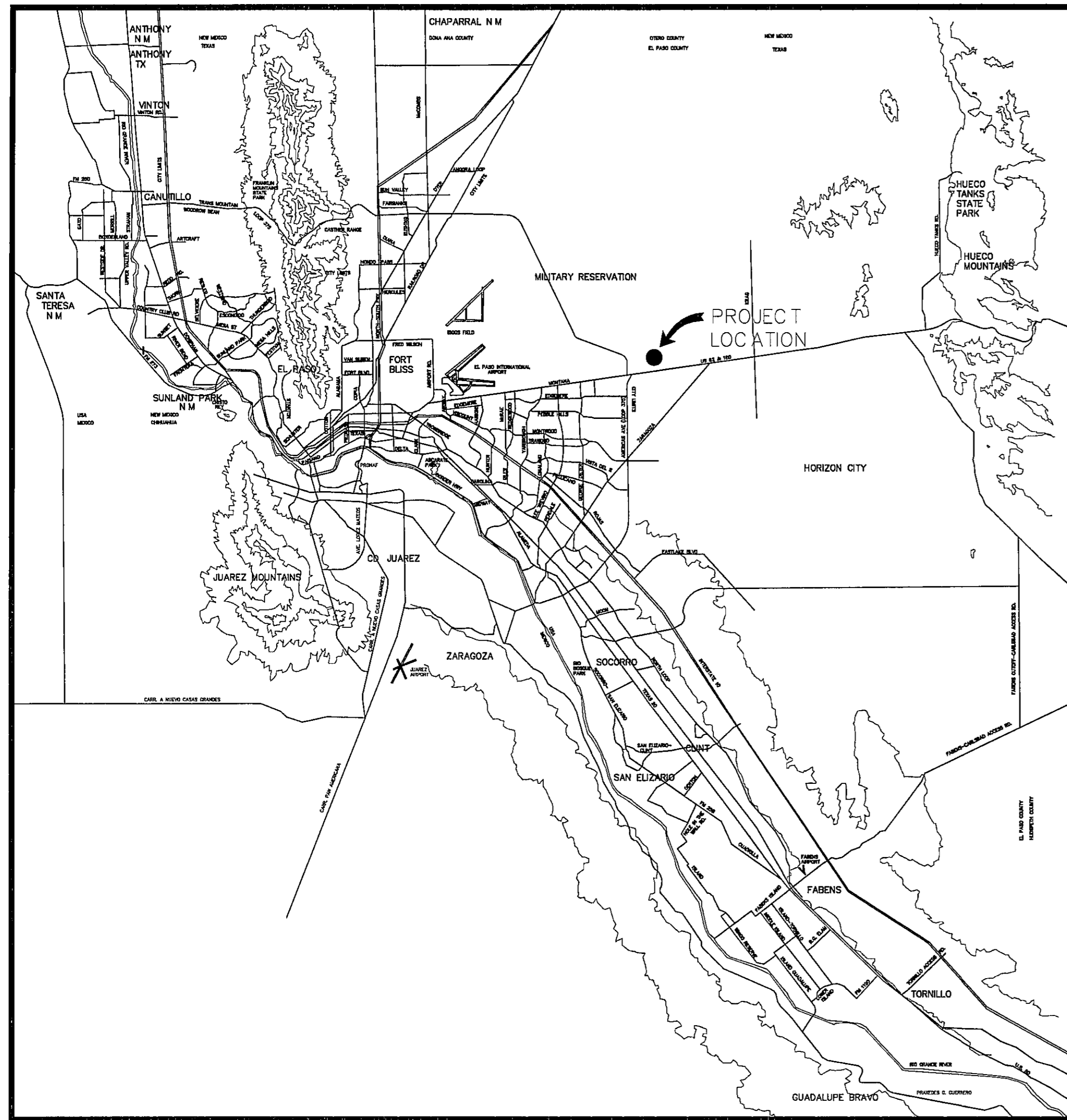


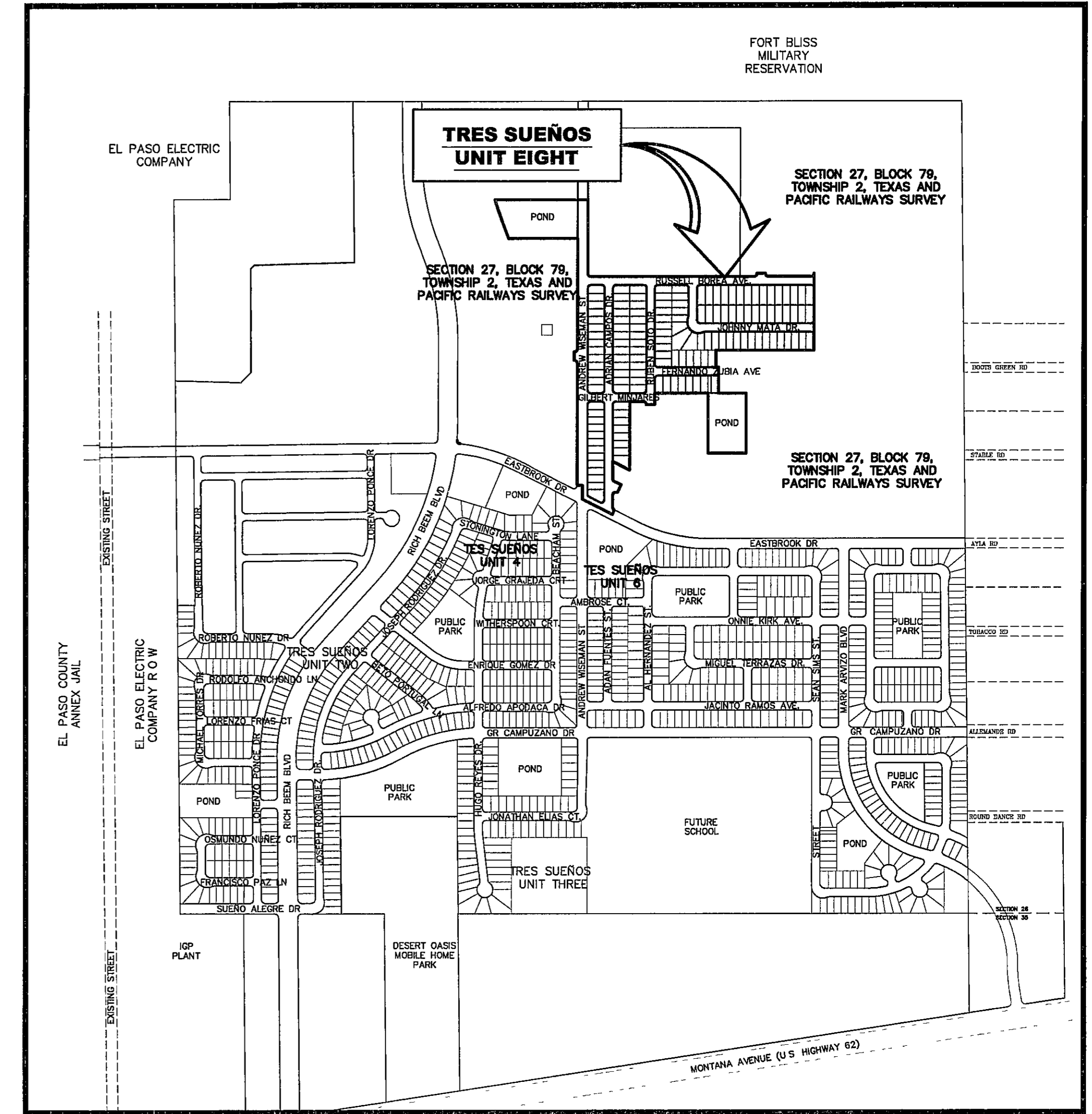
# TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

BEING A PORTION OF SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS AND  
PACIFIC RAILWAYS SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS;  
CONTAINING APPROXIMATELY 31.095± ACRES



VICINITY MAP  
APPROXIMATE SCALE  
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
<b>CVR &amp; C1.1</b>	COVER SHEET - HEADING WITH LEGAL DESCRIPTION AND NUMBER OF ACRES, INDEX OF SHEETS; VICINITY MAP, LOCATION MAP; PRINCIPAL CONTACTS, TITLE - REVISION BLOCK AND ENGINEER'S SEAL.
<b>C2.1</b>	FINAL PLAT
<b>C3.1</b>	GRADING PLAN
<b>C4.1</b>	DRAINAGE PLAN
<b>C4.2</b>	OFF-SITE WATERSHEDS
<b>C5.1</b>	GRADING SECTIONS
<b>C6.1 - C6.11</b>	STREET PLAN & PROFILES
<b>C7.1 - C7.6</b>	STORM DRAIN PLAN & PROFILES
<b>C8.1</b>	SANITARY SEWER INDEX
<b>C9.1 - C9.4</b>	SANITARY SEWER PLAN & PROFILES
<b>C10.1</b>	WATER INDEX / GENERAL INFORMATION
<b>C11.1 - C11.3</b>	SANITARY SEWER DETAILS
<b>C12.1 - C12.4</b>	WATER DETAILS
<b>C13.1 - C13.3</b>	STANDARD DETAILS
<b>C14.1 - C14.4</b>	DRAINAGE DETAILS
<b>C15.1 - C15.3</b>	POND DESIGN PLAN AND SECTIONS
<b>C16.1</b>	ILLUMINATION PLAN AND DETAILS
<b>C17.1 - C17.3</b>	STORM WATER POLLUTION PREVENTION PLAN GENERAL NOTES, SITE PLAN, AND DETAILS
<b>L1.00 - L3.00</b>	PARK LANDSCAPE PLAN, IRRIGATION PLAN, AND DETAILS
<b>SHEET 1 - 2</b>	E.P.W.U. WATER DISTRIBUTION PLAN



LOCATION MAP  
APPROXIMATE SCALE  
1" = 600'



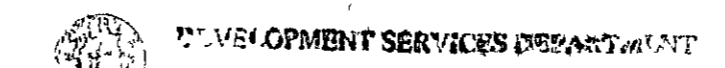
JORGE L. AZCARATE, P.E., PROJECT MANAGER



engineers • architects • planners  
Castner Center @ Transmountain  
4712 Woodrow Bean Ste. F El Paso, TX 79924  
Office 915 544 5232 Fax 915 544 5233 www.ceagroup.net  
TEXAS FIRM REGISTRATION NO. 4564

**PRINCIPAL CONTACTS:**

NAME	ADDRESS	CITY & ZIP	PHONE	FAX
<b>DEVELOPER:</b> TROPICANA DEVELOPMENT INC	4655 COHEN AVENUE	EL PASO, 79924	(915) 821-3550	(915) 821-3556
<b>ENGINEER:</b> CEA GROUP	4712 WOODROW BEAN STE. F	EL PASO, 79924	(915) 544-5232	(915) 544-5233
<b>SURVEYOR:</b> BARRAGAN & ASSOCIATES	10950 PELLICANO DR. SUITE F	EL PASO, 79935	(915) 591-5709	(915) 591-5706



SITE PLAN REVIEW  
Reviewed For Conformance For Conditions Related To:

- Demolition Only
- Grading & Drainage
- Threshold Ramps
- On Site Parking Layout
- Stipends
- Driveways
- Remaining Rock Wall
- On-Site Flowing of Storm Waters

Inspector Must Call 24 Hours Prior To Construction For Inspection  
*Jorge L. Azcarate* 6/26/2012  
DATE

**TRES SUEÑOS UNIT EIGHT**

COVER SHEET				
DATE PREPARED	DRAWN BY:	DESIGN BY:	CHECKED BY:	APPROVED BY:
JANUARY 2012	J.H.	J.H.	J.L.A.	J.L.A.
REVISION NUMBER	SHEET NAME OR NUMBER	DESCRIPTION OF REVISION	DATE OF REVISION	REVISION APPROVED BY.

**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 ENGINEER
- ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT

**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
CFS	CUBIC FEET PER SECOND
A	AREA
DA	DRAINAGE AREA
LF	LINEAR FEET
STD	STANDARD
CONC	CONCRETE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
L	LENGTH
R	RADIUS
T	TANGENT
Δ	DELTA ANGLE
S	SLOPE
TEMP	TEMPORARY
V	VELOCITY IN FEET PER SECOND
HGL	HYDRAULIC GRADE LINE
HWE	HIGH WATER ELEVATION

**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)
---	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 56.00	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-4	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, SW, 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 MATERIALS, 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 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 D1557
- 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

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  
1-800-DIG-TESS  
1-800-344-8377  
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40
DATE
BY
REVISIONS

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RUSSELL BOREA PLAN & PROFILE FROM STA 7+50.00 TO STA 14+41.71	C6.2
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PARK LANDSCAPE PLAN, IRRIGATION PLAN, AND DETAILS	L1.00-L3.00
E P W.U WATER DISTRIBUTION PLAN	SHEET 1-2

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	MAY 2012
DESIGN BY	J.H.
DRAWN BY	J.H.
CHKD BY	J.L.A.
APPROV BY	J.L.A.
JOB No	2000-134-1D

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

SHEET TITLE  
**GENERAL INFORMATION**

SHEET NO  
**C1.1**

**ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT**

**REVIEWED**



**UTILITY LOCATOR SERVICES**

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
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U S SPRINT TELECOMM	(800) 521-0579

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CALL  
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

- LEGEND:**
- NEW GARDEN ROCKWALL (0'-2" IN HEIGHT)  
SEE DETAIL 4/13.2
  - NEW RETAINING ROCKWALL (2'-3" IN HEIGHT)  
SEE DETAIL 4/13.2
  - NEW RETAINING ROCKWALL (3'-9" IN HEIGHT)  
SEE DETAIL 4/13.2
  - EXISTING MINOR CONTOUR
  - EXISTING MAJOR CONTOUR
  - PROPOSED MINOR CONTOUR
  - PROPOSED MAJOR CONTOUR
  - EXISTING DRAINAGE FLOW DIRECTION
  - TYPICAL BERM, SEE DETAIL 4/C17.3
  - SWALE

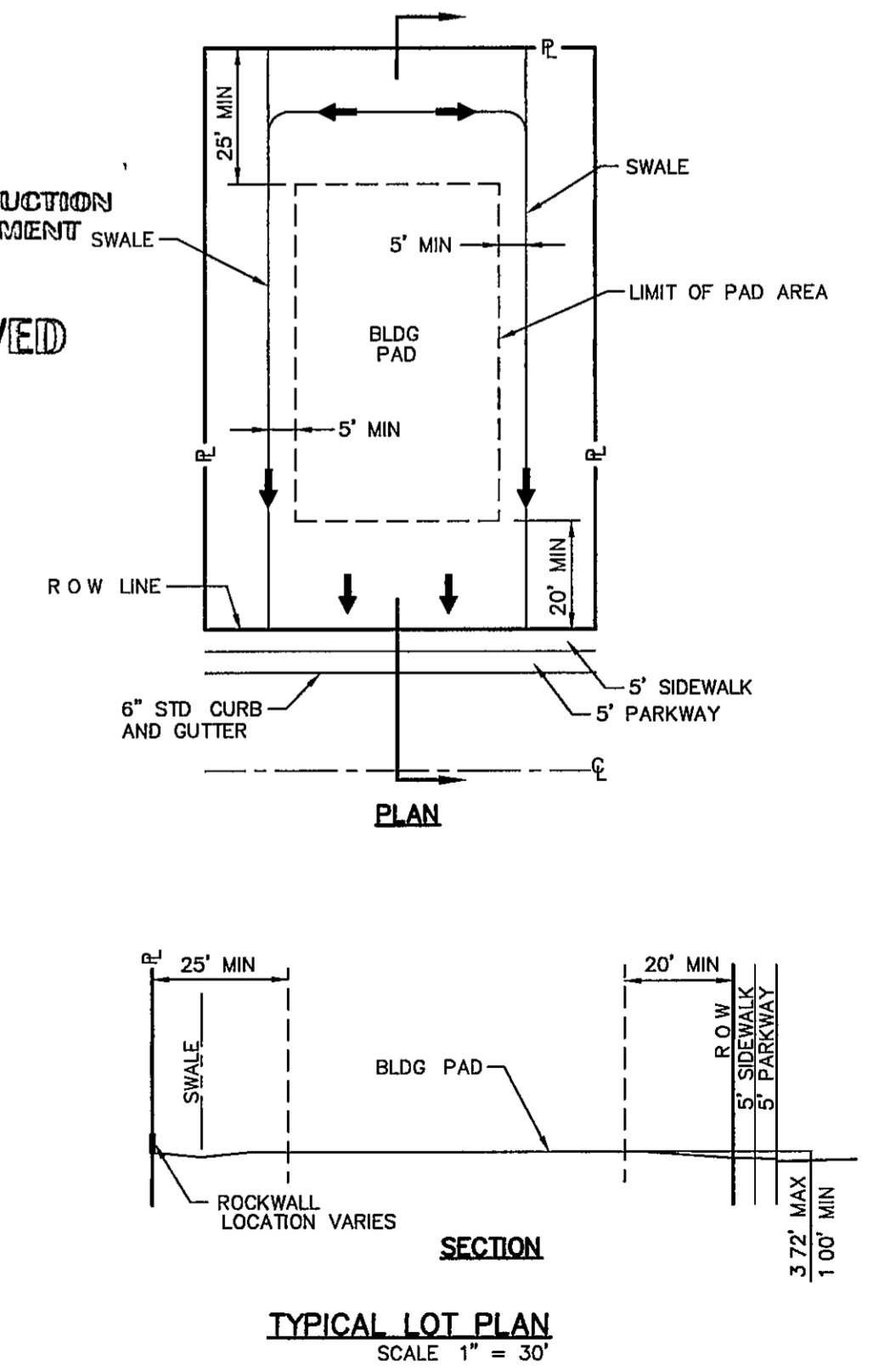
- NOTES:**
- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2'-FEET
  - SLOPED AREAS WITHIN RESIDENTIAL LOTS SHALL BE MAINTAINED BY THE PROPERTY OWNERS
  - ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER
  - IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBO's, SIGNS, POLES, FIRE HYDRANTS, ETC)
  - IMPROVEMENTS SHALL COMPLY WITH T A S / A D A STANDARDS
  - ALL RETAINING WALLS OVER 4' IN RETAINING HEIGHT SHALL BE BUILT BY DEVELOPER. REMAINING ROCKWALL SECTIONS TO BE BUILT BY BUILDER
  - DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE
  - MAXIMUM SLOPES ALLOWED SHALL BE 3(H) 1(V)

**FLOOD ZONE:**

THIS SUBDIVISION LIES WITHIN 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 DETERMINED TO BE OUTSIDE 500-YEAR FLOOD PLAIN

**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



**NOTES:**

- 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)

**FUTURE DEVELOPMENT**

A PORTION OF SECTION 27, block 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS  
TROPICANA DEVELOPMENT, INC  
DOC# 20070072034

**FUTURE DEVELOPMENT**

A PORTION OF SECTION 27, block 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS  
TROPICANA DEVELOPMENT, INC  
DOC# 20110079745

**FUTURE DEVELOPMENT**

A PORTION OF SECTION 27, block 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS  
TROPICANA DEVELOPMENT, INC  
DOC# 20080085098

**FUTURE DEVELOPMENT**

A PORTION OF SECTION 27, block 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS  
TROPICANA DEVELOPMENT, INC  
DOC# 20100085531

**FUTURE DEVELOPMENT**

A PORTION OF SECTION 27, block 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS  
CAREFREE LAND II, LP  
DOC# 2010088532

**GRADING PLAN**  
SCALE 1" = 100'

TRES SUEÑOS UNIT SIX

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

ENGINEER'S SEAL  
JOSÉ L. AZCÁRATE  
68075  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL  
STATE OF TEXAS

SCALE  
Horizontal 1" = 100'  
Vertical 1" = 10'  
Contour Interval 1' / 2'

DATE MAY 2012  
DESIGN BY J.H.  
DRAWN BY J.H.  
CHKD BY J.L.A.  
APPROV BY J.L.A.  
JOB NO. 2000-134-1D

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

SHEET TITLE  
**C3.1**

SHEET NO

DATE

REVISIONS

BY

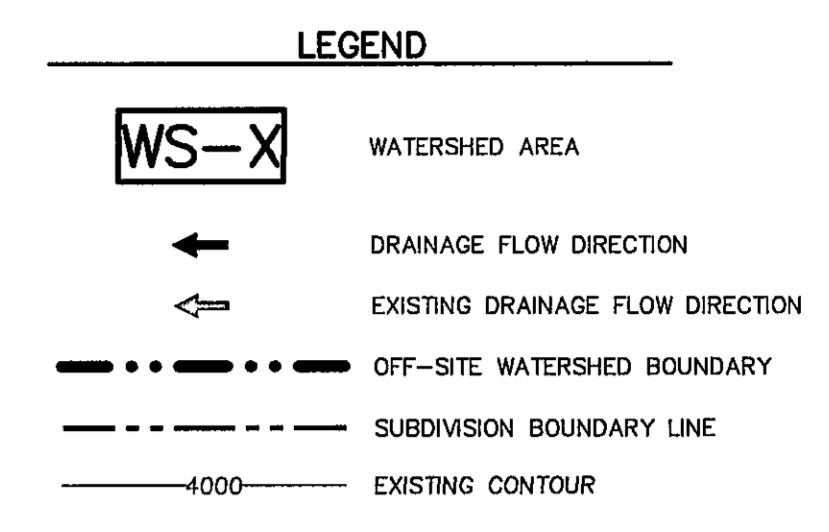


UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 498-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
TEXAS GAS SERVICE	(915) 680-7200	
SBC	(800) 545-6005	
AT&T	(800) 852-3786	
U S SPRINT TELECOMM	(800) 521-0579	

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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES



**50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS**

DRAINAGE AREA NO (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (ISO) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF (C) (5)	Q50 (CFS) (6)
WS-1	9 951	3 558	24 22	0 330	11 683
WS-2	1 637	3 863	21 05	0 330	2 087
WS-3	1 726	3 864	21 05	0 330	2 201
WS-4	16 420	2 589	39 56	0 330	14 031
WS-5	19 036	3 216	28 52	0 330	20 205
WS-6	5 424	2 927	33 00	0 330	5 238
WS-7	7 329	3 518	24 68	0 330	8 403
WS-8	27 350	3 352	26 70	0 330	30 253

NOTE: WS-A AND WS-B Q'S REFLECT DEVELOPED CONDITIONS

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

- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO 2-14
- (4) TIME OF CONCENTRATION TC= T (OVERLAND) + T (GUTTER)
- (5) RUNOFF COEFFICIENT => PLATE NO 2-10 TABLE A SAND HILLS & VALLEYS = 0.33
- (6)  $Q_{50} = C \times A \times I \times 1.50$

**FLOOD ZONE:**

THIS SUBDIVISION LIES WITHIN ZONES "X" (AREAS OF MINIMAL FLOODING) AS DESIGNATED IN PANEL NO 480212 0125B, DATED SEPTEMBER 4, 1991, OF THE UNINCORPORATED FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS AND ZONE "B" (AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD) AS DESIGNATED IN PANEL NO 480214 0016C, DATED FEBRUARY 5, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS

**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 4005.00



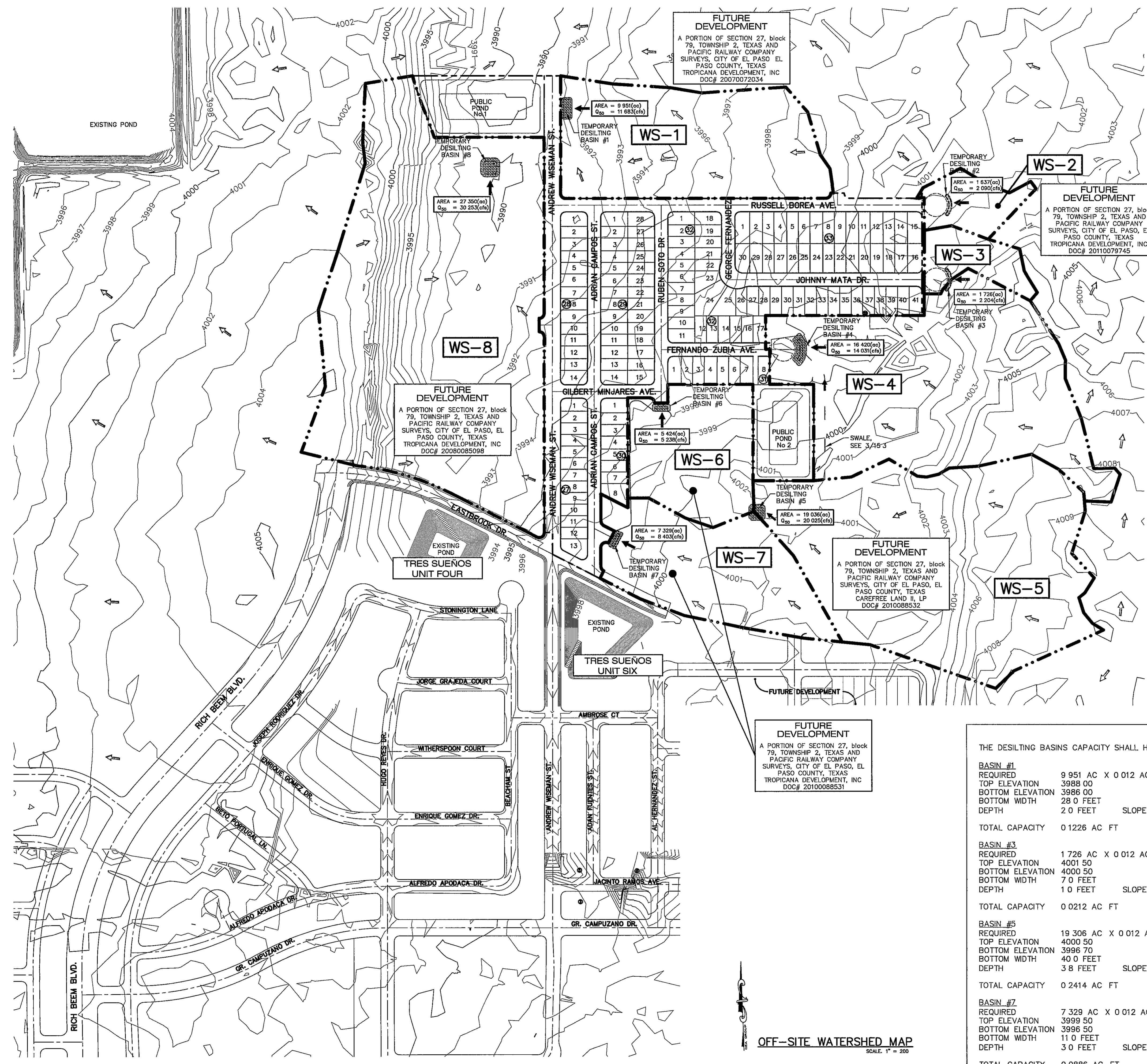
**REVIEWED**

**DESILTING BASINS CALCULATIONS**

THE DESILTING BASINS CAPACITY SHALL HOLD THE TOTAL REQUIRED (1.2%) FOR THE CORRESPONDING OFF-SITE WATERSHED

BASIN #	REQUIRED	TOP ELEVATION	BOTTOM ELEVATION	BOTTOM WIDTH	DEPTH	TOTAL CAPACITY	
BASIN #1	9 951 AC X 0.012 AC FT / AC = 0.1194 AC FT	3988.00	3986.00	28.0 FEET	2.0 FEET	0.1226 AC FT	
	SLOPE 3(H) 1(V)						
	TOTAL CAPACITY 0.1226 AC FT						
	BASIN #2	1 637 AC X 0.012 AC FT / AC = 0.0196 AC FT	4000.00	3999.00	7.0 FEET	1.0 FEET	0.0196 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.0196 AC FT					
BASIN #3		1 726 AC X 0.012 AC FT / AC = 0.0207 AC FT	4001.50	3993.00	7.0 FEET	1.0 FEET	0.0212 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.0212 AC FT					
	BASIN #4	16 420 AC X 0.012 AC FT / AC = 0.1970 AC FT	3997.00	3993.00	10.0 FEET	4.0 FEET	0.2099 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.2099 AC FT					
BASIN #5		19 306 AC X 0.012 AC FT / AC = 0.2317 AC FT	4000.50	3996.70	40.0 FEET	3.8 FEET	0.2414 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.2414 AC FT					
	BASIN #6	5 424 AC X 0.012 AC FT / AC = 0.0651 AC FT	3997.80	3994.80	7.0 FEET	3.0 FEET	0.1122 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.1122 AC FT					
BASIN #7		7 329 AC X 0.012 AC FT / AC = 0.0879 AC FT	3999.50	3996.00	11.0 FEET	3.0 FEET	0.0886 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.0886 AC FT					
	BASIN #8	27 350 AC X 0.012 AC FT / AC = 0.3282 AC FT	3990.00	3986.00	50.0 FEET	4.0 FEET	0.3465 AC FT
		SLOPE 3(H) 1(V)					
		TOTAL CAPACITY 0.3465 AC FT					

**OFF-SITE WATERSHED MAP**  
SCALE: 1" = 200'



REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08 43°31'E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.00

DATE: \_\_\_\_\_ REVISIONS: \_\_\_\_\_ BY: \_\_\_\_\_

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4715 Woodrow Bean, Ste F El Paso, TX 79904  
Office: 915-545-2522 Fax: 915-544-5258 www.csaeng.com

ENGINEER'S SEAL  
J. L. ACOSTA  
LICENSE NO. 88075  
STATE OF TEXAS

SCALE: 1" = 200'  
Horizontal: N/A  
Vertical: N/A  
Contour Interval: N/A

DESIGN BY: JH  
DRAWN BY: JH  
CHKD BY: JLA  
APP'D BY: JLA  
JOB NO. 2000-104-LD

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

SHEET TITLE  
**OFF-SITE WATERSHEDS**

SHEET NO.  
**C4.2**

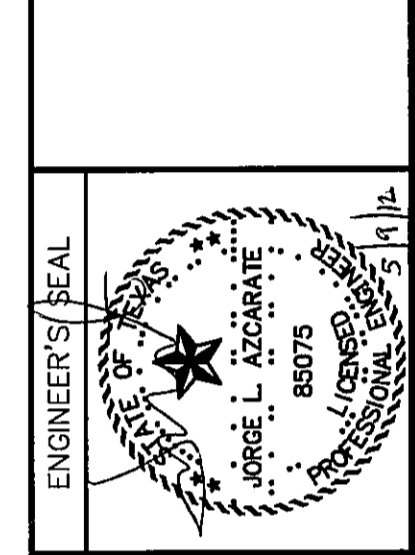
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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS 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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 1-800-DIG-TESS  
 1-800-344-8377  
 FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

**NOTES:**  
 1 ALL RETAINING WALLS OVER 4 FT IN HEIGHT SHALL BE CONSTRUCTED BY DEVELOPER (RETAINING PORTION ONLY) REMAINING ROCK WALL SECTIONS TO BE BUILT BY BUILDER



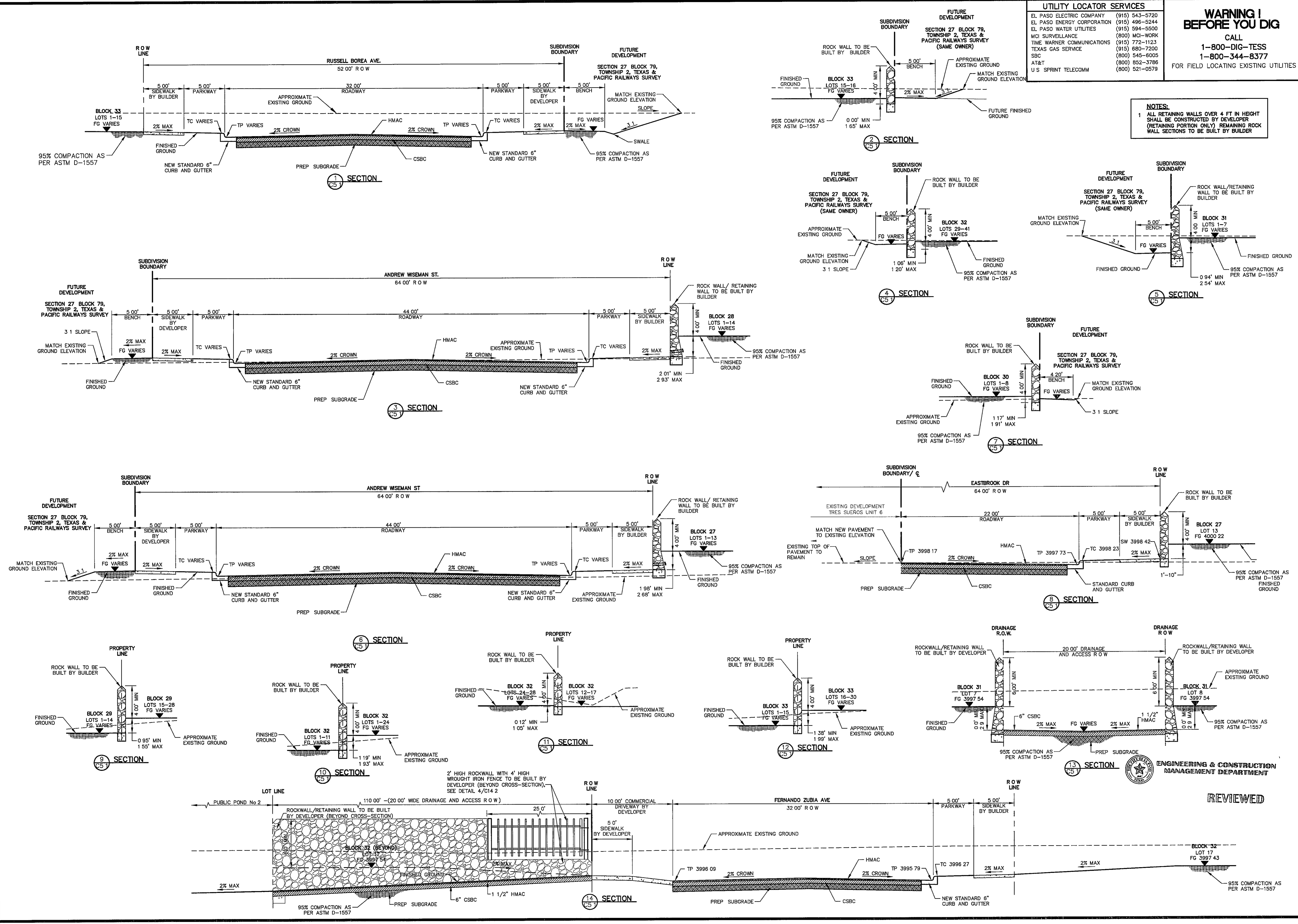
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Horizontal Vertical Interval Interval	TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

DATE	MAY 2012
DESIGN BY	J.H.
DRAWN BY	J.H.
CHKD BY	J.L.A.
APPV BY	J.L.A.
JOB No.	2000-134-LD

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

SHEET TITLE  
 GRADING SECTIONS  
 SHEET NO  
**C5.1**



**UTILITY LOCATOR SERVICES**

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EL PASO ENERGY CORPORATION	(915) 496-5244
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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**

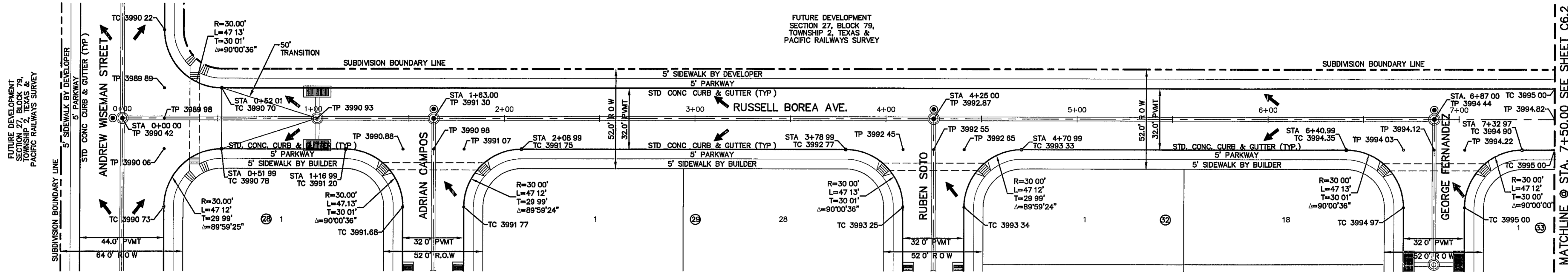
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

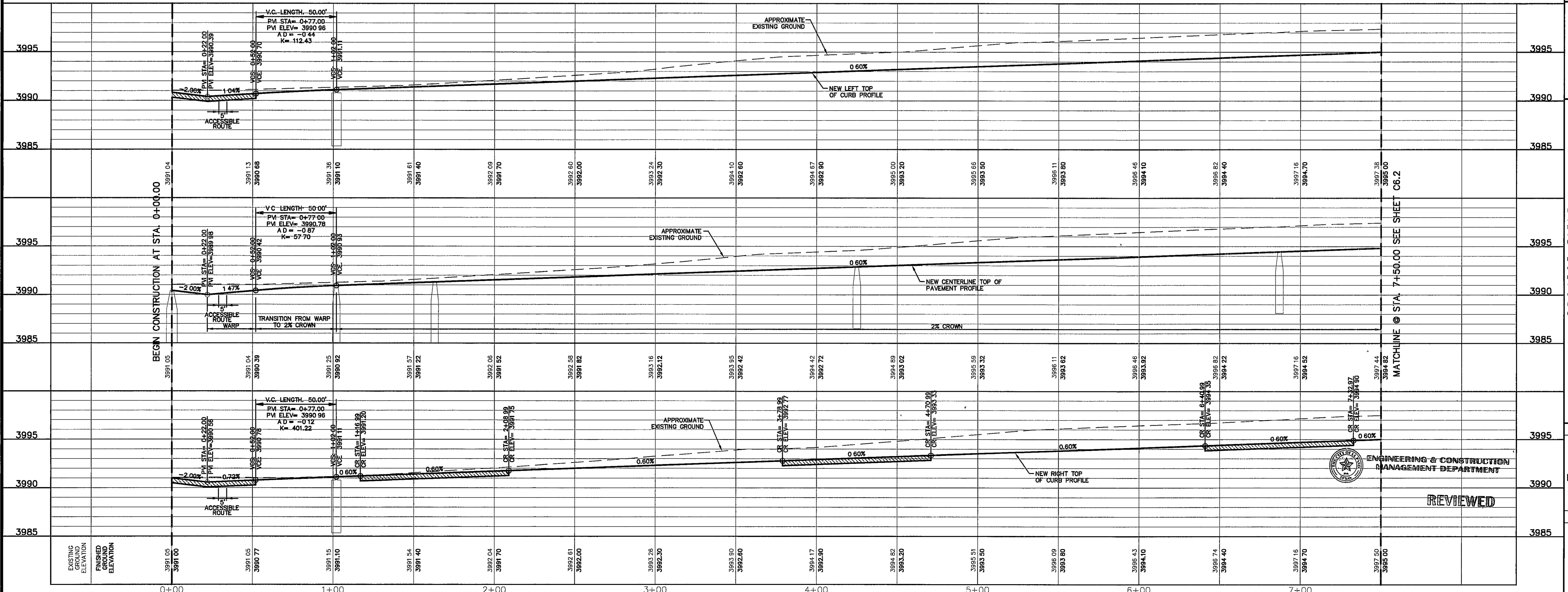
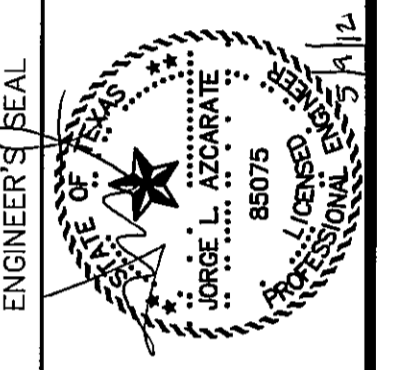
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLDG. S28°43'31"E, A DISTANCE OF 467.58 FEET FROM INTERSECTION OF RUSSELL BOREA AVENUE & AVENUE CITY DATUM ELEVATION 4005.94

DATE	REVISIONS	BY



- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.) SEE DETAIL 5/C13.1
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.) SEE DETAIL 10/C13.1
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS

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Office 915.544.5232 Fax 915.544.5233 www.osaengr.com



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

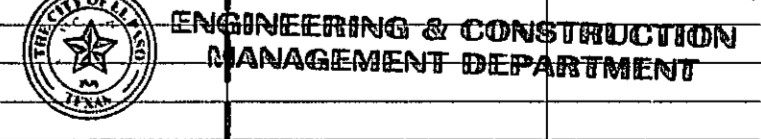
DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHECKED BY: J.L.A.  
APPROVED BY: J.L.A.  
JOB No. 2000-134-LD

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

SHEET TITLE  
**RUSSELL BOREA  
PLAN & PROFILE  
FROM STA. 0+00.00  
TO STA. 7+50.00**

SHEET NO  
**C6.1**

REVIEWED





**UTILITY LOCATOR SERVICES**

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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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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

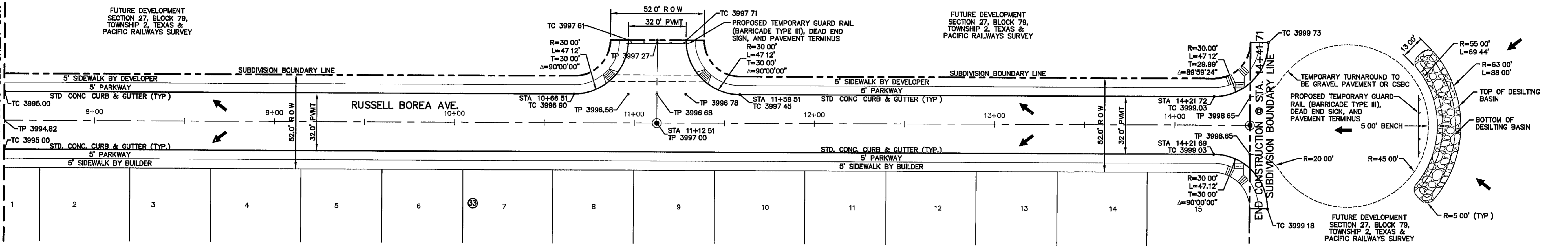
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31"E, A DISTANCE OF 487.55 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY

MATCHLINE @ STA. 7+50.00 SEE SHEET C6.1

FUTURE DEVELOPMENT SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS & PACIFIC RAILWAYS SURVEY

FUTURE DEVELOPMENT SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS & PACIFIC RAILWAYS SURVEY



PLAN

**LEGEND:**

	WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 5/C13.1		PROPOSED CITY MONUMENT
	DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 10/C13.1		5-FT ACCESSIBLE ACCESS ROUTE
	PW ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS		

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4712 Woodrow Beam, Ste F El Paso, TX 79924  
 Office: 915 541-5222 Fax: 915 541-5233 www.csaengineers.net

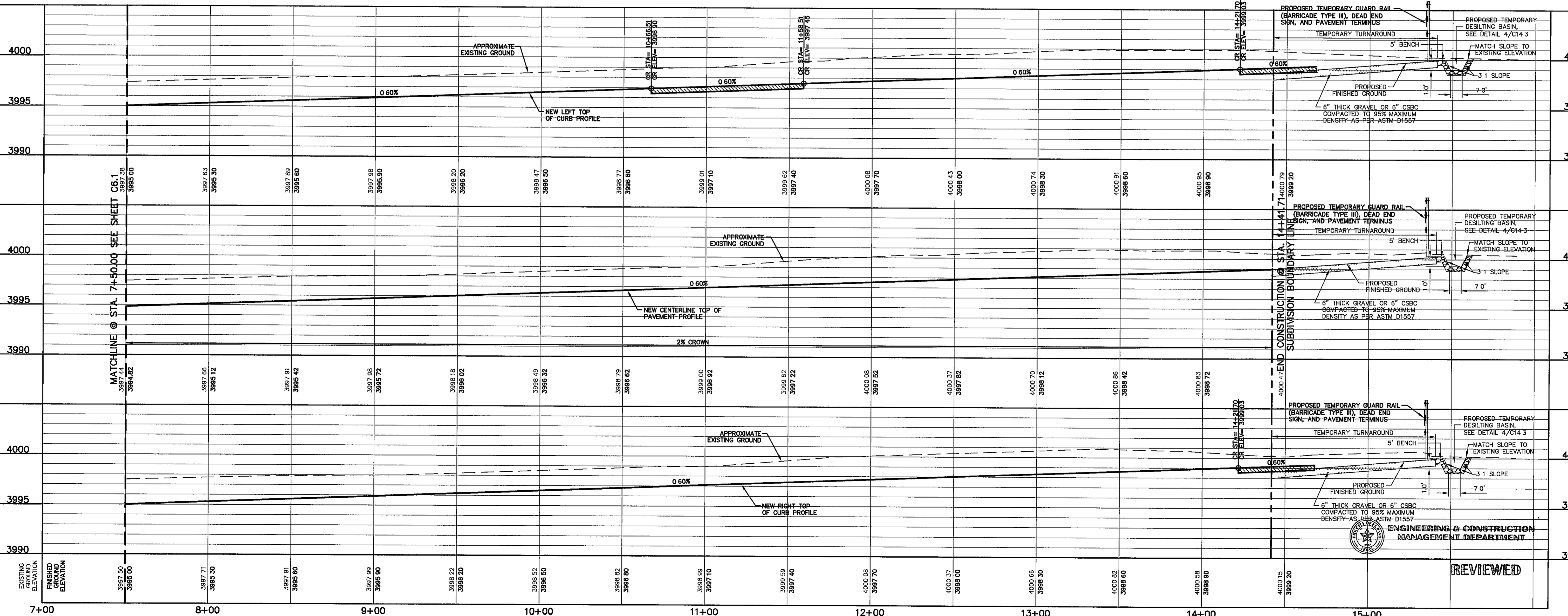
ENGINEER'S SEAL

STATE OF TEXAS

REGISTERED PROFESSIONAL ENGINEER

EXPIRES 12/31/12

JOSE L. AZCARRATE  
 No. 86075



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

DATE: MAY 2012  
 DESIGN BY: JH  
 DRAWN BY: JH  
 CHKD BY: JLA  
 APP'D BY: JLA

JOB No. 2000-134-ID

PROJECT TITLE

TRES SUEÑOS  
 UNIT EIGHT  
 SUBDIVISION IMPROVEMENTS

SHEET TITLE

RUSSELL BOREA  
 PLAN & PROFILE  
 FROM STA. 7+50.00  
 TO STA. 14+41.71

SHEET NO

C6.2

REVIEWED

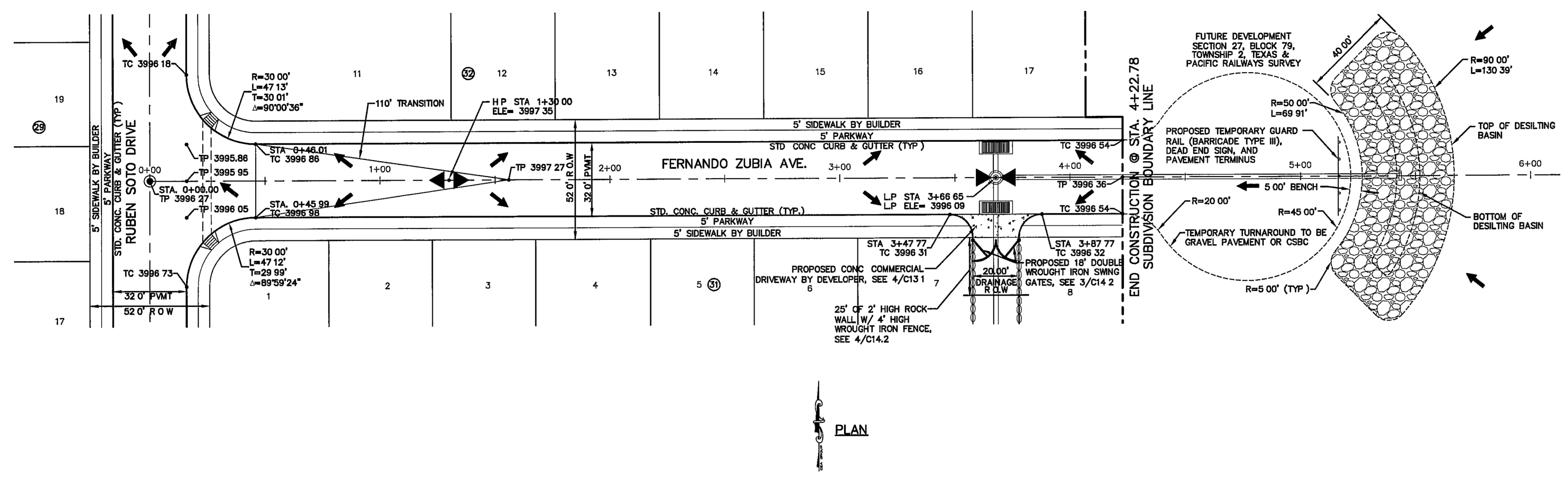
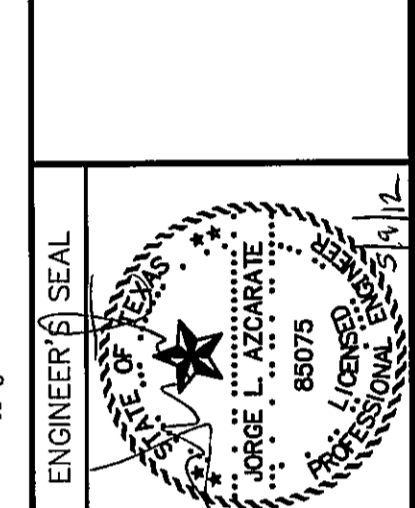
ENGINEERING & CONSTRUCTION  
 MANAGEMENT & DESIGN

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 495-5244
EL PASO WATER UTILITIES	(915) 594-5500
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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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 1-800-344-8377  
 FOR FIELD LOCATING EXISTING UTILITIES

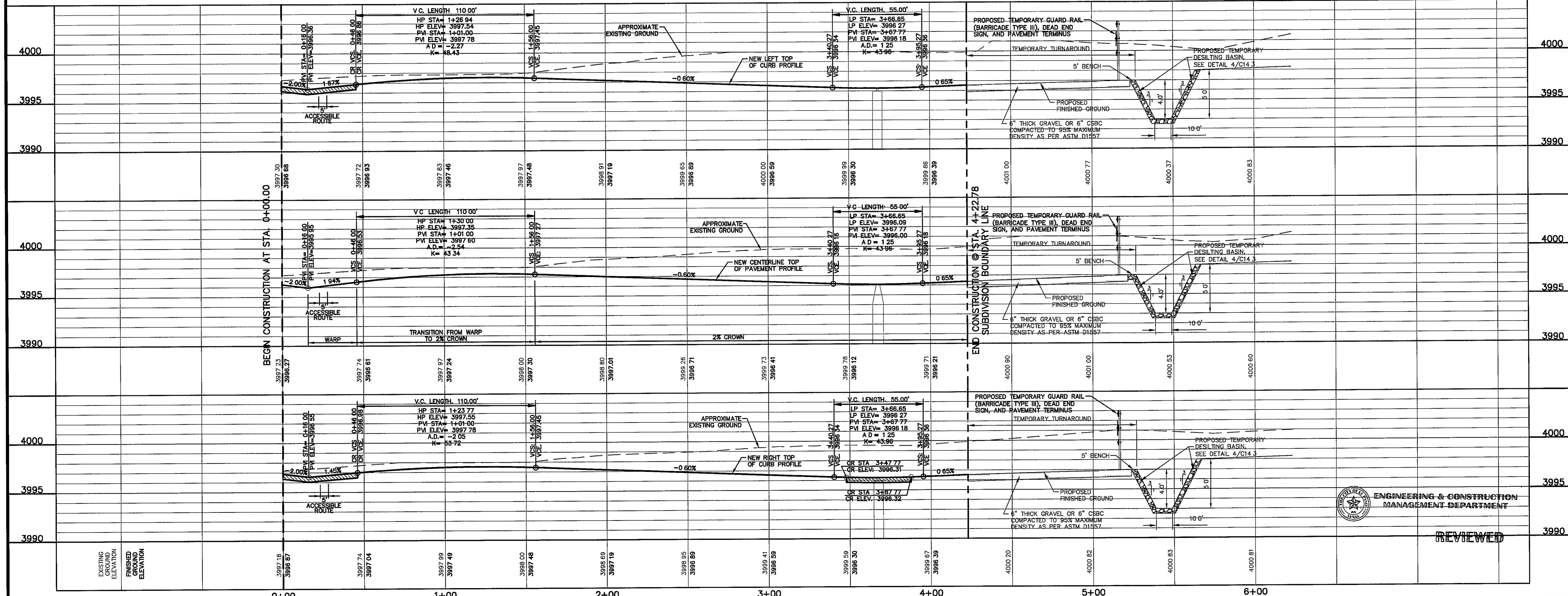
DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. 508.4331'E A DISTANCE OF 467.69 FEET FROM THE SOUTHWEST CORNER OF THE MONUMENT AVENUE CITY UNION ELEVATION 4005.40



**LEGEND:**  
 WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP)  
 PROPOSED CITY MONUMENT  
 5-FT ACCESSIBLE ACCESS ROUTE  
 PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS

PLAN

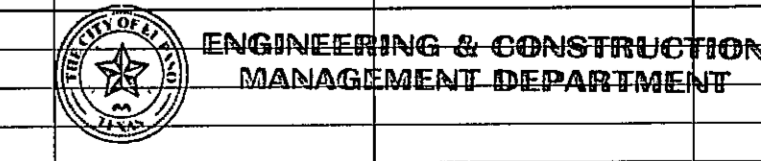


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 Vertical 1" = 5'  
 Contour Interval 10' / 5'  
 DATE MAY 2012  
 DESIGN BY J.H.  
 DRAWN BY J.H.  
 CHKD BY J.L.A.  
 APPVD BY J.L.A.  
 JOB No. 2000-134-LD

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

SHEET TITLE  
**FERNANDO ZUBIA AVE. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 4+22.78**

SHEET NO  
**C6.3**



REVIEWED

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
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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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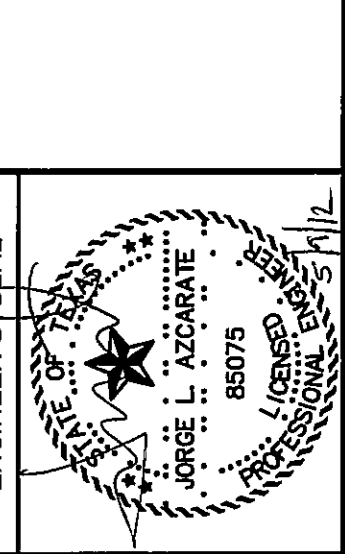
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S08°43'31"E A DISTANCE OF 467.55 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4055.40

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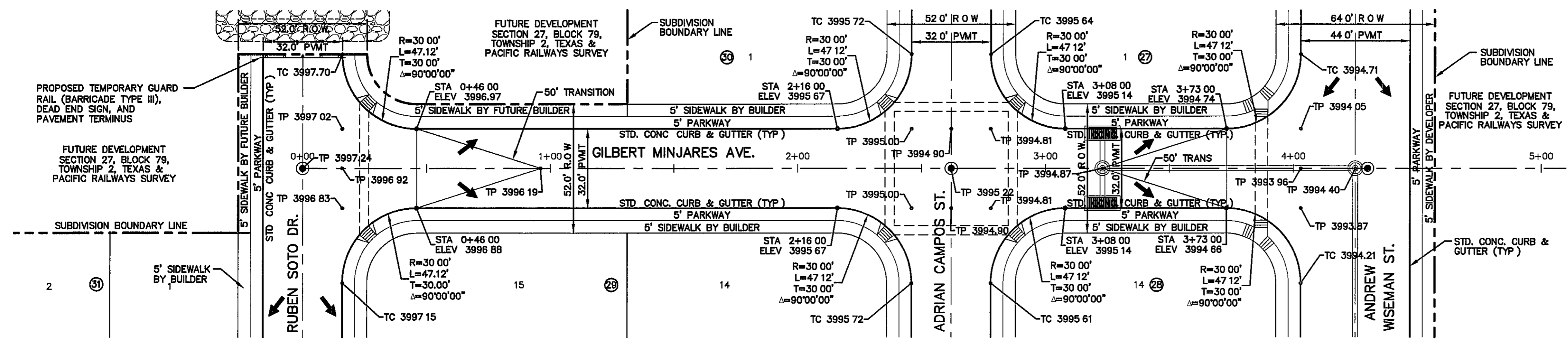


SCALE: 1" = 30'  
Horizontal  
Vertical  
Contour Interval 1/4"  
DATE: MAY 2012  
DESIGN BY: JH  
DRAWN BY: JH  
CHKD BY: J.L.A.  
APPRD BY: J.L.A.  
JOB No. 2000-134-LD

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

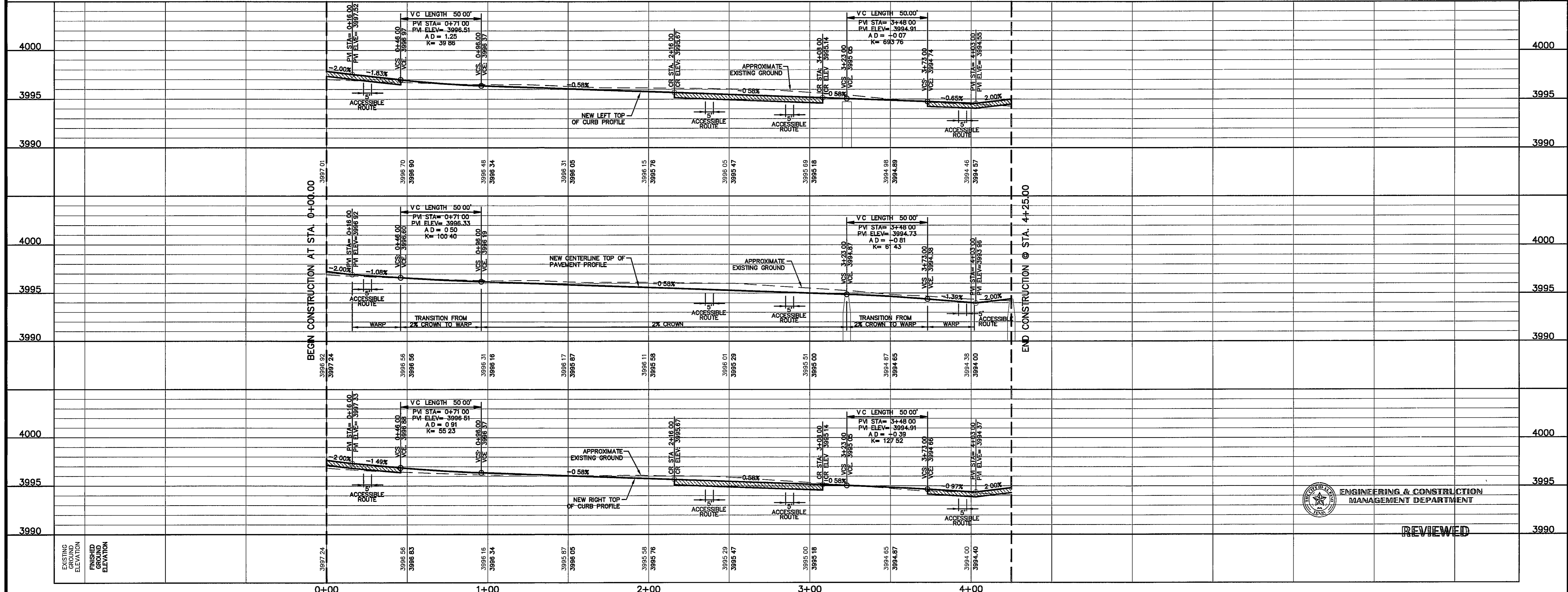
SHEET TITLE  
GILBERT MINJARES  
PLAN & PROFILE  
FROM STA. 0+00.00  
TO STA. 4+25.00

SHEET NO  
**C6.4**



**PLAN**

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 5/C13.1
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 10/C13.1
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS



**ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT**

**REVIEWED**

S:\2000\2000-14\UD\MSA\Construction Drawings\Improvement Plans\C6.4 GILBERT MINJARES P&P.dwg 5/9/20 2:52:20 PM

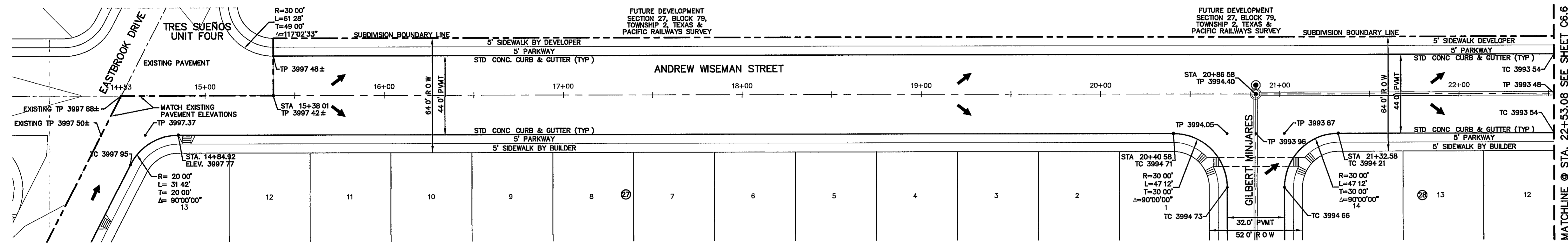
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
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SBC	(800) 545-6005
AT&T	(800)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

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**1-800-344-8377**

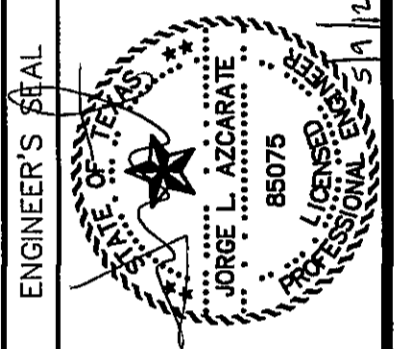
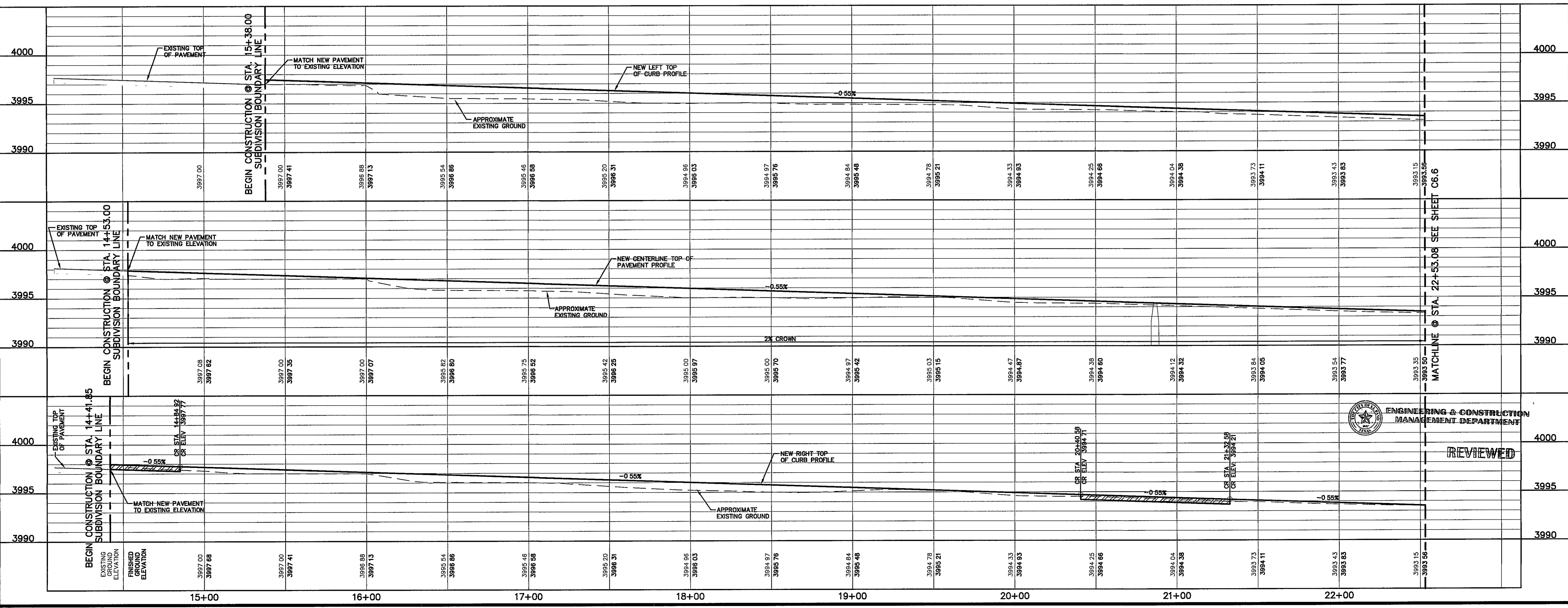
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



PLAN

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 5/C131
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 10/C131
  - PW ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS
  - EXISTING PAVEMENT



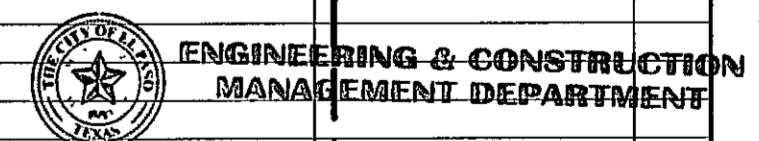
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 Vertical 1" = 5'  
 Contour Interval N/A

DATE MAY 2012  
 DESIGN BY J.H.  
 DRAWN BY J.H.  
 CHKD BY J.L.A.  
 APPVD BY J.L.A.  
 JOB No. 2000-134-LD

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

SHEET TITLE  
**ANDREW WISEMAN ST**  
**PLAN & PROFILE**  
**FROM STA. 14+53.00**  
**TO STA. 22+53.08**

SHEET NO  
**C6.5**



REVIEWED

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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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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLDG. 508.43 31' E, A DISTANCE OF 467.58 FEET FROM AN IRON NAIL BENCHMARK AT THE INTERSECTION OF AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY

**CS&U**

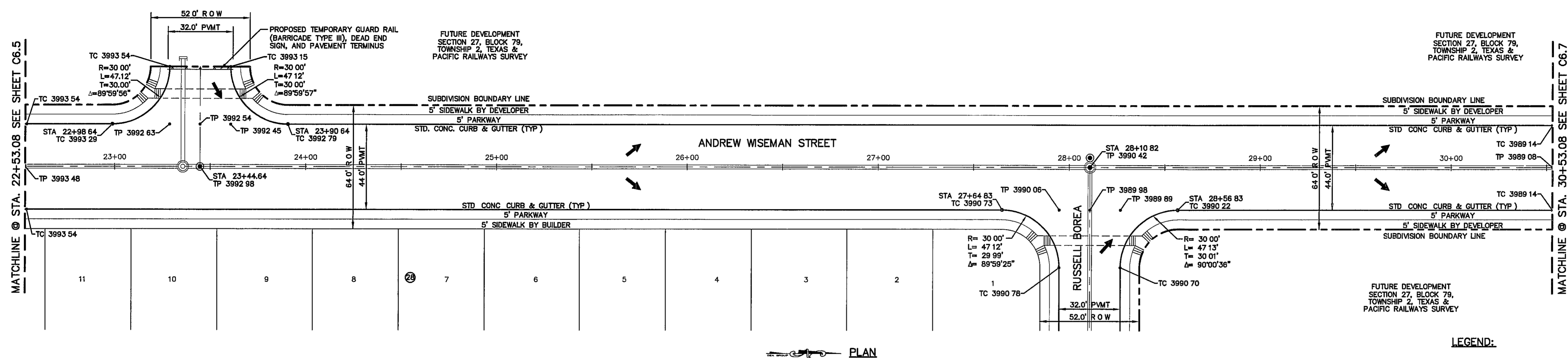
engineers • architects • planners

TEXAS REGISTERED ENGINEERING FIRM F-654

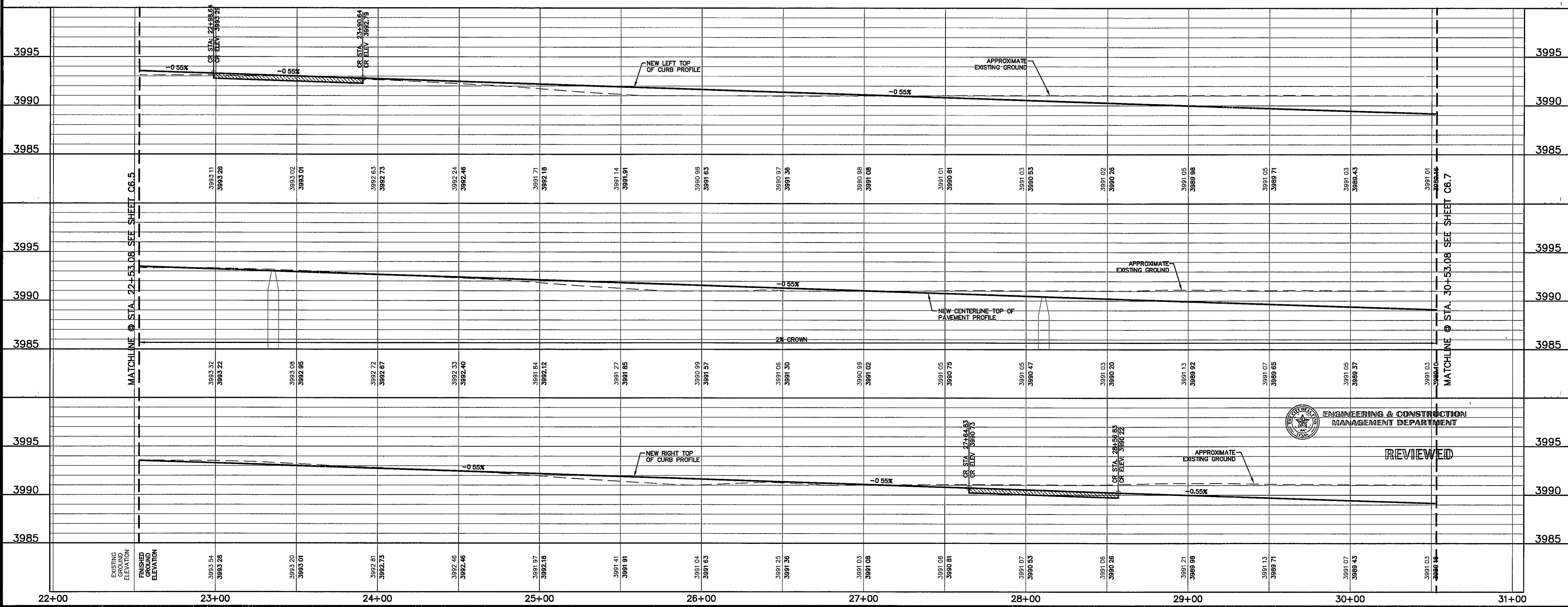
4712 Woodrow Beam, Ste F El Paso, TX 79924  
Office: 915.544.5232 Fax: 915.544.5233 www.csanduo.com

