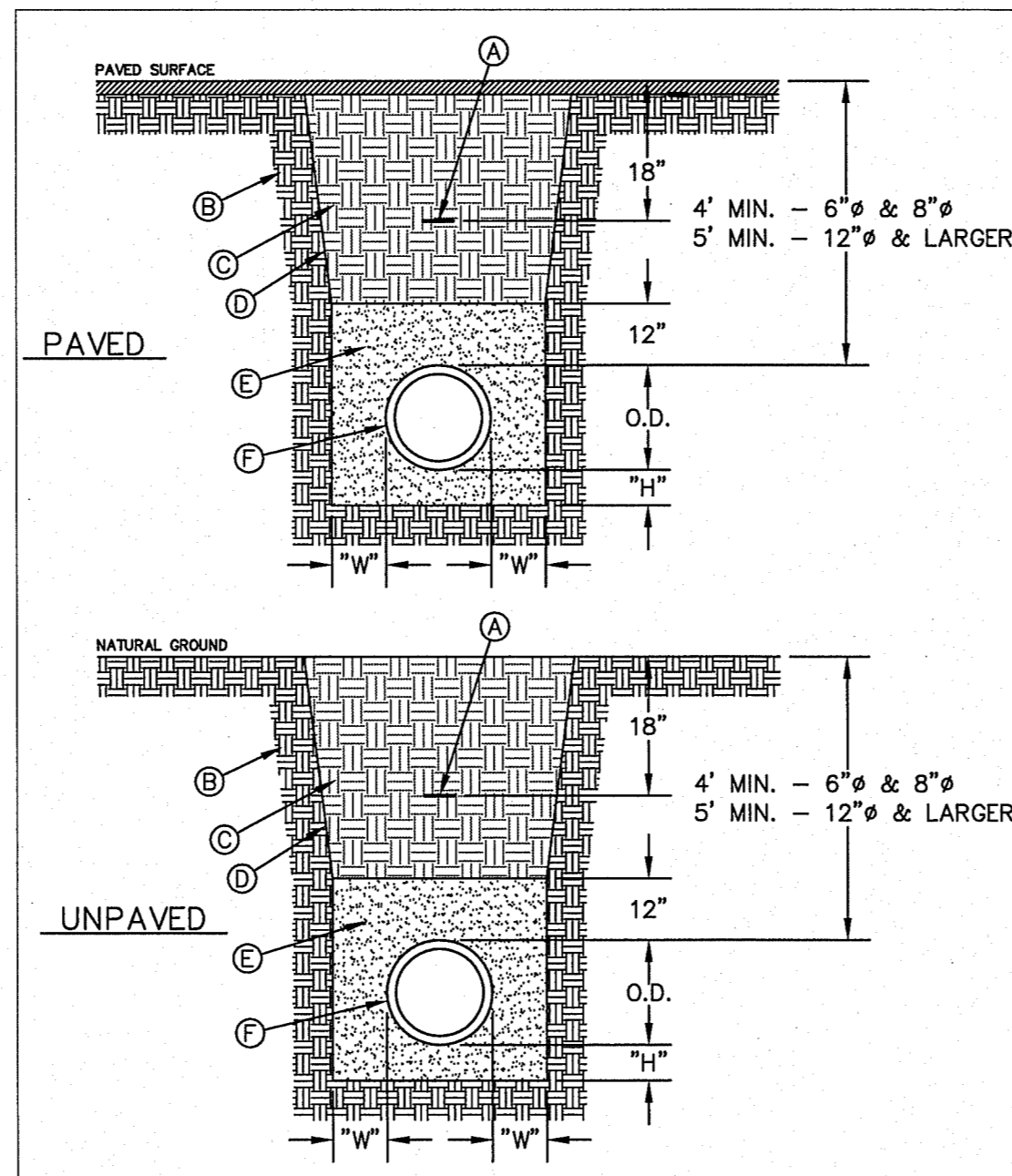
- CONSTRUCTION KEY NOTES:**
- A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

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.

STANDARD DETAIL DATE: 03/1994 REV: 3/28/2007 LOCATION FOR UTILITY LINES N.T.S. el paso WATER DETAIL No. 140

1 LOCATION FOR UTILITY LINES SCALE: N.T.S.



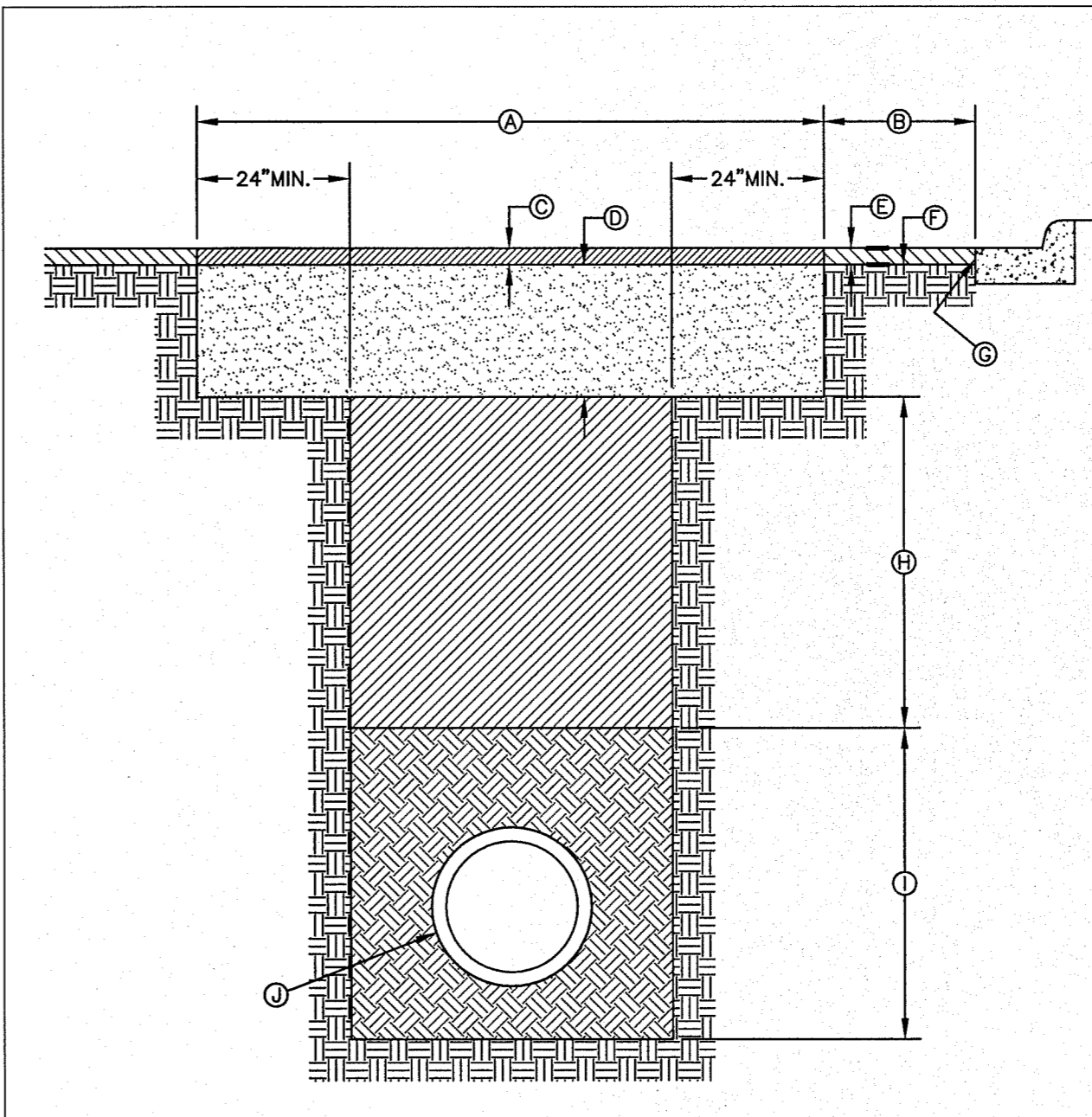
- GENERAL NOTES:**
- BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
  - PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
  - IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL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

- CONSTRUCTION KEY NOTES:**
- APPROVED MARKING TAPE.
  - UNDISTURBED STABLE MATERIAL.
  - 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.)
  - SLORE TRENCH IN BONYON SOIL CONDITIONS.
  - 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-598 STANDARD PROCTOR).
  - APPROVED PIPE.
  - TRENCH DIMENSIONS AS FOLLOWS:

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"
PIPE DIAMETER	"W"
6" - 30"	8"
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 N.T.S. el paso WATER DETAIL No. 171

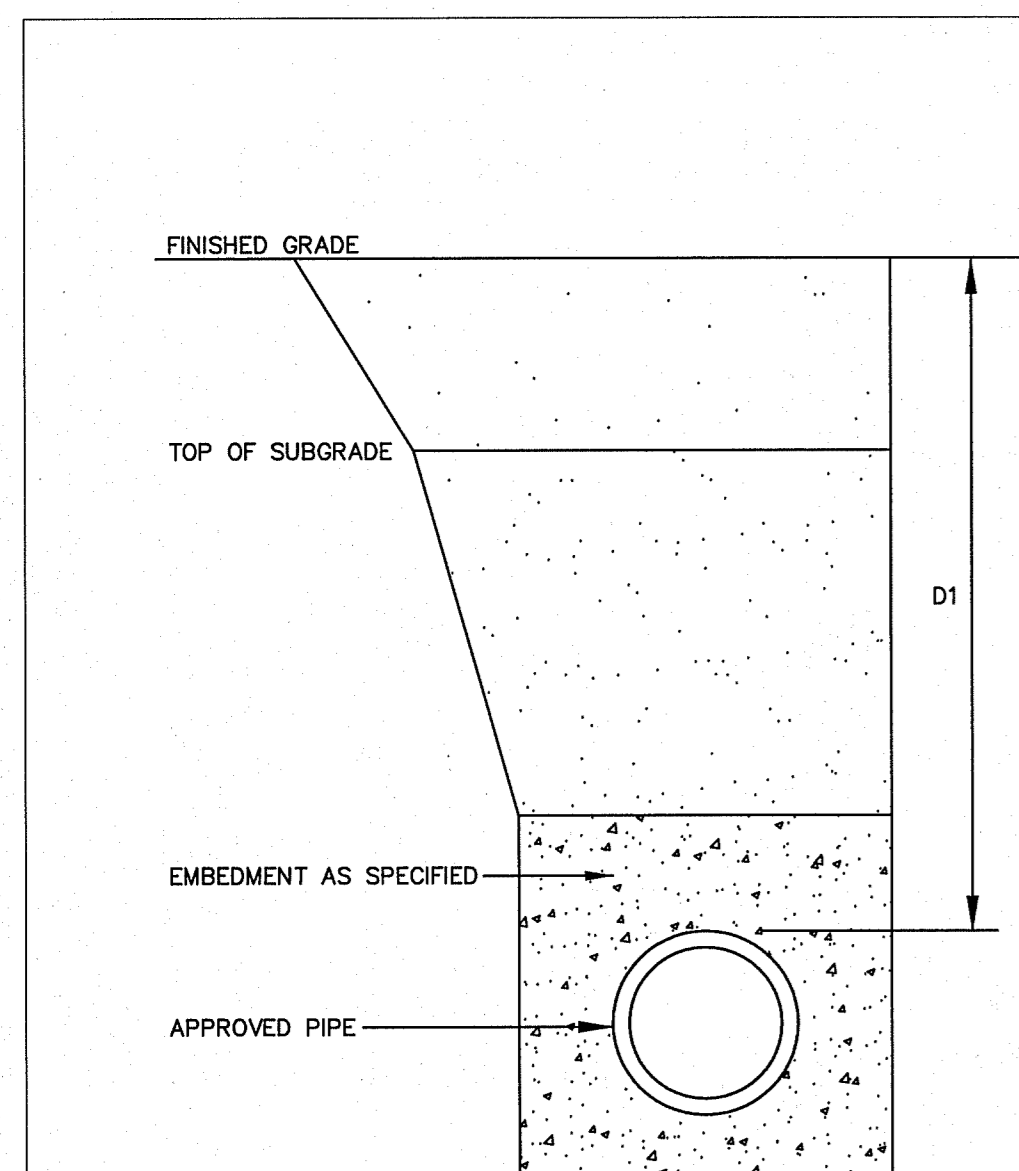
2 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



- 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:**
- REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
  - DIMENSION VARIES. WHERE GUTTER FACE, ETC. IS WITHIN 3" OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMA/C IN THIS AREA.
  - 2" ASPHALT MIN.
  - 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
  - EXISTING HMA/C THICKNESS MAY VARY.
  - EXISTING BASE COURSE THICKNESS MAY VARY.
  - EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
  - BACKFILL DEPTH VARIES. REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 171 THRU DETAIL 173).
  - PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
  - APPROVED PIPE.

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011 PAVEMENT REPLACEMENT N.T.S. el paso WATER DETAIL No. 179

3 PAVEMENT REPLACEMENT SCALE: N.T.S.



- GENERAL NOTES:**
- REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
  - TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

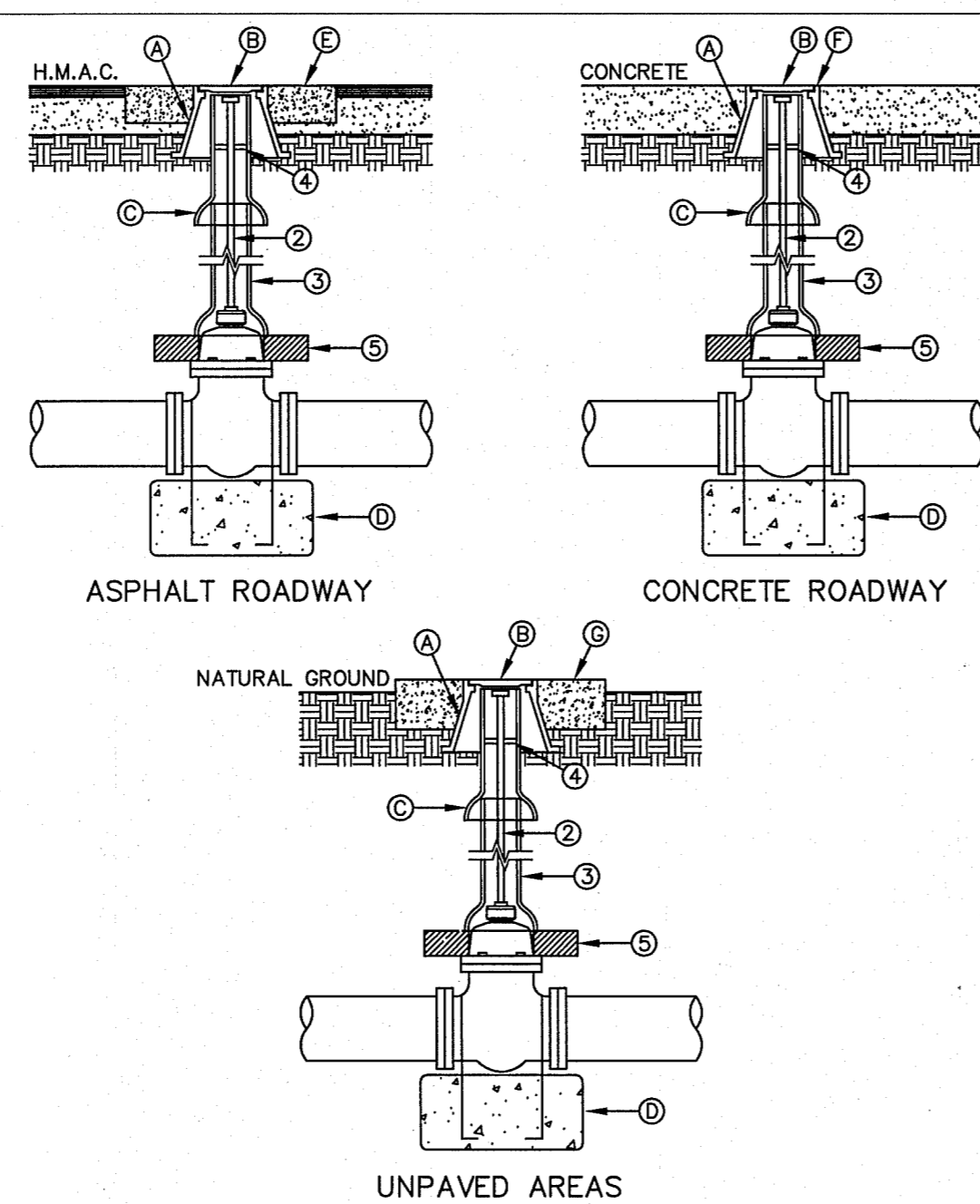
- CONSTRUCTION KEY NOTES:**
- A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS.

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"

STANDARD DETAIL FEB. 1994 REV: 8/3/2006 COVER FOR WATER MAINS N.T.S. el paso WATER DETAIL No. 250

4 COVER FOR WATER MAINS SCALE: N.T.S.

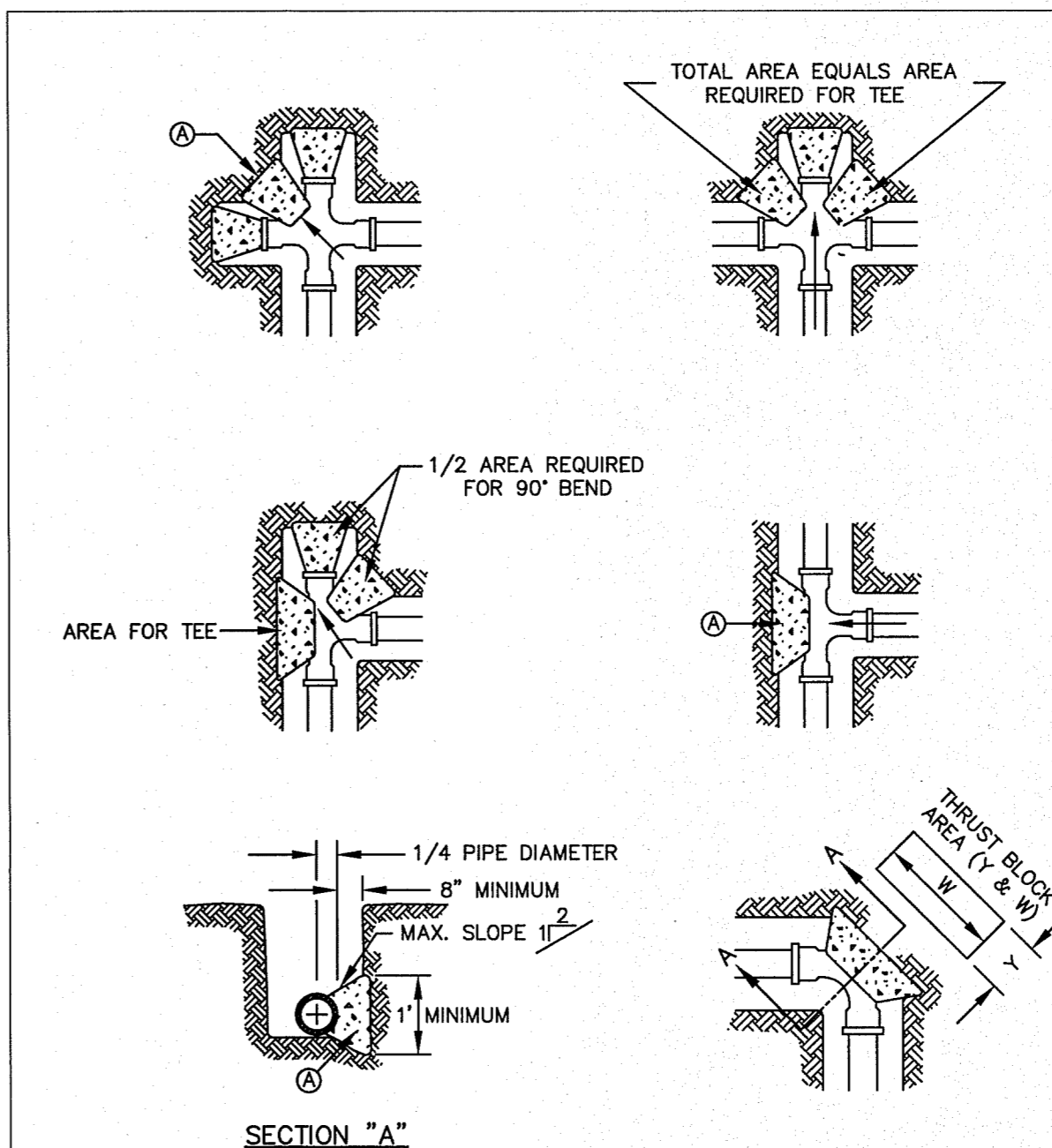


- GENERAL NOTES:**
- VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
  - ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE ANVA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
  - 8" DIA. MINIMUM 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 1/4".
  - 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 260).
  - 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.

STANDARD DETAIL DATE: 5/1994 REV: 6/22/2009 GATE VALVE INSTALLATION N.T.S. el paso WATER DETAIL No. 260

5 GATE VALVE INSTALLATION SCALE: N.T.S.



- 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, PLUS 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:

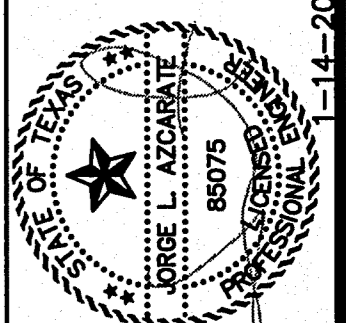
PIPE SIZE	WATER PIPE	
	TEE, DEAD END 90° BEND	45° AND 22 1/2° BENDS
4" & LESS	3 SQ. FEET	3 SQ. FEET
6"	4 SQ. FEET	3 SQ. FEET
8"	6 SQ. FEET	3 SQ. FEET
10"	9 SQ. FEET	5 SQ. FEET
12"	13 SQ. FEET	7 SQ. FEET
16"	23 SQ. FEET	12 SQ. FEET
18"	29 SQ. FEET	15 SQ. FEET

STANDARD DETAIL DATE: 2/1994 REV: 8/7/2006 CONCRETE THRUST BLOCKING N.T.S. el paso WATER DETAIL No. 270

6 CONCRETE THRUST BLOCKING SCALE: N.T.S.

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084231E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF FONTANA AVENUE.  
 ELEVATION: 4668.40 (CITY DATUM)

813 N. Kansas St.  
 Suite 300  
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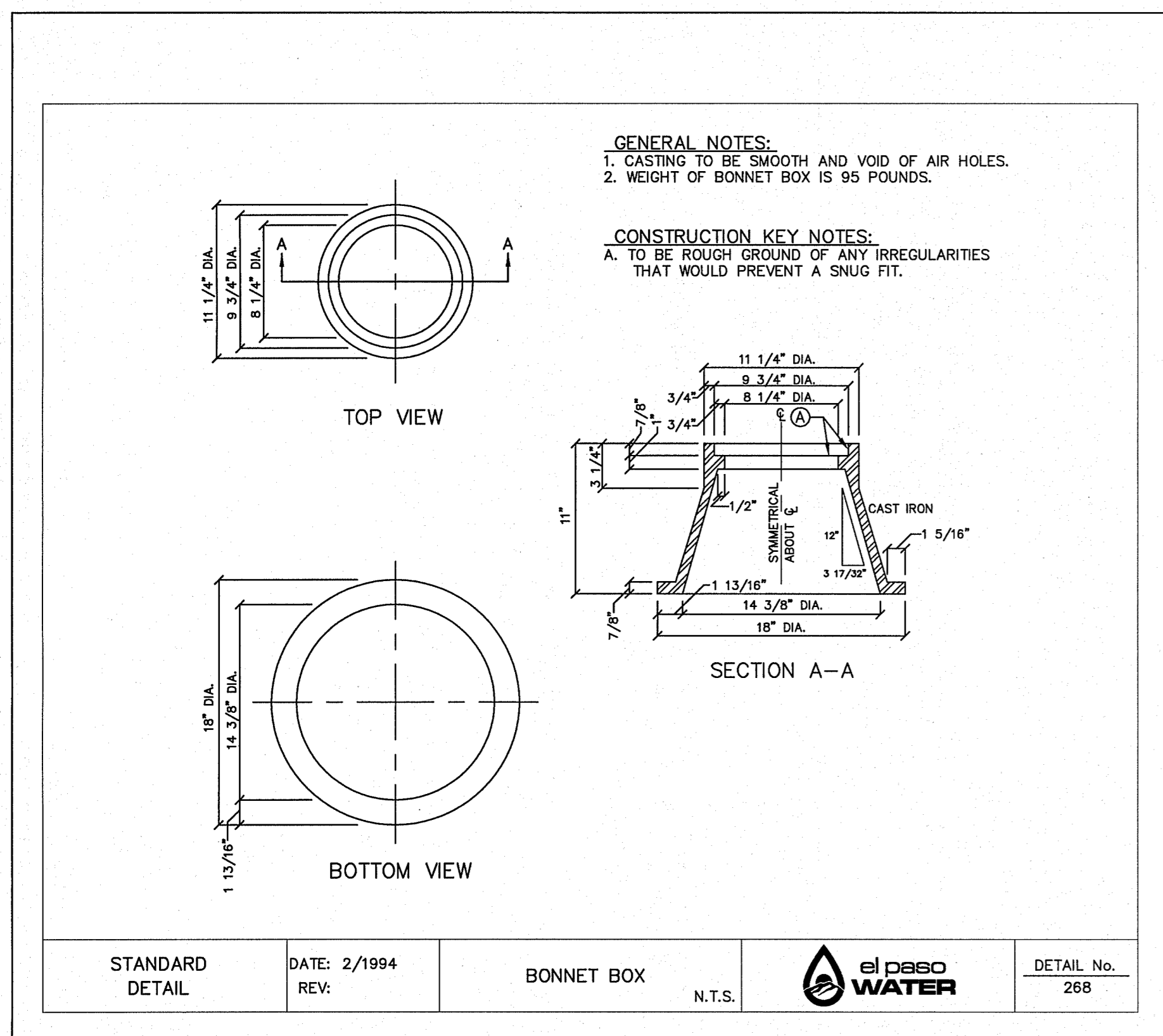


SCALE: N/A  
 Horizontal: N/A  
 Vertical: N/A  
 Contour Interval: N/A  
 DATE: NOVEMBER, 2019  
 DESIGN BY: R.O.  
 DRAWN BY: T.C.  
 CHKO. BY: J.L.A.  
 APPD. BY: J.L.A.  
 JOB NO.: 2000-213

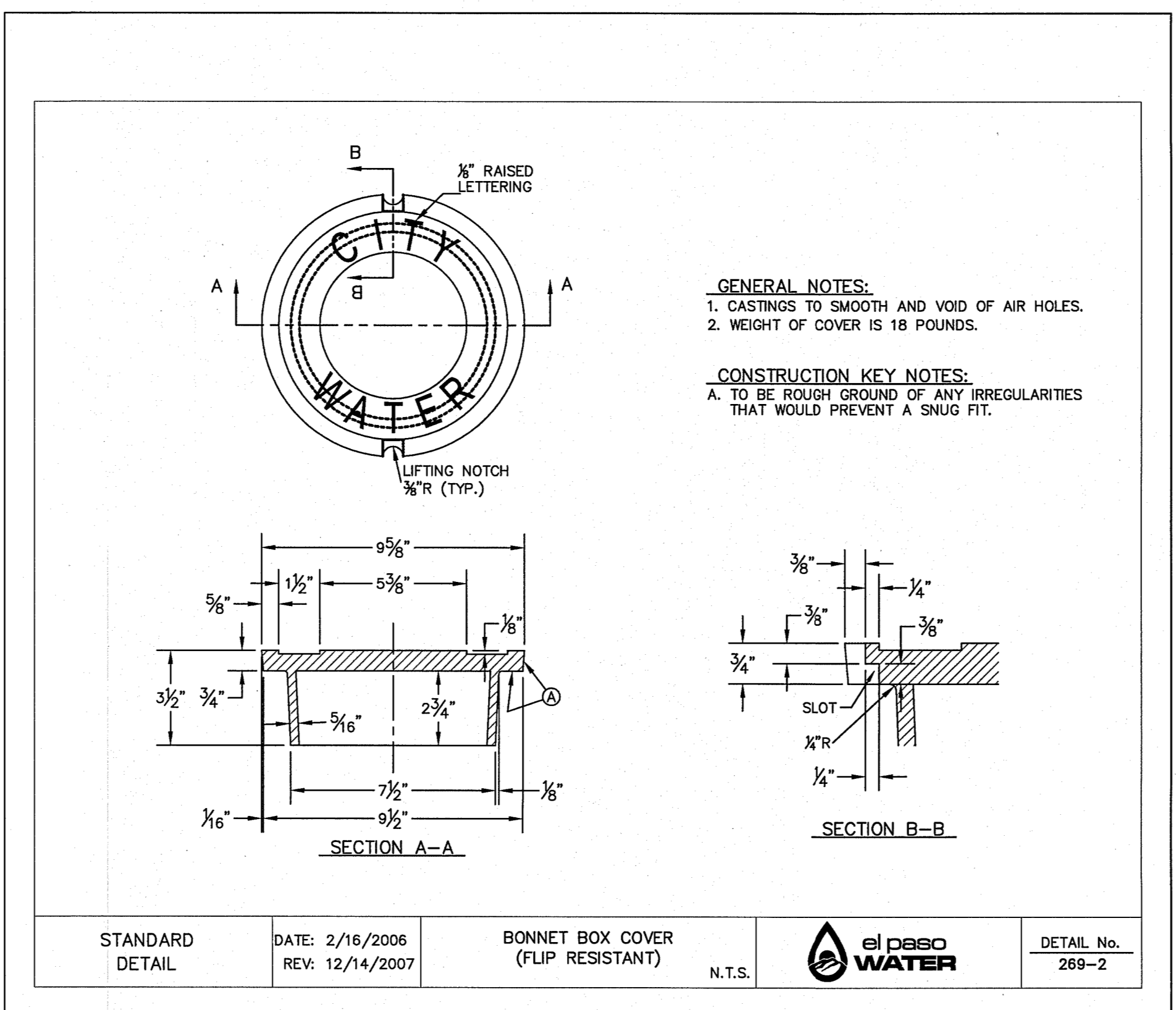
PROJECT TITLE  
 TRES SUENOS UNIT TWENTY ONE  
 SUBDIVISION IMPROVEMENTS

SHEET TITLE  
 WATER DETAILS  
 (SHEET 1 OF 4)  
 SHEET NO.

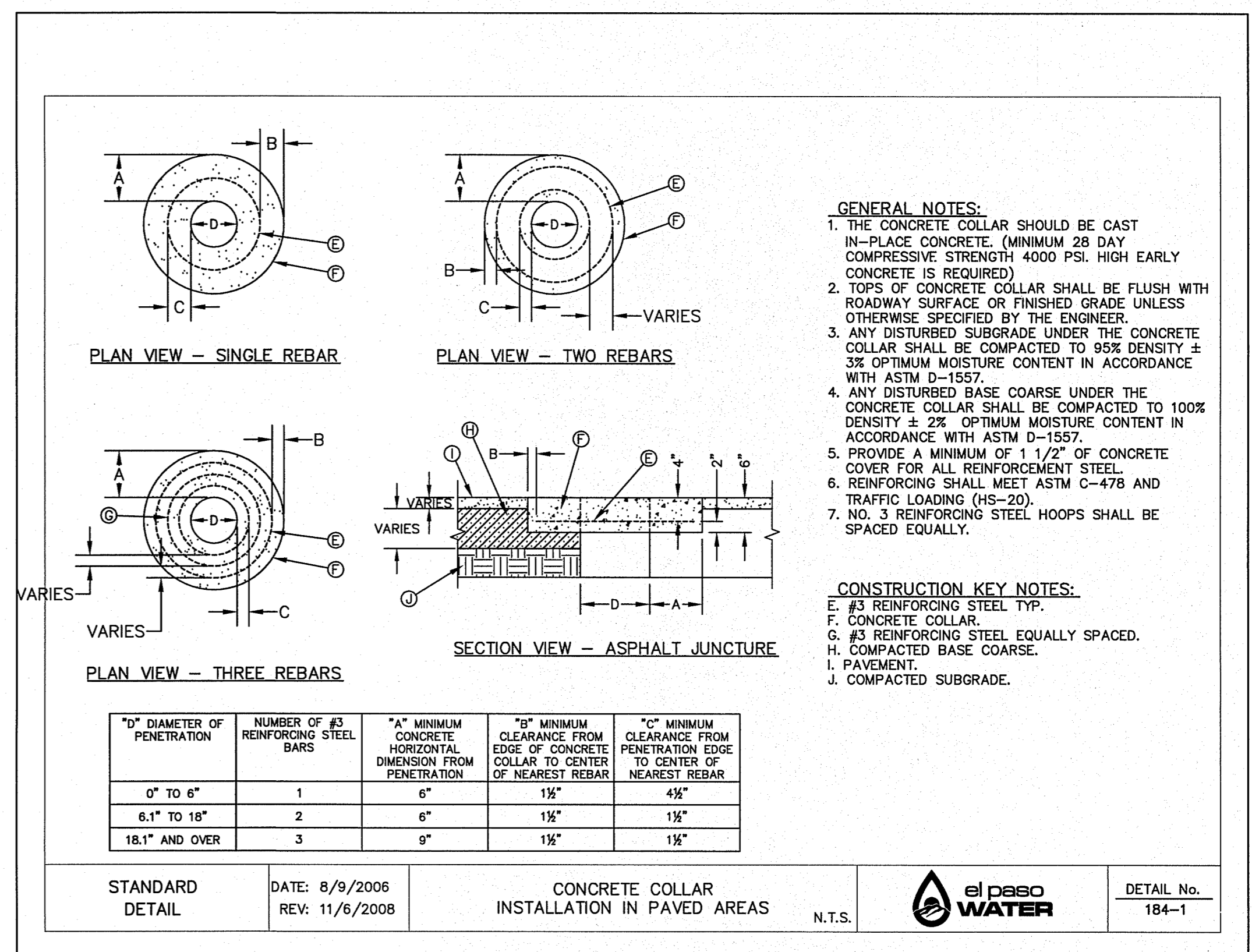
C12.1



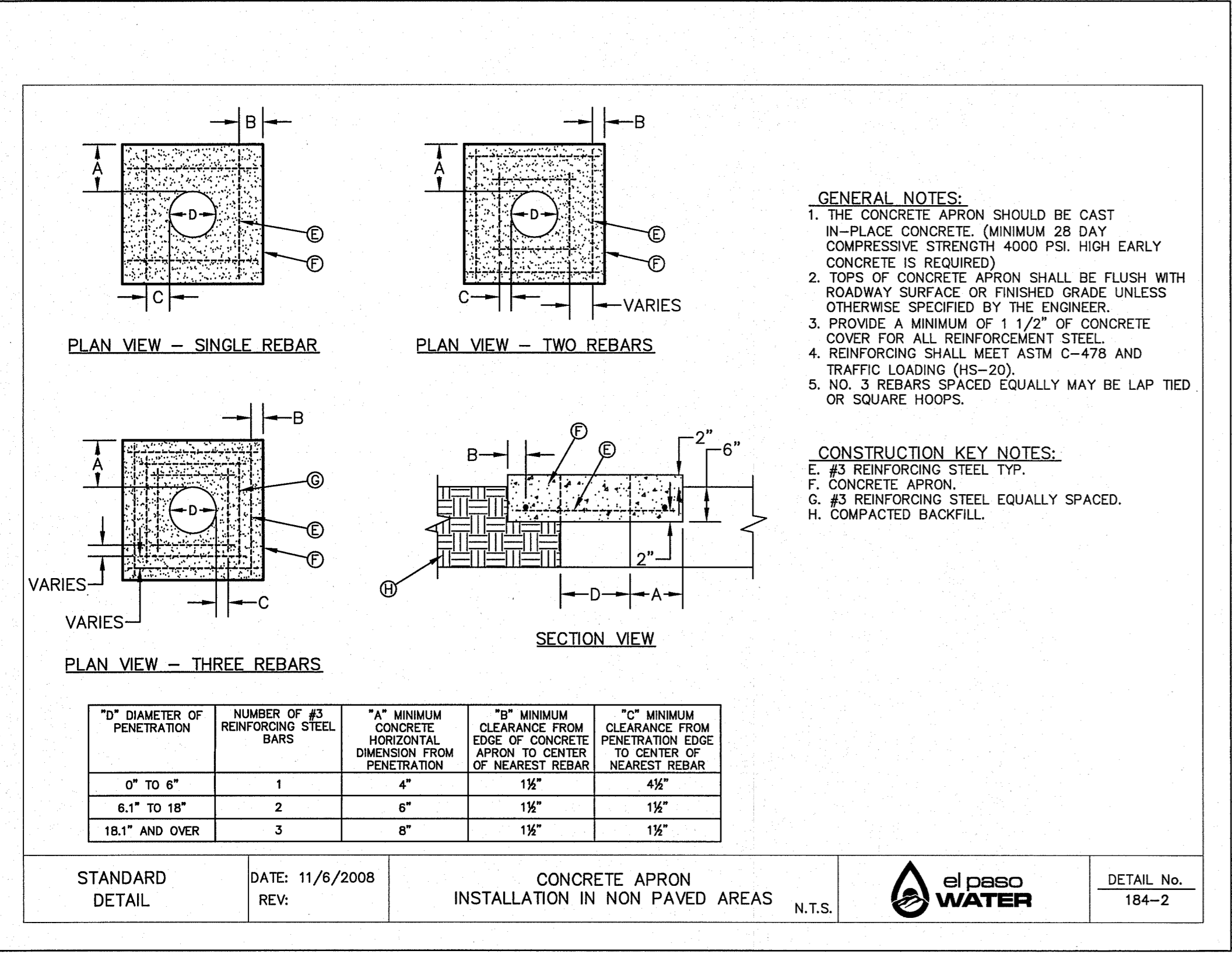
1 BONNET BOX SCALE: N.T.S.



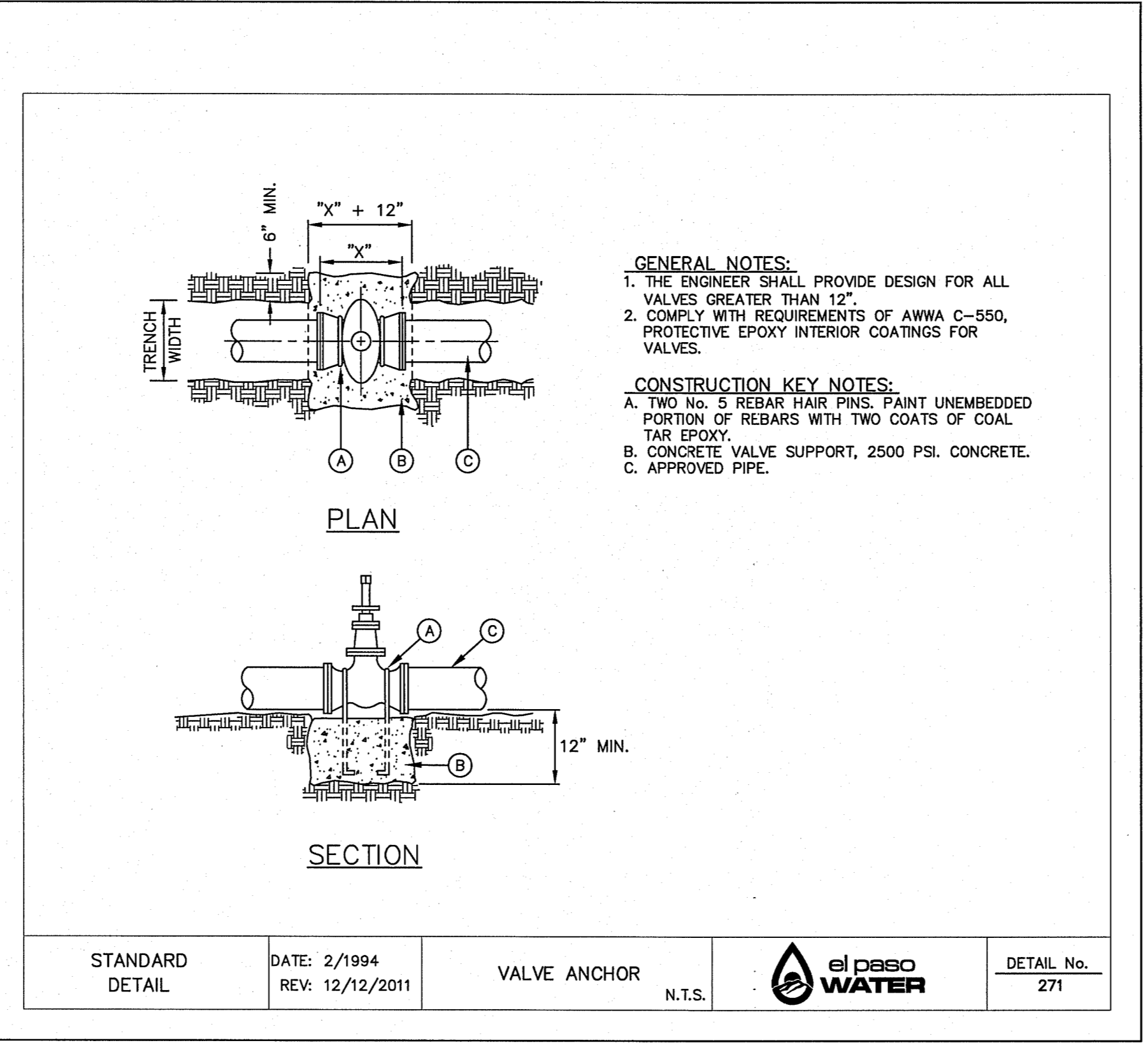
2 BONNET BOX COVER SCALE: N.T.S.



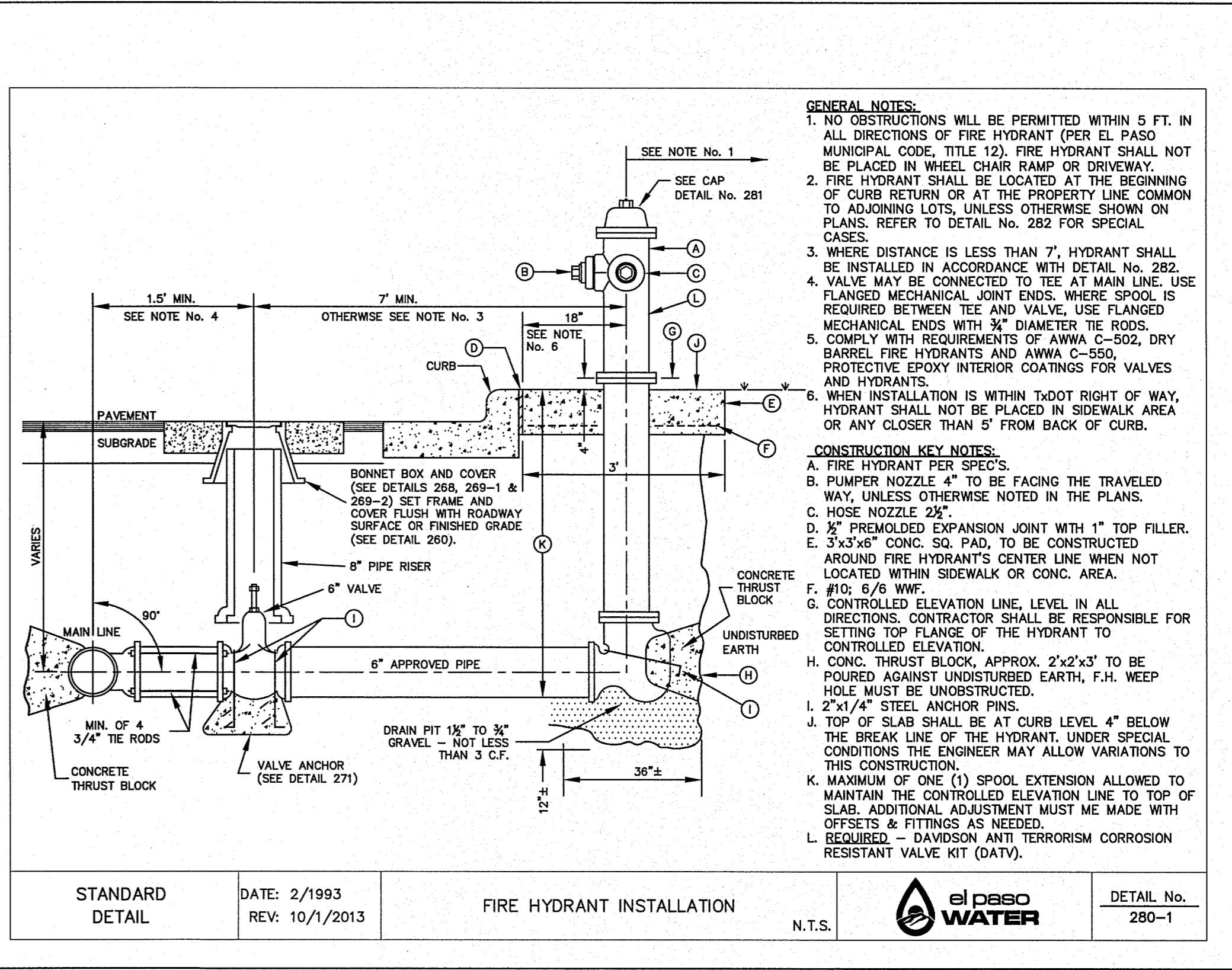
3 CONCRETE COLLAR INSTALLATION IN PAVED AREAS SCALE: N.T.S.



4 CONCRETE COLLAR INSTALLATION IN NON PAVED AREAS SCALE: N.T.S.



5 VALVE ANCHOR SCALE: N.T.S.



6 FIRE HYDRANT INSTALLATION SCALE: N.T.S.

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE, CENTERLINE RICH BEEM BLVD. S0434337E A DISTANCE OF 467.59 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 DATE: NOVEMBER, 2019  
 DESIGN BY: R.O.  
 DRAWN BY: T.C.  
 CHKD. BY: J.L.A.  
 APPVD. BY: J.L.A.  
 JOB No. 2000-213

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el paso WATER

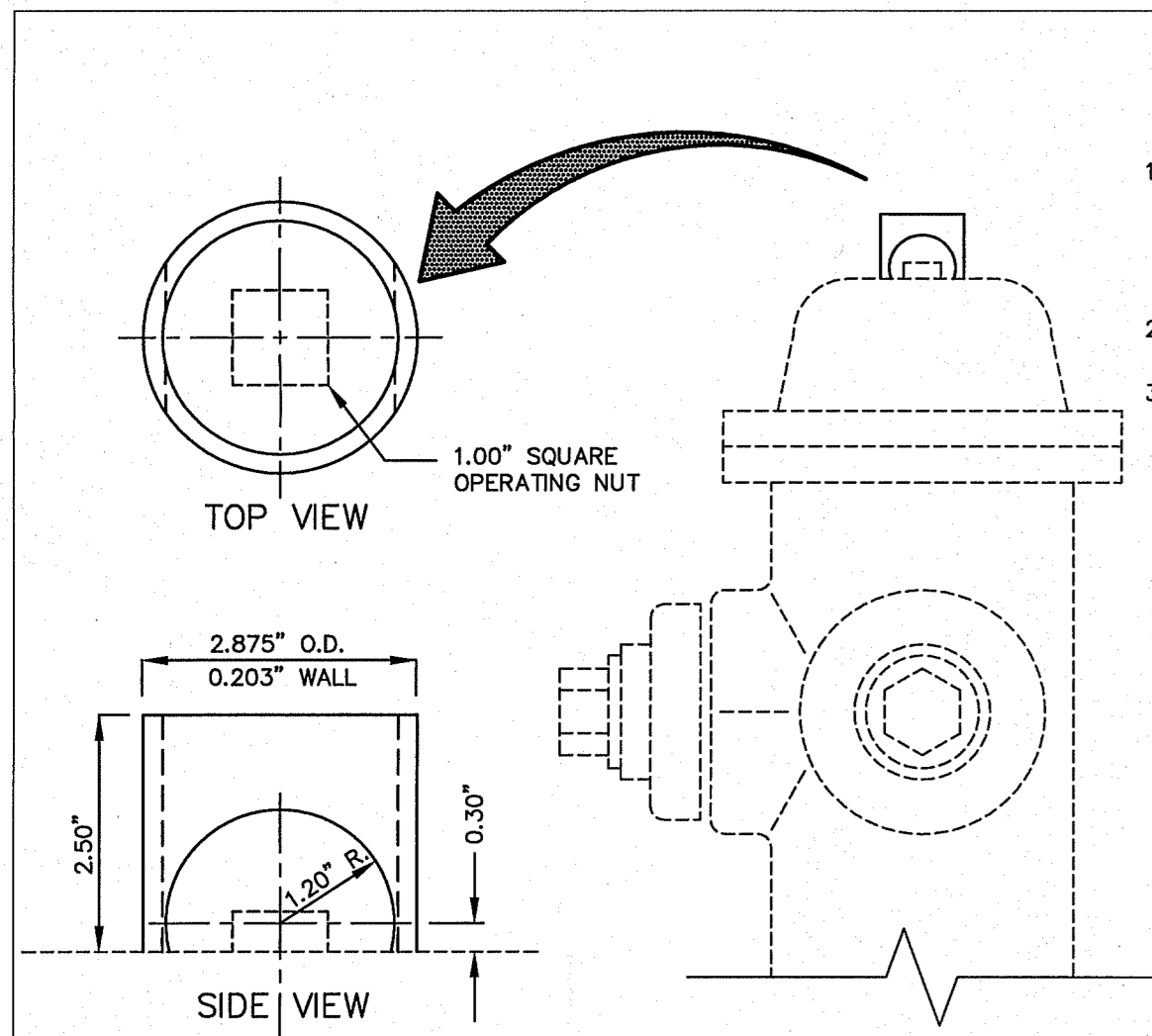
Final Approval

PROJECT TITLE  
 TRES SUENOS UNIT TWENTY ONE  
 SUBDIVISION IMPROVEMENTS

SHEET TITLE  
 WATER DETAILS  
 (SHEET 2 OF 4)  
 SHEET NO.

