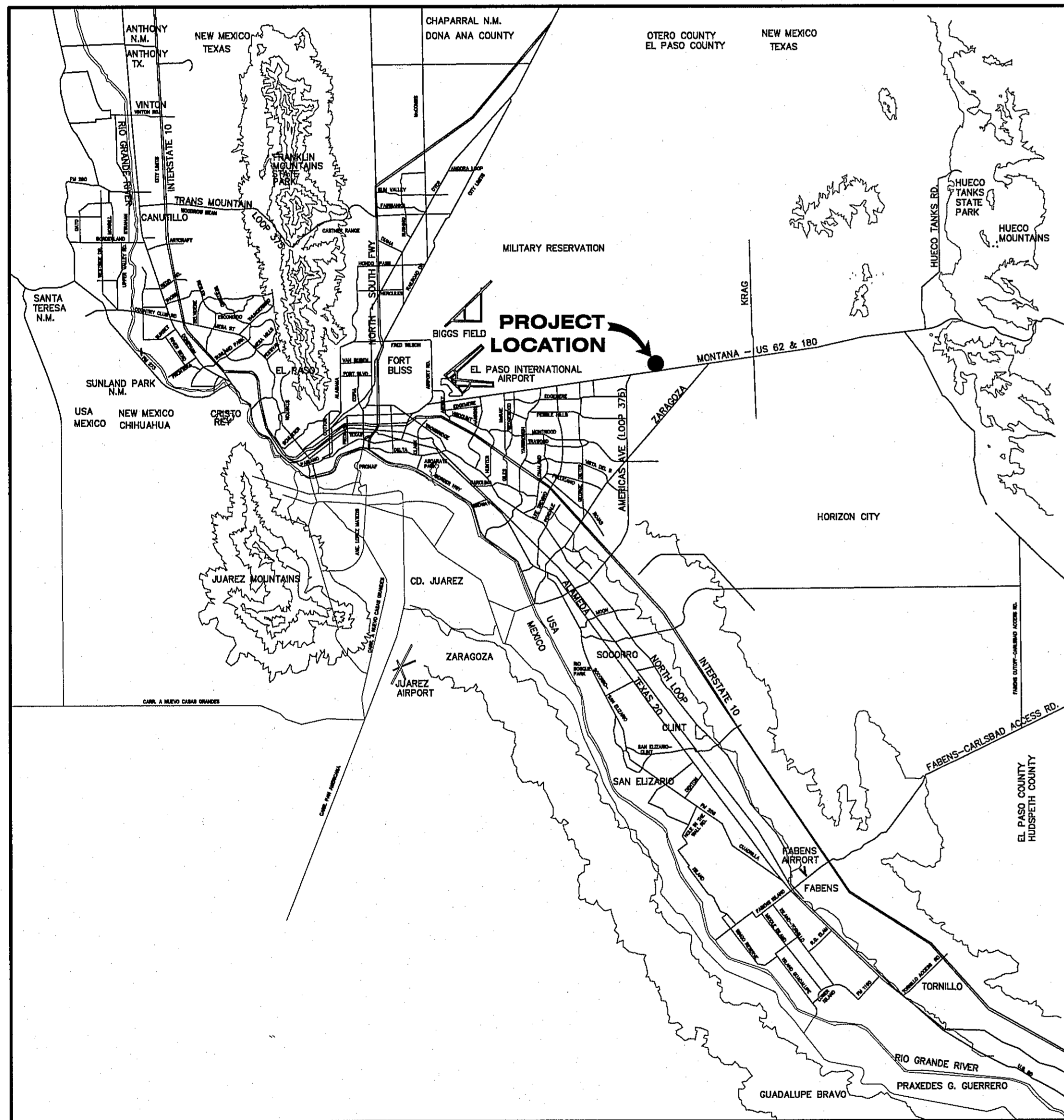


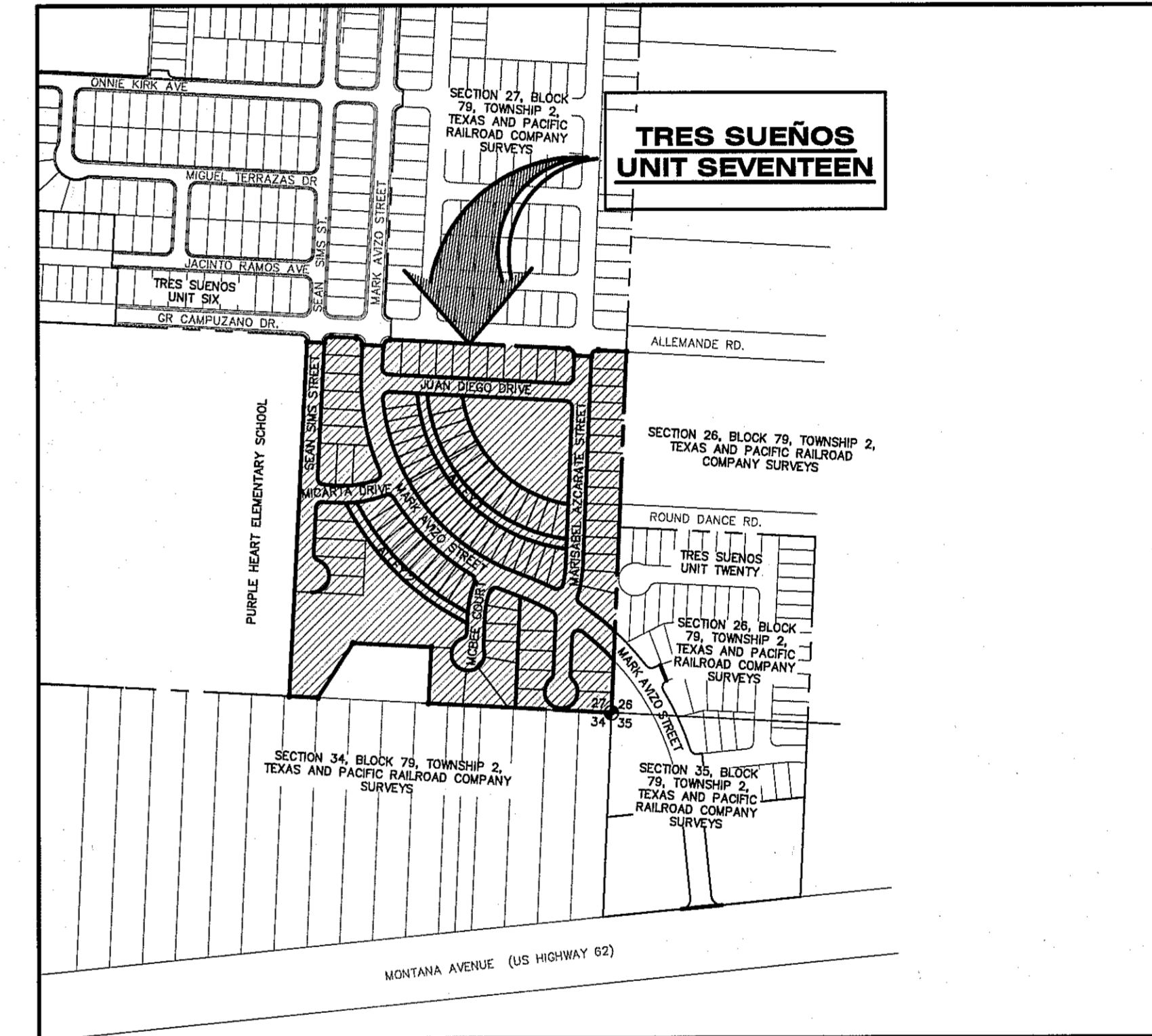
TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2,
TEXAS & PACIFIC RAILROAD COMPANY SURVEYS,
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 23.13± ACRES

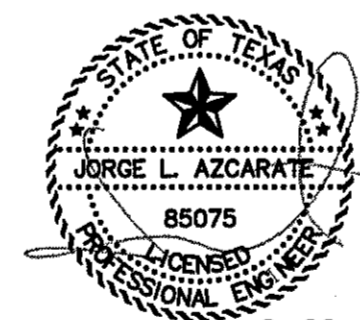


VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL NOTES
C2.1	FINAL PLAT
C3.1-C3.2	GRADING PLAN, ALLEY 1 AND 2 GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1-C5.2	GRADING SECTIONS
C6.1-C6.7	STREET PLAN & PROFILES
C7.1-C7.2	STORM SEWER PLAN & PROFILES
C8.1	POND DESIGN PLAN
C9.1-C9.3	STANDARD DETAILS
C10.1-C10.3	DRAINAGE DETAILS
C11.1-C11.2	ILLUMINATION PLAN
C11.3	CONSTRUCTION PHASING PLAN
C12.1	WATER INDEX / GENERAL INFORMATION
C12.2	16"Ø WATER LINE PLAN & PROFILE
C12.3-C12.7	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C13.2-C13.5	SANITARY SEWER PLAN & PROFILES
C13.6-C13.8	SANITARY SEWER DETAILS
C14.1-C14.3	STORM WATER POLLUTION PREVENTION PLAN
L1-L11	LANDSCAPE & IRRIGATION PLANS



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'



8-22-18
JORGE L. AZCARATE, P.E. PROJECT MANAGER



PARKS DEPARTMENT
REVIEWED BY: *[Signature]* 09/10/2018



Reviewed For Conformance For Condition Related To:

- Sidewalks
- Grading & Drainage
- Wheelchair Ramps
- On Site Parking Layout
- Driveways
- Retaining Rock Walls
- On Site Paving of Storm Water

Contractor Must Call 24 Hours Prior To Construction for Inspections
[Signature] 9/10/2018

PRINCIPAL CONTACTS:

NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	G. BOWLING ENTERPRISES	4712 WOODROW BEAN DR. STE. A	EL PASO, TX 79924	(915) 757-1802 (915) 757-1827
ENGINEER:	CEA GROUP	4712 WOODROW BEAN DR. STE. F	EL PASO, TX 79924	(915) 544-5232 (915) 544-5233
SURVEYOR:	BARRAGAN & ASSOCIATES	10950 PELLICANO DR. BUILDING F	EL PASO, TX 79936	(915) 591-5709 (915) 591-5706

GENERAL NOTES

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
- 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.
- 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.
- SEE REFERENCED BENCHMARK ON TITLE BLOCK FOR DATUM ELEVATIONS.
- VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
- ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
- THE LOCATION OF THE INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

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
- 4000 FINISHED GROUND CONTOUR ELEVATION (INDEX)
- FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
- 4000 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
- 4000.00 FINISHED SPOT ELEVATION
- FG 4000.00 LOT FINISHED GROUND ELEVATION
- TC 4000.00 TOP OF CURB ELEVATION
- TP 4000.00 TOP OF PAVEMENT ELEVATION
- 1 ② SUBDIVISION LOT AND BLOCK NUMBER
- DRAINAGE FLOW
- ▲ HIGH POINT
- ▼ LOW POINT
- ◁ ▷ EXISTING HIGH POINT
- ◁ ▷ EXISTING LOW POINT
- ▣ HEADWALL WITH WINGWALLS
- DA-1 DRAINAGE AREA
- 3:1 SLOPE HORIZONTAL:VERTICAL SLOPE RATIO
- ♿ WHEELCHAIR RAMP

GRADING SPECIFICATIONS

- 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.
- 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.
- 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.
- EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
- 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.
- 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.
- 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.
- 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.

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 MEDIAN
- 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
- QFS CUBIC FEET PER SECOND
- A AREA
- DA DRAINAGE AREA
- LF LINEAR FEET
- STD STANDARD
- CNC 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

INDEX OF DRAWINGS

DRAWING NAME	SHEET NO.
COVER	CVR
GENERAL NOTES	C1.1
PLAT	C2.1
GRADING PLAN	C3.1
ALLEY 1 & 2 GRADING PLAN	C3.2
DRAINAGE PLAN	C4.1
GRADING SECTIONS (SHEET 1 OF 2)	C5.1
GRADING SECTIONS (SHEET 2 OF 2)	C5.2
MARK AVIZO STREET PLAN & PROFILE FROM STA. 9+57.17 TO STA. 16+50.00	C6.1
MARK AVIZO STREET PLAN & PROFILE FROM STA. 16+50.00 TO STA. 29+19.07	C6.2
MARISABEL AZCARATE STREET PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+00.00	C6.3
MARISABEL AZCARATE STREET PLAN & PROFILE FROM STA. 7+00.00 TO STA. 10+16.65	C6.4
MCBEE COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+54.58	C6.5
SEAN SIMS STREET PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+03.23	C6.5
JUAN DIEGO DRIVE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+35.11	C6.6
MICARTA DRIVE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+73.42	C6.7
STORM SEWER LINE A PLAN & PROFILE FROM STA. 0+00.00 TO STA. 6+52.65	C7.1
STORM SEWER LINE B PLAN & PROFILE FROM STA. 6+52.65 TO STA. 10+28.89	C7.2
STORM SEWER LINE C PLAN & PROFILE FROM STA. 0+00.00 TO STA. 0+86.91	C7.2
POND DESIGN PLAN	C8.1
STANDARD DETAILS (SHEET 1 OF 3)	C9.1
STANDARD DETAILS (SHEET 2 OF 3)	C9.2
STANDARD DETAILS (SHEET 3 OF 3)	C9.3
DRAINAGE DETAILS (SHEET 1 OF 3)	C10.1
DRAINAGE DETAILS (SHEET 2 OF 3)	C10.2
DRAINAGE DETAILS (SHEET 3 OF 3)	C10.3
ILLUMINATION AND SIGNAGE PLAN	C11.1
ILLUMINATION AND SIGNAGE DETAILS	C11.2
CONSTRUCTION PHASING PLAN	C11.3
WATER LINE INDEX	C12.1
16" WATER LINE PLAN & PROFILE	C12.2
WATER DETAILS (SHEET 1 OF 5)	C12.3
WATER DETAILS (SHEET 2 OF 5)	C12.4
WATER DETAILS (SHEET 3 OF 5)	C12.5
WATER DETAILS (SHEET 4 OF 5)	C12.6
WATER DETAILS (SHEET 5 OF 5)	C12.7
SANITARY SEWER INDEX	C13.1
SANITARY SEWER PLAN & PROFILE: LINE A & H	C13.2
SANITARY SEWER PLAN & PROFILE: LINE B, C & D	C13.3
SANITARY SEWER PLAN & PROFILE: LINE E & F	C13.4
SANITARY SEWER PLAN & PROFILE: LINE G	C13.5
SANITARY SEWER DETAILS (SHEET 1 OF 3)	C13.6
SANITARY SEWER DETAILS (SHEET 2 OF 3)	C13.7
SANITARY SEWER DETAILS (SHEET 3 OF 3)	C13.8
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES	C14.1
STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN	C14.2
STORM WATER POLLUTION PREVENTION PLAN: DETAILS	C14.3
SITE MAP, SHEET INDEX, NOTES	L1
PLANTING AND MATERIALS PLAN	L2
IRRIGATION PLAN - SPRAY PATTERN	L3
IRRIGATION PLAN - PIPING AND DRIP	L4
PLAYGROUND EQUIPMENT	L5
LAYOUT PLAN	L6
PLANTING AND CONSTRUCTION DETAILS	L7
CONSTRUCTION DETAILS	L8
IRRIGATION DETAILS	L9
IRRIGATION DETAILS	L10
IRRIGATION DETAILS - PUMP AND ENCLOSURE	L11

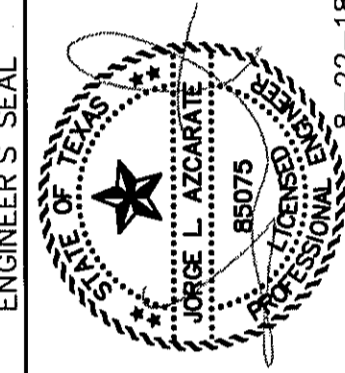
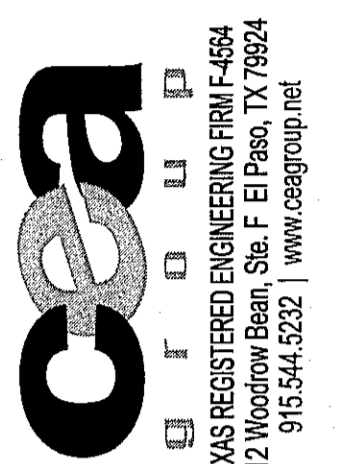
UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200
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

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE WHICH BEING FROM THE SOUTHERLY RIGHT OF WAY OF MONTANA AVENUE. ELEVATION = 4005.40 (CITY DATUM).



SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.A.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-207

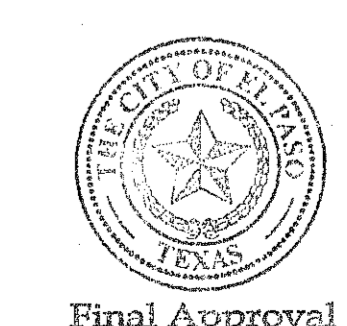
PROJECT TITLE
TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

GENERAL NOTES

SHEET NO.

C1.1



Final Approval

TRES SUEÑOS UNIT SEVENTEEN

A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS & PACIFIC RAILROAD COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS. CONTAINING 23.13 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, alleys, parking and utility and pedestrian easements, park and pedestrian right of ways as herein 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 11th day of December 2018.

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 11th day of December 2018.

Normi Holly
Notary Public in and for El Paso County, Texas
My Commission Expires 10-13-2021

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 21st day of Dec, 2018.

Margaret J. Houston
Chairman
Phyllis Stivers
Executive Secretary

Approved for filing this 23 day of JANUARY 2019.

Phyllis Stivers
Planning and Inspections Director

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 21st day of January 2019, in File No. 20190005920 of the Plat Records.

Debra Dierkes
FOR RECORDING PURPOSES ONLY
County Clerk

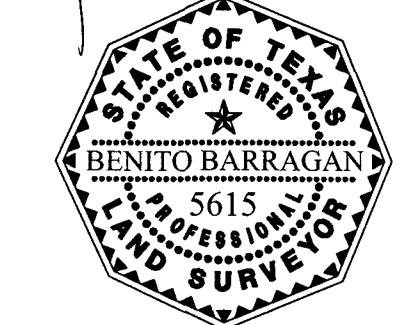
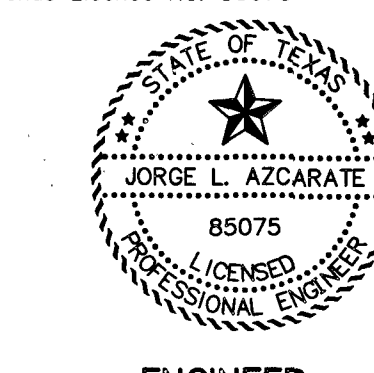
Herbert Lauer
by Deputy

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
12-11-18
Jorge L. Azcarate, P.E.
Licensed Professional Engineer
Texas License No. 85075

Benito Barragan
12/6/2018
Benito Barragan, R.P.L.S. No. 5615



ENGINEER
ocea GROUP
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.oceagroup.net

SURVEYOR
Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
TBPLS 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.

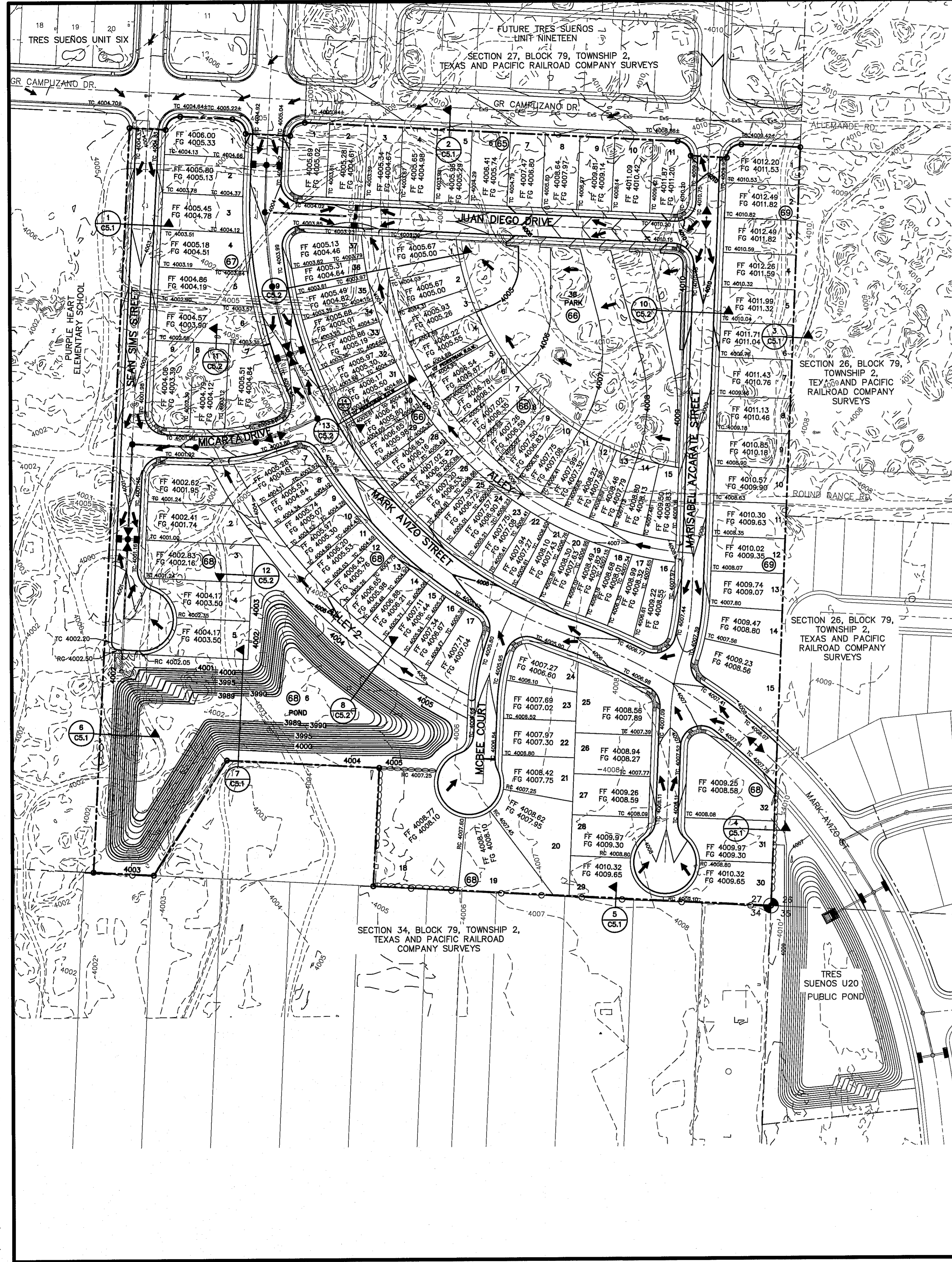
DATE OF PREPARATION: AUGUST 2018

CURVE TABLE						CURVE TABLE							
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	20.00'	31.42'	19.81'	28.29'	N46°02'47"E	09°00'35"							
C2	20.00'	31.41'	19.81'	28.28'	S41°57'13"E	08°59'24"							
C3	20.00'	31.42'	19.81'	28.29'	N46°02'47"E	09°00'35"							
C4	20.00'	31.22'	19.81'	28.15'	S42°13'43"E	08°59'22"							
C5	20.00'	31.61'	20.20'	28.42'	N47°46'16"E	09°03'37"							
C6	650.00'	39.41'	19.71'	39.41'	S01°18'51"W	03°28'28"							
C7	650.00'	308.57'	157.25'	305.68'	S14°01'20"E	02°21'15"							
C8	650.00'	398.91'	205.86'	392.68'	S45°21'27"E	03°59'45"							
C9	650.00'	88.86'	44.50'	88.79'	S66°42'03"E	00°47'57"							
C10	800.00'	167.35'	83.98'	167.04'	N64°37'27"W	01°15'08"							
C11	800.00'	187.21'	94.03'	186.78'	S15°55'40"W	01°32'42"							
C12	325.00'	148.23'	75.42'	146.94'	N79°26'35"E	02°09'53"							
C13	325.00'	25.71'	12.86'	25.70'	S89°13'07"E	00°43'15"							
C14	300.00'	129.49'	65.77'	128.49'	S15°40'57"W	02°44'51"							
C15	300.00'	43.08'	21.58'	43.05'	S06°35'52"W	00°08'13"							
C16	300.00'	42.03'	21.05'	41.99'	S14°43'31"W	00°08'13"							
C17	300.00'	85.07'	42.82'	84.79'	N10°36'54"E	01°16'45"							
C18	498.00'	733.60'	451.58'	689.05'	S43°41'10"E	08°42'08"							
C19	802.00'	559.64'	291.76'	548.36'	S45°14'20"E	03°58'58"							
C20	20.00'	31.42'	19.81'	28.28'	S41°56'55"E	09°00'00"							
C21	20.00'	31.61'	20.20'	28.42'	N47°46'16"E	09°03'37"							
C22	20.00'	31.22'	19.81'	28.15'	N42°13'43"E	08°59'22"							
C23	20.00'	31.42'	19.81'	28.29'	S48°02'47"W	09°01'23"							
C24	20.00'	34.28'	23.99'	30.24'	S43°26'40"W	08°01'23"							
C25	20.00'	31.22'	19.81'	28.15'	N42°13'43"E	08°59'22"							
C26	274.00'	58.86'	28.03'	57.77'	N08°19'57"E	01°11'54"							
C27	274.00'	35.96'	18.25'	35.91'	N85°40'47"E	03°03'52"							
C28	832.00'	24.40'	12.20'	24.40'	N63°39'12"W	00°14'50"							
C29	832.00'	40.89'	20.45'	40.89'	N65°54'06"E	00°24'58"							
C30	832.00'	33.93'	16.97'	33.93'	N68°28'41"W	00°22'13"							
C31	832.00'	14.10'	7.05'	14.10'	N70°07'55"W	00°05'15"							
C32	818.00'	19.90'	9.95'	19.90'	S69°41'38"E	00°10'42"							
C33	818.00'	37.92'	18.96'	37.91'	S67°00'49"E	00°30'55"							
C34	818.00'	37.92'	18.96'	37.91'	S63°29'54"E	00°30'55"							
C35	818.00'	37.92'	18.96'	37.91'	S59°58'59"E	00°30'55"							
C36	818.00'	37.92'	18.96'	37.91'	S56°28'03"E	00°30'55"							
C37	818.00'	37.92'	18.96'	37.91'	S52°57'08"E	00°30'55"							
C38	818.00'	37.92'	18.96'	37.91'	S49°26'13"E	00°30'55"							
C39	818.00'	37.92'	18.96'	37.91'	S45°55'18"E	00°30'55"							
C40	818.00'	37.92'	18.96'	37.91'	S42°24'22"E	00°30'55"							
C41	818.00'	37.92'	18.96'	37.91'	S38°53'27"E	00°30'55"							
C42	818.00'	37.92'	18.96'	37.91'	S35°22'32"E	00°30'55"							
C43	818.00'	36.71'	18.36'	36.71'	S31°49'23"E	00°35'21"							
C44	818.00'	10.00'	5.00'	10.00'	S29°33'54"E	00°05'36"							
C45	818.00'	36.53'	18.27'	36.53'	S27°16'55"E	00°34'21"							
C46	818.00'	37.74'	18.87'	37.73'	S24°46'47"E	00°32'55"							
C47	818.00'	37.74'	18.87'	37.73'	S20°16'52"E	00°32'55"							
C48	818.00'	37.74'	18.87'	37.73'	S16°46'57"E	00°32'55"							
C49	818.00'	37.74'	18.87'	37.73'	S13°17'02"E	00°32'55"							
C50	818.00'	37.74'	18.87'	37.73'	S09°47'07"E	00°32'55"							
C51	818.00'	31.04'	15.52'	31.04'	S06°35'49"E	00°25'41"							
C52	508.00'	32.73'	16.37'	32.73'	S06°11'24"E	00°34'13"							
C53	508.00'	31.02'	15.51'	31.01'	S09°47'07"E	00°32'55"							
C54	508.00'	31.02'	15.51'	31.01'	S13°17'02"E	00°32'55"							
C55	508.00'	31.02'	15.51'	31.01'	S16°46'57"E	00°32'55"							
C56	508.00'	31.02'	15.51'	31.01'	S20°16'52"E	00°32'55"							
C57	508.00'	31.02'	15.51'	31.01'	S23°46'47"E	00°32'55"							
C58	508.00'	30.79'	15.40'	30.78'	S27°15'54"E	00°32'20"							
C59	508.00'	10.00'	5.00'	10.00'	S29°33'54"E	00°10'40"							
C60	508.00'	30.93'	15.47'	30.93'	S31°52'24"E	00°32'20"							
C61	508.00'	31.17'	15.59'	31.16'	S35°22'32"E	00°30'55"							
C62	508.00'	31.17'	15.59'	31.16'	S38°53'27"E	00°30'55"							
C63	508.00'	31.17'	15.59'	31.16'	S42°24'22"E	00°30'55"							
C64	508.00'	31.17'	15.59'	31.16'	S45°55'18"E	00°30'55"							
C65	508.00'	31.17'	15.59'	31.16'	S49°26'13"E	00°30'55"							
C66	508.00'	31.17'	15.59'	31.16'	S52°57'08"E	00°30'55"							
C67	508.00'	31.17'	15.59'	31.16'	S56°28'03"E	00°30'55"							
C68	508.00'	31.17'	15.59'	31.16'	S59°58'59"E	00°30'55"							
C69	508.00'	31.17'	15.59'	31.16'	S63°29'54"E	00°30'55"							
C70	508.00'	31.17'	15.59'	31.16'	S67°00'49"E	00°30'55"							
C71	508.00'	32.33'	16.17'	32.32'	S70°25'40"E	00°38'44"							
C72	508.00'	32.40'	16.21'	32.40'	S74°14'42"E	00°39'11"							
C73	508.00'	30.18'	15.08'	30.18'	S77°46'23"E	00°34'05"							
C74	508.00'	31.11'	15.56'	31.10'	S81°13'47"E	00°33'30"							
C75	488.00'	49.04'	24.54'	49.02'	S79°55'03"E	00°45'27"							
C76	488.00'	46.15'	23.00'	46.13'	S74°19'47"E	00°25'05"							
C77	488.00'	36.53'	18.27'	36.52'	S69°28'34"E	00°41'20"							
C78	488.00'	39.44'	19.73'	39.43'	S65°00'59"E	00°43'51"							
C79	488.00'	39.44'	19.73'	39.43'	S60°23'08"E	00°43'51"							
C80	488.00'	39.44'	19.73'	39.43'	S55°45'16"E	00°43'51"							

LINE TABLE		
LINE	BEARING	LENGTH
L1	S86°56'28"E	52.00'
L2	S86°56'55"E	75.23'
L3	S86°56'13"E	64.00'
L4	S28°31'04"E	52.01'
L5	S86°56'55"E	84.82'
L6	N03°05'47"E	170.00'
L7	N86°56'33"W	222.44'
L8	S32°19'37"W	192.73'
L9	S03°23'27"W	1.88'
L10	N86°56'33"W	88.83'
L11	N22°12'30"E	81.37'
L12	N86°57'31"W	91.32'
L13	N86°57'31"W	28.00'
L14	N27°12'53"E	11.22'
L15	N02°29'02"E	16.01'
L16	N02°29'02"E	97.86'
L17	N02°29'02"E	20.00'
L18	S02°29'28"E	64.14'
L19	S86°57'31"E	10.62'
L20	N86°56'55"W	20.17'
L21	N02°29'28"E	20.07'
L22	N02°29'02"E	15.78'
L23	N02°29'02"E	33.10'
L24	S02°29'02"E	18.88'
L25	N02°29'02"E	32.00'
L26	N02°29'02"E	10.35'
L27	S02°29'02"E	12.45'
L28	S03°23'27"W	5.00'
L29	N86°57'31"W	16.32'
L30	N86°56'33"W	4.00'
L31	N86°56'55"W	46.16'
L32	N03°05'47"E	32.00'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C181	50.00'	83.92'	55.70'	74.41'	N44°58'27"E	09°07'13"
C182	50.00'	37.80'	19.86'	36.91'	N24°46'24"W	04°51'57"
C183	20.00'	17.08'	9.10'	16.56'	S21°58'30"E	04°55'04"
C184	20.00'	43.84'	38.44'	35.49'	S64°59'55"W	12°01'46"
C185	768.00'	126.99'	63.64'	126.84'	N47°45'00"W	09°28'25"
C186	812.00'	69.50'	33.27'	68.48'	S29°17'58"E	00°44'13"
C187	812.00'	69.50'	33.27'	68.48'	S34°04'48"E	00°45'20"
C188	812.00'	382.80'	193.03'	379.27'	S50°01'12"E	02°00'40"
C189	792.00'	72.91'	36.33'	72.98'	S66°15'29"E	00°51'52"
C190	792.00'	38.13'	19.07'	38.12'	S65°15'08"E	00°45'30"
C191	792.00'	38.13'	19.07'	38.12'	S53°29'38"E	00°45'30"
C192	792.00'	38.13'	19.07'	38.12'	S50°44'09"E	00°45'30"
C193	792.00'	38.13'	19.07'	38.12'	S47°58'39"E	00°45'30"
C194	792.00'	38.13'	19.07'	38.12'	S45°13'09"E	00°45'30"
C195	792.00'	38.13'	19.07'	38.12'	S42°27'39"E	00°45'30"
C196	792.00'	38.13'	19.07'	38.12'	S39°42'09"E	00°45'30"
C197	792.00'	38.13'	19.07'	38.12'	S36°56'40"E	00°45'30"
C198	792.00'	38.13'	19.07'	38.12'	S34°11'10"E	00°45'30"
C199	792.00'	72.19'	36.12'	72.16'	S30°11'45"E	00°13'20"
C180	832.00'	134.18'	67.24'	134.03'	N51°49'03"W	00°14'25"
C181	20.00'	26.18'	15.34'	24.35'	S19°56'29"E	0°45'59"
C182	326.00'	34.27'	17.15'	34.25'	N15°43'38"E	00°01'23"
C183	326.00'	47.78'	23.93'	47.74'	N08°31'00"E	00°02'32"
C184	326.00'	10.39'	5.20'	10.39'	N03°24'16"E	00°14'38"
C185	20.00'	31.61'	20.20'	28.42'	S47°46'16"E	09°03'37"

- NOTES:**
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO TRES SUEÑOS UNIT SEVENTEEN BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.543 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON MARK AVIZO STREET AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
 - TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK



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 CLOSURE PROCEDURE

AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED, AS PART OF THE CLOSURE 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.

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) 251-0579

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

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 WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
- WHERE POSSIBLE AND PREFERABLY, UTILITIES SHALL NOT BE PLACED WITHIN THE PARK'S PARKWAY; IF PLACED WITHIN THE PARKWAY, ALL UTILITIES SHALL BE AT MINIMUM FIVE (5') FEET DEEP OR PLACE UNDERNEATH THE PROPOSED 7' WIDE SIDEWALK TO AVOID FUTURE CONFLICT WITH PROPOSED STREET TREES OR DAMAGE TO THE UTILITIES.
- NO TRANSFORMERS, PEDESTAL OR JUNCTION BOXES SHALL BE INSTALLED WITHIN "PARK SITE" OR WITHIN NEW SIDEWALKS.

BENCHMARK

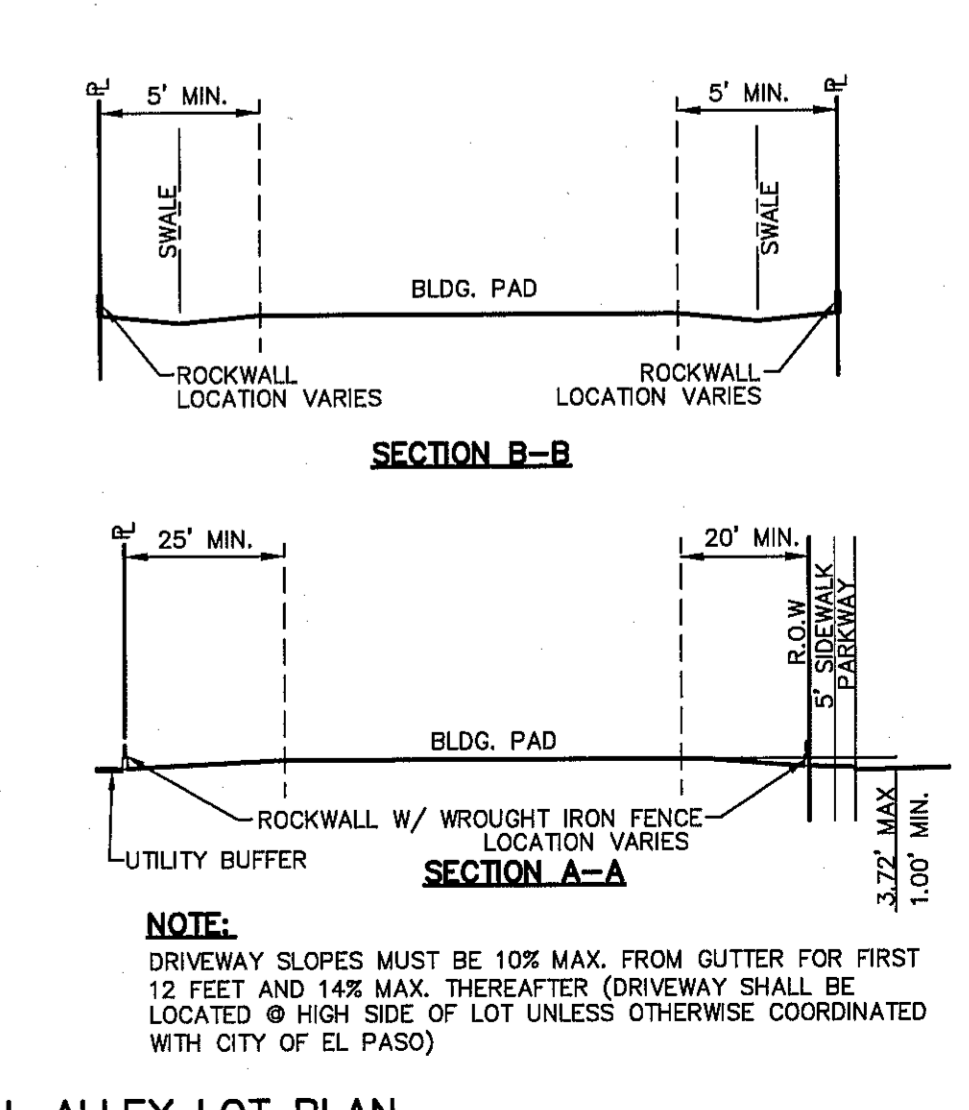
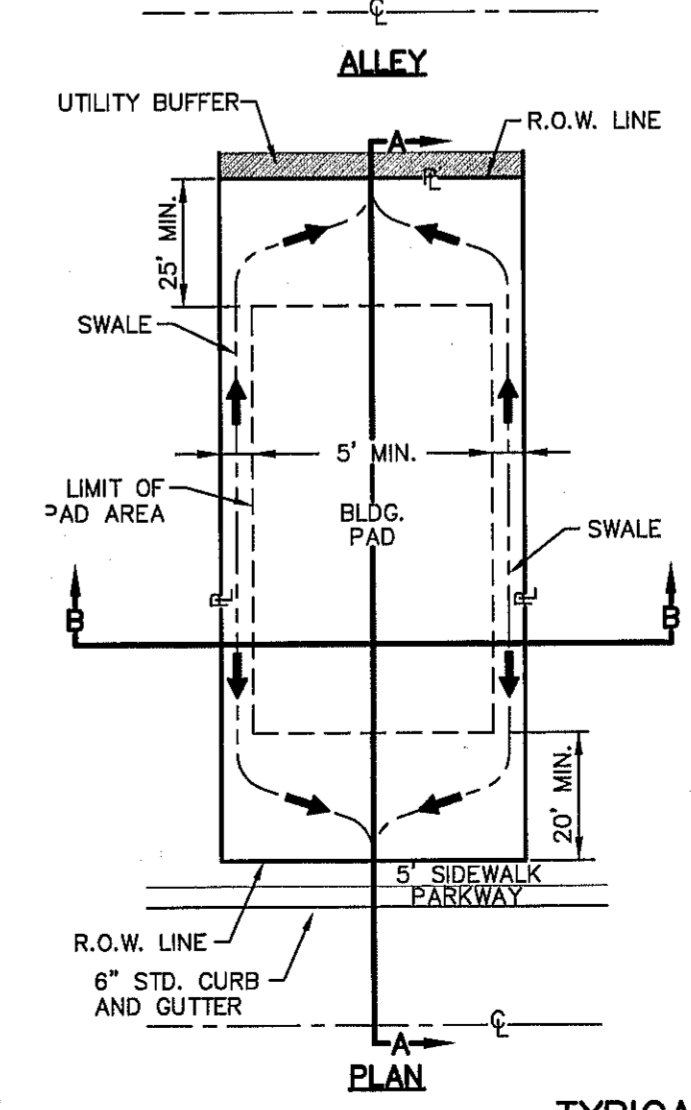
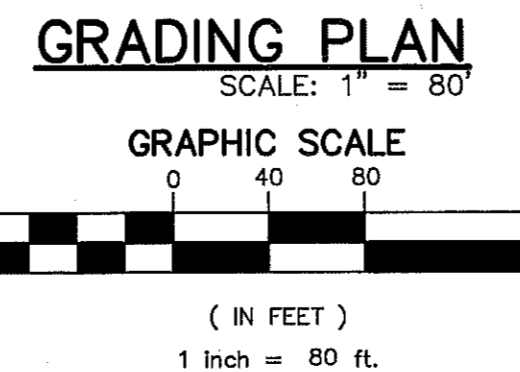
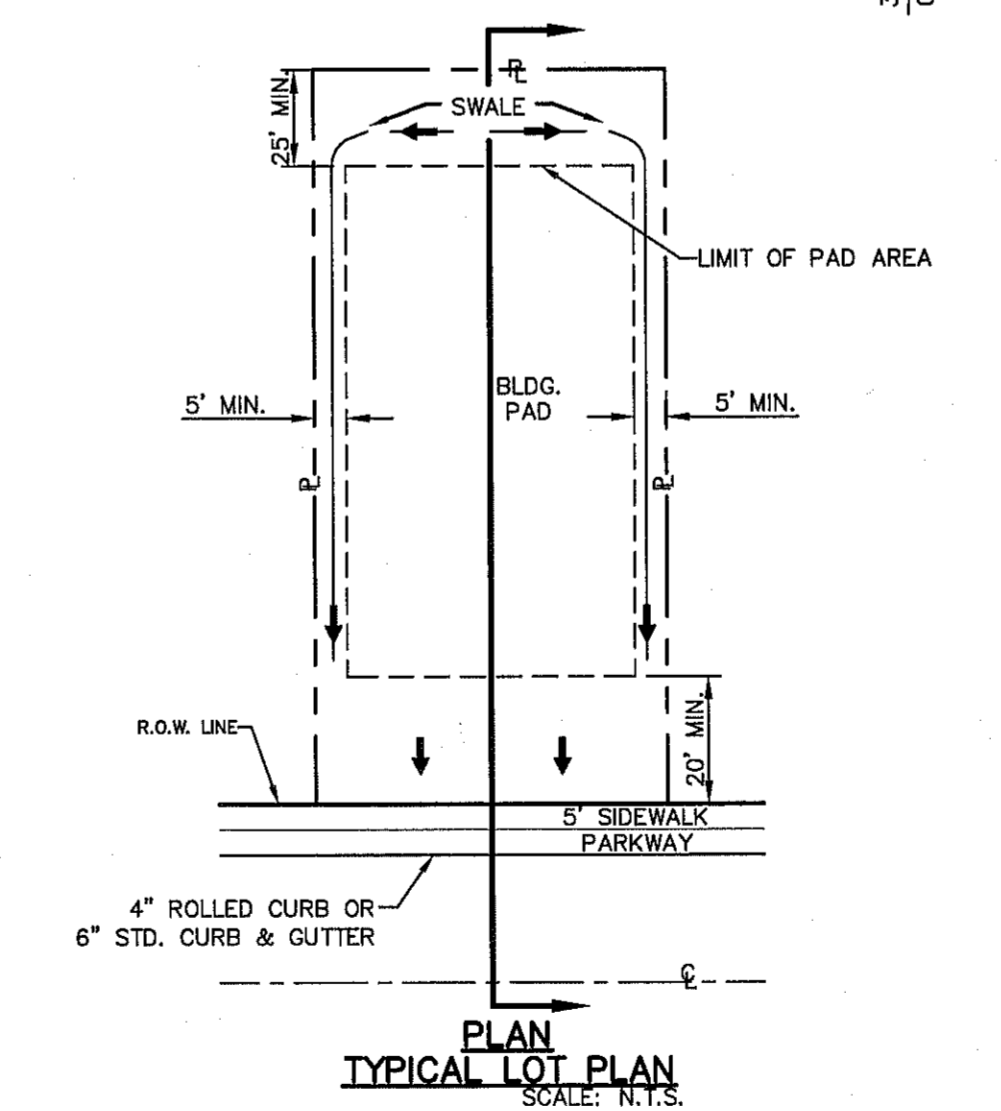
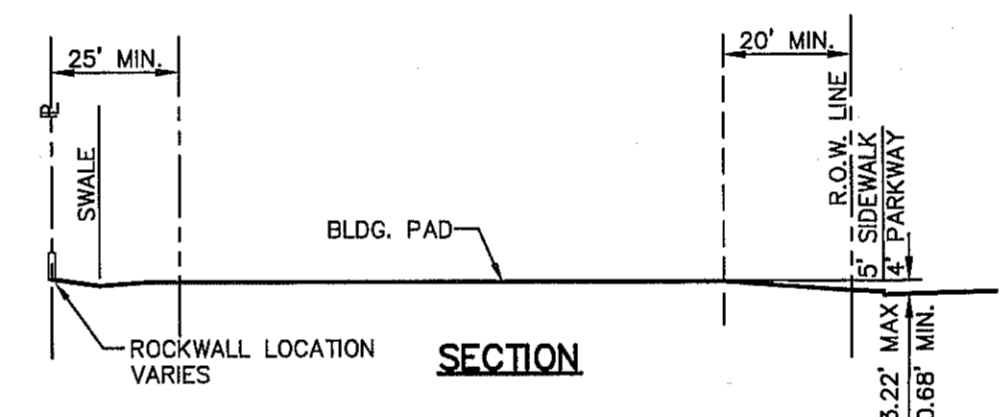
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION.....4005.40

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.

LEGEND:

- NEW RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' RETAINING HEIGHT)
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- 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
- SUBDIVISION BOUNDARY LINE
- CROSS-SECTION SYMBOL

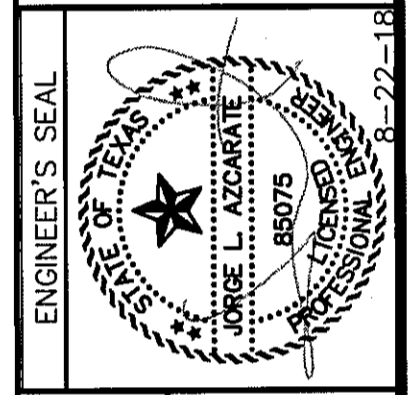


NOTE: DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)

REFERENCES - BENCHMARKS

BENCHMARK IS 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 CITY DATUM ELEVATION = 4005.40 (GTY DATUM).

DATE	REVISIONS	BY



SCALE: 1" = 80'

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

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHECKED BY: J.L.A.
JOB NO.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**GRADING
PLAN**

SHEET NO.
C3.1

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	498.00'	733.60'	451.58'	669.05'	S43°41'10"E	084°24'08"
C2	802.00'	559.64'	291.76'	548.36'	S45°14'20"E	039°58'54"

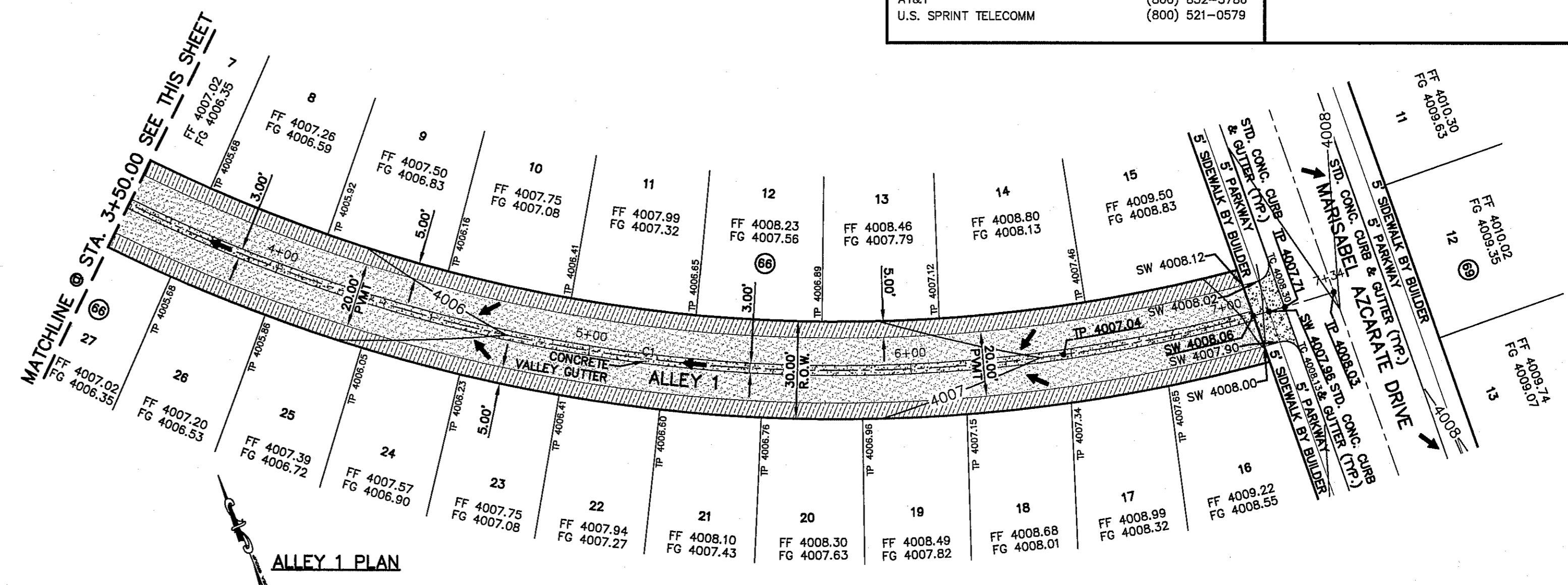
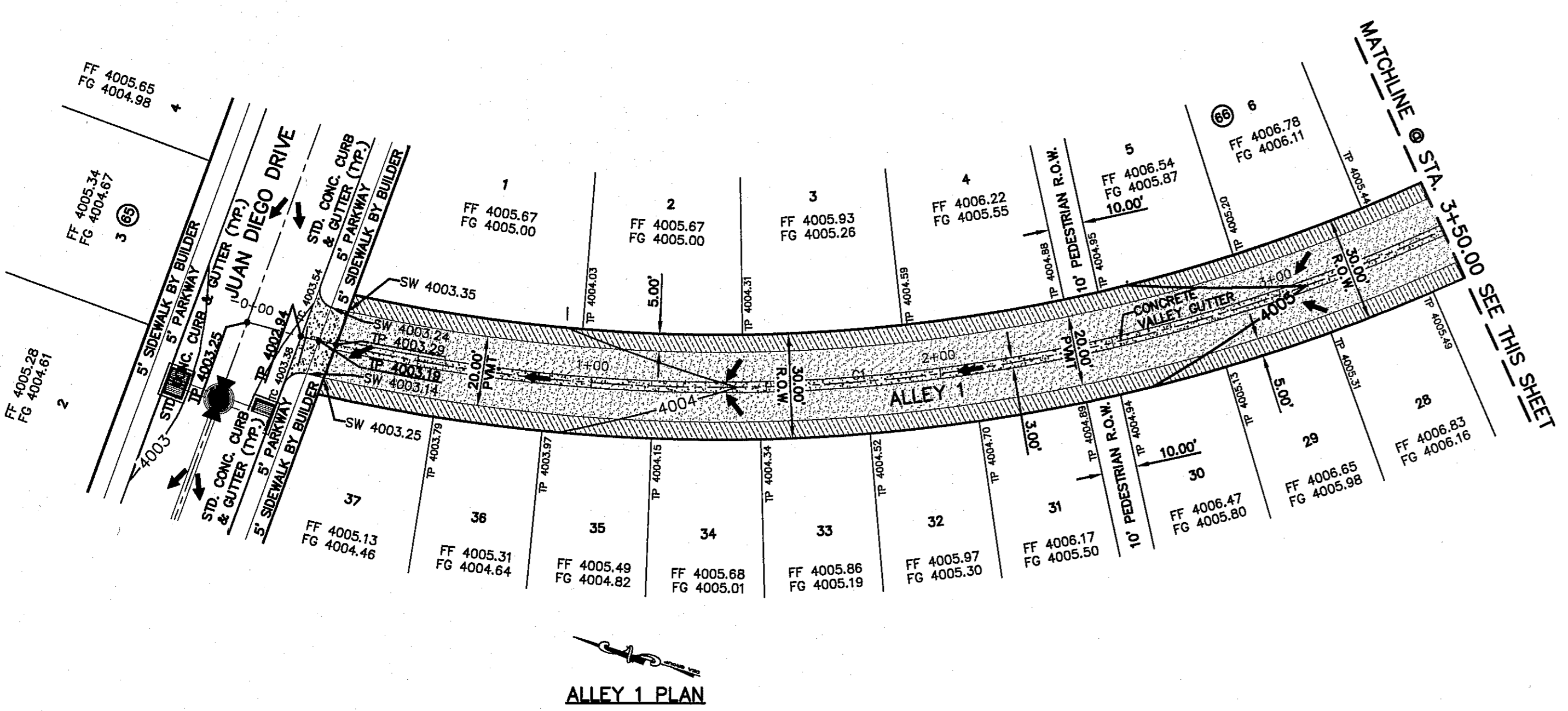
UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MG SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
TEXAS GAS SERVICE	(915) 680-7200	
SBC	(800) 545-6005	
AT&T	(800) 852-3786	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

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DATE	REVISIONS	BY

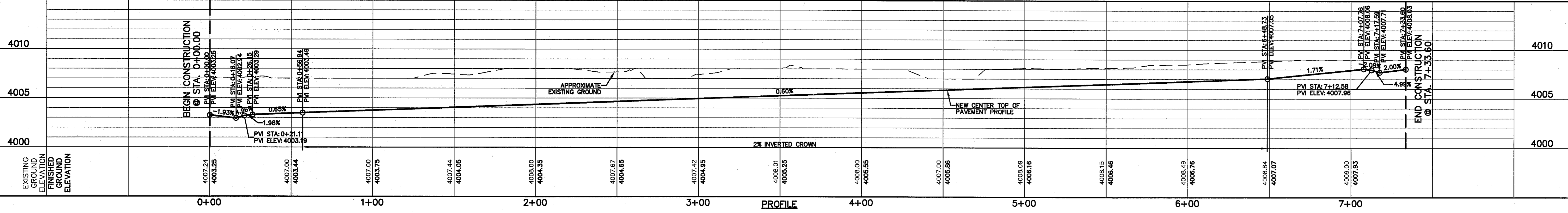
REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S89°43'37"E
BENCHMARK IS CITY MONUMENT AT SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE.
ELEVATION = 4005.40 (CITY DATUM).

CS&G
TECHNICAL SERVICES
TEXAS REGISTERED ENGINEERING FIRM #4584
4712 Woodrow Beam, Ste. F El Paso, TX 79924
915.544.5232 | www.csandg.com

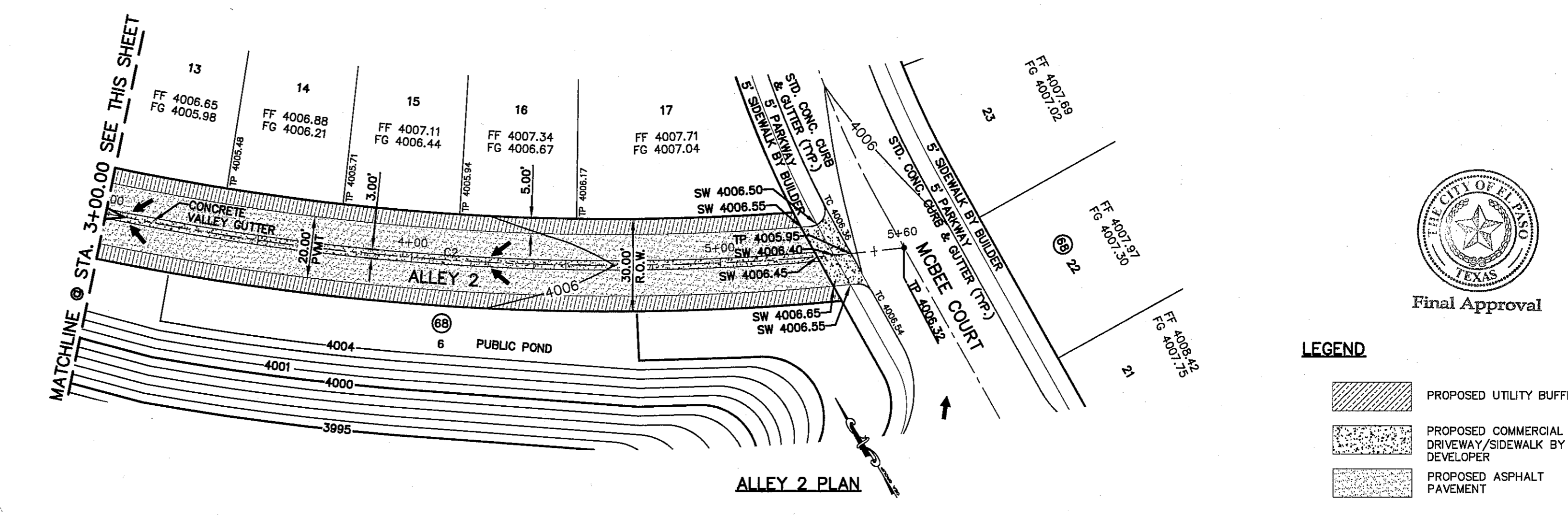
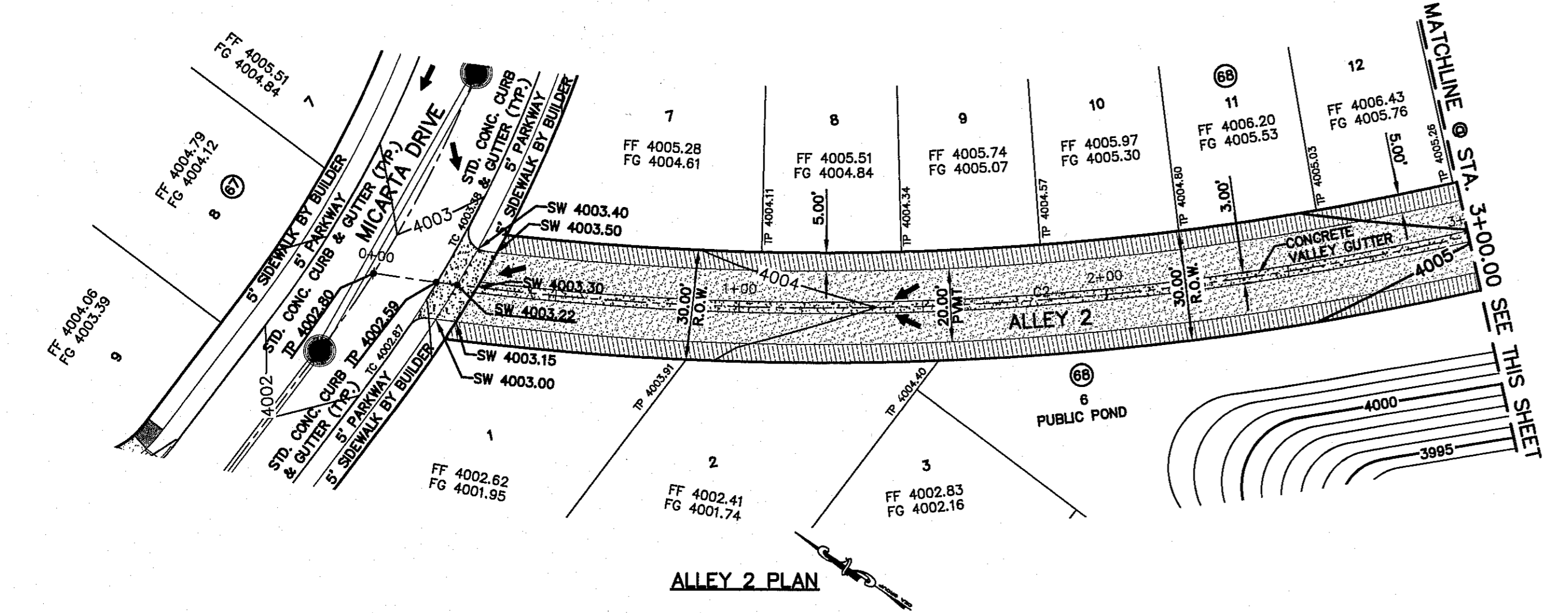


ALLEY 1 PLAN

ALLEY 1 PLAN

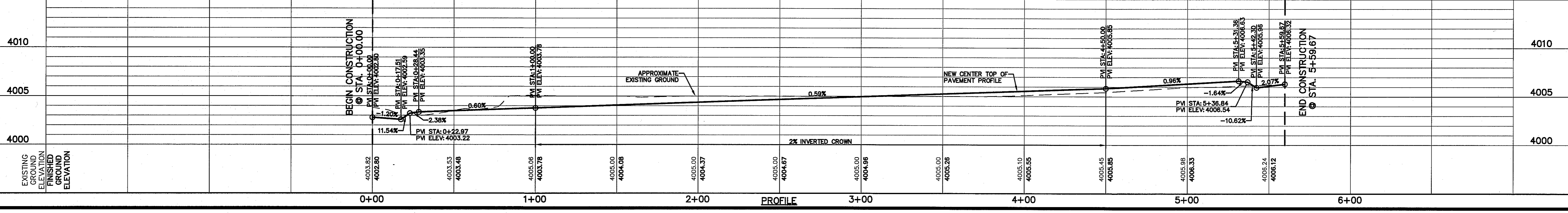


PROFILE



ALLEY 2 PLAN

ALLEY 2 PLAN

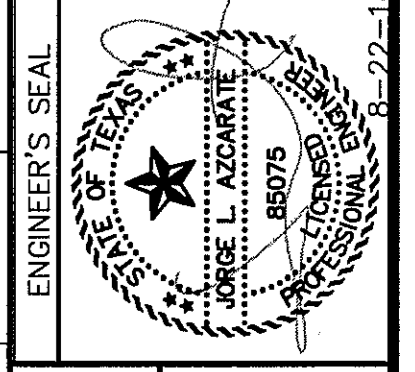


PROFILE

Final Approval

LEGEND

- PROPOSED UTILITY BUFFER
- PROPOSED COMMERCIAL DRIVEWAY/SIDEWALK BY DEVELOPER
- PROPOSED ASPHALT PAVEMENT



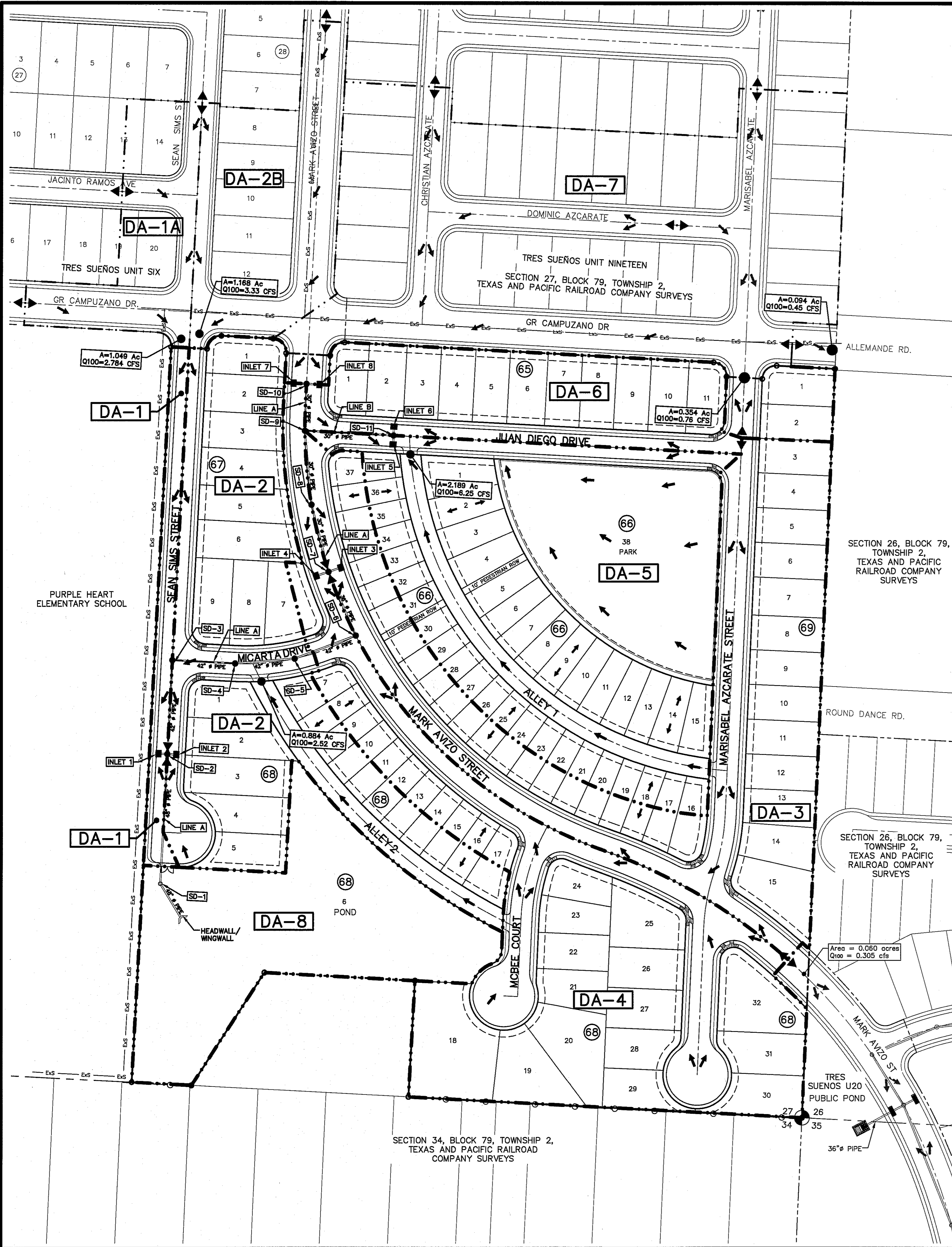
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Horizontal: N/A
Vertical: Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**ALLEY 1
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+33.60**
**ALLEY 2
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 5+59.67**
SHEET NO.

C3.2

S:\2000\2000-2017-TRES SUEÑOS U17\DWG\Construction Drawings\Improvement Plans\C4.1-Drainage Plan.dwg, 8/23/2018 8:29:54 AM



NEW POND #1 CALCULATIONS

$QT = (ARC)/12$
 $QT = 6.209 \text{ AC-FT}$
 $A = 31.787$
 $R = 4"$
 $Cw = 0.586$

TOTALreq = 6.209 AC-FT

NEW POND#1 AREAS

CONTOUR	ACCUMULATED VOLUME (AC-FT.)
3989	0.000
3990	0.553
3991	1.187
3992	1.906
3993	2.713
3994	3.610
3995	4.599
3996	5.682
3997	6.861
3998	8.140
3999	9.522
4000	11.008
4001	12.597

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

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FOR FIELD LOCATING EXISTING UTILITIES

NEW POND #1

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	6.209	12.597	73.047	0	3996.45	3989	4.55	4001

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 = 6.209 AC-FT
 CONTOUR 3996 ACCUMULATED VOLUME = 5.682 AC-FT
 CONTOUR 3997 ACCUMULATED VOLUME = 6.861 AC-FT
 HYDRAULIC GRADE LINE ELEVATION = 3996.45

100 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (100) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q100 (CFS) (6)
DA-1	0.462	5.362	10.00	0.90	2,230
DA-1A	1.049	4.423	18.38	0.60	2,784
DA-2	4.304	4.323	19.50	0.60	11,163
DA-2B	1.168	4.757	15.00	0.60	3,334
DA-3	4.214	3.907	24.78	0.60	9,878
DA-4	5.007	3.729	27.42	0.60	11,203
DA-5	4.900	4.003	23.46	0.56	11,063
DA-6	1.798	4.235	20.52	0.60	4,569
DA-7	6.375	3.809	26.20	0.60	14,569
DA-8	2.510	5.362	10.00	0.50	6,729

ALLEY COMPUTATION

ALLEY LOCATION	WIDTH	HEIGHT	DEPTH	VELOCITY (FPS)
1	30.00	0.30	0.25	2.47
2	30.00	0.30	0.18	1.56

Q100 IS BASED ON DEVELOPED RUNOFF (100-yr)
 REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (DRAINAGE DESIGN MANUAL June 2008)

- WATERSHED AREA IDENTIFICATION
- AREA FROM DRAINAGE PLAN
- RAINFALL INTENSITY, HYDROLOGY FROM CITY OF EL PASO SUBDIVISION STANDARDS (DRAINAGE DESIGN MANUAL June 2008) LOCATED IN THE EASTSIDE REGION
 100-YR STORM
 $b = 144.20$
 $d = 25.944$
 $e = 0.9190$
- TIME OF CONCENTRATION: $TC = T(\text{OVERLAND}) + T(\text{GUTTER})$
- RATIONAL METHOD DEVELOPED CONDITIONS COEFFICIENT, TABLE 4-5 FROM CITY OF EL PASO SUBDIVISION STANDARDS (DRAINAGE DESIGN MANUAL June 2008)
 100-YEAR
 SINGLE FAMILY RESIDENTIAL = 0.60
- $Q_{100} = C \times A \times I_{100}$ (100-yr)
 $C =$ RATIONAL COEFFICIENT
 $A =$ COMPUTED CONTRIBUTING WATERSHED AREA, acres
 $I =$ RAINFALL INTENSITY, inch per hour

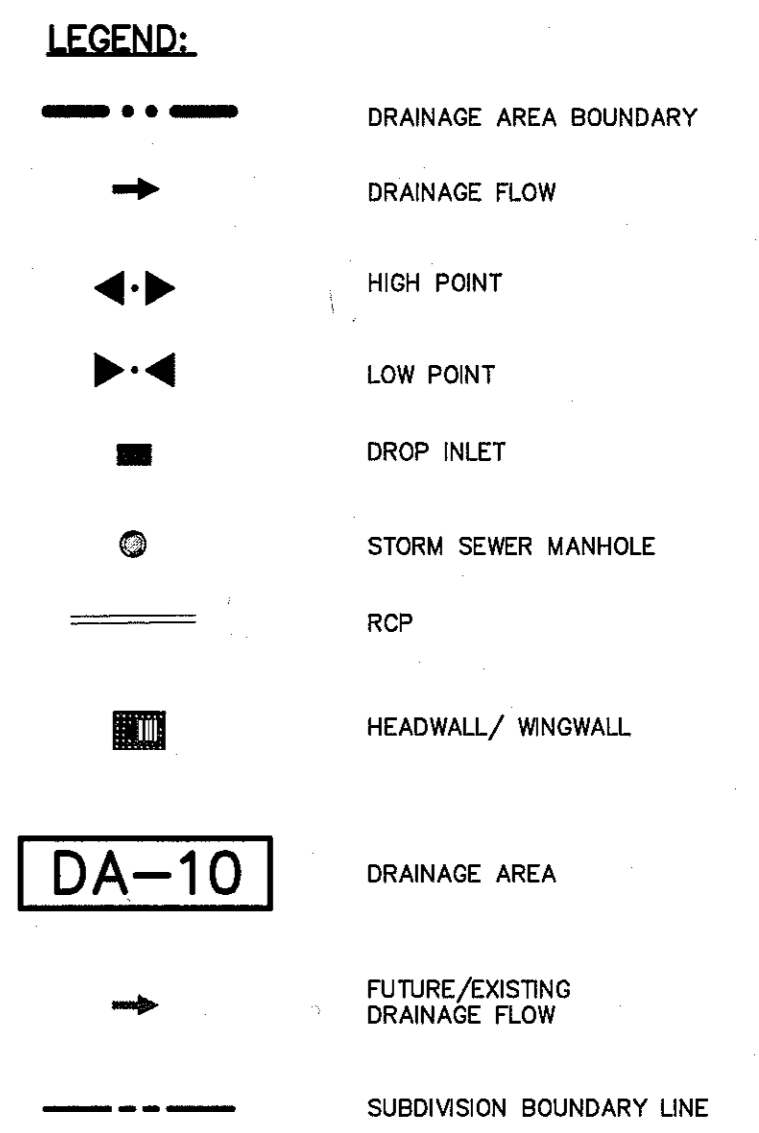
MOMENTUM COMPUTATION

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.309	2.475	0.764
2	0.320	2.532	0.810
3	0.330	2.406	0.794
4	0.330	2.406	0.794
5	0.320	2.618	0.838
6	0.311	2.566	0.798
7	0.282	2.273	0.641
8	0.282	2.273	0.641

DROP INLETS

NO.	EXPECTED FLOW Qexp (CFS)	ADDITIONAL FLOW Qadd (CFS) FROM INLET #	CROWN Q OVERTOP (CFS)	Q REQUIRED (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	FLOW BYPASS Qbyp (CFS) TO INLET #	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	3,325	3,853 (FROM INLET #2)	0	7,178	19,267	0	2	I	SUMP
2	11,711	0	3,853	7,858	19,267	0	2	I	SUMP
3	9,878	0.663 (FROM INLET #4)	0	10,540	19,267	0	2	I	SUMP
4	11,203	0	0.663	10,540	19,267	0	2	I	SUMP
5	11,063	0	2,938	8,125	19,267	0	2	I	SUMP
6	4,569	2,938 (FROM INLET #5)	0	7,507	19,267	0	2	I	SUMP
7	7,284	0	0	7,284	9,341	0	3	I	ON-GRADE
8	7,284	0	0	7,284	9,341	0	3	I	ON-GRADE

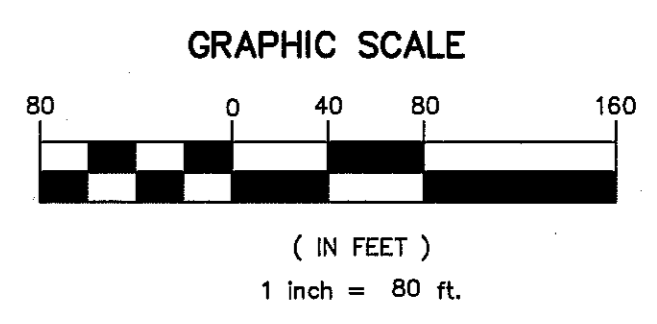
Inlet #	Width	cross slope	Depth	Area	P	R	n	S	Q	V	Total Q	Q actual	Actual Depth	spread width	Actual Velocity
Inlet #1	16	2.00	0.32	2.56	16.3232	0.1568	0.013	0.0058	7.858	2.532	7.178	7.178	0.309	15.466	2.4750
Inlet #2	32	0.00	0.18	5.76	32.36	0.1780	0.013	0.0058	15.867	2.755	31.563				
Inlet #3	16	2.00	0.32	2.56	16.3232	0.1568	0.013	0.0058	7.858	2.532	7.858	7.858	0.320	16.000	2.5317
Inlet #4	32	0.00	0.18	5.76	32.36	0.1780	0.013	0.0058	15.867	2.755	31.563				
Inlet #5	22	1.50	0.33	3.63	22.3325	0.1625	0.013	0.0055	11.076	2.525	10.540	10.540	0.324	21.595	2.4938
Inlet #6	44	0.00	0.17	7.48	44.34	0.1687	0.013	0.0055	19.360	2.588	41.511				
Inlet #7	22	1.50	0.33	3.63	22.3325	0.1625	0.013	0.0055	11.076	2.525	10.540	10.540	0.324	21.595	2.4938
Inlet #8	44	0.00	0.17	7.48	44.34	0.1687	0.013	0.0055	19.360	2.588	41.511				
Inlet #9	16	2.00	0.32	2.56	16.3232	0.1568	0.013	0.0062	8.125	2.618	8.125	8.125	0.320	16.000	2.6176
Inlet #10	32	0.00	0.18	5.76	32.36	0.1780	0.013	0.0062	16.405	2.848	32.654				
Inlet #11	16	2.00	0.32	2.56	16.3232	0.1568	0.013	0.0062	8.125	2.618	7.507	7.507	0.311	15.532	2.5683
Inlet #12	32	0.00	0.18	5.76	32.36	0.1780	0.013	0.0062	16.405	2.848	32.654				
Inlet #13	22	1.50	0.33	3.63	22.3325	0.1625	0.013	0.0055	11.076	2.525	7.284	7.284	0.282	18.801	2.2737
Inlet #14	44	0.00	0.17	7.48	44.34	0.1687	0.013	0.0055	19.360	2.588	41.511				
Inlet #15	22	1.50	0.33	3.63	22.3325	0.1625	0.013	0.0055	11.076	2.525	7.284	7.284	0.282	18.801	2.2737
Inlet #16	44	0.00	0.17	7.48	44.34	0.1687	0.013	0.0055	19.360	2.588	41.511				



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.



DRAINAGE PLAN
SCALE: 1" = 80'



REFERENCES — BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084331"E A DISTANCE OF 167.58 FEET FROM THE SOUTHERLY END OF THE PROPERTY LINE. BENCHMARK ELEVATION = 4025.40 (CITY DATUM).

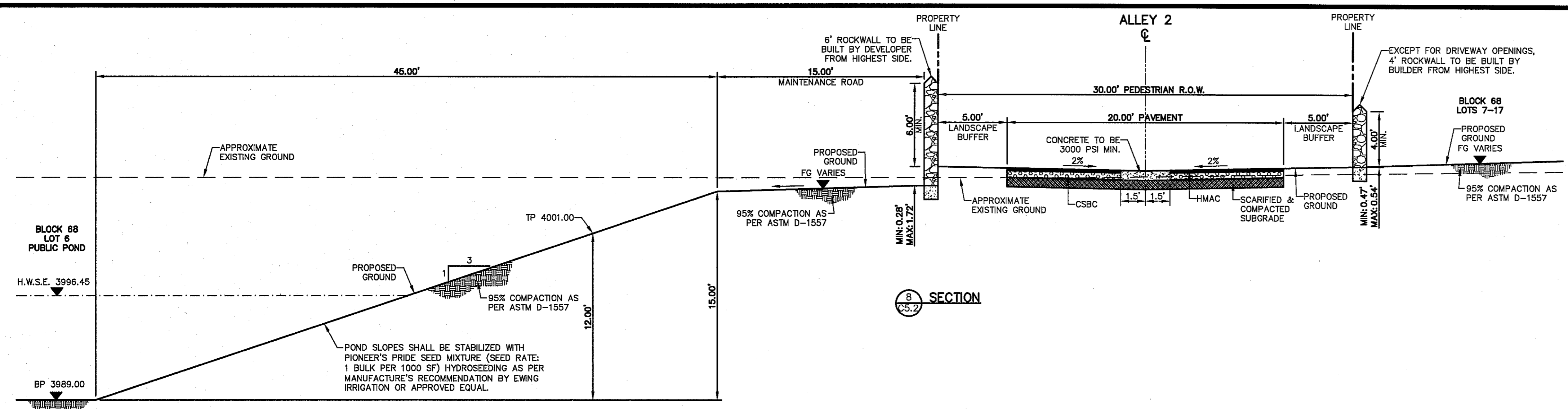
ENGINEER'S SEAL
 SCALE: Horizontal = 1" = 80', Vertical = 1" = 4'
 Contour Interval: N/A
 DATE: JUNE 2018
 DESIGN BY: GJM
 DRAWN BY: GJM
 CHECK BY: JLA
 APPROV. BY: JLA
 JOB No.: 2000-2017

PROJECT TITLE
TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE PLAN

SHEET NO.
C4.1

S:\2008\2008-2017-TRES SUEÑOS UTILITY\DWG\Construction Drawings\Improvement Plans\C5.2-Crading Sections-4-24-18.dwg, 8/29/2018 8:30:54 AM



SECTION 8

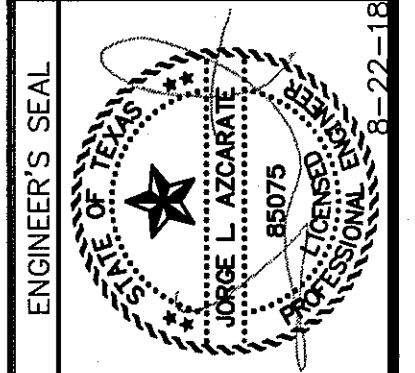
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING!
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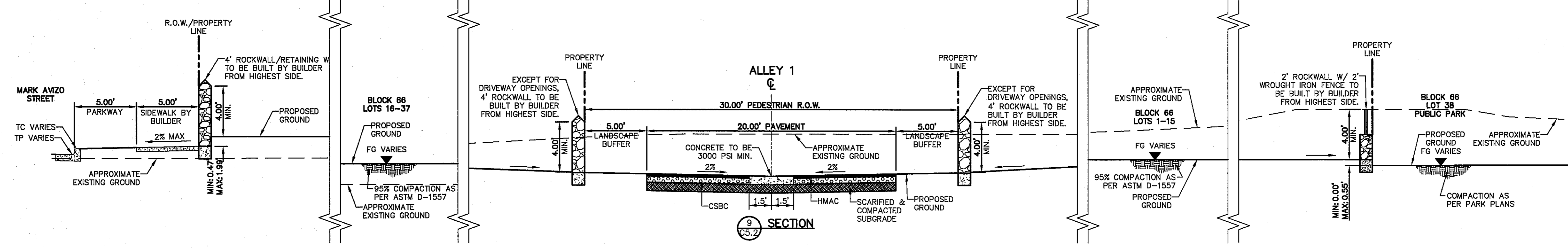
- GENERAL NOTES:**
- WHENEVER THE RETAINING HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4') FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM 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

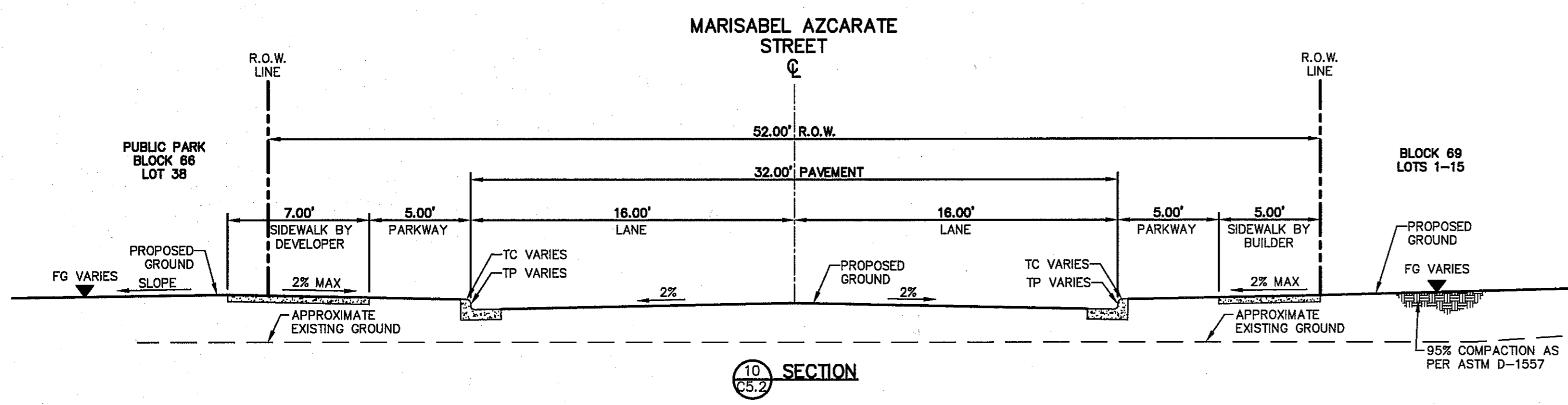
REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE HIGH BEEM BLDG., 5084337E
BENCHMARK IS CITY MONUMENT AT POINT OF RIGHT OF WAY LINE OF MONTANA AVENUE
ELEVATION = 4005.40 (CITY DATUM).



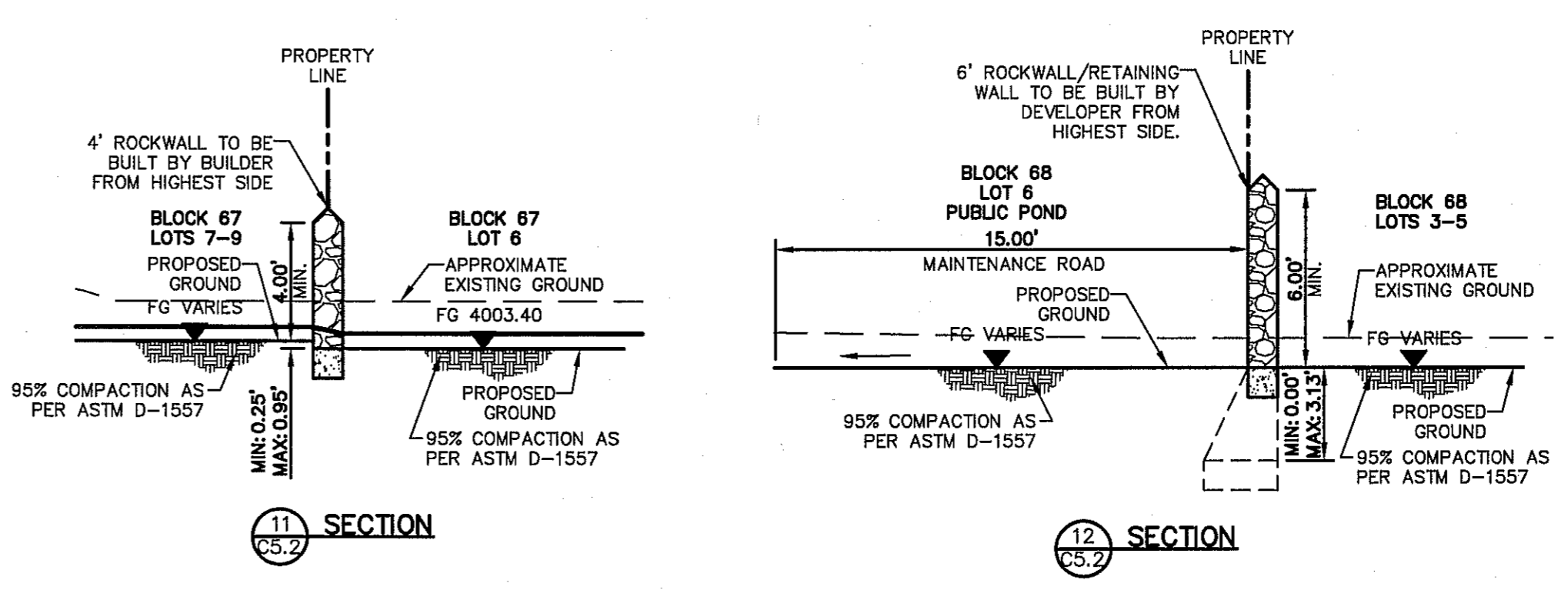
SCALE 1"=5'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No.: 2000-207



SECTION 9

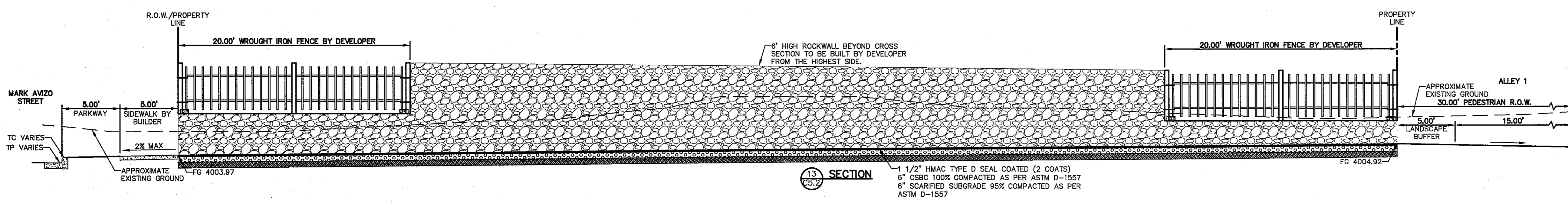


SECTION 10

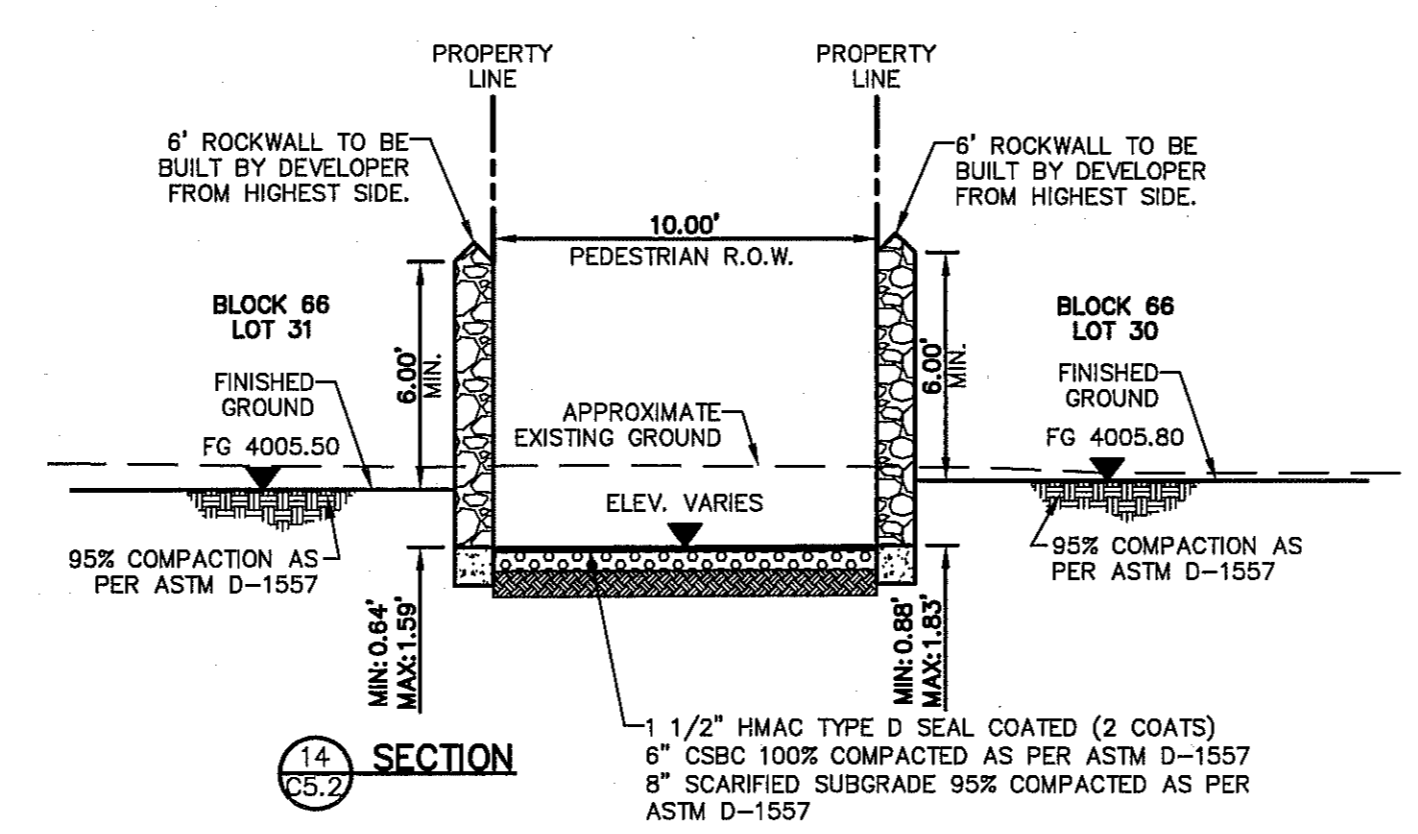


SECTION 11

SECTION 12



SECTION 13



SECTION 14

PROJECT TITLE
TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
(SHEET 2 OF 2)
SHEET NO.



Final Approval

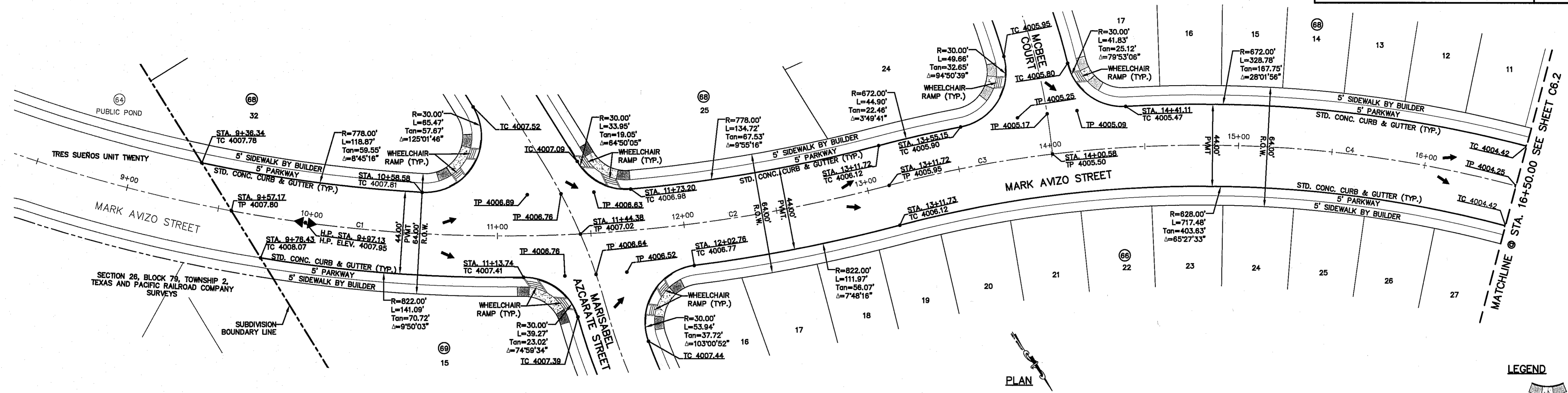
C5.2

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	800.00'	187.25'	94.05'	186.82'	N51°55'34"W	013°24'39"
C2	800.00'	167.34'	83.98'	167.04'	N64°37'27"W	011°59'08"
C3	650.00'	88.86'	44.50'	88.79'	N66°42'04"W	007°49'59"
C4	650.17'	398.90'	205.95'	392.68'	N45°12'12"W	035°09'12"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MC SURVEILLANCE	(800) MC-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

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DATE	REVISIONS	BY



LEGEND

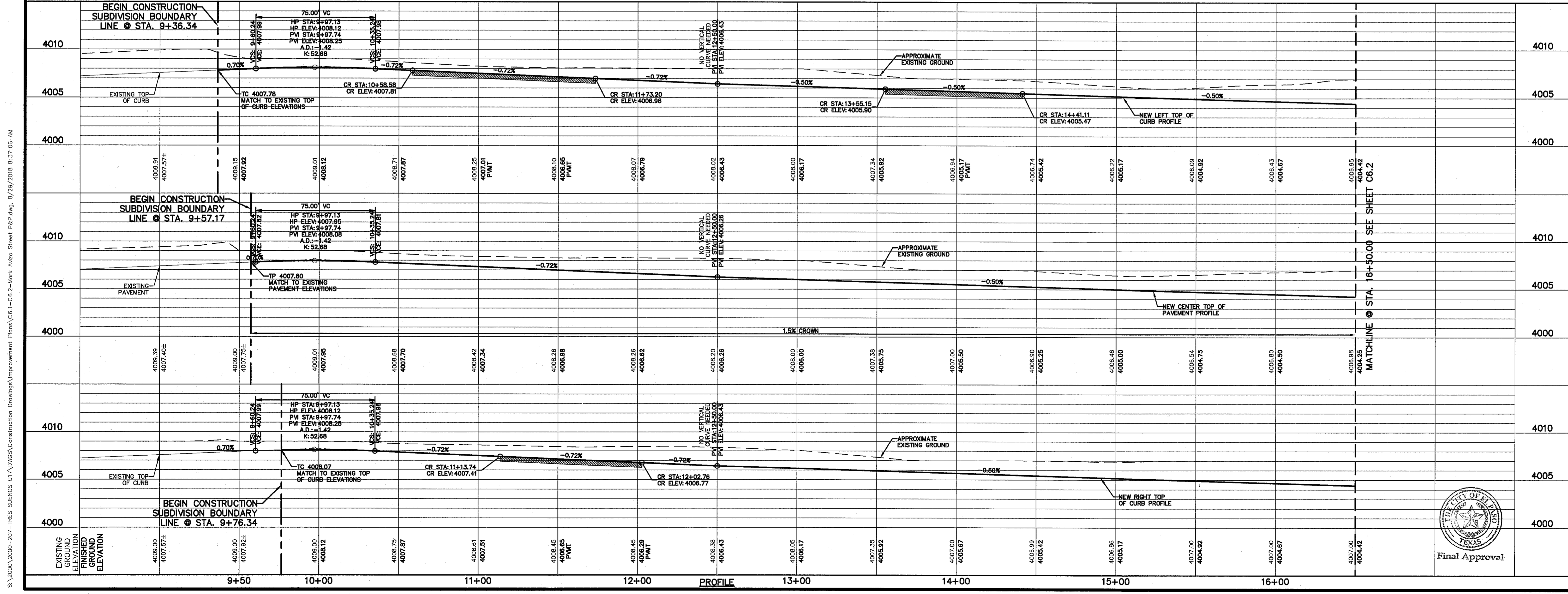
WHEELCHAIR RAMP IMPROVEMENTS BY DEVELOPER (TYP.)

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

ENGINEER'S SEAL

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

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-207



PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**MARK AVIZO STREET
PLAN & PROFILE
FROM STA. 9+57.17
TO STA. 16+50.00**

SHEET NO.

C6.1

Final Approval

S:\2000\2000-207-TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C6.1-C6.2-Mark Avizo Street P&P.dwg, 8/29/2018 8:37:06 AM

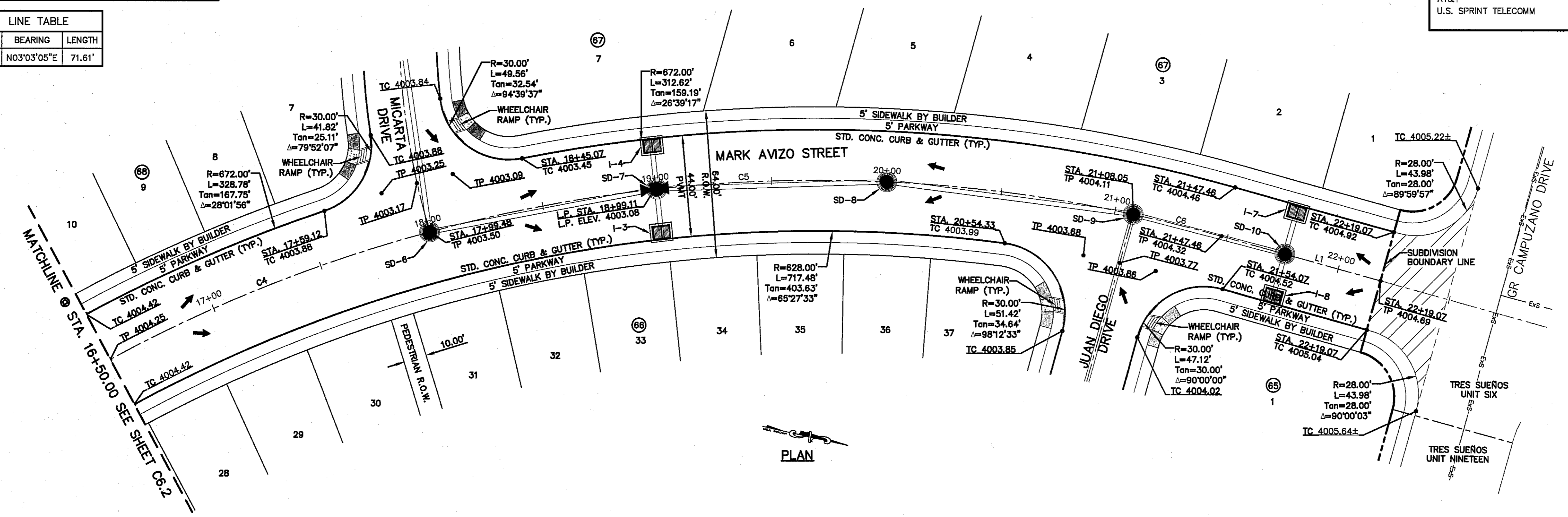
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	650.17'	398.90'	205.95'	392.68'	N45°12'12"W	035°09'12"
C5	650.00'	308.57'	157.25'	305.66'	N14°01'20"W	027°11'57"
C6	642.98'	39.41'	19.71'	39.41'	N01°18'04"E	003°30'44"

LINE TABLE		
LINE	BEARING	LENGTH
L1	N03°03'05"E	71.61'

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	

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DATE	REVISIONS	BY



PLAN

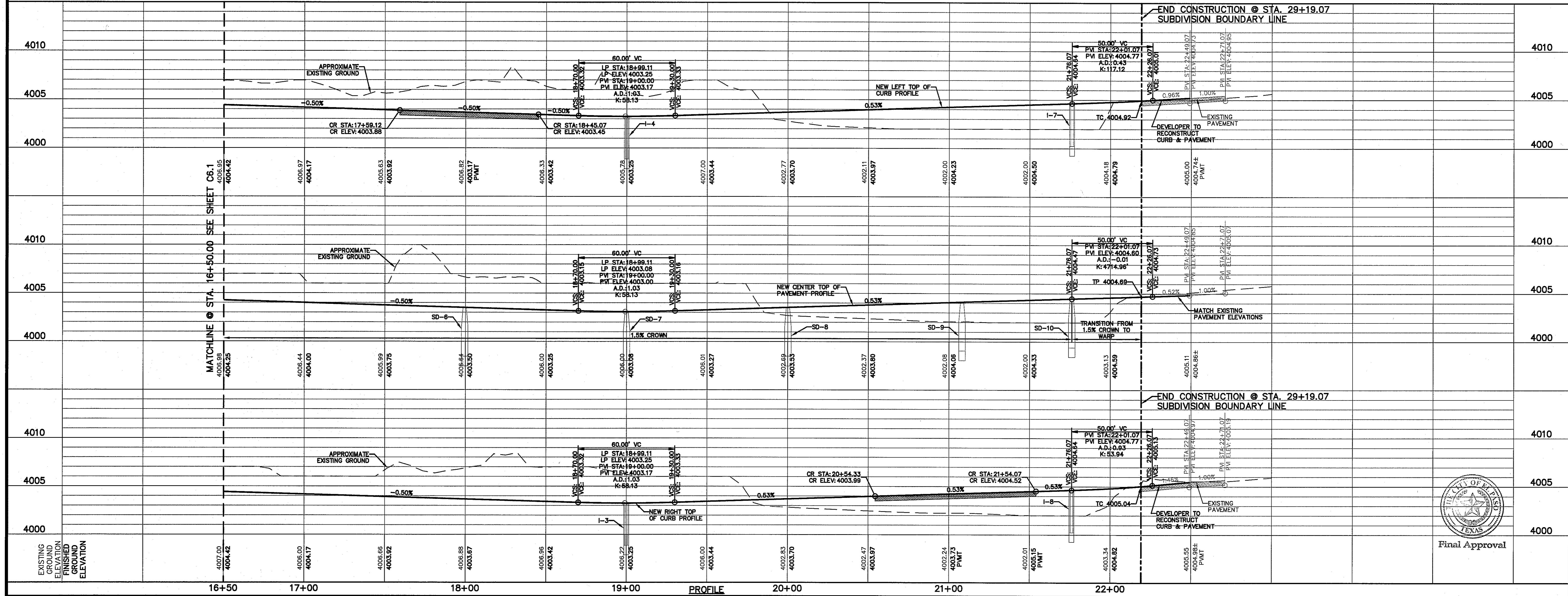
DEVELOPER TO DEMOLISH AND PROPERLY DISPOSE OFF RE-CONSTRUCT CURB AND PAVEMENT IMPROVEMENTS.