ENGINEER'S SEAL

JORGE L. AZCARATE  
LICENSED PROFESSIONAL ENGINEER  
NO. 85075



- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 5/C13.1
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 10/C13.1
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS



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

DATE: MAY 2012  
DESIGN BY: JH  
DRAWN BY: JH  
CHKD BY: JLA  
APPVD BY: JLA

JOB No. 2000-134-1D

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

SHEET TITLE  
**ANDREW WISEMAN ST  
PLAN & PROFILE  
FROM STA. 22+53.08  
TO STA. 30+53.08**

SHEET NO  
**C6.6**

REVIEWED

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

**UTILITY LOCATOR SERVICES**

EL PASO ELECTRIC COMPANY	(915) 543-5720
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EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MO-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**

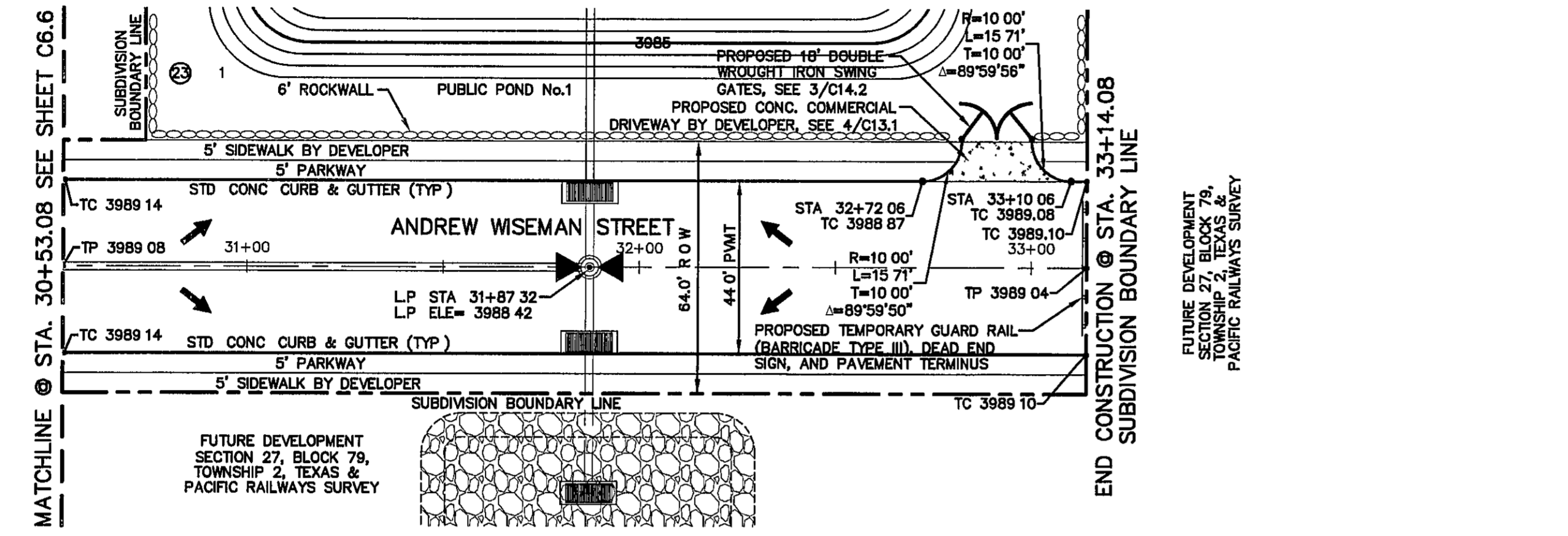
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

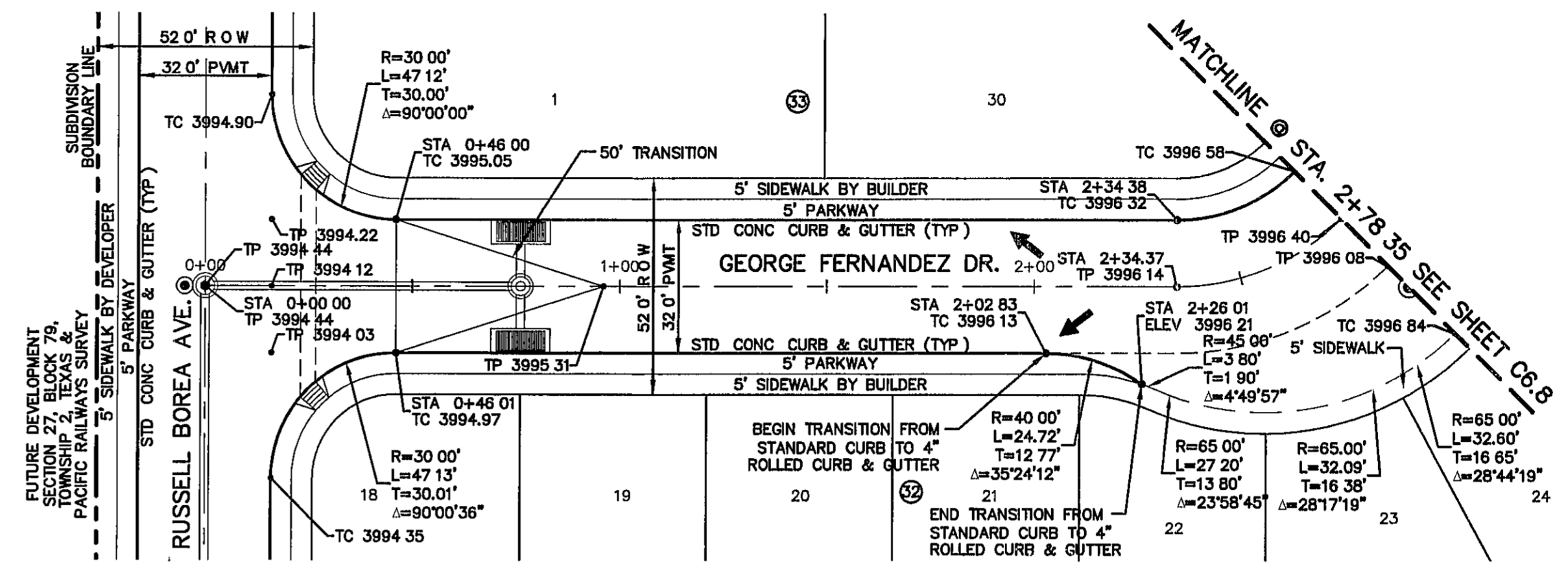
REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 508'43"31" A. DISTANCE OF 487.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4865.46

DATE	REVISIONS	BY



PLAN



PLAN

**LEGEND**

- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP)
- PROPOSED CITY MONUMENT
- 5-FT ACCESSIBLE ACCESS ROUTE
- PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS

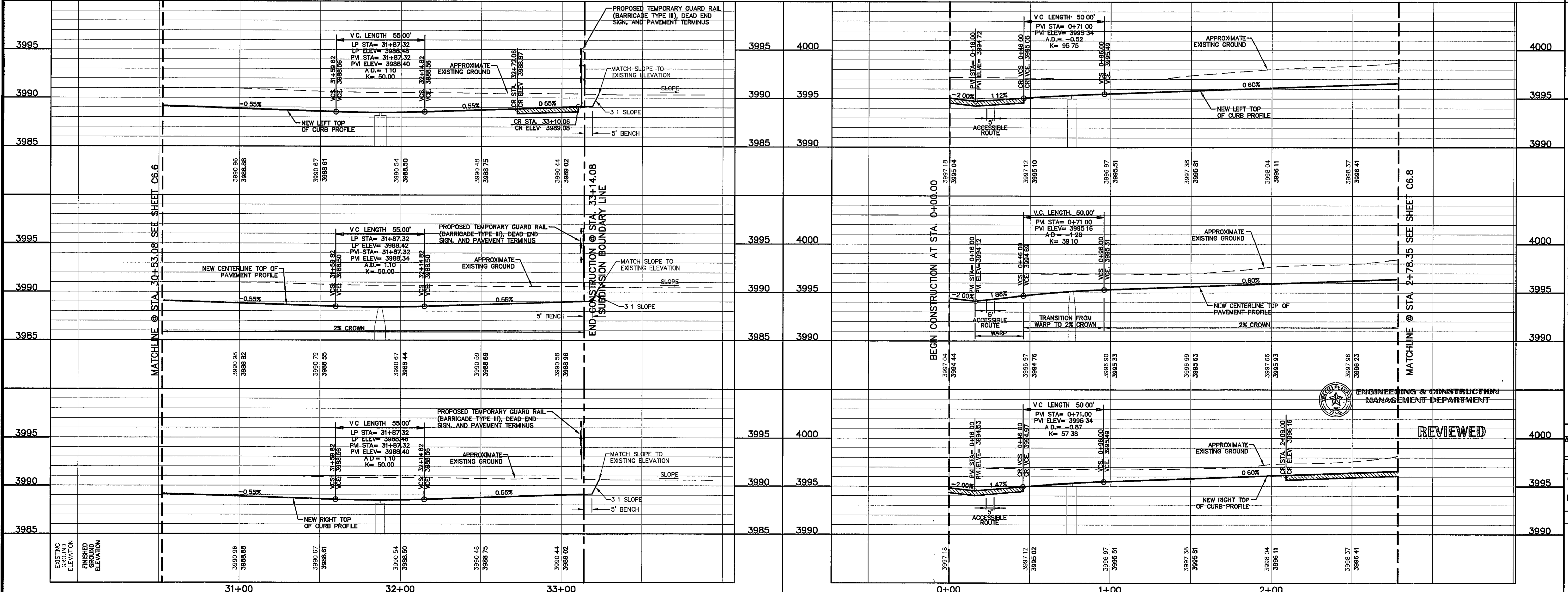
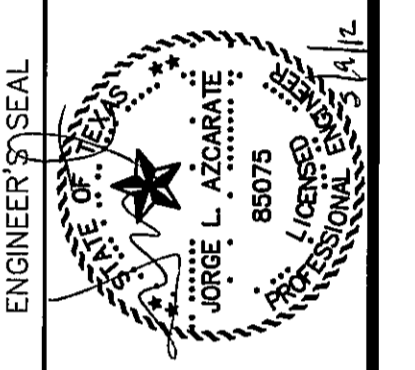
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Office 915-544-6292 Fax 915-544-9283 www.csandp.com



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

DATE: MAY 2012  
DESIGN BY: JH  
DRAWN BY: JLA  
CHKD BY: JLA  
APPVD BY: JLA  
JOB No. 2000-134-LD

**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

PROJECT TITLE

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

SHEET TITLE  
ANDREW WISEMAN ST  
PLAN & PROFILE  
FROM STA. 30+53.08  
TO STA. 33+14.08

GEORGE FERNANDEZ  
PLAN & PROFILE  
FROM STA. 0+00.00  
TO STA. 2+78.35

SHEET NO

C6.7

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  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S88°43'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY END OF MONTANA AVENUE CITY DATUM ELEVATION 4086.70

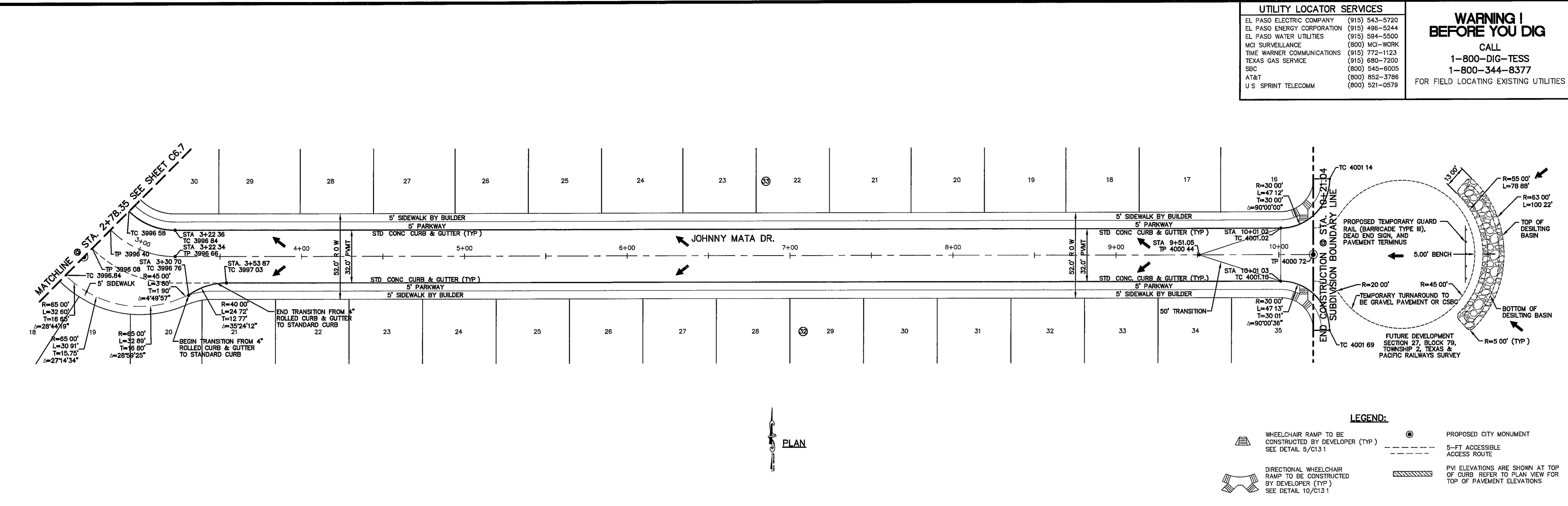
**CS&A**  
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4712 Woodrow Bann, Ste F El Paso, TX 79924  
Office 915.544.5232 Fax 915.544.5233 www.csandapl.com

ENGINEER'S SEAL  
J. L. AZARATE  
8075

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

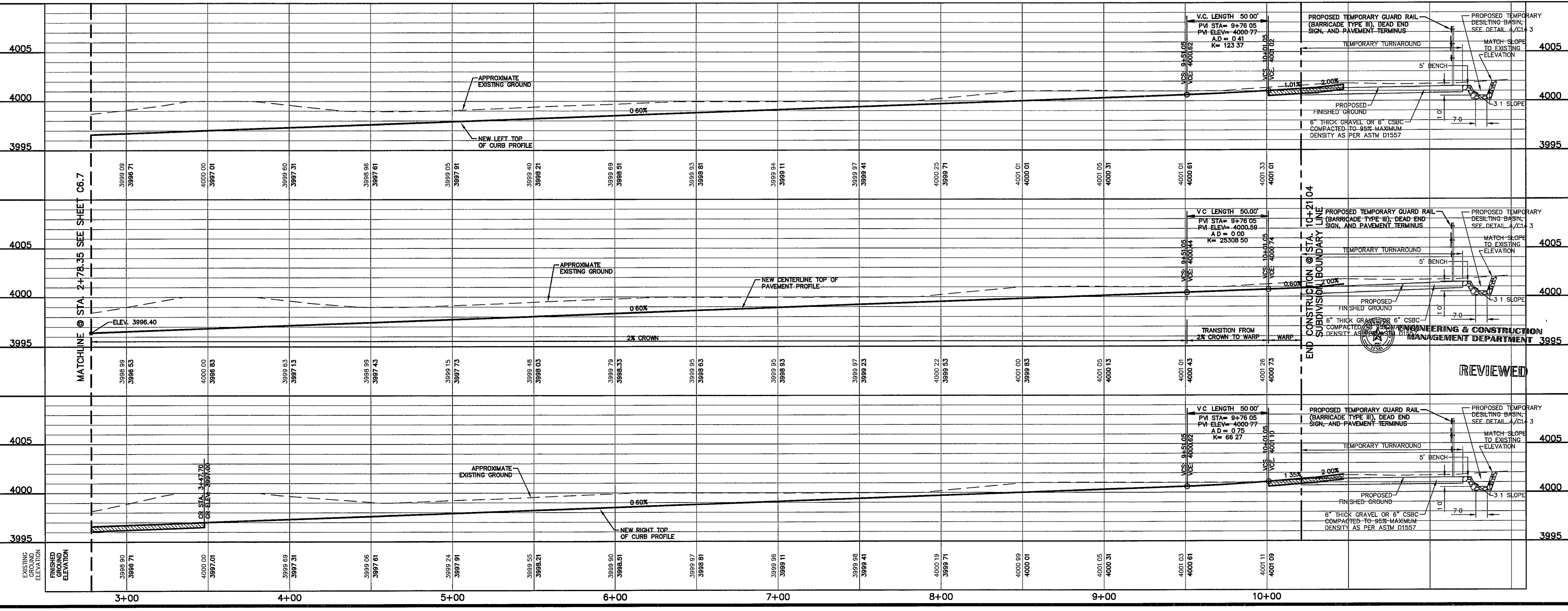
SHEET TITLE  
**JOHNNY MATA DR.  
PLAN & PROFILE  
FROM STA. 2+78.35  
TO STA. 10+21.04**

SHEET NO  
**C6.8**



PLAN

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 5/C13.1
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP) SEE DETAIL 10/C13.1
  - PROPOSED CITY MONUMENT
  - 5'-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS



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

DATE MAY 2012  
DESIGN BY J.H.  
DRAWN BY J.L.A.  
CHKD BY J.L.A.  
APPRD BY J.L.A.

JOB No. 20000-134-LD

REVIEWED

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

S:\2000\2000-134\DWG\C6.8\Johnny Mata Dr. Plan & Profile.dwg 5/20/2012 5:25:45 PM

**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
THE 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**

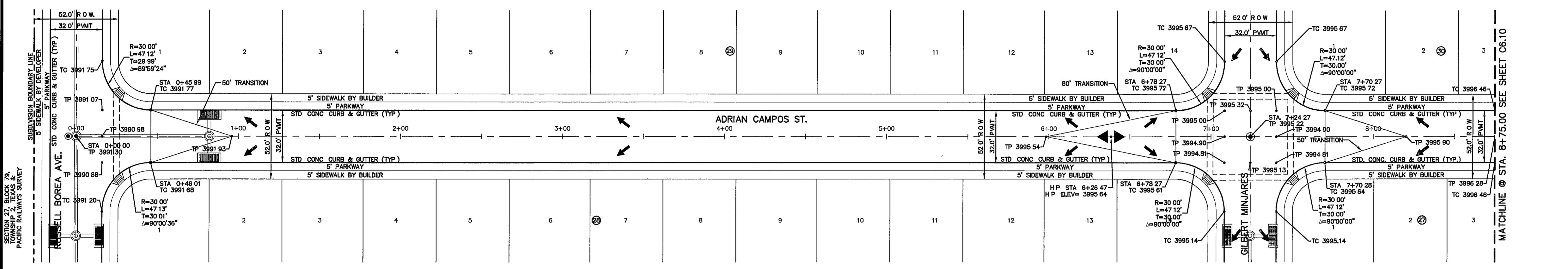
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD 20843.37' E, 16.6' DISTANCE OF 462.98 FEET  
AVENUE CITY DATUM ELEVATION 4055.40

DATE	REVISIONS	BY



PLAN

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.)
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS

**OS&A**

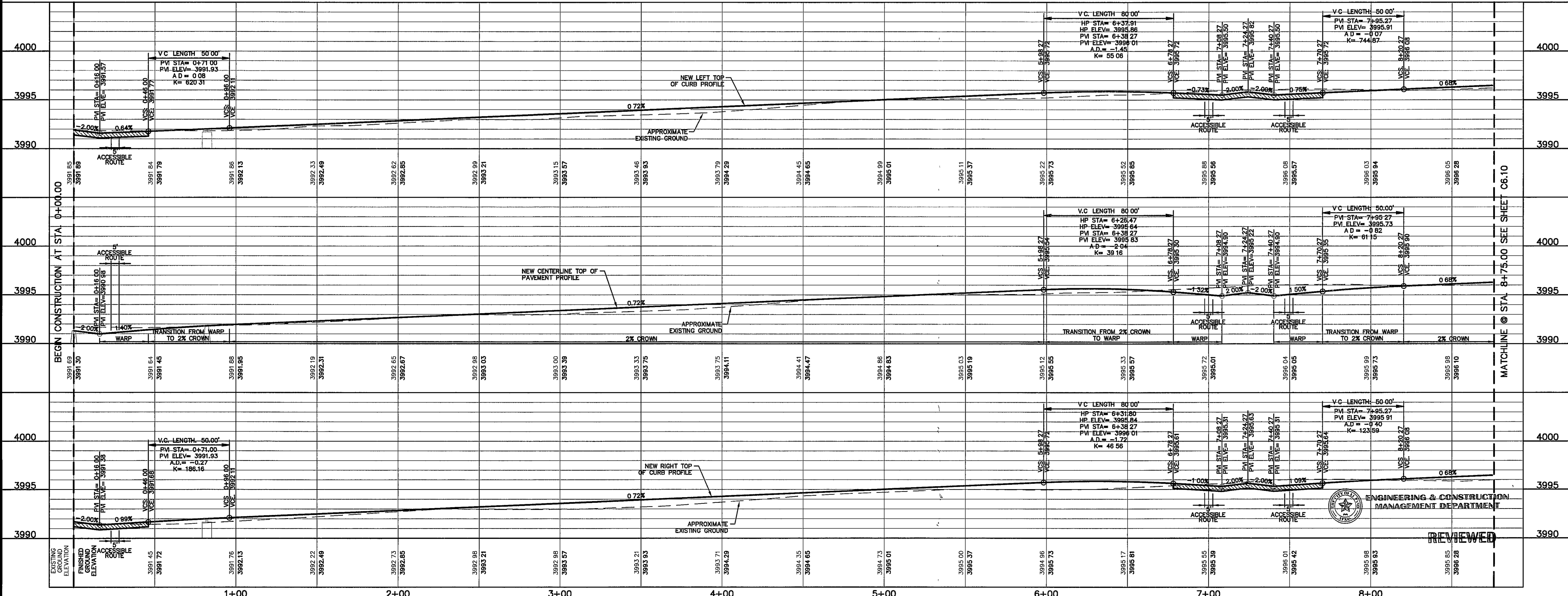
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Office 915-544-5222 Fax 915-544-5233 www.osaengr.com

ENGINEER'S SEAL

Jorge L. Azcarate  
Professional Engineer  
No. 85075  
State of Texas



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

DATE: MAY 2012  
DESIGN BY: J.H.  
CHECKED BY: J.L.A.  
APPROVED BY: J.H.

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

SHEET TITLE  
**ADRIAN CAMPOS  
PLAN & PROFILE  
FROM STA. 00+00.00  
TO STA. 8+75.00**

SHEET NO  
**C6.9**

REVIEWED

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT



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) 852-3796
U S SPRINT TELECOMM	(800) 521-0579

**WARNING !  
BEFORE YOU DIG**

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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEAN BLVD. - 508.4237'E A DISTANCE OF 467.65 FEET FROM THE INTERSECTION OF RICH BEAN BLVD. AND MONTANA AVENUE. CITY DATUM. ELEVATION 4005.40

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

DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHKD BY: J.L.A.  
APP'D BY: J.L.A.  
JOB NO. 2000-134-LD

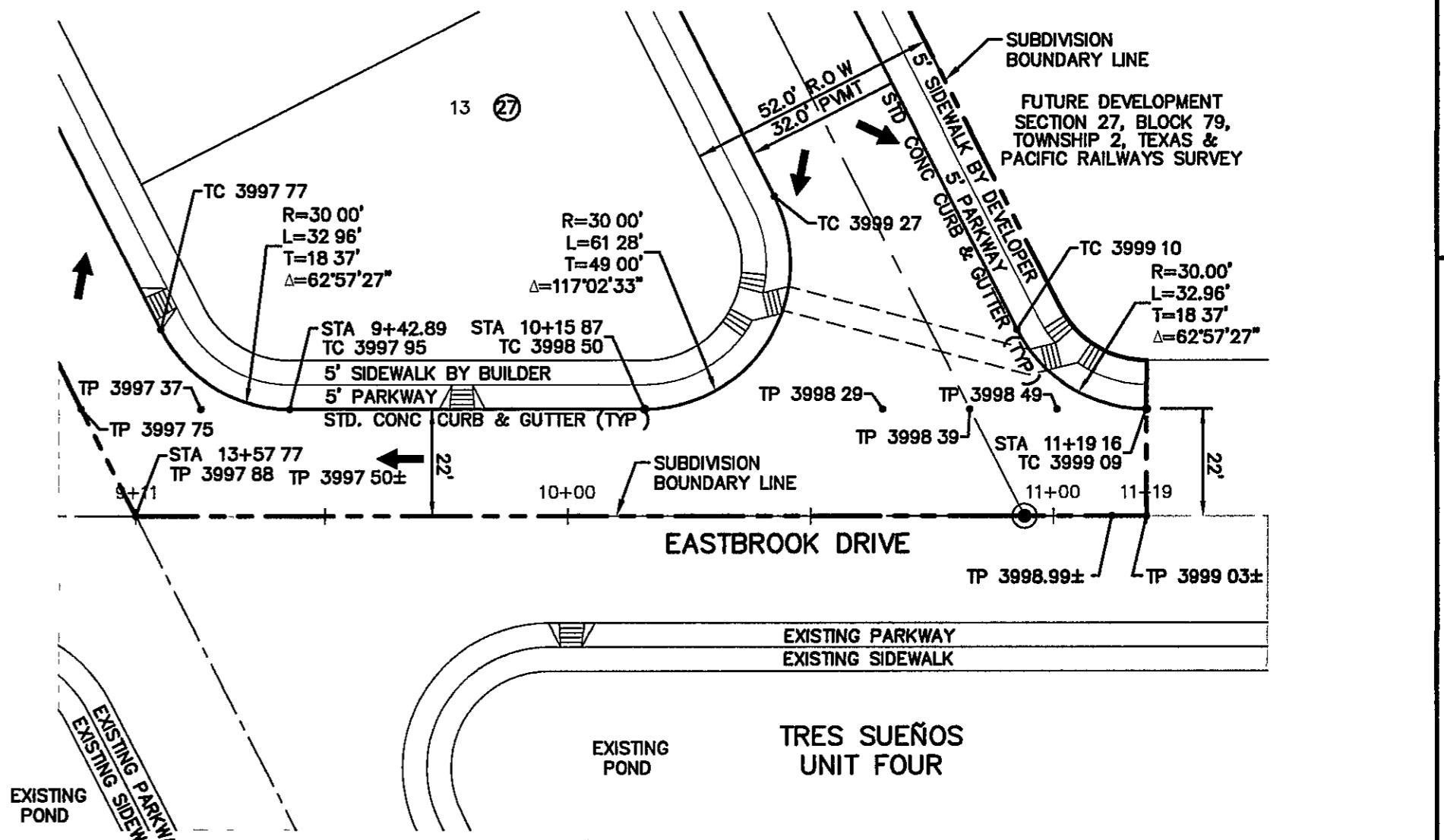
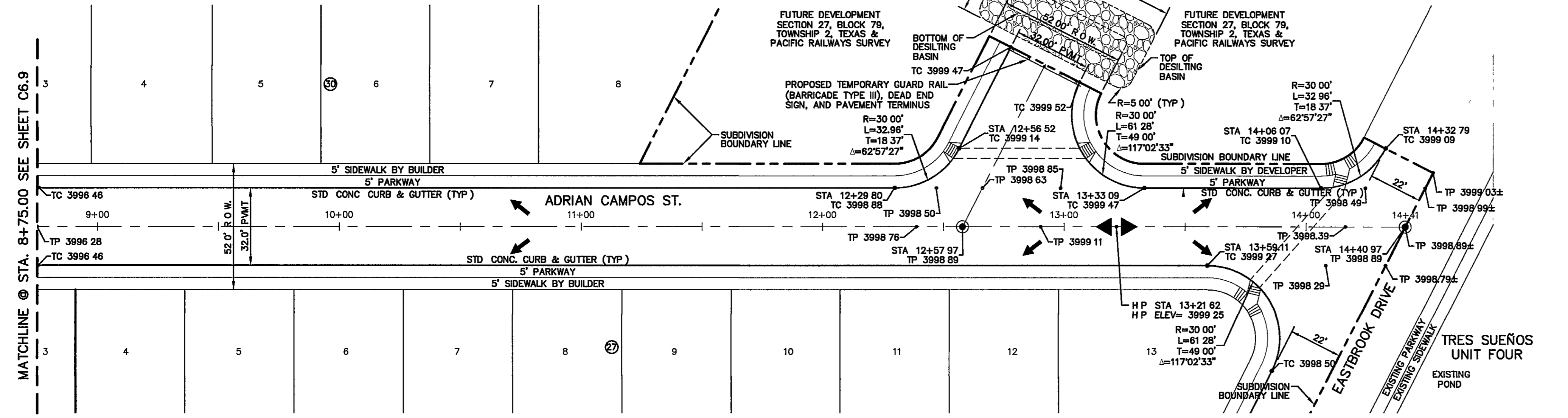
PROJECT TITLE  
**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**ADRIAN CAMPOS ST.  
PLAN & PROFILE  
FROM STA. 8+75.00  
TO STA. 14+40.97  
EASTBROOK DRIVE  
PLAN & PROFILE  
FROM STA. 9+11.05  
TO STA. 11+19.16**

SHEET NO

**C6.10**

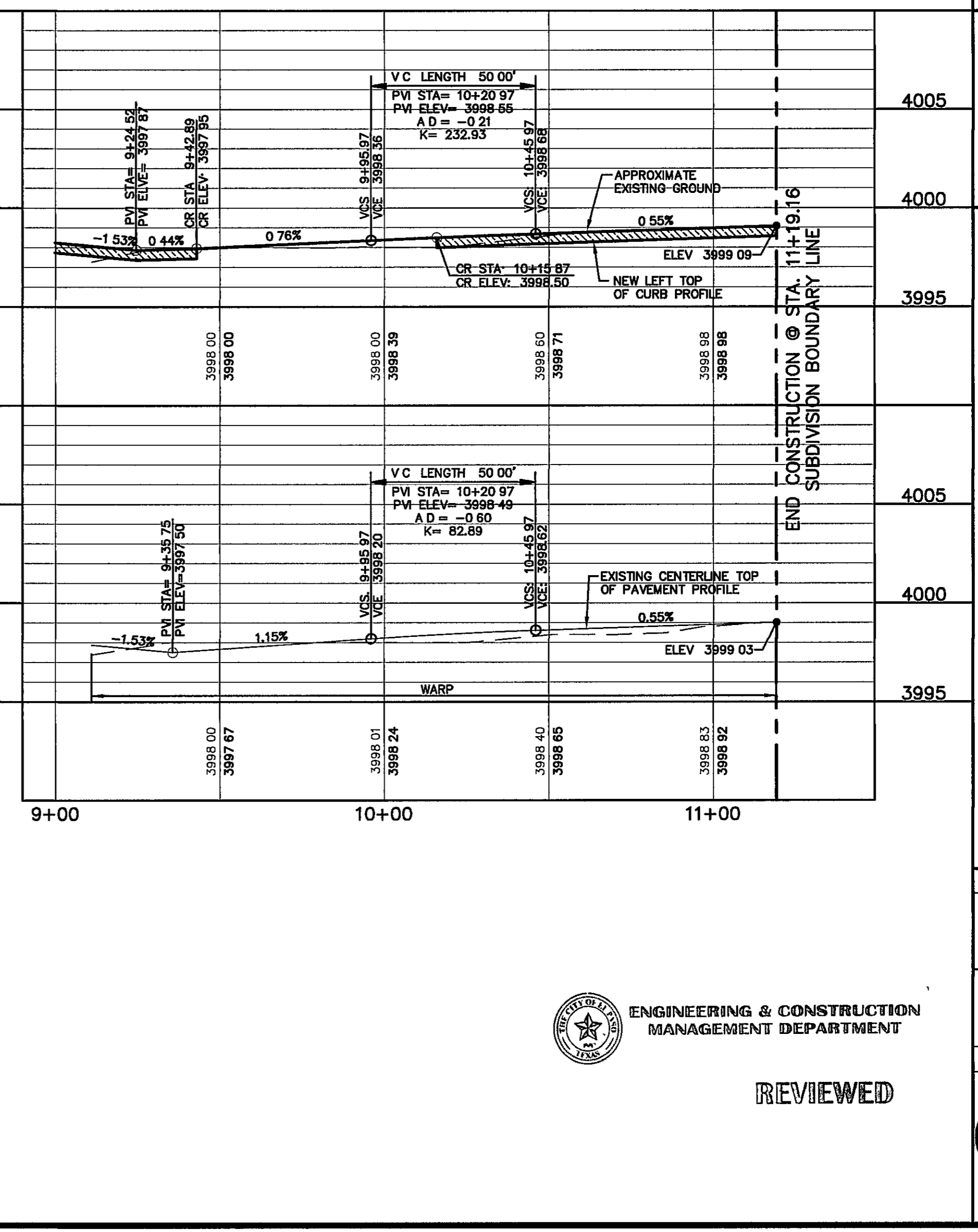
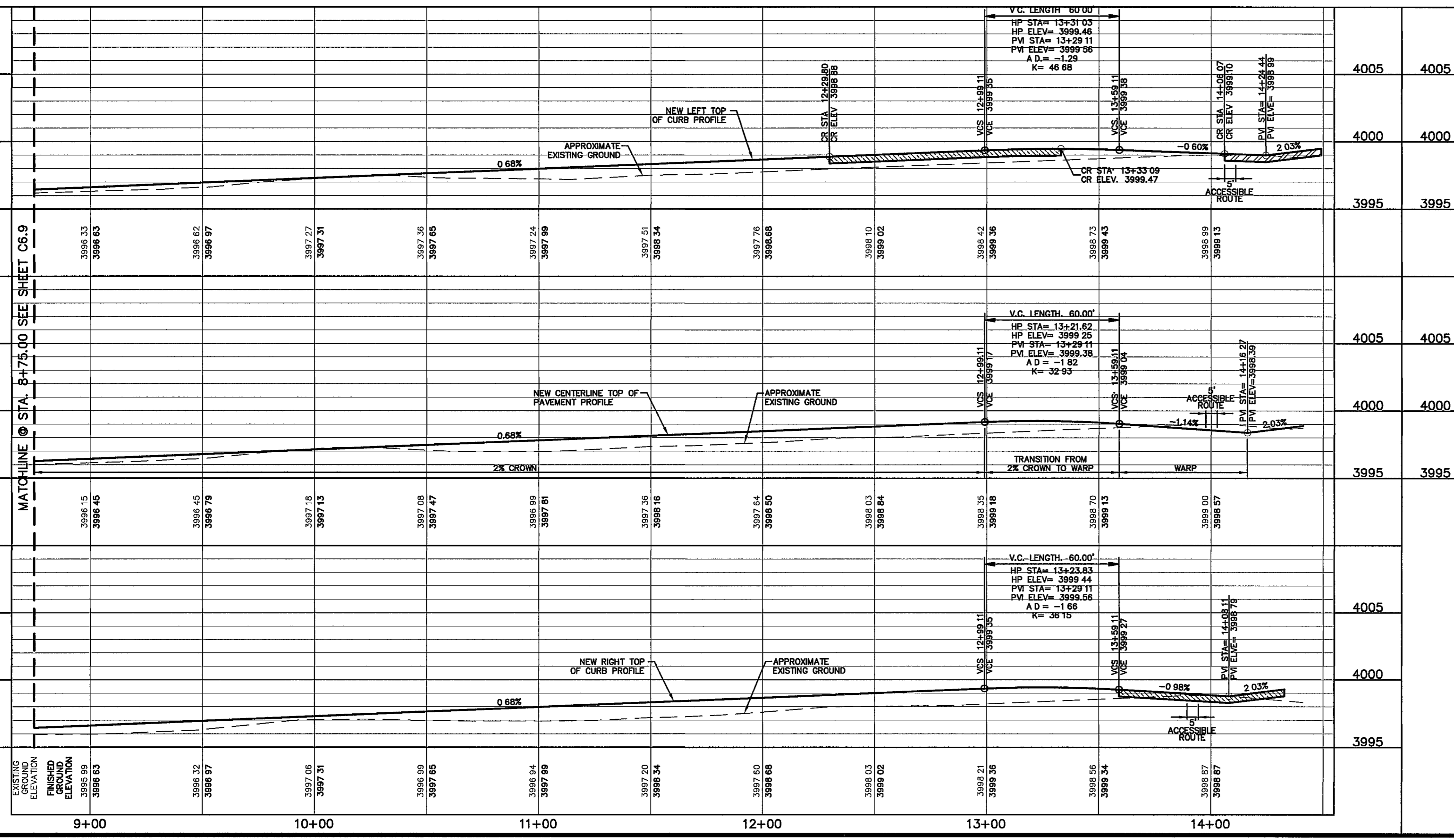
MATCHLINE @ STA. 8+75.00 SEE SHEET C6.9



**PLAN**

**PLAN**

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.) SEE DETAIL 5/C131
  - DIRECTIONAL WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.) SEE DETAIL 10/C131
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PMI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS
  - EXISTING ASPHALT



ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

**UTILITY LOCATOR SERVICES**

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

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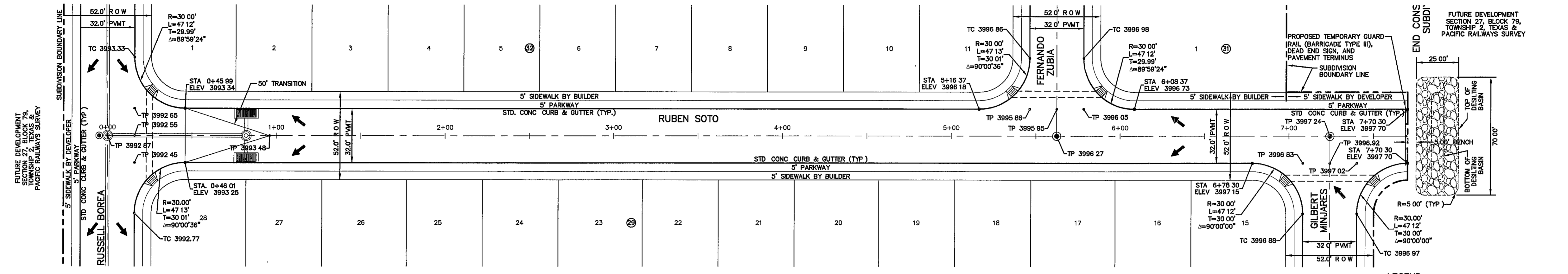
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES — BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. SUBSTATION A. DISTANCE OF 467.88 FEET FROM TOWNSHIP 2, TEXAS & PACIFIC RAILWAY SURVEY AVENUE CITY DATUM ELEVATION 4005.90

DATE	REVISIONS	BY



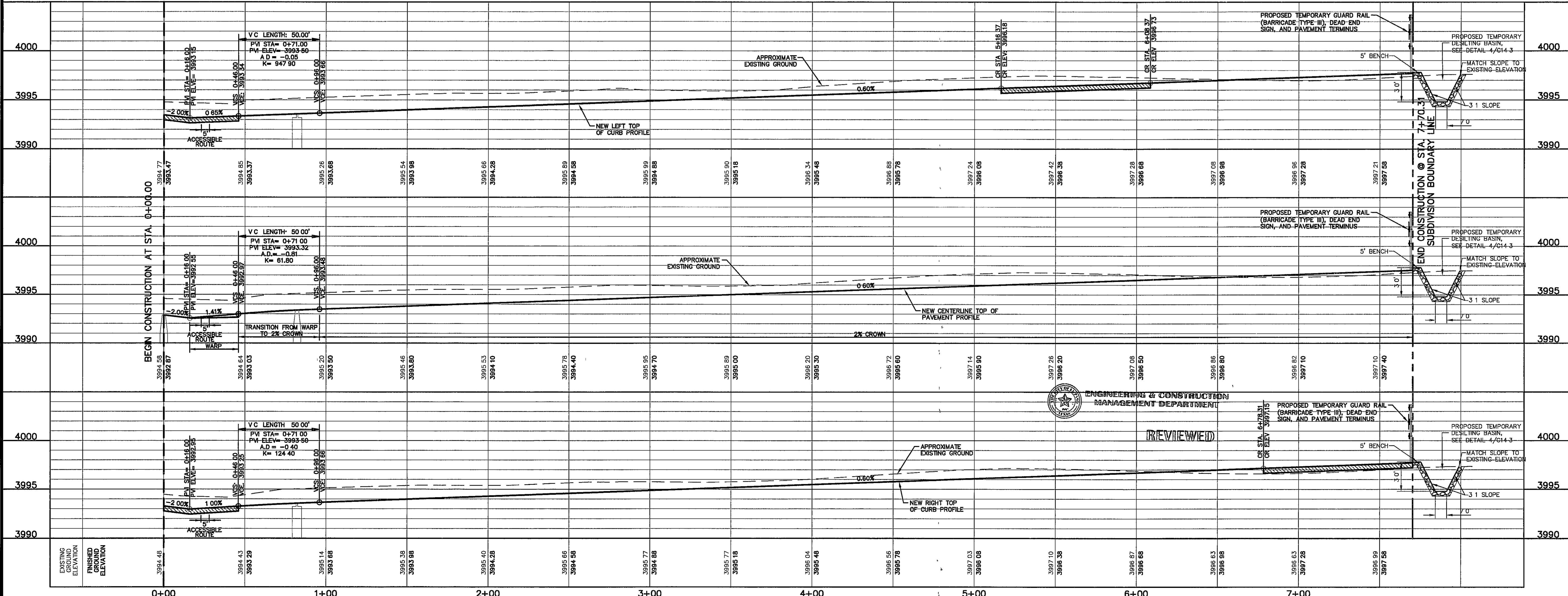
PLAN

- LEGEND:**
- WHEELCHAIR RAMP TO BE CONSTRUCTED BY DEVELOPER (TYP.)
  - PROPOSED CITY MONUMENT
  - 5-FT ACCESSIBLE ACCESS ROUTE
  - PVI ELEVATIONS ARE SHOWN AT TOP OF CURB REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS

**ENGINEER'S SEAL**

JORGE L. AZARARTE  
88075  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF TEXAS

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4712 Woodcreek Beam, Ste. F, El Paso, TX 79924  
Office: 915.564.5222 Fax: 915.564.3233 www.cegroup.net



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

Contour Interval: N/A

DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHKD BY: J.L.A.  
APP'D BY: J.L.A.  
JOB No.: 2000-134-LD

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

**SHEET TITLE**  
RUBEN SOTO DR.  
PLAN & PROFILE  
FROM STA. 00+00.00  
TO STA. 7+70.31

**SHEET NO**  
C6.11

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT  
**REVIEWED**

**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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1-800-DIG-TESS  
1-800-344-8377

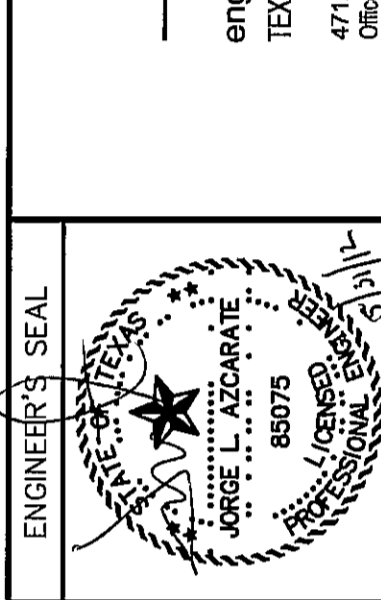
FOR FIELD LOCATING EXISTING UTILITIES

**REFERENCES - BENCHMARKS**

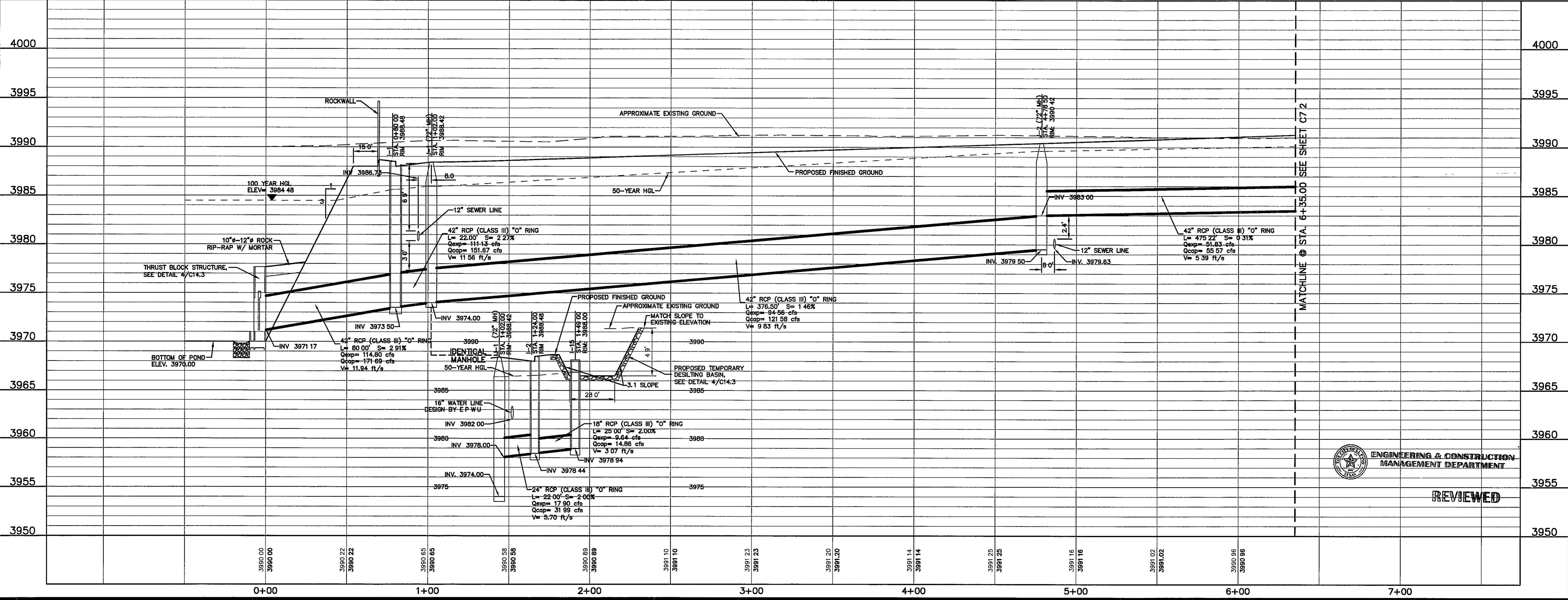
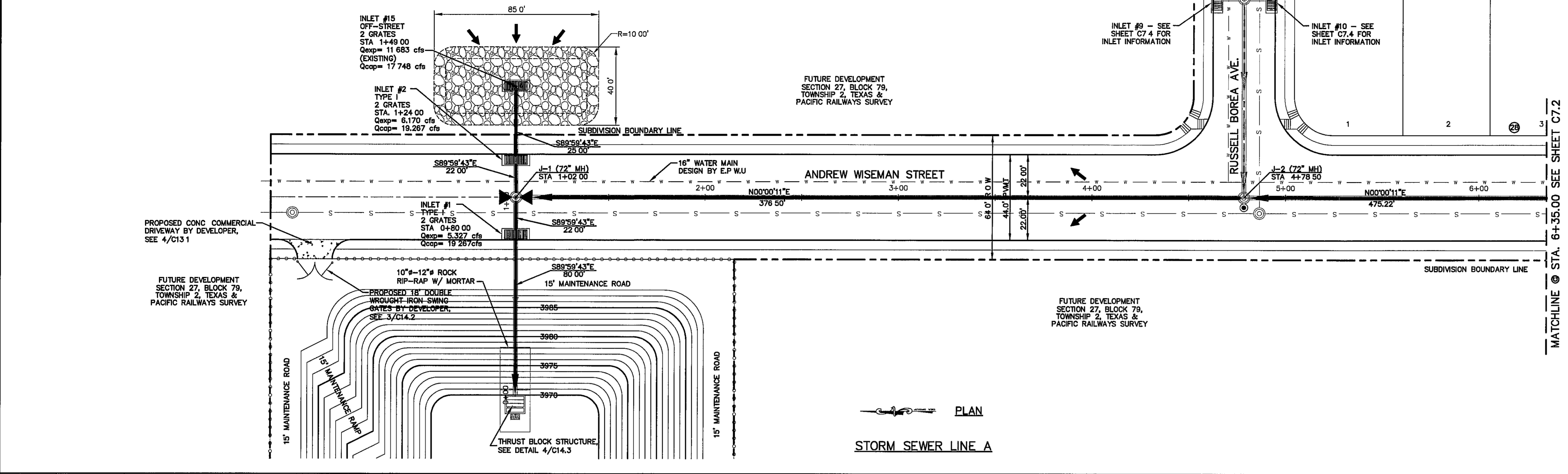
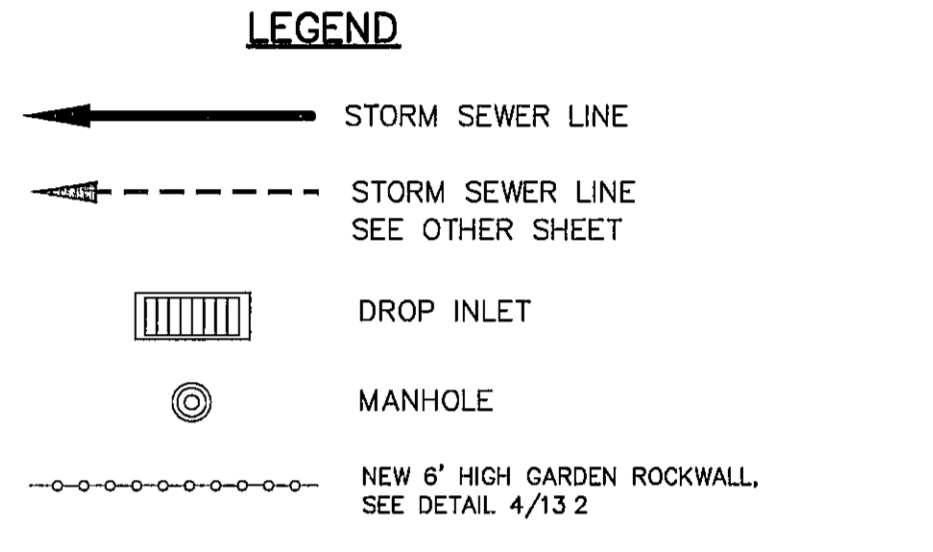
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH GLEN DRIVE, STATIONED AT RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4085.40

DATE	REVISIONS	BY
------	-----------	----

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NOTE:  
WALLS ADJACENT TO PONDING AREAS MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH



REVIEWED

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
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SBC	(800) 545-6005
AT&T	(800) 852-3786
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BEFORE YOU DIG**

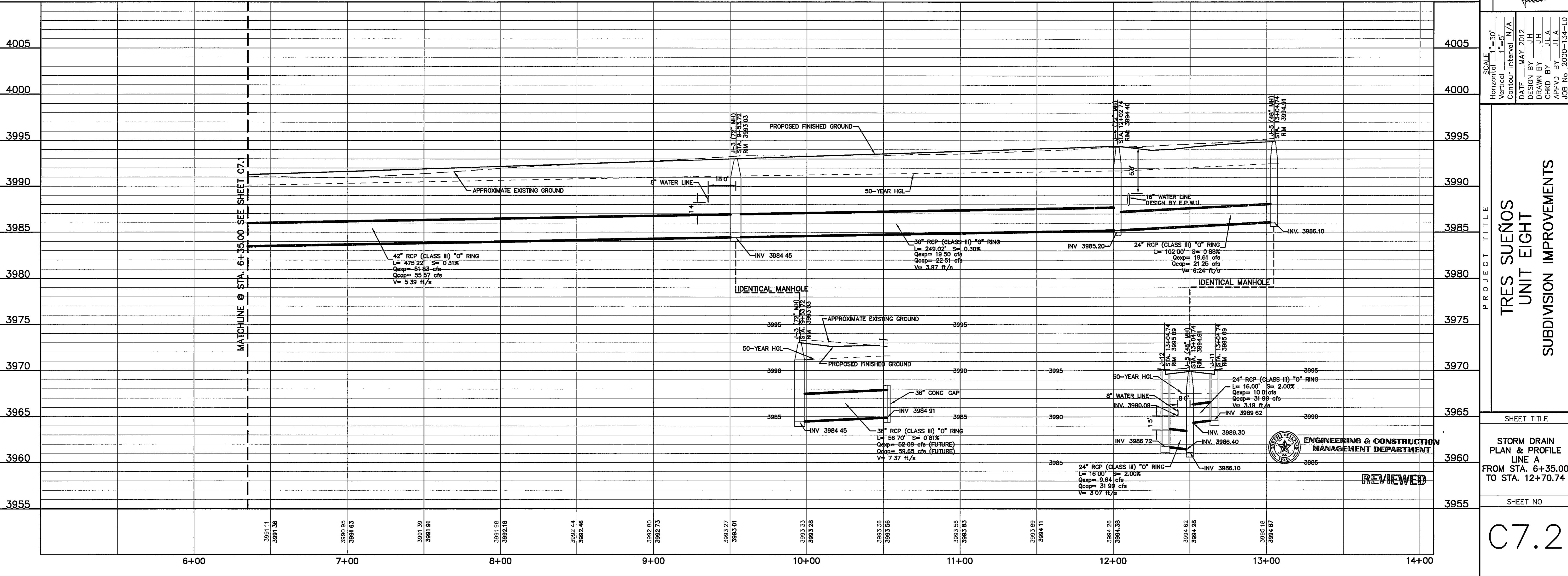
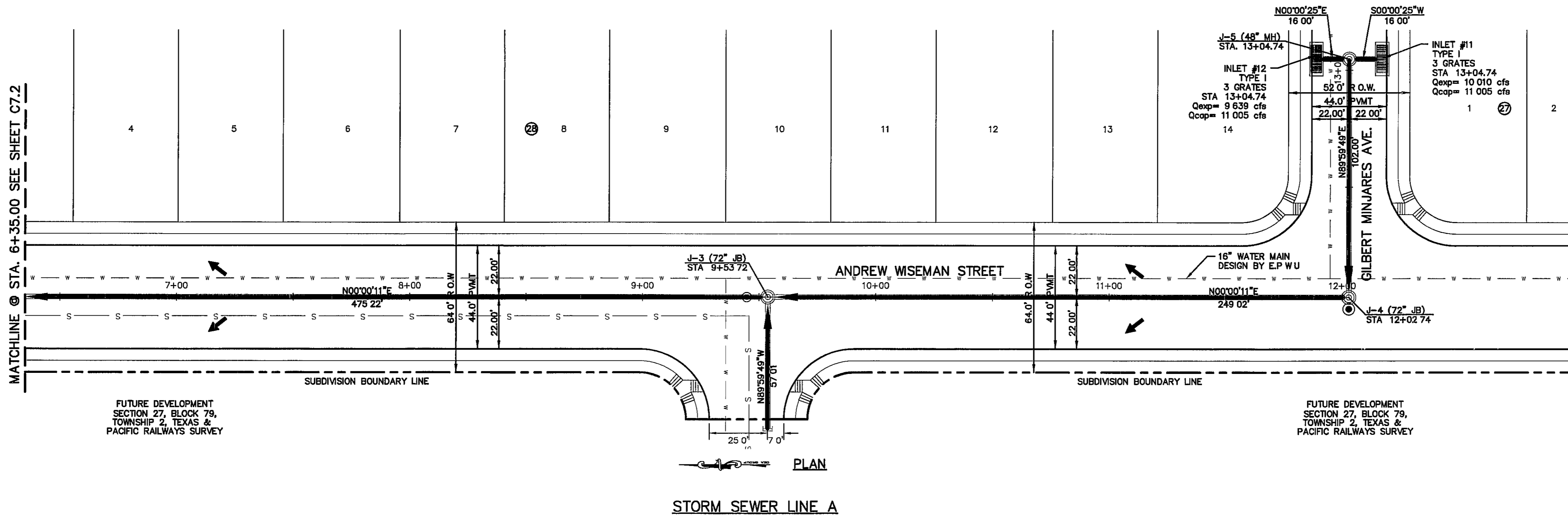
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH WITH THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS
	BY



C:\Users\jha\OneDrive\Documents\Projects\2000-134-ID\Drawings\DWG\C7.2.dwg 6/1/2012 11:22:49 AM

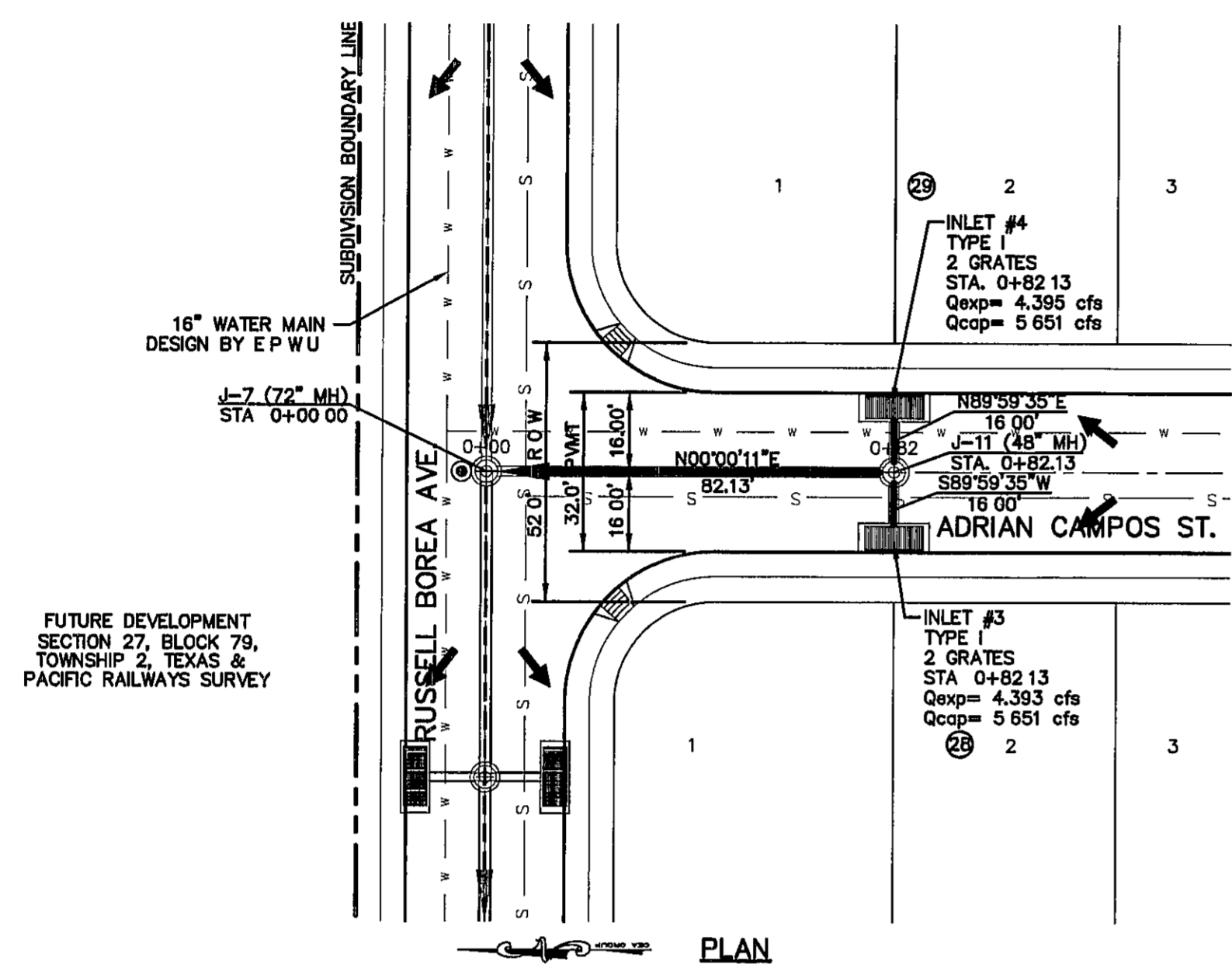
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U S SPRINT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

**WARNING !  
BEFORE YOU DIG**

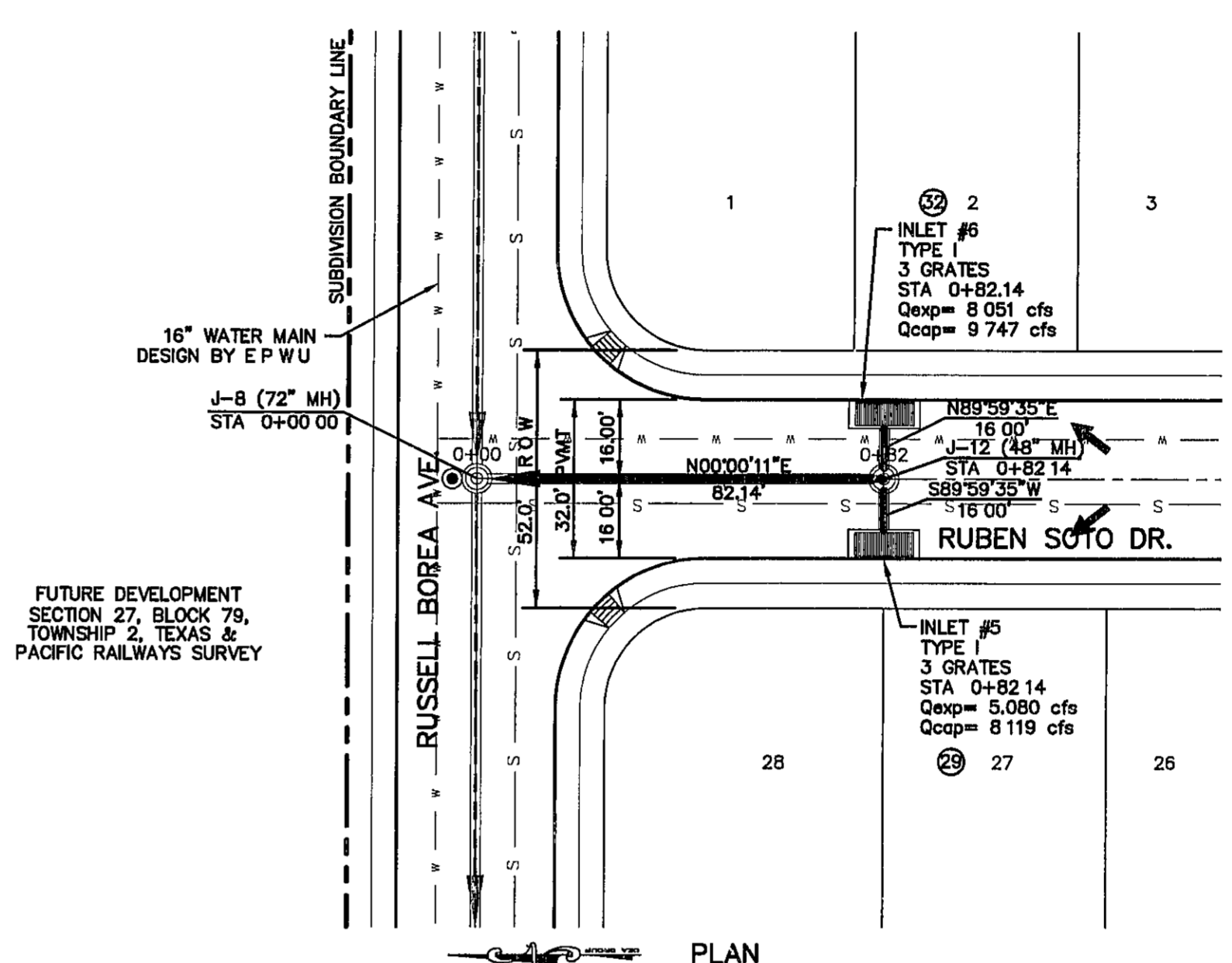
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

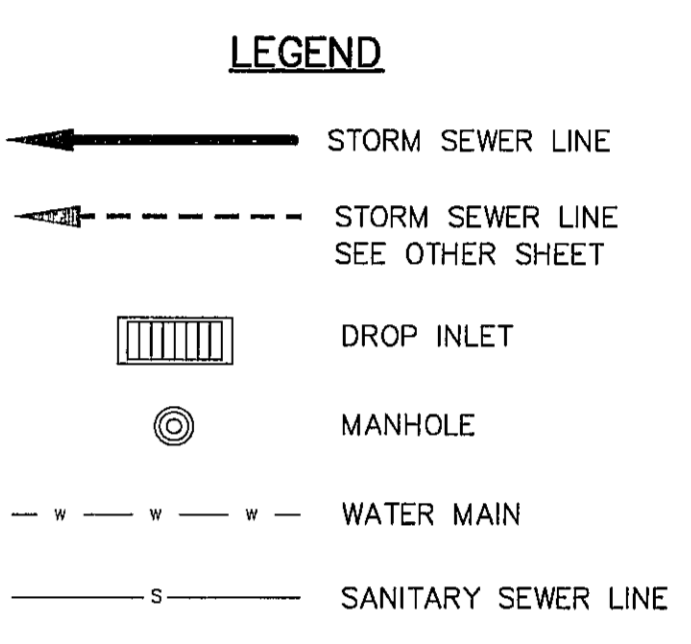
REFERENCES - BENCHMARKS	REVISIONS
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40	DATE
	BY