C12.2

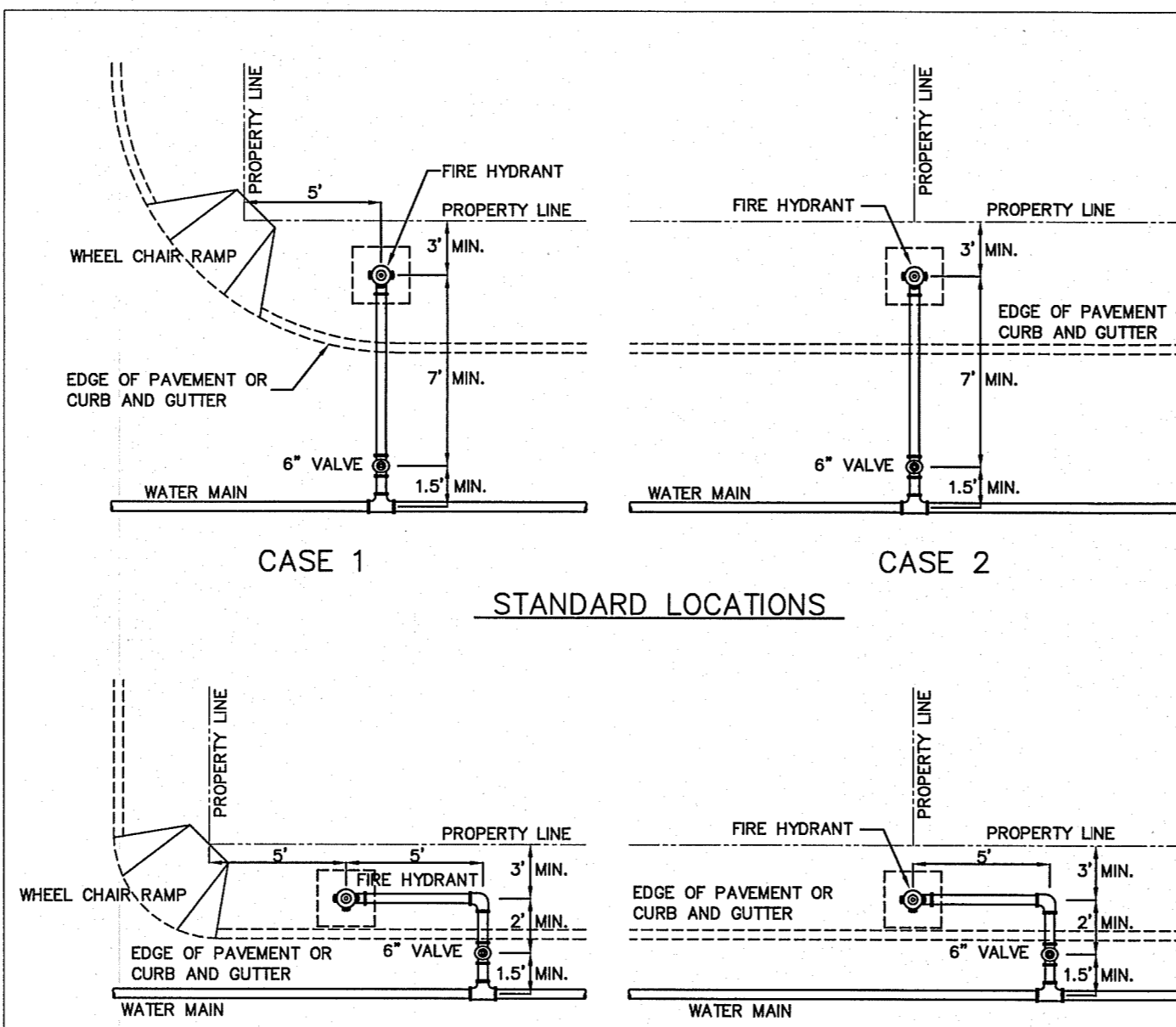
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- GENERAL NOTES:**
- STEEL CAPS TO BE MACHINED FROM STEEL PIPE: NOMINAL SIZE = 2 1/2" DIA. OUTSIDE DIA. = 2.875" WALL THICKNESS = 0.203 LBS/FT. = 5.79
  - CAPS ARE TO BE TACK WELDED OR BRAZED ON FIRE HYDRANT BONNET OR WEATHER CAP.
  - THE CAPS OVER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

STANDARD DETAIL	FEB. 1993 REV: FEB. 1994	FIRE HYDRANT CAP	N.T.S.		DETAIL No. 281
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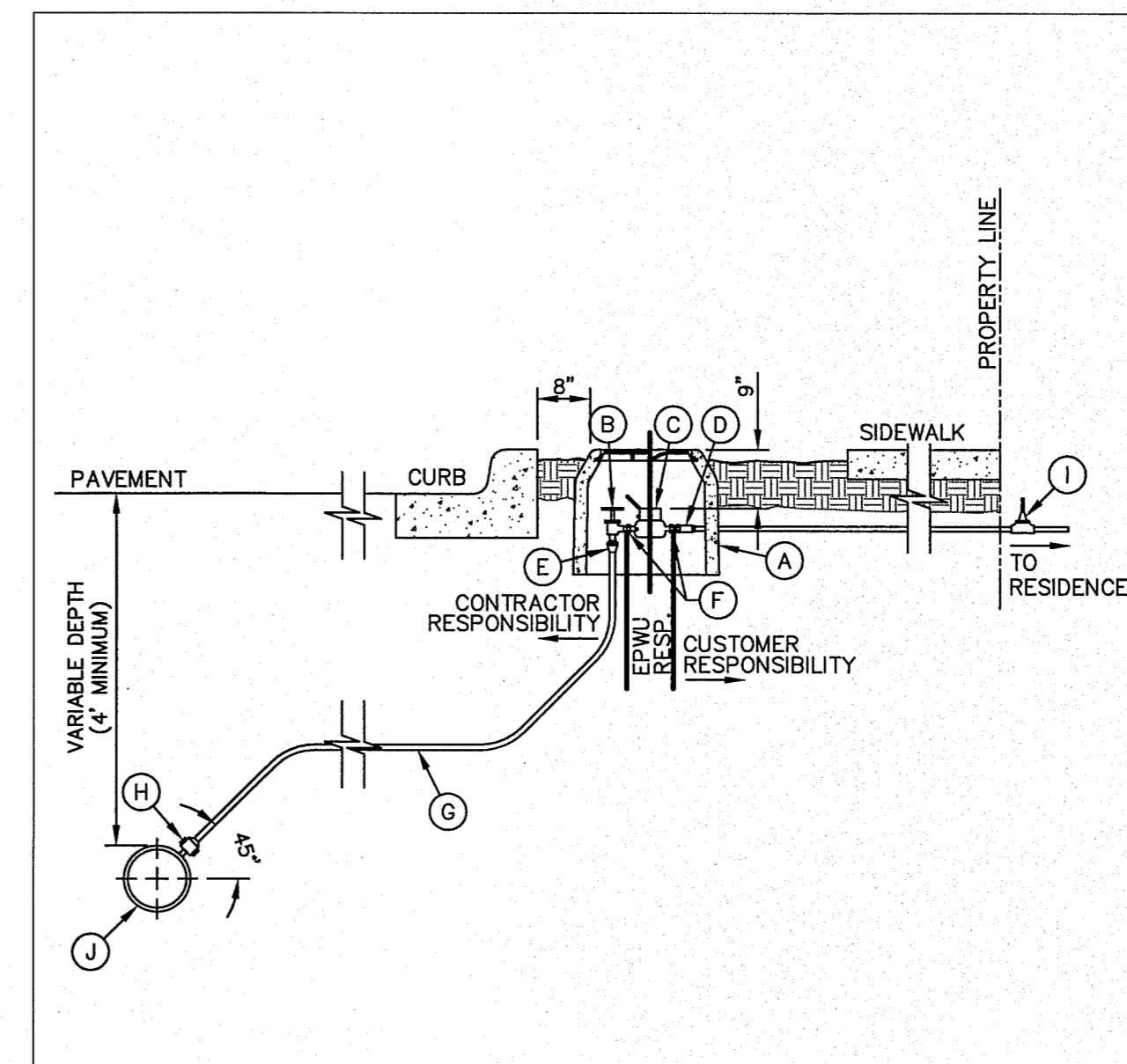
1 FIRE HYDRANT CAP  
SCALE: N.T.S.



- GENERAL NOTES:**
- 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.
  - FOR CASE 2 FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS.
  - FOR CASE 3 AND IV WHERE THE DISTANCE BETWEEN THE VALVE AND THE HYDRANT IS LESS THAN 7 FT. PLACE HYDRANT AS SHOWN.
  - FOR INSTALLATION OF FIRE HYDRANT SEE DETAIL 280-1 OR 280-2.
  - 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.).
  - WHEN INSTALLATION IS WITHIN 10 FOOT 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	N.T.S.		DETAIL No. 282
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2 FIRE HYDRANT LOCATIONS  
SCALE: N.T.S.

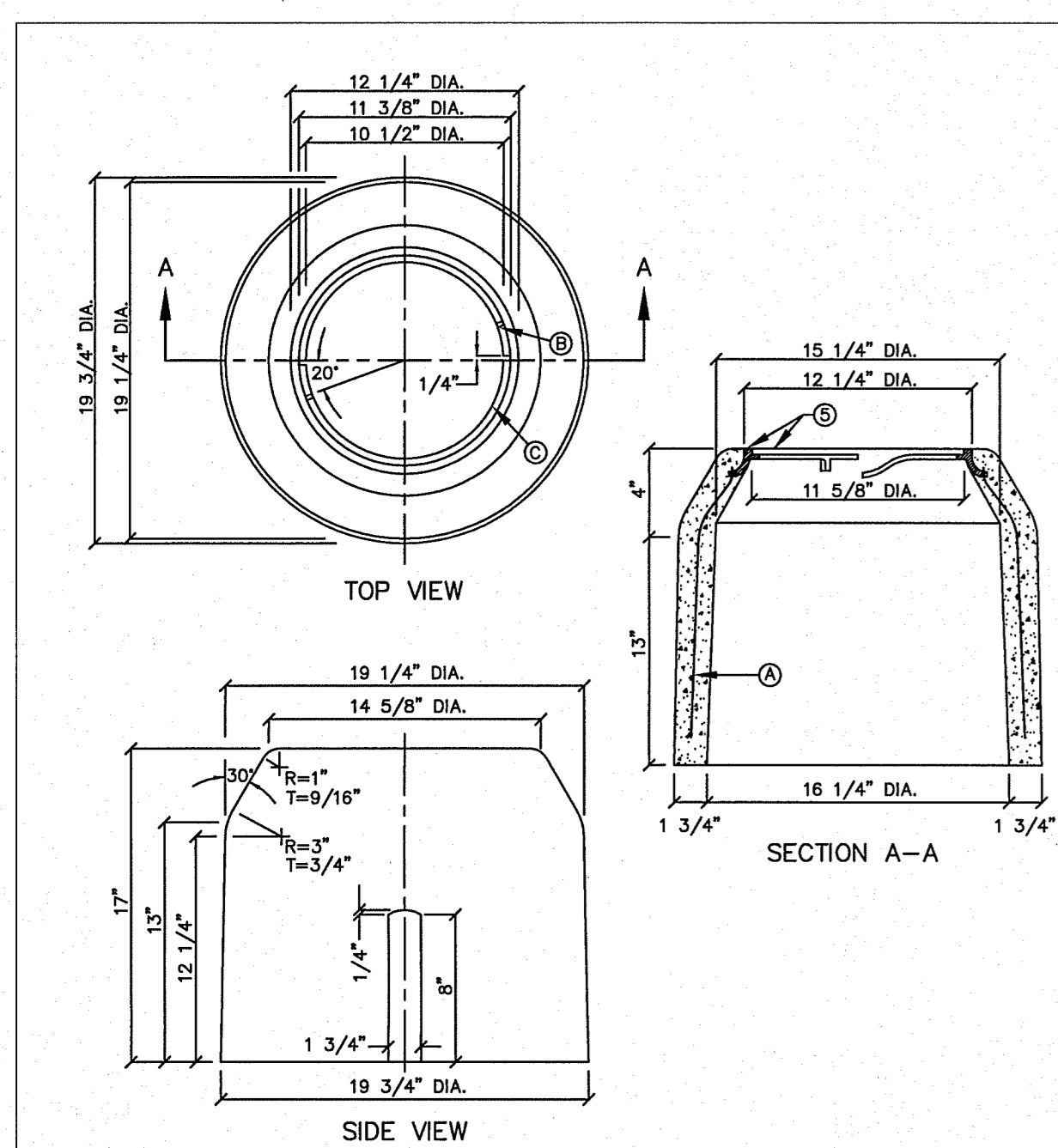
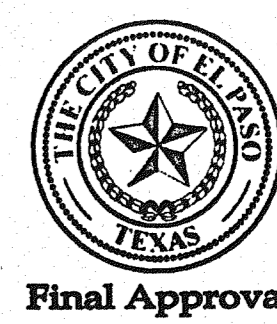


- GENERAL NOTES:**
- DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
  - WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
  - THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, 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. NO SPLICING SHALL BE ALLOWED. FULL LENGTH OF PIPING SERVICE SHALL BE INSTALLED.
  - THE EPWU WILL FURNISH AND INSTALL THE METER.

- CONSTRUCTION KEY NOTES:**
- METER BOX TYPE "A" (SEE DETAILS 300 & 301) SHALL BE SET SLIGHTLY HIGHER THAN SURROUNDING GROUND OR AT CURB LEVEL.
  - 3/4" ANGLE SERVICE VALVE.
  - WATER METER (CENTER INSIDE METER BOX).
  - WHEN REQUIRED BY EPWU, A DUAL CHECK BACKFLOW PREVENTER SHALL BE INSTALLED ON THE OUTLET SIDE OF THE METER.
  - END FLARE OF SERVICE LINE.
  - INLET AND OUTLET COUPLING.
  - 3/4" COPPER SERVICE LINE (SEE NOTE 4).
  - 5/8" X 3/4" CORPORATION STOP.
  - PRESSURE REGULATOR SOMETIMES LOCATED NEAR THE RESIDENCE.
  - WATER MAIN

STANDARD DETAIL	DATE: 10/20/2000 REV: 5/24/2007	SERVICE LINE 3/4" AND 1" INSTALLATION BY CONTRACTOR	N.T.S.		DETAIL No. 290-4
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3 SERVICE LINE 3/4" AND 1" INSTALLATION  
SCALE: N.T.S.

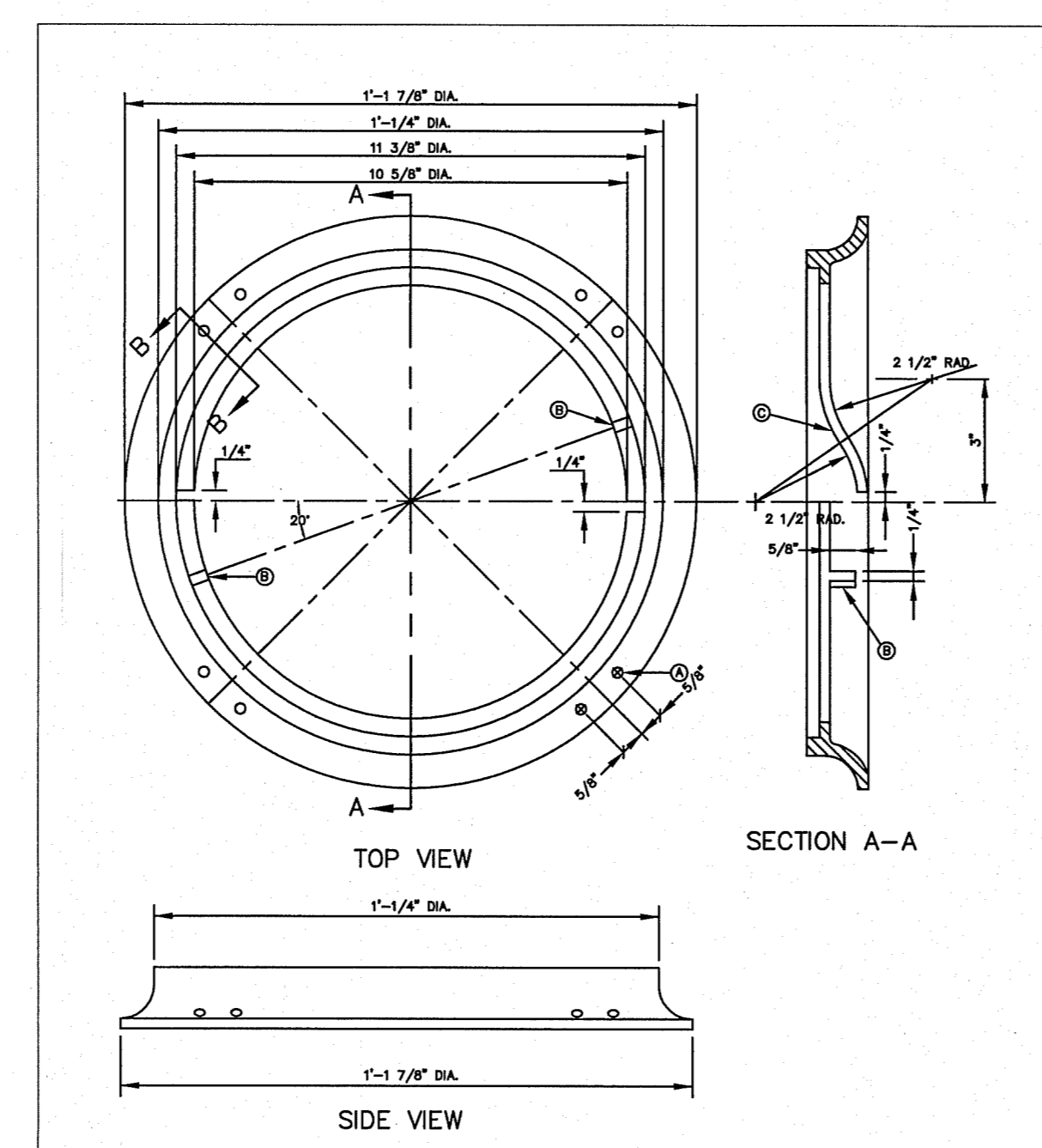


- GENERAL NOTES:**
- INSTALL TO GRADE MATCHING TOP OF CURB.
  - ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
  - METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
  - WHERE NO CURBING EXIST, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS OF STREET SURFACING, WALKS AND DRIVEWAYS.
  - METER BOX RING AND COVER PER EPWU DETAILS 300 AND 301.
  - 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.
  - METER BOX SHALL BE SINGLE UNIT CONSTRUCTION; CONCRETE TO HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 4000 PSI.

- CONSTRUCTION KEY NOTES:**
- 3/16" 9 GAUGE BLACK ANNEALED WIRE
  - LUG-STOP C. CAST IRON RING

STANDARD DETAIL	DATE: 4/1994 REV: 8/24/2006	METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION	N.T.S.		DETAIL No. 291
-----------------	--------------------------------	--	--------	--	----------------

4 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION  
SCALE: N.T.S.

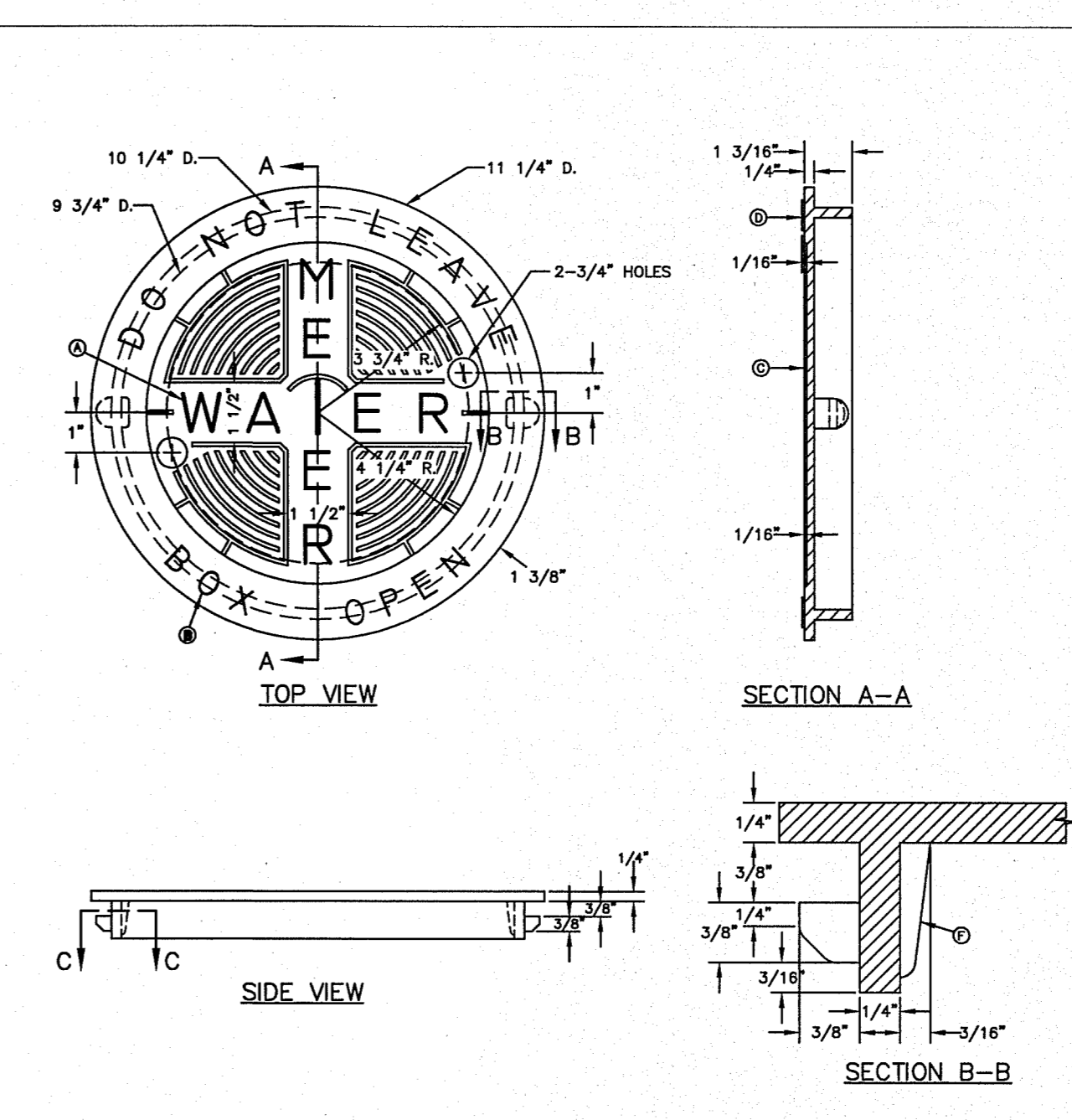


- GENERAL NOTES:**
- MATCHING SURFACES TO BE FINISHED IF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
  - CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
  - METER BOX RING WEIGHT = 7 LBS.
  - METER BOX RING MADE OF CAST IRON.

- CONSTRUCTION KEY NOTES:**
- 1/2" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
  - LUG STOP
  - LOCKING LUG SLIDE

STANDARD DETAIL	DATE: 1/1995 REV: 8/10/2006	METER BOX RING FOR TYPE "A" & "B" METER BOXES	N.T.S.		DETAIL No. 300
-----------------	--------------------------------	---	--------	--	----------------

5 METER BOX RING FOR TYPE "A" & "B" METER BOXES  
SCALE: N.T.S.



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

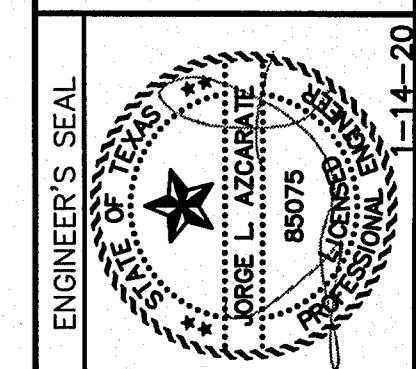
- CONSTRUCTION KEY NOTES:**
- LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8" THICK
  - LETTERS TO BE 3/4" HIGH, 3/8" WIDE, 1/8" THICK
  - INSIDE LETTERS & RIBS 1/2" TALL
  - OUTSIDE LETTERS 3/8" TALL
  - REINFORCE BACK OF LUG
  - REINFORCEMENT

STANDARD DETAIL	DATE: 4/1994 REV: 8/10/2006	METER BOX COVER FOR TYPE "A" & "B" METER BOXES	N.T.S.		DETAIL No. 301
-----------------	--------------------------------	--	--------	--	----------------

6 METER BOX COVER FOR TYPE "A" & "B" METER BOXES  
SCALE: N.T.S.

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURB, CENTERLINE RICH FROM BOUNDARY 43.3% DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.  
ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net  
TEXAS REGISTERED ENGINEERING FIRM F-4564



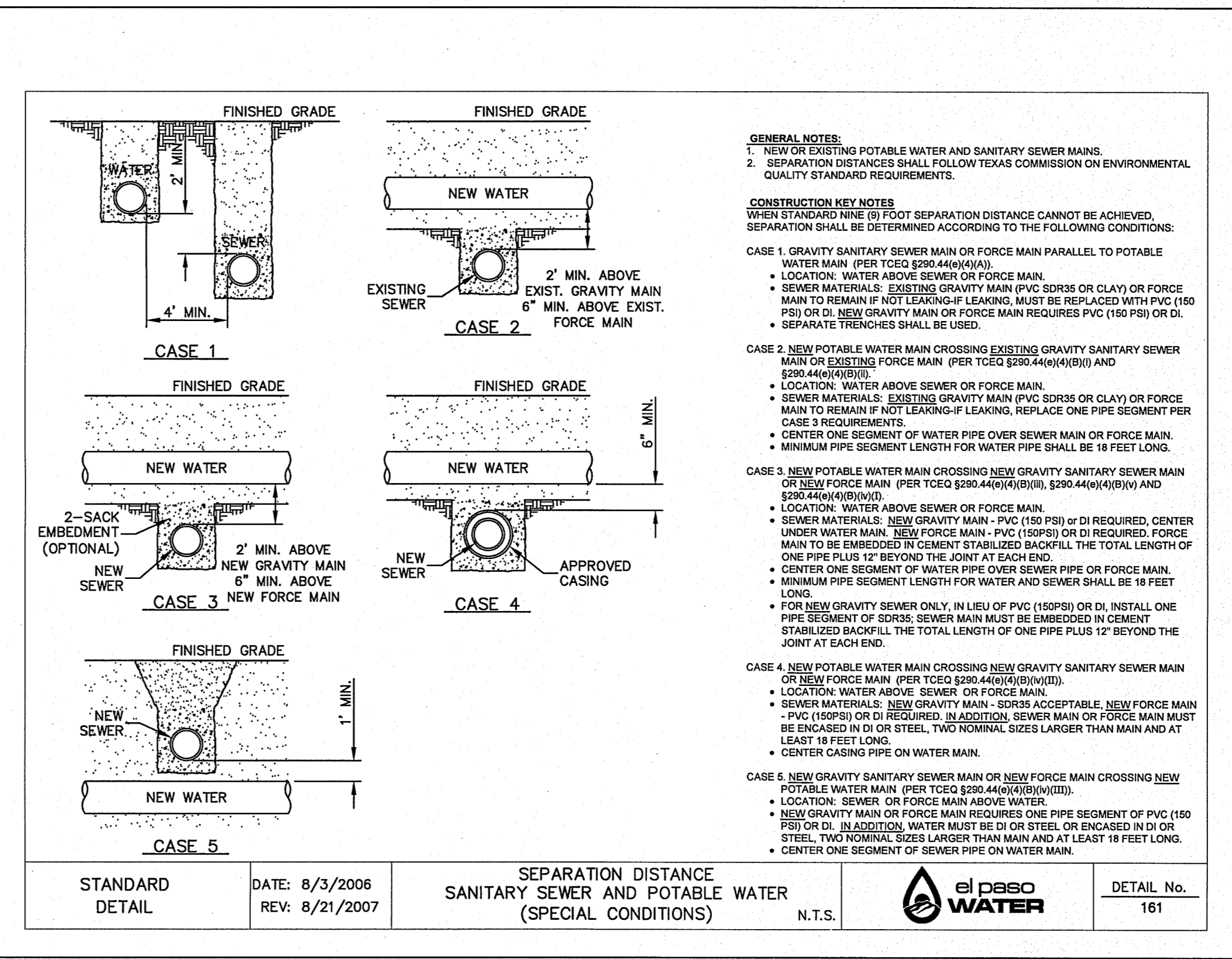
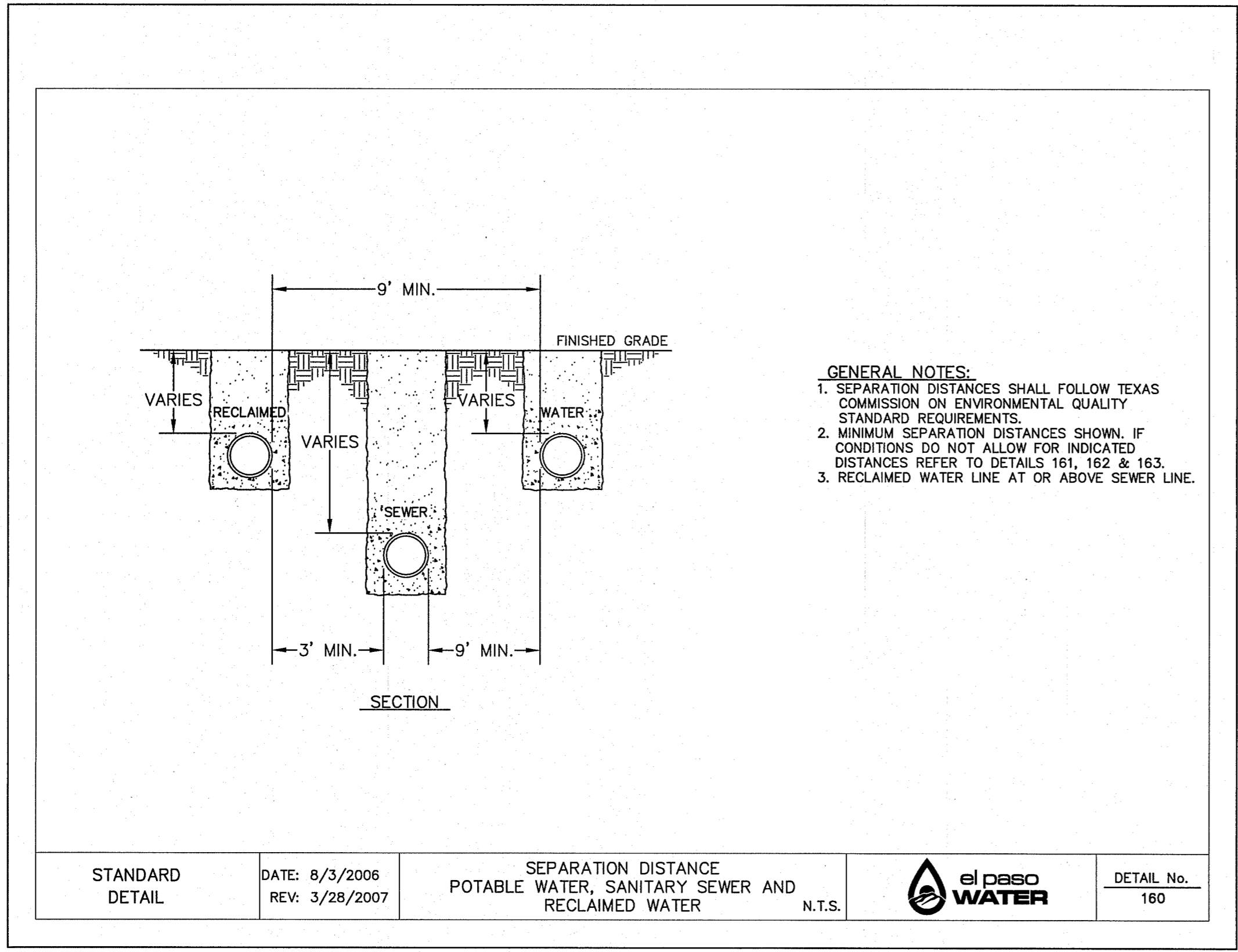
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Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: J.C.  
CHKD. BY: J.L.A.  
APPD. BY: J.L.A.  
JOB No.: 2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**WATER  
DETAILS**

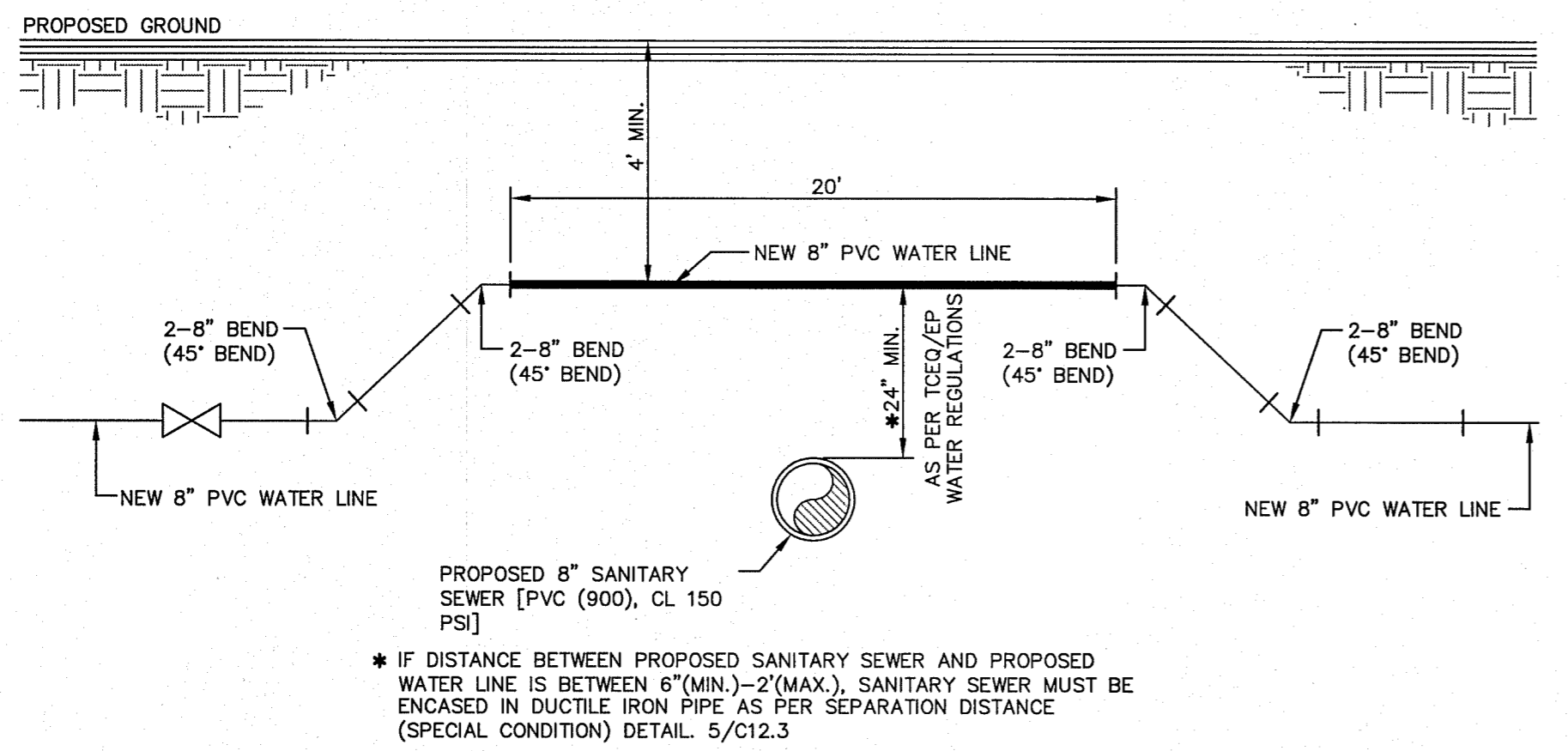
(SHEET 3 OF 4)

SHEET NO.  
**C12.3**

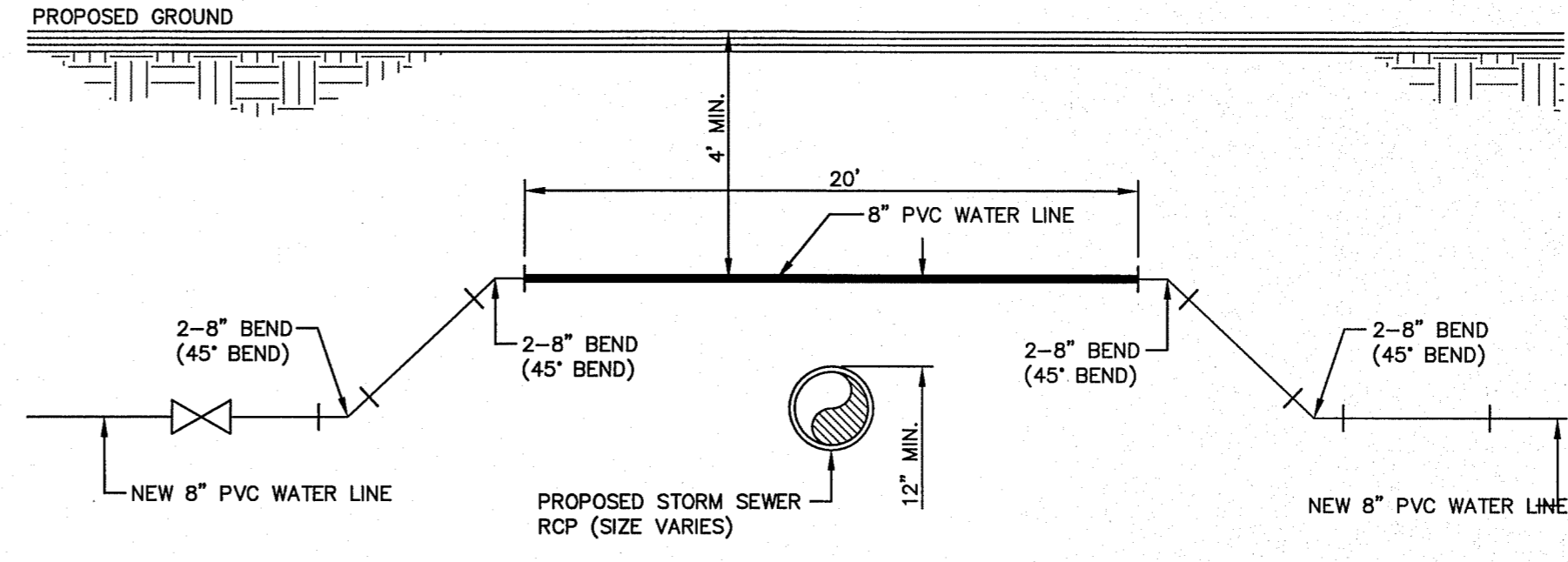


1 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER  
 SCALE: N.T.S.

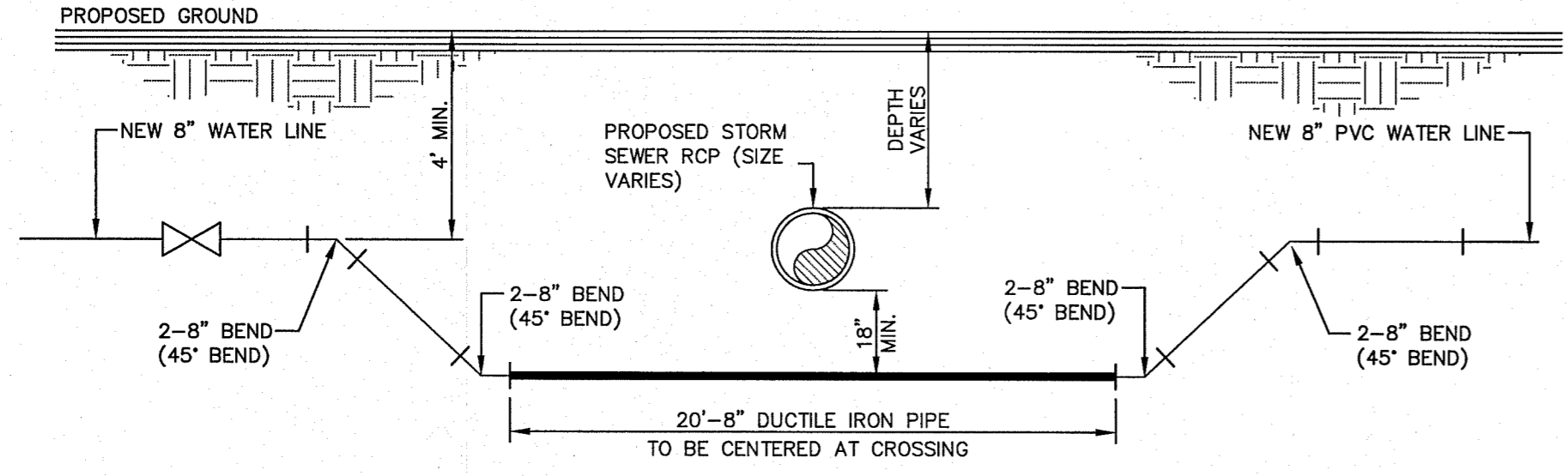
2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)  
 SCALE: N.T.S.



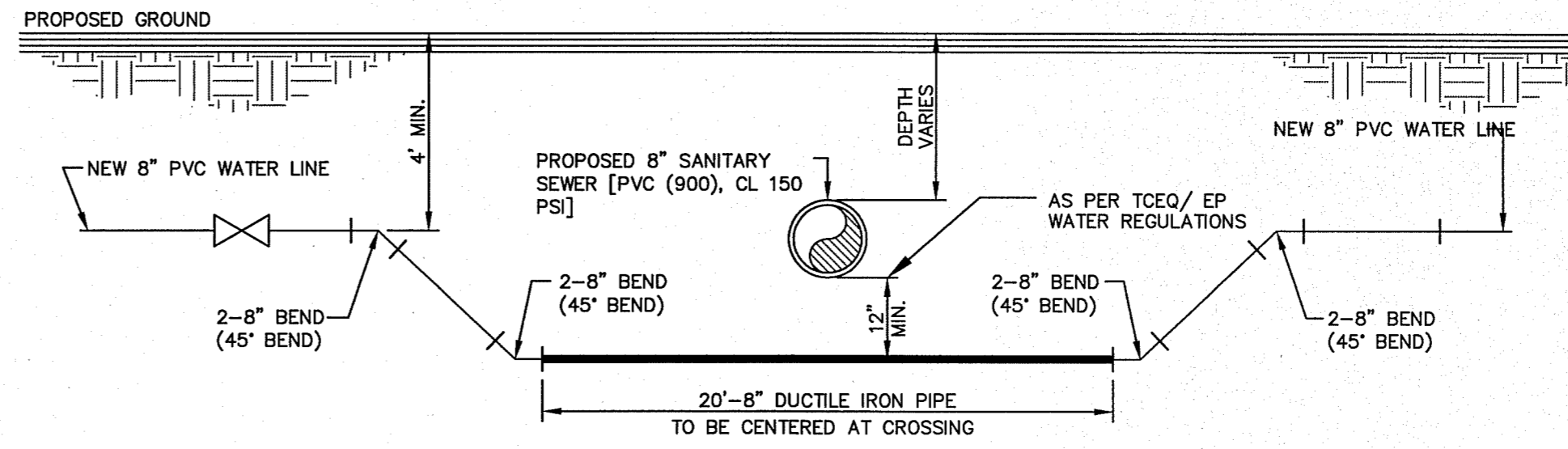
3 WATER LINE OVER SANITARY SEWER CROSSING DETAIL  
 SCALE: N.T.S.



4 WATER LINE OVER STORM SEWER CROSSING DETAIL  
 SCALE: N.T.S.



5 WATER LINE UNDER STORM SEWER CROSSING DETAIL  
 SCALE: N.T.S.



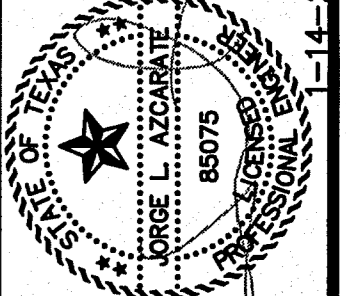
6 WATER LINE UNDER SANITARY SEWER CROSSING DETAIL  
 SCALE: N.T.S.