LEGEND

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

TEXAS REGISTERED ENGINEERING FIRM #4584
4712 Woodrow Bean, Ste. F El Paso, TX 79904
915.544.5232 | www.csandg.com

S:\2000\2000-207-TRES SUEÑOS UNIT SEVENTEEN\Improvement Plans\C6.1-C6.2-Mark Avizo Street R&P.dwg, 8/29/2018 8:37:31 AM



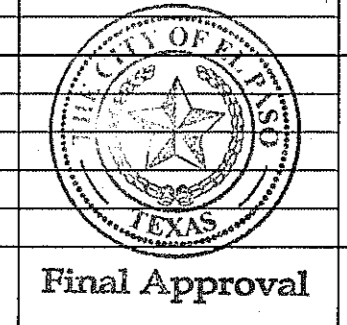
SCALE	Horizontal	Vertical	Contour Interval
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PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**MARK AVIZO STREET
PLAN & PROFILE
FROM STA. 16+50.00
TO STA. 29+19.07**

SHEET NO.

C6.2



Final Approval

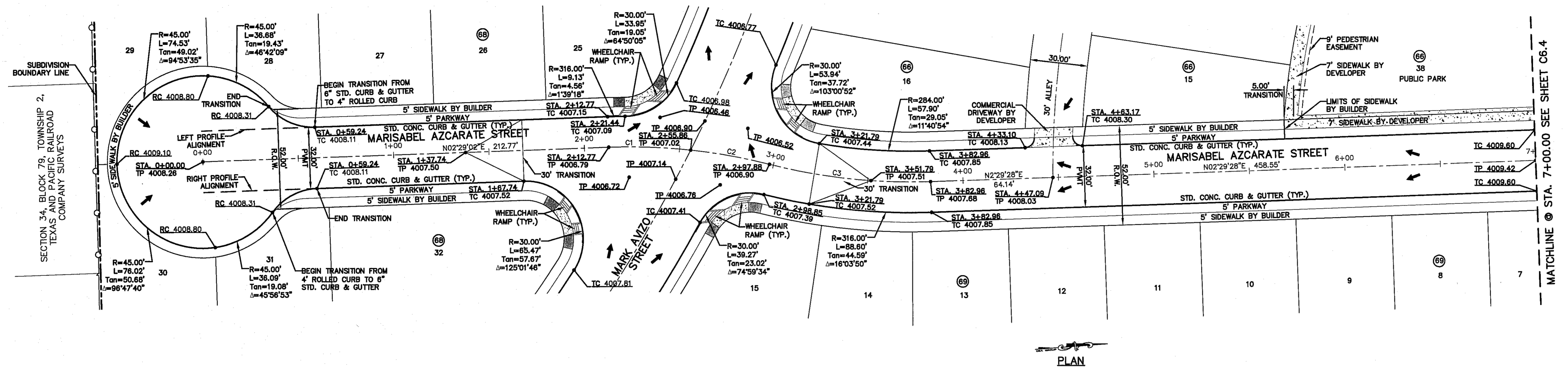
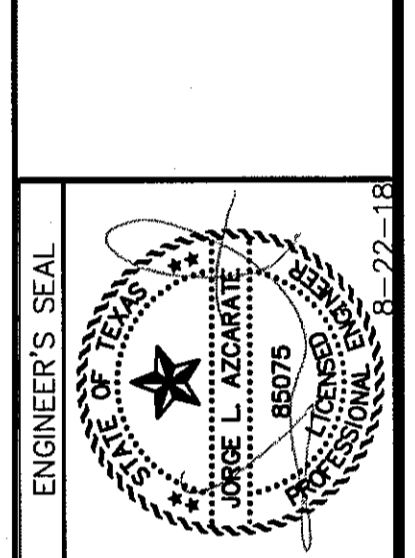
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	300.00'	43.08'	21.58'	43.05'	S06°35'52"W	008°13'41"
C2	300.00'	42.03'	21.05'	41.99'	S14°43'31"W	008°01'36"
C3	300.00'	85.07'	42.82'	84.79'	N10°36'54"E	016°14'52"

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 584-5500
MC SURVEILLANCE	(800) MC-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

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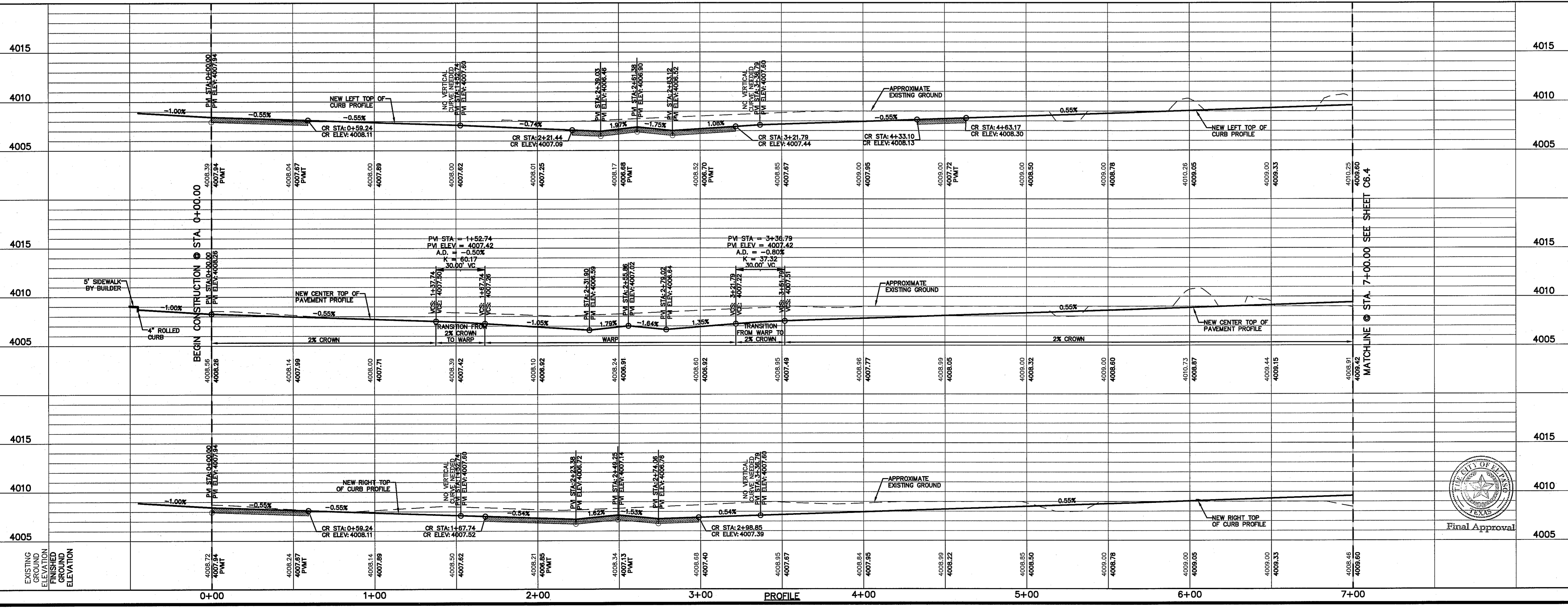
DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE HIGH BEEM BLVD., S88°43'31"E
CITY MONUMENT AT POINT OF INTERSECTION OF HIGH BEEM BLVD. AND MONTANA AVENUE
ELEVATION = 4005.40 (CITY DATUM)



PLAN

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



SCALE: 1"=30'
Horizontal
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.M.
CHECK BY: J.L.A.
APPROV. BY: J.L.A.
JOB No. 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**MARISABEL
AZCARATE STREET
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+00.00**

SHEET NO.
C6.3

S:\2000\2000-2017-TRES SUEÑOS UNIT SEVENTEEN Construction Drawings\Improvement Plans\C6.3-C6.6-Marisabel Azcarate Street & McBer Court P&P.dwg, 5/29/2018 8:39:35 AM

S:\2000\2000-2017-TRES SUEÑOS UNIT SEVENTEEN Construction Drawings\Improvement Plans\C6.3-C6.4-Marisabel Azcarate Street & McBee Court P&P.dwg, 8/29/2018 8:35:54 AM

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	300.00'	129.49'	65.77'	128.46'	S14°50'57"W	024°43'51"

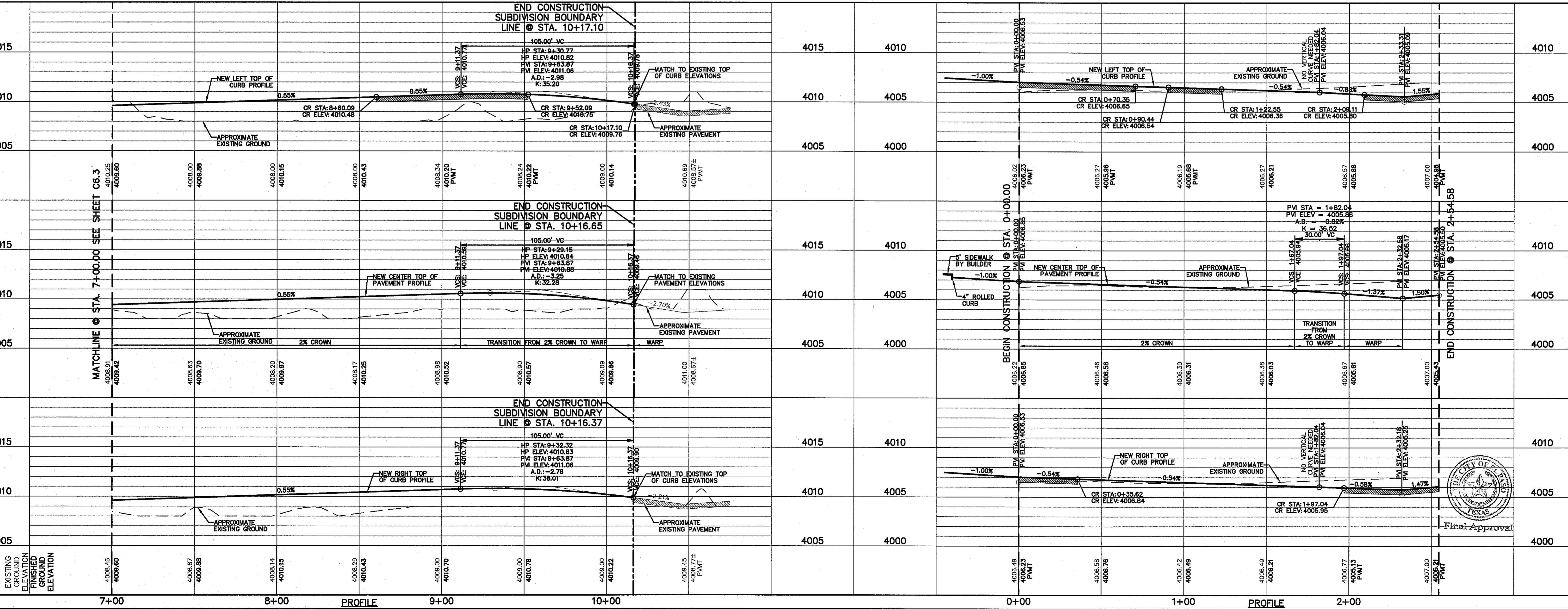
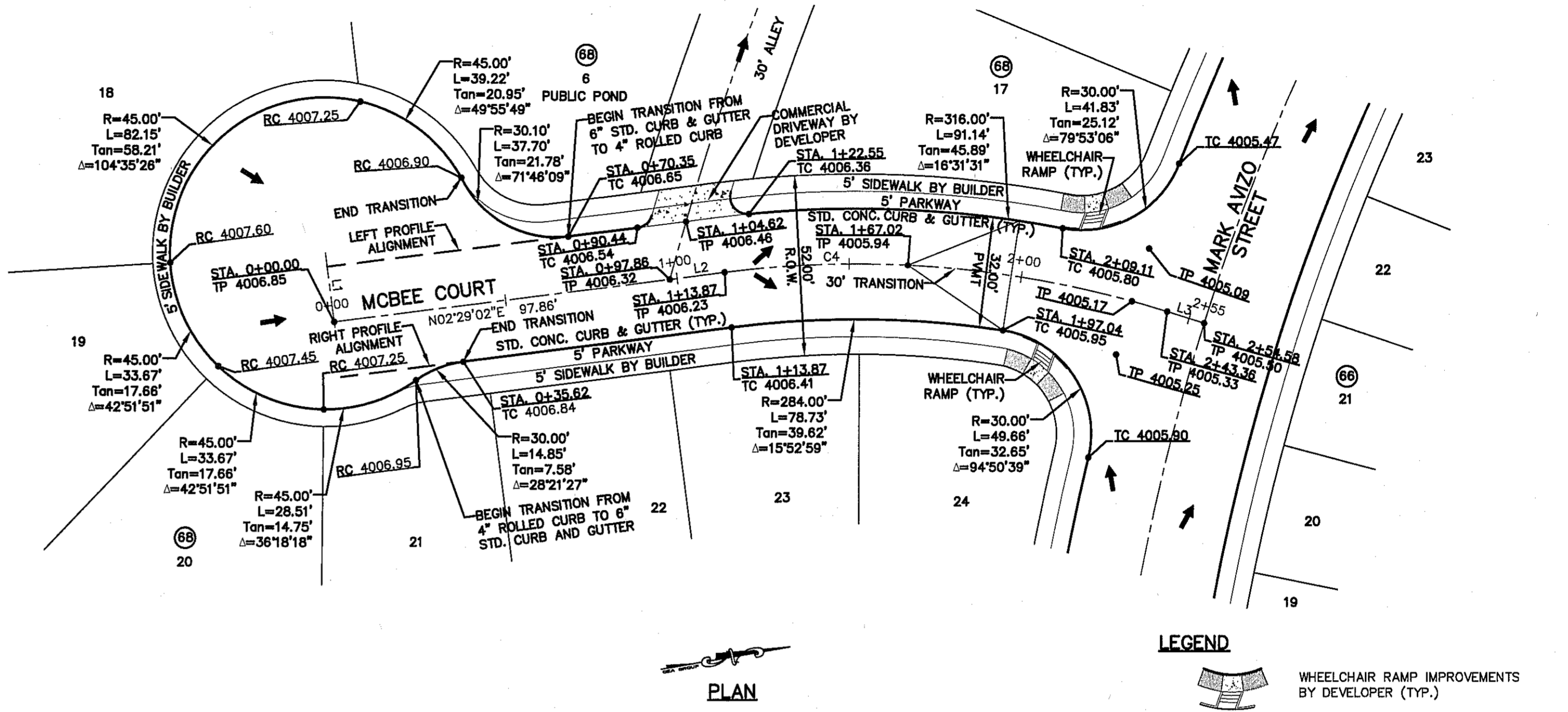
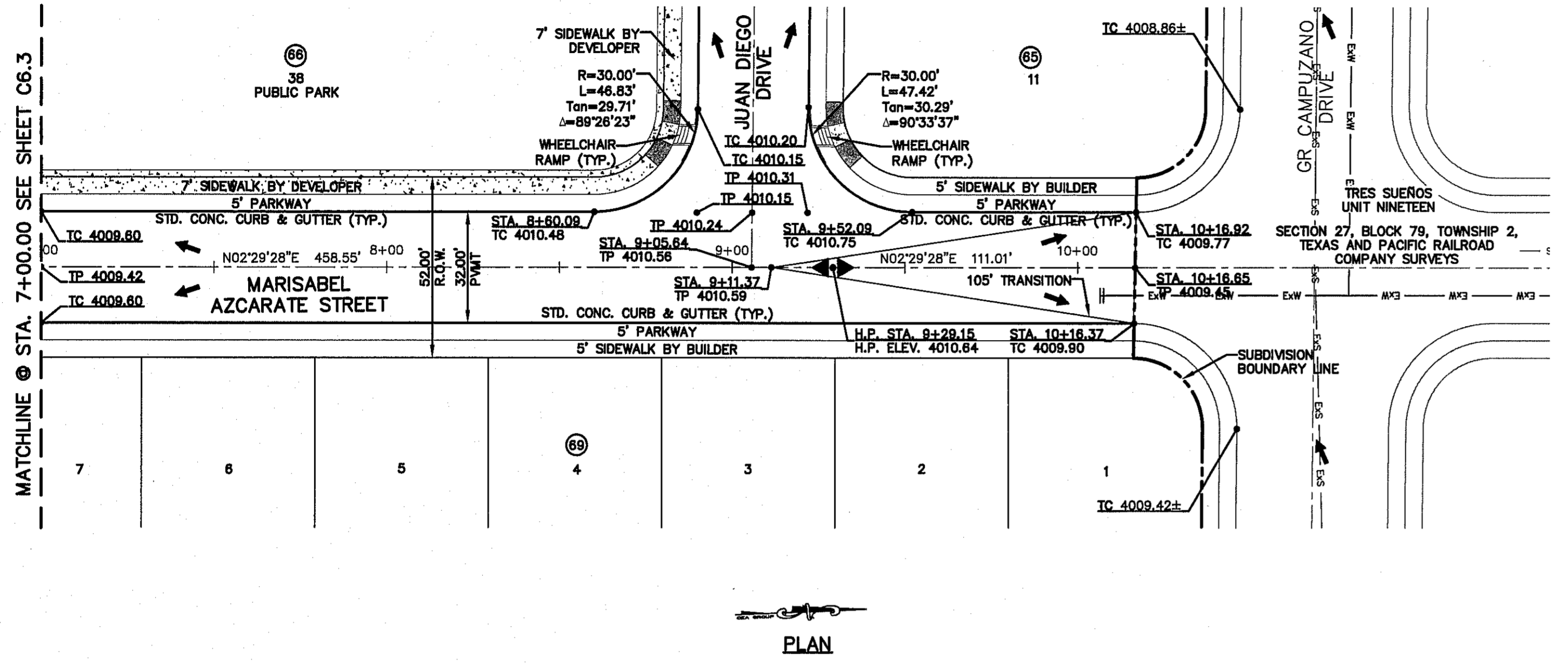
LINE TABLE		
LINE	BEARING	LENGTH
L1	S87°30'58"E	20.00'
L2	N02°29'02"E	16.01'
L3	N27°12'53"E	11.22'

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-3500
MC SURVEILLANCE	(800) 401-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



REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S89°43'31"E DISTANCE 100.00' FROM THE SOUTHERLY CORNER OF THE INTERSECTION OF RICH BEEM BLVD. AND MARIAN AVENUE. ELEVATION = 4005.40 (CITY DATUM).

ENGINEER'S SEAL

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

Horizontal Contour Interval: N/A

DATE: JUNE 2018

DESIGN BY: J.M.

DRAWN BY: G.L.M.

CHKD. BY: J.L.A.

APPROV. BY: J.L.A.

JOB No. - 2000-207

PROJECT TITLE

TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

MARISABEL AZCARATE STREET PLAN & PROFILE FROM STA. 7+00.00 TO STA. 10+16.65

MCBEE COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+54.58

SHEET NO.

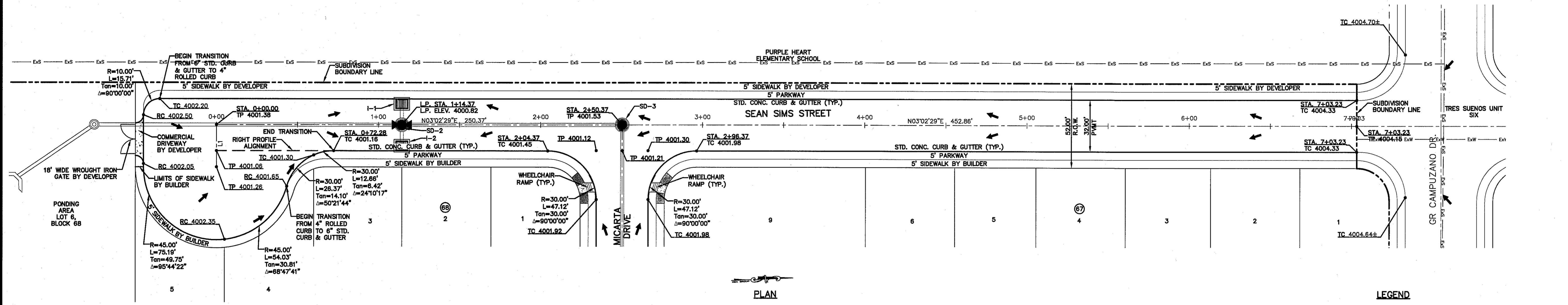
C6.4

LINE TABLE		
LINE	BEARING	LENGTH
L1	S86°57'31"E	26.00'

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!
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FOR FIELD LOCATING EXISTING UTILITIES

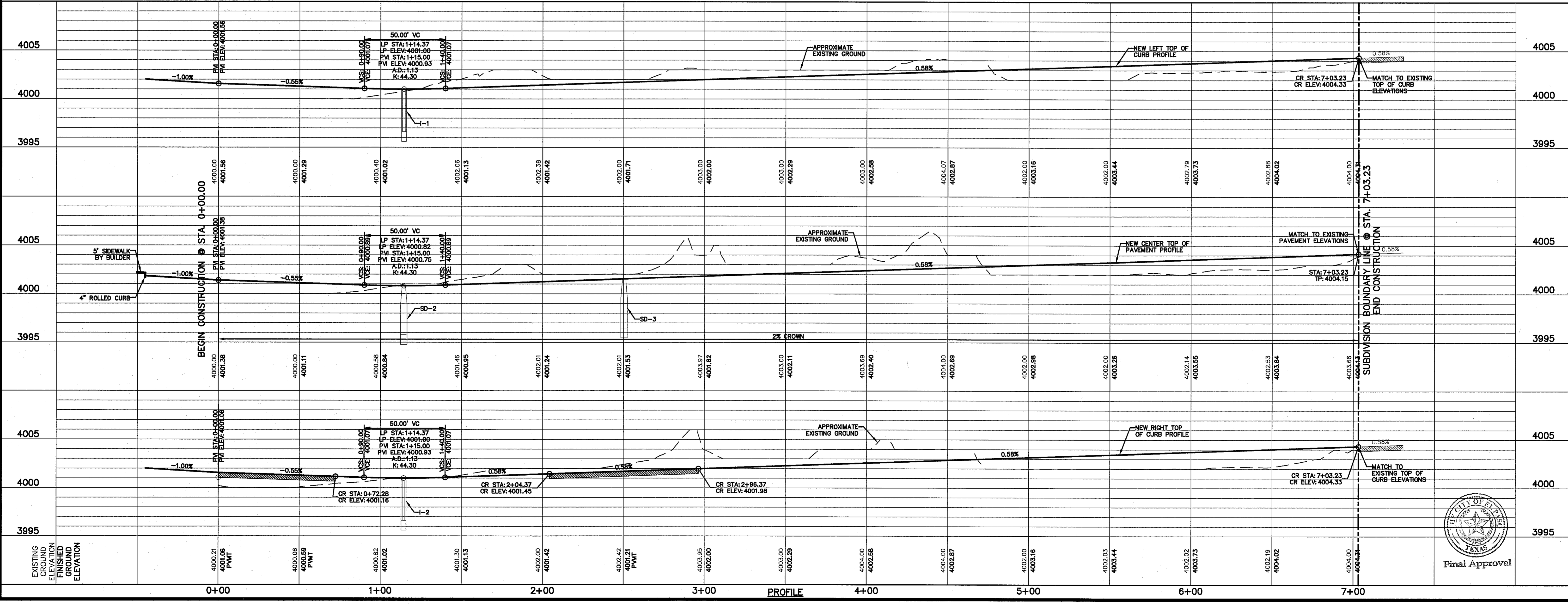
DATE	REVISIONS	BY



PLAN

LEGEND

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



PROFILE

SCALE: Horizontal: 1"=30'
Vertical: 1"=5'
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: C.J.M.
DRAWN BY: C.J.M.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

SEAN SIMS STREET
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 7+03.23

SHEET NO.

C6.5



Final Approval

S:\2000\2000-207-TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C6.5-Sean Sims Street P&P.dwg, 6/22/2018 8:40:26 AM

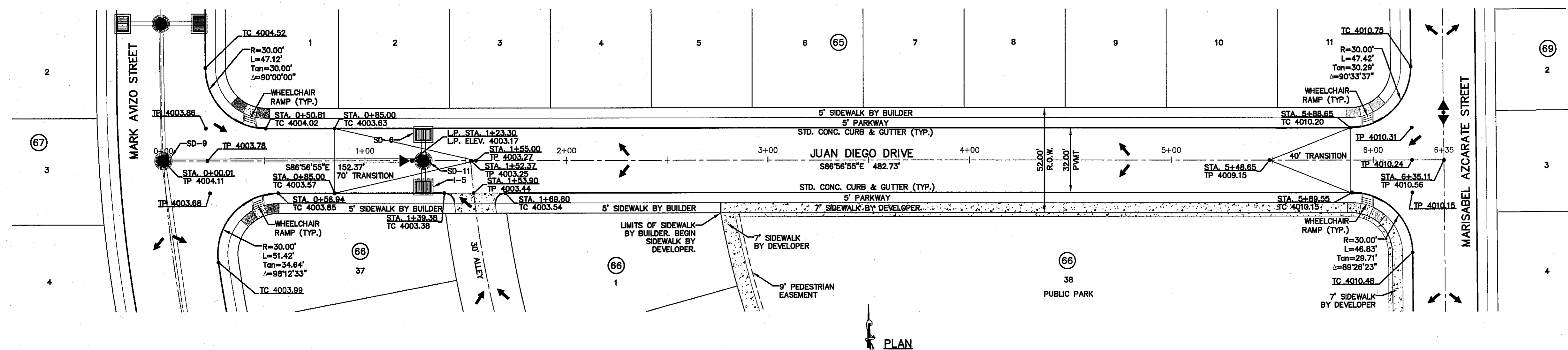
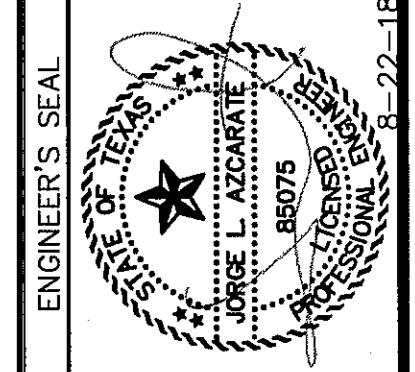
S:\2000\2000-2017-TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C6.6-Juan Diego Drive P&P.dwg, 8/29/2018 8:40:55 AM

UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 485-5244	
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

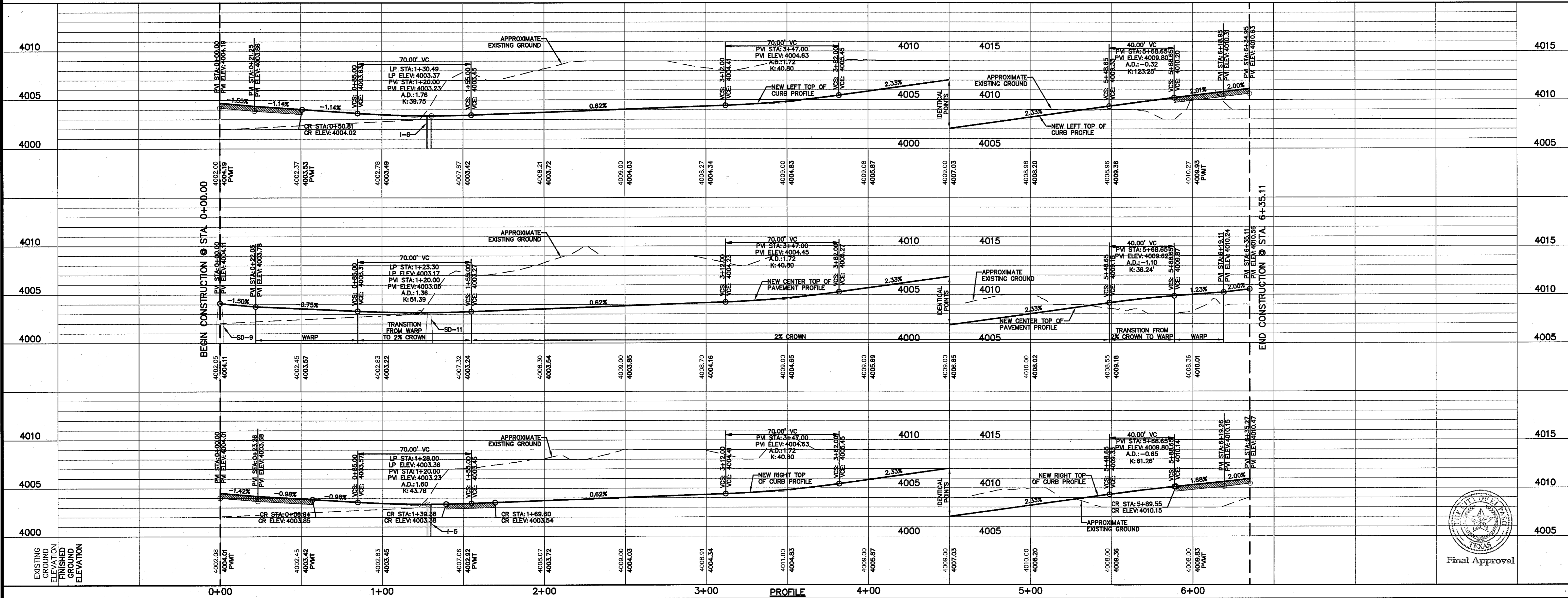
o&a
REGISTERED ENGINEERING FIRM
4701 N. LOOP WEST, SUITE 1000
DALLAS, TEXAS 75246
915.544.3232 | www.oandagroup.net



PLAN

LEGEND

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



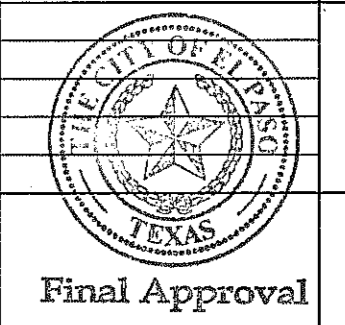
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Horizontal
1"=5'
Vertical
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.M.
CHKD. BY: J.L.A.
APP'D. BY: J.M.
JOB No.: 2000-2017

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
JUAN DIEGO DRIVE
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 6+35.11

SHEET NO.

C6.6



Final Approval

S:\2000\2000-207-TRES SUEÑOS (17)\DWG\Construction Drawings\Improvement Plans\C6.7-Micarta Drive P&P.dwg, 8/29/2018 8:42:59 AM

UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 495-3244	
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	

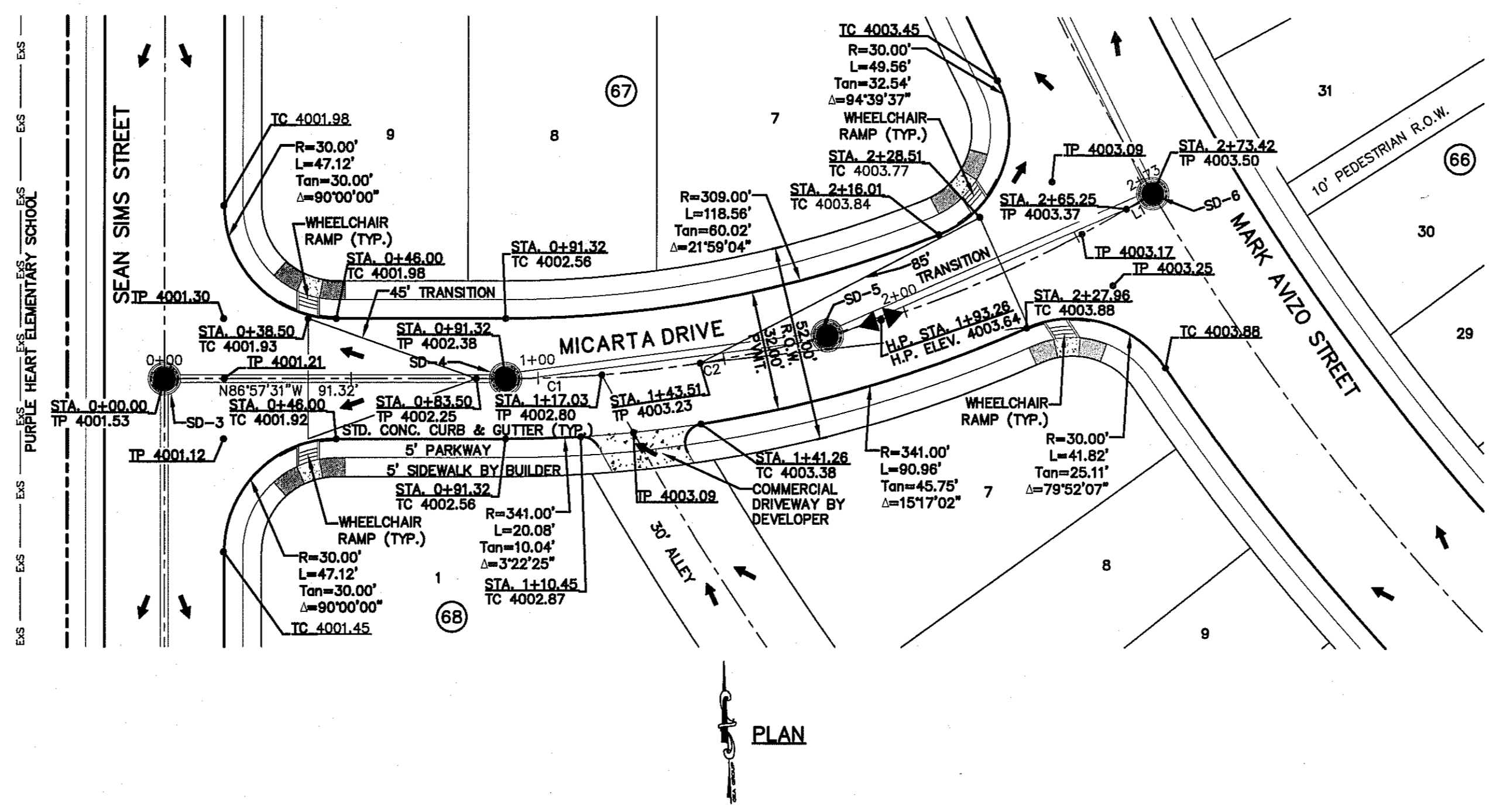
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

TECHNICAL STAMP
ca
 TEXAS REGISTERED ENGINEERING FIRM #464
 4772 Woodway Blvd. Ste. F El Paso, TX 79924
 915.544.6232 | www.caengr.com

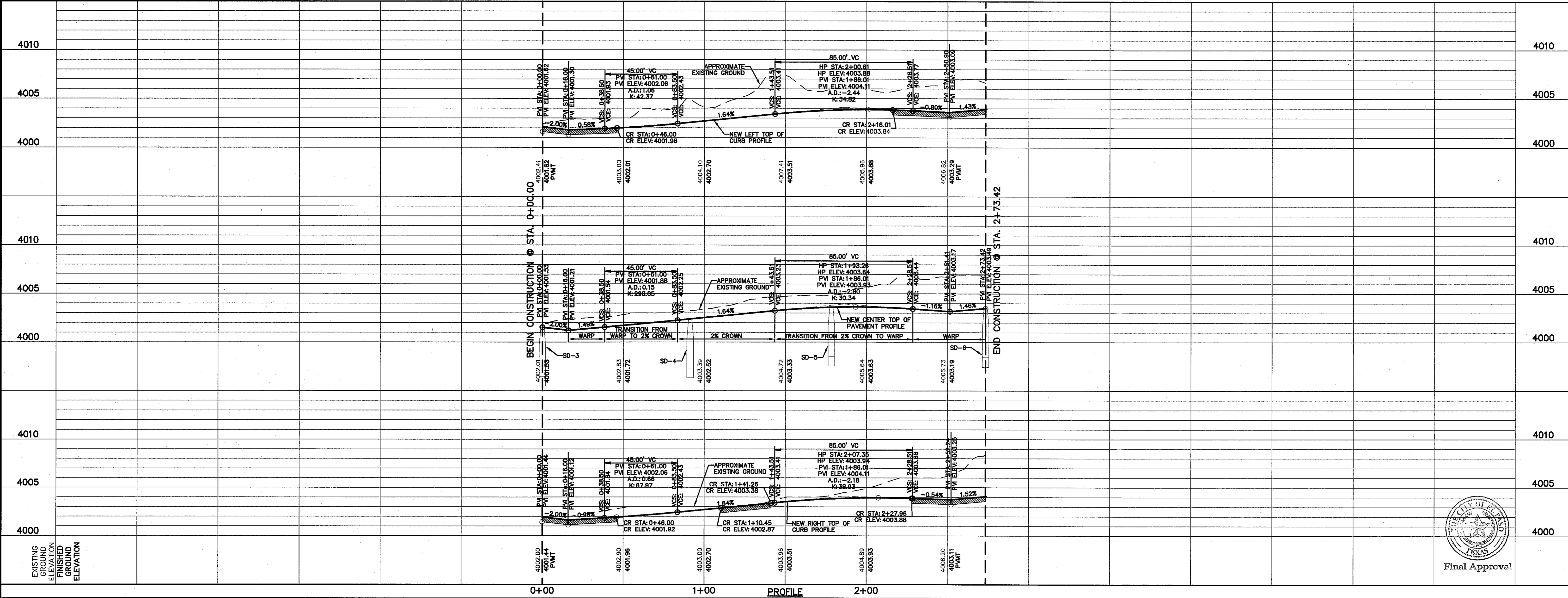
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	325.00'	25.71'	12.86'	25.70'	S89°13'30"E	004°31'57"
C2	325.00'	148.23'	75.42'	146.94'	N75°26'35"E	026°07'53"

LINE TABLE		
LINE	BEARING	LENGTH
L1	N62°22'39"E	8.17'



LEGEND

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

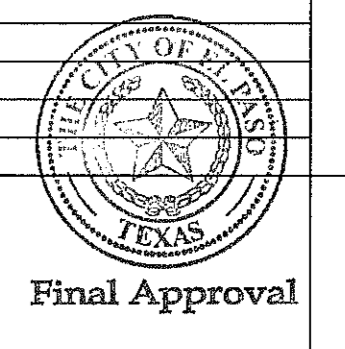


SCALE: 1"=30'
 Horizontal: 1"=5'
 Vertical: 1"=5'
 Contour Interval: N/A
 DATE: JUNE 2018
 DESIGN BY: J.M.
 DRAWN BY: G.J.M.
 CHECK BY: J.L.A.
 APPROVED BY: J.L.A.
 JOB No.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**MICARTA DRIVE
 PLAN & PROFILE
 FROM STA. 0+00.00
 TO STA. 2+73.42**

SHEET NO.
C6.7



UTILITY LOCATOR SERVICES

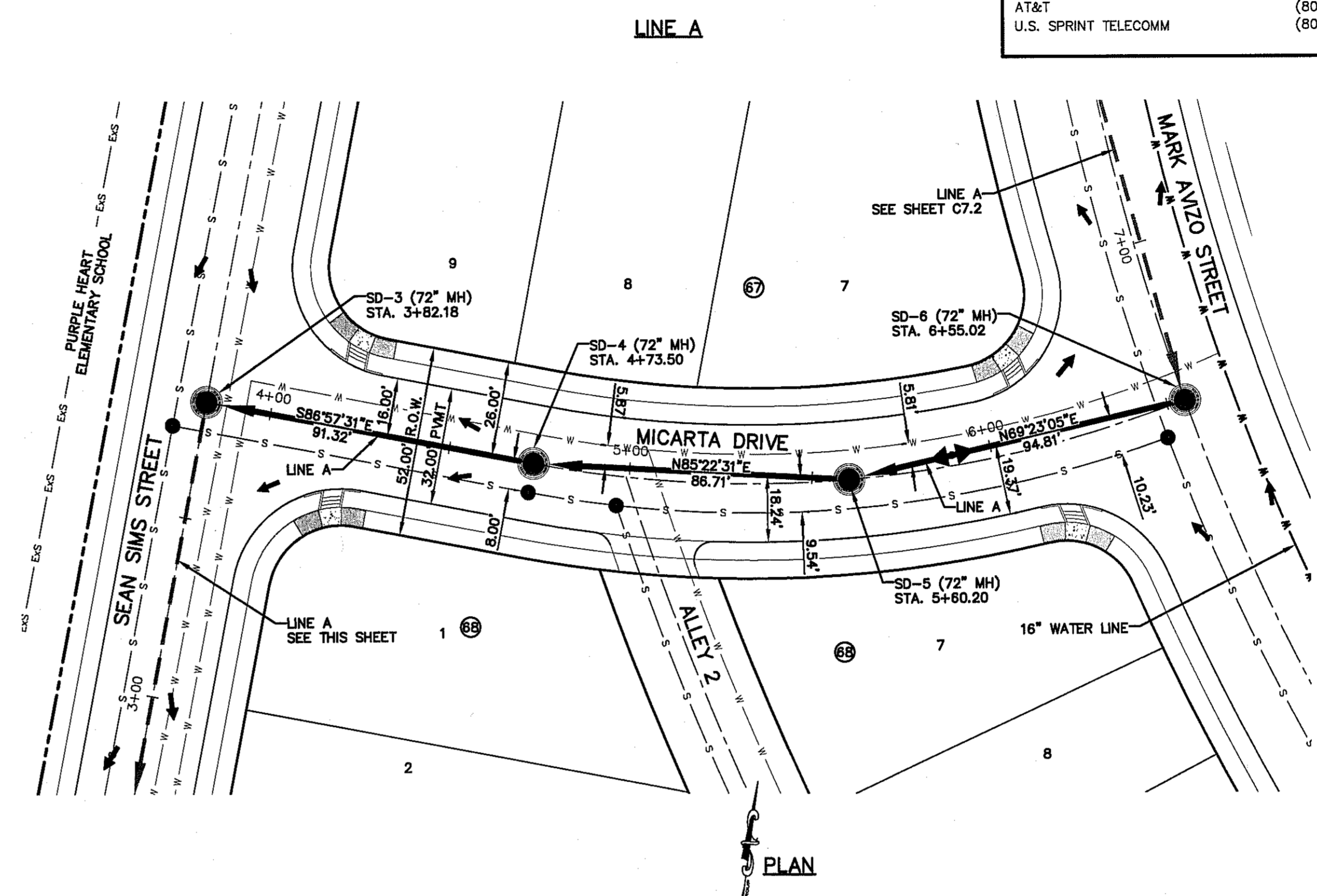
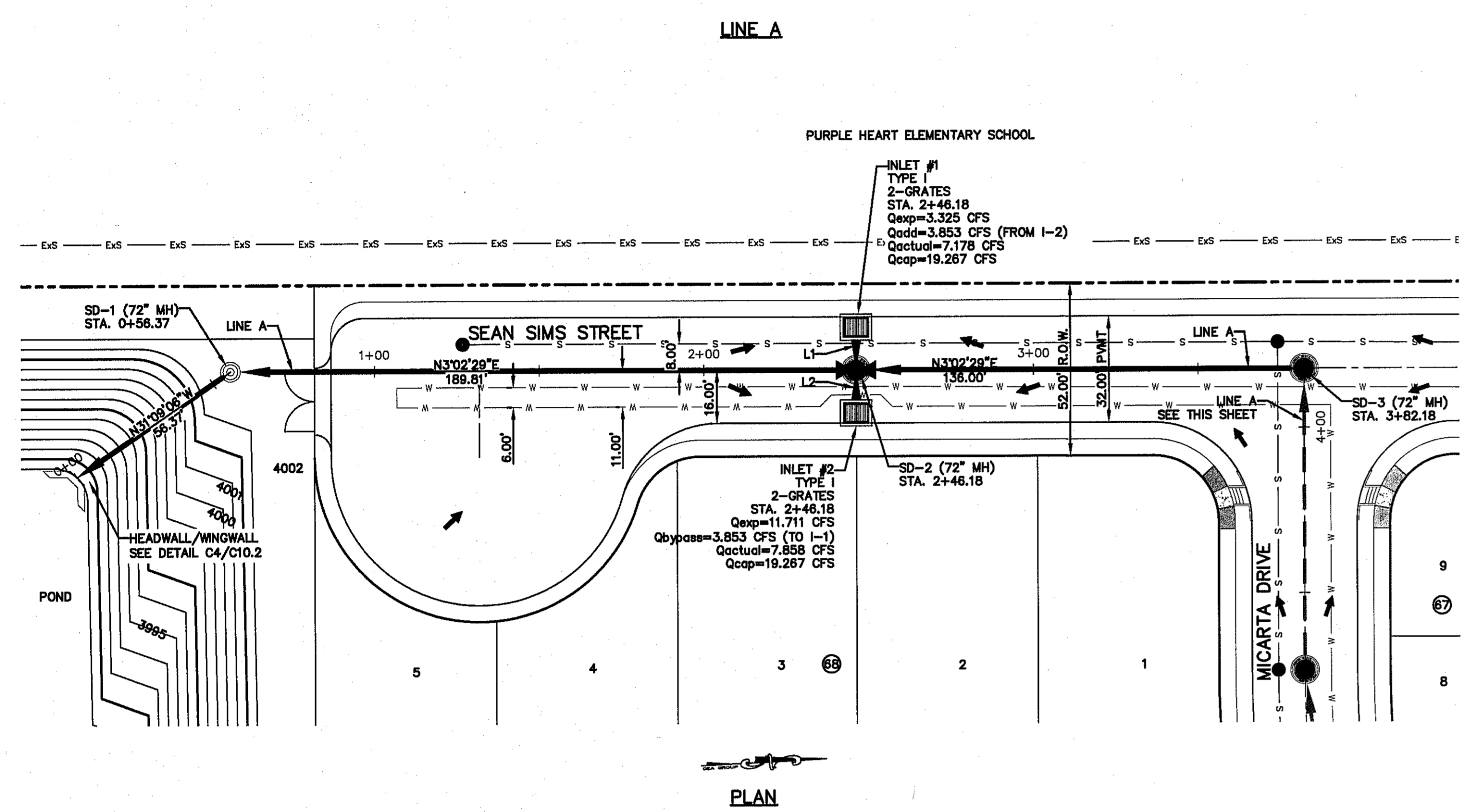
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-8244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
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FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E DISTANCE OF 100.00' FROM INTERSECTION OF RICH BEEM BLVD. & LUSTANA AVENUE. ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY

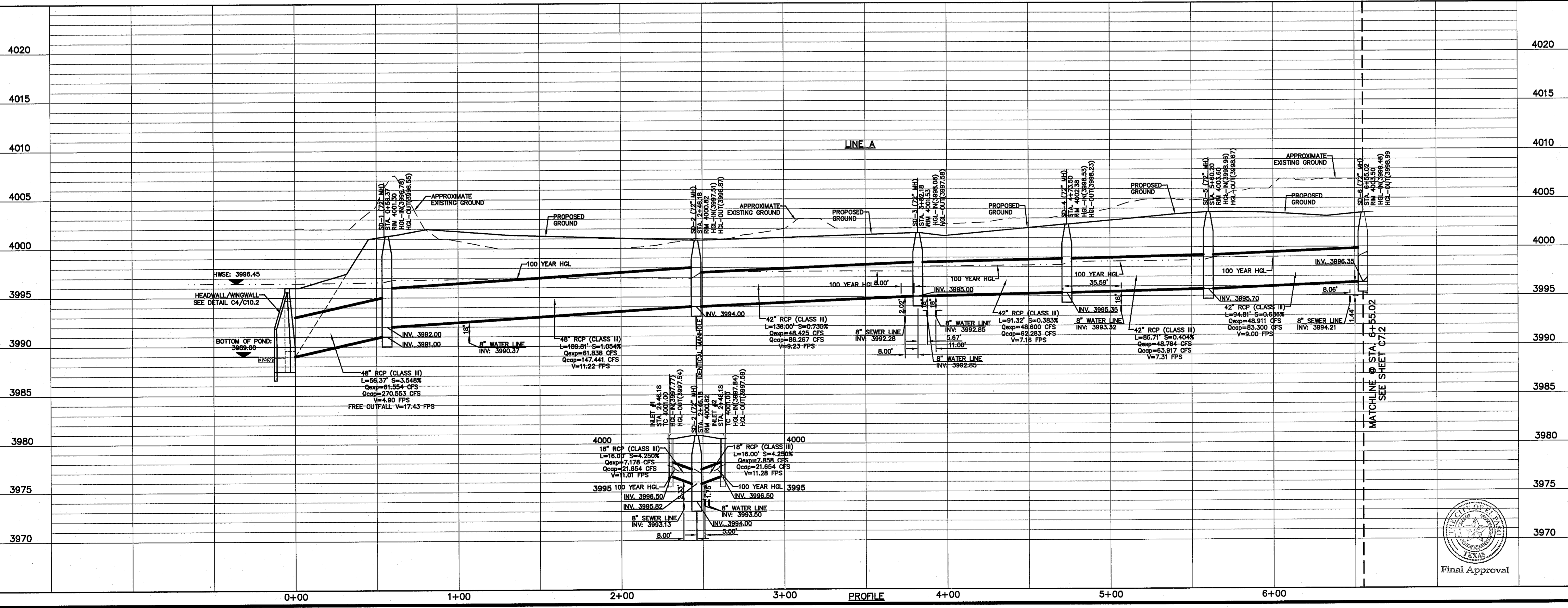


LINE TABLE

LINE	BEARING	LENGTH
L1	N86°57'31"W	16.00'
L2	S86°57'31"E	16.00'

LEGEND:

- STORM SEWER LINE
- - - PROPOSED STORM SEWER LINE ON OTHER STREETS
- - - EXISTING STORM SEWER LINE
- DROP INLET
- STORM DRAIN MANHOLE
- - - SANITARY SEWER LINE
- - - PROPOSED GROUND
- - - EXISTING GROUND
- - - HYDRAULIC GRADE LINE



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

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP. NO. BY: J.L.A.
JOB NO. - 2000-207

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM SEWER
PLAN &
PROFILE LINE A**

SHEET NO.

C7.1

Final Approval

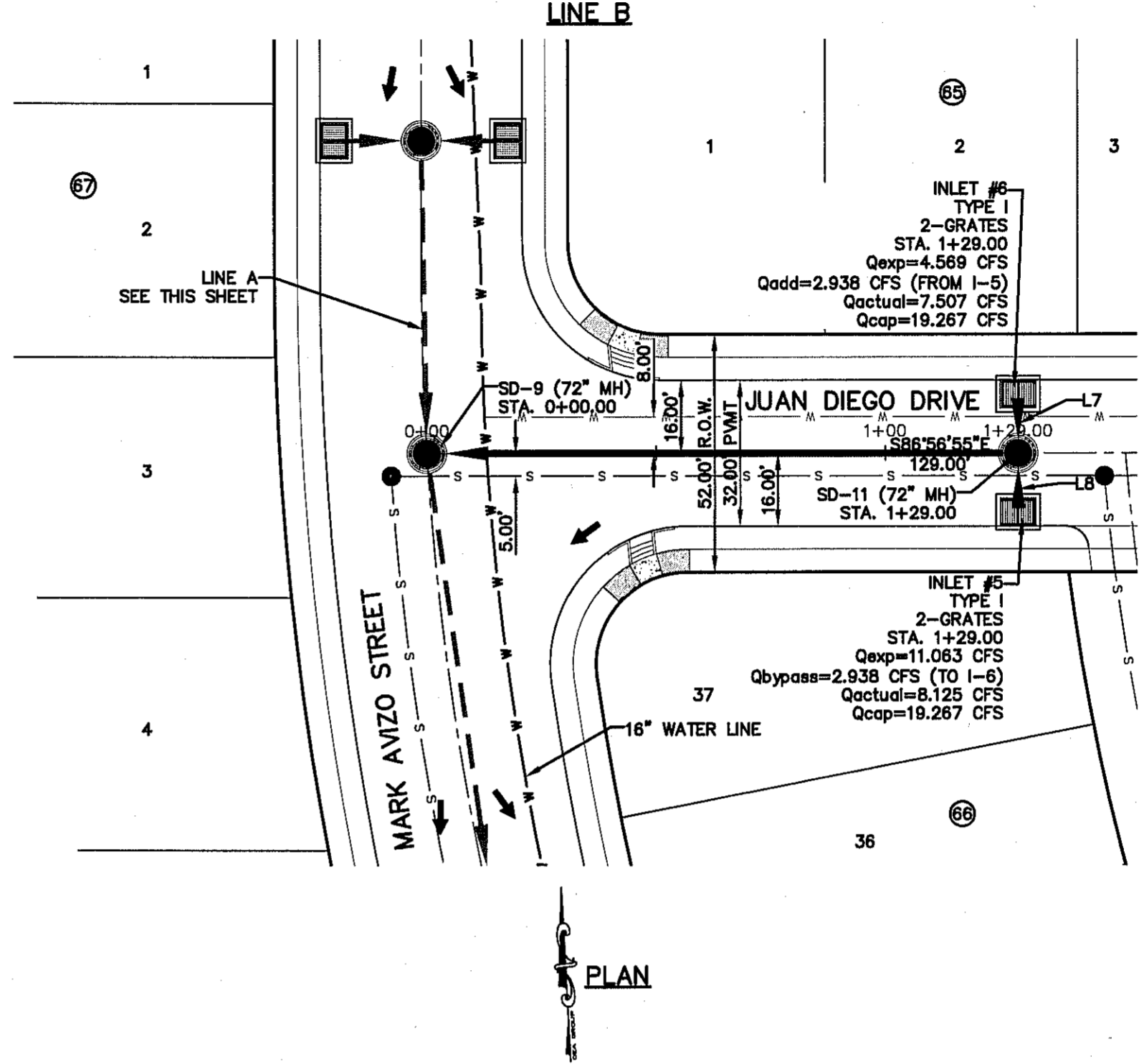
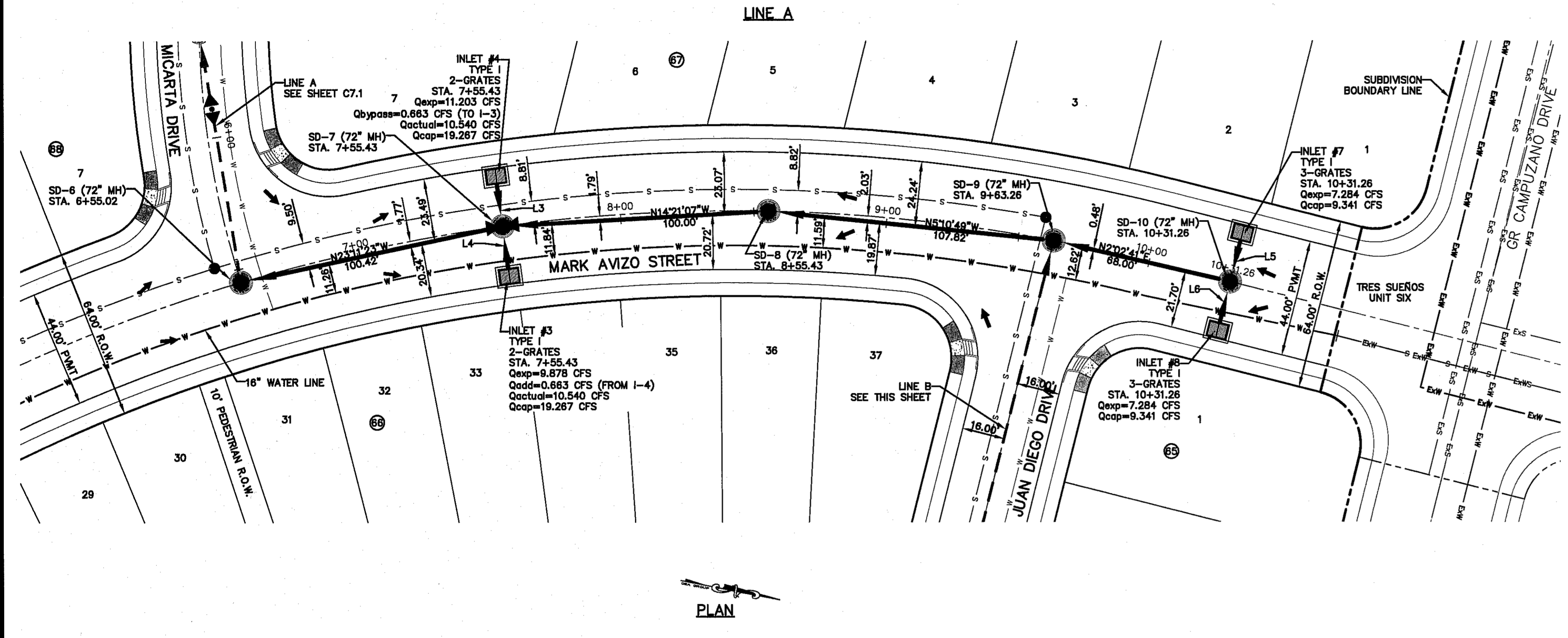
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UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MC SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
TEXAS GAS SERVICE	(915)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

WARNING!
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CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

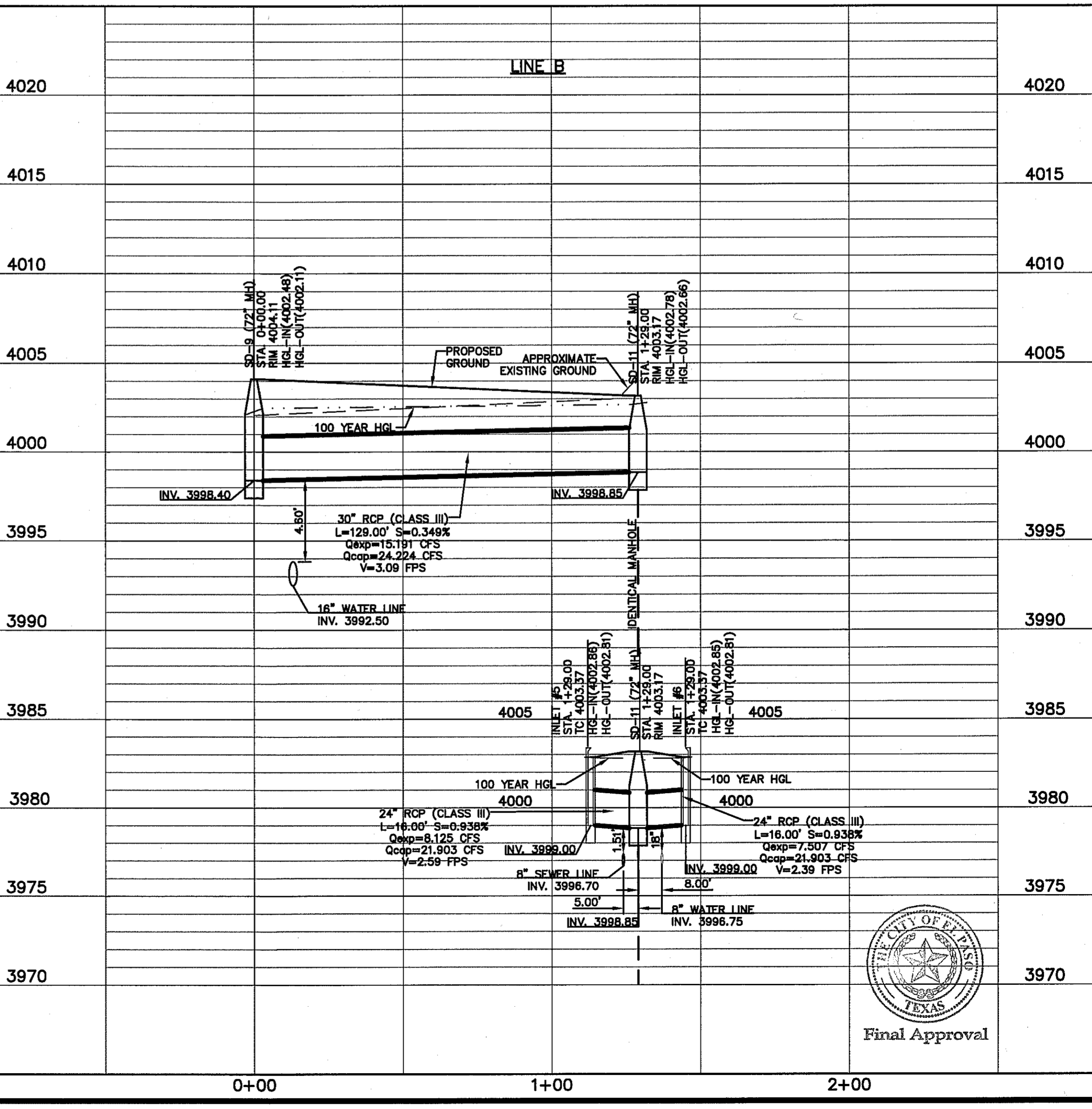
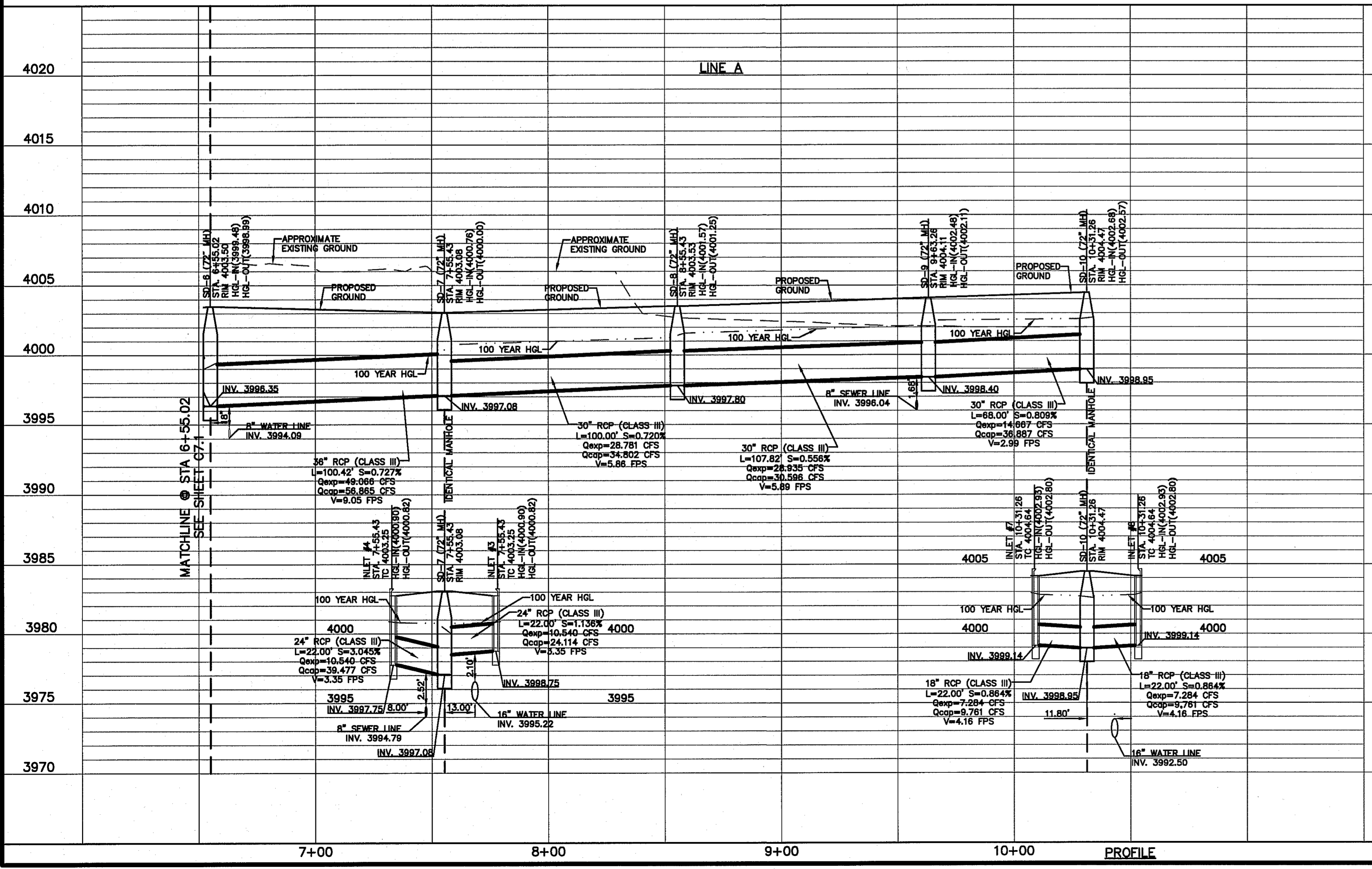


LINE	BEARING	LENGTH
L3	S71°14'18"W	22.00'
L4	N71°14'18"E	22.00'
L5	N86°56'55"W	22.00'
L6	S86°56'55"E	22.00'
L7	N03°03'05"E	16.00'
L8	S03°03'05"W	16.00'

- LEGEND:**
- STORM SEWER LINE
 - PROPOSED STORM SEWER LINE ON OTHER STREETS
 - EXISTING STORM SEWER LINE
 - DROP INLET
 - STORM DRAIN MANHOLE
 - SANITARY SEWER LINE
 - PROPOSED GROUND
 - EXISTING GROUND
 - HYDRAULIC GRADE LINE

ENGINEER'S SEAL

TEXAS REGISTERED ENGINEERING FIRM #88075
4772 Macomber Blvd. Ste. F P.O. Box 79824
916.544.8322 | www.craigtop.net



SCALE: 1"=30'

Horizontal: 1"=5'

Vertical: Contour Interval: N/A

DATE: JUNE 2018

DESIGN BY: GJM

DRAWN BY: JLA

SCALE: 1"=30'

DATE: 2000-2017

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

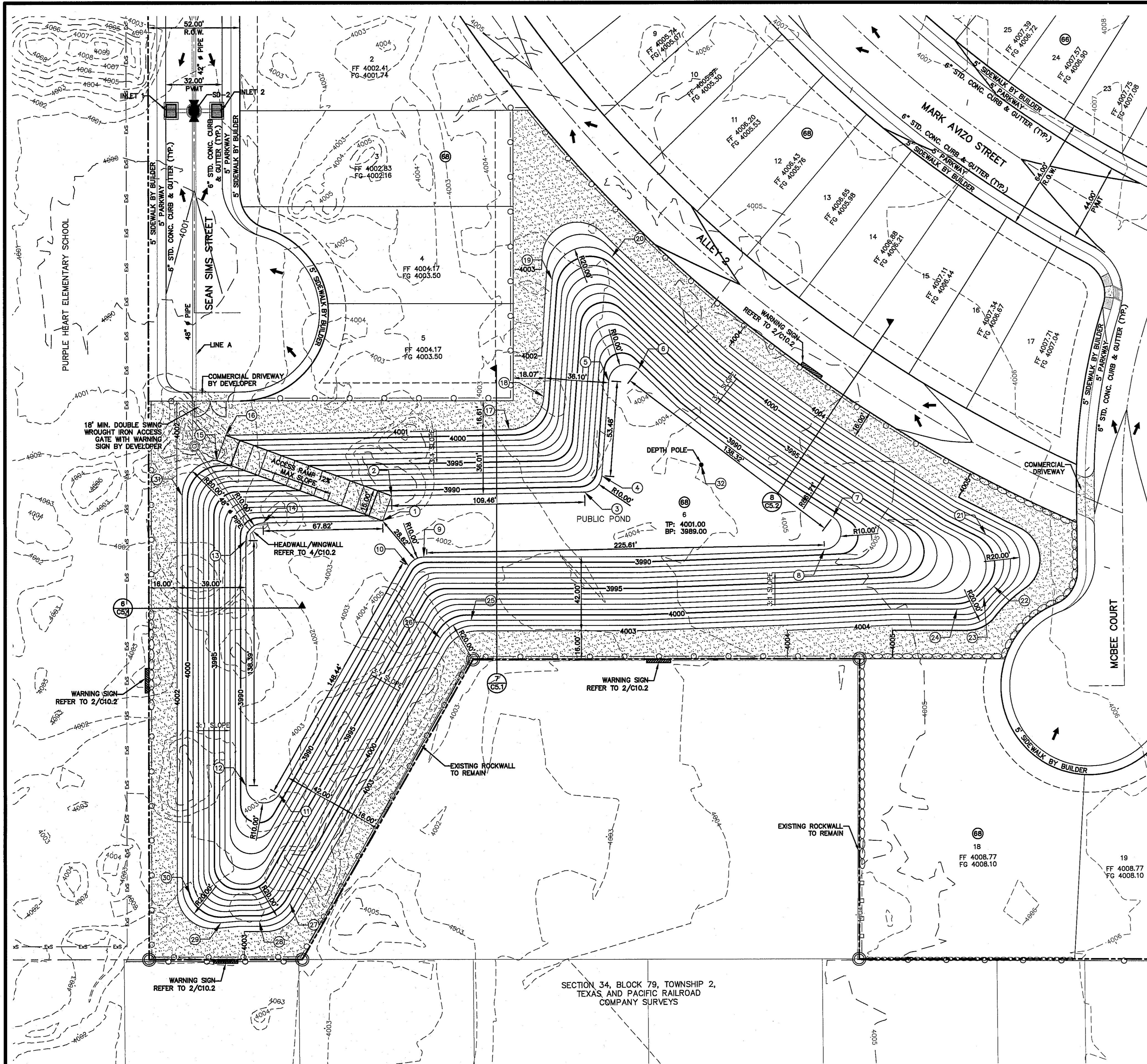
**STORM SEWER
PLAN &
PROFILE LINES
A & B**

SHEET NO.

C7.2

Final Approval

S:\2000\2007-2017-TRES SUEÑOS\UT\DWG5\Construction Drawings\Improvement Plans\C8.1-Pond Design Planning_8/29/2018 8:45:21 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!
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- GENERAL NOTES:**
- REFERENCE SHEETS C5.1 & C5.2 FOR ADDITIONAL INFORMATION ON CROSS SECTIONS.
 - REFERENCE SHEETS C6.4 & C6.5 FOR ADDITIONAL INFORMATION ON TOP OF CURB ELEVATIONS.
 - A PERCOLATION TEST WITHIN THE PROPOSED POND SHALL BE PERFORMED AT THE TIME OF EXCAVATION ACCORDING TO ASTM D-5126. THIS PERCOLATION TEST SHALL BE SUBMITTED FOR REVIEW AND APPROVAL TO AND BY EPWU STORMWATER ENGINEERING. SUBSURFACE SOIL PROFILES SHALL BE PROVIDED TO A MINIMUM OF FIVE (5) FEET BELOW THE PROPOSED POND INVERT. STORMWATER SHALL PERCOLATE WITHIN SEVENTY-TWO (72) HOURS IN ACCORDANCE TO SECTION 11.4.3 OF THE CITY OF EL PASO'S DRAINAGE DESIGN MANUAL.

- NOTES:**
- 15' WIDE POND ACCESS RAMP SHALL HAVE A MINIMUM P.I. OF 8 WITH NO LOOSE MATERIAL AND A MINIMUM 95% COMPACTION PER ASTM-D1557.
 - POND ROCKWALL/RETAINING WALL SHALL BE BUILT TO A 6' MIN. HEIGHT FROM THE HIGHEST GROUND.
 - PROPOSED ROCKWALLS & RETAINING WALL LOCATIONS SHALL BE CONSTRUCTED ACCORDING TO GRADING SECTIONS.
 - ALL ROCKWALLS AND RETAINING WALLS AROUND THE PERIMETER OF THE POND SHALL BE CONSTRUCTED BY DEVELOPER.

- LEGEND:**
- NEW 6' HIGH ROCKWALL
 - NEW 6' HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT)
 - 3" THICK COMPACTED SCREENING
 - WARNING SIGN
 - WATER DEPTH POLE

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 CITY DATUM ELEVATION=4005.40

FLOOD ZONE
THIS SUBMISSION 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.

COORDINATE TABLE		
Point #	Northing	Easting
1	10674193.7061	463681.3499
2	10674207.5036	463687.2346
3	10674203.7066	463796.6326
4	10674212.4288	463806.8978
5	10674265.4755	463813.6991
6	10674271.0701	463830.8880
7	10674181.9092	463936.6324
8	10674163.8009	463930.7244
9	10674171.8729	463703.5765
10	10674167.2999	463694.6347
11	10674042.4863	463614.2884
12	10674048.4297	463595.8941
13	10674186.6279	463603.2366
14	10674241.1491	463755.9084
15	10674196.0912	463613.5736
16	10674232.9605	463589.3114
17	10674246.7580	463595.1960
18	10674258.6410	463776.4497
19	10674324.5730	463784.7427
20	10674335.6345	463819.3049
21	10674167.2728	464022.6477
22	10674137.7124	464025.4709
23	10674132.0075	464019.5249
24	10674125.7866	464003.9354
25	10674134.4993	463728.3302
26	10674125.3533	463710.4465
27	10673980.3054	463617.0748
28	10673971.1594	463599.1911
29	10673971.4521	463577.4914
30	10673988.2500	463561.1867
31	10674214.0338	463568.6420
32	10674215.4576	463863.5943

NEW POND #1 CALCULATIONS

$QT = (ARC)/12$
 $QT = 6.209 \text{ AC-FT}$
 $A = 31.787$
 $R = 4'$
 $Cw = 0.586$

TOTAL_{req} = 6.209 AC-FT

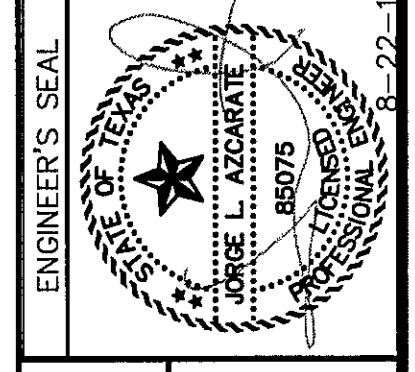
NEW POND #1								
BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)	TOP ELEVATION
1	6.209	12.597	73.047	0	3996.45	3989	4.55	4001

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.
 $HGL = QT$
 $HGL = 6.209 \text{ AC-FT}$
 CONTOUR 3996 ACCUMULATED VOLUME = 5.682 AC-FT
 CONTOUR 3997 ACCUMULATED VOLUME = 6.861 AC-FT
 HYDRAULIC GRADE LINE ELEVATION = 3996.45

NEW POND #1 AREAS	
CONTOUR	ACCUMULATED VOLUME (AC.-FT.)
3989	0.000
3990	0.553
3991	1.187
3992	1.906
3993	2.713
3994	3.610
3995	4.599
3996	5.682
3997	6.861
3998	8.140
3999	9.522
4000	11.008
4001	12.597

REFERENCES - BENCHMARKS	
BENCHMARK IS 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).	BY
DATE	REVISIONS

CS&A
 TEXAS REGISTERED ENGINEERING FIRM #464
 4772 N. Loop East, Suite 100, El Paso, TX 79904
 915.544.6322 | www.csandagroup.net



SCALE: 1" = 30'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JUNE 2018
 DESIGN BY: J.M.
 DRAWN BY: G.J.M.
 CHECKED BY: U.L.A.
 P.O. # 15
 JOB No. 2000-2017

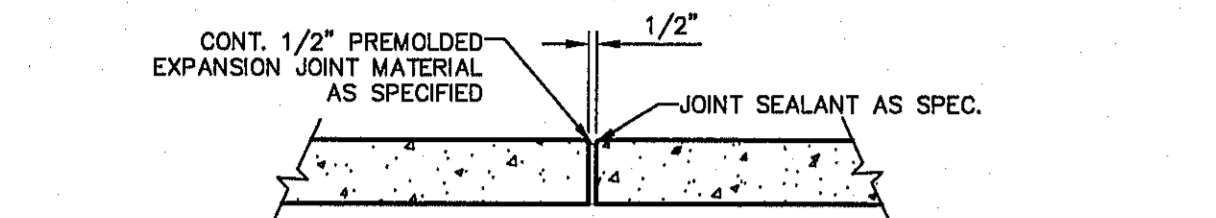
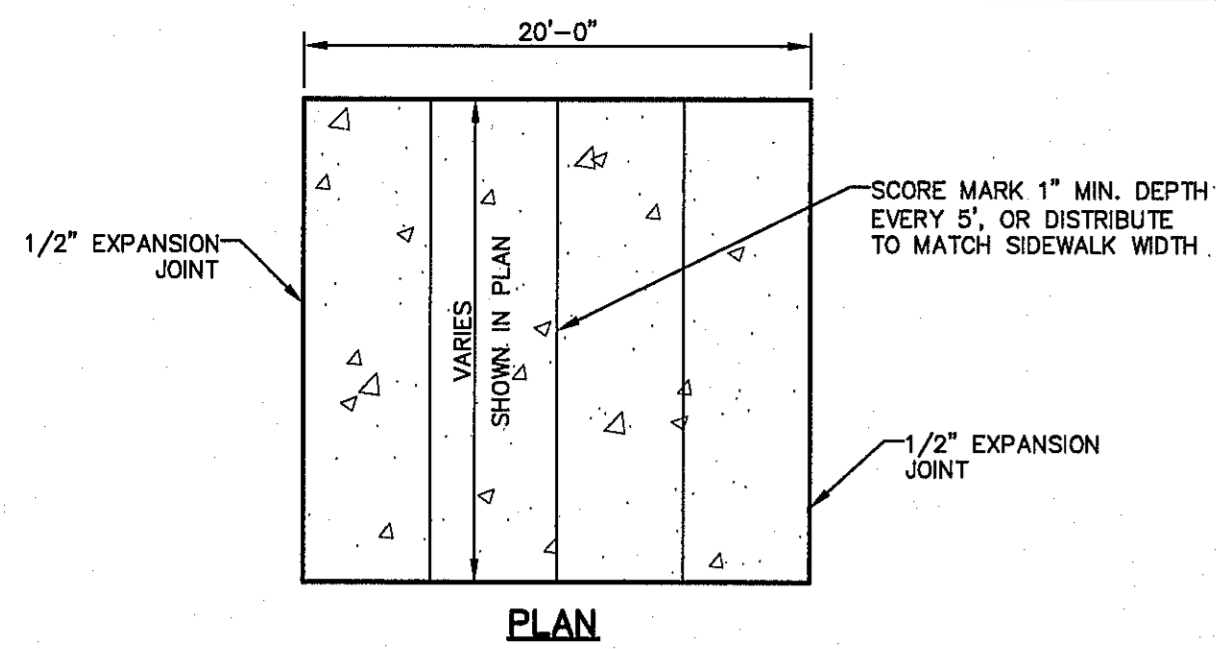
PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
POND DESIGN PLAN

SHEET NO.
C8.1



POND DESIGN PLAN
 SCALE: 1" = 30'



EXPANSION JOINT SECTION
SCALE: N.T.S.

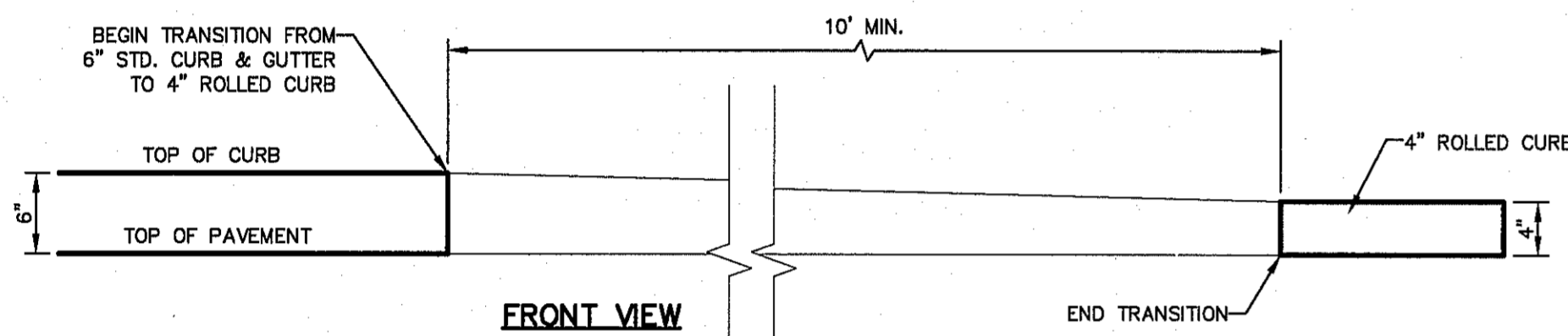
NOTES:

- 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.

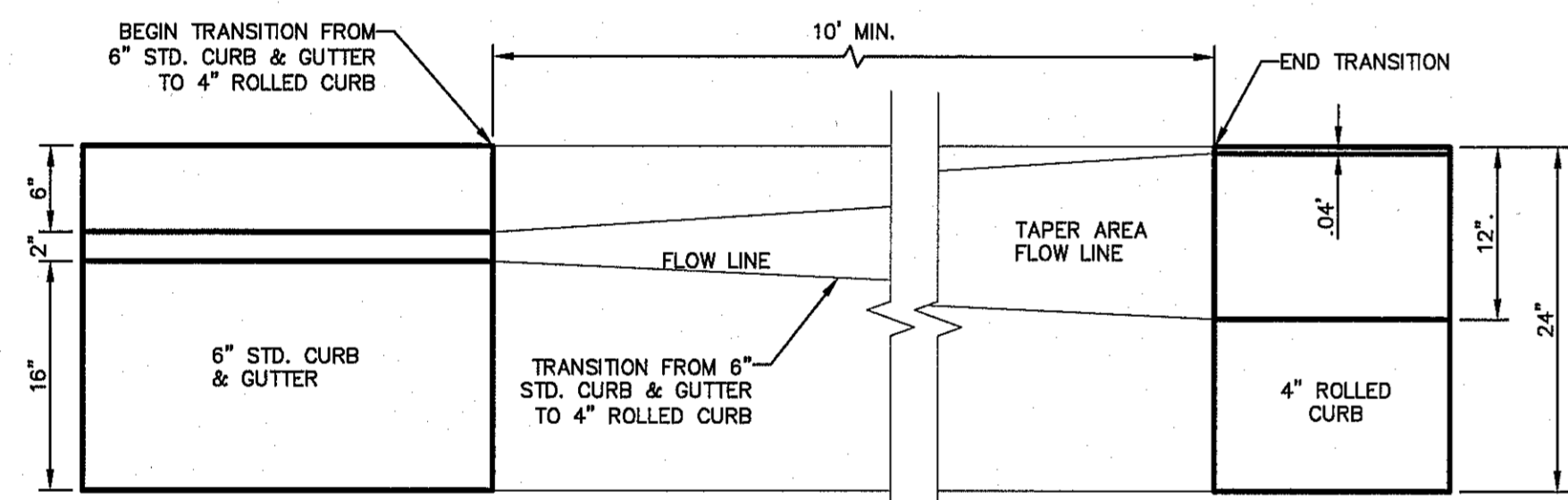
SIDEWALK NOTES:

- 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.
- REINFORCEMENT (6X6-10/10 W.W.F.) SHALL BE PLACED WHEREVER SIDEWALK ABUTS A PEDESTRIAN WALKWAY AND/OR PARK.

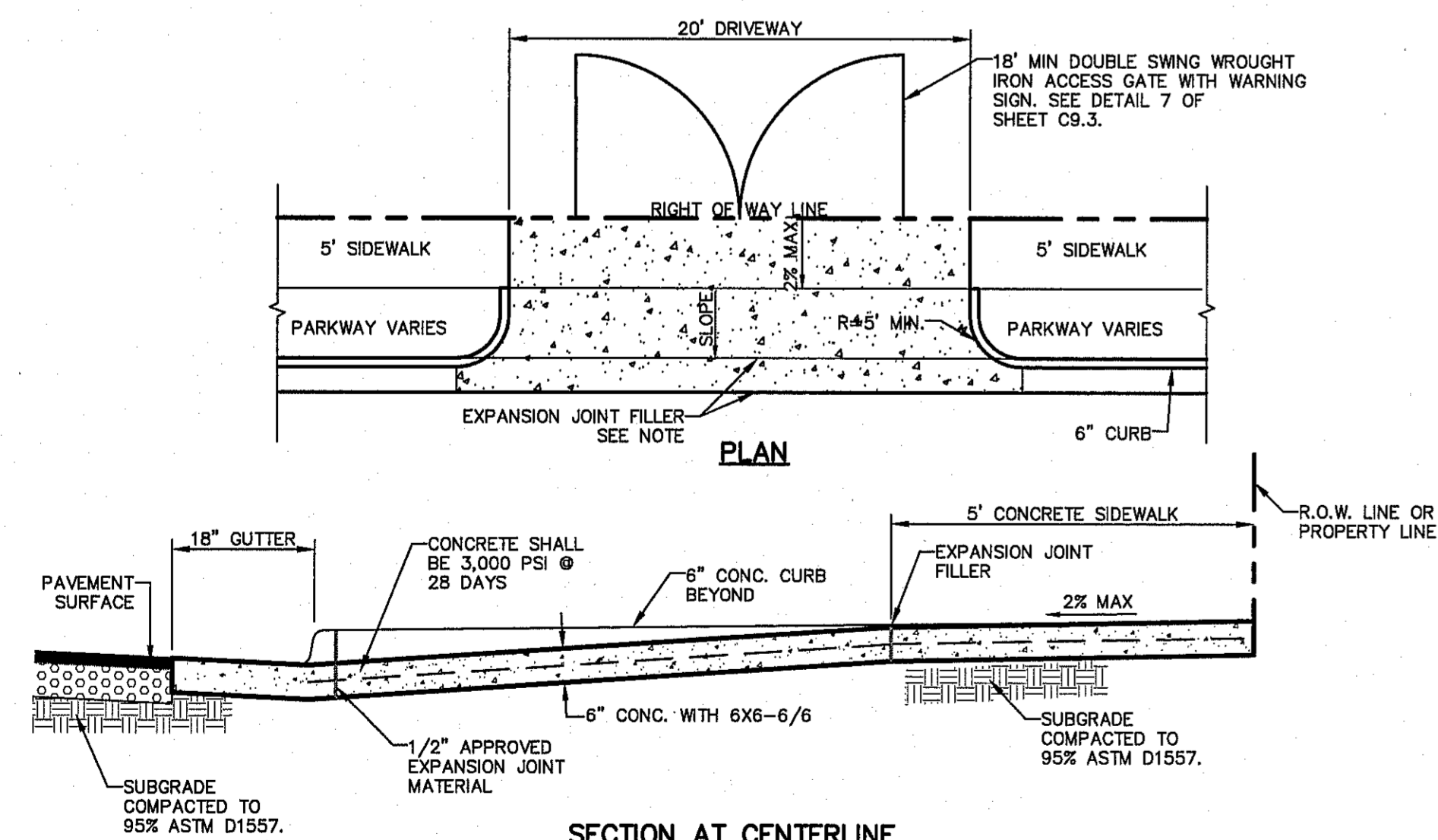
1 SECTION-SIDEWALK/SLAB
SCALE: N.T.S.



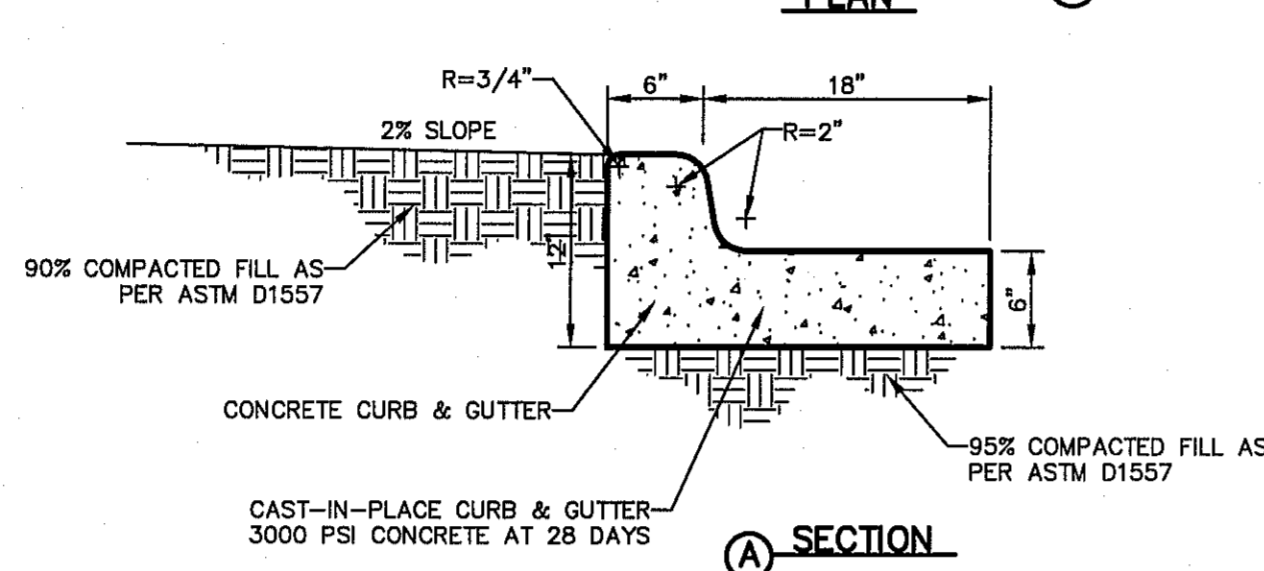
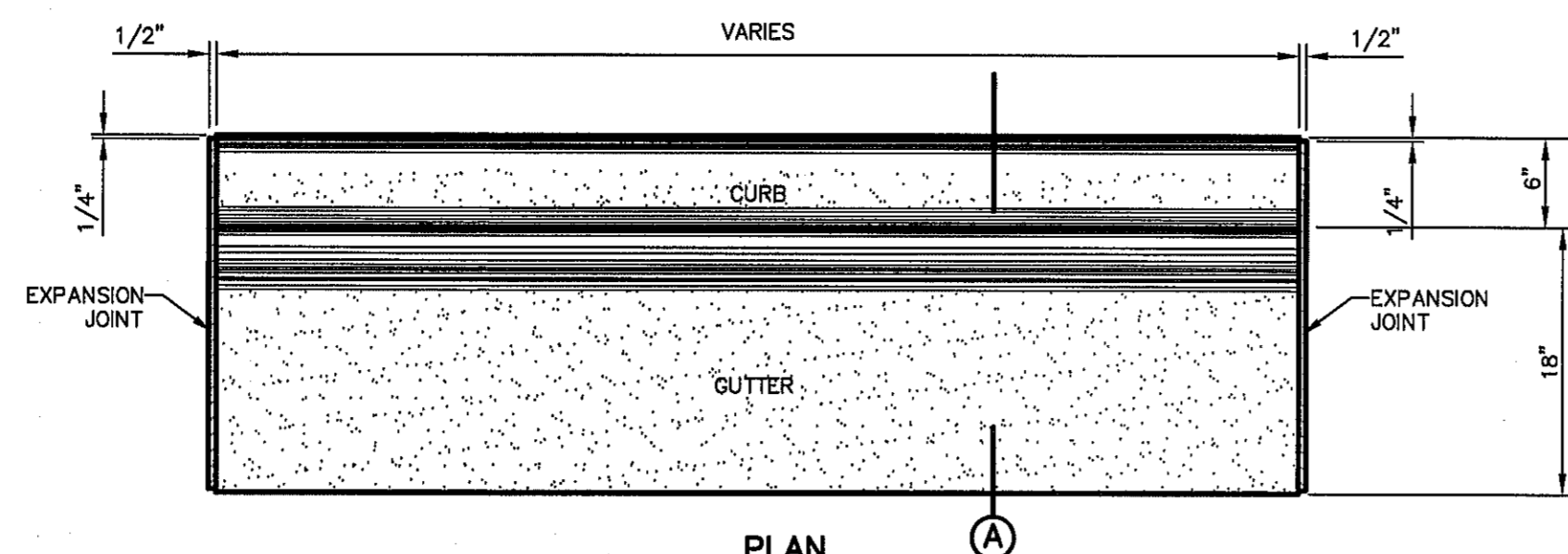
2 CURB & GUTTER DETAIL
SCALE: 1"=1'-0"



6 CURB TRANSITION DETAIL
SCALE: N.T.S.



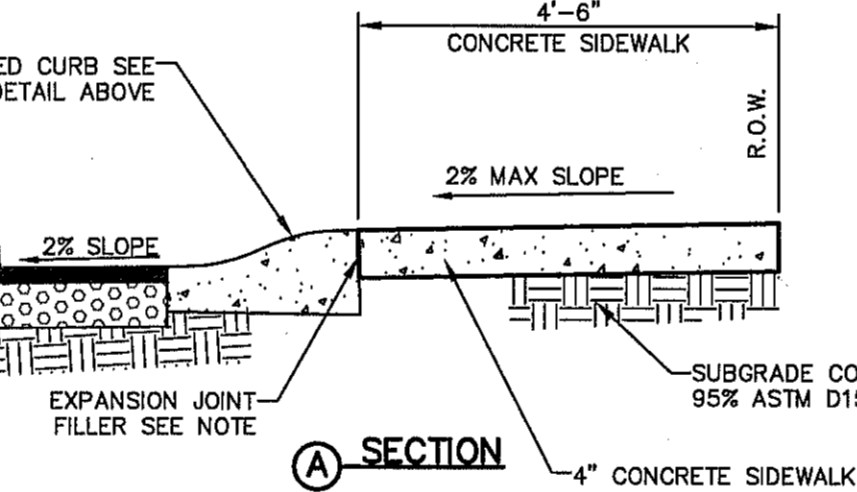
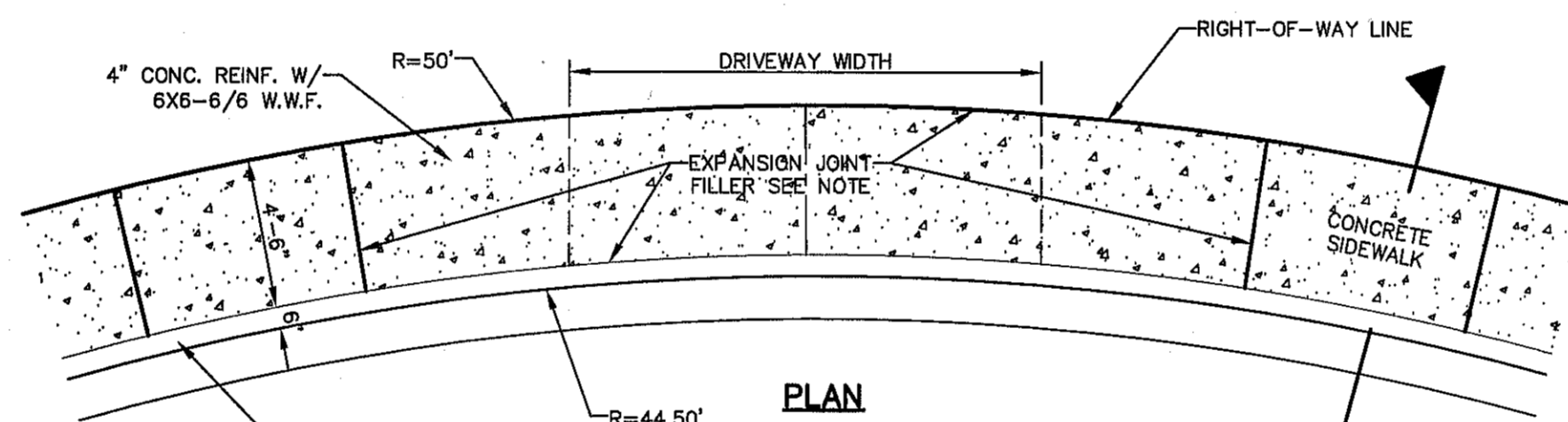
9 COMMERCIAL DRIVEWAY DETAIL
SCALE: N.T.S.



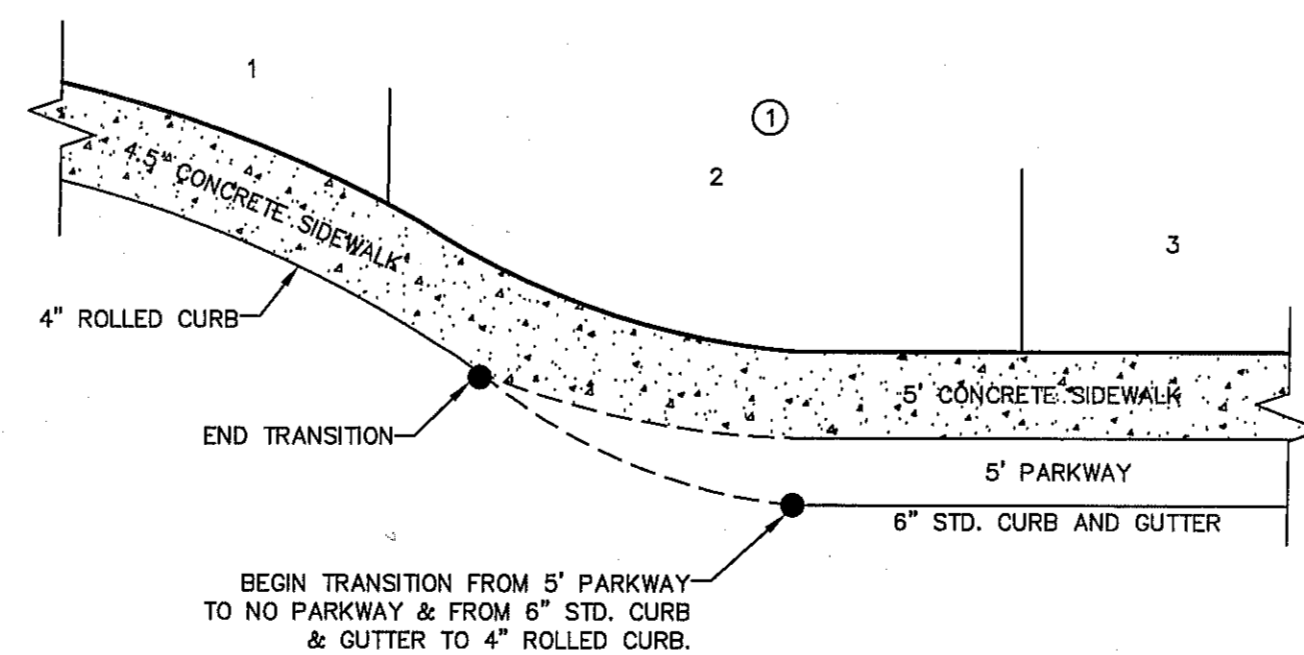
NOTES:

- 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.

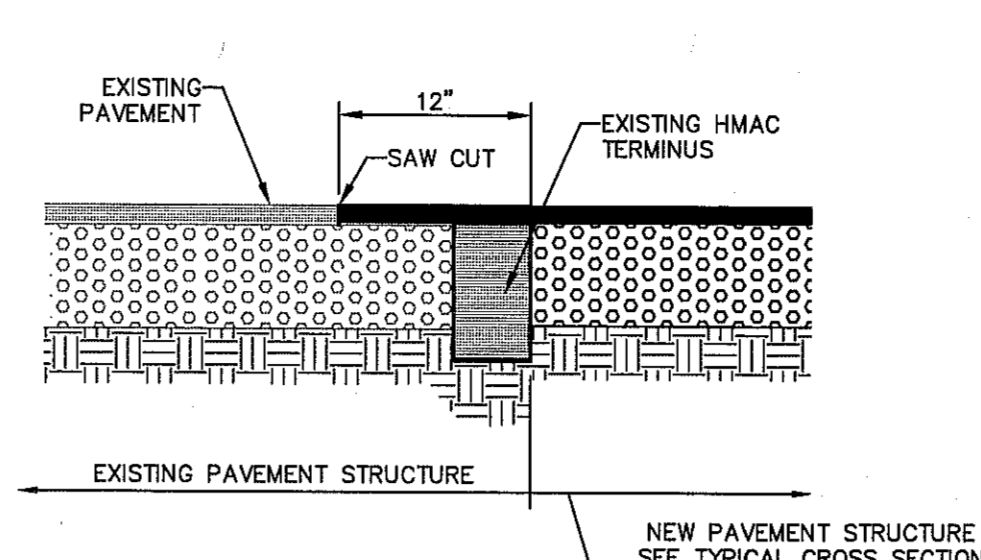
2 CURB & GUTTER DETAIL
SCALE: 1"=1'-0"



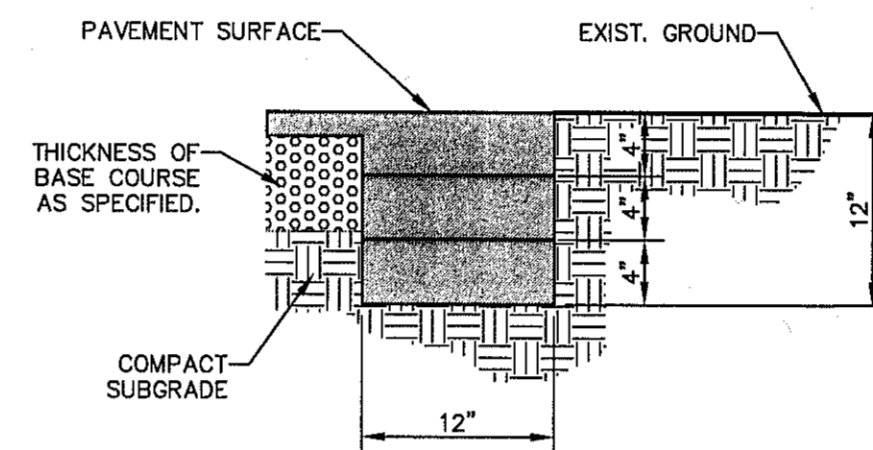
7 HEEL/CUL-DE-SAC DRIVEWAY DETAIL
SCALE: N.T.S.



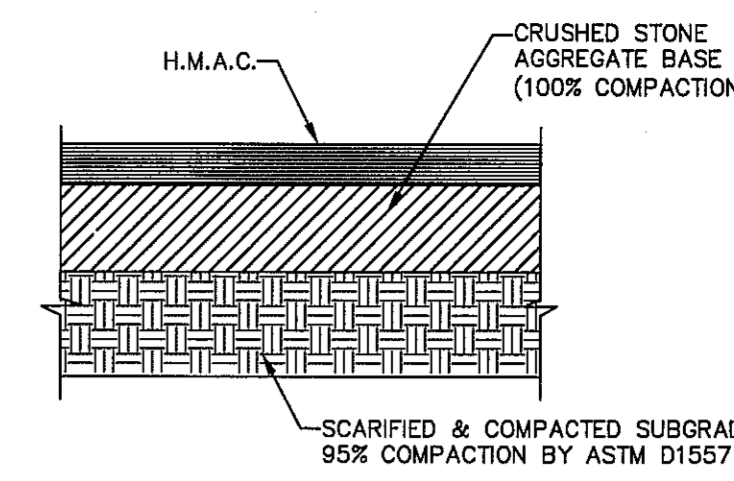
10 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.