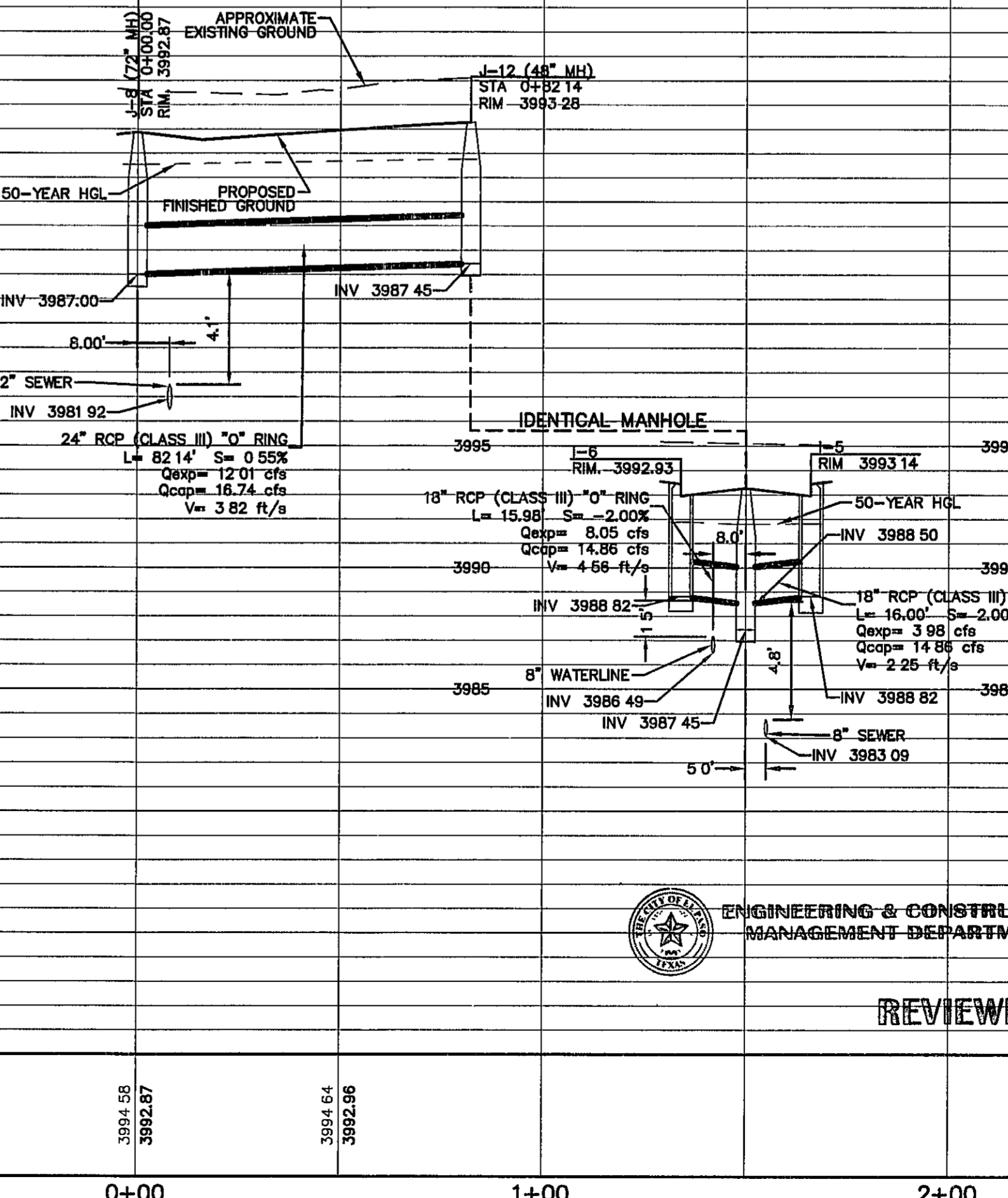
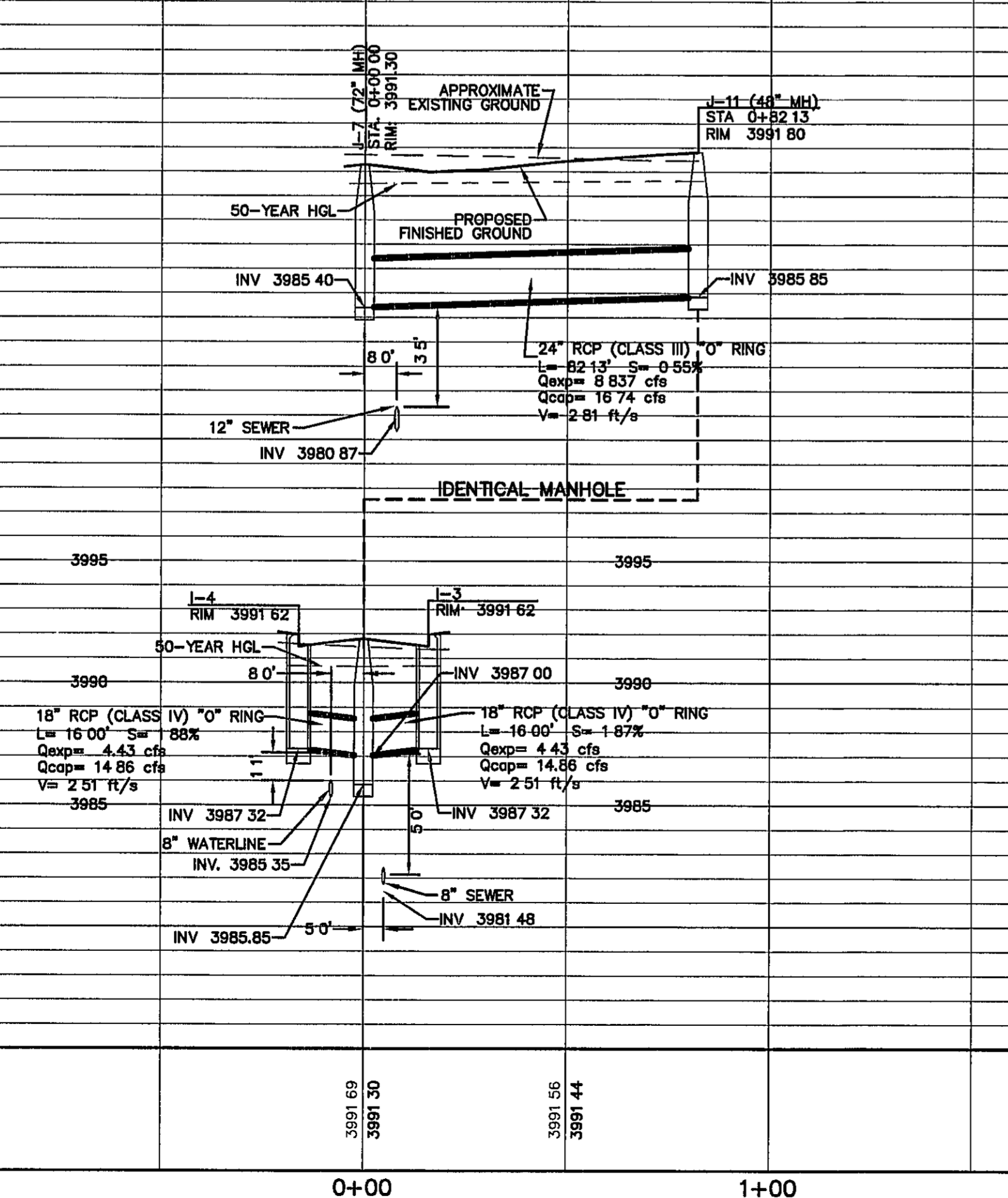
STORM SEWER LINE B



STORM SEWER LINE C



STATION	ELEVATION	PROFILES	STATION	ELEVATION	PROFILES
4005			4005	4005	
4000			4000	4000	
3995			3995	3995	
3990			3990	3990	
3985			3985	3985	
3980			3980	3980	
3975			3975	3975	
3970			3970	3970	
3965			3965	3965	
3960			3960	3960	
3955			3955	3955	



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

DATE MAY 2012  
DESIGN BY JH  
DRAWN BY JLA  
CHKD BY JLA  
APPVD BY JLA  
JOB No. 20000-134-LD

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

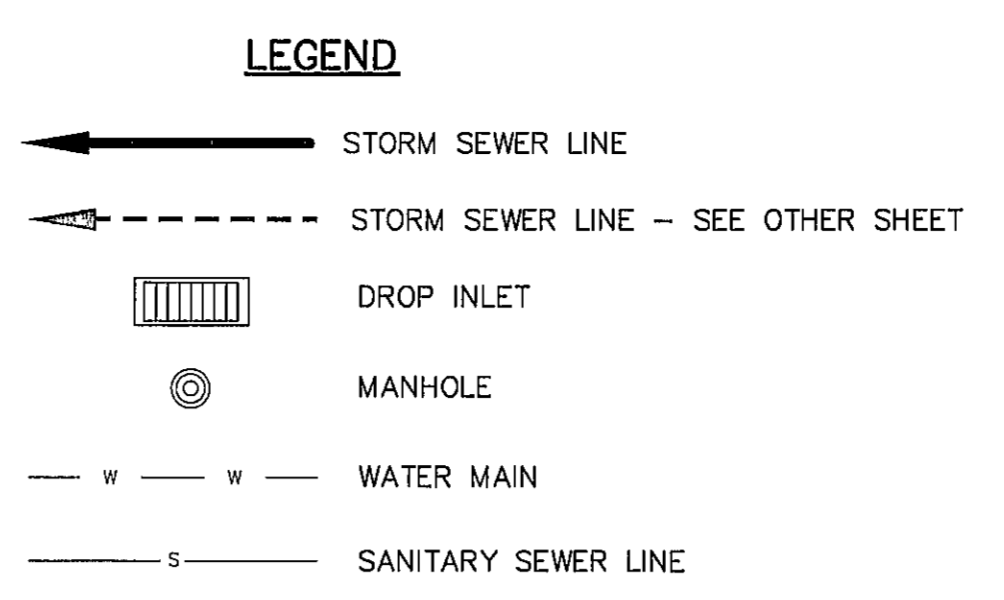
SHEET TITLE  
**STORM DRAIN  
PLAN & PROFILE  
LINE B  
FROM STA. 0+00.00  
TO STA. 0+50.00  
LINE C  
FROM STA. 0+00.00  
TO STA. 0+50.00**

SHEET NO  
**C7.3**

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

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**UTILITY LOCATOR SERVICES**

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EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCJ 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**

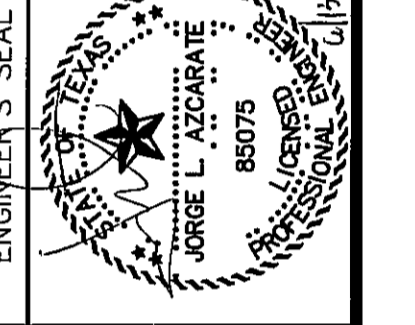
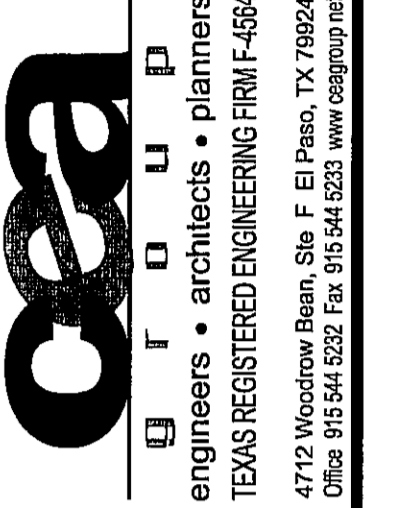
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

**REFERENCES - BENCHMARKS**

CITY MANHOLE AT POINT OF CURVE CENTERLINE RICH GLEN SUBSTATION FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY



**PROJECT TITLE**

TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS

**SHEET TITLE**

STORM DRAIN  
PLAN & PROFILE  
LINE D  
FROM STA. 0+00.00  
TO STA. 7+37.00

**SHEET NO**

C7.4

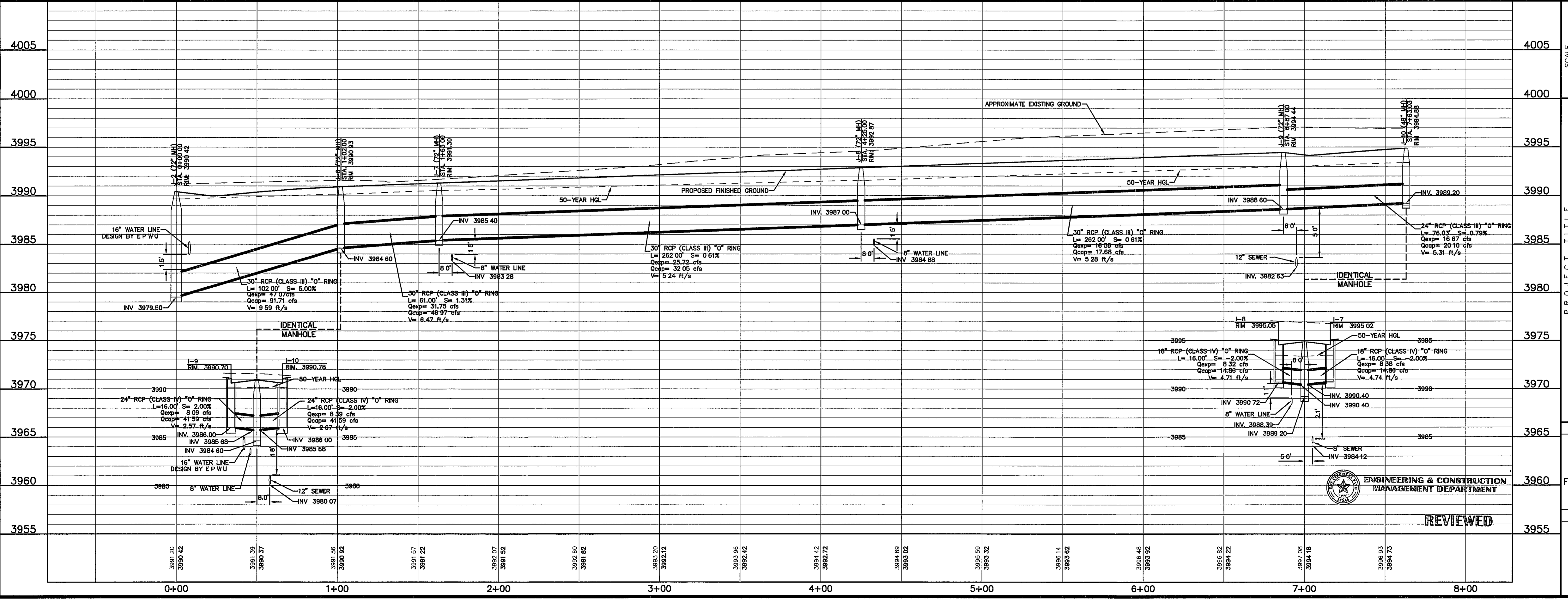
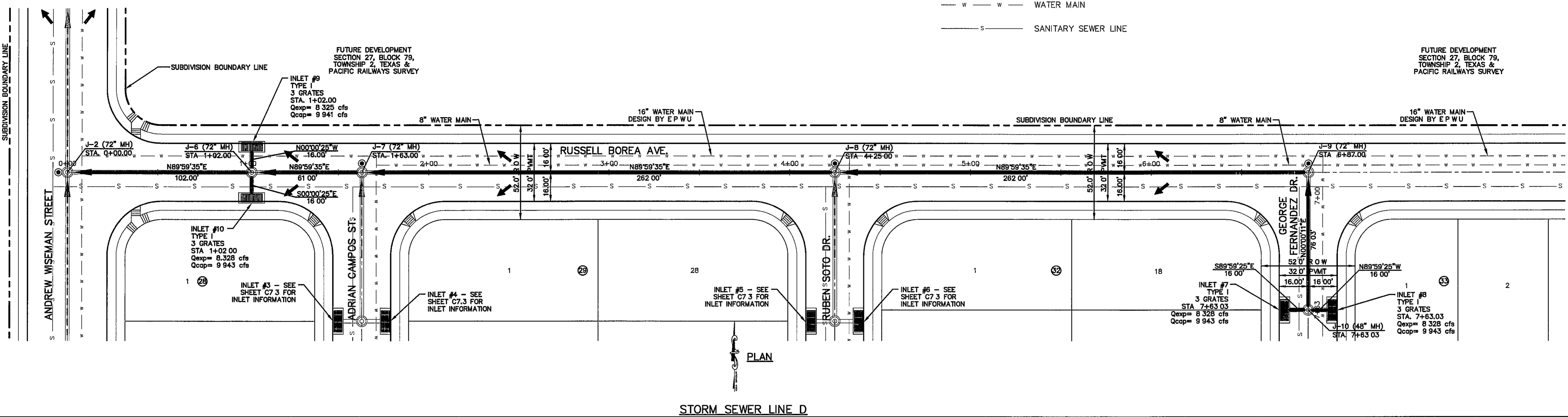
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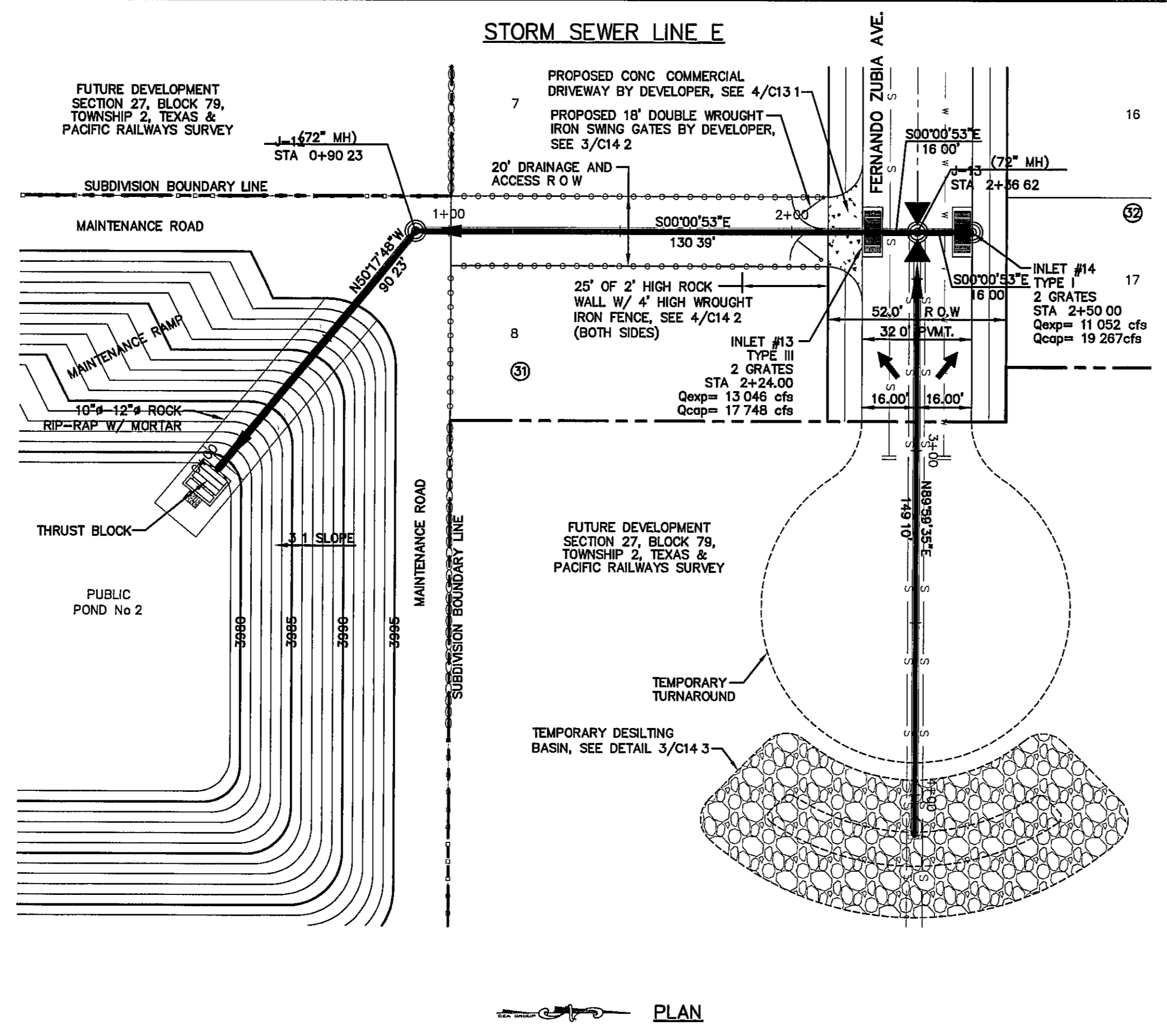
**DATE** MAY 2012

**DESIGN BY** J/H  
**DRAWN BY** J/H  
**CHKD BY** J/LA  
**APPVD BY** J/LA

**JOB No.** 2000-134-1D



S:\000000-00000000\00000000\00000000.dwg, 6/1/2012 11:21:41 AM



**UTILITY LOCATOR SERVICES**

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

**WARNING !  
BEFORE YOU DIG**

CALL  
1-800-DIG-TESS  
1-800-344-8377

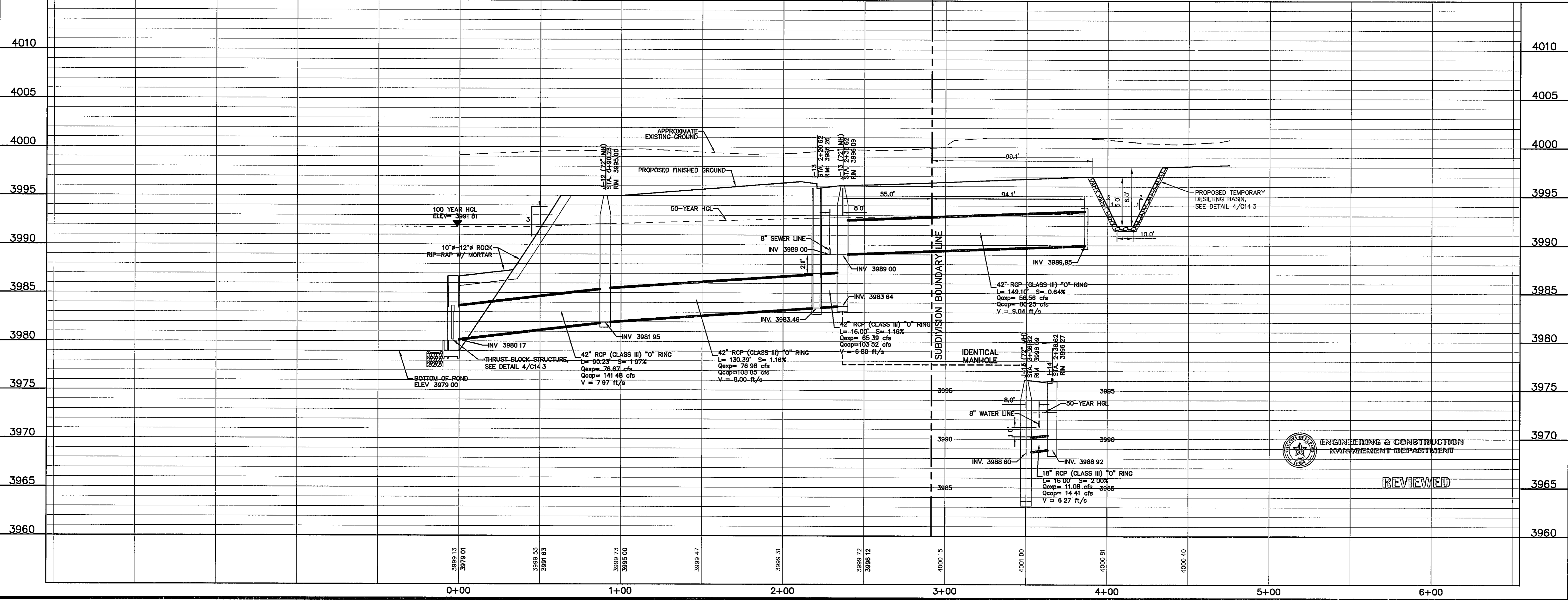
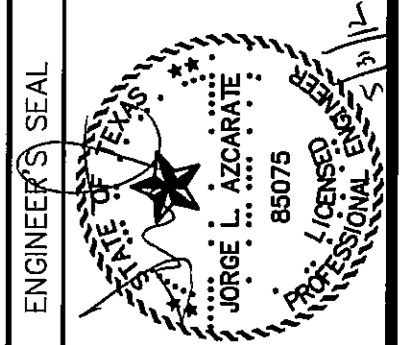
FOR FIELD LOCATING EXISTING UTILITIES

NOTE  
WALLS ADJACENT TO PONDING AREAS MAY  
BE CONSTRUCTED OF BRICK, ROCK, STONE  
OR CINDER BLOCK AND SHALL NOT BE  
LESS THAN SIX (6) FEET HIGH

- LEGEND**
- STORM SEWER LINE
  - - - - STORM SEWER LINE  
SEE OTHER SHEET
  - ▤ DROP INLET
  - ⊙ MANHOLE
  - - - - NEW GARDEN ROCKWALL (0'-2' IN HEIGHT)  
SEE DETAIL 4/13 2
  - - - - NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)  
SEE DETAIL 4/13 2
  - - - - NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)  
SEE DETAIL 4/13 2

REFERENCES — BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH  
FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA  
AVENUE CITY DATUM ELEVATION 4005.40

**osa**  
engineers • architects • planners  
TEXAS REGISTERED ENGINEERING FIRM F-4684  
4712 Westchase Pkwy, Ste. F, El Paso, TX 79924  
Office: 915.544.8322 Fax: 915.544.5253 www.osaeng.com



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

DATE MAY 2012  
DESIGN BY JH  
DRAWN BY JH  
CHKD BY J.L.A.  
APP'D BY J.L.A.  
JOB No. 20000-134-LD

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

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

SHEET TITLE  
**STORM DRAIN  
PLAN & PROFILE  
LINE E  
FROM STA. 0+00.00  
TO STA. 3+85.72**

SHEET NO

**C7.5**

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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**BEFORE YOU DIG**

CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

**REFERENCES - BENCHMARKS**

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SOUTHERN RIGHT OF WAY LINE OF BONTANA AVENUE CITY DATUM ELEVATION 4005.40

engineers • architects • planners  
TEXAS REGISTERED ENGINEERING FIRM F-4584  
4712 Woodrow Bham, Ste. F El Paso, TX 79924  
Office 915-544-5232 Fax 915-544-5233 www.osaengineers.com

ENGINEER'S SEAL

JORGE L. AZCARATE  
85075  
STATE OF TEXAS  
REGISTERED PROFESSIONAL ENGINEER  
EXPIRES 12/31/17

SCALE	PROJECT TITLE
Horizontal 1"=30' Vertical 1"=5' Contour Interval 1/4"	TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

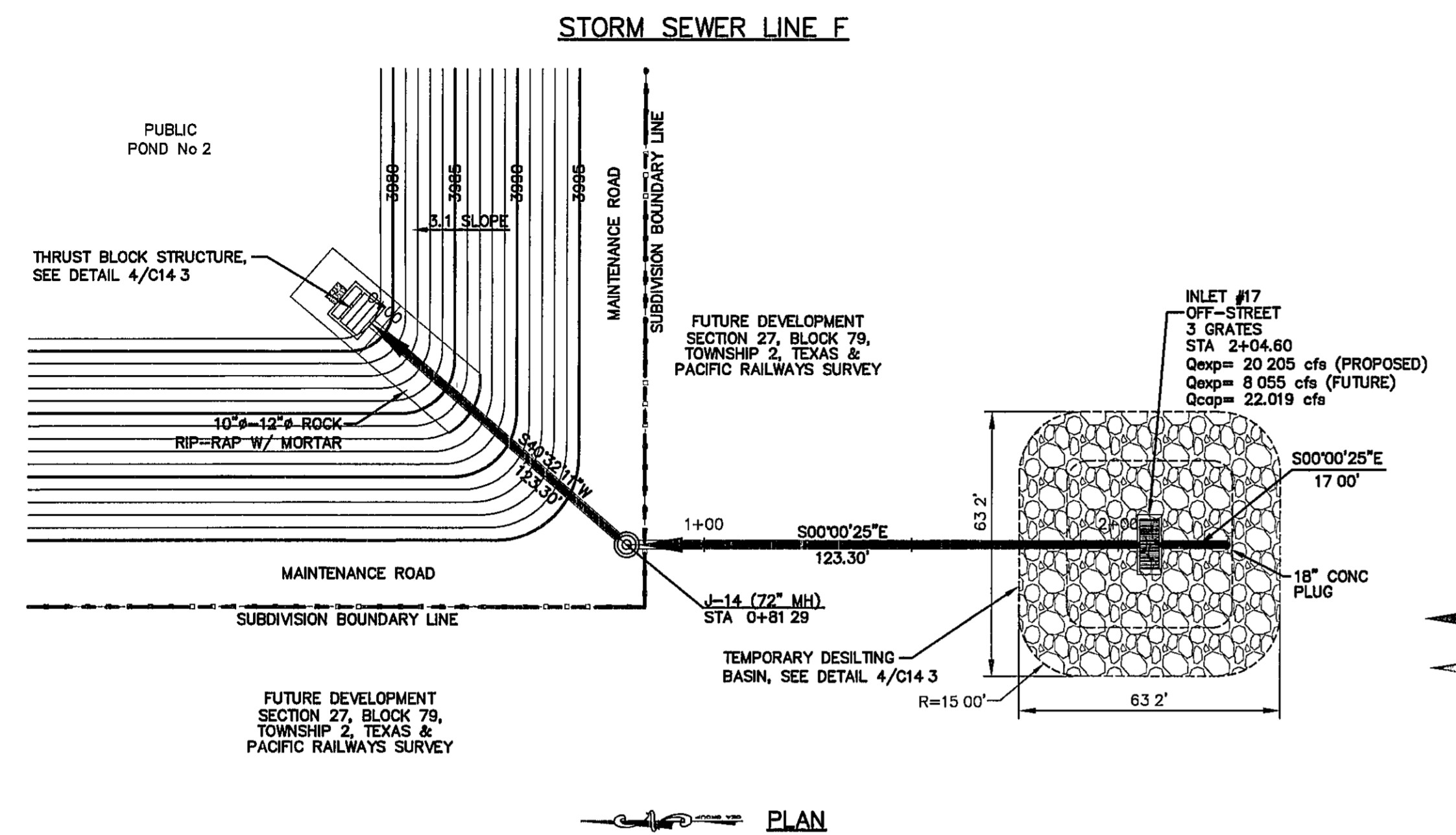
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DESIGN BY: JH  
DRAWN BY: JLA  
CHKD BY: JLA  
APPR. BY: JLA  
JOB No. 2000-134-LD

SHEET TITLE  
STORM DRAIN  
PLAN & PROFILE  
LINE F  
FROM STA. 0+00.00  
TO STA. 2+20.60  
LINE G  
FROM STA. 0+00.00  
TO STA. 2+01.00  
SHEET NO

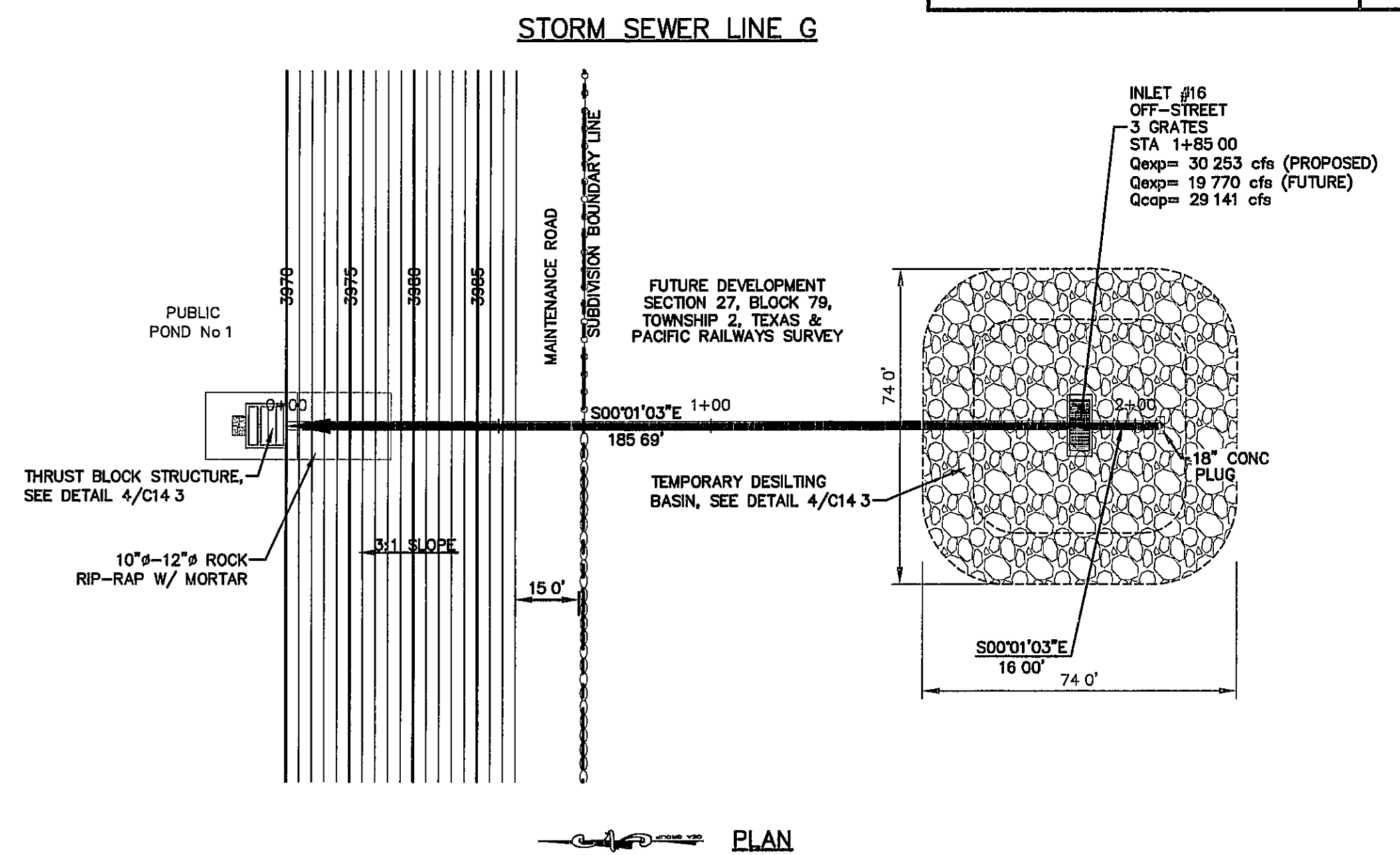
ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

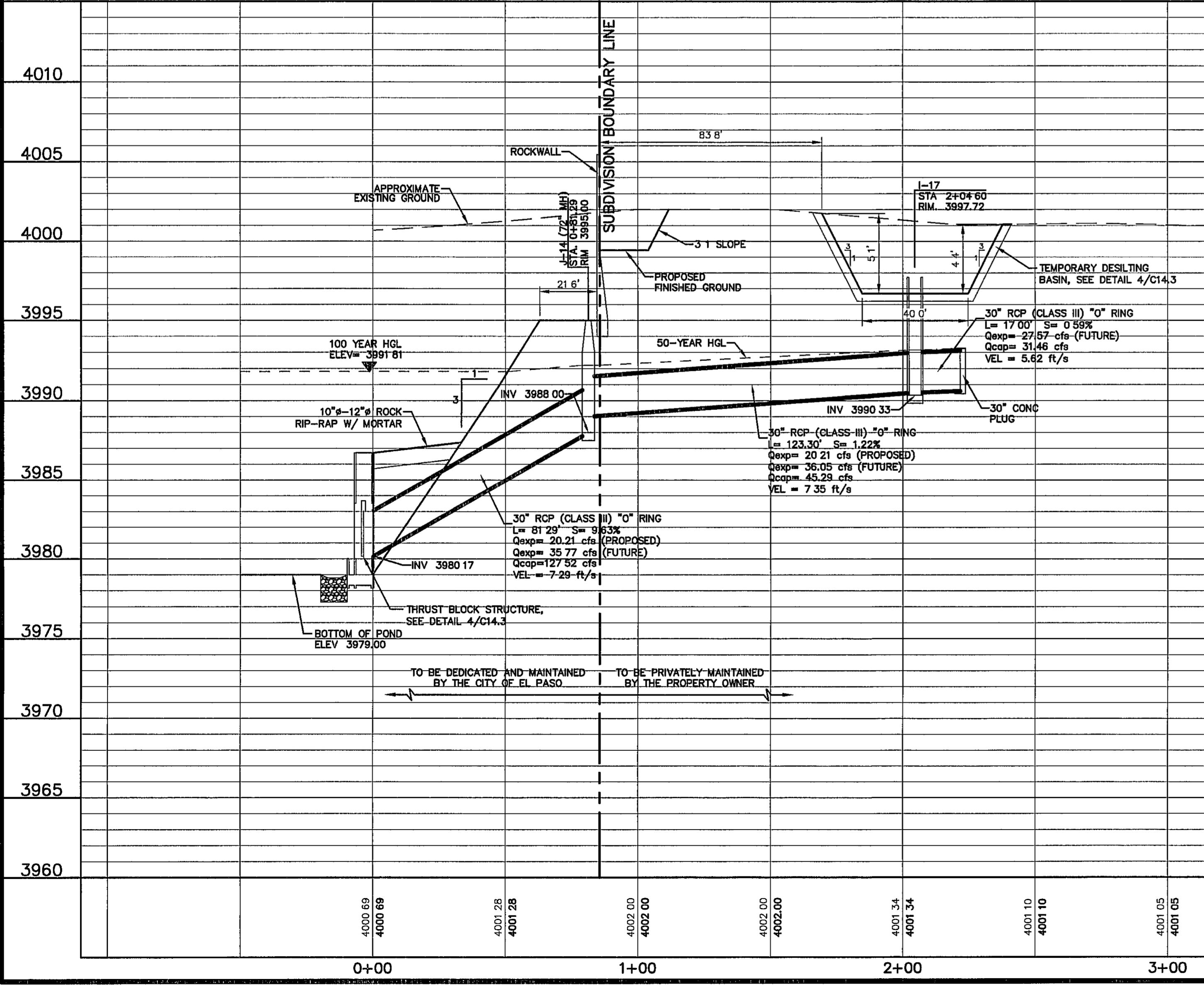
C7.6



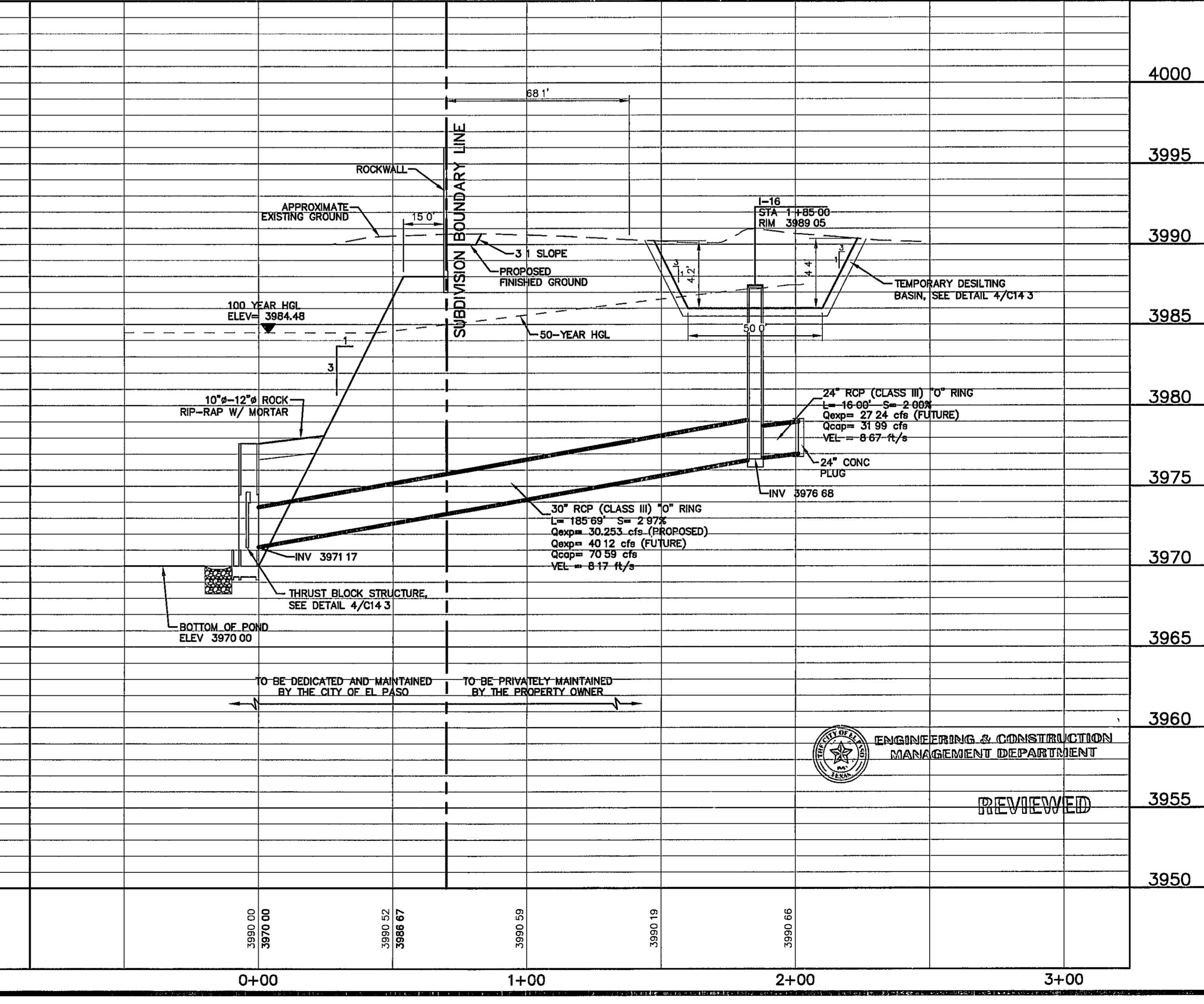
- LEGEND**
- STORM SEWER LINE
  - STORM SEWER LINE SEE OTHER SHEET
  - DROP INLET
  - MANHOLE
  - NEW GARDEN ROCKWALL (0'-2' IN HEIGHT) SEE DETAIL 4/13.2
  - NEW RETAINING ROCKWALL (2'-3' IN HEIGHT) SEE DETAIL 4/13.2
  - NEW RETAINING ROCKWALL (3'-9' IN HEIGHT) SEE DETAIL 4/13.2



**NOTE**  
WALLS ADJACENT TO PONDING AREAS MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH

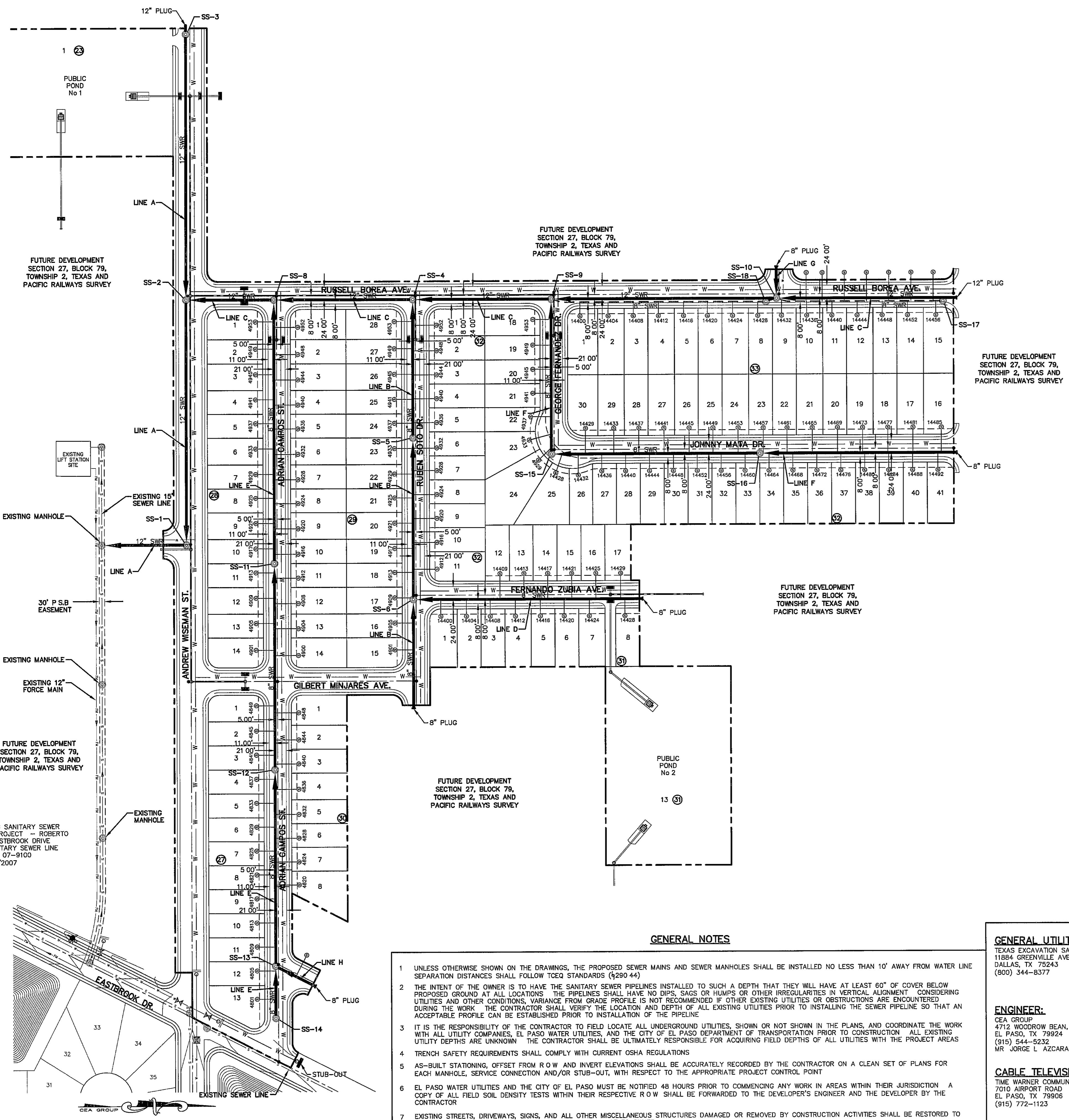


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4005	3995
4000	3990
3995	3985
3990	3980
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3980	3970
3975	3965
3970	3960
3965	3955
3960	3950



4010	4000
4005	3995
4000	3990
3995	3985
3990	3980
3985	3975
3980	3970
3975	3965
3970	3960
3965	3955
3960	3950





M.H. DEPTH	No. of M.H.'s
0'-8"	4
8'-12"	10
12'-16"	3

**MANHOLE QUANTITIES**

PIPE SIZE	DEPTH			
	0'-8"	8'-10"	10'-12"	12'-14"
8"	3479.77'	219.63'	64.12'	0.00'
12"	404.81'	750.97'	1129.99'	314.58'

**PIPE QUANTITIES**

SHEET NO.	DESCRIPTION
C8.1	TRES SUEÑOS UNIT EIGHT SANITARY PIPE LAYOUT
C9.1-C9.4	SANITARY SEWER PLAN & PROFILE
C11.1	SANITARY DETAILS
C11.2	SANITARY DETAILS
C11.3	SANITARY DETAILS

- NOTES:**
- ALL TRES SUEÑOS UNIT EIGHT SANITARY SEWER, WATER, AND DRAINAGE STRUCTURES SHALL BE BUILT CONCURRENTLY ACCORDING TO THE PLANS
  - 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

**LEGEND**

SYMBOL	DESCRIPTION
---	10' UTILITY EASEMENT
---	PROPOSED WATER LINE
---	SUBD BOUNDARY LINE
---	PROPERTY LINE
---	CENTER LINE
---	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED 8" SEWER LINE PIGGY BACK ON PROPOSED 12" SEWER LINE
---	PROPOSED SEWER LINE (PROFILE VIEW)
---	PROPOSED STORM SEWER
---	EXISTING POLE LINE (CABLE, POWER & TELEPHONE)
---	EXISTING SEWER LINE
---	EXISTING FORCE MAIN
---	EXISTING WATER LINE
⊙	EXISTING MANHOLE
⊙	PROPOSED MANHOLE (PLAN VIEW)
	PROPOSED 8" CAP
⊙	PROPOSED SERVICE CONNECTION (PLAN VIEW)
---	PROPOSED MANHOLE (PROFILE VIEW)
---	EXISTING MANHOLE (PROFILE VIEW)

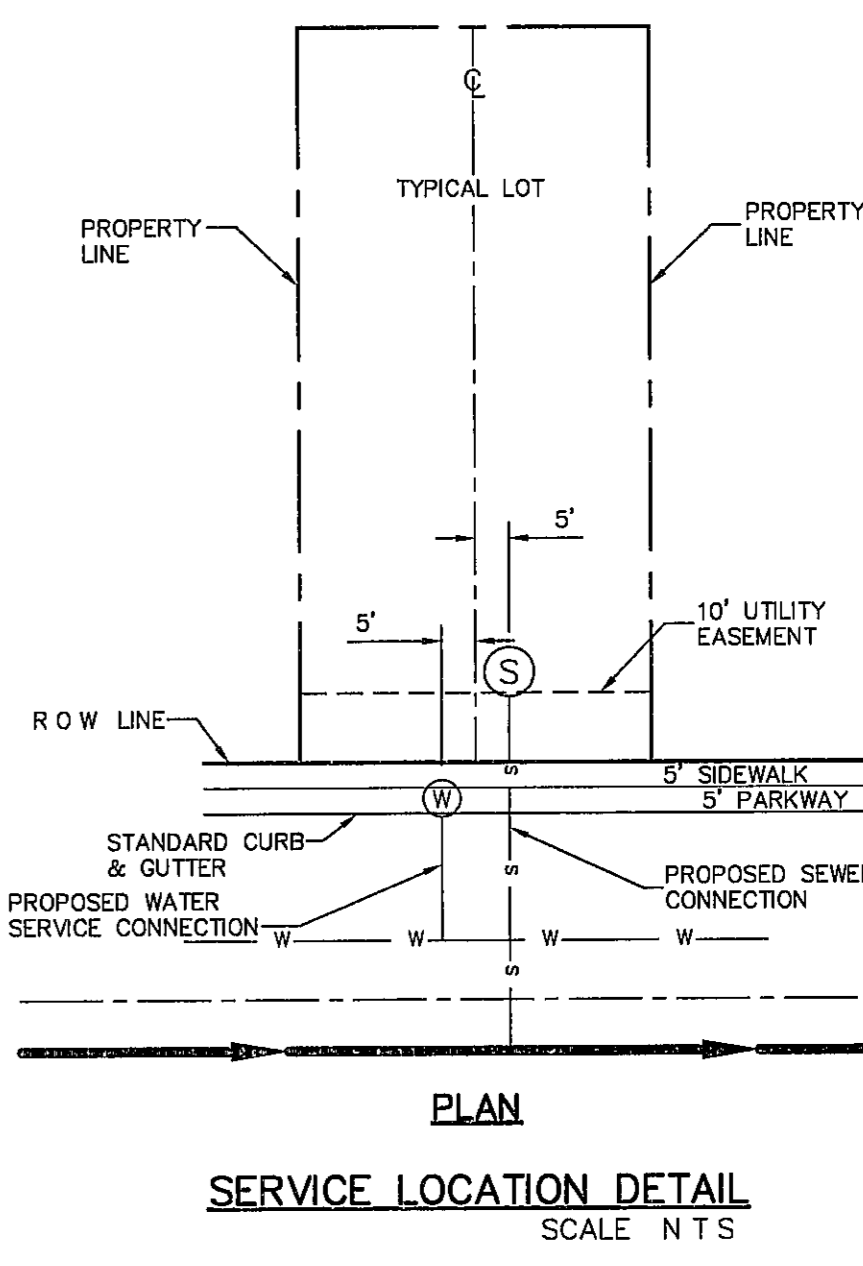
ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT  
REVIEWED

**WARNING!**  
**BEFORE YOU DIG**  
CALL  
1-800-DIG-TESS  
1-800-344-8377  
FOR FIELD LOCATING EXISTING UTILITIES

**GENERAL NOTES**

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM WATER LINE SEPARATION DISTANCES SHALL FOLLOW TCEQ STANDARDS (4290.44)
- THE INTENT OF THE OWNER IS TO HAVE THE SANITARY SEWER PIPELINES INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 60" OF COVER BELOW PROPOSED GROUND AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. CONSIDERING UTILITIES AND OTHER CONDITIONS, VARIANCE FROM GRADE PROFILE IS NOT RECOMMENDED IF OTHER EXISTING UTILITIES OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE SEWER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE THE WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES, AND THE CITY OF EL PASO DEPARTMENT OF TRANSPORTATION 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.
- EL PASO WATER UTILITIES AND THE CITY OF EL PASO MUST BE NOTIFIED 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, SIGNS, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
- ALL WATER AND SEWER UTILITY WORK, INCLUDING TIE-INS SHALL BE CLOSELY COORDINATED WITH EL PASO WATER UTILITIES FIELD ENGINEERING AT LEAST 48 HOURS PRIOR TO COMMENCING ANY UTILITY WORK.
- TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM, INCLUDING MATERIALS AND TESTING SHALL CONFORM TO EPWJ STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND APPURTENANT STRUCTURES.

- GENERAL UTILITIES:**  
TEXAS EXCAVATION SAFETY SERVICE  
11884 GREENVILLE AVENUE  
DALLAS, TX 75243  
(800) 344-8377
- WATER & SEWER:**  
EL PASO WATER UTILITIES  
1154 HAWKINS BLVD #1  
EL PASO, TX 79925  
(915) 594-9500  
MR. FELIPE LOPEZ, P.E.
- TELEPHONE:**  
SBC  
11200 PELICANO  
EL PASO, TX 79935  
(915) 595-5151  
MR. TIM BROWN
- ENGINEER:**  
CEA GROUP  
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  
MR. RICK DERAGSCH
- FIBER OPTICS:**  
AT&T  
P.O. BOX 1650  
EL PASO, TX 79949  
(800) 852-3786  
MS. DARLENE NORIS
- CABLE TELEVISION:**  
TIME WARNER COMMUNICATIONS  
7010 AIRPORT ROAD  
EL PASO, TX 79906  
(915) 772-1123
- EL PASO STREETS:**  
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION  
7969 SAN PAULO DR  
EL PASO, TX 79907  
(915) 621-6750  
MR. DARYL GOLE
- RESIDENTIAL GAS LINES:**  
TEXAS GAS SERVICE  
4700 POLLARD ST  
EL PASO, TX 79930  
(915) 680-7218
- ELECTRIC:**  
EL PASO ELECTRIC CO  
501 W. SAN ANTONIO ST  
EL PASO, TX 79902  
(915) 543-2076  
MR. FRANK VIGEL (DISTRIBUTION)
- FIBER OPTICS:**  
MCI TELECOMMUNICATIONS CORP  
4045 DONIPHAN PARK CIRCLE  
EL PASO, TX 79922  
(915) 542-2770 EXT. 201  
MR. DANIEL HERNANDEZ



**PLAN**  
**SERVICE LOCATION DETAIL**  
SCALE N T S

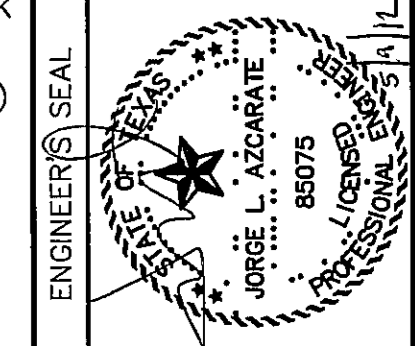
**NOTE:**  
FOR EXISTING SANITARY SEWER SEE P.S.B. PROJECT - ROBERTO NUÑEZ & EASTROOK DRIVE OFFSITE SANITARY SEWER LINE PROJECT No. 07-9100 DATE 8/27/2007

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

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S 08°43'31"E. A DISTANCE OF 487.55 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. CITY DATUM. ELEVATION 4888.40

DATE	REVISIONS	BY

**CEA GROUP**  
engineers • architects • planners  
TEXAS REGISTERED ENGINEERING FIRM #4864  
4712 Woodrow Bean, Ste. F, El Paso, TX 79924  
Office 915.544.5232 Fax 915.544.8333 www.ceagroup.net



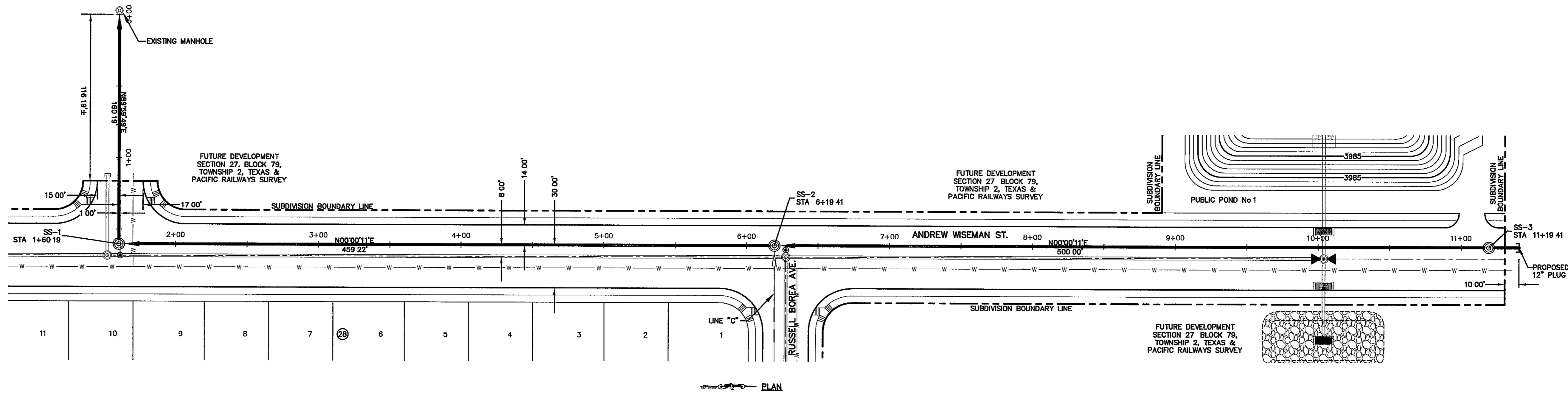
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DRAWN BY J.H.	DRAWN BY J.H.
CHKD BY J.L.A.	CHKD BY J.L.A.
APPVD BY J.L.A.	APPVD BY J.L.A.
JOB No. 2000-134-LD	JOB No. 2000-134-LD

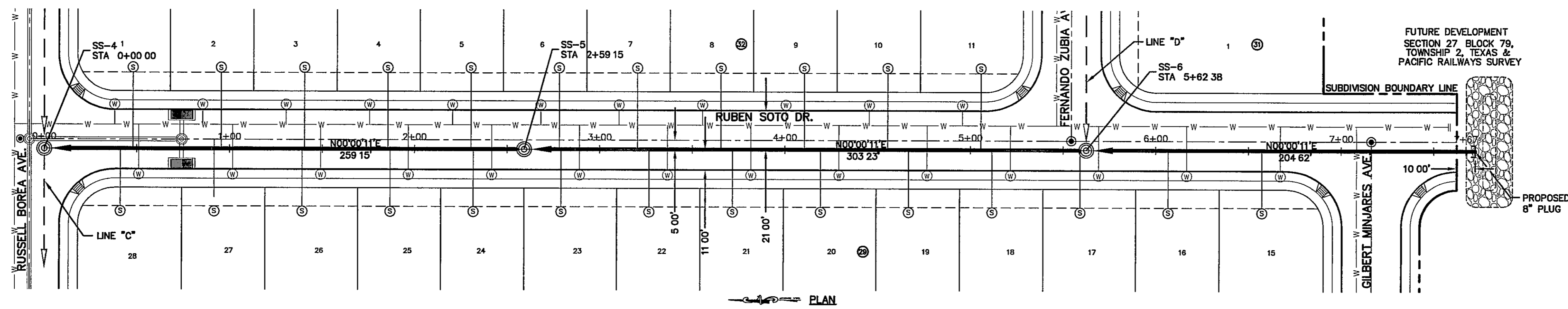
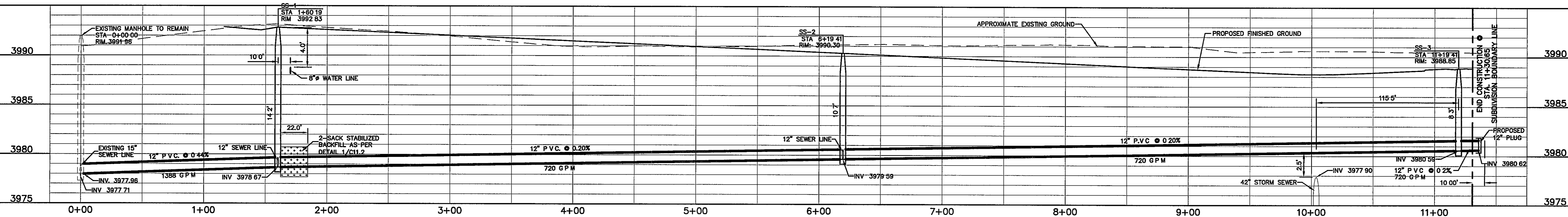
PROJECT TITLE  
**TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**SANITARY SEWER INDEX**

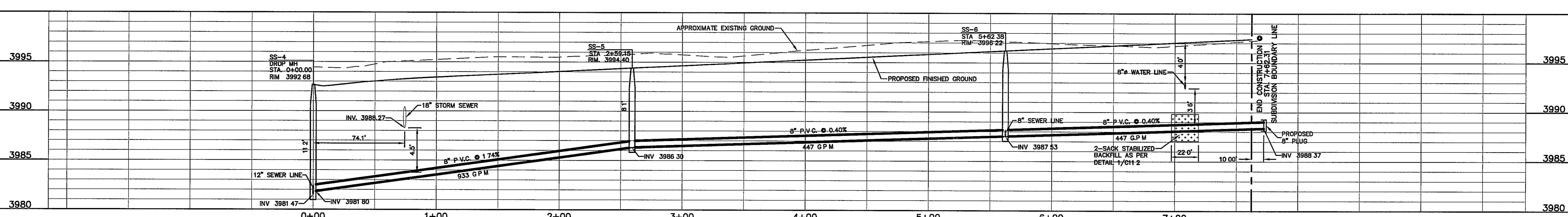
SHEET NO.  
**C8.1**



LINE A



LINE B



**LEGEND:**

- - - PROPOSED WATER LINE
- - - PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED SEWER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE
- PROPOSED STORM SEWER

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT  
 REVIEWED

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S08°43'31"E A DISTANCE OF 467.88 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE. CITY DATUM ELEVATION 4055.90

DATE \_\_\_\_\_ REVISIONS \_\_\_\_\_ BY \_\_\_\_\_

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 4712 Woodrow Bean, Ste F, El Paso, TX 79924  
 Office: 915.544.5232 Fax: 915.544.0333 www.csaengr.com

ENGINEER'S SEAL  
 JORGE L. AZCARRATE  
 88075

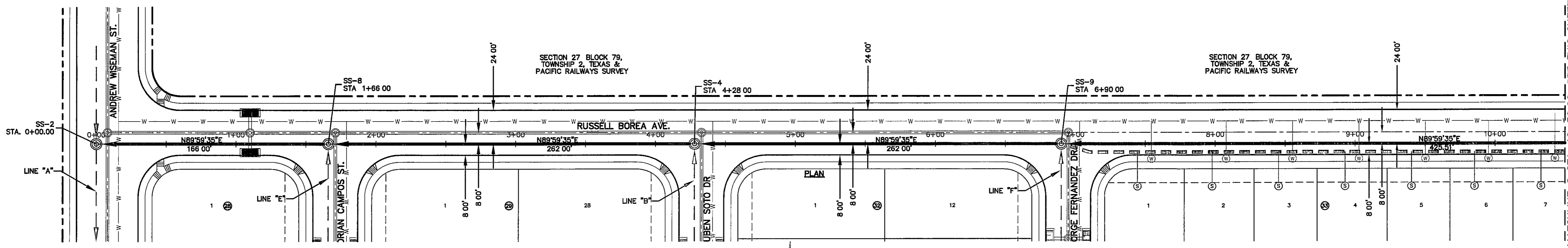
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DATE MAY 2012  
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 DRAWN BY J.H.  
 CHECKED BY J.L.A.  
 APPROVED BY J.L.A.  
 JOB No. 2000-134-LD

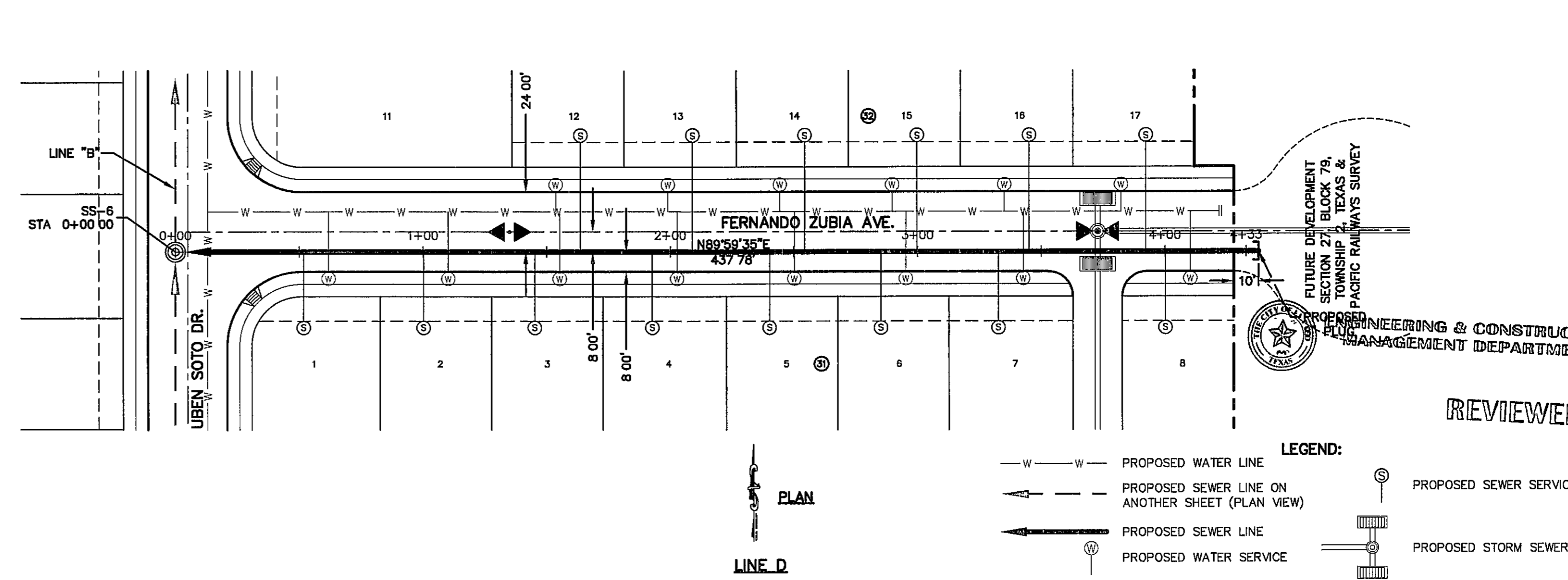
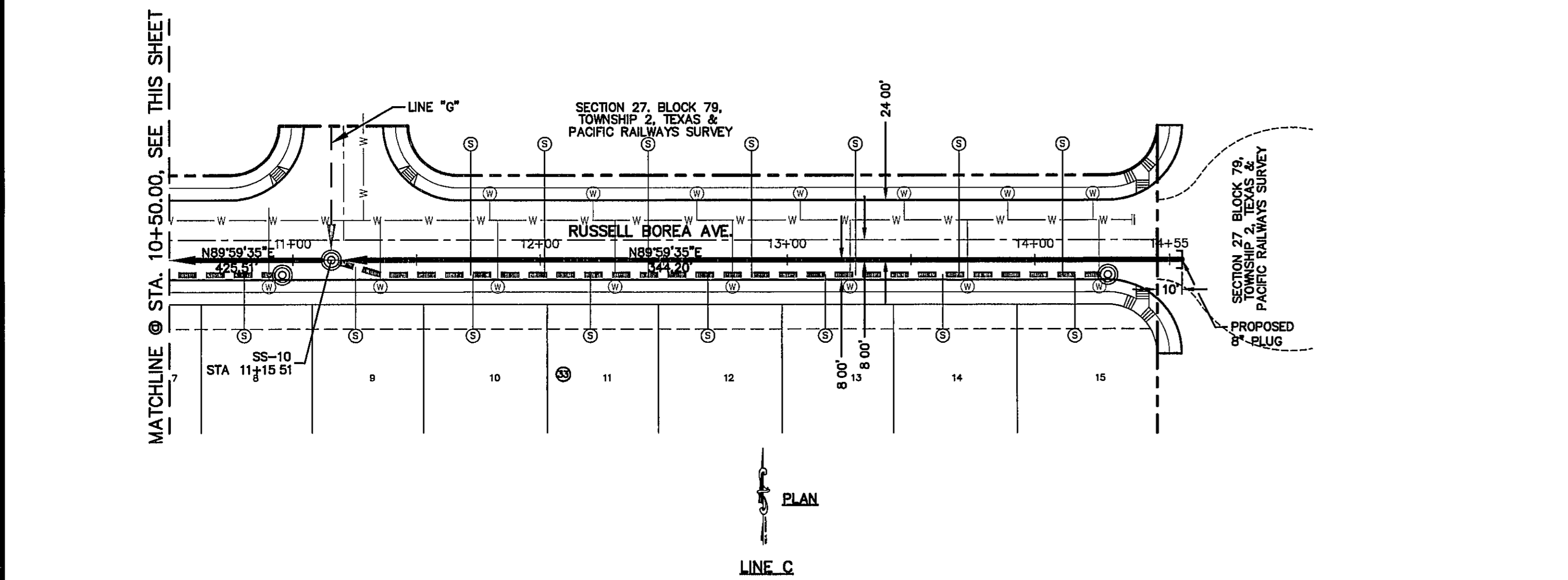
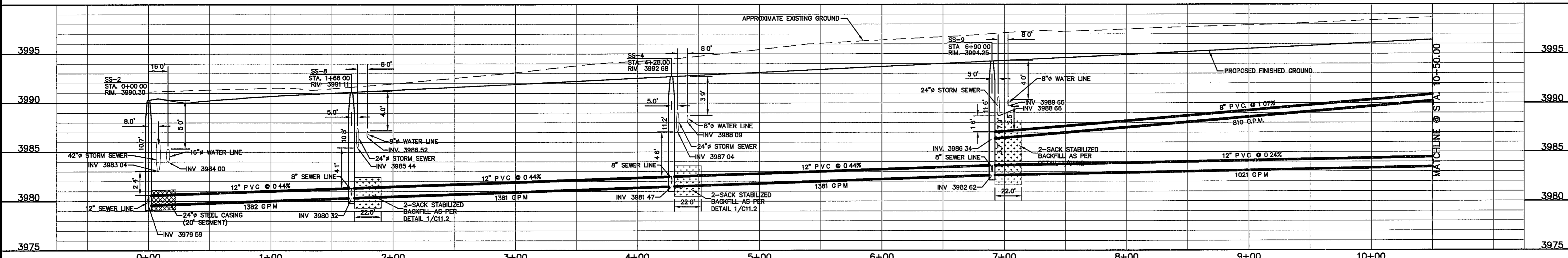
PROJECT TITLE  
**TRES SUEÑOS  
 UNIT EIGHT  
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**SANITARY SEWER  
 PLAN "A" & "B"**