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH	DATE	REVISIONS	BY
FROM THE SOUTHERLY RIGHT OF WA. LINE OF			
MONTANA AVENUE.			
ELEVATION: 4005.40 (CITY DATUM)			

813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 915.544.5232  
 www.ceagroup.net

TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE:	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER, 2019
DESIGN BY:	R.O.
DRAWN BY:	J.C.
CHKD. BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.:	2000-213

PROJECT TITLE

TRES SUENOS UNIT TWENTY ONE  
 SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

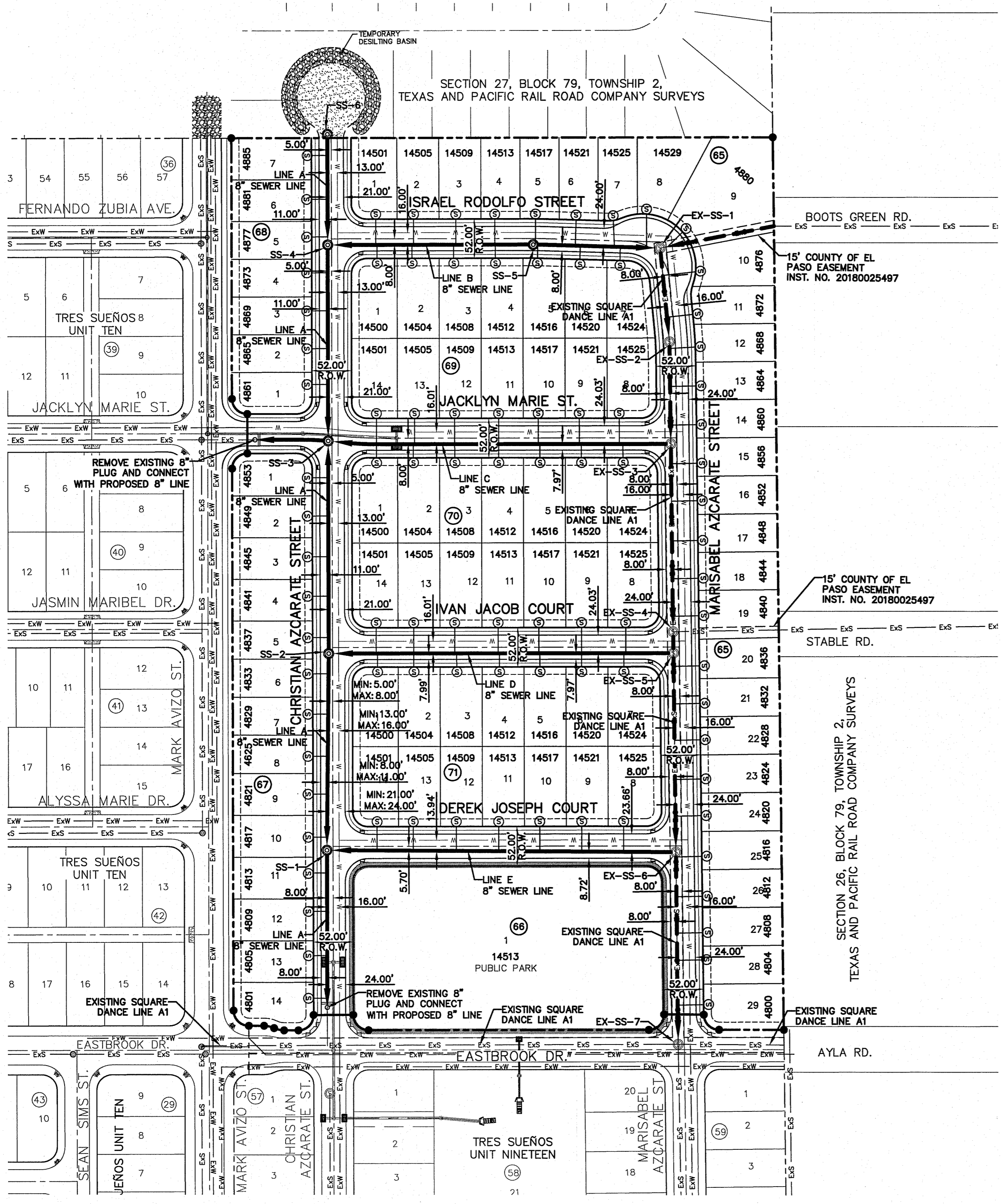
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SHEET NO.

C12.4



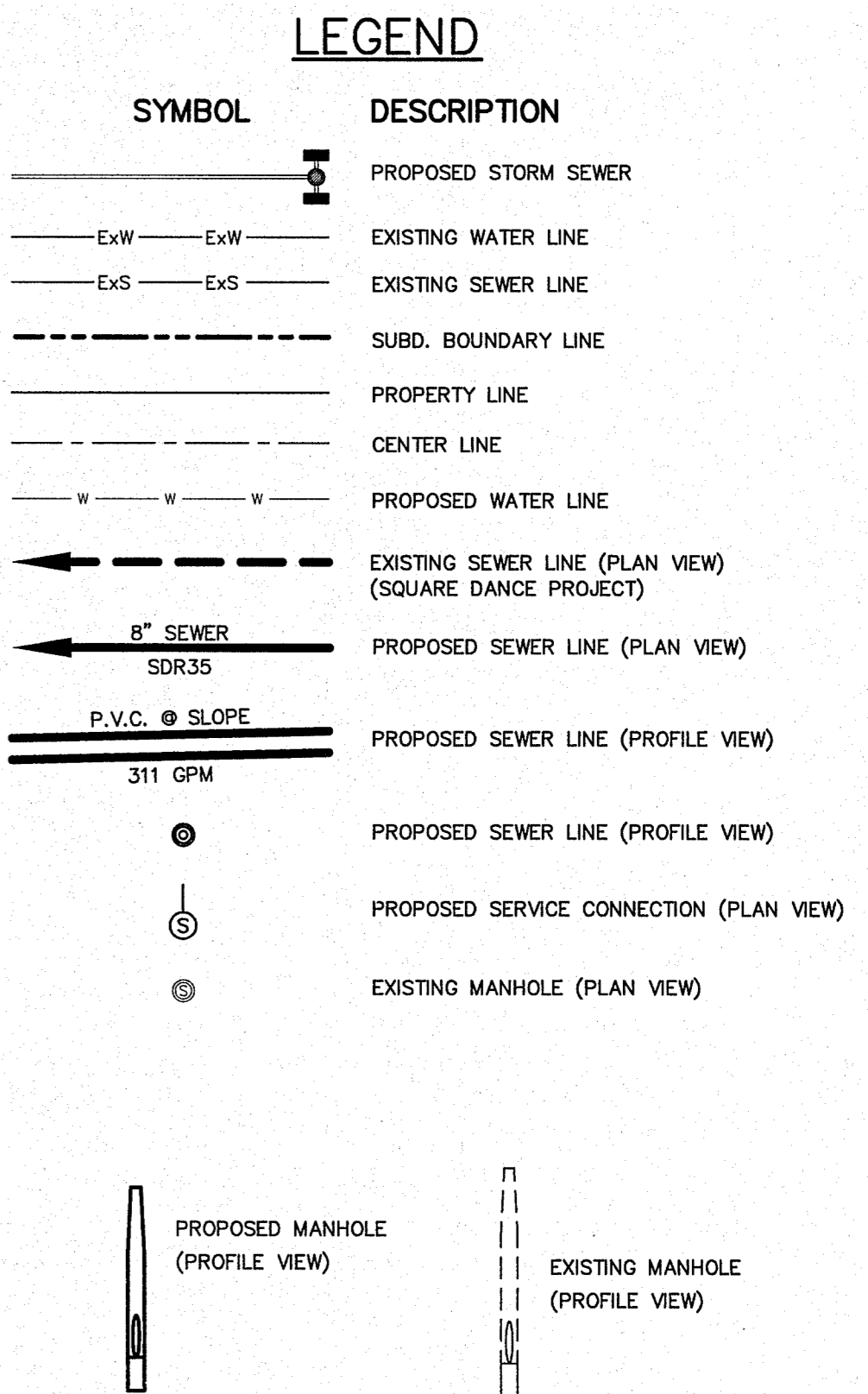
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WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	3,044	LINEAR FEET
2	STANDARD WASTEWATER MANHOLE	6	EACH
3	4" WASTEWATER SERVICE CONNECTION	92	EACH
4	8" C-900, CLASS 150 PVC PIPE	1170	LINEAR FEET
5	EXISTING WASTEWATER MANHOLE	7	EACH

INDEX	
SHEET NO.	DESCRIPTION
C13.1	(TRES SUEÑOS UNIT TWENTY ONE)
C14.1	LEGEND INDEX / GENERAL INFORMATION
C14.2	LINE A & B
C14.3	LINE A-1 & C
C14.4	LINE D & E
C15.1	SANITARY SEWER DETAILS
C15.2	SANITARY SEWER DETAILS
C15.3	SANITARY SEWER DETAILS

- NOTES:
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
  - ALL SANITARY SEWER PIPES SHALL BE PVC, SDR 35, (D 3034), UNLESS OTHERWISE SHOWN, AS REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
  - REFERENCE SANITARY SEWER DETAILS FOR SEWER CROSSINGS AT STORM SEWER.



CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

**SANITARY SEWER INDEX MAP**  
SCALE: 1" = 100'

**GENERAL NOTES**

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN TEN (10') FEET AWAY FROM EXISTING WATER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44)
- THE INTENT OF THE OWNER IS TO HAVE THE SANITARY SEWER PIPELINES INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST FORTY-EIGHT (48") INCHES OF COVER BELOW PROPOSED GROUND AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. CONSIDERING UTILITIES AND OTHER CONDITIONS, VARIANCE FROM GRADE PROFILE IS NOT RECOMMENDED IF OTHER EXISTING UTILITIES OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE SEWER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE HIS WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITH THE PROJECT AREAS.
- TRENCH SAFETY REQUIREMENTS SHALL COMPLY WITH CURRENT OSHA REGULATIONS.
- AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH MANHOLE, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
- THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION. A COPY OF ALL FIELD SOIL DENSITY TESTS WITHIN THEIR RESPECTIVE R.O.W. SHALL BE FORWARDED TO THE DEVELOPER'S ENGINEER AND THE DEVELOPER BY THE CONTRACTOR.
- EXISTING STREETS, DRIVEWAYS AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFIRM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.

**GENERAL UTILITIES:**  
TEXAS EXCAVATION SAFETY SERVICE  
11884 GREENVILLE AVENUE  
DALLAS, TX 75243  
(800) 344-8377

**ENGINEER:**  
CEA GROUP  
CASTNER CENTER @ TRANSMOUNTAIN  
4712 WOODROW BEAN, STE. F  
EL PASO, TX 79924  
(915) 544-5232  
MR. JORGE L. AZCARATE, P.E.

**FIBER OPTICS:**  
U.S. SPRINT  
151 N. BOONE ST.  
EL PASO, TX 79905  
(915) 534-7910

**FIBER OPTICS:**  
MCI TELECOMMUNICATIONS CORPS.  
4045 DONIPHAN PARK CIRCLE  
EL PASO, TX 79922  
(915) 542-2770 EXT. 201

**WATER & SEWER:**  
EL PASO WATER UTILITIES  
1154 HAWKINS BOULEVARD  
EL PASO, TX 79961  
(915) 594-5530

**ELECTRIC:**  
EL PASO ELECTRIC CO.  
501 W. SAN ANTONIO ST.  
EL PASO, TX 79902  
(915) 543-2076  
MR. FRANK VIGEL (DISTRIBUTION)

**EL PASO STREETS**  
CITY OF EL PASO  
DEPARTMENT OF TRANSPORTATION  
7909 SAN PAULO DRIVE  
EL PASO, TX 79907  
(915) 621-6750

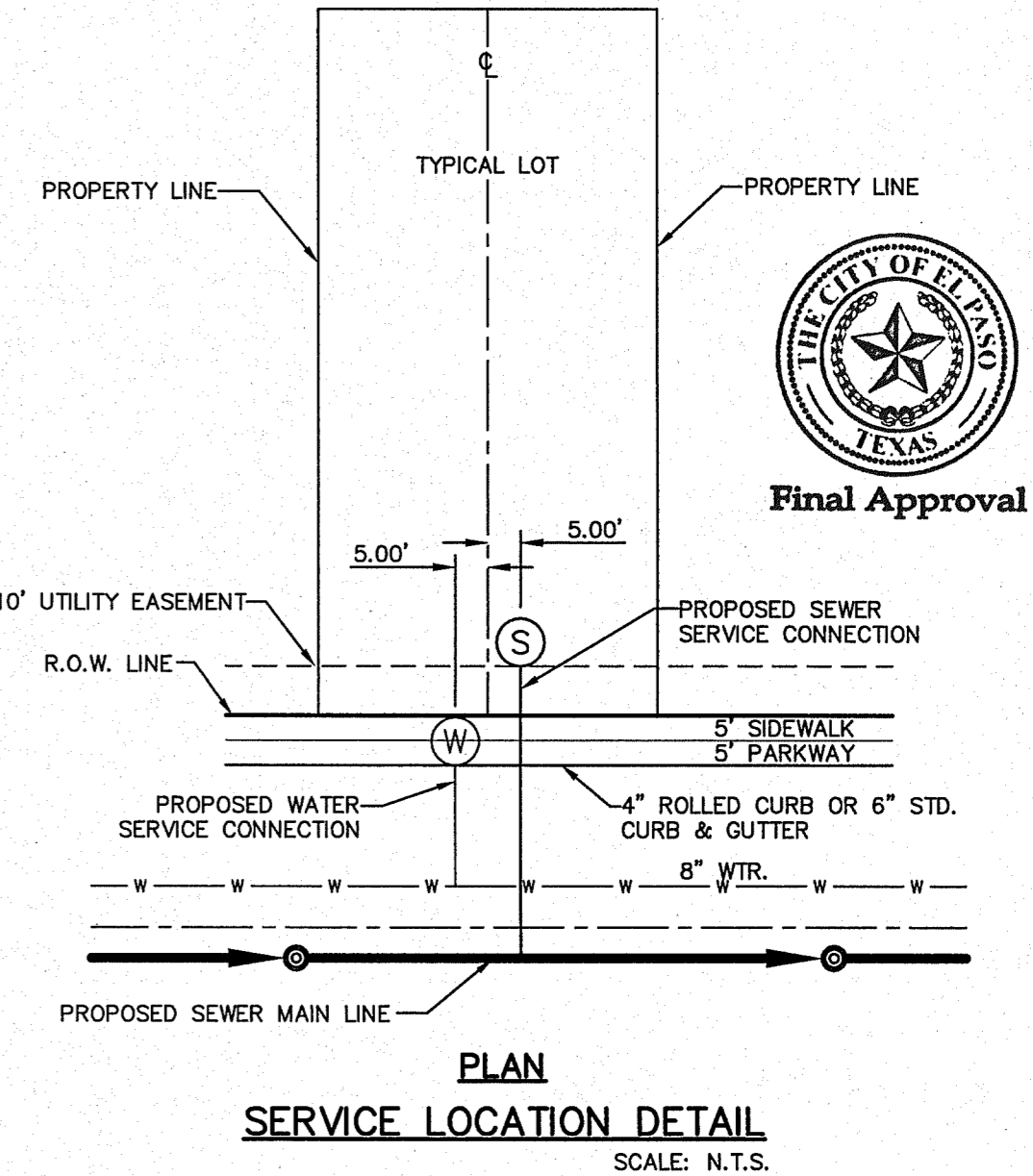
**CABLE TELEVISION:**  
TIME WARNER COMMUNICATIONS  
7010 AIRPORT ROAD  
EL PASO, TX 79906  
(915) 772-1123

**TELEPHONE:**  
SBC  
11200 PELICANO  
EL PASO, TX 79935  
(915) 595-5151

**FIBER OPTICS:**  
AT&T  
P.O. BOX 1650  
EL PASO, TX 79949  
(915) 852-3786

**RESIDENTIAL GAS LINES:**  
TEXAS GAS SERVICE  
4700 POLLARD ST.  
EL PASO, TX 79930  
(915) 880-7218

**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES



REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 487.98 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.5232  
www.ceagroup.net

**CEA**  
TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
Jorge L. Azcarate  
Professional Engineer  
No. 89075  
State of Texas

SCALE: 1" = 100'  
Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB NO.: 2000-213

PROJECT TITLE  
**TRES SUEÑOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**SANITARY SEWER INDEX**

SHEET NO.  
**C13.1**

**UTILITY LOCATOR SERVICES**

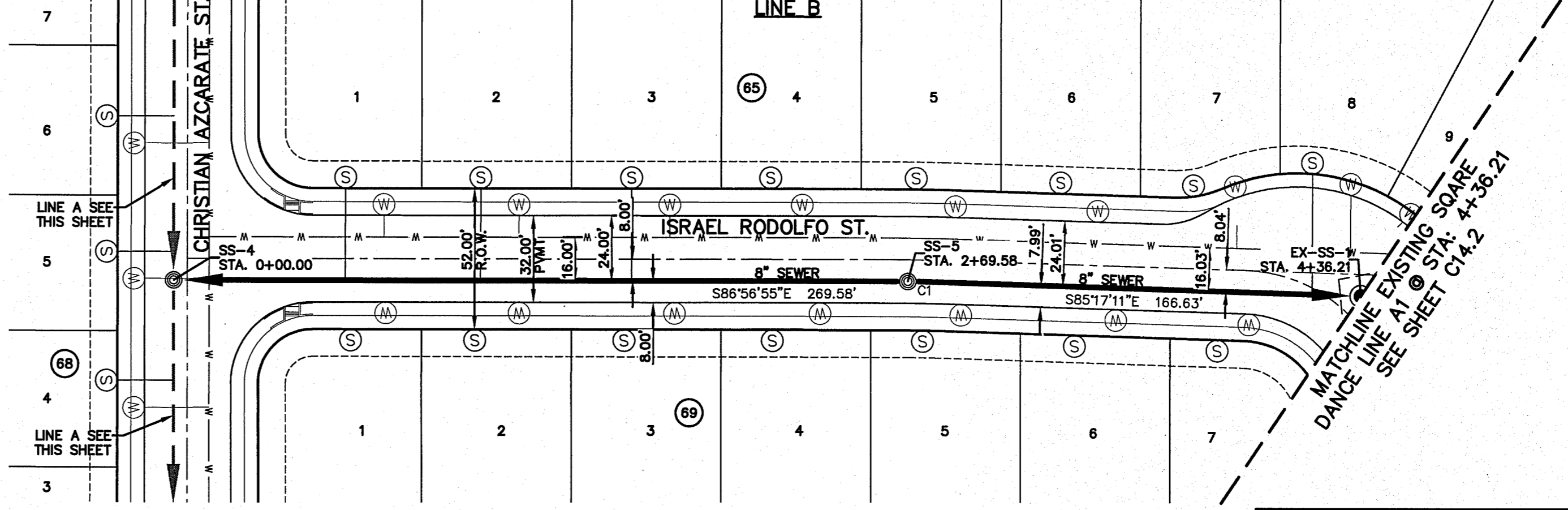
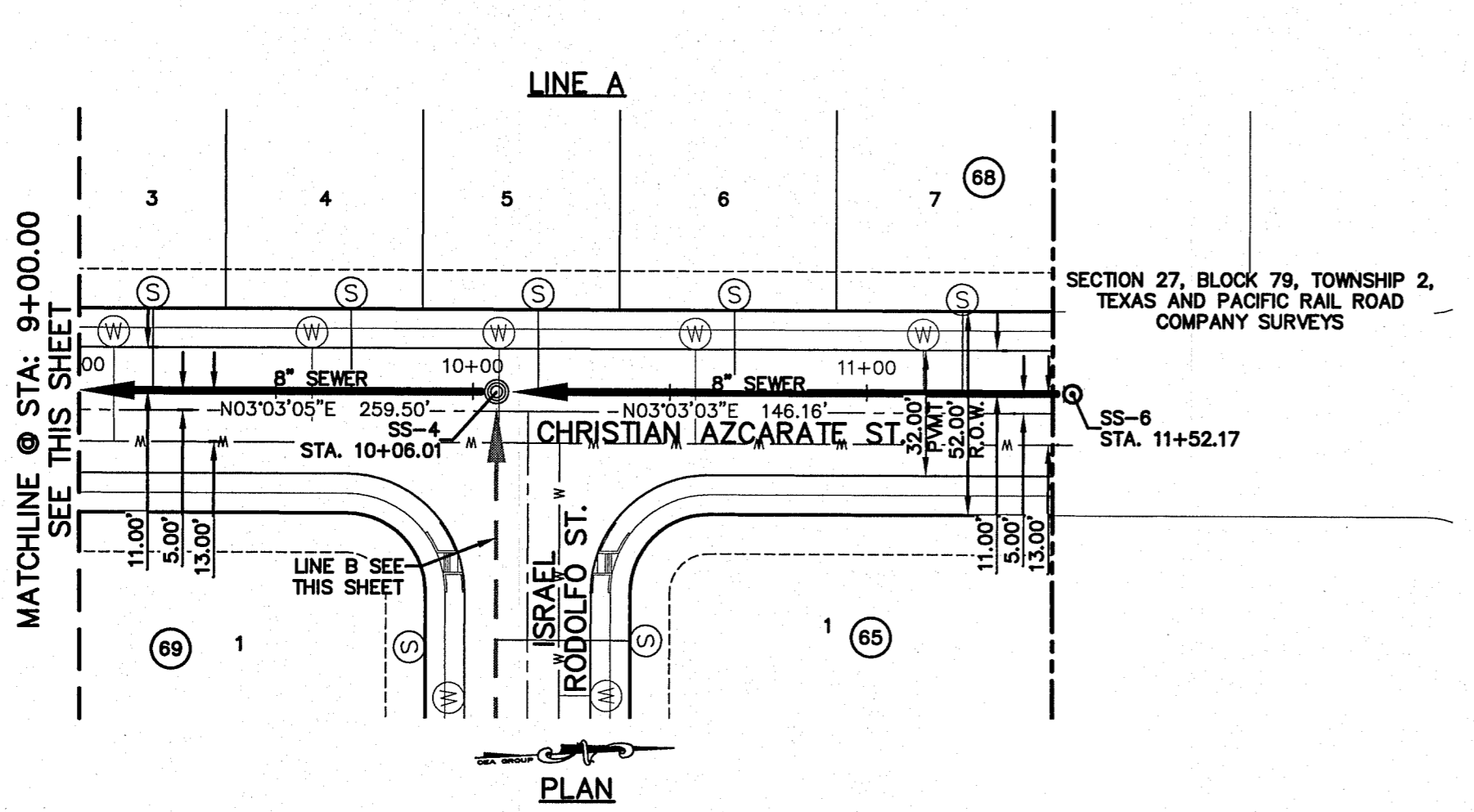
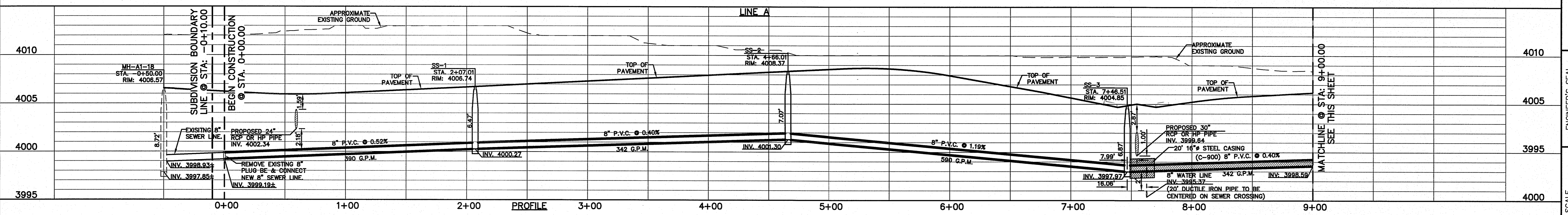
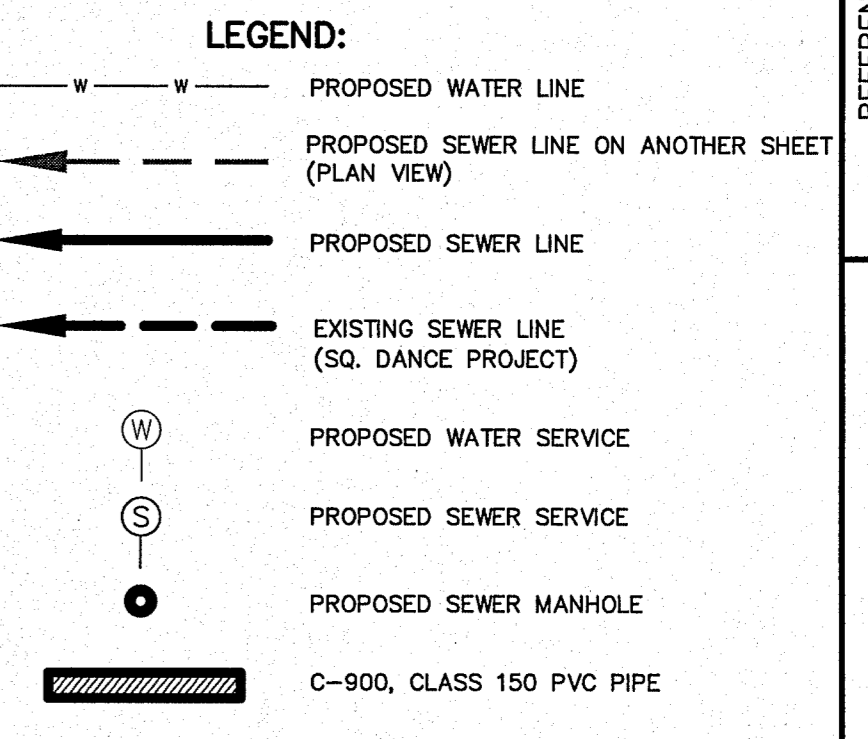
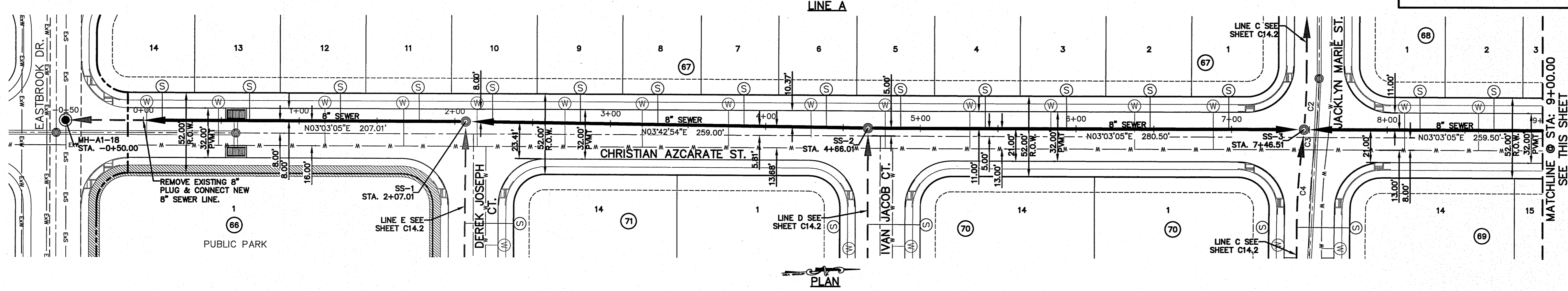
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 853-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
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**CALL 811**  
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

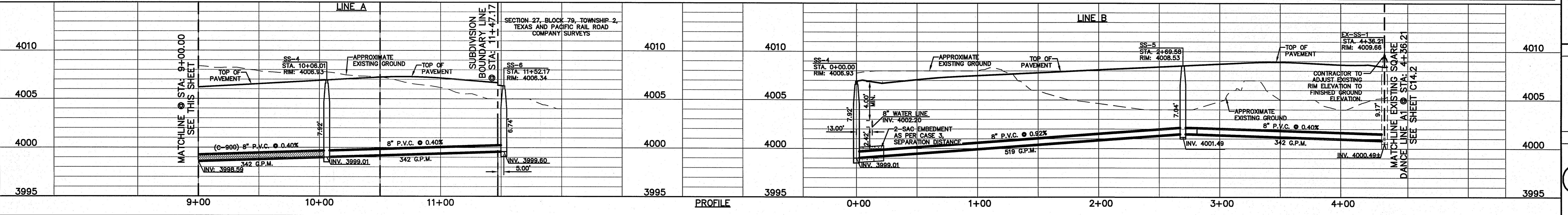
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. 5985.37E A DISTANCE OF 467.56 FEET MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

DATE	REVISIONS	BY



**CURVE TABLE**

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	392.00'	11.66'	5.83'	11.66'	N86°05'48"W	001°42'14"
C2	392.00'	35.84'	17.93'	35.83'	N84°19'45"W	005°14'19"
C3	393.11'	12.76'	6.38'	12.76'	N80°46'39"W	001°51'35"
C4	408.30'	50.59'	25.33'	50.55'	S83°23'48"E	007°05'55"



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Suite 300  
El Paso, TX 79902  
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TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL

SCALE: 1"=40'

Horizontal: 1"=5'

Vertical: N/A

Contour Interval: N/A

DATE: NOVEMBER, 2019

DESIGN BY: R.O.

DRAWN BY: J.C.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE

LINE A & LINE B  
SANITARY SEWER  
PLAN & PROFILE

SHEET NO.

**C14.1**

S:\2000\2000-213-Tres Suenos Unit 21\DWG\Construction Drawings\Improvement Plans\C13.2 SEWER P&P.dwg, 1/14/2020 10:36:42 AM



**UTILITY LOCATOR SERVICES**

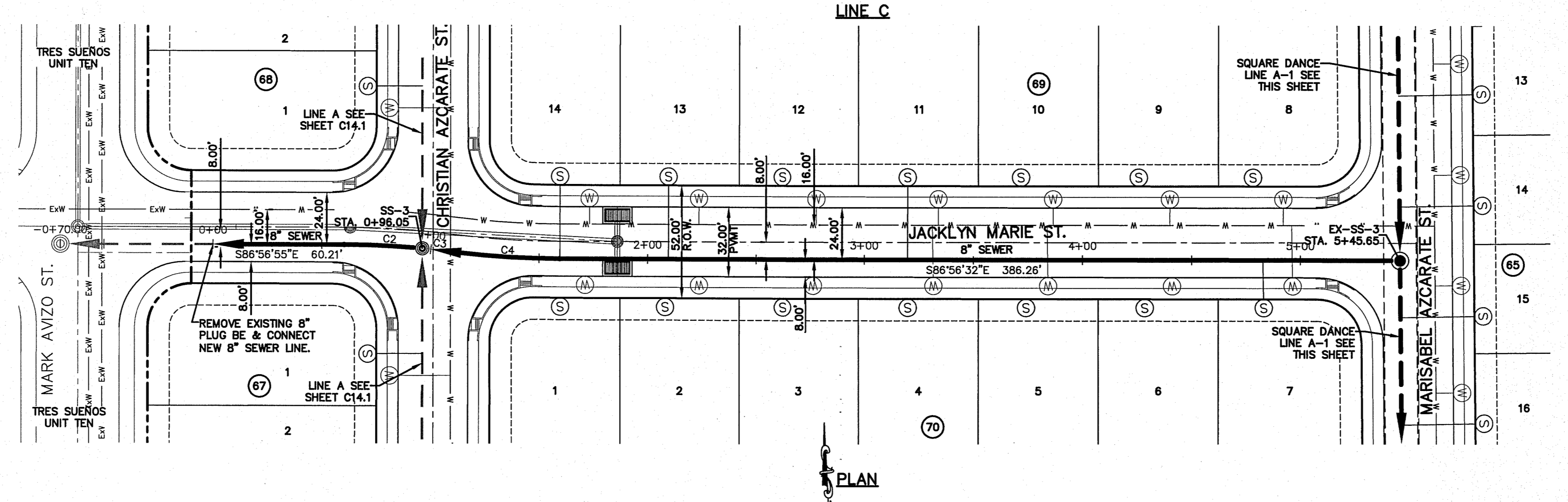
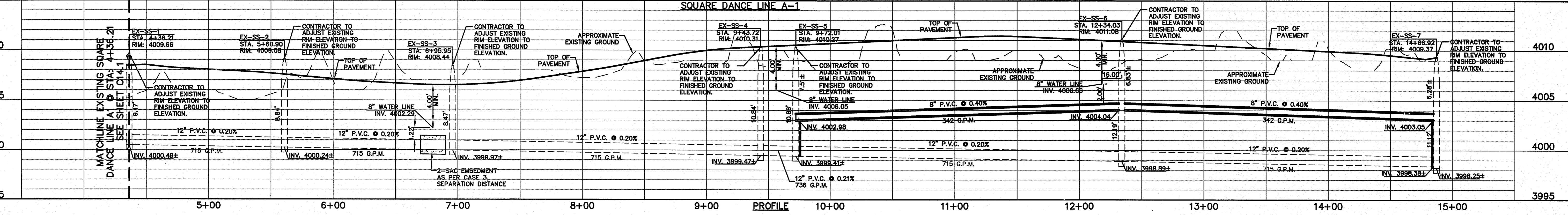
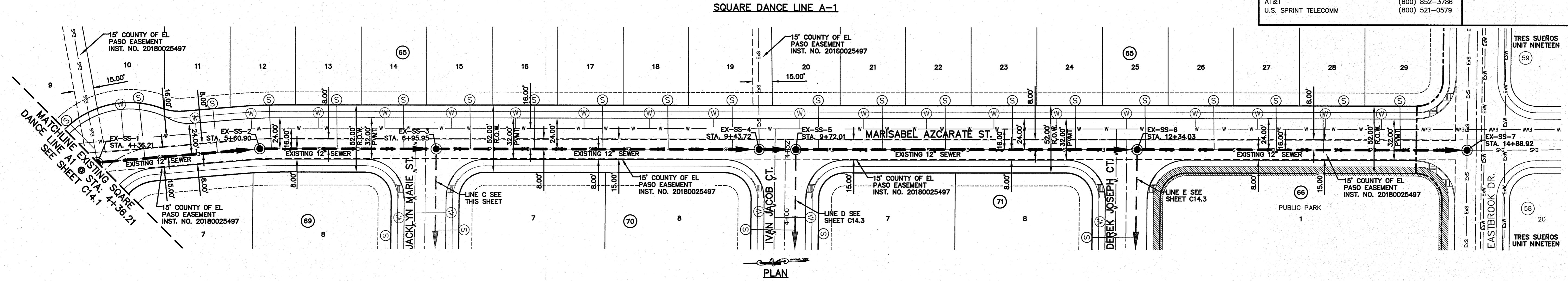
EL PASO ELECTRIC COMPANY	(915) 543-5220
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
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 FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLDG. 508°43'37"E A DISTANCE OF 467.56 FEET  
 MONTANA AVENUE FULLY RIGHT OF WAY LINE OF ELEVATION: 4005.46 (CITY DATUM)

DATE	REVISIONS	BY



PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)

PROPOSED SEWER LINE

EXISTING SEWER LINE (SQ. DANCE PROJECT)

PROPOSED WATER SERVICE

PROPOSED SEWER SERVICE

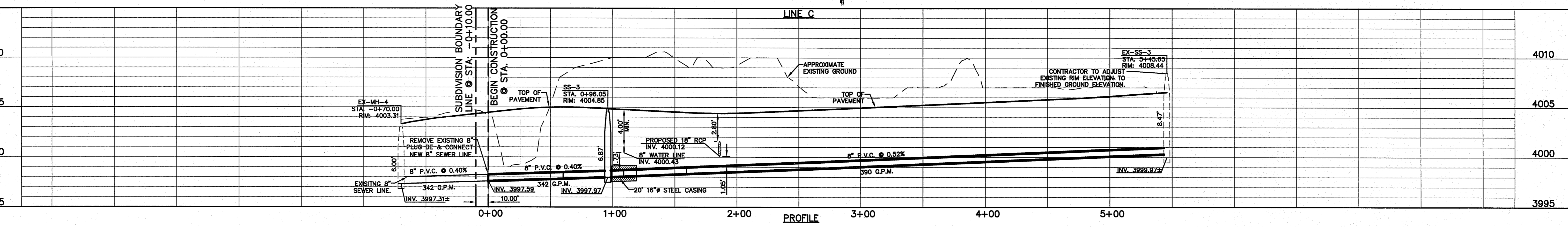
PROPOSED SEWER MANHOLE

**Final Approval**

THE CITY OF EL PASO, TEXAS

**CURVE TABLE**

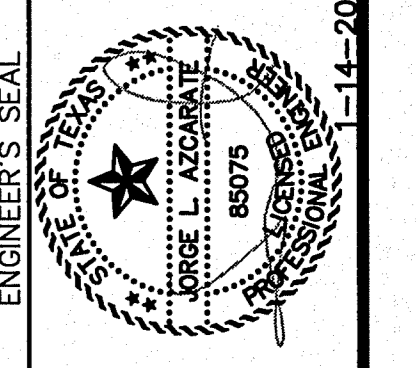
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	392.00'	11.66'	5.83'	11.66'	N86°05'48"W	001°42'14"
C2	392.00'	35.84'	17.93'	35.83'	N84°19'45"W	005°14'19"
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813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 915.544.5232  
 www.ceegroup.net

**CEEG**

TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE: 1"=40'

Horizontal: 1"=50'

Vertical: 1"=5'

DATE: NOVEMBER, 2019

DESIGN BY: R.O.

DRAWN BY: T.C.

CHKD BY: J.L.A.

APPRD. BY: J.L.A.

JOB No. 2000-213

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

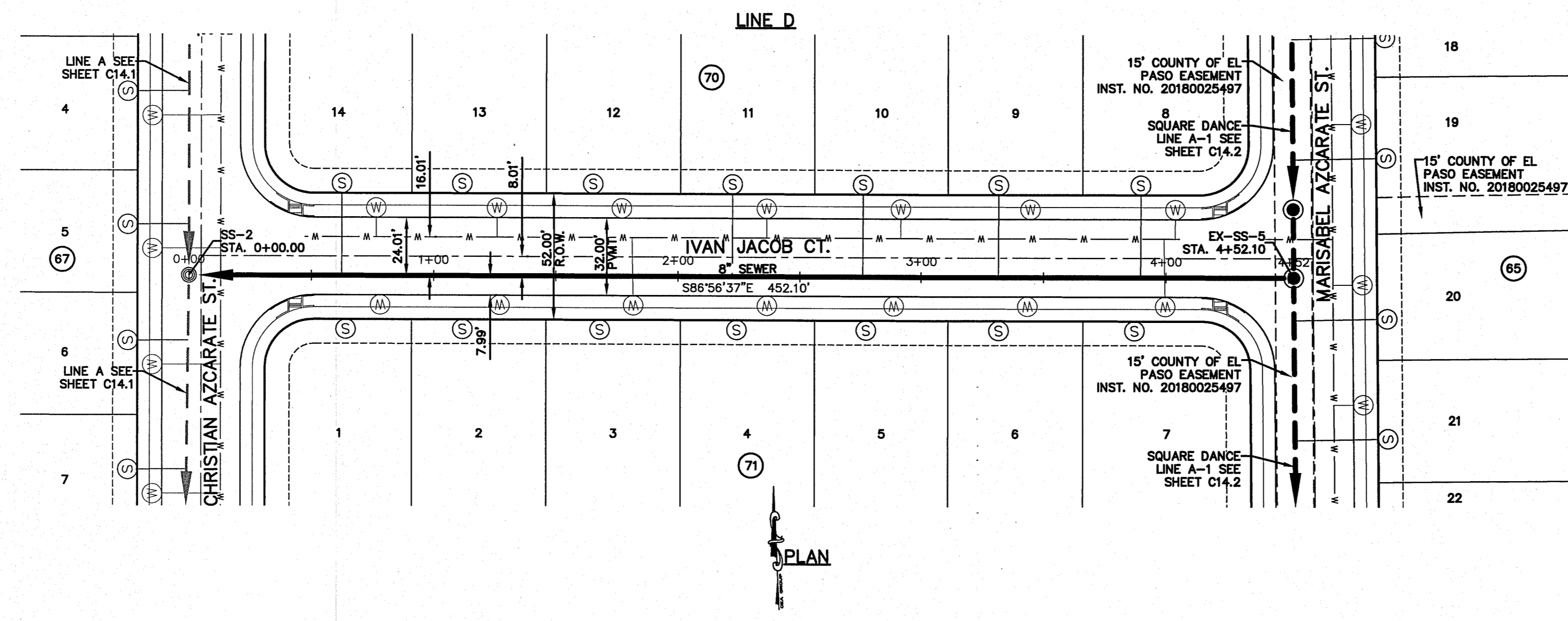
SHEET TITLE

**SQUARE DANCE LINE A-1 & LINE C**  
**SANITARY SEWER P&P**

SHEET NO.

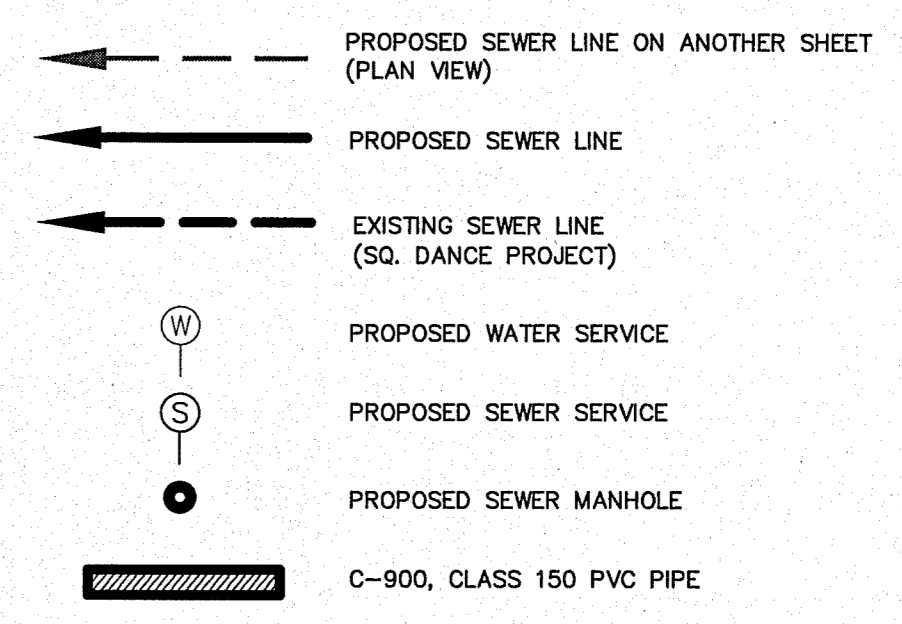
**C14.2**

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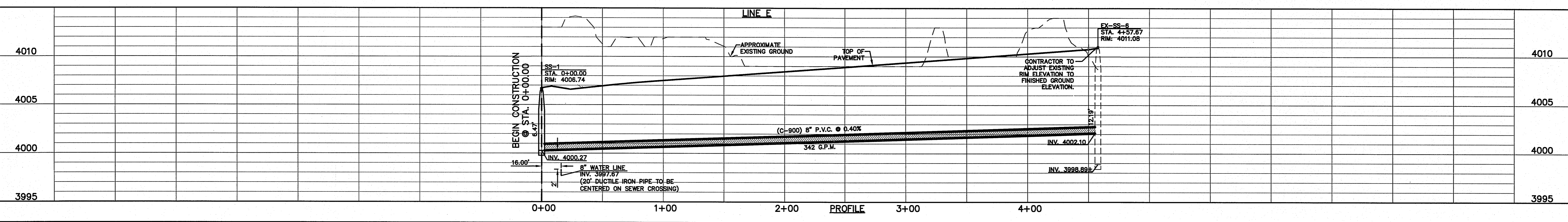
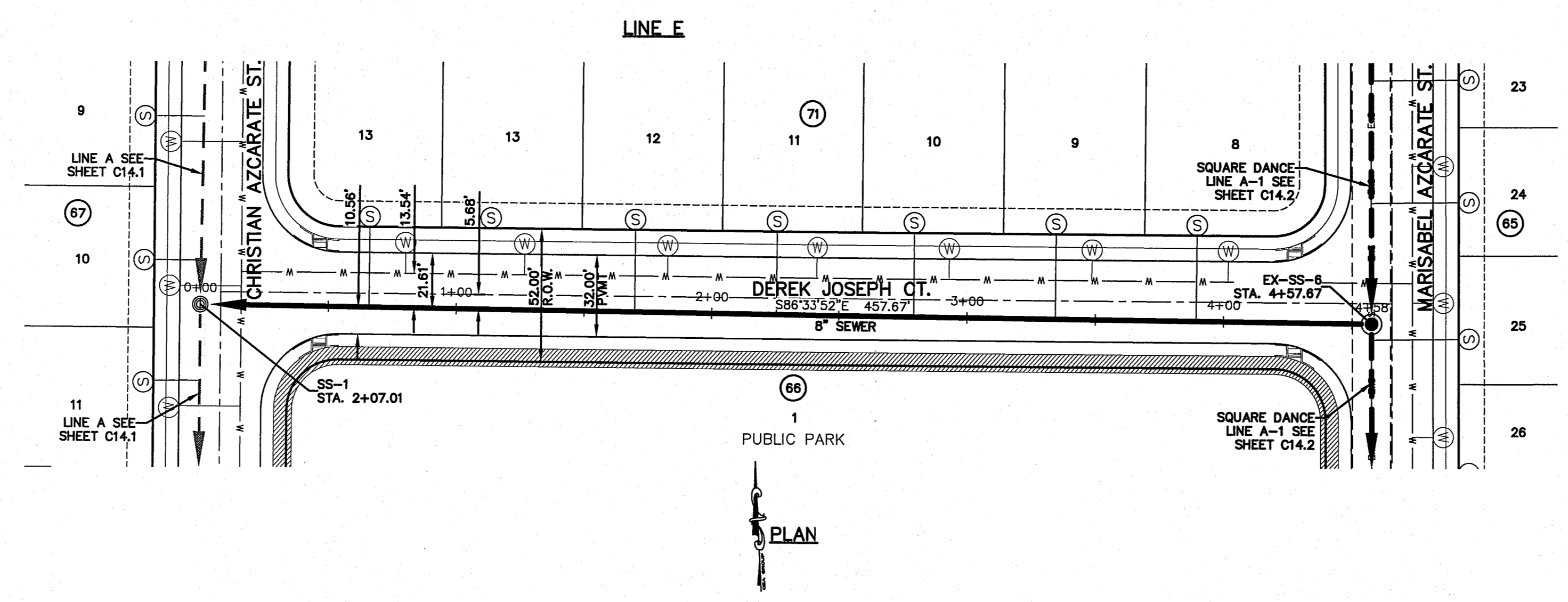
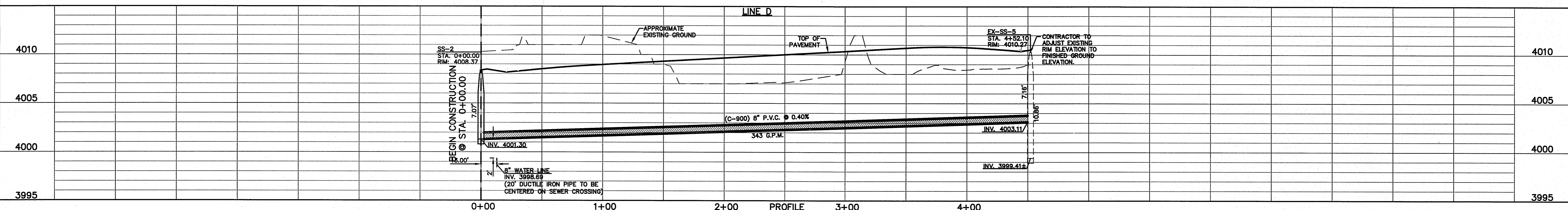
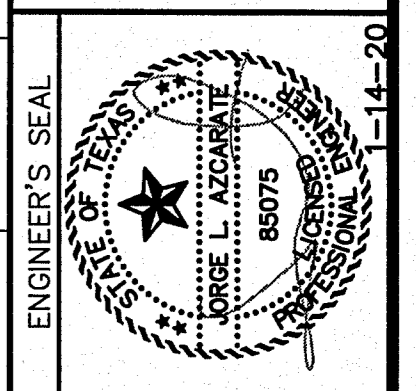
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-8005
AT&T	(800) 852-3786
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SCALE: 1"=40'

Horizontal:	1"=50'
Vertical:	1"=5'
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DATE:	NOVEMBER, 2019
DESIGN BY:	R.O.
DRAWN BY:	J.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-213

PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE	LINE D & LINE E SANITARY SEWER PLAN & PROFILE
SHEET NO.	C14.3

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**UTILITY LOCATOR SERVICES**