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



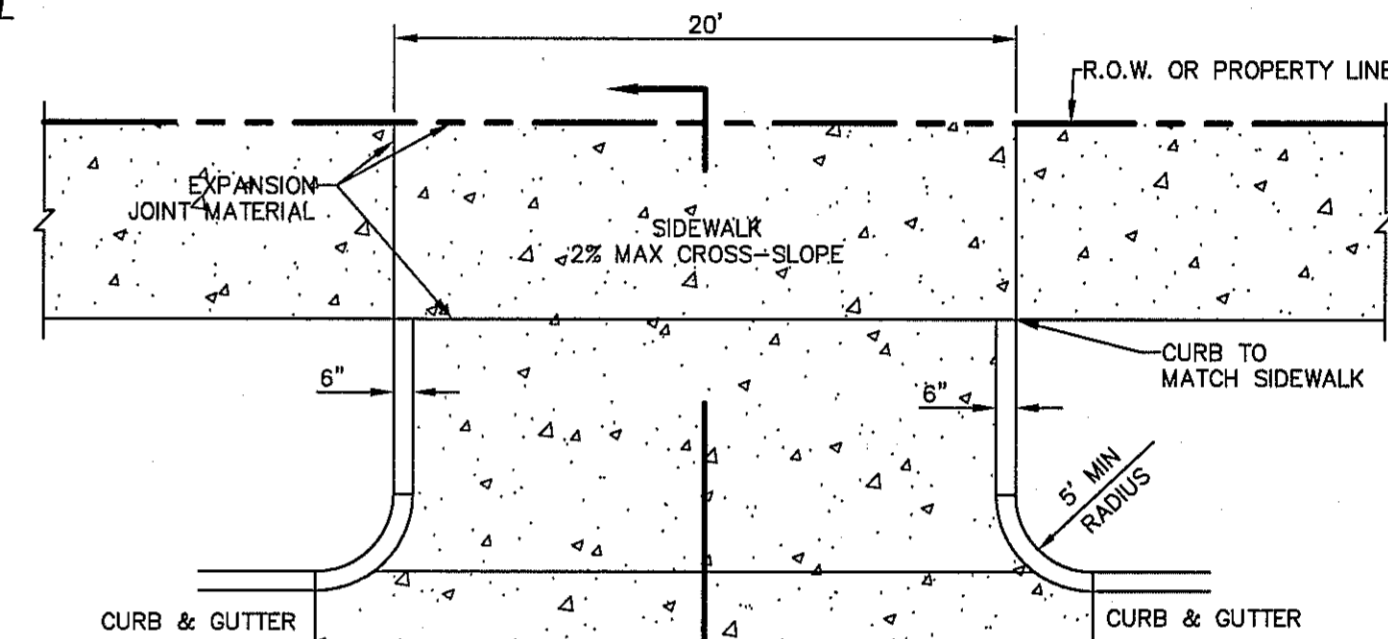
4 TERMINUS OF STREET
SCALE: 1"=1'-0"



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.

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



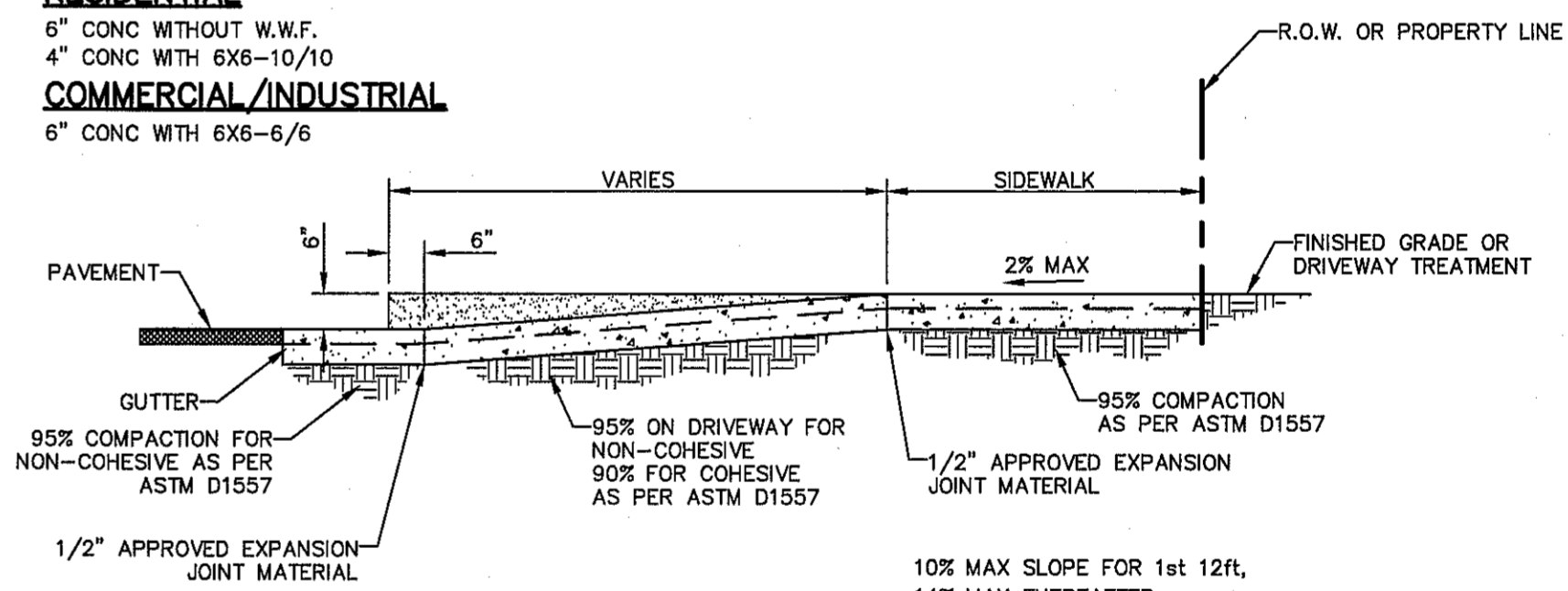
DRIVEWAY PLAN

RESIDENTIAL

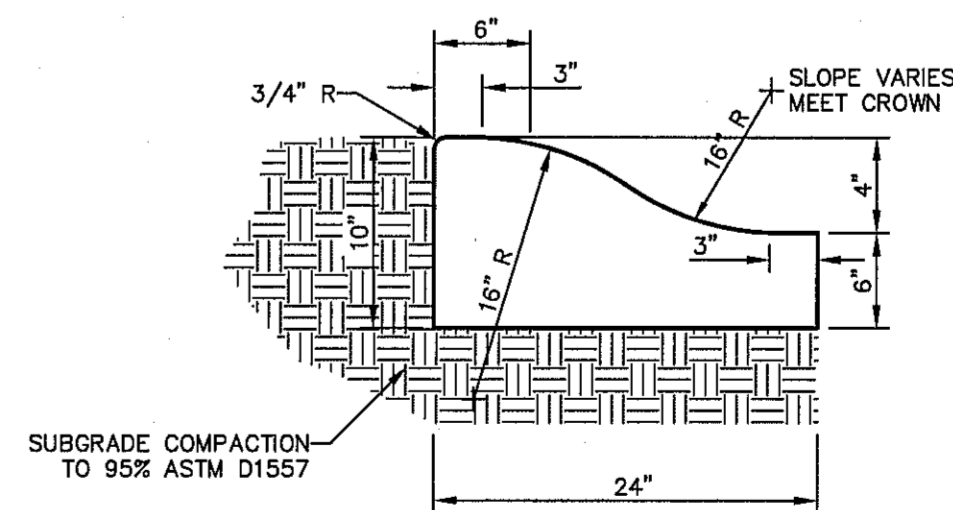
6" CONC WITHOUT W.W.F.
4" CONC WITH 6X6-10/10

COMMERCIAL/INDUSTRIAL

6" CONC WITH 6X6-6/6



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



11 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1"=1'-0"

- 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.

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084337E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY END OF THE BENCHMARK. BENCHMARK ELEVATION = 4005.40 (CITY DATA).

DATE	REVISIONS	BY

CSA

TEXAS REGISTERED ENGINEERING FIRM # 1584
4712 Woodrow Bess Sta. F El Paso, TX 79924
915.544.6232 | www.csaengineers.net

ENGINEER'S SEAL

STATE OF TEXAS

EL PASO COUNTY

EL PASO

REGISTERED PROFESSIONAL ENGINEER

NO. 148075

EXPIRES 12/31/2027

SCALE	N/A	N/A	N/A
Horizontal:	N/A	N/A	N/A
Vertical:	N/A	N/A	N/A
Contour Interval:	N/A	N/A	N/A
DATE:	JUNE 2018		
DESIGN BY:	JLM		
DRAWN BY:	CJM		
CHKD. BY:	JLM		
APPROV. BY:	JLM		
JOB NO.:	2000-207		

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STANDARD
DETAILS**

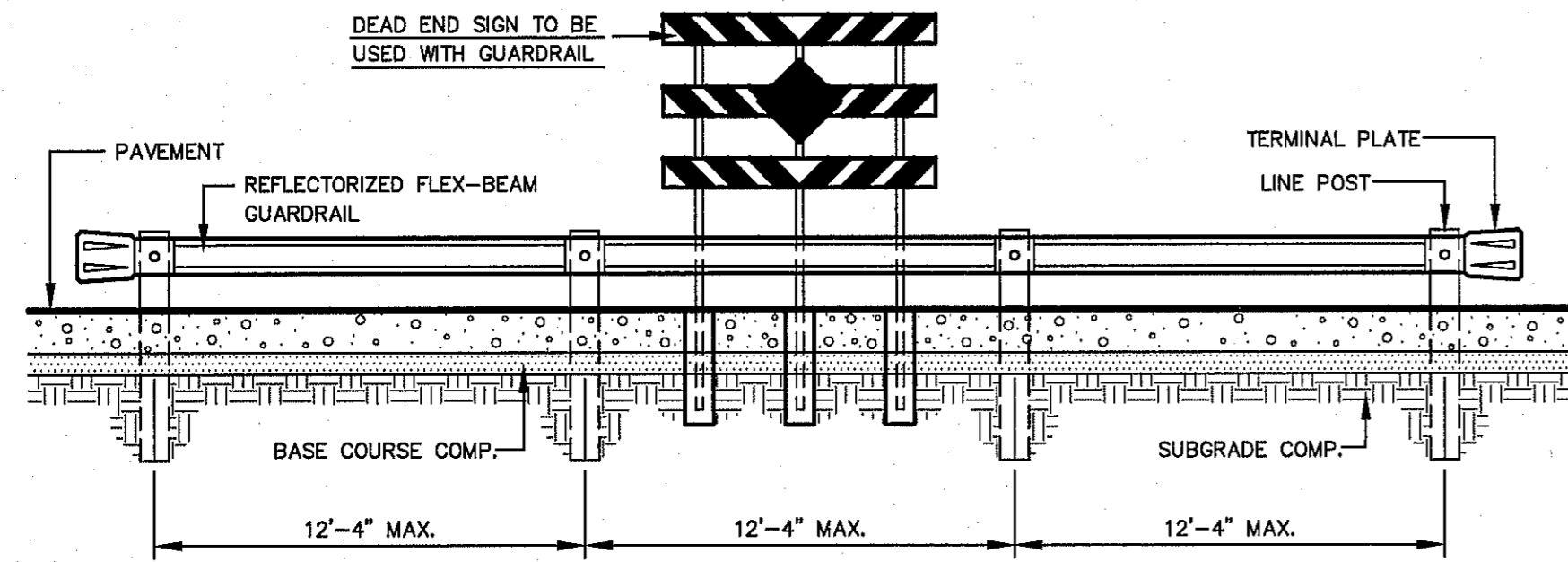
(SHEET 1 OF 3)

SHEET NO.

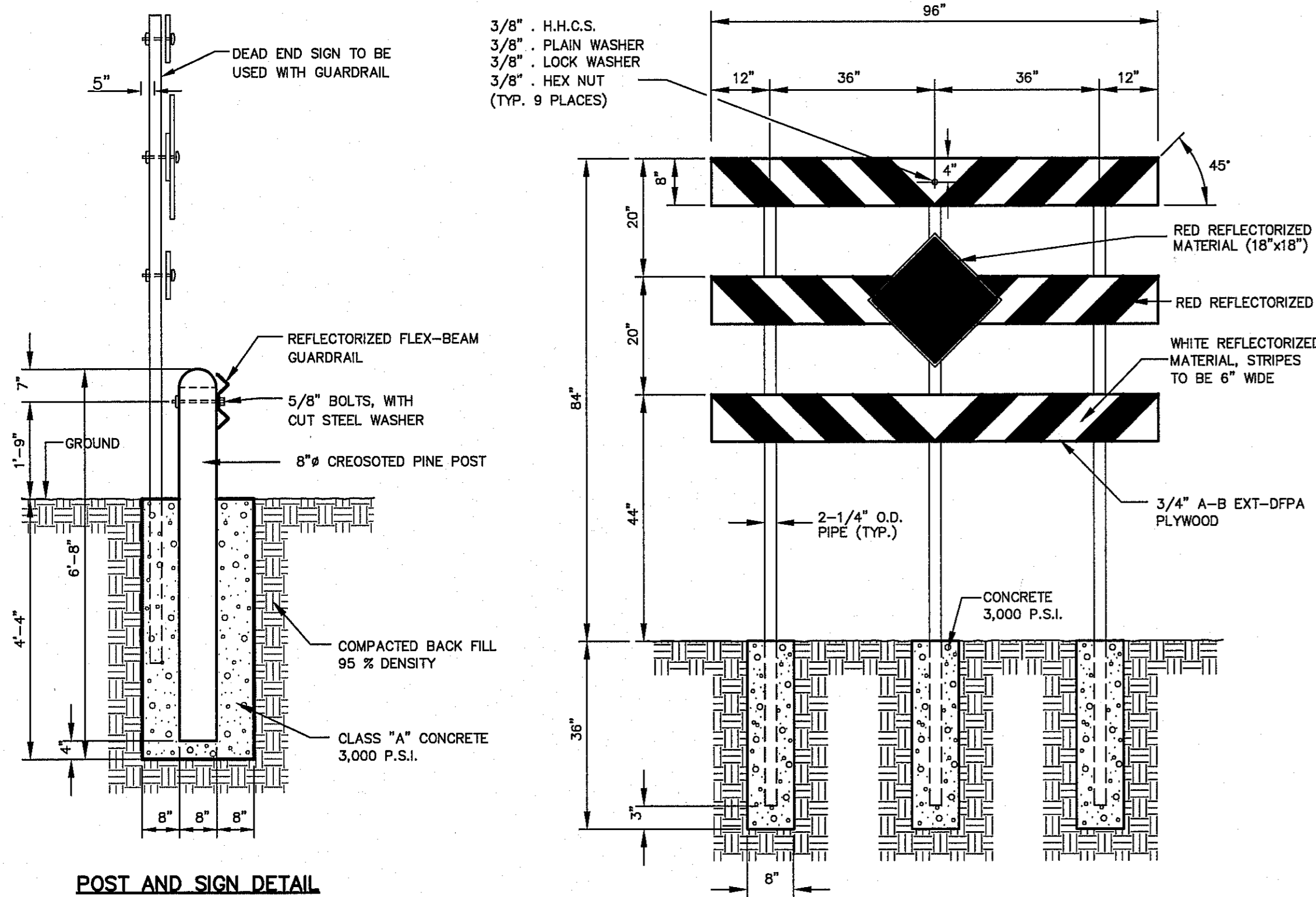
C9.1



S:\2000\2000-2017-TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS Drawings\Improvement Plans\C9.1-C9.3-Standard Details.dwg, 8/29/2016 8:47:03 AM



ELEVATION
SCALE: 1"=5'



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

1
C9.2 **GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL**
SCALE: AS SHOWN

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

ROCK WALLS

MATERIALS: STONE FOR ROCK WALLS SHALL CONSIST OF QUARRIED LIMESTONE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. FIELD STONE OR SALVAGED STONE FROM ROCK WALLS SHALL BE USED ONLY 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.

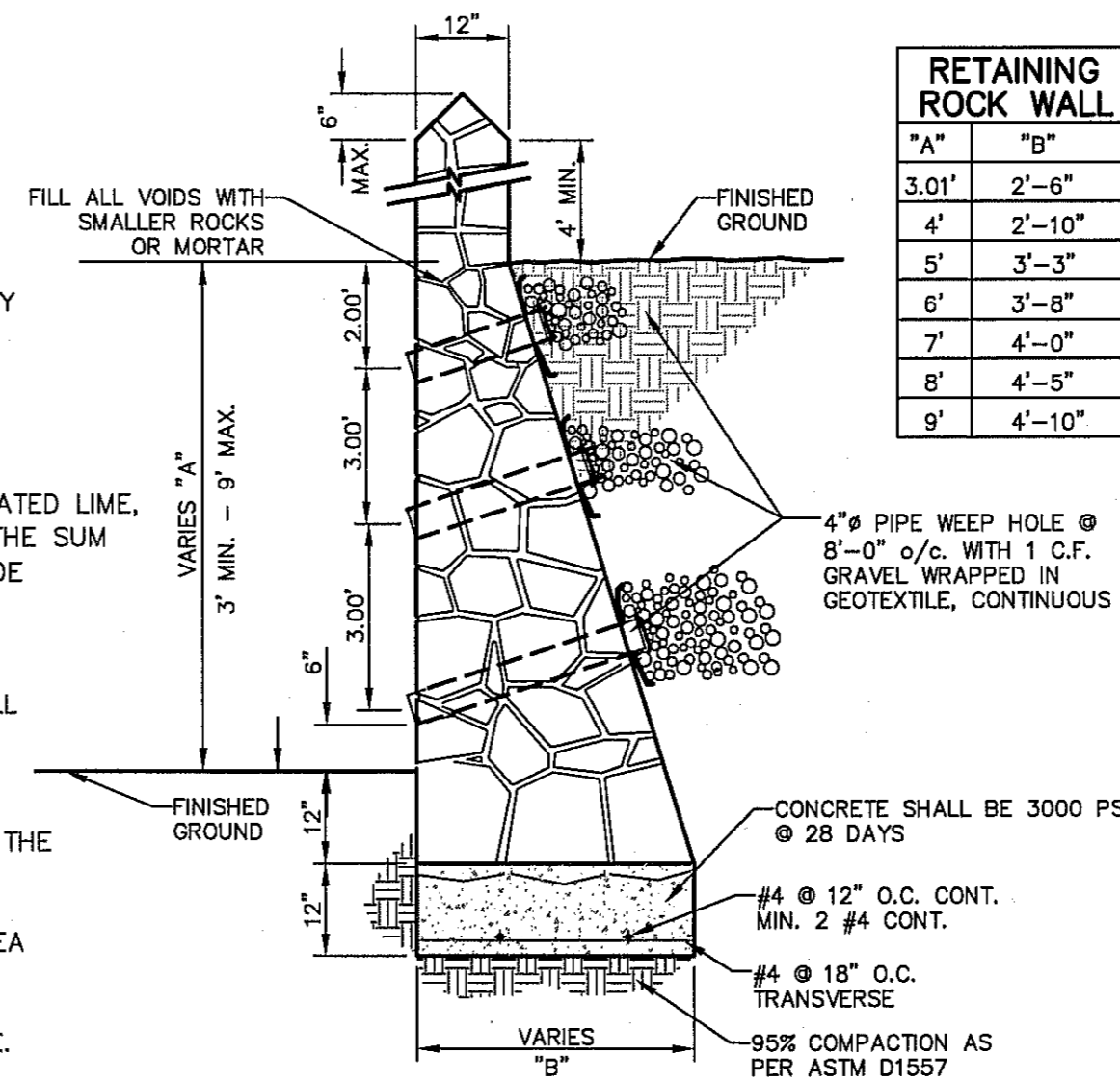
MORTAR FOR THE ROCK WALLS SHALL CONSIST BY VOLUMES OF ONE (1) PART PORTLAND CEMENT, ONE-QUARTER TO ONE-HALF (1/4 TO 1/2) PART HYDRATED LIME, AND THREE (3) PARTS CLEAN, HARD, DURABLE SAND (2 1/4 TO 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME COMBINED. SEE CITY BUILDING CODE PP. 14-3 AND 14-4). MORTAR 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.

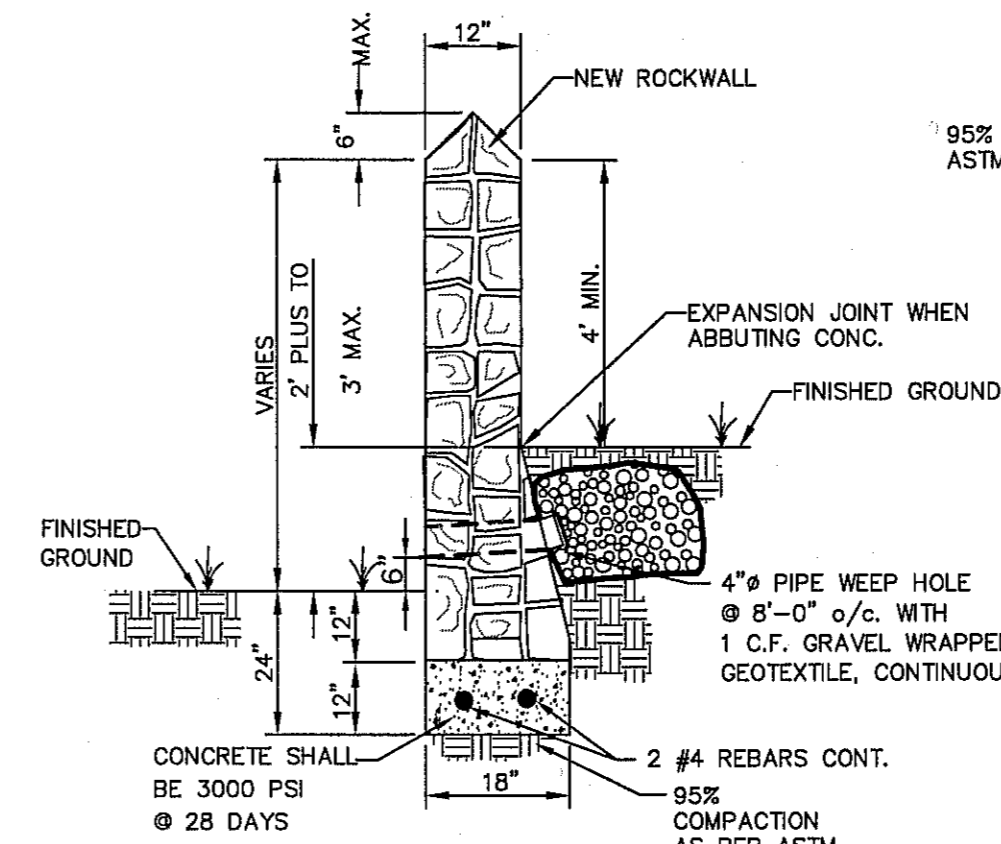
STONE SHALL BE SELECTED AS TO SIZE AND SHAPE IN ORDER TO SECURE FAIRLY LARGE, FLAT-SURFACED STONE WHICH MAY BE ERECTED WITH TRUE AND EVEN SURFACE FACES AND A MINIMUM OF EXPOSED MORTAR. ALL STONES SHALL BE THOROUGHLY CLEANED, WETTED, HAND-PLACED AND EMBEDDED IN MORTAR SO THAT NO STONES SHALL TOUCH EACH 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.)

2
C9.2 **TYPICAL ROCKWALL DETAILS**
SCALE: 1/2" = 1'-0"

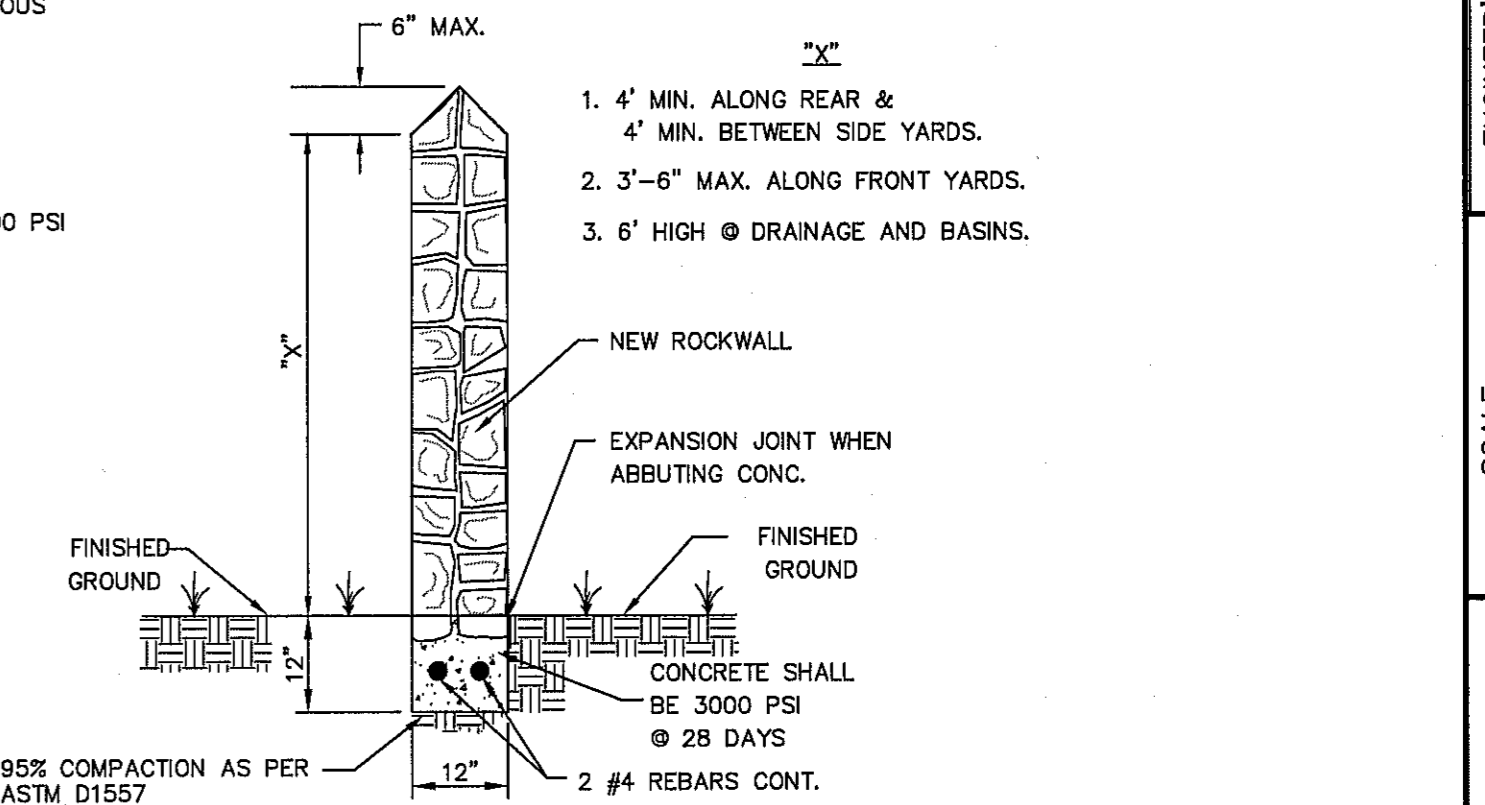
ROCK WALL NOTES

- STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTIONS AS IN 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.

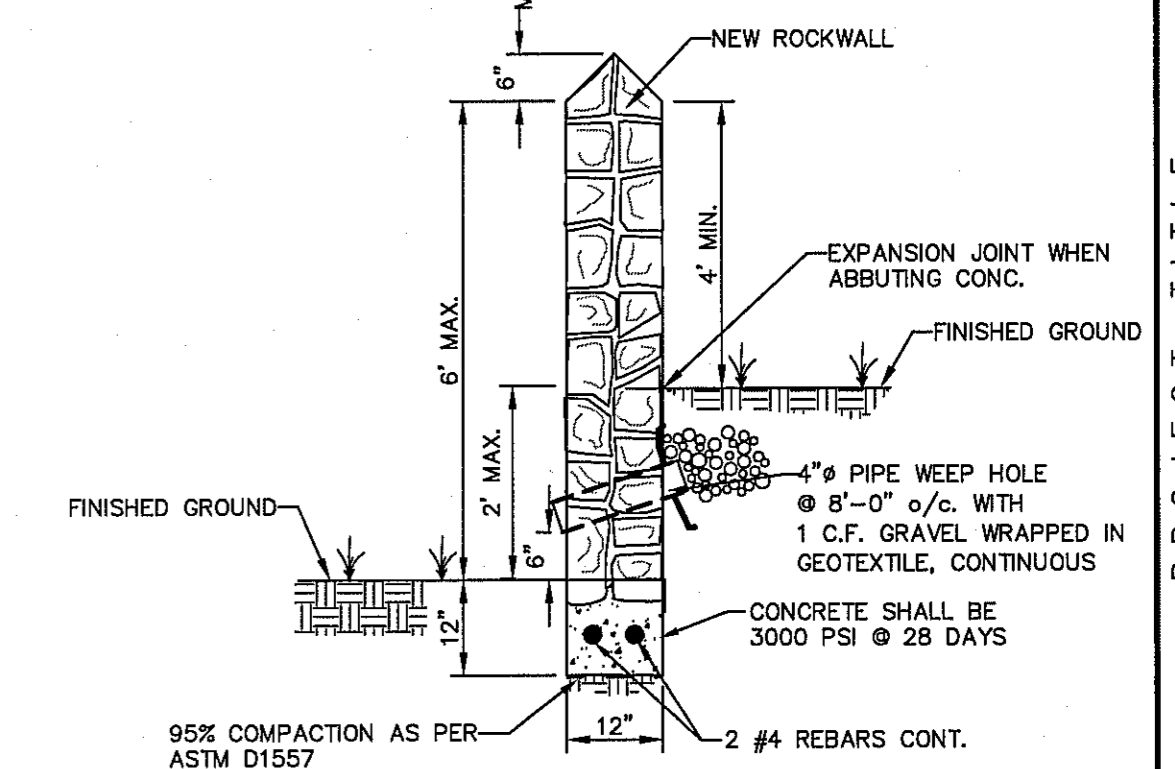
NOTE:

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

- 4' MIN. ALONG REAR & 4' MIN. BETWEEN SIDE YARDS.
- 3'-6" MAX. ALONG FRONT YARDS.
- 6' HIGH Ø DRAINAGE AND BASINS.



GARDEN WALL SECTION

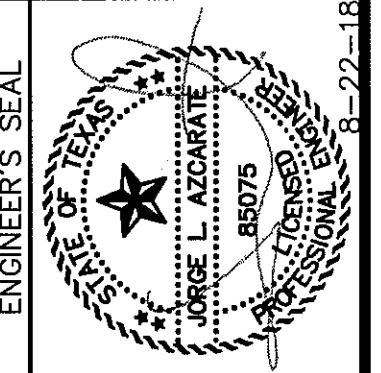
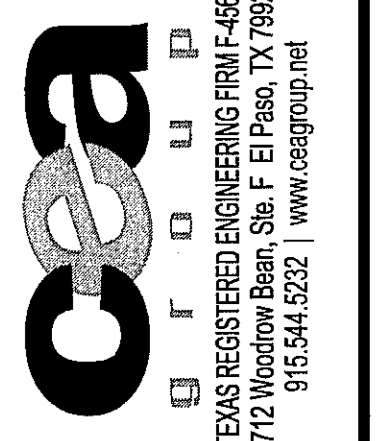


GARDEN WALL SECTION (2' MAX.)

REFERENCES — BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S0843317E RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY



ENGINEER'S SEAL

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	J.M.
DRAWN BY	G.L.M.
CHECK BY	J.L.A.
APPROV. BY	J.L.A.
JOB No.	2000-2017

PROJECT TITLE

TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

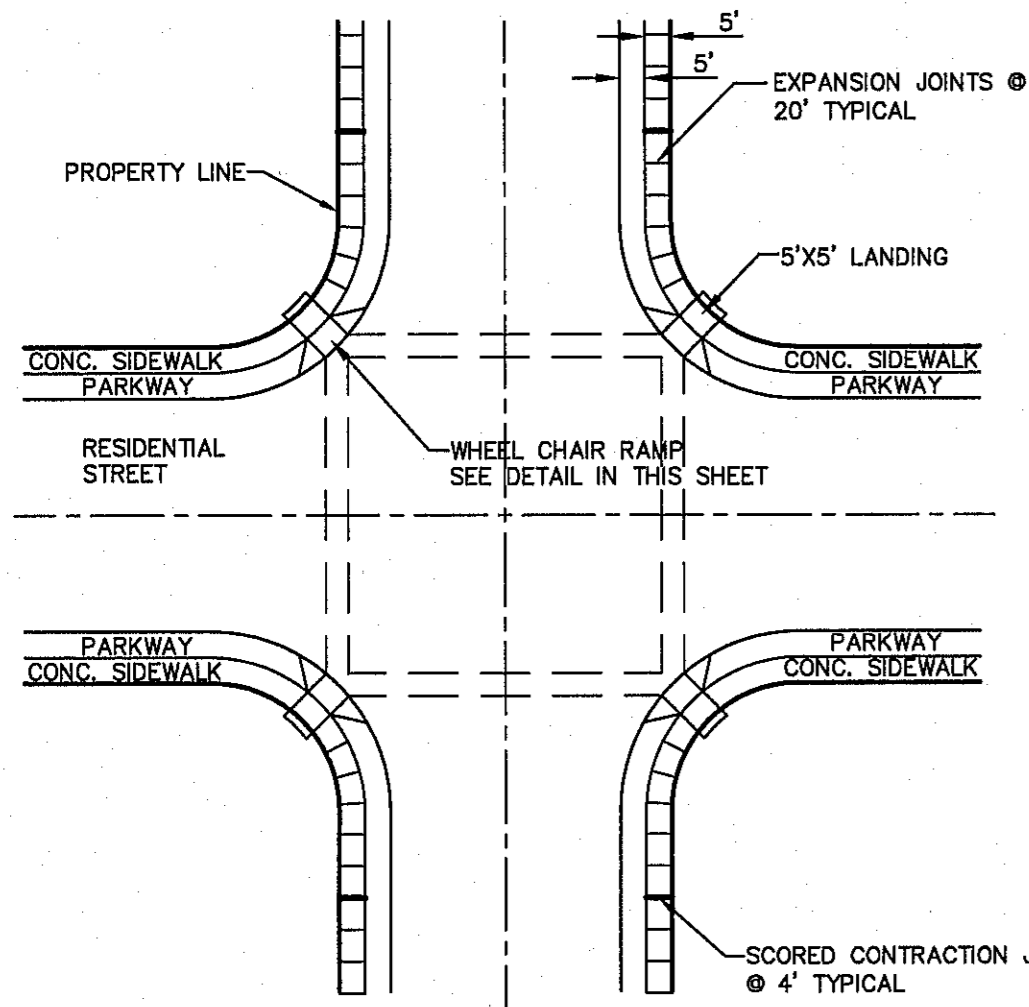
STANDARD DETAILS

(SHEET 2 OF 3)

SHEET NO.



C9.2



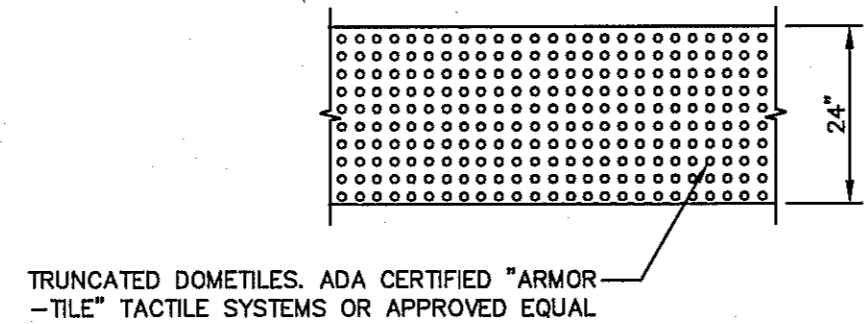
- NOTES:**
- RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIREHYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
 - THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
 - CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
 - ALL PARKING AND PAVEMENT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

1 WHEELCHAIR RAMP STREET PLAN
SCALE: N.T.S.

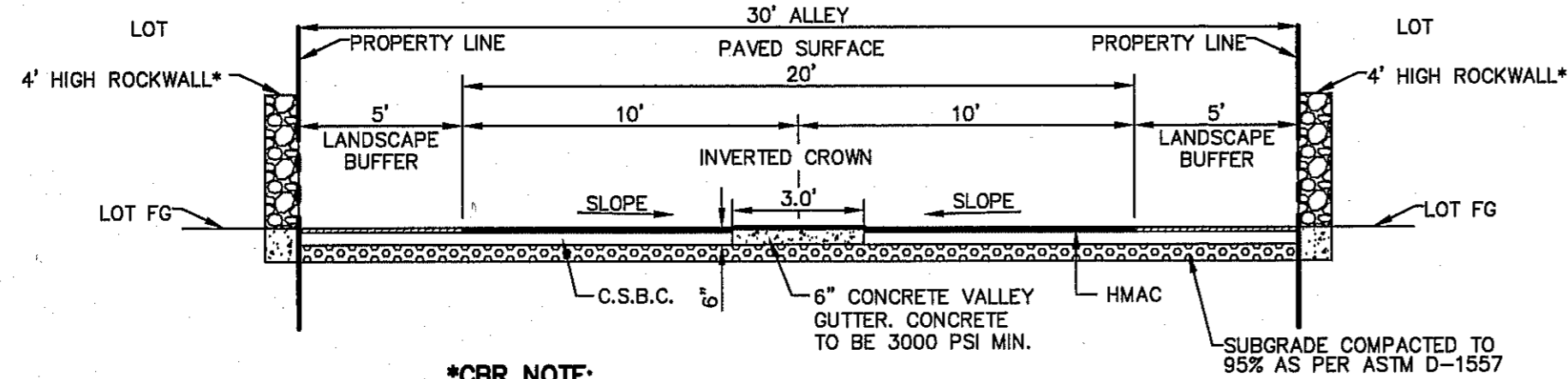
DOME SIZE AND SPACING. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.8 INCHES (23 mm) AT THE BOTTOM, A DIAMETER OF 0.4 INCH (10 mm) AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES (5 mm), AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES (60 mm) MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.

DOME ALIGNMENT. 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.



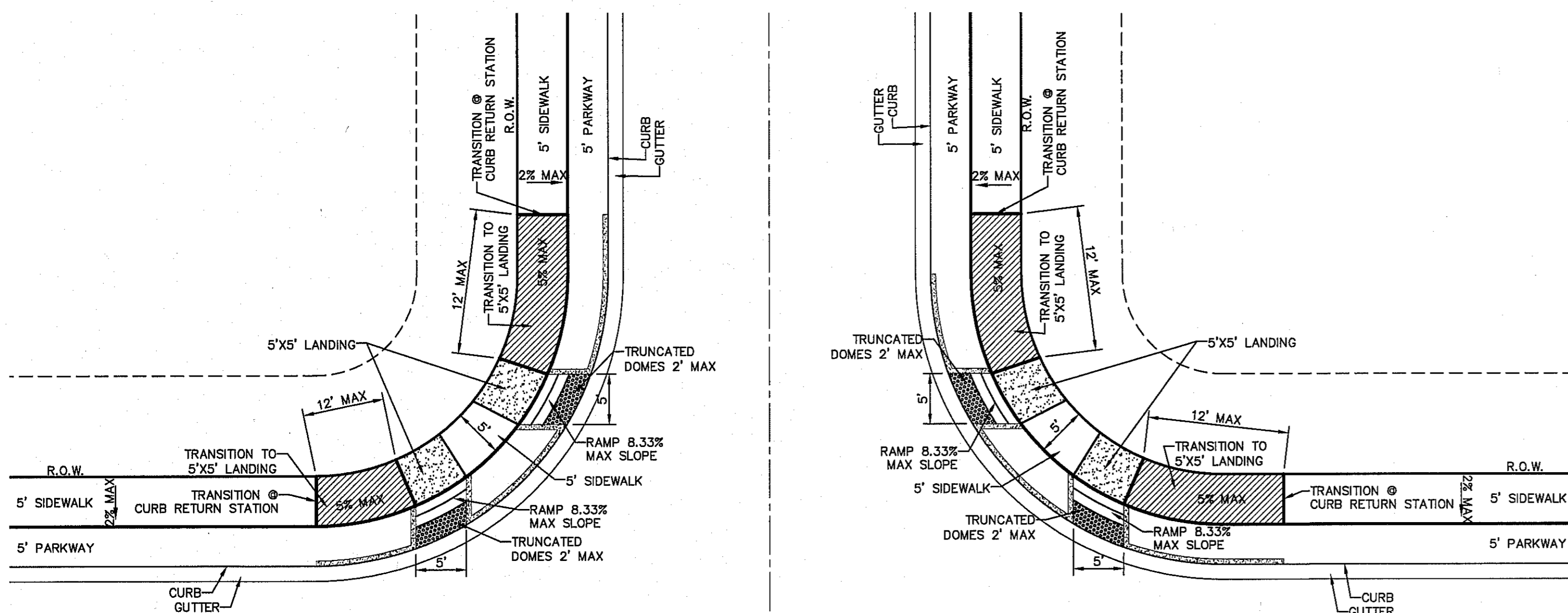
2 TRUNCATED DOME SIZE AND SPACING
SCALE: N.T.S.



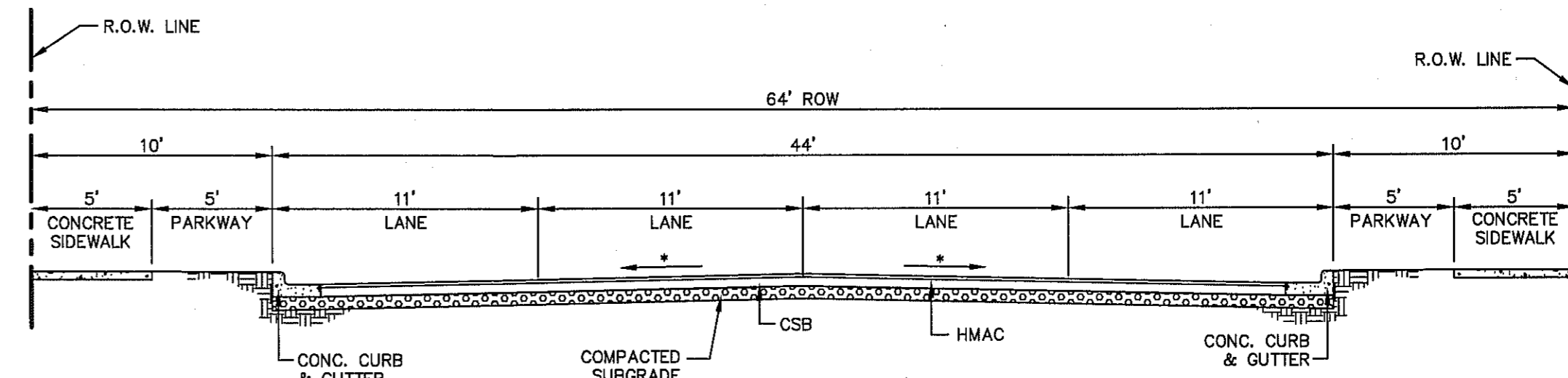
***CBR NOTE:** STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS; CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF 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 SHOW ON THE CITY OF EL PASO DESIGN STANDARDS.

*EXCEPT ON DRIVEWAY LOCATIONS FOR THE HOUSES

4 30' ALLEY SECTION DETAIL
SCALE: N.T.S.

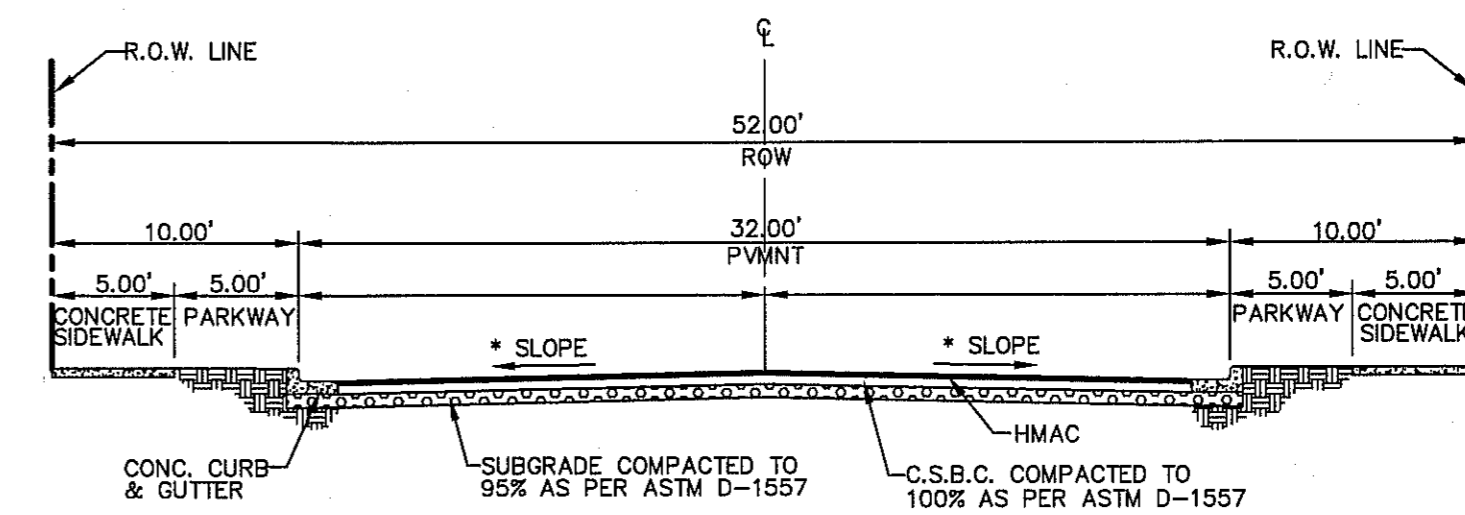


6 TYPICAL DIRECTIONAL RAMP & INTERSECTION
SCALE: N.T.S.



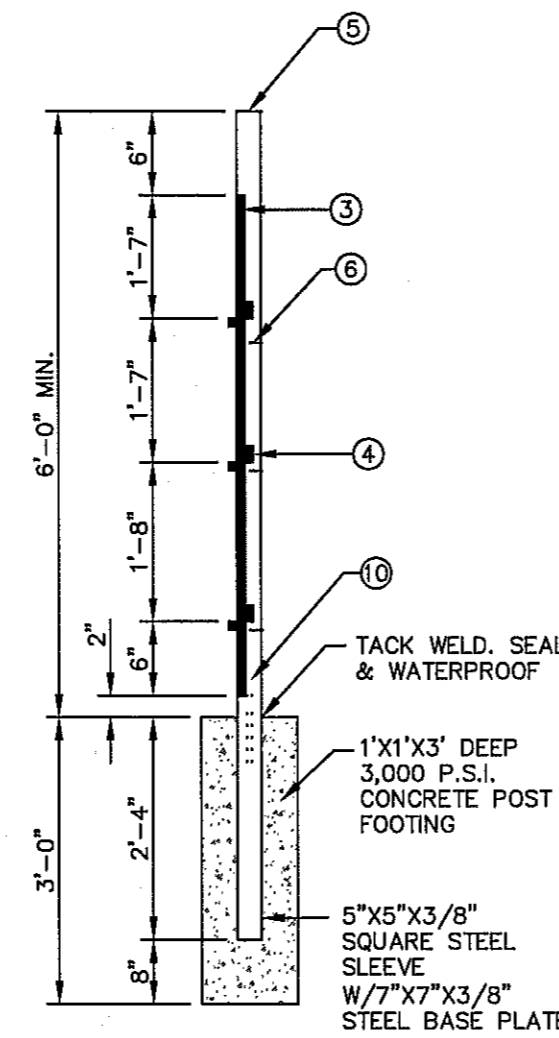
***CBR NOTE:** STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS; CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF 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 SHOW ON THE CITY OF EL PASO DESIGN STANDARDS.

3 TYPICAL 64' ROW STREET SECTION DETAIL
(MINOR COLLECTOR ARTERIAL)
SCALE: N.T.S.

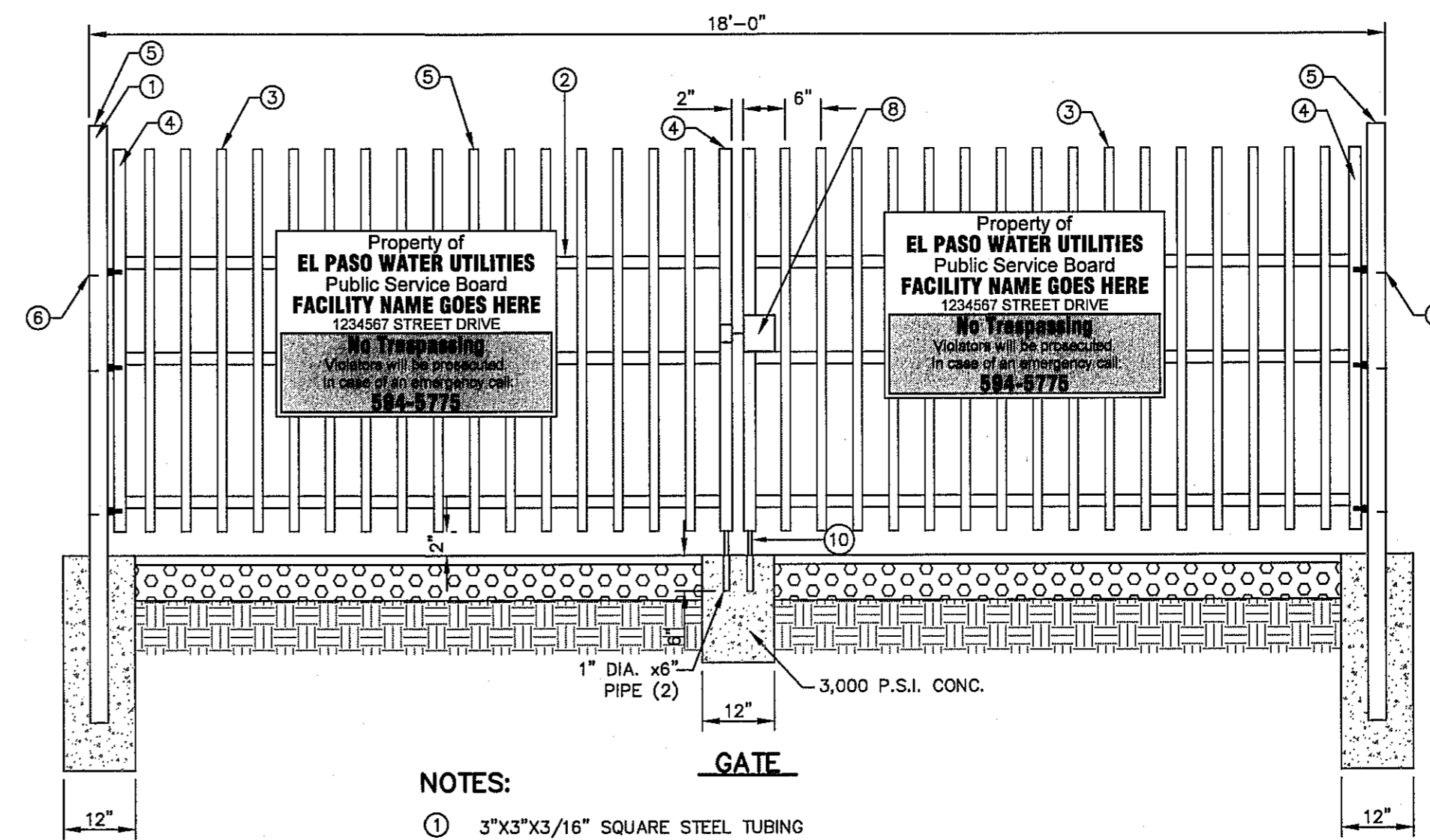


***CBR NOTE:** STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS; CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF 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 SHOW ON THE CITY OF EL PASO DESIGN STANDARDS.

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



GATE POST



NOTES:

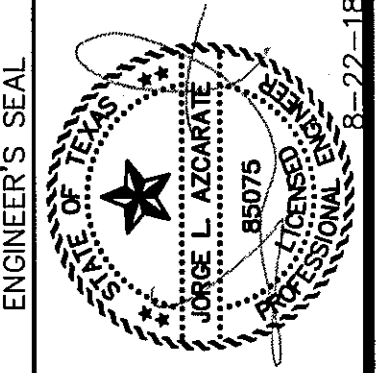
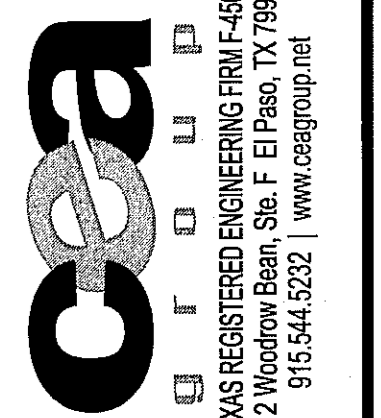
- 3"X3"X1/16" SQUARE STEEL TUBING
- 2" x 1" x 14 GA. RECTANGULAR STEEL TUBING
- 1 1/2" x 1/2" x 16 GA. RECTANGULAR STEEL TUBING
- 2" x 1" x 10 GA. RECTANGULAR STEEL TUBING
- FLAT TOP POLYNYL CAPS TO BE COMPLETELY WELDED
- BOLT HOOK AND STRAP HINGE
- 1'x 3' DEEP 3000 PSI CONCRETE POST FOOTING
- DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
- 5" x 5" x 3/8" SQUARE STEEL SLEEVE W/7" x 7" x 3/8" BASE PLATE
- CANE BOLT LATCH W/KEEPER 5-8" X 18" LONG (2 REQUIRED)

7 18' WROUGHT IRON GATE
SCALE: 1" = 2'-0"

REFERENCES — BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08+43.31'E DISTANCE OF 482.58' FROM THE SOUTHERLY END OF RICH BEEM BLVD. AT INTERSECTION ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	J.M.J.
DRAWN BY	J.L.A.
CHECKED BY	J.L.A.
APP'D. BY	J.L.A.
JOB No.	2000-297

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

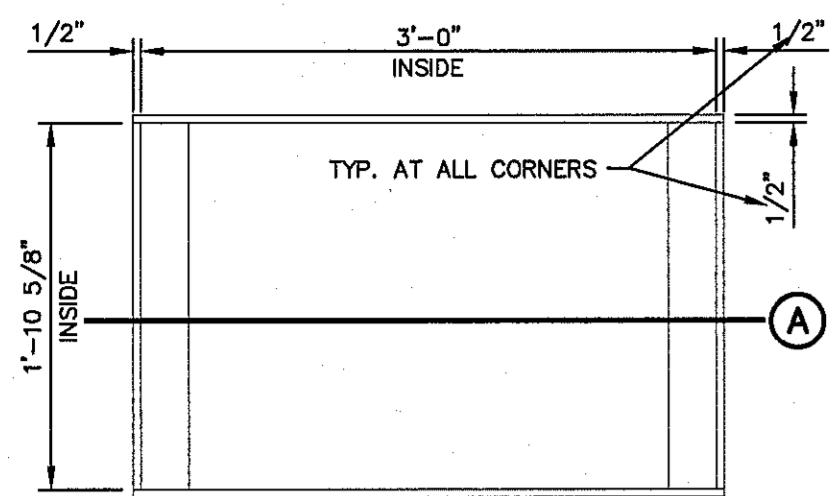
STANDARD DETAILS

(SHEET 3 OF 3)

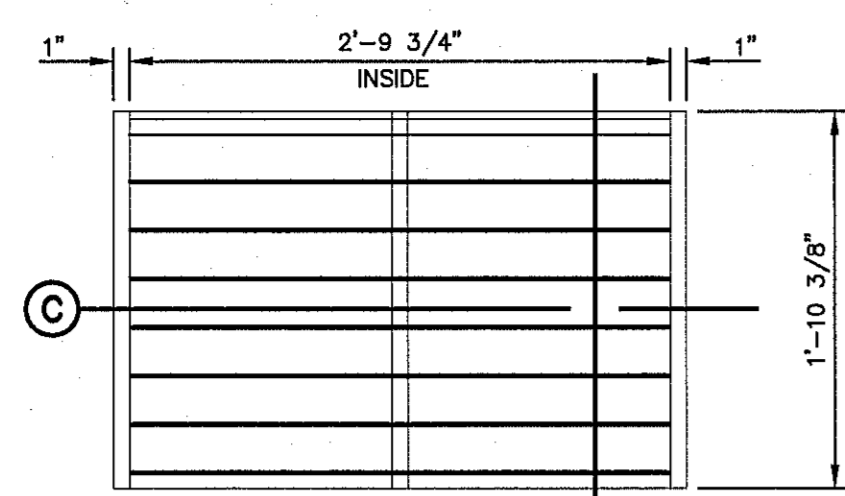
SHEET NO.

C9.3

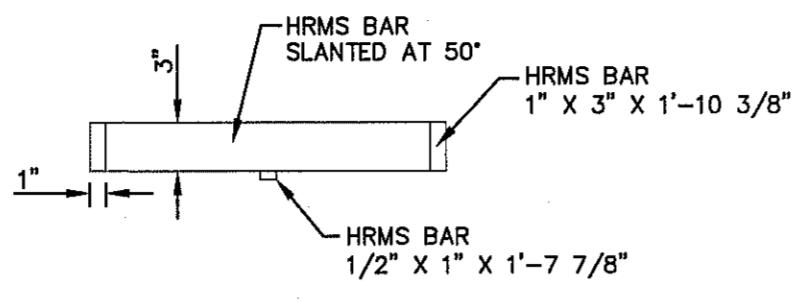




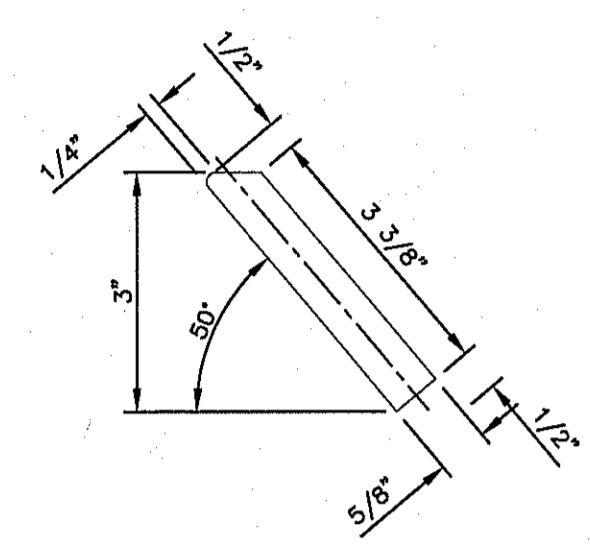
PLAN - FRAME



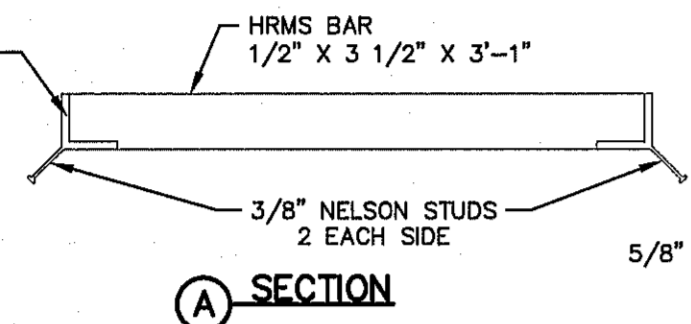
PLAN - GRATE



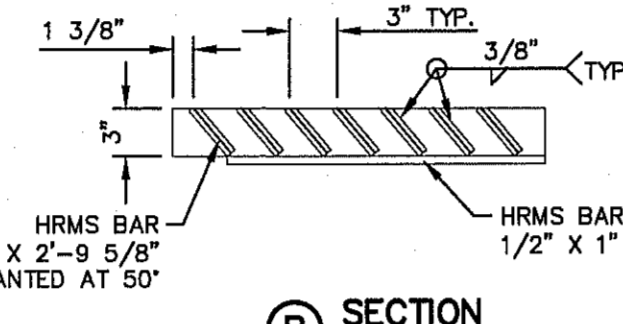
SECTION C



SLANTED BAR DETAIL

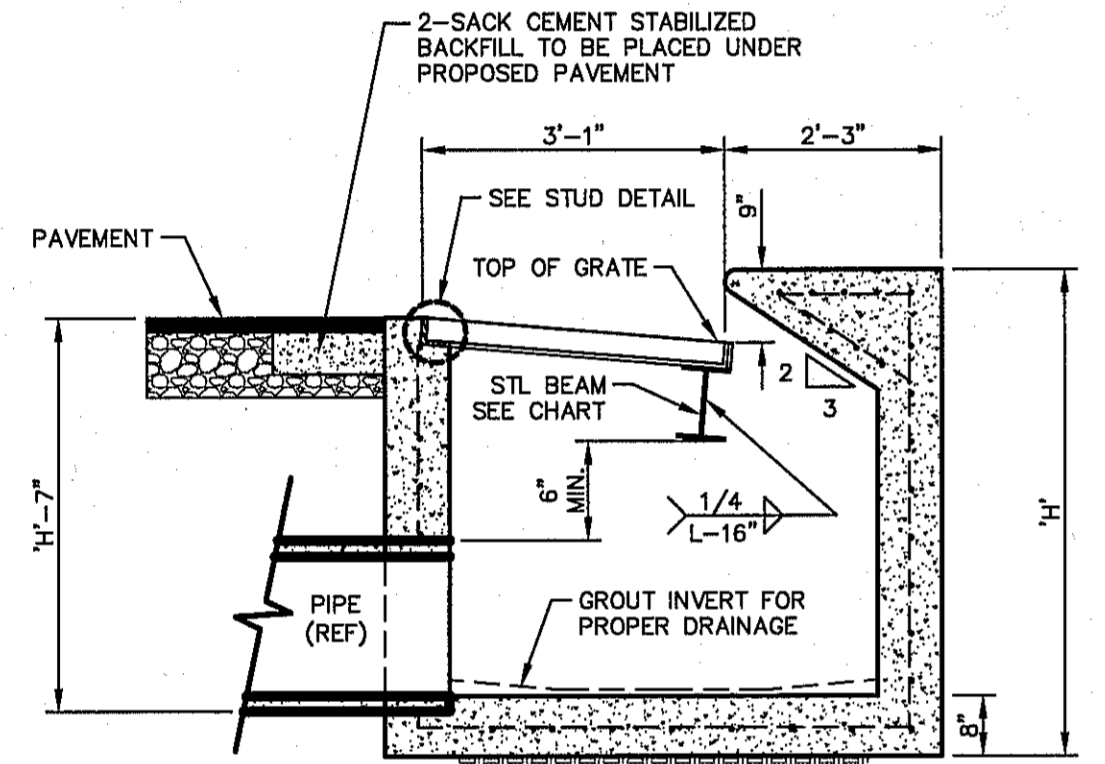


SECTION A

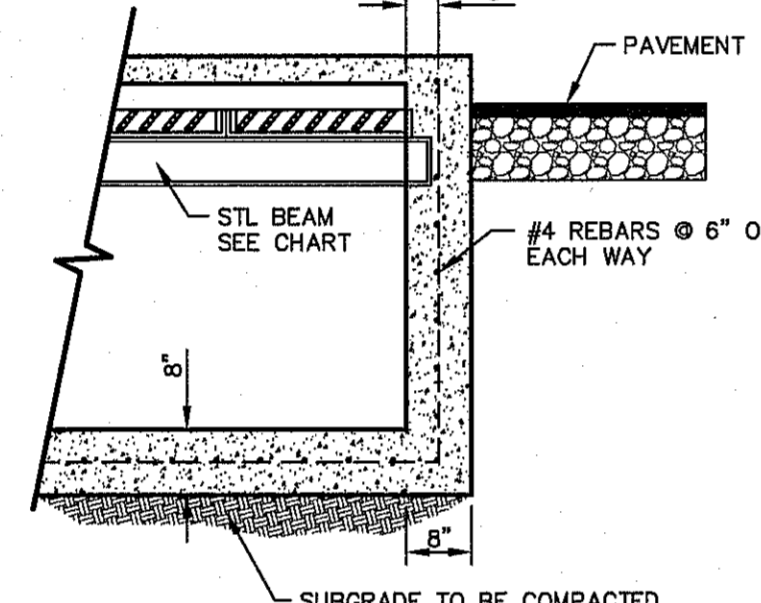


SECTION B

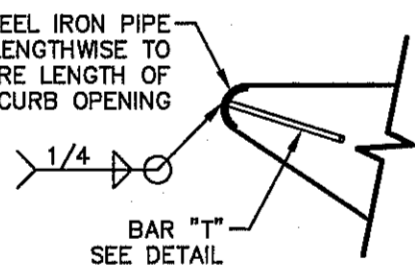
1 GRATE AND FRAME DETAILS
SCALE: 1" = 1'-0"



SECTION A

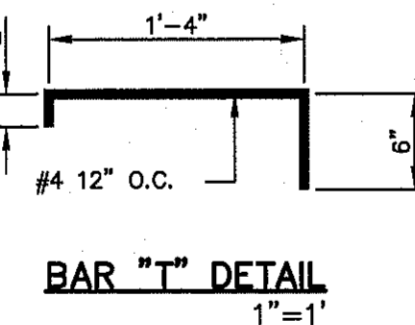


SECTION B



STUD DETAIL

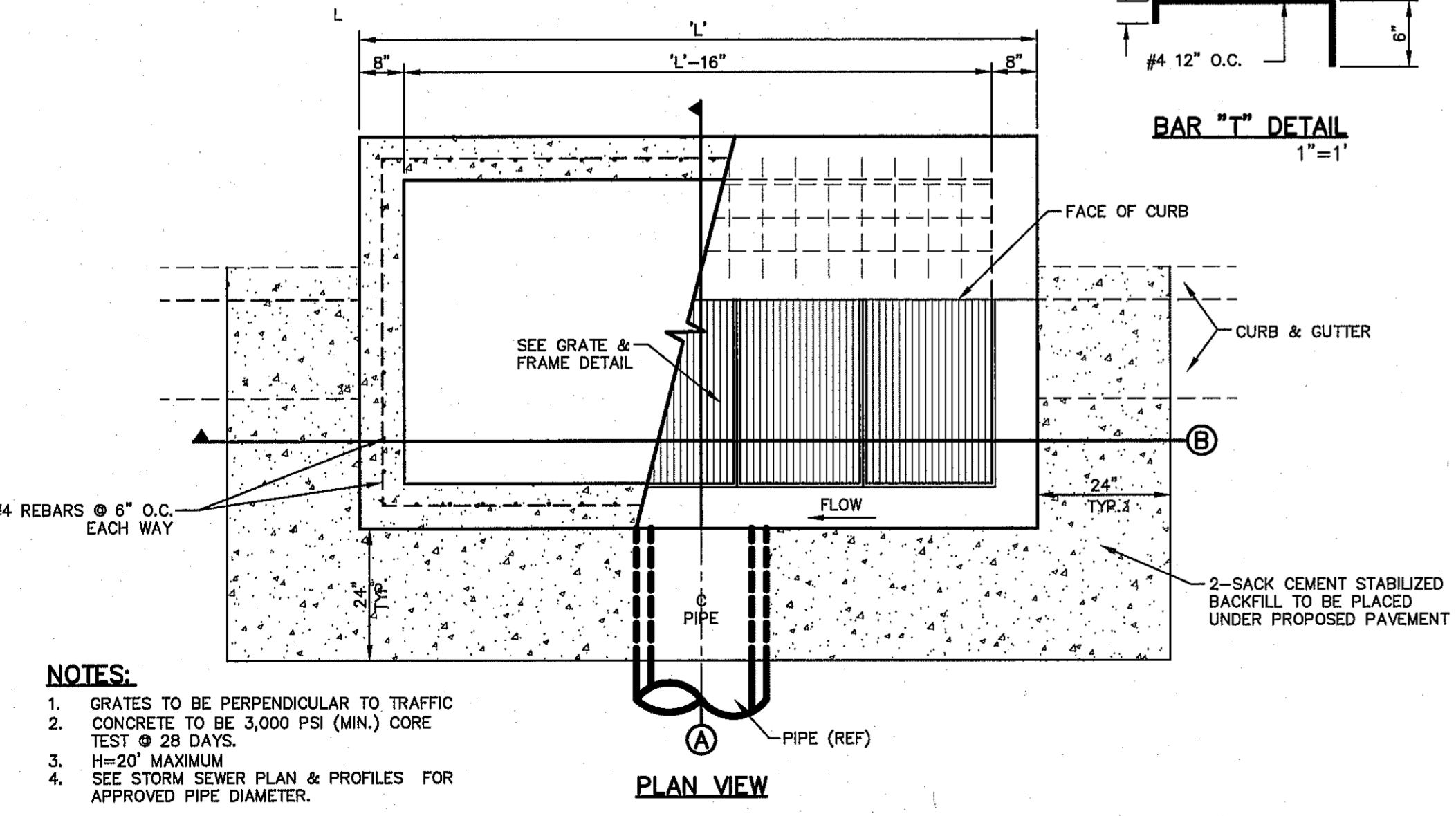
DETAIL "B"



BAR "T" DETAIL

NO. GRATES	CAPACITY	"h"	BEAM LENGTH	BEAM (MIN. SIZES)
2	19.53 CFS	5'-1 1/8"	4'-7 1/8"	W6x12, SBx12.5, MC6x19.1
3	29.69 CFS	7'-0 1/4"	6'-5 1/8"	W8x15, SBx15.3, MC7x17.6
4	39.10 CFS	8'-9 7/8"	8'-3 7/8"	W9x18, SBx18.4, MC10x21.9
5	48.72 CFS	10'-8"	10'-2"	W12x16, SBx21, MC10x21.9

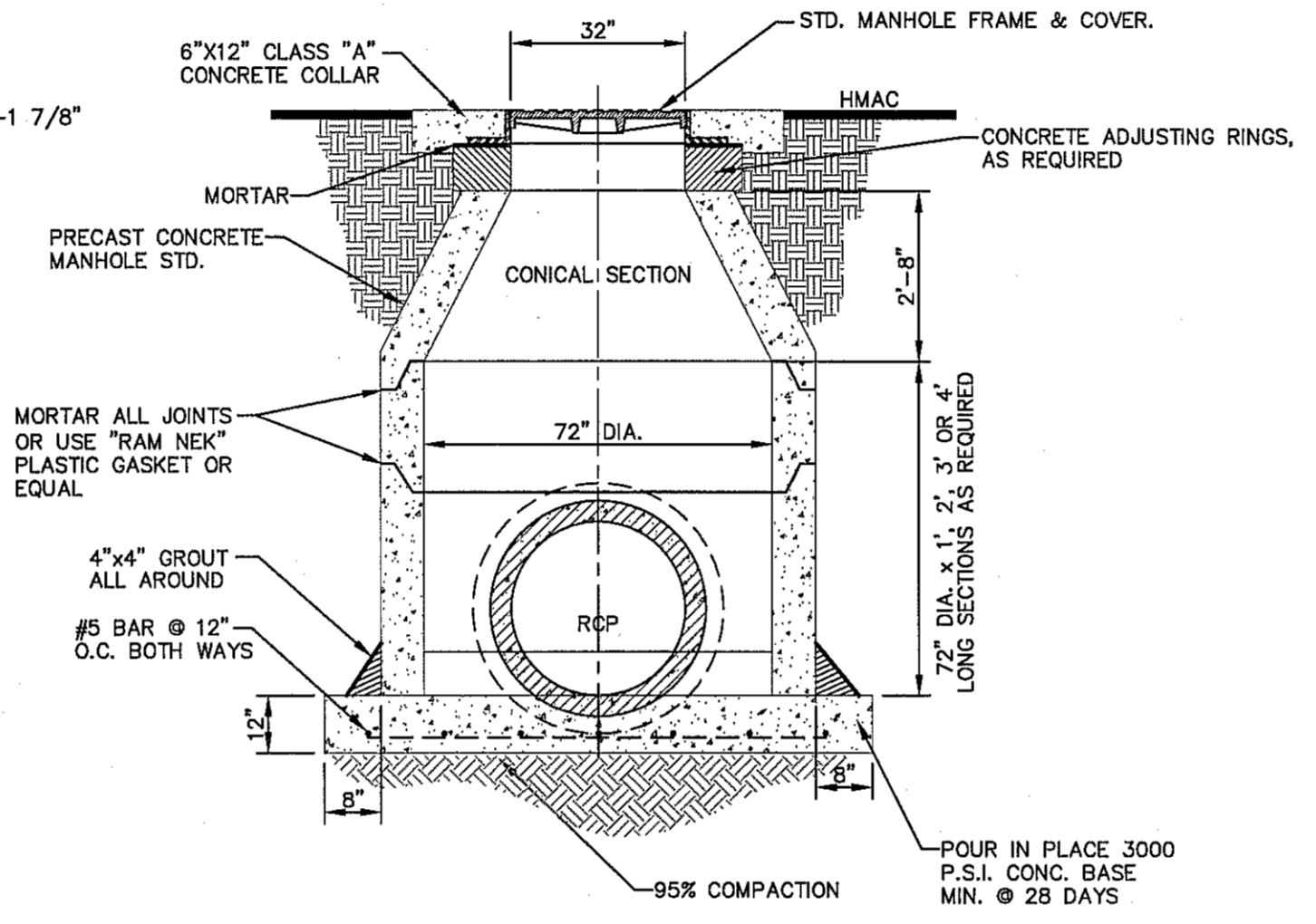
* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5



PLAN VIEW

- 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.

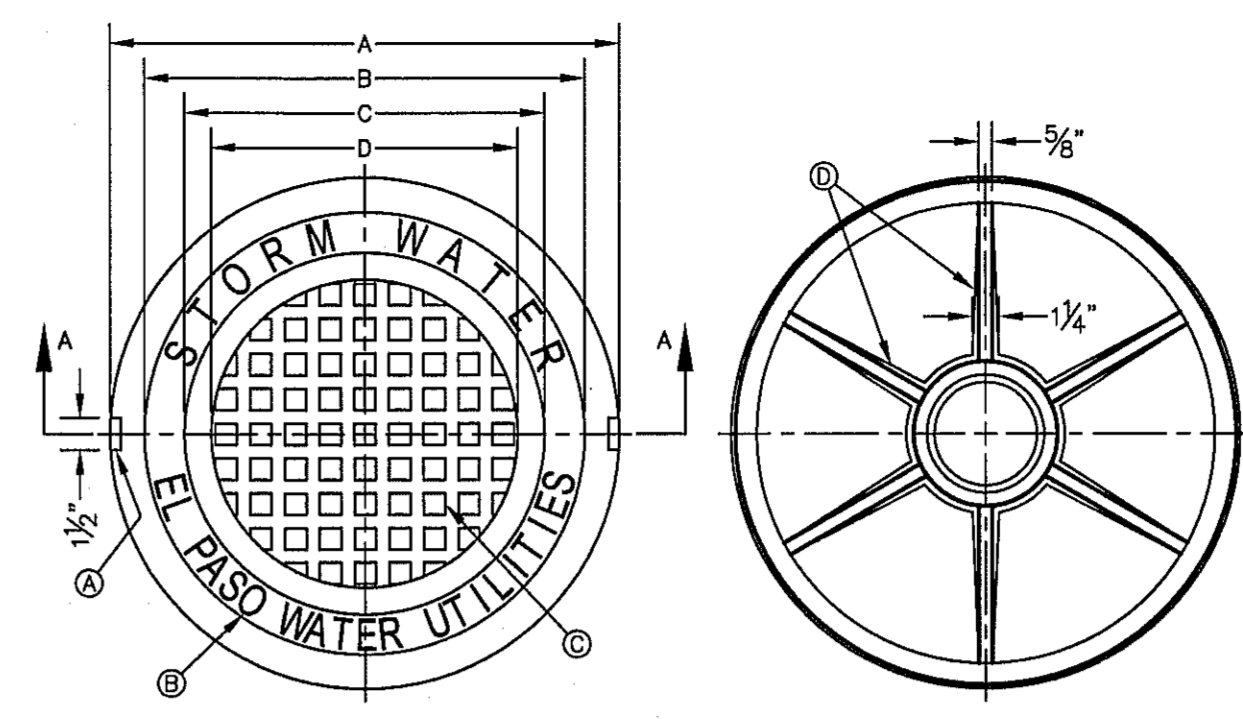
3 DROP INLET (TYPE I) DETAILS
SCALE: 1" = 2'-0"



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

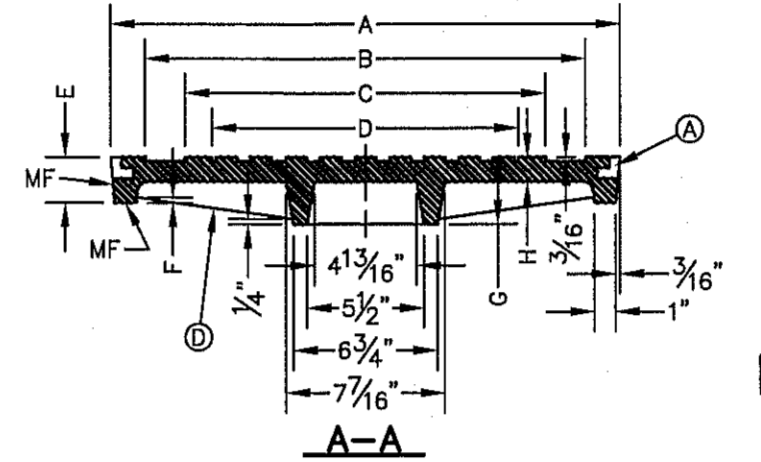
DROP INLET GENERAL NOTES:

- WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
- GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
- WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-181 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
- GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
- ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
- CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
- FERRUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
- ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
- ALL CONCRETE TO BE 3000 P.S.I. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
- MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
- EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
- STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TDDOT, ITEM 446 "PAINT AND PAINTING"
- SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
- GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
- ALL REINFORCING BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
- INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
- LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
- TWO 3/8"x6"x4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE. USE NELSON STUDS OR EQUAL.
- THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.



TOP VIEW

BOTTOM VIEW



SECTION A-A

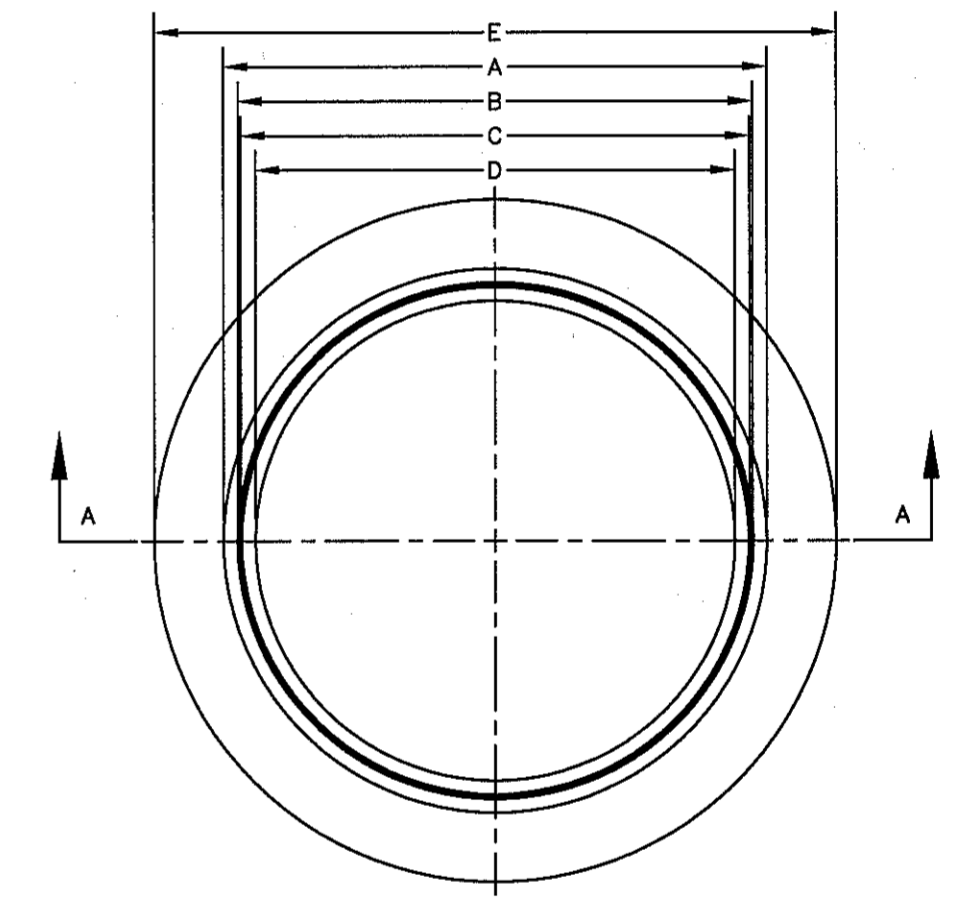
SECTION B-B

LIFTING NOTCH

- GENERAL NOTES:
- MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 - CASTING TO BE SMOOTH & VOID OF AIR HOLES. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 - AS-CAST DIMENSIONS MAY VARY 1/6" PER FOOT (AASHTO M306-07).
 - WEIGHT MAY VARY 5% (AASHTO M306-07).
 - SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-17.
- CONSTRUCTION KEY NOTES:
- LIFTING NOTCH.
 - 1/8" RAISED LETTERING.
 - 1" SQUARES (3/8" TALL) WITH 5/8" SPACE BETWEEN.
 - REINFORCING RIBS.
 - SLOT.

MANHOLE COVER	MANHOLE - ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	31 3/4"	23 3/4"	31 3/4"
B	28 3/4"	20 3/4"	28 3/4"
C	24 3/4"	16 3/4"	24 3/4"
D	21 3/4"	14 3/4"	21 3/4"
E	2 3/4"	3"	3"
F	1 3/4"	2"	1 3/4"
G	3 3/4"	3"	3"
H	1 3/4"	1"	1"
WEIGHT	285 lbs.	175 lbs.	310 lbs.

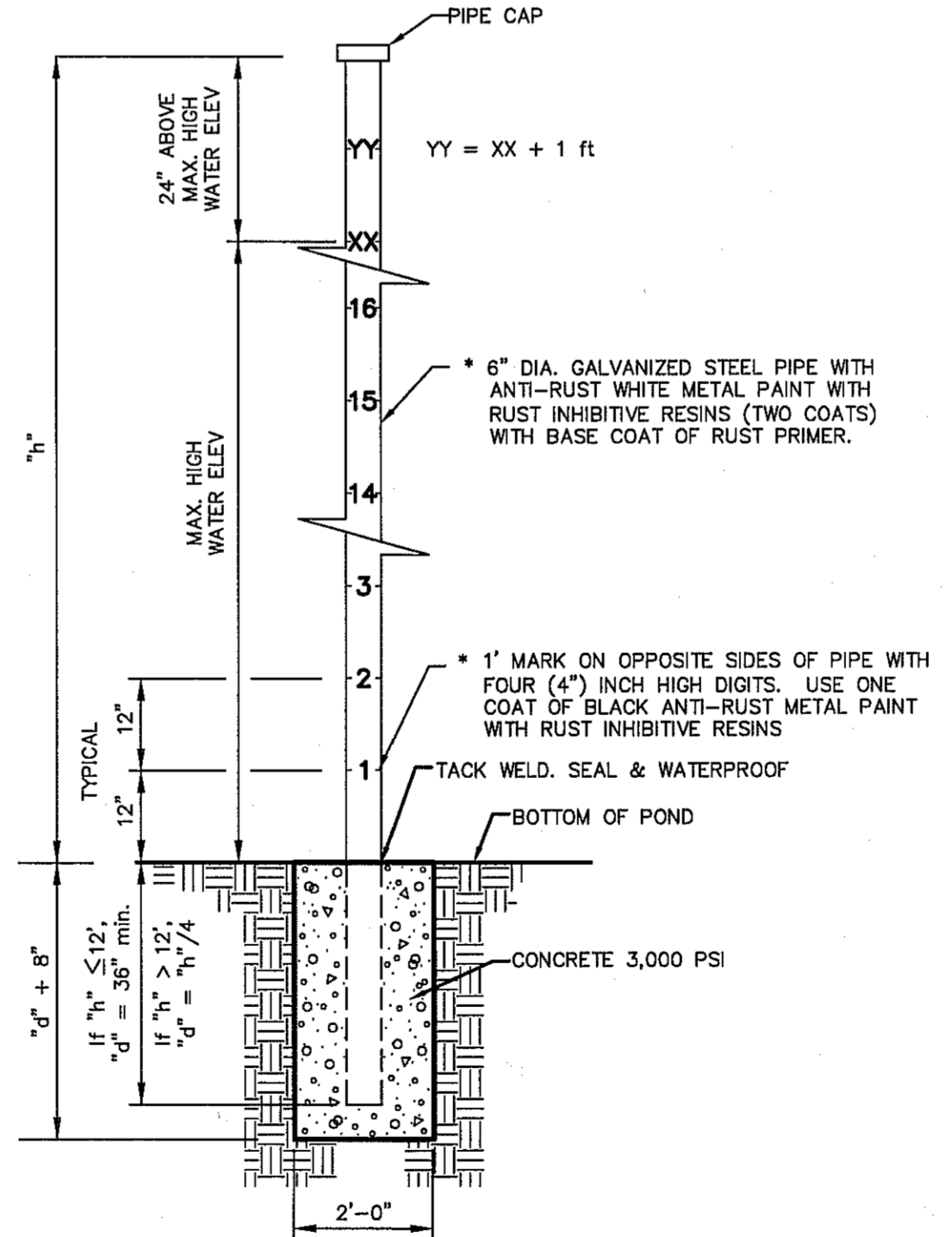
STORMWATER MANHOLE COVER



STORMWATER MANHOLE RING

- GENERAL NOTES:
- MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 - CASTING TO BE SMOOTH & VOID OF AIR HOLES. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 - AS-CAST DIMENSIONS MAY VARY 1/6" PER FOOT (AASHTO M306-07).
 - WEIGHT MAY VARY 5% (AASHTO M306-07).
 - SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-16.

5 MANHOLE RING AND COVER DETAILS
SCALE: N.T.S.



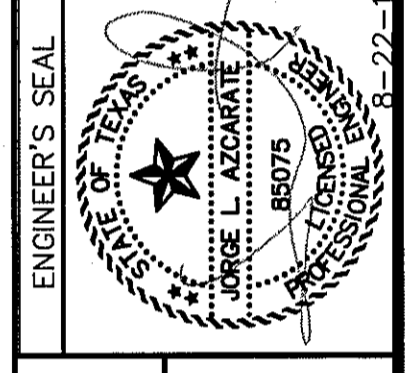
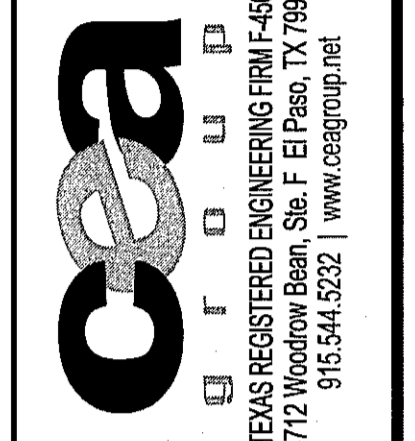
- NOTE:
- CONSULT WITH PAINT MANUFACTURER FOR PRODUCTS THAT CAN SUSTAIN LONG PERIODS OF MOISTURE.
 - GAUGE REQUIRED IN PONDS OF GREATER THAN FIVE (5') FOOT DEPTH ONLY.
 - "h" = Height
 - XX = MAXIMUM HIGH WATER ELEVATION BASED ON A 100-YR STORM EVENT ROUNDED TO NEAREST WHOLE NUMBER.
 - ALTERNATES WILL BE ALLOWED WITH THE PRIOR REVIEW AND APPROVAL OF THE COUNTY ENGINEER.

4 WATER DEPTH POLE DETAIL
SCALE: N.T.S.

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 508+43.31'E
CURVE CENTERLINE RICH BEEM BLVD., 500+00.00' RHTLY
RIGHT OF WAY LINE OF MONTANA AVENUE
ELEVATION = 4005.40 (CITY DATUM)

DATE	REVISIONS	BY



Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JUNE 2018
DESIGN BY:	J.M.
DRAWN BY:	G.L.M.
CHECK BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB No.:	2000-207

PROJECT TITLE
TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

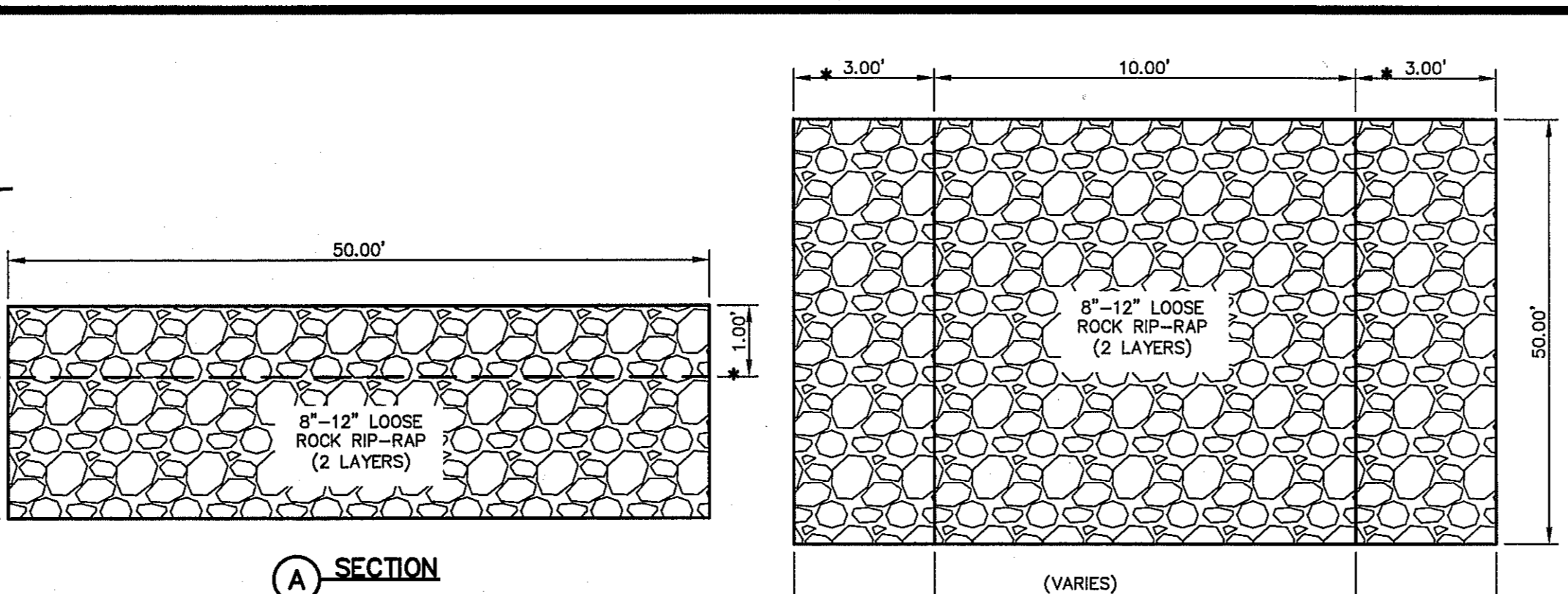
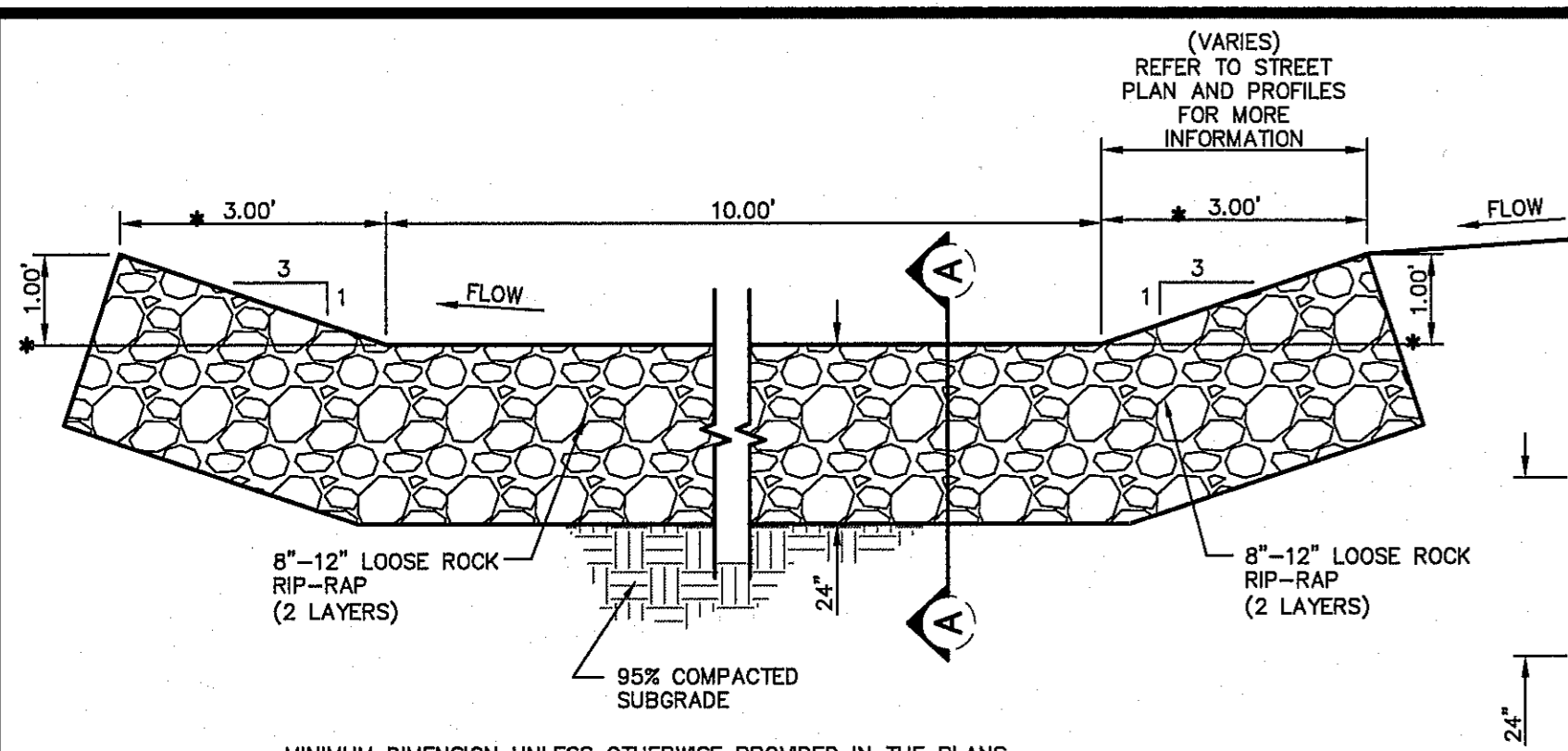
DRAINAGE DETAILS

(SHEET 1 OF 3)

SHEET NO.

C10.1





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

"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	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

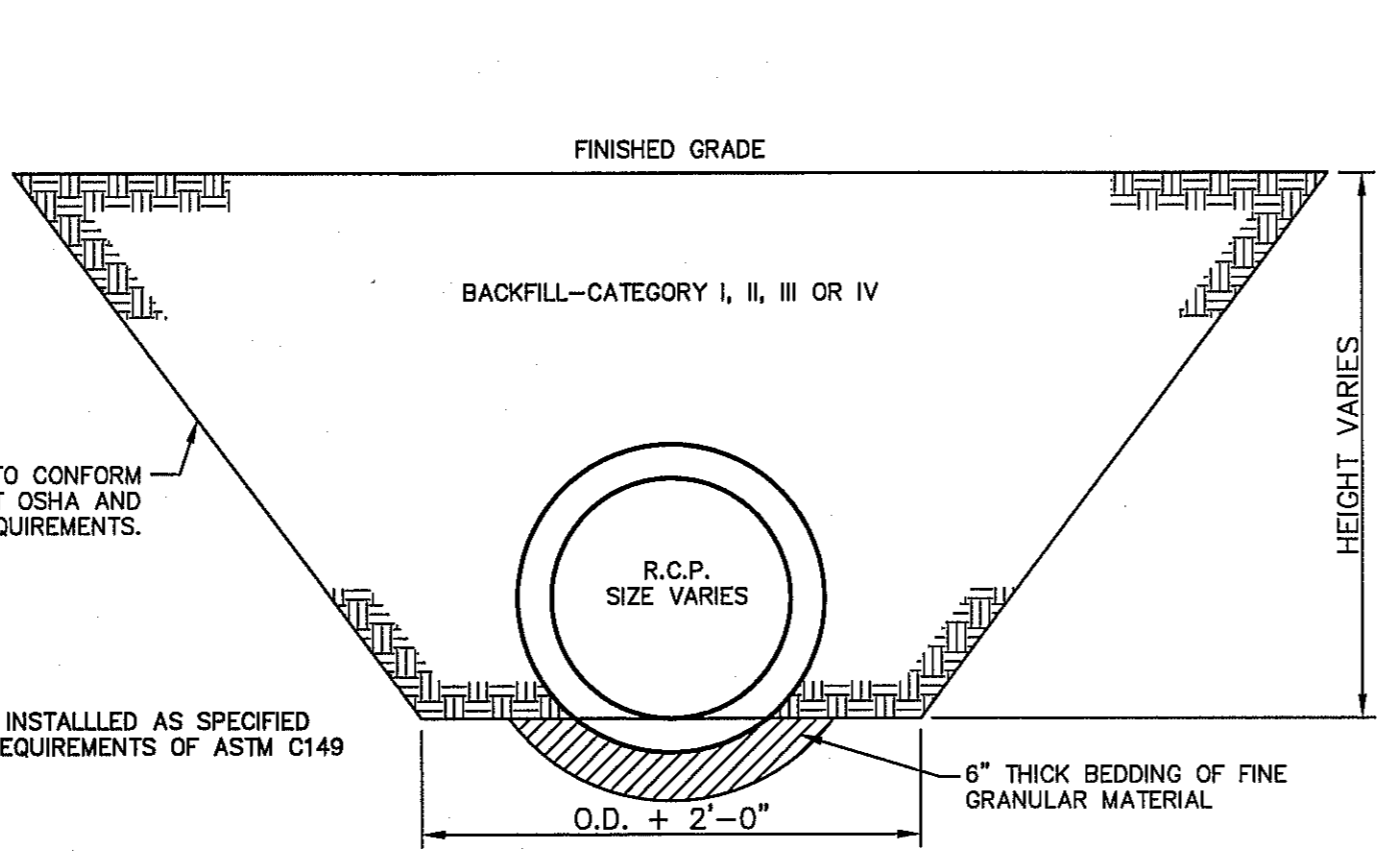
- NOTE:**
- SUBGRADE TO BE COMPACTED TO NINETY-FIVE (95%) PERCENT OF MAXIMUM DENSITY AS PER ASTM D-1557.
 - TYPICAL THICKNESS IS SHOWN, ACTUAL THICKNESS WILL VARY, BUT IN NO EVENT SHALL BE LESS THAN TWELVE (12") INCHES.