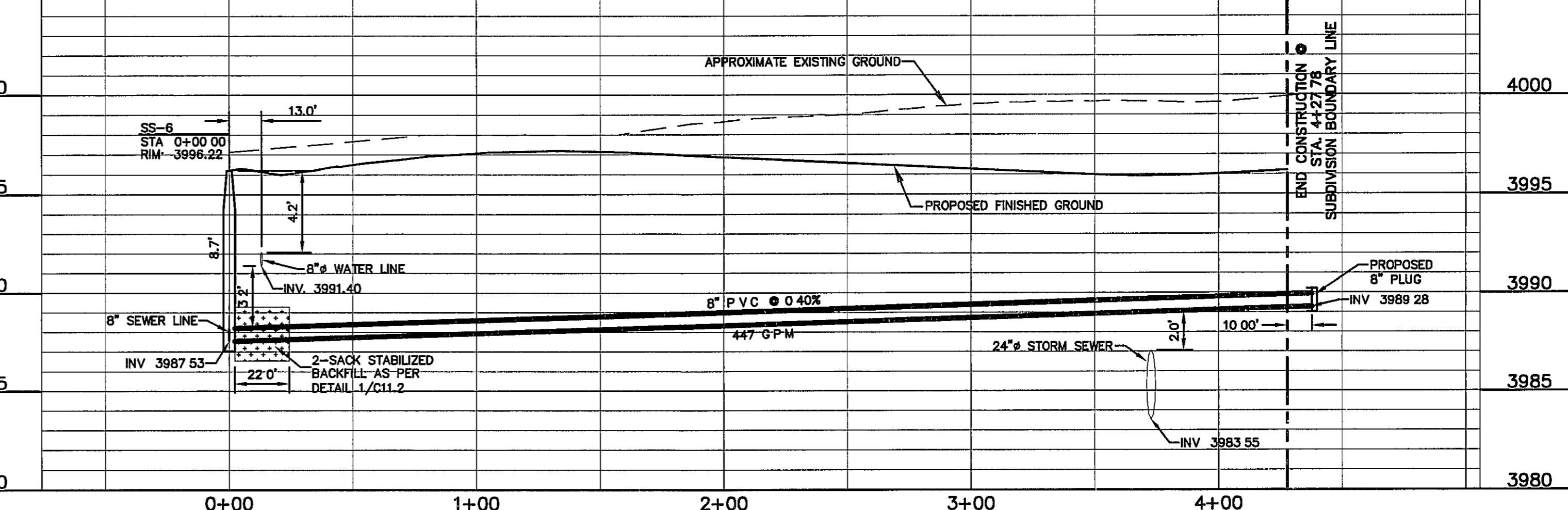
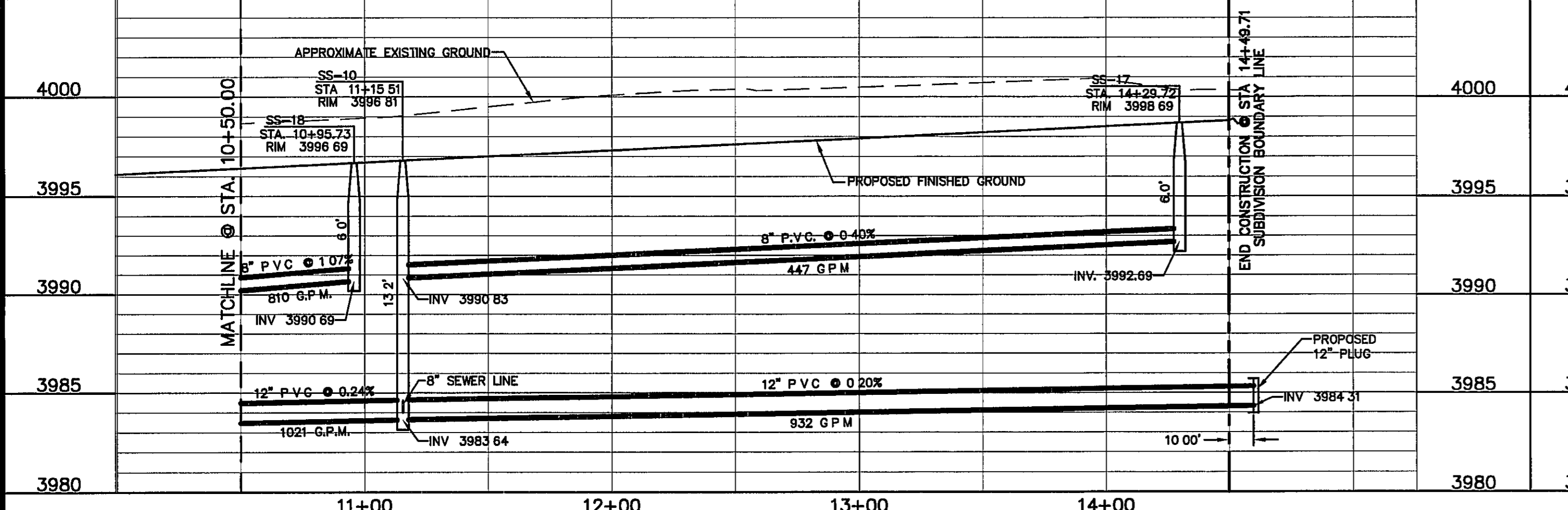
SHEET NO  
**C9.1**



MATCHLINE @ STA. 10+50.00, SEE THIS SHEET



- LEGEND:
- W — W — PROPOSED WATER LINE
  - S — S — PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
  - S — S — PROPOSED SEWER LINE
  - ⊙ PROPOSED WATER SERVICE
  - ⊙ PROPOSED SEWER SERVICE
  - ⊙ PROPOSED STORM SEWER



**TRES SUEÑOS**  
**UNIT EIGHT**  
**SUBDIVISION IMPROVEMENTS**

PROJECT TITLE

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE "C" & "D"

SHEET NO

C9.2

ENGINEER'S SEAL

**Jorge L. Azcarate**  
Professional Engineer  
No. 85075  
State of Texas

SCALE: 1"=40'  
Vertical 1"=5'  
Contour Interval 3'/A

DATE: MAY 2012  
DESIGN BY: JH  
DRAWN BY: JH  
CHKD. BY: J.L.A.  
APPRD. BY: J.L.A.  
JOB NO. 2000-134-LD

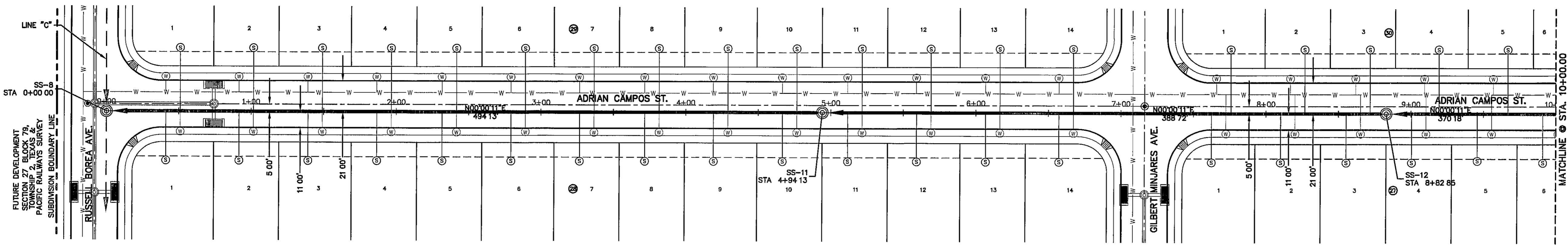
REFERENCES — BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH  
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FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA  
AVENUE CITY DATUM ELEVATION 4005.40

REVISIONS

DATE	REVISIONS	BY

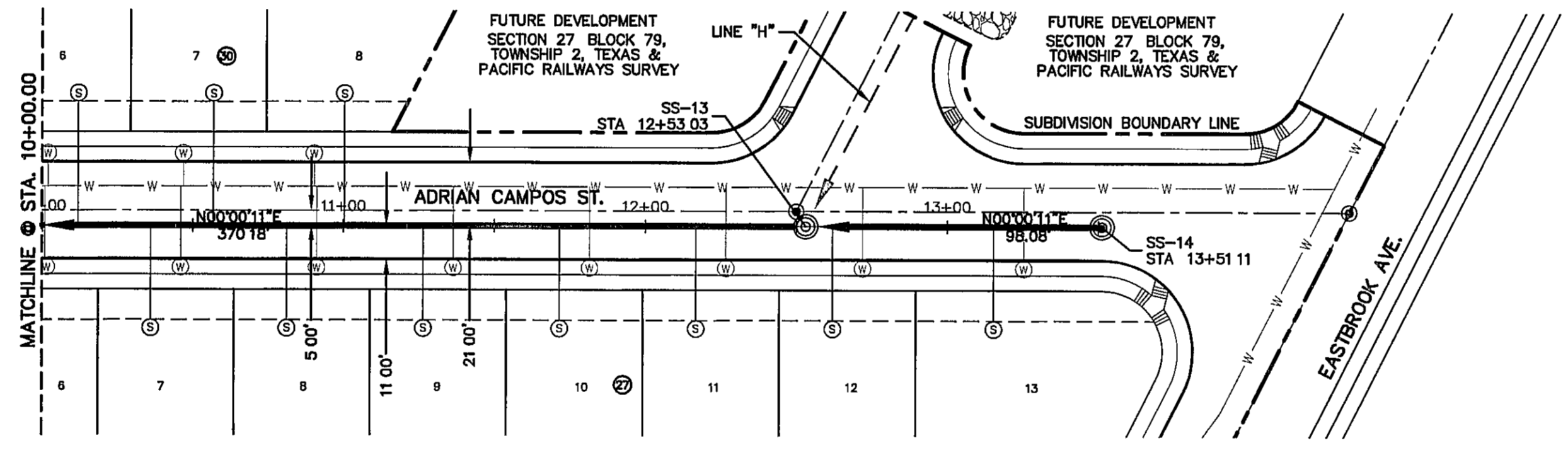
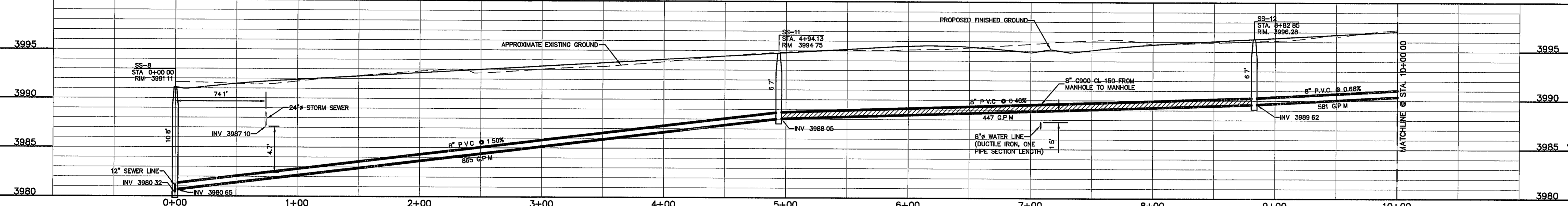
CSA ENGINEERS & ARCHITECTS • PLANNERS  
TEXAS REGISTERED ENGINEERING FIRM F-4584  
4712 Woodrow Bean Site, F. El Paso, TX 79924  
Office 915-544-5252 Fax 915-544-5253 www.csaengineers.com

1. V:\2012\10-14\10-14\CSA\Subdivision\Drawings\Subdivision\Sanitary Sewer\Sanitary Sewer Plan & Profile Line C & D.dwg 6/12/2012 11:24:47 AM



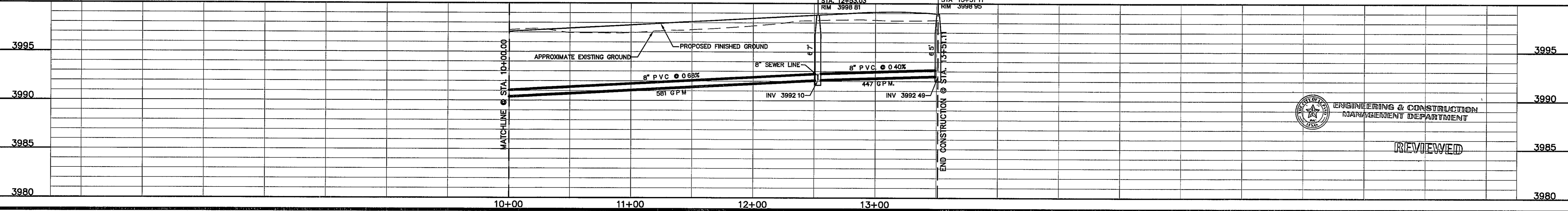
PLAN

LINE E



PLAN

LINE E



- LEGEND:**
- W-W- PROPOSED WATER LINE
  - S-S- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
  - S-S- PROPOSED SEWER LINE
  - ⊙ PROPOSED WATER SERVICE
  - ⊙ PROPOSED SEWER SERVICE
  - ⊕ PROPOSED STORM SEWER

REFERENCES — BENCHMARKS

CITY MONUMENT AT FRONT OF CURVE CENTERLINE RICH BEEM BLVD. SORBAJ'S E A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY

O & A  
engineers • architects • planners  
TEXAS REGISTERED ENGINEERING FIRM F-4584  
4712 Woodrow Bean, Ste. F, El Paso, TX 79924  
Office: 915.544.5222 Fax: 915.544.5233 www.oaegroup.net

ENGINEER'S SEAL

SCALE 1"=40'

Horizontal	Vertical
1"=40'	1"=10'
Contour Interval: N/A	

DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHKD BY: J.L.A.  
APPD BY: J.L.A.  
JOB No. 2000-134-LD

PROJECT TITLE

**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER  
PLAN & PROFILE  
LINE "E"**

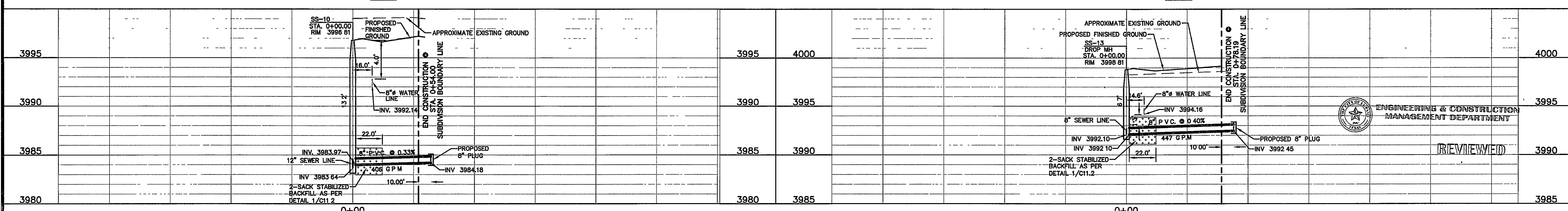
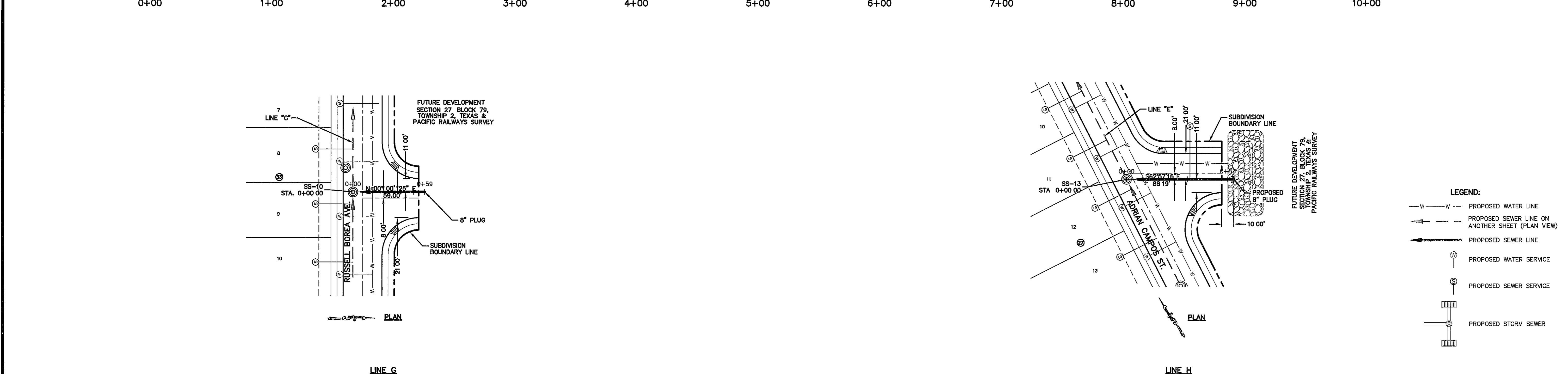
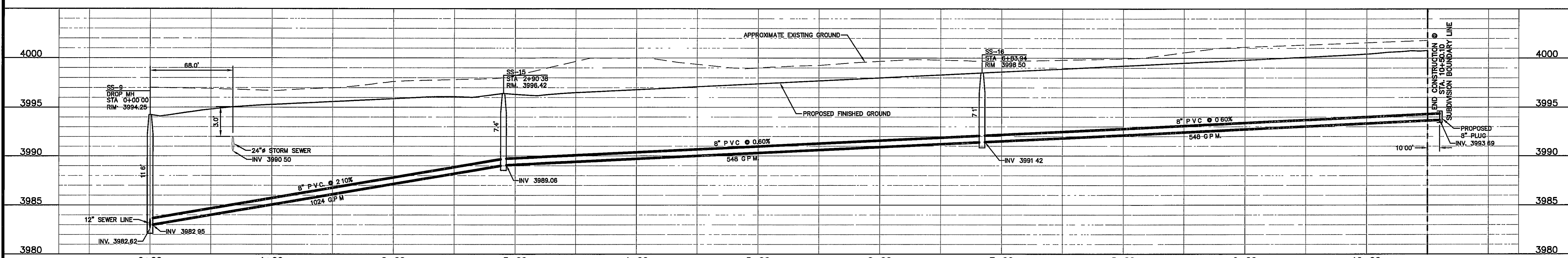
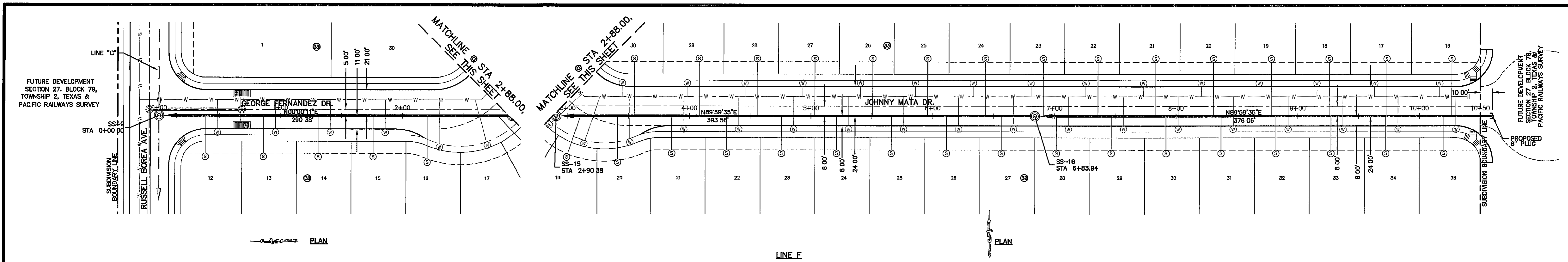
SHEET NO

**C9.3**

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

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REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. S88°43'31"E A DISTANCE OF 467.88 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4685.46

DATE	REVISIONS	BY

**CS&U**  
 engineers • architects • planners  
 TEXAS REGISTERED ENGINEERING FIRM F-484  
 4712 Woodrow Bean, Ste F El Paso, TX 79924  
 Office 915-544-5232 Fax 915-544-5233 www.csandup.com

ENGINEER'S SEAL  
 JORGE L. AZCARATE  
 86075

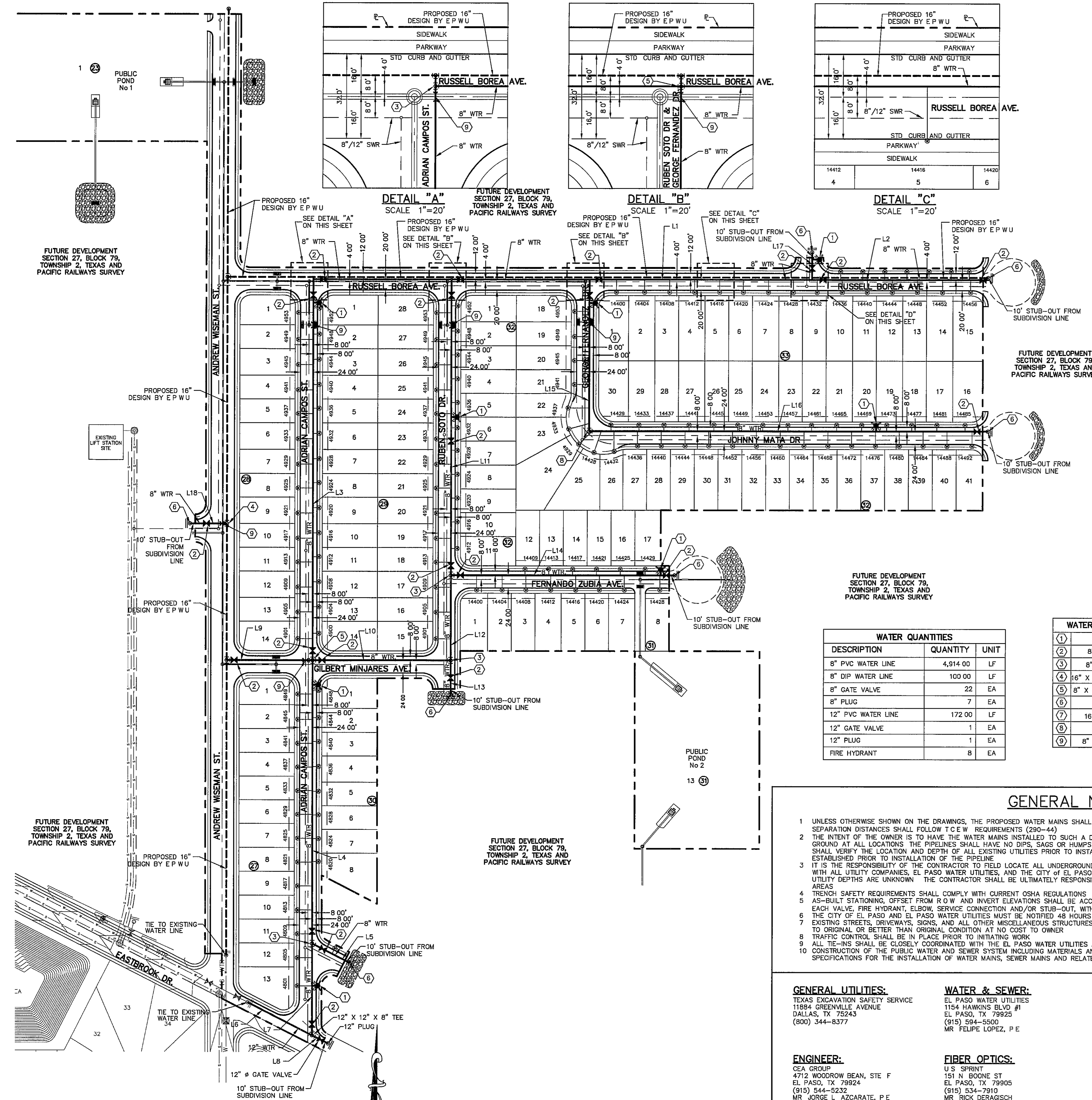
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 DESIGN BY J.H.  
 DRAWN BY J.L.A.  
 APPVD BY J.L.A.  
 JOB No. 2000-134-LD

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

SHEET TITLE  
**SANITARY SEWER  
 PLAN & PROFILE  
 LINE "F", "G", & "H"**

SHEET NO  
**C9.4**

V:\2007\3000-348\DWG\Construction\_Brwngr\Improvement\_Plan\A\CA\_88185.dwg LINE F, G & H.dwg 5/19/2012 3:30:25 PM



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

**WARNING!**  
**BEFORE YOU DIG**  
CALL  
1-800-DIG-TESS  
1-800-344-8377  
FOR FIELD LOCATING EXISTING UTILITIES

**INDEX**

SHEET NO.	DESCRIPTION
C10.1	TRES SUEÑOS UNIT EIGHT WATER MAIN PIPE LAYOUT
C12.1	WATER DETAILS
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS

- NOTES:**
- TRES SUEÑOS UNIT EIGHT SANITARY SEWER, WATER, AND DRAINAGE STRUCTURES SHALL BE BUILT CONCURRENTLY ACCORDING TO THE PLANS
  - 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 LOCATION AT STREET INTERSECTIONS

**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING SEWER LINE
---	EXISTING WATER LINE
---	EXISTING PAVEMENT LINE
---	PROPERTY LINE
---	SUBDIVISION BOUNDARY
---	STREET R O W LINE
---	PROPOSED 16" DESIGN BY E P W U
---	PROPOSED 8" C-900 P V C PIPE, UNLESS OTHERWISE SPECIFIED
---	PROPOSED 12" C-900 P V C PIPE, UNLESS OTHERWISE SPECIFIED
---	PROPOSED 8" S W R
---	PROPOSED SANITARY SEWER
---	PROPOSED STORM SEWER
---	PROPOSED SERVICE CONNECTION
---	EXISTING SERVICE CONNECTION
---	PROPOSED FIRE HYDRANT (KENNEDY OR MUELLER MODEL)
---	EXISTING FIRE HYDRANT
---	PROPOSED GATE VALVE
---	EXISTING GATE VALVE
---	PROPOSED PLUG
---	EXISTING PLUG
---	POINT OF TANGENCY

**LINE TABLE**

LINE	BEARING	DISTANCE
L1	N89°59'35"E	423.00'
L2	N89°59'35"E	335.00'
L3	N00°00'11"E	725.00'
L4	N00°00'11"E	537.00'
L5	S62°57'17"E	81.00'
L6	S62°57'17"E	137.00'
L7	N00°00'11"E	174.00'
L8	S62°57'17"E	35.00'
L9	N89°59'49"E	164.00'
L10	N89°59'49"E	262.00'
L11	N00°00'11"E	563.00'
L12	N00°00'11"E	162.00'
L13	N00°00'11"E	64.00'
L14	N89°59'35"E	425.00'
L15	N00°00'11"E	281.00'
L16	N89°59'35"E	747.00'
L17	N00°00'25"E	48.00'
L18	N89°59'50"W	70.00'

**WATER QUANTITIES**

DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	4,914.00	LF
8" DIP WATER LINE	100.00	LF
8" GATE VALVE	22	EA
8" PLUG	7	EA
12" PVC WATER LINE	172.00	LF
12" GATE VALVE	1	EA
12" PLUG	1	EA
FIRE HYDRANT	8	EA

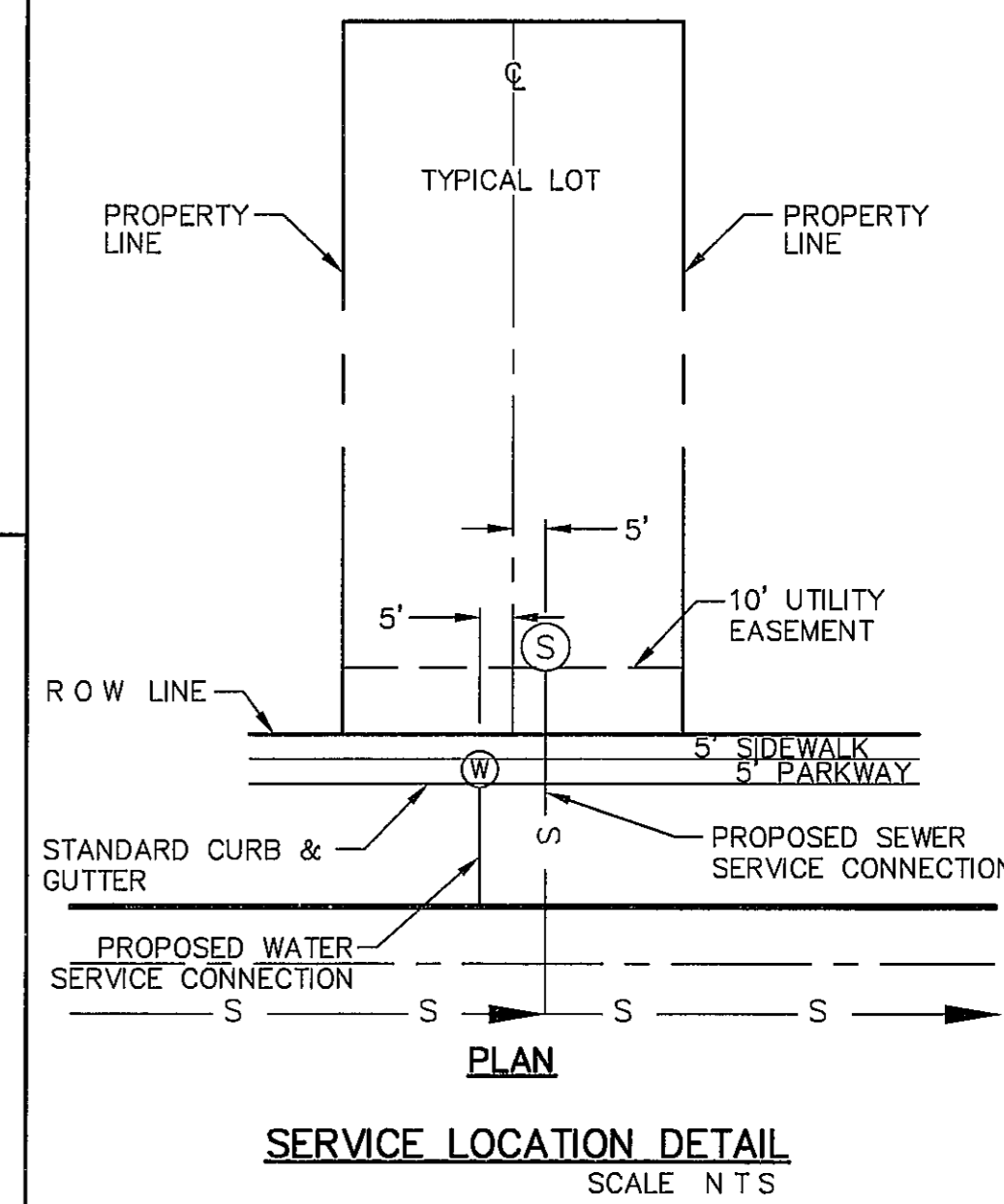
**WATER KEYED NOTES**

- FIRE HYDRANT
- 8" GATE VALVE
- 8" X 8" X 8" TEE
- 16" X 16" X 8" X 8" CROSS
- 8" X 8" X 8" X 8" CROSS
- 8" PLUG
- 16" X 8" X 8" TEE
- 8" 90 BEND
- 8" DUCTILE IRON PIPE

**GENERAL NOTES**

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE SEPARATION DISTANCES SHALL FOLLOW T C E W 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 48" OF COVER BELOW PROPOSED GROUND AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE WATER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES, AND THE CITY OF EL PASO DEPARTMENT OF TRANSPORTATION PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
- TRENCH SAFETY REQUIREMENTS SHALL COMPLY WITH CURRENT OSHA REGULATIONS
- AS-BUILT STATONING, 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 CITY OF EL PASO AND EL PASO WATER UTILITIES MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION
- EXISTING STREETS, DRIVEWAYS, SIGNS, 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 48 HOURS PRIOR TO ACTUAL CONSTRUCTION
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM WITH E P W U - P S B STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES

<p><b>GENERAL UTILITIES:</b> TEXAS EXCAVATION SAFETY SERVICE 11894 GREENVILLE AVENUE DALLAS, TX 75243 (800) 344-8377</p>	<p><b>WATER &amp; SEWER:</b> EL PASO WATER UTILITIES 1154 HAWKINS BLVD #1 EL PASO, TX 79925 (915) 594-5500 MR FELIPE LOPEZ, P E</p>	<p><b>TELEPHONE:</b> SBC 11200 PELICANO EL PASO, TX 79935 (915) 595-5151 MR TIM BROWN</p>	<p><b>ELECTRIC:</b> EL PASO ELECTRIC CO 501 W SAN ANTONIO ST EL PASO, TX 79902 (915) 543-2076 MR FRANK VIGEL (DISTRIBUTION)</p>
<p><b>ENGINEER:</b> CEA GROUP 4712 WOODROW BEAN, STE F EL PASO, TX 79924 (915) 544-5235 MR JORGE L AZCARATE, P E</p>	<p><b>FIBER OPTICS:</b> U S SPRINT 151 N BOONE ST EL PASO, TX 79905 (915) 534-7910 MR RICK DERAGOSCH</p>	<p><b>FIBER OPTICS:</b> AT&amp;T P O BOX 1650 EL PASO, TX 79949 (800) 852-3786 MS DARLENE NORIS</p>	<p><b>FIBER OPTICS:</b> M T TELECOMMUNICATIONS CORPS 4045 DONIPHAN PARK CIRCLE EL PASO, TX 79922 (915) 542-2770 EXT 201 MR DANIEL HERNANDEZ</p>
<p><b>CABLE TELEVISION:</b> TIME WARNER COMMUNICATIONS 7010 AIRPORT ROAD EL PASO, TX 79906 (915) 772-1123</p>	<p><b>EL PASO STREETS</b> CITY OF EL PASO DEPARTMENT of TRANSPORTATION 7969 SAN PAULO DR EL PASO, TX 79907 (915) 621-6750 MR DARRYL COLE</p>	<p><b>RESIDENTIAL GAS LINES:</b> TEXAS GAS SERVICE 4700 POLLARD ST EL PASO, TX 79930 (915) 680-7218</p>	



**REFERENCES - BENCHMARKS**  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD, S88°43'31" A, DISTANCE OF 467.98 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4085.40

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DATE: MAY 2012  
DESIGN BY: JH  
CHKD BY: JLA  
APPROV BY: JLA  
JOB No. 20000-134-1D

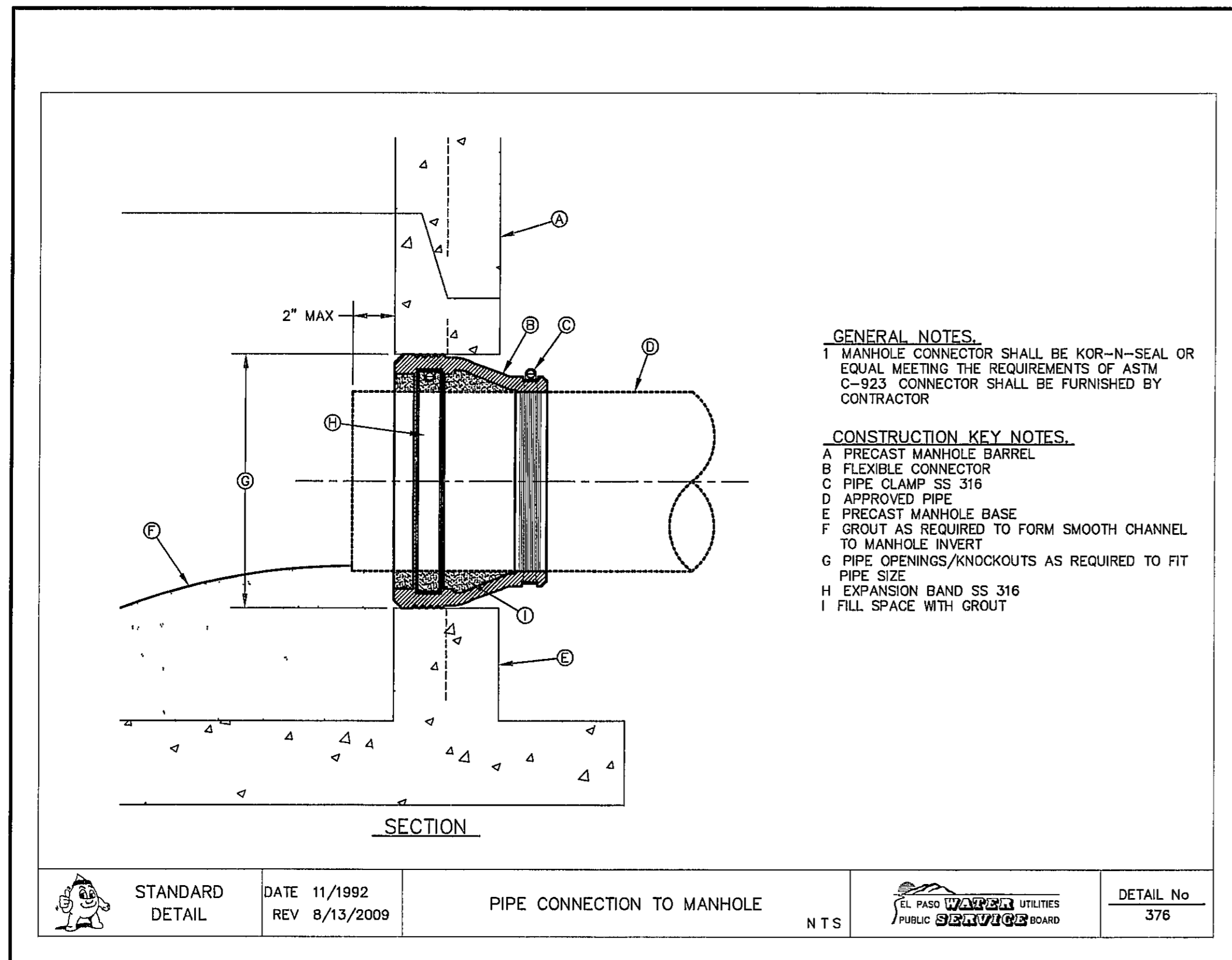
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TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

**SHEET TITLE**  
WATER INDEX / GENERAL INFORMATION

**SHEET NO**  
C10.1

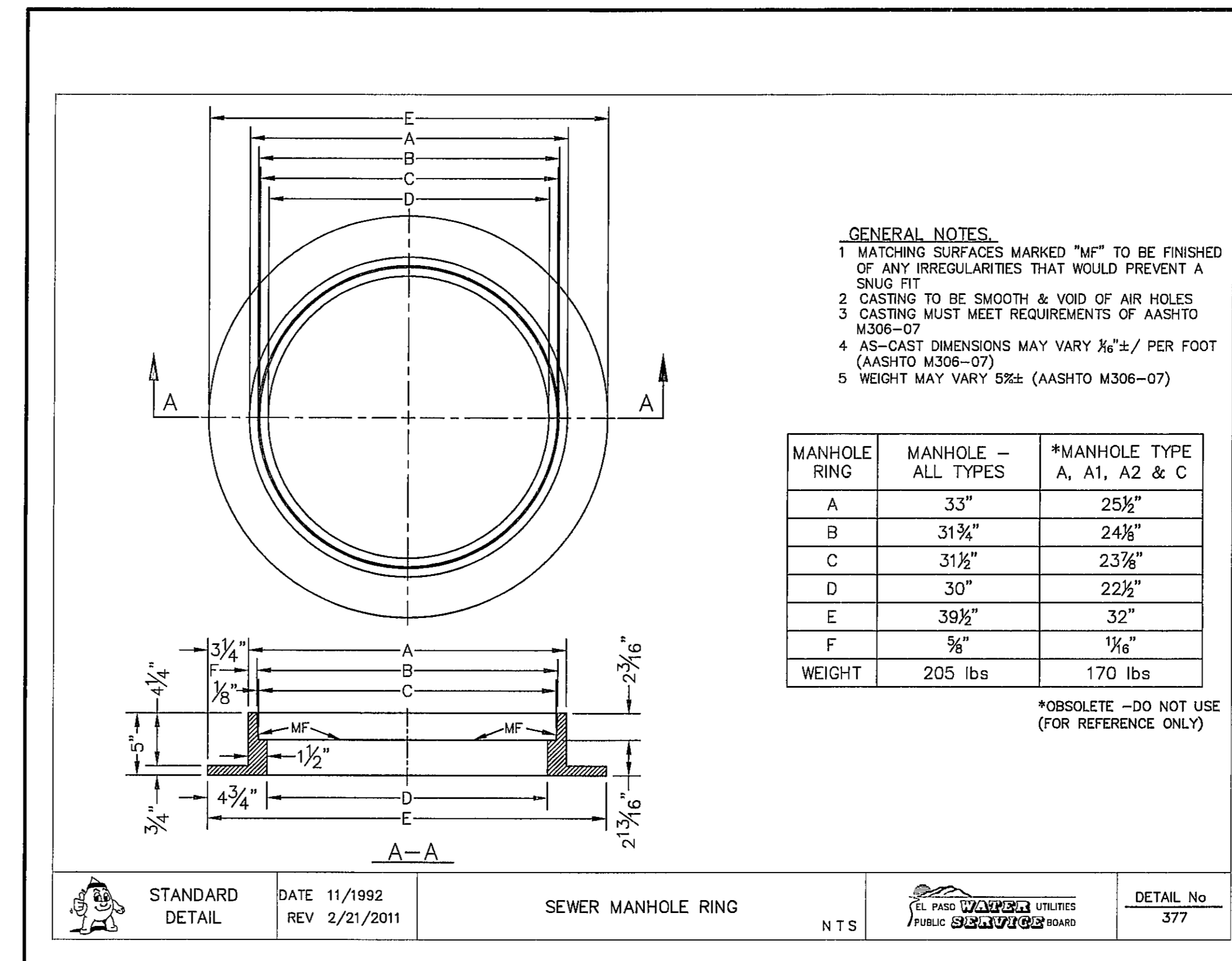
**REVISIONS**

DATE	BY	REVISIONS



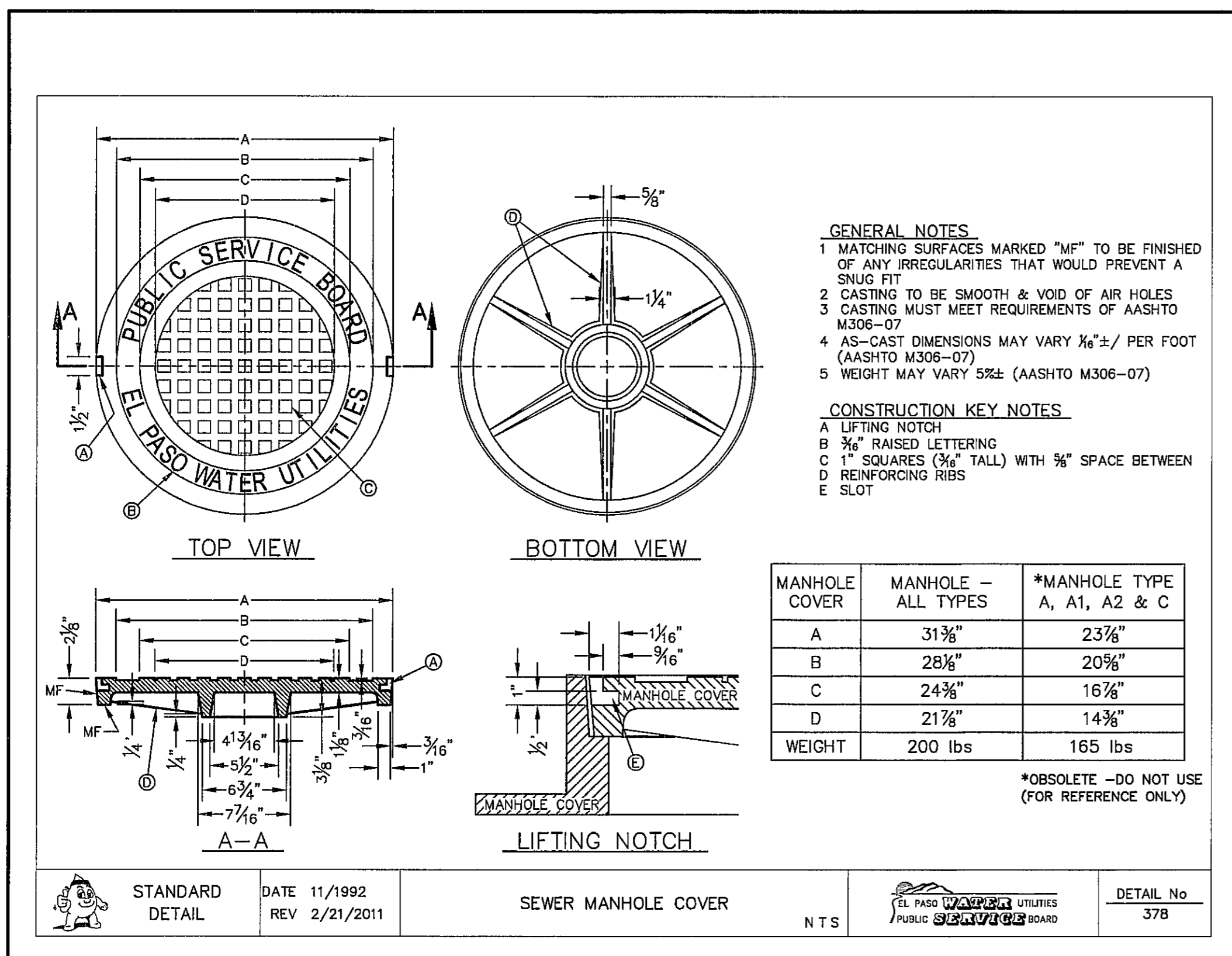
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1 PIPE CONNECTION TO MANHOLE  
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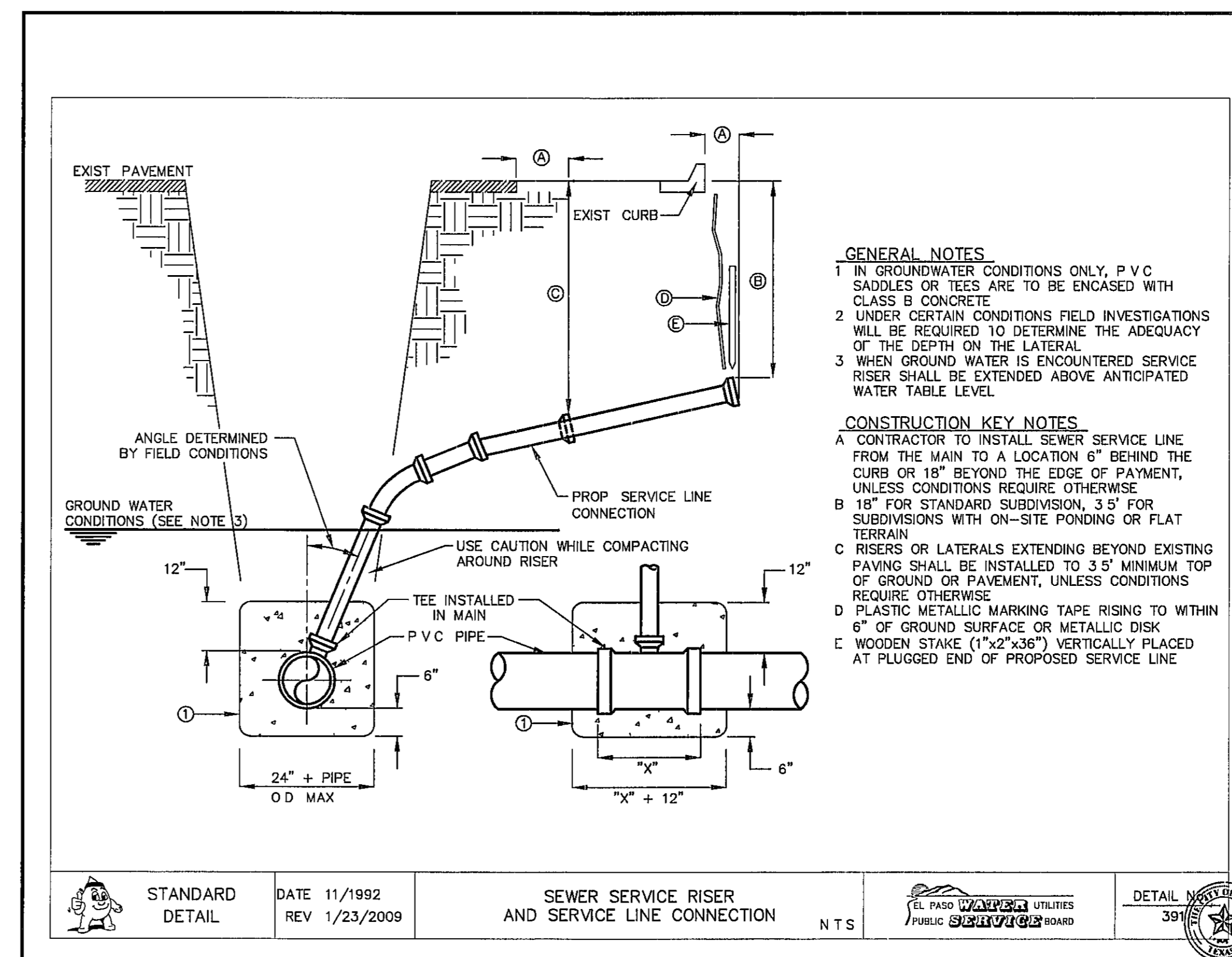
STANDARD DETAIL	DATE 11/1992 REV 2/21/2011	SEWER MANHOLE RING	NTS	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No 377
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2 STANDARD MANHOLE RING  
SCALE N T S



STANDARD DETAIL	DATE 11/1992 REV 2/21/2011	SEWER MANHOLE COVER	NTS	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No 378
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3 STANDARD COVER DETAIL  
SCALE N T S



STANDARD DETAIL	DATE 11/1992 REV 1/23/2009	SEWER SERVICE RISER AND SERVICE LINE CONNECTION	NTS	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No 391
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4 SEWER SERVICE RISER AND SERVICE LINE CONNECTION  
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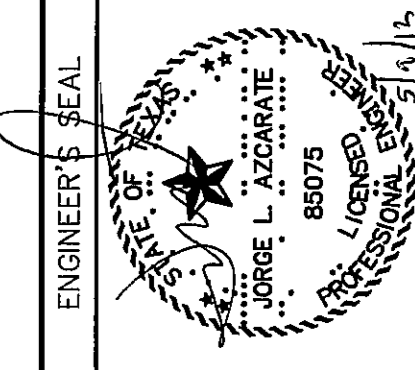
REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH  
 SEVEN (7) FEET SOUTH OF CURVE CENTERLINE  
 FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA  
 AVENUE CITY DATUM ELEVATION 4005.40

DATE

REVISIONS

BY

**osa**  
 engineers • architects • planners  
 TEXAS REGISTERED ENGINEERING FIRM F-4884  
 4712 Westchase Road, Ste. F, El Paso, TX 79904  
 Office: 915.844.8222 Fax: 915.844.8233 www.osainc.com



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	MAY 2012
DESIGN BY	J.H.
DRAWN BY	J.H.
CHKD BY	J.L.A.
APPROV BY	J.L.A.
JOB No.	2000-134-LD

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

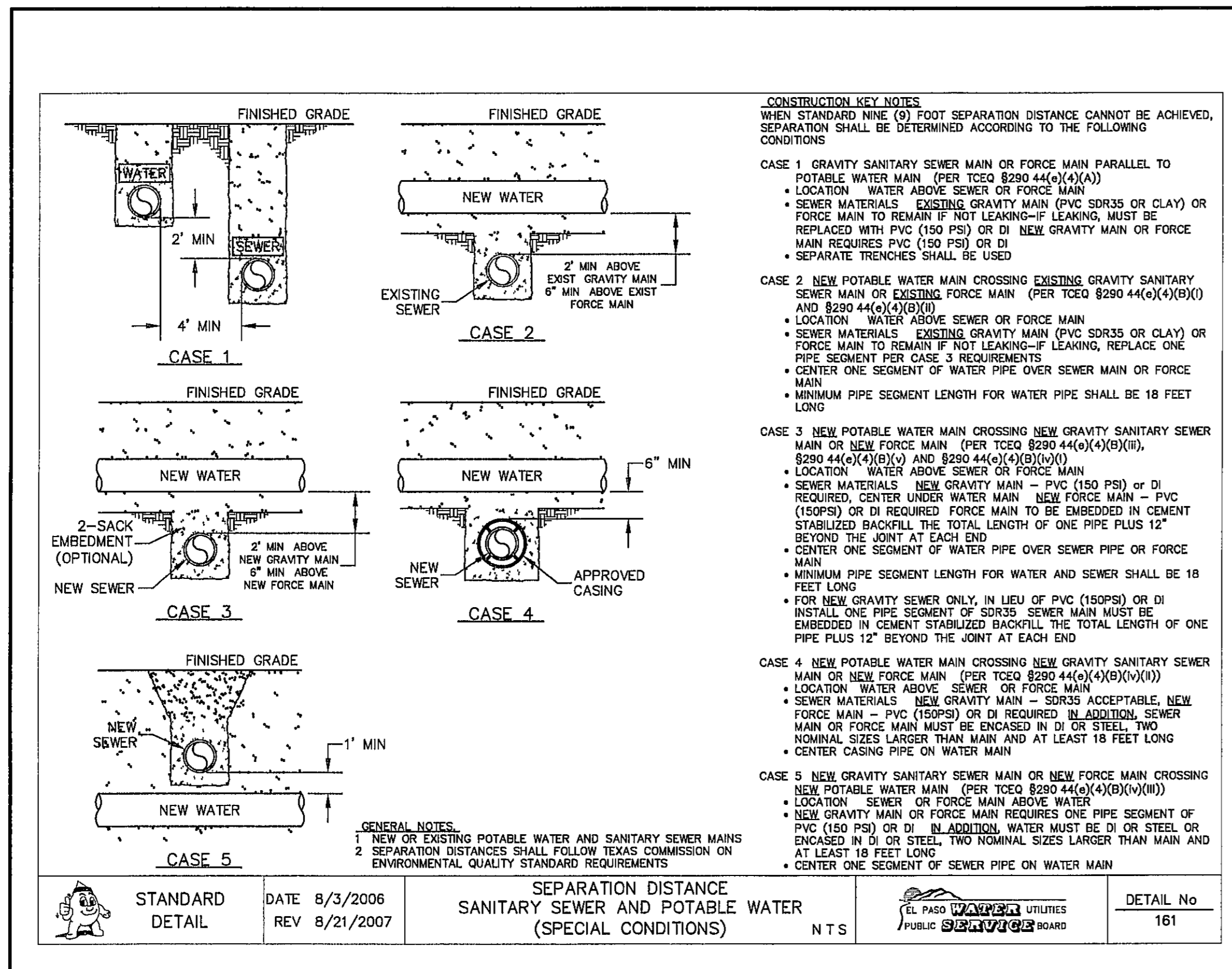
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**SANITARY SEWER  
 DETAILS**

(SHEET 1 OF 3)

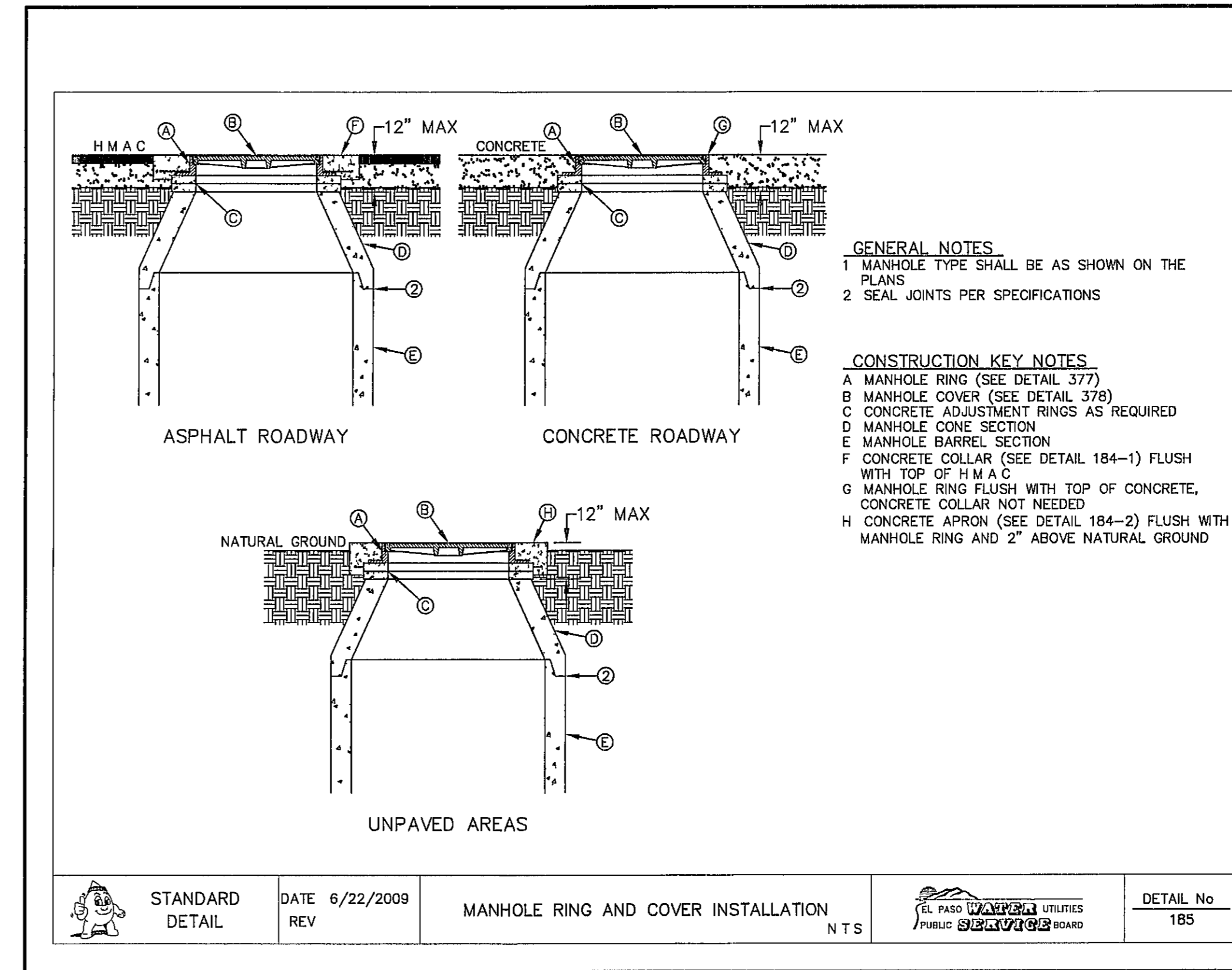
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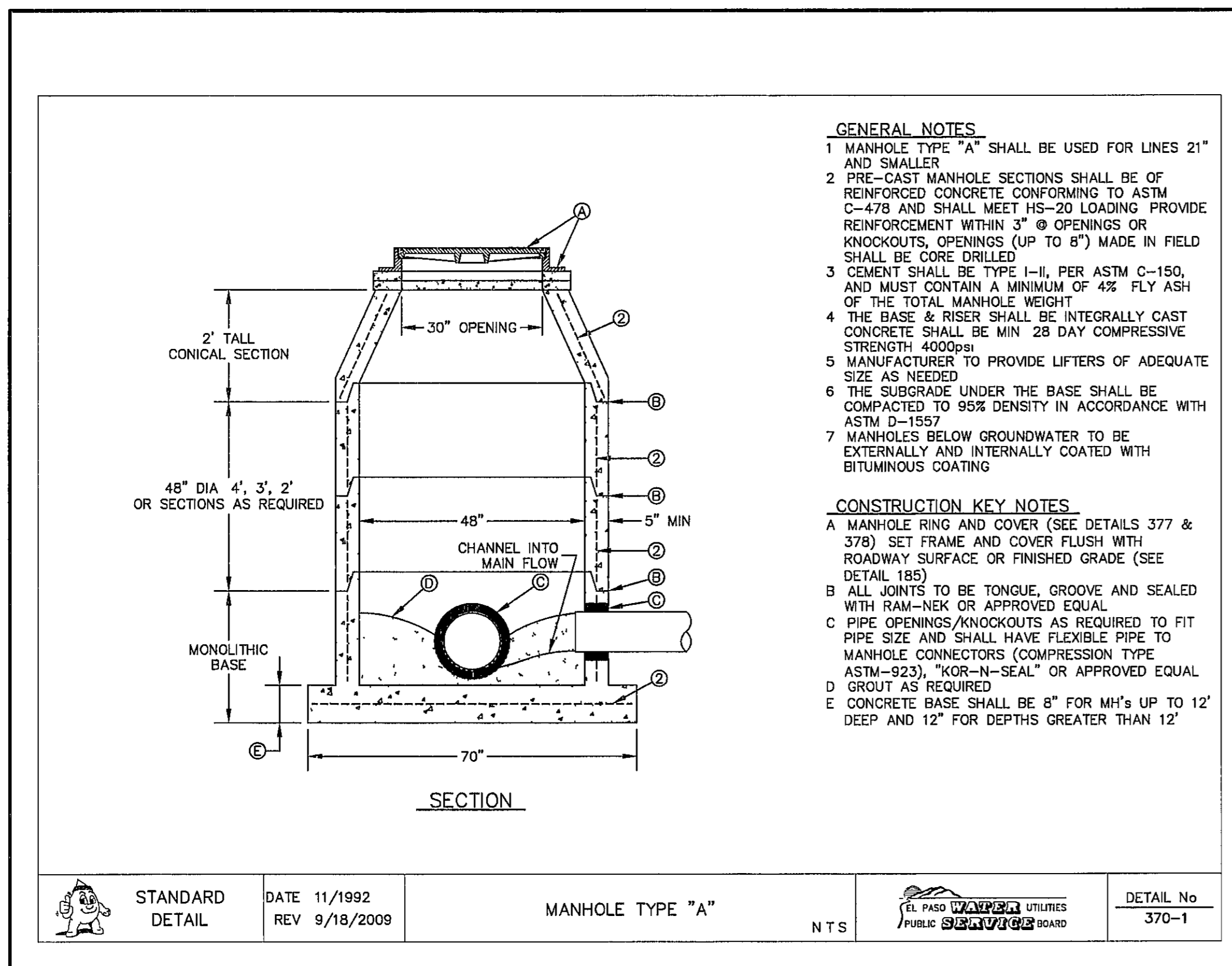
C11.1



1  
C11.2  
**SEPARATION DISTANCE  
SANITARY SEWER AND POTABLE WATER  
(SPECIAL CONDITIONS)**  
SCALE N T S



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C11.2  
**STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL**  
SCALE N T S

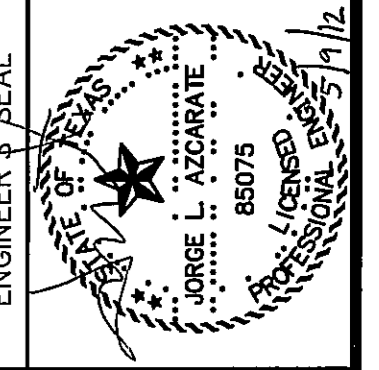


3  
C11.2  
**MANHOLE TYPE "A"**  
SCALE N T S

REFERENCES - BENCHMARKS  
 CITY MANHOLE AT FRONT OF CURVE CENTERLINE PER CITY RECORDS MAY BE USED TO ESTIMATE POSITION FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE 8/10/09 REVISIONS TO INVERT ELEVATIONS BY JG

**osa**  
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 TEXAS REGISTERED ENGINEERING FIRM #4984  
 4710 Woodrow Wilson Blvd., Ste. F, Ft. Worth, TX 76104  
 Office: 817.544.8282 Fax: 817.544.8283 www.osaengineers.com



SCALE	N/A
Horizontal	N/A
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Contour	N/A
Interval	N/A
DATE	MAY 2012
DESIGN BY	JH
DRAWN BY	JH
CHKD BY	J.L.A.
APPVD BY	J.L.A.
JOB No.	20000-134-1D

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

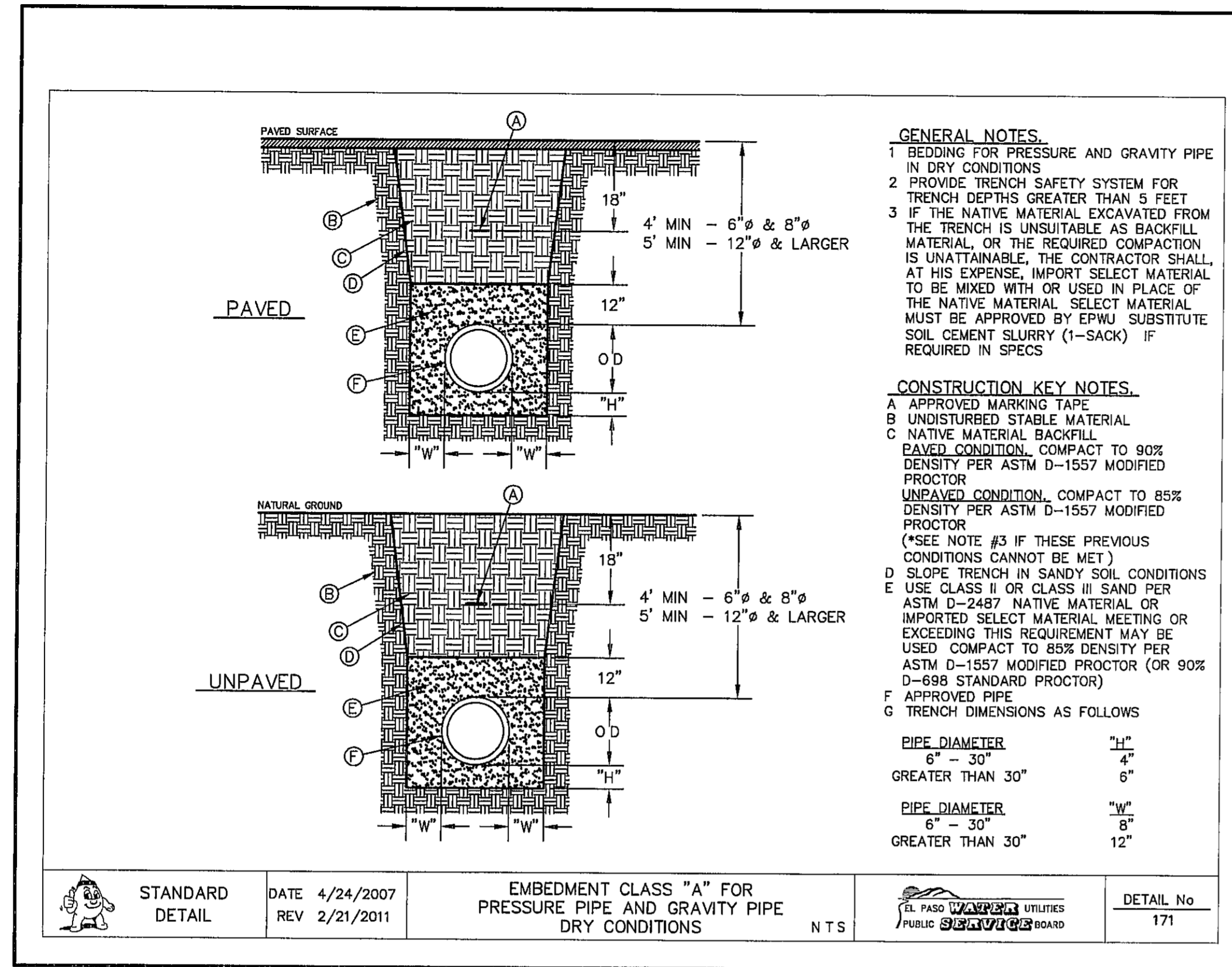
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 SHEET NO



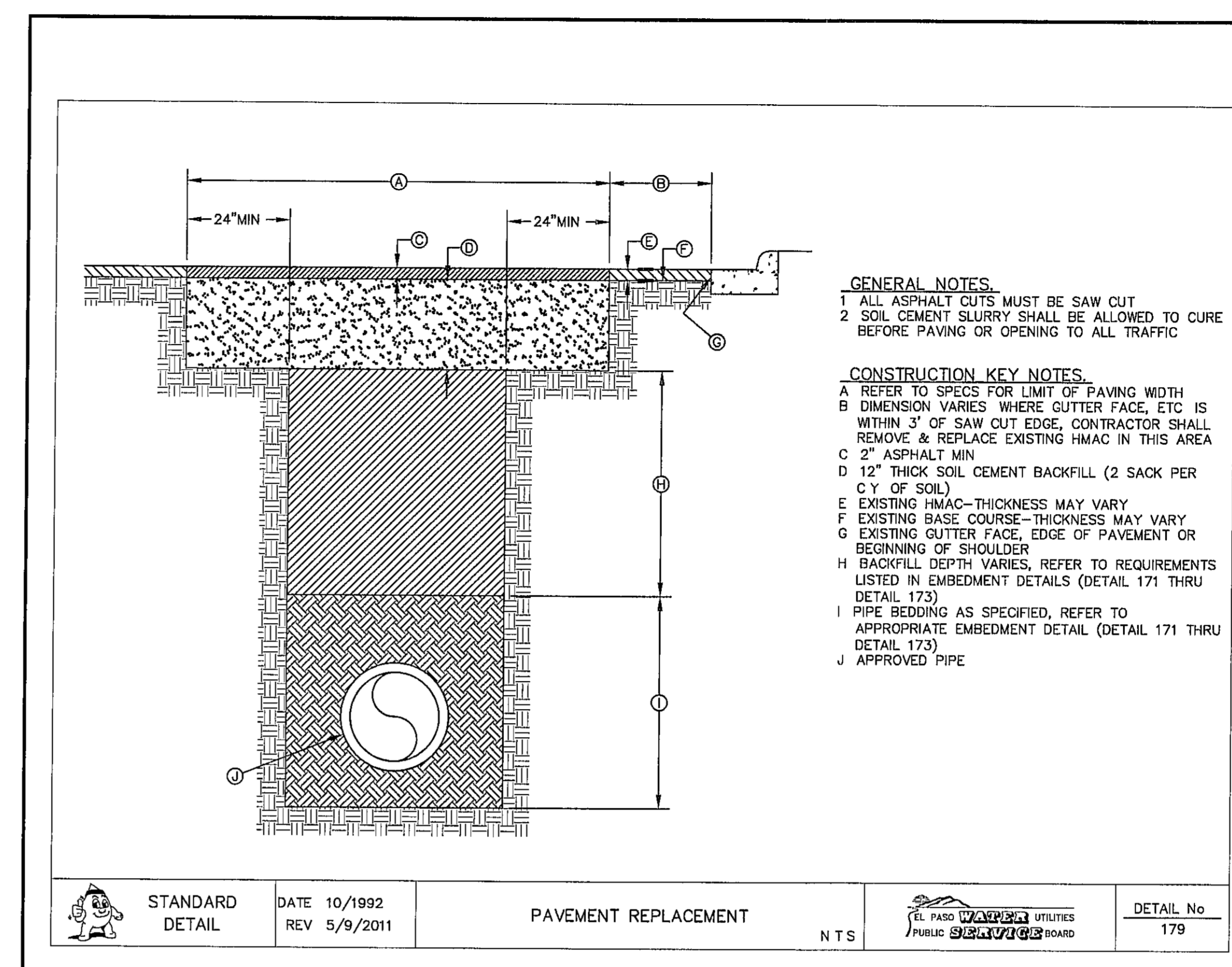
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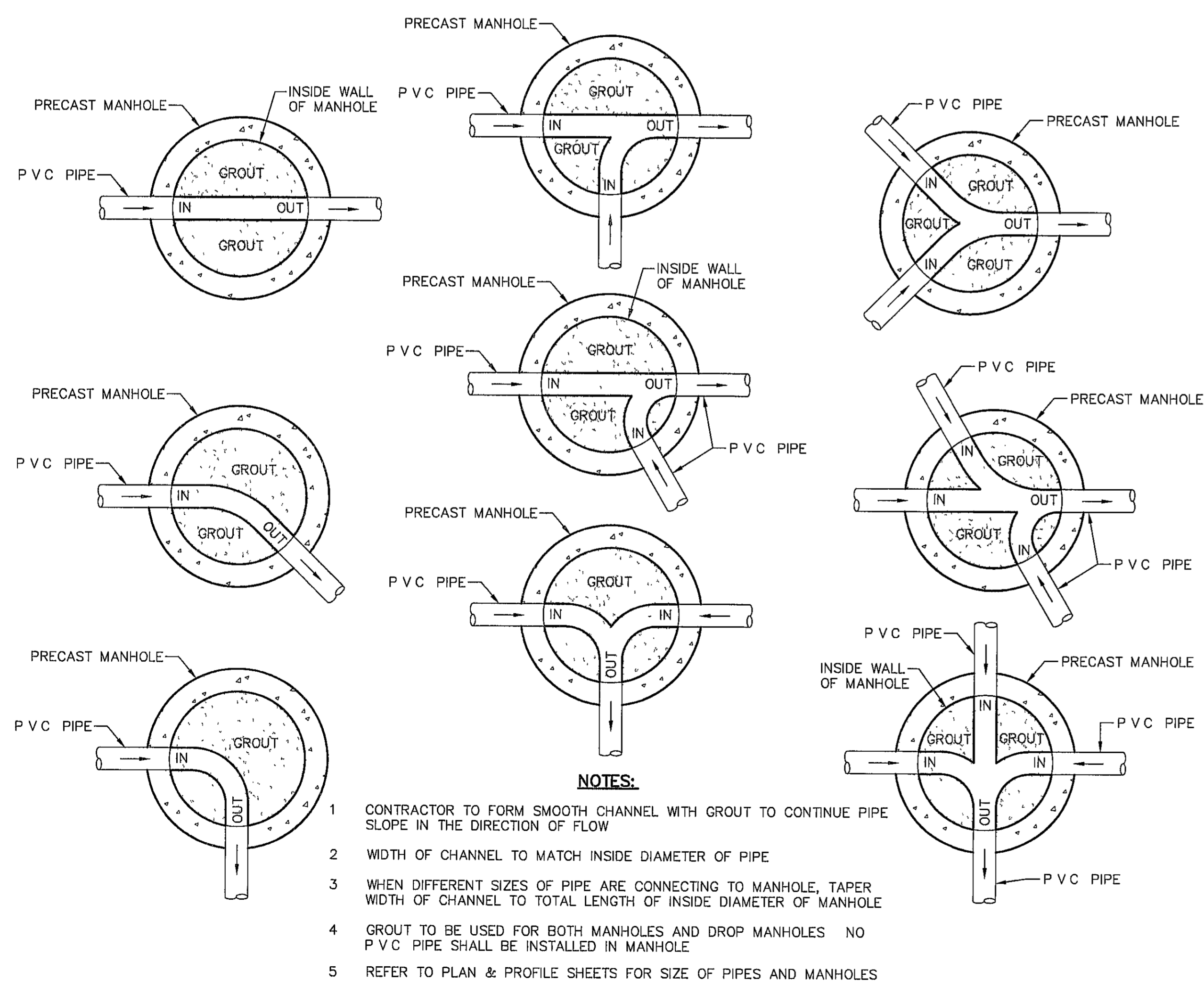