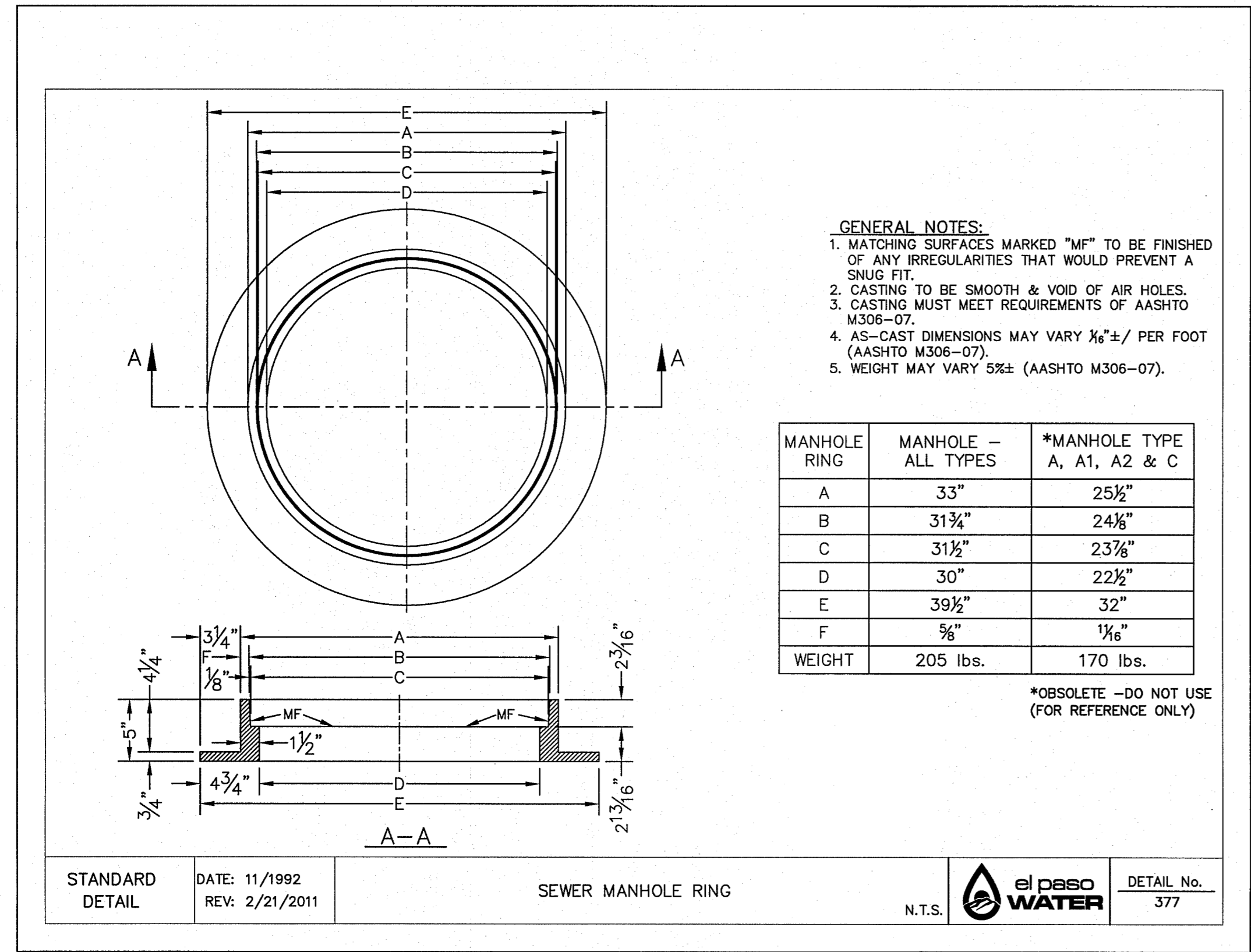
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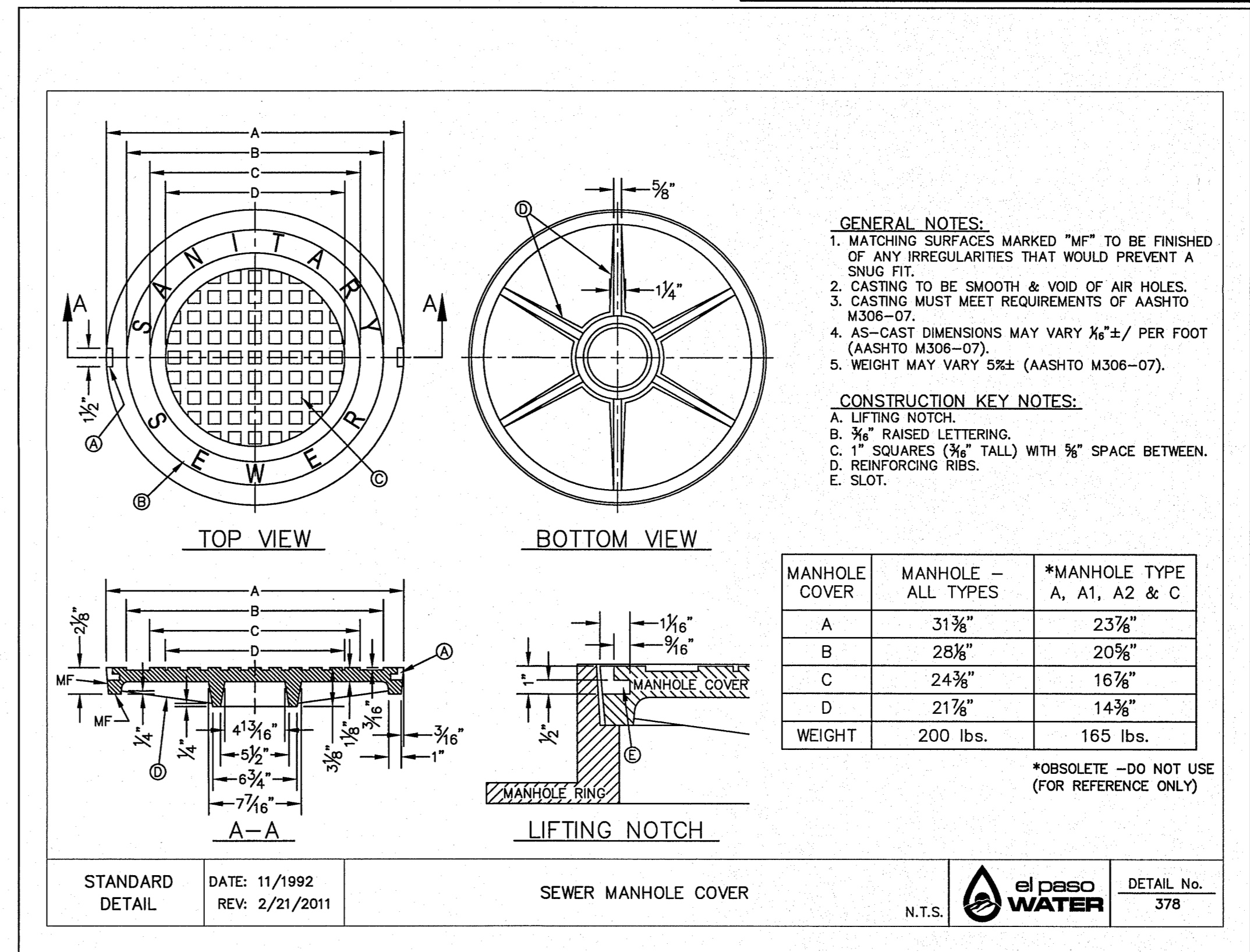
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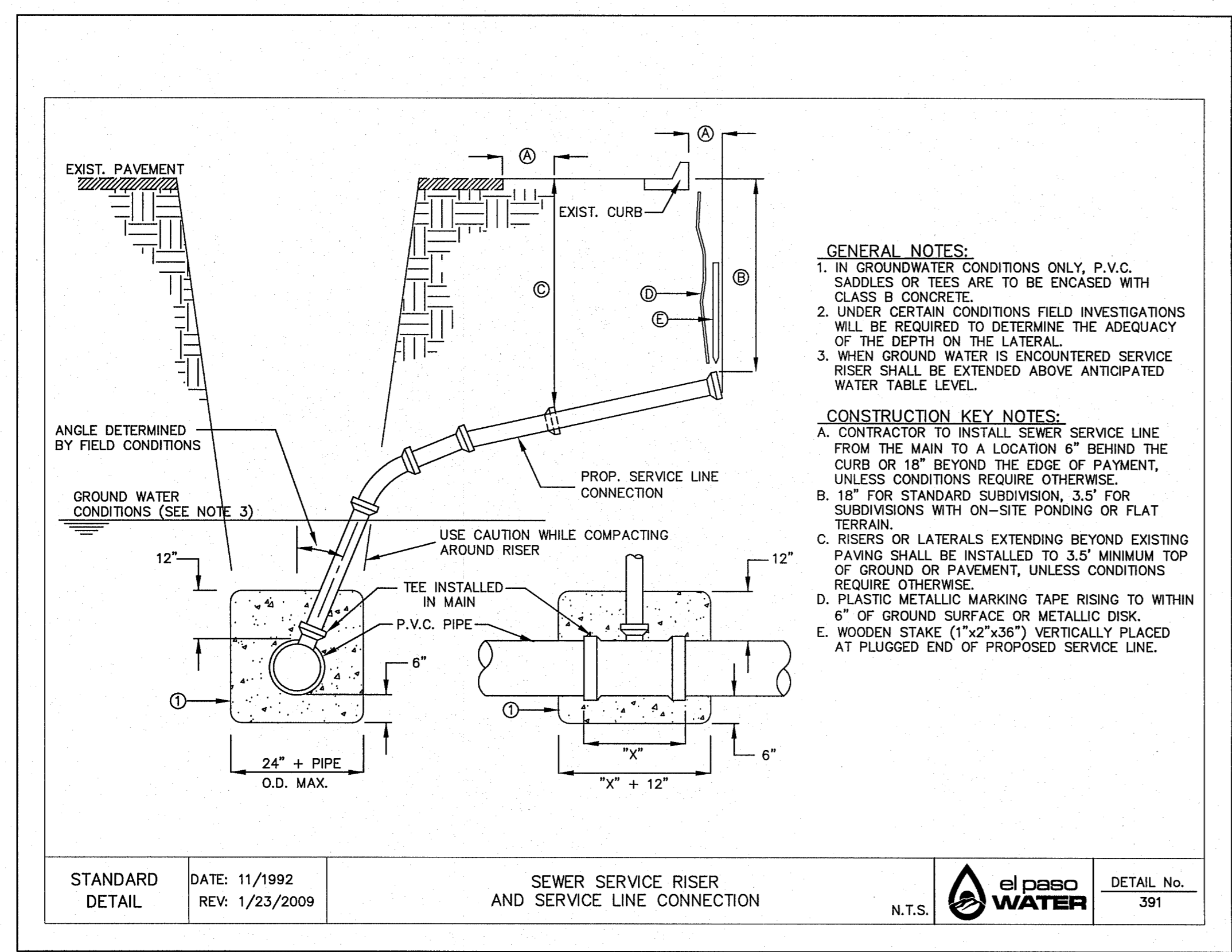
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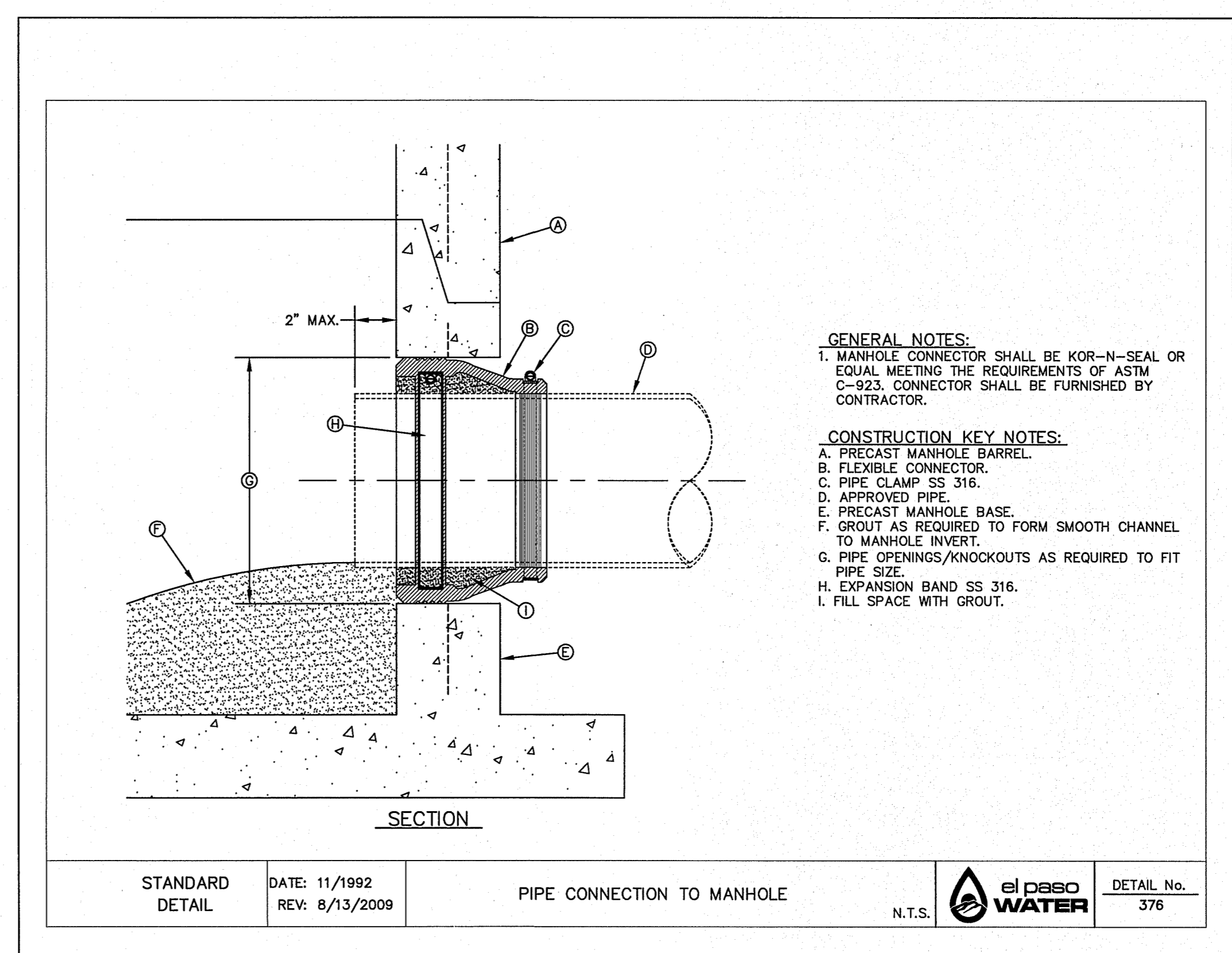
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2 STANDARD COVER DETAIL SCALE: N.T.S.

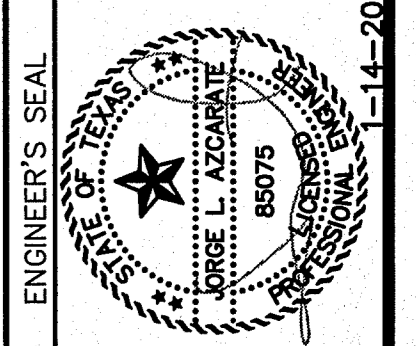


3 SEWER SERVICE RISER AND SERVICE LINE CONNECTION SCALE: N.T.S.



4 PIPE CONNECTION TO MANHOLE SCALE: N.T.S.

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Vertical: N/A

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DRAWN BY: T.C.  
CHKD. BY: J.L.A.  
APP'D. BY: J.L.A.  
JOB No. 2000-213

PROJECT TITLE

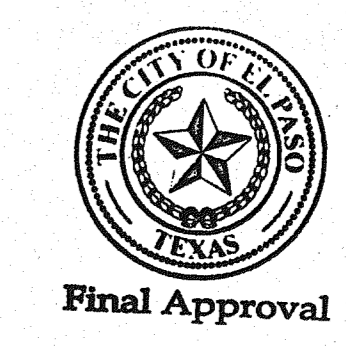
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**SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER DETAILS**

(SHEET 1 OF 3)

SHEET NO.



C15.1

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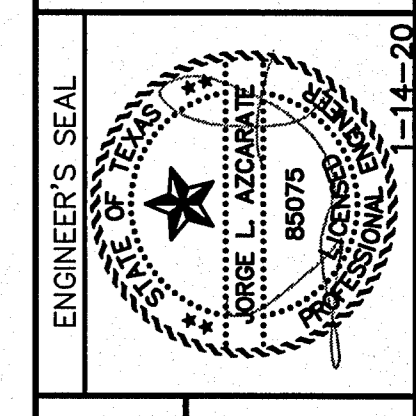
UTILITY LOCATOR SERVICES	
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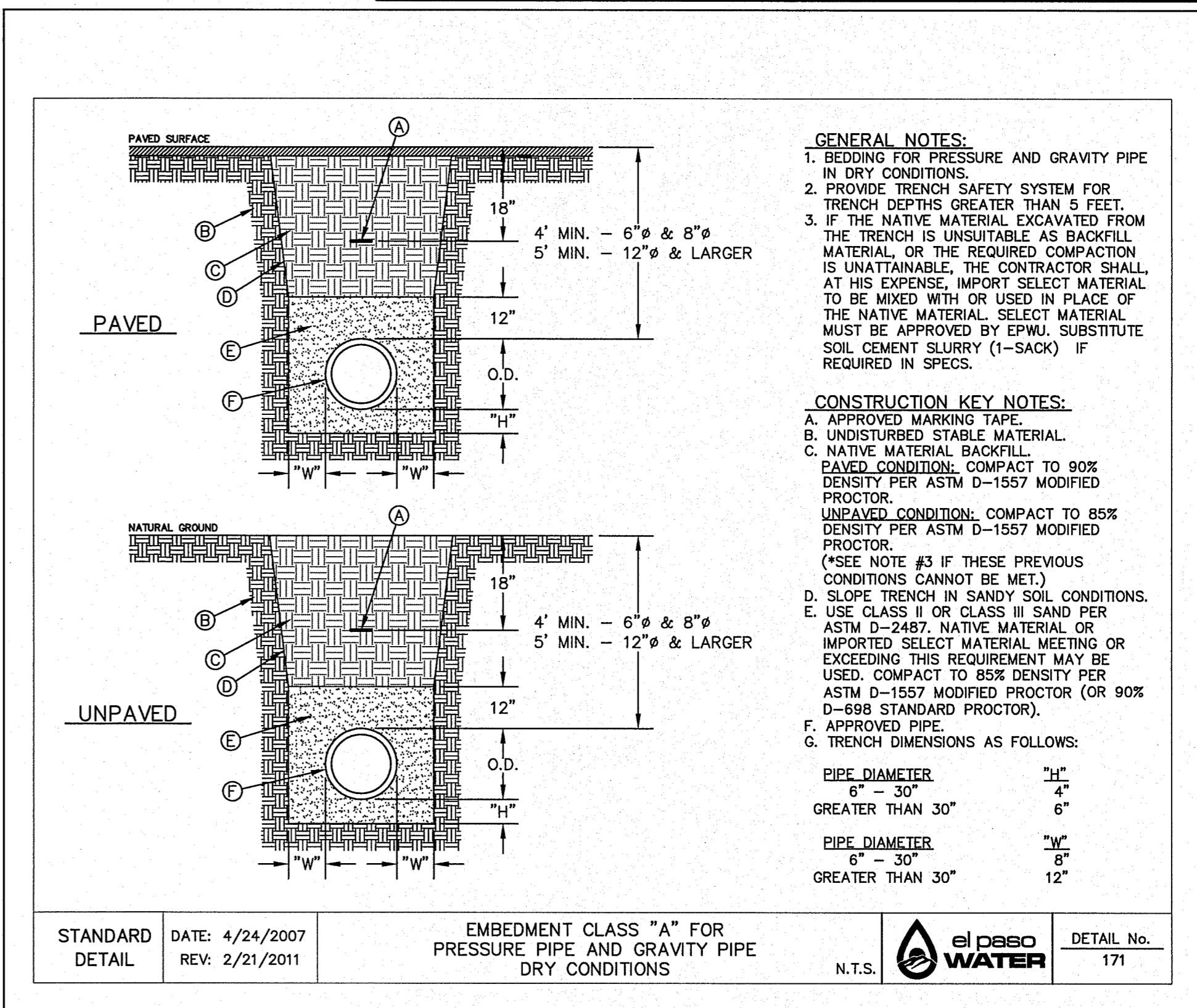
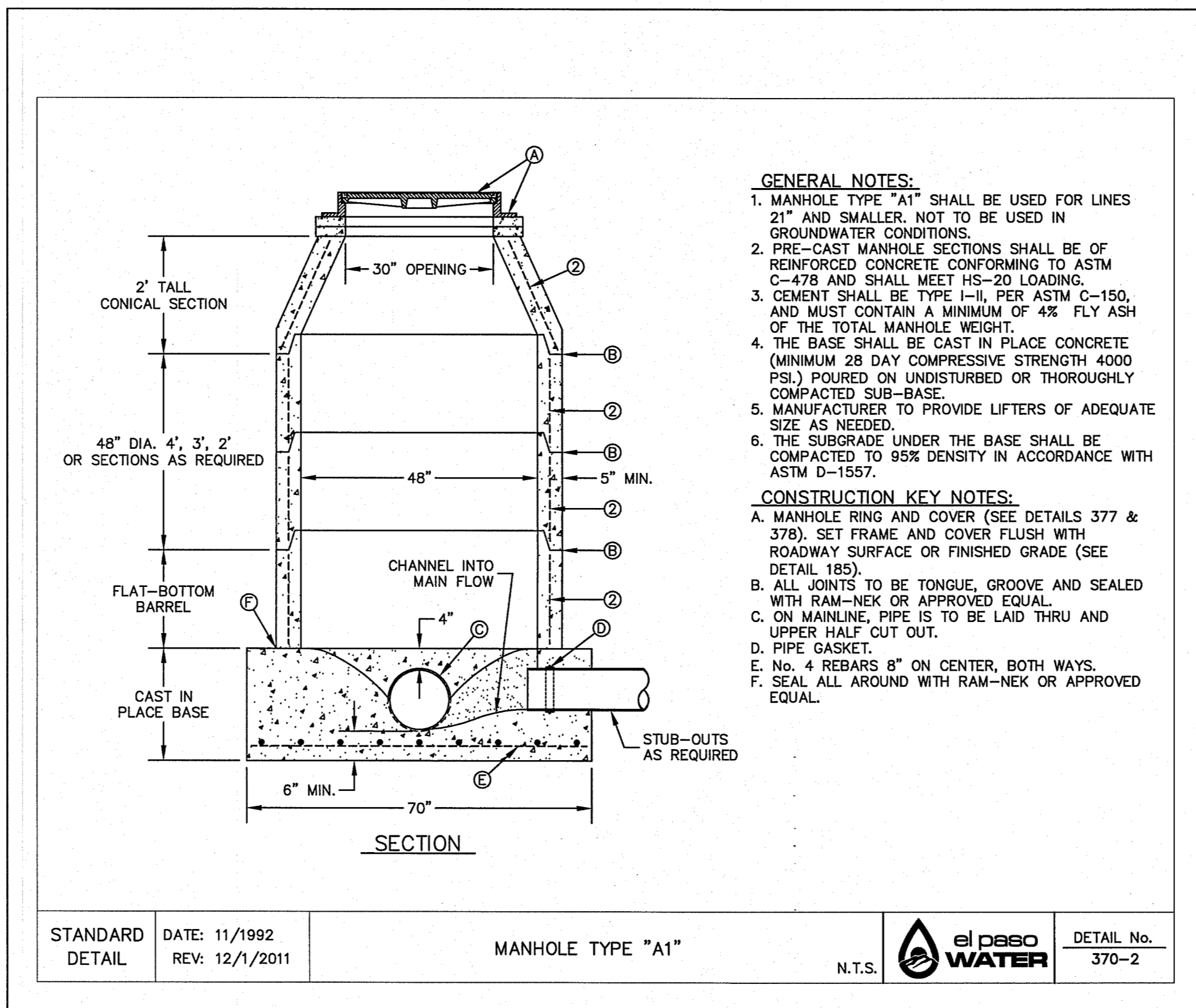
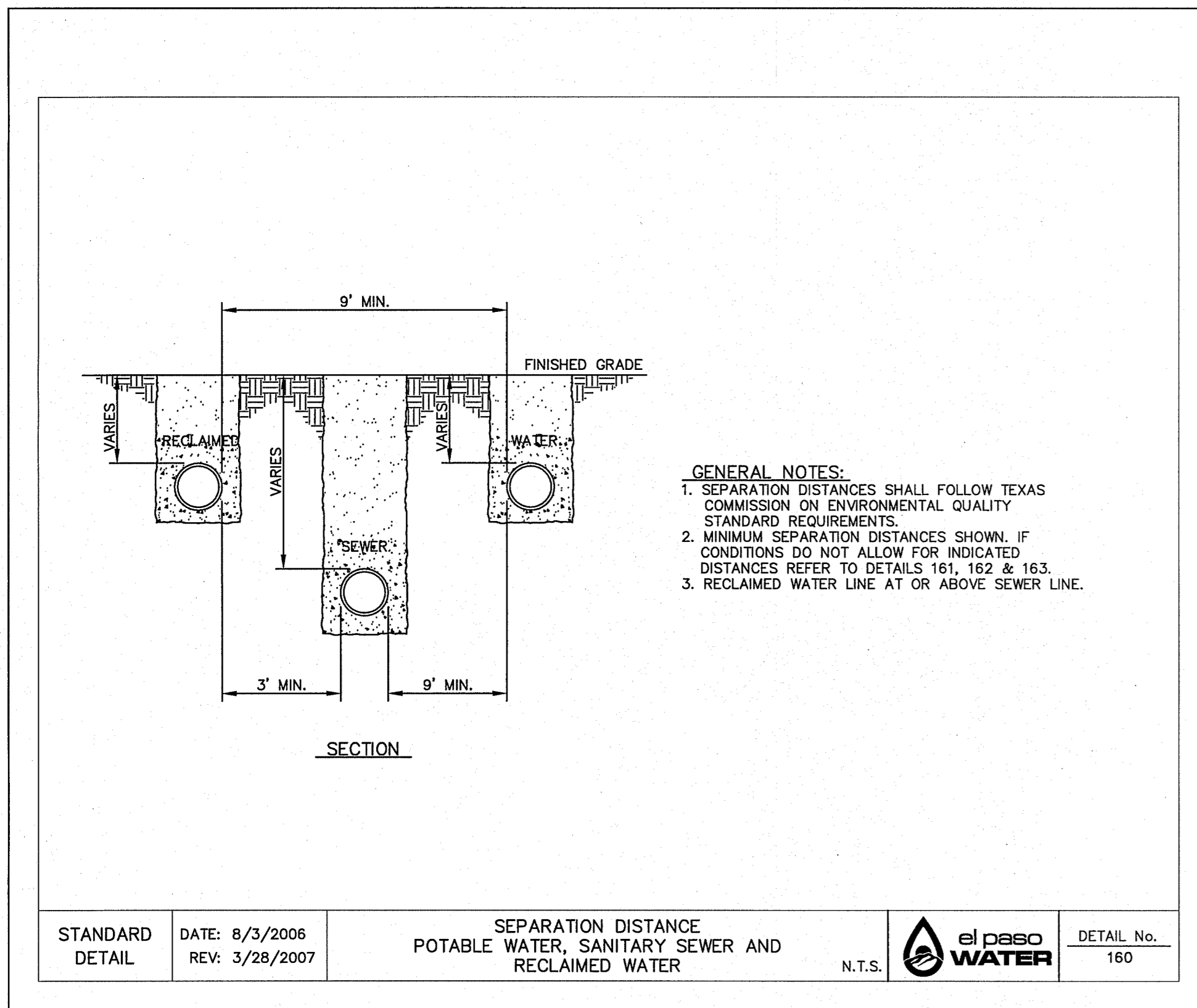
DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE, CENTERLINE RICH BEEM BLVD, SURVEYED A DISTANCE OF 147.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.  
ELEVATION: 4005.40 (CITY DATUM)

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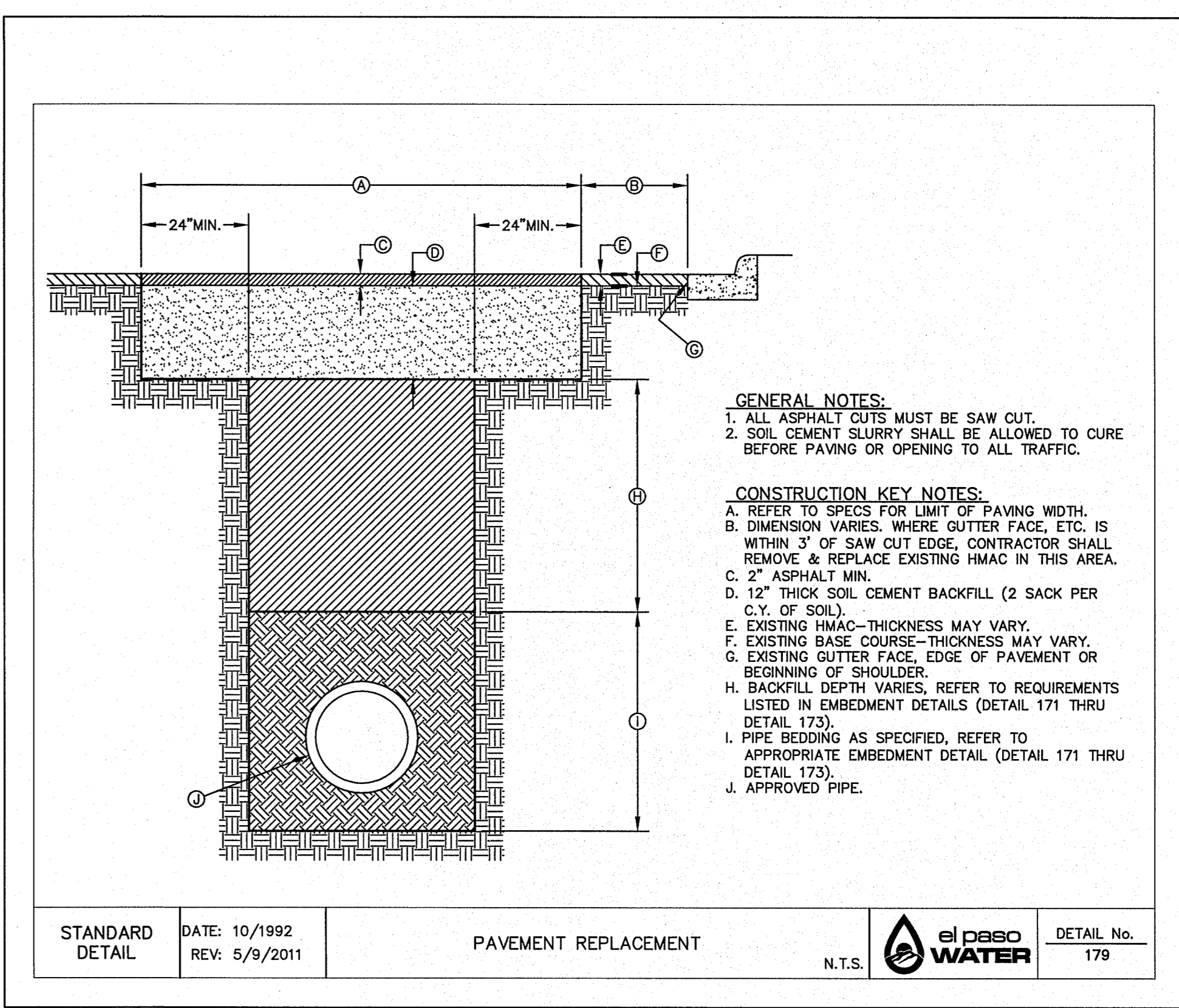
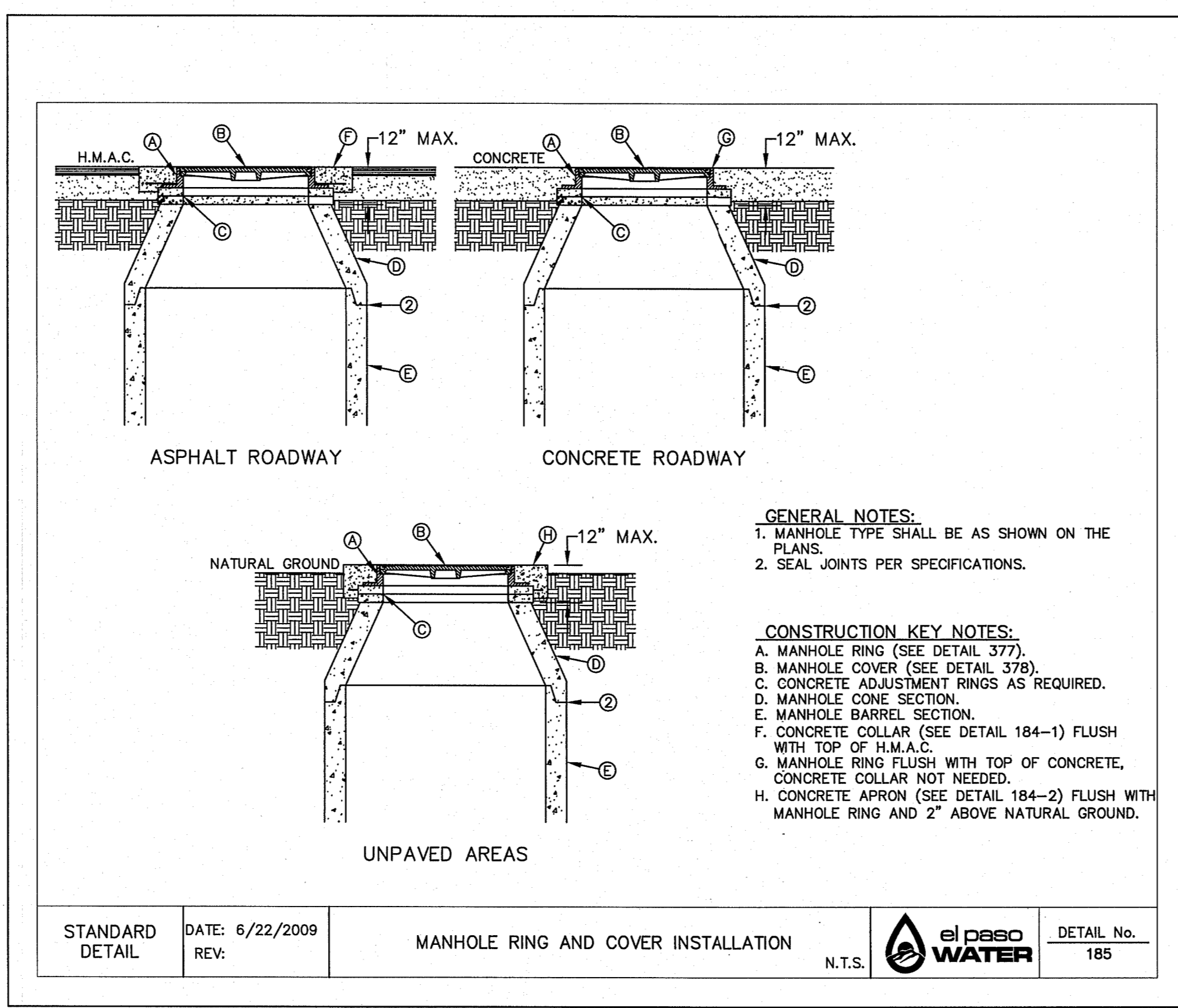
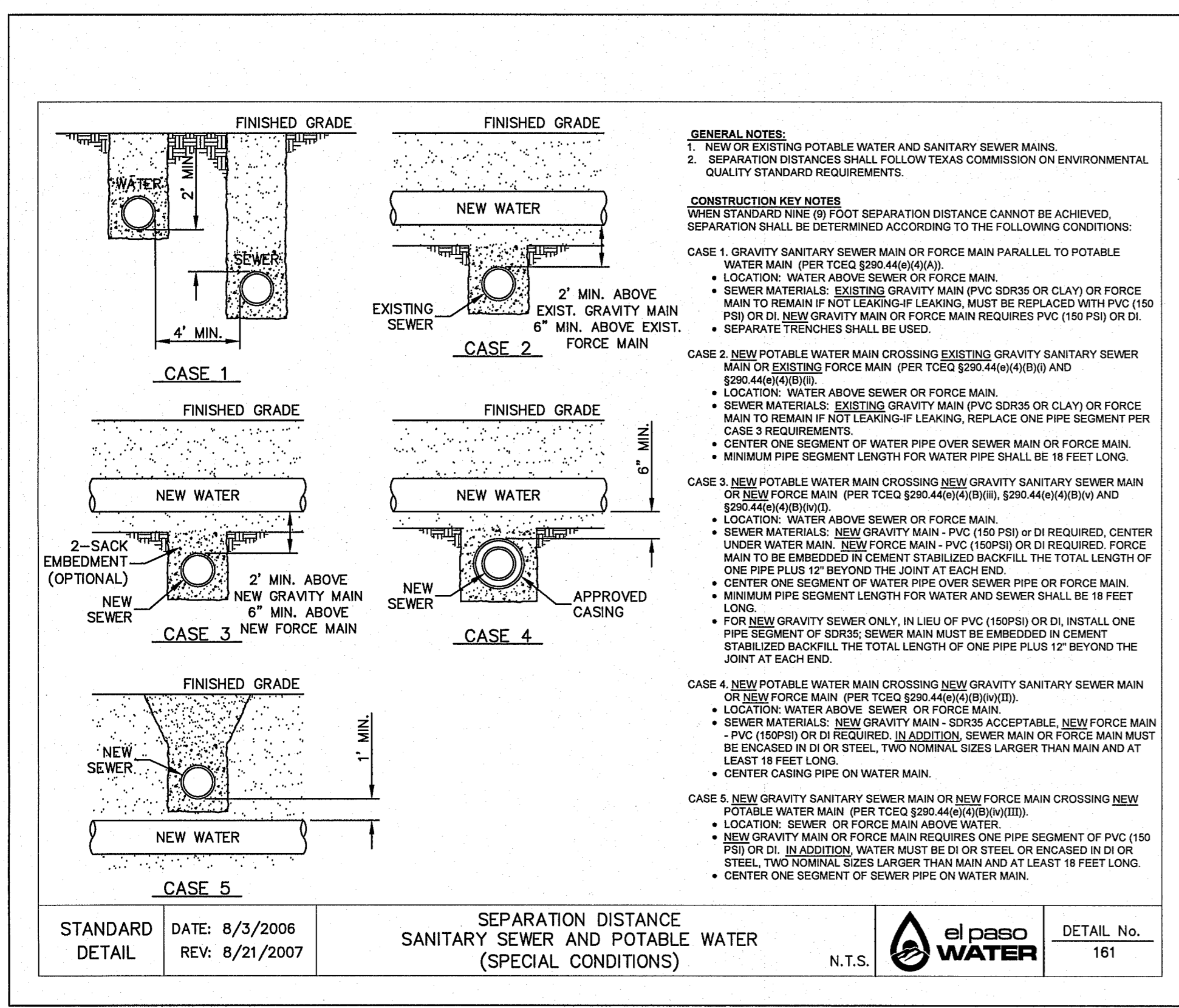
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APP'D. BY: J.L.A.  
JOB No.: 2000-213



1 C15.2 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.

2 C15.2 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.

3 C15.2 BEDDING CLASS "A" FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



4 C15.2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) SCALE: N.T.S.

5 C15.2 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL SCALE: N.T.S.

6 C15.2 PAVEMENT REPAIR DETAIL SCALE: N.T.S.

PROJECT TITLE  
**TRES Suenos UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**  
SHEET TITLE  
SANITARY SEWER DETAILS  
(SHEET 2 OF 3)  
SHEET NO.

C15.2

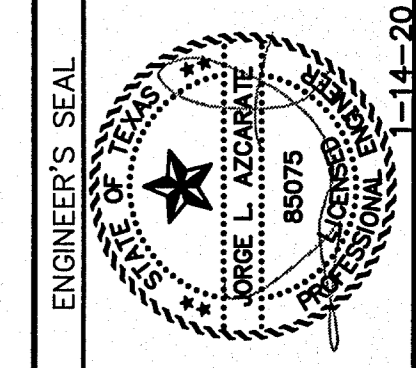
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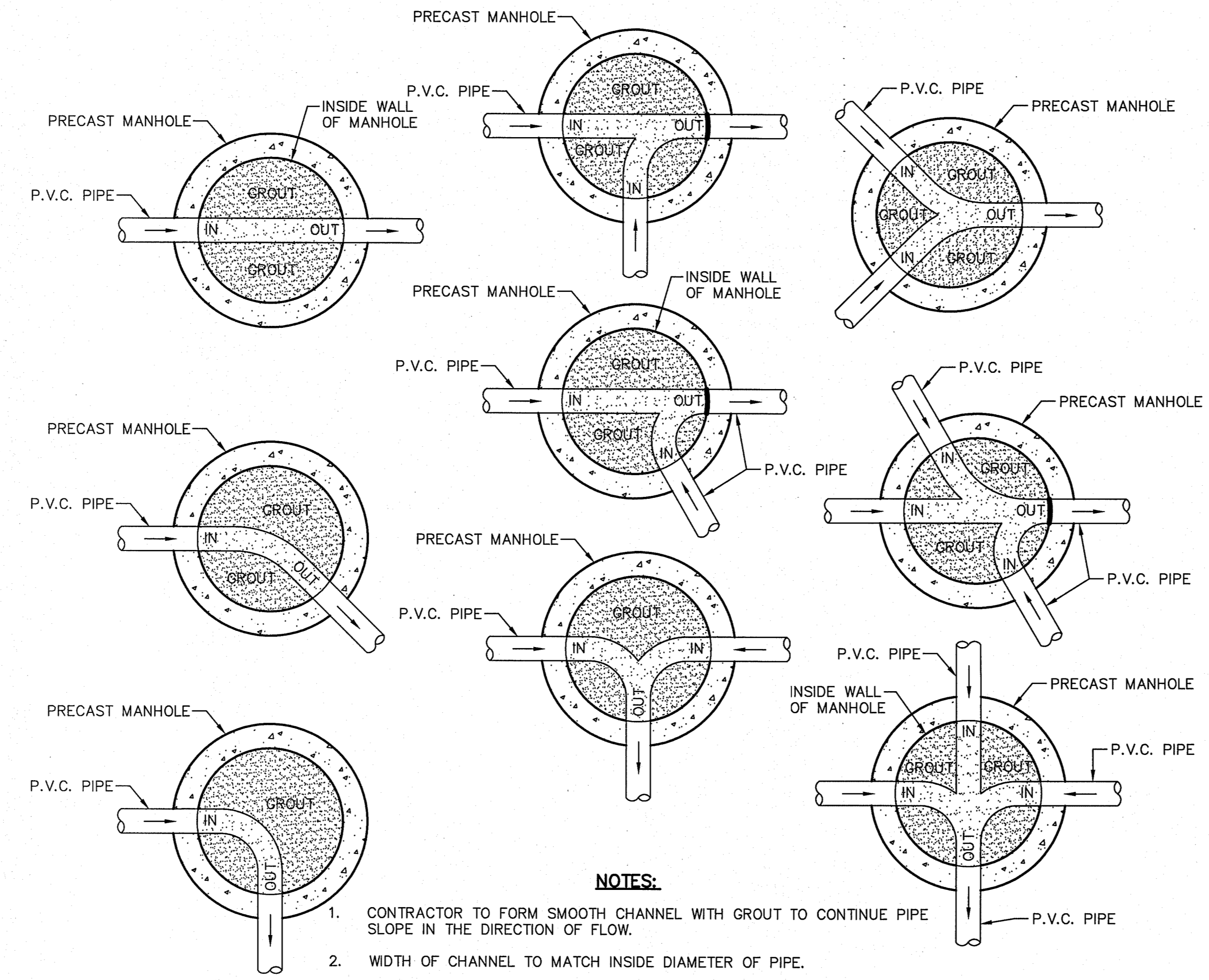
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JOB No.	2000-213



- NOTES:**
1. CONTRACTOR TO FORM SMOOTH CHANNEL WITH GROUT TO CONTINUE PIPE SLOPE IN THE DIRECTION OF FLOW.
  2. WIDTH OF CHANNEL TO MATCH INSIDE DIAMETER OF PIPE.
  3. WHEN DIFFERENT SIZES OF PIPE ARE CONNECTING TO MANHOLE, TAPER WIDTH OF CHANNEL TO TOTAL LENGTH OF INSIDE DIAMETER OF MANHOLE.
  4. GROUT TO BE USED FOR BOTH MANHOLES AND DROP MANHOLES. NO P.V.C. PIPE SHALL BE INSTALLED IN MANHOLE.
  5. REFER TO PLAN & PROFILE SHEETS FOR SIZE OF PIPES AND MANHOLES.

**2** TYPICAL MANHOLE INVERT PLANS  
 C15.3 SCALE: N.T.S.



PROJECT TITLE  
**TRES SUENOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
 SANITARY SEWER  
 DETAILS  
 (SHEET 3 OF 3)  
 SHEET NO.

C15.3

**SITE DESCRIPTION**

PROJECT NAME AND LIMITS: TRES SUENOS UNIT TWENTYONE IS BORDERED BY A PORTION OF SECTION No. 27, BLOCK 79, TOWNSHIP 2, TEXAS & PACIFIC RAILROAD COMPANY SURVEYS, EL PASO COUNTY, TEXAS TO THE NORTH, SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS & PACIFIC COMPANY SURVEYS, EL PASO COUNTY, TEXAS TO THE EAST, TRES SUENOS UNIT NINETEEN TO THE SOUTH, AND TRES SUENOS UNIT TEN TO THE WEST.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 19.26± ACRES, AND WILL CONTAIN A TOTAL OF 92 RESIDENTIAL LOTS

EXISTING CONDITIONS: THE SITE IS CLEAR OF SITE IMPROVEMENTS AND IS COVERED WITH ITS NATURAL SURROUNDINGS. EXISTING RUNOFF IS TO THE WEST.

MAJOR SOIL DISTURBING ACTIVITIES: MAJOR SOIL DISTURBING ACTIVITIES WILL CONSIST OF CLEARING AND GRUBBING, GRADING FOR BUILDING PAD ELEVATIONS, CONSTRUCTION OF STREETS AND EXCAVATION FOR UTILITIES.

TOTAL PROJECT AREA: 19.26±

TOTAL AREA TO BE DISTURBED: 19.26±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.60

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: TRES SUENOS UNIT NINETEEN IS LOCATED IN THE VICINITY OF THE DELNORTE-CANUTO ASSOCIATION. THE SOIL IS NEARLY LEVEL TO STEEP SOILS THAT ARE SHALLOW OR VERY SHALLOW OVER CALICHE OR THAT ARE DEEP AND GRAVELLY THROUGHOUT; MAINLY ON AND NEAR FOOT SLOPES OF THE FRANKLIN MOUNTAINS.

NAME OF RECEIVING WATERS: TRES SUENOS UNIT NINETEEN WILL DISCHARGE INTO AN ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO AN ON-SITE RETENTION BASIN.

**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:**

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

OTHER: \_\_\_\_\_

**NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:**

1. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS (e.g. SILT FENCE AND/OR EARTHEN BERM, AND STABILIZED CONSTRUCTION ENTRANCE) ;
2. PERFORM CLEARING AND GRUBBING;
3. EXCAVATION FOR UTILITIES;
4. COMPLETE STREET AND LOT GRADING;
5. CONSTRUCTION OF SUBDIVISION IMPROVEMENTS; AND,
6. WHEN ALL CONSTRUCTION ACTIVITY RELATED IN DEVELOPMENT OF THE SITE IS COMPLETE, REMOVE TEMPORARY CONTROLS IN 1. ABOVE.