EQUIVALENT USCS AND AASHTO SOIL CONDITIONS FOR SOIL DESIGNATION

INSTALLATION TYPE	BEDDING THICKNESS	HAUNCH AND OUTER BEDDING	LOWER SIDE	
			95	80
TYPE 1	0D/24 MINIMUM; NOT LESS THAN 3-INCH. IF ROCK FOUNDATION =, USE 0D/12 MINIMUM; NOT LESS THAN 6-INCH	95% CATEGORY I	95	80
TYPE 2	0D/24 MINIMUM; NOT LESS THAN 3-INCH. IF ROCK FOUNDATION =, USE 0D/12 MINIMUM; NOT LESS THAN 6-INCH	95% CATEGORY I OR 95% CATEGORY II	95	80
TYPE 3	0D/24 MINIMUM; NOT LESS THAN 3-INCH. IF ROCK FOUNDATION =, USE 0D/12 MINIMUM; NOT LESS THAN 6-INCH	100	90	80
TYPE 4	0D/24 MINIMUM; NOT LESS THAN 3-INCH. IF ROCK FOUNDATION =, USE 0D/12 MINIMUM; NOT LESS THAN 6-INCH	100	95	80

SOIL	REPRESENTATIVE SOILS TYPE		PERCENT COMPACTION	
	USCS ASTM PRACTICE D2487	AASHTO M-145	SATNDARD PROCTOR	MODIFIED PROCTOR
CATEGORY I	CLEAN, COARSE GRAINED SOILS; SW, SC, GW, GP OR ANY SOIL BEGINNING WITH ONE OF THESE SYMBOLS WITH 12% OR LESS PASSING #200 SIEVE	A-1, A-3	100	95
		A-2-4, A-2-5	95	90
		A-2-6, A-4 OR A-6 SOILS WITH 30% OR MORE RETAINED ON A #200 SIEVE	90	85
CATEGORY II	CLEAN, COARSE GRAINED SOILS WITH FINES; GM, GC, SM, SC OR ANY SOIL BEGINNING WITH ONE OF THESE SYMBOLS CONTAINING MORE THAN 12% PASSING #200 SIEVE	A-2-4, A-2-5	100	95
		A-2-6, A-4 OR A-6 SOILS WITH 30% OR MORE RETAINED ON A #200 SIEVE	95	90
		A-2-7, A-4 OR A-6 SOILS WITH 30% OR MORE RETAINED ON A #200 SIEVE	90	85
CATEGORY III	FINE-GRAINED SOILS; CL, ML OR CL-ML, CL/ML, ML/CL ON A #200 SIEVE	A-2-7, A-4 OR A-6 WITH LESS THAN 30% RETAINED ON A #200 SIEVE	100	90
		A-2-7, A-4 OR A-6 WITH LESS THAN 30% RETAINED ON A #200 SIEVE	95	85
		A-2-7, A-4 OR A-6 WITH LESS THAN 30% RETAINED ON A #200 SIEVE	90	80
CATEGORY IV BUT NOT ALLOWED FOR HAUNCH OR BEDDING	MH, CH, OL, OH, PT	A-5, A-7	100	90

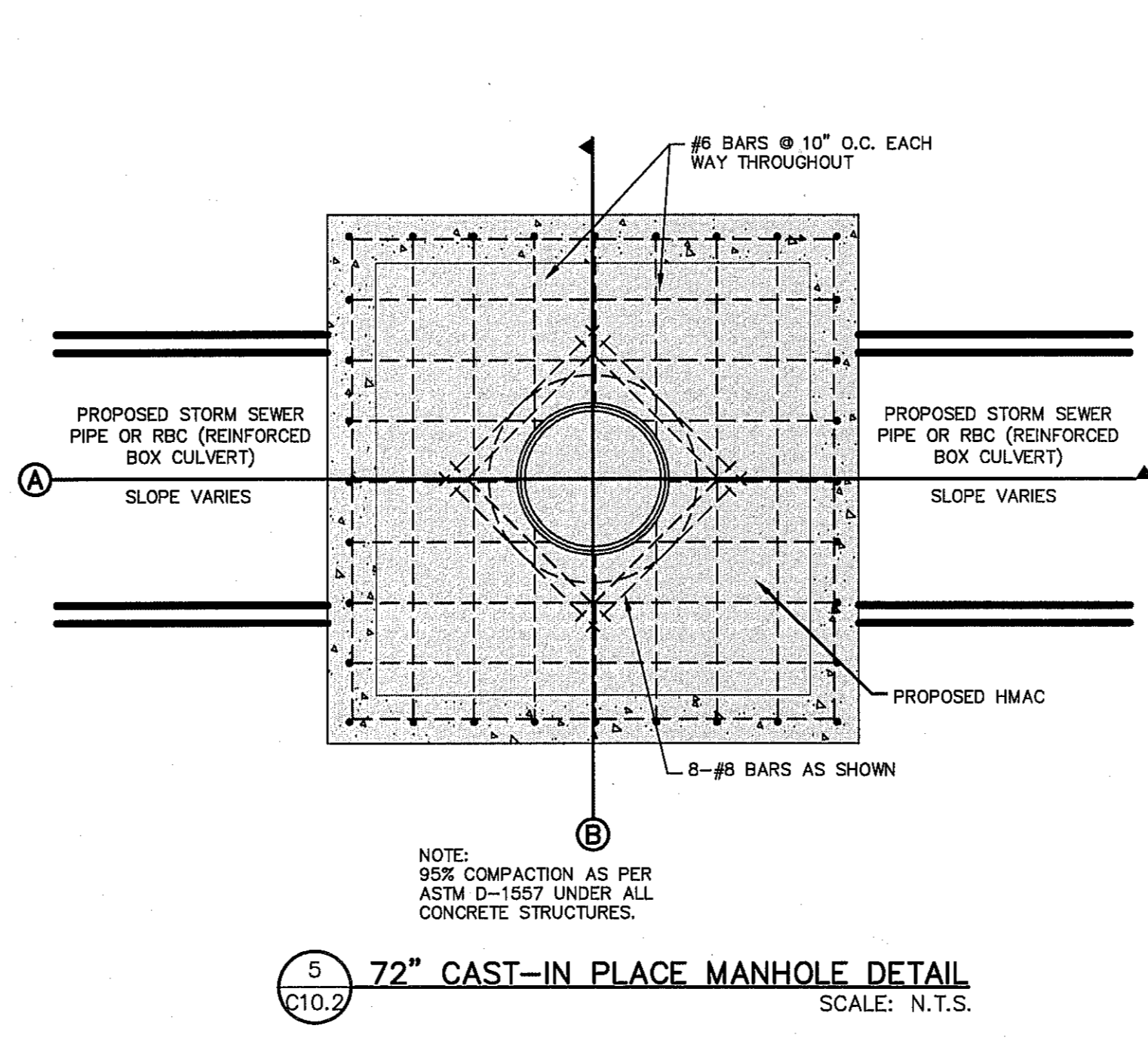
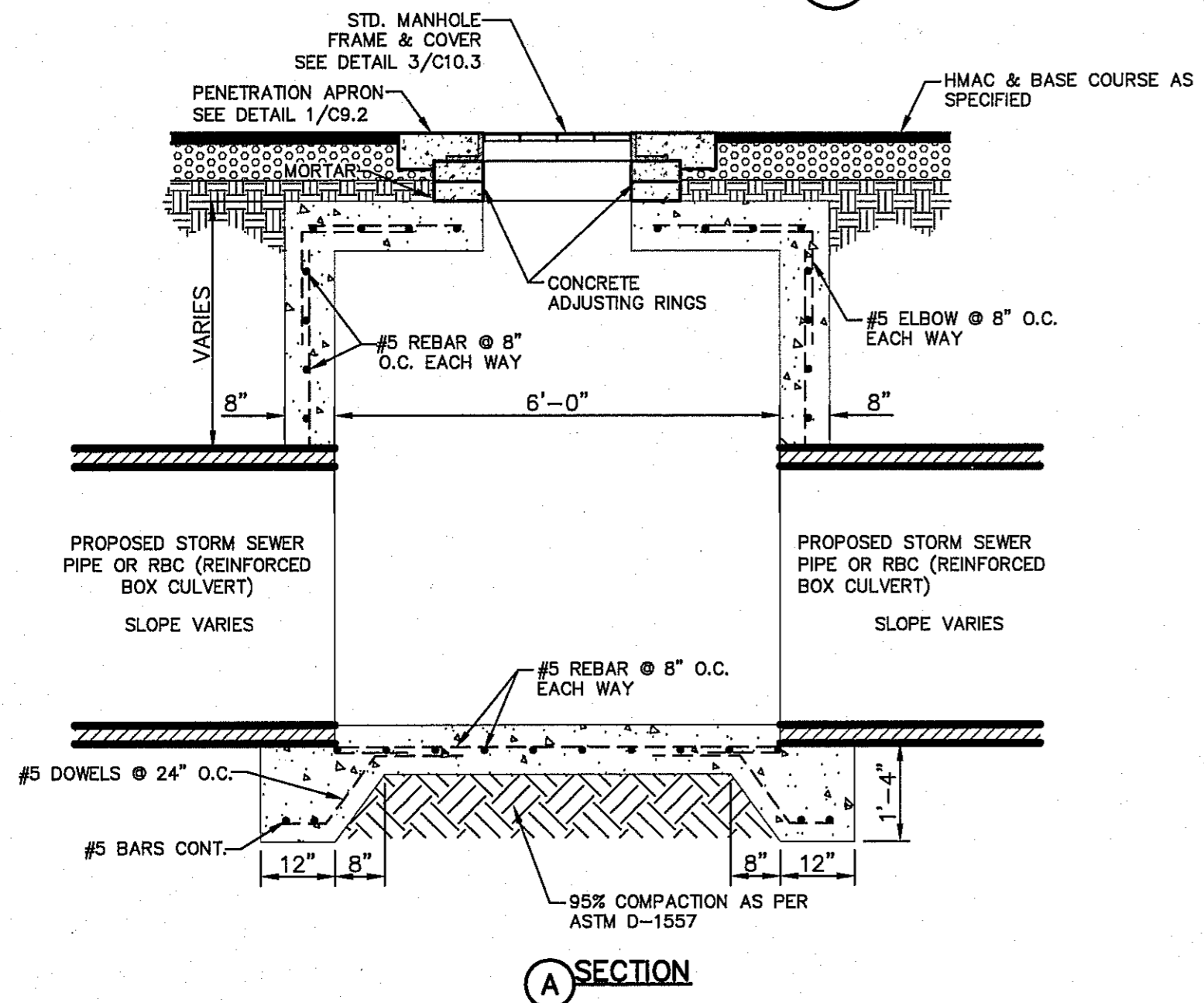
1 TEMPORARY DESILTING BASIN DETAIL
SCALE: 1" = 2'-0"



ALL RCP SHALL BE INSTALLED AS SPECIFIED AND AS PER THE REQUIREMENTS OF ASTM C149 (LATEST VERSION)

- NOTES:**
- EXCAVATION: PIPE TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN IN THE PLANS. WHEN ROCK OR OTHER UNYIELDING FOUNDATION MATERIAL IS ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH OF 0.0/12 OR 6", WHICHEVER IS GREATER AND REPLACED WITH APPROVED MATERIAL AND COMPACTED TO AT LEAST THE STANDARD PROCTOR DENSITY SPECIFIED FOR THE BEDDING MATERIAL.
 - FOUNDATION: THE FOUNDATION SHALL BE MODERATELY FIRM TO HARD SOIL, STABILIZED SOIL OR COMPACTED FILL MATERIAL. WHEN UNSUITABLE OR UNSTABLE MATERIAL IS ENCOUNTERED, THE FOUNDATION SHALL BE STABILIZED.
 - BEDDING: THE BEDDING SHALL BE CONSTRUCTED UNIFORMLY OVER THE FULL LENGTH OF THE PIPE BY EXERTING FORCE ON THE BARREL TO DISTRIBUTE THE LOAD-BEARING REACTION UNIFORMLY ON THE PIPE BARREL OVER ITS FULL LENGTH AND TO MAINTAIN THE REQUIRED PIPE GRADE. IF PLACED IN LAYERS, THE THICKNESS OF THE LAYERS SHALL BE REQUIRED TO ACHIEVE THE SPECIFIED COMPACTION. IF THE PIPE BEING INSTALLED HAS A PROTECTING BELL, BELL HOLES SHALL BE PLACED TO BE AS UNIFORM AS POSSIBLE. THE MAXIMUM AGGREGATE SIZE SHALL BE 1-INCH WHEN THE BEDDING THICKNESS IS LESS THAN 6-INCHES AND 1 1/2" WHEN THE BEDDING IS 6-INCH OR GREATER.
 - PIPE LAYING: PIPE SHALL BE INSTALLED TO THE LINE AND GRADE AS SHOWN ON THE PLANS. THE JOINT SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. UNLESS APPROVED BY THE DESIGN ENGINEER, PIPE LAYING SHALL START AT THE LOWEST END OF THE PIPE LINE AND PIPE LAID WITH THE BELL END UPRIGHT. THE BEDDING GRADE UNDER THE MIDDLE THIRD OF THE PIPE OUTSIDE DIAMETER SHALL BE PREPARED BEFORE LAYING THE PIPE SECTION. MAKING ADJUSTMENTS IN GRADE BY EXERTING FORCE ON THE BARREL OF THE PIPE WITH EXCAVATING EQUIPMENT, BY LIFTING AND DROPPING THE PIPE, OR BY LIFTING AND PACKING THE BEDDING MATERIAL UNDER IT SHALL BE PROHIBITED. IF THE INSTALLED PIPE SECTION IS NOT ON GRADE, THE PIPE SECTION SHALL BE COMPLETELY UNJOINED, THE GRADE CORRECTED, AND THE PIPE THEN REJOINED.
 - BEFORE ASSEMBLING THE PIPE JOINT, CLEAN ALL DIRT AND FOREIGN SUBSTANCE FROM THE BELL & SPOOT OR TONGUE & GROOVE ENDS OF THE PIPE. FOR TONGUE & GROOVE JOINTS, PLACE THE PREFORMED FLEXIBLE JOINT SEALANT MATERIAL AROUND THE TOP HALF OF THE SPOOT AND THE BOTTOM HALF OF THE BELL.
 - BACKFILLING: ALL TRENCHES SHALL BE BACKFILLED AS PER PROJECT REQUIREMENTS. THE HAUNCH SHALL BE CONSTRUCTED USING THE SPECIFIED SOIL TYPE AND COMPACTION LEVEL REQUIRED FOR THE DESIGNATED INSTALLATION. THE BACKFILL SHALL BE LAYED IN LAYERS. THE THICKNESS OF THE LAYERS SHALL BE 8-INCH LIFTES AD COMPACTED TO THE SPECIFIED REQUIREMENTS. THE BACKFILL SHALL BE MATERIAL CONFORMING TO THE PROJECT PLAN SAND CONTAINING NO DEBRIS, ORGANIC MATTER OR FROZEN MATERIAL.
 - MINIMUM COVER FOR CONSTRUCTION LOADS: IF PASSAGE OF CONSTRUCTION EQUIPMENT OVER AN INSTALLED PIPELINE IS NECESSARY DURING PROJECT CONSTRUCTION, COMPACTED OVERFILL IN THE FORM OF A RAMP SHALL BE CONSTRUCTED TO A MINIMUM ELEVATION OF 3- FEET OVER THE TOP OF THE PIPE OR TO A HEIGHT SUCH THAT THE EQUIPMENT LOADS ON THE PIPE DO NOT EXCEED THE PIPE DESIGN STRENGTH.
 - HORIZONTAL AND VERTICAL ALIGNMENTS: THE HORIZONTAL ALIGNMENT OF THE FACILITIES WILL BE ALLOWED IF THE CENTER OF 36-INCH AND SMALLER DIAMETER PIPES SHALL NOT BE MORE THAN 8-INCHES OFF THE DESIGNATED ALIGNMENT. IN ADDITION, FOR PIPE GREATER THAN 36-INCH DIAMETER, THE CENTER LINE SHALL NOT BE MORE THAN 2-INCHES PER 12-INCH OF DIAMETER FROM THE DESIGNATED ALIGNMENT. PIPELINE ALIGNMENT SHALL BE STRAIGHT FROM MANHOLE TO MANHOLE WITH A LINE OF SIGHT THROUGH THE PIPE SHALL EXIST. THE VERTICAL ALIGNMENT SHALL NOT DEVIATE FROM THE DESIGNATED GRADE BY AN AMOUNT GREATER THAN THE TOTAL OF 1/4 INCH PLUS 1 INCH PER YARD OF DIAMETER OF SEWER PIPE. NO VARIANCE FROM GRADE, VERTICALLY OR HORIZONTALLY, SHALL BE PERMITTED THAT RESULTS IN INDIVIDUAL JOINT DEFLECTIONS IN EXCESS OF MANUFACTURER'S RECOMMENDATIONS.

3 RCP STORM SEWER BEDDING DETAIL
SCALE: 1/2" = 1'-0"

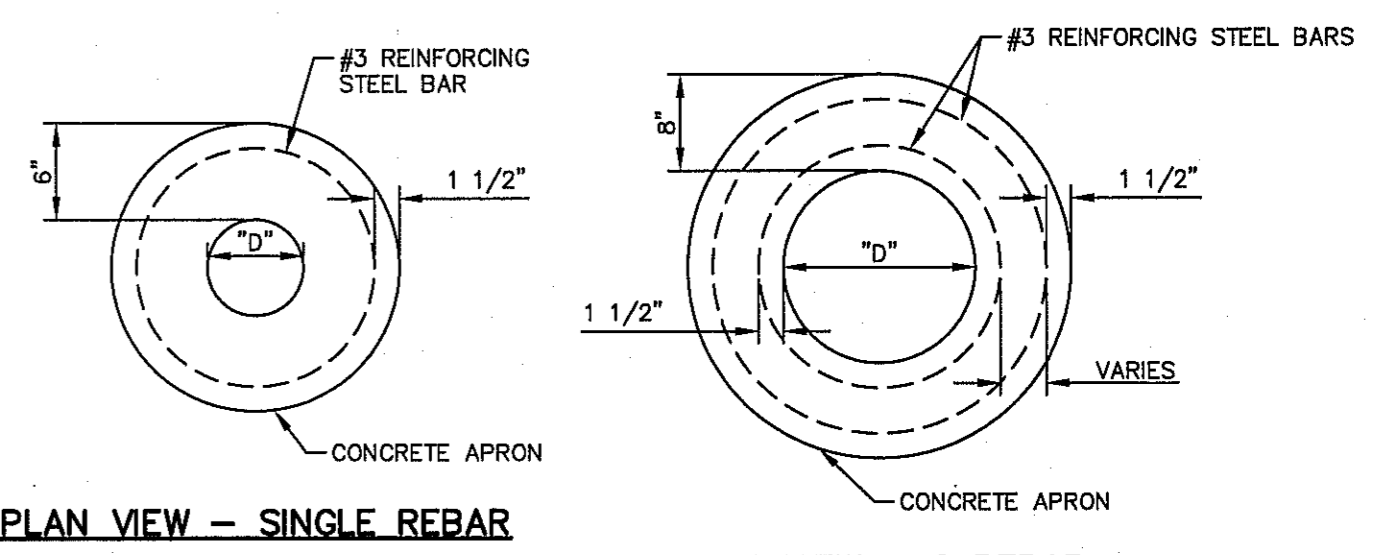


5 72" CAST-IN PLACE MANHOLE DETAIL
SCALE: N.T.S.

PLAN VIEW

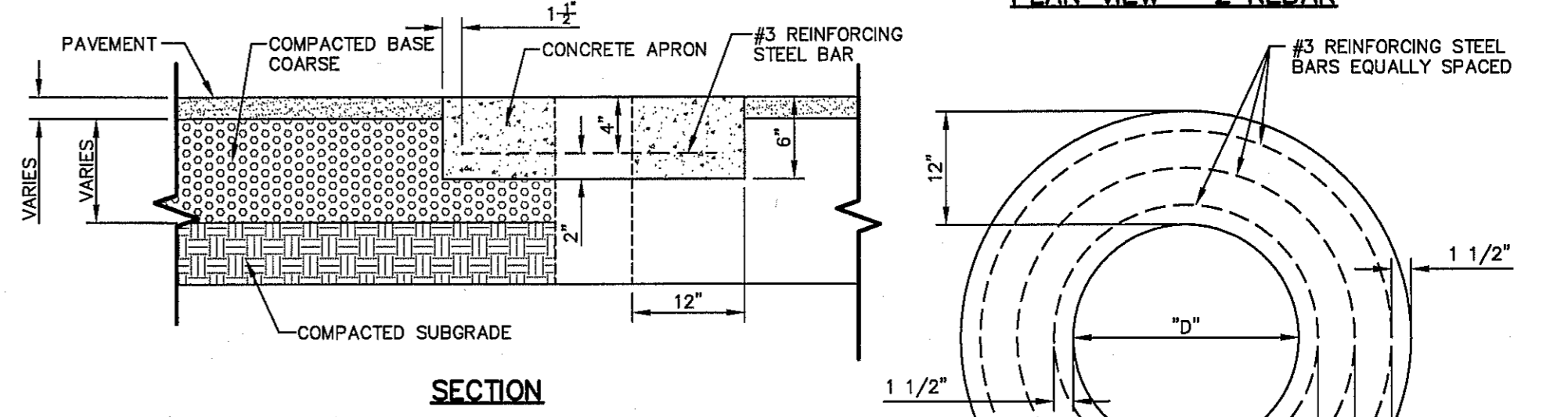
GENERAL NOTES:

- 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.



PLAN VIEW - SINGLE REBAR

PLAN VIEW - 2 REBAR



SECTION

GENERAL NOTES:

- SIGN MATERIAL TO BE 16 GAUGE GALVANIZED SHEET METAL.
- TOP PART OF SIGN SHALL SHOW BLACK LETTERS ON A WHITE BACKGROUND.
- BOTTOM PART OF SIGN SHALL SHOW WHITE LETTERS ON A BLACK BACKGROUND.

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



4 NO TRESPASSING WARNING SIGN
SCALE: N.T.S.

BENDING DETAIL

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE HIGH BEEM BLVD. 8964331E RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION = 4005.40 (CITY DATUM).

ENGINEER'S SEAL
TEXAS REGISTERED ENGINEERING FIRM F-654
4772 Woodrow Bean, Ste. F, El Paso, TX 79924
915.544.5232 | www.casgroup.net

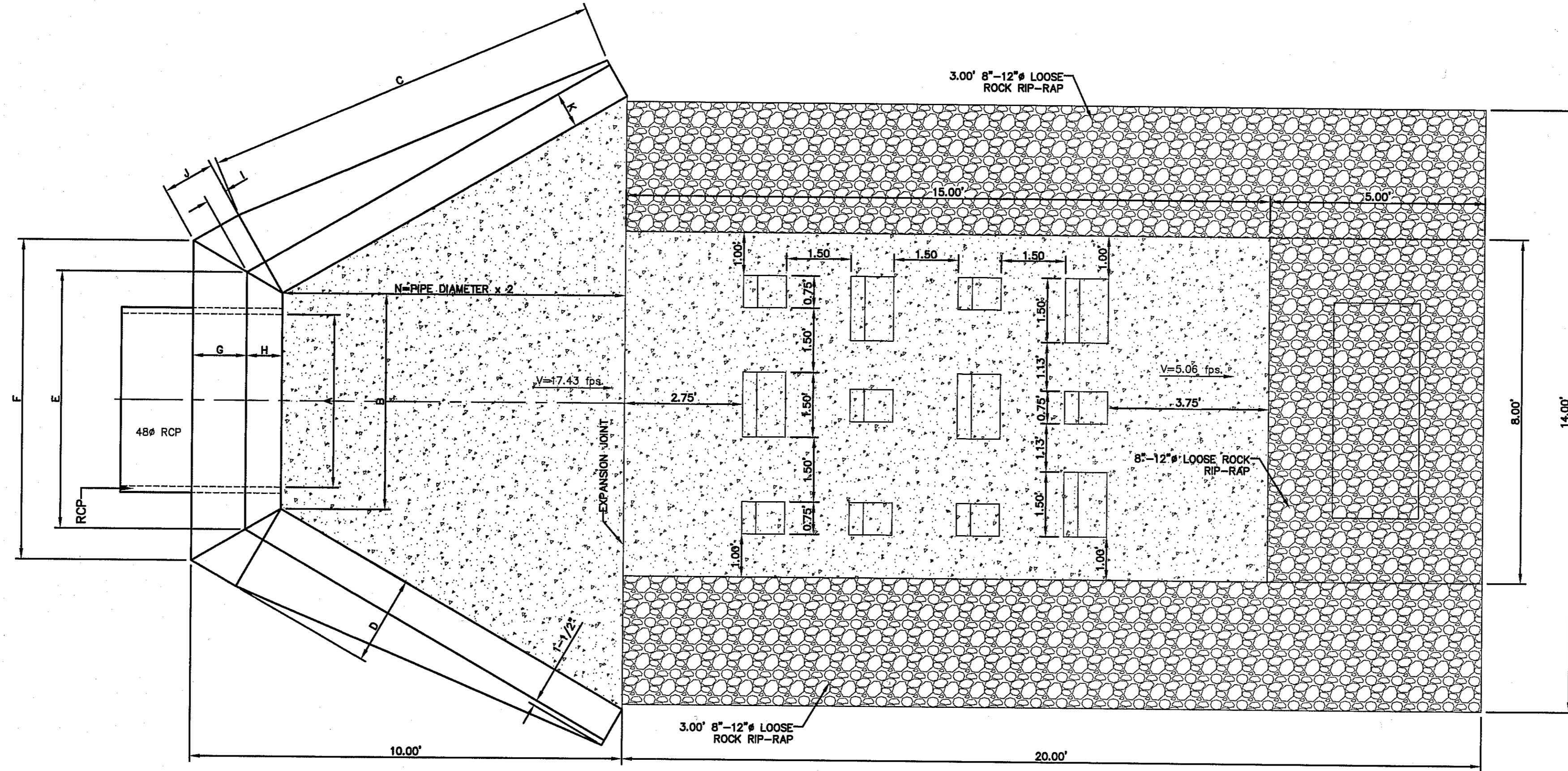
PROJECT TITLE
TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2000-207

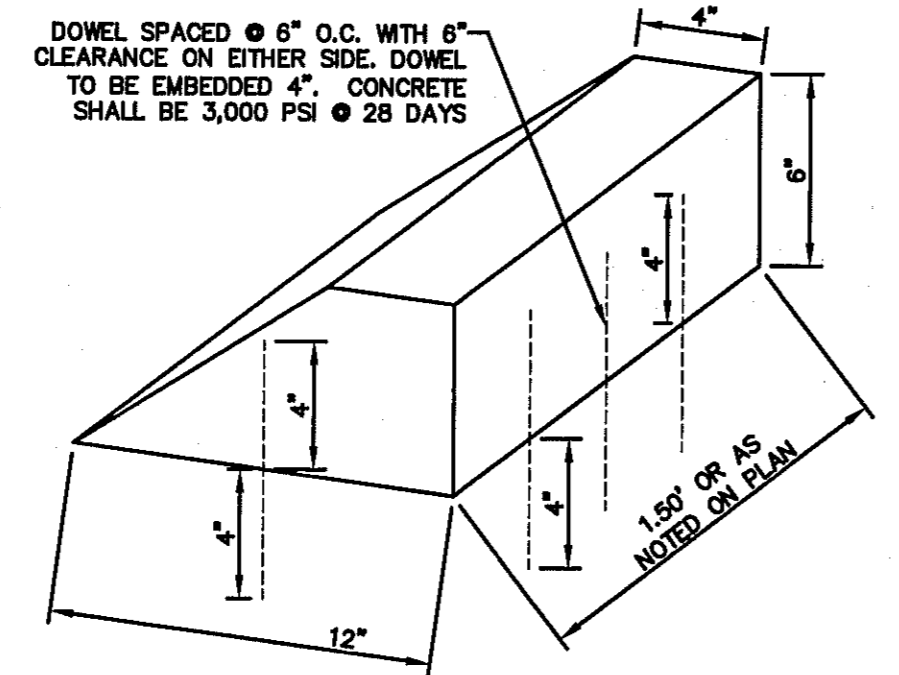
SHEET TITLE
DRAINAGE DETAILS
(SHEET 2 OF 3)
SHEET NO.



Final Approval
C10.2



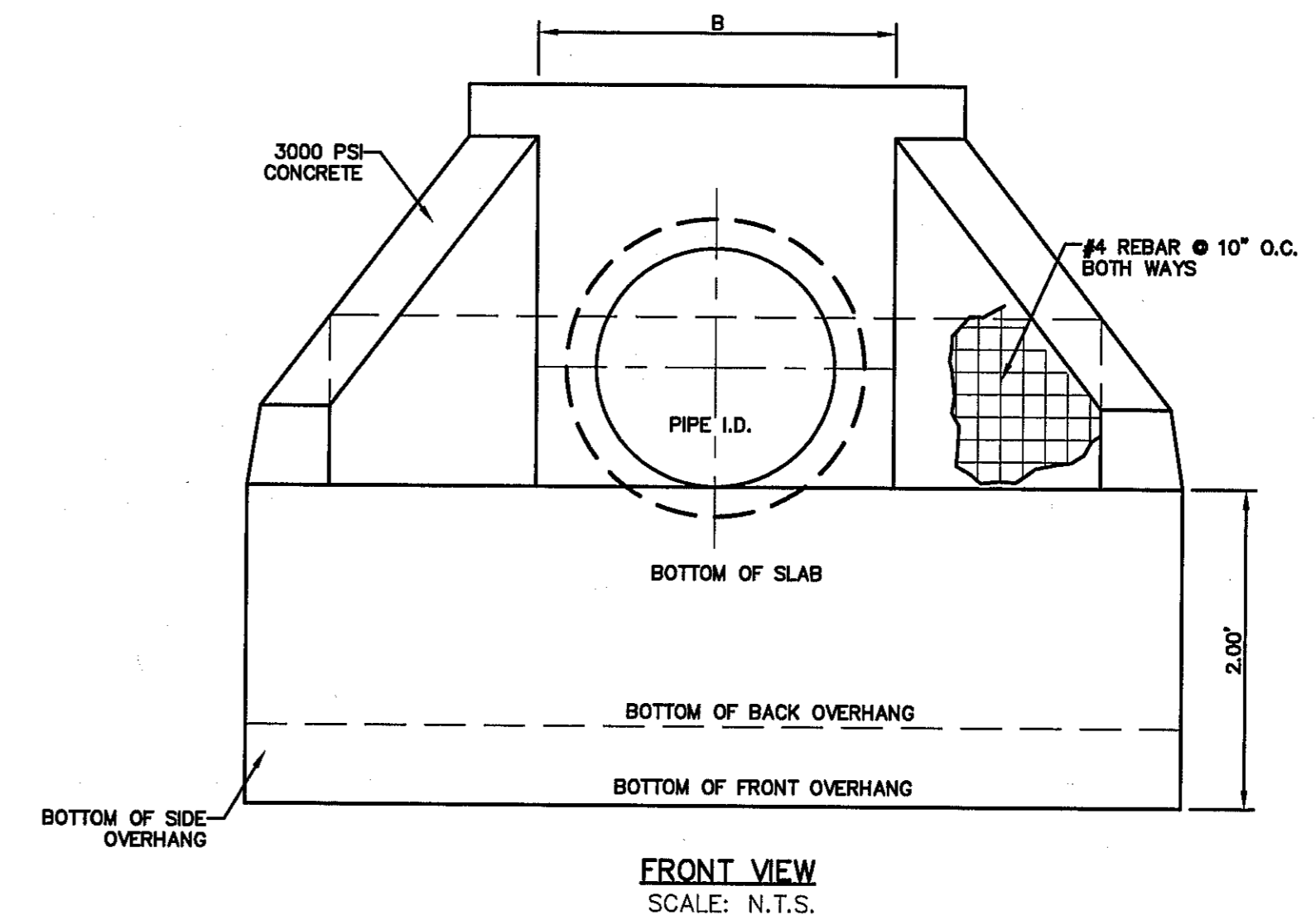
TOP VIEW
SCALE: N.T.S.



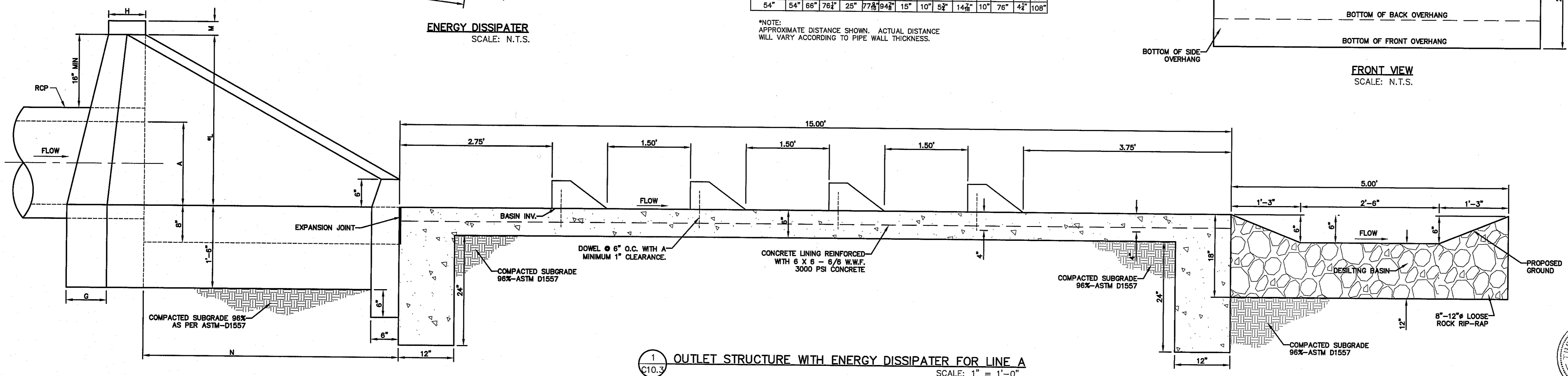
ENERGY DISSIPATER
SCALE: N.T.S.

PIPE I.D.	A	B	C	D	E	F	G	H	I	J	K	L	M	N
18"	18"	30"	34"	19"	36"	52"	11"	8"	4"	11"	8"	37"	3"	36"
24"	24"	36"	41"	19"	45"	58"	11"	8"	4"	11"	8"	43"	3"	48"
30"	30"	42"	48"	20"	51"	65"	12"	8"	4"	11"	8"	50"	3"	60"
36"	36"	48"	55"	20"	58"	72"	11"	9"	5"	12"	9"	57"	3"	72"
42"	42"	54"	62"	25"	65"	82"	15"	10"	5"	14"	10"	63"	3"	84"
48"	48"	60"	69"	25"	71"	88"	15"	10"	5"	14"	10"	70"	4"	96"
54"	54"	66"	76"	25"	77"	94"	15"	10"	5"	14"	10"	76"	4"	108"

*NOTE: APPROXIMATE DISTANCE SHOWN. ACTUAL DISTANCE WILL VARY ACCORDING TO PIPE WALL THICKNESS.

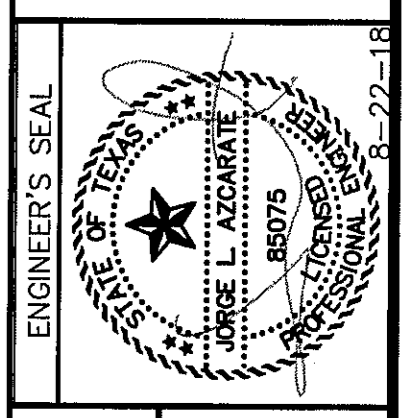
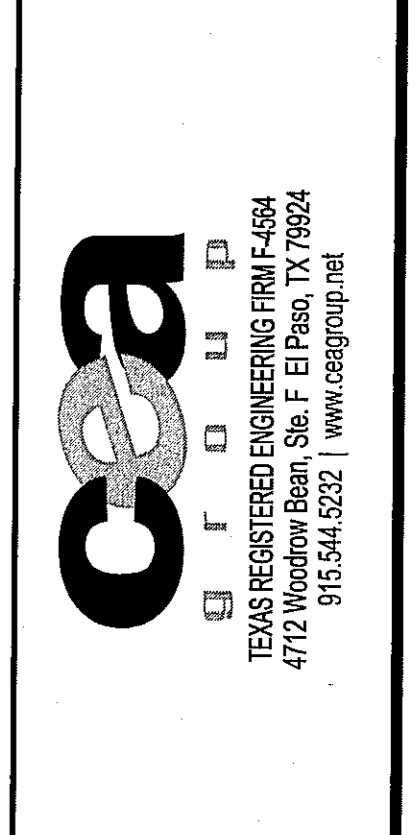


FRONT VIEW
SCALE: N.T.S.



OUTLET STRUCTURE WITH ENERGY DISSIPATER FOR LINE A
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09+43.31'E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF RICH BEEM BLVD. AT MONTANA AVENUE. ELEVATION = 4065.40 (CITY DATUM).
DATE _____ BY _____
REVISIONS _____



SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-207

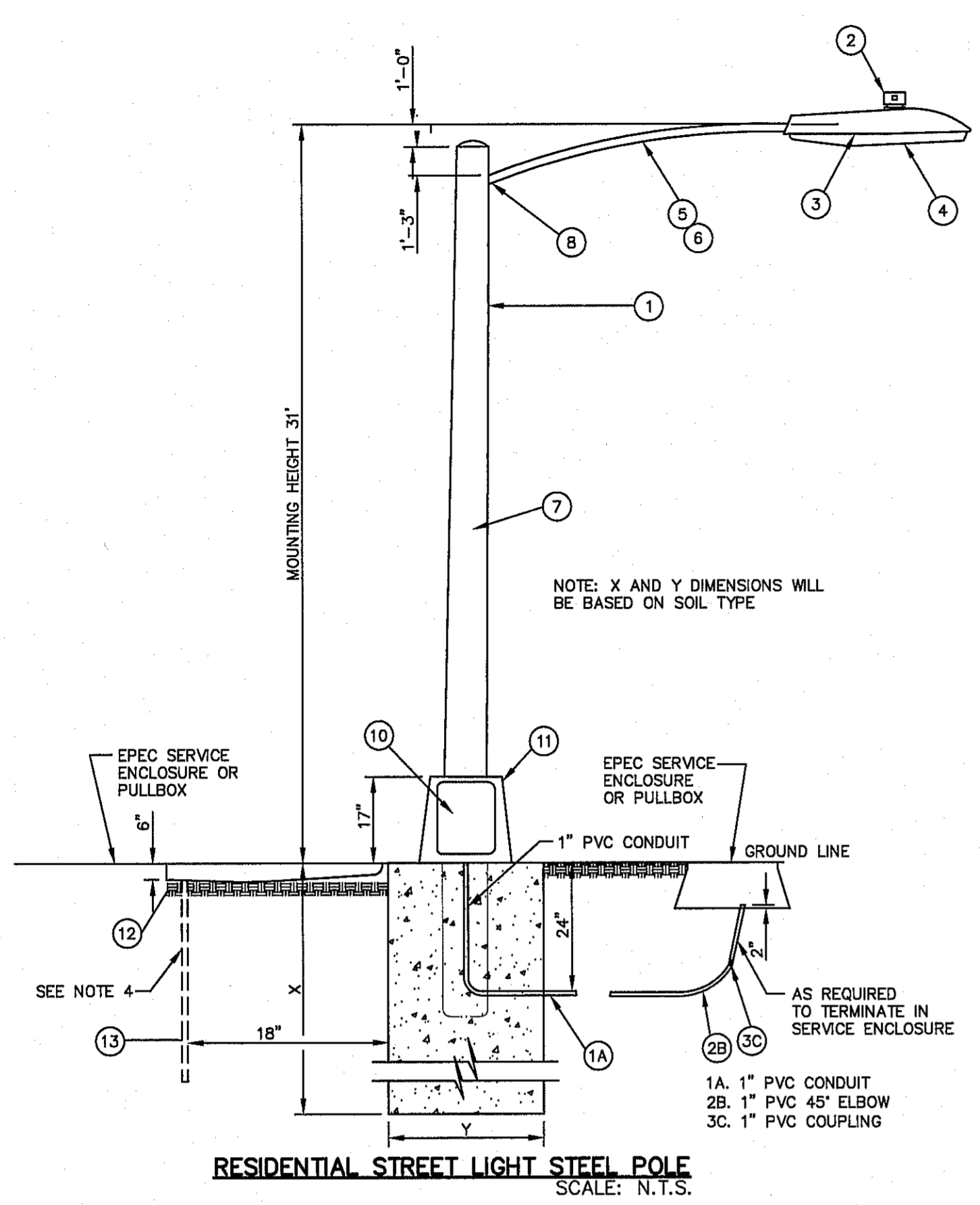
PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**DRAINAGE
DETAILS**
(SHEET 3 OF 3)
SHEET NO.



C10.3

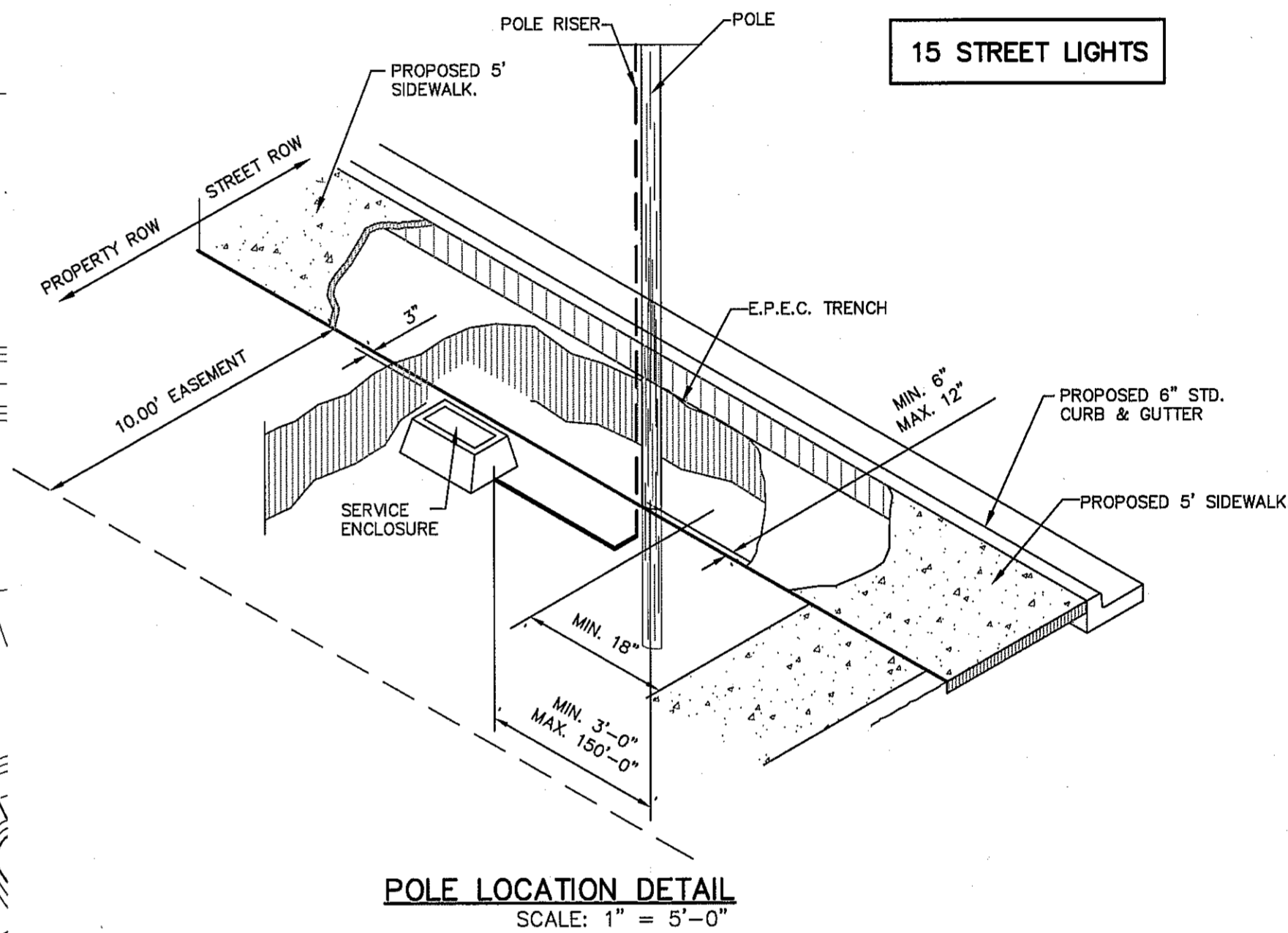
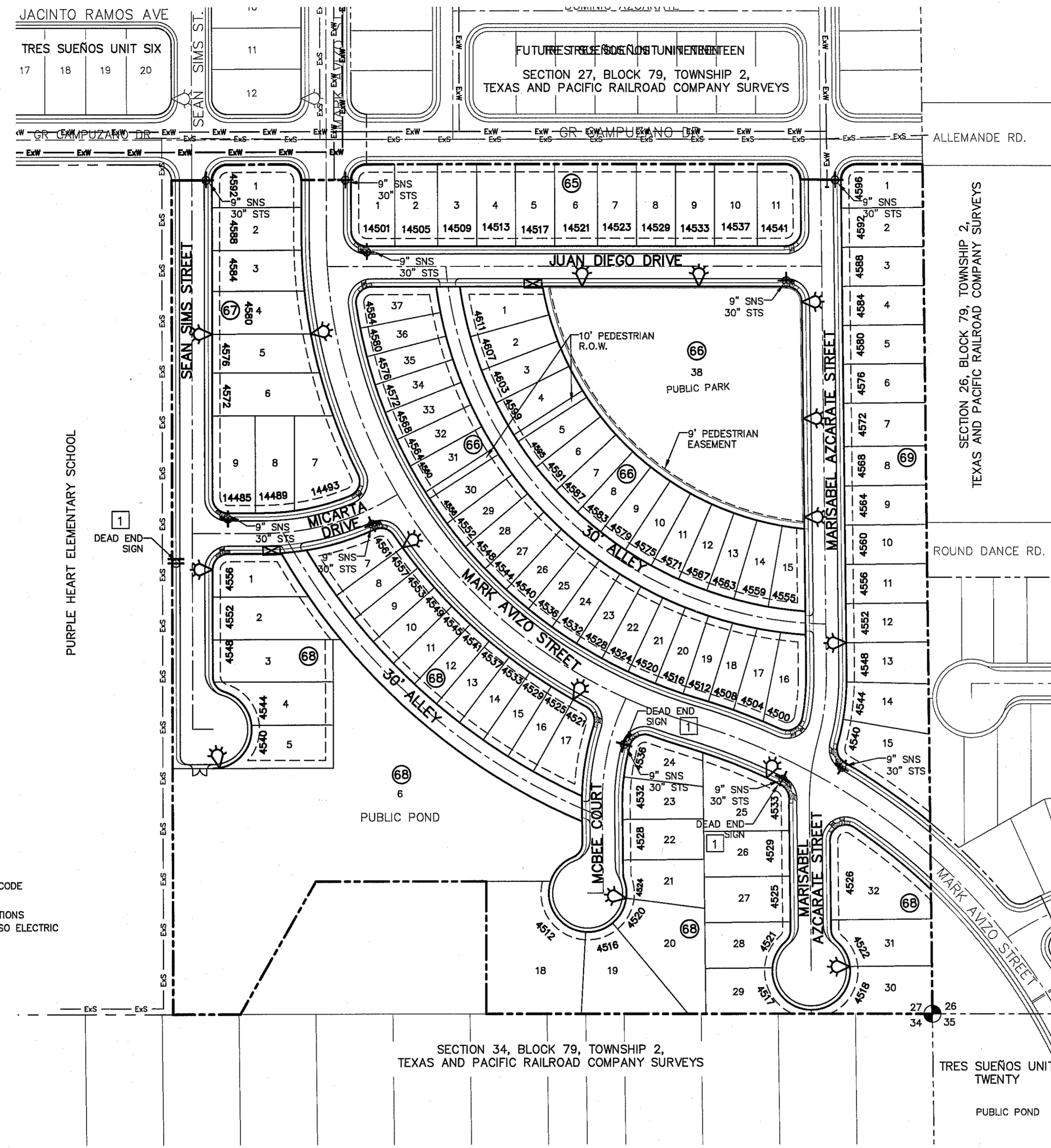
S:\2000\2000-207-TRES SUEÑOS UTILITY DWGS\Construction Drawings\Improvement Plans\C11.1-C11.2-Illumination Plan.dwg, 8/29/2018 8:51:22 AM



ITEM NO.	DESCRIPTION	STOCK/DSO NO.	QTY.
1	POLE, 35 FT.-CLASS IV		1
2	PHOTOCELL, 240V-SEE NOTE 1	021-225	1
3	LUMINAIRE, 65W L.E.D.	021-335	1
4	LED LAMP, 65W	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.



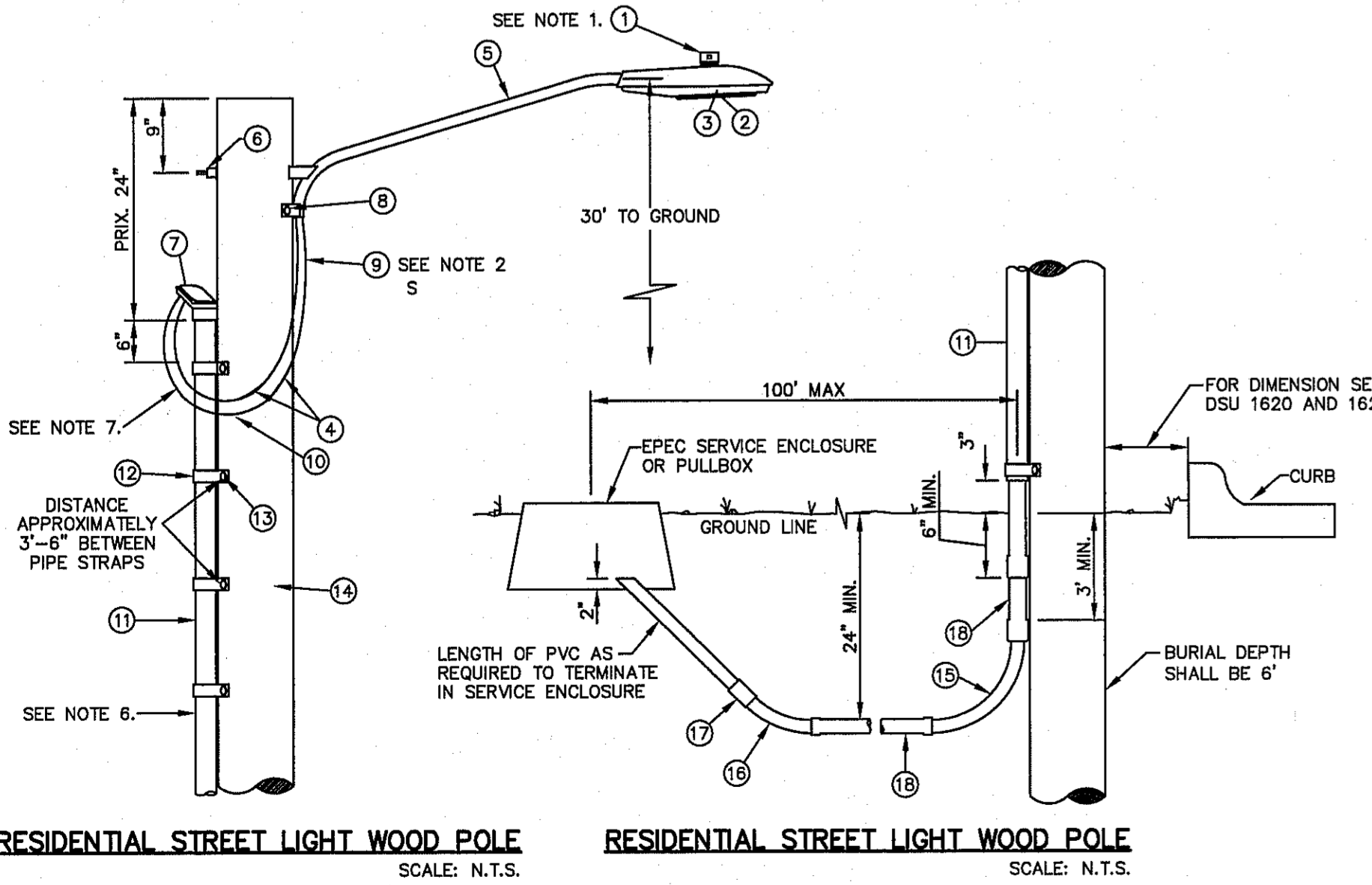
W14-g1R/d1L
 1

NOTE
 1. TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.
 2. SIGNS SHOULD COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

ITEM NO.	DESCRIPTION	STOCK NO.	QTY.	LCOBRAHD	LCOBRAUG
1	PHOTO CELL, 240 V-SEE NOTE 1	21-225	1		
2	LED LAMP, 65W	21-085	1		
3	LUMINAIRE, 65W 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		LMB5/812
	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		
7	SERVICE ENTRANCE CAP 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'	LPVCSTRP	
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 WOOD POLE

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) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

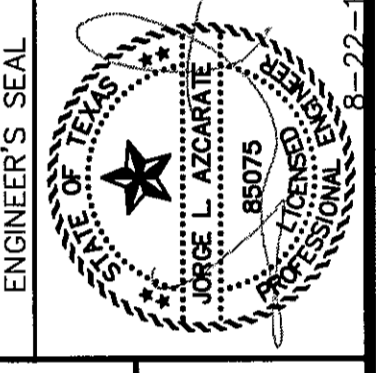
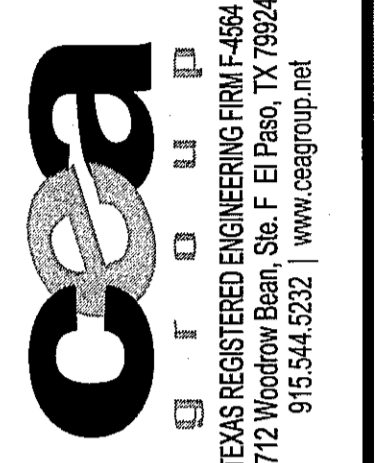
- LEGEND:**
- EXISTING RESIDENTIAL STREET LIGHT
 - PROPOSED RESIDENTIAL STREET LIGHT
 - PROPOSED SIGN
 - PROPOSED 9" STREET NAME SIGN (TWO SIGNS)
 - EXISTING 9" STREET NAME SIGN (TWO SIGNS)
 - PROPOSED 9" STREET NAME AND 30" STOP SIGN AND DEAD END SIGN
 - PROPOSED N.D.B.C.U. MAIL

15 STREET LIGHTS

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S0843317E A DISTANCE OF 467.56 FEET FROM THE SOUTHERLY END OF THE CURVE (N.A. 1741792).
 ELEVATION = 4005.40 (CITY DATUM).

DATE	
REVISIONS	
BY	



SCALE: 1" = 100'

Horizontal	N/A
Vertical	N/A
Contour Interval	N/A

DATE: JUNE 2018
 DESIGN BY: J.M.
 DRAWN BY: G.J.M.
 CHECKED BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB NO.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**



ILLUMINATION & SIGNAGE PLAN

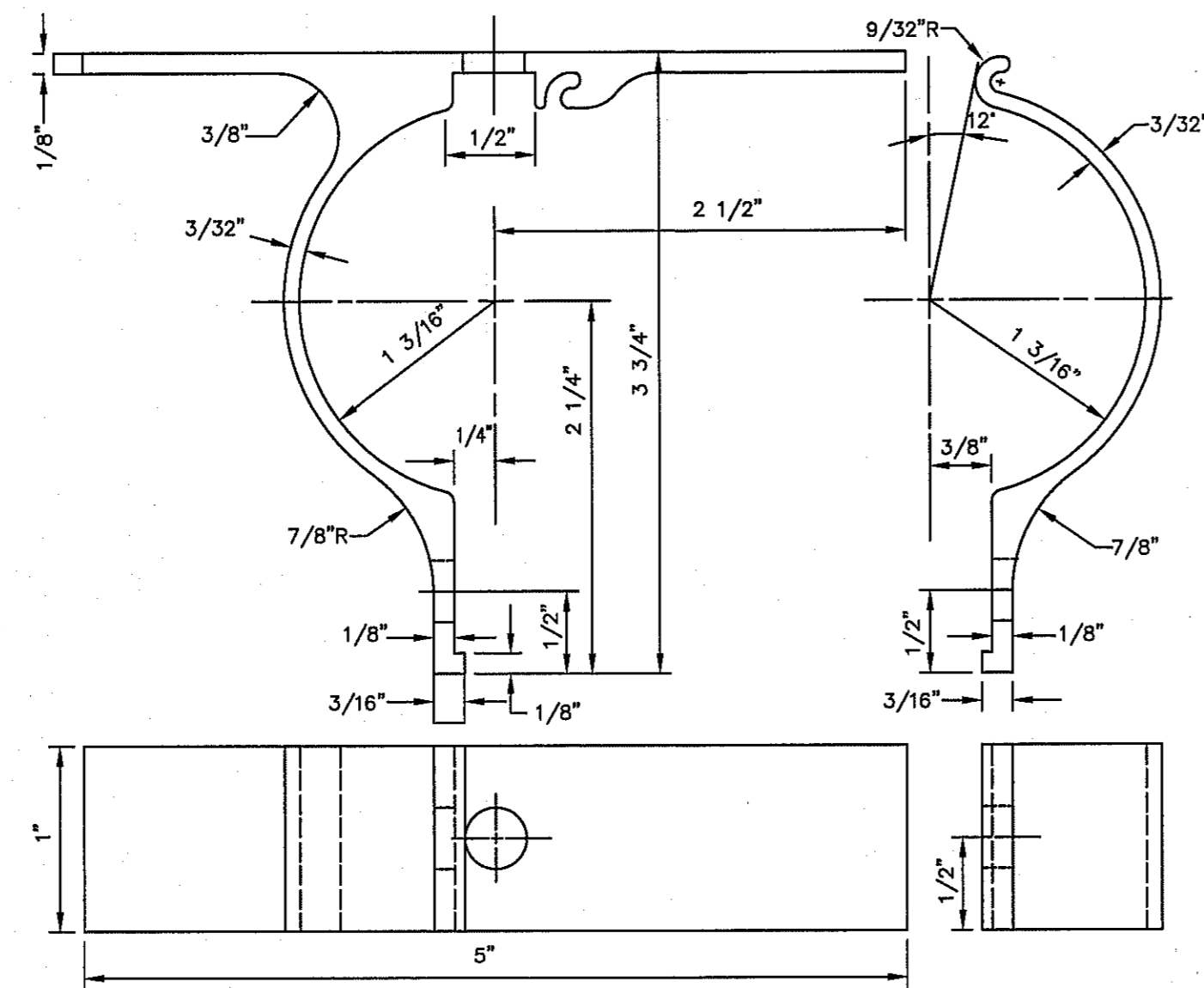
SCALE: 1" = 100'

SHEET TITLE
ILLUMINATION & SIGNAGE PLAN
SHEET NO.

C11.1

**CITY OF EL PASO
SPECIFICATIONS FOR REFLECTORIZED
STREET NAME SIGNS**

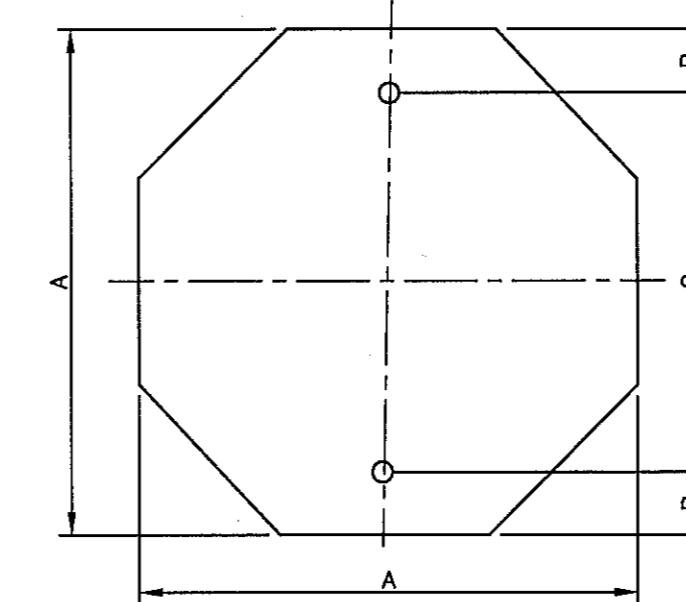
- COLOR OF SIGNS:** THE FINISHED SIGN MUST HAVE A REFLECTORIZED GREEN BACKGROUND. THE GREEN MUST CONFORM WITH THE BUREAU OF PUBLIC ROADS HIGHWAY GREEN. THE LEGEND MUST BE REFLECTORIZED SILVER WHITE (GREEN REVERSE SCREENED BACKGROUND WITH SILVER COPY).
- LETTER DESIGN:** THE LETTERING OF ALL LEGENDS MUST BE MIXED CASE LETTERS IN ACCORDANCE WITH "STANDARD ALPHABETS FOR HIGHWAY SIGNS" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- LETTER SPACING:** THE CONTROL FOR THE SPACING VALUES IN TRAFFIC LAYOUT IS THE DISTANCE RECOGNIZED AS AESTHETIC SPACING BETWEEN TWO STRAIGHT LETTERS (H). A SPACING CONTROL OF TWO TIMES THE WIDTH OF THE STROKE OF THE LETTER SERIES TO BE USED MUST BE THE AESTHETIC CONTROL (100%). TWO AND ONE-HALF TIMES (2-1/2) THIS CONTROL MUST BE USED AS THE AESTHETIC WORD SPACE BETWEEN ELEMENTS IN THE PRIMARY LEGEND.
- LAYOUT:** THE MAXIMUM NUMBER OF LETTERS TO BE ACCOMMODATED ON A GIVEN LENGTH STREET NAME FACE IS DETERMINED BY THE WIDEST LETTER SERIES POSSIBLE FOR THAT LEGEND AND THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS.
- THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS FOR THE END MARGIN WITH MINIMUM OF 1".
- THE WORD SPACE MUST BE EXPANDED UP TO 25% IN 5% INCREMENTS BUT NOT CONDENSED.
- SPACE BETWEEN PRIMARY AND BLOCK NUMBER AREA MUST BE 1/2 THE AESTHETIC WORK SPACE USED IN THE PRIMARY LEGEND.
- SIZE OF LEGEND:** FOR 9" STREET NAME SIGNS, THE PRIMARY LEGEND, OR STREET NAME MUST HAVE 6" INITIAL UPPER-CASE LETTERS AND 4.5" LOWER CASE LETTERS ON ALL OTHER STREETS. LETTERING TO INDICATE THE TYPE OF STREET MAY BE IN SMALLER LETTERING COMPOSED OF INITIAL UPPER-CASE LETTERS 3" IN HEIGHT AND LOWERCASE LETTERS 2.25" IN HEIGHT.
- POSITION OF LEGEND:** EACH SIGN FACE WILL CONSIST OF THE STREET NAME, SUFFIX, AND BLOCK NUMBER. THE SUFFIX WILL BE LOCATED IN THE UPPER RIGHT CORNER AND THE BLOCK NUMBER IN THE LOWER RIGHT CORNER OF THE SIGN FACE AND THE STREET NAME CENTERED IN THE REMAINING SPACE.
- SIGN FABRICATION:** THE SIGN FACE MUST BE FABRICATED BY REVERSE SCREENING GREEN TRANSPARENT COLOR OVER SILVER REFLECTIVE SHEETING. TRANSPARENT PROCESS COLORS MUST BE AS RECOMMENDED BY THE SHEETING MANUFACTURER. CUT-OUT OR APPLIED LEGENDS ARE NOT PERMITTED. SIGN FACES MUST BE COMPRISED OF ONE PIECE OR PANEL OF REFLECTIVE SHEETING.
- TYPE OF SHEETING:** ENGINEER GRADE REFLECTIVE SHEETING MUST BE USED IN THE FABRICATION OF THE STREET NAME SIGN FACES.



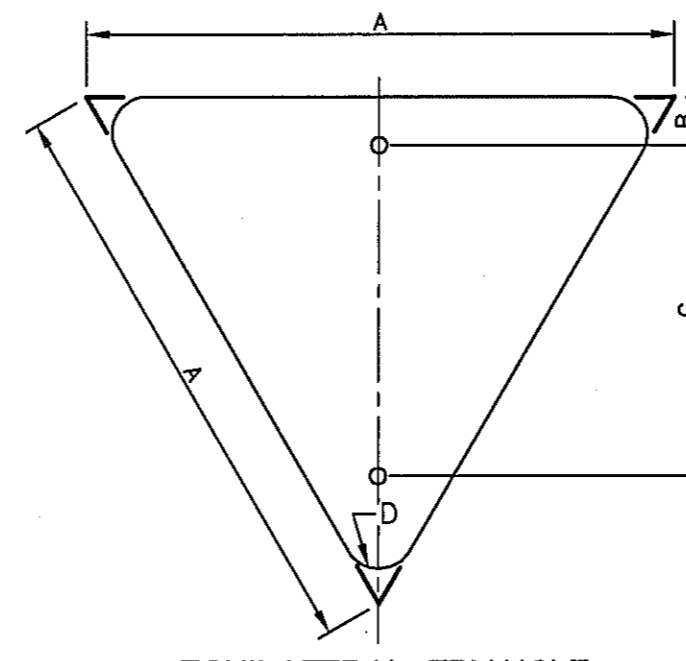
NOTES:

- ALL HOLES 3/8" PUNCH
- FILLETS & ROUNDS 1/16" R
- FURNISH THE FOLLOWING HARDWARE FOR EACH BRACKET:
 - 1 - 5/16" x 3/4" BOLTS
 - 1 - 5/16" x 1 1/4" BOLT
 - 2 - 5/16" NUTS & LOCK WASHERS
 - 2 - FLAT WASHERS
- THE BRACKET IS TO BE MADE FROM HIGH STRENGTH ALUMINUM ALLOY. THE BRACKET IS TO EMPLOY AN EXTRUDED INTERLOCKING FEATURE OFFERING A RIGID MEANS OF ATTACHING A FLAT SIGN TO A STANDARD 2" (2 7/8" O.D.) TUBULAR POST.

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



OCTAGON
N.T.S.



EQUILATERAL TRIANGLE
N.T.S.

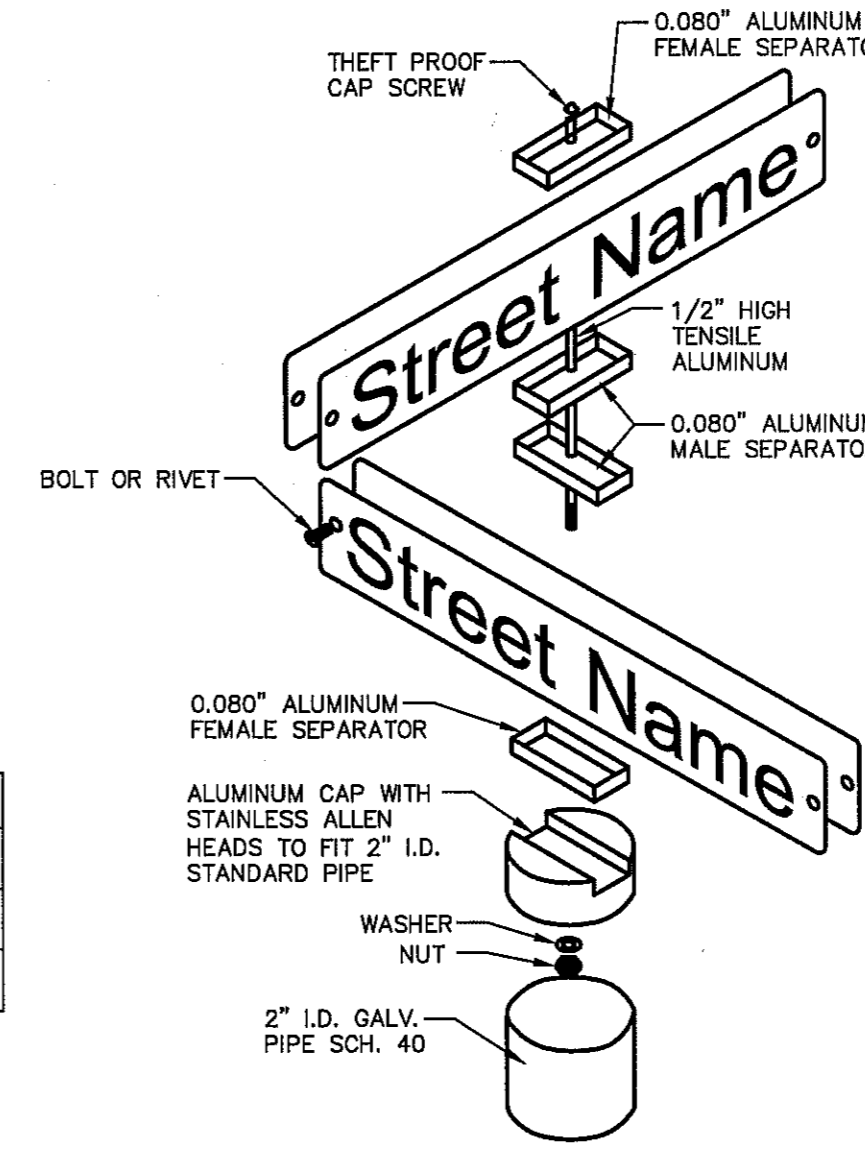
2 D.H.T. BLANK STANDARDS
SCALE: N.T.S.

3/8" HOLE DIA.

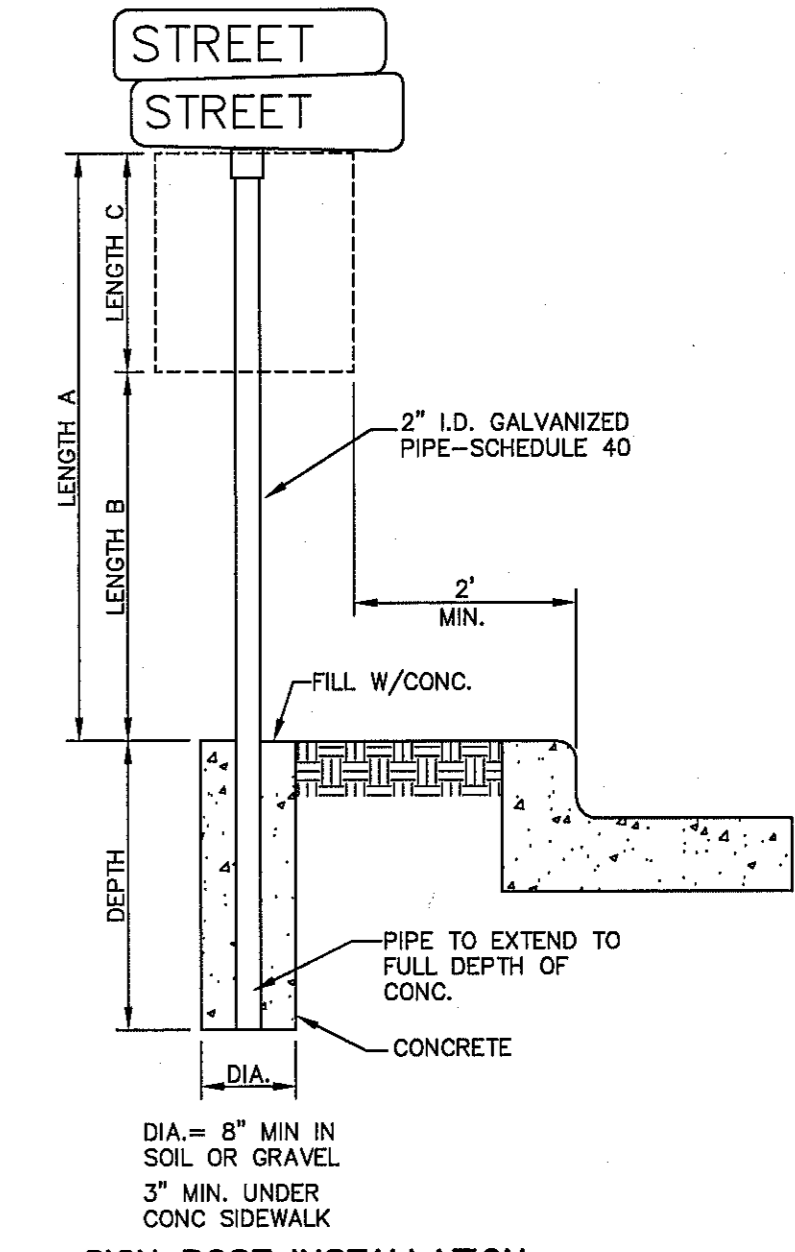
A	B	C
24	3	18
30	3	24
36	3	30

3/8" HOLE DIA.

A	B	C	D
36	3	21	2
42	3	24	2 1/2
48	3	35	3



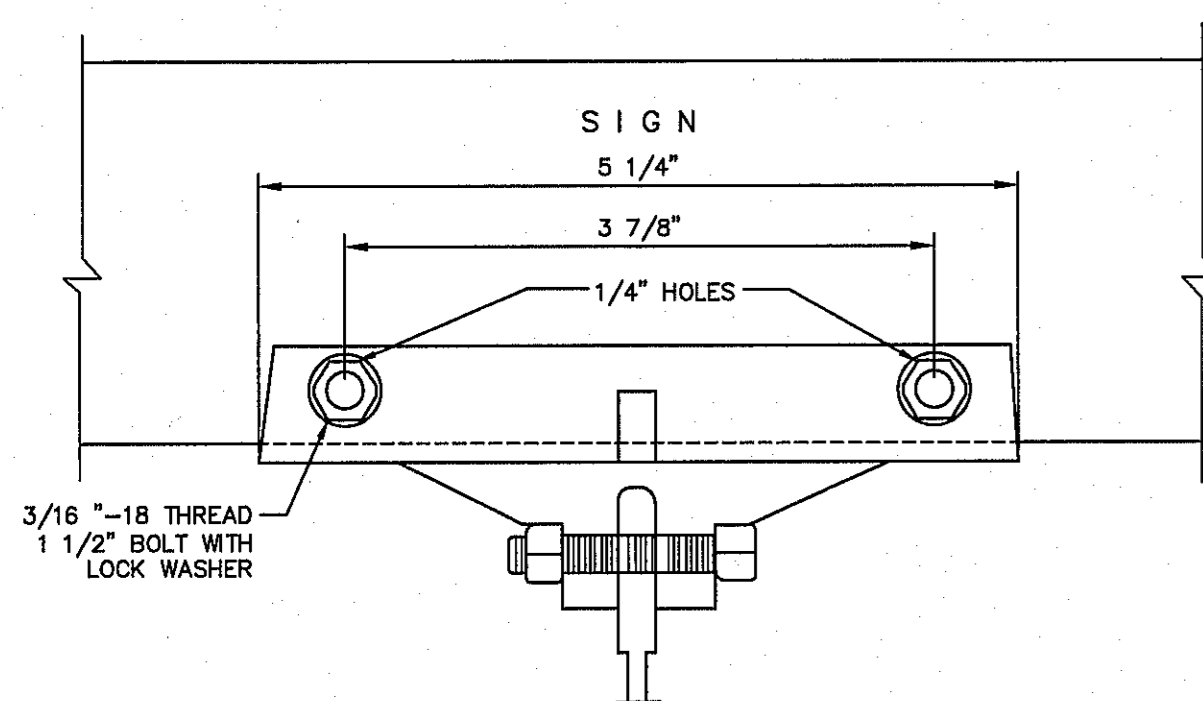
3 9" STREET NAME ASSEMBLY
SCALE: N.T.S.



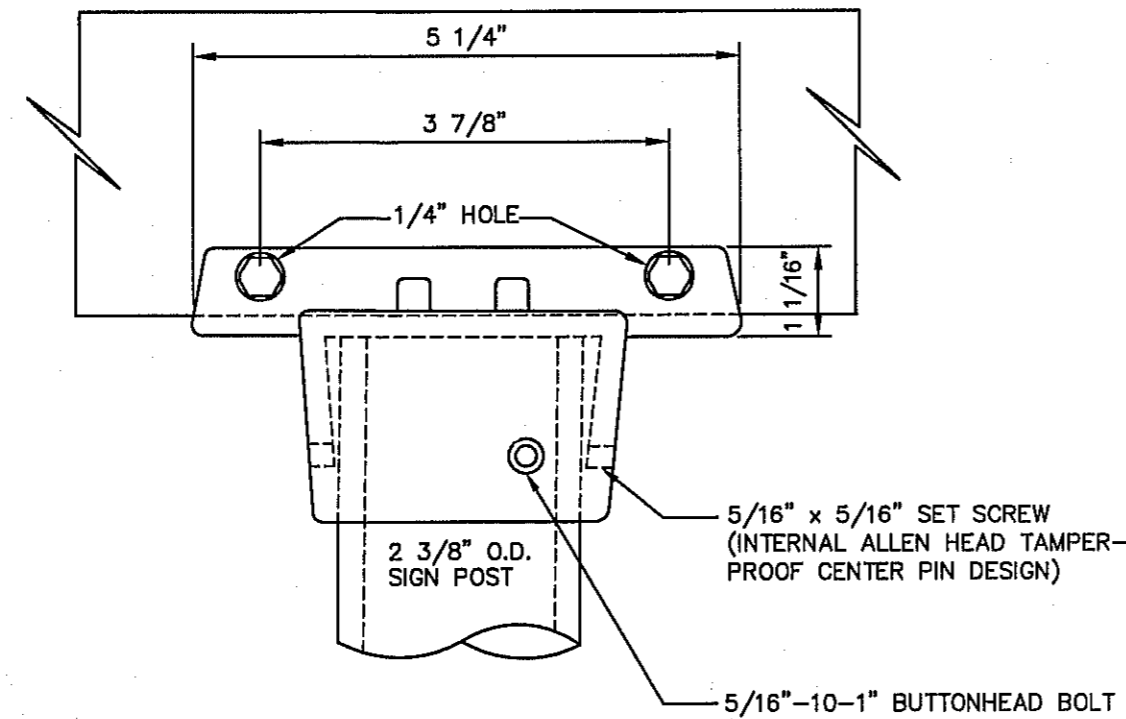
SIGN POST INSTALLATION

LENGTH A	LENGTH B	LENGTH C	DEPTH
10 FT	7 FT	LARGER THAN 24"	2 FT
9 FT	7 FT	SMALLER THAN 24"	1 1/2 FT

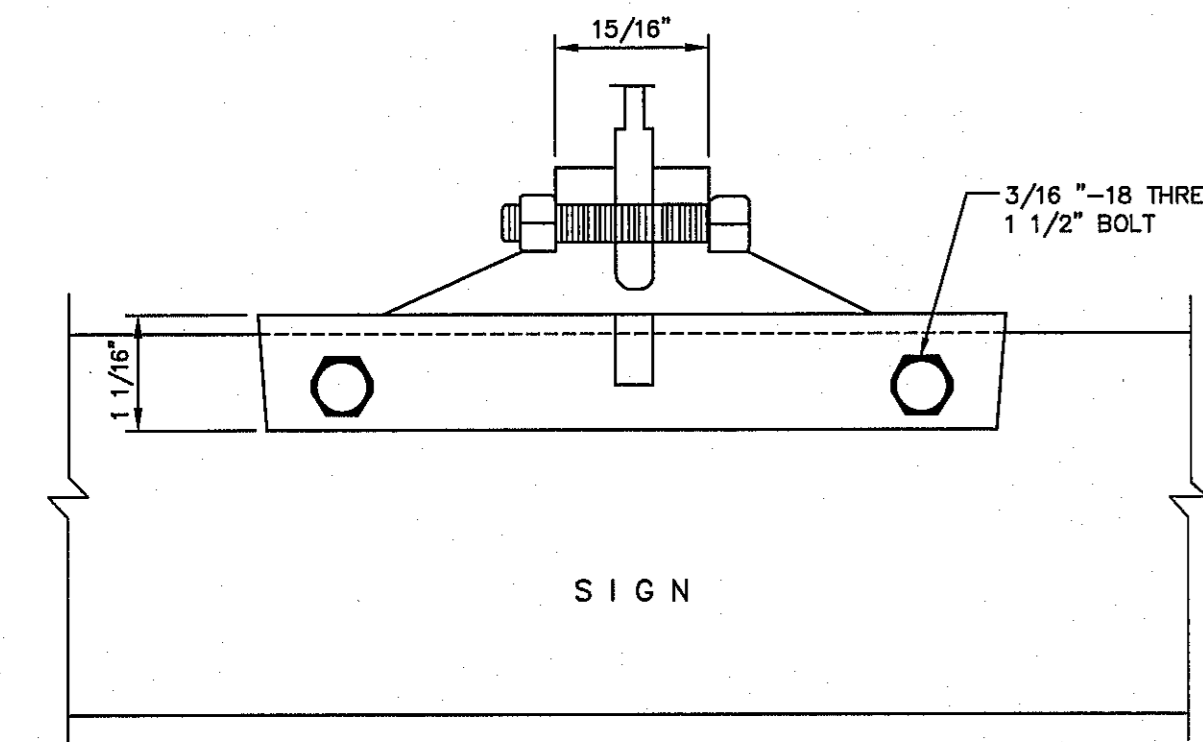
4 SIGN POST INSTALLATION
SCALE: N.T.S.



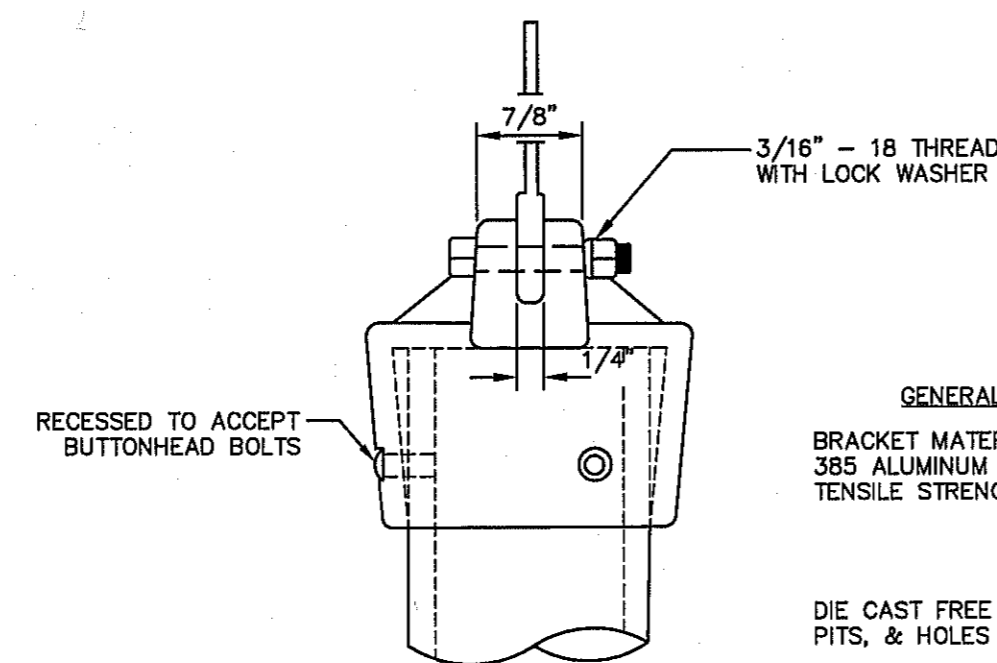
90° SIGN TO SIGN BRACK (FOR EXTRUDED BLADES)



POST CAP BRACKET (FOR EXTRUDED BLADES)



SIGN

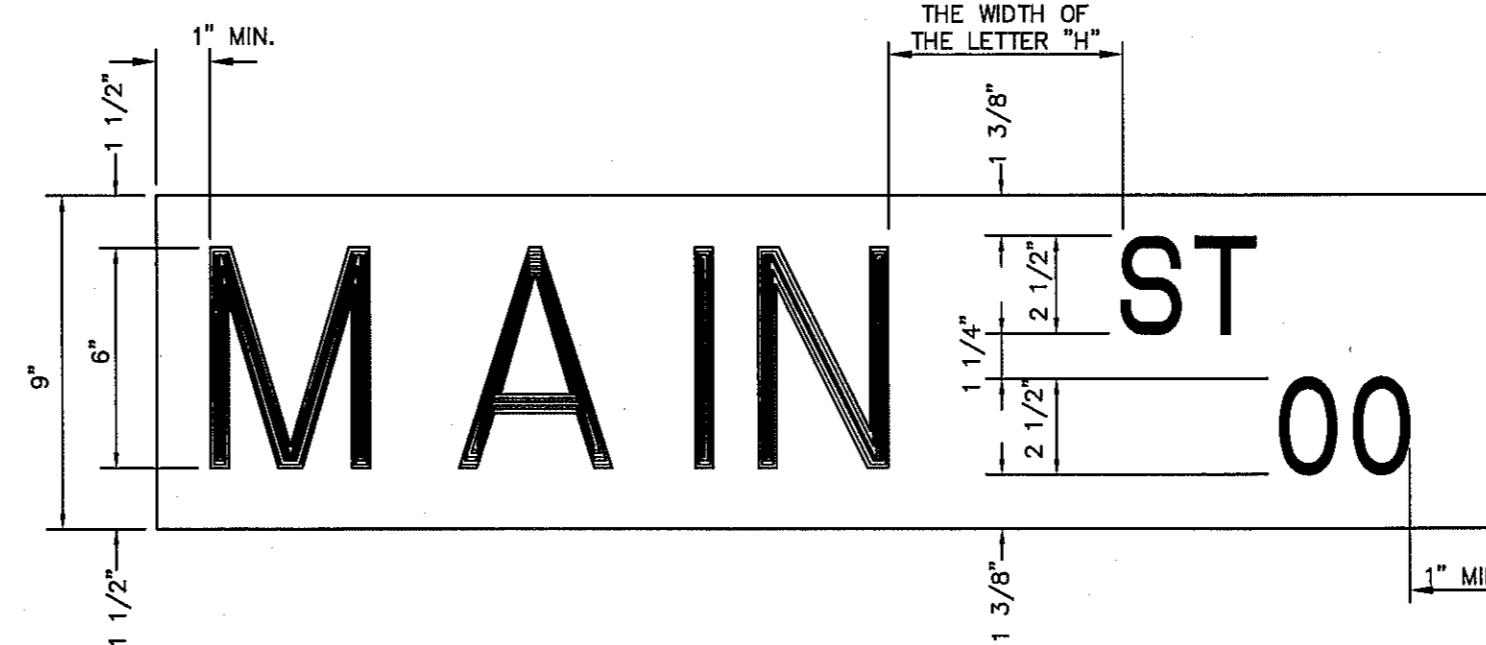


RECESSED TO ACCEPT BUTTONHEAD BOLTS

GENERAL NOTES

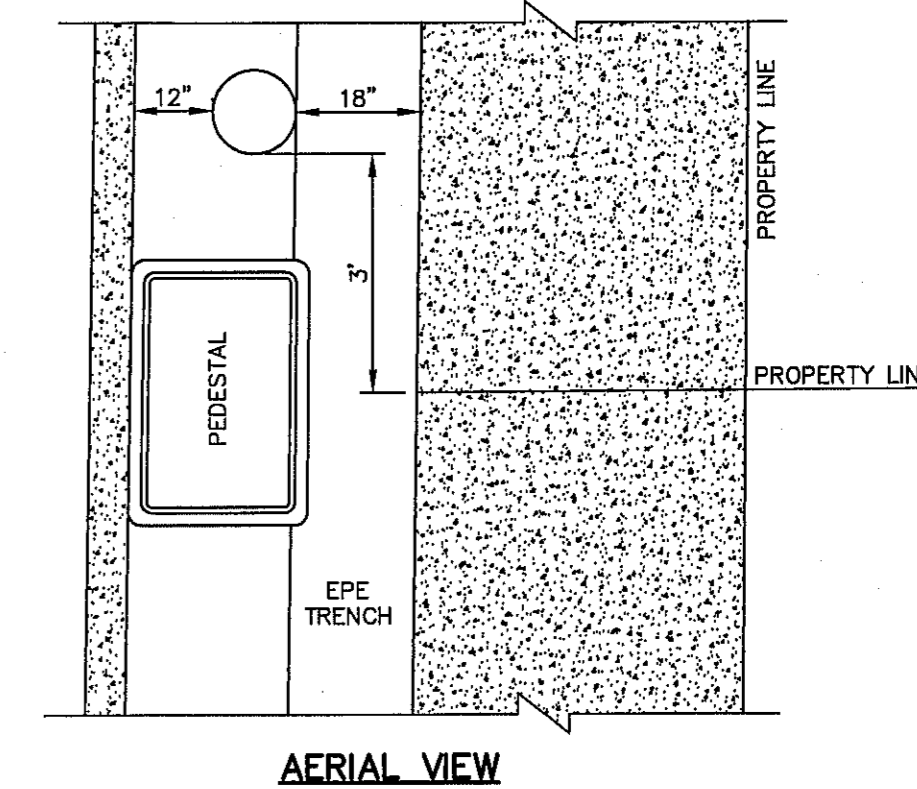
BRACKET MATERIALS TO BE 385 ALUMINUM ALLOY TENSILE STRENGTH 4900 P.S.I.

DIE CAST FREE OF BURRS, PITS, & HOLES

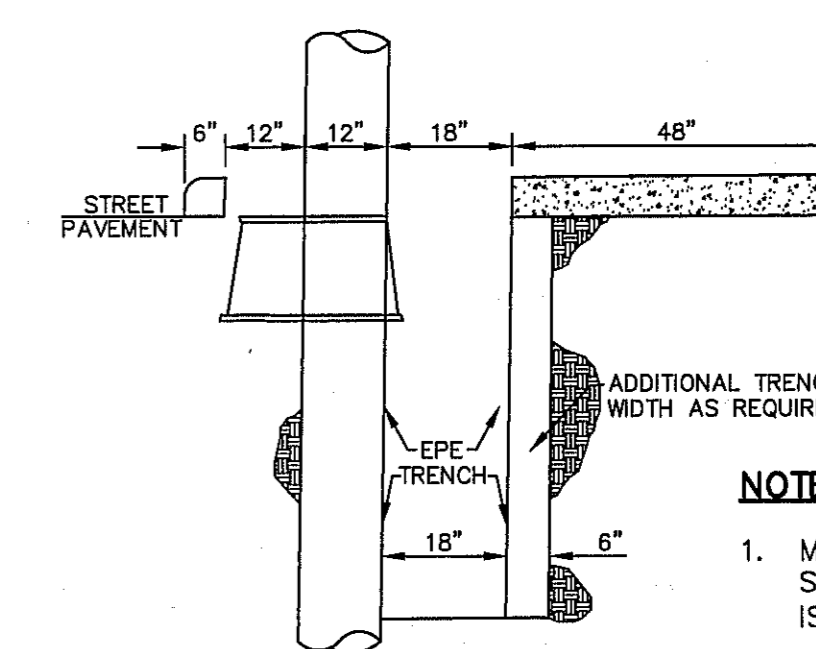


SIGN CLASS	SIGN LENGTH	PRIMARY LETTERS SIZE & SERIES	SUFFIX & BLOCK NUMBER SIZE & SERIES
9"	36"	6" C,D SERIES	4" C SERIES
ARTERIAL STREETS	42"	6" C,D SERIES	4" C SERIES
	48"	6" A,B,C,D SERIES	4" C SERIES

6 LAYOUT FOR 9" STREET NAME SIGNS
SCALE: N.T.S.



AERIAL VIEW



FRONT VIEW

NOTES:

- MINIMUM LOCAL RESIDENTIAL STREET LIGHT POLE DISTANCE IS 12" BEHIND BACK OF CURB.

7 TYPICAL EL PASO ELECTRIC TRENCH LOCATION ON LOCAL RESIDENTIAL STREET
EL PASO ELECTRIC CO. DISTRIBUTION STANDARD

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
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

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09+43.31'E A DISTANCE OF 467.35' FROM THE SOUTHERLY ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY

CSA

TEXAS REGISTERED ENGINEERING FIRM #484
4174 N. MacArthur Blvd. Suite 1100 El Paso, TX 79904
915.544.6322 | www.csaengr.com

ENGINEER'S SEAL

SCALE: Horizontal = 100' Vertical = N/A Contour Interval: N/A

DATE: JUNE 2018
DESIGN BY: J.M.G.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No.: 2000-207

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

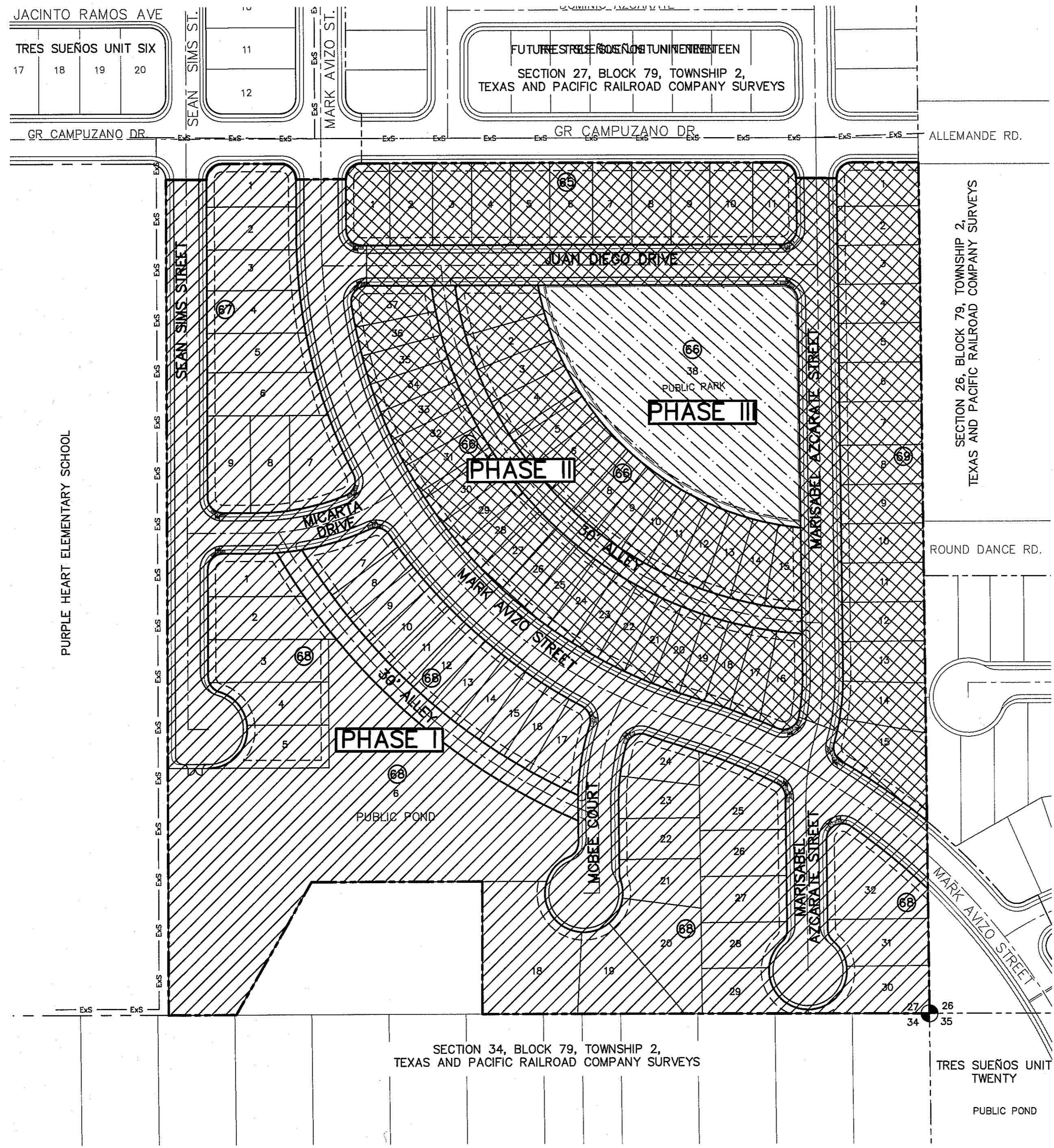
SHEET TITLE

ILLUMINATION & SIGNAGE DETAILS

SHEET NO.

C11.2

S:\2000\2000-207-TRES SUEÑOS UT\DWG5\Construction Drawings\Improvement Plans\C11.3-Construction Phasing Plan.dwg, 8/29/2018 9:08:29 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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AT&T	(800) 852-3786
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WARNING!
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CALL 811
 FOR FIELD LOCATING EXISTING UTILITIES

LEGEND

PHASE I	
PHASE II	
PHASE III	

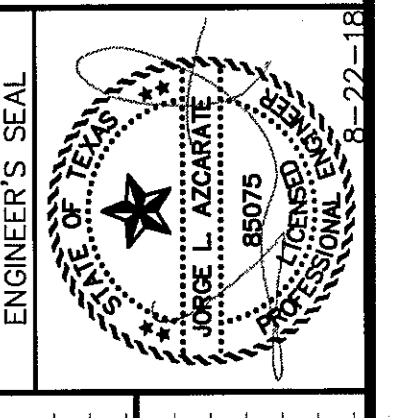
PHASE	AREA (ACRES)	RESIDENTIAL LOTS
PHASE I	12.80	40
PHASE II	8.60	63
PHASE III	1.74	PARK

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF MARK AVIZO AVENUE. ELEVATION = 4605.40 (CITY DATUM).

DATE	REVISIONS	BY

cea
 TEXAS REGISTERED ENGINEERING FIRM #1654
 4712 Industrial Blvd. Ste. F El Paso, TX 79904
 915.544.3221 www.ceagroup.net



SCALE 1" = 100'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JUNE 2018
 DESIGN BY: J.M.
 DRAWN BY: G.J.M.
 CHKD. BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB NO. 2000-207

PROJECT TITLE
 TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS

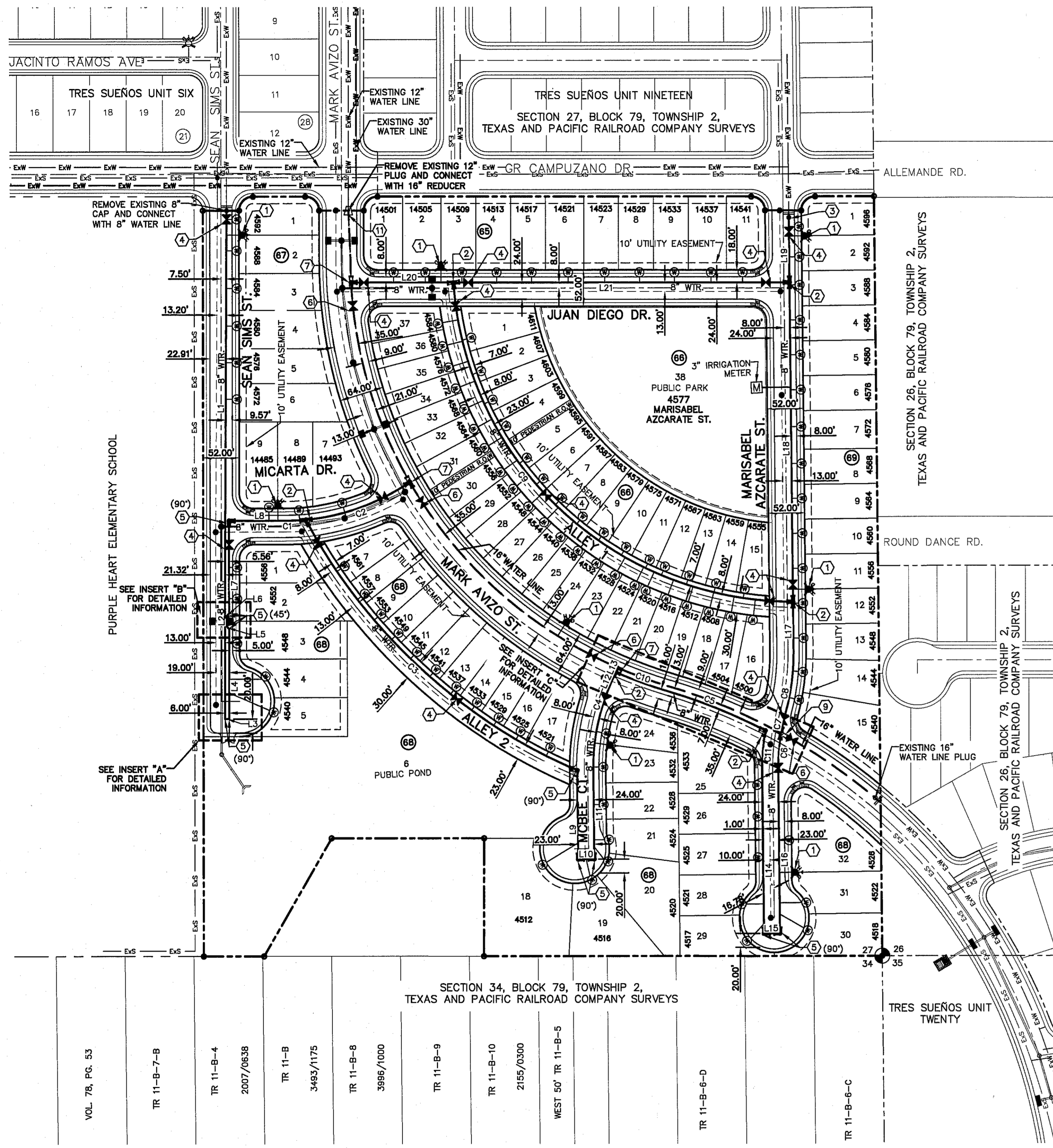
SHEET TITLE
 CONSTRUCTION PHASING PLAN

SHEET NO.



CONSTRUCTION PHASING PLAN
 SCALE: 1" = 100'

C11.3



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	317.00'	30.30'	15.16'	30.29'	S89°41'48"E	005°28'33"
C2	317.00'	160.60'	82.06'	158.89'	N73°03'05"E	029°01'41"
C3	794.00'	539.73'	280.76'	529.40'	S44°20'32"E	038°56'51"
C4	292.00'	126.04'	64.02'	125.06'	S14°50'57"W	024°43'51"
C5	806.00'	150.62'	75.53'	150.40'	N65°15'49"W	010°42'25"
C6	292.00'	52.73'	26.44'	52.66'	S07°39'25"W	010°20'46"
C7	292.00'	30.11'	15.07'	30.10'	S15°47'04"W	005°54'31"
C8	308.00'	87.34'	43.97'	87.05'	S10°36'54"W	016°14'52"
C9	490.00'	736.98'	458.33'	669.45'	N43°42'32"E	086°10'30"
C10	644.00'	80.04'	40.07'	79.99'	N67°03'24"W	007°07'15"
C11	315.00'	57.01'	28.56'	56.93'	N07°40'07"E	010°22'10"

LINE	BEARING	LENGTH
L1	S03°16'38"W	728.24'
L2	S03°02'29"W	15.00'
L3	S86°57'31"E	6.00'
L4	S03°02'29"W	128.37'
L5	S41°57'31"E	4.95'
L6	N48°02'29"E	4.95'
L7	S03°02'29"W	133.00'
L8	S86°57'31"E	80.32'
L9	N02°29'02"E	128.14'
L10	N87°30'58"W	23.00'
L11	N02°29'02"E	129.10'
L12	N27°12'53"E	17.27'
L13	N27°12'53"E	7.00'
L14	S02°29'02"W	235.20'
L15	S87°30'58"W	23.00'
L16	S02°29'02"W	235.20'
L17	S02°29'28"W	71.98'
L18	S02°29'28"W	458.63'
L19	N02°29'28"E	92.94'
L20	S86°56'55"E	147.23'
L21	S86°56'55"E	483.21'

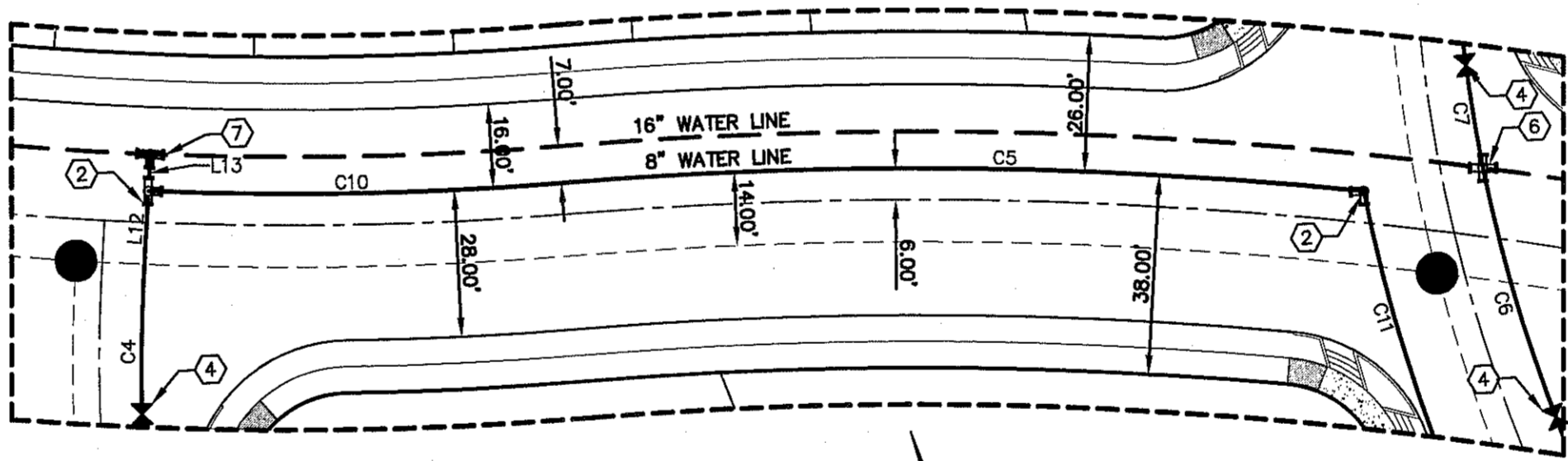
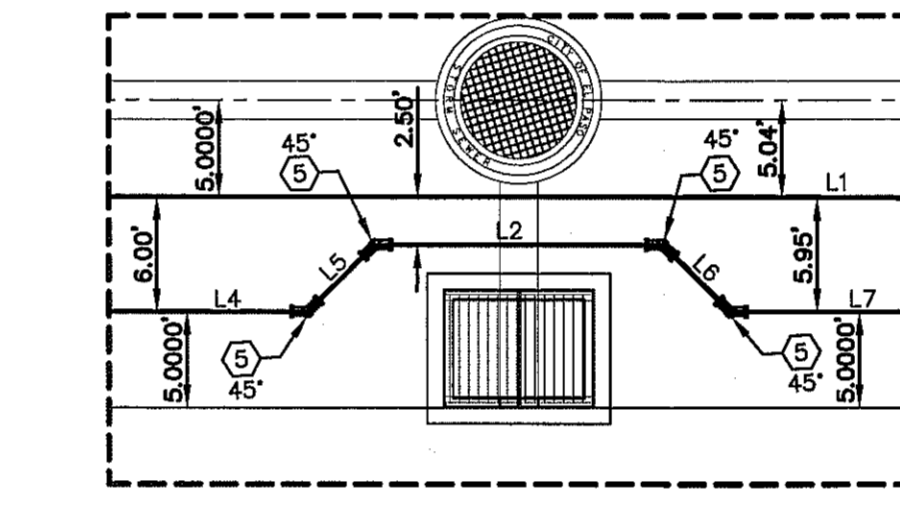
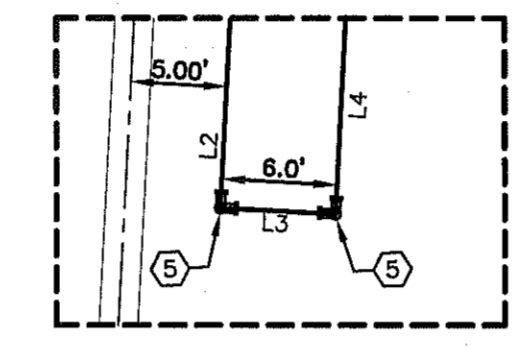
INDEX

SHEET NO.	DESCRIPTION
C12.1	TRES SUEÑOS UNIT 17 WATER MAIN PIPE LAYOUT
C12.2	16" WATER LINE PLAN & PROFILE
C12.3	WATER DETAILS
C12.4	WATER DETAILS
C12.5	WATER DETAILS
C12.6	WATER DETAILS
C12.7	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 150.
 - REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
 - REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	5167	LF
16" PVC WATER LINE	1240	LF
8" GATE VALVE	16	EA
16" GATE VALVE	4	EA
FIRE HYDRANT	8	EA

- | | |
|---|---------------------------|
| ① | FIRE HYDRANT |
| ② | 8" TEE |
| ③ | 8" PLUG |
| ④ | 8" GATE VALVE |
| ⑤ | 8" BEND |
| ⑥ | 16" # B/V |
| ⑦ | 16" X 8" TEE |
| ⑧ | 16" X 8" 90° BEND |
| ⑨ | 16" X 16" X 8" X 8" CROSS |
| ⑩ | 16" PLUG |
| ⑪ | 16" X 12" REDUCER |



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

- 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 INVERT OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS.
 - 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 75245
(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 CORP.
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

EL PASO STREETS:
CITY OF EL PASO
4700 POLLARD ST.
EL PASO, TX 79930
(915) 621-6750

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

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

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

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

WATER INDEX
SCALE: 1"=100'

WATER INDEX SERVICE LOCATION DETAIL
SCALE: N.T.S.

Final Approval

PROJECT TITLE
TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER INDEX

SHEET NO.
C12.1

INDEX

REFERENCES - BENCHMARKS:
BENCHMARK IS CITY MONUMENT AT POINT OF INTERSECTION OF 467.98 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION = 4005.40 (CITY DATUM).

BY:

DATE:

REVISIONS:

SCALE:
Horizontal: 1"=100'
Vertical: N/A
Contour Interval: N/A

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.