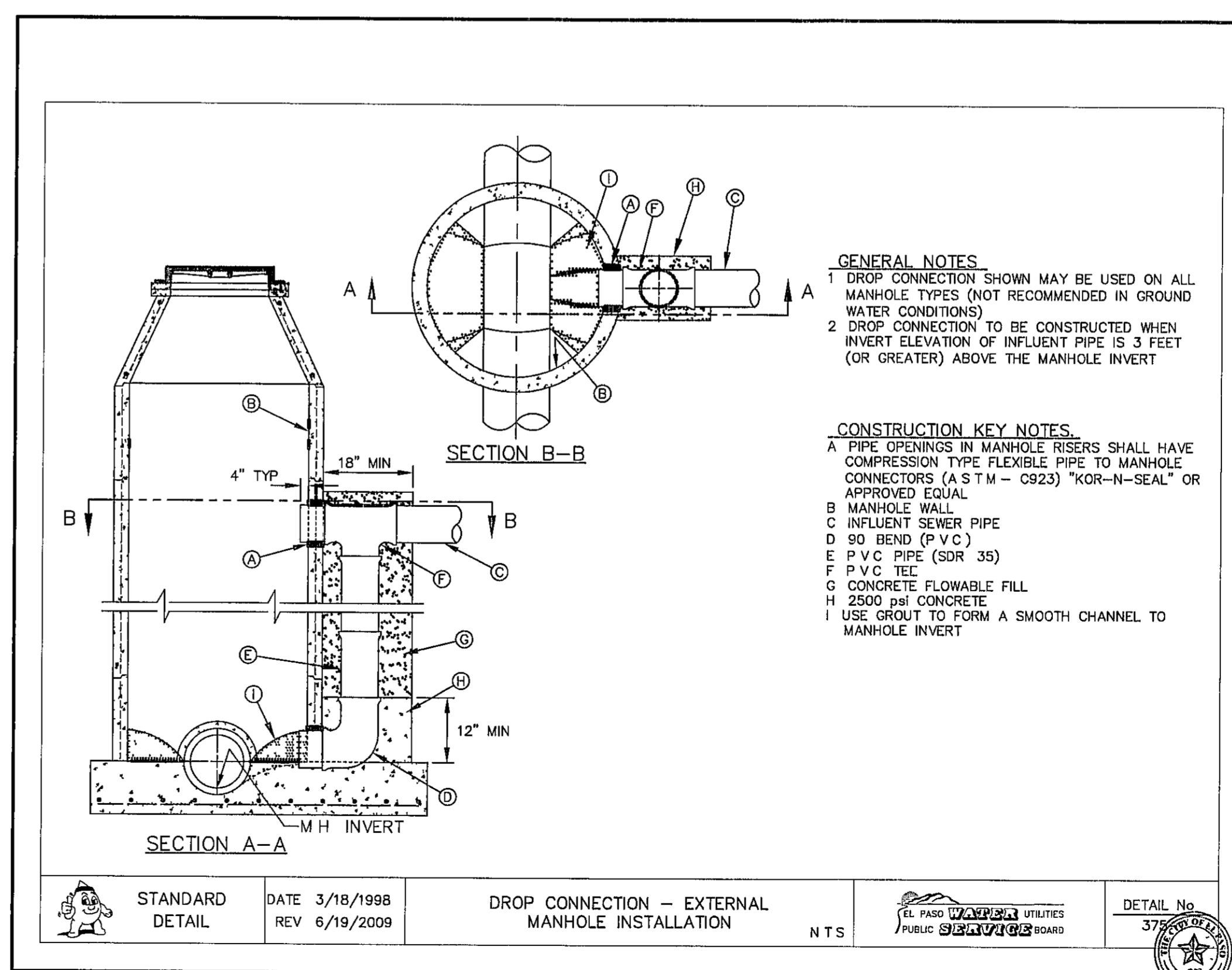
1 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS SCALE NTS



2 PAVEMENT REPAIR DETAIL SCALE NTS



3 TYPICAL MANHOLE INVERT PLANS SCALE NTS



4 DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION SCALE NTS

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH COUNTY, TEXAS  
 FROM THE SOUTHERLY RIGHT CORNER OF SECTION 34, T10N, R10E, S10E  
 AVENUE CITY DATUM ELEVATION 4005.40

ENGINEERS SEAL  
 TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS  
 ENGINEERS • ARCHITECTS • PLANNERS  
 TEXAS REGISTERED ENGINEERING FIRM F-4684  
 4770 Nicholson Blvd., Ste. F, El Paso, TX 79962  
 OFFICE: 915.541.5222 FAX: 915.541.5225 www.tresuenos.com

PROJECT TITLE  
 TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

SHEET TITLE  
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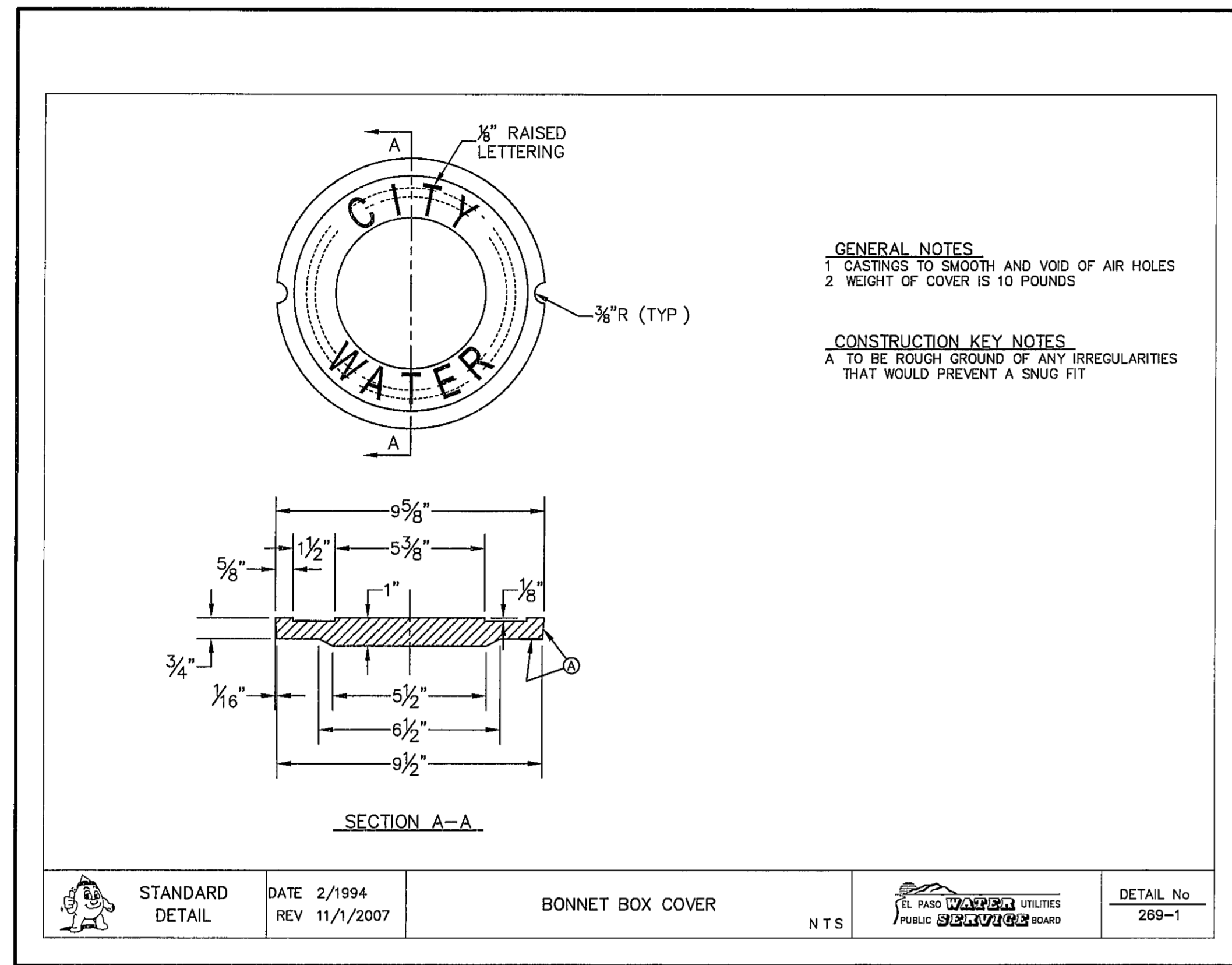
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REVISIONS  
 DATE BY

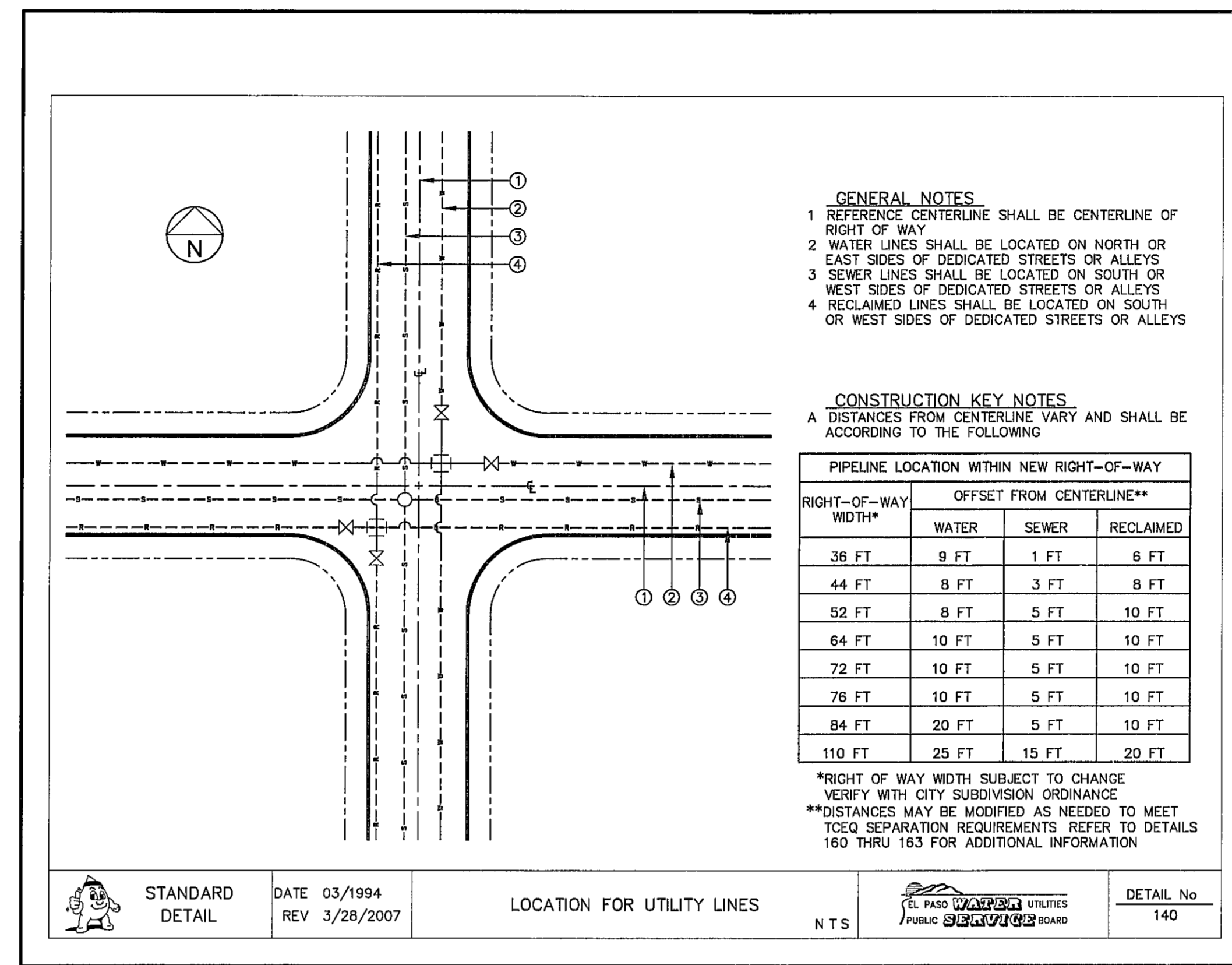
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 DATE MAY 2012  
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 DRAWN BY J.H.  
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 APP'D BY J.L.A.  
 JOB No. 2000-134-LD

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

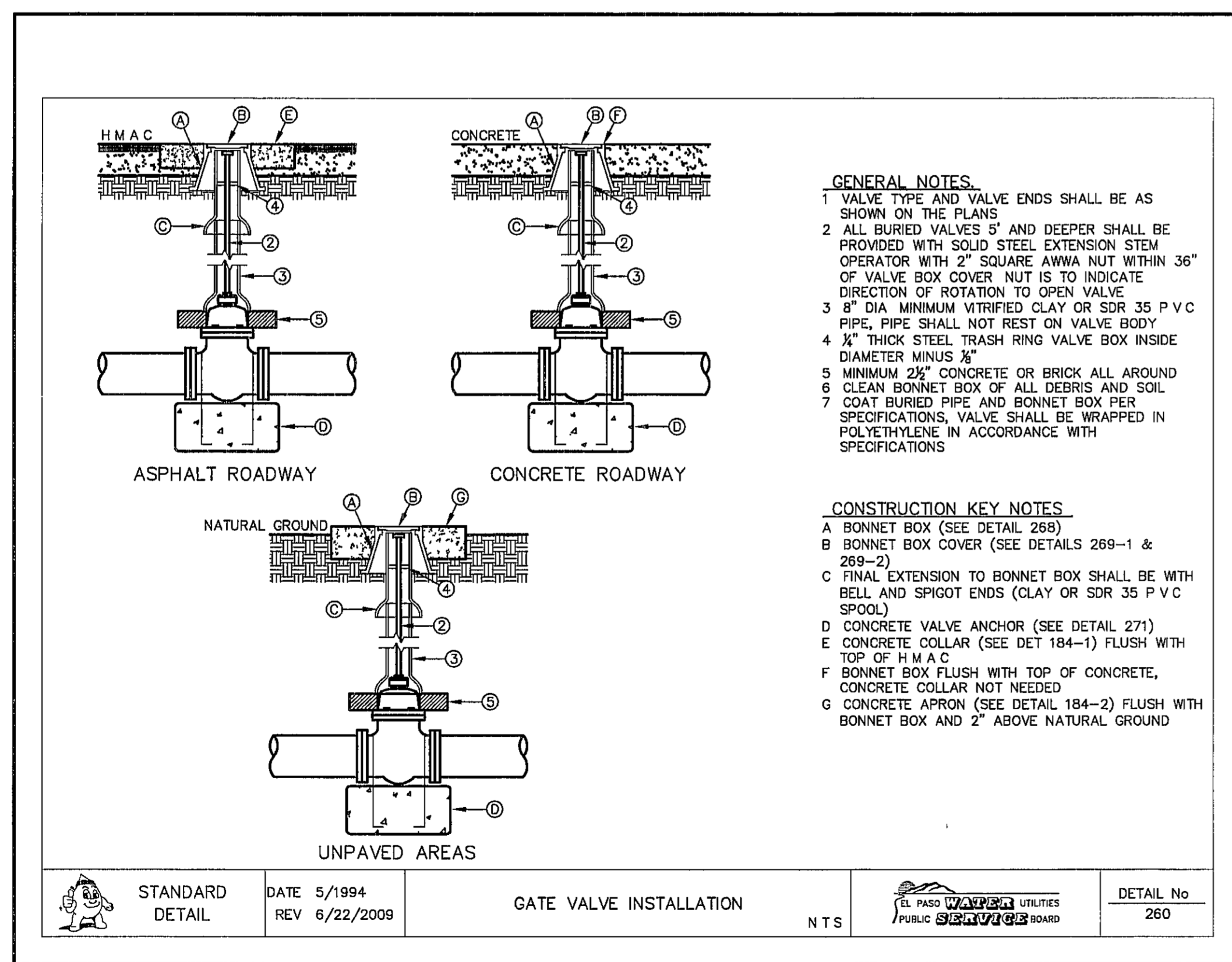
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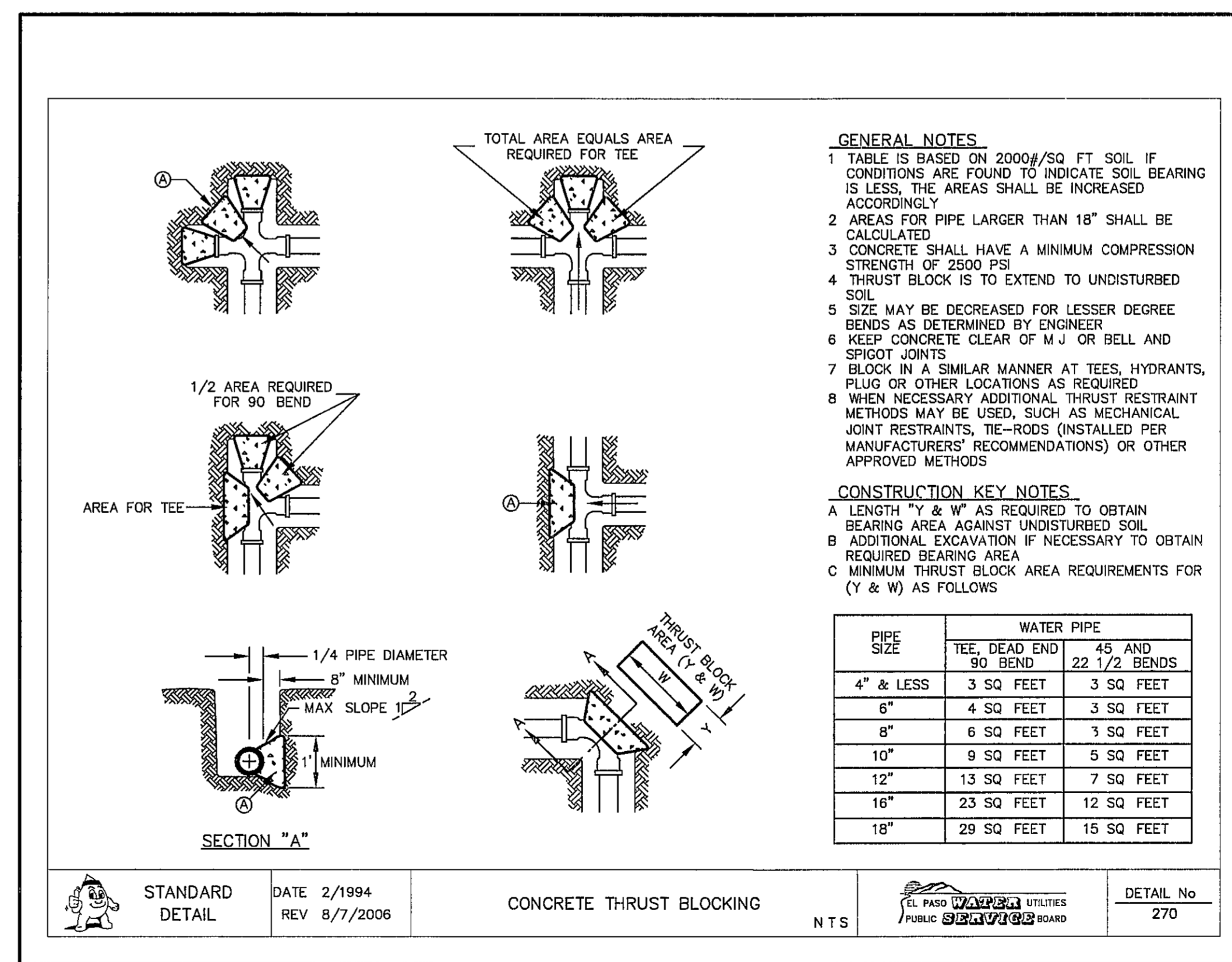
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2 LOCATION FOR UTILITY LINES  
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3 GATE VALVE INSTALLATION  
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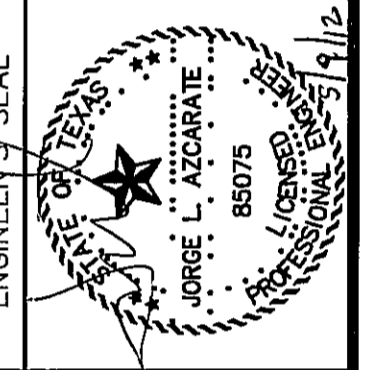


4 CONCRETE THRUST BLOCKING  
 SCALE N T S

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD. SUBSTATION 1, DISTANCE 100.00 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE \_\_\_\_\_ REVISIONS \_\_\_\_\_ BY \_\_\_\_\_

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 4712 Woodrow Bess, Ste. F, El Paso, TX 79904  
 Office: 915.544.8228 Fax: 915.544.8223 www.osaengr.com



SCALE  
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 Vertical: N/A  
 Contour Interval: N/A  
 DATE: MAY 2012  
 DESIGN BY: J.H.  
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 CHKD BY: J.L.A.  
 APPROV BY: J.L.A.  
 JOB No. 2000-134-LD

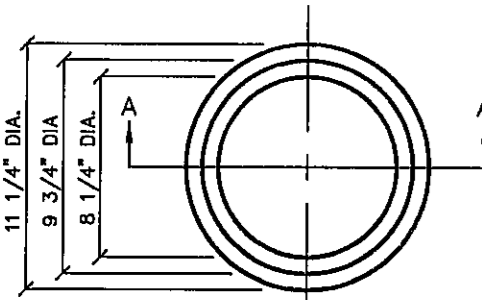
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**TRES SUEÑOS  
 UNIT EIGHT  
 SUBDIVISION IMPROVEMENTS**

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

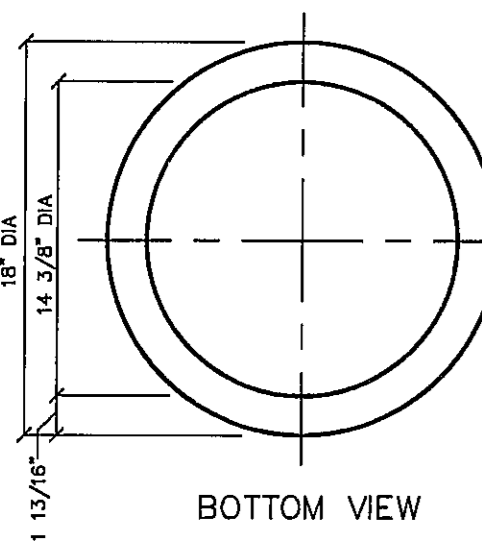
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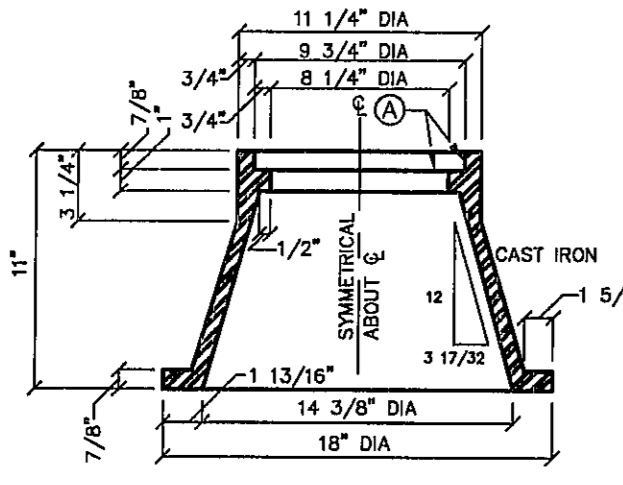
REVIEWED



TOP VIEW



BOTTOM VIEW



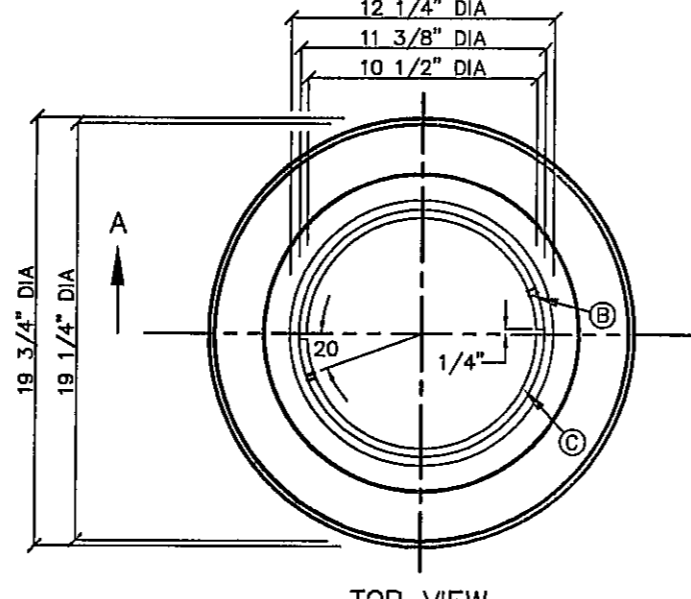
SECTION A-A

**GENERAL NOTES**  
 1 CASTING TO BE SMOOTH AND VOID OF AIR HOLES  
 2 WEIGHT OF BONNET BOX IS 95 POUNDS

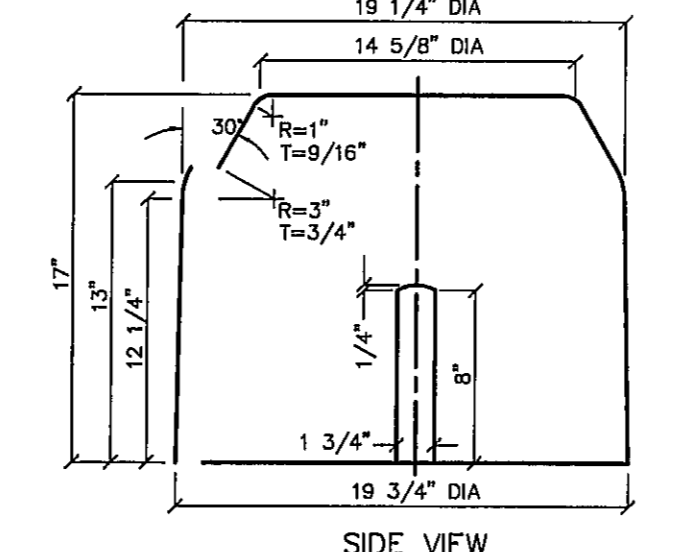
**CONSTRUCTION KEY NOTES**  
 A TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT

STANDARD DETAIL	DATE 2/1994 REV	BONNET BOX	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 268
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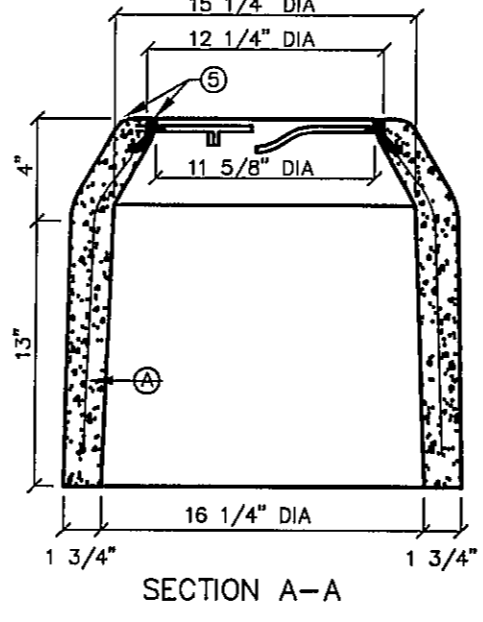
1 BONNET BOX  
NTS



TOP VIEW



SIDE VIEW



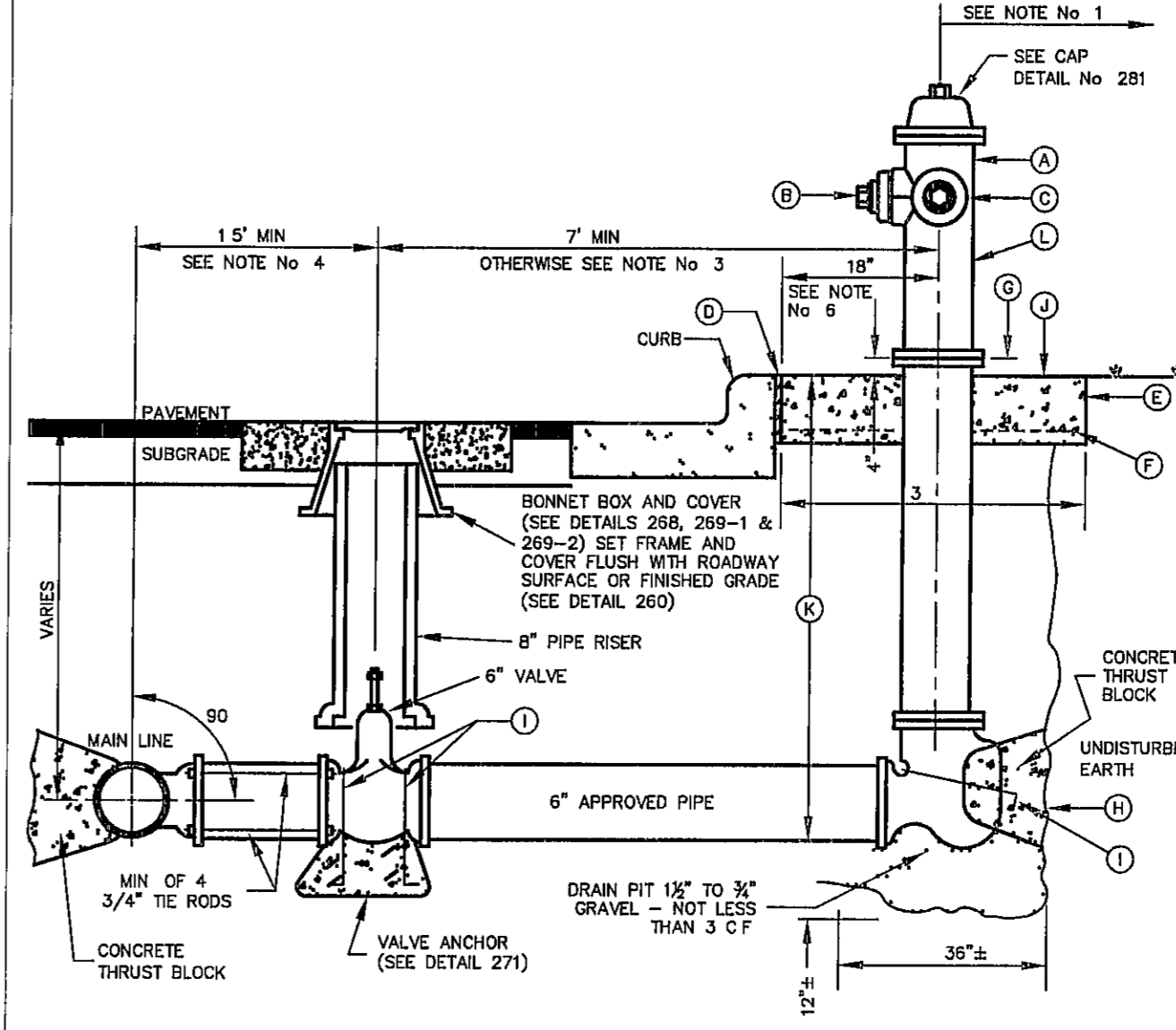
SECTION A-A

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

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

STANDARD DETAIL	DATE 4/1994 REV 8/24/2006	METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 291
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2 METER BOX TYPE "A"  
NTS



STANDARD DETAIL	DATE 2/1993 REV 12/1/2011	FIRE HYDRANT INSTALLATION	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 280-1
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3 FIRE HYDRANT INSTALLATION  
NTS

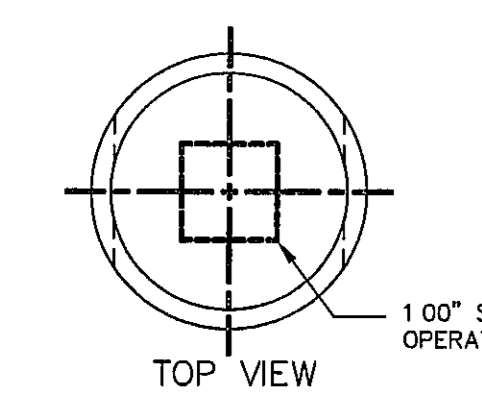
**GENERAL NOTES**  
 1 NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12) FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY  
 2 FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS REFER TO DETAIL No 282 FOR SPECIAL CASES  
 3 WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No 282  
 4 VALVE MAY BE CONNECTED TO TEE AT MAIN LINE USE FLANGED MECHANICAL JOINT ENDS WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH 3/4" DIAMETER TIE RODS  
 5 COMPLY WITH REQUIREMENTS OF AWMA C-502, DRY BARREL FIRE HYDRANTS AND AWMA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS  
 6 WHEN INSTALLATION IS WITHIN 1x0DOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB

**CONSTRUCTION KEY NOTES**  
 A FIRE HYDRANT PER SPEC'S  
 B PUMPER NOZZLE 4 1/2" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS  
 C HOSE NOZZLE 2 1/2"  
 D 2" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER  
 E 3"x3"x6" CONC SQ PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC AREA  
 F #10, 6/8 WWF  
 G CONTROLLED ELEVATION LINE LEVEL IN ALL DIRECTIONS CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION  
 H CONC THRUST BLOCK, APPROX 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F H WEEP HOLE MUST BE UNOBSTRUCTED  
 I 2"x1/4" STEEL ANCHOR PINS  
 J TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION  
 K MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB ADDITIONAL ADJUSTMENT MUST BE MADE WITH OFFSETS & FITTINGS AS NEEDED  
 L REQUIRED - DAVISON ANTI TERRORISM CORROSION RESISTANT VALVE KIT (DATV)

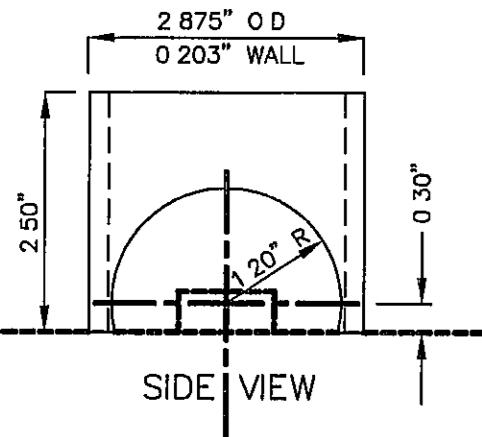
REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005 40

DATE  
REVISIONS  
BY

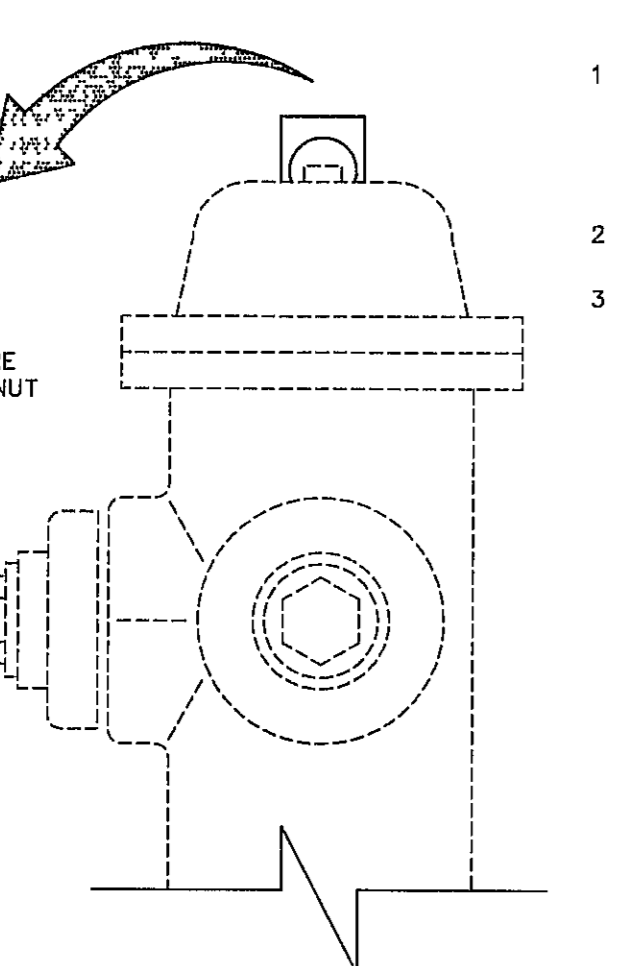
ENGINEER'S SEAL  
 TRES SUEÑOS ARCHITECTS & PLANNERS  
 TEXAS REGISTERED ENGINEER FRRM-F-4994  
 4712 Woodloch Plaza, Ste. F, El Paso, TX 79964  
 (915) 835-5422 FAX (915) 541-5233 www.tresuenos.com



TOP VIEW



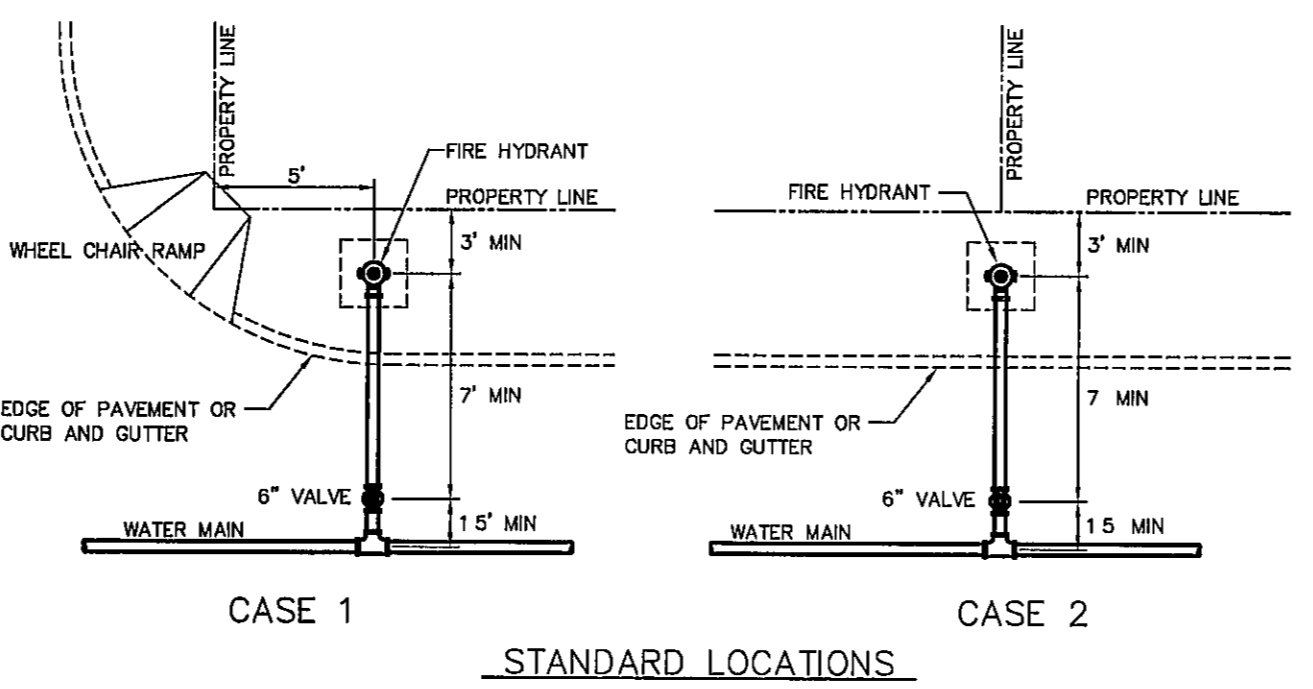
SIDE VIEW



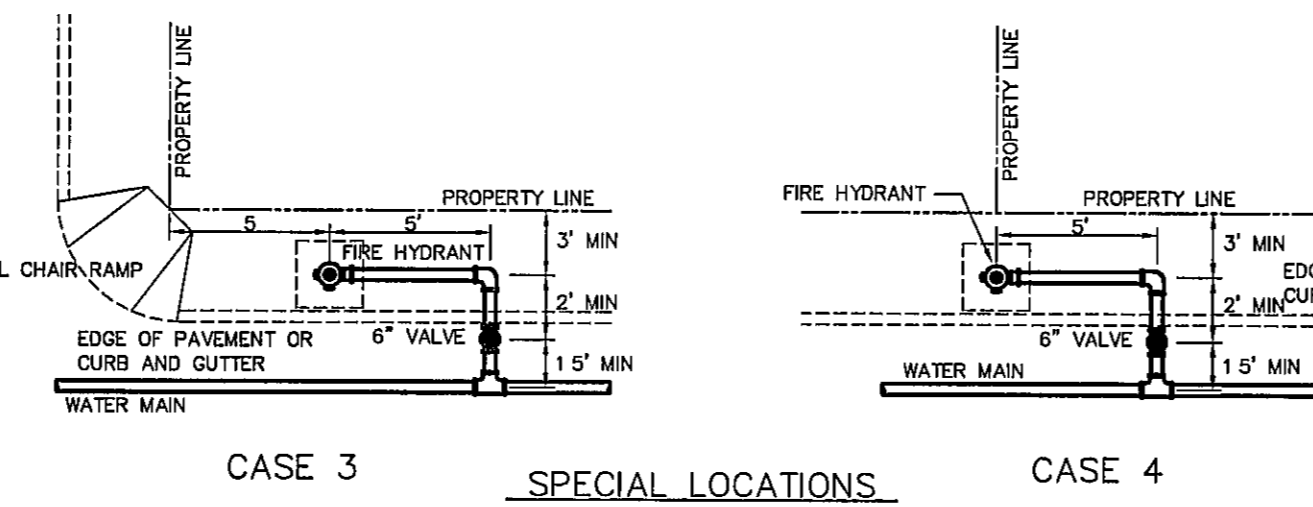
**GENERAL NOTES**  
 1 STEEL CAPS TO BE MACHINED FROM STEEL PIPE NOMINAL SIZE = 2 1/2" DIA OUTSIDE DIA = 2 875" WALL THICKNESS = 0 203 LBS/FT = 5 79  
 2 CAPS ARE TO BE TACK WELDED OR BRAZED ON FIRE HYDRANT BONNET OR WEATHER CAP  
 3 THE CAPS OVER THE OPERATING NUT WILL PREVENT ACCESS TO THE UNAUTHORIZED USE OF HYDRANT WATER

STANDARD DETAIL	FEB 1993 REV FEB 1994	FIRE HYDRANT CAP	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 281
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4 FIRE HYDRANT CAP  
SCALE NTS



STANDARD LOCATIONS

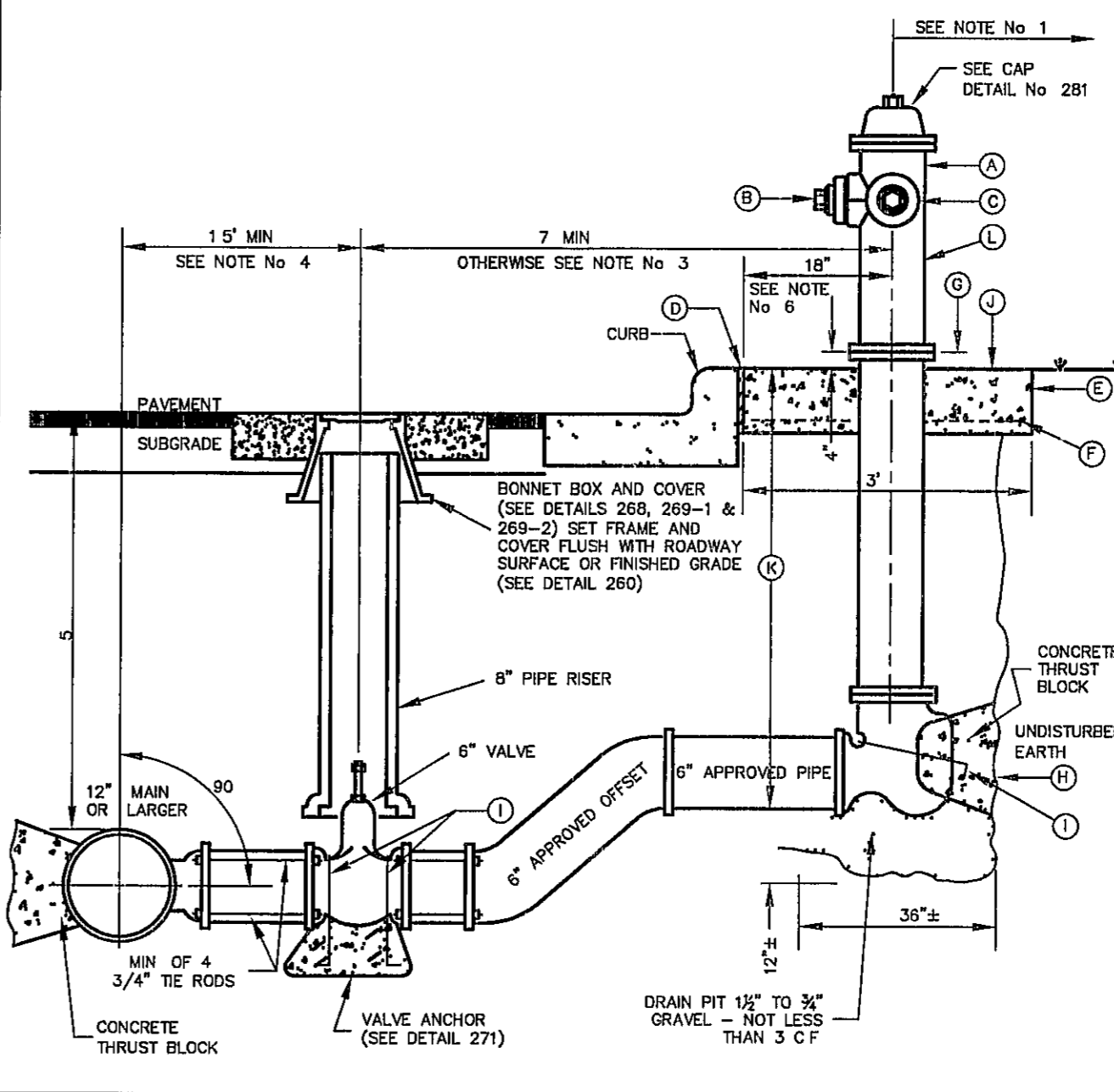


SPECIAL LOCATIONS

**GENERAL NOTES**  
 1 FOR CASE 1 FIRE HYDRANT SHALL BE LOCATED AT A DISTANCE OF 5 FT MINIMUM FROM THE PROPERTY LINE OR AT THE BEGINNING OF CURB RETURN  
 2 FOR CASE 2 FIRE HYDRANT SHALL BE LOCATED AT THE PROPERTY LINE COMMON TO ADJOINING LOTS  
 3 FOR CASE 3 AND IV WHERE THE DISTANCE BETWEEN THE VALVE AND THE HYDRANT IS LESS THAN 7 FT PLACE HYDRANT AS SHOWN  
 4 FOR INSTALLATION OF FIRE HYDRANT SEE DETAIL 280-1 OR 280-2  
 5 A MINIMUM CLEARANCE OF 3 FT WILL BE PROVIDED BETWEEN A FIRE HYDRANT AND A PERMANENT OBSTRUCTION (UTILITY POLE, LIGHT STANDARD, TRAFFIC SIGNAL, WHEEL CHAIR RAMP, FENCE PROTECTIVE POSTS, ETC.)  
 6 WHEN INSTALLATION IS WITHIN 1x0DOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB

STANDARD DETAIL	DATE 5/1994 REV 6/25/2007	FIRE HYDRANT LOCATIONS	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 282
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5 FIRE HYDRANT LOCATIONS  
SCALE NTS



STANDARD DETAIL	DATE 12/1995 REV 12/1/2011	FIRE HYDRANT INSTALLATION (12" MAIN OR LARGER)	NTS	EL PASO UTILITIES PUBLIC SERVICE BOARD	DETAIL No 280-2
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6 FIRE HYDRANT INSTALLATION (12" MAIN OR LARGER)  
NTS

**GENERAL NOTES**  
 1 NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12) FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY  
 2 FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS REFER TO DETAIL No 282 FOR SPECIAL CASES  
 3 WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No 282  
 4 VALVE MAY BE CONNECTED TO TEE AT MAIN LINE USE FLANGED MECHANICAL JOINT ENDS WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH 3/4" DIAMETER TIE RODS  
 5 COMPLY WITH REQUIREMENTS OF AWMA C-502, DRY BARREL FIRE HYDRANTS AND AWMA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS  
 6 WHEN INSTALLATION IS WITHIN 1x0DOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB

**CONSTRUCTION KEY NOTES**  
 A FIRE HYDRANT PER SPEC'S  
 B PUMPER NOZZLE 4 1/2" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS  
 C HOSE NOZZLE 2 1/2"  
 D 2" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER  
 E 3"x3"x6" CONC SQ PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC AREA  
 F #10, 6/8 WWF  
 G CONTROLLED ELEVATION LINE LEVEL IN ALL DIRECTIONS CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION  
 H CONC THRUST BLOCK, APPROX 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F H WEEP HOLE MUST BE UNOBSTRUCTED  
 I 2"x1/4" STEEL ANCHOR PINS  
 J TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION  
 K MAXIMUM OF ONE (1) SPOOL EXTENSION ALLOWED TO MAINTAIN THE CONTROLLED ELEVATION LINE TO TOP OF SLAB ADDITIONAL ADJUSTMENT MUST BE MADE WITH OFFSETS & FITTINGS AS NEEDED  
 L REQUIRED - DAVISON ANTI TERRORISM CORROSION RESISTANT VALVE KIT (DATV)

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

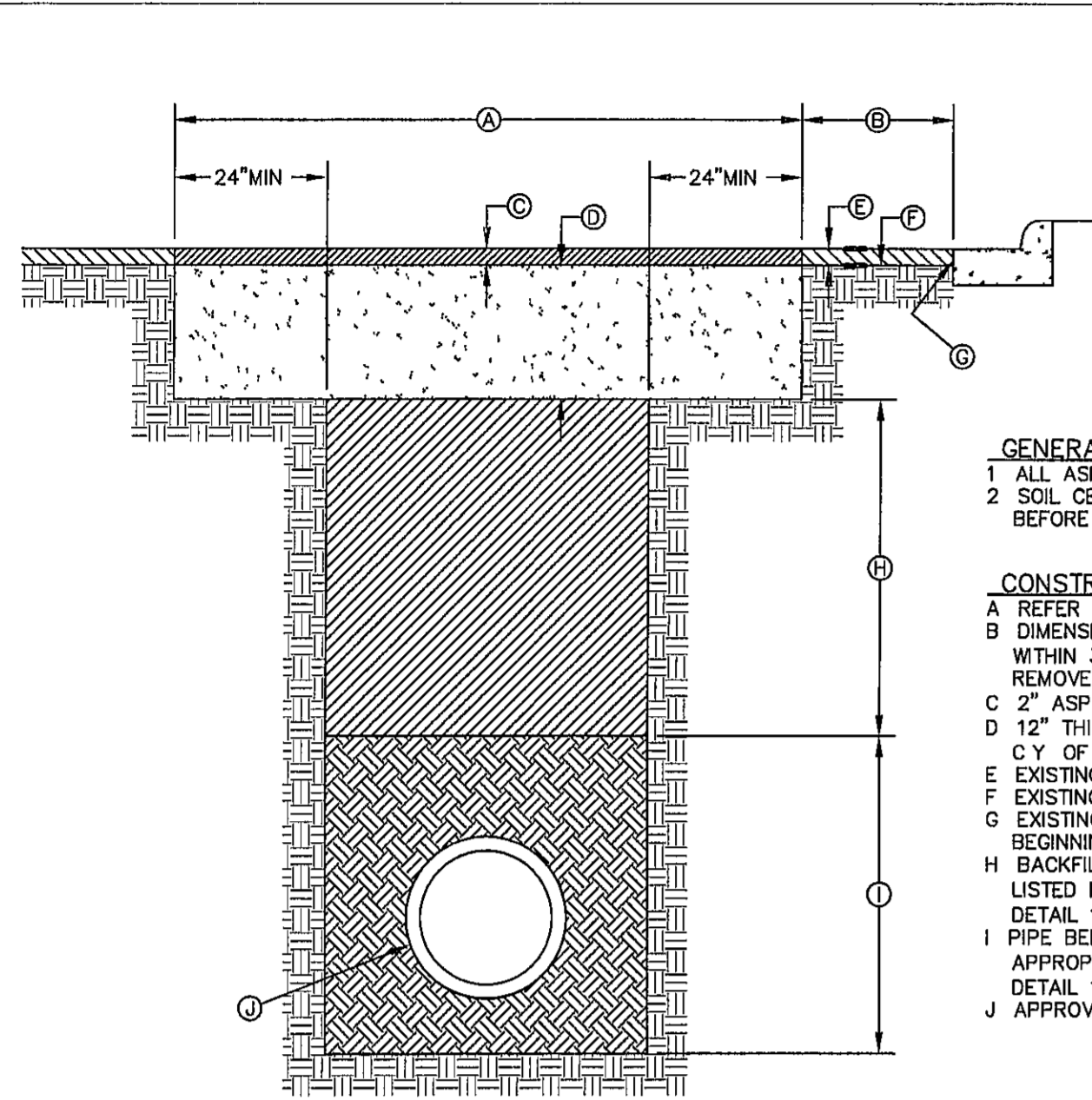
SHEET TITLE  
**WATER DETAILS**

(SHEET 2 OF 4)  
 SHEET NO  
**C12.2**

6 FIRE HYDRANT INSTALLATION (12" MAIN OR LARGER)  
NTS

REVIEWED

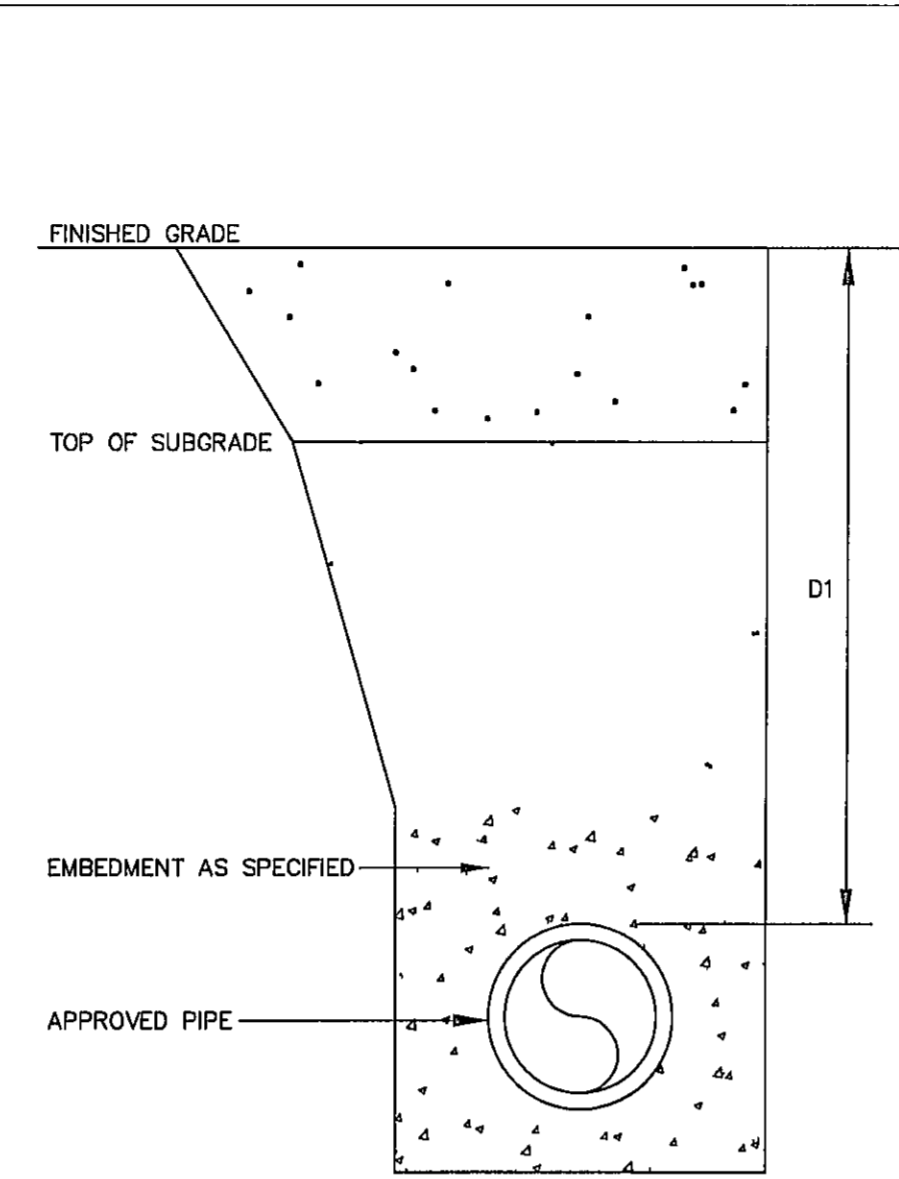
C12.2



- 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 NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 179

1 PAVEMENT REPLACEMENT DETAIL SCALE NTS

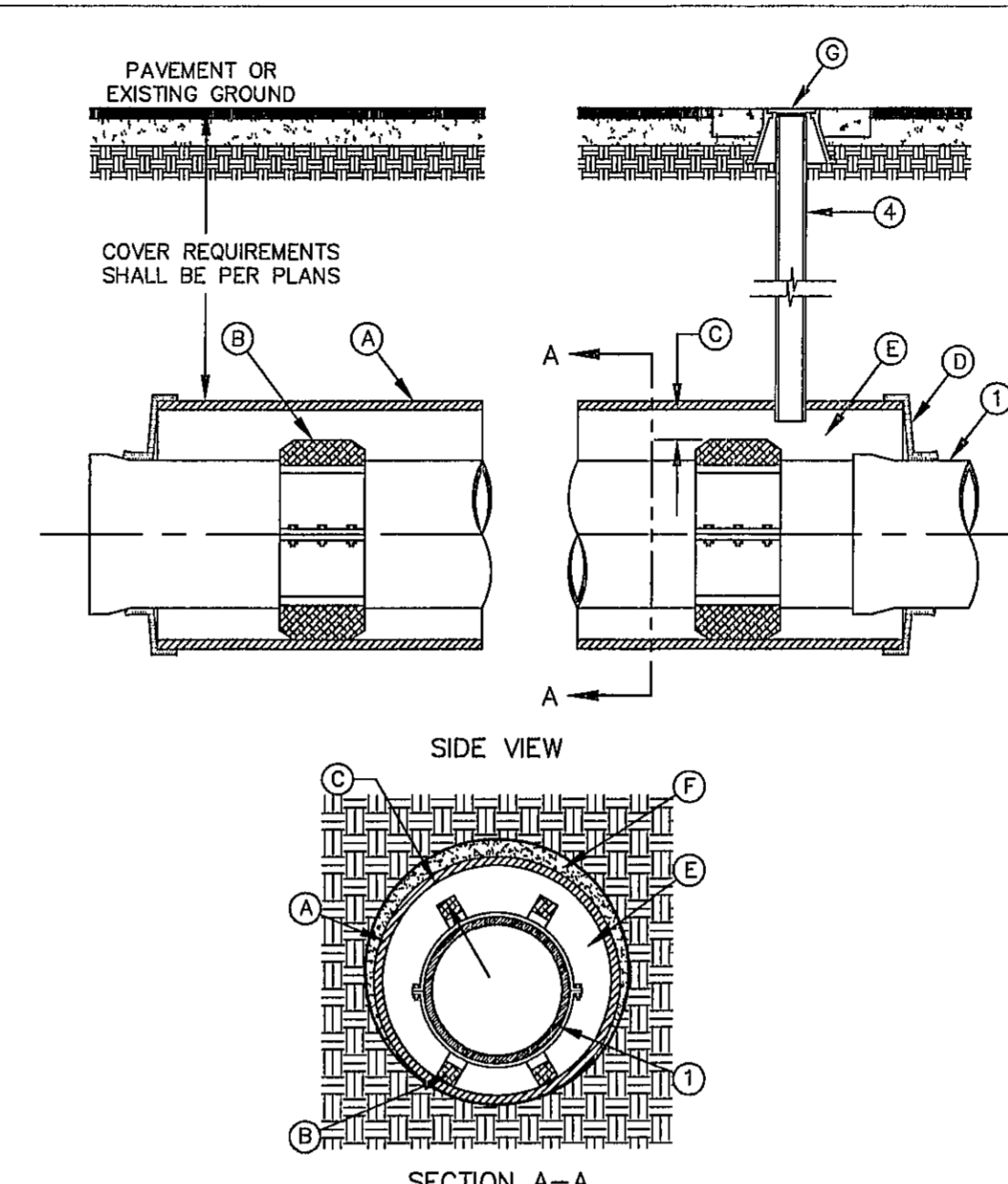


- GENERAL NOTES**
- 1 REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS
  - 2 TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET
- CONSTRUCTION KEY NOTES**
- A COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS.
- CONDITION 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 NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 250

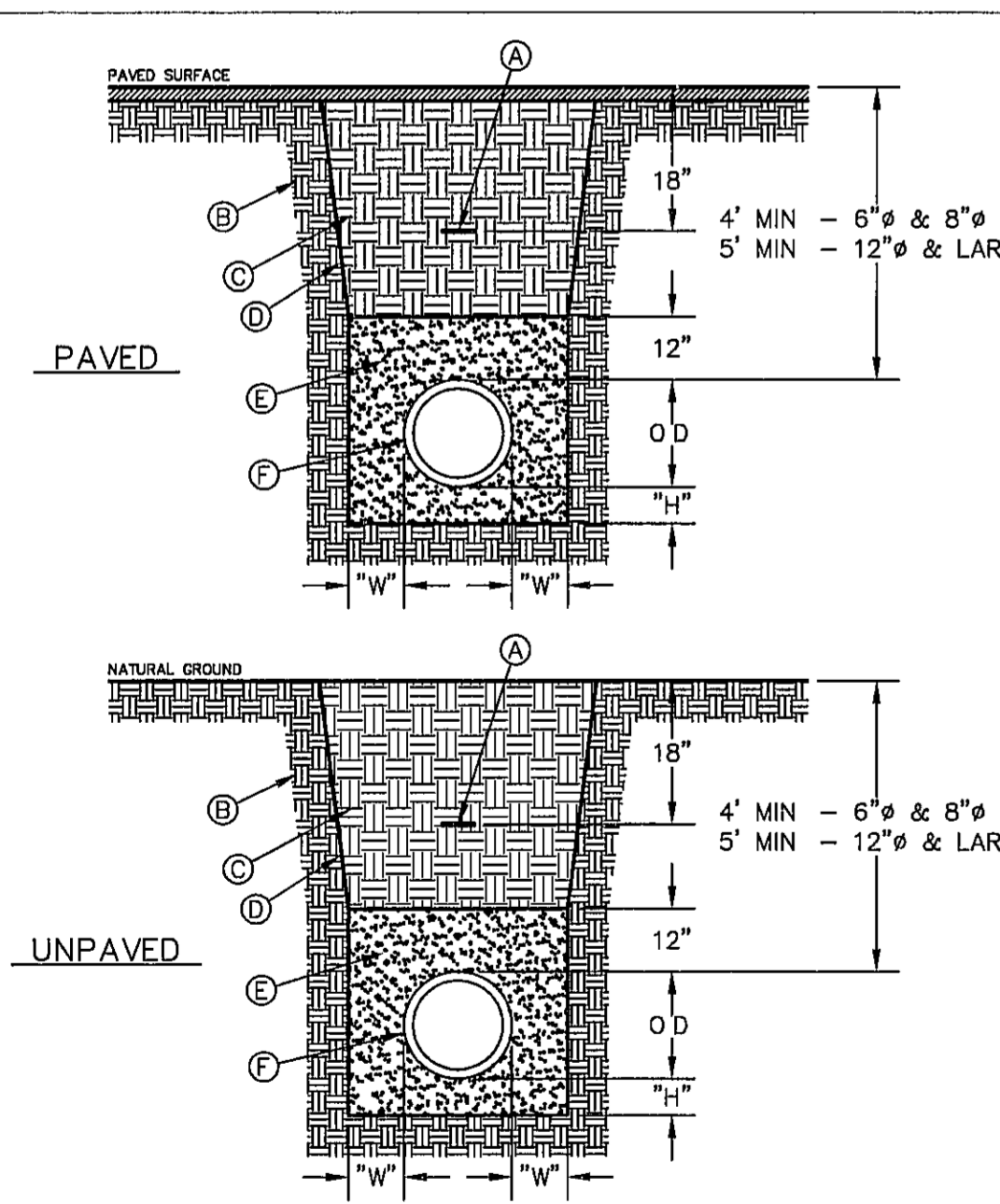
2 COVER FOR WATER MAINS SCALE NTS



- GENERAL NOTES**
- 1 INSTALLATION FOR APPROVED CARRIER PIPE
  - 2 CASING SHALL BE INSTALLED USING EITHER JACKING, BORING OR TUNNELING METHODS FROM THE END WHICH CREATES A MINIMUM OF ACCESS AND RELOCATION PROBLEMS
  - 3 INSULATED SPACERS SHALL BE USED WHEN SPECIFIED, TO PROVIDE CORROSION PROTECTION
  - 4 PRECAUTIONARY OUTLET (6") WITH BONNET BOX AND COVER SHALL BE USED WHEN REQUIRED BY OTHER GOVERNING AGENCIES
- CONSTRUCTION KEY NOTES**
- A STEEL CASING MINIMUM YIELD 35000 PSI, SIZE AND LENGTH AS SPECIFIED
  - B CASING INSULATORS, SPACING AND LOCATION PER MANUFACTURERS RECOMMENDATIONS INSULATORS SHALL FIT SNUG OVER THE CARRIER PIPE
  - C POSITION CARRIER PIPE APPROXIMATELY IN CENTER OF CASING MINIMUM SPACING BETWEEN INSULATOR AND CARRIER PIPE SHALL BE 1", MAXIMUM SPACING SHALL BE 2"
  - D END SHALL BE SEALED WITH BRICK AND MORTAR, BULKHEAD AND GROUT, OR WITH SYNTHETIC RUBBER SEAL, AS SPECIFIED
  - E ANNUAL SPACE SHALL BE LEFT OPEN FOR CATHODICALLY PROTECTED SYSTEM WHERE BOTH CASING AND CARRIER PIPE ARE METALLIC MATERIAL, OR AS OTHERWISE SPECIFIED
  - F PRESSURE GROUT ANNUAL SPACE OUTSIDE CASING AFTER CASING IS INSTALLED
  - G BONNET BOX AND COVER (SEE DETAILS 268, 269-1 & 269-2) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 260)

STANDARD DETAIL DATE 3/1994 REV 6/24/2010 CARRIER PIPE INSTALLATION WITH CASING INSULATORS NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 180