**SWPPP GENERAL NOTES:**

1. PLACEMENT OF SILT FENCE SHALL BE ADJUSTED AS NECESSARY TO PREVENT THE BLOCKING OF DRIVEWAYS OR DRIVING LANES.
2. THE SWPPP MANUAL IDENTIFIES THE DUTIES AND RESPONSIBILITIES OF THE GENERAL CONTRACTOR IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THIS ITEM SHALL BE SUBSIDIARY TO THE SWPP BEST MANAGEMENT PRACTICES (COMPLETE IN PLACE) ITEMS. THE SWPPP PROJECT MANUAL IS AVAILABLE FOR REVIEWING AT THE CITY OF EL PASO-ENGINEERING DEPARTMENT. UPON SELECTION, THE CONTRACTOR WILL BE PROVIDED AN SWPPP MANUAL. THE CONTRACTOR SHALL MAINTAIN THIS MANUAL AT THE CONSTRUCTION SITE AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.
3. THE CONTRACTOR SHALL COMPLETE AND SUBMIT ALL REGULATORY FORMS AND APPLICATIONS, AS PROVIDED IN THE SWPPP MANUAL, INCLUDING, BUT NOT LIMITED TO, NOI, NOT, SDPOP, AND ANY OTHER FORM REQUIRED BY THE CITY OF EL PASO AND TCEQ.
4. ALLOWABLE STORM WATER AND NON-STORMWATER DISCHARGE SHALL COMPLY WITH 15.20.080 (GENERAL PROHIBITION) AND 15.20.090 (SPECIFIC PROHIBITIONS AND REQUIREMENTS) OF THE CITY OF EL PASO STORM DRAIN POLLUTION CONTROL PLAN ORDINANCE. NON-STORMWATER DISCHARGES MAY CONSIST OF, BUT ARE NOT LIMITED TO, THE DISCHARGE RESULTING FROM FIREFIGHTING, LAWN WATERING, LANDSCAPE IRRIGATION, NATURAL SPRING, AND/OR AGRICULTURAL STORM WATER RUNOFF.
5. REFER TO DRAINAGE PLAN SHEET C4.1, FOR DETAILED INFORMATION ON WATERSHED AREAS AND RUNOFF QUANTITIES (Q).
6. THE FOLLOWING HAVE BEEN IDENTIFIED AS POTENTIAL CONTAMINATION SOURCES: CLEARED AND GRADED AREAS; CONSTRUCTION SITE ENTRANCE AND ASPHALT PARKING AREA CONSTRUCTION; ASPHALT LOADING/UNLOADING AREAS; CONCRETE LOADING/UNLOADING AREAS; AND, ALL UNDISTURBED AREAS.
7. THE FOLLOWING IS A LIST OF POTENTIAL CONSTRUCTION SITE STORM WATER POLLUTANTS: ASPHALT; CONCRETE; GLUE/ADHESIVE; PAINTS; CURING COMPOUNDS; WASTEWATER FROM CONSTRUCTION EQUIPMENT WASHING; HYDRAULIC OIL/FLUIDS; GASOLINE; DIESEL FUEL; KEROSENE; ANTIFREEZE/COOLANT; AND EROSION.

**BEST MANAGEMENT PRACTICES CONTROLS**

1. STRUCTURAL MEASURES SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT IN EFFECTIVE OPERATING CONDITION.
2. DOCUMENTATION OF MAINTENANCE ACTIVITIES INCLUDING FREQUENCY, LOT DESIGNATION, INSPECTION OF STRUCTURAL CONTROLS, MATERIAL STORAGE AREAS, VEHICLES ENTRANCE AND EXITS: ACTIONS TAKEN AND INSPECTOR'S NAME.
3. CONSTRUCTION SITE NOTICE WILL BE MAINTAIN ON SITE.
4. COPY OF SWPPP SHALL BE KEPT ON SITE.
5. PERIMETER MUST RETAIN THE SWPS NOI AND INSPECTION LOG FOR A MINIMUM OF 3 YEARS FROM THE TERMINATION AND FINAL STABILIZATION OF PROJECT.

**I. WASTE MATERIALS:**  
ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE AND 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.

**II. 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 DEPT. AND TNRC.

**III. 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.

**IV. SPILL PREVENTION:**  
THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.

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

**VI. HAZARDOUS PRODUCTS:**  
PRACTICES USED TO REDUCE RISKS:

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

**VII. 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.

**VIII. SPILL CONTROL PRACTICES:**

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

**IX. 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.

**X. 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 WETLAND, WATERBODY OR STREAMBED. 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, PILING DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

**XI. OFFSITE VEHICLE TRACKING:**  
IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:

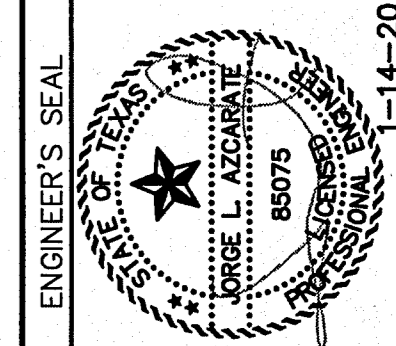
- HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPULIN
- EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
- STABILIZED CONSTRUCTION ENTRANCE
- OTHER: \_\_\_\_\_

REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SURVEY DISTANCE OF 467.58 FEET FROM THE SURVEY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)			

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DESIGN BY:	R.O.	
DRAWN BY:	T.C.	
CHKD. BY:	J.L.A.	
APPVD. BY:	J.L.A.	
JOB No.:	2000-213	

PROJECT TITLE

**TRES SUENOS UNIT TWENTY ONE SUBDIVISION IMPROVEMENTS**

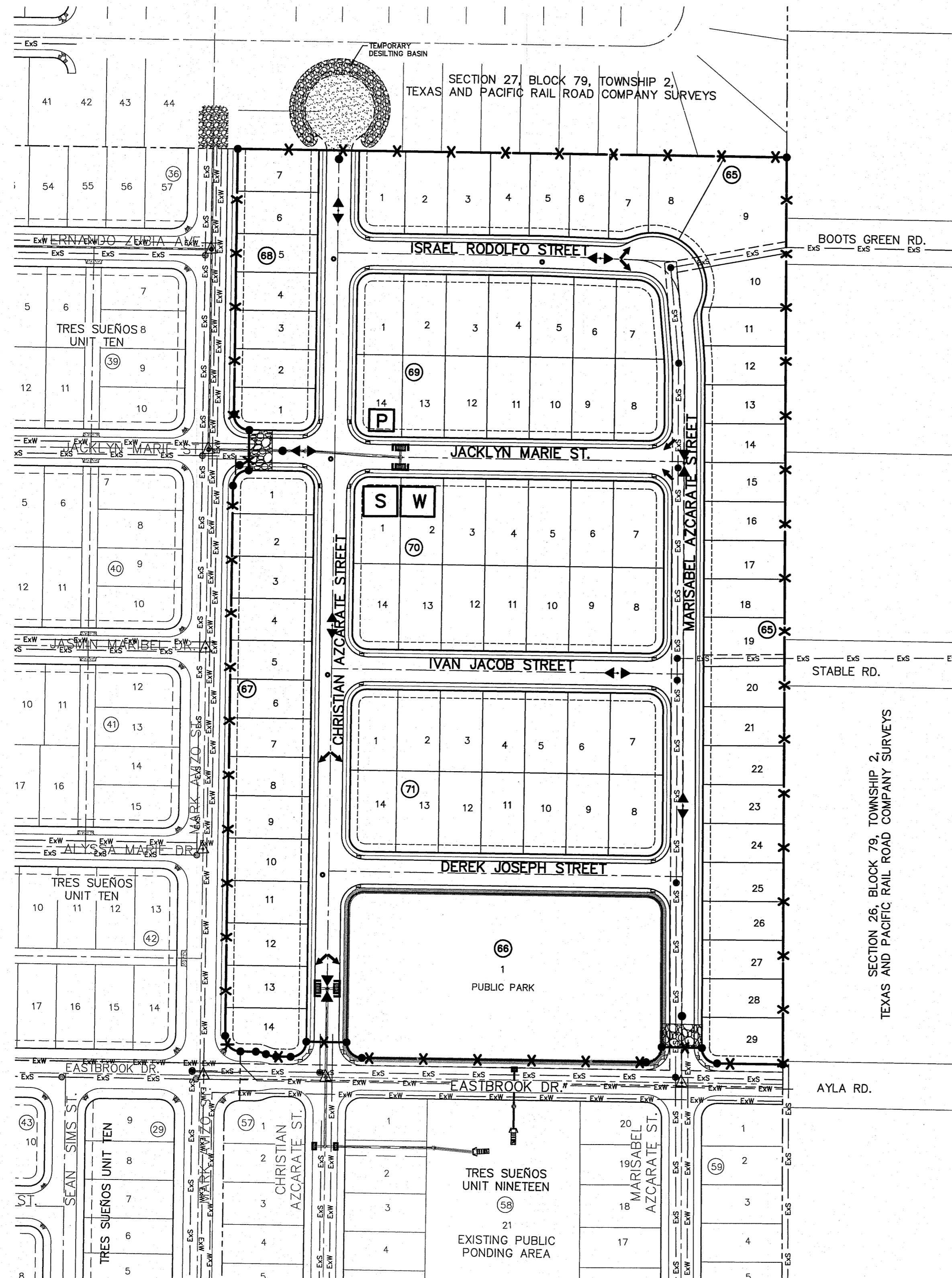


SHEET TITLE

**STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES**

SHEET NO.

**C16.1**

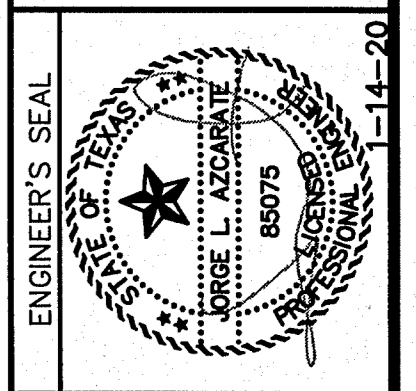


UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
**BEFORE YOU DIG**  
**CALL 811**  
 FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

813 N. Kansas St.  
 Suite 300  
 El Paso, TX 79902  
 915.544.5232  
 www.ceegroup.net  
**CEA**  
 TEXAS REGISTERED ENGINEERING FIRM F-4564



SCALE	
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER, 2019
DESIGN BY:	R.O.
DRAWN BY:	T.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-213

PROJECT TITLE  
**TRES SUEÑOS UNIT TWENTY ONE**  
**SUBDIVISION IMPROVEMENTS**

SHEET TITLE

SWPPP SITE PLAN

SHEET NO.

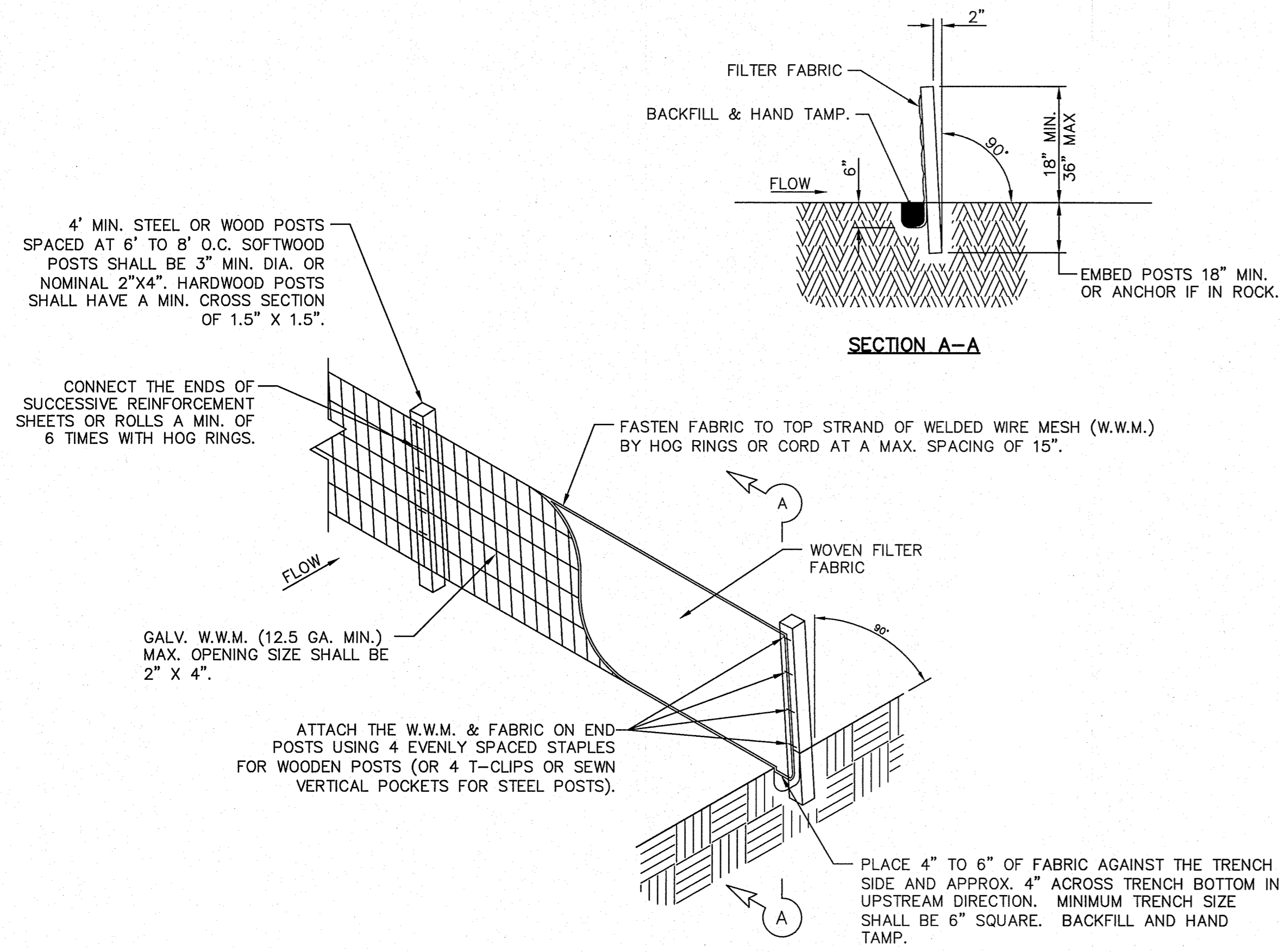
**C16.2**

- LEGEND:**
- SILT FENCE OR EARTHEN BERM
  - STABILIZED CONSTRUCTION ENTRANCE
  - STAGING AREA
  - PORTABLE TOILETS
  - WASH OUT
  - LOCATION OF NOTICE OF INLET (N.O.I.)
  - INLET PROTECTION
  - OUTFALL

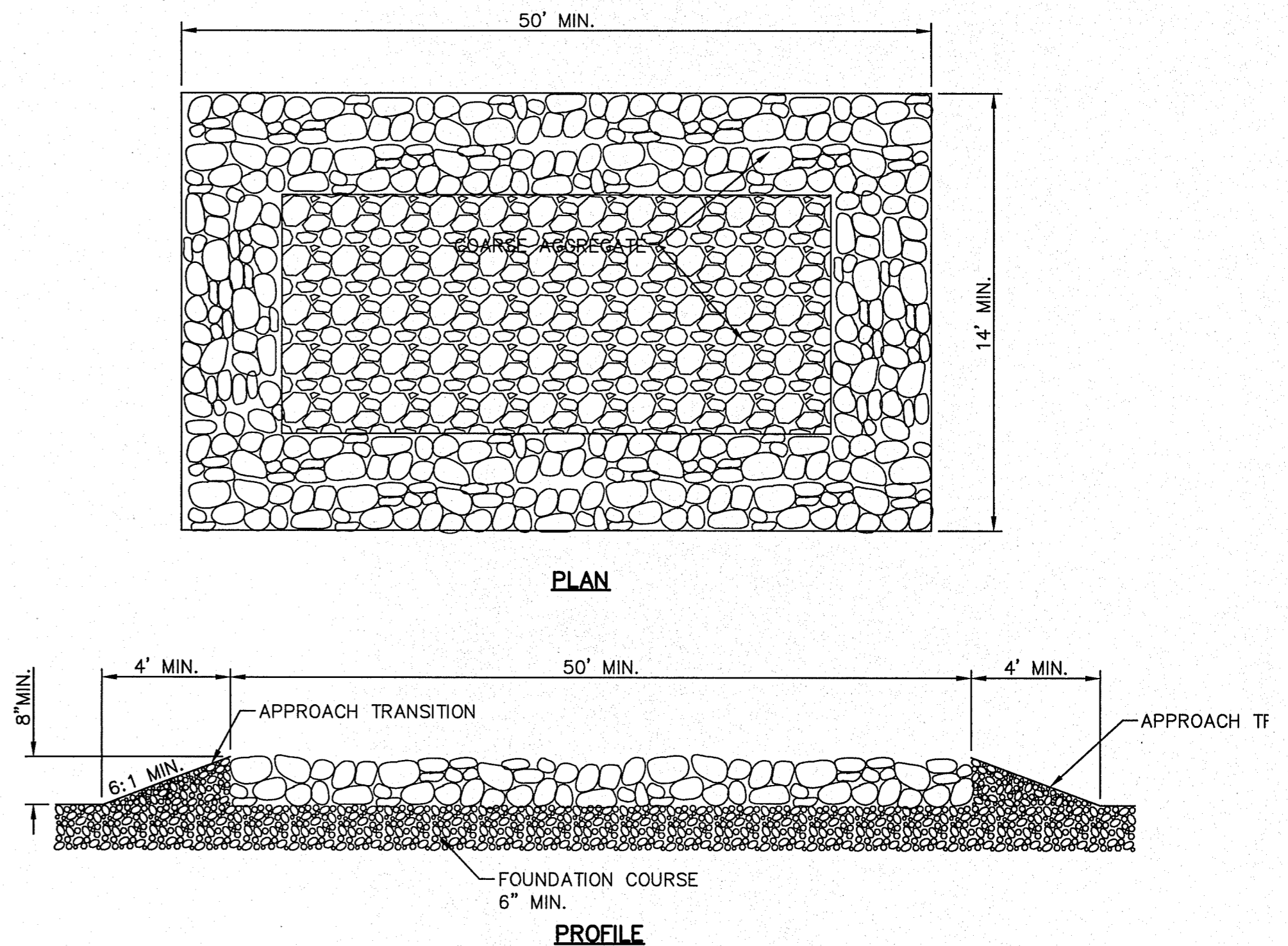


**SITE PLAN**  
 SCALE: 1" = 100'

S:\2000\2000-213-Tres Suenos Unit 21\DWGS\Construction Drawings\Improvement Plans\C16.3 SWPPP DETS.dwg, 1/14/2020 10:39:21 AM



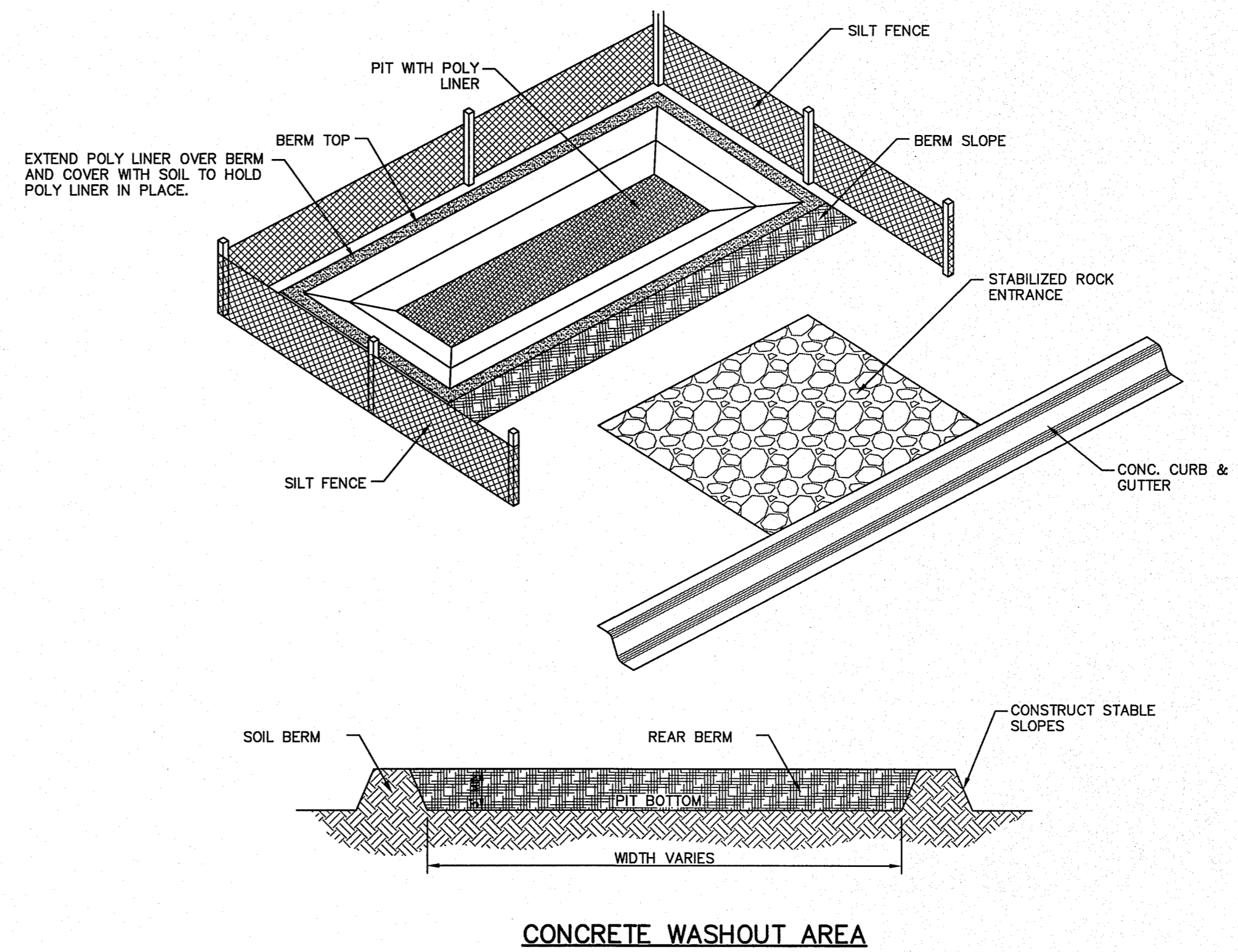
TEMPORARY SEDIMENT FENCE



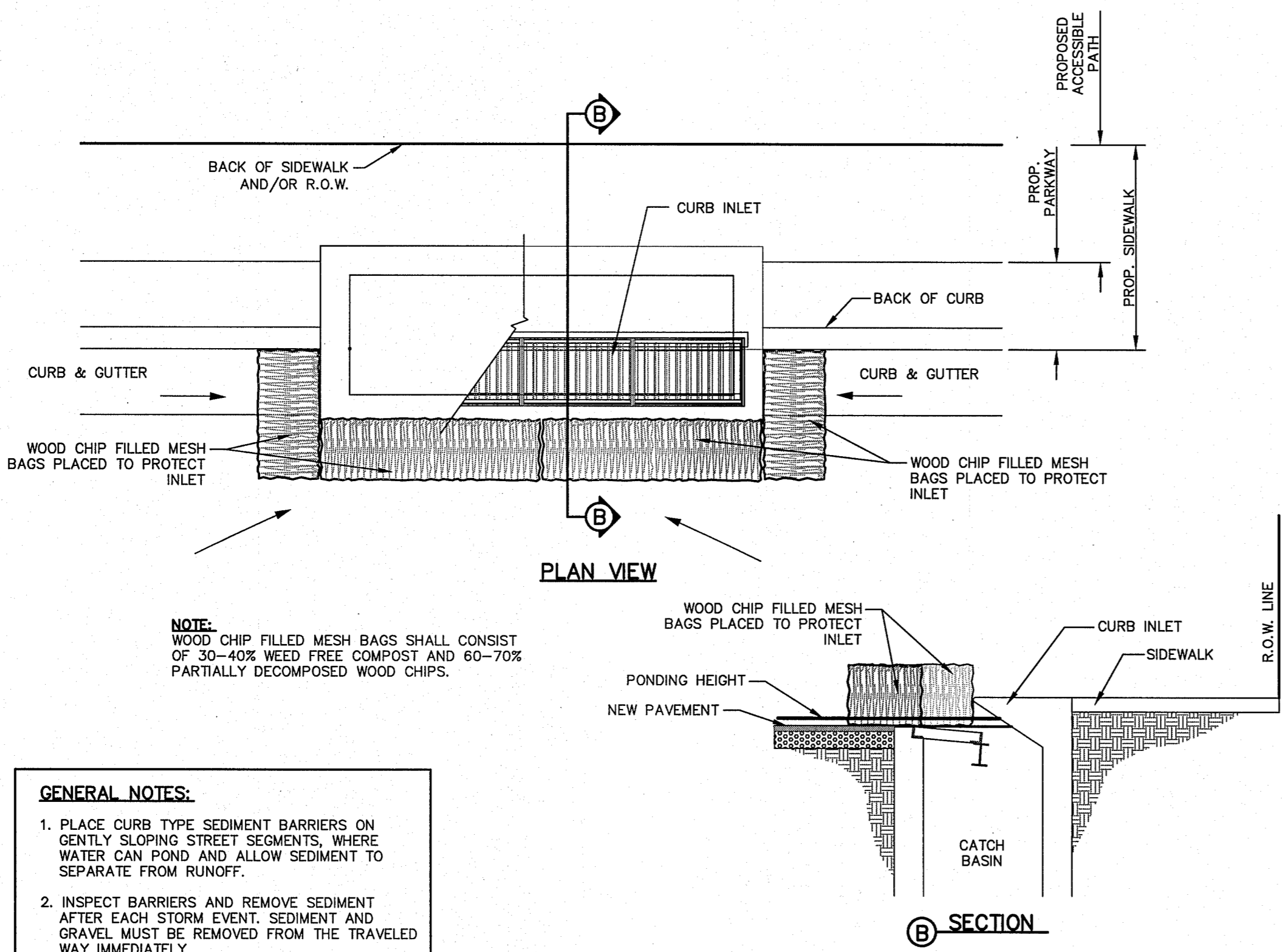
GENERAL NOTES

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

CONSTRUCTION EXIT (TYPE 1)



CONCRETE WASHOUT AREA



TEMPORARY INLET PROTECTION

- GENERAL NOTES:**
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
  2. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE HIGH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION: 4005.40 (CITY DATUM)

813 N. Kansas St.  
Suite 300  
El Paso, TX 79902  
915.544.6232  
www.ceagroup.net

TEXAS REGISTERED ENGINEERING FIRM F-4564

ENGINEER'S SEAL  
J. L. AZARWITZ  
8075

SCALE  
Horizontal: N/A  
Vertical: N/A  
DATE: NOVEMBER, 2019  
DESIGN BY: R.O.  
DRAWN BY: J.L.A.  
CHKD. BY: J.L.A.  
APPVD. BY: J.L.A.  
JOB No. 2000-213

PROJECT TITLE  
TRES SUENOS UNIT TWENTY ONE  
SUBDIVISION IMPROVEMENTS

SHEET TITLE  
STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.  
C16.3

THE CITY OF EL PASO  
TEXAS  
Final Approval



**GENERAL NOTES - CITY OF EL PASO PARKS**

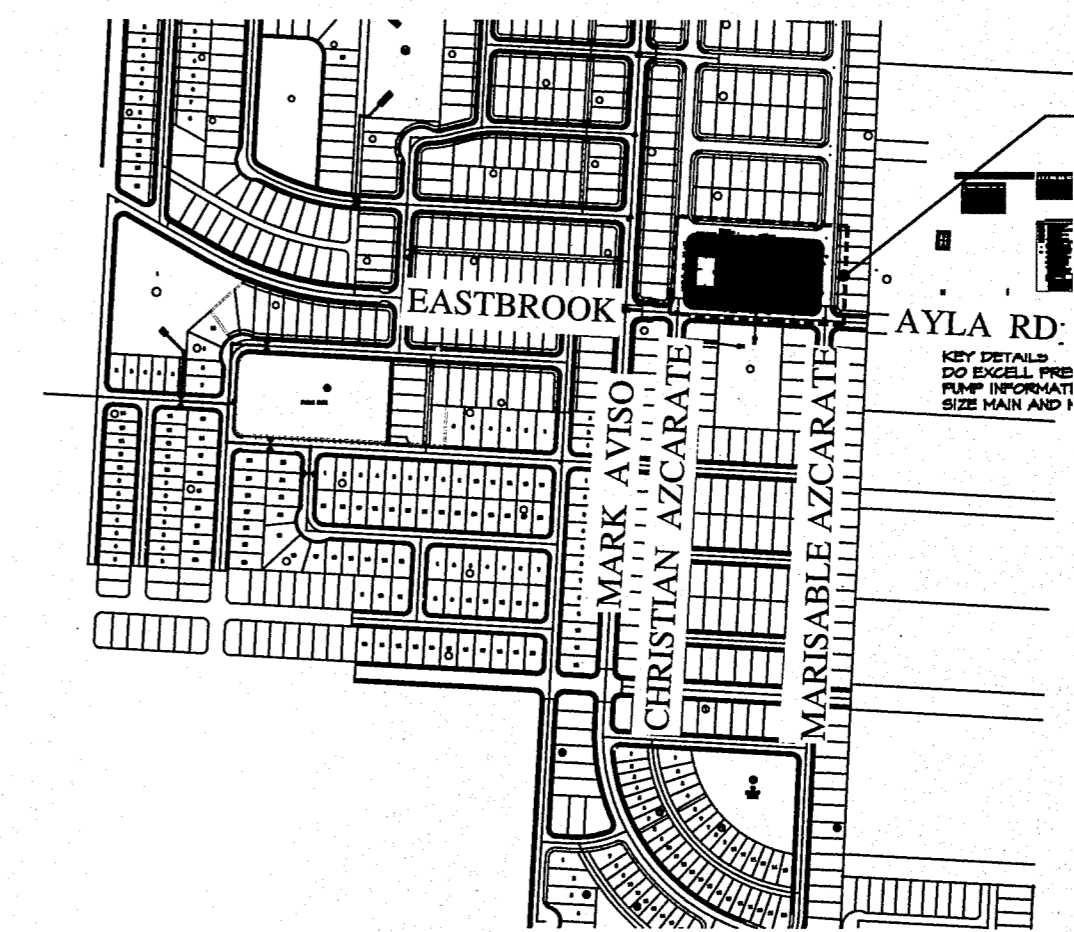
1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
2. CONTRACTOR SHALL BE FAMILIAR WITH PLANS, DETAILS AND SPECIFICATIONS AS THEY PERTAIN TO THE SITE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IF ANY ITEMS CONTAINED WITHIN THE SCOPE OF WORK DEFINED HEREIN, ARE IN CONFLICT WITH THE PROPOSED CONTRACT.
3. EXISTING UTILITY LINES ARE TO BE BLUE STAKED PRIOR TO EXCAVATION, CHECK AND FIELD VERIFY ALL SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO EXCAVATION. CONSTRUCTION WORK IN CLOSE PROXIMITY TO UNDER- GROUND UTILITIES SHALL BE COORDINATED WITH APPROPRIATE AGENCY.
4. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES PRIOR TO COMMENCING WITH THE WORK. ANY DISCREPANCY NOTED SHALL BE REPORTED IMMEDIATELY TO THE PROJECT MANAGER. FAILURE OF THE CONTRACTOR TO REPORT ANY FIELD AND PLAN DISCREPANCIES SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR WORK THAT IS PERFORMED.
6. VIBRATORY ROLLERS SHALL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
7. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN STRICT CONFORMANCE WITH ALL CURRENT SAFETY CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, OSHA REQUIREMENTS.
8. WARNING! BEFORE EXCAVATING, CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITIES LINES. CONTRACTOR SHALL REPLACE ANY UTILITIES DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
9. CONTRACTOR SHALL WATER CONSTRUCTION SITE AREA A MINIMUM OF TWICE A DAY TO DUST CONTROL, ONCE IN THE MORNING AND ONCE IN THE AFTERNOON. THIS SHALL ALSO BE DONE ON WEEKENDS AND HOLIDAYS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. ANY DAMAGE RESULTING FROM CONTRACTOR WORK SHALL BE RESTORED AT NO COST TO OWNER.
11. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATION DURING CONSTRUCTION ACTIVITY.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ENVIRONMENTAL FINES RESULTING FROM HIS/HER WORK AND HOLD THE OWNER HARMLESS IN SUCH CASES.
13. CONTRACTOR SHALL SECURE THE SITE DURING CONSTRUCTION TO PROTECT THE AREA FROM VANDALISM AND ILLEGAL TRESPASSING. CONTRACTOR SHALL SECURE THE SITE AT HIS/HER OWN COST. CONTRACTOR SHALL SITE PROTECTION MEASURES SHALL BE SUBMITTED TO THE PARKS AND RECREATION DEPT. FOR APPROVAL.
14. ALL EXISTING UTILITIES CURRENTLY IN SERVICE MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION EXCEPT AS NOTED IN THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES (INCLUDING SERVICE CONNECTIONS) FROM DAMAGE AS A RESULT OF CONSTRUCTION ACTIVITIES.
15. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES & CONTRACTOR SHALL CALL THE RESPECTIVE "I-CALL" NUMBER FOR SUCH UTILITIES.
16. CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THEN 1:20(5%). NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50(2%). MAXIMUM SLOPE OF ADJOINING GUTTERS, ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP, OR ACCESSIBLE ROUTE SHALL NOT EXCEED 1:20(5%). MAXIMUM RUNNING SLOPE OF ANY CURB RAMP SHALL NOT EXCEED 1:12(8.33%) SLOPE. ALL ACCESSIBLE PATHS SHALL COMPLY WITH TAS AND ADAAG.

**WATER AUDIT**

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN IRRIGATION SYSTEM WATER AUDIT AFTER INSTALLATION IS COMPLETE.
2. AUDIT MUST BE PERFORMED BY A TEXAS CERTIFIED IRRIGATION WATER AUDITOR.
3. WATER AUDIT MUST BE PERFORMED IN ACCORDANCE TO THE EL PASO PARKS AND RECREATION DESIGN AND CONSTRUCTION STANDARDS FOR PARK FACILITIES.

**GENERAL IRRIGATION NOTES -CITY OF EL PASO**

1. ALL MATERIALS LISTED BY BRAND NAME MAY BE SUBSTITUTED BY EQUAL OR BETTER PRODUCTS AS APPROVED BY THE CITY OF EL PASO PARKS AND RECREATION DEPT.
2. THE 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 CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS WORKING ON THE SITE. COORDINATE INSTALLATION OF SLEEVING!
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY WATER PRESSURE, WATER SOURCE AND SIZE IN THE FIELD PRIOR TO CONSTRUCTION. SHOULD A DISCREPANCY EXIST BETWEEN DESIGN PRESSURE AND FIELD PRESSURE THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY.
5. IF PRESSURE IS MORE THAN 45 PSI DOWNSTREAM OF METER NOTIFY THE PROJECT MANAGER AND LANDSCAPE ARCHITECT IMMEDIATELY.
6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
7. LOCATION OF THE CONTROLLER AND BACKFLOW SHALL BE APPROVED BY CITY OF EL PASO PARKS AND RECREATION DEPT.
8. STAKE OUT ROTOR HEAD AND PIPING LOCATIONS PRIOR TO TRENCHING. AFTER APPROVAL BY CITY OF EL PASO PARKS AND RECREATION DEPT., TRENCHING AND EQUIPMENT INSTALLATION MAY BEGIN.
9. THE CONTRACTOR SHALL NOT IMPEDE DRAINAGE IN ANY WAY. THE CONTRACTOR SHALL ALWAYS MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS, WALLS, ETC.
10. ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, WALKS, ETC.) SHALL BE INSTALLED IN SCHEDULE 40 PVC SLEEVES. SLEEVES MUST BE 2 X THE DIAMETER SIZE OF PIPE ENCASED. REMOTE CONTROL WIRING MUST BE RUN IN SEPARATE SLEEVES FROM IRRIGATION PIPE SLEEVES. EXTEND SLEEVE TWENTY-FOUR INCHES (24") BEYOND EDGE OF HARD SURFACES; WRAP ENDS WITH FOUR (4) MILS PLASTIC AND GOOD QUALITY PLASTIC TAPE. GRAY, CLOTH DUCT TAPE IS NOT ACCEPTABLE.
11. DIRECT BURIAL 24V ELECTRIC CONTROL WIRE (#146) AND COMMON GROUND (#126) SHALL BE STANDARD COLORS- RED(HOT) AND WHITE(COMMON). INSTALL WIRE WITH SLACK TO ALLOW FOR THERMAL EXPANSION AND CONTRACTION. LABEL ALL WIRE ENDS AT CONTROLLER AND IN VALVE BOX. PROVIDE THREE SPARE REMOTE CONTROL VALVE WIRES FOR EACH CONTROLLER AND EXTEND TO FURTHEST VALVE. WIRING SHALL BE IN SEPARATE TRENCH FIVE FEET (5') FROM PRESSURE MAIN LINE ON NORTH AND WEST SIDE OF MAIN. PROVIDE EXPANSION LOOPS FOR WIRING EVERY 200'. WIRES SHALL NOT BE STRETCHED TIGHT. USE DRI-SPLICE CONNECTORS FACTORY FILLED WITH SILICONE FOR VALVE WIRE. SPLICES ARE NOT ALLOWED BETWEEN CONTROLLER AND VALVES. SPARE REMOTE CONTROL VALVE WIRES MUST BE OTHER THAN STANDARD RED IN COLOR.
12. ALL VALVES SHALL BE TAGGED WITH A WATERPROOF TAG SHOWING VALVE NUMBER. LABEL ALL WIRING AT CONTROLLERS AND PANELS.
13. ALL PIPE CUTS SHALL BE MITERED TO 90 DEGREES TO ASSURE PROPER SOLVENT WELD. ALL BURRS SHALL BE REMOVED PRIOR TO GLUING AND MUST HAVE A FILED BEVELED EDGE A MINIMUM OF ONE FOURTH (1/4) THE WIDTH OF PIPE WALL. USE "3-STEP" GLUING PROCESS. PIPE MUST BE CLEAN AND PRIMER APPLIED AS RECOMMENDED BY MANUFACTURER WHEN GLUING PROCESS IS UNDERTAKEN. PRIMER SHOULD BE MOIST AS GLUE IS APPLIED AND PVC PIPING IS ASSEMBLED. USE IPS WELD-ON PURPLE PRIMER P68 OR P70. USE IPS WELD-ON GRAY GLUE #711 HEAVY DUTY. WIPE OFF ALL EXCESS CEMENT AND LET SET PER MANUFACTURER'S RECOMMENDATIONS. INITIAL SET TIMES SHALL BE MINIMUM OF 5 MIN. FOR 1/2 TO 1-1/4" PIPE; 8 MIN. FOR 1-1/2" PIPE TO 2" PIPE; 2 HOURS FOR 2-1/2" TO 6" PIPE. CURE TIMES ARE 20 MIN FOR 1/2" TO 1-1/4" PIPE; 30 MIN. FOR 1-1/2" PIPE; 4 HOURS FOR 2-1/2" PIPE. WHEN HUMIDITY EXCEEDS 60% INCREASE CURE TIME BY 50%. ONCE WELD IS SET, PIPE SHALL NOT BE MOVED FOR ANY REASON UNTIL SET TIMES HAVE BEEN ACHIEVED. WATER SHALL NOT BE TURNED ON UNTIL ALL CURE TIMES HAVE BEEN ACHIEVED.
14. A CITY OF EL PASO PARKS AND RECREATION DEPT. REPRESENTATIVE MUST BE PRESENT DURING ALL FLUSHING, TESTING AND ADJUSTING. THE CONTRACTOR MUST PROVIDE 24 HRS NOTICE TO THE CITY OF EL PASO PARKS AND RECREATION DEPT. PRIOR TO CONDUCTING THE TESTS. FLUSHING AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PARKS AND RECREATION DEPARTMENT DESIGN AND CONSTRUCTION STANDARDS.
15. THE FINISH GRADE OF ALL TRENCHED AREAS SHALL BE SMOOTH, EVEN AND CONSISTENT, FREE OF ANY HUMPS, DEPRESSIONS OR OTHER GRADING IRREGULARITIES. OVERFILL TRENCHES AND COMPACT SO NOT TO CRUSH THE PIPE. PRIOR TO SODDING INSPECT TRENCHES FOR SETTLING AND BACKFILL AND REGRADE IF NECESSARY. DO NOT LAY SOD UNTIL TRENCHES ARE ACCEPTABLE.
16. THE CONTRACTOR SHALL FINE TUNE AND ADJUST THE IRRIGATION SYSTEM SO THAT NO WATER WILL RUN ONTO THE STREET OR WALKS
17. THE CONTRACTOR SHALL PROVIDE A WATER AUDIT CONDUCTED IN THE PRESENCE OF THE CITY OF EL PASO PARKS AND RECREATION DEPT. REPRESENTATIVE.
18. THE CONTRACTOR SHALL MAINTAIN ALL WORK UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE CITY OF EL PASO PARKS AND RECREATION DEPT.
19. WATERING TIME: TO SET TURF STATIONS SEE TURF IRRIGATION SYSTEM DESIGN CRITERIA. SET PER LOCAL WATERING CODES.
20. WARRANTY PERIOD IS ONE YEAR FROM DATE OF ACCEPTANCE.



**SITE MAP**

**PROJECT AREA**

NOT TO SCALE

**SHEET INDEX**

L1	SITE MAP, SHEET INDEX, NOTES
L2	PLANTING AND MATERIALS PLAN
L3	IRRIGATION
L4	LAYOUT
L5	CONSTRUCTION DETAILS
L6	CONSTRUCTION DETAILS
L7	CONSTRUCTION DETAILS

**PARKS DEPT. NOTES FOR PLANTING:**

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREVENT PLANTS FROM FALLING OR BEING BLOWN OVER AND TO STRAIGHTEN OR REPLANT ALL PLANTS WHICH ARE DAMAGED DUE TO WIND. PLANTS BLOWN OVER BY HIGH WINDS SHALL NOT BE A CAUSE FOR ADDITIONAL EXPENSE TO THE OWNER, BUT SHALL BE THE FINANCIAL RESPONSIBILITY OF CONTRACTOR.
2. TOPSOIL MATERIAL FOR PLANTING SHALL BE FREE FROM HARD CLODS, STIFF CLAY, HARD PAN, STONES LARGER THAN 1" IN DIAMETER, NOXIOUS WEEDS AND PLANTS, SOD, PARTIALLY DISINTEGRATED DEBRIS, INSECTS OR ANY OTHER UNDESIRABLE MATERIAL. PLANTS OR SEEDS THAT WOULD BE TOXIC OR HARMFUL TO GROWTH.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF PLANT MATERIAL QUANTITIES.
4. IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. IMPROPER PLANT COUNT MADE BY THE LANDSCAPE CONTRACTOR SHALL BE NO CAUSE FOR ADDITIONAL COSTS TO THE OWNER.
5. THE CONTRACTOR SHALL MEET BOTH THE CONTAINER SIZE AND GALIPER SIZE, AS WELL AS HEIGHT AND SPREAD SPECIFICATIONS SPECIFIED.
6. EXCAVATE TWO TIMES GREATER THAN THE ROOT BALL-DIAMETER OF THE SHRUB, TWO TIMES GREATER THAN THE ROOT BALL FOR TREES. SCARIFY BOTTOM OF PLANTING PIT BEFORE PLACING PLANT. PLACEMENT OF PLANT SHALL BE PERPENDICULAR TO GROUND.
7. CONTRACTOR WILL NOT PLANT MATERIAL SHOWN ON PLANS WHEN IT IS EVIDENT THAT FIELD CONDITIONS HAVE CHANGES SINCE PLANS WERE DRAWN. ANY CHANGES ARE TO BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE DESIGNER BEFORE ANY PLANTING IS DONE IN THE AREA.
8. PLANT SUBSTITUTIONS WILL BE PERMITTED, REQUEST SUBSTITUTION IN WRITING GIVING REASONS FOR SUCH SUBSTITUTIONS.
9. TURF QUANTITY TAKE-OFF ARE THE RESPONSIBILITY OF THE CONTRACTOR.
10. TREAT ALL PLANTING AREAS WITH AN APPLICATION OF SURFLAN. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION.
11. REMOVE ALL WIRE, STRING, WIRE BASKETS, BURLAP, CONTAINERS, ETC., FROM THE ROOTBALL OF PLANTS BEFORE BACKFILLING THE PLANTING HOLE.
12. SEEDED AREAS SHOULD BE MAINTAINED UNTIL A FULL GROWTH OF WILD GRASS OR SEEDED MATERIAL IS ACHIEVED.
13. WARRANTY FOR THE PLANTING MATERIAL SHALL BE ONE YEAR FROM THE DATE OF ACCEPTANCE. (TREES, SHRUBS AND GROUND COVER).
14. ANY UNSUITABLE SOIL CONDITIONS MUST BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS, COARSE SANDS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12" AS REQUIRED FOR PROPER PLANTING AS PER "PARKS DESIGN AND CONSTRUCTION STANDARDS".

Approved  
Received  
City of El Paso  
FEB 27 2020  
Parks & Recreation  
Department

PLANS MUST BE SUBMITTED TO TEXAS DEPT OF LICENSING AND REGULATION FOR COMPLIANCE WITH TEXAS ACCESSIBILITY STANDARDS. #TABS2020 00 9949

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

REVISIONS: \_\_\_\_\_

DATE: \_\_\_\_\_

LISA MCNEELIS  
LANDSCAPE ARCHITECT  
1900 FOREBROOK  
DALLAS, TEXAS 75231  
(214) 621-5052

STATE OF TEXAS  
LANDSCAPE ARCHITECT # 1118  
2/6/20

SCALE:  
Horizontal: N/A  
Vertical: N/A

DATE: \_\_\_\_\_  
DESIGN BY: LM  
DRAWN BY: LM  
CHKD. BY: LM  
APP'D. BY: LM  
JOB NO. \_\_\_\_\_

PROJECT TITLE  
**TRES Suenos Park**  
14513 EASTBROOK  
LOT 1, BLOCK 66  
TRES Suenos UNIT 21 SUBDIVISION  
EL PASO, TEXAS 79938  
AREA: 87544.83 SF- 2.009 ACRES

SHEET TITLE  
**L1**

INDEX AND NOTES

SHEET 1 OF 7

CONTRACTOR MUST VERIFY QUANTITIES - PLAN TAKES PRECEDENCE

**PARK MATERIAL LEGEND AND DETAIL KEY:**

	1. FRANKLIN RED GRAVEL CRUSHER FINES 3" DEPTH 2" BELOW ALL CONCRETE SURFACES. USE WEED BARRIER. PROJECT TOTAL 14,357 SF. SEE DETAIL (A) ON SHEET L5.
	2. SANTA ANA BERMUDA GRASS. PROJECT TOTAL 62,866 SF. TOP OF SOD 2" BELOW TOP OF SIDEWALK AND CONCRETE HEADER CURB. SEE DETAIL (C) ON SHEET L5.
	3. PARK CONCRETE WALKWAY, PATIO, BENCHTABLE PADS. FLOOR. PROJECT TOTAL 3,005 SF. SEE DETAIL (D) ON SHEET L5.
	4. SUBDIVISION 1'-0" CONCRETE WALKWAY BY DEVELOPER. SEE DETAIL (E) ON SHEET L5.
	5. 6"X12" CONCRETE HEADER CURB. PROJECT TOTAL 242 LF. SEE DETAIL (B) ON SHEET L5.
	6. ANOVA VICTORY SERIES D1062 BENCH. BLUE WITH BLACK POSTS. SEE DETAIL (F) ON SHEET L5.
	7. DIMOR TRASH RECEPTACLE WITH CONTOUR TOP AND LINER. BLUE WITH BLACK LID. MODEL # 84-92-FT0, 5-1 ON SLAB. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL (G) ON L5. PROJECT TOTAL - 2.