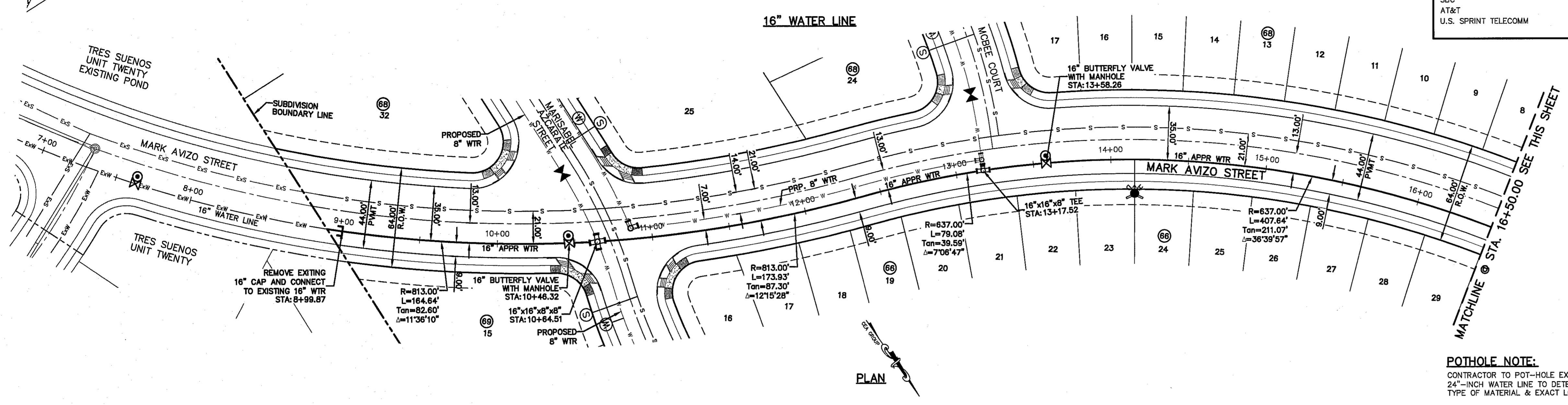
JOB NO.: 2000-2017

ENGINEER'S SEAL:
JORGE L. AZCARATE
P.E.
4712 WOODROW BEAN, Ste. F, EL PASO, TX 79924
915.544.5232
www.ceagroup.net

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
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

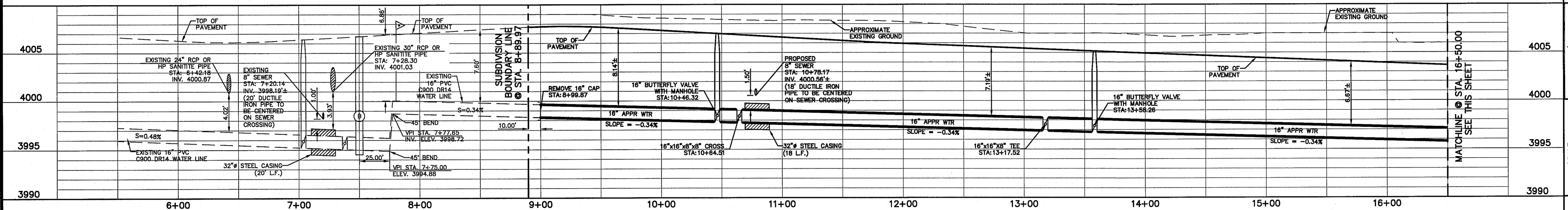
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



- LEGEND:**
- PROPOSED STORM SEWER LINE
 - PROPOSED WATER LINE
 - PROPOSED 16" WATER MAIN
 - PROPOSED SEWER LINE
 - PROPOSED TEE CONNECTION
 - PROPOSED PLUG
 - PROPOSED GATE VALVE
 - PROPOSED FIRE HYDRANT
 - BLOW-OFF VALVE WITH MANHOLE
 - BUTTERFLY VALVE WITH MANHOLE
 - PROPOSED COMBINATION AIR/VACUUM VALVE
 - EXISTING WATER LINE
 - EXISTING SEWER LINE

POTHOLE NOTE:
CONTRACTOR TO POT-HOLE EXISTING 24"-INCH WATER LINE TO DETERMINE DEPTH, TYPE OF MATERIAL & EXACT LOCATION.



ENGINEER'S SEAL

SCALE: 1"=40'

Horizontal: 1"=50'

Vertical: 1"=5'

Contour Interval: N/A

DATE: JUNE 2018

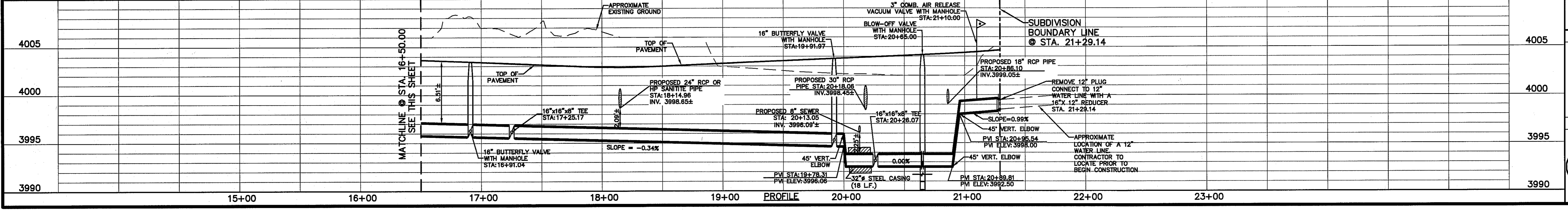
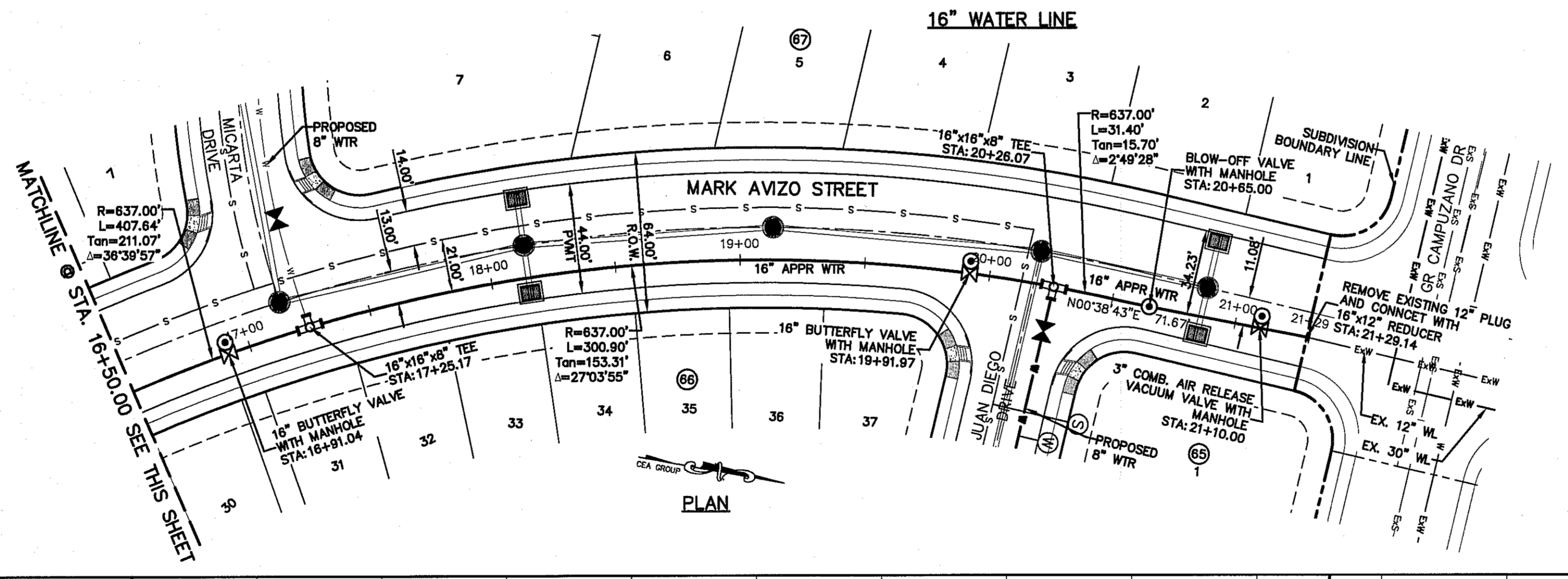
DESIGN BY: J.M.

DRAWN BY: G.J.M.

CHKD. BY: J.L.A.

APP. NO. B: J.L.A.

JOB NO.: 2000-207



PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**16" WATER LINE
PLAN & PROFILE
FROM
STA: 8+89.97
TO STA: 21+29.14**

SHEET NO.

C12.2

GENERAL NOTES:
 1. REFERENCE CENTERLINE SHALL BE CENTERLINE OF RIGHT OF WAY.
 2. WATER LINES SHALL BE LOCATED ON NORTH OR EAST SIDES OF DEDICATED STREETS OR ALLEYS.
 3. SEWER LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.
 4. 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:

PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY			
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:
 1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 3. 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 EPWJ. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.

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

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"

PIPE DIAMETER	"W"
6" - 30"	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:
 1. ALL ASPHALT CUTS MUST BE SAW CUT.
 2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

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

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

3 PAVEMENT REPLACEMENT SCALE: N.T.S.

GENERAL NOTES:
 1. REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
 2. 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:
 1. VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
 2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
 3. 6" DIA. MINIMUM WITRIFIED CLAY OR SDR 35 P.V.C. PIPE. PIPE SHALL NOT REST ON VALVE BODY.
 4. 1/4" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS 1/2".
 5. MINIMUM 2" CONCRETE OR BRICK ALL AROUND.
 6. CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
 7. COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS. VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
 A. BONNET BOX (SEE DETAIL 268).
 B. BONNET BOX COVER (SEE DETAILS 269-1 & 269-2).
 C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOUT).
 D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).
 E. CONCRETE COLLAR (SEE DET 184-1) FLUSH WITH TOP OF H.M.A.C.
 F. BONNET BOX FLUSH WITH TOP OF CONCRETE. CONCRETE COLLAR NOT NEEDED.
 G. 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:
 1. TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
 2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
 3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
 4. THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
 5. SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
 6. KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
 7. BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
 8. 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:
 A. LENGTH "Y" & "W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
 B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
 C. 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
 BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S0843317E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY CURVE CENTERLINE TO THE BENCHMARK. ELEVATION = 4005.40 (CITY DATUM).

ENGINEER'S SEAL
 TEXAS REGISTERED ENGINEERING FIRM # 684
 4712 W. WILLOW AVE. SUITE F EPOSO, TX 79624
 915.544.8282 | www.eposowater.com

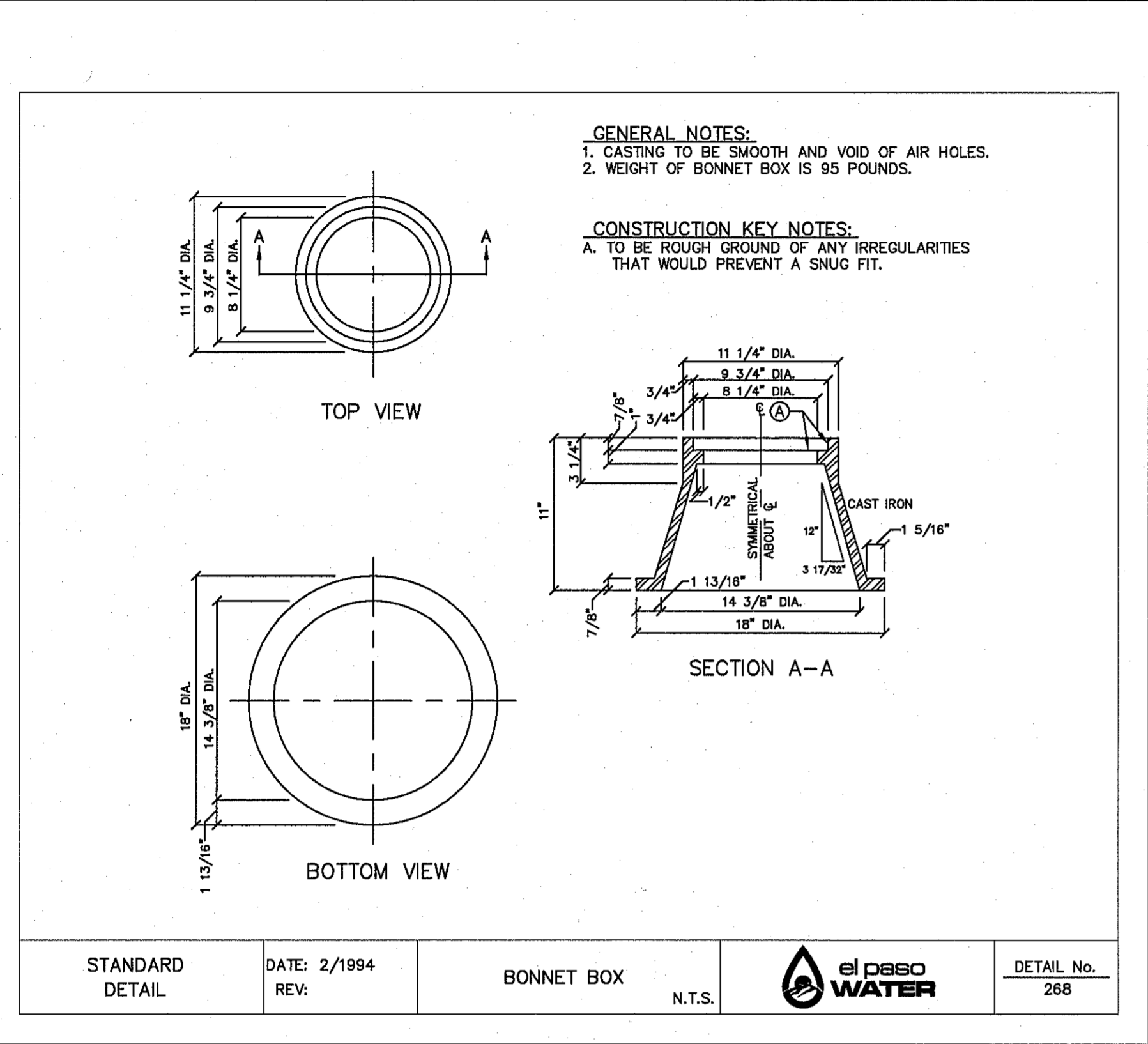
SCALE: N/A
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JUNE 2018
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 APP'D. BY: J.L.A.
 JOB NO. 2000-2017

PROJECT TITLE
 TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS

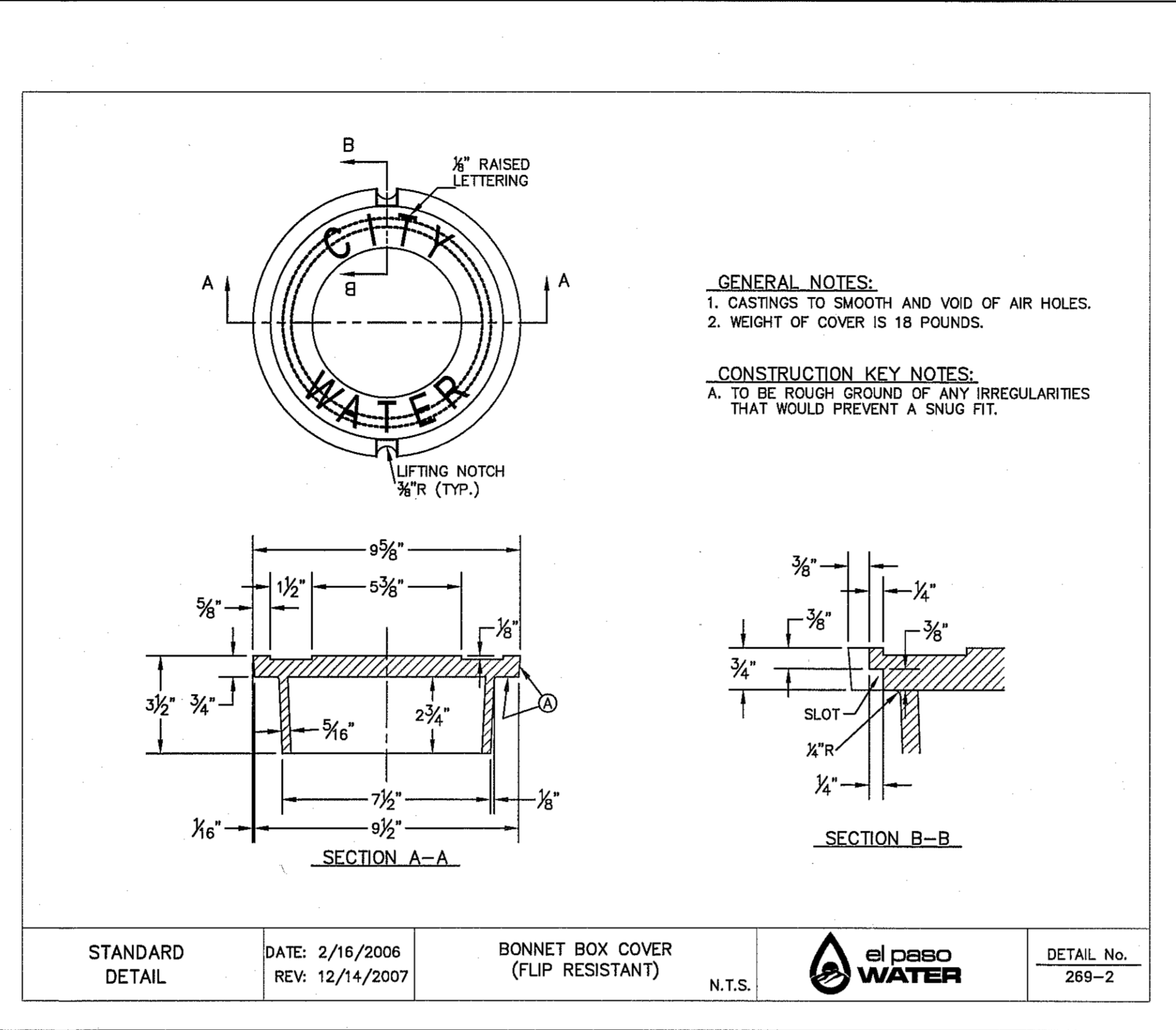
SHEET TITLE
 WATER DETAILS
 (SHEET 1 OF 5)
 SHEET NO.
 C12.3

Final Approval

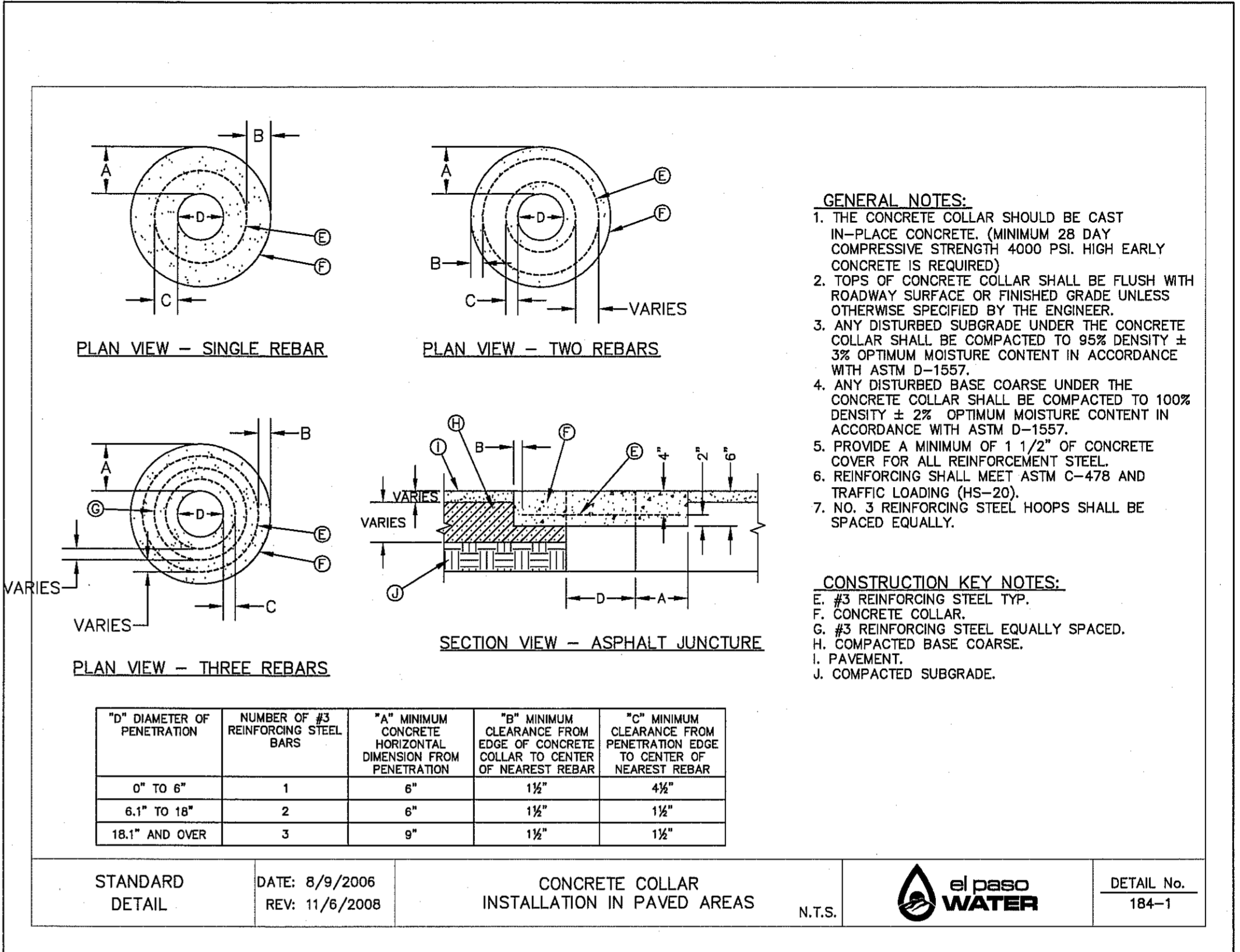
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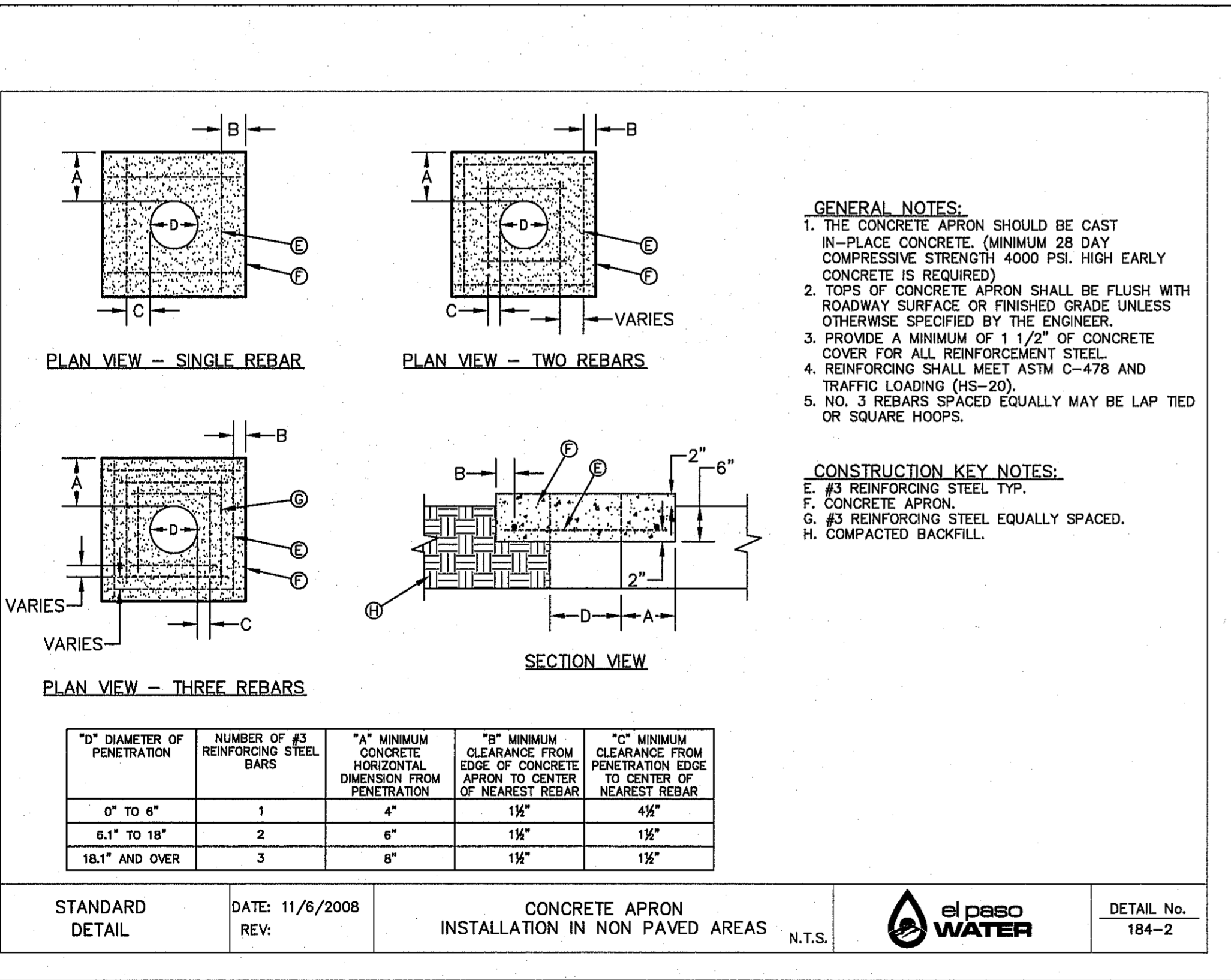
1 BONNET BOX
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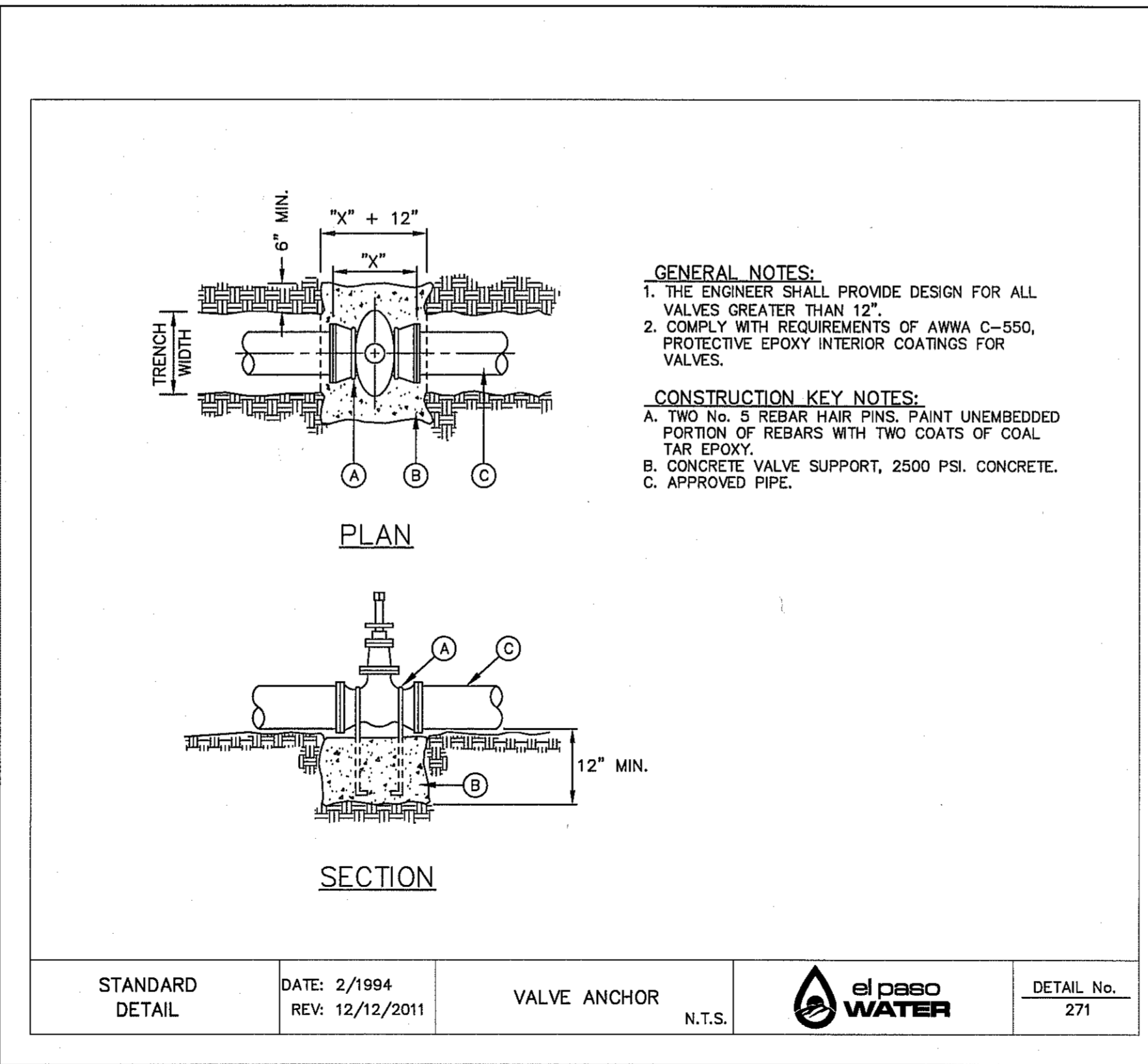
2 BONNET BOX COVER
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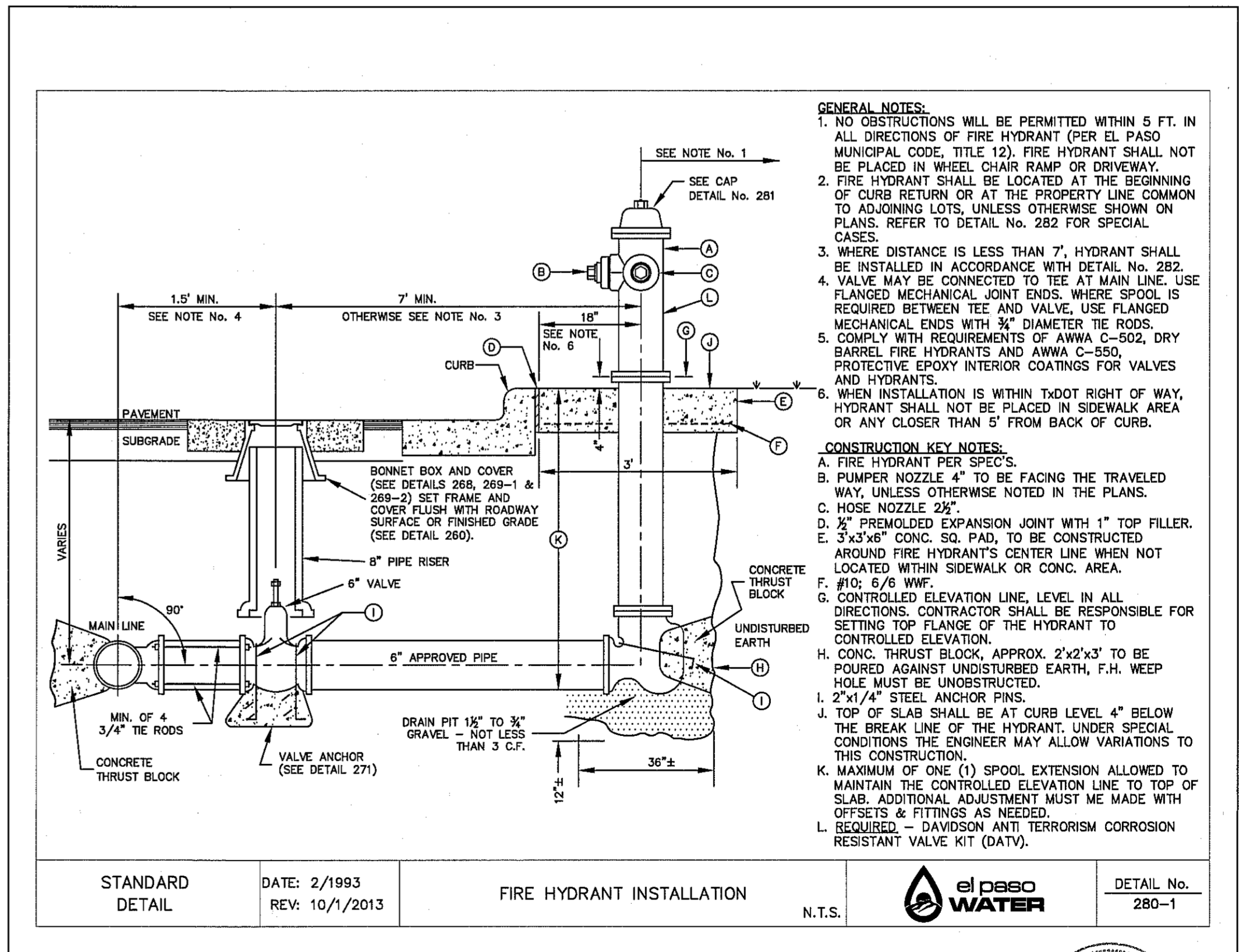
3 CONCRETE COLLAR INSTALLATION IN PAVED AREAS
SCALE: N.T.S.



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
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S0843337E JUST N.W. CORNER FROM THE SOUTHERLY RIGHT OF WAY LINE OF METAMORPHOSE ELEVATION = 4005.40 (CITY DATUM).
DATE _____ BY _____
REVISIONS _____

ENGINEER'S SEAL
JAMES A. WOODSON
PROFESSIONAL ENGINEER
No. 88075
Exp. 12/31/2024
4772 Woodrow Boon, Ste. F, El Paso, TX 79924
915.544.6321 | www.csgroup.net

SCALE: N/A
Vertical: N/A
Horizontal: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.H.M.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No. 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

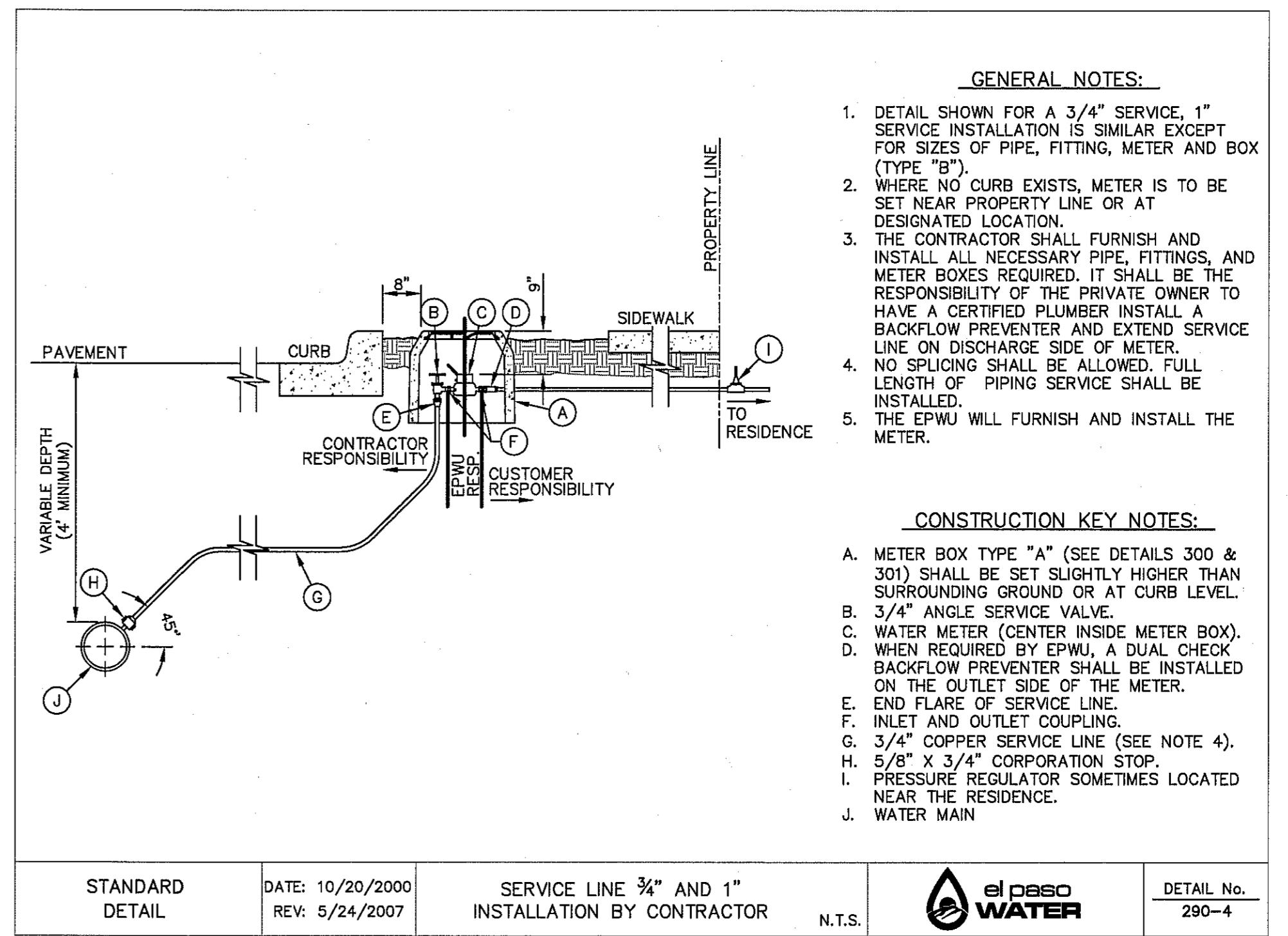
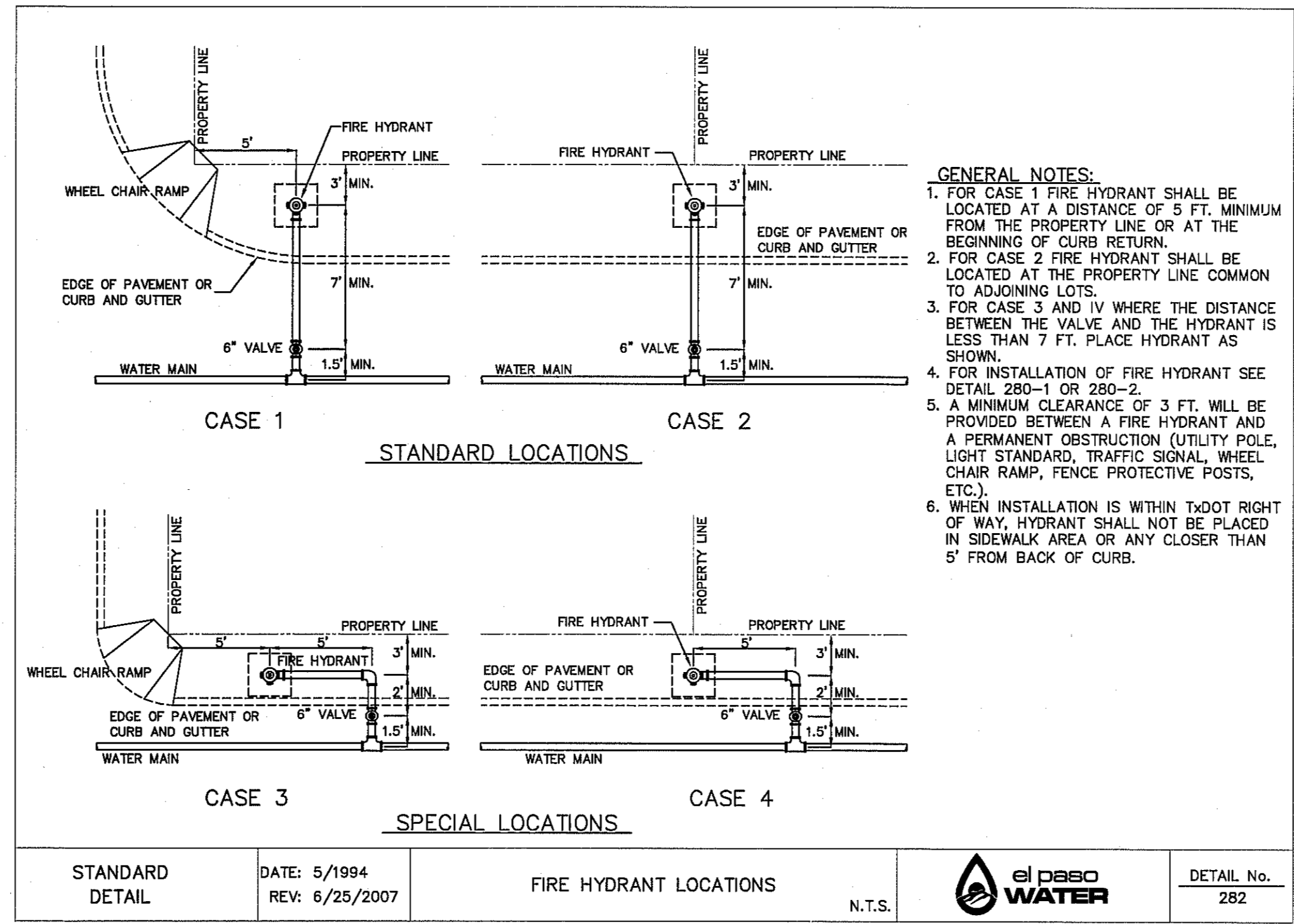
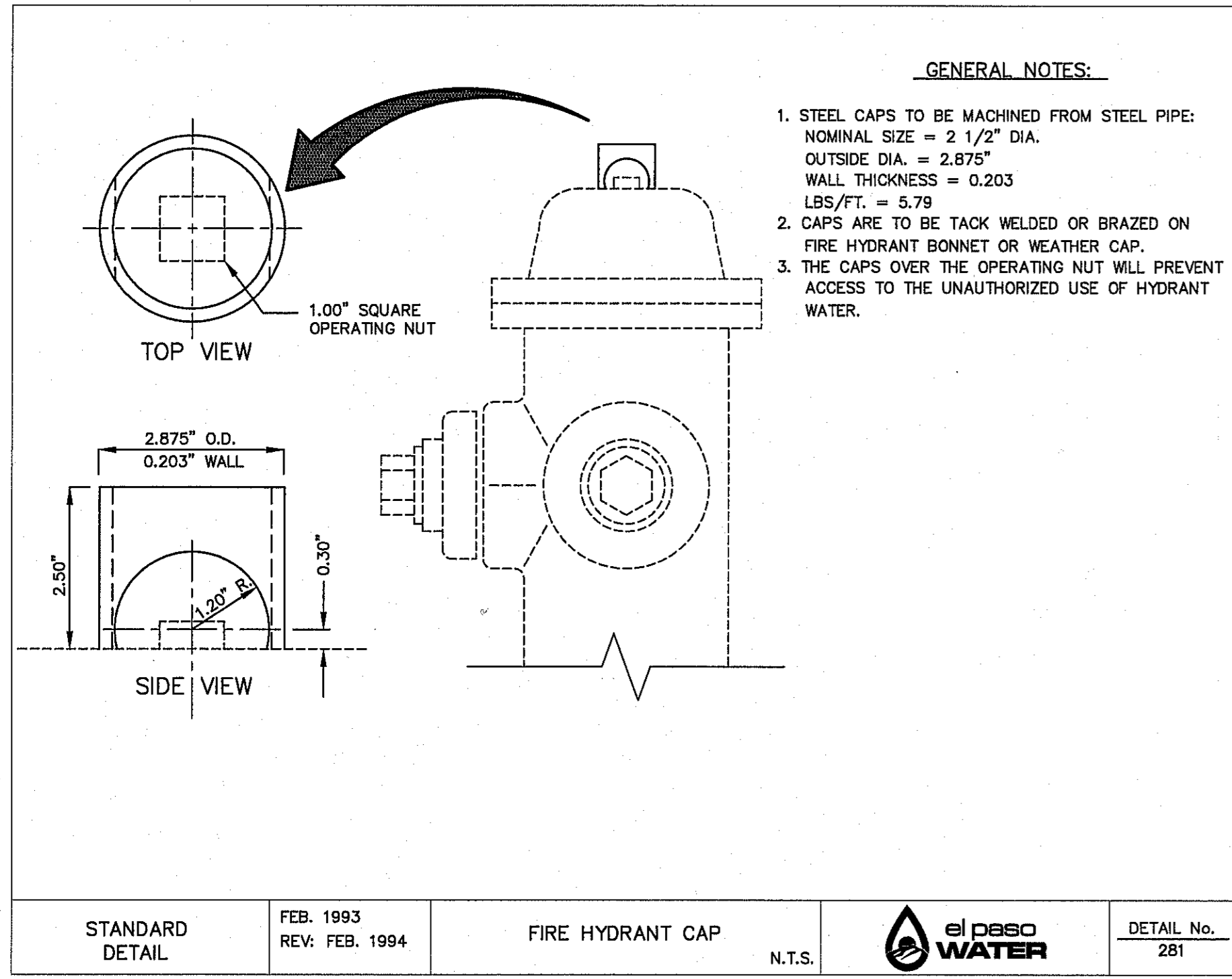
SHEET TITLE
**WATER
DETAILS**

(SHEET 2 OF 5)
SHEET NO.

C12.4

Final Approval

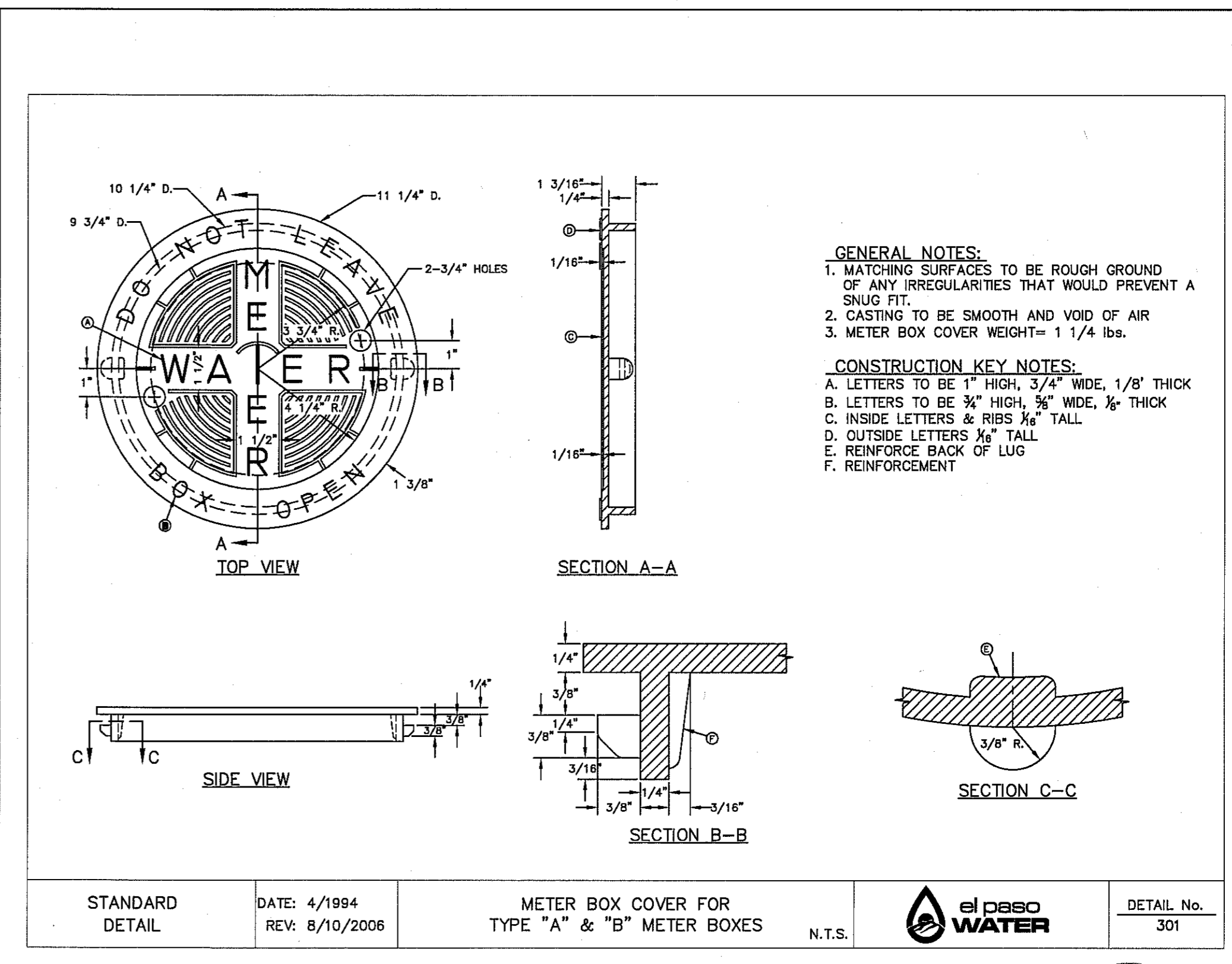
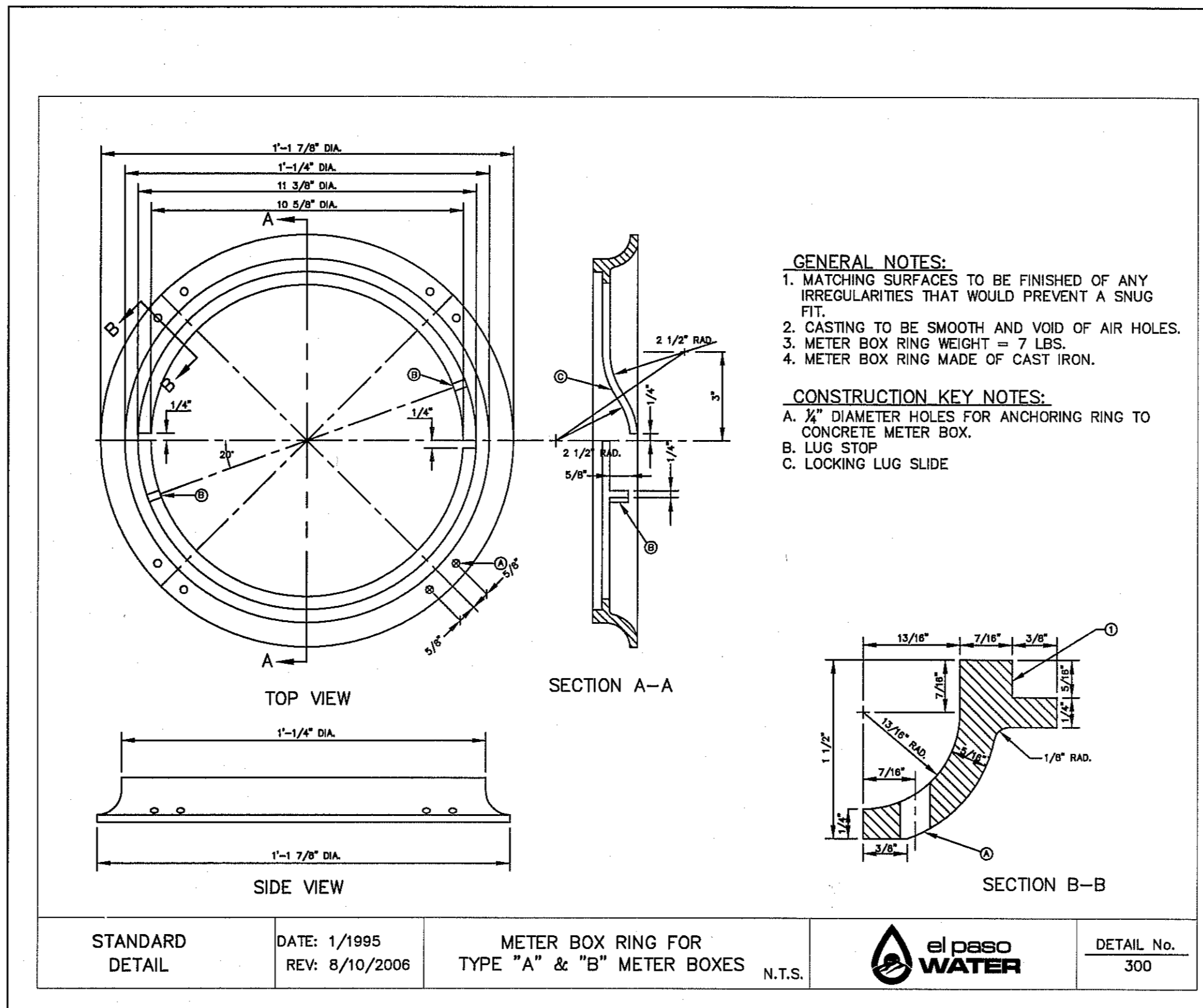
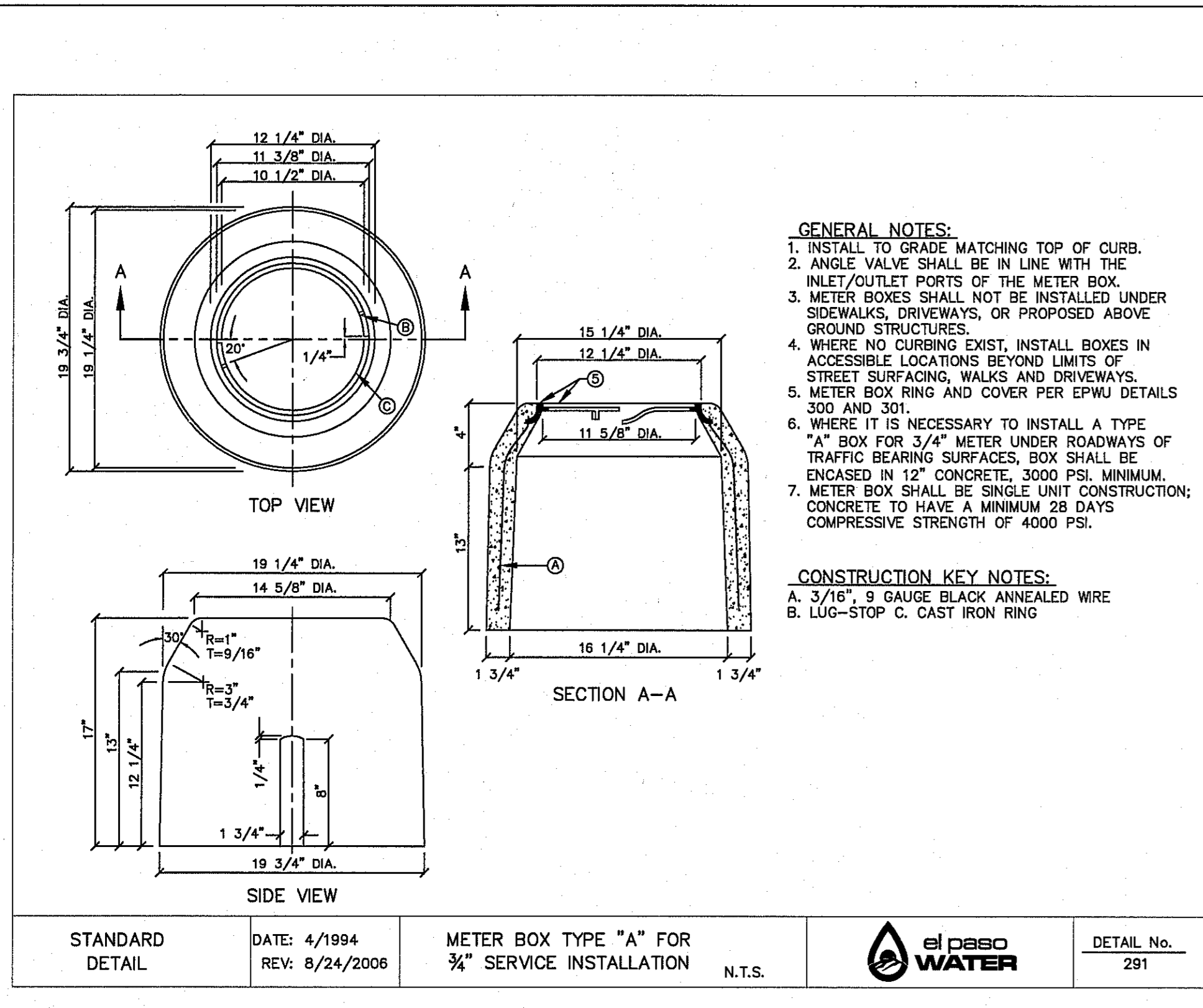
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1 FIRE HYDRANT CAP
SCALE: N.T.S.

2 FIRE HYDRANT LOCATIONS
SCALE: N.T.S.

3 SERVICE LINE 3/4" AND 1" INSTALLATION
SCALE: N.T.S.



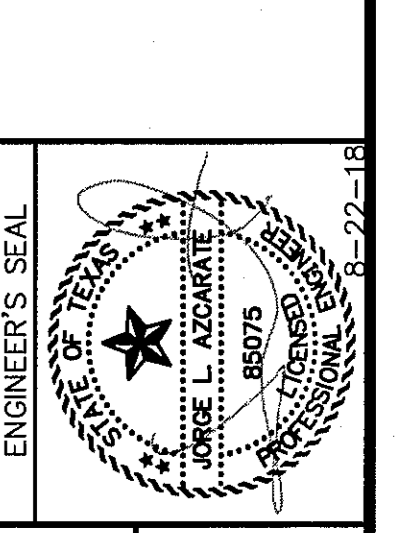
4 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION
SCALE: N.T.S.

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

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

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084331'E A DISTANCE OF 467.59 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. ELEVATION = 4668.46 (CITY DATUM).
DATE _____ BY _____
REVISIONS _____

osa
REGISTERED ENGINEERING FIRM #4664
4712 Woodrow Bean, Ste. F El Paso, TX 79924
916.544.3232 | www.osaengineer.com



SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-207

PROJECT TITLE
**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

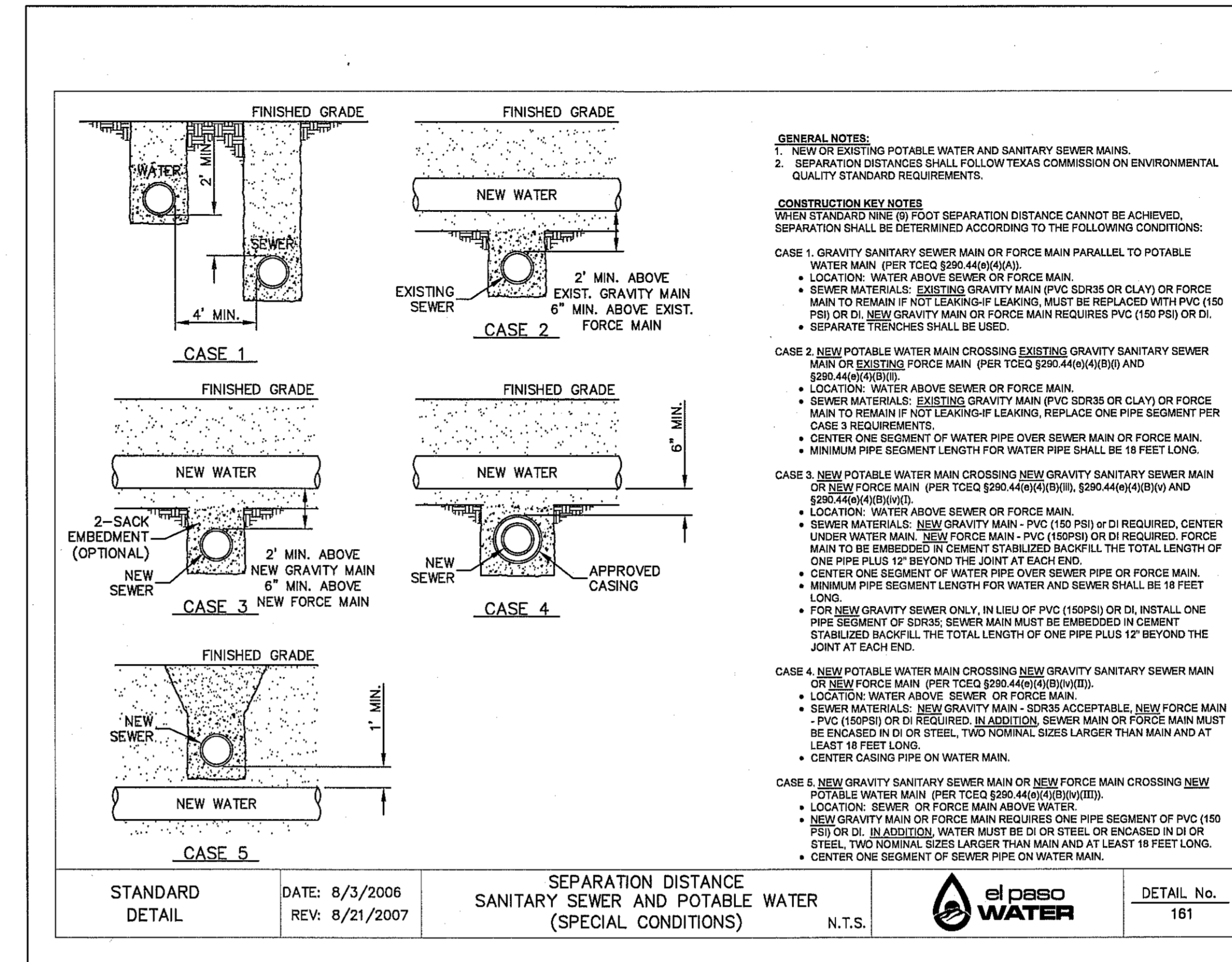
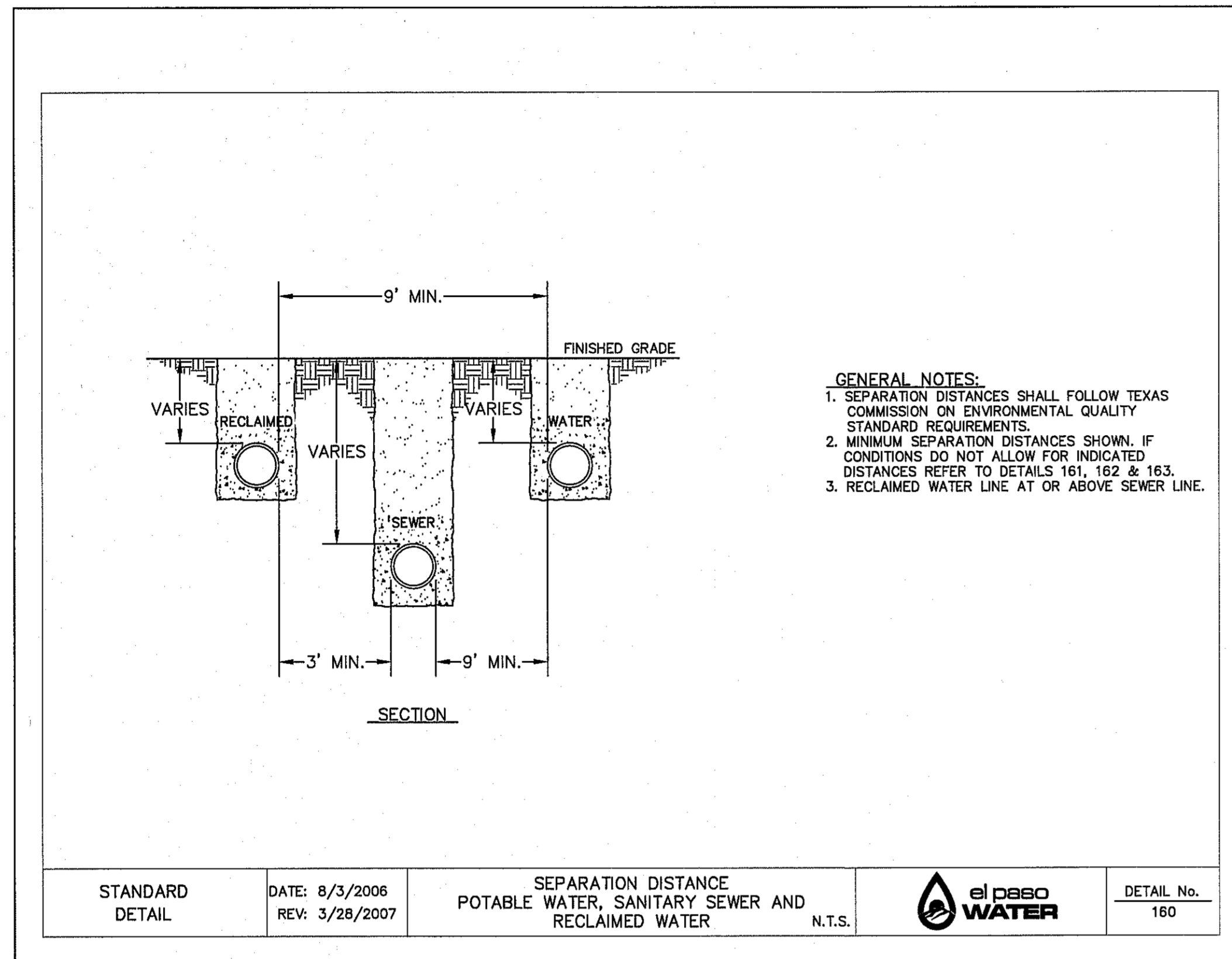
SHEET TITLE
**WATER
DETAILS**

(SHEET 3 OF 5)
SHEET NO.

C12.5

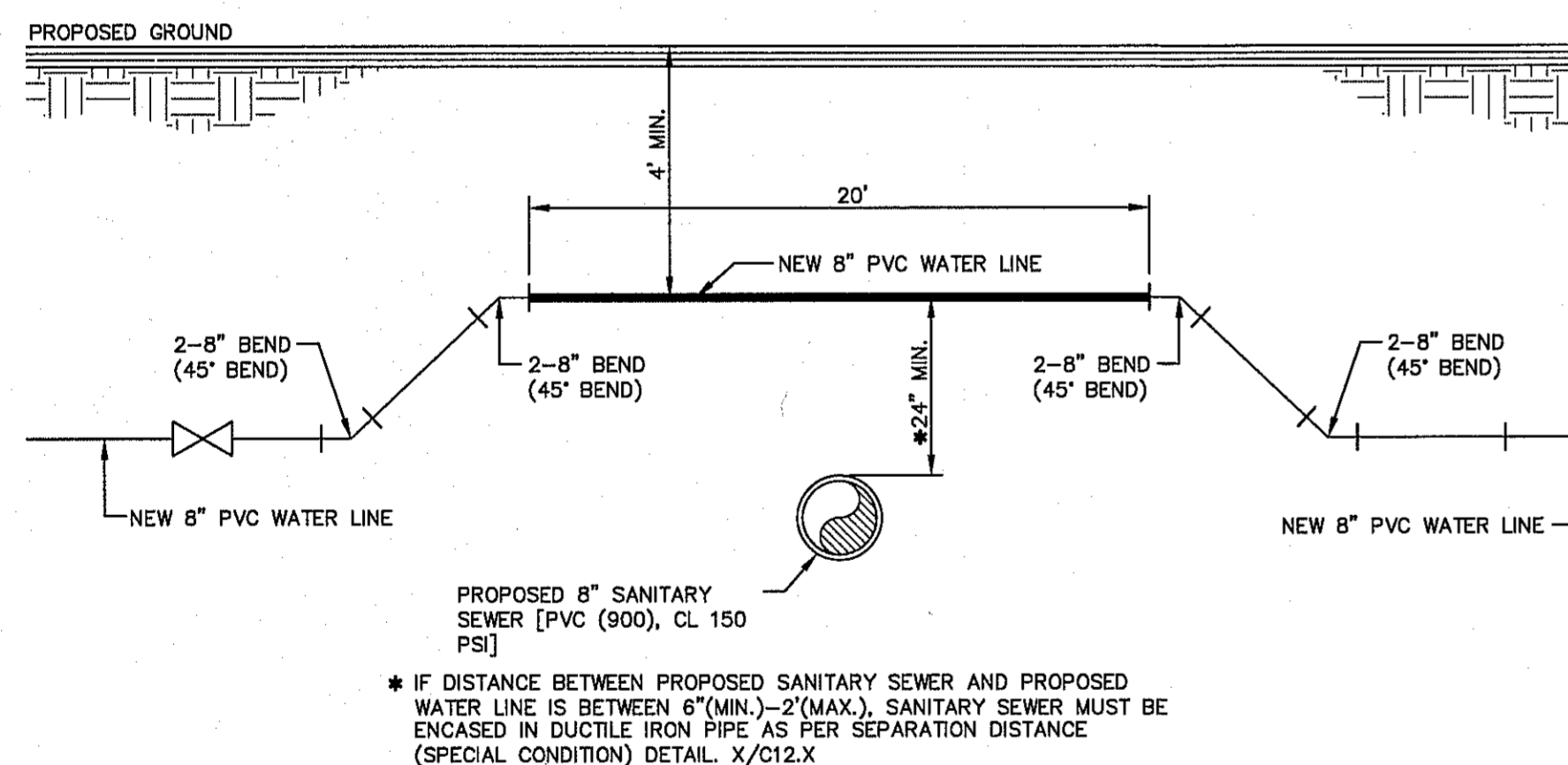


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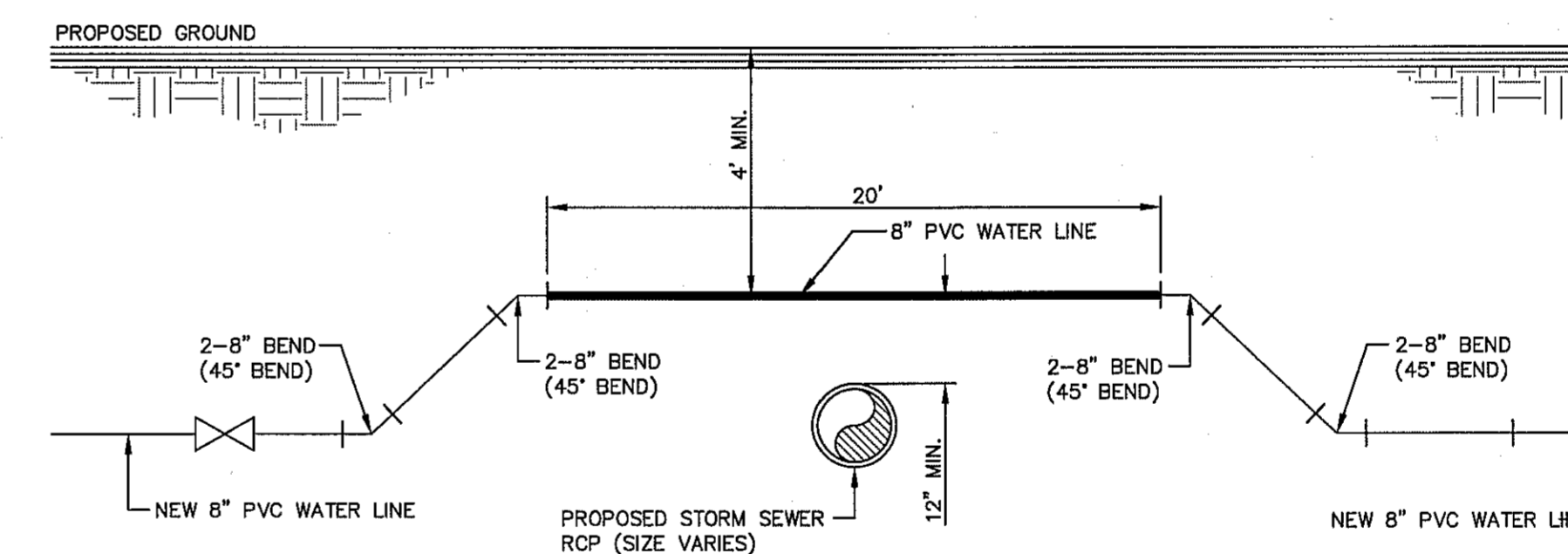


1 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER
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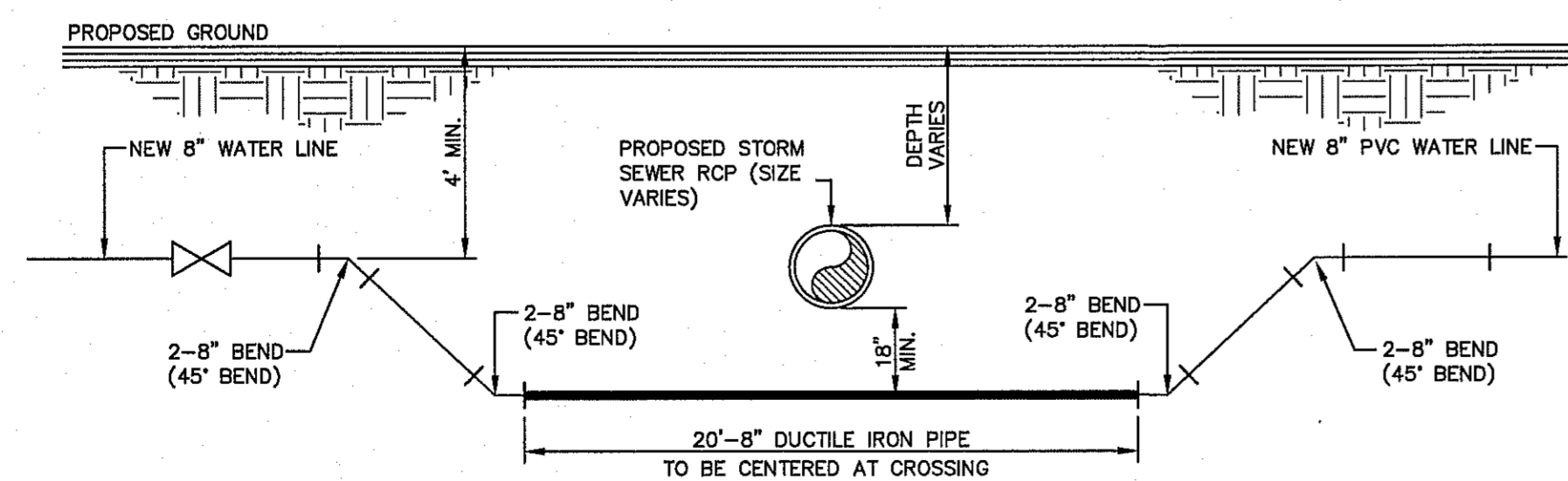
2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
 SCALE: N.T.S.



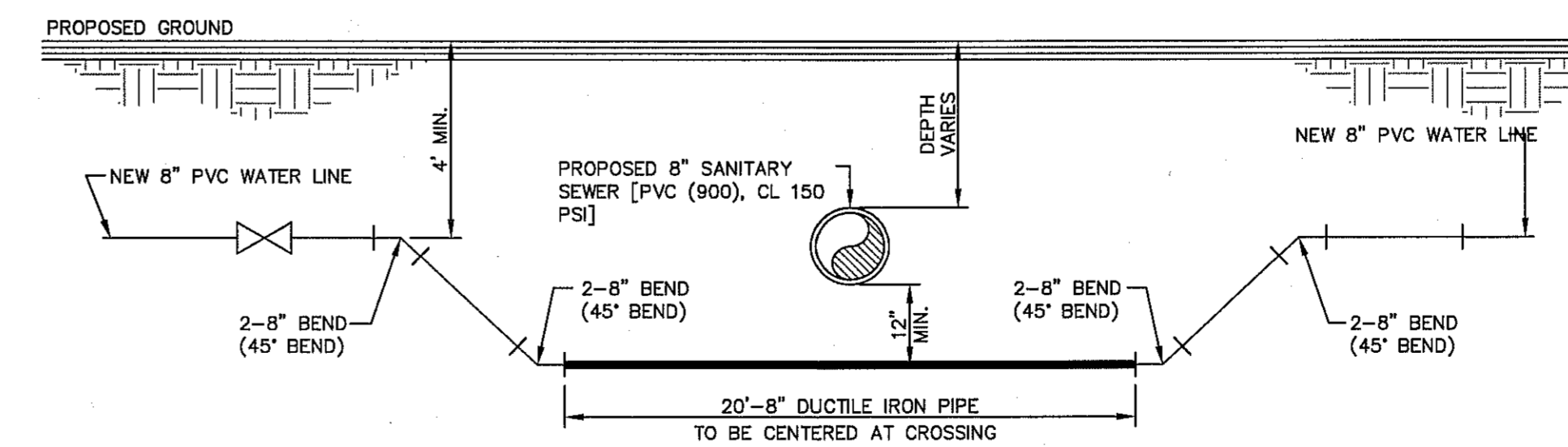
3 WATER LINE OVER SANITARY SEWER CROSSING DETAIL
 SCALE: N.T.S.



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



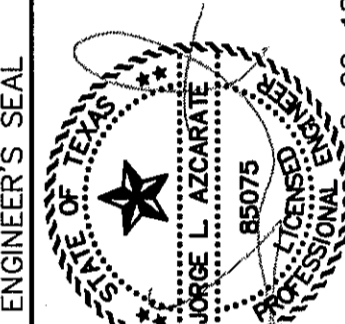
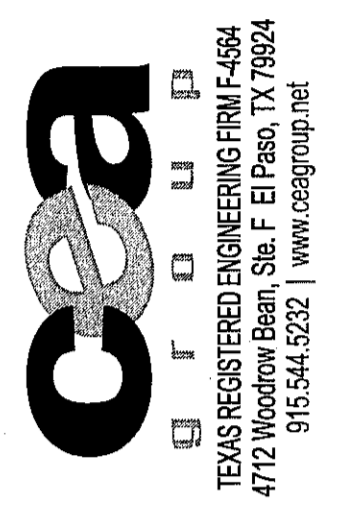
5 WATER LINE UNDER STORM SEWER CROSSING DETAIL
 SCALE: N.T.S.



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

REFERENCES — BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEN BLVD., S90°43'31"E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF AN IRREGULAR CURVE.	DATE	BY
ELEVATION = 4005.40 (CITY DATUM).		



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	J.M.
DRAWN BY	G.J.M.
CHECK BY	J.L.A.
APP. NO.	BY
JOB No.	2009-2017

PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

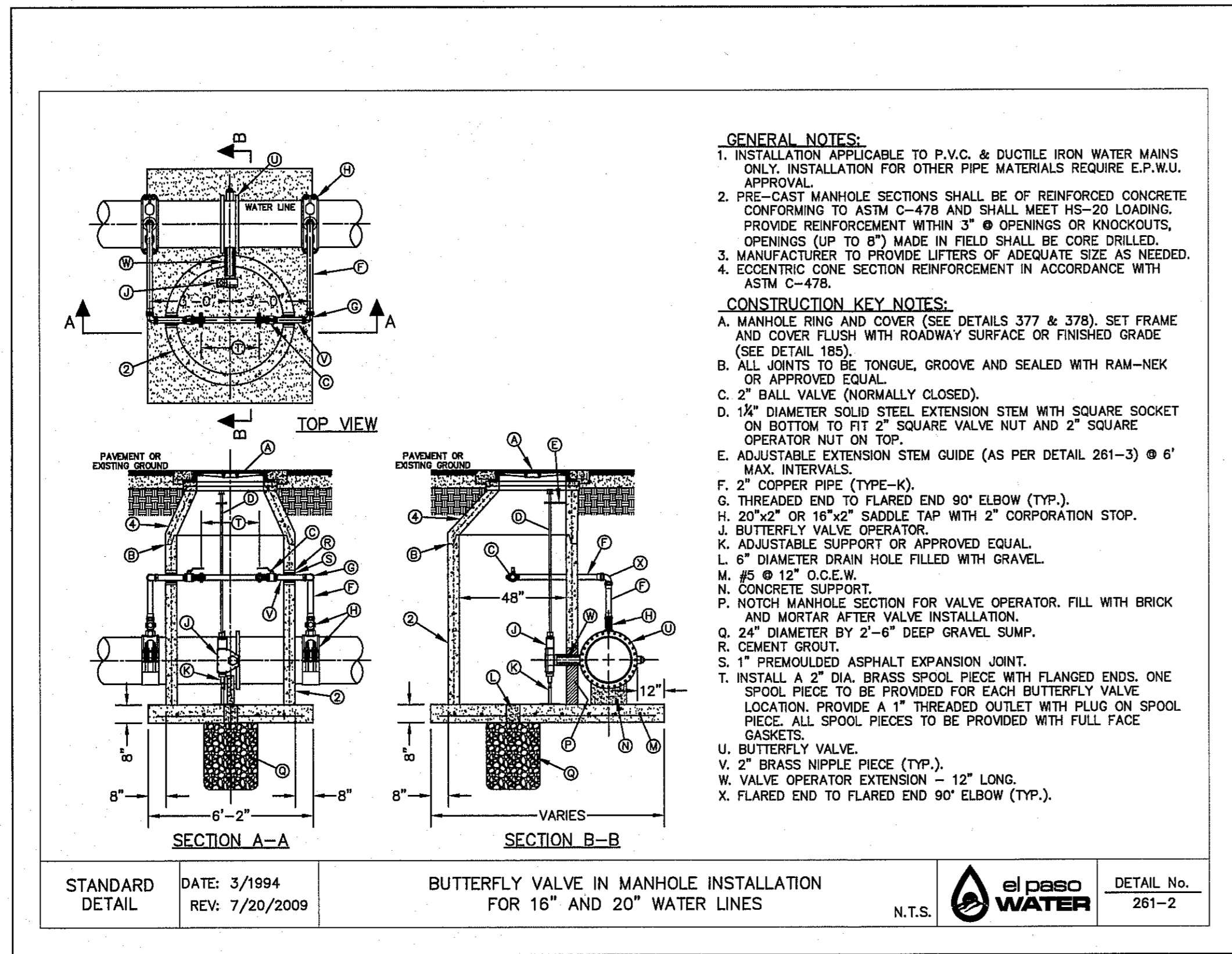
WATER DETAILS

(SHEET 4 OF 5)
 SHEET NO.

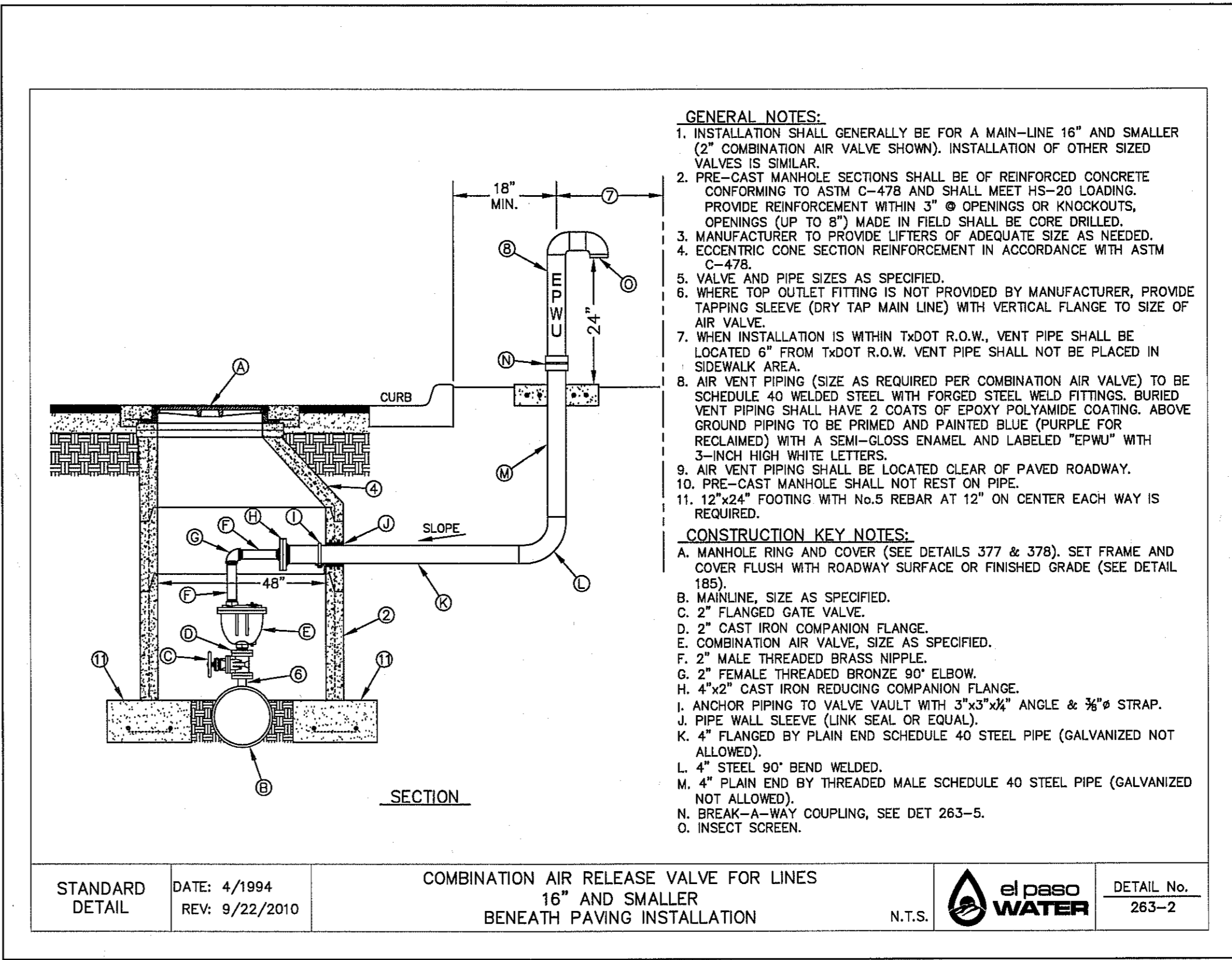
C12.6



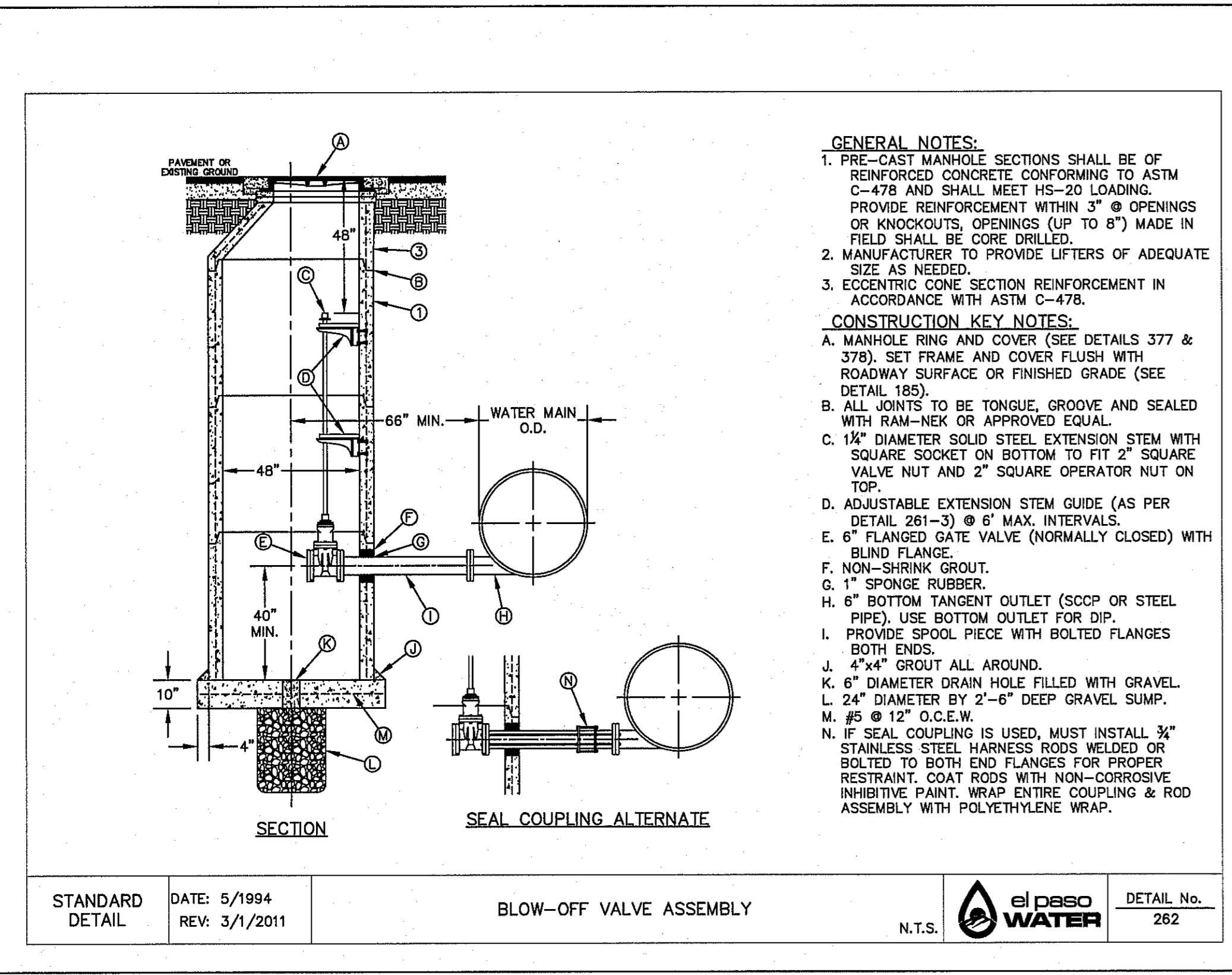
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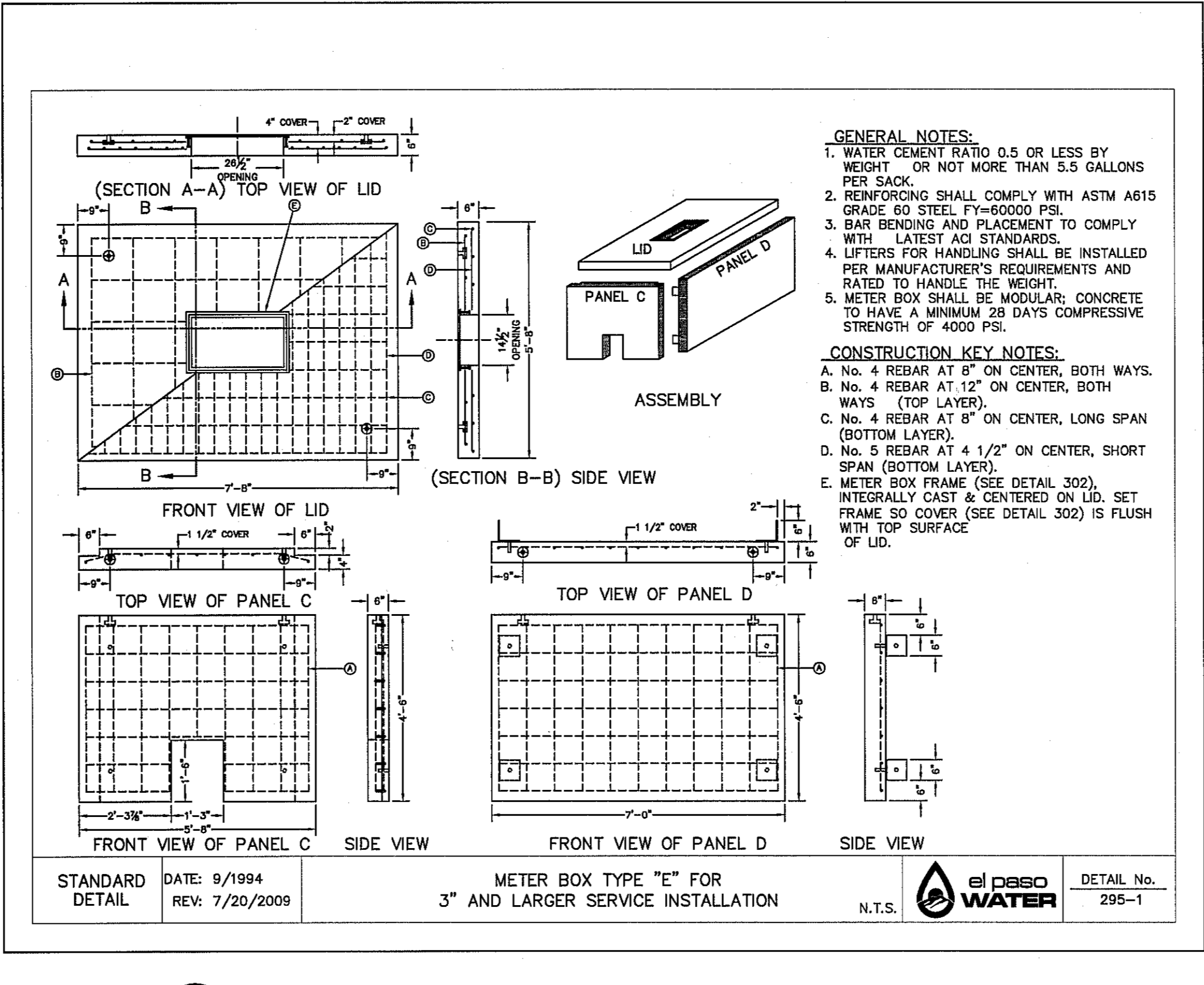
1 BUTTERFLY VALVE IN MANHOLE INSTALLATION FOR 16" AND 20" WATER LINES SCALE: N.T.S.



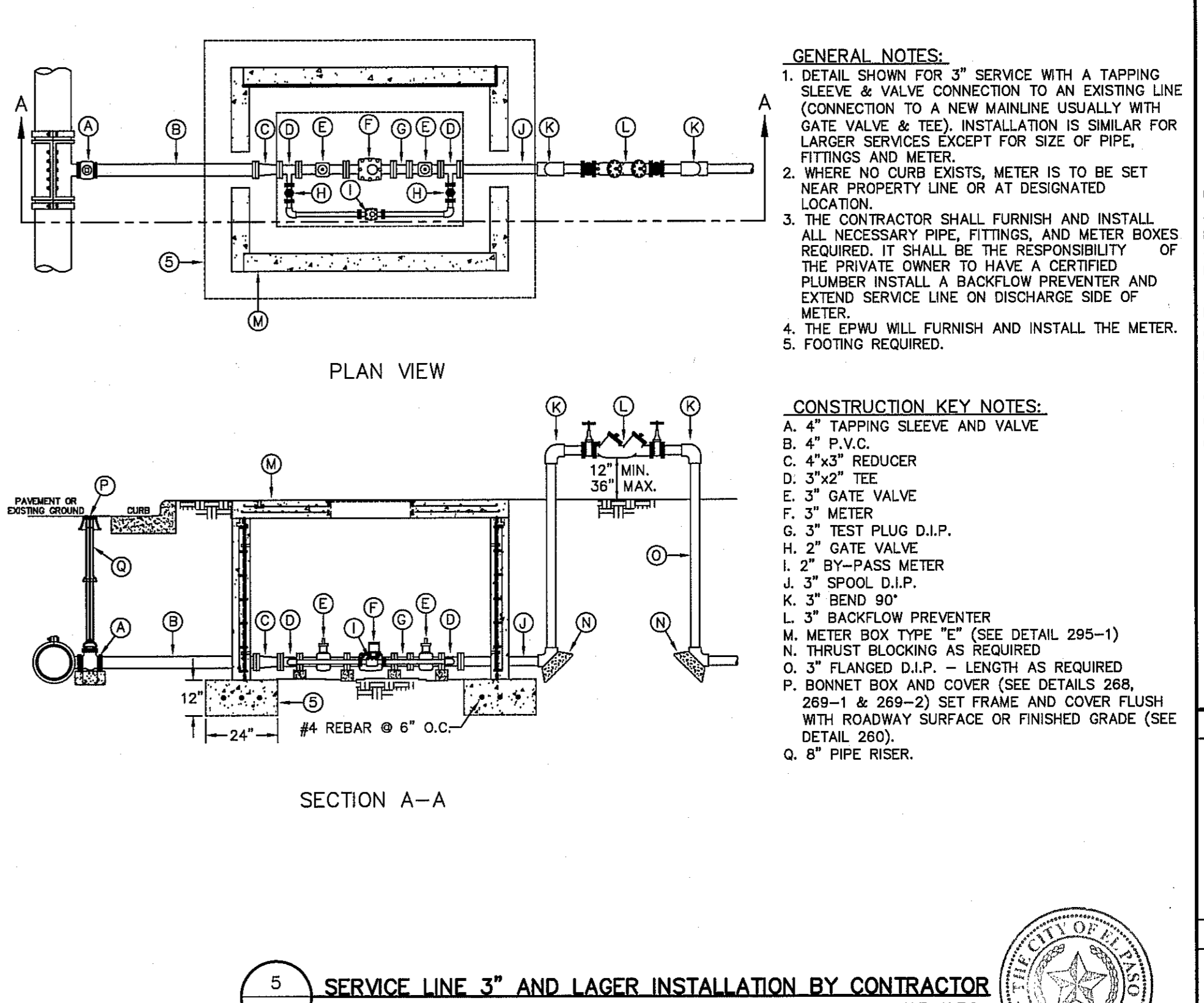
2 COMBINATION AIR RELEASE VALVE FOR LINES 16" AND SMALLER BENEATH PAVING INSTALLATION SCALE: N.T.S.



3 TYPICAL BLOWOFF ASSEMBLY DETAIL SCALE: N.T.S.



4 METER BOX TYPE "E" FOR 3" AND LARGER SERVICE INSTALLATION SCALE: N.T.S.



5 SERVICE LINE 3" AND LARGER INSTALLATION BY CONTRACTOR SCALE: N.T.S.

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 508'43.31'E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF RICH BEEM BLVD. AT THE SOUTHERLY ELEVATION = 4805.40 (CITY DATUM).

DATE _____ BY _____

REVISIONS _____

TECHNICAL STAMP: J. L. AZAROVITZ, P.E., 5878, 4712 W. BEEM BLVD., SUITE 100, FORT WORTH, TX 76104, 817.341.3321, www.epwu.com

ENGINEER'S SEAL: J. L. AZAROVITZ, P.E., 5878, 4712 W. BEEM BLVD., SUITE 100, FORT WORTH, TX 76104, 817.341.3321, www.epwu.com

SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: JUNE 2018

DESIGN BY: J.M.

DRAWN BY: G.J.M.

CHKD. BY: J.L.A.

APP'D. BY: J.L.A.

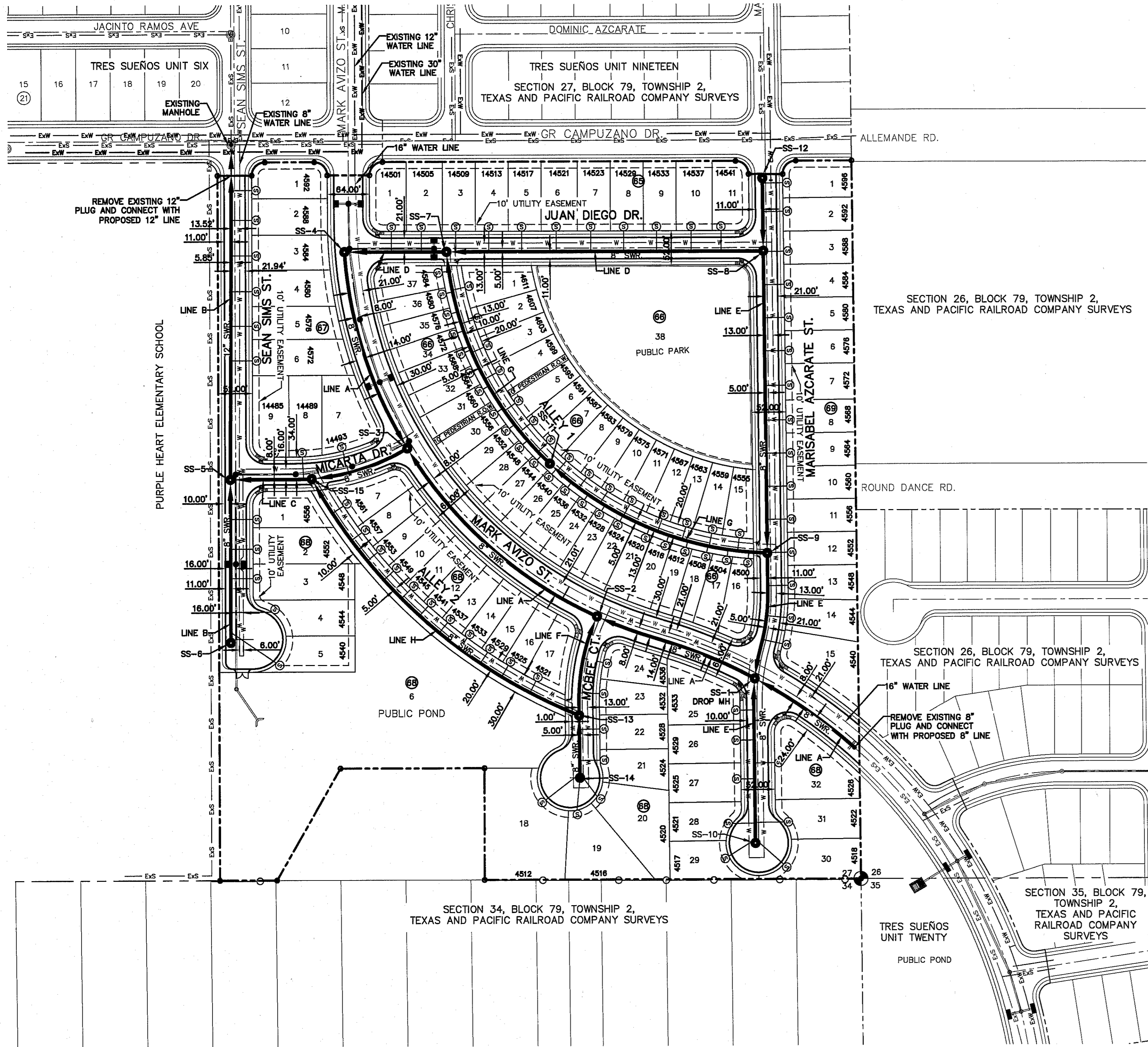
JOB No. 2000-207

PROJECT TITLE: TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE: WATER DETAILS (SHEET 5 OF 5) SHEET NO. C12.7

Final Approval

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INDEX

SHEET NO.	DESCRIPTION
C13.1	TRES SUEÑOS UNIT SEVENTEEN LEGEND INDEX / GENERAL INFORMATION
C13.2	LINE A & H
C13.3	LINE B, C & D
C13.4	LINE E & F
C13.5	LINE G
C13.6	SANITARY SEWER DETAILS
C13.7	SANITARY SEWER DETAILS
C13.8	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/PSS RULES AND REGULATIONS AND DESIGN STANDARDS.
 - REFERENCE SANITARY SEWER DETAILS FOR SEWER CROSSINGS AT STORM SEWER.