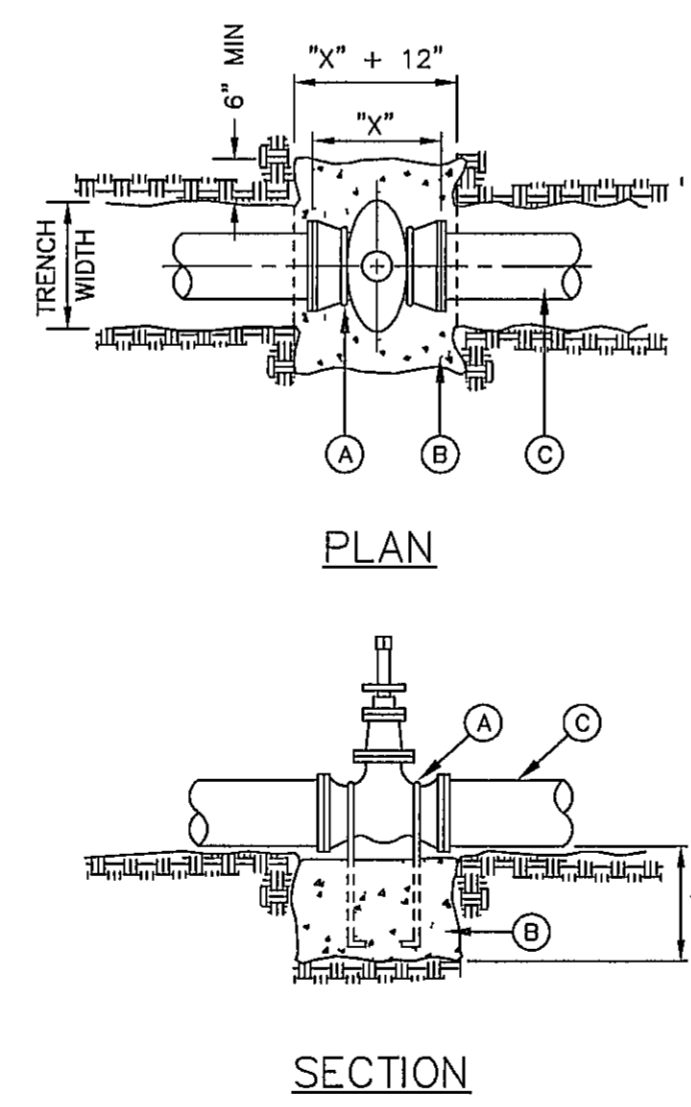
3 CARRIER PIPE INSTALLATION W/ CASING INSULATORS SCALE NTS



- 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
  - D PAVED CONDITION, COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR
  - E UNPAVED CONDITION, COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (\*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET)
  - F SLOPE TRENCH IN SANDY SOIL CONDITIONS
  - G USE CLASS II OR CLASS III SAND PER ASTM D-2487 NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-598 STANDARD PROCTOR)
  - H APPROVED PIPE
  - I TRENCH DIMENSIONS AS FOLLOWS
- PIPE DIAMETER  $\frac{1}{2}$ " - 4" 4"
- GREATER THAN 30" 6"
- PIPE DIAMETER  $\frac{1}{2}$ " - 8" 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 NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 171

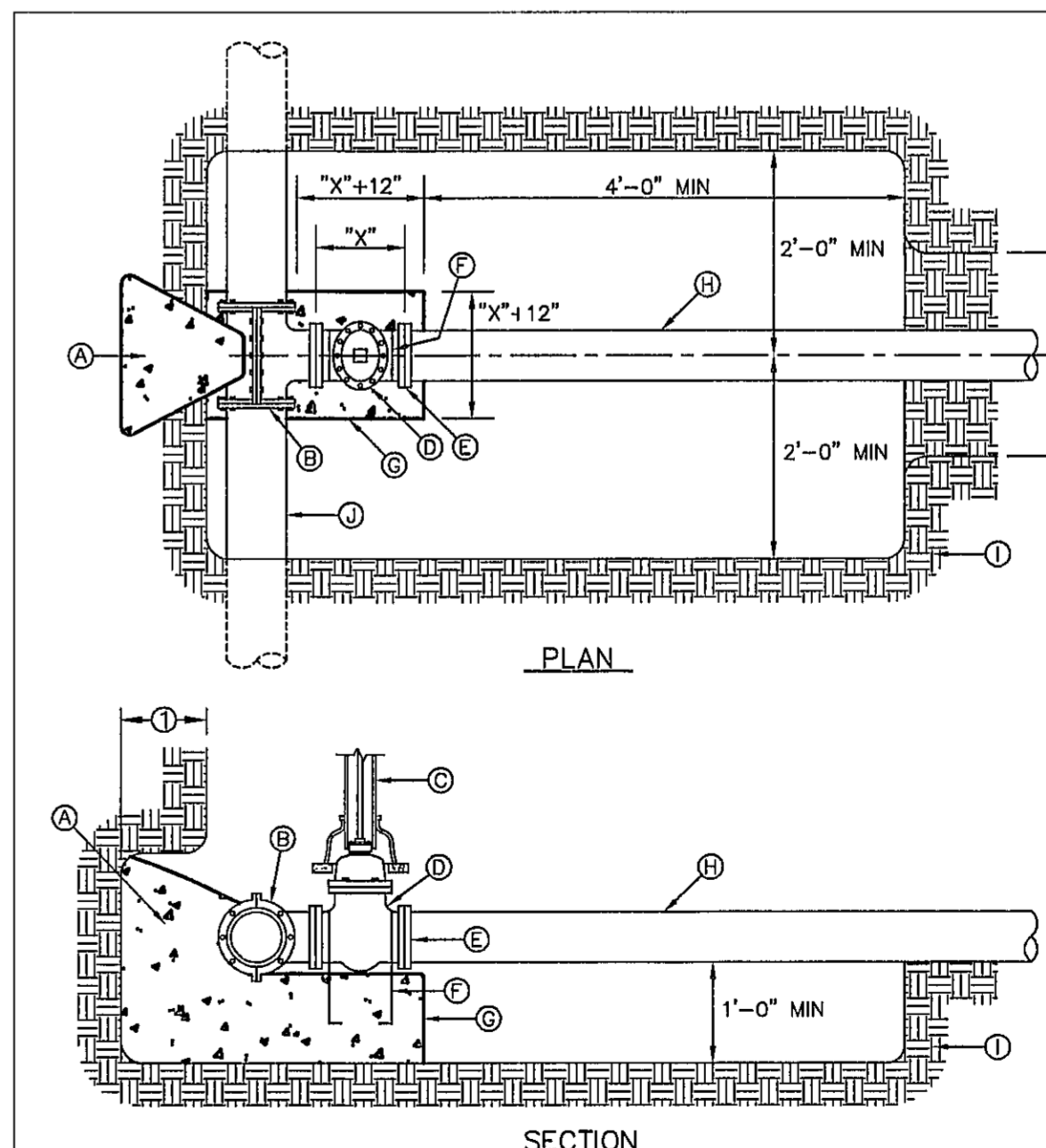
4 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS SCALE NTS



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

STANDARD DETAIL DATE 2/1994 REV 12/12/2011 VALVE ANCHOR NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 271

5 VALVE ANCHOR SCALE NTS



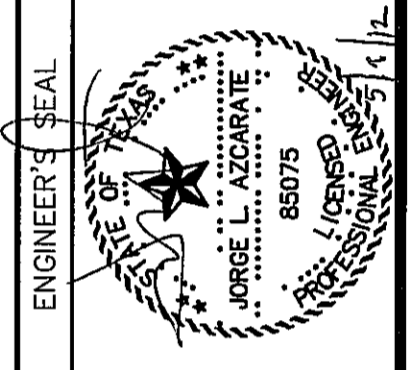
- GENERAL NOTES**
- 1 THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH
  - 2 TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED
  - 3 REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING
  - 4 JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE
  - 5 INSTALL PERMANENT THRUST BLOCKING UNDER VALVE BEFORE TAP IS MADE JOINTS AND BOLTS TO BE CLEAR OF CONCRETE
- CONSTRUCTION KEY NOTES**
- A CONCRETE THRUST BLOCKING, PER DETAIL 270
  - B TAPPING SLEEVE
  - C RISER INSTALLATION, PER DETAIL 260
  - D TAPPING VALVE
  - E VALVE ENDS FOR TYPE OF PIPE INSTALLED
  - F 2-#5 REBAR HAIRPINS, PAINT UNEMBEDDED PORTION OF BARS WITH 2-COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR
  - G CONCRETE VALVE SUPPORT, PER DETAIL 271
  - H NEW WATER LINE TO BE INSTALLED
  - I UNDISTURBED EARTH
  - J EXISTING WATER MAIN TO BE TAPPED

STANDARD DETAIL DATE 9/1994 REV 8/9/2006 TAPPING SLEEVE AND VALVE INSTALLATION NTS EL PASO UTILITIES PUBLIC WORKS BOARD DETAIL No 266

6 TAPPING SLEEVE AND VALVE INSTALLATION SCALE NTS

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BROW BLVD. STATION 1+00.00 ELEVATION OF 407.48 FEET  
AVENUE CITY DATUM ELEVATION 4005.40

ENGINEERS & ARCHITECTS • PLANNERS  
TEXAS REGISTERED ENGINEERING FIRM F-4584  
4712 Woodrow Bugh, Ste. F El Paso, TX 79904  
One 915-544-5228 Fax 915-544-5233 www.cagm.com



SCALE: Horizontal N/A, Vertical N/A, Contour Interval N/A  
DATE: MAY 2012  
DESIGN BY: JH  
CHECKED BY: JLA  
APPROVED BY: JLA  
JOB No. 2000-134-1D

PROJECT TITLE  
TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS

SHEET TITLE

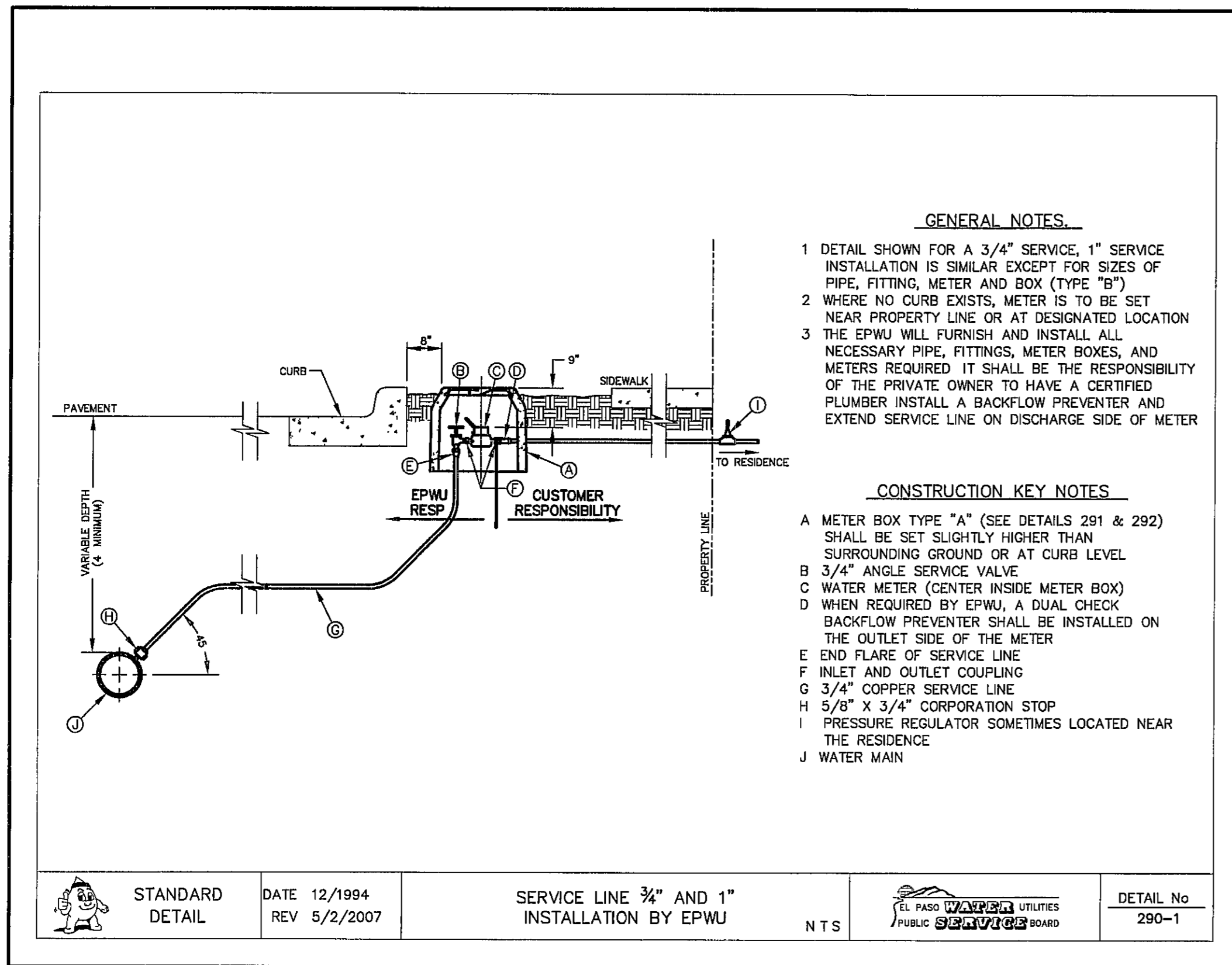
WATER DETAILS

(SHEET 3 OF 4)  
SHEET NO

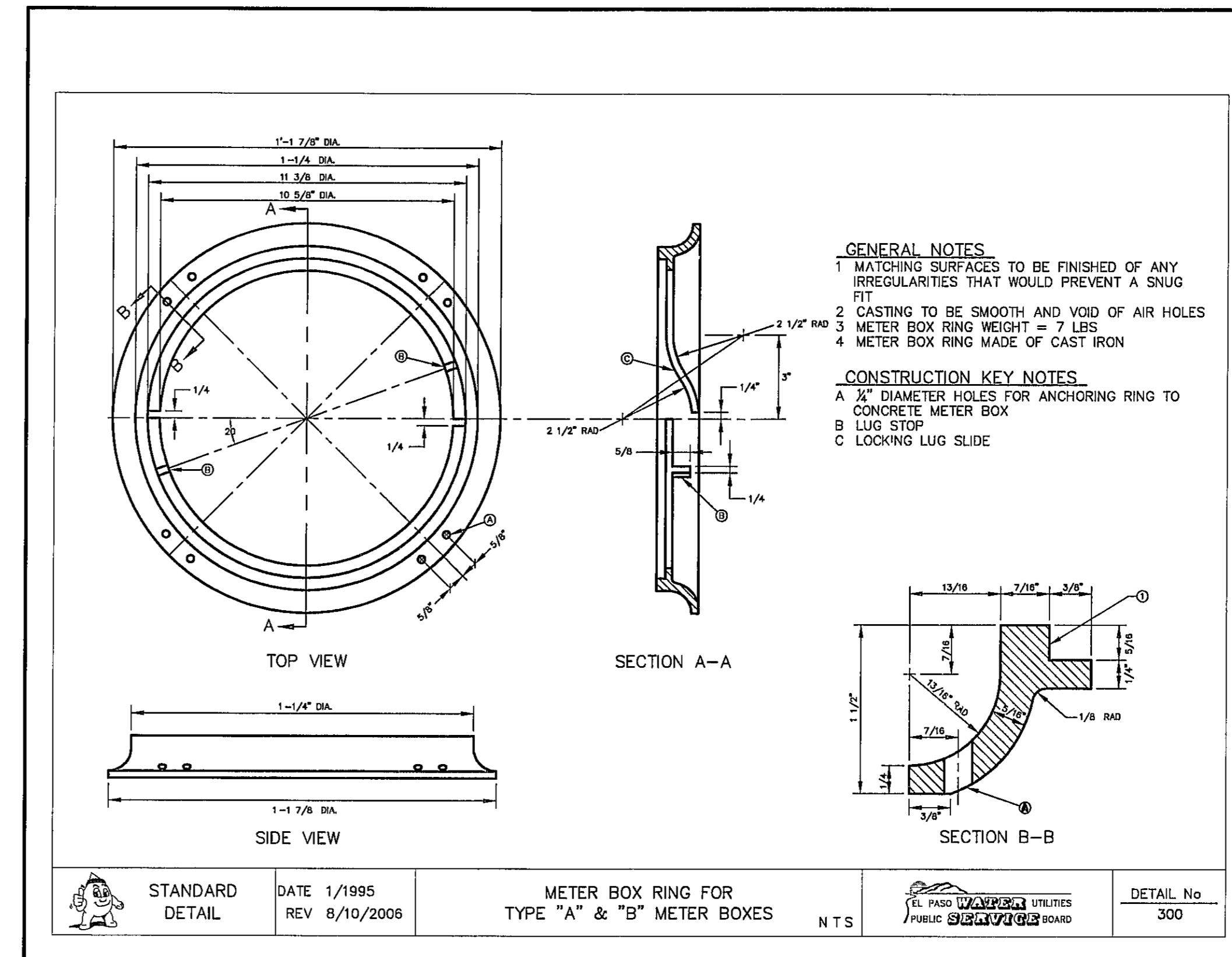
ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

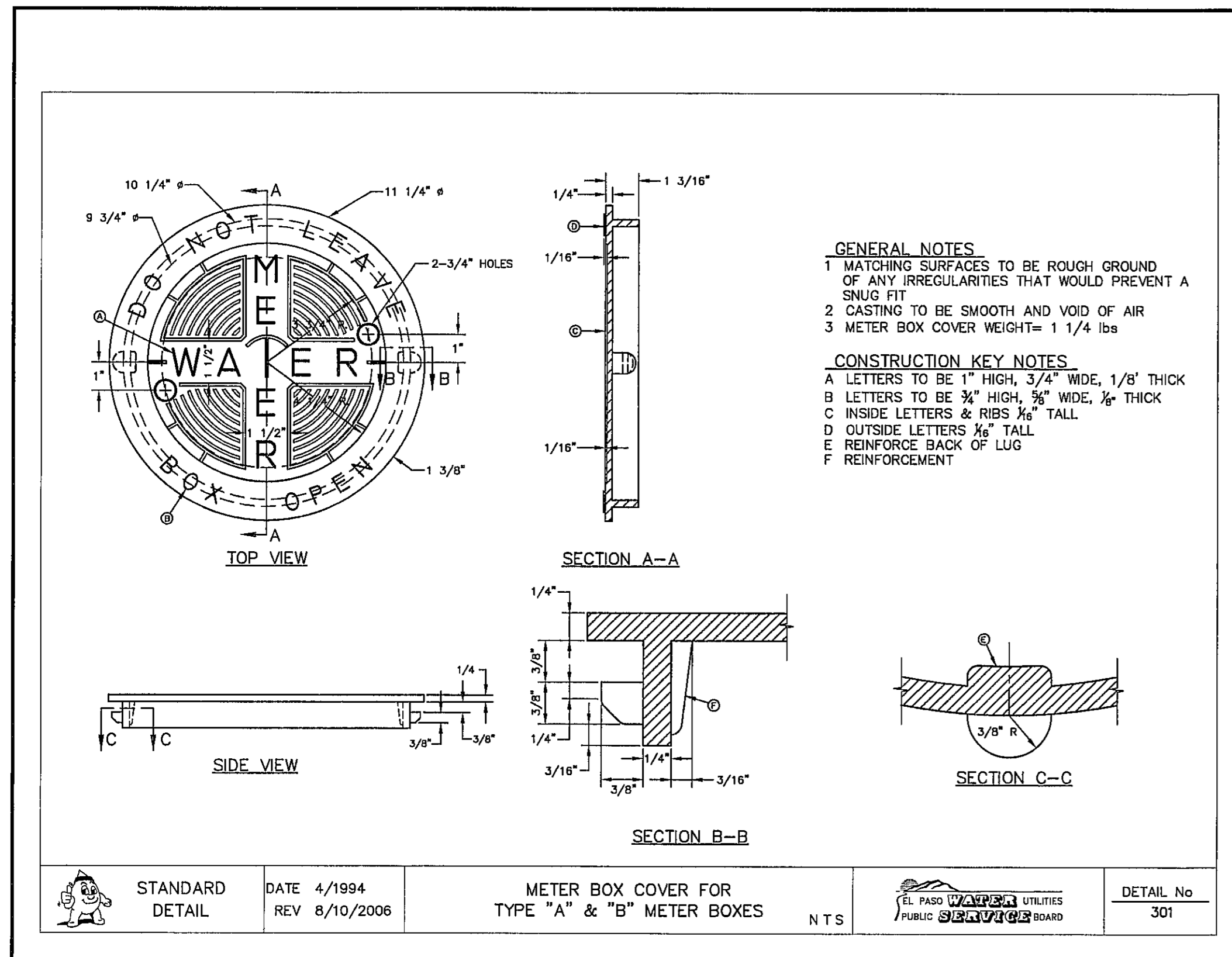
C12.3



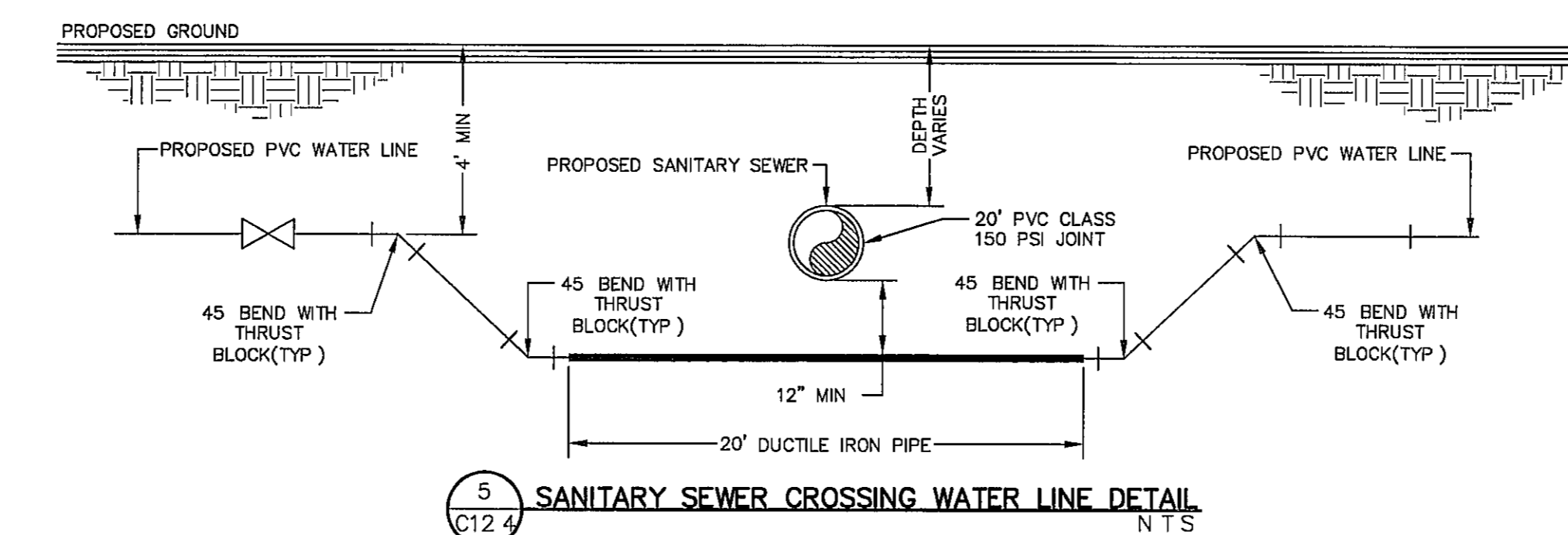
1 TYPICAL 3/4" SERVICE LINE INSTALLATION SCALE N T S



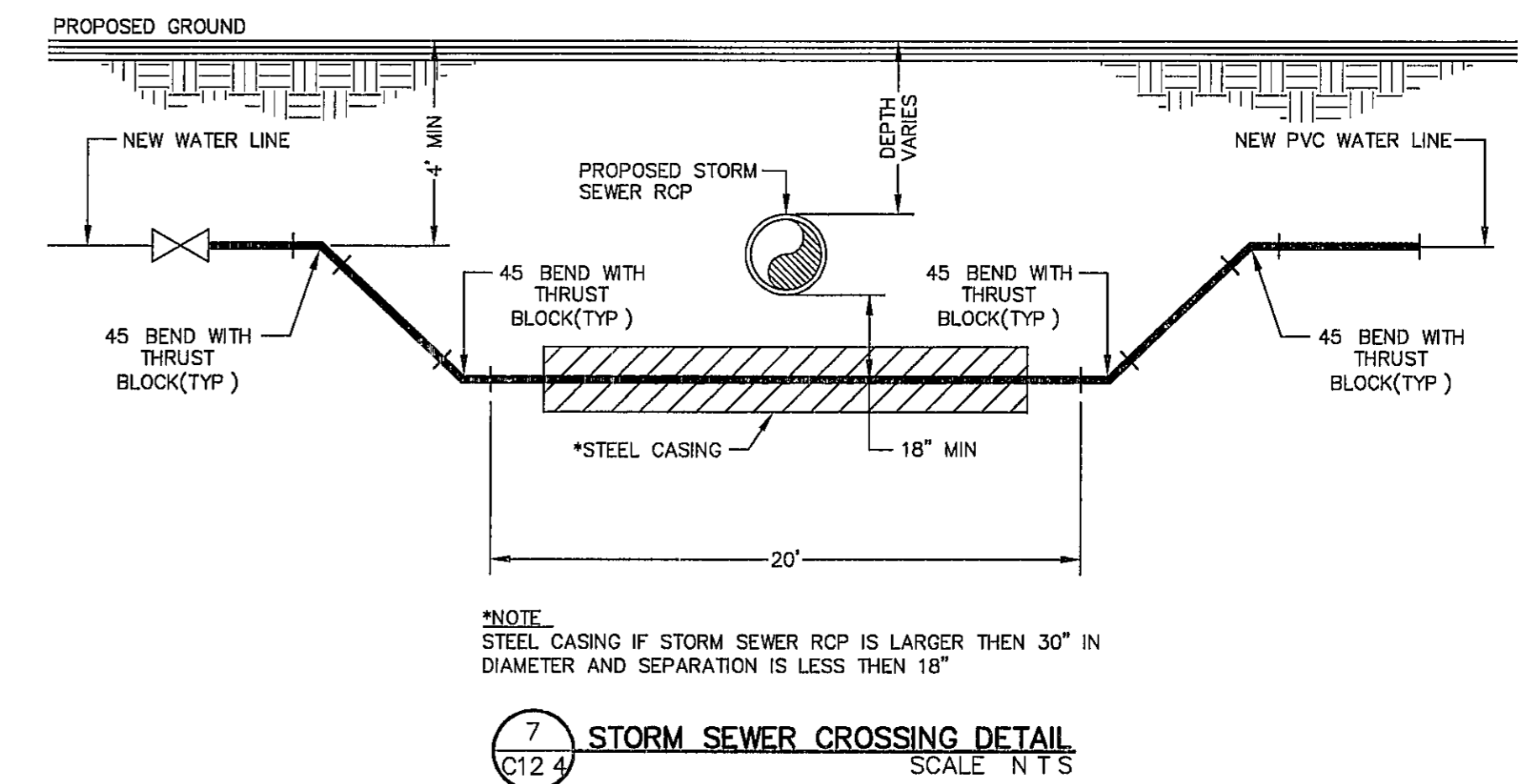
2 TYPE "A" & "B" METER BOX RING SCALE N T S



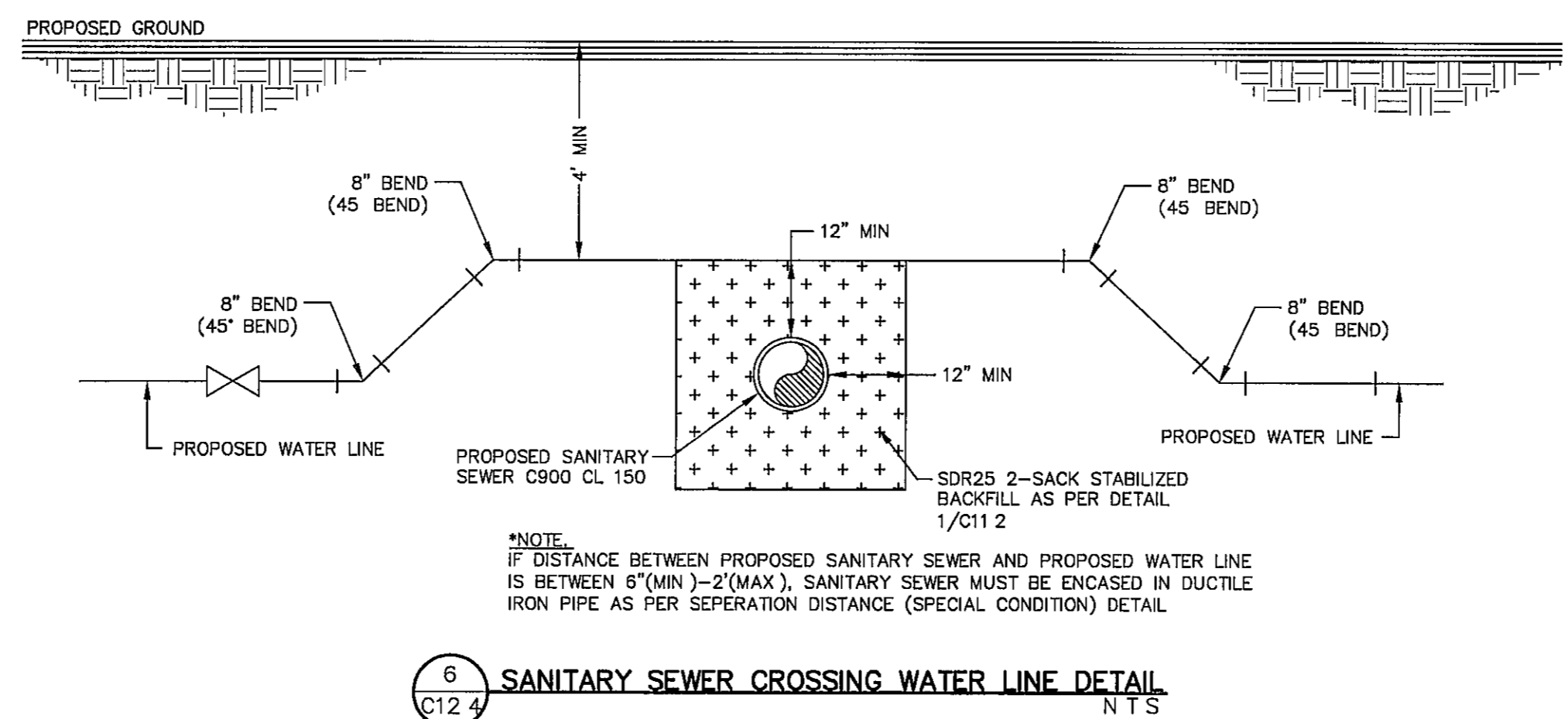
3 TYPE "A" & "B" METER BOX COVER SCALE N T S



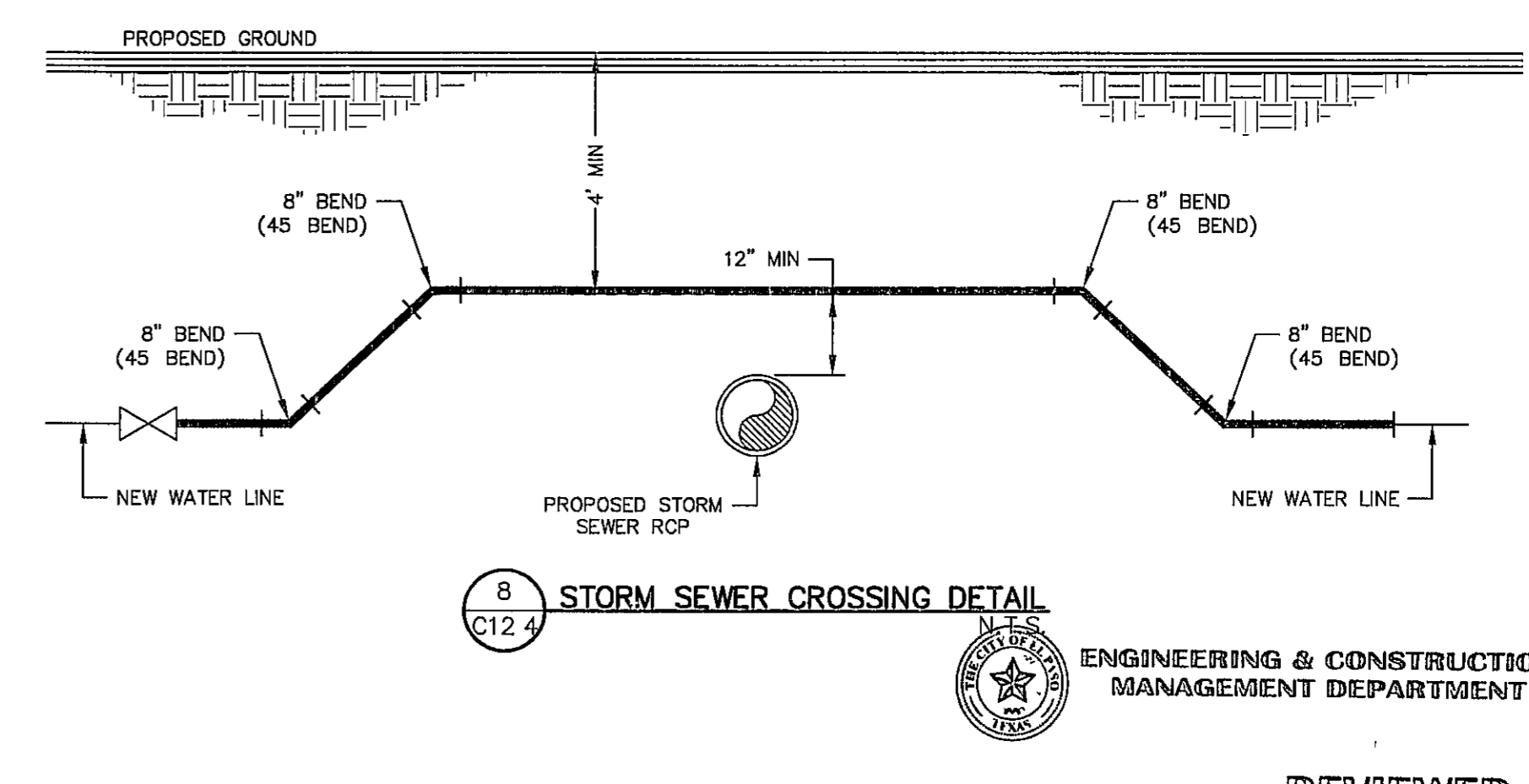
5 SANITARY SEWER CROSSING WATER LINE DETAIL N T S



7 STORM SEWER CROSSING DETAIL SCALE N T S



6 SANITARY SEWER CROSSING WATER LINE DETAIL N T S



8 STORM SEWER CROSSING DETAIL SCALE N T S

REFERENCES - BENCHMARKS

CITY MONUMENT AT FRONT OF CURVE CENTERLINE RICH BEEM BLVD. SUB STATION 1, DISTANCE 100.00 FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY

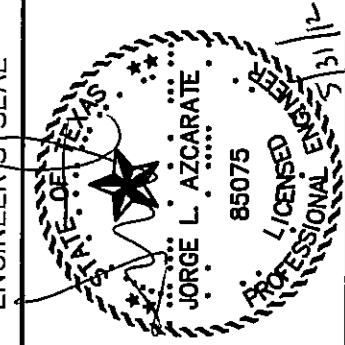
**osa**

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TEXAS REGISTERED ENGINEERING FIRM F-4884

4712 Woodchuck Bend, Ste. F, El Paso, TX 79904

Office 915.544.5232 Fax 915.544.5233 www.osainc.com



SCALE

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

DATE MAY 2012

DESIGN BY J.H.

DRAWN BY J.H.

CHKD BY J.L.A.

APPROV BY J.L.A.

JOB No. 2000-134-LD

PROJECT TITLE

TRES SUEÑOS

UNIT EIGHT

SUBDIVISION IMPROVEMENTS

SHEET TITLE

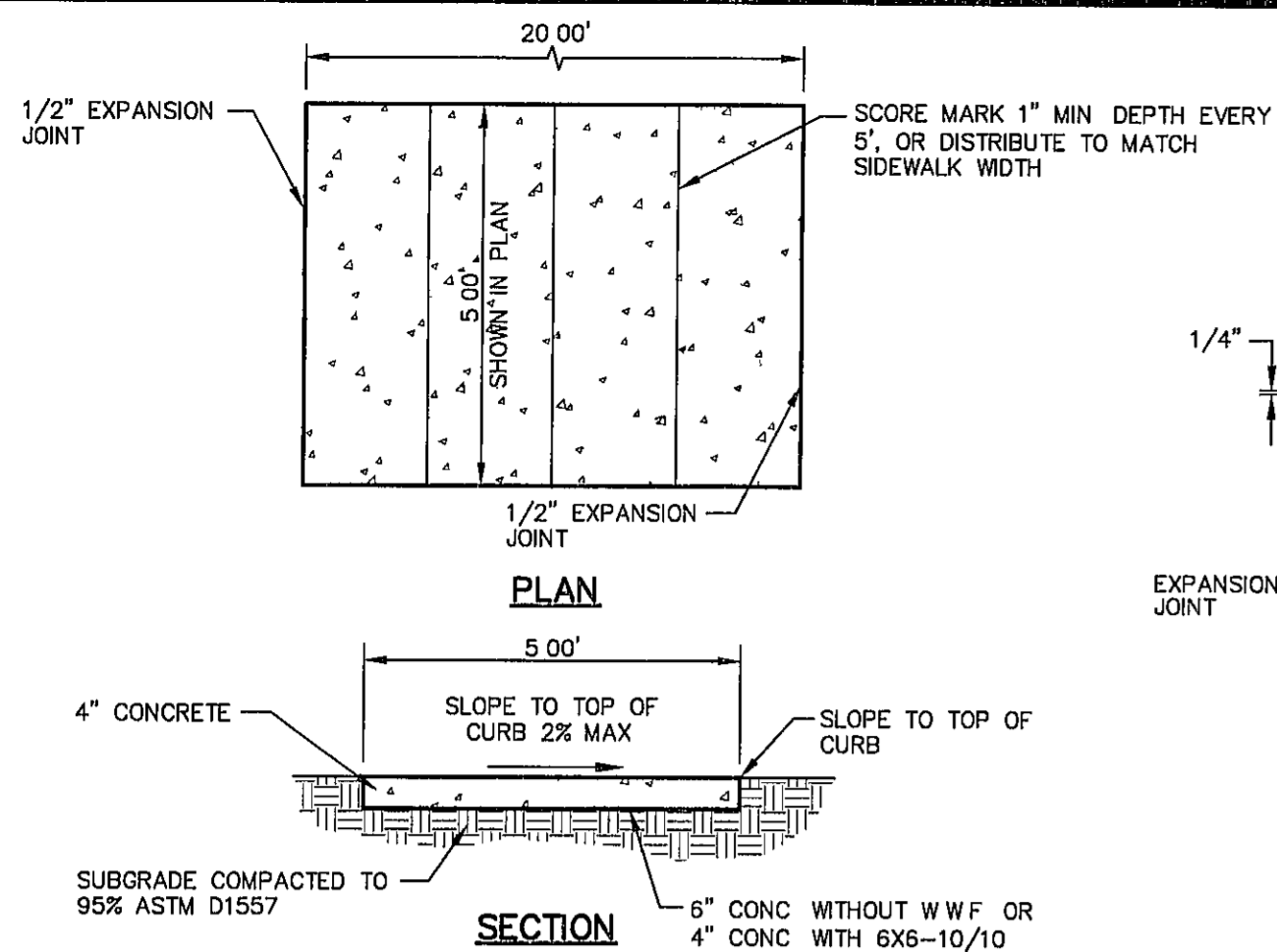
WATER DETAILS

(SHEET 4 OF 4)

SHEET NO

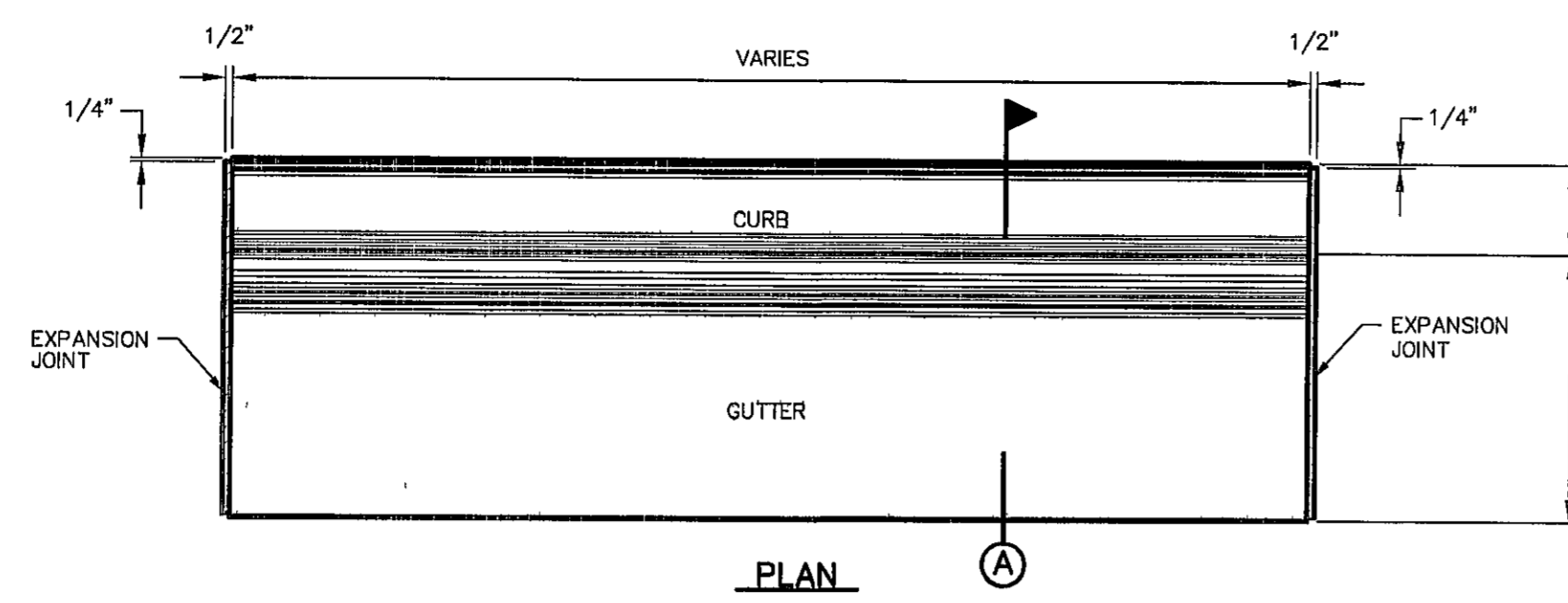
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C12.4



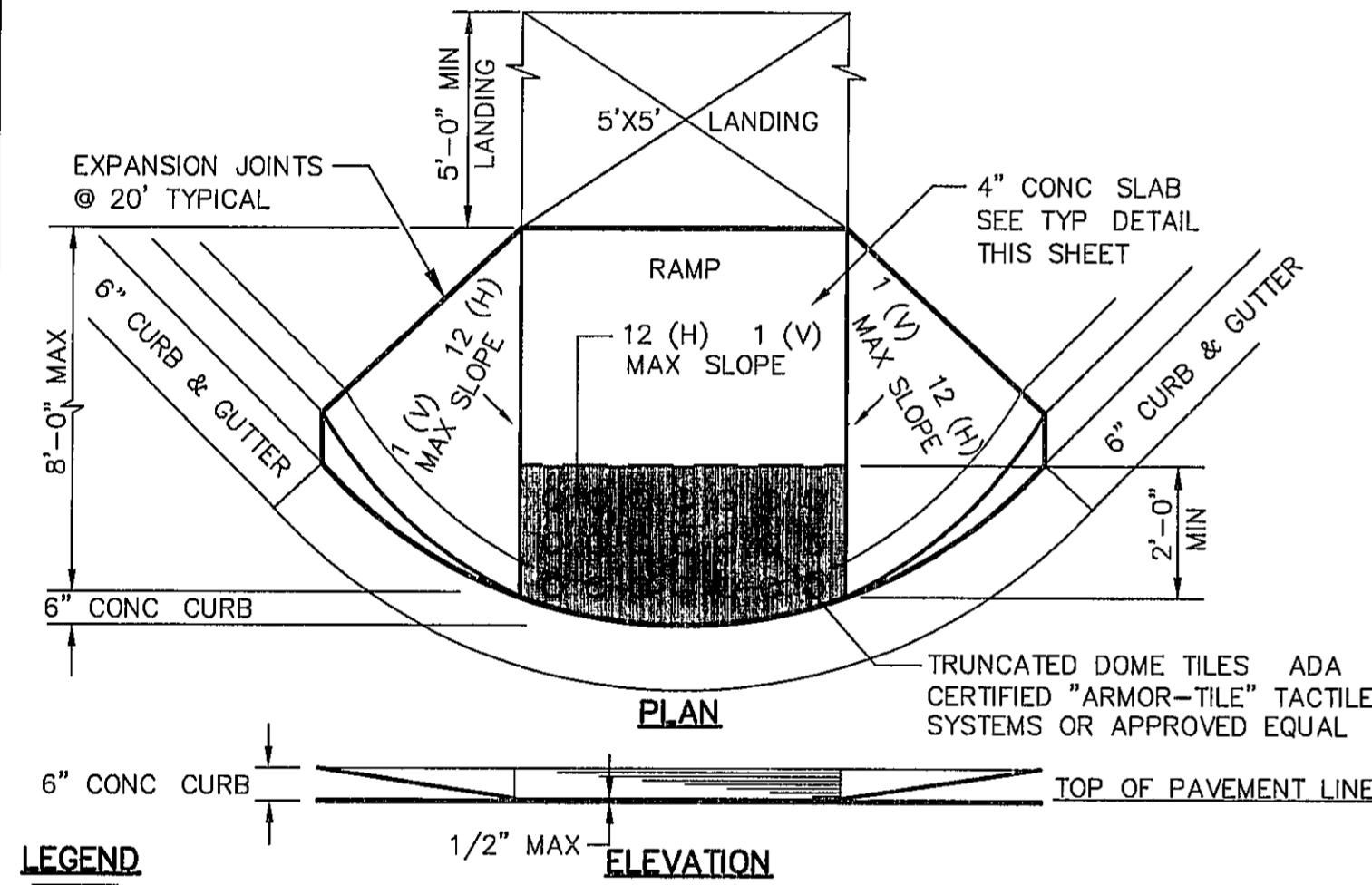
1 SECTION-SIDWALK/SLAB  
SCALE 1" = 2'-0"

- SIDWALK NOTES:**
1. CONCRETE SIDEWALK SHALL BE 3,000 P.S.I
  2. DUMMY JOINTS REQUIRED AT 5' O.C
  3. EXPANSION JOINTS SHALL BE AT 20' O.C MAXIMUM, USE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
  4. EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ADJUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS
  5. SUBGRADE TO BE COMPACTED TO 95% ASTM D1557



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

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



3 WHEELCHAIR RAMP STREET PLAN  
SCALE 1" = 30'

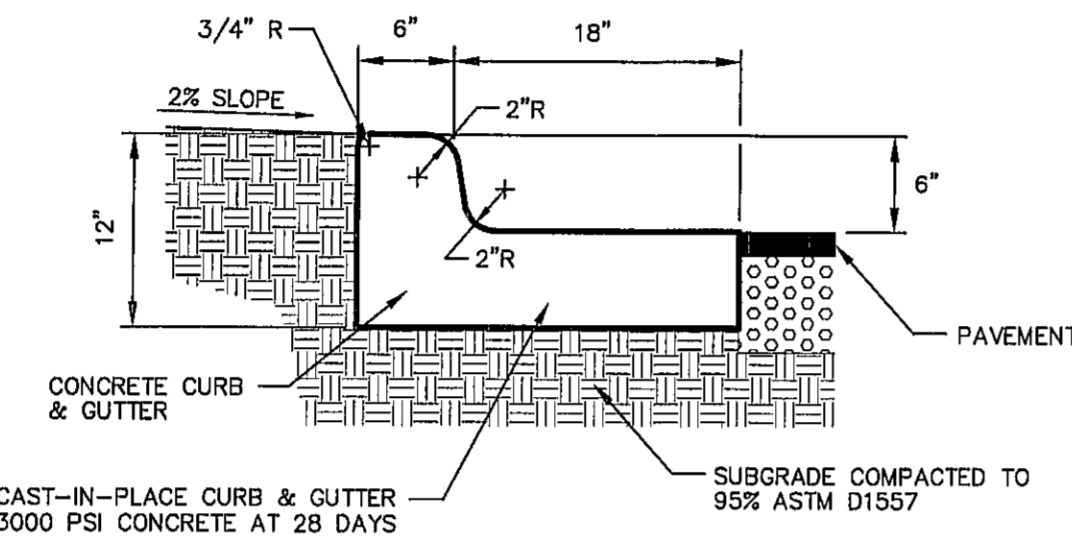
- NOTES:**
1. ALL CONCRETE SHALL BE 3,000 P.S.I MIN AT 28 DAYS
  2. CONCRETE SLABS SHALL BE A MIN 4" THICK
  3. ALL NEW RAMPS SHALL COMPLY WITH T.A.S AND A.D.A REQUIREMENTS ANY SECTIONS NOT CONFORMING WILL BE REMOVED AT THE CONTRACTORS EXPENSE
  4. ALL ADA RAMPS SHALL BE BUILT BY DEVELOPER
  5. ALL SLOPES ARE MAXIMUM ALLOWABLE THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER
  6. THE MINIMUM SIDEWALK WIDTH IS 5' WHERE A 5' SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM 3' SIDEWALK WITH 5' X 5' PASSING AREAS AT INTERVALS NOT TO EXCEED 200 FT IS REQUIRED
  7. LANDINGS SHALL BE 5' X 5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION
  8. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4' X 4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH
  9. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP OTHERWISE, FLIGHT SIDES SHALL BE PROVIDED
  10. ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS
  11. RAMP TEXTURES MUST CONSIST OF TRUNCATED DOMED SURFACES TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED REFER TO TRUNCATED DOME DETAIL
  12. CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER
  13. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS 2%
  14. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TLR)

**LEGEND**

DETECTABLE WARNING SURFACE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE COUNTY OF EL PASO ROAD AND BRIDGE DEPARTMENT THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE CONTRAST SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE NO PAINTING OF SURFACE SHALL BE PERMITTED

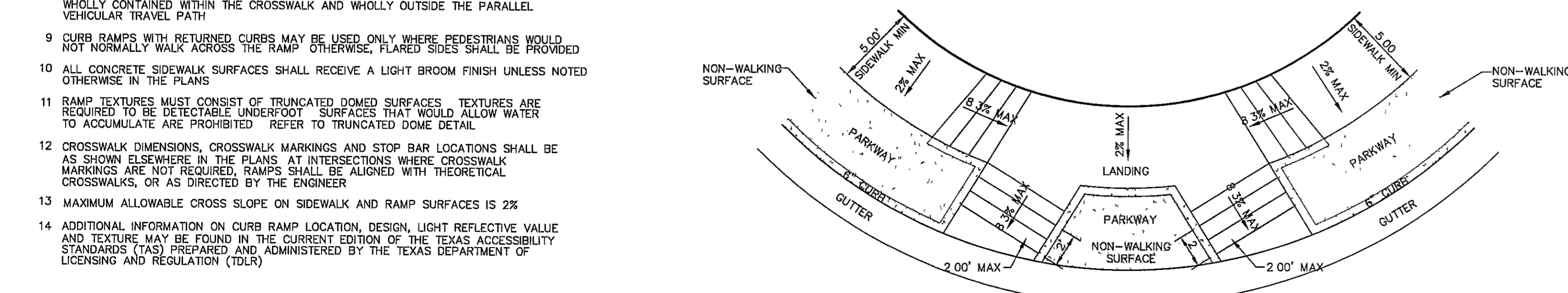
**NOTES:**

5 TYPICAL WHEELCHAIR RAMP DETAIL  
SCALE N.T.S

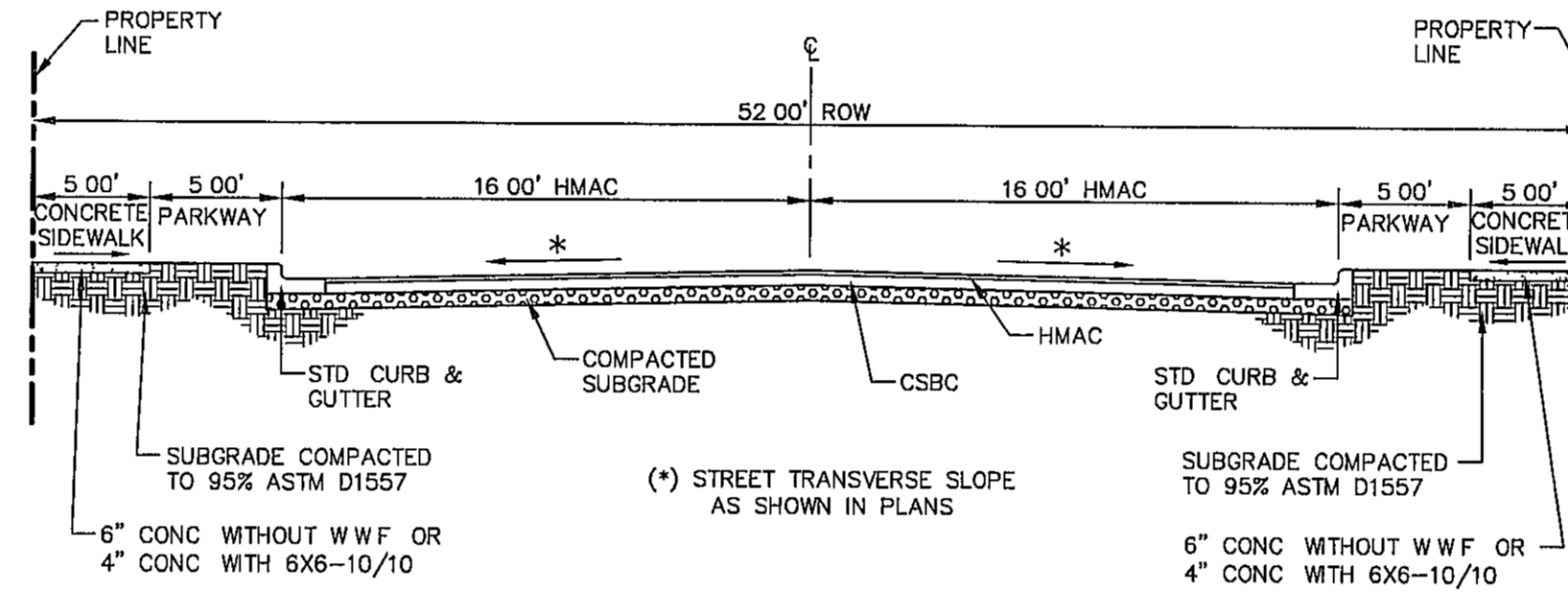


4 TYPICAL DRIVEWAY DETAIL  
SCALE N.T.S

- NOTES:**
1. RAMPS MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT
  2. THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH
  3. CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS
  4. ALL PARKING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE COUNTY OF EL PASO ROAD AND BRIDGE DEPARTMENT



6 TYPICAL PAVEMENT JOINT SECTION  
SCALE N.T.S

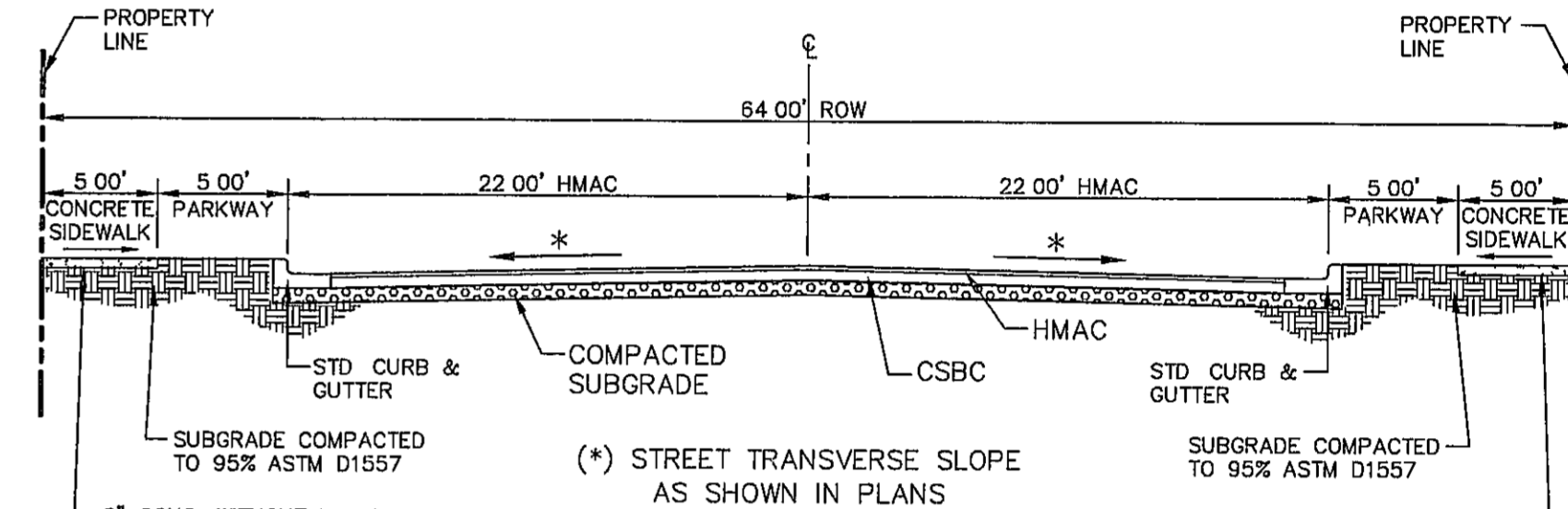


7 TYPICAL 52' ROW STREET SECTION DETAIL  
SCALE N.T.S

**NOTE:**

STREET IMPROVEMENTS 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 ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT 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

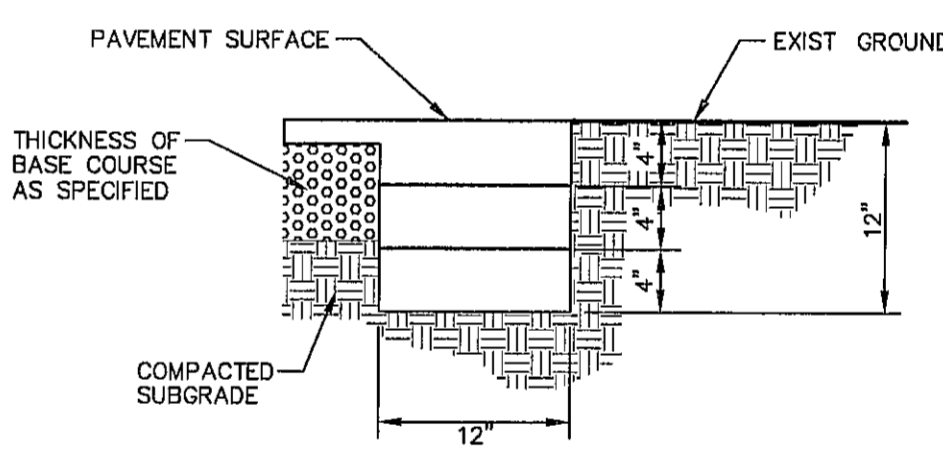
8 TYPICAL 64' ROW STREET SECTION DETAIL  
SCALE N.T.S



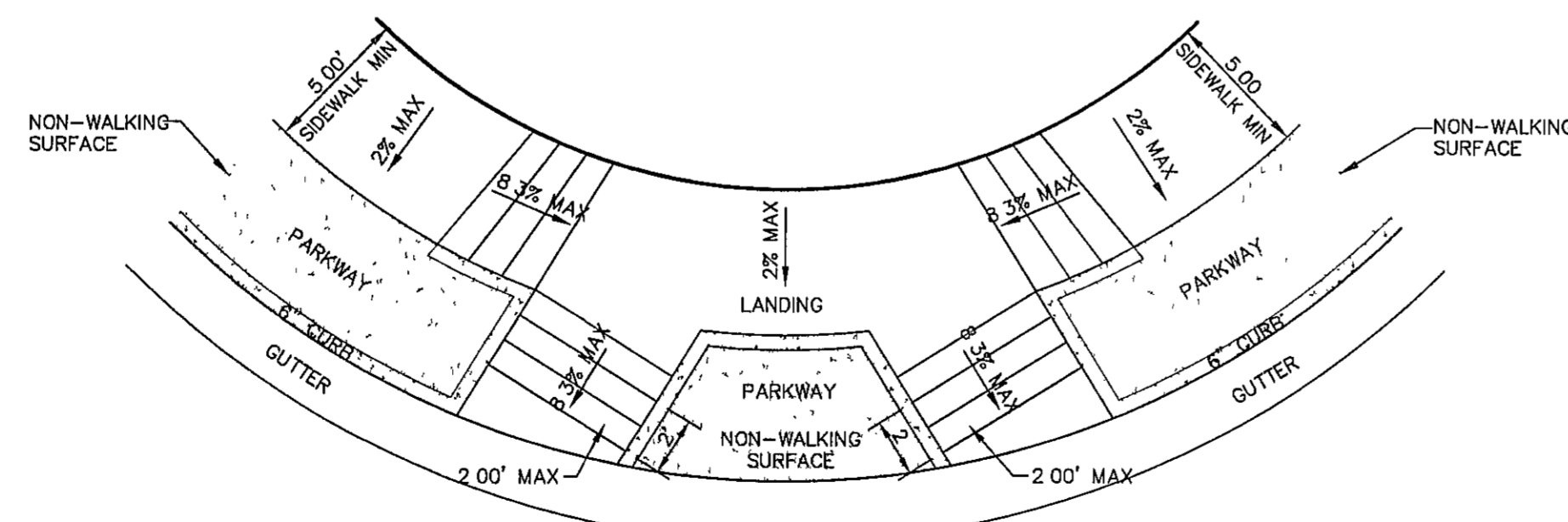
**NOTE:**

TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE

10 TERMINUS OF STREET  
SCALE 1" = 1'-0"



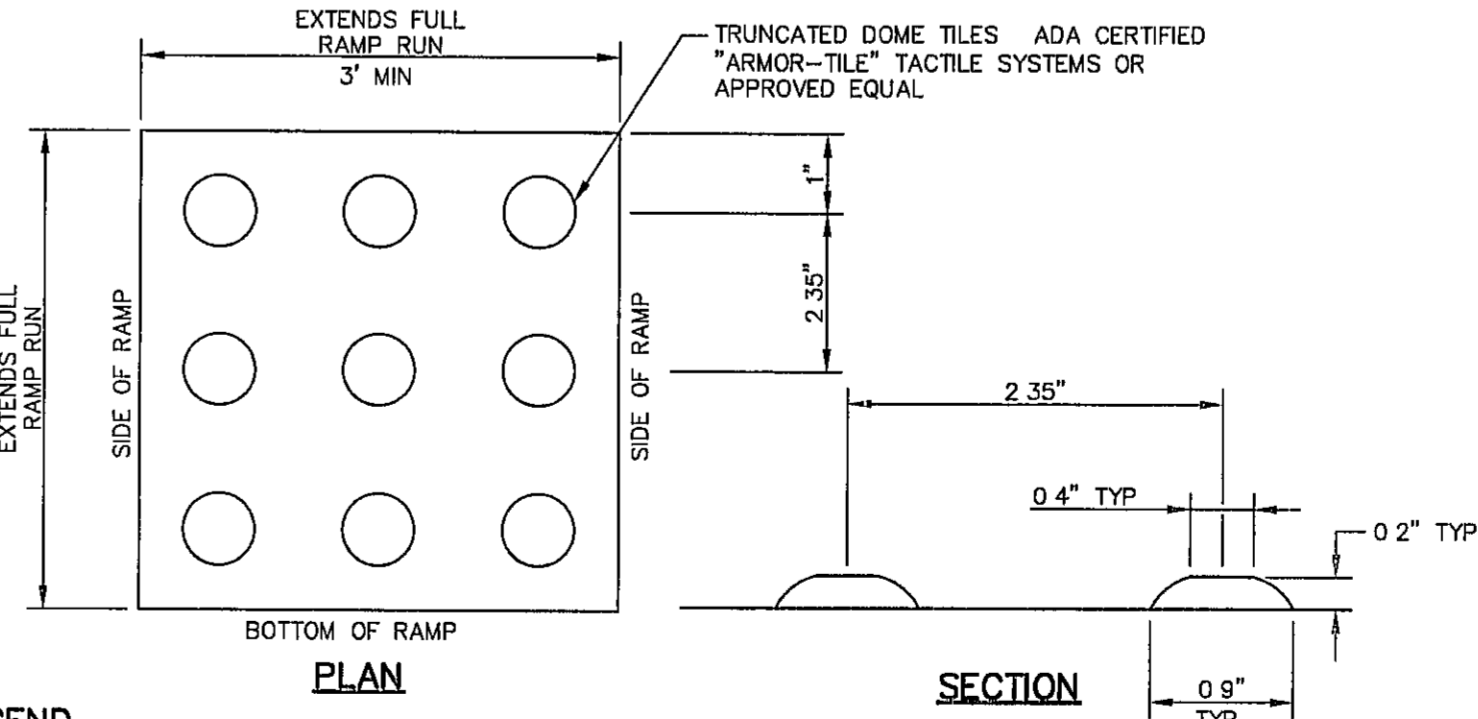
11 DIRECTIONAL RAMP @ INTERSECTION  
SCALE N.T.S



**LEGEND**

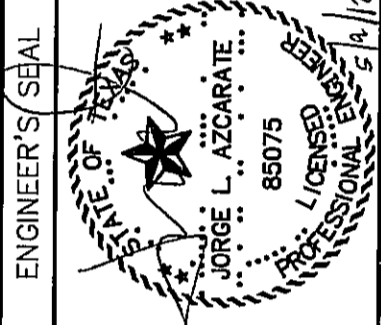
DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN, A NOMINAL HEIGHT OF 0.2 IN AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN, AND SHALL NOT BE STAGGERED THE SURFACE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING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

12 TRUNCATED DOME  
SCALE N.T.S



REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEAM FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4008.40

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SCALE	N/A
Horizontal Contour Interval	N/A
DATE	MAY 2012
DESIGN BY	J.H.
DRAWN BY	J.H.
CHKD BY	J.L.A.
APPVD BY	J.L.A.
JOB No.	2000-134-1D

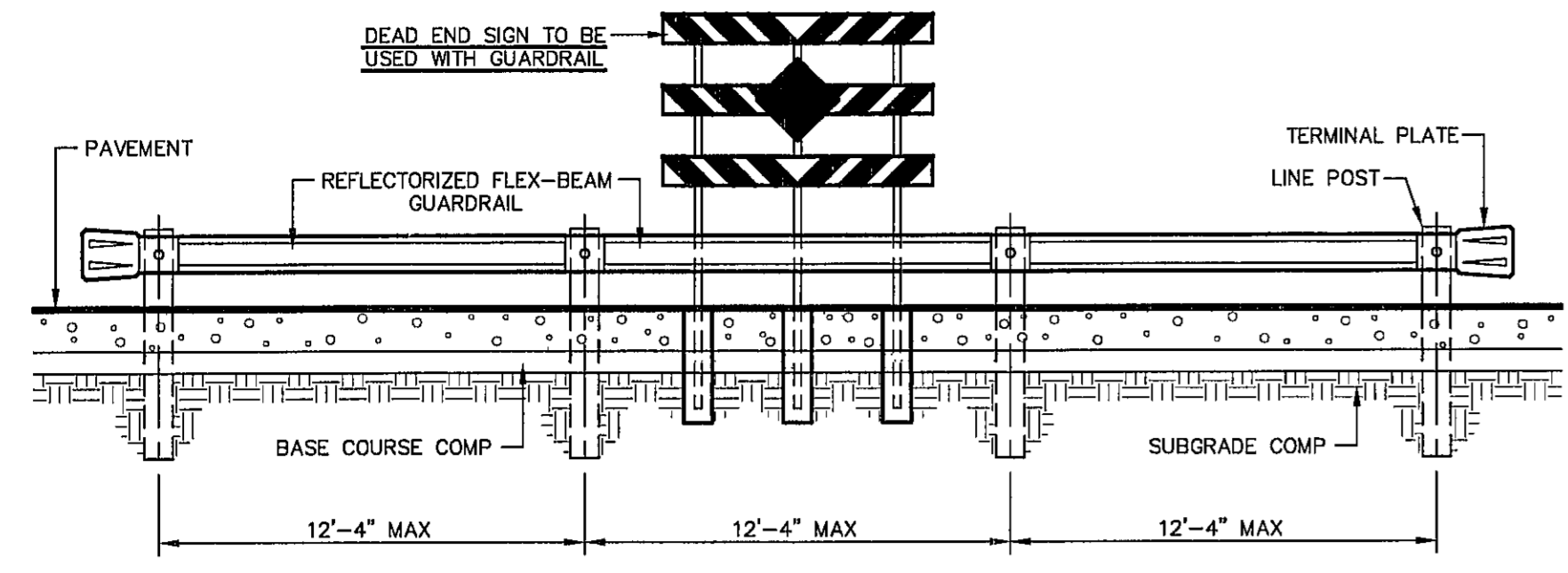
PROJECT TITLE  
**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**STANDARD  
DETAILS**  
(SHEET 1 OF 2)  
SHEET NO