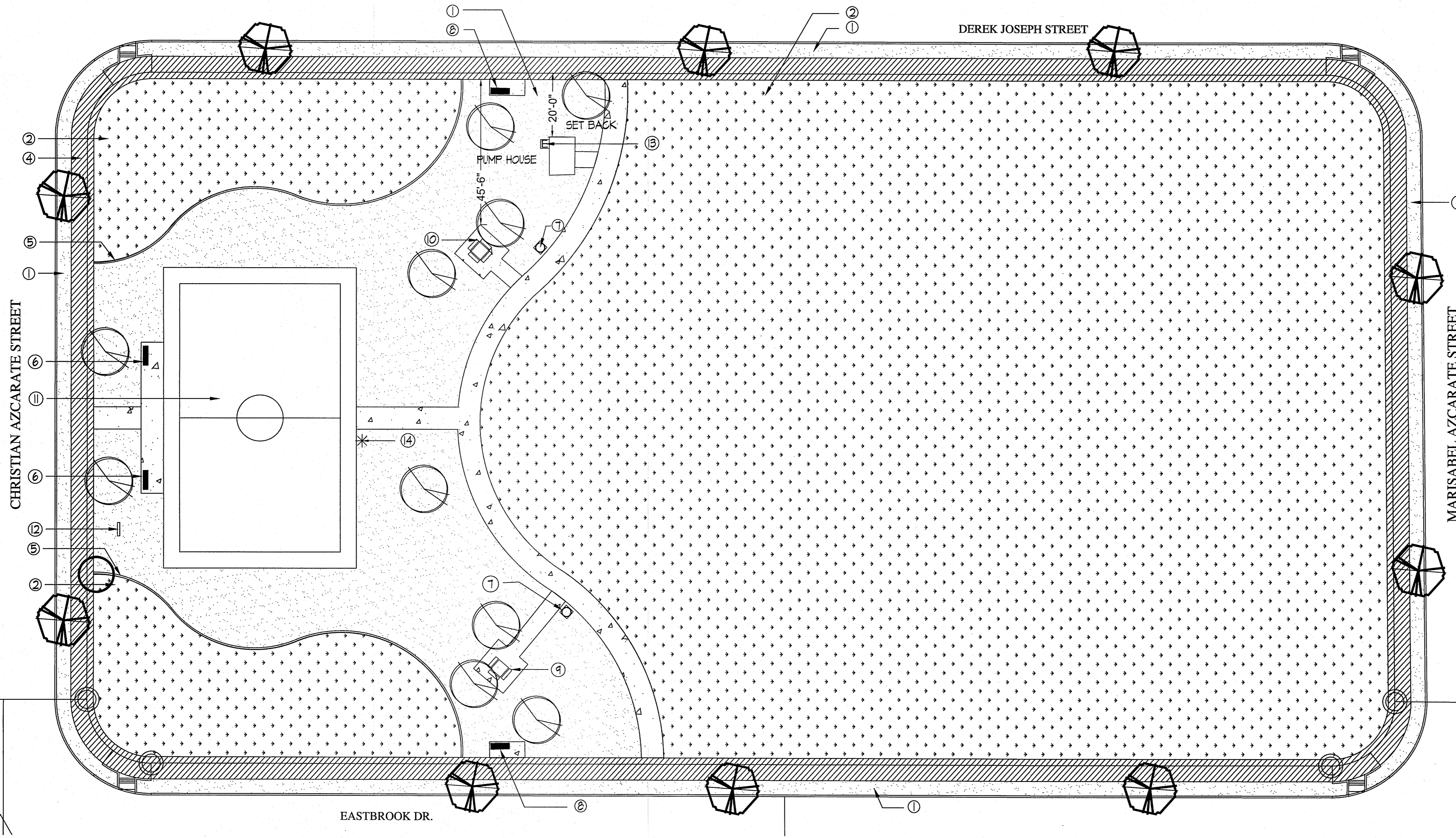
**PARK MATERIAL LEGEND AND DETAIL KEY:**

	8. ANOVA ULTRA SERIES 6' BENCH SURFACE MOUNT. TOTAL 2. ITEM # F027. BLUE W/ BLACK METAL. INSTALL PER MANF. RECOMMENDATIONS. FOR ADA BENCH SEE DETAIL (H) ON SHEET L5.
	9. ANOVA ULTRA SERIES ADA TABLE 3 SEATS. ITEM # F2016 SURFACE MOUNT. BLUE WITH BLACK FRAME. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL (I) ON L5. PROJECT TOTAL - 1.
	10. ANOVA ULTRA SERIES TABLE 4 SEATS. ITEM # F2015 SURFACE MOUNT. BLUE WITH BLACK FRAME. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL (J) ON L5. PROJECT TOTAL - 1.
	11. BASKETBALL COURT 84'X60' SLAB 94'X60'. SEE ENGINEER'S DRAWINGS FOR SLAB DESIGN. GARED STANDARD DUTY GOOSENECK BASKETBALL HOOP 60" STEEL. ITEM NUMBER PK4566000 INCLUDE BRACINGS. INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEE DETAIL (K) ON SHEET L5 FOR SLAB MARKINGS. FOLLOW CITY OF EL PASO STANDARDS FOR BB COURTS.
	12. PARK RULES SIGN. SEE DETAIL (L) ON L5. PROJECT TOTAL - 1.
	13. ELEG METER.
	14. BASKETBALL COURT LIGHT - MUSCO CONTROL-LINK GREEN SYSTEM OR APPROVED EQUAL. ENTIRE AREA 20 FOOT CANDLES. ALL FIXTURES SHALL BE COMPLIANT WITH CITY OF EL PASO MUNICIPAL CODE CHAPTER 18.18 (OUTDOOR LIGHTING). SPORTS LIGHTING DESIGNER SHALL DETERMINE POLE HEIGHT, LOCATION AND AIMING ANGLES AND SHALL SUBMIT THEIR RECOMMENDATIONS FOR APPROVAL PRIOR TO INSTALLATION. POLES MUST BE DESIGNED FOR 100 MPH IBC-C 2003 CODE AND SUBMITTED FOR APPROVAL.

QUANTITIES ARE PROJECT TOTALS - VERIFY! PLANS TAKE PRECEDENCE

**TREE LEGEND/SCHEDULE**

SYM	KEY	COMMON NAME	BOTANICAL NAME	CONT.	SIZE	QUANT.	REMARKS
	LET	LACEBARK ELM	ULM'S PARVIFOLIA	15 GAL	1' GAL-8HT-3' SPREAD	10	SINGLE TRUNK
	CPT	CHINESE PISTACHE	PISTACIA CHINENSIS	15 GAL	1' GAL-8HT-3' SPREAD	10	SINGLE TRUNK



PLAN VIEW - PLANTING AND MATERIALS  
SCALE: 1" = 20' - 0"

**SODDING NOTES - CITY OF EL PASO PARKS**

- SUBMIT THE FOLLOWING:
- SOD CERTIFICATION FOR GRASS SPECIES AND NAME AND LOCATION OF SOD SOURCE. SODDING SCHEDULE, INCLUDING DATES AND TYPE OF WORK TO BE PERFORMED. PRIOR TO ORDERING, NAME OF SUPPLIER OF SOIL AMENDMENTS MATERIALS.
- QUALITY ASSURANCE
- MINIMUM AGE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING, WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.
  - DELIVERY, STORAGE AND HANDLING
  - TIME DELIVERY SO THAT SOD WILL BE PLACED WITHIN 24 HOURS OF DELIVERY AT SITE. PROTECT AGAINST DRYING AND BREAKING OF ROLLED STRIPS.
  - DELIVER PACKAGED MATERIALS IN CONTAINERS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. PROTECT MATERIALS FROM DETERIORATION DURING DELIVERY AND WHILE STORED ON SITE.
- SITE CONDITIONS
- PROCEED WITH AND COMPLETE LANDSCAPE WORK AS RAPIDLY AS PORTIONS OF SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED.
  - WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS CONSULT THE LANDSCAPE DESIGNER AND CITY OF EL PASO PARKS AND RECREATION BEFORE PLANTING.
  - PLANT OR INSTALL MATERIALS DURING NORMAL PLANTING SEASONS FOR EACH TYPE OF LANDSCAPE WORK REQUIRED. CORRELATE PLANTING WITH SPECIFIED MAINTENANCE PERIODS TO PROVIDE MAINTENANCE FROM DATE OF FINAL ACCEPTANCE.
- SOIL AMENDMENTS
- PROVIDE SOIL ANALYSIS BEFORE ADDITION OF SOIL AMENDMENTS & ANALYSES OF SOIL AMENDMENTS. ORGANIC AMENDMENTS SHALL CONSIST OF WELL-AGED ORGANIC COMPOST OR APPROVED EQUAL.
- FERTILIZER
- SLOW-RELEASE STARTER FERTILIZER ANALYSIS AS RECOMMENDED BY EXTENSION AGENT BY WEIGHT AT A RATE OF 1 LB OF ACTUAL NITROGEN PER 1,000 SQUARE FEET BY WEIGHT.
- GRASS MATERIALS
- PROVIDE STRONGLY ROOTED SOD, NOT LESS THAN 18 MONTHS OLD AND FREE OF WEEDS AND UNDESIRABLE NATIVE GRASSES AND MACHINE CUT TO PAD THICKNESS OF 3/4 INCH (PLUS OR MINUS 1/4 INCH), EXCLUDING TOP GROWTH AND THATCH. PROVIDE SOD CAPABLE OF GROWTH AND DEVELOPMENT WHEN PLANTED. CUT SOD PIECES A MINIMUM OF 18 INCHES WIDE.
- PREPARATION
- PRIOR TO START OF SOIL PREPARATION ALL FINISH GRADES SHALL BE ESTABLISHED AND APPROVED AS MEETING THE REQUIREMENTS OF THE GRADING PLAN. APPLY A UNIFORM ONE-INCH LAYER (3 C.Y./1,000 SQUARE FEET) OF ORGANIC SOIL AMENDMENT, AFTER APPLICATION OF ORGANIC AMENDMENT AND STARTER FERTILIZER ALL AREAS TO BE SODDED SHALL BE THOROUGHLY ROTOTILLED TO A MINIMUM DEPTH OF 12 INCHES. AFTER ROTOTILLING IS COMPLETE AT CROSS DIRECTIONS, DRAG, AND LASER LEVEL TO AN EVEN GRADE, THEN ROLL FOR FIRMNESS, RAKE TILLED AREA AND REMOVE STONES OVER 1 INCH IN ANY DIMENSION, STICKS, ROOTS, RUBBISH AND OTHER EXTRANEIOUS MATTER. ROLL ENTIRE AREA WITH WEIGHTED HAND ROLLER.
- SODDING OPERATIONS
- LAY SOD WITHIN 24 HOURS OF DELIVERY AT SITE. DO NOT PLANT DORMANT SOD OR ON FROZEN GROUND.
  - IF SOIL IS DRY, MOISTEN AREAS BEFORE SODDING. WATER THOROUGHLY AND ALLOW SURFACE MOISTURE TO DRY. DO NOT CREATE A MIDDY SOIL CONDITION.
  - REMOVE FIBER MESH USED BY SOD FARM TO TRANSPORT SOD ROLLS AS SOD IS BEING INSTALLED.
  - LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. NO JOINT SHALL BE MORE THAN 1/8" LAY SOD OVER MOISTENED SOIL. LIGHTLY RAKING THE SOIL AHEAD OF EACH SOD STRIP. BUTT ENDS AND SIDES OF SOD STRIPS, DO NOT OVERLAP. STAGGER STRIPS TO OFF-SET JOINTS IN ADJACENT COURSES. LAY SOD PARALLEL TO CONTOURS OF SLOPE. WORK FROM BOARDS TO AVOID DAMAGE TO SUBSOIL OR SOD. TAMP FIRMLY AND EVENLY BY HAND TO ENSURE CONTACT WITH SUBSOIL. WORK SIFTED TOPSOIL OR SAND INTO MINOR CRACKS BETWEEN PIECES OF SOD.
  - WATER SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING.
- MAINTENANCE
- BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING.
  - MAINTAIN LAWNS FOR NOT LESS THAN A PERIOD OF AT LEAST 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SOD. INSPECTION TO DETERMINE ACCEPTANCE OF SODDED LAWNS WILL BE MADE BY PARKS STAFF AND SITES SOUTHWEST REPRESENTATIVE UPON CONTRACTOR'S REQUEST. PROVIDE NOTIFICATION AT LEAST 10 WORKING DAYS BEFORE REQUESTED INSPECTION DATE. AND LONGER AS REQUIRED TO ESTABLISH AN ACCEPTABLE LAWN.
  - SODDED LAWNS TO BE MAINTAINED NOT LESS THAN 60 DAYS AFTER COMPLETION AND ACCEPTANCE OF SODDING OPERATIONS.
  - MAINTENANCE TO INCLUDE:  
WATER SOD THOROUGH EVERY 2 TO 3 DAYS MIN. AS REQUIRED TO ESTABLISH PROPER ROOTING. REPAIR, REWORK AND RESOD AREAS THAT HAVE WASHED OUT OR ERODED.  
REPLACE DEAD OR UNDESIRABLE SOD SECTIONS WITH NEW SOD.  
MOW LAWN AREAS WHEN THE GRASS IS OVER 2 INCHES HIGH FOR FIRST CUTTING.  
FERTILIZE LAWN WITH TOP DRESSING FERTILIZER AT 1 LB. PER 1,000 SQ.FT. OF NITROGEN, WATER THOROUGHLY.
  - ADDITIONAL LAWN MAINTENANCE CONSISTS OF WEEDING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
- CLEANUP AND PROTECTION
- DURING THE WORK, KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
  - PROTECT WORK AND MATERIALS FROM DAMAGE DUE TO SODDING OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIODS. TREAT, REPAIR OR REPLACE DAMAGED WORK AS DIRECTED.
- INSPECTION AND ACCEPTANCE
- WHEN INSPECTED WORK DOES NOT COMPLY WITH REQUIREMENTS, REPLACE REJECTED WORK AND CONTINUE SPECIFIED MAINTENANCE UNTIL REINSPECTED BY THE LANDSCAPE DESIGNER AND CITY OF EL PASO PARKS AND RECREATION AND FOUND TO BE ACCEPTABLE. REMOVE REJECTED SOD AND MATERIALS PROMPTLY FROM PROJECT SITE.

BY	
REVISIONS	
DATE	
SCALE	Vertical: N/A Contour Interval: N/A
PROJECT TITLE	TRES SUENOS PARK 14513 EASTBROOK LOT 1, BLOCK 66 TRES SUENOS UNIT 21 SUBDIVISION EL PASO, TEXAS 79938 AREA: 87544.83 SF - 2.009 ACRES
SHEET TITLE	L2 PLANTING AND MATERIALS
SHEET 2 OF 7	

Approved  
City of El Paso  
FEB 27 2020  
Parks & Recreation  
Department

**TURF IRRIGATION SYSTEM DESIGN CRITERIA**

**WATER SOURCE**

- WATER MUST BE DELIVERED TO THE SITE AT SUFFICIENT PRESSURE AND FLOW TO PROVIDE MAXIMUM PERFORMANCE AS SHOWN BELOW.
  - PRESSURE REQUIREMENT
    - 68 PSI STATIC PRESSURE 161 GPM UPSTREAM OF METER AT FH 1178 @ EASTERBROOK AND 105' W OF MARK AVZIO 161 GPM
    - PUMP WILL PROVIDE 28 PSI PRESSURE
    - 50 PSI AT BASE OF ROTOR HEAD
    - 35 PSI AT BASE OF ROTOR HEAD
  - FLOW REQUIREMENT FOR ROTOR STATIONS
    - 110.7 GPM MAXIMUM FLOW RATE

(DIFFERENCES IN AVAILABLE FLOW AND OR PRESSURE WILL REQUIRE DESIGN CHANGES.) CONTRACTOR MUST VERIFY

- PROPOSED 2.5" WATER SERVICE LINE, PROPOSED 3" WATER METER - 240 GPM

**HEAD LAY-OUT**

- ROTOR HEAD LAY-OUT AND SPACING IS BASED ON TRIANGULAR LAYOUT. RADII OF THE ROTOR HEAD SPACING IS 150' FOR 150' SPACING. SPACING 30' X 366' 44" FOR TRIANGULAR LAYOUT. SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING IN GENERAL. HEAD SPACING IS AS FOLLOWS:
  - HEAD SPACING - 41' MAX LATERAL SPACING = 42.5' MAX
- HEAD AND LATERAL SPACING WILL VARY WITH DIMENSIONS OF TURF. ADJUSTED SPACINGS WILL BE NECESSARY. HEAD SHALL BE SET BACK FROM PAVING TO PREVENT SPRAY ONTO SIDEWALKS.

**PERFORMANCE STATISTICS**

THE FOLLOWING PERFORMANCE STATISTICS WERE CALCULATED BASED ON INFORMATION SHOWN ON THIS PLAN. CHANGES IN OPERATING PRESSURE, HEAD SPACING AND OR NOZZLE SELECTION WILL EFFECT RESULTS.

VALVE # - 1 4 5  
 12.3 X 46.25 = 109.875 = 542 1/2 HR FULL HEADS  
 (41.16 X 42.42) = 2000.521 122 MINUTES FOR 12"

VALVE # - 3 4 8  
 12.3 X 46.25 = 109.875 = 542 X 2 = 1084 HR PART HEADS  
 (41.16 X 42.42) = 2000.521 61 MINUTES FOR 12"

VALVE # - 6 4 4 MPR NOZZLES TOTAL AREA METHOD  
 44.03 X 46.25 = 4714.13 = 1.02 HR MPR HEADS  
 4844.48 = 4844.48 61 MINUTES FOR 12"

VALVE NUMBER AND DRIP OR TURF NOTATION - #11D 1" - VALVE SIZE  
 GALLONS PER MINUTE ON THIS VALVE - 14 10 - NUMBER OF HEADS

**MATERIAL LEGEND:**

- 4" PRESSURE MAIN PVC SCHEDULE 40, DEPTH 18" TO TOP OF PIPE. SEE DETAIL (1) ON L5.
- 2" PRESSURE MAIN PVC SCHEDULE 40, DEPTH 18" TO TOP OF PIPE. SEE DETAIL (1) ON L5.
- LATERAL PVC CLASS 200, DEPTH 12", TO TOP OF PIPE. SEE DETAIL (1) ON L5.
- DRIP LATERAL PVC CLASS 200, DEPTH 12", TO TOP OF PIPE. SEE DETAIL (1) ON L5.
- SGH 40 SLEEVING UNDER ALL PAVED AREAS WHERE LINES ARE RUN.
- SLEEVES SHALL EXTEND 12" PAST PAVING. CHISEL 1" MARK IN CONCRETE CURB OR WALK TO LOCATE SLEEVE AT EACH SIDE. SIZE 2X DIA. OF PIPE TO BE SLEEVED. SEE 40 UNDER GENERAL IRRIGATION NOTES. SEE DETAIL (1) ON L1.
- CONCENTRIC REDUCER - SET 20" FROM JUNCTION IN LOOPED MAIN.
- FIELD WIRING SHALL BE IN A SEPARATE TRENCH 5' OFFSET FROM MAIN LINE ON NORTH AND WEST SIDE.
- WATER METER - 2.5" NOZZLE 60 PSI - FILL HEADS - 54 RADIUS SAKO 45 + 46 (40 MAX HEAD SPACING 48 X 266 (425) MAX ROW SPACING. USE LASCO SWING JOINTS. SEE DETAIL (1) ON L6.
- WATER METER - 2.5" NOZZLE 60 PSI - PART HEADS - 54 RADIUS SAKO 45 + 46 (40 MAX HEAD SPACING 48 X 266 (425) MAX ROW SPACING. USE LASCO SWING JOINTS. SEE DETAIL (1) ON L6.
- WATER METER - 2.5" NOZZLE 60 PSI - PART HEADS - 54 RADIUS SAKO 45 + 46 (40 MAX HEAD SPACING 48 X 266 (425) MAX ROW SPACING. USE LASCO SWING JOINTS. SEE DETAIL (1) ON L6.
- DRIP EMITTER FOR PRESS. RAINBIRD XSD-50 WITH FILTER AND IN-STEP PRESSURE REG. USE 1/8" O.D. EMITTERS PER TREE. 21 GPM LOCATED 3' AWAY ON WEST OR SOUTH SIDE OF TREE. SET IN EMITTER VALVE BOX. SEE DETAILS (2) AND (3) ON L6.
- ELECTRIC REMOTE VALVE. WEATHERMATIC 8200CR-10 WITH MPR OPTION AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAIL (5) AND (6) ON L6.
- ELECTRIC REMOTE VALVE FOR DRIP. WEATHERMATIC 8200CR-10 WITH NO PRESSURE REG. FILTER AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAIL (5) AND (6) ON L6.
- ISOLATION GATE VALVE IN LOCKING VALVE BOX. USE STANDARD VALVE BOX DETAILS. MUST BE LOCATED 10' FROM CONCENTRIC REDUCER ON 2.5" PIPE. SEE DETAIL (2) ON L6.
- BUCKNER 1" QUICK COUPLER - DOUBLE LUG WITH LASCO SNAP LOK WITH MALLE BRASS STABILIZER ELBOW WITH CUT OFF. TO BE SET IN 12"x14" LOCKING VALVE BOX. SEE DETAIL (2) ON L6.

**MATERIAL LEGEND:**

- 3" METER, 3" SERVICE. LOCATION ON THIS PLAN IS APPROXIMATE. FLOW: 240 GPM DO NOT SET IN SIDEWALK.
- BACKFLOW PREVENTION DEVICE. FEBCO MODEL LF860 3" REDUCED PRESSURE ZONE ASSEMBLY. LOCATED IN INSULATED PUMP ENCLOSURE. WALLS R. IS. CEILING SHALL BE INSULATED TO R4. INSTALL TO MEET LOCAL CODES AND CITY OF EL PASO PARKS DEPT. REQUIREMENTS. SEE DETAILS (3) THRU (7) ON SHEET L7.
- RAINBIRD ESP-LINE CONTROLLER WITH 12 STATION CAPACITY. WALL MOUNT. LOCATE IN PUMP HOUSE IN WATER-TIGHT NEMA ENCLOSURE. SEE DETAILS (8) THRU (11) ON SHEET L7.
- BERKELEY 8207MS VARIABLE SPEED PUMP WITH 9 HP 3 PHASE MOTOR. CATALOG#854833 FLANGED VOLUTE CASE IN T. POSITION. CAST IRON IMPELLER. MECHANICAL SHAFT SEAL. FLETC DRIVE. HOUSED IN 8"x12" TUFFSHED BRAND PREMIER SERIES ENCLOSURE. SEE DETAILS ON L1. INSTALL TO MEET LOCAL CODES AND CITY OF EL PASO REQUIREMENTS. LOCATION APPROVED BY CITY OF EL PASO PARKS AND REC DEPARTMENT. SEE DETAILS (12) ON L1. VERIFY WITH BERKELEY PUMPS PRIOR TO ORDERING.
- RAIN SENSOR - RAINBIRD RAIN-CAN MOUNTED ON POLE. SEE DETAIL (1) ON L6.

COORDINATE THE LOCATION OF ALL EQUIPMENT WITH THE CITY OF EL PASO PARKS AND REC. DEPT.

NOTE:  
 CONTRACTOR SHALL VERIFY PUMP INFORMATION PRIOR TO ORDERING PUMP.  
 ELECTRICIAN TO COORDINATE WITH PUMP MANUFACTURER FOR WIRING REQUIREMENTS.

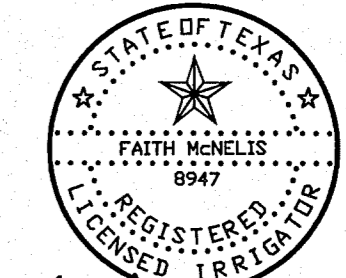
FOR FINAL ACCEPTANCE, THE IRRIGATION SYSTEM MUST DEMONSTRATE IT CAN COMMUNICATE WITH, AND BE OPERATED BY THE PARKS MAXICOM CENTRAL CONTROL COMPUTER SUPPORTING UTILITY INFRASTRUCTURE FOR THIS MUST BE INSTALLED.  
 (MASTER VALVE, COILS, CELL SERVICE/DATA MODULE, PRESSURE REGULATOR, FLOW SENSOR, MOISTURE SENSOR, RAIN CAN IC-ID, ECT)

WATER PRESSURE INFORMATION PER EPWU:  
 FH #1178 LOCATED AT 14483 EASTERBROOK DR. AND 105' WEST OF MARK AVZIO  
 STATIC 68 GPM 761

**PRESSURE LOSS CALCULATION SHEET**

VALVE #1	Length of Pipe (Feet)	Flow (Gal.)	Size (in.)	Pressure Loss Per 100 ft.	Pressure Loss This Item	Accumulated Pressure Loss
class 200	47	12.3	1	2.64	1.2408	1.2408
class 200	43	24.6	1 1/2	1.34	0.5762	1.8170
class 200	43	61.5	2 1/2	0.95	0.4128	2.2298
class 200	6	110.7	3	1.14	0.0684	2.2982
<b>Section Pressure Losses (Sub-Total)</b>						
Calculate Remaining Pressure Losses Below						
Item	Size (in.)	Pressure Loss Per 100 Ft.	Pressure Loss This Item	Accumulated Pressure Loss		
Section Valve	110.7	3	1.8000	4.0982		
Main SCH 40	400	55	2 1/2	0.92	3.6800	7.7782
Main SCH 40	26	110.7	4	0.36	0.0936	7.8718
Backflow			3		11.0000	18.8718
Water Meter			3		3.4000	22.2718
Copper Supply	49	110.7	3	1.91	0.9359	23.2077
<b>Total Pressure Loss to the City Main</b>						
<b>Minimum Required Head Pressure</b>				60.0000	60.0000	
<b>Static Pressure</b>					68.0000	
<b>Design Pressure psi available from pump</b>				25.0000	93.0000	
<b>Actual Head Pressure</b>					69.7923	

IRRIGATION IS REGULATED BY:  
 PO BOX 13087  
 AUSTIN, TEXAS 78711-3087  
 TCEQ 512 239-6719  
 CHAPTER 34, TEXAS WATER CODE  
 IRRIGATOR'S LIC. #8947



**PRECIPITATION SCHEDULE FOR VALVES**

VALVE #	VALVE SIZE	TOTAL GPM	HANter PRECIP. RATE	CALCULATED PRECIP. RATE*	WATER REQUIREMENT	NOZZLE SIZE	# 4 TYPE OF HEADS	GPM PER HEAD	RUN TIME PER DAY
1T	3"	110.7	.47 IN/HR	.54 IN/HR	L2/DAY	#13	10 FULL	12.3	122 MIN
2D	1"	2.43	N/A	N/A	N/A	N/A	9 EM. DEVICE	.21 PER DEVICE	240 MIN
3T	2.5"	98.4	.44 IN/HR	1.18 IN/HR	L2/DAY	#13	8 PART	12.3	61 MIN
4T	2.5"	86.1	.44 IN/HR	1.18 IN/HR	L2/DAY	#13	7 PART	12.3	61 MIN
5T	2.5"	98.4	.47 IN/HR	.54 IN/HR	L2/DAY	#13	8 FULL	12.3	122 MIN
6T	2"	44.03	.77 IN/HR	1.08 IN/HR	L2/DAY	MPR-35	12 PART	VARIES	61 MIN
7D	1"	2.97	.475 IN/HR	.600 IN/HR	L2/DAY	N/A	11 EM. DEVICE	.21 PER DEVICE	240 MIN
8T	2.5"	98.4	.44 IN/HR	1.18 IN/HR	L2/DAY	#13	8 PART	12.3	61 MIN
9T	2"	44.03	.77 IN/HR	1.2 IN/HR	L2/DAY	MPR-35	12 PART	VARIES	61 MIN

TOTAL RUN TIME FOR ROTORS - 444 MIN PER DAY

**WATERING SCHEDULE**

STATION #	VALVE COMBINATION	RUN TIME PER WEEK	WATERING DAYS	DURATION	CLOCK START TIME
1T	1 2 3 4 5 6 7 8 9	366 MIN	S M T W T F S	122 MIN	12:00 AM
2D	X	720 MIN	X X X X X	240 MIN	12:00 AM
3T	X	183 MIN	X X X X X	61 MIN	2:03 AM
4T	X	183 MIN	X X X X X	61 MIN	3:05 AM
5T	X	366 MIN	X X X X X	122 MIN	4:07 AM
6T	X	201 MIN	X X X X X	67 MIN	6:10 AM
7D	X	720 MIN	X X X X X	240 MIN	12:00 AM
8T	X	183 MIN	X X X X X	61 MIN	7:18 AM
9T	X	120 MIN	X X X X X	67 MIN	8:20 AM

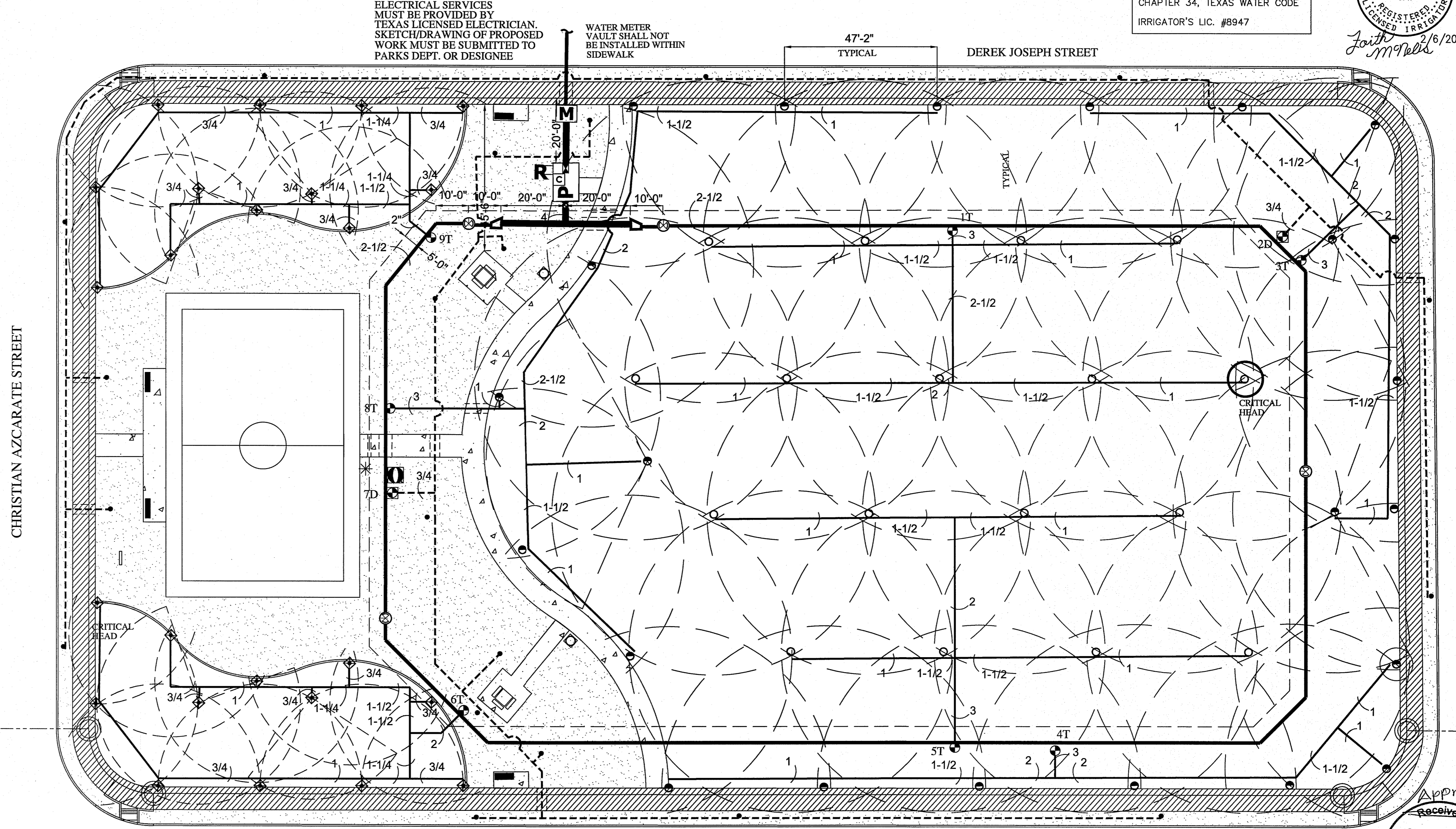
TOTAL RUN TIME PER DAY OF OPERATION - DRIP 240 MIN / 4 HOURS  
 TOTAL RUN TIME PER DAY OF OPERATION - ROTORS 561 MIN / 9.35 HOURS

**IRRIGATION NOTES**

- IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ACCOMPLISHING FULL COVERAGE IN ALL AREAS WITH SPECIFIED EQUIPMENT. ANY DISCREPANCIES IN THE PLAN SHOULD BE BROUGHT TO THE PROJECT MANAGER'S ATTENTION DURING CONSTRUCTION.
- ALL FITTINGS AND NECESSARY EQUIPMENT REQUIRED TO MAKE THIS IRRIGATION SYSTEM OPERATE PROPERLY AND TO COMPLY WITH LOCAL AND STATE CODES ARE INCIDENTAL TO THESE PLANS AND ARE THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR WILL BE HELD LIABLE FOR GAINING ACCESS UNDER ALL PAVEMENTS.
- SLEEVES SHOWN ON THE PLANS SHOULD BE VERIFIED FOR ACCESSIBILITY AND FEASIBILITY BEFORE BID IS MADE.
- THE CONTRACTOR SHALL LOCATE AND VERIFY EACH WATER TAP TO WHICH THE IRRIGATION SYSTEM WILL CONNECT. ALL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH THE STANDARDS OF THE CITY OF EL PASO AND THE SPECIFICATIONS.
- CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS AND VALVES REQUIRED FOR THE FULL IMPLEMENTATION OF THE SYSTEM.
- THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO INITIATING WORK.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE OR INTERRUPTION IN SERVICE CAUSED BY HIS EXCAVATIONS AND/OR WORK.
- EACH CONTROLLER WILL HAVE AN INDEPENDENT COMMON WIRE LOOPED TO THE VALVES CONNECTED TO IT.
- REMOTE CONTROL VALVE WIRES ARE TO BE IN A SEPARATE TRENCH 5' FROM MAIN LINE ON NORTH OR WEST SIDE OF MAINLINE.
- ALL REMOTE CONTROL VALVE WIRES NEED TO BE LABELED AT VALVE W/ WEATHER (WATER) PROOF LABELS AND AT CONTROLLER WITH CORRESPONDING LABEL. (LETTER AND/OR NUMBER TAGS IN SEQUENTIAL ORDER WILL BE PROVIDED).
- SPLICING OF REMOTE CONTROL VALVE WIRES IS NOT ALLOWED BETWEEN CONTROLLER & VALVE BOX FOR WIRES MUST BE CONTINUOUS FROM CONTROLLER TO REMOTE CONTROL VALVE WITHOUT SPLICES.
- ALL ROTOR SPRINKLER HEADS SHALL BE ON STAINLESS STEEL RISERS WITH CHECK VALVE.
- CONTRACTOR SHALL PROVIDE SLEEVES FOR NEW IRRIGATION LINES CROSSING UNDER CONCRETE SIDEWALKS. SLEEVES SHALL BE 2 TIMES THE PIPE SIZE EXTENDED 24" BEYOND EDGE OF SURFACE, BE WRAPPED WITH MINIMUM 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC.

ELECTRICAL SERVICES MUST BE PROVIDED BY TEXAS LICENSED ELECTRICIAN. SKETCH DRAWING OF PROPOSED WORK MUST BE SUBMITTED TO PARKS DEPT. OR DESIGNEE

WATER METER VAULT SHALL NOT BE INSTALLED WITHIN SIDEWALK

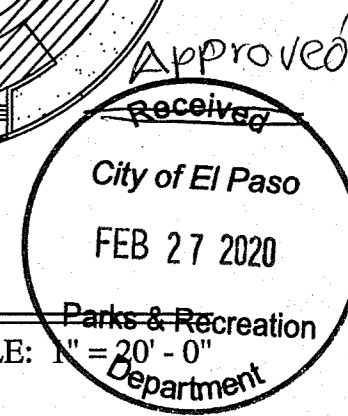


#1T 3"	#2D 1"	#3T 2.5"	#4T 2.5"	#5T 2.5"	#6T 2"	#7D 1"	#8T 2.5"	#9T 2"
110.7 9	2.43 9	98.4 8	86.1 7	98.4 8	49.03 12	2.97 11	98.4 8	49.03 12

**IRRIGATION PLAN**

THIS DRAWING IS A SCHEMATIC AND DOES NOT SHOW EXACT PIPE LOCATION OR LENGTH.

SCALE: 1" = 20' 0"



REVISIONS

DATE

PROJECT TITLE

**TRES SUENOS PARK**  
 14518 EASTERBROOK  
 LOT 1, BLOCK 66  
 TRES SUENOS UNIT 21 SUBDIVISION  
 EL PASO, TEXAS 79938  
 AREA: 87544.83 SF - 2.008 ACRES

SCALE: Horizontal: Vertical: Contour Interval: N/A

DESIGN BY: LM  
 DRAWN BY: LM  
 CHKD. BY: LM  
 APPVD. BY: LM  
 JOB NO.

SHEET TITLE

**L3**

IRRIGATION PLAN

SHEET 3 OF 7

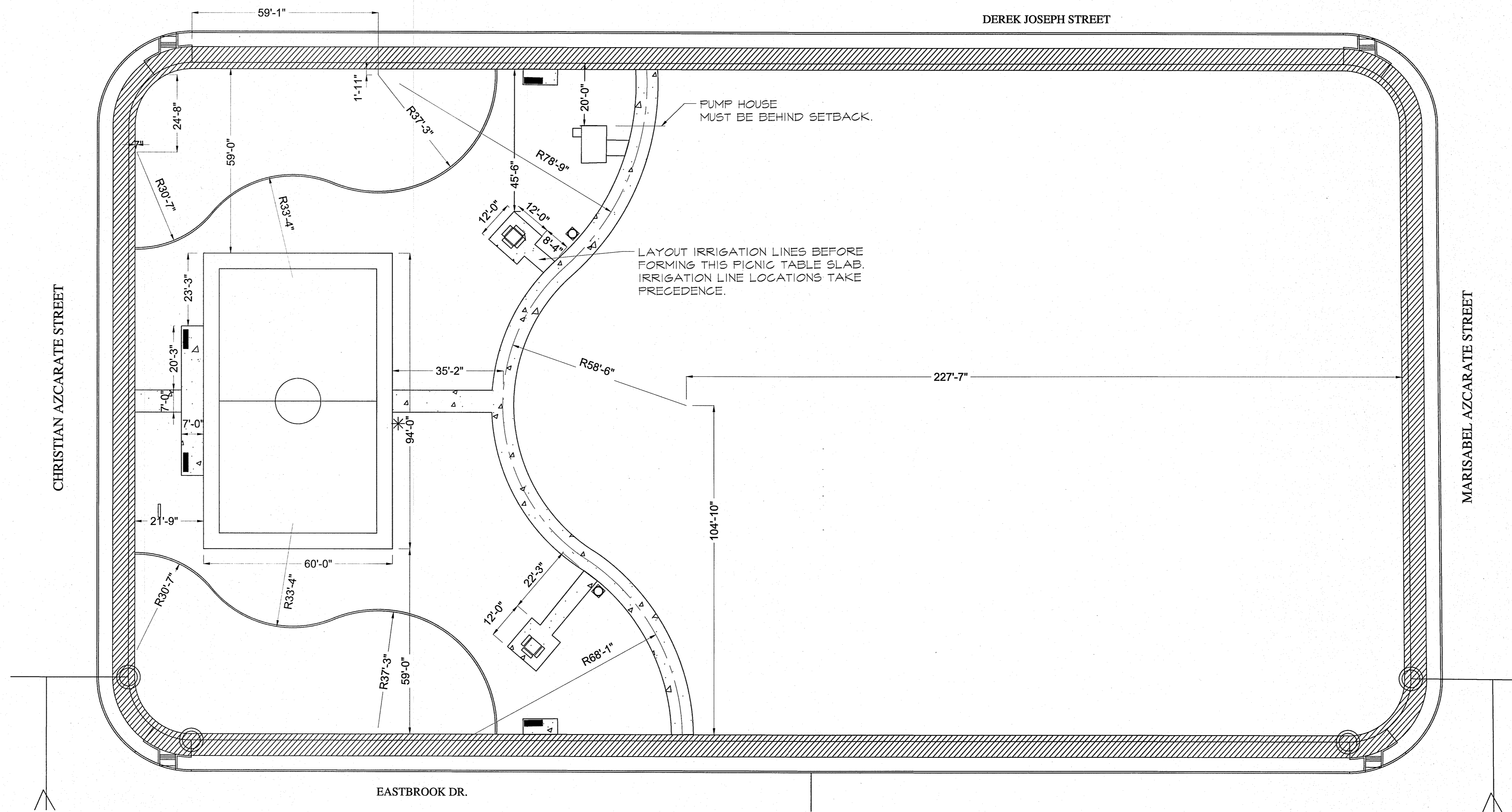
FAITH MCNELIS  
 LANDSCAPE ARCHITECT  
 1900 FOXBORO  
 LAS CRUCES, NEW MEXICO 88007  
 (505) 621-5082

STATE OF TEXAS  
 FAITH MCNELIS  
 LICENSED PROFESSIONAL IRRIGATOR  
 8947

2/16/20

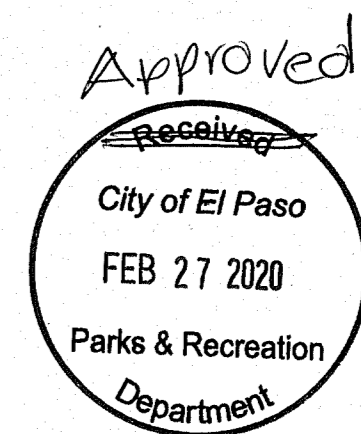
APPROVED

City of El Paso  
 FEB 27 2020  
 Parks & Recreation Department



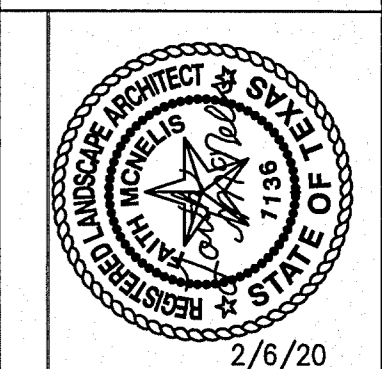
PLAN VIEW - LAYOUT PLAN

SCALE: 1" = 20' - 0"



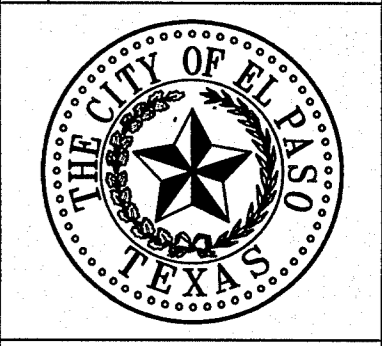
DATE	REVISIONS	BY

LISA MCNEELIS  
LANDSCAPE ARCHITECT  
1900 FOXBORO  
LAS CRUCES, NEW MEXICO 88007  
(575) 621-5052

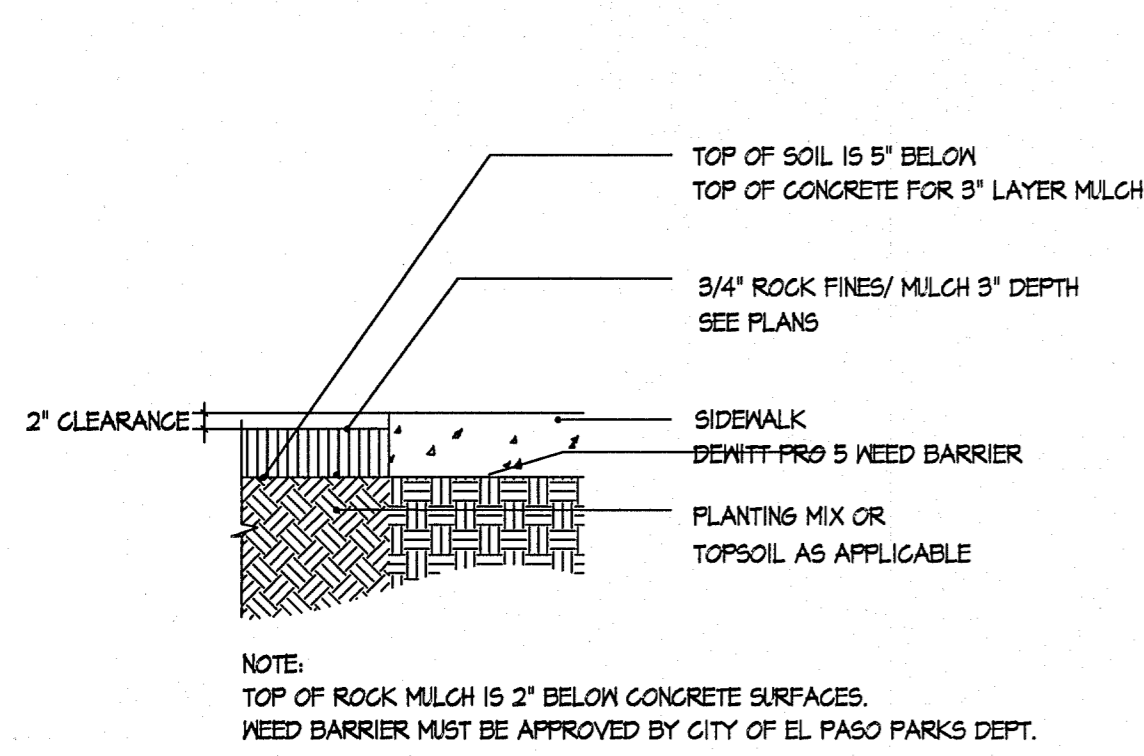


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Horizontal:	
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DATE:	
DESIGN BY:	LM
DRAWN BY:	LM
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APPVD. BY:	LM
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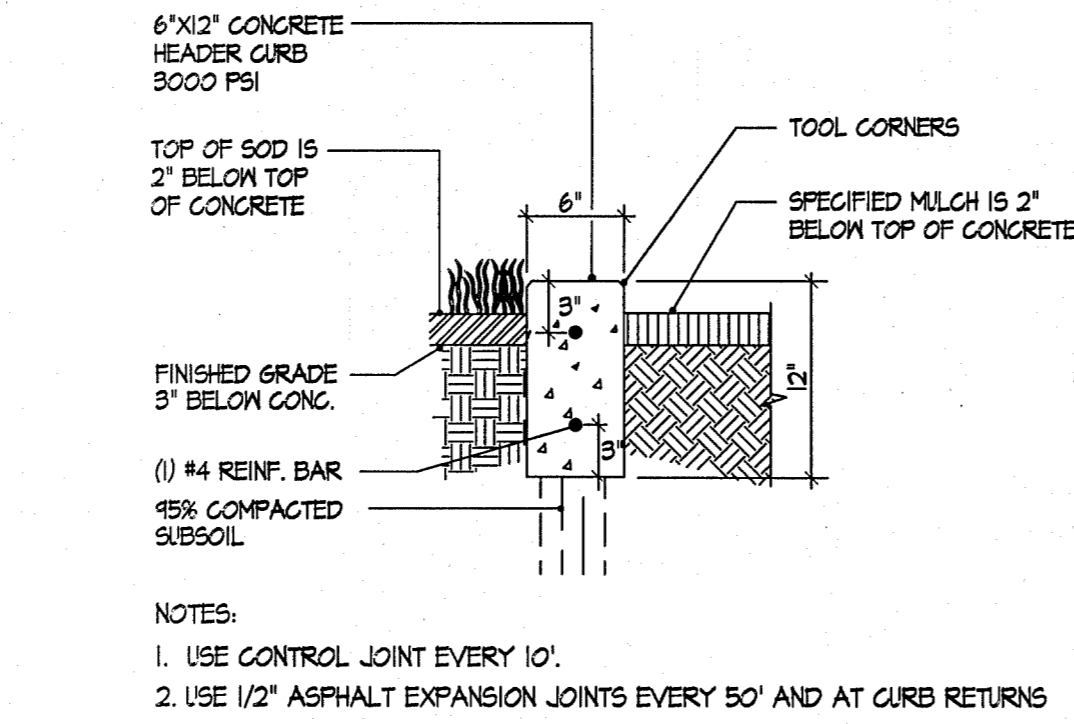
PROJECT TITLE  
**TRES SUENOS PARK**  
14513 EASTBROOK  
LOT 1, BLOCK 66  
TRES SUENOS UNIT 21 SUBDIVISION  
EL PASO, TEXAS 79938  
AREA: 87544.83 SF - 2.009 ACRES