LEGEND

SYMBOL	DESCRIPTION
	PROPOSED STORM SEWER
	EXISTING WATER LINE
	EXISTING SEWER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
	PROPOSED WATER LINE
	PROPOSED SEWER LINE (PLAN VIEW)
	PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
	PROPOSED SEWER LINE (PROFILE VIEW)
	PROPOSED MANHOLE (PLAN VIEW)
	PROPOSED SERVICE CONNECTION (PLAN VIEW)
	EXISTING MANHOLE (PLAN VIEW)
	PROPOSED MANHOLE (PROFILE VIEW)
	EXISTING MANHOLE (PROFILE VIEW)

WASTEWATER QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	4857	LINEAR FEET
2	12" PVC SDR35 GRAVITY LINE	461	LINEAR FEET
3	STANDARD WASTEWATER MANHOLE	15	EACH
4	4" WASTEWATER SERVICE CONNECTION	103	EACH

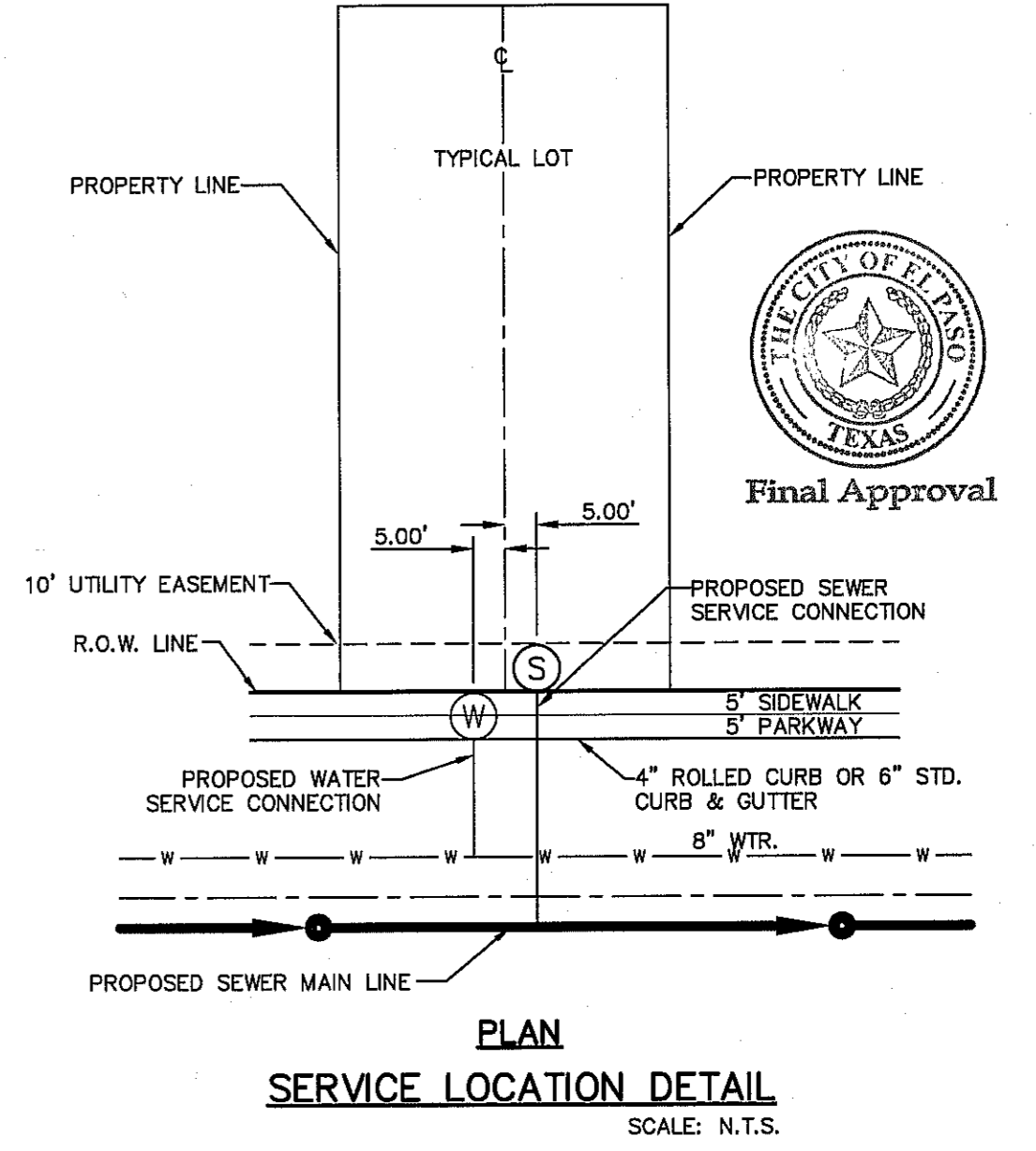
CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

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 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-PSS 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
11884 GREENVILLE AVENUE
DALLAS, TX 75243
(800) 594-5530
- ELECTRIC:**
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX 79902
(915) 543-2076
- EL PASO STREETS**
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7969 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
(800) 852-3786
- RESIDENTIAL GAS LINES:**
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX 79930
(915) 680-7218

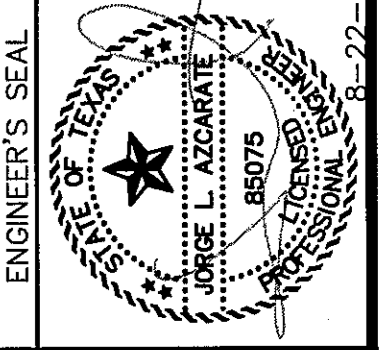
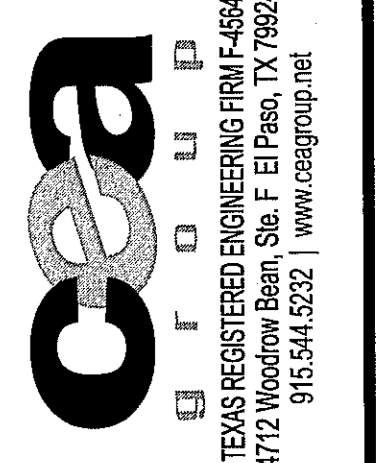


WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09°43'31"E A DISTANCE OF 497.58 FEET FROM THE SOUTHERLY END OF JUAN DIEGO AVENUE. ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY



SCALE: 1" = 100'

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

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2000-207

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER
INDEX**

SHEET NO.

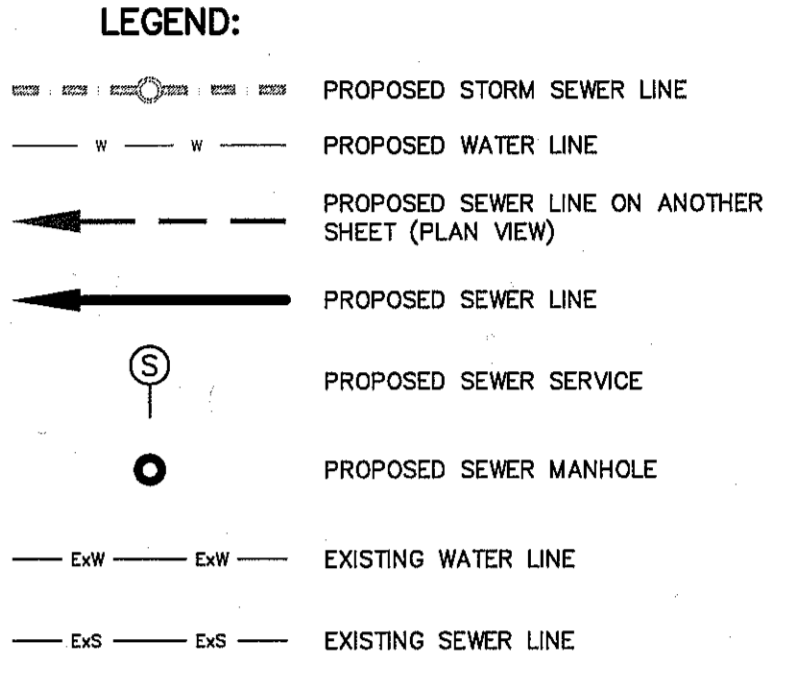
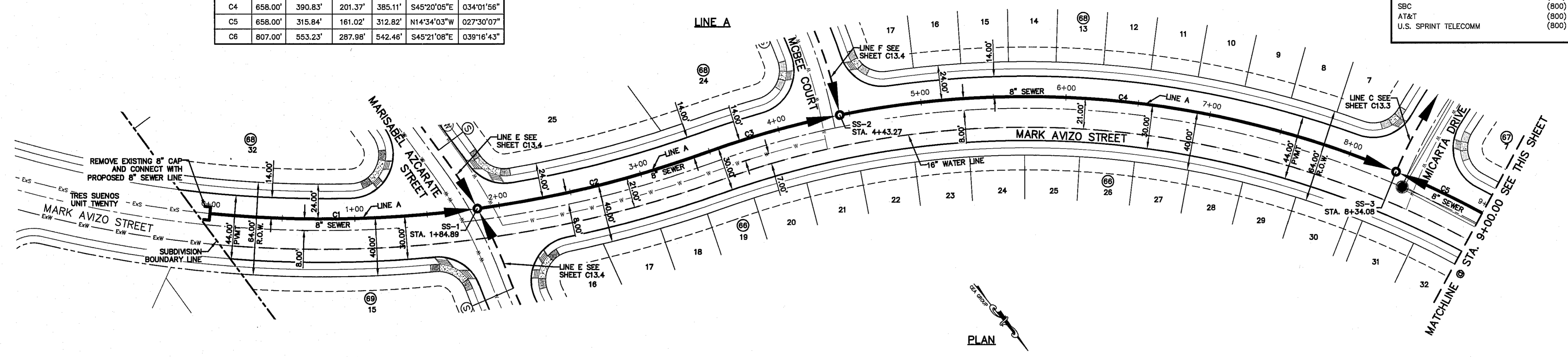
C13.1

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	792.00'	184.89'	92.87'	184.47'	N52°06'23"W 013°22'32"
C2	792.00'	163.43'	82.00'	163.14'	N64°42'20"W 011°49'22"
C3	658.00'	94.93'	47.55'	94.85'	S66°29'02"E 008°15'59"
C4	658.00'	390.83'	201.37'	385.11'	S45°20'05"E 034°01'56"
C5	658.00'	315.84'	161.02'	312.82'	N14°34'03"W 027°30'07"
C6	807.00'	553.23'	287.98'	542.46'	S45°21'08"E 039°16'43"

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

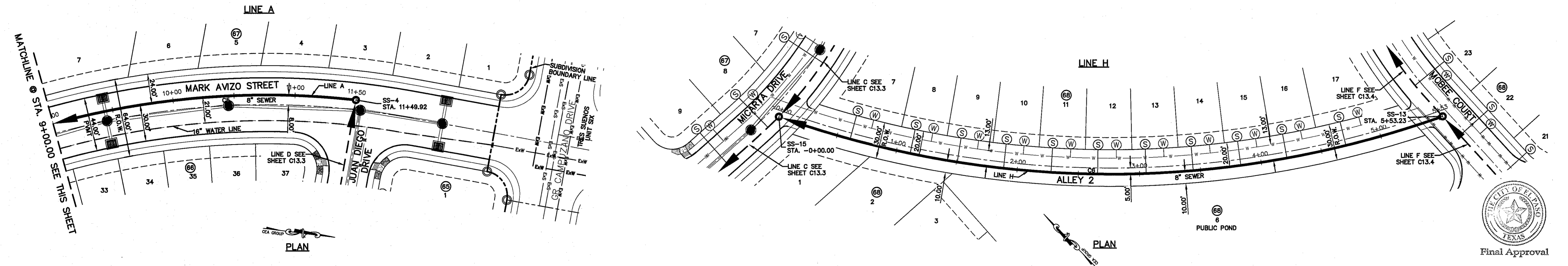
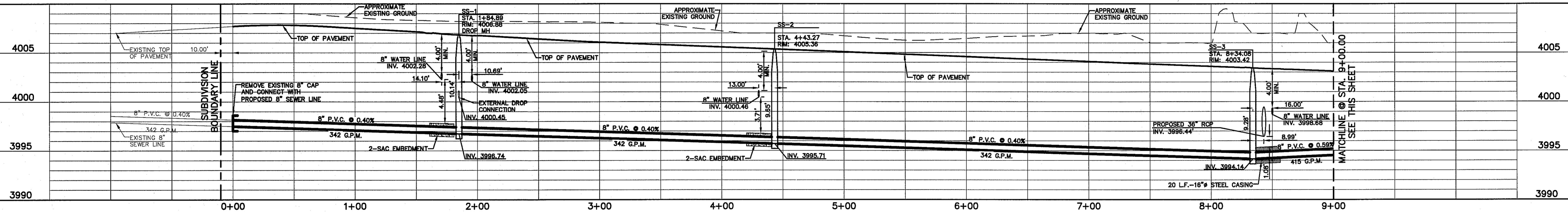
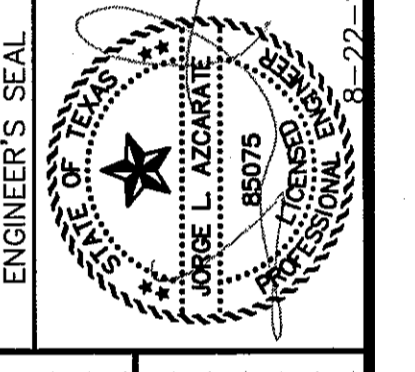
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

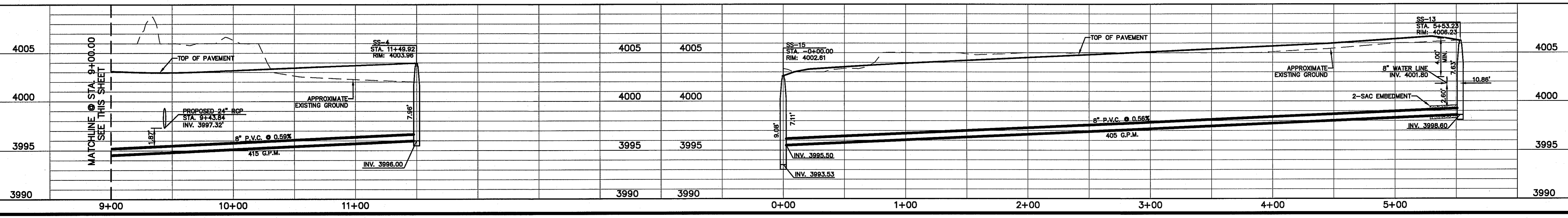


REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09°43'31"E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY CORNER OF THE INTERSECTION OF MICARTA AVENUE. ELEVATION = 4005.40 (CITY DATUM).



Final Approval



PROJECT TITLE

TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER
PLAN & PROFILE
LINE A & H

SHEET NO.

C13.2

S:\2000\2000-2017-TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C13.3 - Sanitary Sewer Line B, C & D P&P.dwg, 8/29/2018 9:14:55 AM

UTILITY LOCATOR SERVICES

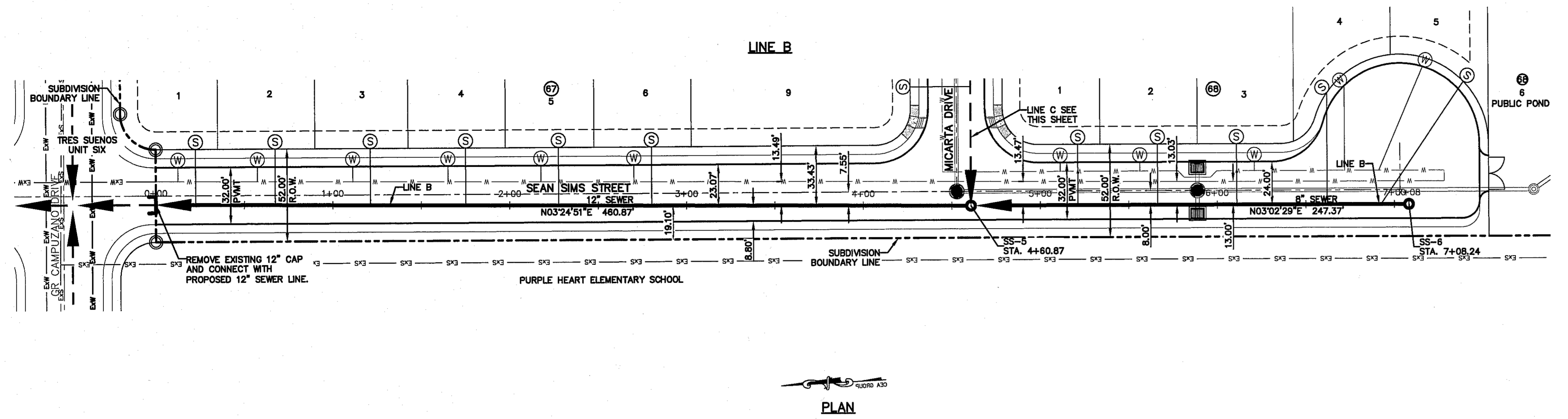
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 486-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 509'4.31'E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY CORNER OF THE INTERSECTION OF RICH BEEM AVENUE. ELEVATION = 4005.40 (CITY DATUM).

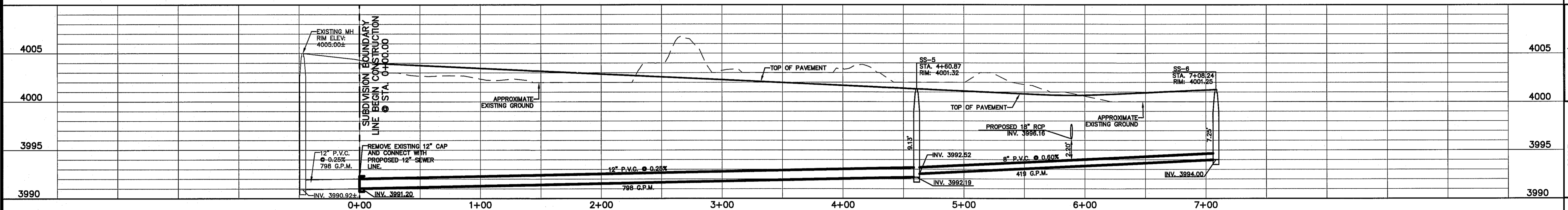
DATE	REVISIONS	BY



LEGEND:

- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED SEWER LINE
- PROPOSED SEWER SERVICE
- PROPOSED SEWER MANHOLE
- E-W- EXISTING WATER LINE
- E-S- EXISTING SEWER LINE
- ▨ C-900, CLASS 150 PIPE

CSA
REGISTERED PROFESSIONAL ENGINEER
NO. 185075
STATE OF TEXAS
4712 W. UNIVERSITY BLVD., SUITE 100
IRVING, TEXAS 75038
915.434.3232 | www.csaengr.com

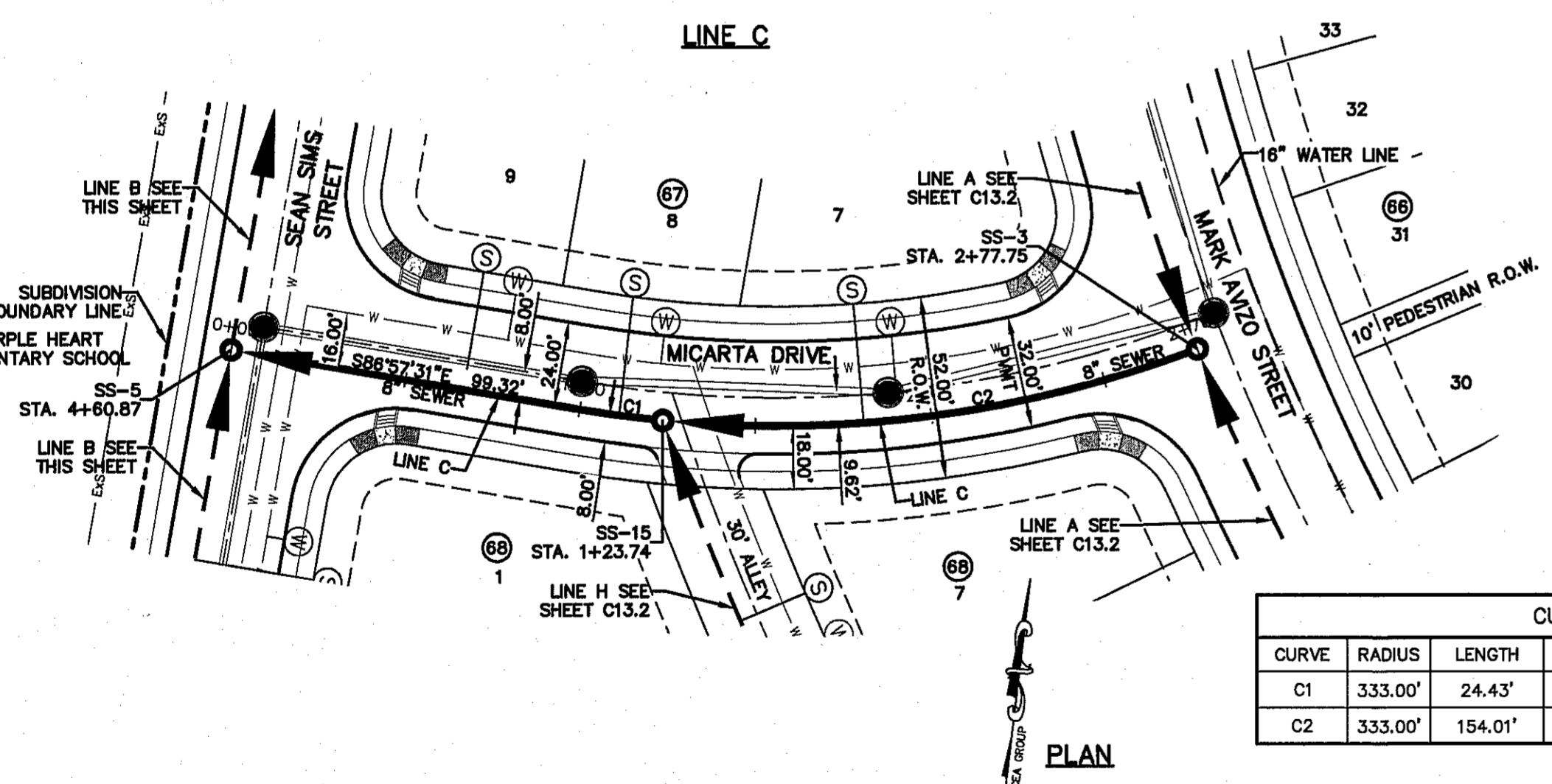


ENGINEER'S SEAL

SCALE: 1" = 40'

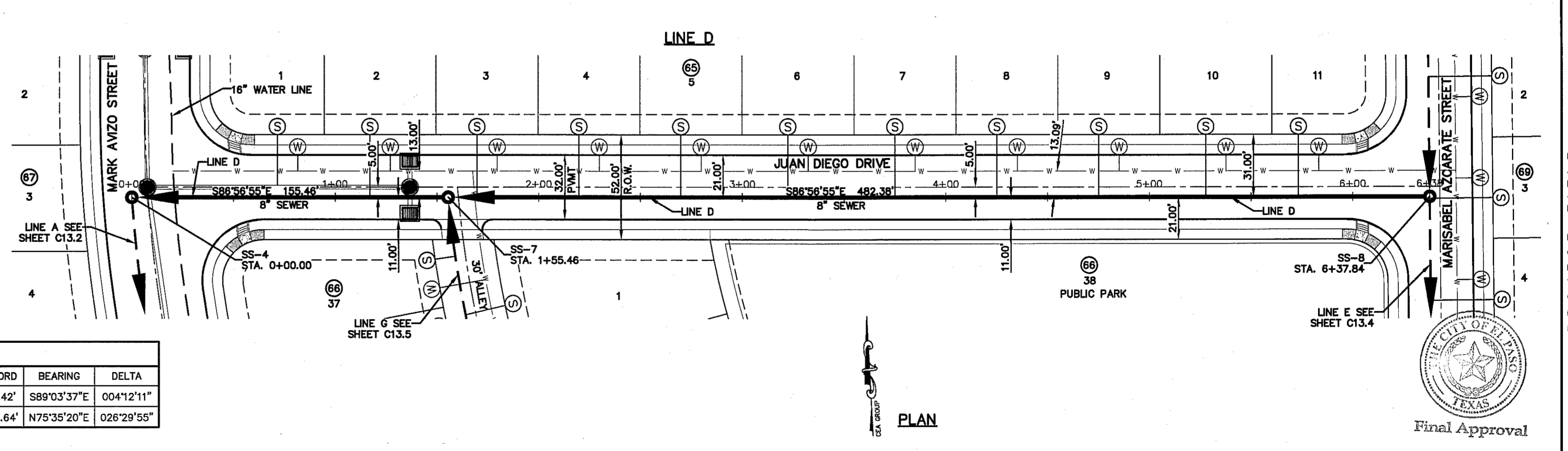
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHECKED BY: J.L.A.
APP'D. BY: J.L.A.
JOB NO.: 2000-207

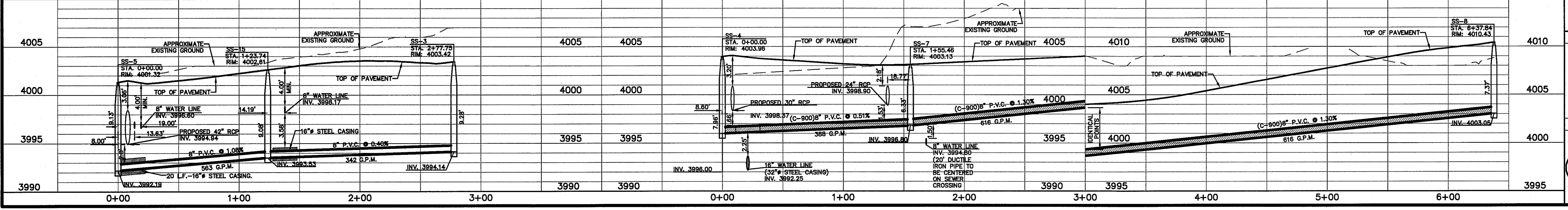


CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	333.00'	24.43'	12.22'	24.42'	S89°03'37"E	004°12'11"
C2	333.00'	154.01'	78.41'	152.64'	N75°35'20"E	026°29'55"



Final Approval



PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY
SEWER PLAN &
PROFILE LINE B,
C & D**

SHEET NO.

C13.3

UTILITY LOCATOR SERVICES

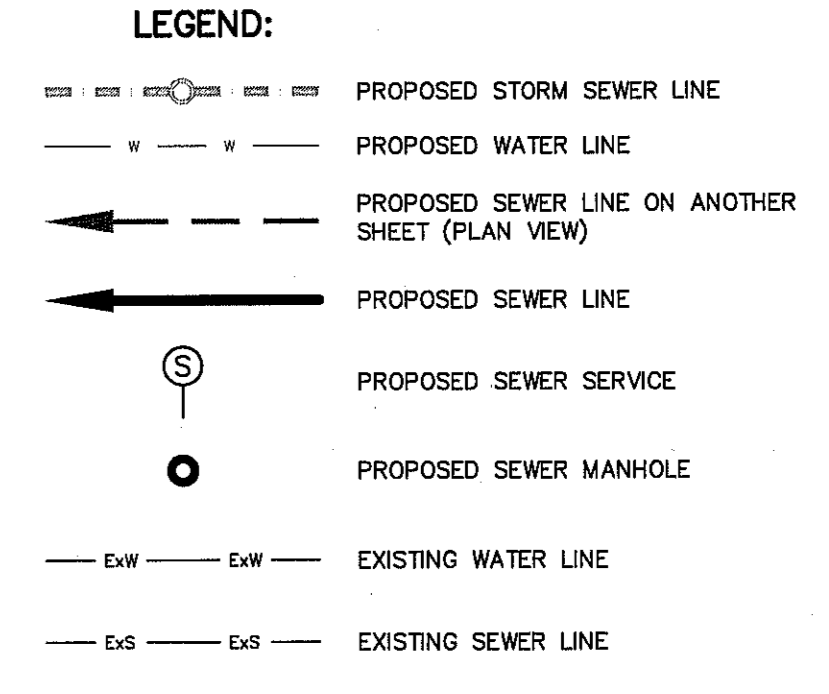
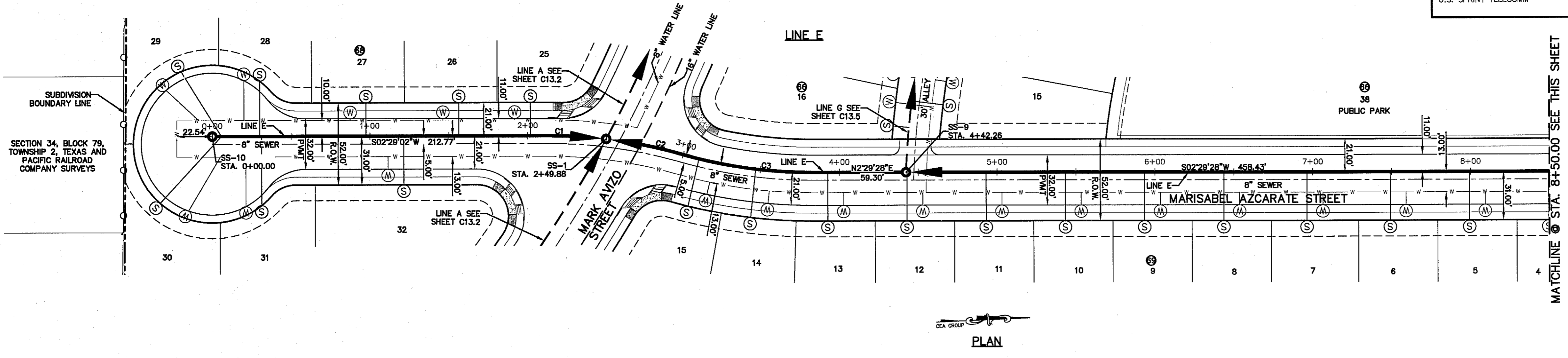
EL PASO ELECTRIC COMPANY (915) 543-5720
 EL PASO ENERGY CORPORATION (915) 498-5244
 EL PASO WATER UTILITIES (915) 594-5500
 MCI SURVEILLANCE (800) MCI-WORK
 TIME WARNER COMMUNICATIONS (915) 772-1123
 TEXAS GAS SERVICE (915) 680-7200
 SBC (800) 545-6005
 AT&T (800) 852-3786
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REFERENCES — BENCHMARKS

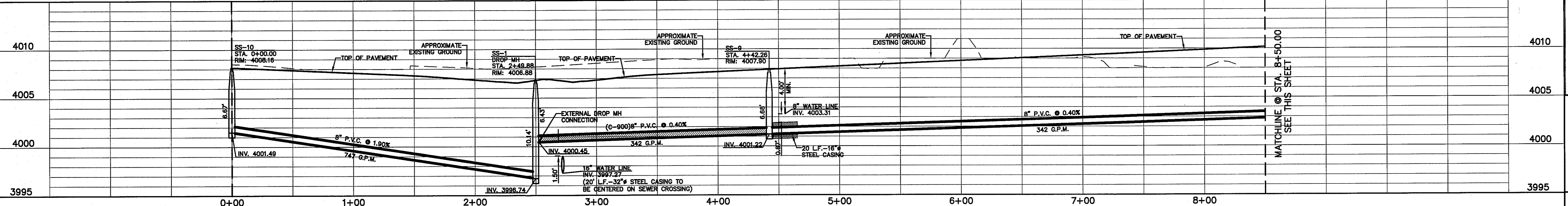
BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09°43'31"E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF THE RICH BEEM BLVD. (CITY DATUM). ELEVATION = 4005.40 (CITY DATUM).

DATE	REVISIONS	BY



CSA

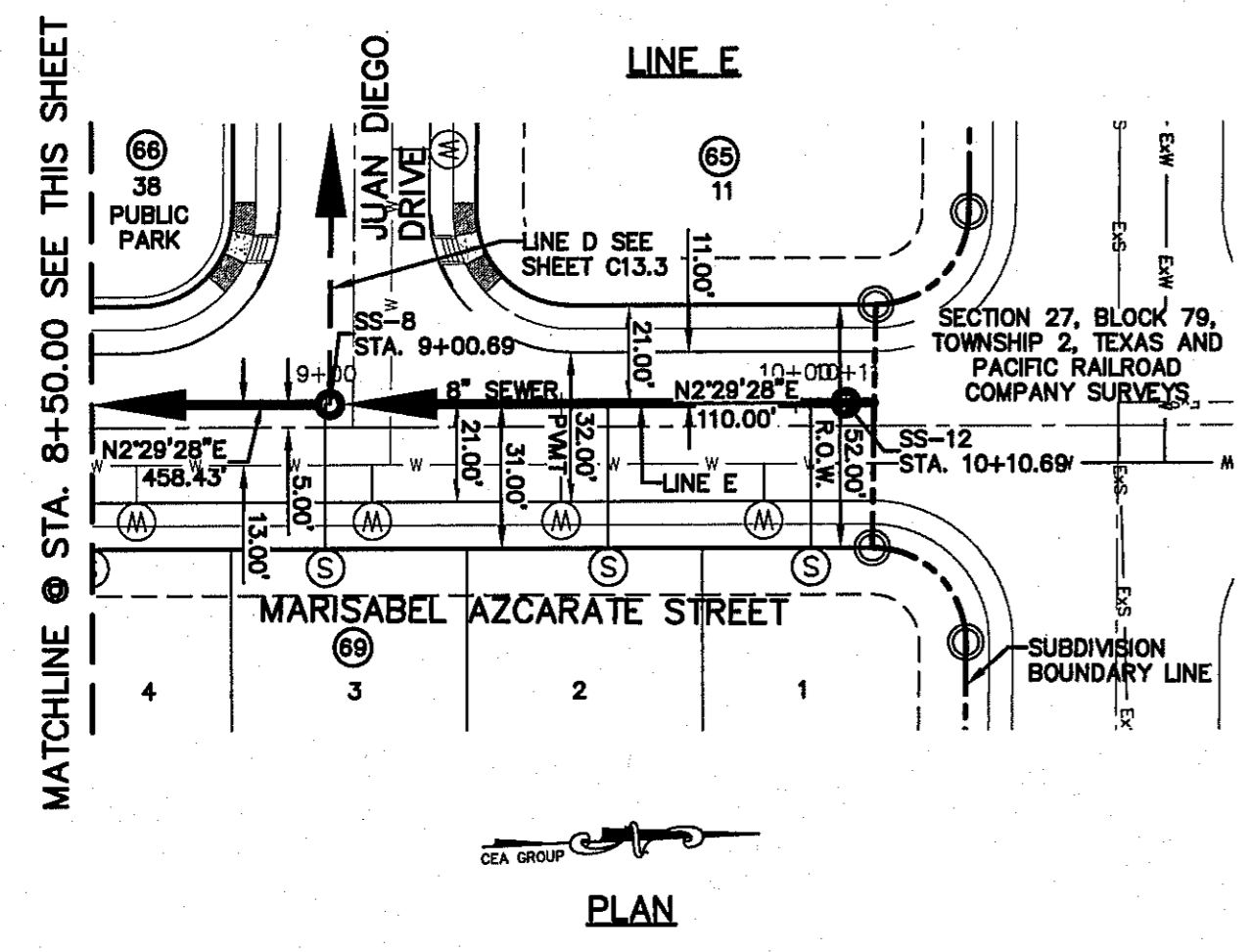
TEXAS REGISTERED ENGINEERING FIRM, L.P.
 4712 Rice Ave., Suite 300, El Paso, TX 79924
 915.544.3322 | www.csaengr.com



ENGINEER'S SEAL

SCALE: HORIZONTAL = 1" = 40'
 VERTICAL = 1" = 4'

DATE: JUNE 2018
 DESIGN BY: J.M.
 DRAWN BY: G.J.M.
 CHECKED BY: J.L.A.
 APP'D BY: J.L.A.
 JOB NO. 2000-207

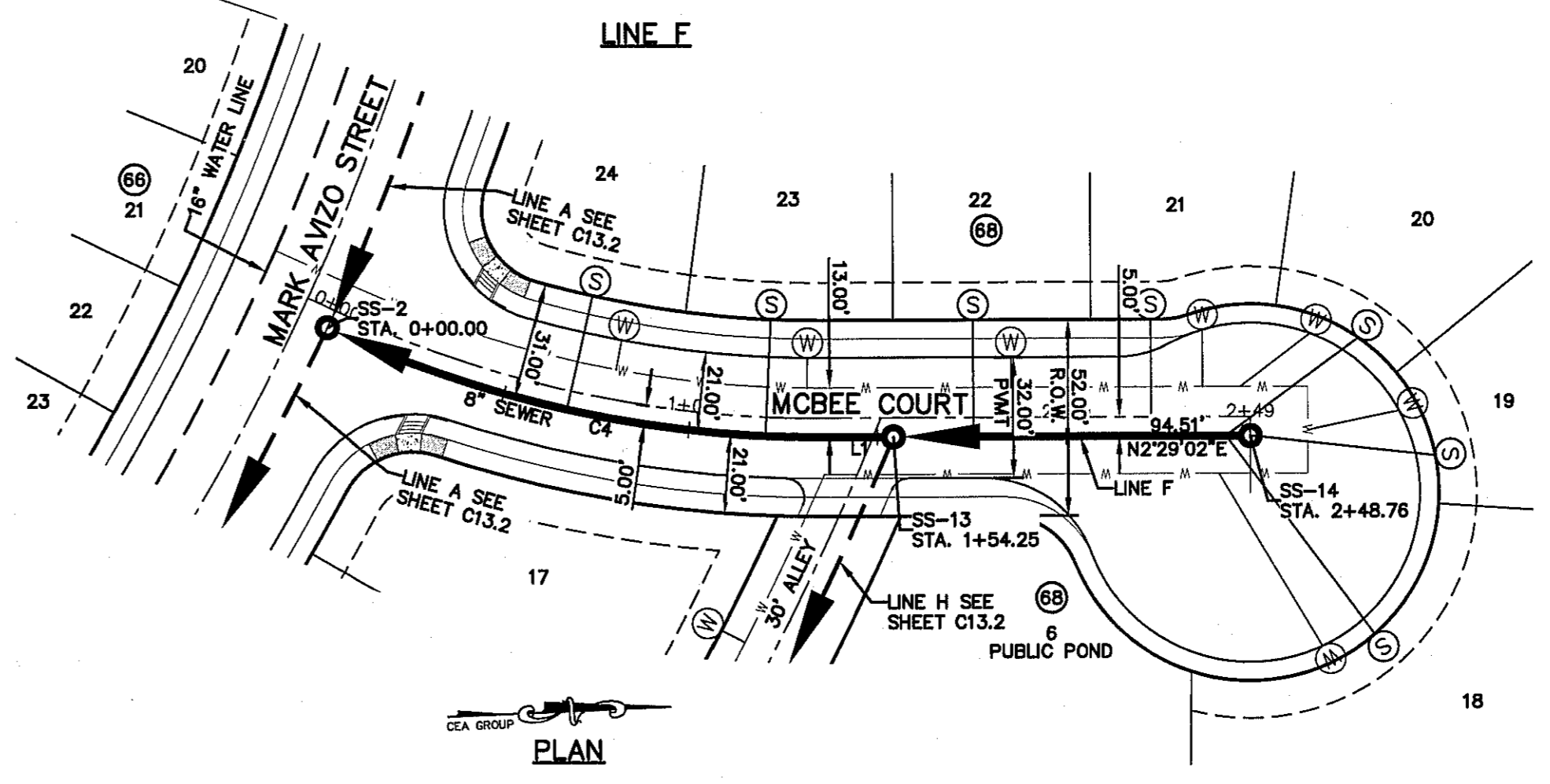


LINE TABLE

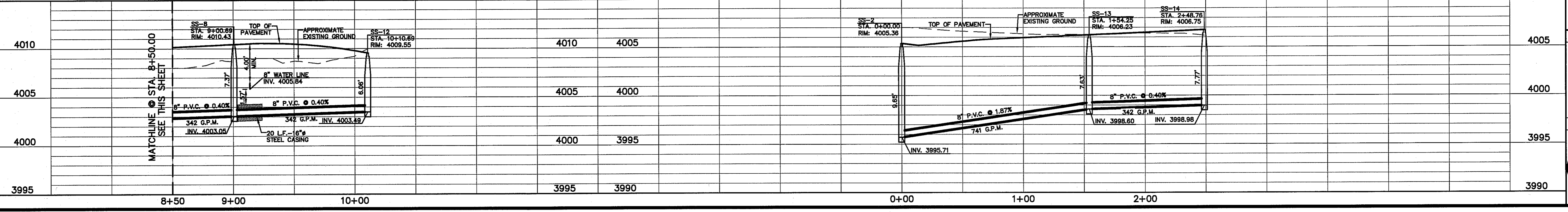
LINE	BEARING	LENGTH
L1	N02°29'02"E	19.36'

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	305.00'	37.10'	18.57'	37.08'	S05°58'08"W	006°58'13"
C2	305.00'	49.42'	24.77'	49.37'	S14°05'47"W	009°17'05"
C3	295.00'	83.65'	42.11'	83.37'	N10°36'54"E	016°14'52"
C4	305.00'	134.89'	68.56'	133.79'	S15°09'12"W	025°20'21"



Final Approval



PROJECT TITLE

TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER
PLAN & PROFILE
LINE E & F

SHEET NO.

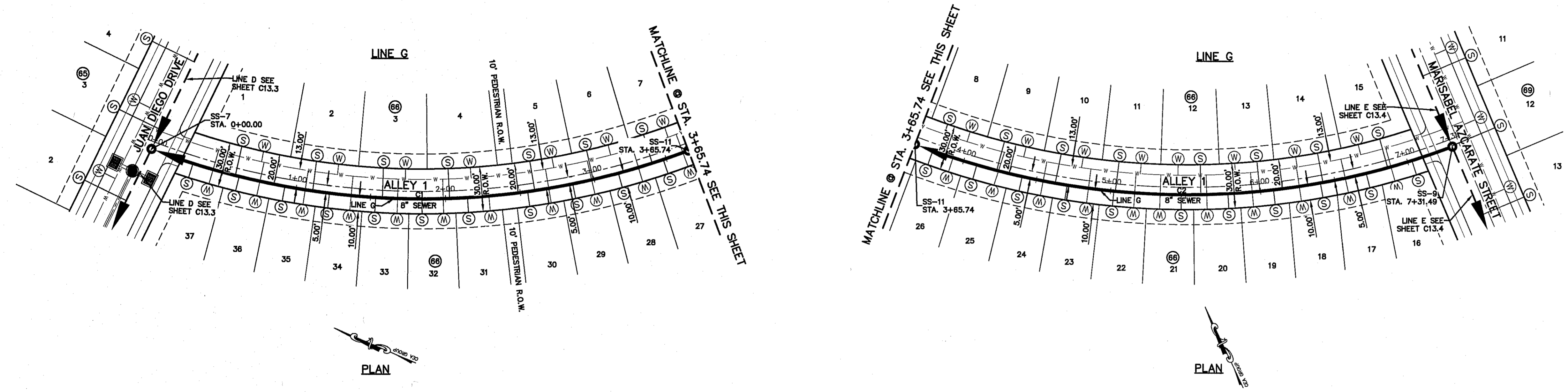
C13.4

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
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U.S. SPRINT TELECOMM	(800) 521-0579

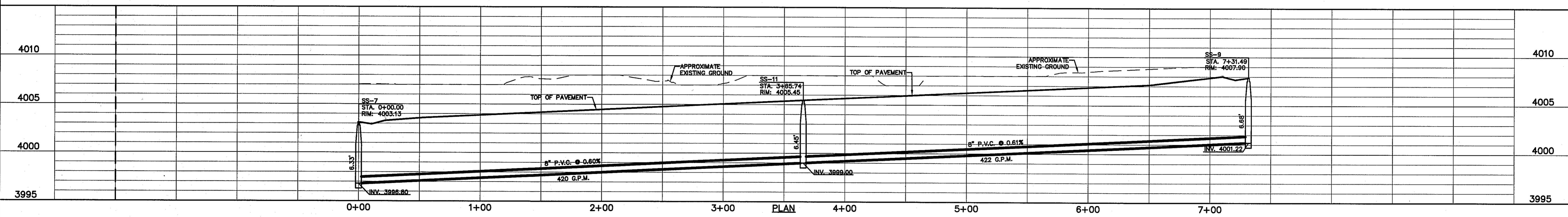
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	503.00'	365.74'	191.38'	357.74'	S22°50'31"E 041°39'40"
C2	503.00'	365.74'	191.38'	357.74'	S64°30'11"E 041°39'40"



- LEGEND:**
- (dashed line with circles) --- PROPOSED STORM SEWER LINE
 - (dashed line with 'W') --- PROPOSED WATER LINE
 - (dashed line with 'S') --- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
 - (solid line with arrow) --- PROPOSED SEWER LINE
 - (S) PROPOSED SEWER SERVICE
 - (O) PROPOSED SEWER MANHOLE
 - (dashed line with 'EW') --- EXISTING WATER LINE
 - (dashed line with 'ES') --- EXISTING SEWER LINE



ENGINEER'S SEAL

SCALE: 1" = 40'

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

DATE: JUNE 2018
DESIGN BY: J.M.
DRAWN BY: G.J.M.
CHKD. BY: J.L.A.
APPRD. BY: J.L.A.
JOB No.: 2000-207

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

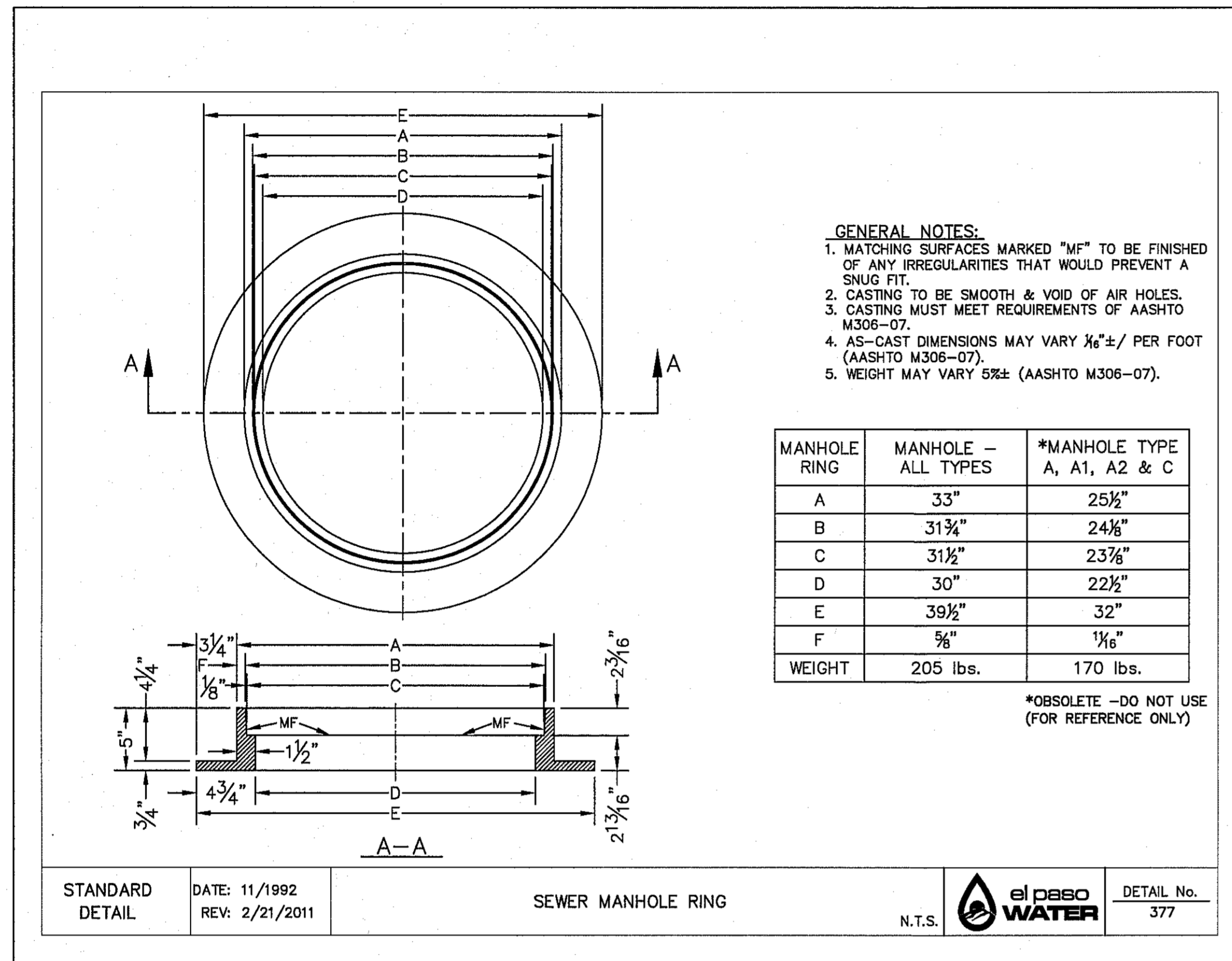
**SANITARY SEWER
PLAN & PROFILE
LINE G**

SHEET NO.

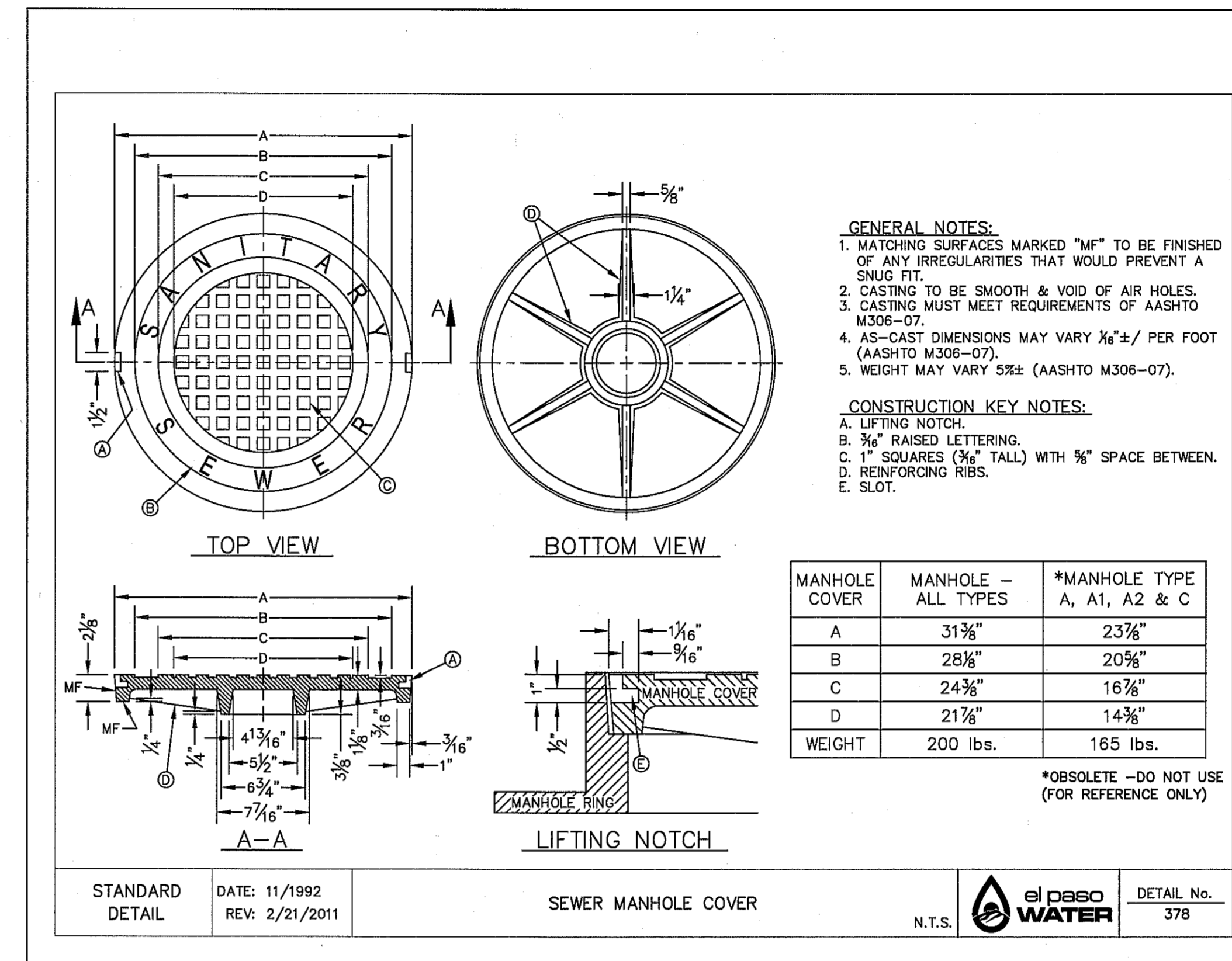


C13.5

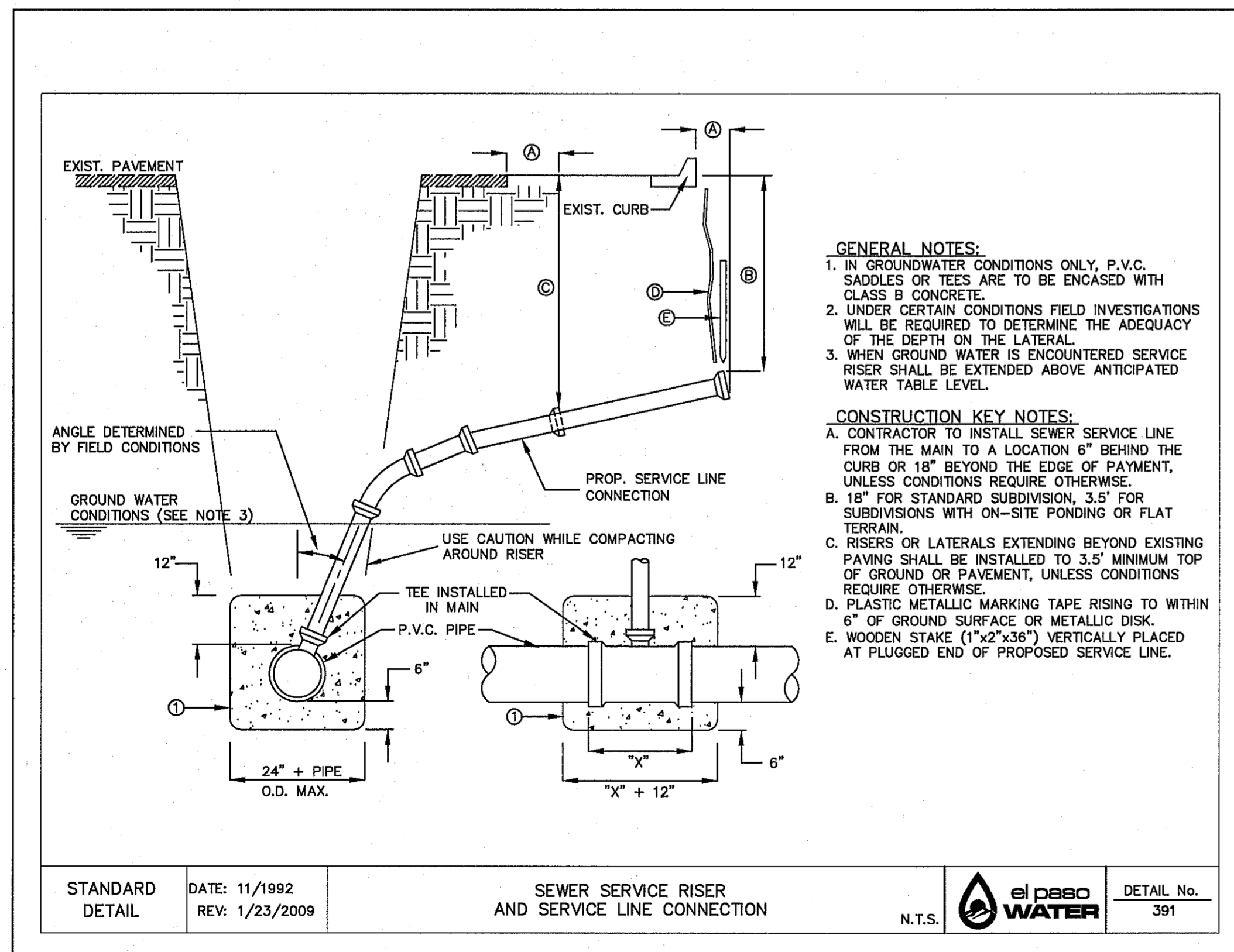
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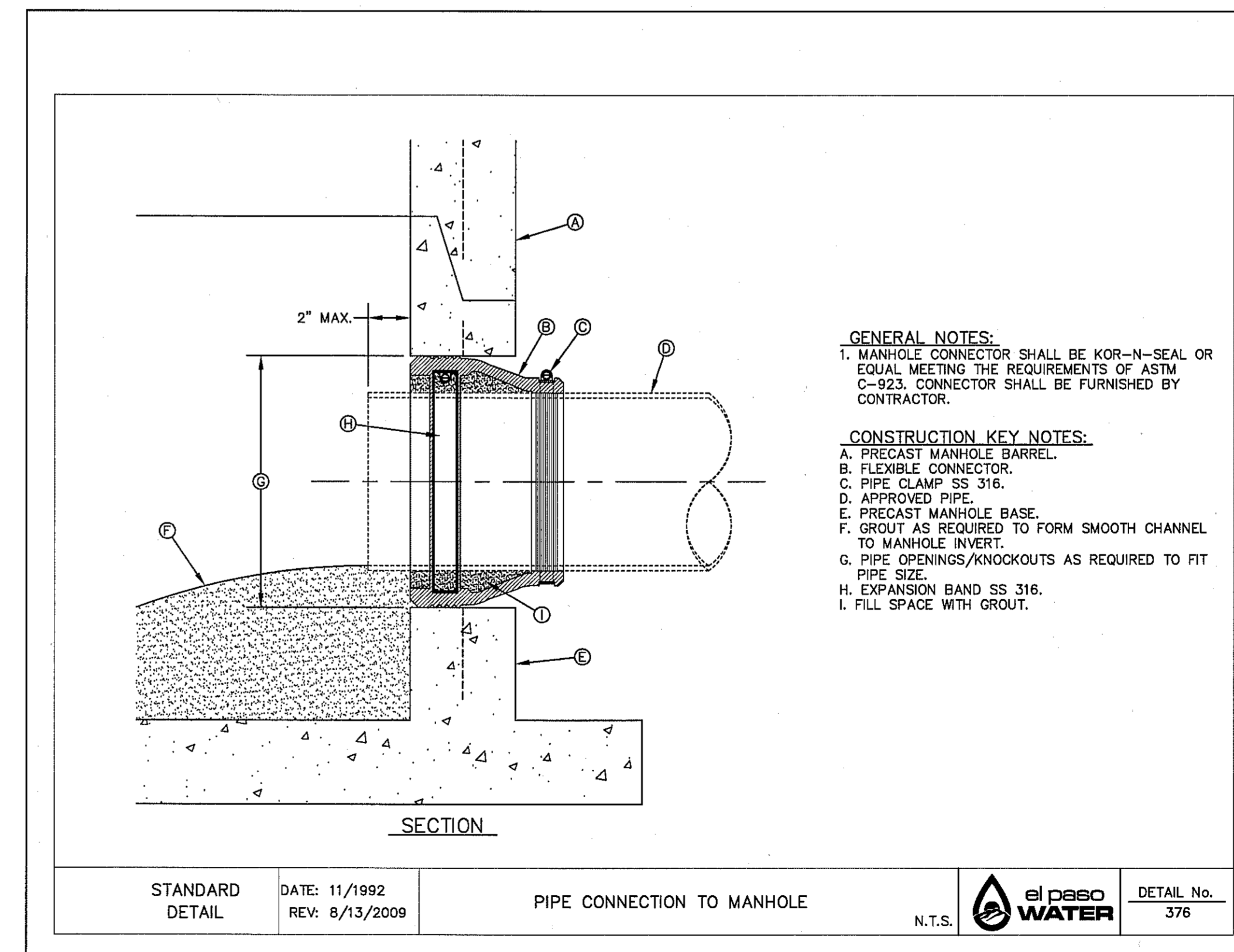
1 STANDARD MANHOLE RING SCALE: N.T.S.



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.

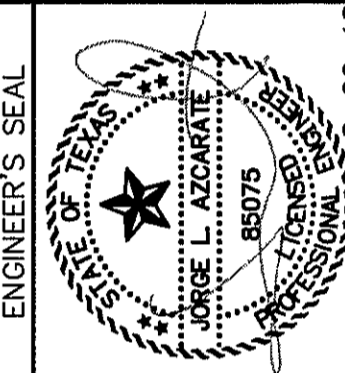
REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S0843731'E A DISTANCE OF 467.98 FEET FROM THE SOUTHERLY END OF RICH BEEM BLVD. AT THE POINT OF TANGENCY. ELEVATION = +605.40 (CITY DATUM).

DATE	REVISIONS	BY

CSA

REGISTERED ENGINEERING FIRM #4664
4712 Woodway Blvd., Ste. F El Paso, TX 79904
915.544.0232 | www.csaonline.net



SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: JUNE 2018

DESIGN BY: J.M.

DRAWN BY: G.J.M.

CHKD. BY: J.L.A.

APP'D. BY: J.L.A.

JOB NO.: 2008-207

PROJECT TITLE

TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

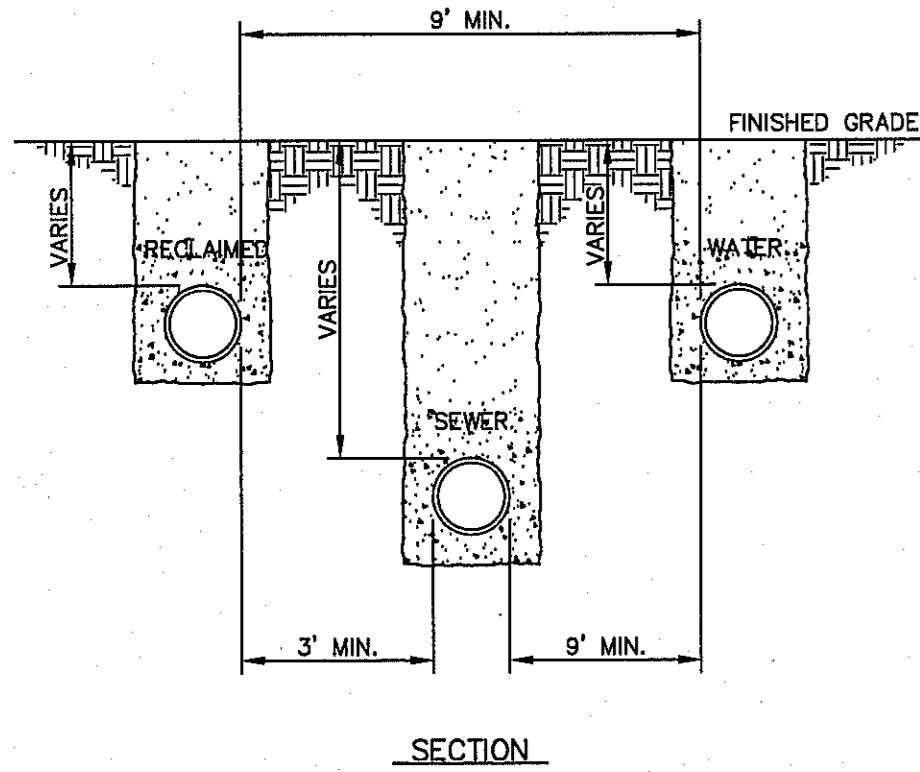
SANITARY SEWER
DETAILS

(SHEET 1 OF 3)

SHEET NO.



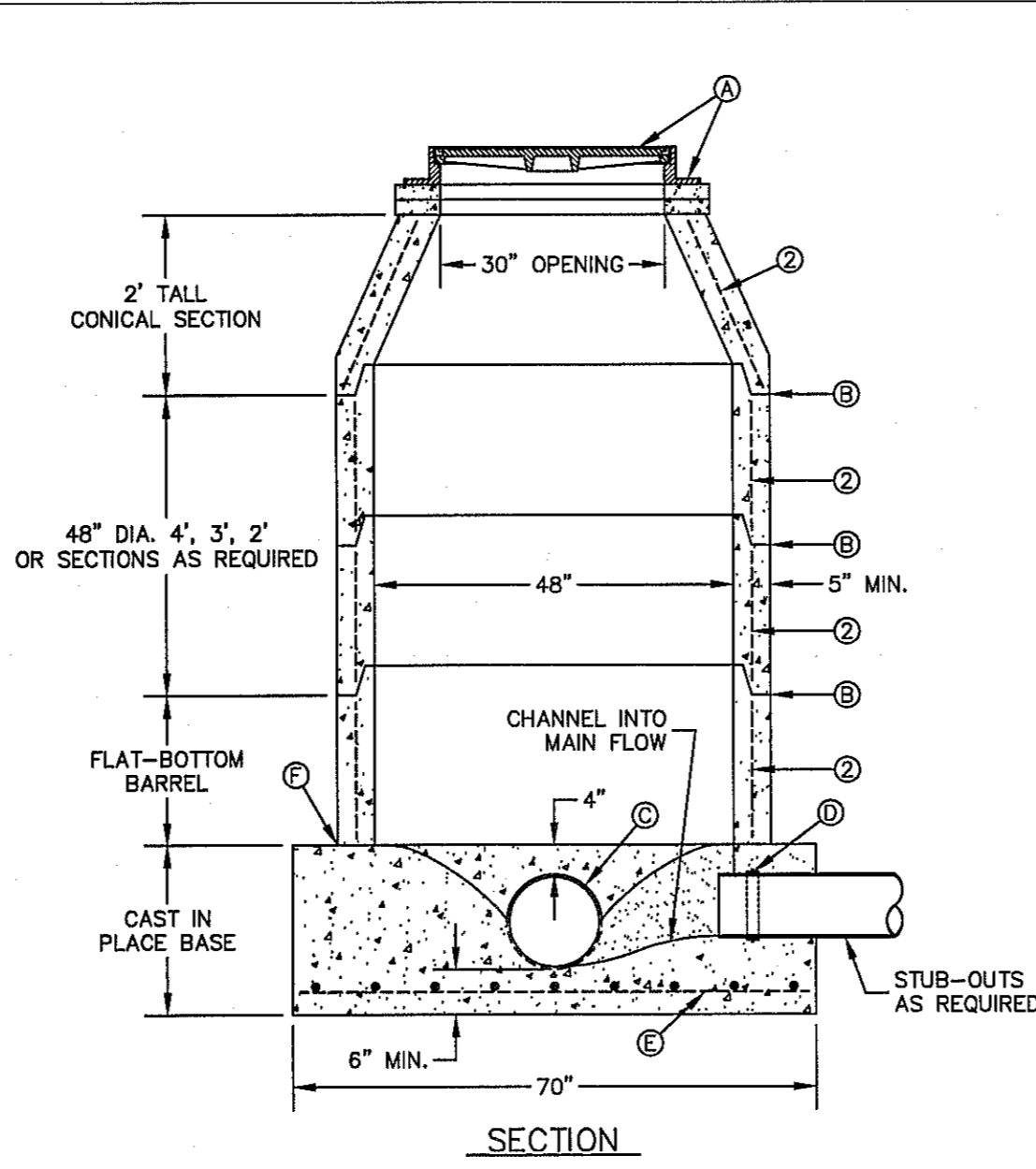
C13.6



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

STANDARD DETAIL	DATE: 8/3/2006 REV: 3/28/2007	SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER	el PASO WATER	DETAIL No. 160
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1 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.

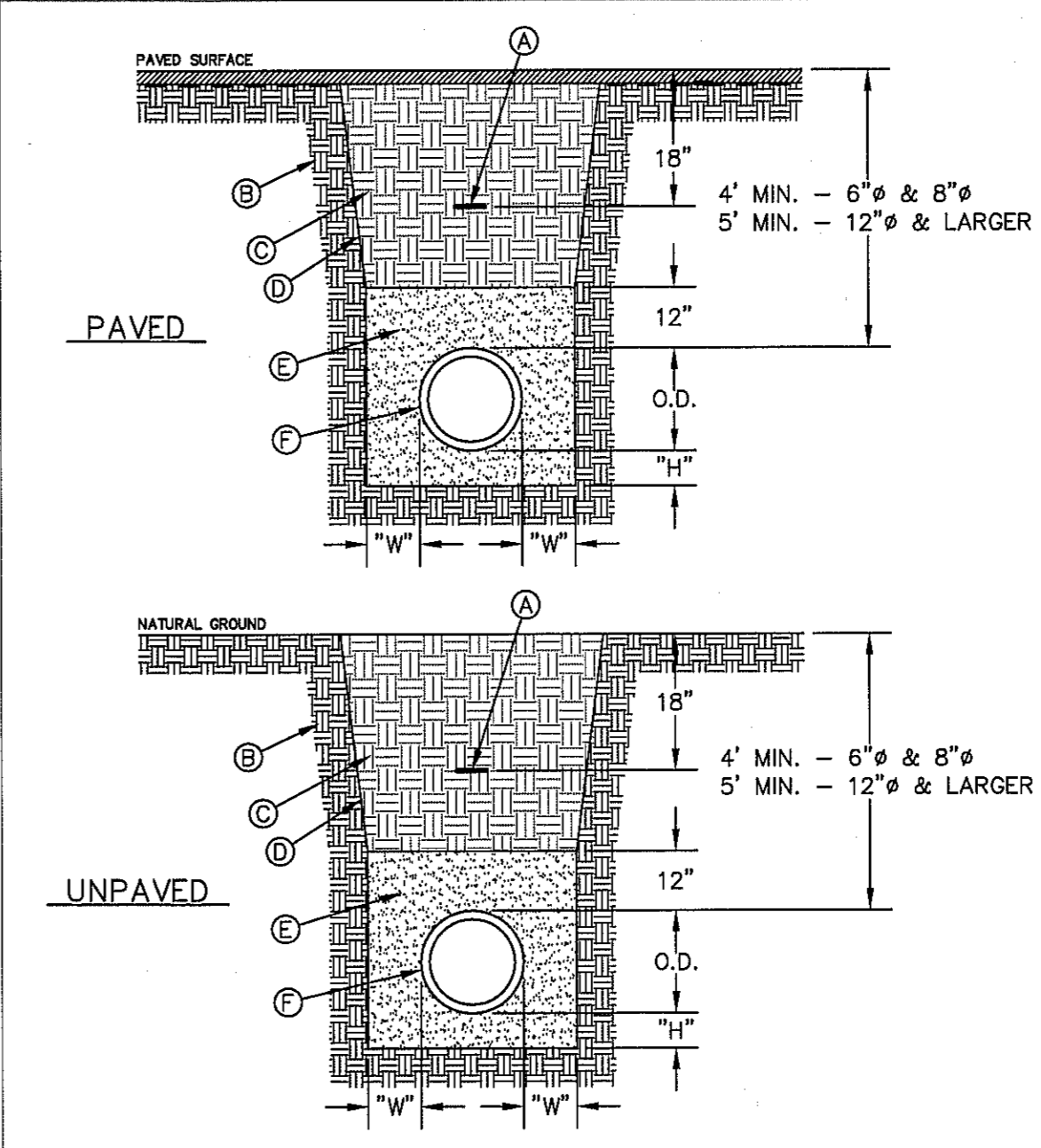


GENERAL NOTES:
 1. MANHOLE TYPE "A1" SHALL BE USED FOR LINES 21" AND SMALLER, NOT TO BE USED IN GROUNDWATER CONDITIONS.
 2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING.
 3. CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
 4. THE BASE SHALL BE CAST IN PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI), POURED ON UNDISTURBED OR THOROUGHLY COMPACTED SUB-BASE.
 5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
 6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
 B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
 C. ON MAINLINE, PIPE IS TO BE LAID THRU AND UPPER HALF CUT OUT.
 D. PIPE GASKET.
 E. NO. 4 REBARS 8" ON CENTER, BOTH WAYS.
 F. SEAL ALL AROUND WITH RAM-NEK OR APPROVED EQUAL.

STANDARD DETAIL	DATE: 11/1992 REV: 12/1/2011	MANHOLE TYPE "A1"	el PASO WATER	DETAIL No. 370-2
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2 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.



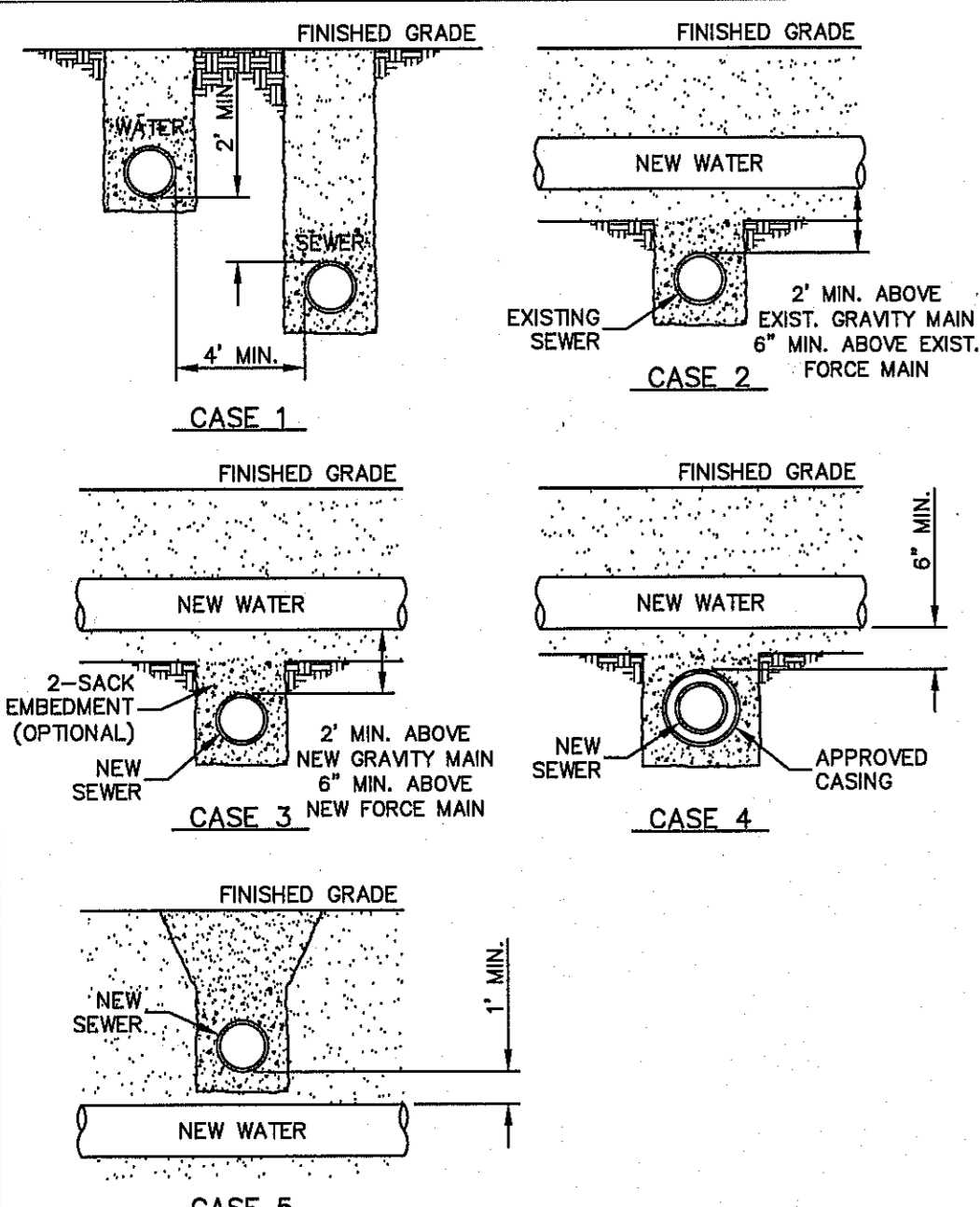
GENERAL NOTES:
 1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL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

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

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"
PIPE DIAMETER	"W"
6" - 30"	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	el PASO WATER	DETAIL No. 171
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3 BEDDING CLASS DETAILS FOR FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



GENERAL NOTES:
 1. NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 2. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.

CONSTRUCTION KEY NOTES:
 WHEN STANDARD NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SD35S OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
 • SEPARATE TRENCHES SHALL BE USED.

CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SD35S OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

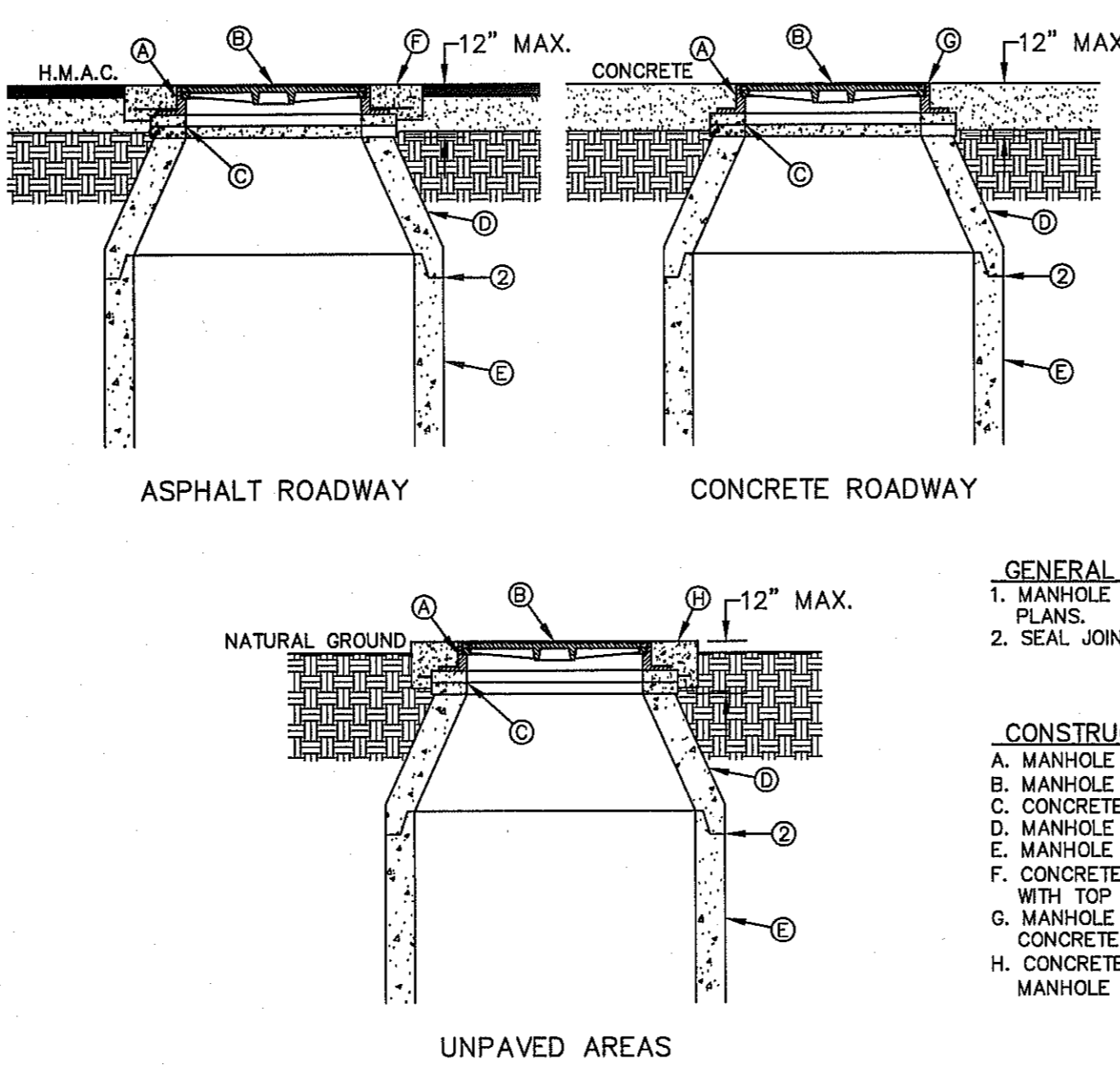
CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI (REQUIRED), CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150 PSI) OR DI (REQUIRED), FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 • CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 • MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 • FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SD35S SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.

CASE 4. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 • SEWER MATERIALS: NEW GRAVITY MAIN - SD35S ACCEPTABLE, NEW FORCE MAIN - PVC (150 PSI) OR DI (REQUIRED). IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER CASING PIPE ON WATER MAIN.

CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(i) AND §290.44(a)(4)(B)(ii)).
 • LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 • NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL OR ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 • CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

STANDARD DETAIL	DATE: 8/3/2006 REV: 8/21/2007	SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)	el PASO WATER	DETAIL No. 161
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4 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) SCALE: N.T.S.

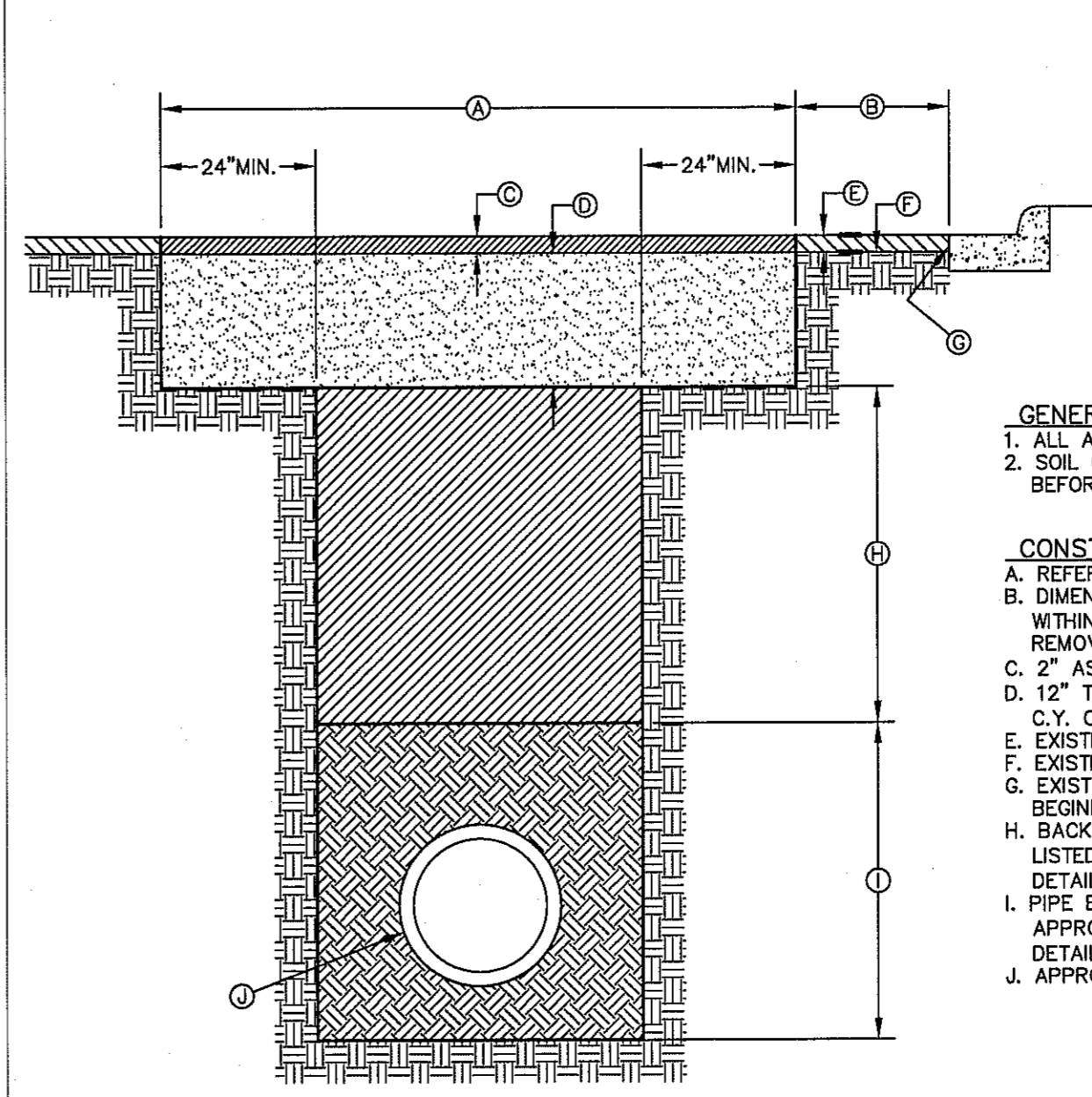


GENERAL NOTES:
 1. MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
 2. SEAL JOINTS PER SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
 A. MANHOLE RING (SEE DETAIL 377).
 B. MANHOLE COVER (SEE DETAIL 378).
 C. CONCRETE ADJUSTMENT RINGS AS REQUIRED.
 D. MANHOLE CONE SECTION.
 E. MANHOLE BARREL SECTION.
 F. CONCRETE COLLAR (SEE DETAIL 184-1) FLUSH WITH TOP OF H.M.A.C.
 G. MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
 H. CONCRETE APRON (SEE DETAIL 184-2) FLUSH WITH MANHOLE RING AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL	DATE: 6/22/2009 REV:	MANHOLE RING AND COVER INSTALLATION	el PASO WATER	DETAIL No. 185
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5 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL SCALE: N.T.S.



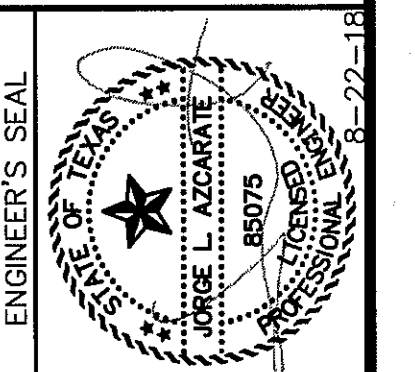
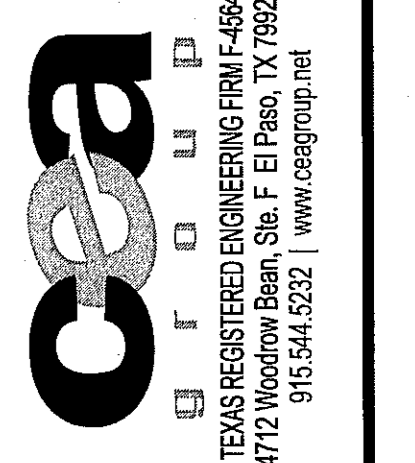
GENERAL NOTES:
 1. ALL ASPHALT CUTS MUST BE SAW CUT.
 2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

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

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

REFERENCES - BENCHMARKS	BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08+43.31'E A DISTANCE OF 497.58 FEET FROM THE SOUTHERLY END OF MAIN AVENUE. ELEVATION = 4005.40 (CITY DATUM).
DATE	REVISIONS
BY	



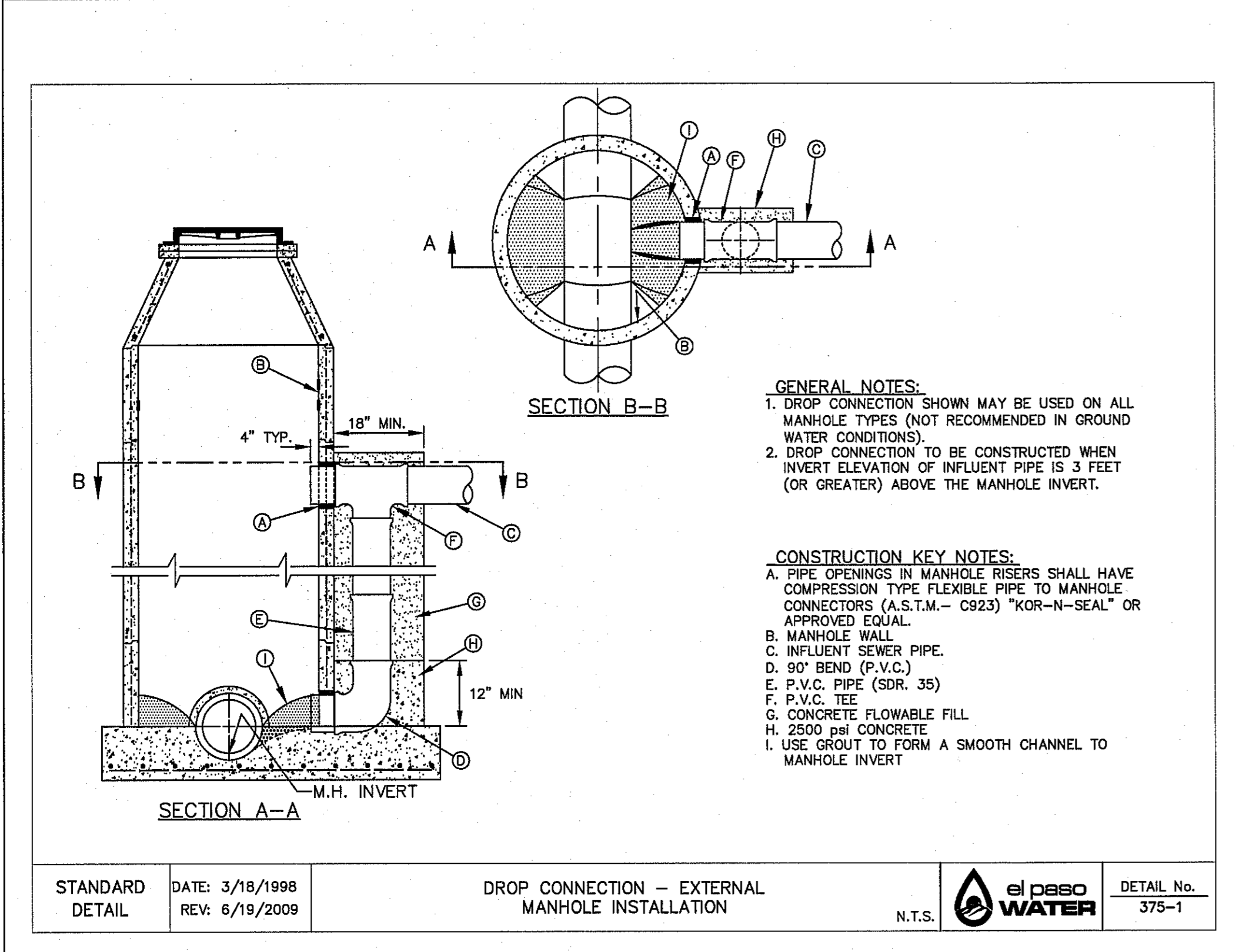
SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE:	JUNE 2018
DESIGN BY:	J.M.
DRAWN BY:	G.J.M.
CHKD. BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.	2000-207

PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE	SANITARY SEWER DETAILS
(SHEET 2 OF 3)	
SHEET NO.	

C13.7

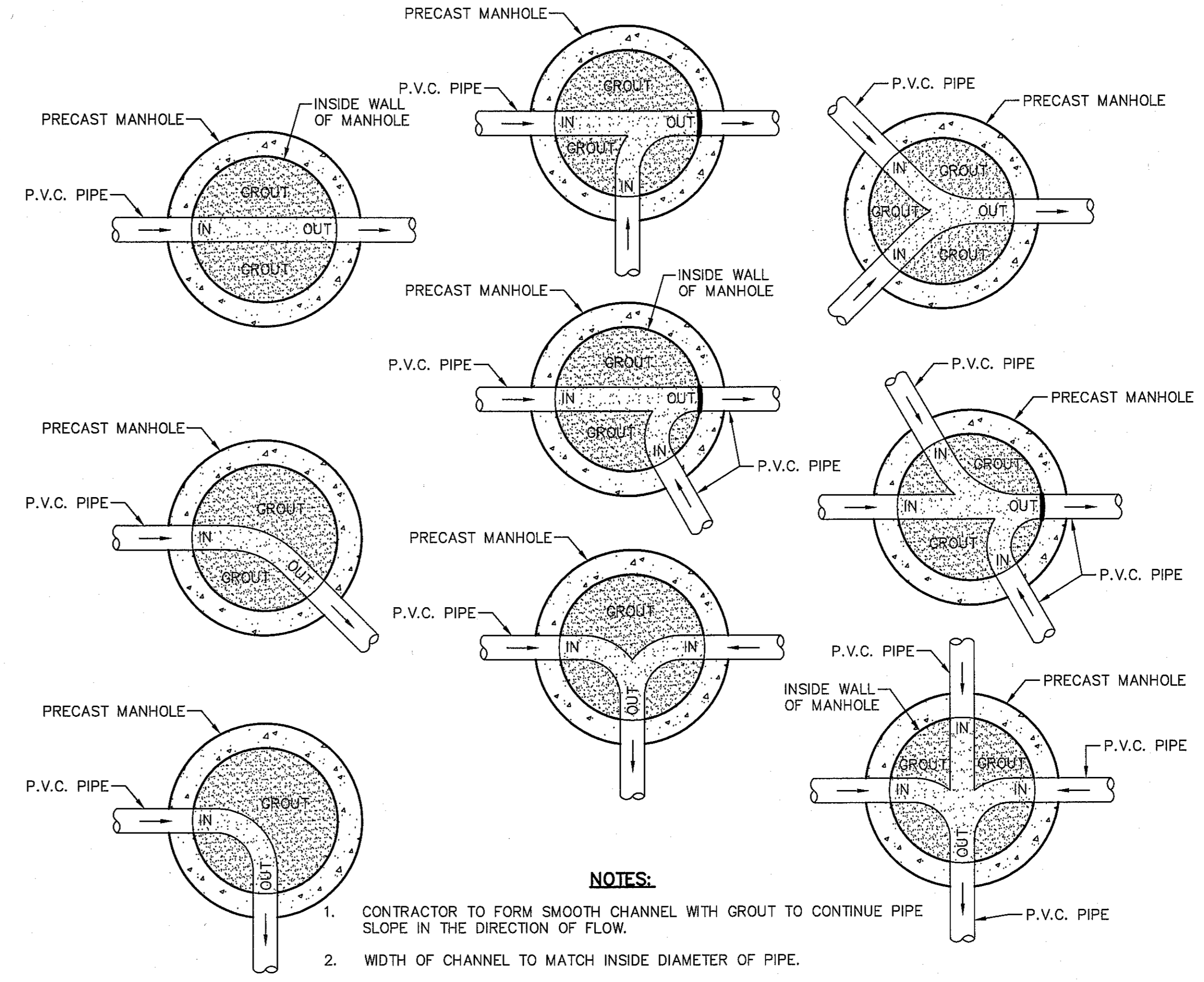
S:\2000\2000-207-TRES SUEÑOS UT7\DWG5\Construction Drawings\Improvement Plans\C13.8-C13.8-Sanitary Sewer Details.dwg, 8/29/2018 9:16:10 AM



- GENERAL NOTES:**
- DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
 - DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.
- CONSTRUCTION KEY NOTES:**
- PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
 - MANHOLE WALL.
 - INFLUENT SEWER PIPE.
 - 90° BEND (P.V.C.).
 - P.V.C. PIPE (SDR 35).
 - P.V.C. TEE.
 - CONCRETE FLOWABLE FILL.
 - 2500 PSI CONCRETE.
 - USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT.

STANDARD DETAIL	DATE: 3/18/1998 REV: 6/19/2009	DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION	N.T.S.	DETAIL No. 375-1
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1 DROP CONNECTION MANHOLE
SCALE: N.T.S.



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

2 TYPICAL MANHOLE INVERT PLANS
SCALE: N.T.S.

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., SDR4331'E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY END OF SAN ANTONIO AVENUE. ELEVATION = 4905.40 (CITY DATUM).

DATE	REVISIONS	BY

CSA
TECHNICAL SERVICES
REGISTERED ENGINEERING FIRM #64
4712 W. HUNTER BLVD., SUITE F EL PASO, TX 79924
915.341.3232 | www.csaengineer.net

ENGINEER'S SEAL

JORGE L. AZCARATE
85078

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY:	J.M.
DRAWN BY:	G.J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-207

PROJECT TITLE

**TRES SUEÑOS
UNIT SEVENTEEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER
DETAILS**

(SHEET 3 OF 3)

SHEET NO.



C13.8

SITE DESCRIPTION

PROJECT NAME AND LIMITS: TRES SUEÑOS UNIT SEVENTEEN IS BORDERED BY A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2 TO THE NORTH, SECTION 26, BLOCK 79, TOWNSHIP 2 TO THE EAST, PURPLE HEART ELEMENTARY SCHOOL TO THE WEST, AND SECTION 34, BLOCK 79, TOWNSHIP 2 TO THE SOUTH.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 23.14± ACRES, AND WILL CONTAIN A TOTAL OF 103 RESIDENTIAL LOTS, 1 PARK SITE, AND 1 POND.

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: 23.14±

TOTAL AREA TO BE DISTURBED: 23.14±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.60

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE HUECO-WINK ASSOCIATION. NEARLY LEVEL AND GENTLY SLOPING SOILS THAT HAVE A FINE SANDY LOAM SUBSOIL AND ARE MODERATELY DEEP OVER CALICHE; IN THE HUECO BOLSON.

NAME OF RECEIVING WATERS: TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION 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.

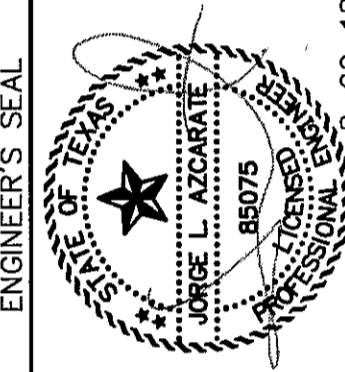
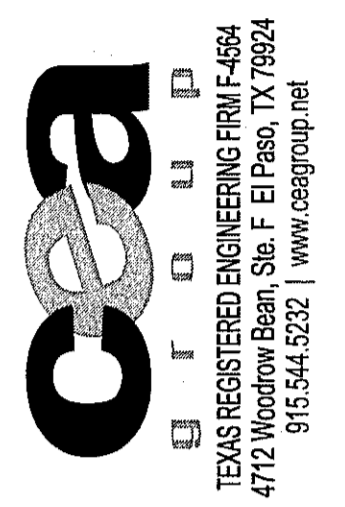
SWPPP GENERAL NOTES:

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 SWPPP 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, SDPCP, 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 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

- 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 TNRCC.
- 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 TARPAULIN
 - EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
 - STABILIZED CONSTRUCTION ENTRANCE
 - OTHER: _____

REFERENCES — BENCHMARKS	BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEN BLVD., S98°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY END OF THE CURVE. BENCHMARK ELEVATION = 4005.40 (CITY DATUM).
DATE	REVISIONS
BY	



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	JHW
DRAWN BY	GJM
CHECK BY	JLA
APP. NO.	514
JOB No.	2000-207

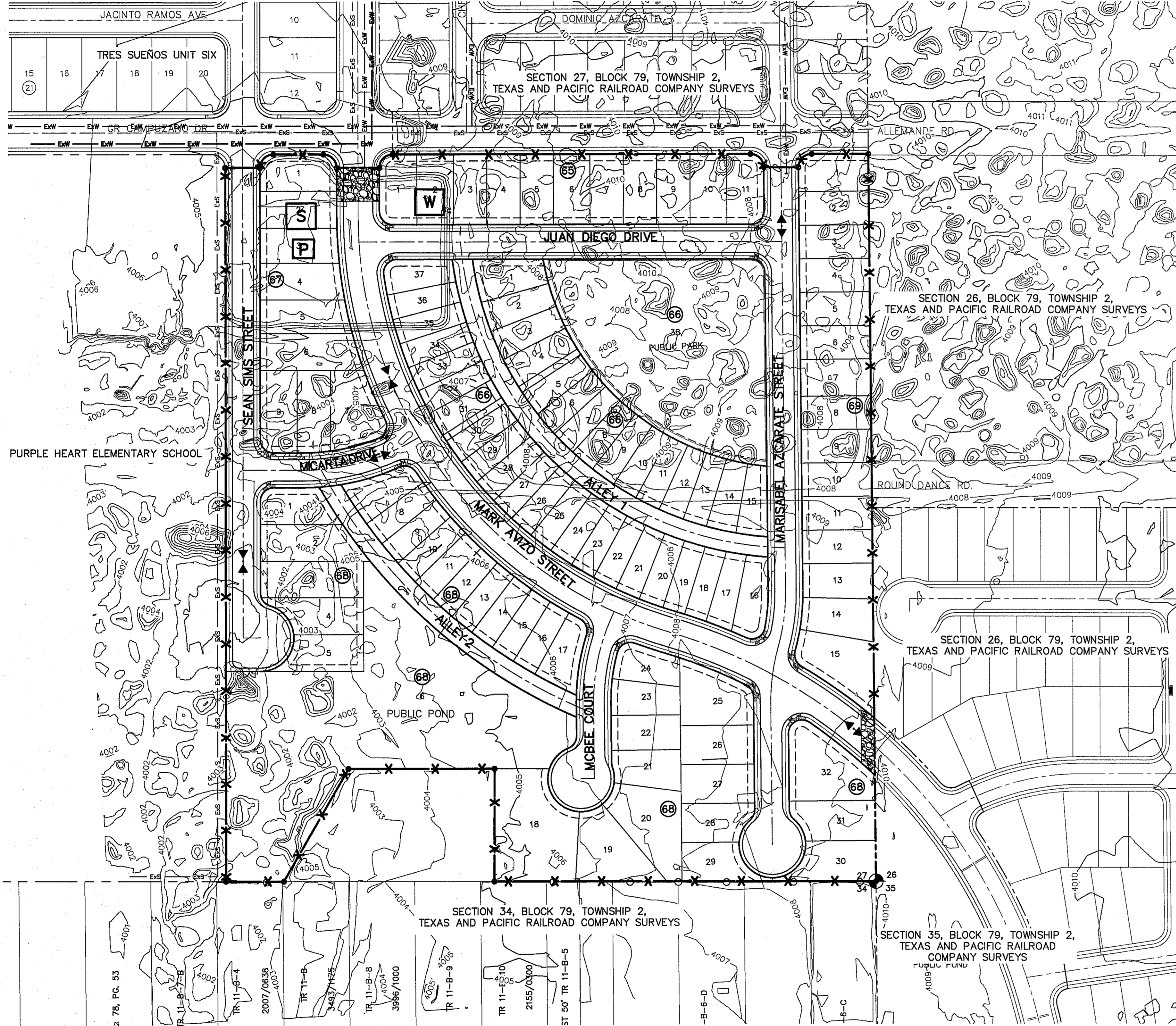
PROJECT TITLE
TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.

C14.1





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

- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AREA
- PORTABLE TOILETS
- WASH OUT

DATE	REVISIONS	BY

REFERENCES — BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084331°E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY END OF JUAN DIEGO DRIVE. BENCHMARK ELEVATION = -4005.40 (CITY DATUM).

TEXAS REGISTERED ENGINEERING FIRM #4684
 4712 Woodrow Dr. S.W. El Paso, TX 79924
 915.941.5322 | www.cseainc.com

ENGINEER'S SEAL

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	J.M.
DRAWN BY	G.J.M.
CHKD. BY	J.L.A.
APPD. BY	J.L.A.
JOB No.	2000-2017

PROJECT TITLE
**TRES SUEÑOS
 UNIT SEVENTEEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM WATER
 POLLUTION
 PREVENTION PLAN:
 SITE PLAN**

SHEET NO.

C14.2



SITE PLAN
 SCALE: 1" = 100'

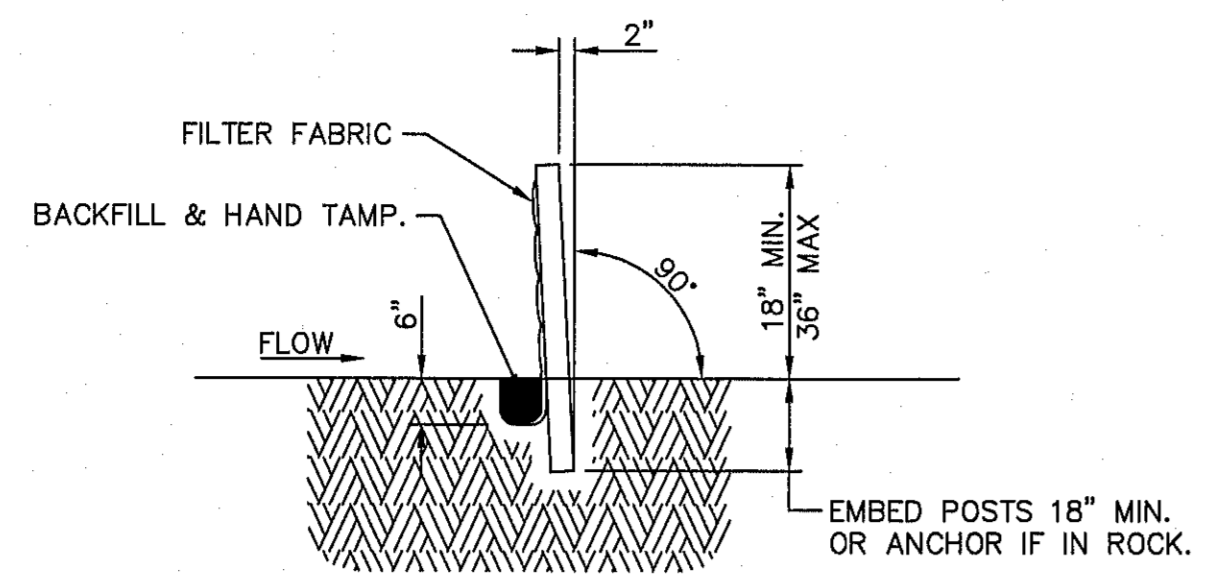


4' MIN. STEEL OR WOOD POSTS SPACED AT 6' TO 8' O.C. SOFTWOOD POSTS SHALL BE 3" MIN. DIA. OR NOMINAL 2"x4". HARDWOOD POSTS SHALL HAVE A MIN. CROSS SECTION OF 1.5" X 1.5".