C13.1

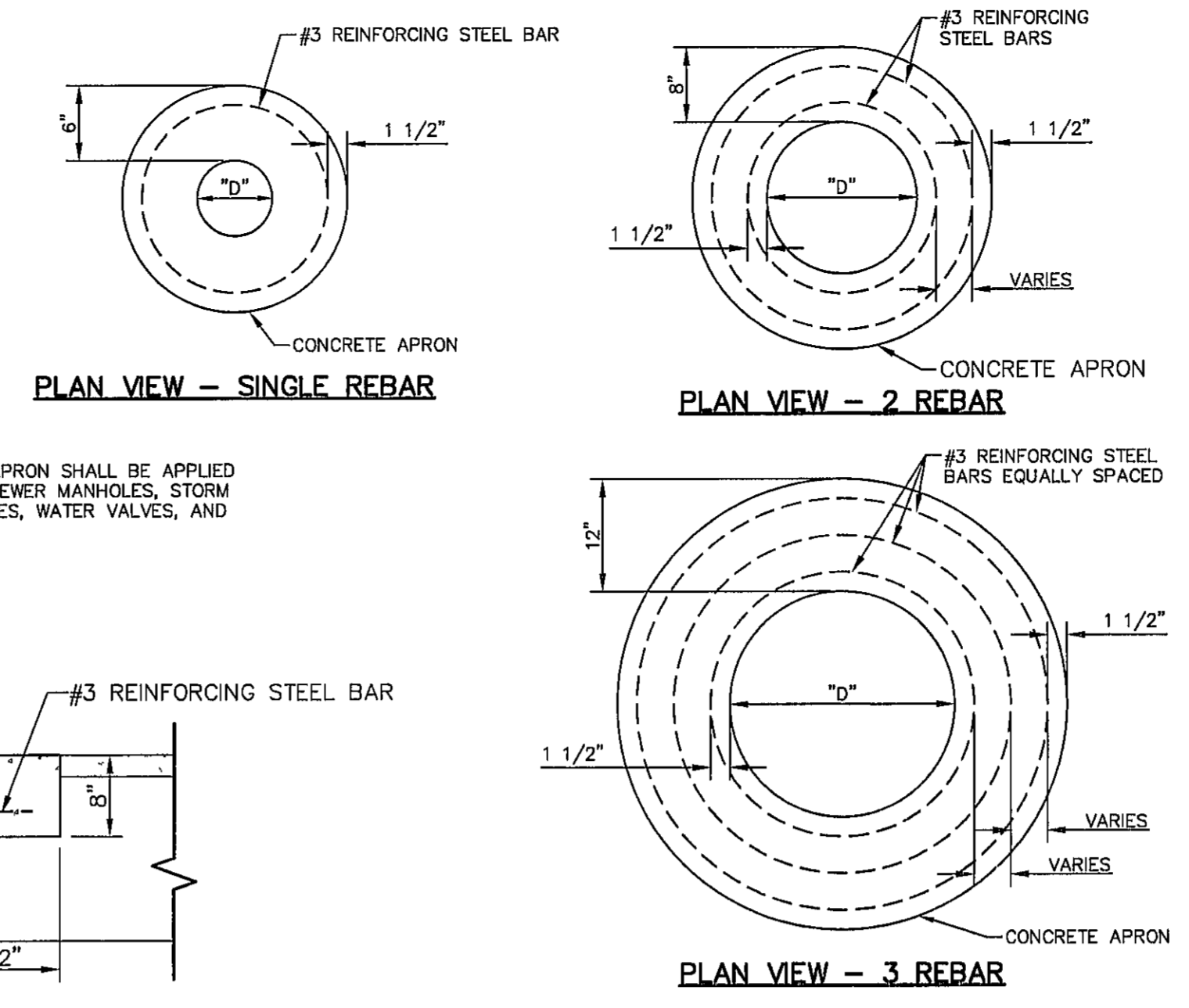
ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED



**ELEVATION**  
SCALE 1"=5'

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



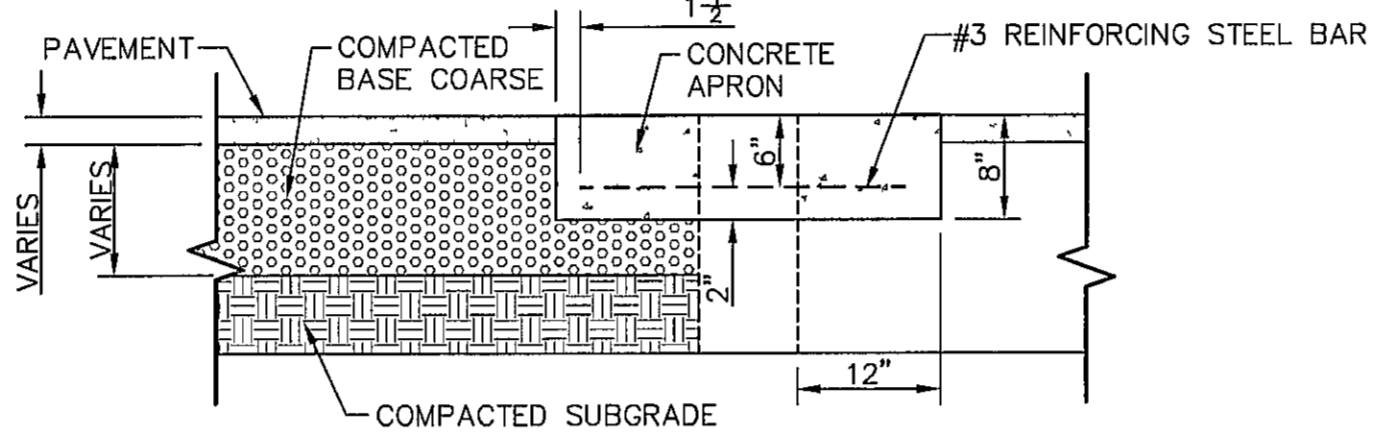
**PLAN VIEW - SINGLE REBAR**

**PLAN VIEW - 2 REBAR**

**PLAN VIEW - 3 REBAR**

**GENERAL NOTES**

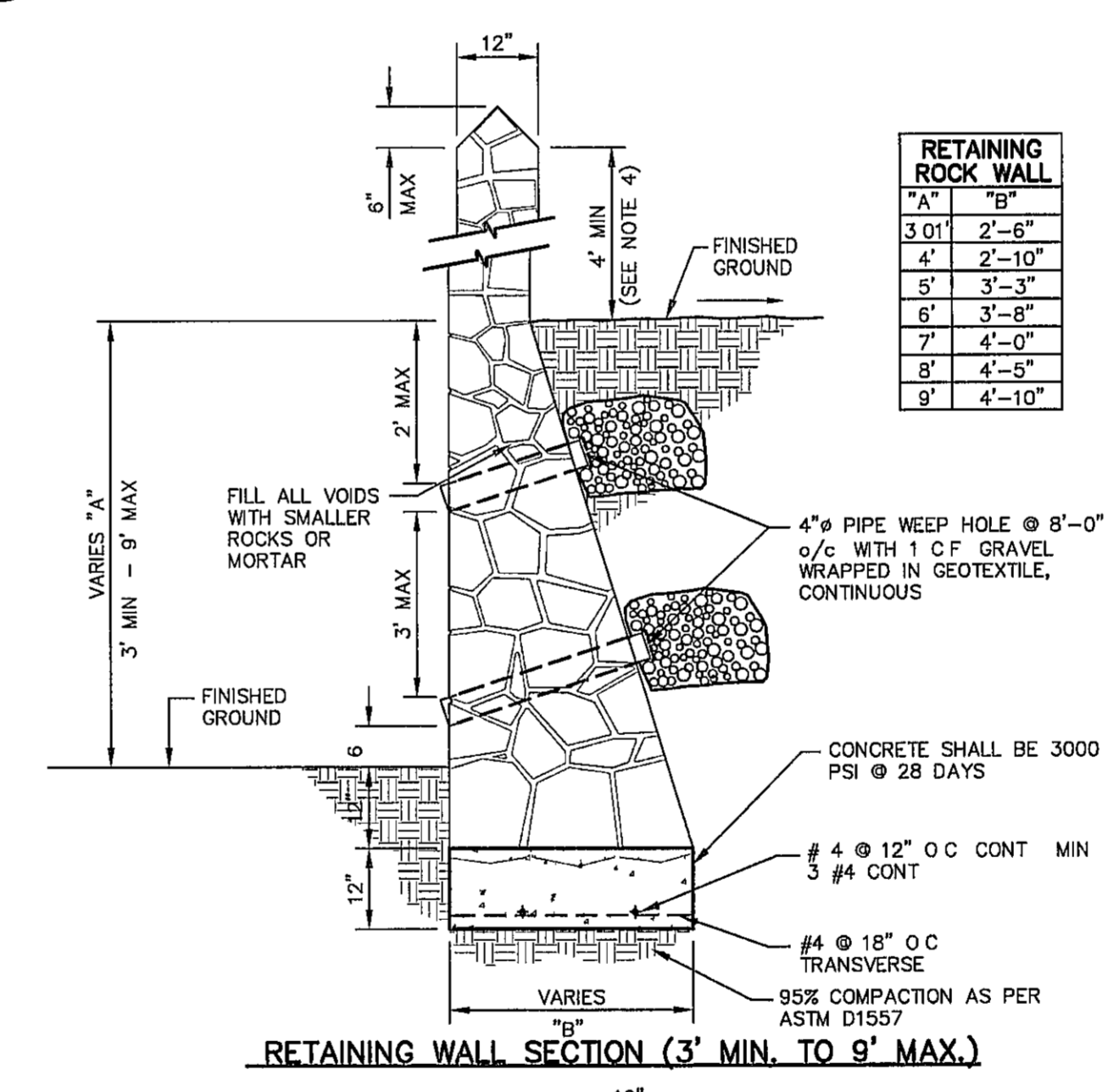
- 1 THE PENETRATION APRON SHOULD BE CAST IN-PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 PSI HIGH EARLY CONCRETE IS REQUIRED)
- 2 TOPS OF PENETRATION APRON SHALL BE FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE UNLESS OTHERWISE SPECIFIED BY THE COUNTY ENGINEER
- 3 PENETRATION APRON SHALL BE APPLIED ON SANITARY SEWER MANHOLES, STORM SEWER MANHOLES, WATER VALVES, AND MONUMENTS



**SECTION**

CONCRETE APRON FOR CIRCULAR PENETRATIONS IN ASPHALT PAVEMENTS				
"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO 3 REINFORCING STEEL BARS (INCHES)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR (INCHES)
0 TO 6 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

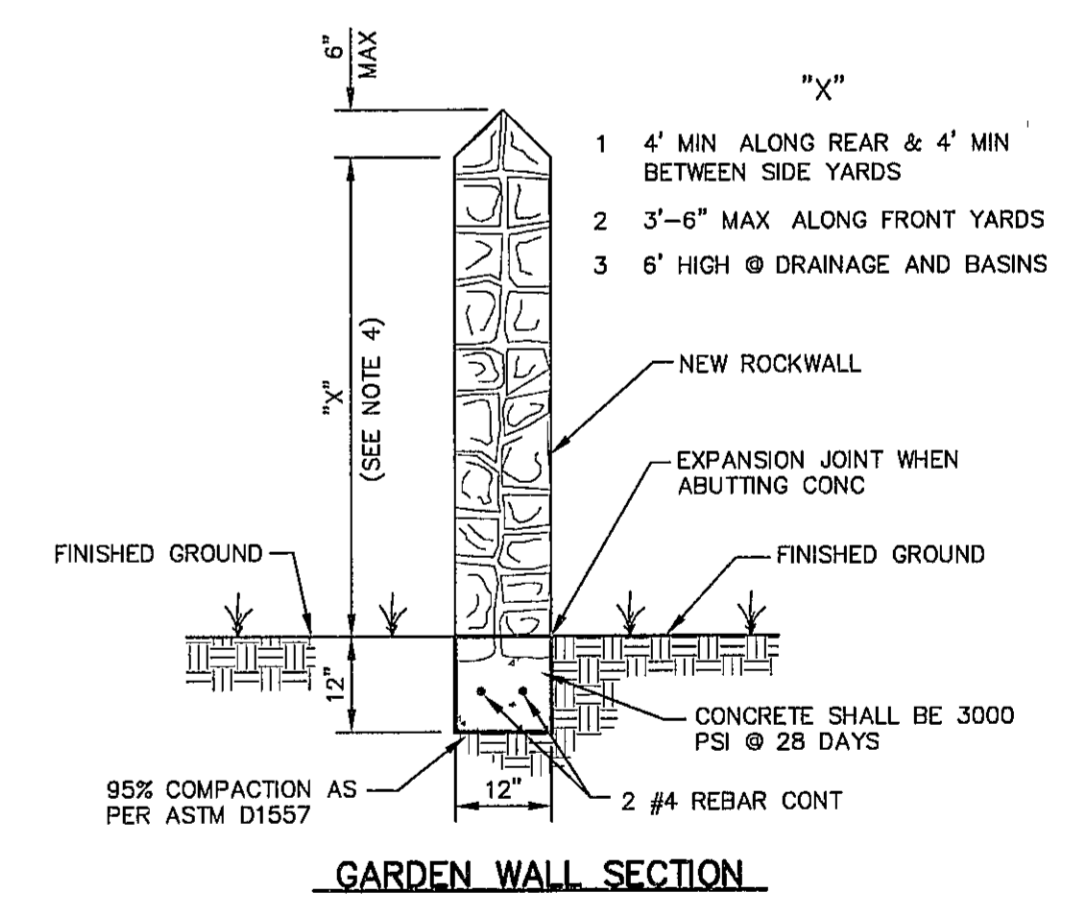
**2 PENETRATION APRON DETAILS**  
SCALE N T S



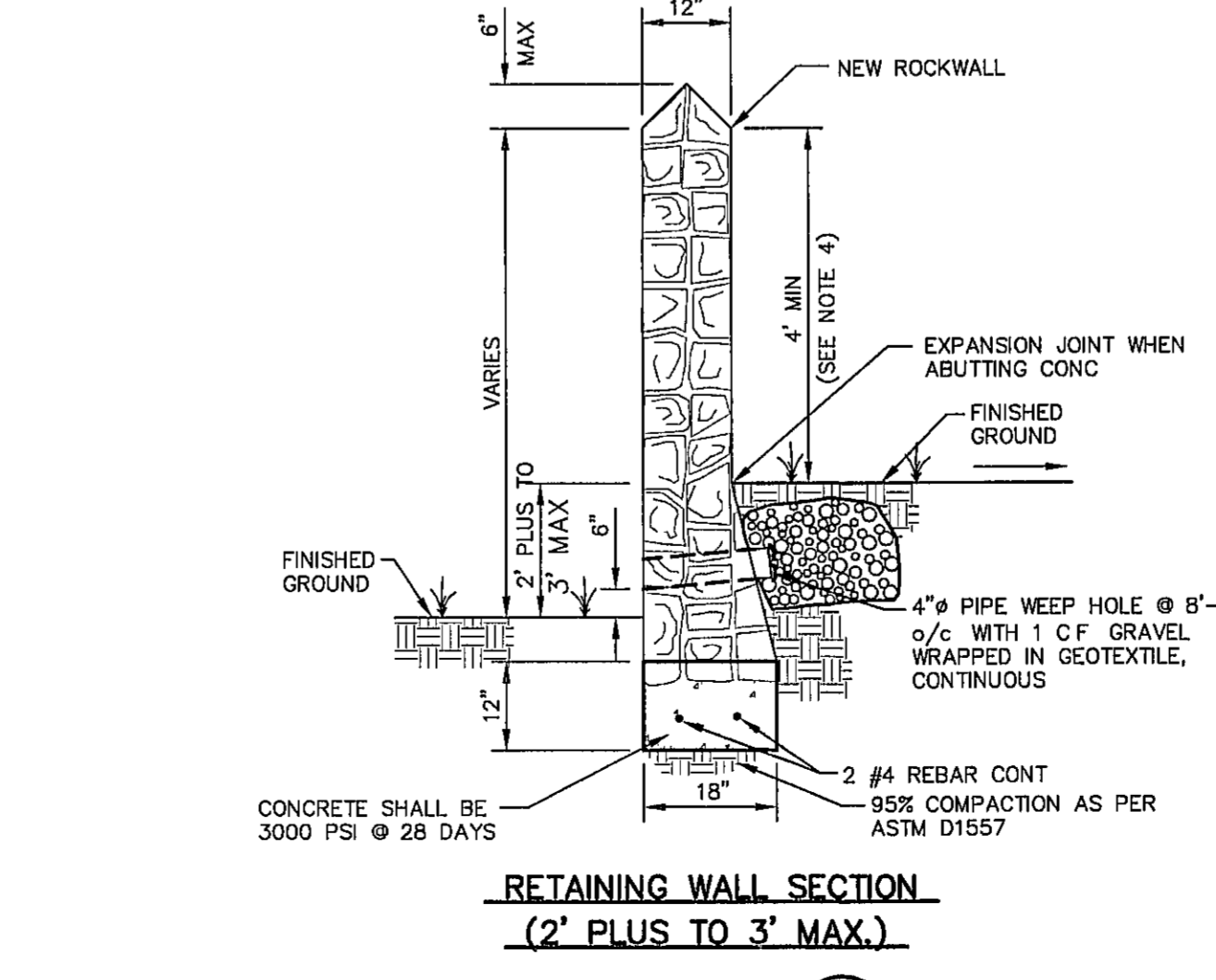
RETAINING ROCK WALL	
"A"	"B"
3 01'	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-8"
7'	4'-0"
8'	4'-5"
9'	4'-10"

**ROCK WALL NOTES**

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

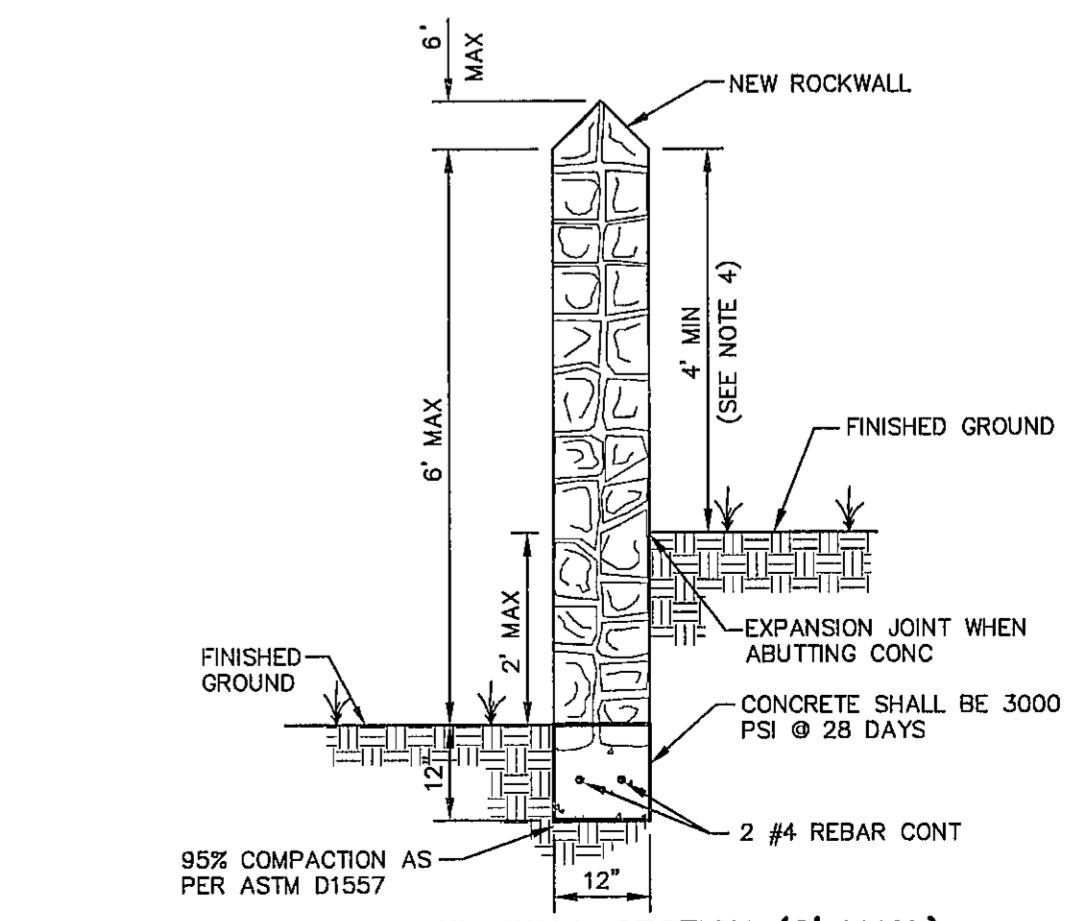


**GARDEN WALL SECTION**



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

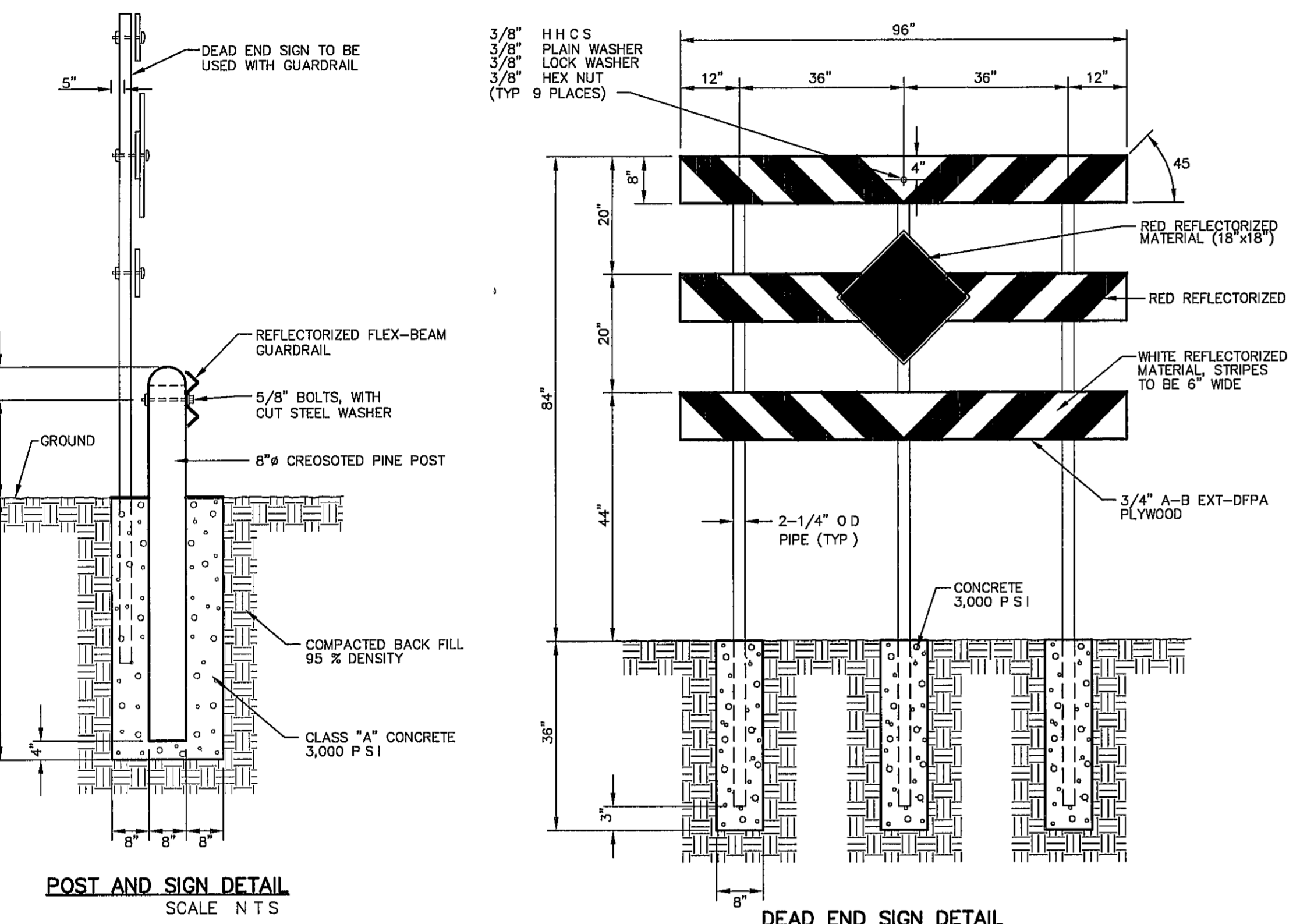
**5 TYPICAL ROCKWALL DETAILS**  
SCALE 1/2"=1'-0"



**GARDEN WALL SECTION (2' MAX.)**

**PROPOSED MONUMENT LOCATIONS**

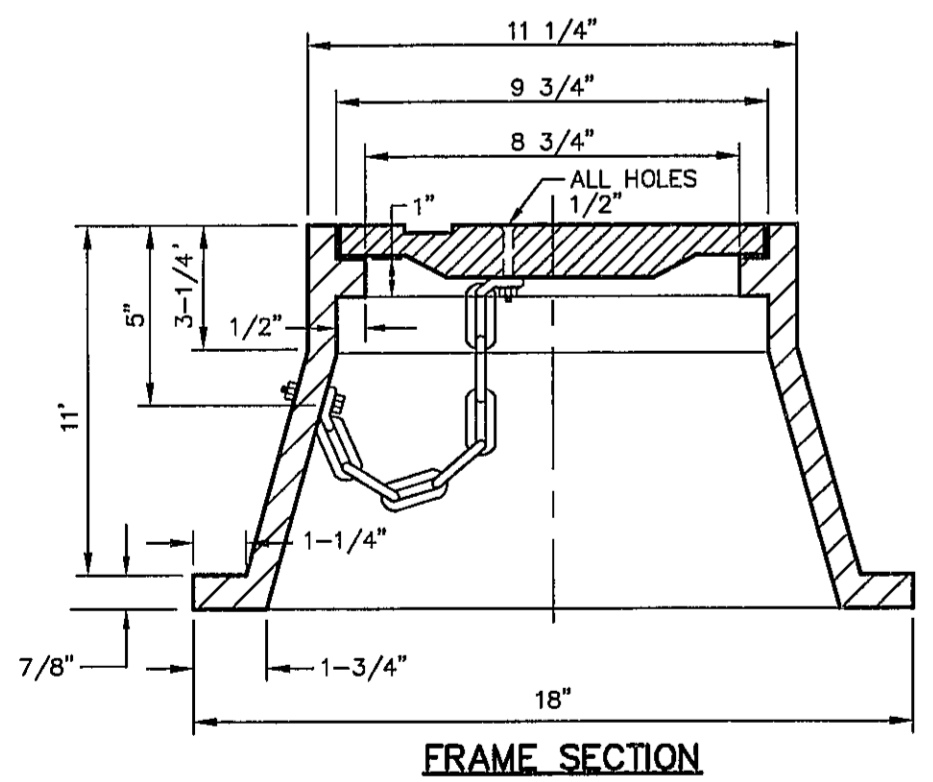
- MONUMENTS SHALL BE INSTALLED SO THAT ALL FRONT PROPERTY CORNERS OF ALL LOTS IN THE SUBDIVISION ARE WITHIN LINE OF SIGHT OF A MONUMENT, OR WITHIN SIGHT OF THE LINE BETWEEN TWO ADJACENT MONUMENTS
- EACH MONUMENT SHALL BE WITHIN LINE OF SIGHT OF ANOTHER MONUMENT
- MONUMENTS SHALL BE NO FARTHER THAN 2000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



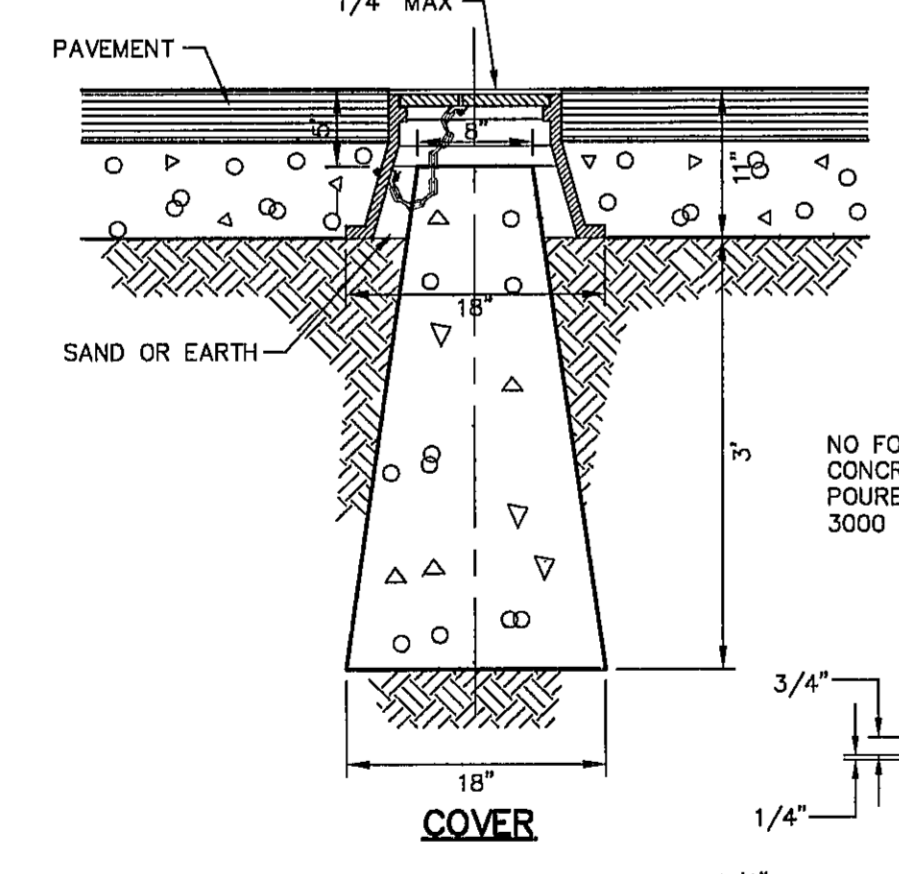
**POST AND SIGN DETAIL**  
SCALE N T S

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

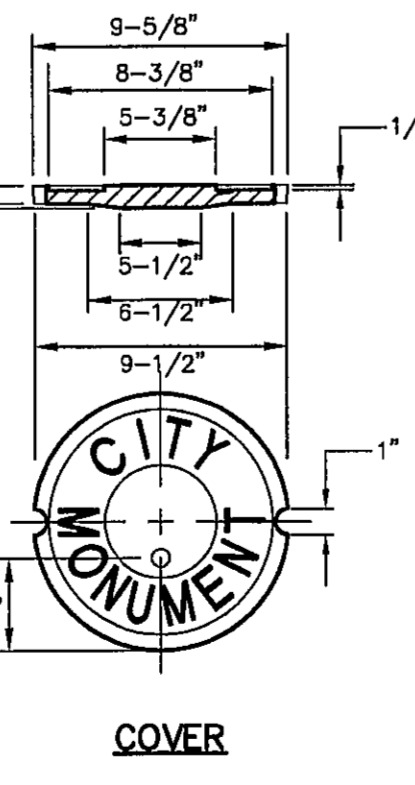
**1 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL**  
SCALE AS SHOWN



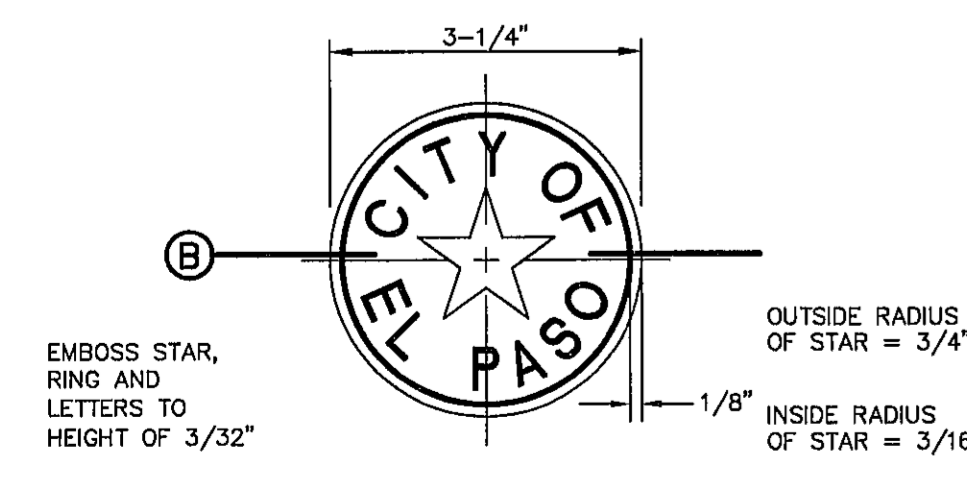
**FRAME SECTION**



**COVER**



**COVER**



**BRONZE MONUMENT CAP**

**4 CITY SURVEY MONUMENT DETAILS**  
SCALE N T S

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

**ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT**  
REVIEWED

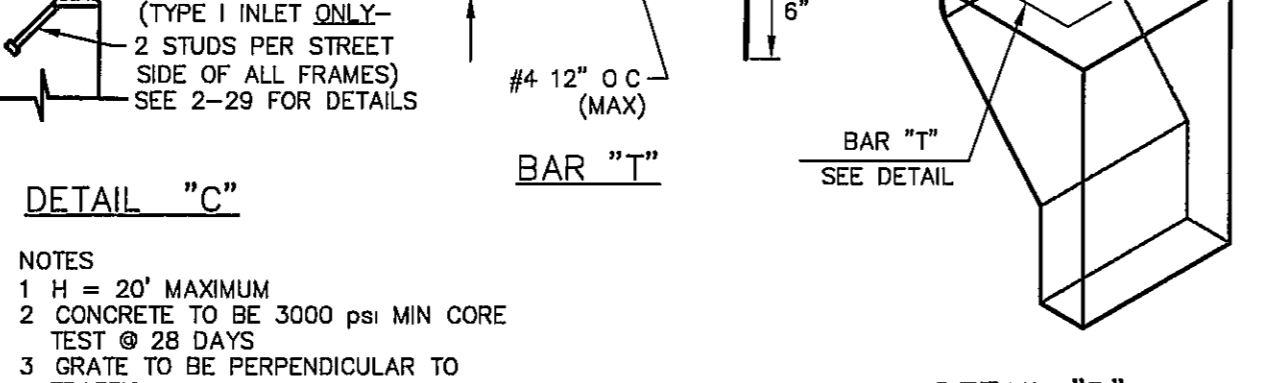
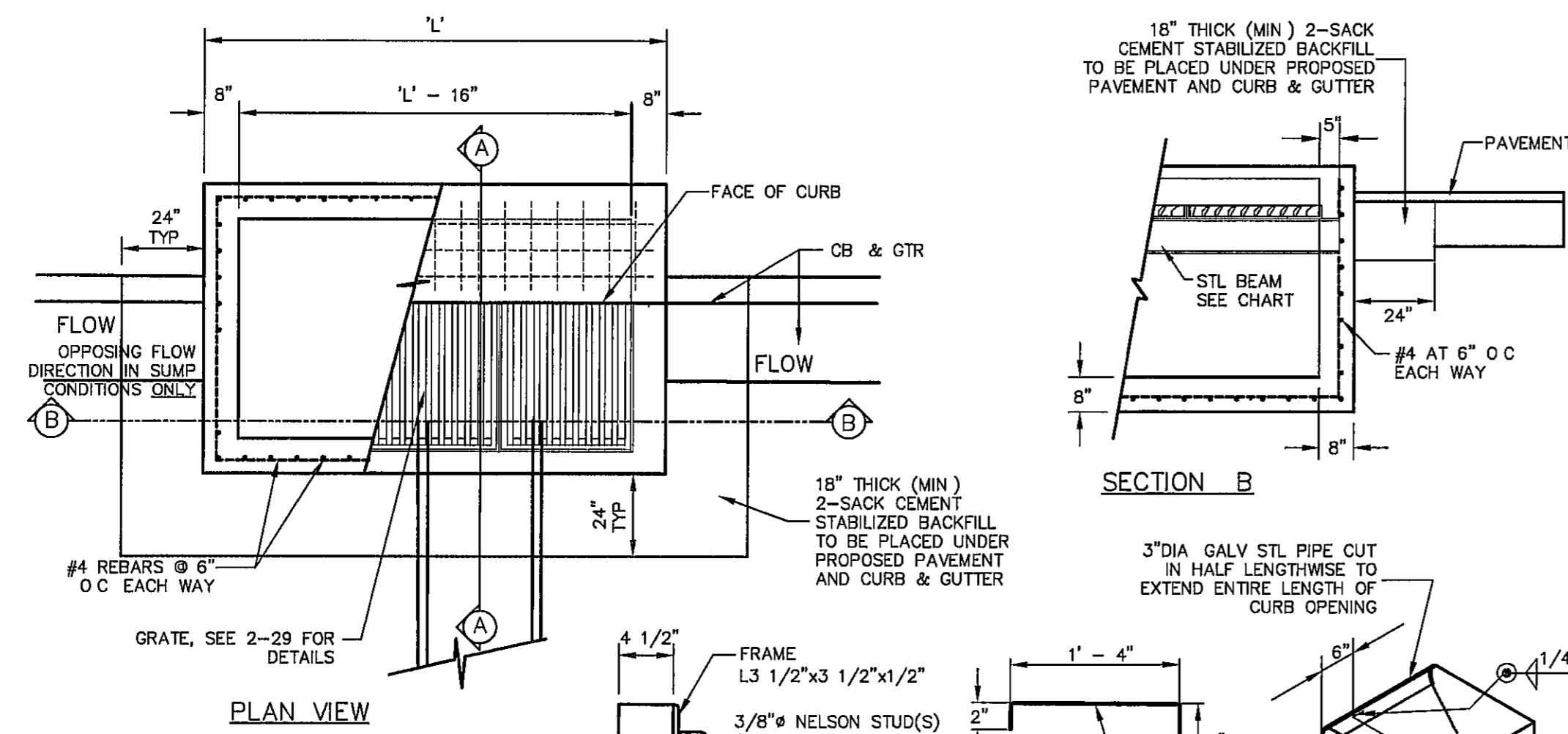
ENGINEER'S SEAL  
Jorge L. Alzate  
Professional Engineer  
No. 88075  
State of Texas

SCALE  
Horizontal N/A  
Vertical N/A  
Contour Interval N/A  
DATE MAY 2012  
DESIGN BY J.H.  
CHECK BY J.L.A.  
APPROV. BY J.L.A.  
JOB No. 2000-134-LD

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

SHEET TITLE  
**STANDARD DETAILS (SHEET 2 OF 2)**

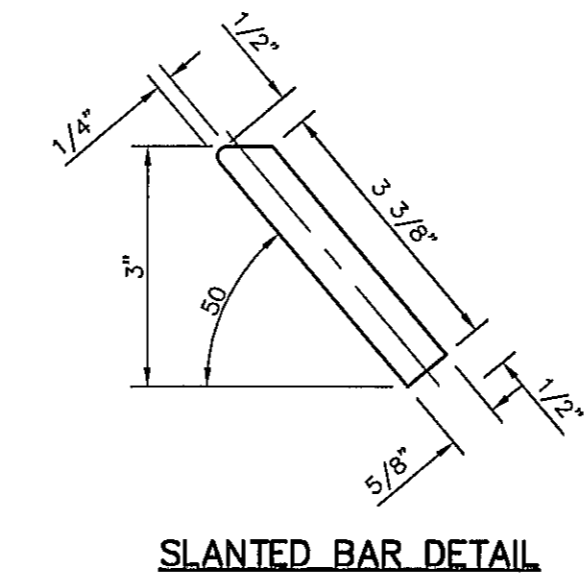
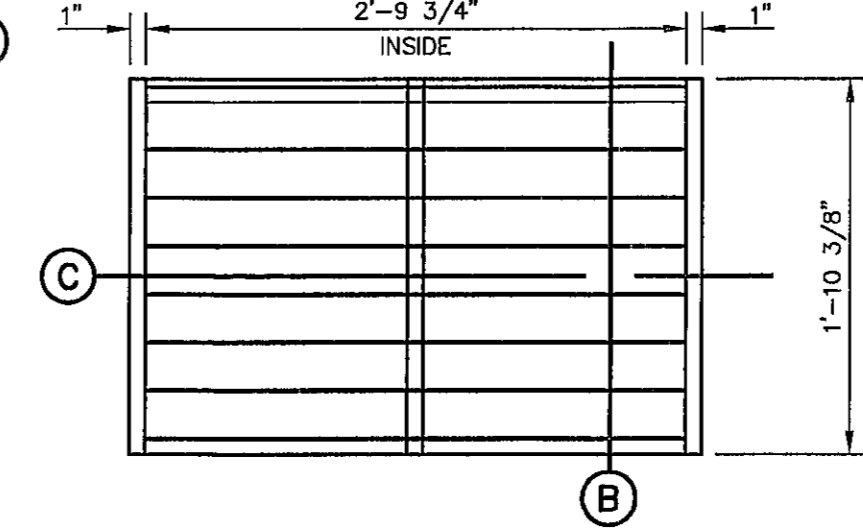
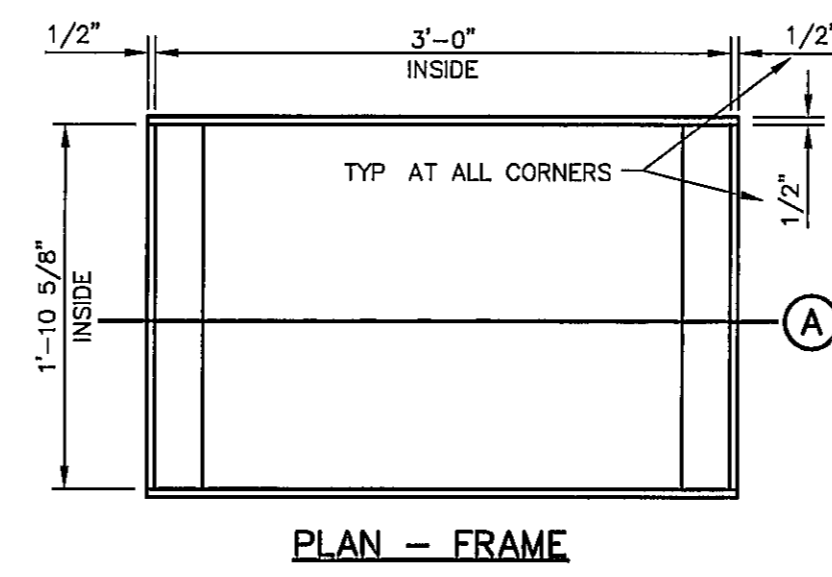
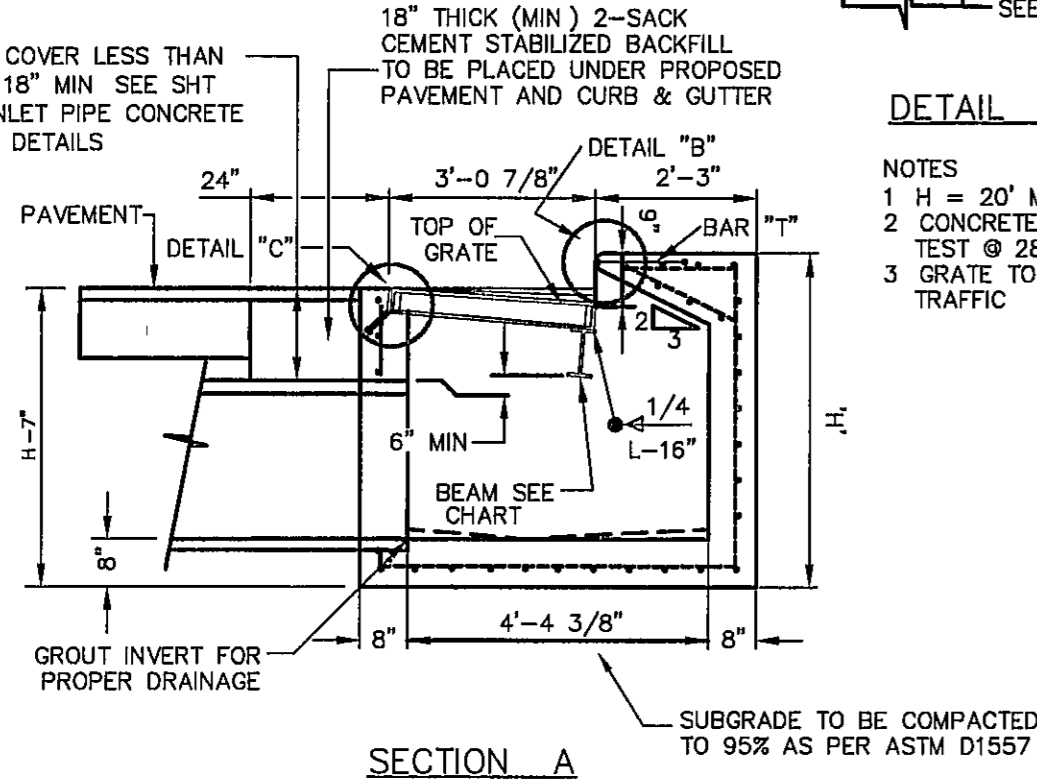
SHEET NO  
**C13.2**



NO OF GRATES	L'	BEAM	
		LENGTH	MINIMUM SIZES
2	5'-2 1/4"	4'-8 1/4"	W6X12, S6X12.5, MC6X15.1
3	7'-1 7/8"	6'-7 7/8"	W8X15, S7X18.4, MC7X19.1
4	9'-1 1/2"	8'-7 1/2"	W10X19, S8X18.4, MC10X22
5	11'-1 1/8"	10'-7 1/8"	W12X16, S8X23, MC10X22
6	13'-0 3/4"	12'-6 3/4"	W12X19, S8X23, MC10X25

ALL SUBSTITUTIONS OF STRUCTURAL STEEL BEAMS AND CHANNELS FOR DROP INLETS MUST BE SUBMITTED FOR REVIEW AND INCLUDE SECTION MODULUS AND DEFLECTION CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS

1 DROP INLET (TYPE I) DETAILS  
SCALE N T S

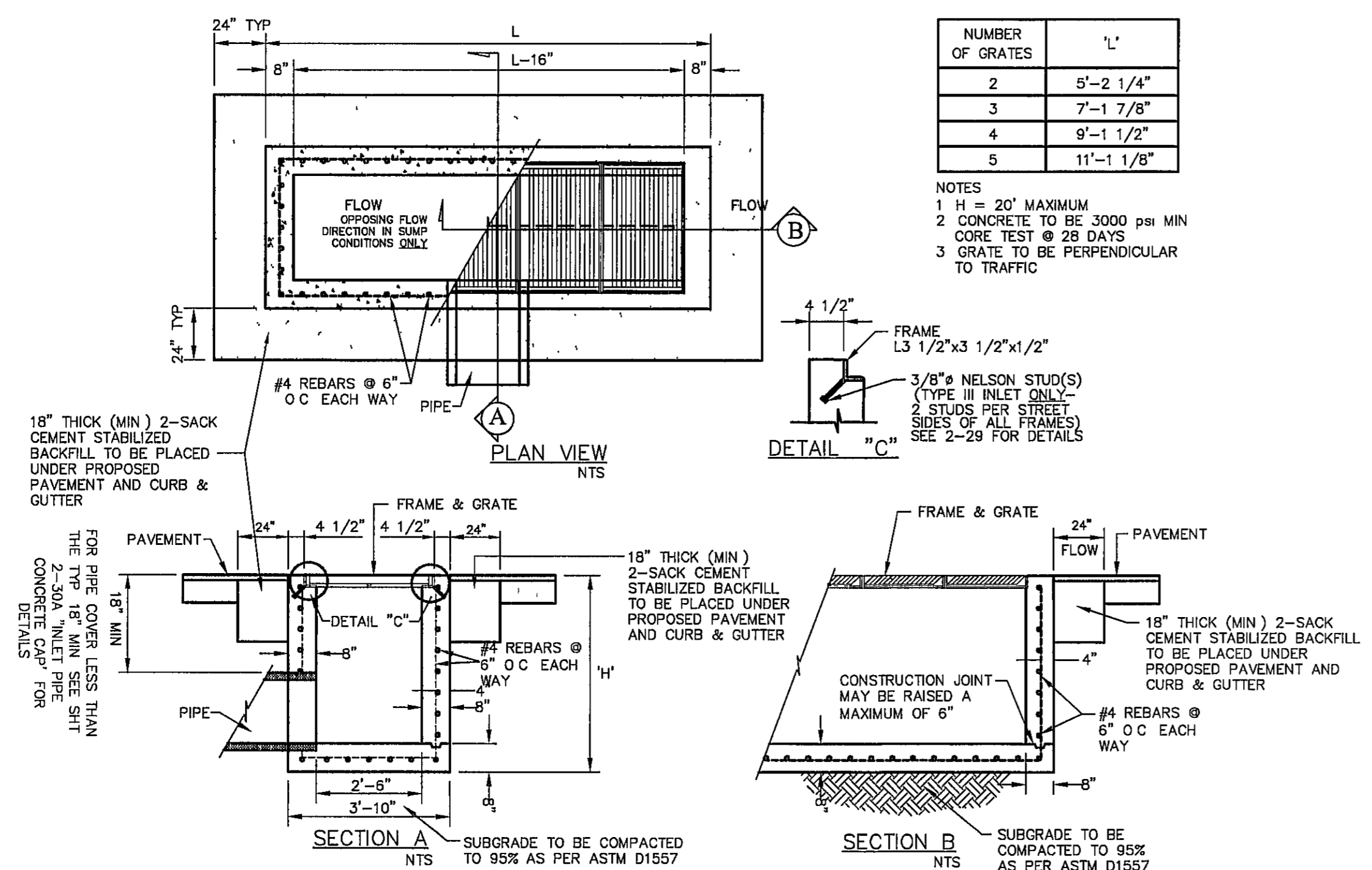


2 GRATE AND FRAME DETAILS  
SCALE 1" = 1'-0"

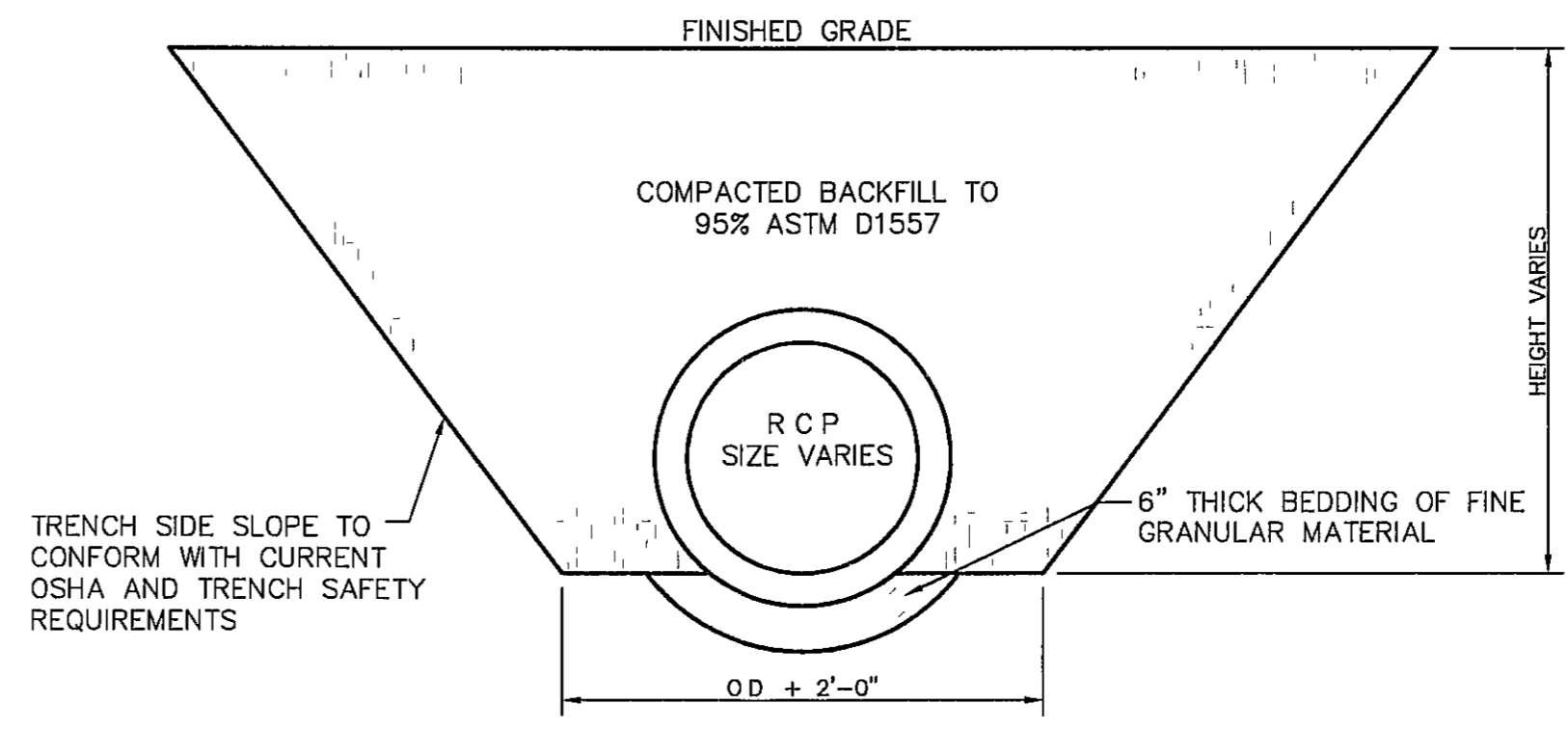
DROP INLET GENERAL NOTES:

- 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-161 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.
- FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
- ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
- ALL CONCRETE TO BE 3000 PSI. 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 TxDOT 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 1/2"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.

ALL SUBSTITUTIONS OF STRUCTURAL STEEL BEAMS AND CHANNELS FOR DROP INLETS MUST BE SUBMITTED FOR REVIEW AND INCLUDE SECTION MODULUS AND DEFLECTION CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS



3 DROP INLET TYPE III DETAILS  
SCALE N T S



4 STORM SEWER BEDDING DETAIL  
SCALE 1" = 2'-0"

REFERENCES - BENCHMARKS

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH COUNTY ROAD 3711 DISTANCE OF 67.58 FEET FROM THE MONUMENT TO THE POINT OF BEGINNING AVENUE CITY DATUM ELEVATION 4005.40

DATE	REVISIONS	BY

**CSA** CONSULTANTS & ENGINEERS

engineers • architects • planners

TEXAS REGISTERED ENGINEERING FIRM F-4584

4712 Woodrow Began, Ste. F El Paso, TX 79904  
Office: 915.944.5282 Fax: 915.944.5233 www.csaengr.com

ENGINEER'S SEAL

Professional Engineer Seal for Jorge L. Azcarate, License No. 85075, State of Texas.

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	MAY 2012
DESIGN BY	JH
DRAWN BY	JH
CHECKED BY	JLA
APPROVED BY	JLA
JOB No.	2000-1314-LD

PROJECT TITLE

**TRES SUEÑOS UNIT EIGHT**

**SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**DRAINAGE DETAILS DETAILS**

(SHEET 1 OF 4)

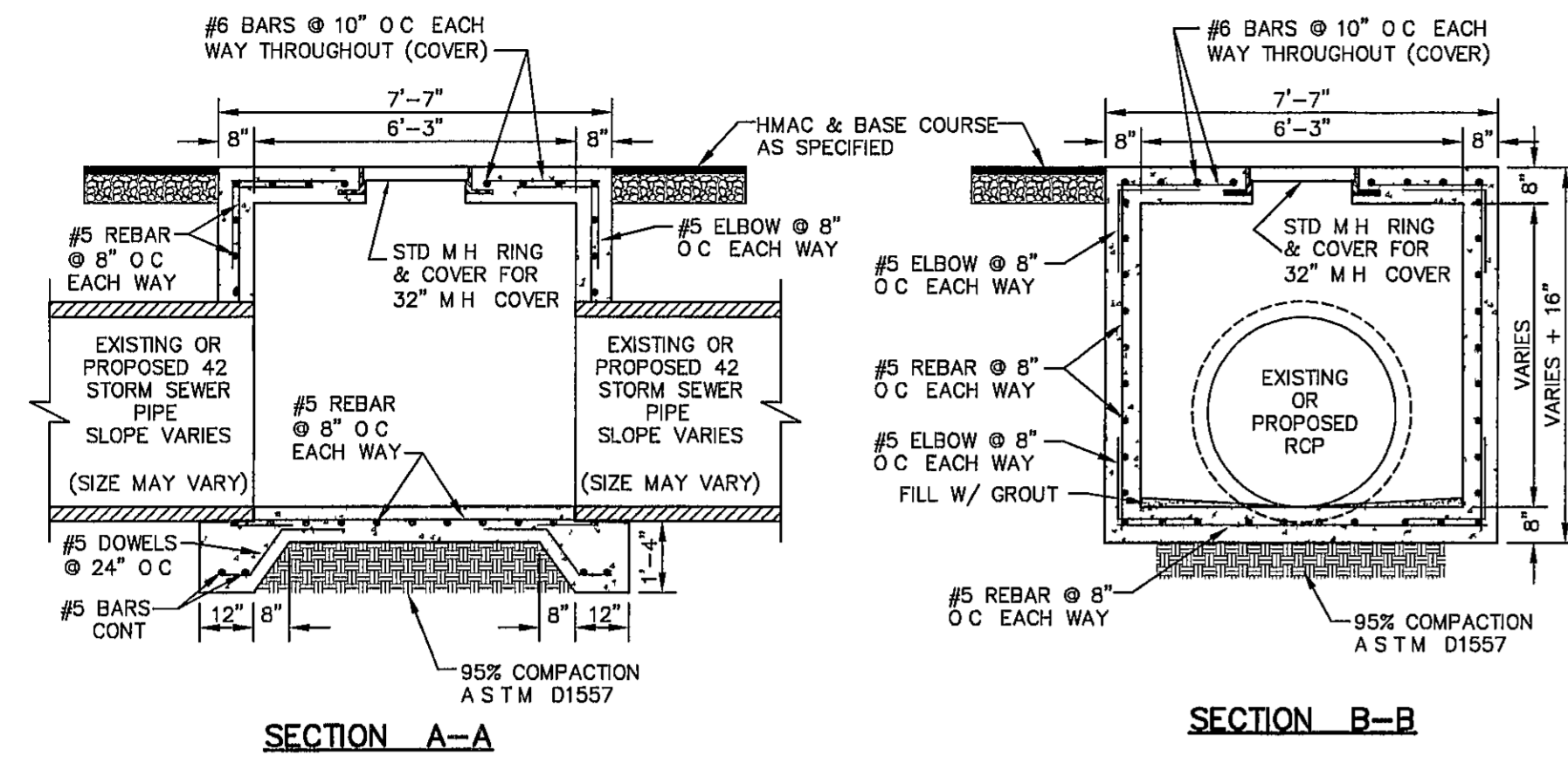
SHEET NO

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

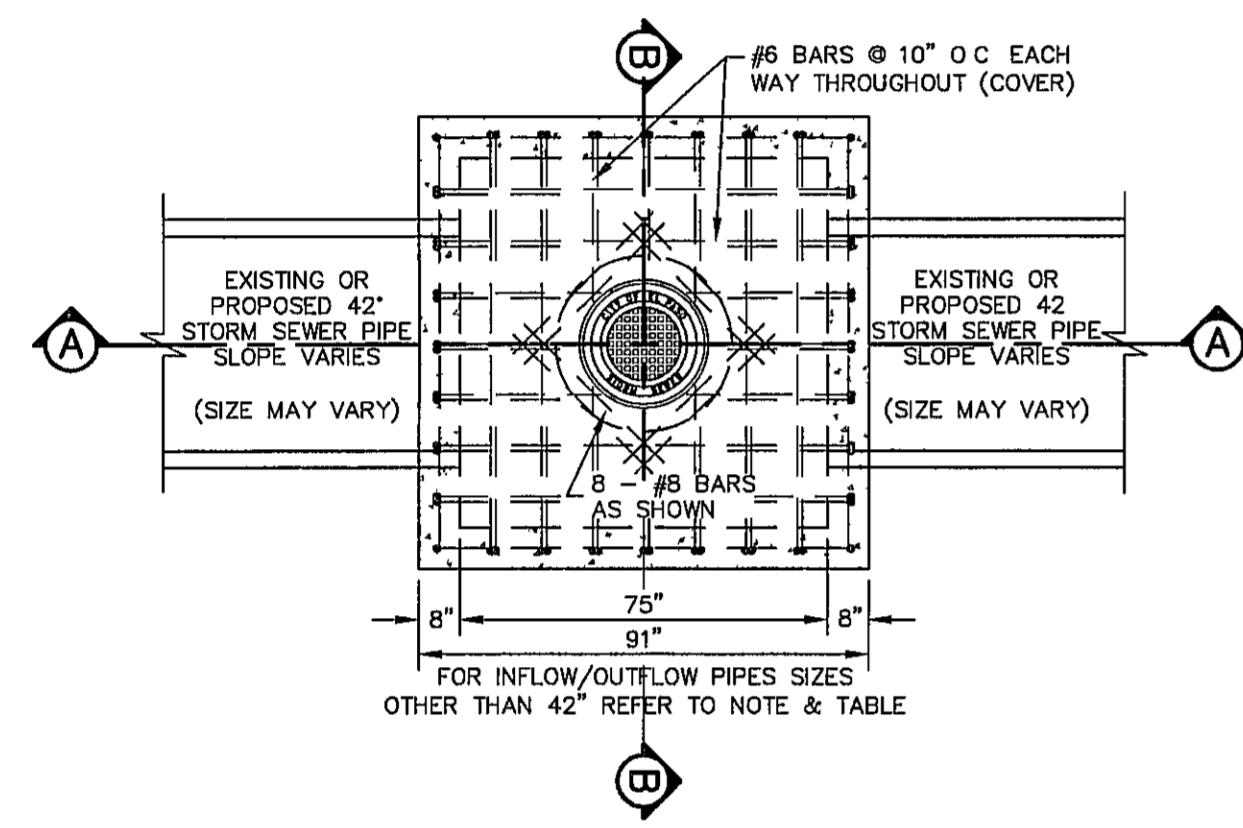
C14.1



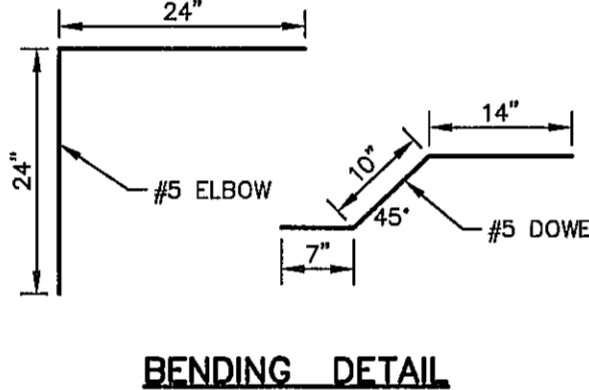


NOTE:  
FOR JUNCTION BOXES USING INFLOW/OUTFLOW PIPE SIZES OTHER THAN THOSE INDICATED IN THIS TYPICAL DETAIL, ATTACHED TABLE SHALL BE USED AS A GUIDELINE FOR BOX SIZING ONLY. COMPLETE ENGINEERING DESIGN DRAWINGS INCLUDING ALL CALCULATIONS, DIMENSIONING, REINFORCEMENT AND SPECIFICATIONS SHALL BE SUBMITTED FOR REVIEW AND COMMENT SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS

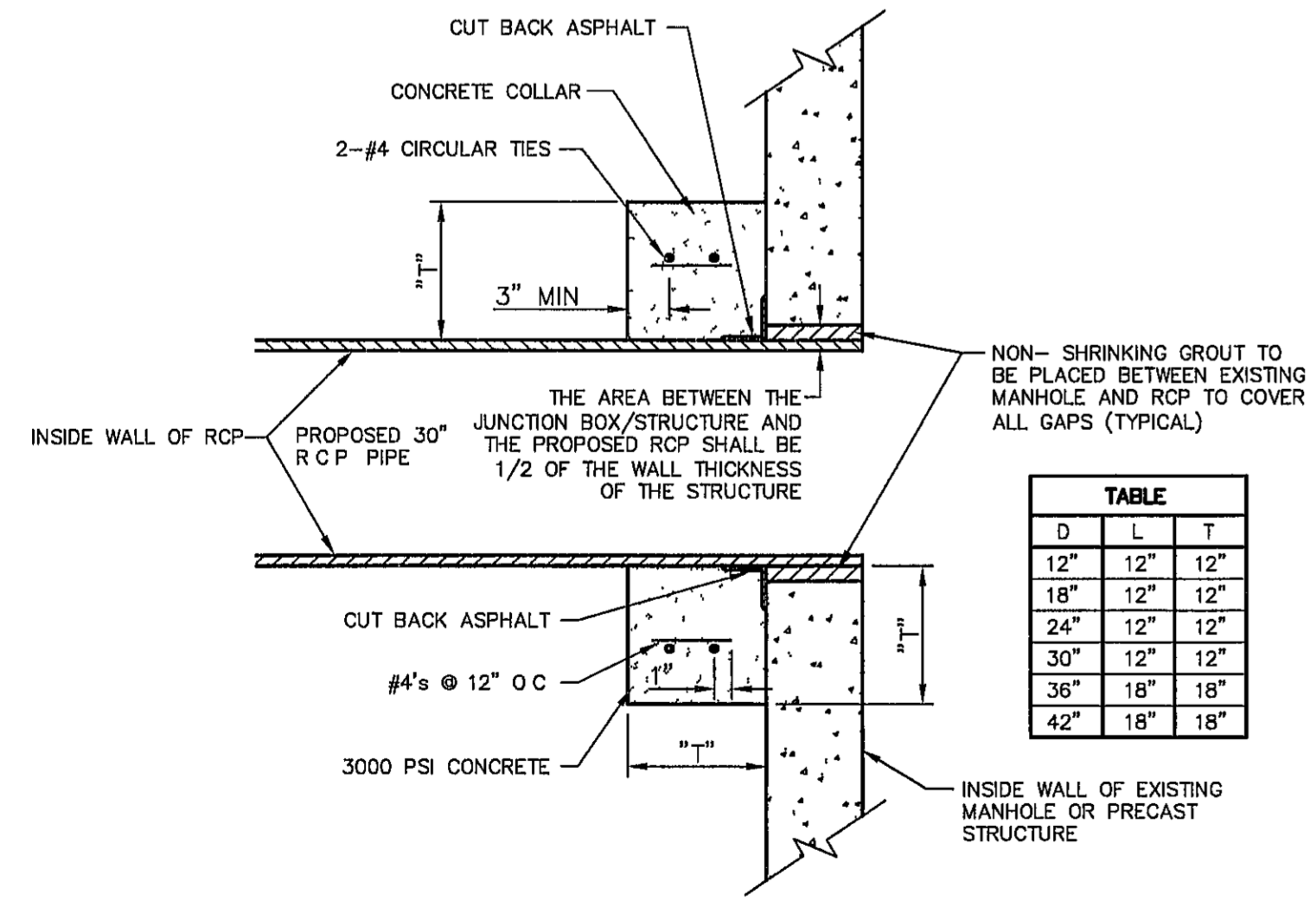
WIDTH OF JUNCTION BOX (MIN)	JUNCTION BOX WALL THICKNESS	PIPE SIZE ENTERING JUNCTION BOX
5'-3"	8"	18"
5'-10"	8"	24"
6'-5"	8"	30"
7'-0"	8"	36"
7'-7"	8"	42"
8'-2"	8"	48"
8'-9"	8"	54"
9'-4"	8"	60"
9'-11"	8"	66"
10'-6"	8"	72"
11'-8"	8"	84"
12'-10"	8"	96"