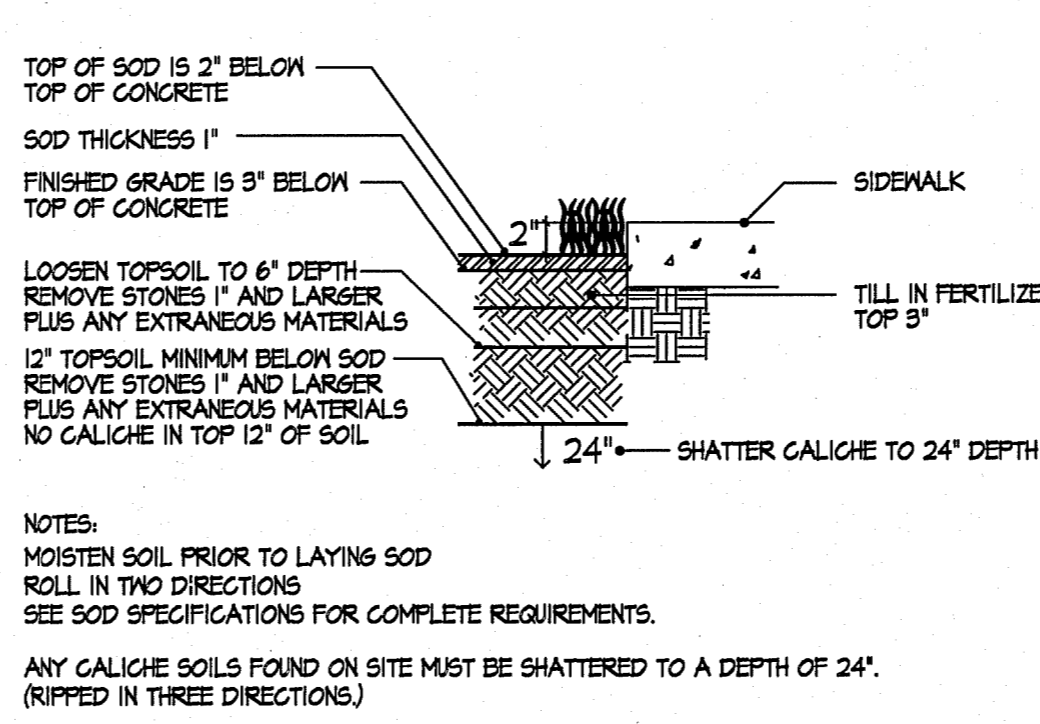
SHEET TITLE  
**L4**  
LAYOUT PLAN  
SHEET 4 OF 7



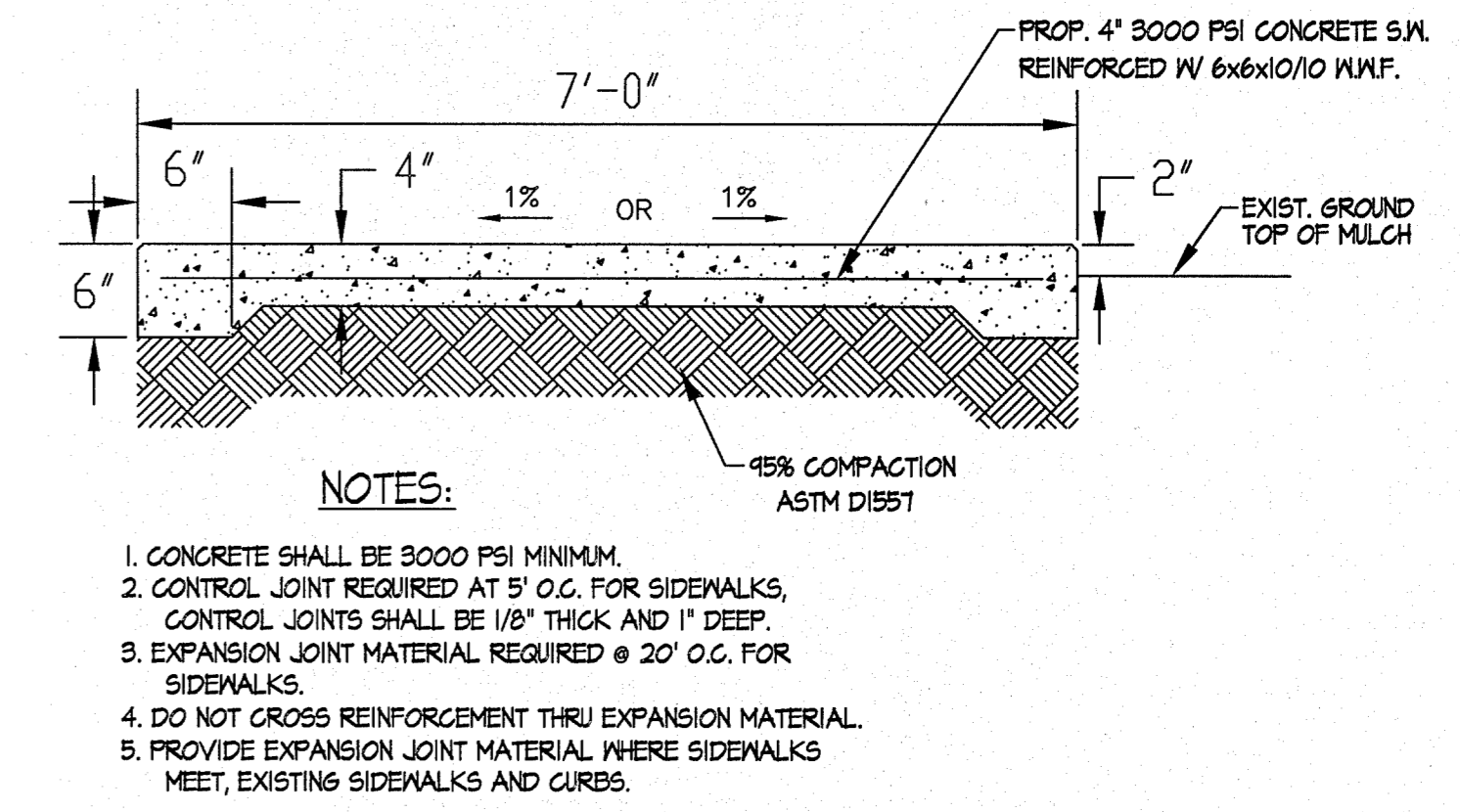
**A** ROCK MULCH DEPTH AT CONCRETE - SECTION  
NOT TO SCALE



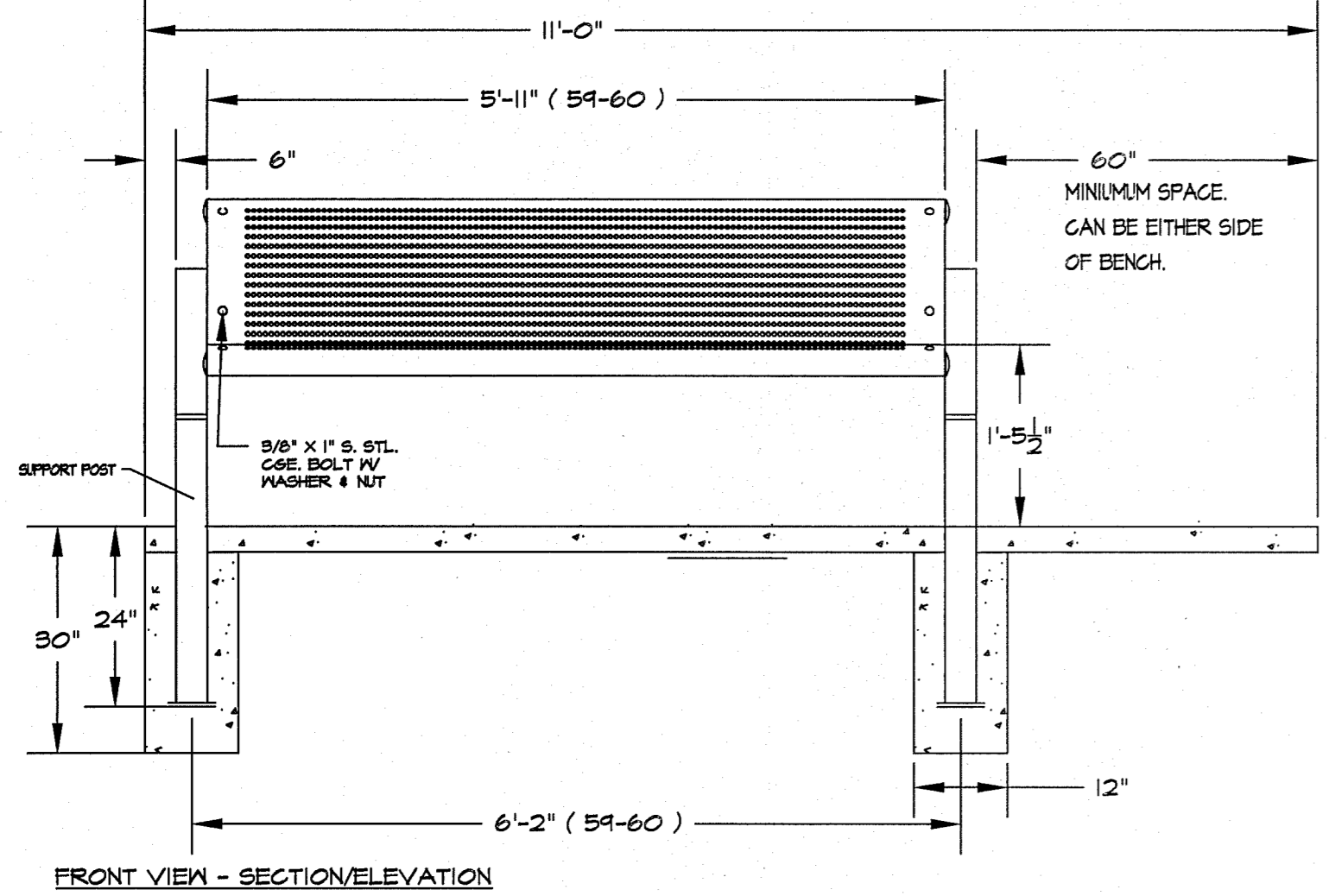
**B** CONCRETE HEADER CURB DETAIL - SECTION  
NOT TO SCALE



**C** TYPICAL TURF AT CONCRETE DETAIL - SECTION  
NOT TO SCALE



**D** TYPICAL TURF AT CONCRETE DETAIL - SECTION  
NOT TO SCALE



**E** BENCH WITH ADA ACCESSIBILITY - PLAN VIEW  
NOT TO SCALE



**F** TABLE WITH ADA ACCESSIBILITY - PLAN VIEW  
NOT TO SCALE

**FINISH:** TOPCOAT HIGH GLOSS  
MATERIAL: 3/4 #9 EXPANDED STEEL WITH A DIAMOND SHAPE PATTERN AND FEATURE A TRADITIONAL EDGE UNIT WEIGHT: 213 lbs

**ASSEMBLY REQUIRED**  
7 YEAR SATISFACTION GUARANTEE INCLUDING COVERAGE FOR FADING, RUSTING, CHIPPING AND CRACKING

**NOTES:**  
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.  
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.

USE 4 SEATS ON NON-ACCESSIBLE TABLE

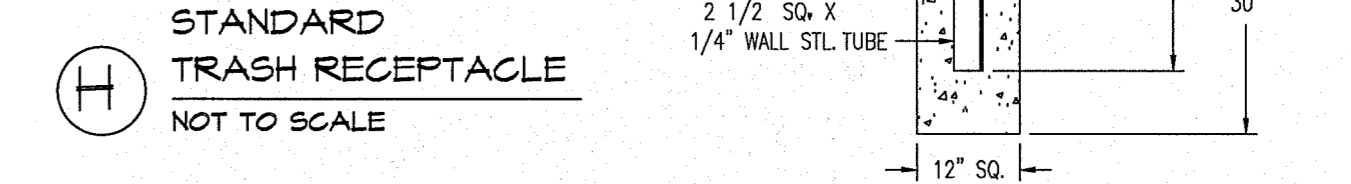
COURT TO BE STRIPED WITH 2" WIDE PAINTED LINES. USE PAINT APPROPRIATE FOR APPLICATION TO CONCRETE COURT SURFACE.

USE HEAVY BROOM FINISH ON SLAB.

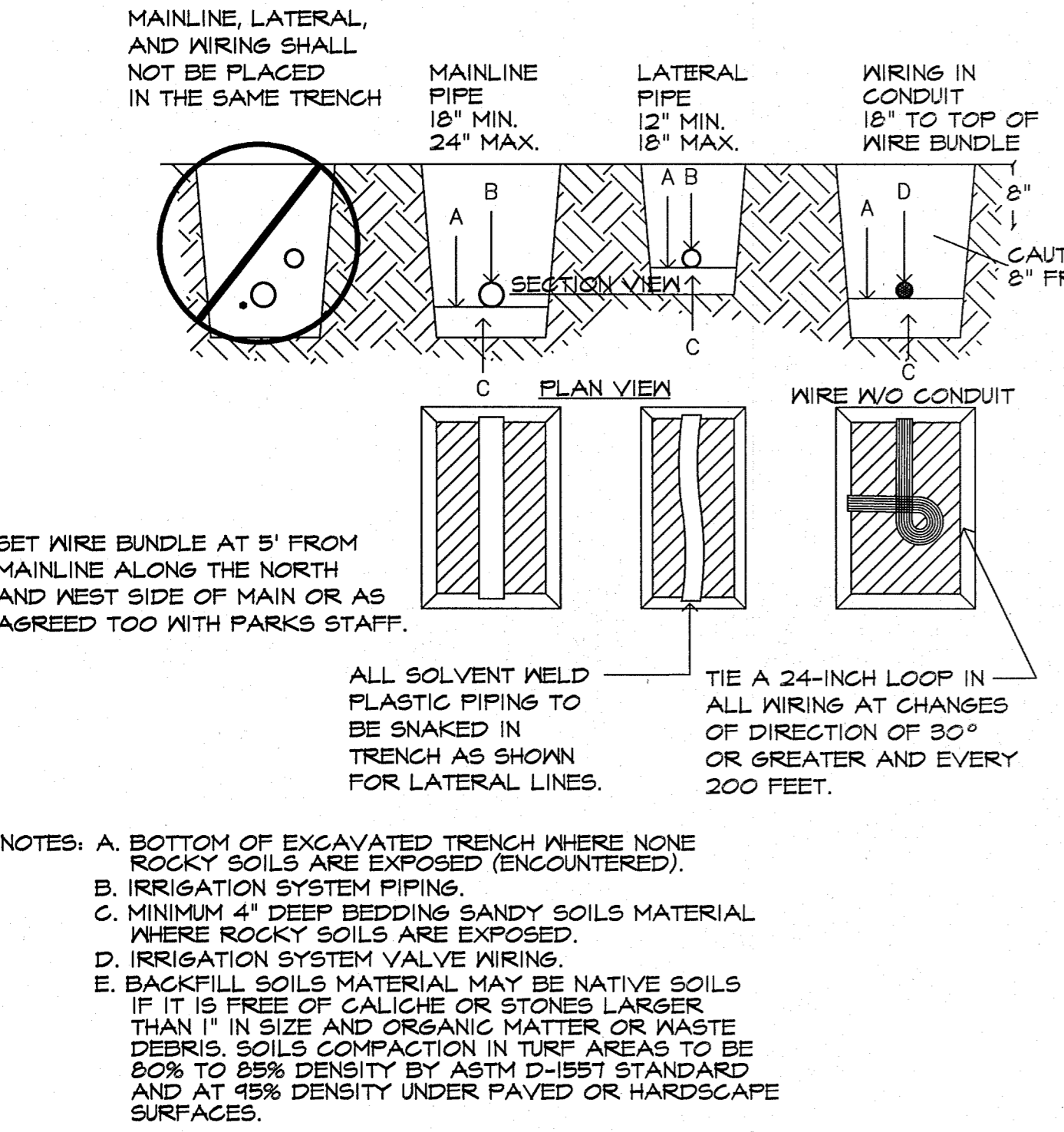
COLOR CONCRETE MIX TO HAVE INTEGRAL COLOR USING LIQUID DYE.

PROVIDE SUBMITTAL OF COLOR SELECTION TO BE APPLIED TO DIFFERENTIATE COURT SURFACE AND OUT OF BOUNDS AREAS.

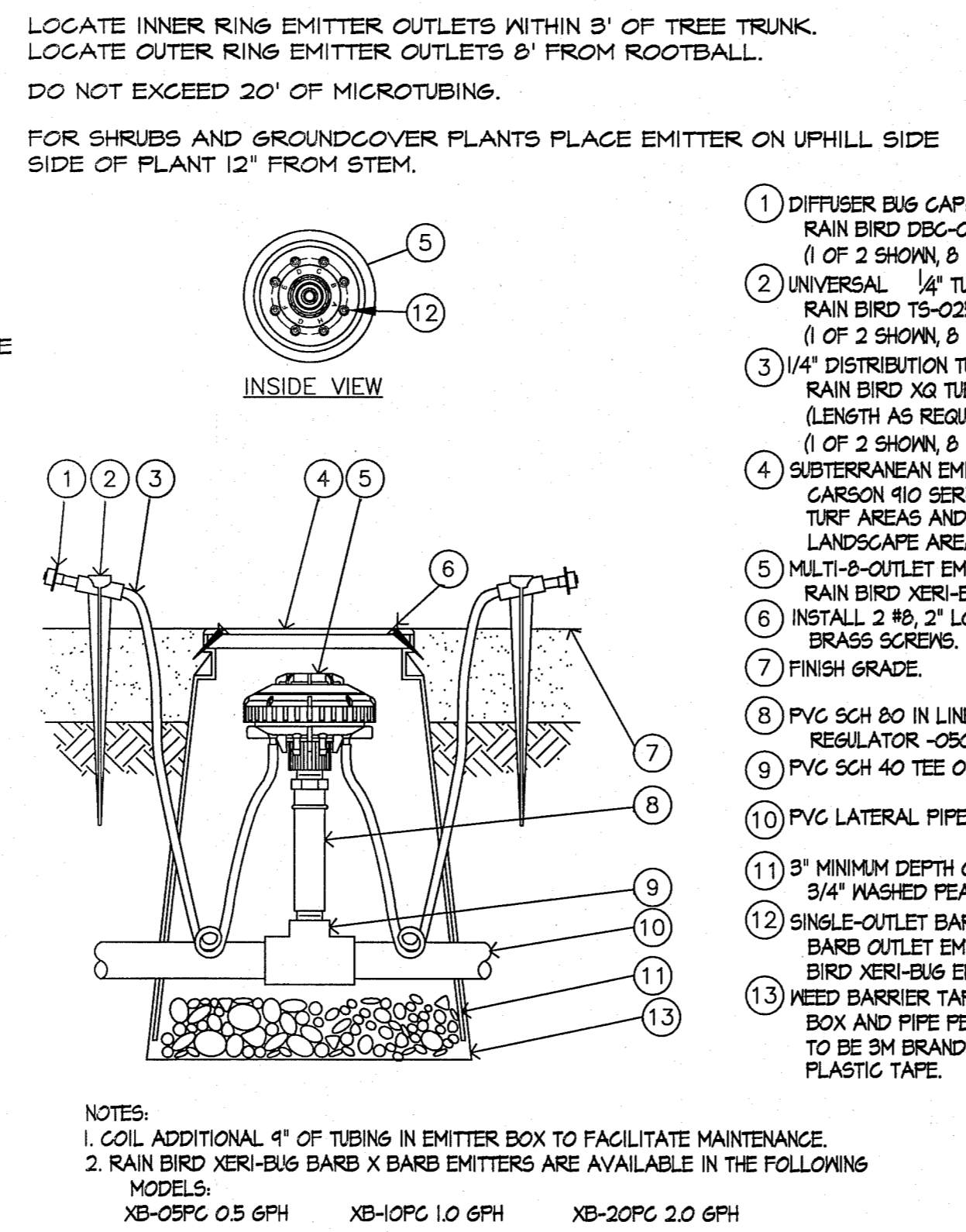
**G** BASKETBALL COURT STRIPING  
NOT TO SCALE



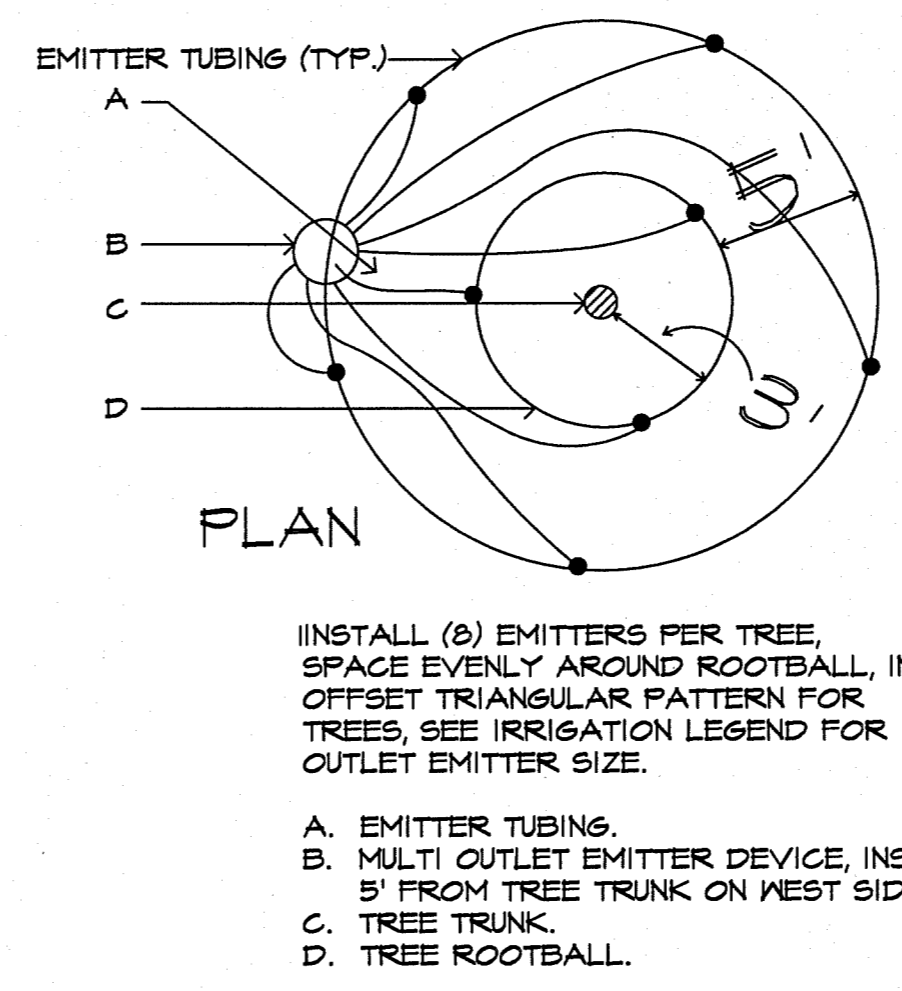
**H** STANDARD TRASH RECEPTACLE  
NOT TO SCALE



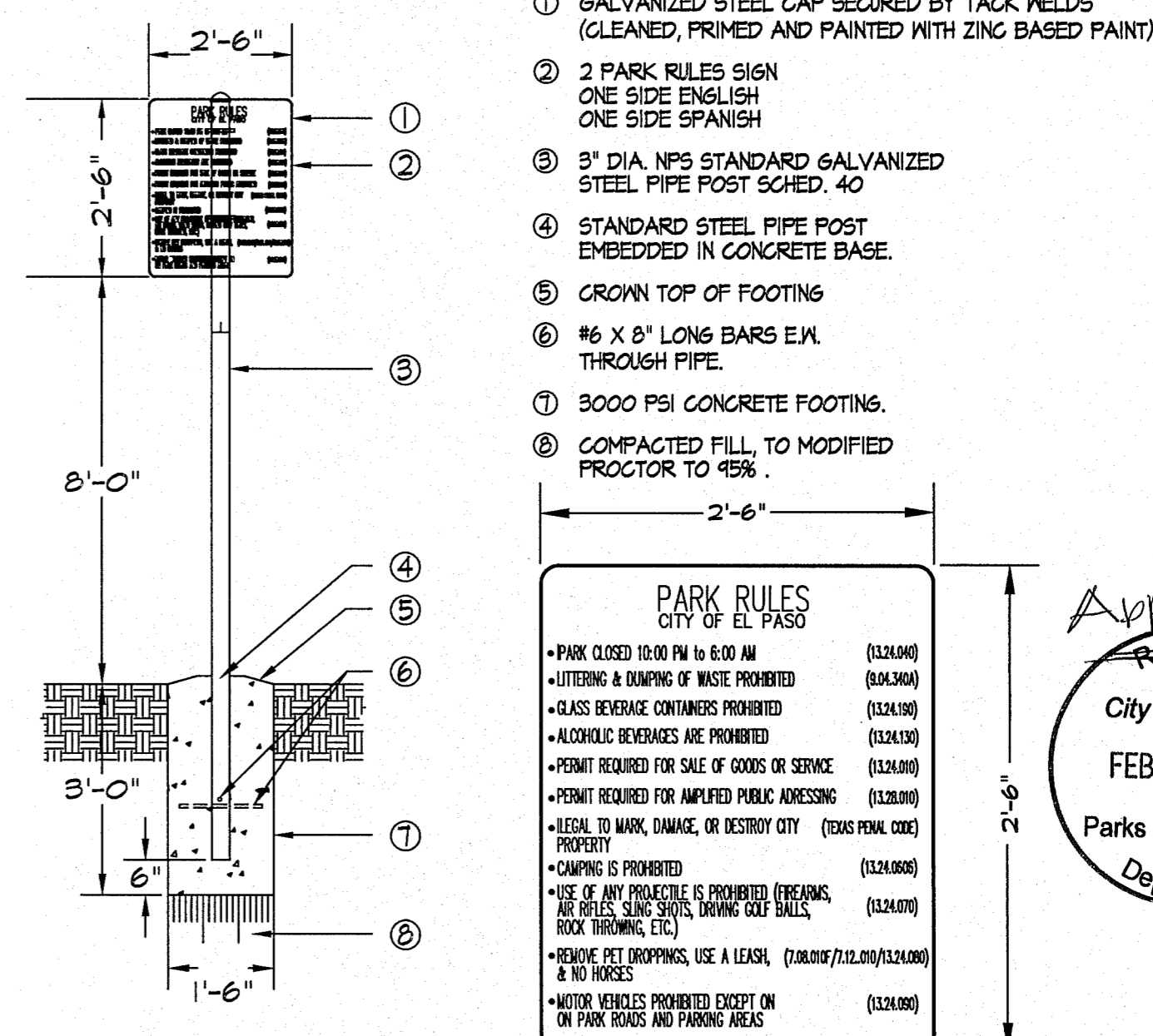
**1** TYPICAL PIPE AND WIRE TRENCHING DETAIL  
NOT TO SCALE



**2** DRIP EMITTER FOR TREES AND PLANTS RAIN BIRD XERI-BIRD & MULTI OUTLET EMISSION DEVICE  
NOT TO SCALE



**3** EMITTER PLACEMENT FOR TREES  
NOT TO SCALE

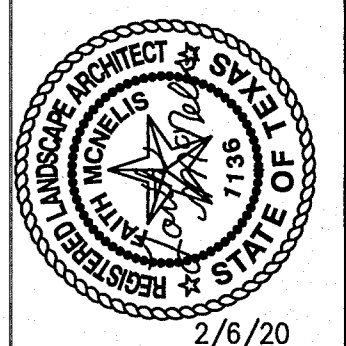


**I** PARK RULES SIGN - SECTION  
NOT TO SCALE

IRRIGATION IS REGULATED BY:  
PO BOX 13087  
AUSTIN, TEXAS 78711-3087  
TCEQ 512 239-6719  
CHAPTER 34, TEXAS WATER CODE  
IRRIGATOR'S LIC. #8947



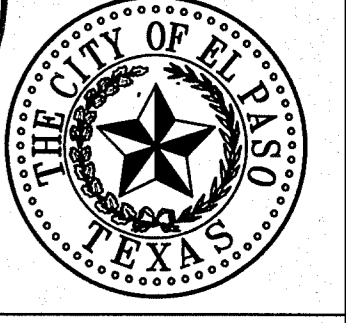
LISA MCNELIS  
LANDSCAPE ARCHITECT  
1900 FOXBORO  
LAS CRUCES, NEW MEXICO 88001  
(505) 621-5052



SCALE  
Vertical: N/A  
Horizontal: Interval: N/A

DATE: LM  
DESIGN BY: LM  
DRAWN BY: LM  
CHKD. BY: LM  
APPRD. BY: LM  
JOB NO.

PROJECT TITLE  
**TRES Suenos Park**  
14513 EASTBROOK  
LOT 1, BLOCK 68  
TRES Suenos UNIT 21 SUBDIVISION  
EL PASO, TEXAS 79938  
AREA: 87544.83 SF - 2.008 ACRES



SHEET TITLE

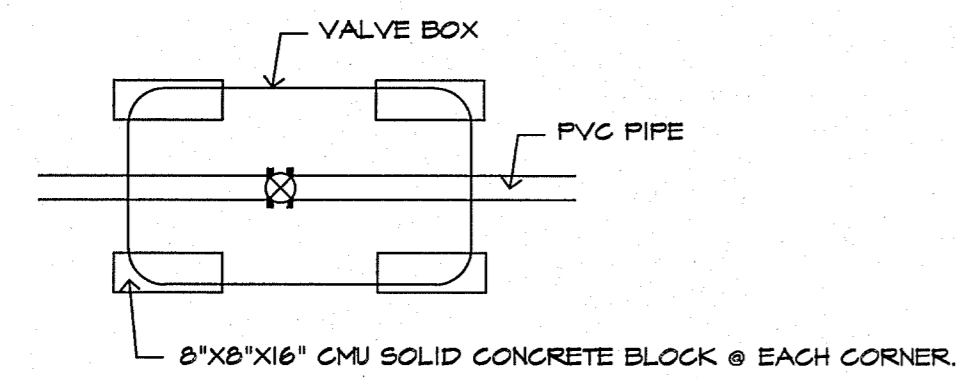
**L5**

LANDSCAPE & IRRIGATION DETAILS

SHEET 5 OF 7

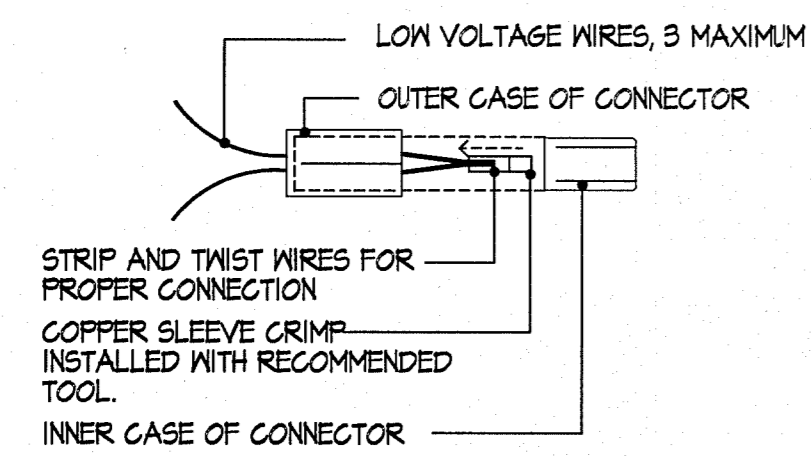
Approved  
City of El Paso  
Parks & Recreation  
Department  
FEB 27 2020

THIS DETAIL SHALL TAKE PRECEDENCE TO ANY OTHER DETAIL SHOWING VALVE BOX INSTALLATION.



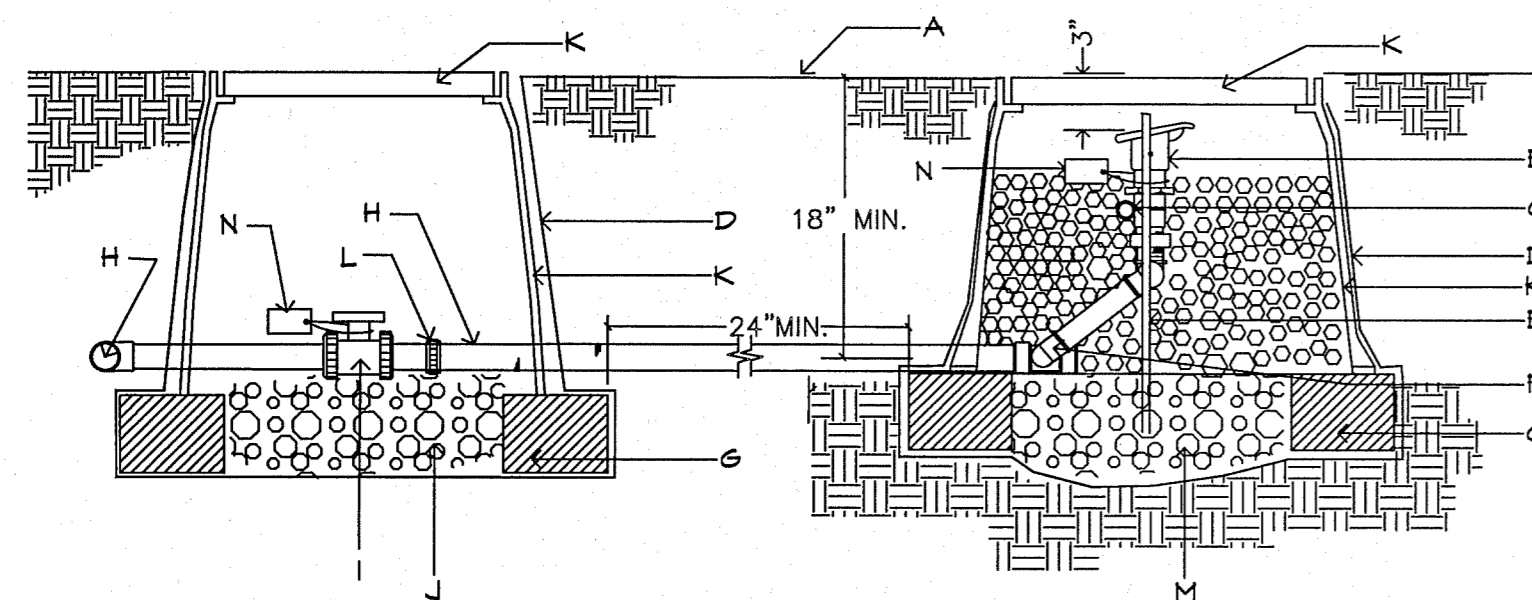
NOTE: BLOCKS TO SIT ON NEED CLOTH ON UNDISTURBED SOIL. DISTURBED SOILS SHALL BE COMPACTED WITH TAMPER PRIOR TO SETTING NEED CLOTH & BLOCKS. VALVE BOX AND EXTENSIONS TO SIT ON BLOCKS. VALVE BOX AND EXTENSIONS TO HAVE A MINIMUM 2" CLEARANCE TO THE TOP OF PVC PIPE.

4 BLOCK PLACEMENT FOR VALVE BOXES  
NOT TO SCALE



NOTE: CONNECTORS MUST BE READY FILLED FROM FACTORY WITH SILICONE. PROVIDE EXPANSION LOOPS FOR ALL FIELD WIRING EVERY 200'. WIRE SHALL NOT BE STRETCHED TIGHT. ALL WIRE ROUTED BETWEEN CONTROLLER AND REMOTE CONTROL VALVES SHALL BE A CONTINUOUS RUN WITH NO WIRE SPLICES. WIRE SPLICES SHALL ONLY OCCUR AT THE REMOTE CONTROL VALVE. ENSURE THAT CONNECTORS ARE COMPLETELY FILLED BEFORE USING.

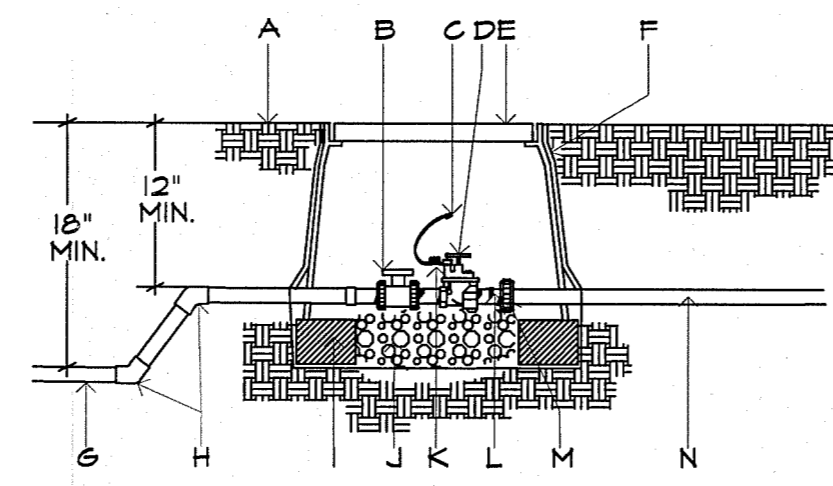
6 WIRE CONNECTORS  
NOT TO SCALE



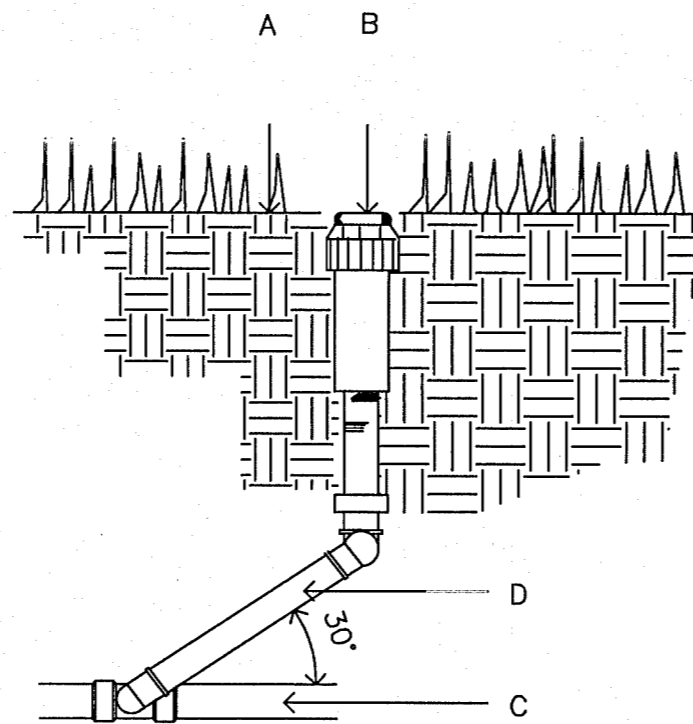
A. FINISH GRADE.  
B. 1" BUCKNER QUICK COUPLER VALVE, DOUBLE SLOT, PURPLE TOP-MODEL GBSNPIO WITH LASCO SNAP-LOCK W/MALE BRASS STABILIZER ELBOW.  
C. MIN. 12" SECTION 1" DIA. PVC SECTION SHOULD EXTEND BEYOND BOTH REBAR SECTION, STABILIZE IN GRAVEL.  
D. PROVIDE DEWITT PRO 5 NEED CLOTH ALONG SIDES AND BASE OF VALVE BOX. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY 3M PLASTIC TAPE.  
E. 1/2" OR 3/8" REBAR, MIN. 30" LENGTH, ONE ON EITHER SIDE OF QUICK COUPLER FOR STABILITY.  
F. LASCO SWING JOINT (PRE-ASSEMBLED).  
G. 8" X 8" X 16" SOLID CMU BLOCK.  
H. IRRIGATION MAINLINE.  
I. ISOLATION BALL VALVE, SEE IRRIGATION LEGEND.  
J. 6" DEPTH OF 3/8" WASHED PEA GRAVEL.  
K. CARSON PRODUCTS INC. 1414-18 BODY (ABS) VALVE BOX AND EXTENSIONS (S) W/BOLT DOWN COVER (COVER COLOR TO BE PURPLE).  
L. PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.  
M. 3/8" WASHED PEA GRAVEL FILLED TO QUICK COUPLER FOR STABILITY.  
N. WEATHER PROOF TAG THAT READS "NON-PORTABLE WATER, NOT SAFE FOR DRINKING." FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.

NOTE: INSTALL AN 8" X 8" X 16" SOLID CMU BLOCK AT EACH CORNER OF THE VALVE BOX. INSTALL 3/8" PEA GRAVEL BELOW THE 1414-18 NIPPLE BOX WITH BOLT DOWN COVER. EXTEND PEA GRAVEL UP TO COLLAR OF QUICK COUPLER VALVE. INSTALL A TEE, FLANGE & BALL VALVE OFF OF THE MAIN LINE IMMEDIATELY UPSTREAM OF THE QUICK COUPLER VALVE.

10 QUICK COUPLER  
NOT TO SCALE



5 IRRIGATION CONTROL VALVE  
NOT TO SCALE

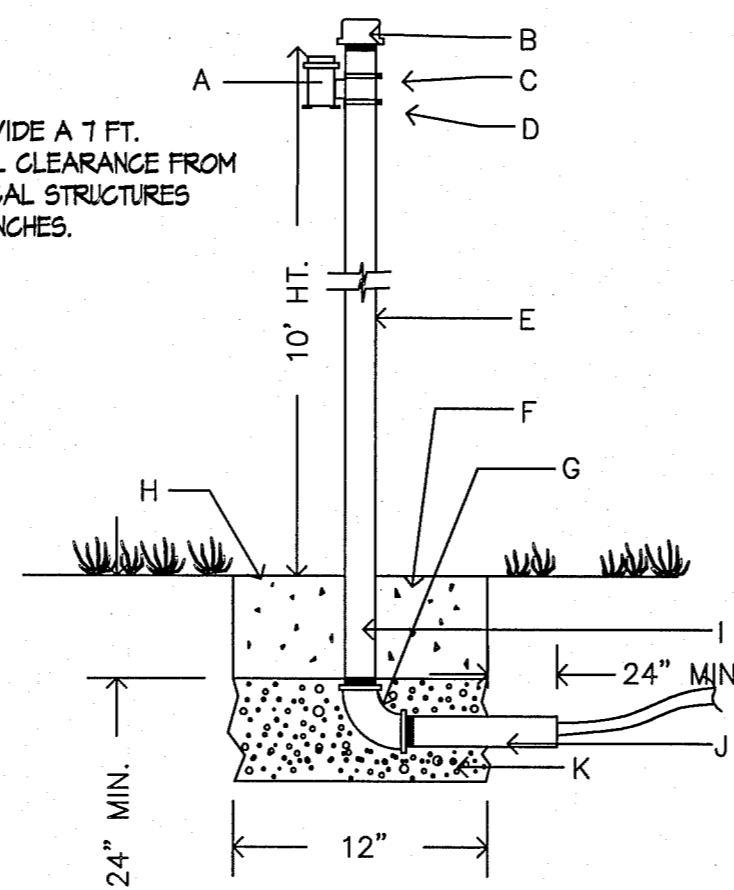


A. FINISH GRADE.  
B. SPRINKLER HEAD (SEE PLAN).  
C. LATERAL LINE (SEE PLAN).  
D. LASCO PRE-ASSEMBLED SWING JOINT.

THIS DETAIL SHALL BE USED FOR POP-UP SHRUB SPRAY, POP-UP LAWN SPRAY, GEAR DRIVEN AND ROTARY SPRINKLER HEADS. TOP OF SPRINKLER HEAD SHALL BE SET FLUSH WITH FINISH GRADE. SWING JOINT INSTALLATION TO COMPLY WITH MANUFACTURER'S RECOMMENDATION.

7 HUNTER ROTOR HEAD  
NOT TO SCALE

NOTE: PROVIDE A 1 FT. HORIZONTAL CLEARANCE FROM ANY VERTICAL STRUCTURES ABOVE 12 INCHES.

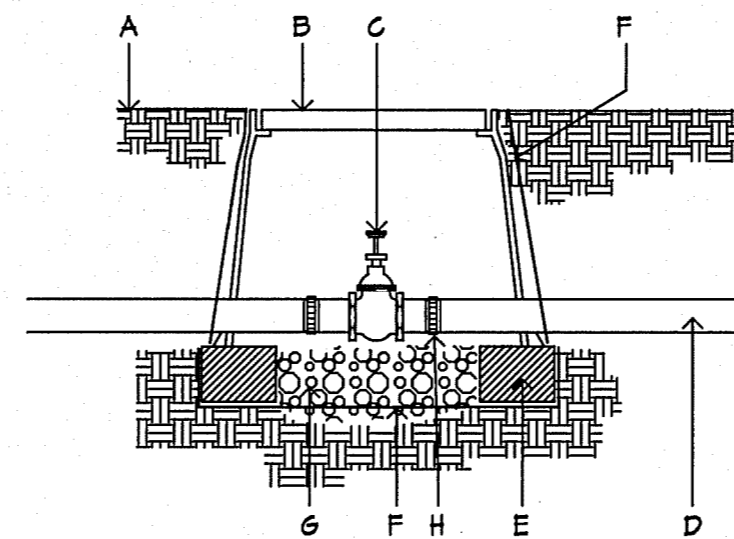


A. RAIN BIRD RAIN CAN  
B. 2 1/2" PIPE GAP WITH HOLE FOR WIRES AND SEAL WITH EXTERIOR GRADE SILICONE SEALANT.  
C. CLAMPS  
D. (2) MACHINE SCREWS WITH WASHER, LOCK WASHER AND NUT.  
E. 2 1/2" SCH 40 GALVANIZED PIPE-10 FT. HT. A.G.  
F. 12"X12" CONCRETE BASE, MIN. 24" DEEP.  
G. PIPE ELBOW  
H. FINISH GRADE  
I. PIPE TO BE SEALED AFTER CABLE IS RUN USE 4 MIL. PLASTIC AND TAPED NIPPLE AND THE CABLE WITH HIGH GRADE 3M WEATHER PROOF PLASTIC TAPE.  
J. NIPPLE. GALVANIZED PIPE IN CONCRETE FOOTING TO BE WRAPPED WITH WEATHER PROOF TAPE TO PROTECT FROM CORROSION.  
K. 6" THICK, 3/8" DIAMETER WASHED PEA GRAVEL.

11 RAIN CAN  
NOT TO SCALE

NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK.

A. FINISH GRADE.  
B. BALL VALVE.  
C. DRY SPLICE CONNECTOR OR EQUAL.  
D. ELECTRIC VALVE - SEE IRRIGATION LEGEND.  
E. CARSON PRODUCTS INC. 1414-18 (ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISHED MATERIAL AND 8" EXTENSIONS AS NECESSARY.  
F. PROVIDE DEWITT PRO 5 NEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.  
G. PVC MAINLINE - SEE IRRIGATION LEGEND.  
H. SCH 80 - 45 DEGREE FITTING.  
I. 8" X 8" X 16" SOLID CMU BLOCK @ EACH CORNER.  
J. 4" DEPTH, 3/8" DIAMETER WASHED PEA GRAVEL.  
K. 24" WIRE EXPANSION COIL, EXTEND WIRE 12" ABOVE VALVE BOX FOR SERVICE.  
L. SCHEDULE 80 PVC CLOSE NIPPLE.  
M. FLANGE (3" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)  
N. LATERAL LINE.