CONNECT THE ENDS OF SUCCESSIVE REINFORCEMENT SHEETS OR ROLLS A MIN. OF 6 TIMES WITH HOG RINGS.

GALV. W.W.M. (12.5 GA. MIN.) MAX. OPENING SIZE SHALL BE 2" X 4".

ATTACH THE W.W.M. & FABRIC ON END-POSTS USING 4 EVENLY SPACED STAPLES FOR WOODEN POSTS (OR 4 T-CLIPS OR SEWN VERTICAL POCKETS FOR STEEL POSTS).

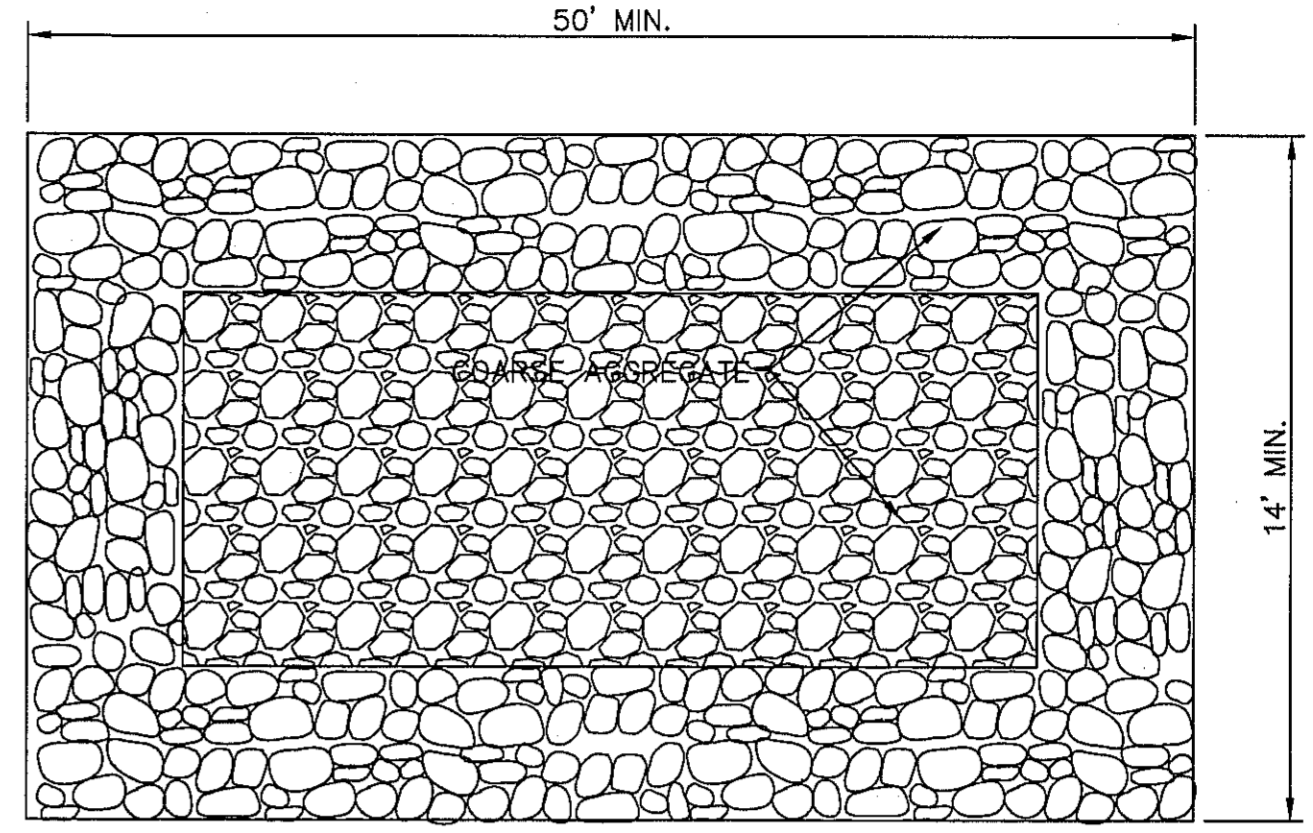


SECTION A-A

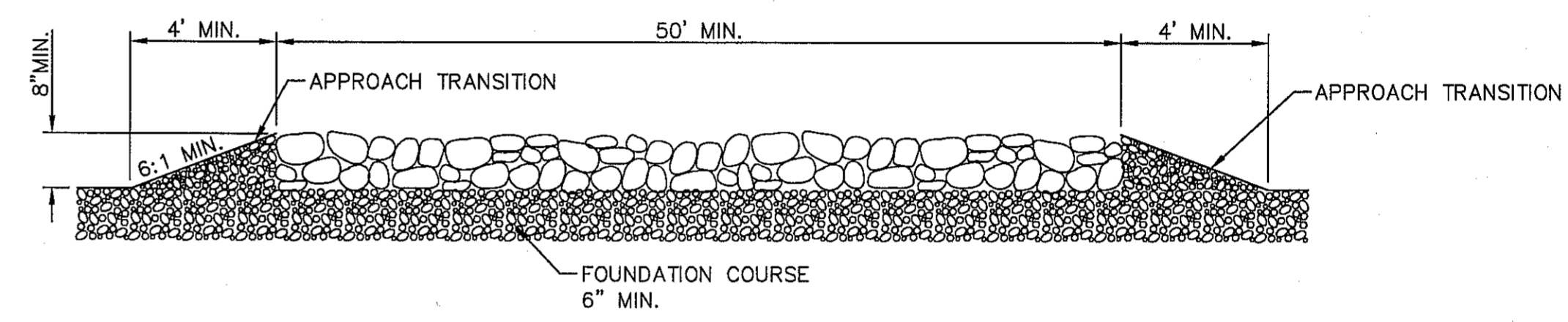
FASTEN FABRIC TO TOP STRAND OF WELDED WIRE MESH (W.W.M.) BY HOG RINGS OR CORD AT A MAX. SPACING OF 15".

PLACE 4" TO 6" OF FABRIC AGAINST THE TRENCH SIDE AND APPROX. 4" ACROSS TRENCH BOTTOM IN UPSTREAM DIRECTION. MINIMUM TRENCH SIZE SHALL BE 6" SQUARE. BACKFILL AND HAND TAMP.

TEMPORARY SEDIMENT FENCE



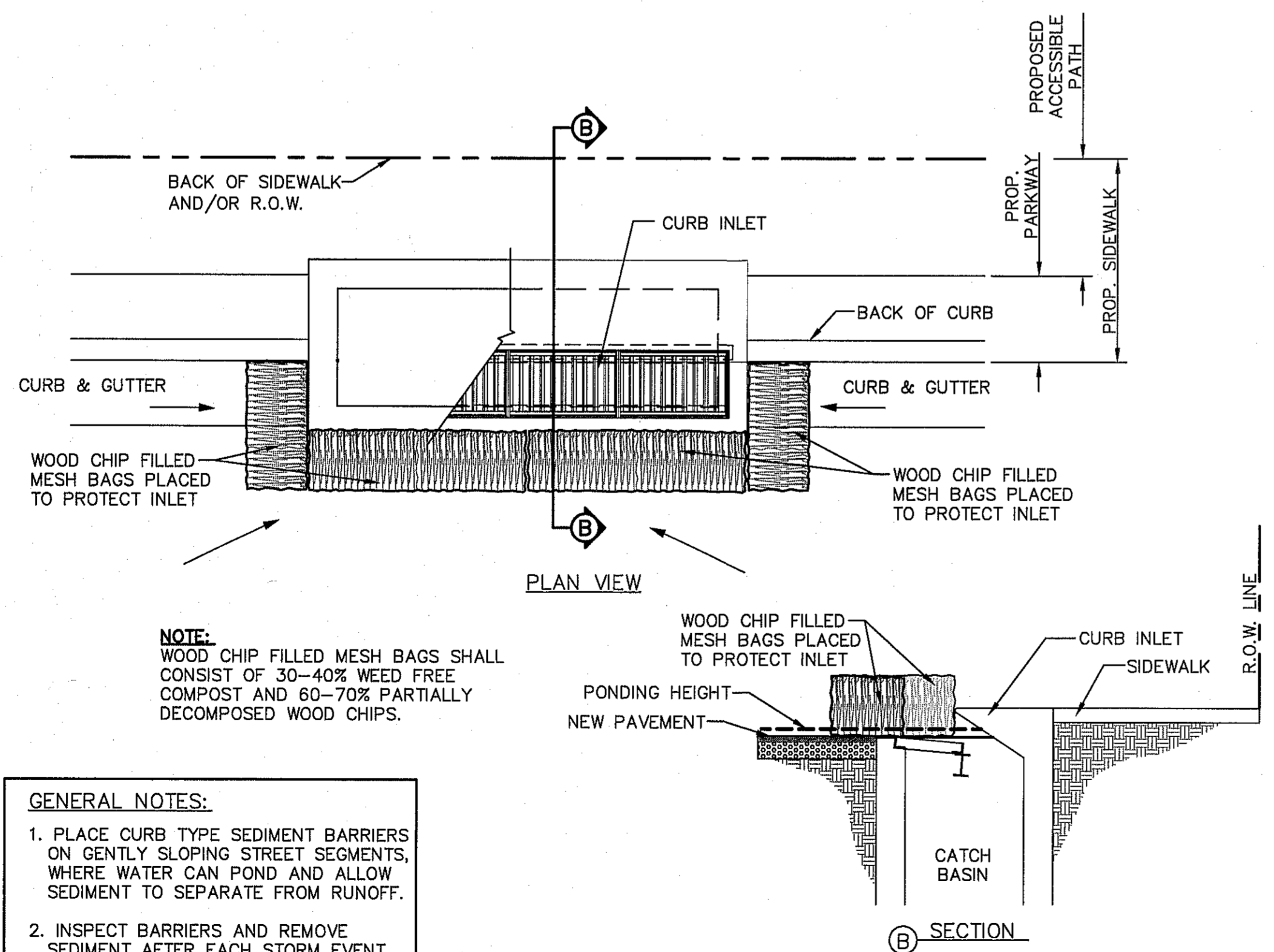
PLAN



PROFILE

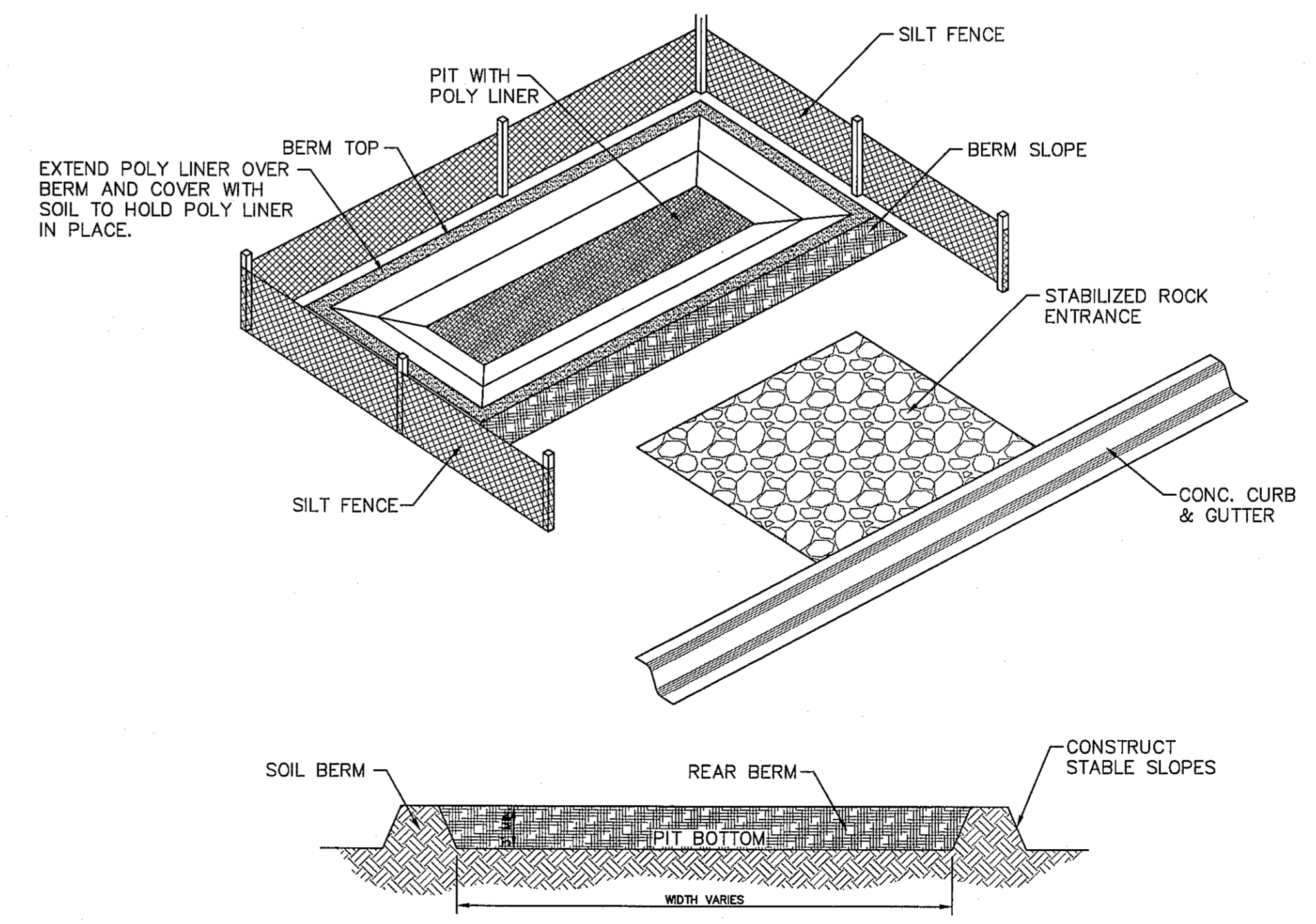
GENERAL NOTES

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.



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.

TEMPORARY INLET PROTECTION



CONCRETE WASHOUT AREA

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S084331'E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY END OF MONTERA AVENUE. MONTERA AVENUE WAY LINE OF MONTERA AVENUE. ELEVATION = +665.90 (CITY DATUM).

DATE	REVISIONS	BY

ENGINEER'S SEAL

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JUNE 2018
DESIGN BY	J.M.
DRAWN BY	G.J.M.
CHECKED BY	J.L.A.
APP'D. BY	J.L.A.
JOB NO.	2008-207

PROJECT TITLE

TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.

C14.3



S:\2008\2008-207 - TRES SUEÑOS UNIT SEVENTEEN SUBDIVISION IMPROVEMENTS\Drawings\Improvement Plans\C14.3-SWPPP Details.dwg, 8/29/2018 9:19:11 AM

REVISIONS
DATE

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 & ANALYSIS OF SOIL AMENDMENTS. ORGANIC AMENDMENTS SHALL CONSIST OF WELL-AGED ORGANIC COMPOST OR APPROVED EQUAL.

FERTILIZER

- SLOW-RELEASE STARTER FERTILIZER ANALYSIS AS RECOMMENDED BY LANDSCAPE ARCHITECT 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 1 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 GY/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, DRAGS, 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 MUDDY 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 THROUGH 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 CUTTINGS.
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 REQUESTED 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.

GENERAL IRRIGATION NOTES

- 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.
- 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.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE OTHER CONTRACTORS WORKING ON THE SITE. COORDINATE INSTALLATION OF SLEEVINGS!
- 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.
- IF PRESSURE IS MORE THAN 45 PSI DOWNSTREAM OF METER NOTIFY THE PROJECT MANAGER AND LANDSCAPE ARCHITECT IMMEDIATELY.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
- LOCATION OF THE CONTROLLER AND BACKFLOW SHALL BE APPROVED BY CITY OF EL PASO PARKS AND RECREATION DEPT.
- 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.
- THE CONTRACTOR SHALL NOT IMPEDE DRAINAGE IN ANY WAY. THE CONTRACTOR SHALL ALWAYS MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS, WALLS, ETC.
- ALL PIPING/IRRIINGS 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 IRRIINGS 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.
- DIRECT BURIAL 24V ELECTRIC CONTROL WIRE (#14S) AND COMMON GROUND (#12S) 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. WIRES SHALL BE IN SEPARATE TRENCH FIVE FEET (5') FROM PRESSURE MAIN LINE ON NORTH AND WEST SIDE OF MAIN. PROVIDE EXPANSION LOOPS FOR IRRIINGS 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.
- ALL VALVES SHALL BE TAPED WITH A WATERPROOF TAG SHOWING VALVE NUMBER, LABEL ALL IRRIINGS AT CONTROLLERS AND PANELS.
- ALL PIPE CUTS SHALL BE MITERED TO 45 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 GUELE IS APPLIED AND PVC PIPING IS ASSEMBLED. USE IPS WELD-ON GRAY BLUE #11 HEAVY DUTY. NIPE OFF ALL EXCESS CEMENT AND LET SET PER MANUFACTURER'S RECOMMENDATIONS. INITIAL SET TIMES SHALL BE MINIMUM OF 5 MIN. FOR 1/2 TO 1/4" PIPE, 8 MIN. FOR 1/2" PIPE TO 1 1/2" PIPE, 2 HOURS FOR 2-1/2 TO 8" PIPE. CURE TIMES ARE 20 MIN FOR 1/2" TO 1/4" PIPE, 30 MIN FOR 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.
- 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.
- 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 CONTACT 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.
- THE CONTRACTOR SHALL FINE TUNE AND ADJUST THE IRRIGATION SYSTEM SO THAT NO WATER WILL RUN ONTO THE STREET OR WALKS.
- THE CONTRACTOR SHALL PROVIDE A WATER AUDIT CONDUCTED IN THE PRESENCE OF THE CITY OF EL PASO PARKS AND RECREATION DEPT. REPRESENTATIVE.
- THE CONTRACTOR SHALL MAINTAIN ALL WORK UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE CITY OF EL PASO PARKS AND RECREATION DEPT.
- WATERING TIME TO SET TURF STATIONS. SEE TURF IRRIGATION SYSTEM DESIGN CRITERIA. SET PER LOCAL WATERING CODES.
- WARRANTY PERIOD IS ONE YEAR FROM DATE OF ACCEPTANCE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WATER AUDIT.

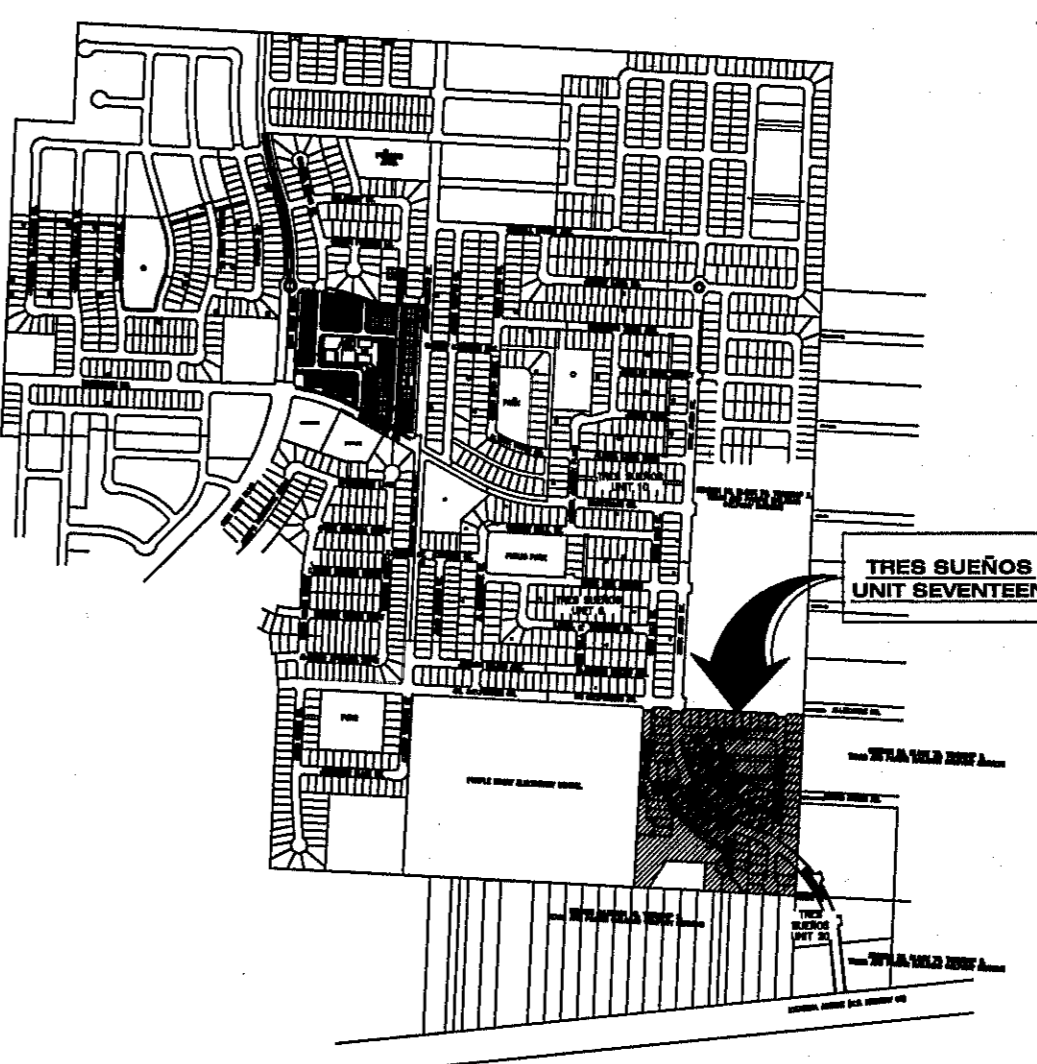
TREES IN LEAF DELIVERED TO THE SITE SHALL BE COVERED WITH A CANVAS TARP DURING TRANSPORT. PLASTIC TARPS ARE PROHIBITED.

DO NOT LIFT TREES BY THE TRUNK. LIFT BY CONTAINER.

PLANS MUST BE SUBMITTED TO TEXAS DEPT OF LICENSING AND REGULATION FOR COMPLIANCE WITH TEXAS ACCESSIBILITY STANDARDS. #EABFPR_18082191

ALL PARK IMPROVEMENTS SHALL COMPLY WITH ADAAS AND TAS RULES AND REGULATIONS AS THEY APPLY.

PARKS DEPARTMENT
REVIEWED BY *[Signature]* 09/10/2018



SITE LOCATION MAP
SCALE: 1"=600'-0"

PLANTING NOTES

- 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.
- TOPSOIL MATERIAL FOR PLANTINGS SHALL BE FREE FROM HARD CLODS, STIFF CLAY, HARD PAN, STONES LARGER THAN 1" IN DIAMETER, NOXIOUS WEEDS AND PLANTS, SOD PARTIALLY DIGESTED DEBRIS, INSECTS OR ANY OTHER UNDESIRABLE MATERIAL. PLANTS OR SEEDS THAT WOULD BE TOXIC OR HARMFUL TO GROWTH.
- CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF PLANT MATERIAL QUANTITIES.
- 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.
- THE CONTRACTOR SHALL MEET BOTH THE CONTAINER SIZE AND CALIFER SIZE, AS WELL AS HEIGHT AND SPREAD SPECIFICATIONS SPECIFIED.
- 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.
- 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.
- PLANT SUBSTITUTIONS WILL BE PERMITTED, REQUEST SUBSTITUTION IN WRITING GIVING REASONS FOR SUCH SUBSTITUTIONS.
- TURF QUANTITY TAKE-OFF ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- TREAT ALL PLANTING AREAS WITH AN APPLICATION OF SURLIN. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR APPLICATION.
- REMOVE ALL WIRE, STRING, WIRE BASKETS, BURLAP, CONTAINERS, ETC., FROM THE ROOTBALL OF PLANTS BEFORE BACKFILLING THE PLANTING HOLE.
- SEEDED AREAS SHOULD BE MAINTAINED UNTIL A FULL GROWTH OF WILD GRASS OR SEEDED MATERIAL IS ACHIEVED.
- WARRANTY FOR THE PLANTING MATERIAL SHALL BE ONE YEAR FROM THE DATE OF ACCEPTANCE. (TREES, SHRUBS AND GROUNDCOVER).

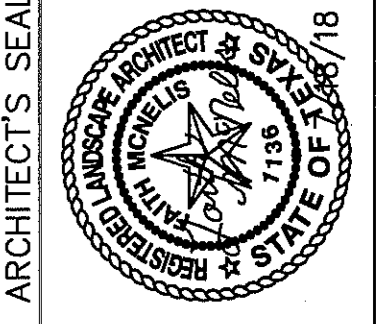
GENERAL NOTES

- THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING HIS BID.
- 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.
- 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 UNDERGROUND UTILITIES SHALL BE COORDINATED WITH APPROPRIATE AGENCY.
- THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH OWNER, ALL AFFECTED UTILITY COMPANIES, AND ALL OTHER ENTITIES HAVING JURISDICTION OVER THE PROJECT.
- 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.
- VIBRATORY ROLLERS SHALL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
- 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.
- WARNINGS: 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.
- 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.
- 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.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATION DURING CONSTRUCTION ACTIVITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ENVIRONMENTAL FINES RESULTING FROM HISHER WORK AND HOLD THE OWNER HARMLESS IN SUCH CASES.
- CONTRACTOR SHALL SECURE THE SITE DURING CONSTRUCTION TO PROTECT THE AREA FROM VANDALISM AND ILLEGAL TRESPASSING. CONTRACTOR SHALL SECURE THE SITE AT HISHER OWN COST. CONTRACTOR SHALL SITE PROTECTION MEASURES SHALL BE SUBMITTED TO THE PARKS AND RECREATION DEPT. FOR APPROVAL.
- 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.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES & CONTRACTOR SHALL CALL THE RESPECTIVE "1-CALL" NUMBER FOR SUCH UTILITIES.
- CONTRACTOR SHALL INSURE THE FOLLOWING: ALL ACCESSIBLE ROUTES SHALL NOT EXCEED A RUNNING SLOPE GREATER THAN 1:20(5%). NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50(2%). MAXIMUM SLOPE OF ADJACENT 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 ADAAS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SOIL TESTING PER CITY OF EL PASO PARK STANDARDS AND SHALL A PERFORM A PERCOLATION TEST.

SHEET INDEX	
L1	SITE MAP, SHEET INDEX, NOTES
L2	PLANTING AND MATERIALS PLAN
L3	IRRIGATION PLAN - SPRAY PATTERN
L4	IRRIGATION PLAN - PIPING AND DRIP
L5	PLAYGROUND EQUIPMENT
L6	LAYOUT PLAN
L7	PLANTING AND CONSTRUCTION DETAILS
L8	CONSTRUCTION DETAILS
L9	IRRIGATION DETAILS
L10	IRRIGATION DETAILS
L11	IRRIGATION DETAILS- PUMP AND ENCLOSURE

UNSATURABLE SOIL CONDITION MITIGATION PER PARKS AND RECREATION STANDARDS
DEVELOPER / CONTRACTOR SHALL OBTAIN SOIL SAMPLES (TAKEN FROM PROPOSED PARK SITE LOCATION FINISHED GROUND) & PROVIDE COMPLETE ANALYSIS REPORT (TEXTURAL, SOILS CLASSIFICATION, MINERALS AND NUTRIENTS AVAILABILITY, WATER INFILTRATION/PERCOLATION, DETAILED SALINITY, & PH CONDUCTIVITY TEST) WITH RECOMMENDATIONS FOR SOILS AMENDMENTS AND PREPARATION TO INSURE EXISTING SOIL CONDITIONS ARE SUITABLE FOR TURF, SHRUBS, AND TREE GROWTH; COORDINATE SITE VISIT WITH PARKS STAFF FOR COLLECTION OF SOIL SAMPLES.
ANY UNSUITABLE SOIL CONDITIONS SHALL BE REMEDIED TO ELIMINATE HARD SOILS, STONY SOILS, HIGH CALICHE SOILS, CLAY SOILS AND CONTAMINATED SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BY SHATTERING IN TWO DIRECTIONS, OF HARD PAN CALICHE, CLAY SOILS, ROCKS TO A DEPTH OF 36 INCHES BELOW FINISHED GRADE AS REQUIRED FOR PROPER PLANTING AS PER PARK'S DESIGN & CONSTRUCTION STANDARDS FOR PARK FACILITIES APPROVED ON 01/08/2018.

ANY UNSUITABLE SOIL MATERIALS NOT APPROVED BY PARKS DEPARTMENT AND/OR DEPARTMENT LIAISON/DESIGNER ARE TO BE REMOVED, DISPOSED-OFF, AND REPLACED WITH 60% TOP SOIL / SANDY LOAM MATERIAL (BLEND OF 40% SAND, 40% SILT, & 20% CLAY - CAPABLE OF HOLDING MOISTURE) TO INCLUDE ORGANIC MATTER / NUTRIENTS TO A MINIMUM DEPTH OF 12 INCHES.



SCALE
Horizontal: N/A
Vertical: 1"=10'
Contour Interval: N/A
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPVD. BY: LM
JOB NO.

PROJECT TITLE
SUEÑOS ENCANTADOS PARK
4577 MARIASABEL AZCARATE
LOT 38 BLOCK 66
TRES SUEÑOS UNIT 17 SUBDIVISION
CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
AREA: 75709 SQ. FT. = 1.73 ACRES



SHEET INDEX
L1
NOTES AND INDEX
SHEET 1 OF 11



Final Approval

PARK MATERIAL LEGEND AND DETAIL KEY:

- FRANKLIN RED GRAVEL CRUISHER FINES 3" DEPTH 2' BELOW ALL CONCRETE SURFACES. USE WEED BARRIER. PROJECT TOTAL 10371 SF. SEE DETAIL (C) ON SHEET L8.
- SANTA ANA BERMUDA GRASS. PROJECT TOTAL 53914 SF. TOP OF SOD 2' BELOW TOP OF SIDEWALK AND CONCRETE HEADER CURB. SEE DETAIL (D) ON SHEET L8.
- 6"-8" RECESSED AREA FOR WATER HARVESTING PARKS AND RECREATION REPRESENTATIVE MUST APPROVE GRADING PRIOR TO INSTALLING SOD OR GRAVEL.
- 7'-0" PARK CONCRETE WALKWAY, PATIO, BENCH & TABLE PADS. PROJECT TOTAL 4195 SF. SEE DETAIL (E) ON SHEET L7.
- SUBDIVISION 7'-0" CONCRETE WALKWAY BY DEVELOPER.
- 6"x12" CONCRETE HEADER CURB. PROJECT TOTAL 56' LF. SEE DETAIL (F) ON SHEET L8.
- DUMOR TRASH RECEPTACLE 84-32-RC PROJECT TOTAL 2. ELLE - INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL (G) ON SHEET L8.
- 6'-0" DUMOR 54 SERIES BENCH-IN GROUND MOUNT. TOTAL - 4. MATCH COLORS TO PLAYGROUND. INSTALL PER MANUF. FOR ADA BENCH SEE DETAIL (H) ON SHEET L8.
- PARK RULES SIGN. SEE DETAIL (I) ON SHEET L7.
- ENGINEERED FIBER WOOD CHIPS. INSTALL PER MANUFACTURER'S SPECIFICATIONS. PROJECT TOTAL 3266 SF. PLACE 18" DEPTH OF CHIPS AND COMPACT TO 12" DEPTH. SEE DETAIL (J) AND (K) ON SHEET L7.
- 18" HT. ROCK WALL. PROJECT TOTAL 143 LF. SEE DETAIL (L) AND (M) ON SHEET L7.
- ADA ACCESSIBLE PLAYGROUND RAMP. RAMP WIDTH VARY. SEE DETAIL (N) ON SHEET L8.
- AERIAL LIGHTING - 30' HIGH PRE-STRESSED CONCRETE DIRECT BURY POLE LED FIXTURES AND LAMPS. MUST COMPLY WITH CITY OF EL PASO MUNICIPAL CODE FOR OUTDOOR LIGHTING SECTION 10.10. SEE ENGINEER'S ILLUMINATION PLAN.
- PLAY STRUCTURE - PLAYBOOSTER DESIGN #696. COLORS - MUST BE APPROVED BY PARKS DEPT. PRIOR TO ORDERING. SEE SHEET L5 FOR MORE INFORMATION.
- IRRIGATION PUMP HOUSE. SEE IRRIGATION PLAN AND SHEET L11 FOR MORE INFORMATION.
- SHADED ACCESSIBLE PICNIC TABLE - PROJECT TOTAL 1. GRS HAWAIIAN TKT COVERED TABLE. 9 SEATS. COLORS TO BE APPROVED BY PARKS. SEE DETAIL (O) ON SHEET L8.
- SHADED PICNIC TABLE - PROJECT TOTAL 1. GRS HAWAIIAN TKT COVERED TABLE. 4 SEATS. COLORS TO BE APPROVED BY PARKS. SEE DETAIL (P) ON SHEET L8.

PLANS MUST BE SUBMITTED TO TEXAS DEPT OF LICENSING AND REGULATION FOR COMPLIANCE WITH TEXAS ACCESSIBILITY STANDARDS. #EABPRJ08021991

ALL PARK IMPROVEMENTS SHALL COMPLY WITH ADAAG AND TAS RULES AND REGULATIONS AS THEY APPLY.

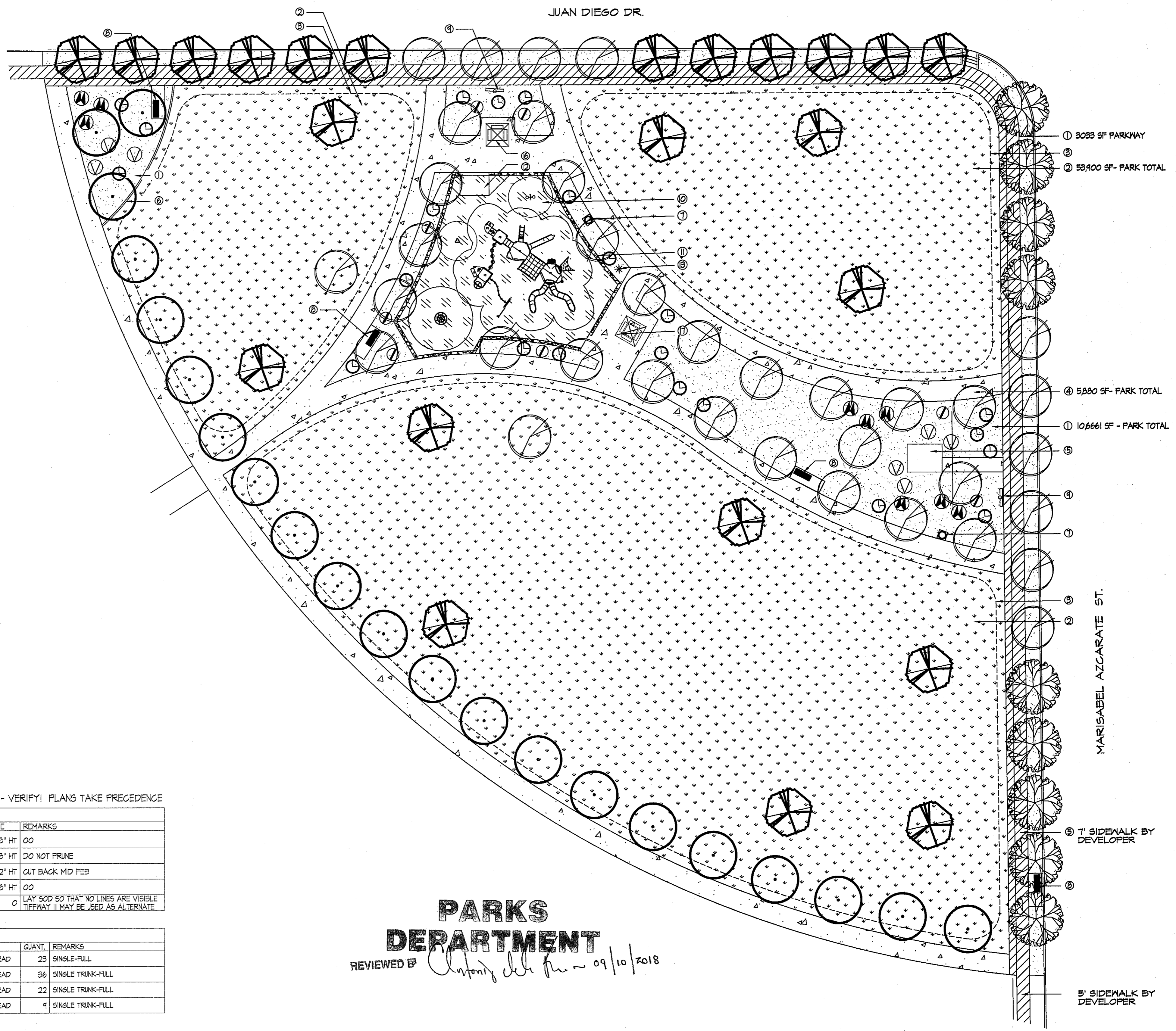
QUANTITIES ARE PROJECT TOTALS - VERIFY! PLANS TAKE PRECEDENCE

PLANT LEGEND/SCHEDULE

SYM	KEY	COMMON NAME	BOTANICAL NAME	CONT.	SPACING	QUANT.	SIZE	REMARKS
(A)	HC	LYNN'S LEGACY TEXAS SAGE	LEUCOPHYLLUM LANGMANIAE LYNN'S LEGACY	5 GAL	8' OC	9	18" HT	OO
(B)	RY	RED YUGGA	HESPERALOE PARVIFLORA	5 GAL	8' OC	8	18" HT	DO NOT PRUNE
(C)	YL	'NEW GOLD' LANTANA	LANTANA CAMERA 'NEW GOLD'	5 GAL	6' OC	20	12" HT	CUT BACK MID FEB
(D)	CR	CHISOS ROSEWOOD	YACQUELINA CORTYMOBOSA SSP. ANGUSTIFOLIA	5 GAL	6' OC	7	18" HT	OO
(E)		'SANTA ANA' BERMUDA GRASS	C.DACTYLON X TRANSVAALENSIS	SOD		53,914		LAY SOD SO THAT NO LINES ARE VISIBLE TIEWAY IT MAY BE USED AS ALTERNATE

TREE LEGEND/SCHEDULE PROJECT TOTAL

SYM	KEY	COMMON NAME	BOTANICAL NAME	CONT.	SIZE	QUANT.	REMARKS
(F)	LET	LACEBARK ELM	ULMUS PARVIFOLIA	24" BOX	2" GAL-10HT-4" SPREAD	23	SINGLE TRUNK-FULL
(G)	CPT	CHINESE PISTACHE	PISTACIA CHINENSIS	24" BOX	2" GAL-10HT-4" SPREAD	36	SINGLE TRUNK-FULL
(H)	MOT	MONTERREY OAK	QUERCUS POLYMORPHA	24" BOX	2" GAL-10HT-4" SPREAD	22	SINGLE TRUNK-FULL
(I)	CET	CEDAR ELM	ULMUS CRASSIFOLIA	24" BOX	2" GAL-10HT-4" SPREAD	9	SINGLE TRUNK-FULL



PARKS DEPARTMENT
 REVIEWED BY *Antonio de la Cruz* 09/10/2018

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



REVISIONS

DATE

PROJECT TITLE: **SUEÑOS ENCANTADOS PARK**
 4577 MARISABEL AZCARATE
 LOT 38 BLOCK 66
 TRES SUEÑOS UNIT 17 SUBDIVISION
 CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
 AREA: 75709 SQ. FT. - 173 ACRES

ARCHITECT'S SEAL: **LISA MCNEELIS**
 LANDSCAPE ARCHITECT
 1900 FOREBORO
 LAS CRUCES, NEW MEXICO 88007
 (575) 621-5052

SCALE:
 Horizontal: Contour Interval: N/A
 Vertical: 7/18/18
 DATE: 7/18/18
 DESIGN BY: LM
 DRAWN BY: LM
 CHKD. BY: LM
 APPVD. BY: LM
 JOB No.

SHEET TITLE: **L2**
 PLANTING AND MATERIALS
 SHEET 2 OF 11

FH # 10395 @ Mark Arvizo Street & 40' of G.R. Campuzano Drive.
 Sta: 65
 Res: 60
 GPM: 1,342

SPACE HEADS EQUALLY ALONG SIDES.
 MAXIMUM HEAD SPACING 32'
 OFFSET FIRST ROW 28'

JUAN DIEGO DR.

SPACE HEADS EQUALLY ALONG SIDES.
 MAXIMUM HEAD SPACING 32'
 OFFSET FIRST ROW 28'

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.
 FH # 10395 AT MARK ARVIZO ST AND 40' OF G.R. CAMPUZANO DR. STATIC 65 PSI
 PUMP PROVIDES - 25 PSI
 PRESSURE REQUIREMENT - 50 PSI AT BASE OF ROTOR HEAD
 PRESSURE REQUIREMENT - 45 PSI AT BASE OF ROTOR HEAD
 FLOW REQUIREMENT FOR ROTOR STATIONS - 120.7 GPM MAXIMUM FLOW RATE
 (DIFFERENCES IN AVAILABLE FLOW AND OR PRESSURE WILL REQUIRE DESIGN CHANGES) CONTRACTOR MUST VERIFY
 - PROPOSED 3" WATER SERVICE LINE, PROPOSED 3" WATER METER
HEAD LAY-OUT
 - ROTOR HEAD LAY-OUT AND SPACING IS BASED ON TRIANGULAR LAYOUT. RADIUS OF THE HINTER 1-25 NOZZLE #5 @ 50 PSI IS 36. 36X24=86" FOR HEAD SPACING 50' X 266 = 43' FOR TRIANGULAR LAYOUT ROW SPACING. ADJUSTED SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING IN GENERAL. HEAD SPACING IS AS FOLLOWS:
 MAXIMUM HEAD SPACING = 50', LATERAL SPACING = 43' 6 GALLONS PER MINUTE FLOW - 13.4
 - ROTOR HEAD LAY-OUT AND SPACING IS BASED ON TRIANGULAR LAYOUT. RADIUS OF THE HINTER 1-20 MFR-35 NOZZLE @ 45 PSI IS 35. 35X24=84" FOR HEAD SPACING 32' X 266 = 28' FOR TRIANGULAR LAYOUT ROW SPACING. ADJUSTED SPACING IS SHOWN AT EDGES OF TURF AND CONCRETE EDGING IN GENERAL. HEAD SPACING IS AS FOLLOWS:
 MAXIMUM HEAD SPACING = 32', LATERAL SPACING = 28' 6 GALLONS PER MINUTE FLOW - VARIES
 - 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.

TURF IRRIGATION SYSTEM DESIGN CRITERIA CONT.

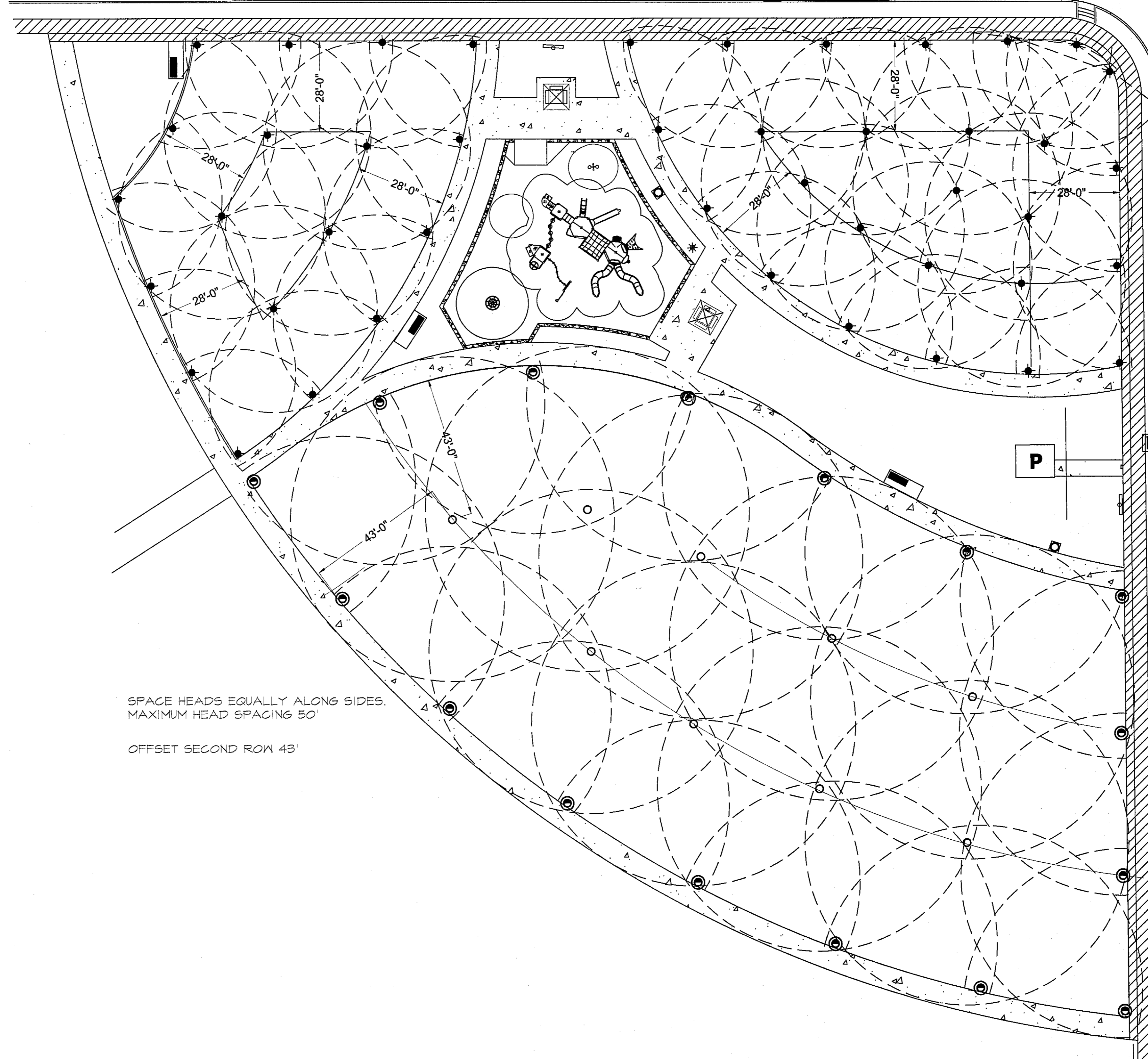
- PERFORMANCE STATISTICS**
- THE FOLLOWING PERFORMANCE STATISTICS WERE CALCULATED BASED ON INFORMATION SHOWN ON THIS PLAN. CHANGES IN OPERATING PRESSURE, HEAD SPACING AND OR NOZZLE SELECTION WILL EFFECT RESULTS.
VALVES #2, #3 AND #4 MFR HEADS TOTAL AREA METHOD
 $\frac{122.7 \times 46.3}{1231} = \frac{1186.01}{1231} = .964 \text{ 'HR}$
 $\frac{.964 \text{ 'HR}}{1.25 \text{ HR} - 75 \text{ MIN}}$
VALVES #6, AND #7
 $\frac{80.95 \times 46.3}{4284} = \frac{7195.49}{4284} = .894 \text{ 'HR FULL HEADS}$
 $\frac{.894 \text{ 'HR FULL HEADS}}{1.43 \text{ HR} - 86 \text{ MIN}}$
VALVE #8, AND #11
 $\frac{13.4 \times 46.3}{(50 \times 43)} = \frac{1240.42}{2150} = .572 \text{ 'HR PART HEADS}$
 $\frac{.572 \text{ 'HR PART HEADS}}{1 \text{ HR} - 60 \text{ MIN}}$
VALVE #10 FULL
 $\frac{13.4 \times 46.3}{(50 \times 43)} = \frac{1240.42}{2150} = .600 \text{ 'HR FULL HEADS}$
 $\frac{.600 \text{ 'HR FULL HEADS}}{2 \text{ HR} - 120 \text{ MIN}}$

DRIP IRRIGATION SYSTEM DESIGN CRITERIA

VALVES #1, #5 AND #9 - 65 G/WEK FOR TREES - 27 GPM SHRUBS AND 6G PLANTS - 1.2 G/WEK - .036GPM AT 240 MINUTES PER WEEK CONTROLLER SETTING.

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 SPLICING.
- 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.

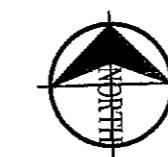


SPACE HEADS EQUALLY ALONG SIDES.
 MAXIMUM HEAD SPACING 50'

OFFSET SECOND ROW 43'

MARISABEL AZCARATE ST.

8" WTR.

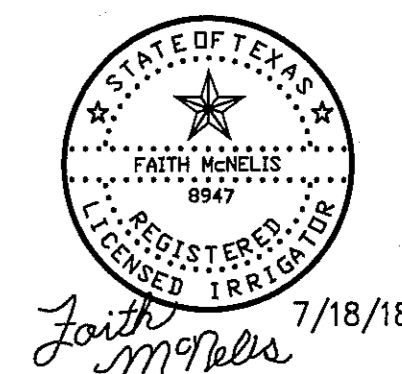


PLAN VIEW - IRRIGATION SPRAY PATTERN

SCALE: 1" = 20' - 0"

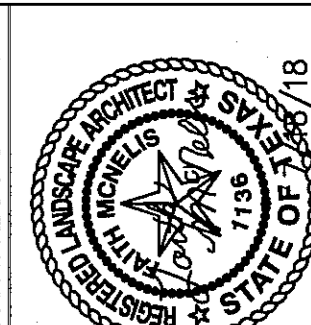
PARKS DEPARTMENT
 REVIEWED BY *[Signature]* 09/10/2018

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



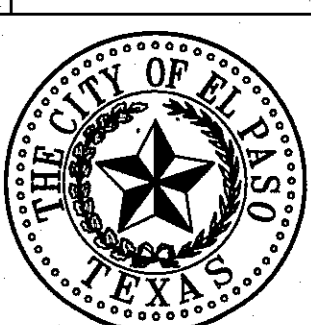
Final Approval

LISA MCNEELIS
 LANDSCAPE ARCHITECT
 1900 FORBORG
 LAS CRUCES, NEW MEXICO 88007
 (505) 621-9582



SCALE:
 Horizontal: N/A
 Vertical: Interval: 1/8"
 DATE: 7/18/18
 DESIGN BY: LM
 DRAWN BY: LM
 CHKD. BY: LM
 APPVD. BY: LM
 JOB No.

SUEÑOS ENCANTADOS PARK
 4577 MARISABEL AZCARATE
 LOT 38 BLOCK 66
 TRES SUEÑOS UNIT 17 SUBDIVISION
 CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
 AREA: 75709 SQ.FT. - 1.73 ACRES



SHEET TITLE

L3

IRRIGATION PLAN

SHEET 3 OF 11

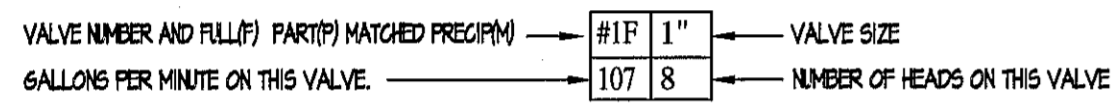
REVISIONS	DATE

PROJECT TITLE

SHEET TITLE

SHEET 3 OF 11

PRESSURE LOSS CALCULATION SHEET						
I-25 #15 NOZZLE	SECTION #10			Pressure Loss Per 100 ft.	Pressure Loss This Item	Accumulated Pressure Loss
	Length of Pipe (Feet)	Flow (Gal.)	Size (in.)			
class 200	41	13.4	1"	2.64	1.0824	1.0824
class 200	38	26.8	1-1/2"	1.54	0.5852	1.6676
class 200	30	40.2	2"	1.24	0.3720	2.0396
class 200	41	67	2.5"	1.1	0.4510	2.4906
class 200	15	120.6	4"	0.39	0.0585	2.5491
Section Pressure Losses (Sub-Total)						2.5491
Calculate Remaining Pressure Losses Below						
Item	Length	Flow	Size (In.)	Pressure Loss Per 100 Ft.	Pressure Loss This Item	Accumulated Pressure Loss
Section Valve			3		2.4000	4.9491
Main SCH 40	345.5	60.3	3	0.43	1.4857	6.4348
Main SCH 40	89	120.6	4	0.41	0.3649	6.7997
Backflow			3		12.5000	19.2997
Water Meter			3		3.9000	23.1997
Copper Supply	50	120.6	3	2.21	1.1050	24.3047
Total Pressure Loss to the City Main						24.3047
Minimum Required Head Pressure						50.0000
Static Pressure						65.0000
Design Pressure 25 psi available from pump						90.0000
Actual Head Pressure						65.6954



MATERIAL LEGEND AND DETAIL KEY:

- 4" PRESSURE MAIN** PVC SCHEDULE 40, DEPTH 18" TO TOP OF PIPE. SEE DETAIL (1) ON L4.
- 3" PRESSURE MAIN** PVC SCHEDULE 40, DEPTH 18" TO TOP OF PIPE. SEE DETAIL (1) ON L4.
- LATERAL** PVC CLASS 200, DEPTH 12", TO TOP OF PIPE. SEE DETAIL (1) ON L4.
- SCH 40 SLEEVINGS** UNDER ALL PAVED AREAS WHERE LINES ARE RUN. SLEEVINGS 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 #10 UNDER GENERAL IRRIGATION NOTES.
- CONCENTRIC REDUCER** - SET 20' FROM JUNCTION IN LOOPED MAIN. SEE SHEET L4 PIPE SIZING PLAN.
- FIELD WIRING** SHALL BE IN A SEPARATE TRENCH 3' OFFSET FROM MAIN LINE ON NORTH AND WEST SIDE.
- HUNTER I-25-06-55 #15 GRAY FULL CIRCLE NOZZLE** USE LASCO SWING JOINTS. 50 PSI-4 GPM - 55' RADIUS X 2 X .45 = 50R HEAD SPACING X .266 = 43 ROW SPACING. SEE DETAIL (1) ON L4.
- HUNTER I-25-06-55 #15 GRAY PART CIRCLE NOZZLE** -ADJUSTABLE ARC. USE LASCO SWING JOINTS. 50 PSI-4 GPM - 55' RADIUS. SEE DETAIL (1) ON L4.
- HUNTER I-20-06-55 MPR-35** -ADJUSTABLE ARC. USE LASCO SWING JOINTS. 50 PSI-4 GPM - 35' RADIUS X 2 X .45 = 52R HEAD SPACING X .266 = 28 ROW SPACING. SEE DETAIL (1) ON L4.
- DRIP EMITTER** FOR TREES: RAINEIRO XERI-BIRD XEO-80 WITH FILTER USE 8-1/2" 20/20 EMITTERS PER TREE. 27 GPH. LOCATE 3' AWAY ON WEST OR SOUTH SIDE OF TREE. SET IN EMITTER VALVE BOX. SEE DETAILS (2) AND (3) ON L4.
- ELECTRIC REMOTE VALVE** WEATHERMATIC 8200CR-10 WITH XPR OPTION AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAIL (5) AND (6) ON L4.
- ELECTRIC REMOTE VALVE FOR DRIP** WEATHERMATIC 8200CR-10 WITH XPR OPTION AND CUT-OFF BALL VALVE. SIZE ON PLAN. SEE DETAIL (5) ON L4 AND (1) ON L10.
- ISOLATION GATE VALVE** IN LOCKING VALVE BOX USE STANDARD VALVE BOX DETAILS. MUST BE LOCATED 5' FROM CONCENTRIC REDUCER ON 3" PIPE. SEE DETAIL (2) ON L4.
- BUCKNER 1" QUICK COUPLER** - DOUBLE LUG WITH LASCO SNAP LOK WITH MALE BRASS STABILIZER ELBOW WITH CUT OFF. TO BE SET IN 12"x14" LOCKING VALVE BOX. SEE DETAIL (2) ON L10.
- 3" METER** LOCATION ON THIS PLAN IS APPROXIMATE. FLOW: 240 GPM. DO NOT SET IN SIDEWALK.
- BACKFLOW PREVENTION DEVICE** WILKINS MODEL 515 3" REDUCED PRESSURE ZONE ASSEMBLY. LOCATED IN INSULATED PUMP ENCLOSURE. WALLS R-5. CEILING SHALL BE INSULATED TO R4. INSTALL TO MEET LOCAL CODES AND CITY OF EL PASO PARKS DEPT. REQUIREMENTS. SEE DETAILS (8) - (9) ON L11.
- RAINEIRO ESP SAT CONTROLLER** - 12 STATION MAXICON COMPATIBLE. LOCATE IN PUMP HOUSE IN WATER-TIGHT NEMA ENCLOSURE. SEE DETAIL (20) ON L11.
- BERKELEY B37PMS** VARIABLE SPEED PUMP WITH 3 HP 3 PHASE MOTOR. CATALOG#B37PMS. FLANGED VOLUTE CASE IN T.I. POSITION. MECHANICAL SHAFT SEAL. FENCIG DRIVE. HOUSED IN 20x12 PREMIER SERIES TUFF SHED. COORDINATE WITH PUMP DETAIL #16 ON SHEET L11. INSTALL TO MEET LOCAL CODES AND CITY OF EL PASO REQUIREMENTS. LOCATION APPROVED BY CITY OF EL PASO PARKS AND REC DEPARTMENT. SEE DETAILS (18) - (20) ON L11. VERIFY WITH BERKELEY PUMPS PRIOR TO ORDERING.
- RAIN SENSOR** - RAINEIRO RSD-BEK MOUNTED ON POLE. SEE DETAIL (21) ON L10.

ALL COMPONENTS TO BE SET IN VALVE BOXES MUST CONFORM TO STANDARD INSTALLATION. SEE DETAIL (4) ON L4.

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

WATERING SCHEDULE

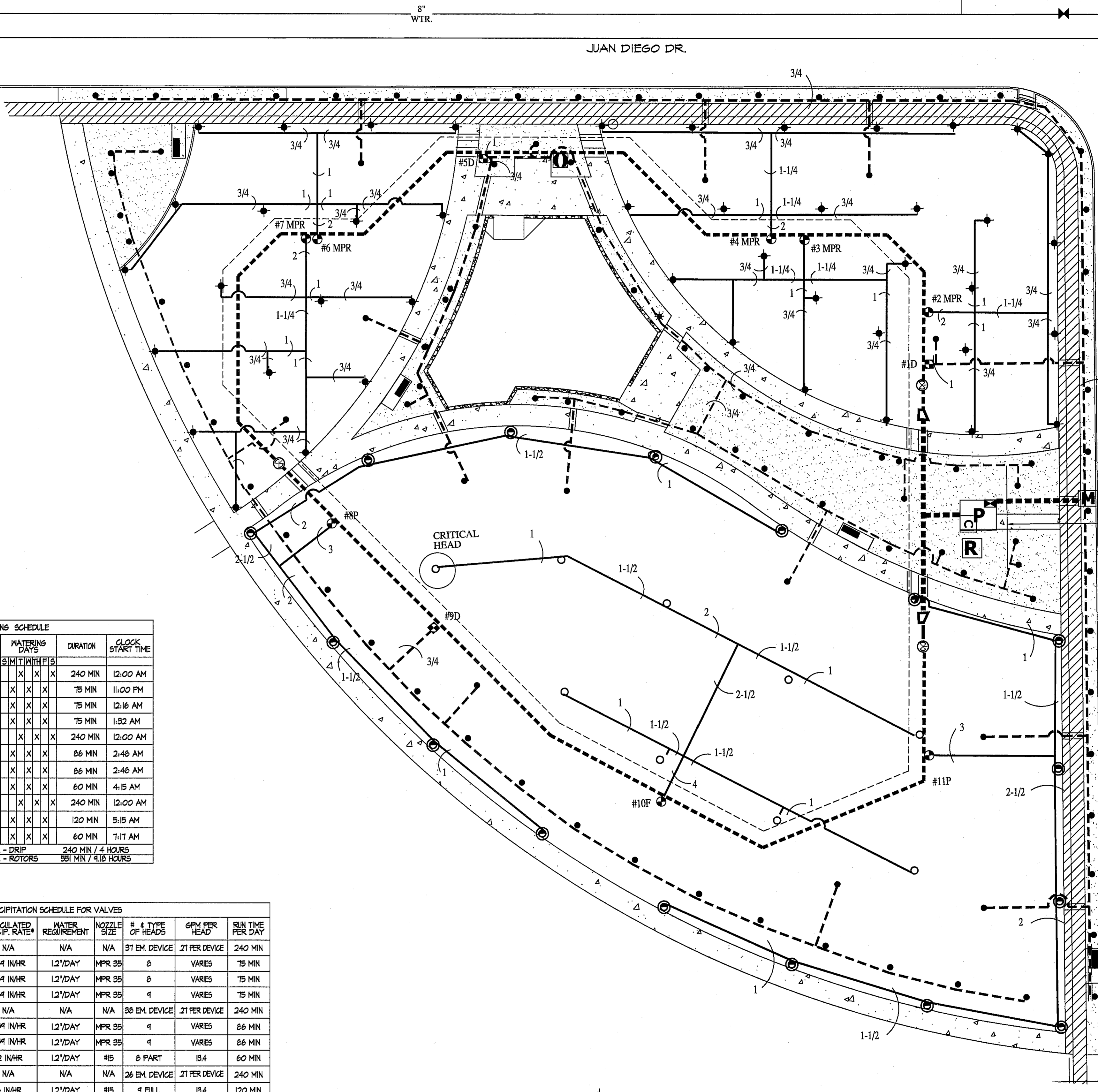
STATION #	VALVE COMBINATION										WATERING DAYS	DURATION	CLOCK START TIME
	1	2	3	4	5	6	7	8	9	10			
1D	X	X	X	X	X	X	X	X	X	X		240 MIN	12:00 AM
2M	X	X	X	X	X	X	X	X	X	X		75 MIN	11:00 PM
3M	X	X	X	X	X	X	X	X	X	X		75 MIN	12:16 AM
4M	X	X	X	X	X	X	X	X	X	X		75 MIN	1:32 AM
5D	X	X	X	X	X	X	X	X	X	X		240 MIN	12:00 AM
6M	X	X	X	X	X	X	X	X	X	X		86 MIN	2:48 AM
7M	X	X	X	X	X	X	X	X	X	X		86 MIN	2:48 AM
8P	X	X	X	X	X	X	X	X	X	X		60 MIN	4:15 AM
9D	X	X	X	X	X	X	X	X	X	X		240 MIN	12:00 AM
10P	X	X	X	X	X	X	X	X	X	X		120 MIN	5:15 AM
11P	X	X	X	X	X	X	X	X	X	X		60 MIN	7:17 AM
TOTAL RUN TIME PER DAY OF OPERATION - DRIP												240 MIN / 4 HOURS	
TOTAL RUN TIME PER DAY OF OPERATION - ROTORS												591 MIN / 7:45 HOURS	

PRECIPITATION SCHEDULE FOR VALVES

VALVE #	VALVE SIZE	TOTAL GPM	HUNTER PRECIP. RATE	CALCULATED PRECIP. RATE*	WATER REQUIREMENT	NOZZLE SIZE	# & TYPE OF HEADS	GPM PER HEAD	RUN TIME PER DAY
1D	1"	4.44	N/A	N/A	N/A	N/A	37 EM. DEVICE	21 PER DEVICE	240 MIN
2M	1.5"	33.43	.7 IN/HR	.454 IN/HR	1.2"/DAY	MPR 35	8	VARIABLE	75 MIN
3M	1.5"	45.46	.7 IN/HR	.454 IN/HR	1.2"/DAY	MPR 35	8	VARIABLE	75 MIN
4M	1.5"	43.71	.7 IN/HR	.454 IN/HR	1.2"/DAY	MPR 35	9	VARIABLE	75 MIN
5D	1"	10.26	N/A	N/A	N/A	N/A	38 EM. DEVICE	21 PER DEVICE	240 MIN
6M	1.5"	37.24	.7 IN/HR	.454 IN/HR	1.2"/DAY	MPR 35	9	VARIABLE	86 MIN
7M	1.5"	43.71	.7 IN/HR	.454 IN/HR	1.2"/DAY	MPR 35	9	VARIABLE	86 MIN
8P	2.5"	107.2	.45 IN/HR	1.2 IN/HR	1.2"/DAY	#15	8 PART	13.4	60 MIN
9D	1"	7.02	N/A	N/A	N/A	N/A	26 EM. DEVICE	21 PER DEVICE	240 MIN
10P	3"	120.6	.475 IN/HR	.6 IN/HR	1.2"/DAY	#15	9 FULL	13.4	120 MIN
11P	2.5"	107.2	.45 IN/HR	1.2 IN/HR	1.2"/DAY	#15	8 PART	13.4	60 MIN

TOTAL RUN TIME FOR ROTORS - 524 MIN PER WEEK

#1D 1"	#2M 1.5"	#3M 1.5"	#4M 1.5"	#5D 1"	#6M 1.5"	#7M 1.5"	#8P 2.5"	#9D 1"	#10P 3"	#11P 2.5"											
9.99	37	33.43	8	45.46	8	43.71	9	10.26	38	37.24	9	43.71	9	107.2	8	7.02	26	120.6	9	107.2	8



PLAN VIEW - IRRIGATION - PIPE SIZING SCALE: 1" = 20' - 0"

WATER METER VAULT SHALL NOT BE INSTALLED WITHIN SIDEWALK ENCLOSURES OR NON SHEDDING MORTAR AND COPPER PIPE WRAPPED WHERE IT ENTERS AND EXITS THIS BOX. PUMP HOUSE MUST BE LOCATED BEHIND THE SETBACK. ELECTRICAL SERVICES MUST BE PROVIDED BY A TEXAS LICENSED ELECTRICIAN. SCHEDULED WORK MUST BE SUBMITTED TO PARKS DEPT. OR DESIGNER.

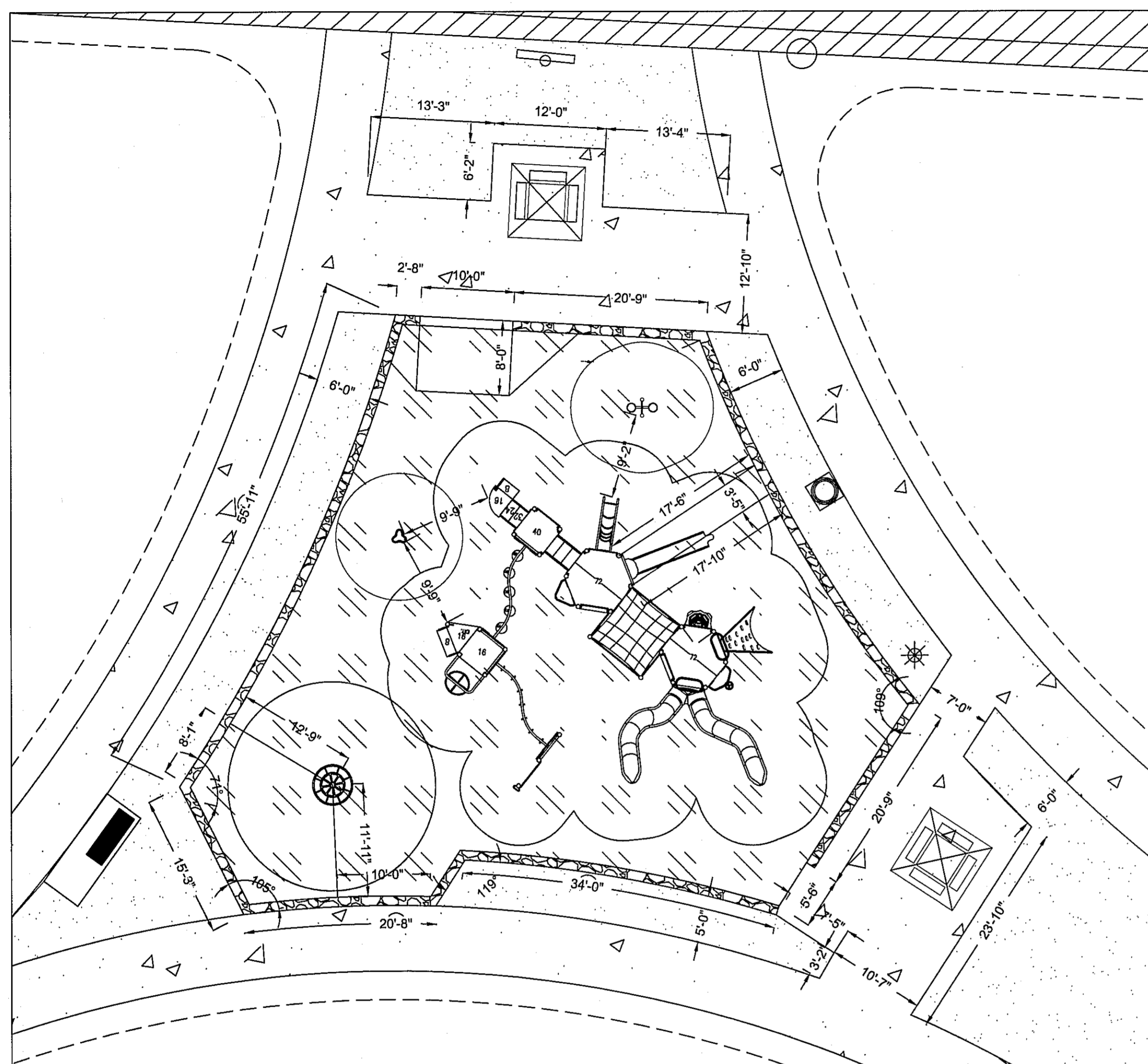


IRRIGATION IS REGULATED BY: P.O. BOX 13087 AUSTIN, TEXAS 78711-3087 TCEQ 512-239-6719 CHAPTER 34, TEXAS WATER CODE IRRIGATOR'S LIC. #8947

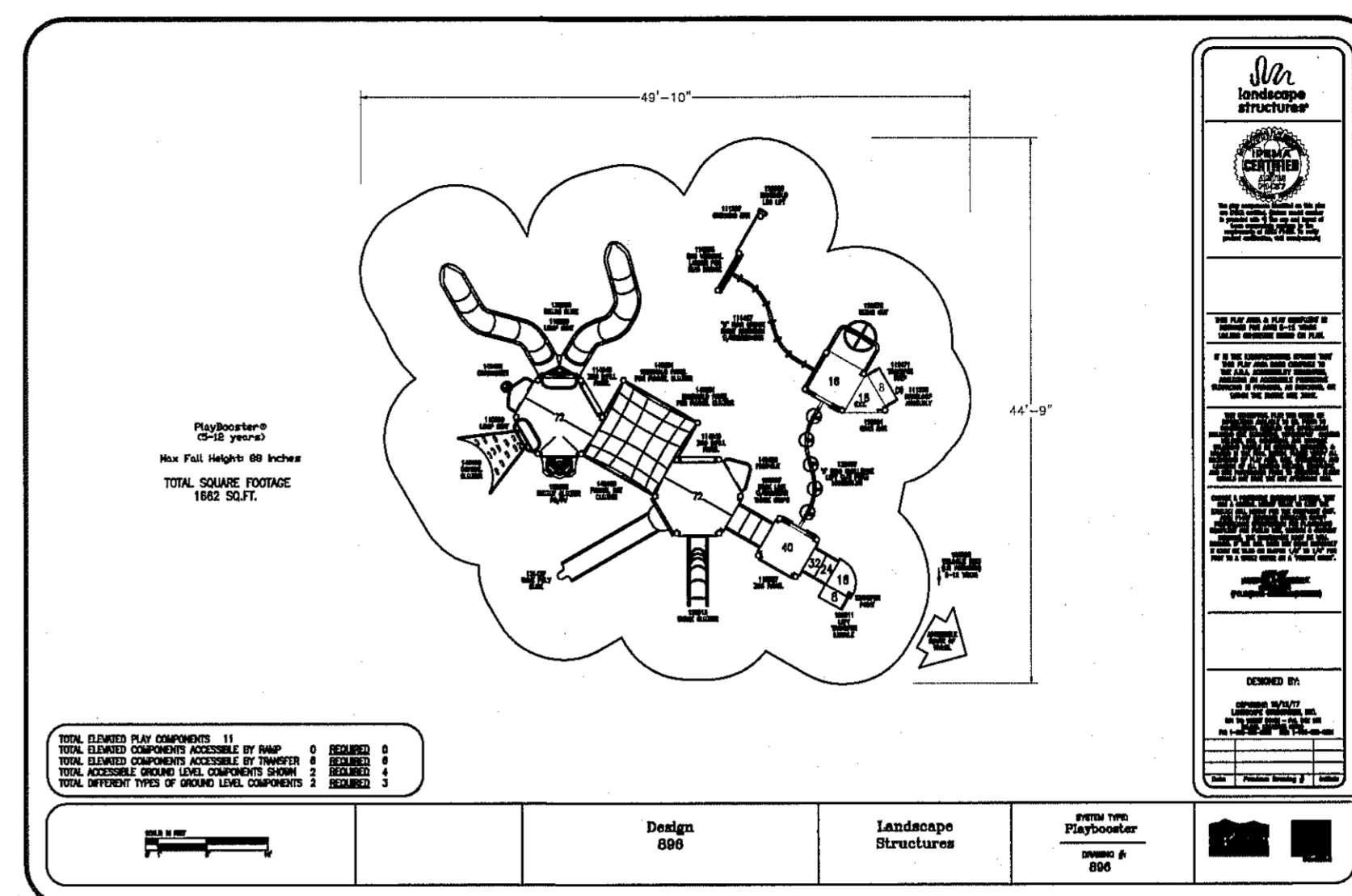


SCALE: Horizontal Vertical Contour Interval: N/A DATE: 7/18/18 DESIGN BY: LM DRAWN BY: LM CKD BY: LM APPD. BY: LM JOB NO.

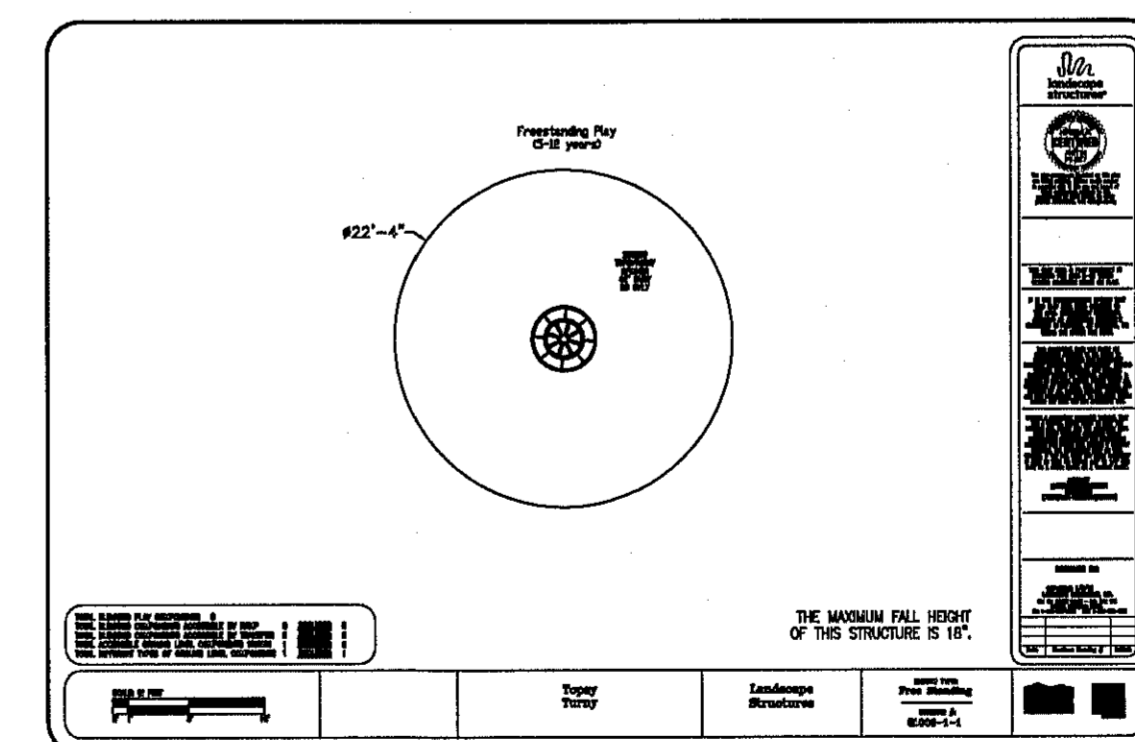
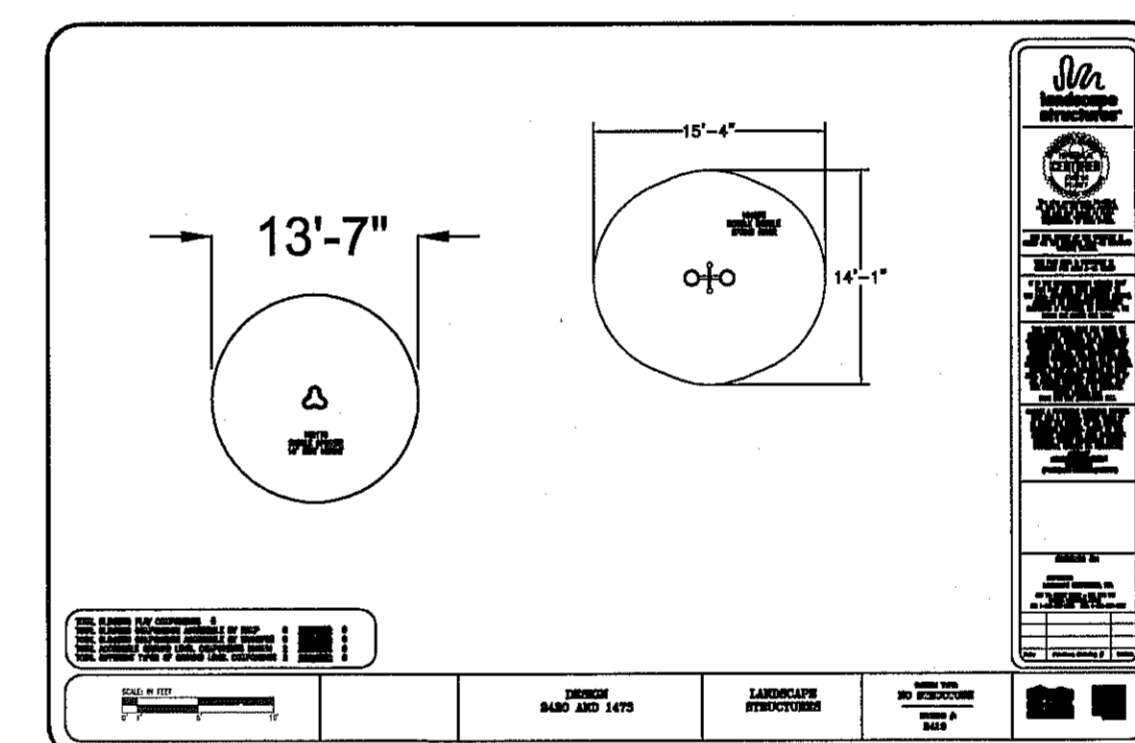
SUEÑOS ENCANTADOS PARK
4577 MARISABEL AZCARATE
LOT 38 BLOCK 66
TRES SUEÑOS UNIT 17 SUBDIVISION
CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
AREA: 75708 SQ. FT. - 1.73 ACRES



PLAN VIEW - PLAYGROUND LAYOUT
SCALE: 1" = 10' - 0"



PLAN VIEW - PLAYGROUND
NO SCALE
PLAYGROUND HAS BEEN ROTATED IN PARK DESIGN TO ACCOMMODATE RAMP

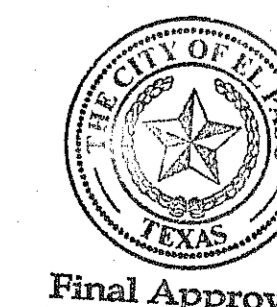


- PLAYGROUND EQUIPMENT NOTES:**
1. VERIFY LOCATION AND DIMENSIONS OF PLAYGROUND EQUIPMENT BEFORE FINAL INSTALLATION.
 2. ACTUAL CONDITIONS IN THE FIELD MAY REQUIRE ADDING OR ADJUSTING COMPONENTS OF THE PLAYGROUND EQUIPMENT TO MEET ALL CPSC, ASTM AND ADAAG REQUIREMENTS. ALL CHANGES SHALL BE REVIEWED AND ACCEPTED BY PARKS STAFF PRIOR TO THEIR EXECUTION.
 3. CONTRACTOR SHALL MEET ALL APPLICABLE ADA AND TAS REQUIREMENTS FOR ACCESS TO PLAYGROUND TO INCLUDE CONCRETE SIDEWALKS. THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT RUNNING SLOPE (6%), CROSS-SECTION (1/8") AND FINISHED SURFACE TEXTURE COMPLY WITH ACCESSIBILITY REQUIREMENTS.
 4. CONTRACTOR SHALL PROVIDE A MINIMUM FALL ZONE AS NOTED ON THE DRAWINGS FROM THE EDGE OF THE EQUIPMENT TO THE INNER FACE OF THE CONTAINMENT ROCKWALL.
 5. CONTRACTOR IS RESPONSIBLE TO INSURE THAT PLAYGROUND AREA IS FENCE-IN THROUGHOUT THE DURATION OF THE CONSTRUCTION PROJECT. FENCE IS REQUIRED TO BE MINIMUM OF 6 FEET HIGH AND MAINTAINED IN A STABLE AND SECURE CONDITION.
 6. CONTRACTOR SHALL PROTECT ALL CONCRETE WORK TO AVOID VANDALISM OR DAMAGE DURING CURING TIME. ANY DAMAGE DONE TO THE CONCRETE DUE TO VANDALISM DAMAGE MUST BE RESTORED TO GOOD FINISHED QUALITY APPEARANCE.
 7. CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ANY VEGETATION TREATED AND REMOVED PRIOR TO THE EXCAVATION OF THE SITE FOR THE PLAYGROUND EQUIPMENT, CONTAINMENT ROCKWALL AND SIDEWALK.
 8. AT COMPLETION OF PROJECT INSTALLATION CONTRACTOR SHALL PROVIDE MANUFACTURER CERTIFICATION AND OBTAIN AN INDEPENDENT AGENCY TO PROVIDE A SAFETY AUDIT OF PLAYGROUND EQUIPMENT AND PLAY SURFACE.

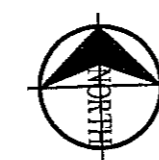
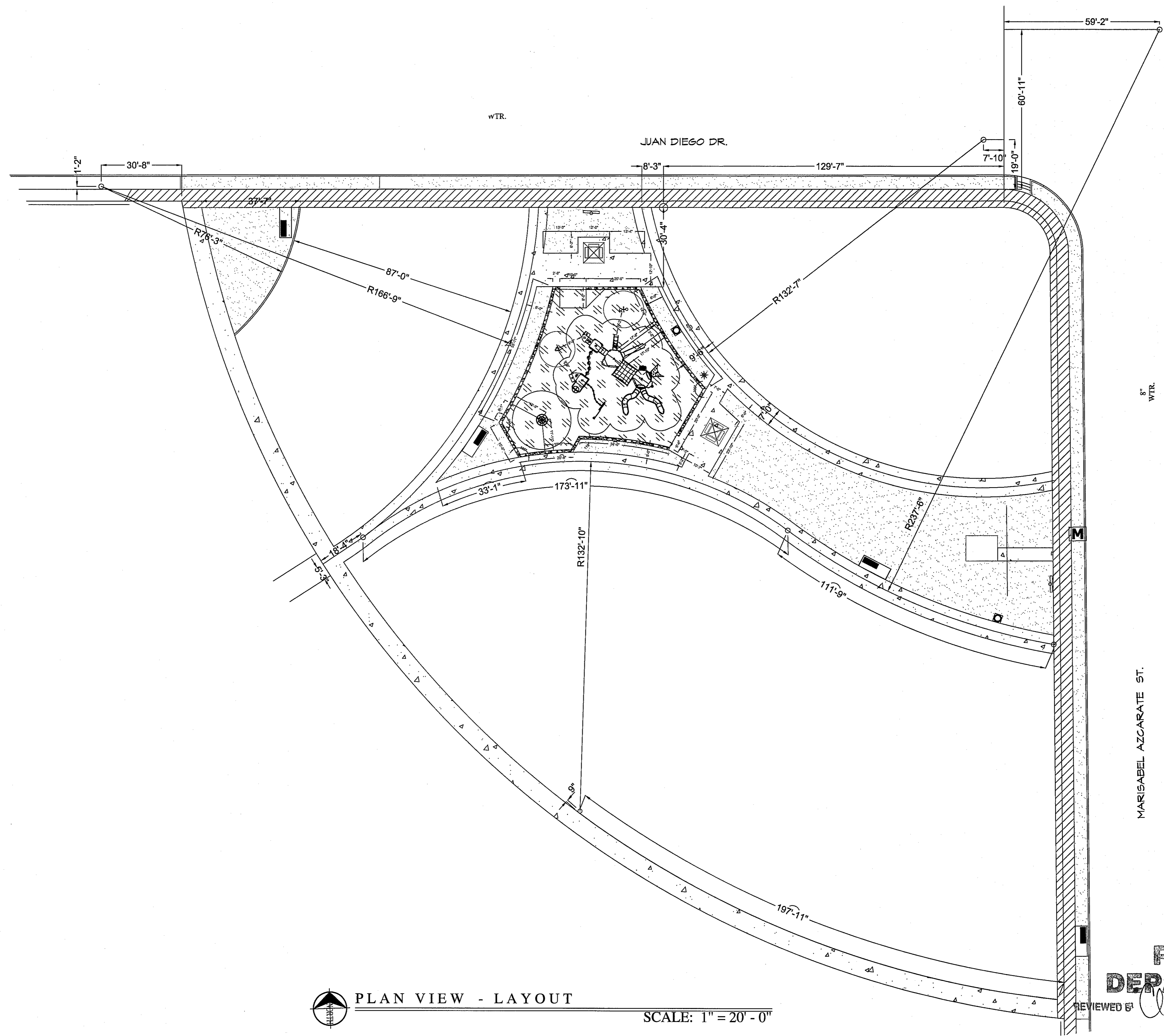
- PLAYGROUND EQUIPMENT NOTES CONT.:**
9. CONTRACTOR IS RESPONSIBLE TO MAINTAIN SITE CLEAN AND FREE OF CONSTRUCTION DEBRIS. DAILY CLEAN-UP OF SITE WILL BE REQUIRED TO BE PROVIDED BY CONTRACTOR. NO STOCK PILING OF CONSTRUCTION DEBRIS WILL BE PERMITTED ON SITE.
 10. CONTRACTOR IS RESPONSIBLE TO INSURE THAT CONSTRUCTION EQUIPMENT WILL NOT BE CLEANED AT THE SITE UNLESS PROPER CONTAINERS ARE PROVIDED TO STORE WASTE. THIS INCLUDES MORTAR, CONCRETE, RUBBERIZED RESILIENT SURFACING, ETC.; WASTE MATERIAL MUST BE REMOVED FROM SITE ON A DAILY BASIS.
 11. CONTRACTOR IS RESPONSIBLE TO INSURE THAT ANY CONSTRUCTION MASONRY MATERIALS THAT ARE HAND MIXED AT JOB SITE ARE DONE IN AN APPROPRIATE CONTAINER AND ANY SPILLAGE IS CLEANED AND REMOVED IMMEDIATELY.

AGE APPROPRIATE SIGNAGE MUST BE INCLUDED.

PARKS DEPARTMENT
REVIEWED BY *[Signature]* 09/10/2018



REVISIONS	DATE	
<p>LISA MCNEELIS LANDSCAPE ARCHITECT 1900 FORRESTER DALLAS, TEXAS 75201 (214) 621-5052</p>		
<p>ARCHITECT'S SEAL LISA MCNEELIS LANDSCAPE ARCHITECT # 54133-1/18 STATE OF TEXAS</p>		
SCALE	<p>Horizontal: N/A Vertical: Interval: N/A DATE: 7/18/18 DESIGN BY: LM DRAWN BY: LM CHKD. BY: LM APPVD. BY: LM JOB No.</p>	
PROJECT TITLE	<p>SUEÑOS ENCANTADOS PARK 4577 MARISABEL AZCARATE LOT 38 BLOCK 66 TRES SUEÑOS UNIT 17 SUBDIVISION CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938 AREA: 75708 SQ. FT. - 1.73 ACRES</p>	
SHEET TITLE	<p>L5 PLAYGROUND EQUIPMENT</p>	
<p>SHEET 5 OF 11</p>		



PLAN VIEW - LAYOUT

SCALE: 1" = 20' - 0"

**PARKS
DEPARTMENT**

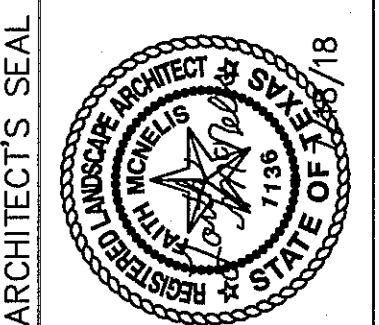
REVIEWED BY: *[Signature]* 09/10/2018



Final Approval

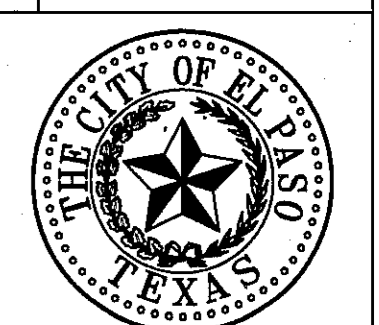
DATE	REVISIONS

LISA MCNELIS
LANDSCAPE ARCHITECT
1900 FOXBORO
LOS CRUCES, NEW MEXICO 88007
(505) 621-0032



SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPVD. BY: LM
JOB No.

SUEÑOS ENCANTADOS PARK
4577 MARISABEL AZCARATE
LOT 38 BLOCK 66
TRES SUEÑOS UNIT 17 SUBDIVISION
CITY OF EL PASO, EL PASO COUNTY, TEXAS 79838
AREA: 75708 SQ. FT. - 1.73 ACRES



SHEET TITLE

L6

LAYOUT PLAN

SHEET 6 OF 11

STAKING IS NOT REQUIRED BUT IF DEEMED NECESSARY THE STAKING DETAIL SHALL BE FOLLOWED. STAKING IS AT THE DISCRETION OF THE CONTRACTOR, LANDSCAPE ARCHITECT AND PARKS DEPT. BUT SHOULD TREES REQUIRE STAKING THE CONTRACTOR SHALL INCLUDE THE COST OF THE STAKING IN THE COST OF THE TREE.

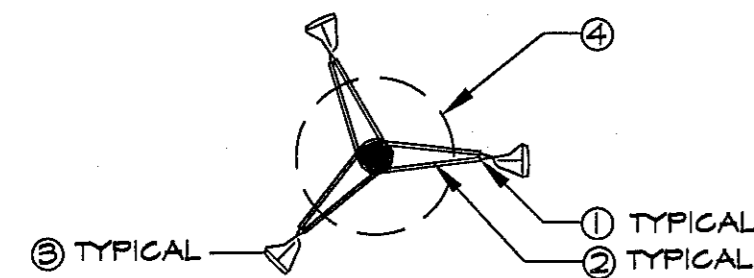
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE STAKES AT END OF THE GUARANTEE PERIOD AT NO COST TO THE OWNER.

TREES THAT ARE DAMAGED DUE TO IMPROPER OR LACK OF STAKING MUST BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.

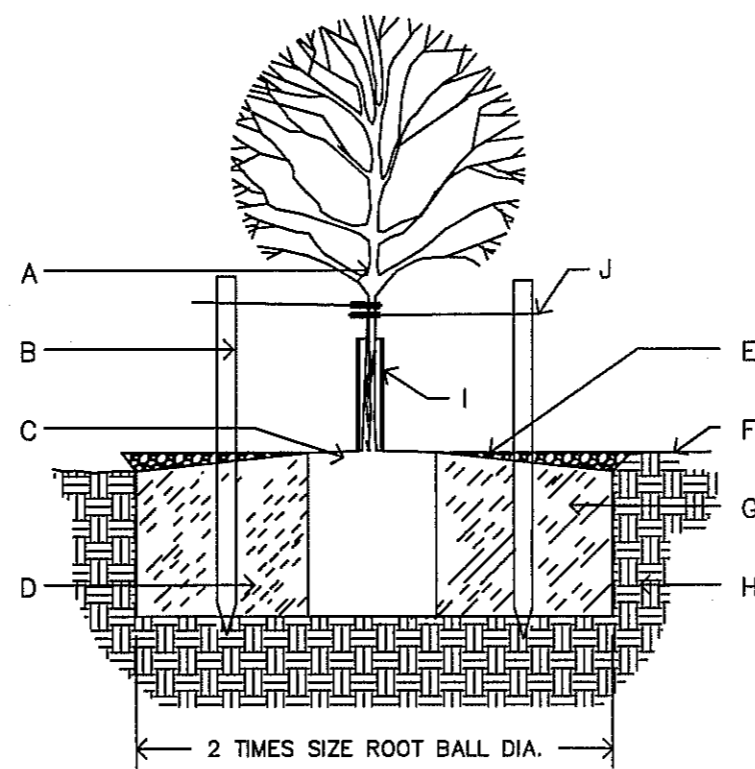
WIRES SHALL NOT BE TAUT BUT SHOULD ALLOW MOVEMENT OF 5 - 10 DEGREES FROM VERTICAL.

STAKES SHALL NOT BE DRIVEN INTO ROOTBALL OF TREES.

1. 2 STRAND TWIST 4 GAUGE WIRE
2. 1/2" RUBBER HOSE
3. 6' WOOD STAKE SET INTO GROUND 2'
4. ROOTBALL



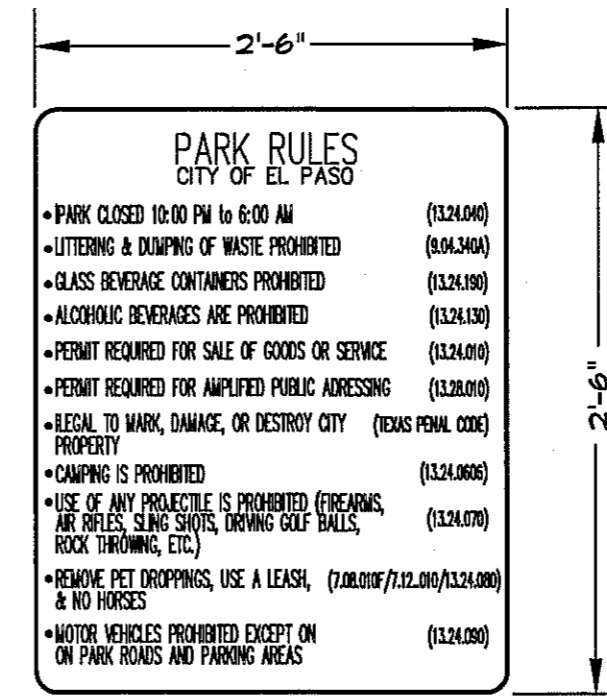
A TYPICAL TREE GUYING DETAIL - PLAN VIEW
NOT TO SCALE



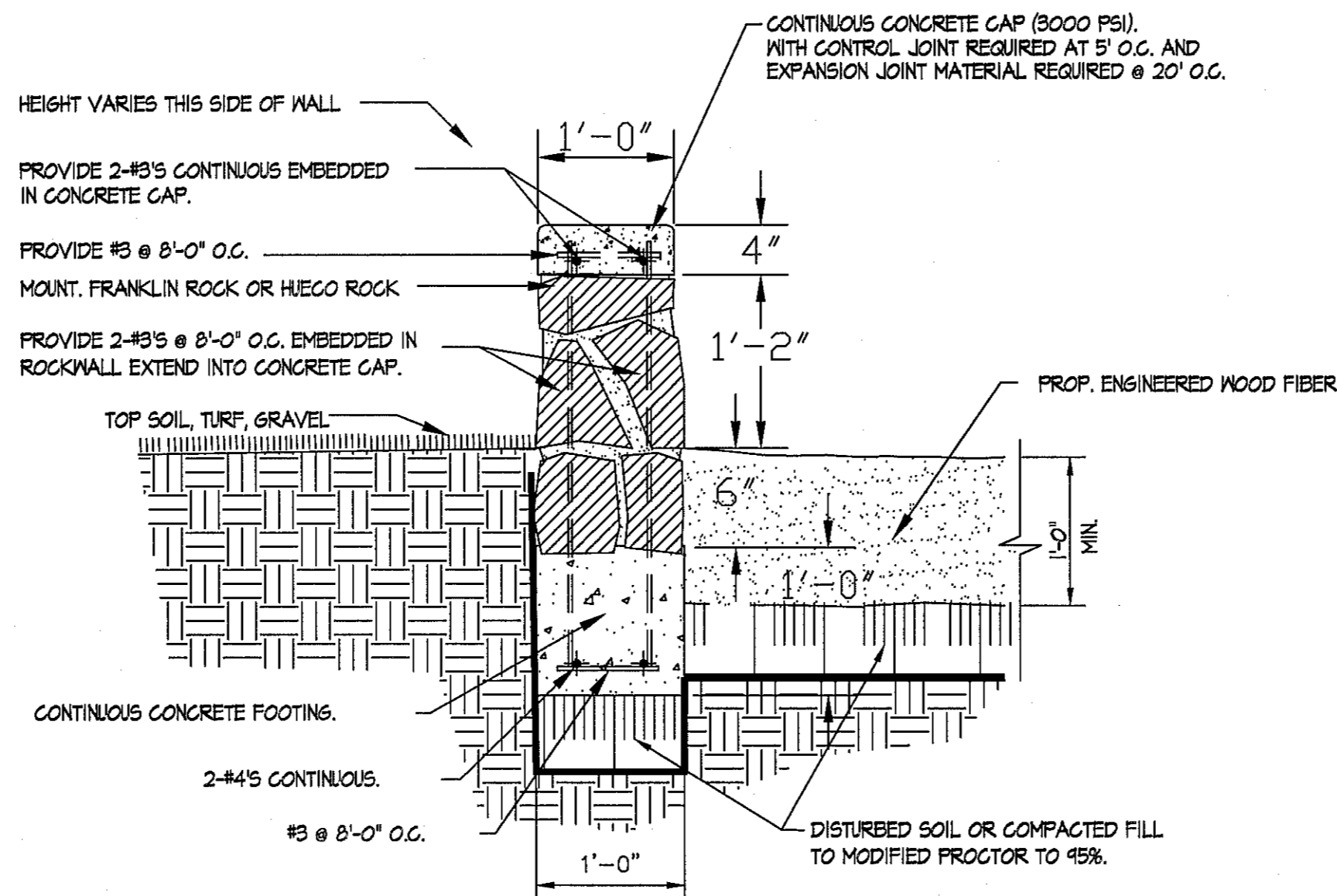
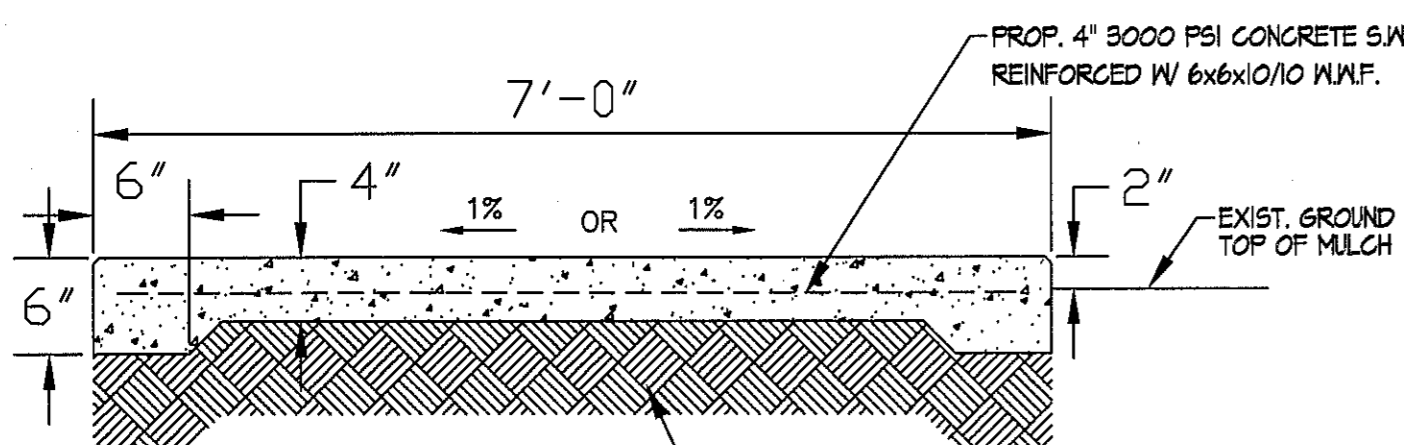
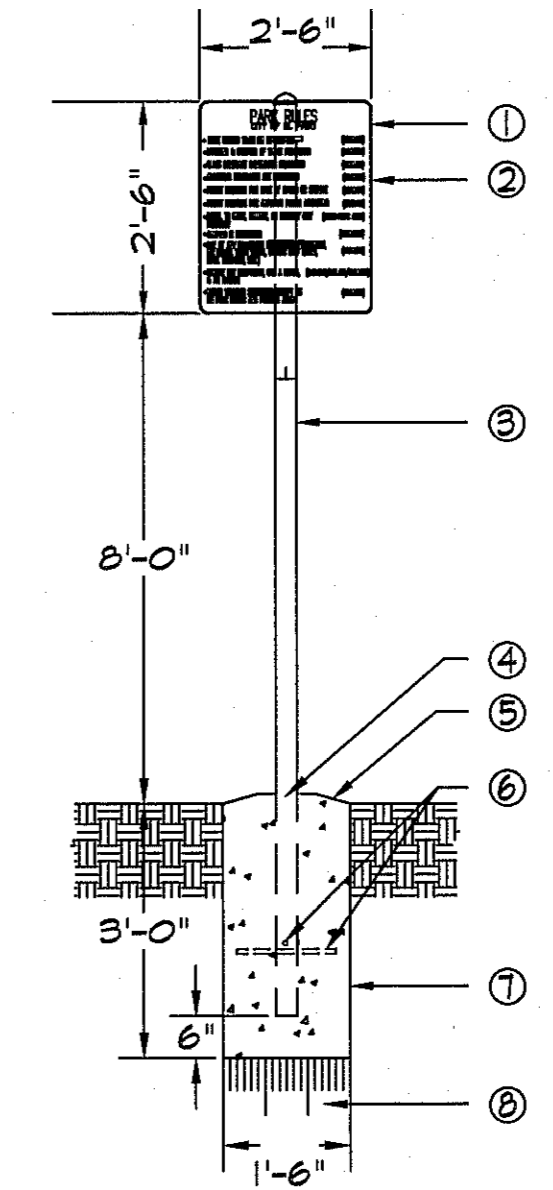
- A. TREE
- B. STAKING NEEDED
- C. 4" SPACE BETWEEN MULCH AND TREE
- D. SLOPE ON SIDES OF PLANTING HOLE
- E. DEPTH OF BARK MULCH-SEE PLAN
- F. FINISH SOIL GRADE
- G. BACKFILL WITH EXISTING NATIVE SOIL
- H. UNDISTURBED SOIL
- I. USE EXPANDABLE TREE GUARDS TO PROTECT TREES PLANTED IN LAWN AREAS. GUARDS MUST BE APPROVED BY THE PARKS DEPT.
- J. TIES TO STAKES TO HAVE RUBBER HOSE TO PROTECT TREE TRUNK FROM DAMAGE BY WIRE. WIRE TIES TO BE LOOSE TO PROTECT TREE TRUNK FROM DAMAGE. WIRE TIES TO BE SET ON SAME TRUNK OR MAIN TRUNK.

1. KEEP SOIL BELOW ROOT BALL UNDISTURBED TO PREVENT TREE FROM SETTLING.
2. REMOVE ANY EXCESS SOIL FROM TOP OF ROOTBALL TO EXPOSE ROOT FLARE (WHERE TOP MOST ROOT EMERGES FROM THE TRUNK). PLANT WITH ROOT FLARE THAN FINISH GRADE 1"-2" HIGHER.
3. REMOVE CONTAINER AND CUT ANY ROOTS THAT ARE CIRCLING THE CONTAINER PRIOR TO SETTING TREE IN PLANTING HOLE (PIT).
4. TAMP SOIL FIRMLY AROUND BASE OF ROOTBALL WITH FOOT PRESSURE.
5. AT TIME OF PLANTING, ONLY PRUNE CO-DOMINANT LEADERS (DOES NOT APPLY TO MULTI-TRUNK SPECIMENS), CROSSOVER LIMBS, AND DEAD OR BROKEN BRANCHES.
6. DO NOT ALLOW MULCH IN CONTACT WITH TREE TRUNK. KEEP AT LEAST 4" AWAY FROM TRUNK.
7. INSTALL TREE GUARD.
8. WHEN DONE, THOROUGHLY WATER TO ELIMINATE AIR POCKETS.
9. STAKING IS NOT REQUIRED - STAKE TREES ONLY IF TREE CANNOT STAND ALONE AND WITH APPROVAL OF THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL NOT STAKE ALL TREES INDISCRIMINATELY, APPROVAL MUST BE OBTAINED TO STAKE TREES.
10. WITH APPROVAL, PROVIDE MIN. 3 STAKES/ TREE (TYP) IN A TRIANGULAR PATTERN, STAKED INTO UNDISTURBED SOIL WITH CLARK'S TREE STAKE KIT OR APPROVED EQUAL, REMOVE AFTER ONE GROWING SEASON.
11. TOP OF ROOT BALL SHALL BE LEVEL WITH TOP OF MULCH OR BARK MULCH SHALL BE FEATHERED TO FULL DEPTH.

B TREE PLANTING DETAIL - SECTION
NOT TO SCALE



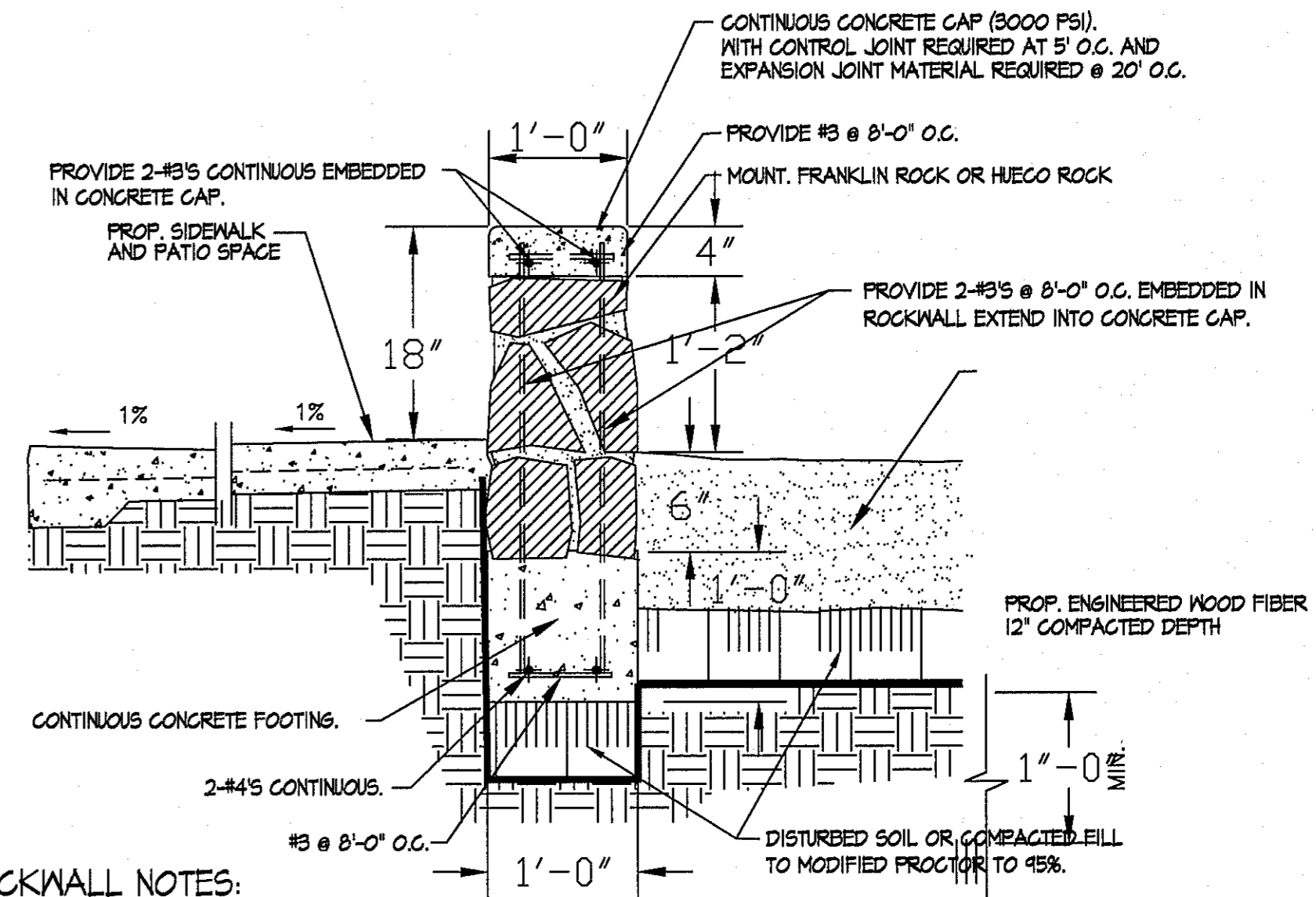
C PARK RULES SIGN - SECTION
NOT TO SCALE



ROCKWALL NOTES:

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. THE STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
2. MORTAR SHALL BE TYPE 'S' 1800 P.S.I. AS PER ASTM C270-13. MORTAR SHALL CONSIST BY VOLUME OF 1 PART PORTLAND CEMENT, 3 1/2 PARTS OF CLEAN, HARD, DURABLE SAND AND 1/4 PART (MORTAR) LIME THOROUGHLY MIXED WITH WATER.
3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.

E PLAYGROUND ROCK WALL ADJACENT TO GRAVEL AREA - SECTION
NOT TO SCALE



ROCKWALL NOTES:

1. STONE FOR ROCKWALL SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. THE STONE SHALL BE DENSE AND RESISTANT TO AIR AND WATER.
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3. ROCKWALL MORTAR JOINTS SHALL NOT EXCEED 3/4" TO 1 1/4".
4. STONE SHALL BE CLEANED, FREE OF DIRT PRIOR TO INSTALLATION.
5. NO RIVER ROCK SHALL BE ALLOWED FOR ROCKWALLS.
6. ROCKWALL TO BE EMBEDDED IN THE CONCRETE FOOTING.

F PLAYGROUND ROCK WALL ADJACENT TO CONCRETE - SECTION
NOT TO SCALE

D TRAIL AND PARK CONCRETE SIDEWALK DETAIL - SECTION
NOT TO SCALE

PARKS DEPARTMENT

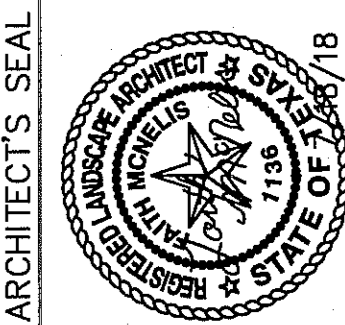
REVIEWED BY *Antonio Del Rio* 09/10/2018



Final Approval

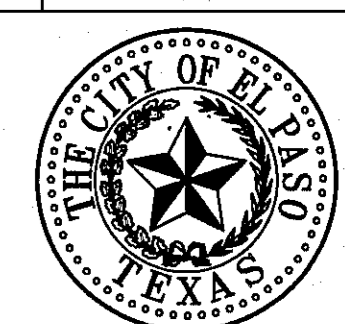
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1500 FOREBRO
SUITE 200
EL PASO, TEXAS 79901
(915) 621-5552



SCALE	Horizontal: N/A	Vertical: N/A
DATE	7/18/18	
DESIGN BY	LM	
DRAWN BY	LM	
CHKD. BY	LM	
APPD. BY	LM	
JOB NO.		

SUEÑOS ENCANTADOS PARK
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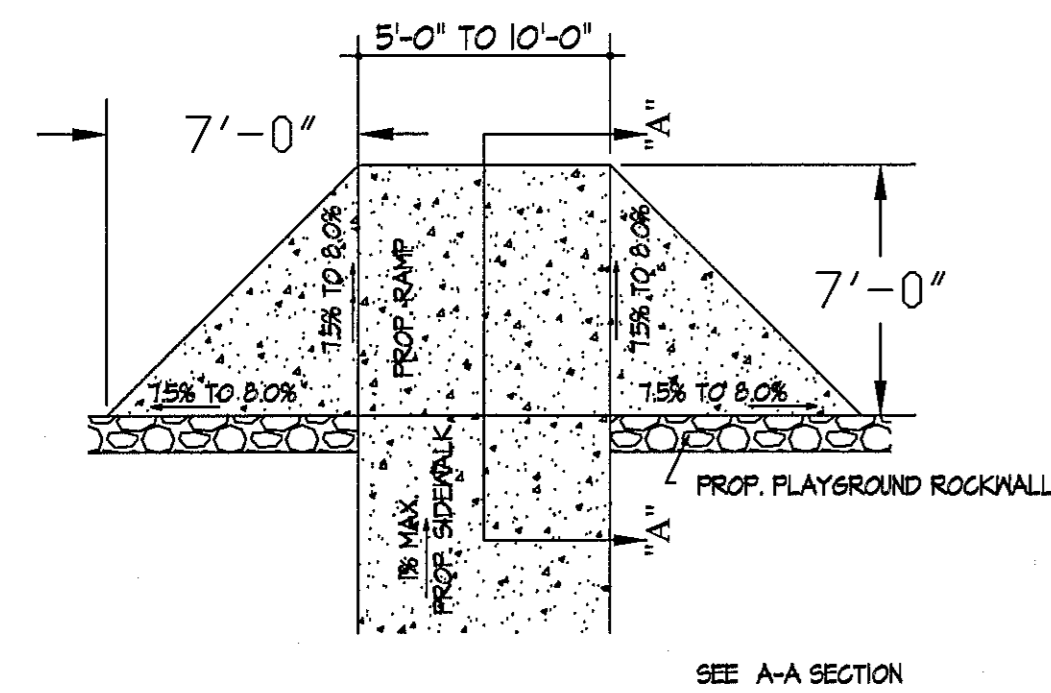


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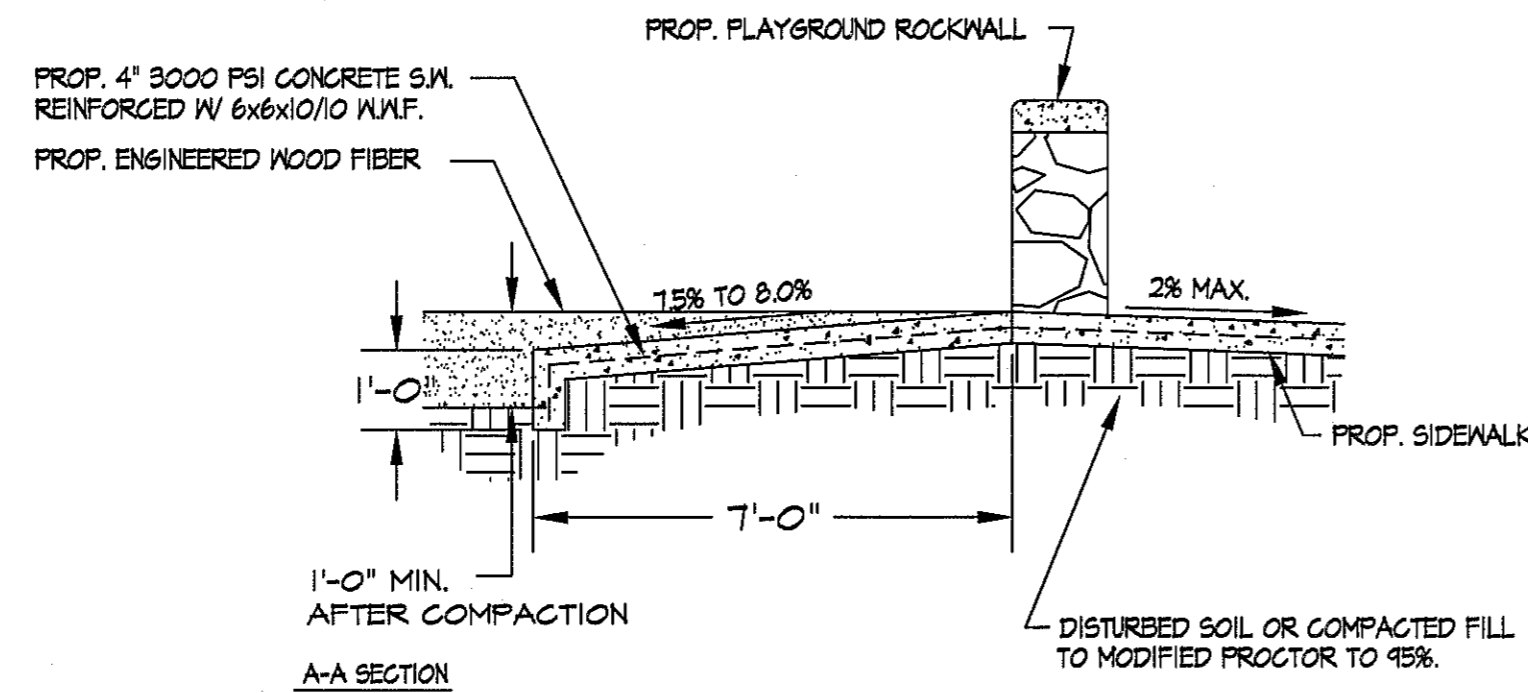
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CONSTRUCTION DETAILS

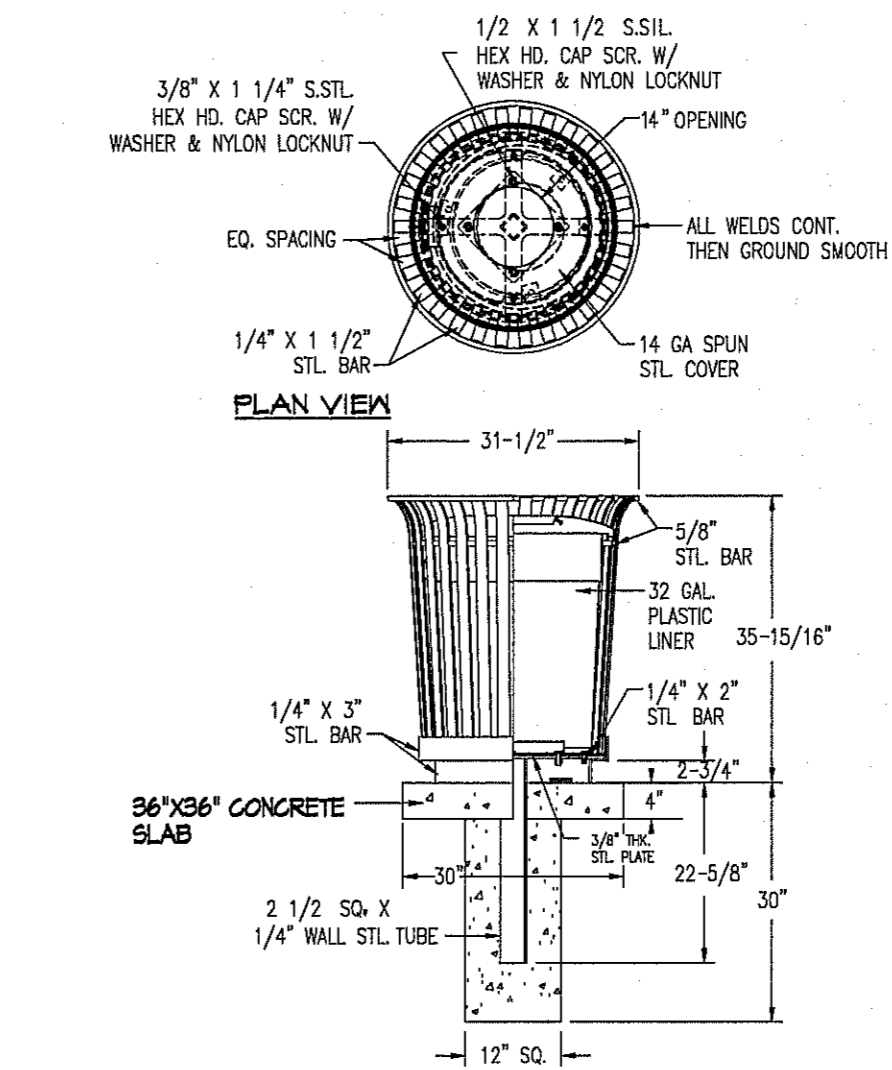
SHEET 7 OF 11



G PLAYGROUND ENTRANCE RAMP - PLAN VIEW
NOT TO SCALE

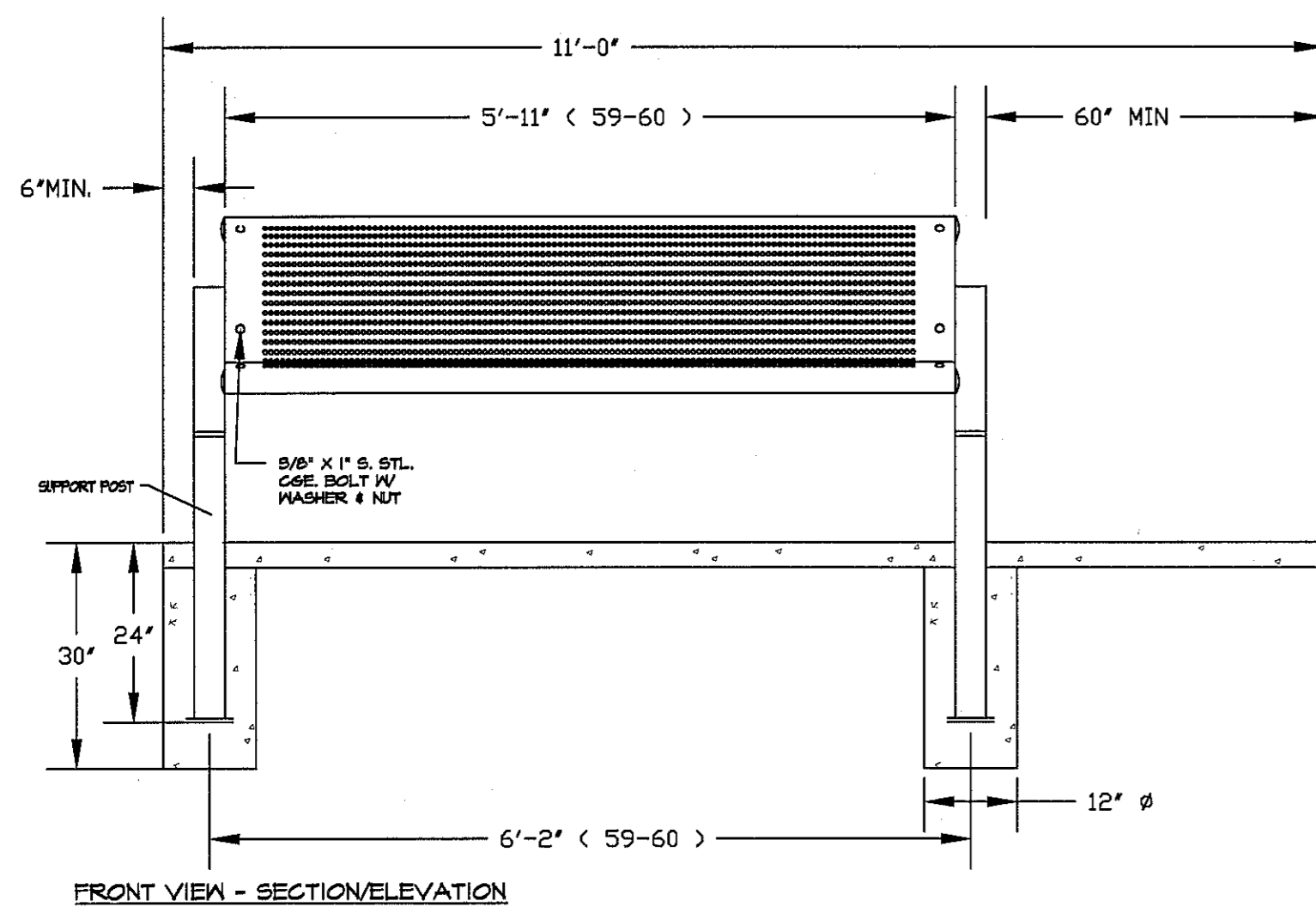


H CONCRETE HEADER CURB DETAIL - SECTION
NOT TO SCALE

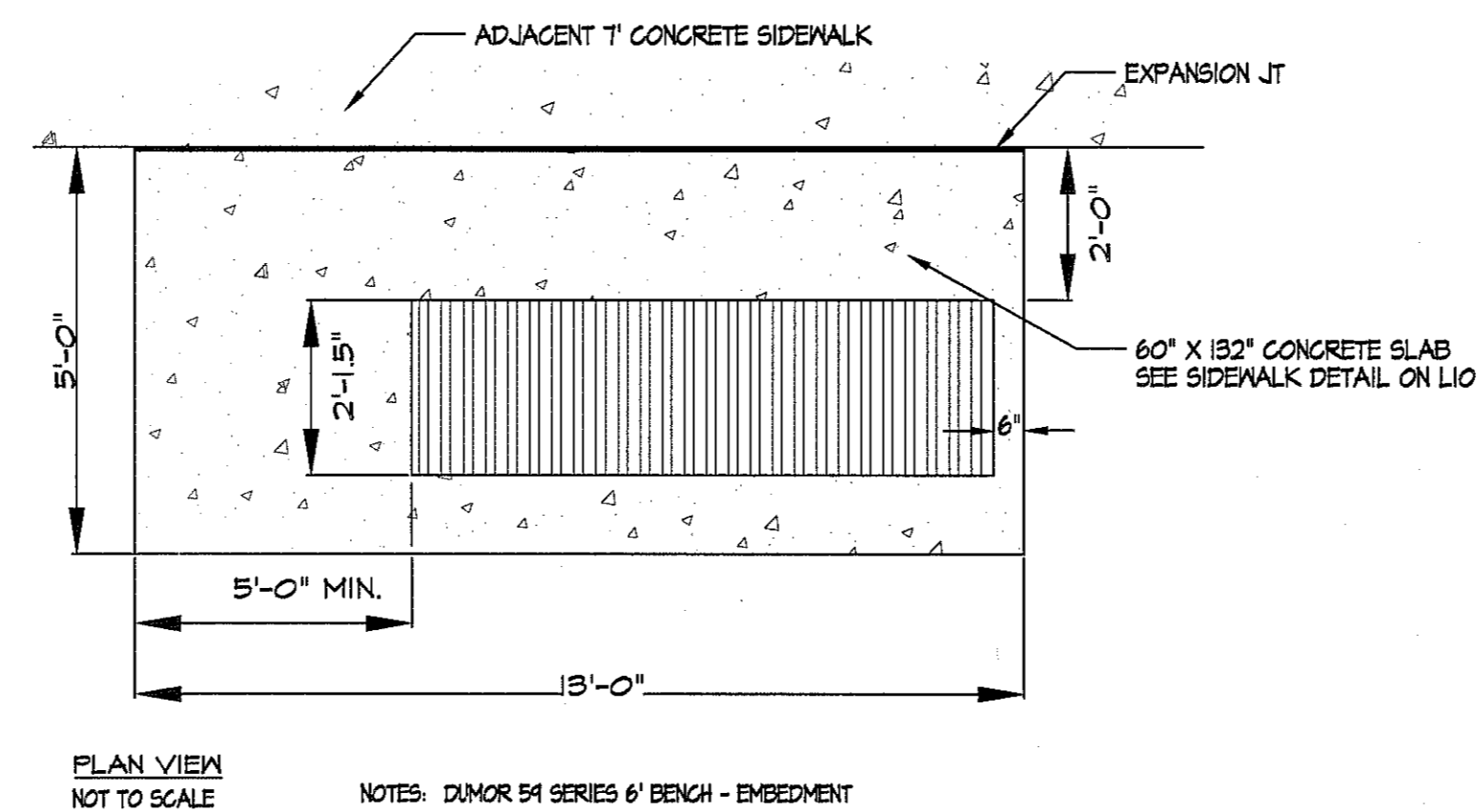
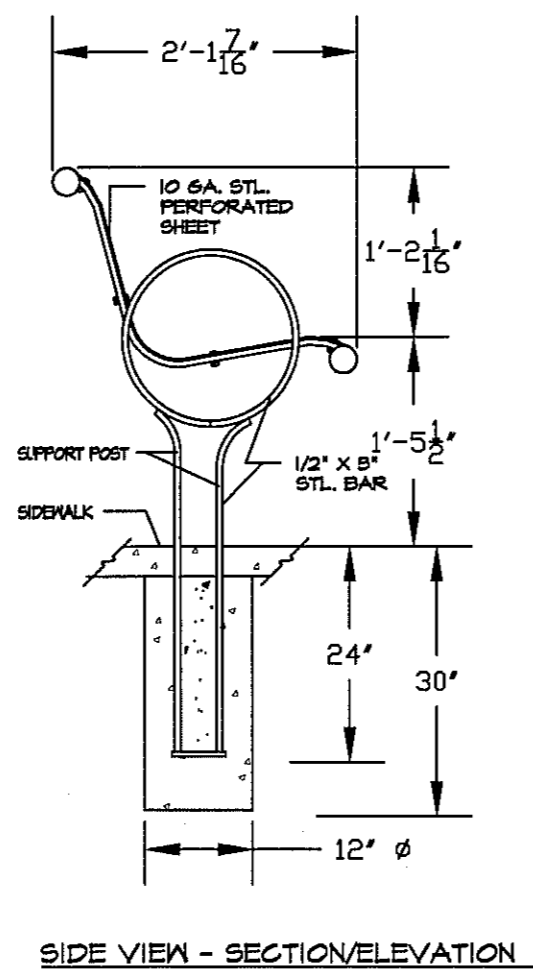


I TRASH RECEPTACLE DETAIL - SECTION
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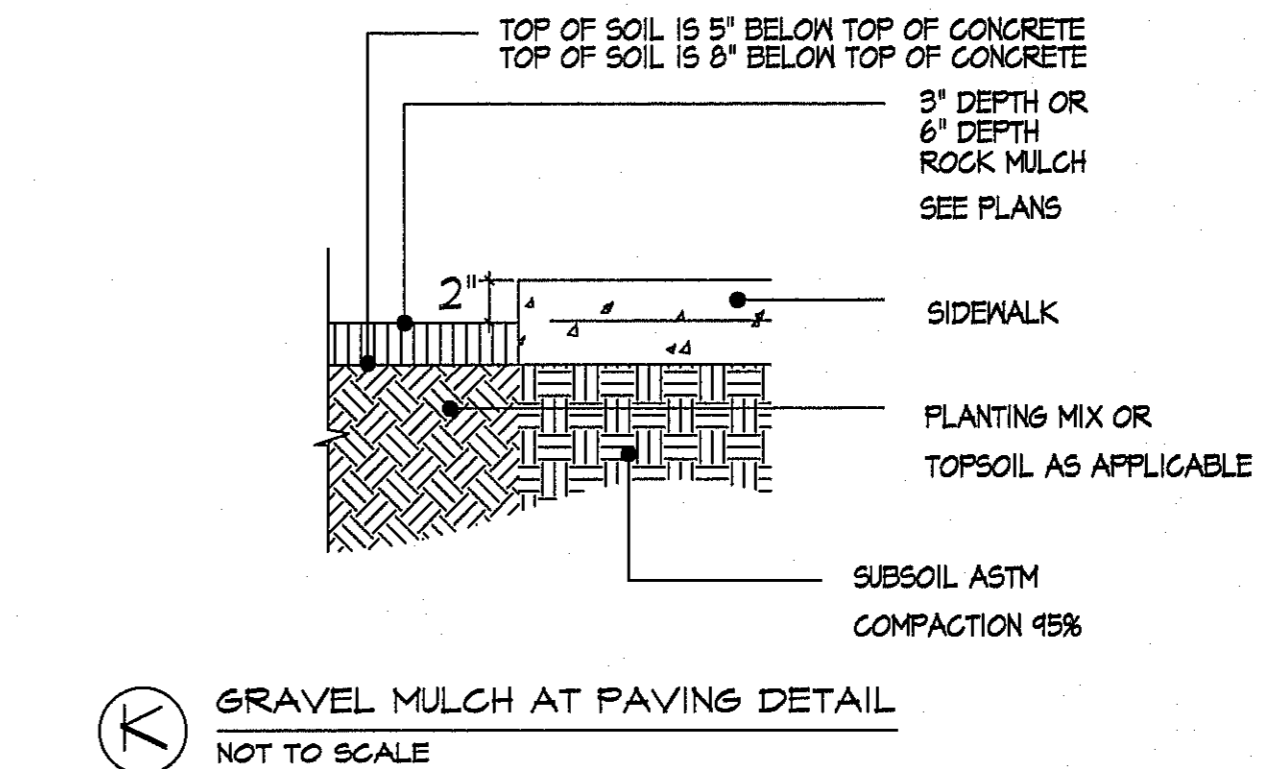
- NOTES:
1. ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
 2. ALL WELDS CONT. THEN GROUND SMOOTH.
 3. COLOR IS BROWN MATCH WITH TABLE AND BENCH. TO BE APPROVED.
 4. 32 GAL CAPACITY WITH LINER AND FLAT LID W/ 14" OPENING. LID SHALL BE ABLE TO SECURE TO MAIN BODY OF RECEPTACLE.



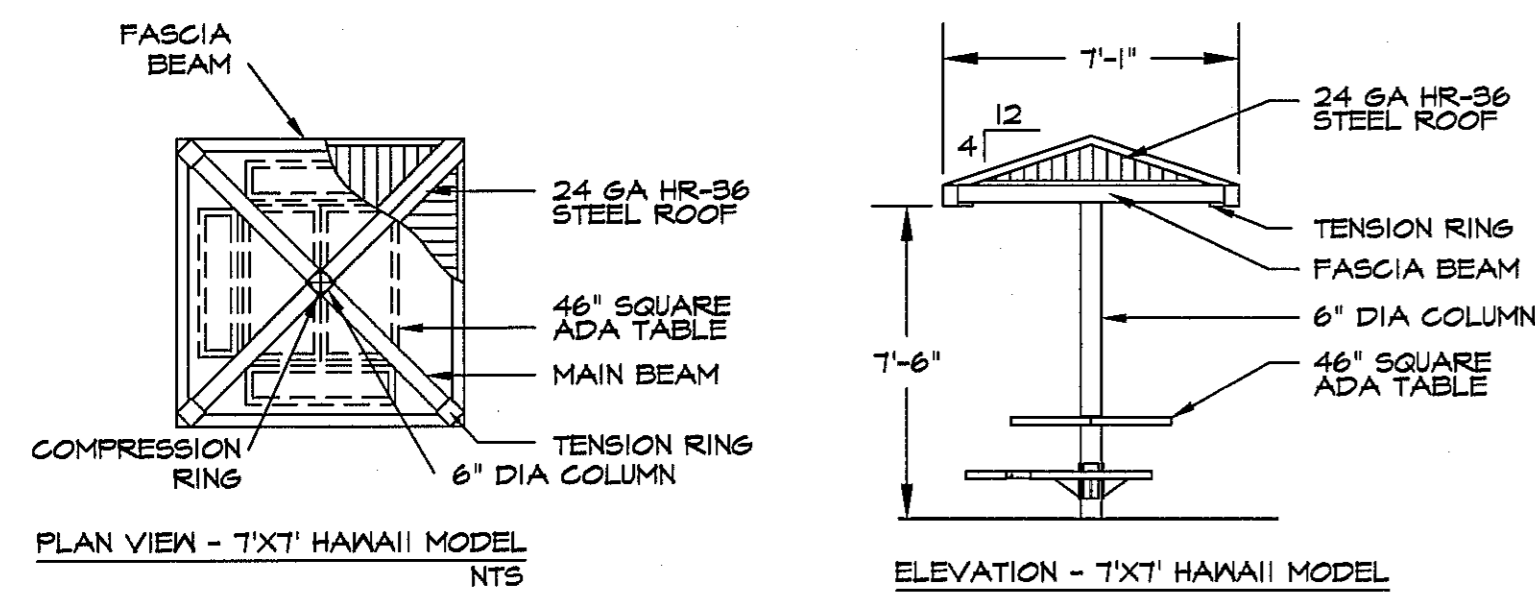
J ADA BENCH DETAIL
NOT TO SCALE



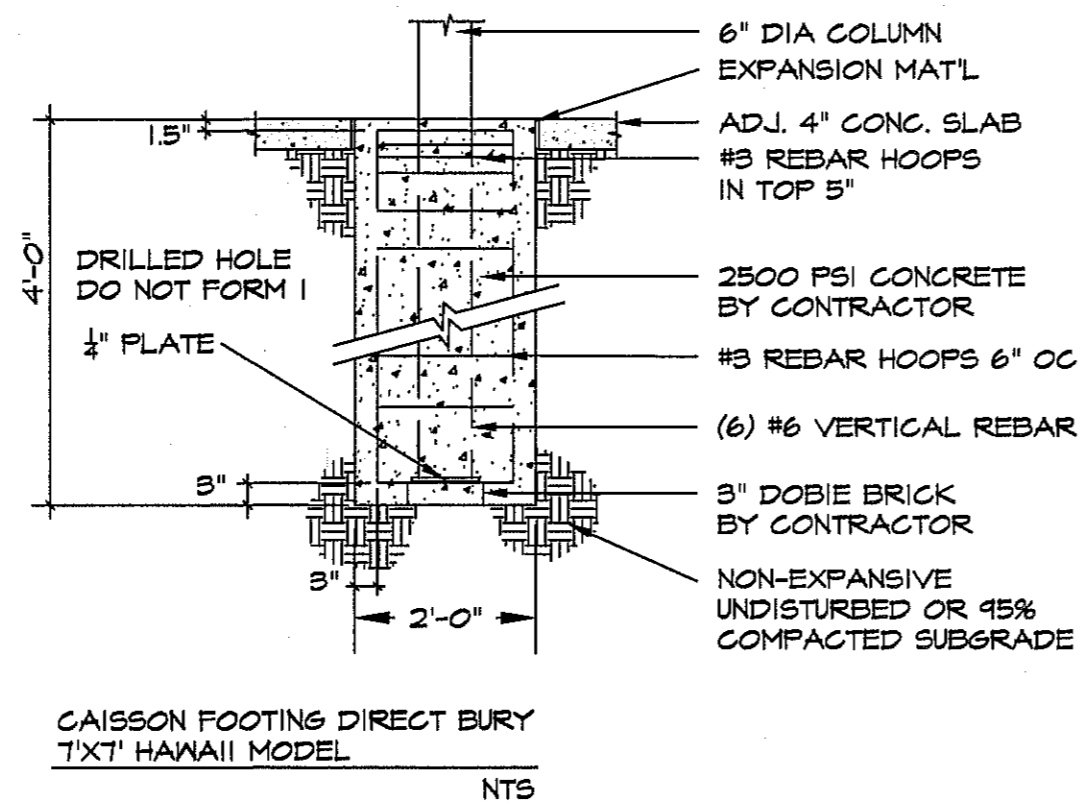
- NOTES: DIMOR 54 SERIES 6' BENCH - EMBEDMENT
- 1) ALL STL. MEMBERS COATED W/ ZINC RICH EPOXY THEN FINISHED W/ POLYESTER POWDER COATING.
 - 2) BRONZE COLOR ON SERANO TRAIL BENCHES
 - 3) BROWN COLOR ON SERANO PARK BENCHES - MATCH WITH TABLES. AND TRASH RECEPTACLE. COLOR TO BE APPROVED BY PARKS DEPT.
 - 4) ADDITIONAL SIDEWALK PAVING IS NOT REQUIRED FOR SERANO PARK BENCH.



K GRAVEL MULCH AT PAVING DETAIL
NOT TO SCALE



L SHADED PICNIC TABLE DETAIL
NOT TO SCALE

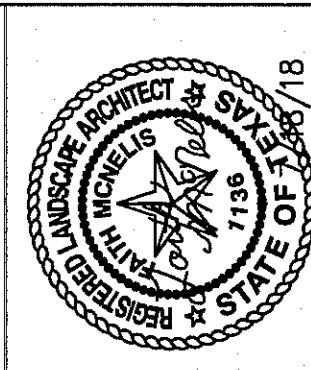


CAISSON FOOTING DIRECT BURY
TXT' HAWAII MODEL
NTS

PARKS DEPARTMENT
REVIEWED BY *[Signature]* 09/10/2018

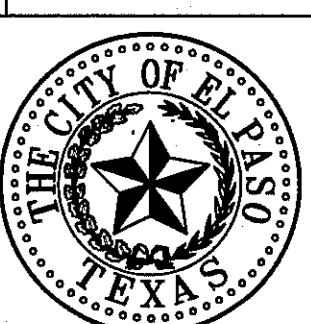


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SCALE:
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Vertical: Interval: N/A
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPRD. BY: LM
JOB NO.

PROJECT TITLE
SUEÑOS ENCANTADOS PARK
4577 MARGABEL AZCARATE
LOT 38 BLOCK 66
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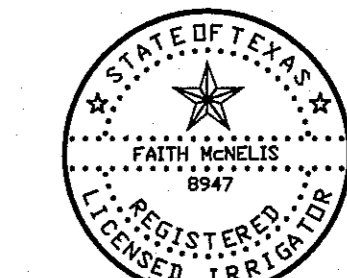
SHEET TITLE

L8

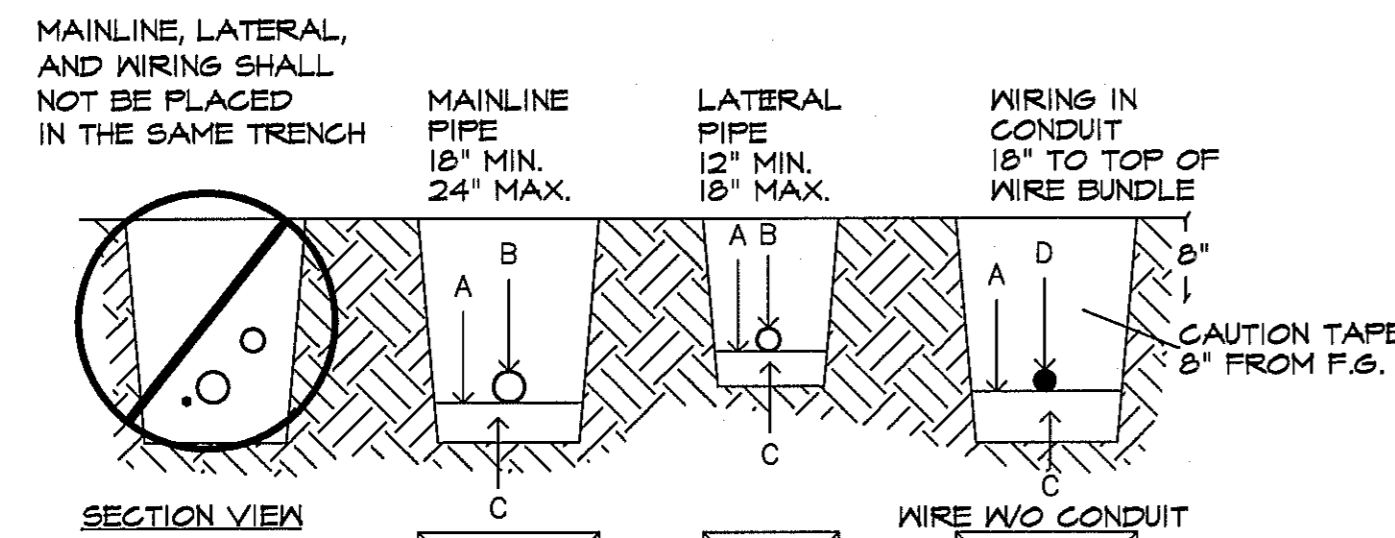
CONSTRUCTION DETAILS

SHEET 8 OF 11

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



Faith McNeilis 7/18/18



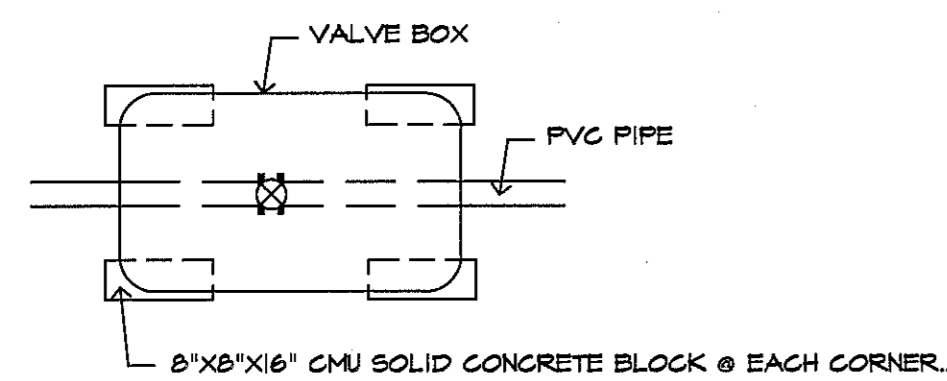
SET WIRE BUNDLE AT 5' FROM MAINLINE ALONG THE NORTH AND WEST SIDE OF MAIN OR AS AGREED TOO WITH PARKS STAFF.

ALL SOLVENT WELD PLASTIC PIPING TO BE SNAKED IN TRENCH AS SHOWN FOR LATERAL LINES. TIE A 24-INCH LOOP IN ALL WIRING AT CHANGES OF DIRECTION OF 30° OR GREATER AND EVERY 200 FEET.

NOTES: A. BOTTOM OF EXCAVATED TRENCH WHERE NONE ROCKY SOILS ARE EXPOSED (ENCOUNTERED).
 B. IRRIGATION SYSTEM PIPING.
 C. MINIMUM 4" DEEP BEDDING SANDY SOILS MATERIAL WHERE ROCKY SOILS ARE EXPOSED.
 D. IRRIGATION SYSTEM VALVE WIRING.
 E. BACKFILL SOILS MATERIAL MAY BE NATIVE SOILS IF IT IS FREE OF CALICHE OR STONES LARGER THAN 1" IN SIZE AND ORGANIC MATTER OR WASTE DEBRIS. SOILS COMPACTION IN TURF AREAS TO BE 80% TO 85% DENSITY BY ASTM D-1557 STANDARD AND AT 45% DENSITY UNDER PAVED OR HARDSCAPE SURFACES.

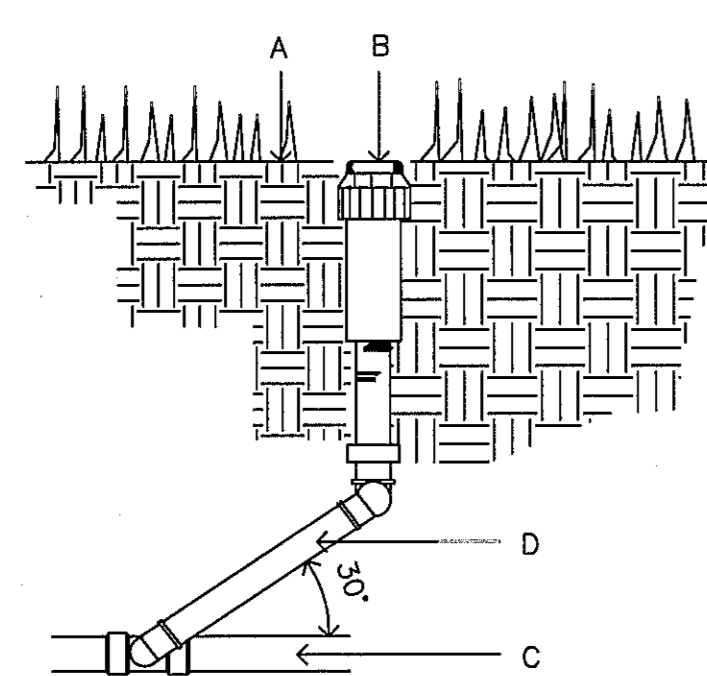
1 TYPICAL PIPE AND WIRE TRENCHING DETAIL NOT TO SCALE

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 WEED 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.

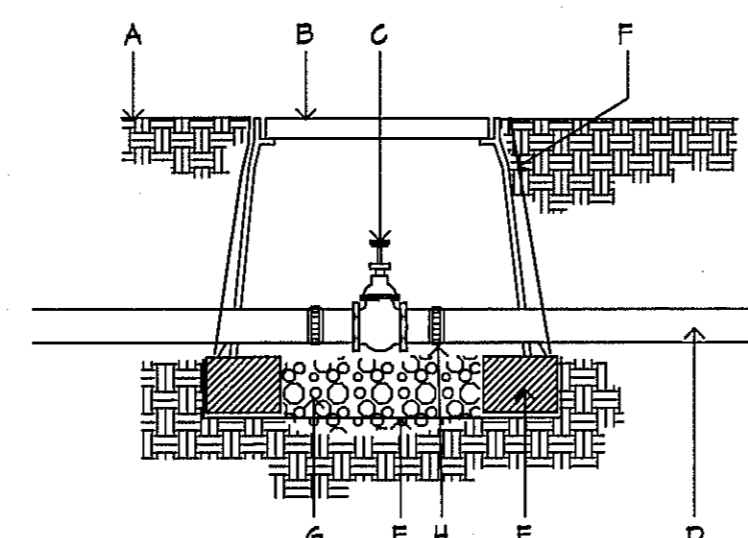
4 BLOCK PLACEMENT FOR VALVE BOXES NOT TO SCALE



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



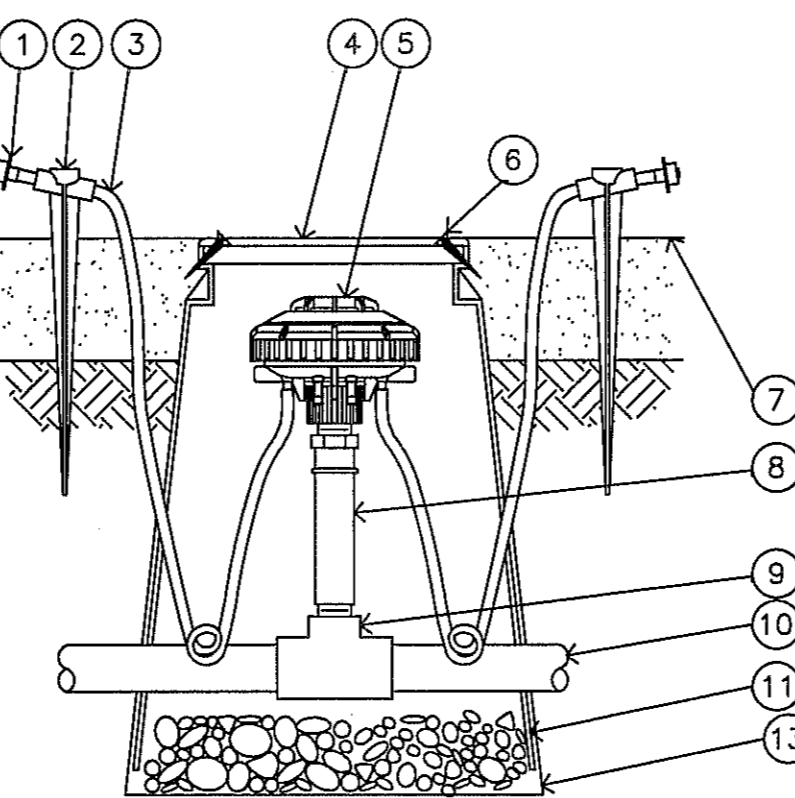
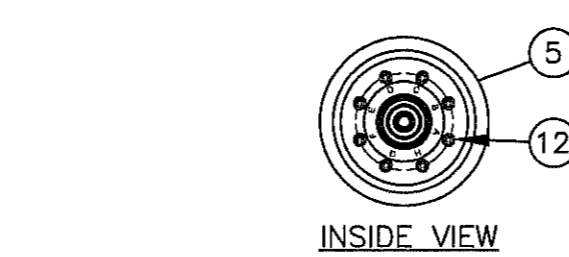
A. FINISH GRADE.
 B. CARSON PRODUCTS INC, 1414-18(ABS) VALVE BOX WITH BOLT DOWN FLAT LID COVER TO MATCH COLOR OF FINISH MATERIAL AND 8" EXTENSIONS AS NECESSARY.
 C. BRASS ISOLATION VALVE - SEE IRRIGATION LEGEND.
 D. IRRIGATION MAINLINE.
 E. 8" X 8" X 16" SOLID CMU SOLID BLOCK @ EACH CORNER.
 F. PROVIDE DEWITT PRO 5 WEED 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

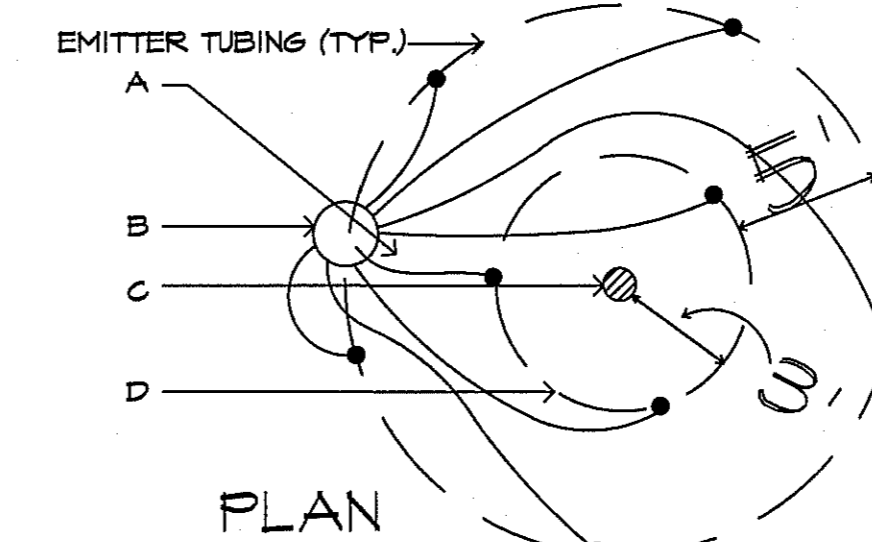
LOCATE INNER RING EMITTER OUTLETS WITHIN 3' OF TREE TRUNK.
 LOCATE OUTER RING EMITTER OUTLETS 8' FROM ROOTBALL.
 DO NOT EXCEED 20' OF MICROTUBING.

FOR SHRUBS AND GROUND COVER PLANTS PLACE EMITTER ON UPHILL SIDE SIDE OF PLANT 12" FROM STEM.



NOTES:
 1. COIL ADDITIONAL 4" OF TUBING IN EMITTER BOX TO FACILITATE MAINTENANCE.
 2. RAIN BIRD XERI-BIRD BARB X BARB EMITTERS ARE AVAILABLE IN THE FOLLOWING MODELS:
 XB-05PG 0.5 GPH XB-10PG 1.0 GPH XB-20PG 2.0 GPH

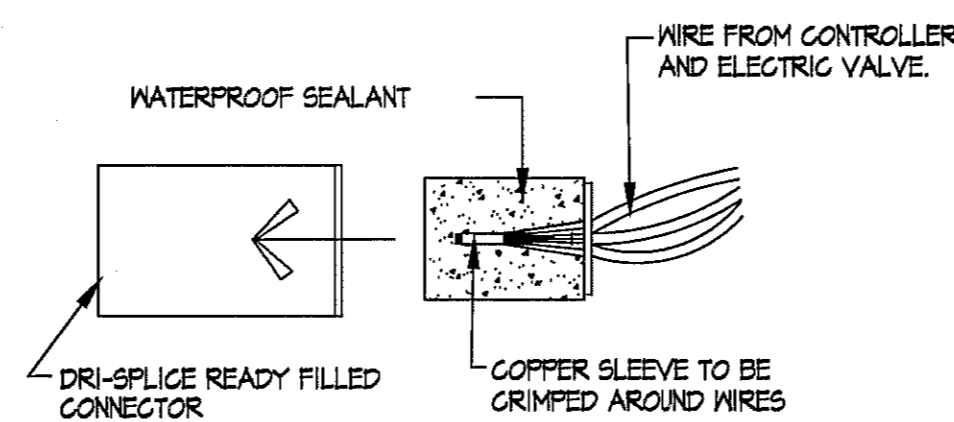
2 DRIP EMITTER FOR TREES AND PLANTS RAIN BIRD XERI-BIRD 8 MULTI OUTLET EMISSION DEVICE NOT TO SCALE



INSTALL (8) EMITTERS PER TREE, SPACE EVENLY AROUND ROOTBALL, IN OFFSET TRIANGULAR PATTERN FOR TREES, SEE IRRIGATION LEGEND FOR OUTLET EMITTER SIZE.

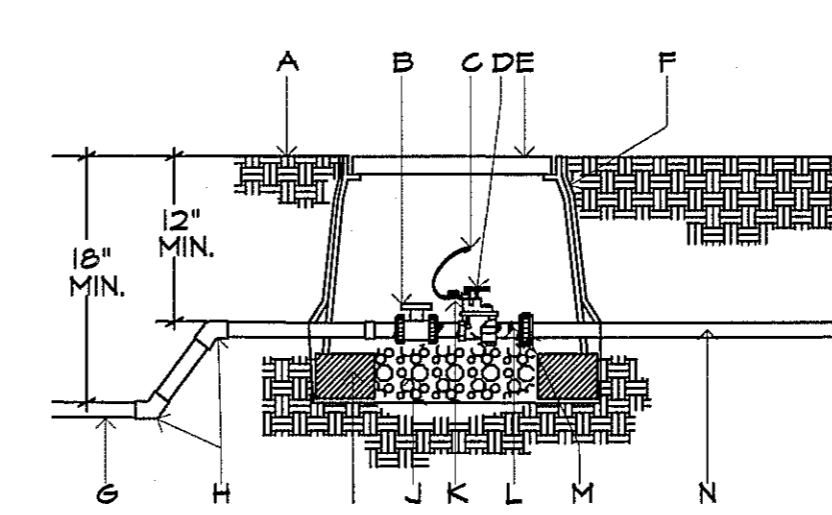
A. EMITTER TUBING.
 B. MULTI OUTLET EMITTER DEVICE, INSTALL 5' FROM TREE TRUNK ON WEST SIDE.
 C. TREE TRUNK.
 D. TREE ROOTBALL.

3 EMITTER PLACEMENT FOR TREES NOT TO SCALE



THREE STEP OPERATION DRI-SPLICE READY FILL CONNECTORS. ADD ADDITIONAL SILICONE TO SUFFICIENTLY SEAL WHEN ASSEMBLED - (AS REQUIRED).

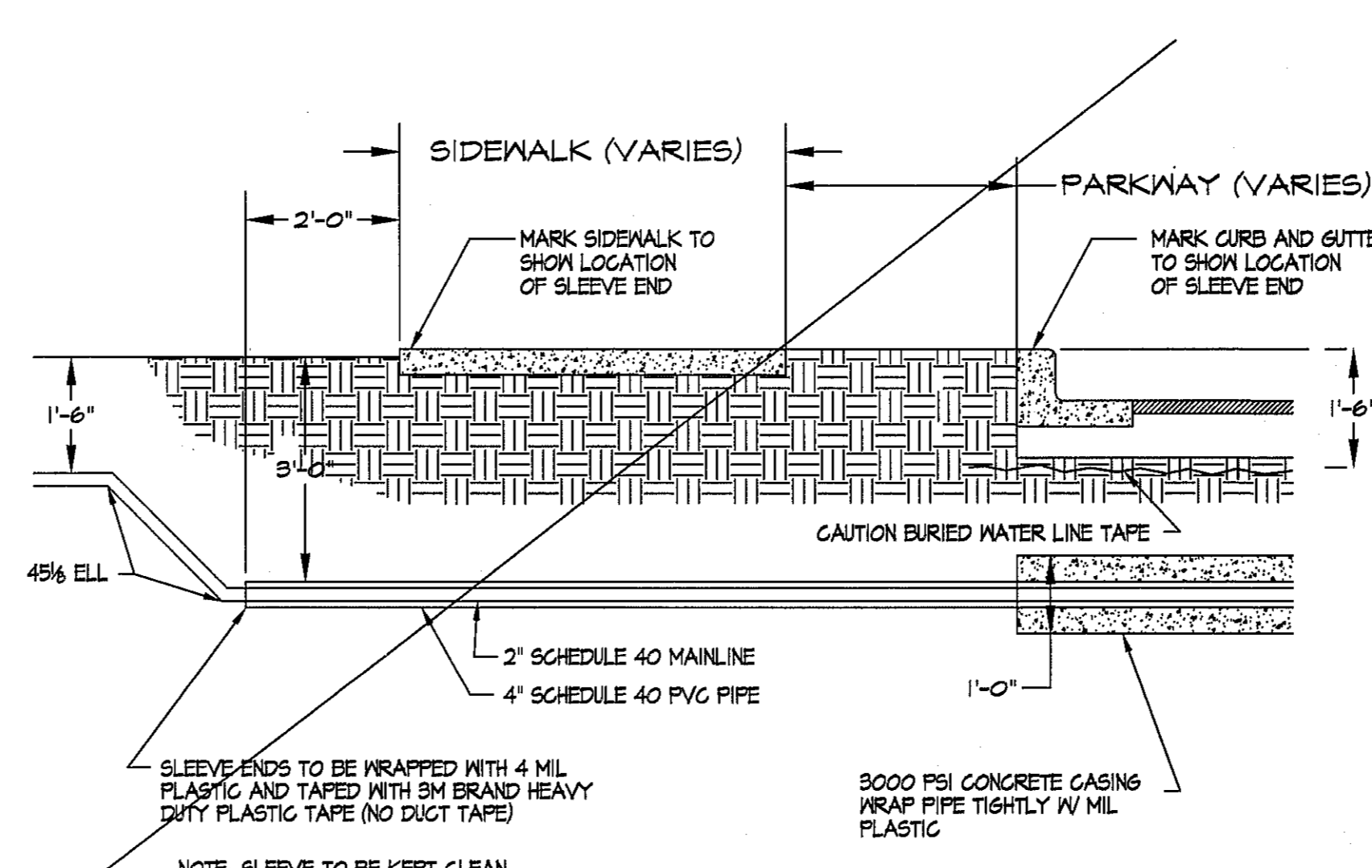
5 WIRE CONNECTORS NOT TO SCALE



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 FINISH MATERIAL AND 8" EXTENSIONS AS NECESSARY.
 F. PROVIDE DEWITT PRO 5 WEED 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.

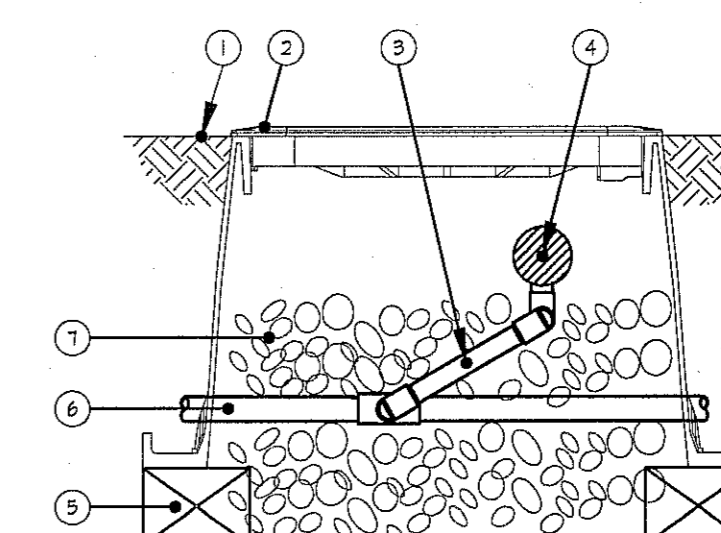
6 IRRIGATION CONTROL VALVE NOT TO SCALE



SLEEVE ENDS TO BE WRAPPED WITH 4 MIL PLASTIC AND TAPED WITH 3M BRAND HEAVY DUTY PLASTIC TAPE (NO DUCT TAPE)

NOTE: SLEEVE TO BE KEPT CLEAN AND FREE OF SOIL AND DEBRIS

9 SLEEVING UNDER STREETS NOT TO SCALE



1 FINISH GRADE/TOP OF MLCH
 2 VALVE BOX WITH BOLT DOWN COVER
 3 SWING JOINT
 4 AIR RELEASE VALVE
 5 CMU AT CORNERS OF VALVE BOX
 6 PVC MAIN OR LATERAL
 7 3/8\"/>

INSTALL BRICK AT EACH CORNER OF VALVE BOX 3/8\"/>

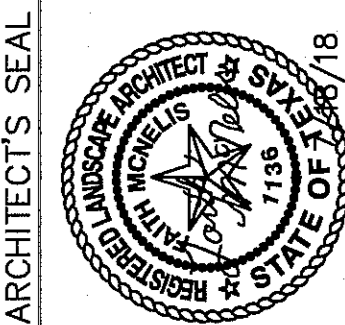
SEE ISOLATION VALVE DETAIL #8 ON L16 FOR STANDARD VALVE BOX INSTALLATION INFORMATION

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

10 AIR RELEASE VALVE NOT TO SCALE

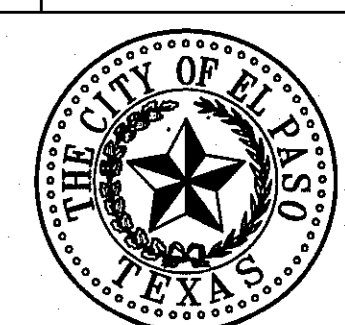
DATE

LISA MCNEILIS
 LANDSCAPE ARCHITECT
 1500 FOREORO
 WEST CHICAGO, ILLINOIS 60607
 (773) 621-0032



SCALE
 Horizontal: N/A
 Vertical: 1/8\"/>

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 SUEÑOS ENCANTADOS PARK
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 LOT 38 BLOCK 66
 TRES SUEÑOS UNIT 17 SUBDIVISION
 CITY OF EL PASO, EL PASO COUNTY, TEXAS 79638
 AREA: 75708 SQ. FT. - 1.73 ACRES



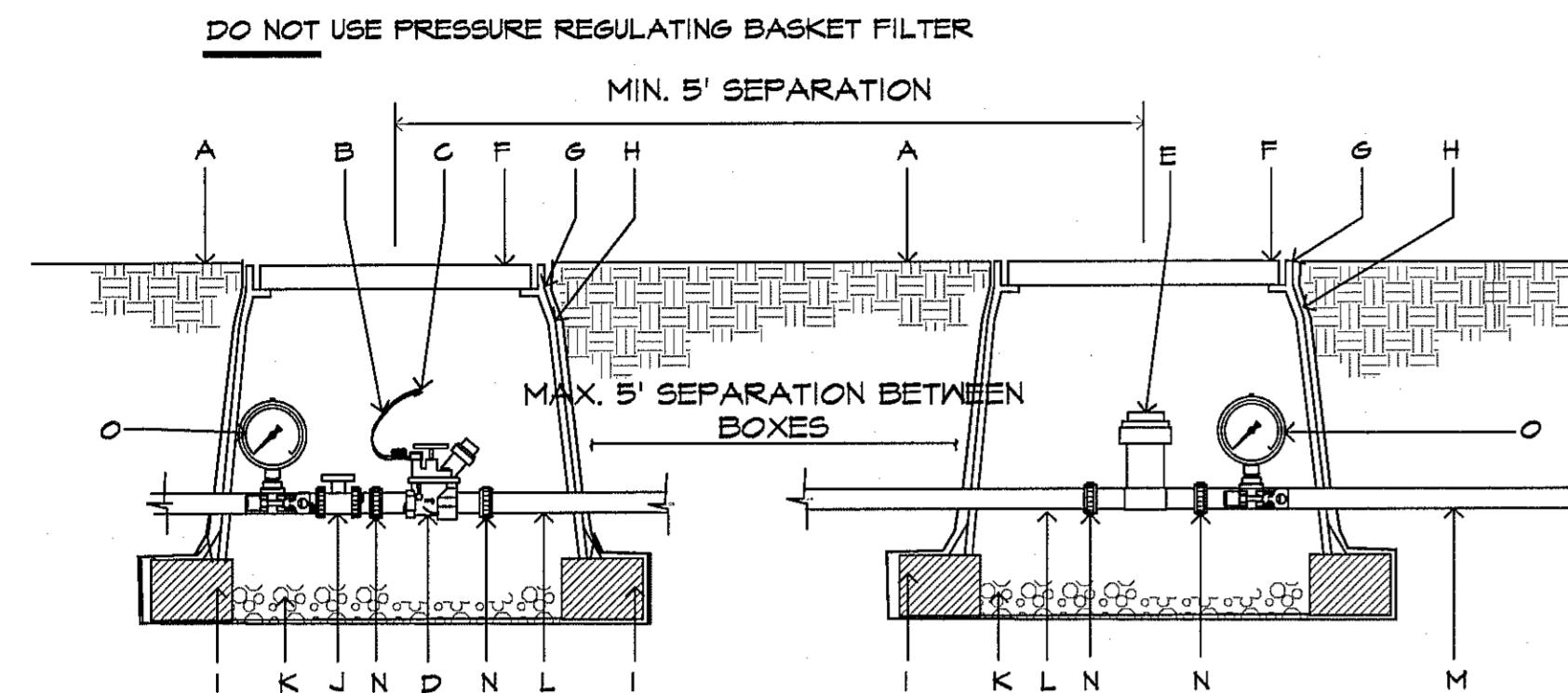
SHEET TITLE

L9

IRRIGATION DETAILS

SHEET 9 OF 11

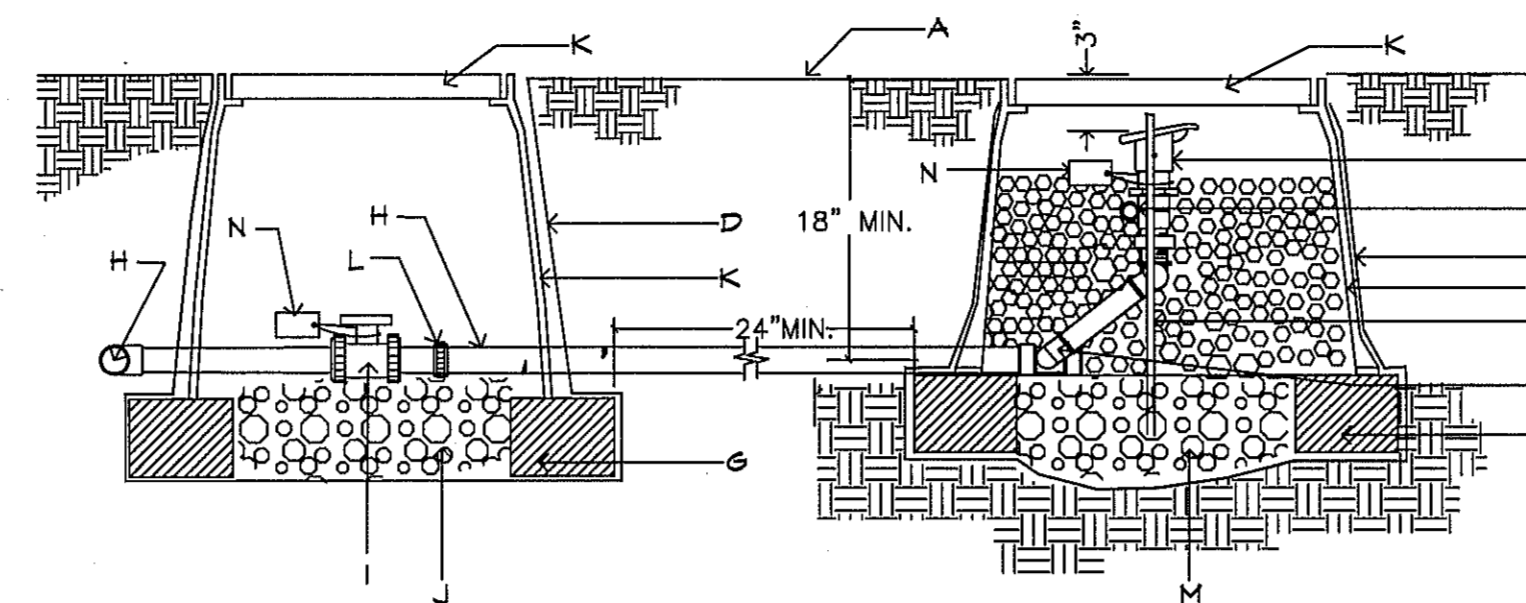
Final Approval



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. 1419-18 BODY (ABS) VALVE BOX W/BOLT DOWN COVER (COVER COLOR TO MATCH FINISH MATERIAL AND EXTENSION AS NECESSARY).
- H. PROVIDE DENWIT 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"X8"X16" 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.

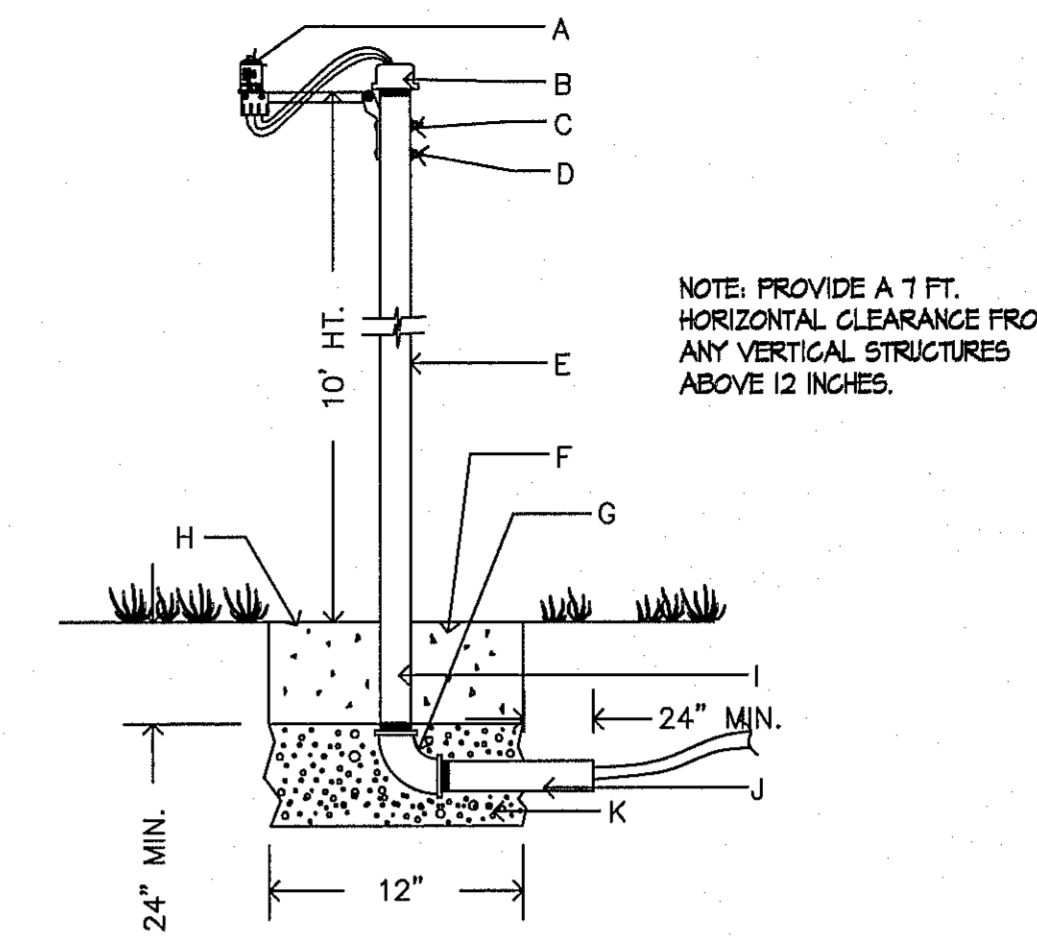
11 DRIP VALVE W/ BASKET FILTER
NOT TO SCALE



- A. FINISH GRADE.
- B. 1" BUCKNER QUICK COUPLER VALVE, DOUBLE SLOT, PURPLE TOP-MODEL QBSNPIO WITH LASCO SNAP-LOK W/MALE BRASS STABILIZER ELBOW.
- C. MIN. 12" SECTION 1" DIA. PVC SECTION SHOULD EXTEND BEYOND BOTH REBAR SECTION, STABILIZE IN GRAVEL.
- D. PROVIDE DENWIT 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 FOR STABILITY.
- 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. 1419-18 BODY (ABS) VALVE BOX AND EXTENSION(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 1419-18 VALVE 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.

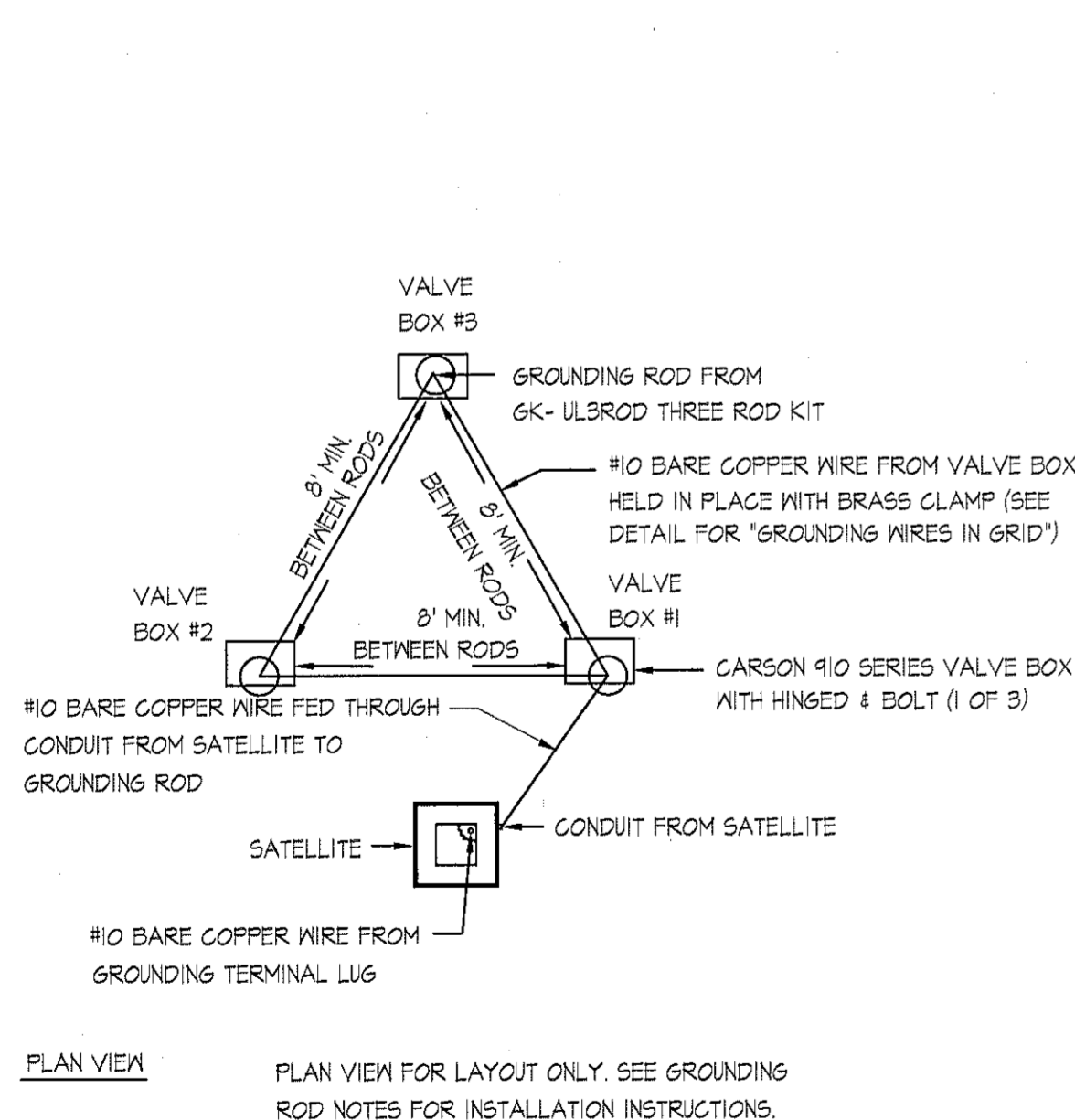
12 QUICK COUPLER
NOT TO SCALE



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

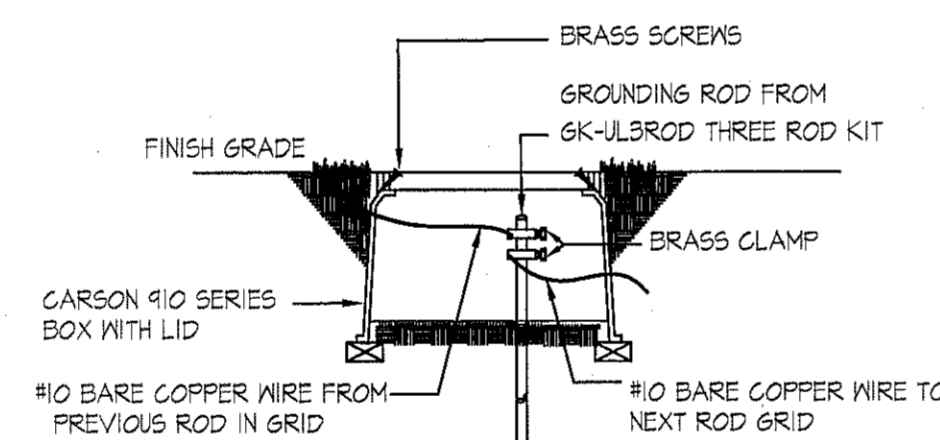
- A. RAIN BIRD RED-BEX RAIN SENSOR. SET TO 1/8"
- B. 2 1/2" PIPE CAP WITH HOLE FOR WIRES AND SEAL WITH EXTERIOR GRADE SILICONE SEALANT.
- C. DRILL TWO 3/16" HOLES IN PIPE FOR SENSOR BRACKET.
- D. (2) NO. 8-32 MACHINE SCREWS WITH WASHER, LOCK WASHER AND NUT.
- E. 2 1/2" SCH 40 GALVANIZED PIPE-10 FT. HT. 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.

13 RAIN SENSOR
NOT TO SCALE



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

14 TRIANGULAR GROUNDING GRID DETAIL
NOT TO SCALE

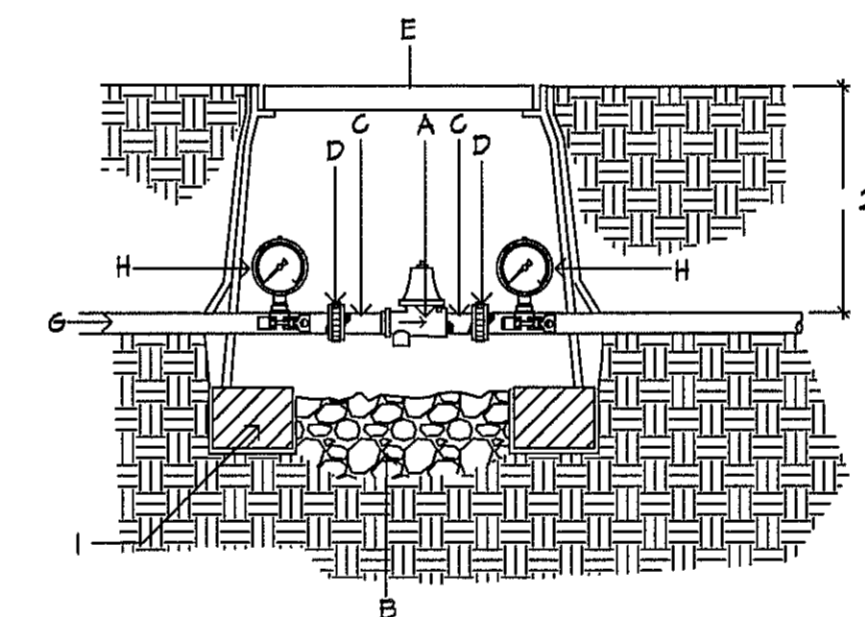


SEE GROUNDING ROD NOTES FOR INSTALLATION INSTRUCTIONS

GROUNDING WIRES IN GRID DETAIL INITIAL TERMINAL

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 IS OHMS.
- 8. WHENEVER MORE THEN ONE WIRE IS ATTACHED TO A GROUNDING ROD ALWAYS USE A SEPARATE CLAMP FOR EACH WIRE. TRYING TO INSTALL MORE THEN 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.



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

CONSTRUCTION NOTES:

- A. PRESSURE REGULATOR. SEE IRRIGATION LEGEND.
- B. 2 CU. FT. 1" DIAMETER WASHED PEA GRAVEL.
- C. SCH. 80 PVC NIPPLE.
- D. FLANGE (8" AND ABOVE) AND UNION (BELOW 8" PIPE SIZE).
- E. CARSON PRODUCTS INC. 1419 OR 1730 PB-18 BODY (ABS) VALVE BOX WITH 1419 OR 1730 BOLT DOWN COVER (ABS) TO MATCH FINISHED MATERIAL AND (1) 8 INCH EXTENSION.
- F. DENWIT 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. MAINLINE.
- H. HORIZONTAL HYGIENIC PRESSURE GAUGE
NOTE: PROVIDE 1 PRESSURE GAUGE ON MAIN LINE UPSTREAM AND DOWNSTREAM OF PRESSURE REDUCING VALVE. SET IT IN HORIZONTAL TO BE READABLE.
- I. 8"X8"X16" SOLID CMU BLOCK @ EACH CORNER.

15 IN-LINE PRESSURE REGULATOR
NOT TO SCALE

DATE

LISA MCNELIS
LANDSCAPE ARCHITECT
1500 FORT WORTH
CITY CENTER, SUITE 1800
DALLAS, TEXAS 75201
(214) 521-3532

ARCHITECT'S SEAL



SCALE

Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: 7/18/18
DESIGN BY: LM
DRAWN BY: LM
CHKD. BY: LM
APPROV. BY: LM
JOB No.

PROJECT TITLE

SUEÑOS ENCANTADOS PARK
4577 MARSABEL AZCARATE
LOT 38 BLOCK 66
TRES SUEÑOS UNIT 17 SUBDIVISION
CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
AREA: 75709 SQ. FT. - 1.73 ACRES

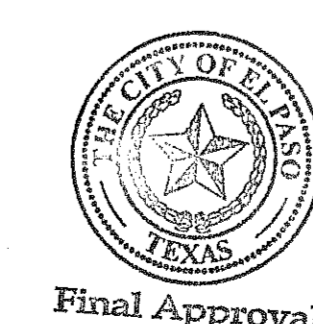
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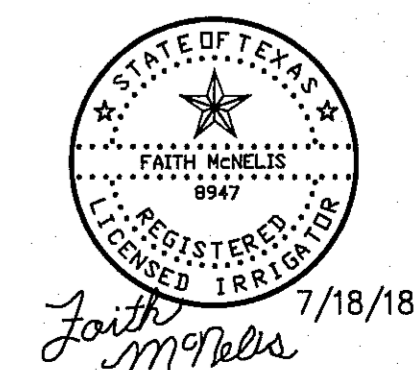
L10

IRRIGATION
DETAILS

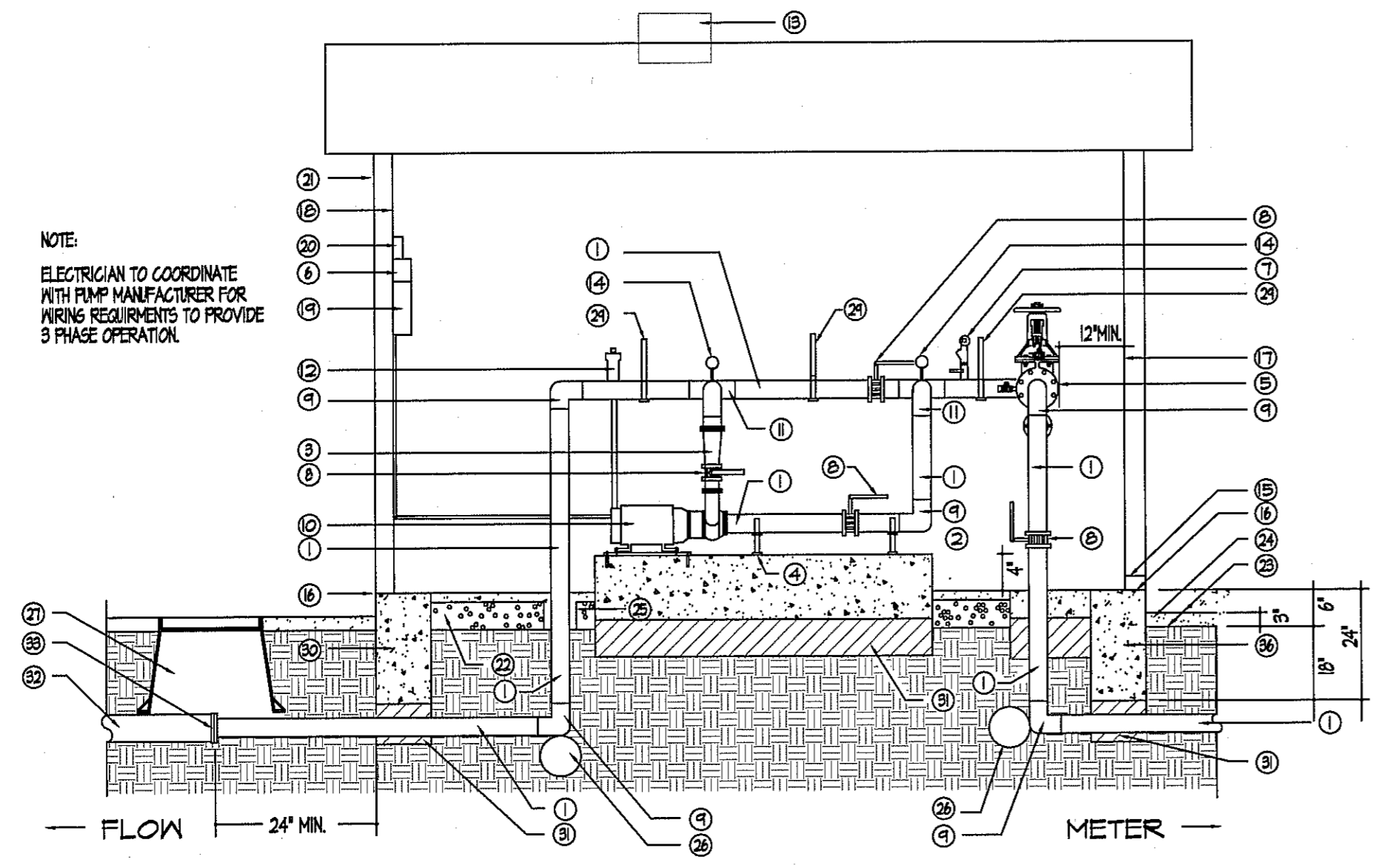
SHEET 10 OF 11



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



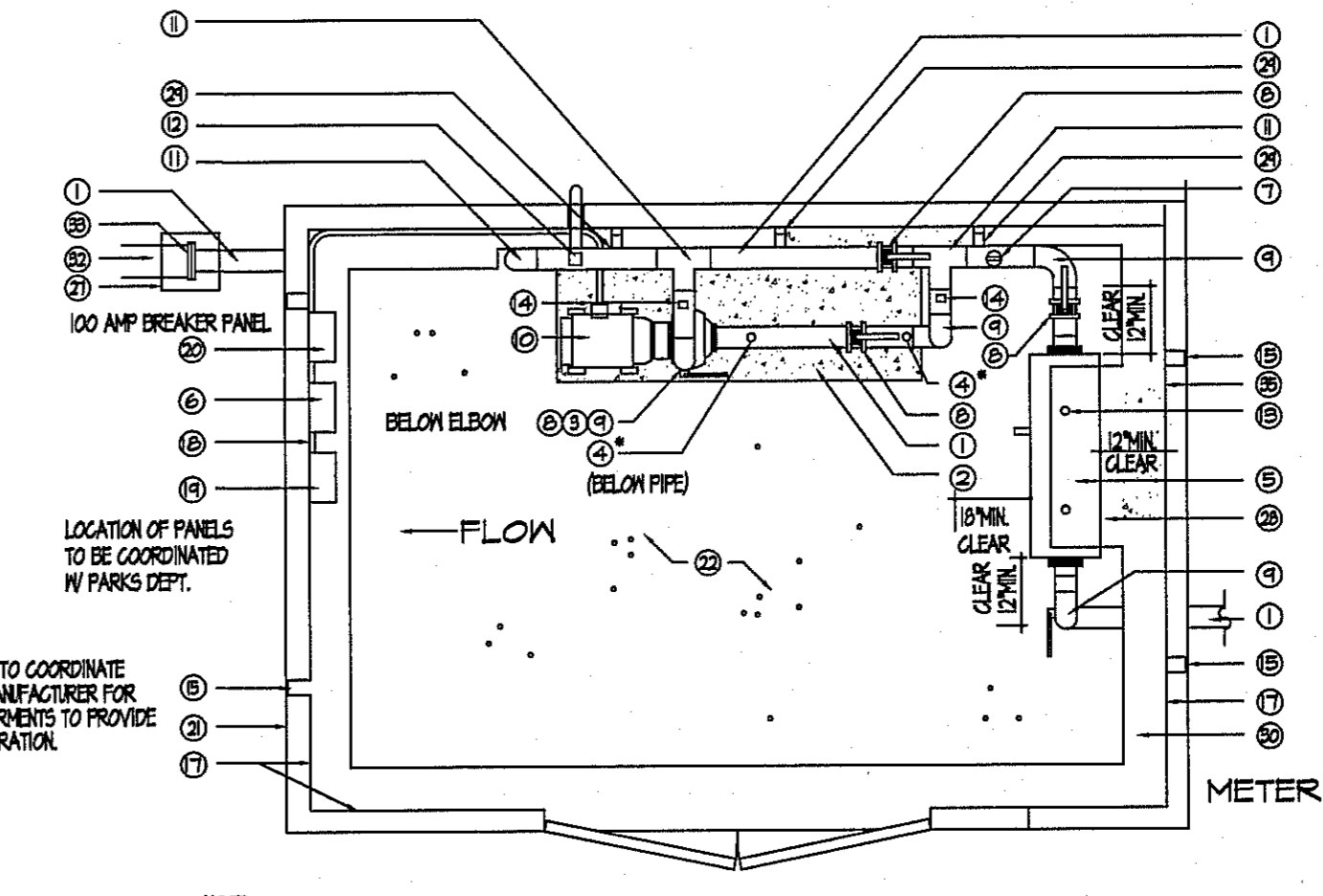
7/18/18
Faith McNeil



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

KEYED NOTES FOR DETAILS O AND P

- 1 3" TYPE K COPPER
- 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 FOR SIZE
- 6 PENAIR VARIABLE FREQUENCY DRIVE
- 7 MERZOLD DA SWITCH - HIGH/LON CUT OFF SWITCH MUST BE VERTICAL AND LEVEL WIRE TO PUMP PANEL
- 8 1/2" STYLE BUTTERFLY VALVE
- 9 COPPER ELBOW
- 10 SEE IRRIGATION PLAN FOR PUMP INFORMATION 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 3/8" 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 LOVERS (N/A)
- 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 N 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 COORDINATE SIZE AND MODEL WITH MATERIAL LEGEND AND DETAIL KEY ON L4
- 22 4" MINIMUM DEPTH FEA GRAVEL
- 23 FINISHED GRADE
- 24 3" LAYER OF GRAVEL (OUTSIDE SHED)
- 25 USE LEAVE OUT IN CONCRETE OR PVC SLEEVE
- 26 THRUST BLOCK
- 27 UNDO CARSON BOX 18" DEPTH FOR INSPECTION
- 28 4" SLAB BELOW BACKFLOW FOR STEEL SUPPORTS
- 29 INSTRUT PIPE SUPPORT SYSTEM - DETAILS PROVIDED TO PARKS SEE T ON SHEET L12
- 30 UNDISTURBED SOIL OR COMPACTED FILL TO MODIFIED PROCTOR 95% BELOW ALL CONCRETE
- 31 12" X 24" CONCRETE FOOTING
- 32 4" SCHEDULE 40 PVC MAIN
- 33 COPPER FLANGE TO PVC SCHEDULE 80 FLANGE

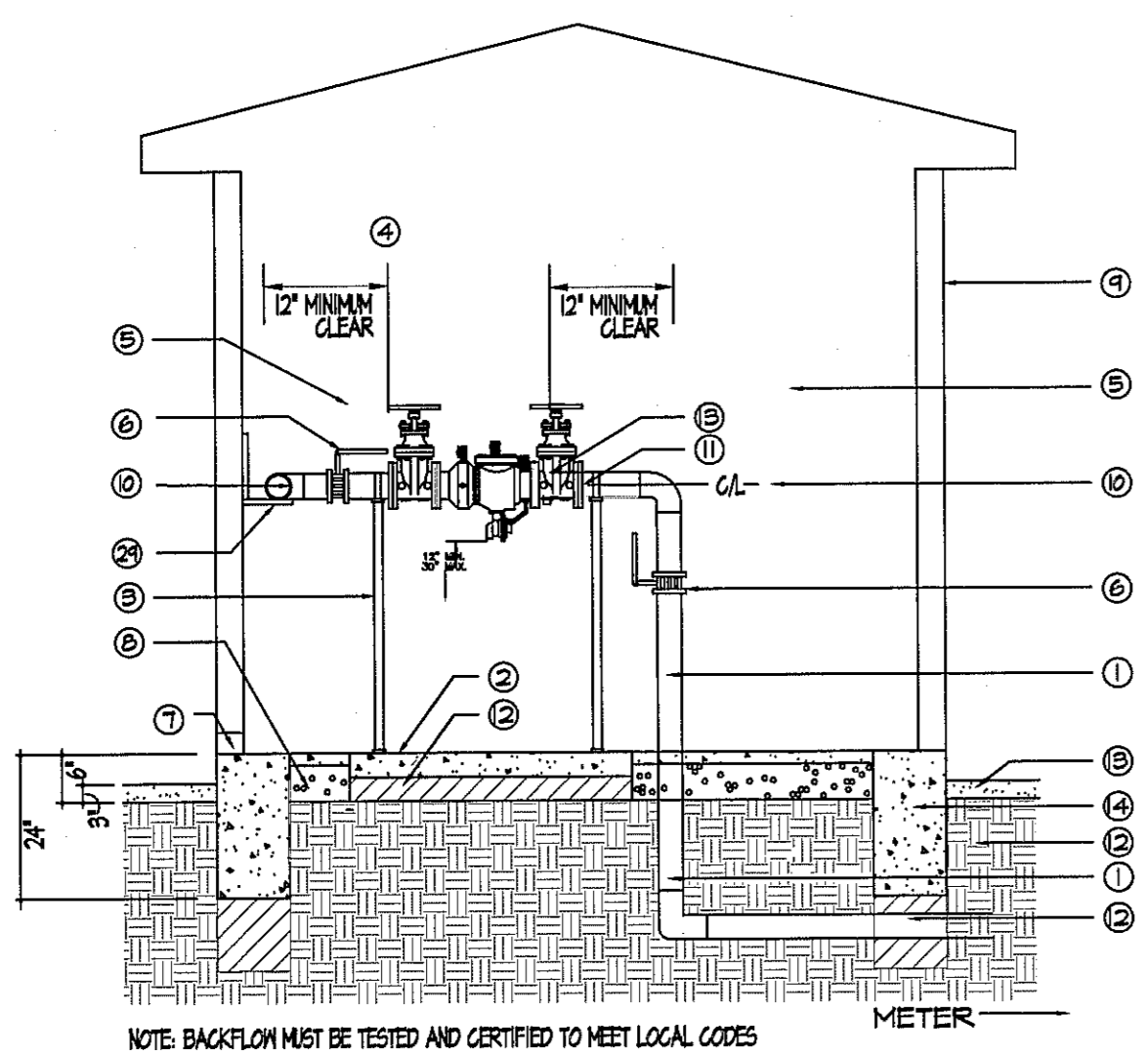


17 BOOSTER PUMP AND ENCLOSURE - PLAN VIEW
NOT TO SCALE

NOTE: ELECTRICIAN TO COORDINATE WITH PUMP MANUFACTURER FOR WIRING REQUIREMENTS TO PROVIDE 3 PHASE OPERATION.

*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.

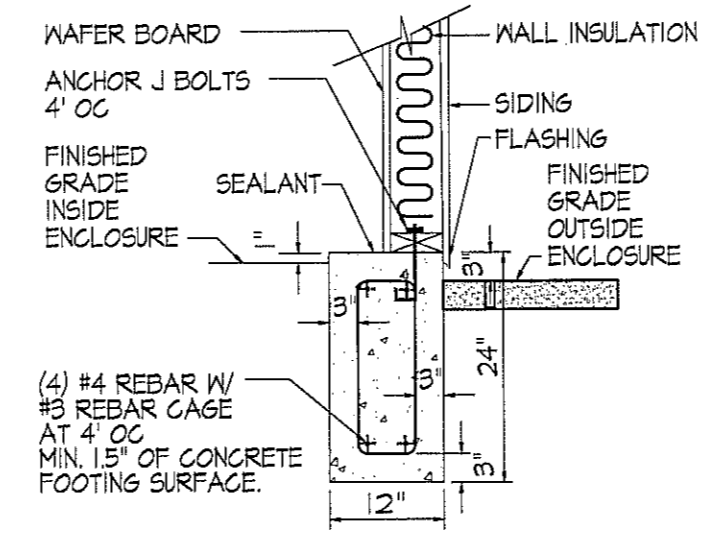
SHED AND COMPONENTS MAY BE REORIENTED IN THE FIELD BASED ON WATER METER LOCATION. MAINTAIN CLEARANCES AND ORDER OF COMPONENTS. SHED MUST BE SET BEHIND BLDG SETBACKS.



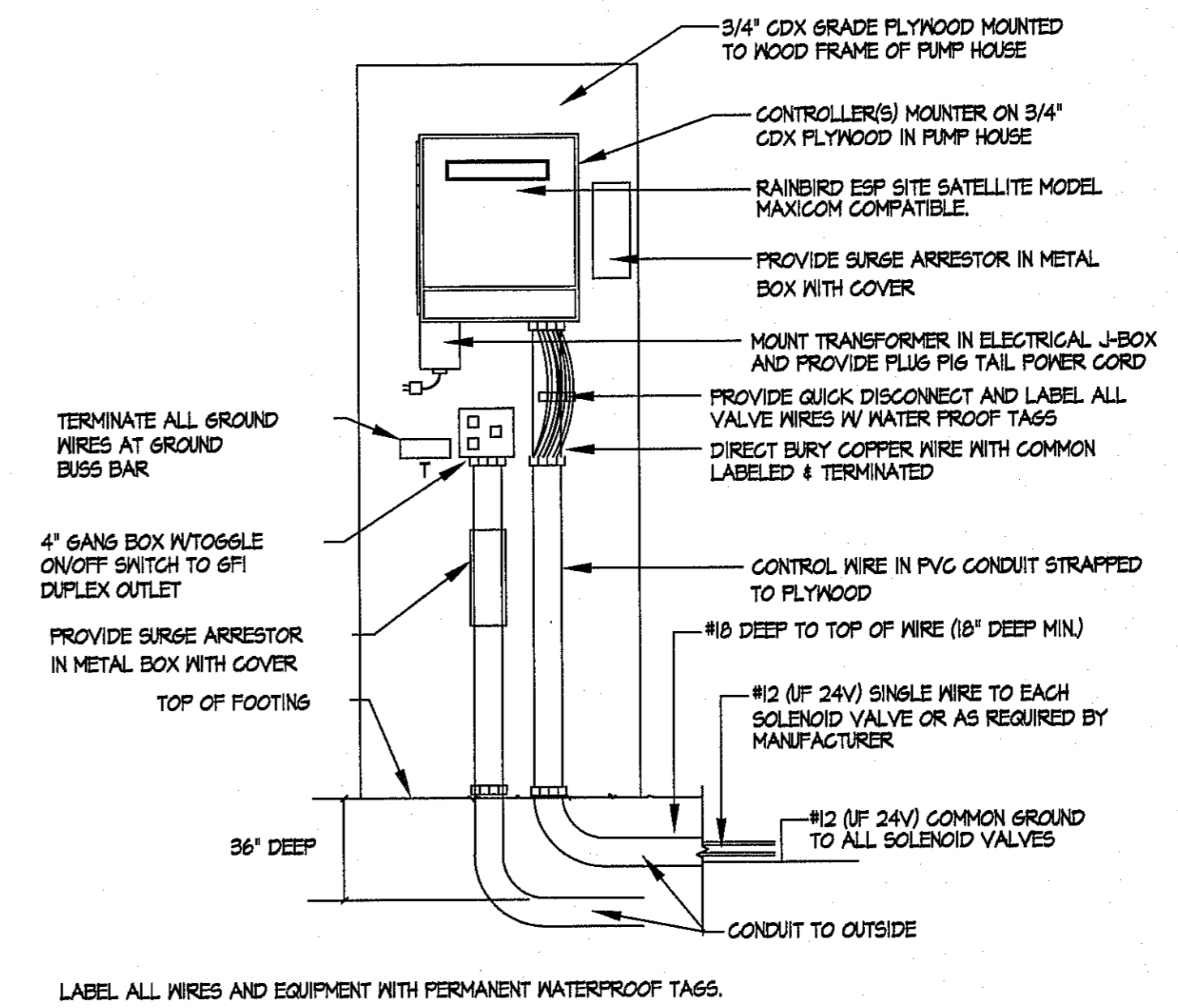
18 BACKFLOW IN PUMP ENCLOSURE - SECTION/ELEVATION
NOT TO SCALE

- 1 3" TYPE K COPPER
- 2 4" CONCRETE SLAB BELOW BACKFLOW 3000 PSI CONCRETE. SAME POUR AS SHED FOOTING
- 3 STEEL SUPPORTS WITH RUBBER ISOLATORS BOLTED TO CONCRETE
- 4 INSTRUT 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 LOVERS
- 8 4" DEPTH OF FEA GRAVEL
- 9 8" X 12" PREMIER SERIES TUFF SHED. DOOR LOCATION TO BE APPROVED BY PARKS. MUST ALIGN WITH BY-PASS ABOVE PUMP
- 10 3" COPPER INJON (FLANGED)
- 11 12" UNDISTURBED SOIL OR COMPACTED FILL TO MODIFIED PROCTOR 95% BELOW ALL CONCRETE
- 12 3" LAYER OF GRAVEL OUTSIDE OF SHED
- 13 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)



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



20 WALL MOUNTED CONTROLLER MAXICOM COMPATIBLE
NOT TO SCALE

PARKS DEPARTMENT
REVIEWED BY *Anthony Delgado* 09/10/2018



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



DATE: _____

LISA MCNEELIS
LANDSCAPE ARCHITECT
1900 FOXBORO
LAS CRUCES, NEW MEXICO 88007
(505) 621-5032

ARCHITECT'S SEAL

SCALE:
Vertical: _____
Horizontal: _____

PROJECT TITLE: **SUEÑOS ENCANTADOS PARK**
4577 MARISABEL AZCARATE
LOT 38 BLOCK 66
TRIS SUEÑOS UNIT 17 SUBDIVISION
CITY OF EL PASO, EL PASO COUNTY, TEXAS 79938
AREA: 75709 SQ. FT. - 1.73 ACRES

SHEET TITLE: **L11**
PUMP DETAILS
SHEET 11 OF 11