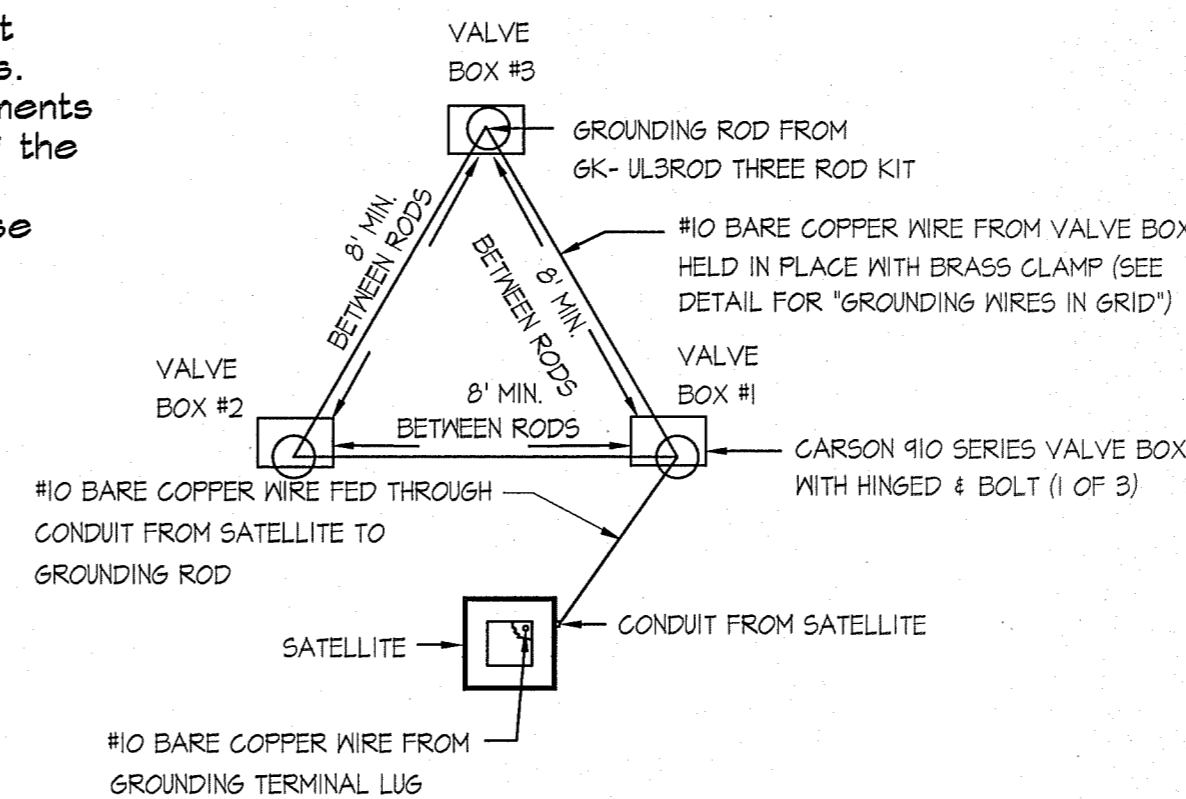
A. FINISH GRADE.  
B. CARSON PRODUCTS INC. 1414-18 (ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISH MATERIAL AND 8" EXTENSIONS AS NECESSARY.  
C. BRASS ISOLATION VALVE - SEE IRRIGATION LEGEND.  
D. IRRIGATION MAINLINE.  
E. 8" X 8" X 16" SOLID CMU BLOCK @ EACH CORNER.  
F. PROVIDE DEWITT PRO 5 NEED CLOTH ALONG SIDES AND BASE OF VALVE BOX INSTALLATION. TAPE TO ALL INLET AND OUTLET PIPE AND VALVE BOX WITH HEAVY DUTY PLASTIC 3M TAPE.  
G. 4" DEPTH, 3/8" WASHED PEA GRAVEL.  
H. FLANGE (3" AND ABOVE) AND UNION (BELOW 3" PIPE SIZE)

NOTE: PVC PIPE TO BE CLEAR OF VALVE BOX AND SOLID CMU BLOCK MUST BE LOCATED 10' FROM CONCENTRIC REDUCER ON 4" PIPE.

8 ISOLATION VALVE  
NOT TO SCALE

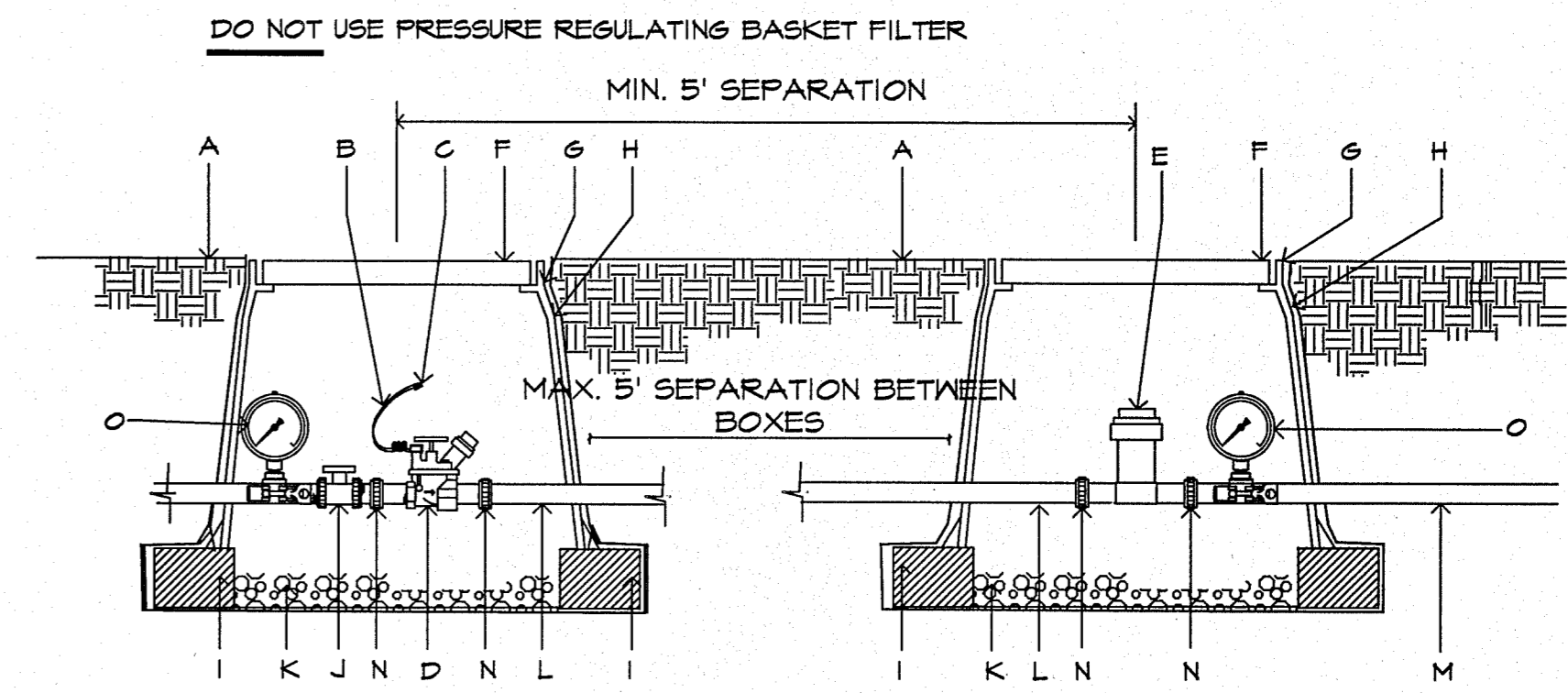
The Rain Can must be mounted level to ensure proper operation of the tipping mechanism and to provide accurate rainfall measurements. The mount on which the Rain Can is attached must be sturdy enough to prevent movement in windy conditions. Vibrations from small movements may reduce the accuracy of the readings while excessive movement will generate false readings from the tipping assembly.

SEE MANUFACTURER'S FIELD INSTALLATION INSTRUCTIONS. PARKS MAY REQUIRE ADDITIONAL FASTENERS OR MODIFICATION OF THIS DETAIL.



PLAN VIEW  
PLAN VIEW FOR LAYOUT ONLY. SEE GROUNDING ROD NOTES FOR INSTALLATION INSTRUCTIONS.

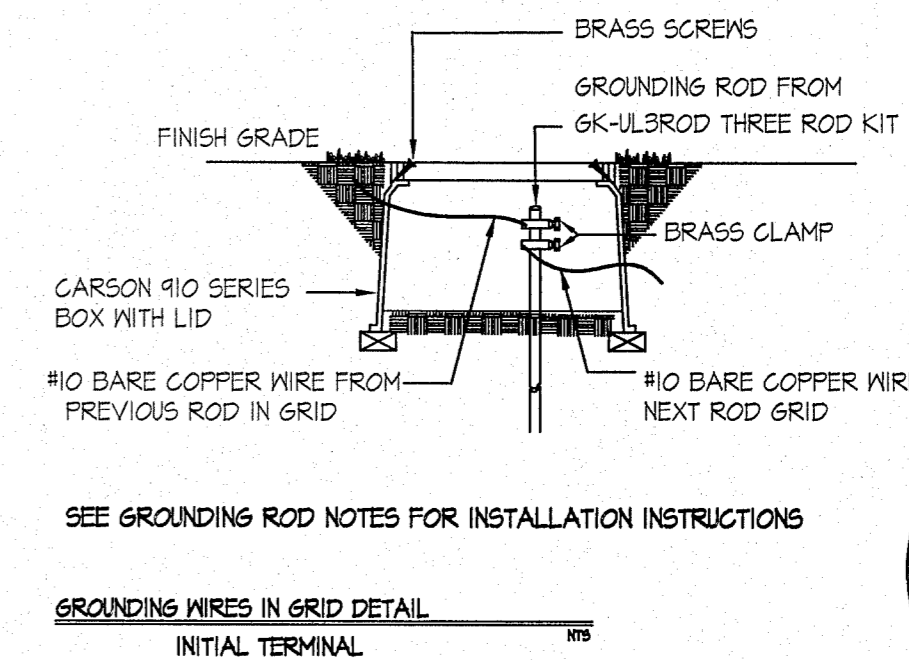
12 TRIANGULAR GROUNDING GRID DETAIL  
NOT TO SCALE



NOTE: PROVIDE 1 PRESSURE GAUGE ON MAIN LINE UPSTREAM OF BALL VALVE AND ANOTHER DOWNSTREAM OF BASKET FILTER. PROVIDE 5' SEPARATION BETWEEN BOXES. IF SPACE IS NOT AVAILABLE, PROVIDE A MIN. 5' SEPARATION AT CENTER LINES OF BOXES. SET GAGES HORIZONTAL TO BE READABLE FROM ABOVE.

A. FINISH GRADE.  
B. 24" WIRE LOOP.  
C. DRY SPLICE CONNECTOR OR EQUAL.  
D. AUTOMATIC VALVE. SEE IRRIGATION LEGEND.  
E. RAINBIRD PRESSURE BASKET FILTER STRAINER SHALL BE INSTALLED TO PROVIDE ACCESS FOR MAINTENANCE AND REPLACEMENT.  
F. LOCKING VALVE BOX COVER FLAT LID WITH BOLT.  
G. CARSON PRODUCTS INC. 1414-18 BODY (ABS) VALVE BOX W/BOLT DOWN COVER (COVER COLOR TO MATCH FINISH MATERIAL AND EXTENSION AS NECESSARY).  
H. PROVIDE DEWITT PRO 5 NEED CLOTH ALONG SIDES AND BASE OF VALVE BOX AND BLOCKS TAPE TO ALL INLET & OUTLET PIPE WITH 3M HEAVY DUTY PLASTIC TAPE.  
I. 8" X 8" X 16" CMU SOLID CONCRETE BLOCK @ EACH CORNER.  
J. BALL VALVE, INCLUDED IN CONTROL ZONE KIT, SEE IRRIGATION LEGEND.  
K. 4" LAYER OF 3/8" WASHED PEA GRAVEL.  
L. PVC PIPE SIZED PER PLAN WITH WELD ON THREADED FITTINGS ON EACH END.  
M. LATERAL LINE  
N. PROVIDE PVC UNION FOR PIPE SIZES LESS THAN THREE INCHES IN DIAMETER OR PROVIDE FLANGES FOR PIPE SIZES THREE INCHES IN DIAMETER OR LARGER.  
O. HORIZONTAL HYGIENIC PRESSURE GAUGE

9 DRIF VALVE W/ BASKET FILTER  
NOT TO SCALE



GROUNDING ROD NOTES:

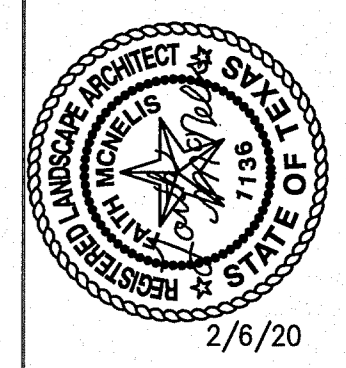
GROUNDING RODS SERVE AS ELECTRODES FOR DEVICES TO DISSIPATE THE SURGE INTO THE EARTH. CAREFULLY READ THE FOLLOWING INSTALLATION INSTRUCTIONS.  
1. ALWAYS USE A 5/8" X 8' COPPER CLAD ROD.  
2. RUN A #10 OF LARGER BARE COPPER WIRE FROM THE DEVICE TO THE ROD.  
3. KEEP THE GROUND WIRES AS SHORT AND STRAIGHT AS POSSIBLE FROM THE DEVICE TO THE FIRST ROD.  
4. CLAMP ALL WIRES TO THE GROUNDING ROD. DO NOT SOLDER OR TAPE THEM TO THE ROD.  
5. TO INSTALL GROUNDING ROD, USE 6K-TOOLS ROD DRIVING SLEEVE.  
6. SPACE THREE RODS IN A TRIANGULAR GRID AT LEAST 8' APART FROM THE OTHERS IN THE GRID. CONNECT ALL THREE RODS WITH A SOLID #10 COPPER WIRE.  
7. WHEN TESTED WITH THE PROPER EQUIPMENT, GRIDS SHOULD HAVE AN EARTH RESISTANCE NO GREATER THAN 15 OHMS.  
8. WHENEVER MORE THAN ONE WIRE IS ATTACHED TO A GROUNDING ROD ALWAYS USE A SEPARATE CLAMP FOR EACH WIRE. TRYING TO INSTALL MORE THAN ONE WIRE PER CLAMP COULD CAUSE A POOR CONNECTION RESULTING IN HIGH RESISTANCE LEVELS.  
9. GROUNDING RODS SERVE AS ELECTRODES FOR THE SURGE DEVICES TO DISSIPATE THE SURGE INTO THE EARTH. REMEMBER THESE TIPS WHEN INSTALLING THEM.



IRRIGATION IS REGULATED BY:  
PO BOX 13087  
AUSTIN, TEXAS 78711-3087  
TCQE 512 239-6719  
CHAPTER 34, TEXAS WATER CODE  
IRRIGATOR'S LIC. #8947

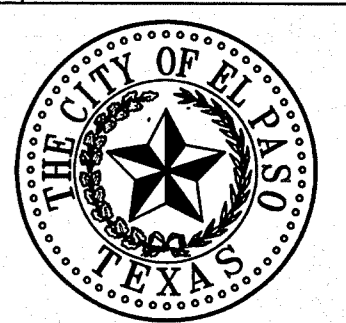
REVISIONS	DATE	BY

LISA MCNELLIS  
LANDSCAPE ARCHITECT  
1900 FOXBORO  
LAS CRUCES, NEW MEXICO 88007  
(505) 621-3092

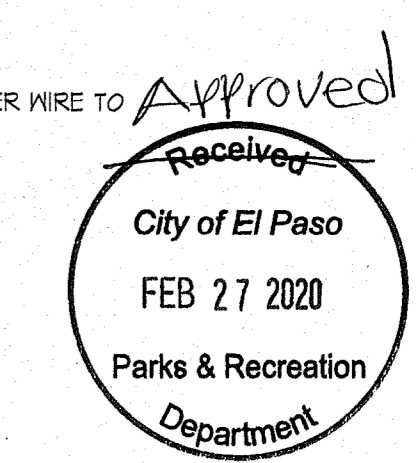


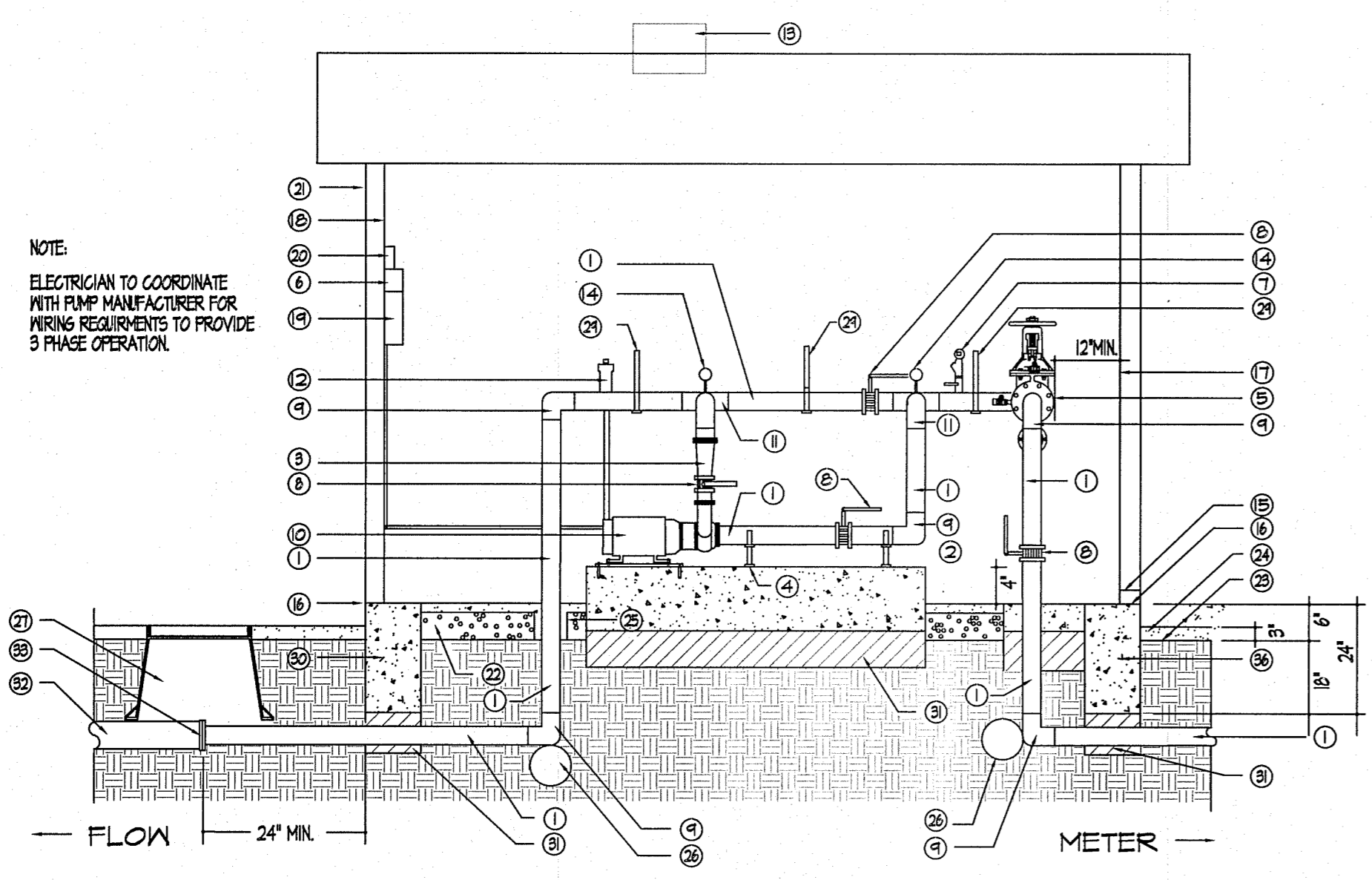
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Vertical: 1/4" = 1'-0"	2/6/20	LM	LM
Horizontal: 1/4" = 1'-0"		LM	LM
Contour Interval: N/A		LM	LM

PROJECT TITLE  
**TRES Suenos Park**  
14613 EASTBROOK  
LOT 1, BLOCK 66  
TRES Suenos UNIT 21 SUBDIVISION  
EL PASO, TEXAS 79938  
AREA: 87544.83 SF- 2.009 ACRES



SHEET TITLE  
**L6**  
LANDSCAPE & IRRIGATION DETAILS  
SHEET 6 OF 7

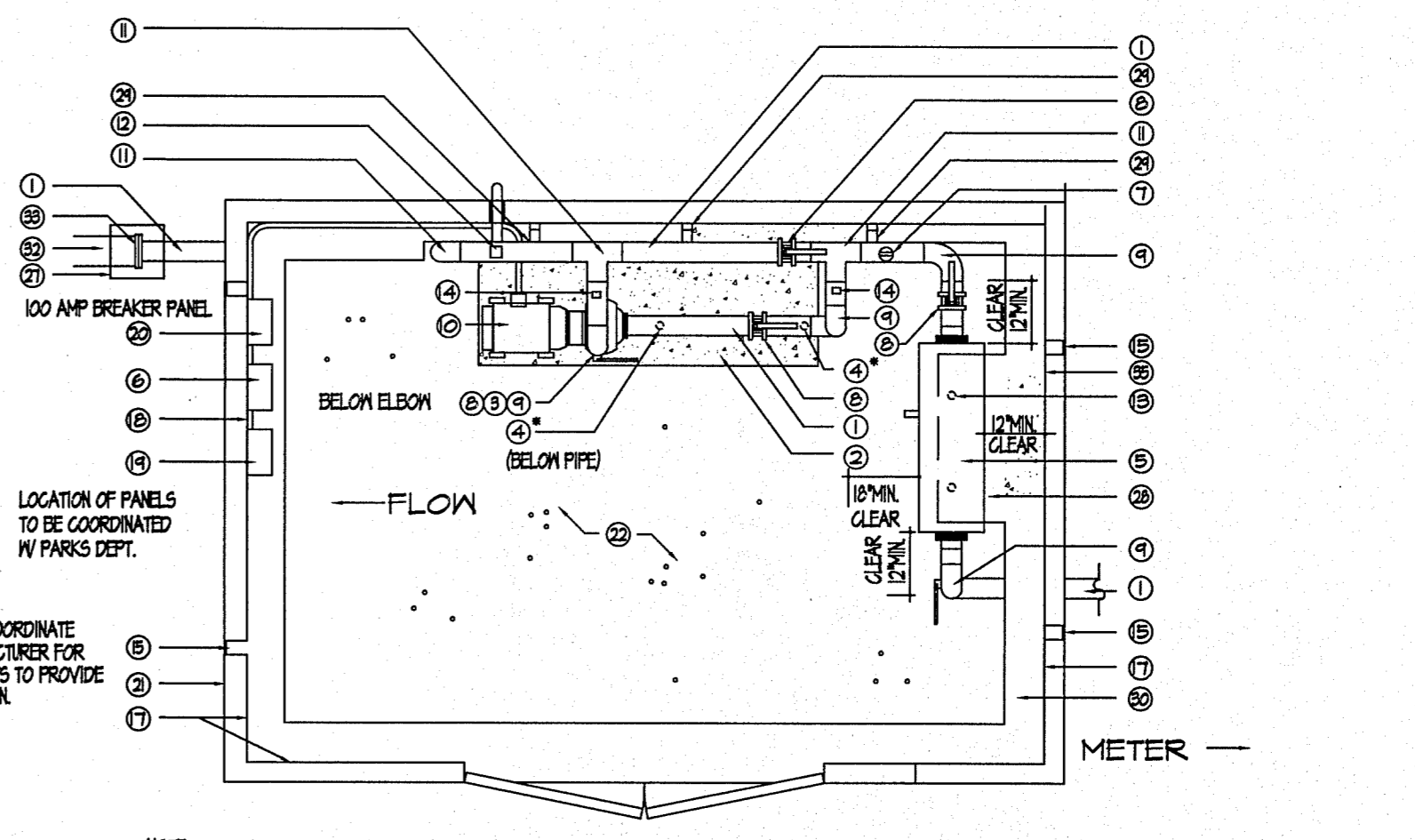




13 BOOSTER PUMP AND ENCLOSURE - SECTION/ELEVATION  
NOT TO SCALE

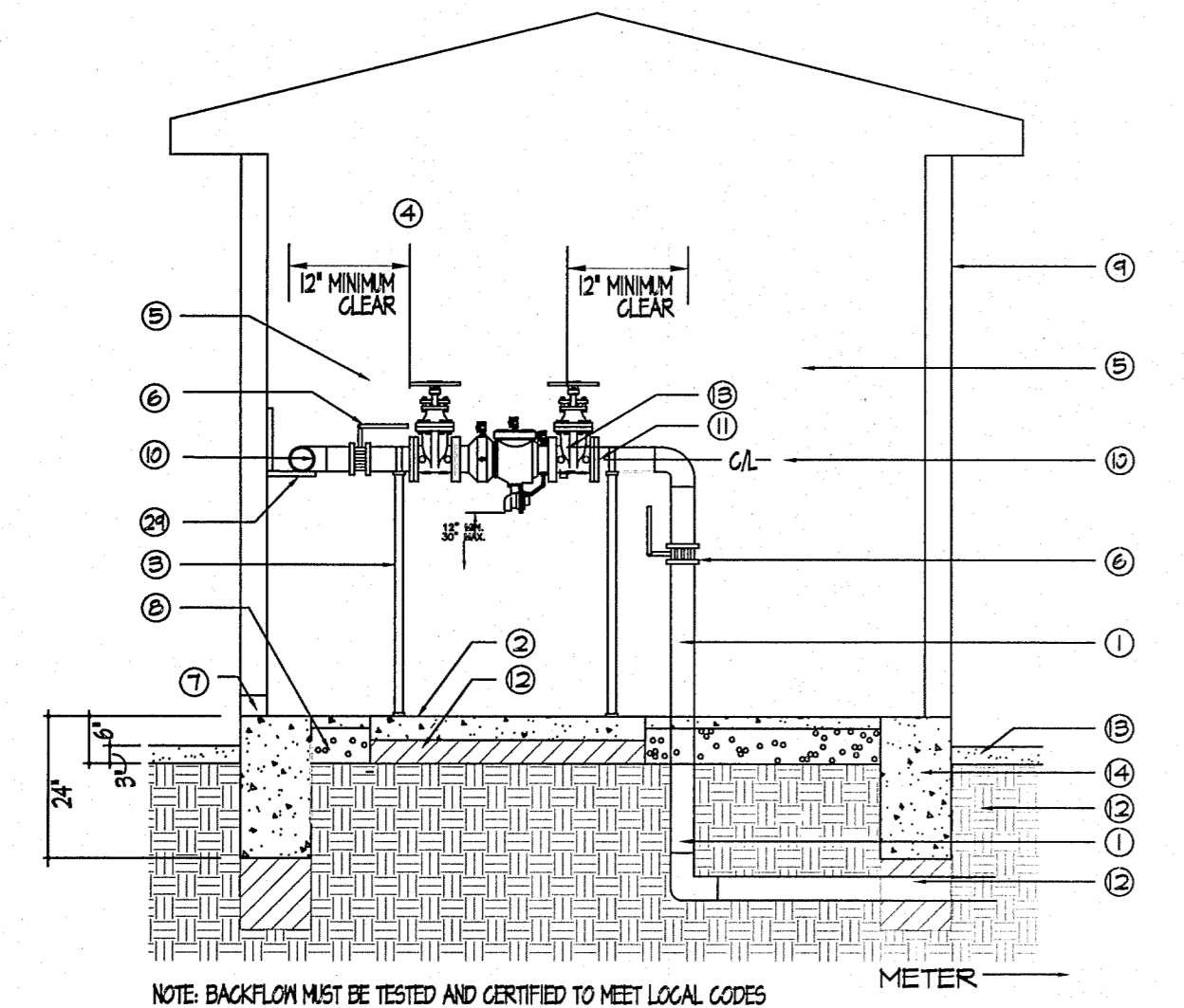
KEYED NOTES FOR DETAILS O AND P

- 1 TYPE K COPPER - SEE PLANS FOR SIZE
- 2 CONCRETE SLAB BELOW PUMP - 3000 PSI 4" HIGHER THAN BUILDING FOOTING
- 3 CONCENTRIC REDUCER IF PUMP OUTLET IS LESS THAN 3"
- 4 STEEL SUPPORTS WITH ISOLATORS BOLTED TO CONCRETE
- 5 BACKFLOW PREVENTER - SEE PLANS
- 6 PENTAIR VARIABLE FREQUENCY DRIVE
- 7 MERCID DA SWITCH HIGH/LOW CUT OFF SWITCH MUST BE VERTICAL AND LEVEL WIRE TO PUMP PANEL
- 8 ULS STYLE BUTTERFLY VALVE
- 9 COPPER ELBOW
- 10 BERKELEY B20M VARIABLE FREQUENCY DRIVE PUMP IN 3 PHASE 10 HP MOTOR FLANGED MOUNTED ON CONCRETE SLAB WITH 1/2" OR THICKER SOLE PLATE TAPPED FOR HOLD DOWN BOLTS. USE RUBBER ISOLATORS BETWEEN PUMP AND SOLE PLATE. REFER TO BERKELEY CENTRIFUGAL PUMP OWNERS MANUAL P. 5
- 11 COPPER TEE
- 12 PRESSURE RELEASE VALVE VENT TO OUTSIDE OF PUMP HOUSE
- 13 METAL STATIC VENT
- 14 100 PSI PRESSURE GAUGE
- 15 INSTALL KNOCK OUT DRAINS IN STURDY METAL LOUVERS (N)
- 16 TOP OF SHED FOOTING
- 17 WATER BOARD IN WALLS AND CEILING
- 18 3/4" CDX PLYWOOD BEHIND CONTROLLER AND ELEC. PANEL
- 19 CONTROLLER WITHIN 8' OF PUMP RELAYS. SEE DETAIL M SHEET L6
- 20 PUMP PANEL WITH NEMA 3R ENCLOSURE. REFER TO BERKELEY PUMP MANUFACTURERS RECOMMENDED COMPONENTS FOR PUMP PROTECTION DURING OPERATION. MUST MEET ALL LOCAL ELEC. CODE REQUIREMENTS.
- 21 8' X 12' PREMIER TUFF SHED. DOOR LOCATION APPROVED BY PARKS.
- 22 4" MINIMUM DEPTH PEA GRAVEL
- 23 FINISHED GRADE
- 24 3" LAYER OF GRAVEL (OUTSIDE SHED)
- 25 USE "LEAVE OUT" IN CONCRETE OR PVC SLEEVE
- 26 THRUST BLOCK
- 27 JIMBO CARBON BOX 18" DEPTH FOR INFLECTION
- 28 4" SLAB BELOW BACKFLOW FOR STEEL SUPPORTS
- 29 UNISTRUT PIPE SUPPORT SYSTEM - DETAILS PROVIDED TO PARKS
- 30 12"X24" CONCRETE FOOTING SEE THIS SHEET
- 31 UNDISTURBED SOIL OR COMPACTED FILL TO MODIFIED PROCTOR %8 BELOW ALL CONCRETE
- 32 SCHEDULE 40 PVC MAIN
- 33 COPPER FLANGE TO PVC SCHEDULE 80 FLANGE



\*NOTE: DO NOT LET THE WEIGHT OF THE PIPE REST ON THE PUMP. INSTALL PIPE SUPPORTS AS SHOWN. ADD SUPPORTS IF NECESSARY. TYPE K COPPER WILL BE USED FOR COPPER INSTALLED FROM SERVICE LINE THROUGH THE BACKFLOW AND PUMP. SHED AND COMPONENTS MAY BE REORIENTED IN THE FIELD BASED ON WATER METER LOCATION. MAINTAIN CLEARANCES AND ORDER OF COMPONENTS SHED MUST BE SET BEHIND BLDG SETBACKS.

14 BOOSTER PUMP AND ENCLOSURE - PLAN VIEW  
NOT TO SCALE

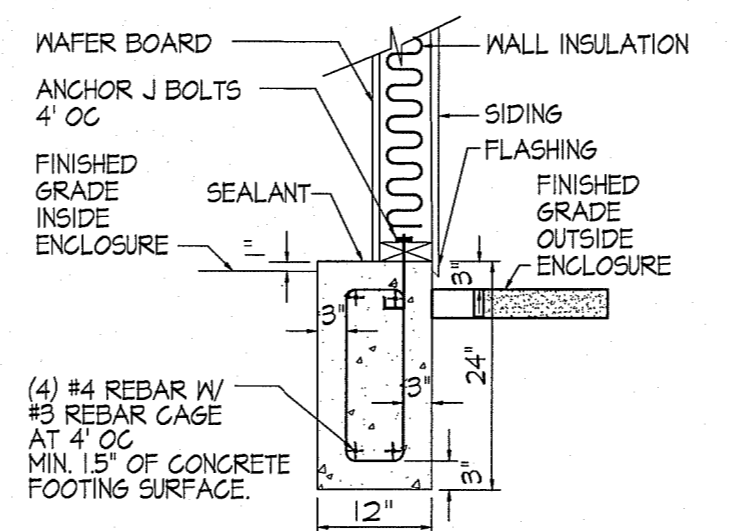


15 BACKFLOW IN PUMP ENCLOSURE - SECTION/ELEVATION  
NOT TO SCALE

- 1 TYPE K COPPER - SEE PLANS FOR SIZE
- 2 4" CONCRETE SLAB BELOW BACKFLOW 3000 PSI CONCRETE. SAME FOUR AS SHED FOOTING
- 3 STEEL SUPPORTS WITH RUBBER ISOLATORS BOLTED TO CONCRETE
- 4 UNISTRUT PIPE SUPPORT SYSTEM - DETAIL TO BE APPROVED BY PARKS.
- 5 BACKFLOW PREVENTER - SEE PLANS
- 6 BUTTERFLY VALVE
- 7 INSTALL KNOCK OUT DRAINS WITH STURDY METAL LOUVERS
- 8 4" DEPTH OF PEA GRAVEL
- 9 8' X 12' TUFF SHED. DOOR LOCATION TO BE APPROVED BY PARKS.
- 10 MUST ALIGN WITH BY-PASS ABOVE PUMP
- 11 COPPER (UNION FLANGED)
- 12 UNDISTURBED SOIL OR COMPACTED FILL TO MODIFIED PROCTOR %8 BELOW ALL CONCRETE
- 13 3" LAYER OF GRAVEL OUTSIDE OF SHED
- 14 12" X 24" CONCRETE FOOTING MINIMUM SIZE BELOW WALLS. SEE DETAIL THIS SHEET

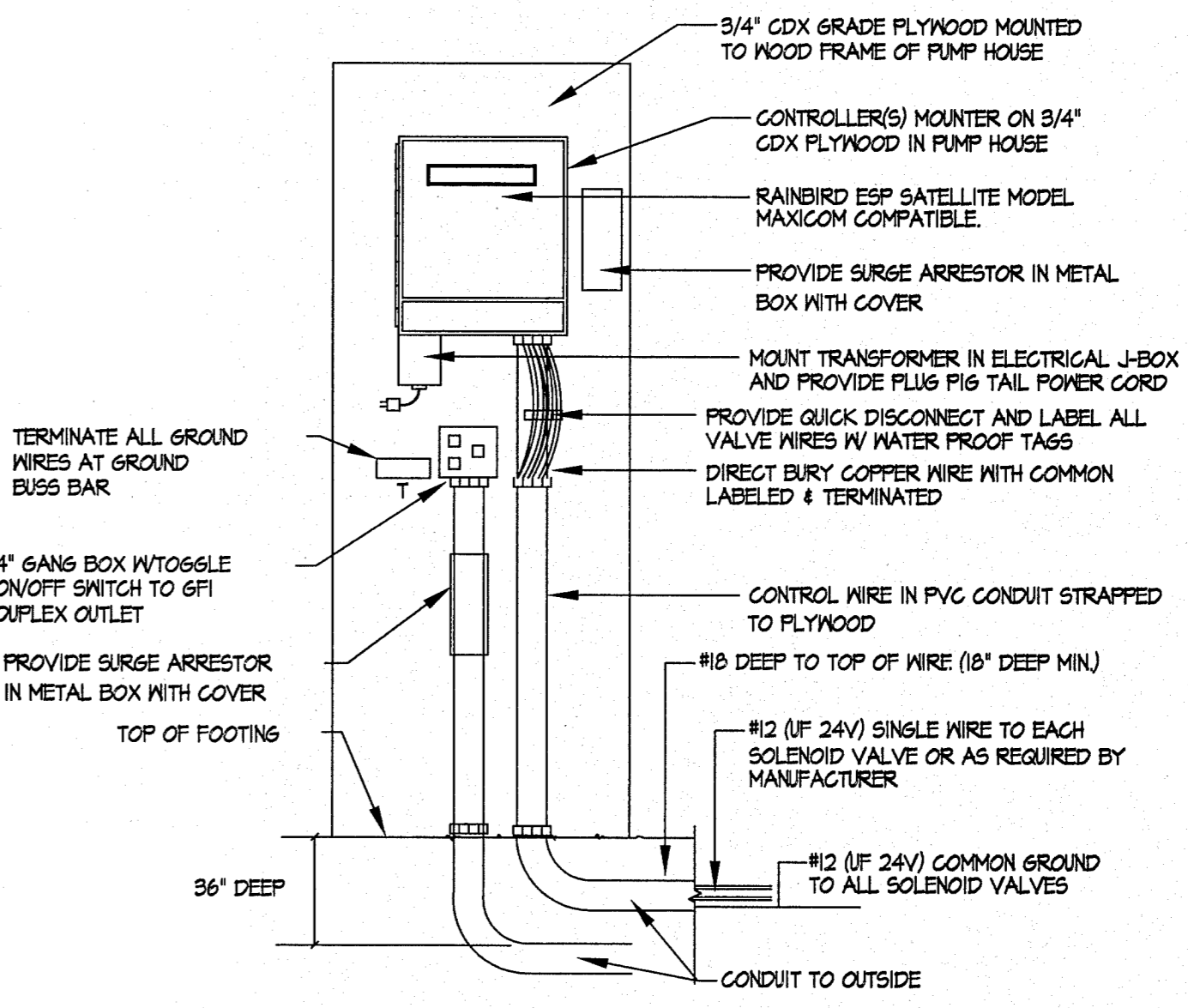
PROVIDE CLEARANCES FOR BACKFLOW DEVICE OF:  
12" ON BACKSIDE  
12" ON SUPPLY AND DISCHARGE SIDES  
18" ON FRONT SIDE (TEST SIDE)

NOTE: BACKFLOW MUST BE TESTED AND CERTIFIED TO MEET LOCAL CODES SEE DETAIL N ON SHEET L6 AND DETAILS O AND P ON SHEET L7



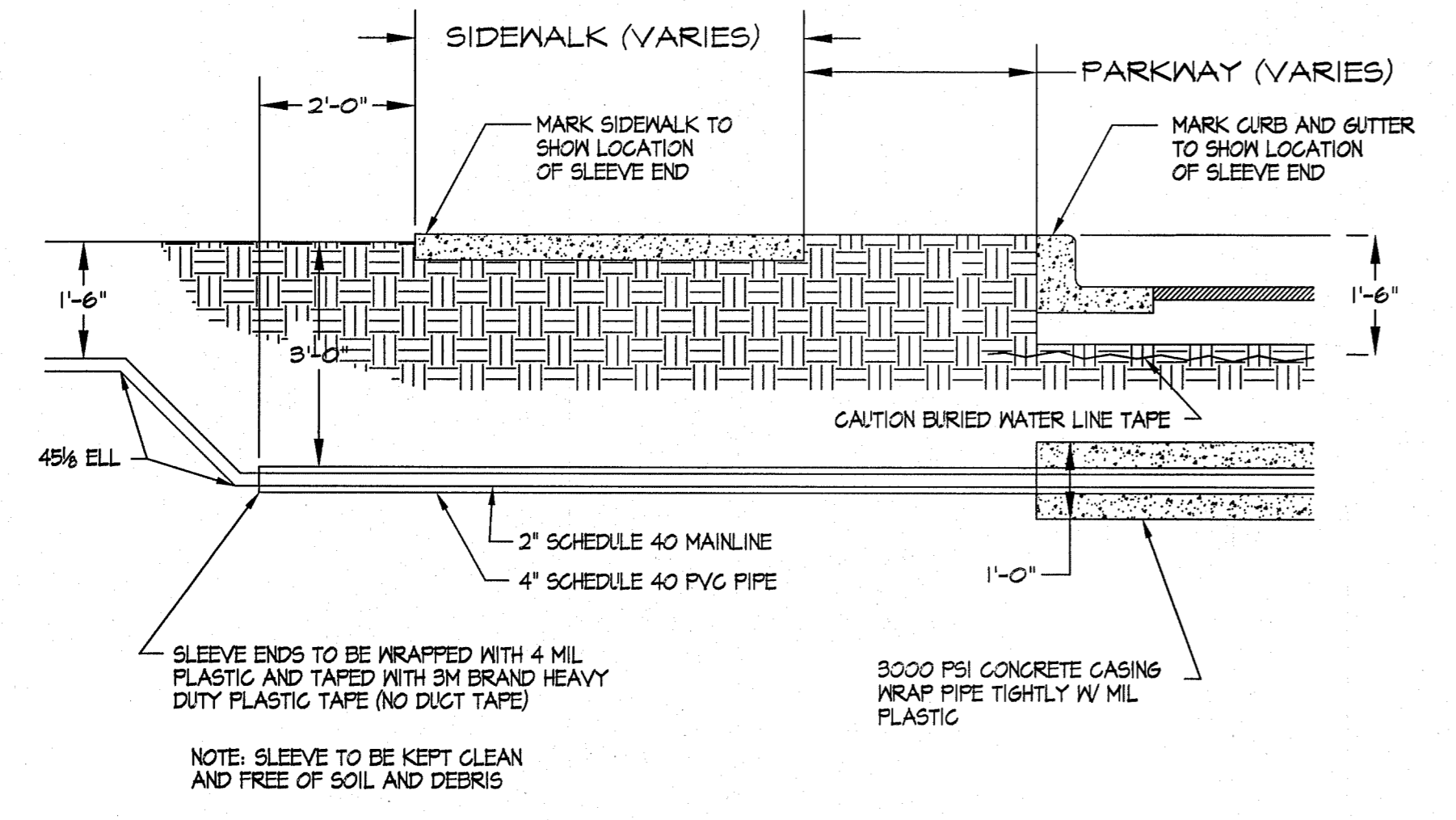
NOTES:  
ALL SIDING AND TRIM WORK TO BE CAULKED THEN PRIMED. USE 2 COATES OF PAINT (COLOR SELECTED BY PARKS AND RECREATION DEPT).  
INSTALL KNOCK-OUT DRAINS WITH STURDY METAL LOUVERS AT BASE OF PUMP HOUSE IN CASE OF LEAKS.  
SEE DETAILS N, O AND P ON SHEETS L6 AND L7 FOR MORE INFORMATION.

16 PUMP ENCLOSURE FOOTING DETAIL - SECTION/ELEVATION  
NOT TO SCALE

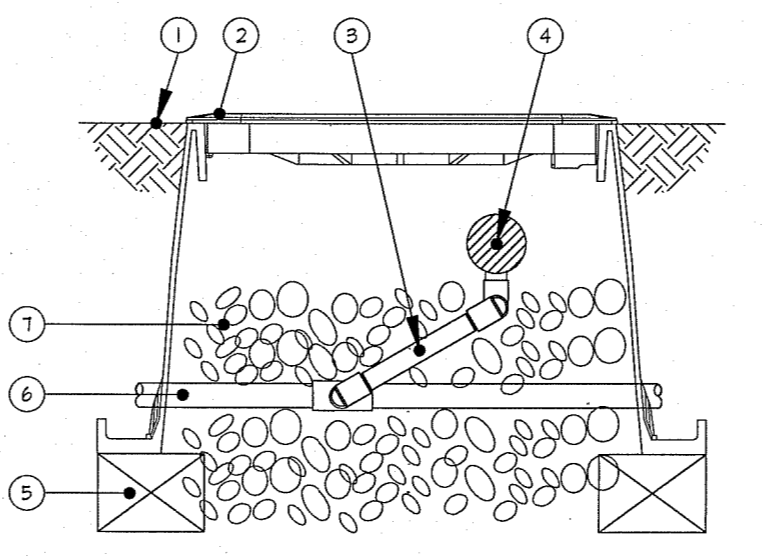


LABEL ALL WIRES AND EQUIPMENT WITH PERMANENT WATERPROOF TAGS.

17 WALL MOUNTED CONTROLLER MAXICOM COMPATIBLE  
NOT TO SCALE



18 SLEEVING UNDER STREETS  
NOT TO SCALE

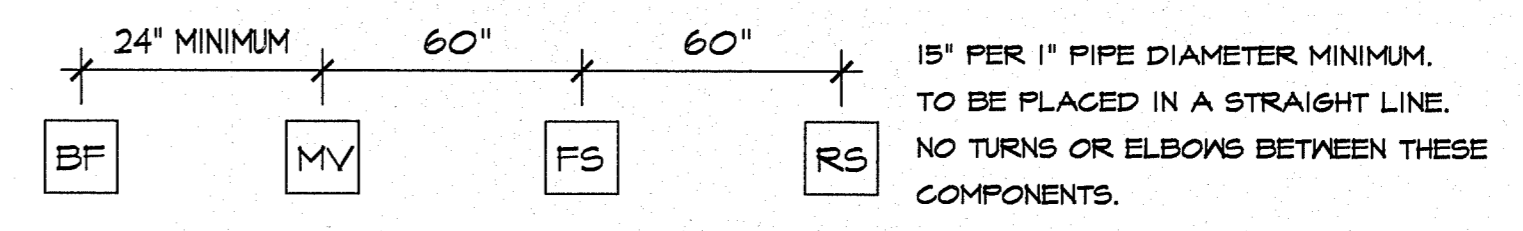


USE STANDARD VALVE BOX INSTALLATION INFORMATION.

AIR RELEASE VALVES SHALL BE INSTALLED AT HIGH POINTS OF THE MAIN LINE AND LATERALS. LOCATION TO BE DETERMINED IN THE FIELD

19 AIR RELEASE VALVE  
NOT TO SCALE

(4" PIPE IS SPECIFIED FOR THIS PROJECT)



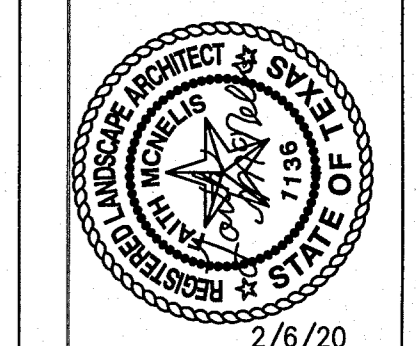
MINIMUM DISTANCE NEEDED TO AVOID INTERFERENCE BETWEEN COMPONENTS  
INSTALL PER MANUFACTURER'S SPECIFICATIONS.

20 MAXICOM/IQ CONTROL SYSTEM COMPONENTS SEQUENCE AND SPACING  
NOT TO SCALE

Approved  
City of El Paso  
FEB 27 2020  
Parks & Recreation Department

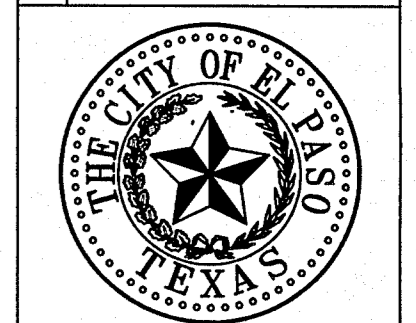
REVISIONS	DATE	BY

LISA MCNELIS  
LANDSCAPE ARCHITECT  
1000 FLORESCO  
LAS VEGAS, NEVADA 89102  
(702) 621-3022



SCALE  
Horizontal: N/A  
Vertical: Contour Interval: N/A  
DATE: LM  
DESIGN BY: LM  
DRAWN BY: LM  
CHKD. BY: LM  
APP'D. BY: LM  
JOB NO.

PROJECT TITLE  
TRES SUENOS PARK  
14518 EASTBROOK  
LOT 1, BLOCK 66  
TRES SUENOS UNIT 21 SUBDIVISION  
EL PASO, TEXAS 79938  
AREA: 87544.83 SF- 2.009 ACRES



SHEET TITLE

L7

IRRIGATION DETAILS

SHEET 7 OF 7



IRRIGATION IS REGULATED BY:  
PO BOX 13087  
AUSTIN, TEXAS 78711-3087  
TOEQ 512 239-6719  
CHAPTER 34, TEXAS WATER CODE  
IRRIGATOR'S LIC. #8947