1  
C14.2 72" SQUARE CAST-IN-PLACE STANDARD JUNCTION BOX  
SCALE N T S



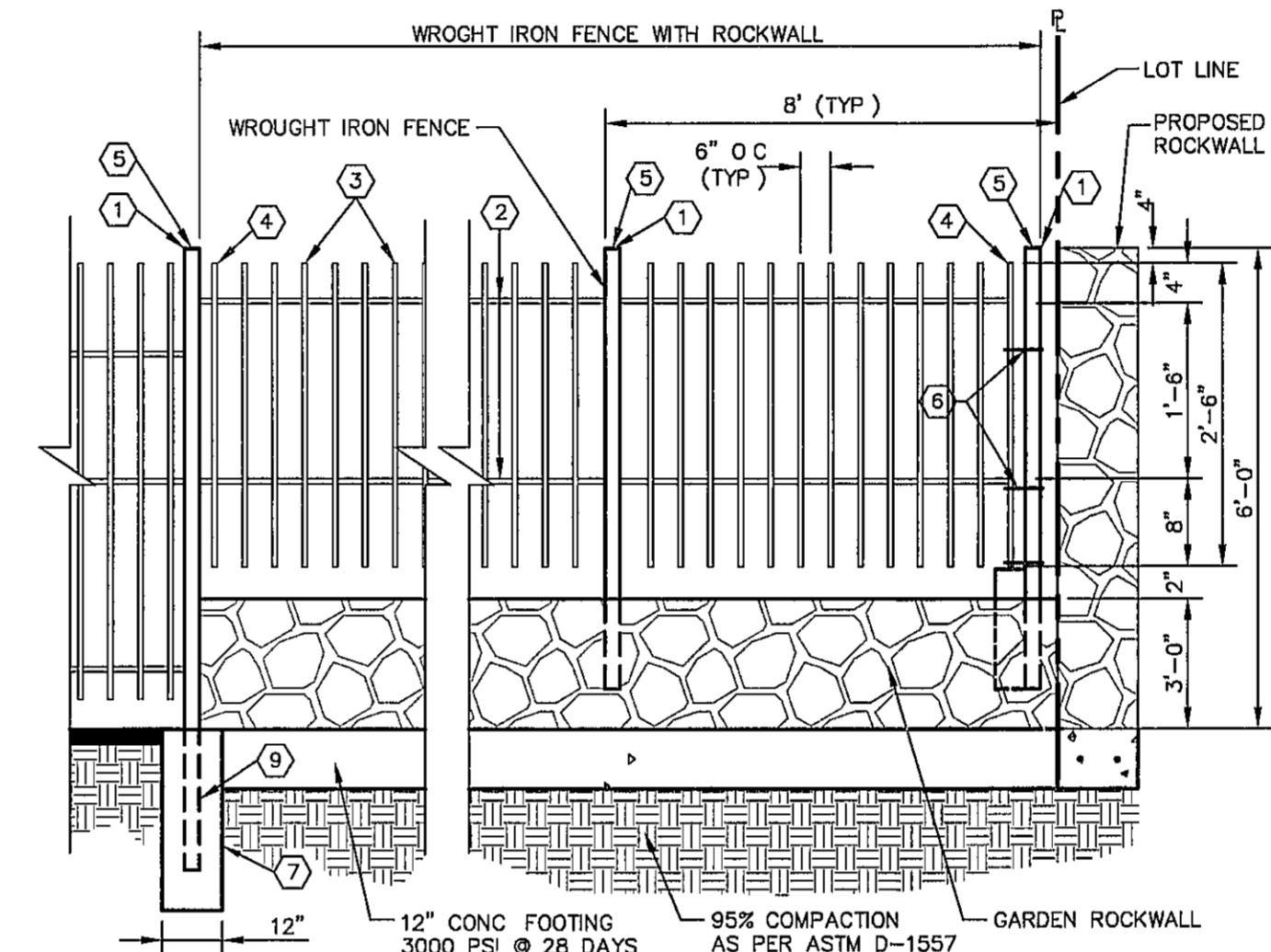
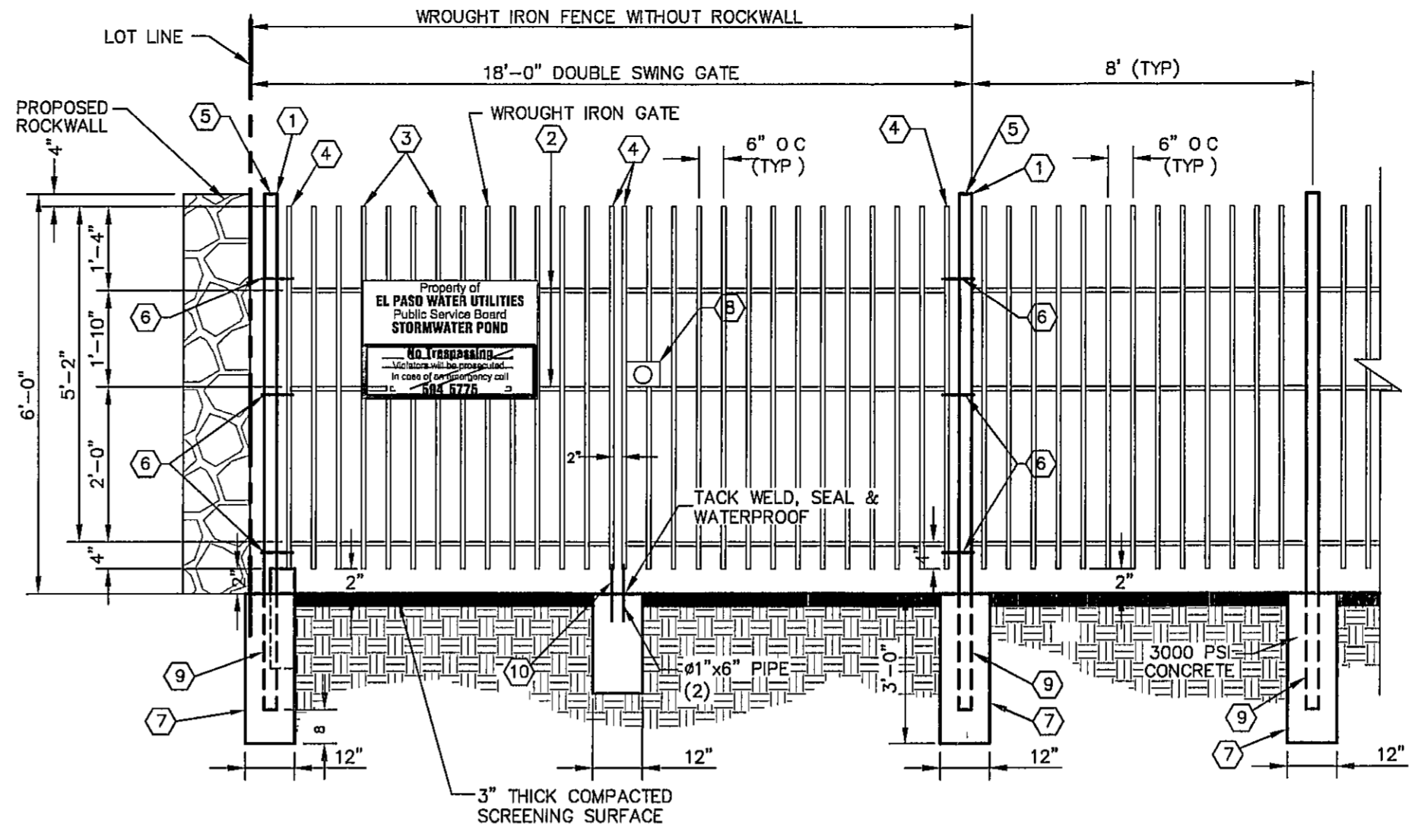
BENDING DETAIL



TABLE

D	L	T
12"	12"	12"
18"	12"	12"
24"	12"	12"
30"	12"	12"
36"	18"	18"
42"	18"	18"

3  
C14.2 PIPE TO JUNCTION BOX CONNECTION DETAIL  
SCALE 1" = 2'-0"



2  
C14.2 WROUGHT IRON FENCE & GATE DETAIL  
SCALE N T S

- KEY NOTES
- 3" x 3" x 3/16" 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 POLYVINYL CAP
  - BOLT HOOK AND STRAP HINGE
  - 1' x 3' DEEP 3000 PSI CONCRETE POST FOOTING
  - DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
  - 5"x5"x3/8" SQUARE STEEL SLEEVE W/7"x7"x3/8" STEEL BASE PLATE
  - CANE BOLT LATCH W/KEEPER 5-8" x 18" LONG (2 REQUIRED)

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTRELINE RICH FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM ELEVATION 4005.40

**ca**  
engineers • architects • planners  
TEXAS REGISTERED ENGINEERING FIRM #4584  
4712 Woodrow Bean Ste. F El Paso, TX 79924  
Office 915.241.5252 Fax 915.241.6222 www.caengr.com

ENGINEER'S SEAL  
Professional Engineer  
Jorge L. Azcarate  
No. 88075  
Professional Exp. 12/17

SCALE 1"=1'  
Horizontal Vertical Contour Interval N/A  
DATE MAY 2012  
DESIGN BY JH  
CHKD BY JLA  
APPRD BY JLA  
JOB No. 2000-134-1D

PROJECT TITLE  
TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS

SHEET TITLE  
DRAINAGE DETAILS  
DETAILS  
(SHEET 2 OF 4)  
SHEET NO

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

C14.2

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5600
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

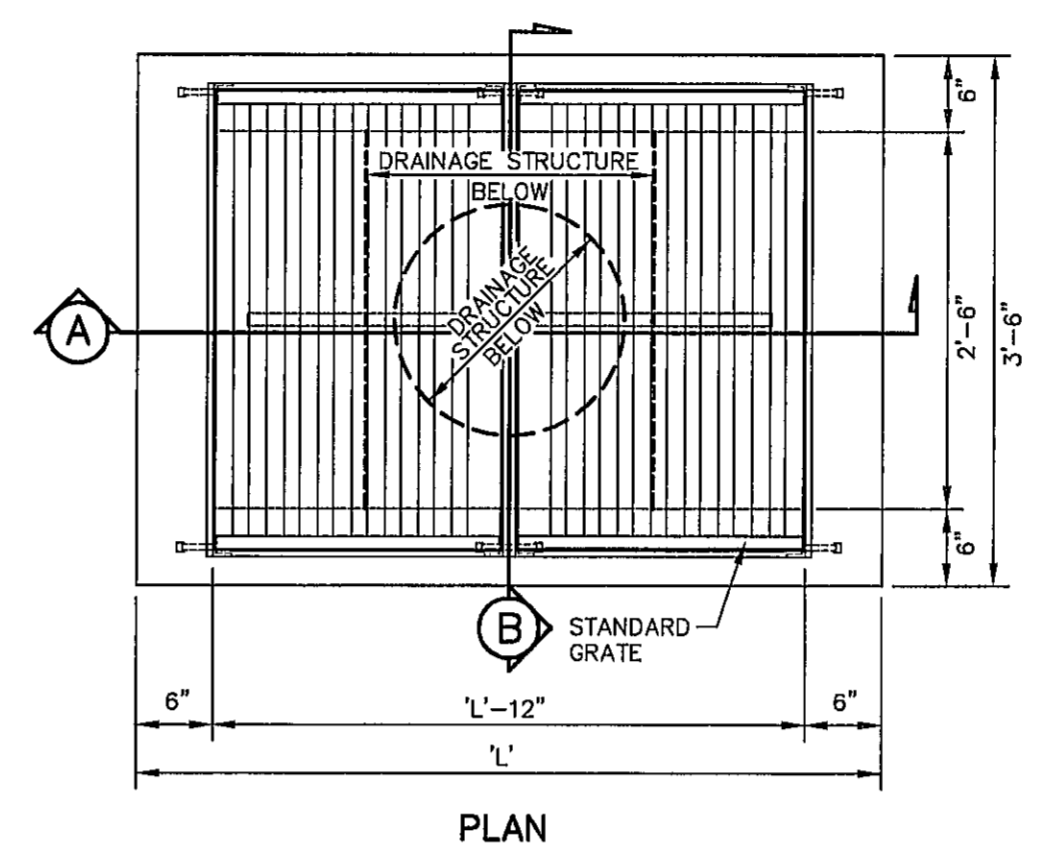
**WARNING!**  
**BEFORE YOU DIG**  
 CALL  
**1-800-DIG-TESS**  
**1-800-344-8377**  
 FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

**STORM RAK  
 PEAK ROOF STRUCTURE**  
 (STANDARD 9623)  
 DIMENSIONS IN INCHES TO THE NEAREST 1/8

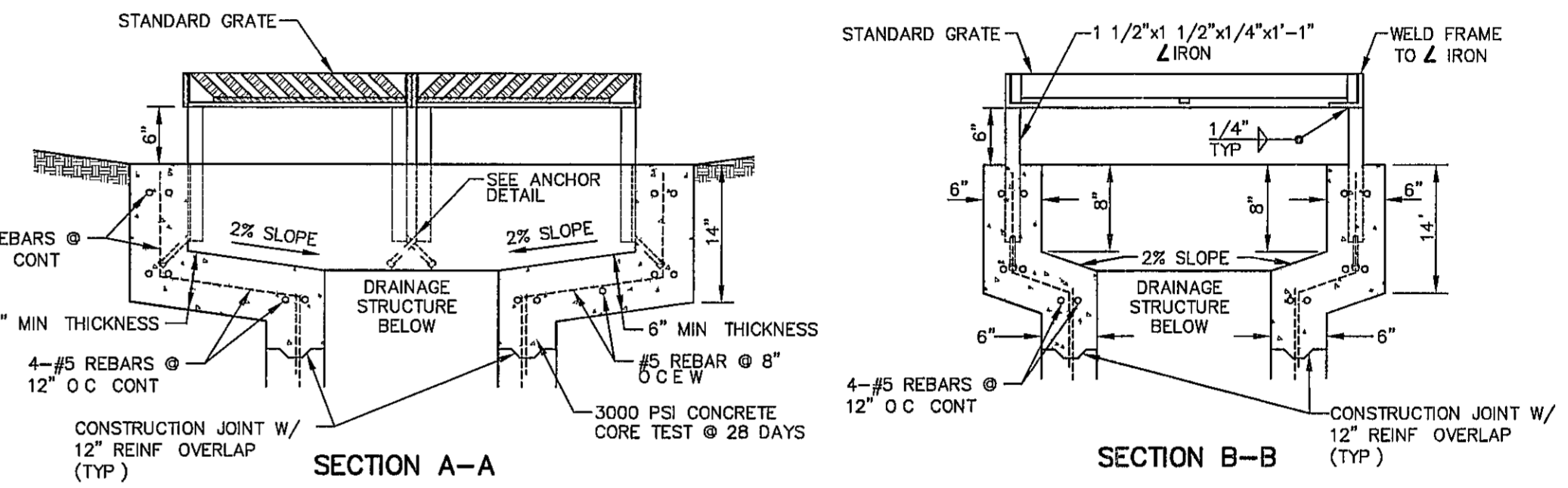
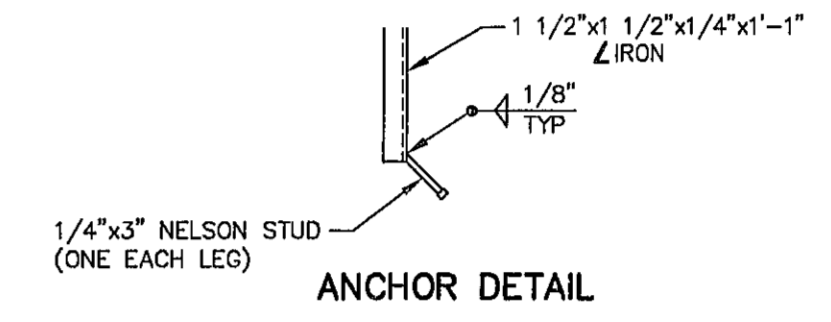
HOST STRUCTURE INSIDE DIMENSIONS	
LENGTH (B)	WALL THICKNESS (REQUIRED)
WIDTH (A)	
WIDTH (A)	LENGTH (B)
HEIGHT (C)	PEAK ROOF (PR)

**CONTECH**  
 CONSTRUCTION PRODUCTS INC.  
 1700 W. 14TH ST. SUITE 100  
 DALLAS, TEXAS 75203-4119  
 TEL: 972-382-1100  
 FAX: 972-382-1101  
 WWW.CONTECH.COM



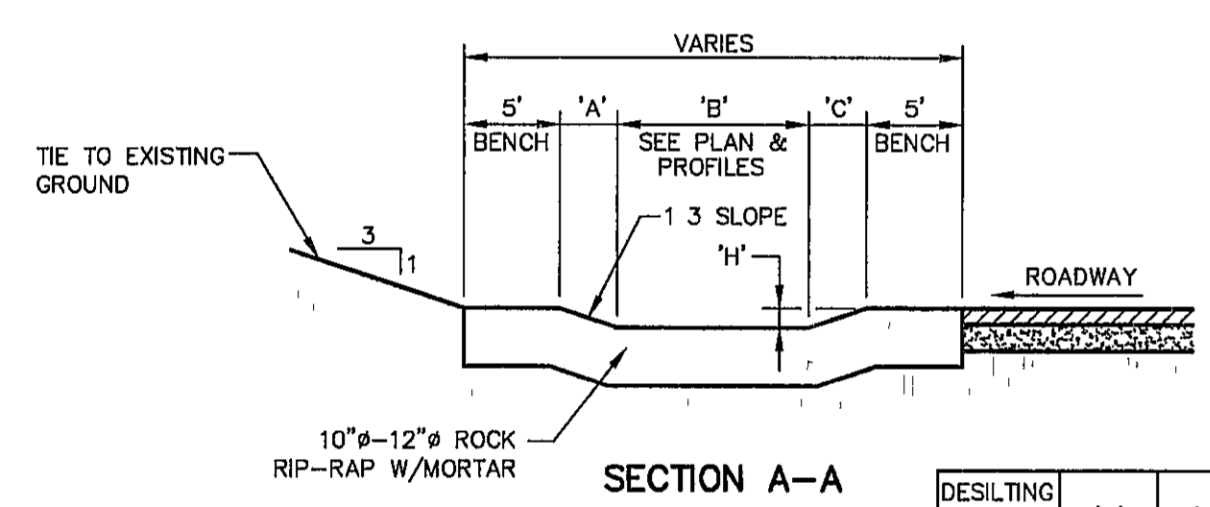
ALL SUBSTITUTIONS OF STRUCTURAL STEEL BEAMS, ANGLES, AND CHANNELS FOR DROP INLETS MUST BE SUBMITTED FOR REVIEW AND INCLUDE SECTION MODULUS AND DEFLECTION CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS

NUMBER OF GRATES	'L'
2	4'- 10 1/4"
3	6'- 9 7/8"
4	8'-9 1/2"
5	10'-9 1/8"

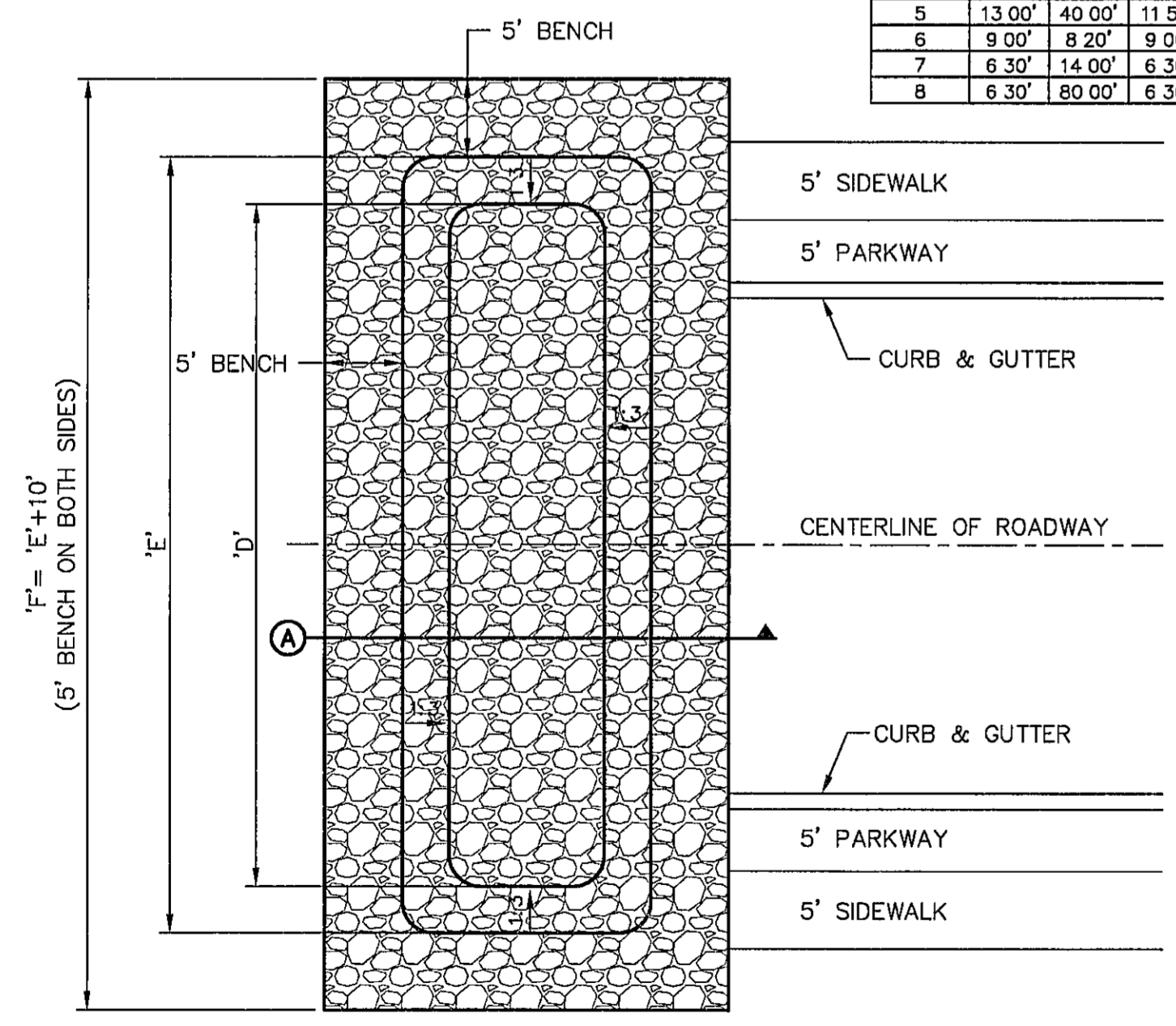


**2 OFF-STREET STORM INLET DETAIL**  
 SCALE N.T.S.

**1 RAISED TRASH RACK/DEBRIS CAGE DETAIL**  
 N.T.S.

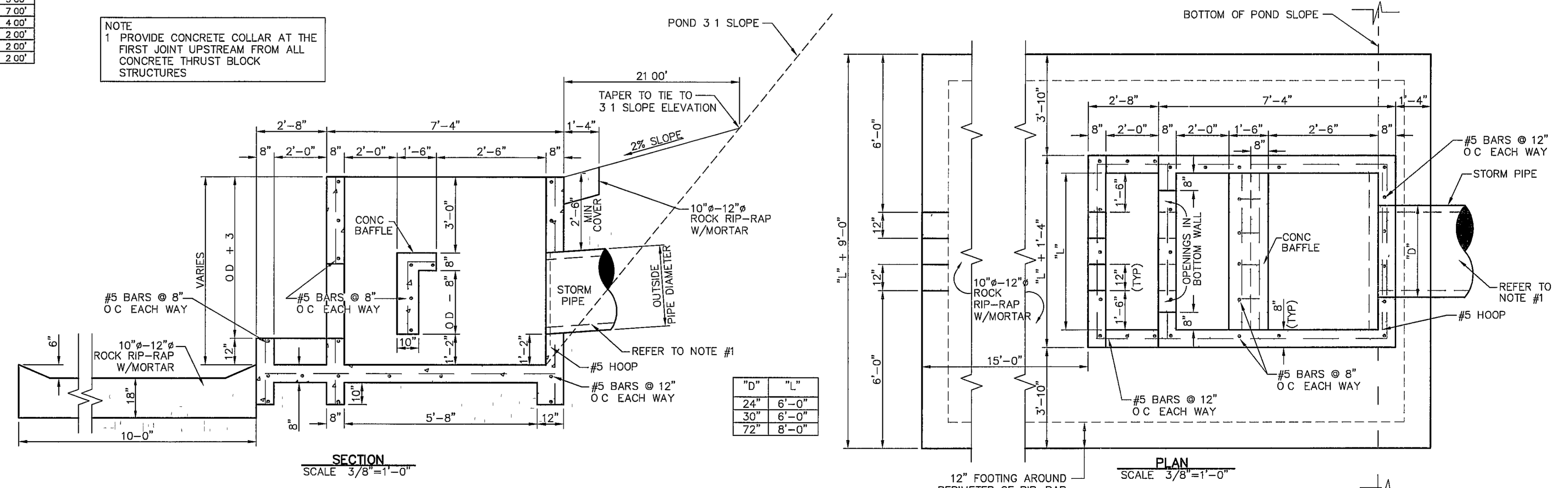


DESILTING BASIN No.	'A'	'B'	'C'	'D'	'E'	'H'
1	6 00'	28 00'	6 00'	73 00'	85 00'	2 00'
2	3 00'	7 00'	6 00'	83 00'	89 00'	2 00'
3	3 00'	7 00'	6 00'	83 00'	89 00'	3 00'
4	21 00'	10 00'	15 00'	88 00'	116 00'	7 00'
5	13 00'	40 00'	11 50'	40 00'	65 00'	4 00'
6	9 00'	8 20'	9 00'	53 20'	65 20'	2 00'
7	6 30'	14 00'	6 30'	58 00'	67 00'	2 00'
8	6 30'	80 00'	6 30'	80 00'	92 00'	2 00'



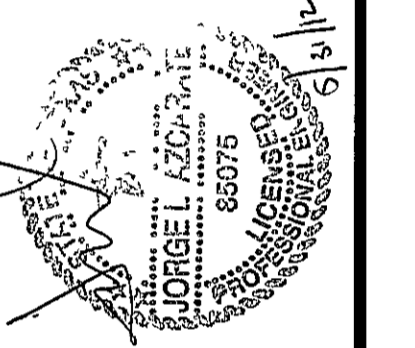
**3 TEMPORARY DESILTING BASIN DETAIL**  
 SCALE N.T.S.

**NOTE**  
 1 PROVIDE CONCRETE COLLAR AT THE FIRST JOINT UPSTREAM FROM ALL CONCRETE THRUST BLOCK STRUCTURES



**4 CONCRETE THRUST BLOCK STRUCTURE DETAIL**  
 SCALE AS SHOWN

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 4712 Woodrow Boun, Ste. F, El Paso, TX 79904  
 Office: 915.944.5552 Fax: 915.944.5533 www.caengr.com



SCALE	1"=1'
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	MAY 2012
DESIGN BY	J/H
DRAWN BY	J/H
CHKD BY	J/LA
APPRD BY	J/LA
JOB No.	2000-134-LD

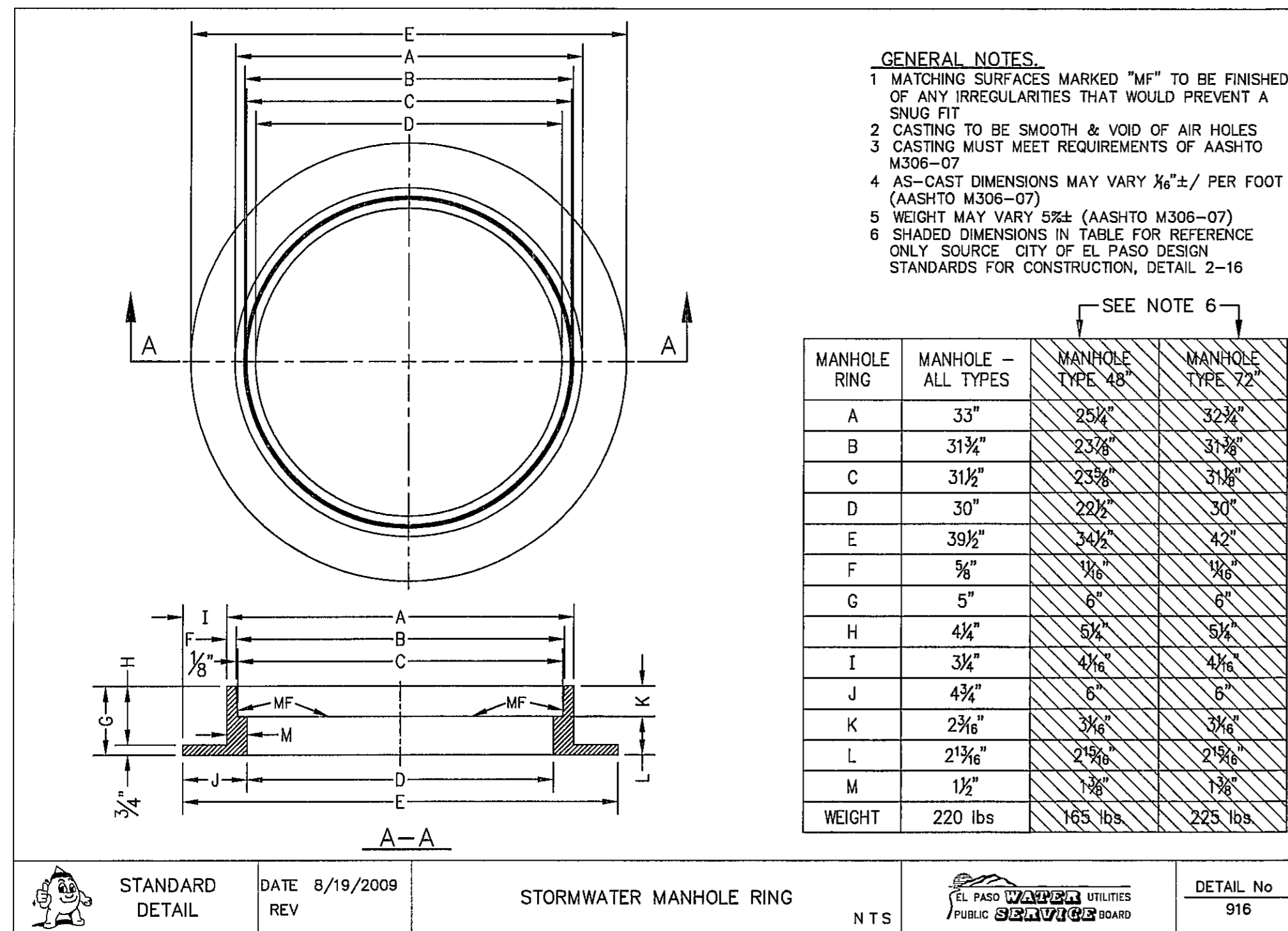
**PROJECT TITLE**  
**TRES SUEÑOS**  
**UNIT EIGHT**  
**SUBDIVISION IMPROVEMENTS**

**SHEET TITLE**  
**DRAINAGE DETAILS**  
**DETAILS**  
**(SHEET 3 OF 4)**  
**SHEET NO**

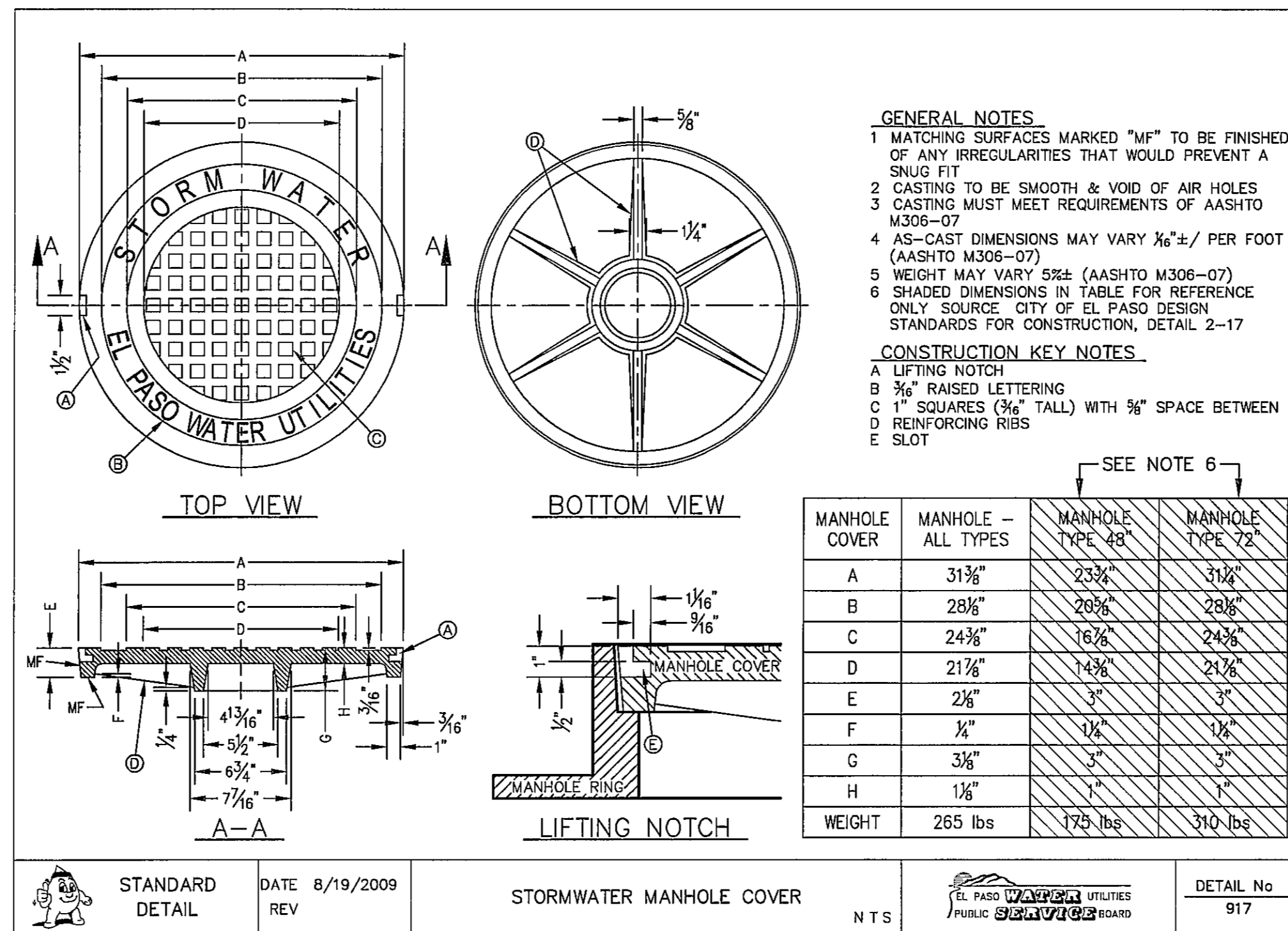
**ENGINEERING & CONSTRUCTION**  
**MANAGEMENT DEPARTMENT**

**REVIEWED**

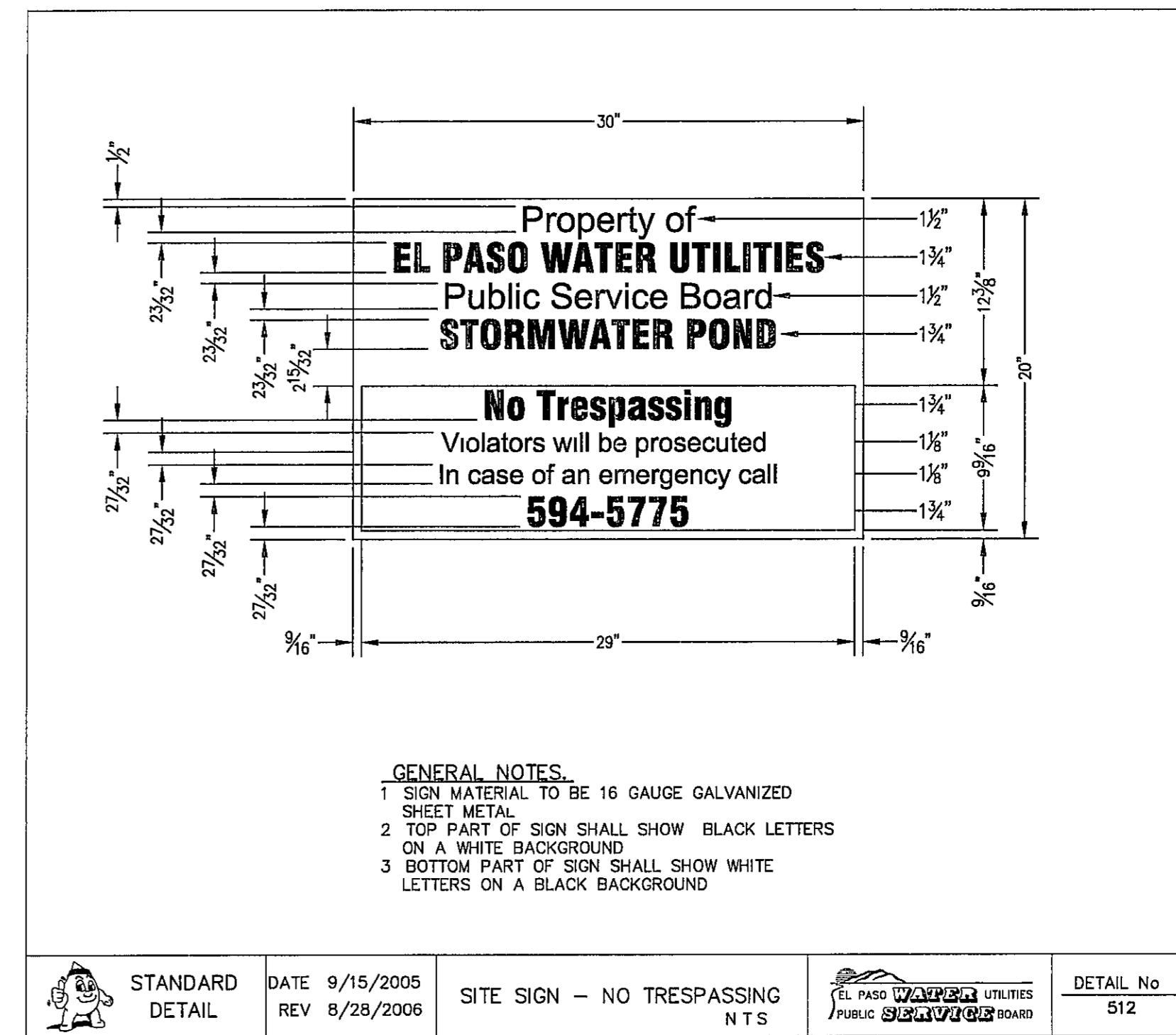
**C14.3**



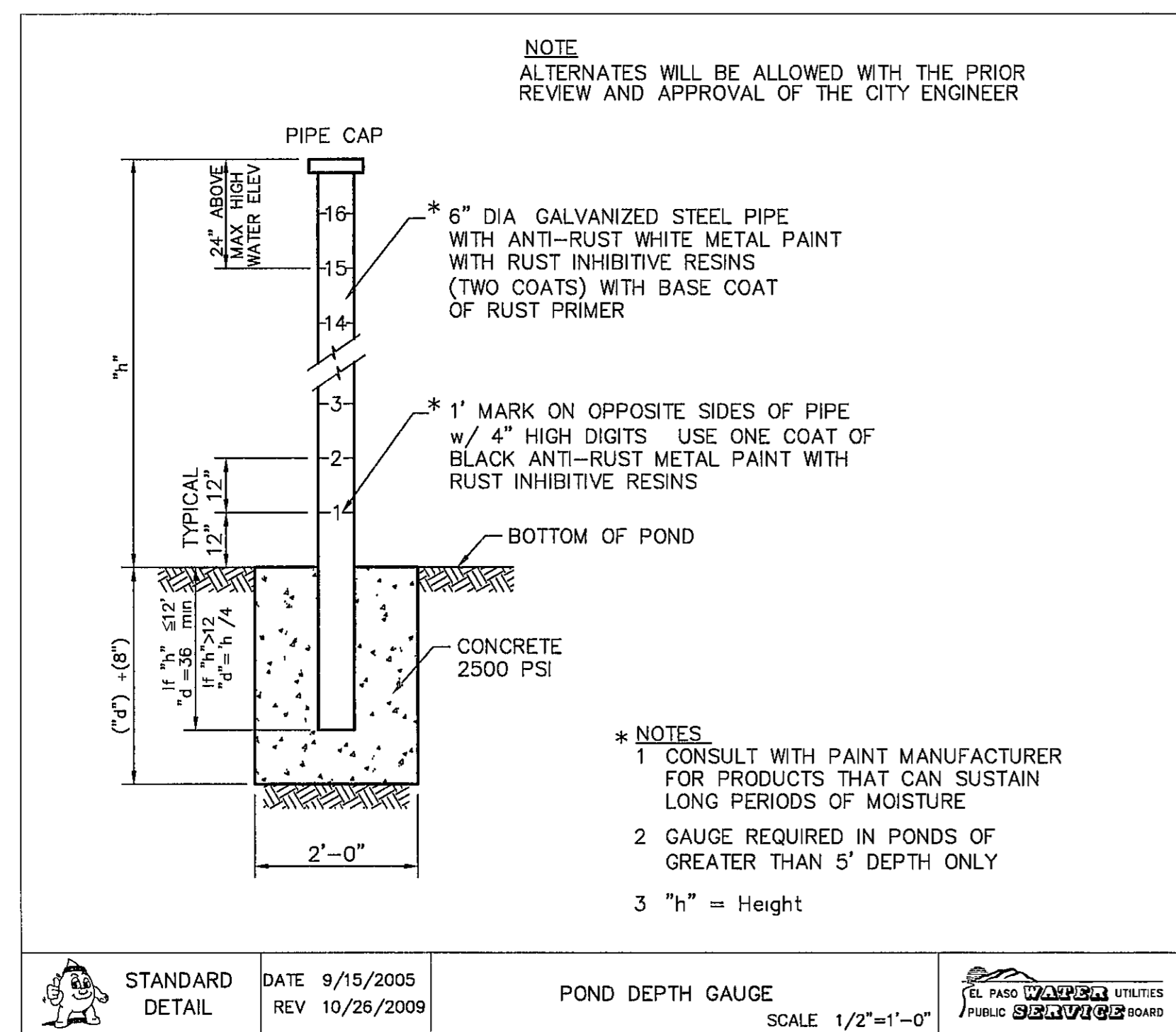
1 STORMWATER MANHOLE RING NTS



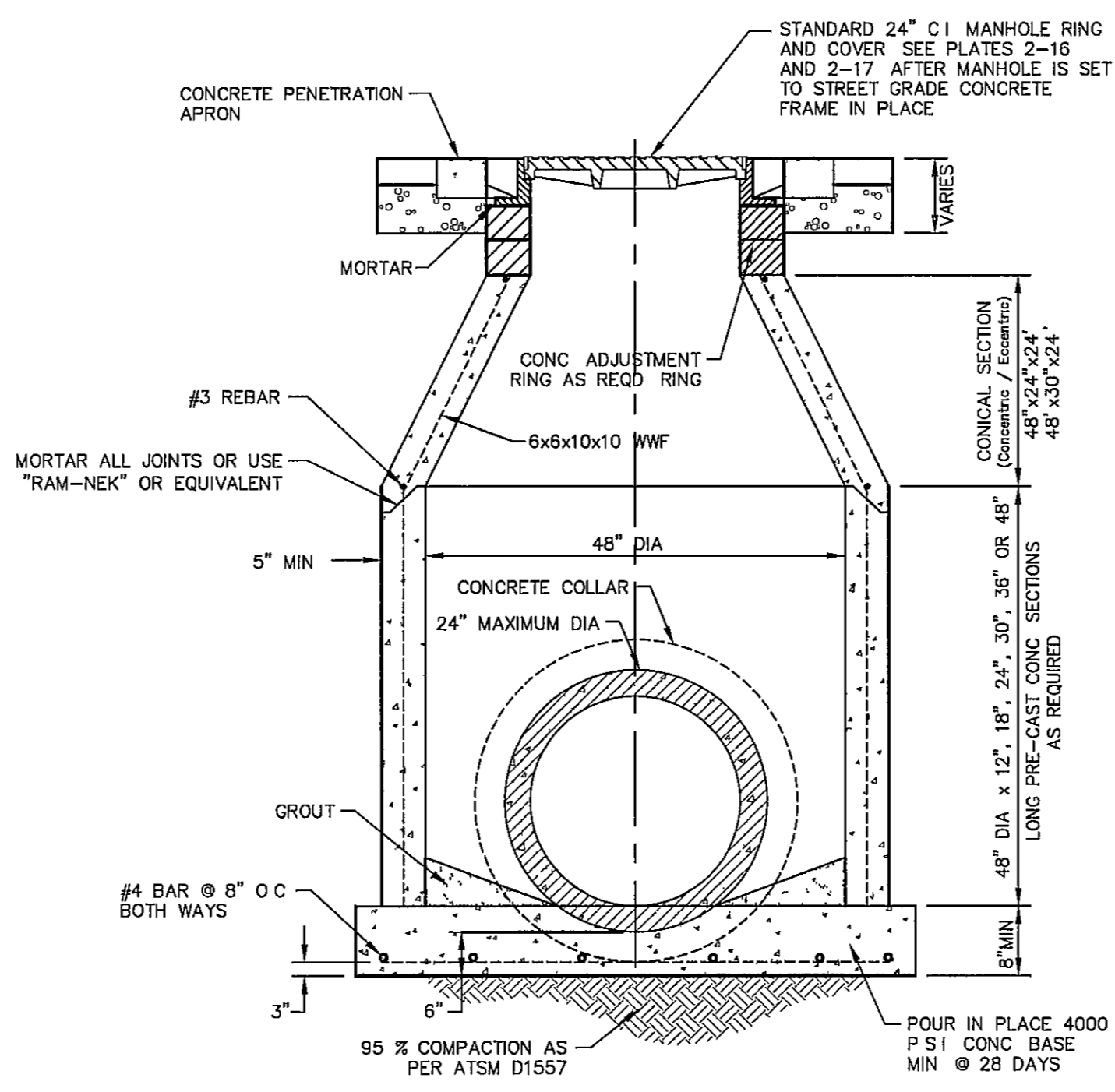
2 STORMWATER MANHOLE COVER NTS



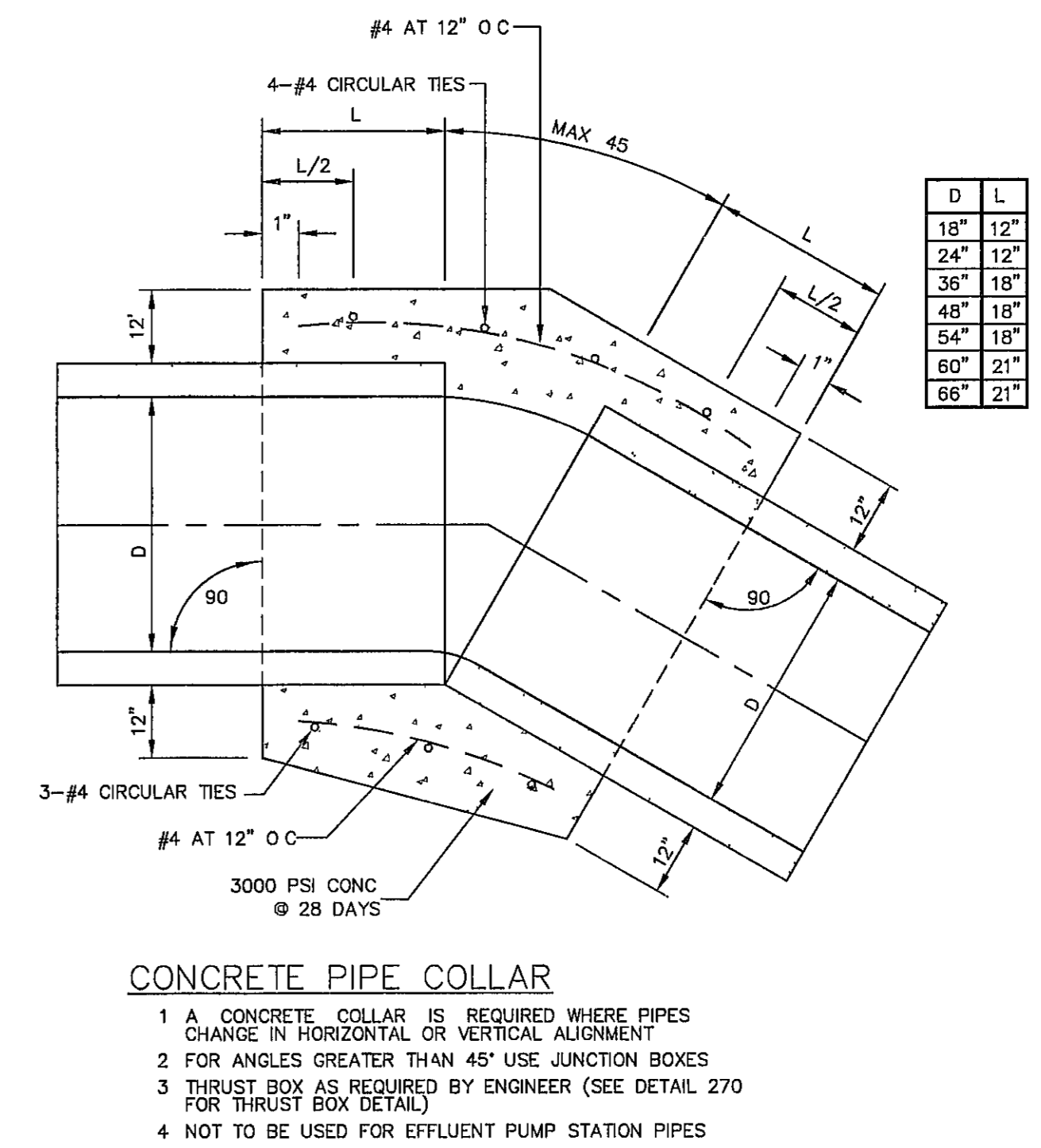
3 SITE SIGN - NO TRESPASSING NTS



4 POND DEPTH GAUGE SCALE 1/2"=1'-0" NTS



5 48" DIAMETER STANDARD PRECAST CONICAL MANHOLE NTS



6 CONCRETE PIPE COLLAR SCALE NTS

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTRALINE RICH  
FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA  
AVENUE CITY DATUM ELEVATION 4005.40

**oa**  
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TEXAS REGISTERED ENGINEERING FIRM #4564  
4712 Westwood Bean St. Ft. El Paso, TX 79904  
Phone 915.244.2222 Fax 915.244.6222 www.oaengineers.com

ENGINEER'S SEAL  
JOSUE L. ACOSTA  
REGISTERED PROFESSIONAL ENGINEER  
NO. 85075  
STATE OF TEXAS

SCALE  
Horizontal N/A  
Vertical N/A  
Contour Interval N/A  
DATE MAY 2012  
DESIGN BY J.H.  
DRAWN BY J.H.  
CHKD BY J.L.A.  
APPRD BY J.L.A.  
JOB NO. 2000-134-1D

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

SHEET TITLE  
DRAINAGE DETAILS  
DETAILS  
(SHEET 4 OF 4)  
SHEET NO

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

C14.4

BASIN AREAS	
CONTOUR	ACCUMULATED VOLUME (AC-FT)
3969	0.000
3970	0.695
3971	1.450
3972	2.266
3973	3.145
3974	4.089
3975	5.101
3976	6.180
3977	7.330
3978	8.551
3979	9.846
3980	11.216
3981	12.662
3982	14.188
3983	15.793
3984	17.481
3985	19.252
3986	21.108
3987	23.052
3988	25.084

COORDINATE TABLE		
Point #	Northing	Easting
1	65029.7814	52330.6167
2	65009.7803	52350.6189
3	64855.1818	52350.6110
4	64835.1828	52330.6134
5	64835.1377	51963.0718
6	64848.4269	51944.2288
7	65016.4189	51884.3916
8	65043.1297	51903.2299
9	64975.7765	52286.1155
10	64965.2759	52296.6166

COORDINATE TABLE		
Point #	Northing	Easting
11	64899.6768	52296.6133
12	64889.1774	52286.1146
13	64889.1415	51994.4574
14	64896.1183	51984.5648
15	64975.1134	51956.4275
16	64989.1366	51966.3176
17	64989.1636	52211.7176
18	64975.7690	52218.4693
19	65043.1754	52318.8704
20	65029.7808	52325.6221

RETENTION POND No.1 CALCULATIONS	
QT = (ARC)/12 QT = 17.219 A = 77.761 R = 4'	SILT VOLUME = 0.012 AC-FT/AC 77.761 X 0.012 = 0.933 AC-FT 21.524 + 0.933 = 22.457 AC-FT <b>TOTAL<sub>max</sub> = 22.457 AC-FT</b>
C = 0.664 QT X 25% = 4.305 17.219 + 4.305 = 21.524	

RETENTION POND No.1							
POND NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	OUTLET PIPE FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)
1	22.457 (1)	25.065	217.583	0	3986.73± (1)	3970.00	1.27

- NOTES FOR RETENTION POND No.1**
- THE TOTAL STORAGE HWSE REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO AND INCLUDES 25% EMERGENCY STORAGE.  
HWSE = QT + SILT VOLUME + 25%  
HWSE = 17.219 + 0.933 + 4.305 = 22.457 AC-FT  
CONTOUR 3986.00, ACCUMULATED VOLUME = 21.001 AC-FT  
HIGH WATER SURFACE ELEVATION = 3986.73±
  - RETENTION POND No.1 WAS DESIGNED TO ACCOMMODATE DEVELOPED RUN-OFF FROM DA-1, DA-2, DA-3, DA-5, DA-8, DA-9, DA-10, DA-11, DA-12, DA-13, DA-15, DA-17, DA-18, DA-20, DA-21, DA-22, DA-23, DA-24 & OFFSITE WS-1. IT WILL ALSO ACCOMMODATE FUTURE DEVELOPED RUN-OFF FROM DA-4, DA-6, DA-7, DA-14, DA-16, AND DA-19.
  - THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL OFF-SITE DRAINAGE STRUCTURES.
  - THE 15' WIDE POND ACCESS RAMP SHALL HAVE A MINIMUM P.I. OF 8 WITH NO LOOSE MATERIAL AND A MINIMUM OF 95% COMPACTION PER ASTM-D1557.
  - POND ROCKWALL/ RETAINING WALL SHALL BE BUILT BY A 6'-FT MINIMUM HEIGHT FROM HIGHEST GROUND BY DEVELOPER.

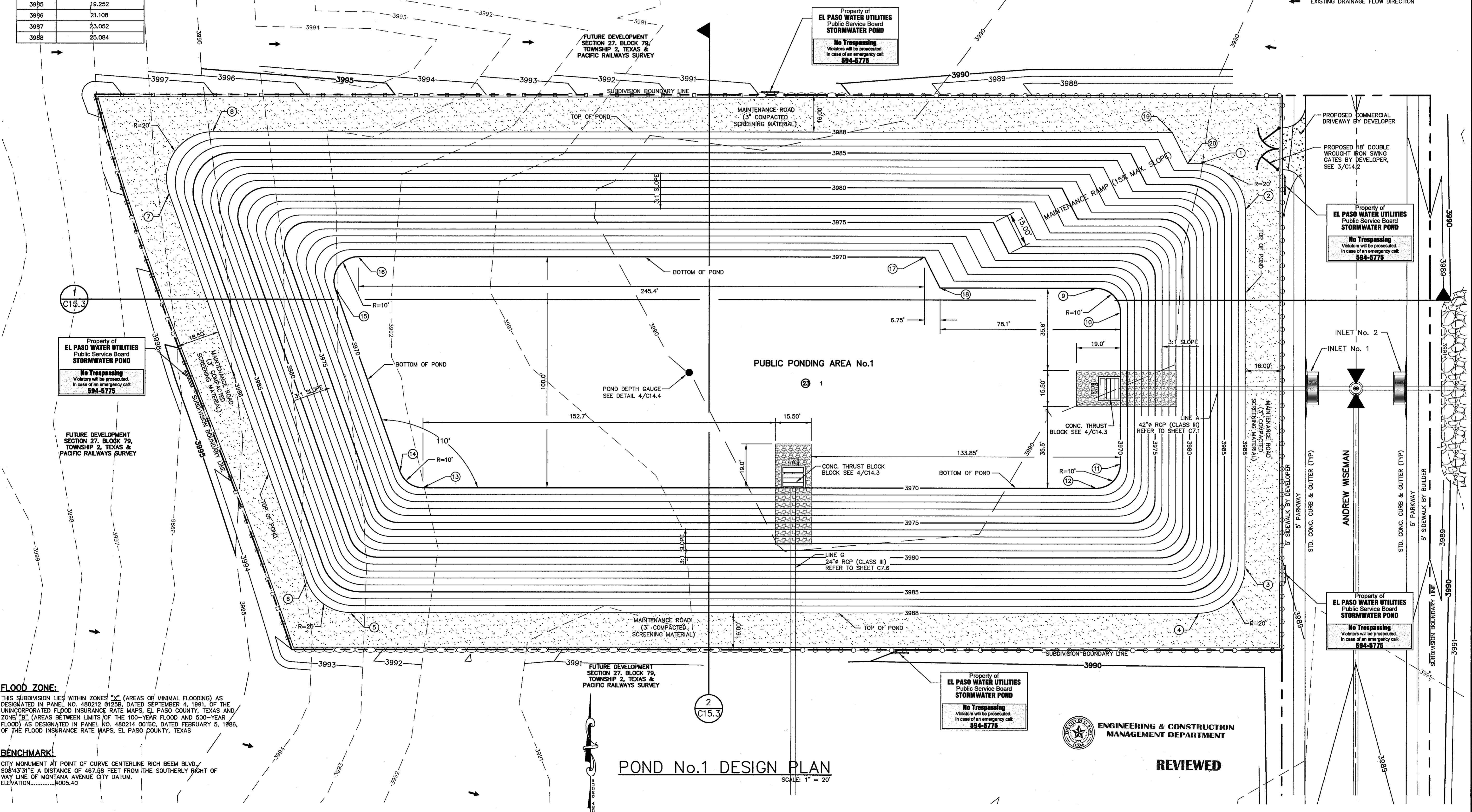
**UTILITY LOCATOR SERVICES**  
 EL PASO ELECTRIC COMPANY (915) 543-5720  
 EL PASO ENERGY CORPORATION (915) 496-5244  
 EL PASO WATER UTILITIES (915) 594-5500  
 MCI SURVEILLANCE (800) MCI-WORK  
 TIME WARNER COMMUNICATIONS (915) 772-1123  
 TEXAS GAS SERVICE (915) 680-7200  
 SBC (800) 545-6005  
 AT&T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

**WARNING I BEFORE YOU DIG**  
 CALL  
 1-800-DIG-TESS  
 1-800-344-8377  
 FOR FIELD LOCATING EXISTING UTILITIES

- LEGEND**
- 3770 — EXISTING MAJOR CONTOUR
  - 3770 — EXISTING MINOR CONTOUR
  - 3770 — NEW MAJOR CONTOUR
  - 3770 — NEW MINOR CONTOUR
  - ○ ○ ○ NEW 6' HIGH GARDEN ROCKWALL (0'-2' RETAINING HEIGHT) SEE DETAIL 4/13.2
  - ○ ○ ○ NEW 6' HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT) SEE DETAIL 4/13.2
  - □ □ □ NEW 6' HIGH RETAINING ROCKWALL (3'-9' RETAINING HEIGHT) SEE DETAIL 4/13.2
  - NO TRESPASSING SIGN
  - POND DEPTH GAUGE
  - ↑ EXISTING DRAINAGE FLOW DIRECTION

**NOTE:**

- WALLS ADJACENT TO PONDING AREAS MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH.
- THE RESULTS OF THE RETENTION BASIN BORING AND PERCOLATION TESTS PERFORMED AT THE TIME OF EXCAVATION IN ACCORDANCE TO THE CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION ARE REQUIRED BEFORE ACCEPTANCE OF ANY STORMWATER MANAGEMENT FACILITIES.



**FLOOD ZONE:**  
 THIS SUBDIVISION LIES WITHIN ZONES 'X' (AREAS OF MINIMAL FLOODING) AS DESIGNATED IN PANEL NO. 480212, 01258, DATED SEPTEMBER 4, 1991, OF THE UNINCORPORATED FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS AND ZONE 'B' (AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD) AS DESIGNATED IN PANEL NO. 480214, 0018C, DATED FEBRUARY 5, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS

**BENCHMARK:**  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31\"/>

**POND No.1 DESIGN PLAN**  
 SCALE: 1" = 20'

**ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT**

**REVIEWED**

REFERENCES - BENCHMARKS  
 CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°43'31\"/>

DATE: \_\_\_\_\_ REVISIONS: \_\_\_\_\_ BY: \_\_\_\_\_

**Project Title**  
**TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS**

**Scale**  
 Horizontal: 1" = 20'  
 Vertical: N/A  
 Contour Interval: 1/4'

**Professional Seal**  
 ENGINEER'S SEAL  
 STATE OF TEXAS  
 CIVIL ENGINEER  
 JAMES L. ACACIA  
 LICENSE NO. 65075

**Project Information**  
 DESIGN BY: J.H.  
 DRAWN BY: J.H.  
 CHKD. BY: J.L.A.  
 APP'D. BY: J.L.A.  
 JOB NO. 2000-134-LD

**Sheet Information**  
 SHEET TITLE: POND No.1 DESIGN PLAN  
 SHEET NO.: C15.1

BASIN AREAS	
CONTOUR	ACCUMULATED VOLUME (AC-FT)
3979	0.000
3980	0.614
3981	1.279
3982	1.998
3983	2.771
3984	3.600
3985	4.488
3986	5.434
3987	6.443

BASIN AREAS	
CONTOUR	ACCUMULATED VOLUME (AC-FT)
3988	7.514
3989	8.649
3990	9.851
3991	11.120
3992	12.459
3993	13.869
3994	15.350
3995	16.906

COORDINATE TABLE		
Point #	Northing	Easting
1	63821.6168	53210.7679
2	63841.6202	53230.7654
3	63841.6366	53382.2675
4	63821.6355	53402.2696
5	63518.6282	53402.2537
6	63498.6292	53382.2562
7	63498.6112	53217.4279
8	63518.6077	53197.4254
9	63783.6230	53258.7745
10	63793.6248	53268.7736

COORDINATE TABLE		
Point #	Northing	Easting
11	63793.6321	53344.2667
12	63783.6315	53354.2676
13	63556.6241	53354.2557
14	63546.6247	53344.2567
15	63546.6158	53255.4198
16	63556.6140	53245.4188
17	63703.7858	53245.3931
18	63710.5383	53258.7874
19	63799.0338	53197.3765
20	63805.7862	53210.7707

**FLOOD ZONE:**

THIS SUBDIVISION LIES WITHIN ZONES "X" (AREAS OF MINIMAL FLOODING) AS DESIGNATED IN PANEL NO. 480212 01258, DATED SEPTEMBER 4, 1991, OF THE UNINCORPORATED FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS AND ZONE "X" (AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD) AS DESIGNATED IN PANEL NO. 480214 0016C, DATED FEBRUARY 5, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS

**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

**LEGEND:**

- 3770 — EXISTING MAJOR CONTOUR
- 3770 — EXISTING MINOR CONTOUR
- 3770 — NEW MAJOR CONTOUR
- 3770 — NEW MINOR CONTOUR
- ○ ○ ○ ○ NEW 6' HIGH GARDEN ROCKWALL (0'-2' RETAINING HEIGHT) SEE DETAIL 4/13.2
- ○ ○ ○ ○ NEW 6' HIGH RETAINING ROCKWALL (2'-3' RETAINING HEIGHT) SEE DETAIL 4/13.2
- □ □ □ □ NEW 6' HIGH RETAINING ROCKWALL (3'-9' RETAINING HEIGHT) SEE DETAIL 4/13.2
- — — — — NO TRESPASSING SIGN
- POND DEPTH GAUGE
- EXISTING DRAINAGE FLOW DIRECTION

**NOTE:**

- WALLS ADJACENT TO PONDING AREAS MAY BE CONSTRUCTED OF BRICK, ROCK, STONE OR CINDER BLOCK AND SHALL NOT BE LESS THAN SIX (6) FEET HIGH.
- THE RESULTS OF THE RETENTION BASIN BORING AND PERCOLATION TESTS PERFORMED AT THE TIME OF EXCAVATION IN ACCORDANCE TO THE CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION ARE REQUIRED BEFORE ACCEPTANCE OF ANY STORMWATER MANAGEMENT FACILITIES.

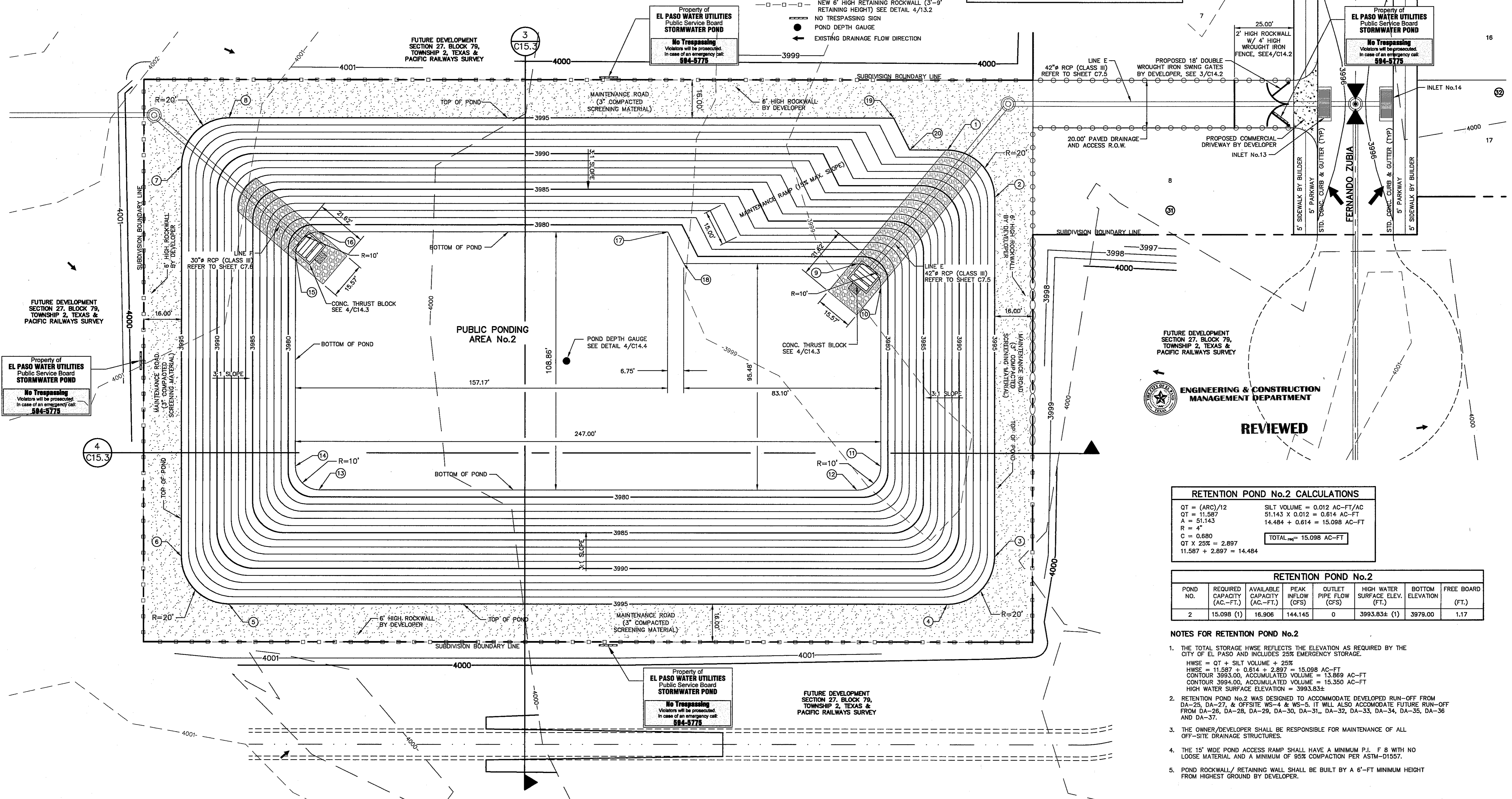
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING I BEFORE YOU DIG**

CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



**RETENTION POND No.2 CALCULATIONS**

QT = (ARC)/12	SILT VOLUME = 0.012 AC-FT/AC
QT = 11.587	51.143 X 0.012 = 0.614 AC-FT
A = 51.143	14.484 + 0.614 = 15.098 AC-FT
R = 4'	
C = 0.680	
QT X 25% = 2.897	<b>TOTAL<sub>HWSE</sub> = 15.098 AC-FT</b>
11.587 + 2.897 = 14.484	

**RETENTION POND No.2**

POND NO.	REQUIRED CAPACITY (AC-FT)	AVAILABLE CAPACITY (AC-FT)	PEAK INFLOW (CFS)	OUTLET PIPE FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)
2	15.098 (1)	16.906	144.145	0	3993.83± (1)	3979.00	1.17

- NOTES FOR RETENTION POND No.2**
- THE TOTAL STORAGE HWSE REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO AND INCLUDES 25% EMERGENCY STORAGE.  
HWSE = QT + SILT VOLUME + 25%  
HWSE = 11.587 + 0.614 + 2.897 = 15.098 AC-FT  
CONTOUR 3993.00, ACCUMULATED VOLUME = 13.869 AC-FT  
CONTOUR 3994.00, ACCUMULATED VOLUME = 15.350 AC-FT  
HIGH WATER SURFACE ELEVATION = 3993.83±
  - RETENTION POND No.2 WAS DESIGNED TO ACCOMMODATE DEVELOPED RUN-OFF FROM DA-25, DA-27, & OFFSITE WS-4 & WS-5. IT WILL ALSO ACCOMMODATE FUTURE RUN-OFF FROM DA-26, DA-28, DA-29, DA-30, DA-31, DA-32, DA-33, DA-34, DA-35, DA-36 AND DA-37.
  - THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL OFF-SITE DRAINAGE STRUCTURES.
  - THE 15' WIDE POND ACCESS RAMP SHALL HAVE A MINIMUM P.I. F 8 WITH NO LOOSE MATERIAL AND A MINIMUM OF 95% COMPACTION PER ASTM-D1557.
  - POND ROCKWALL/RETAINING WALL SHALL BE BUILT BY A 6'-FT MINIMUM HEIGHT FROM HIGHEST GROUND BY DEVELOPER.

**POND No.2 DESIGN PLAN**  
SCALE: 1" = 20'

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

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4712 Woodrow Bland, Ste. F, El Paso, TX 79924  
Office: 915.544.5332 Fax: 915.544.5233 www.cesgroup.net

ENGINEER'S SEAL  
STATE OF TEXAS  
JOSÉ L. AZCARATE  
86075  
Professional Engineer  
No. 100000

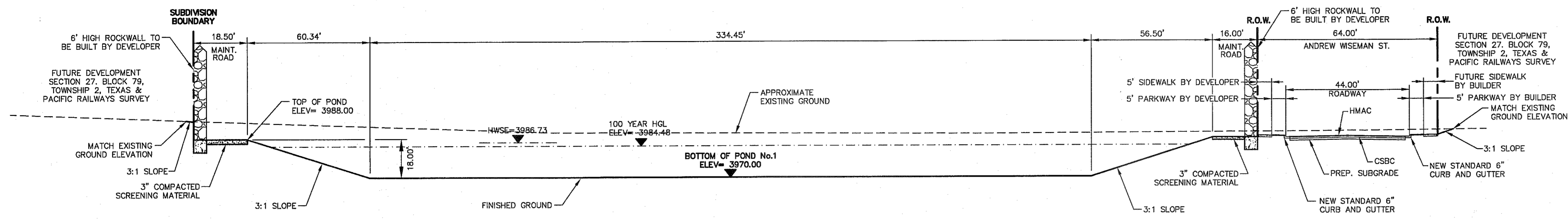
SCALE: 1" = 20'  
Horizontal: 1" = 20'  
Vertical: Contour Interval: N/A

DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHKD. BY: J.L.A.  
APPD. BY: J.L.A.  
JOB NO. 2000-134-LD

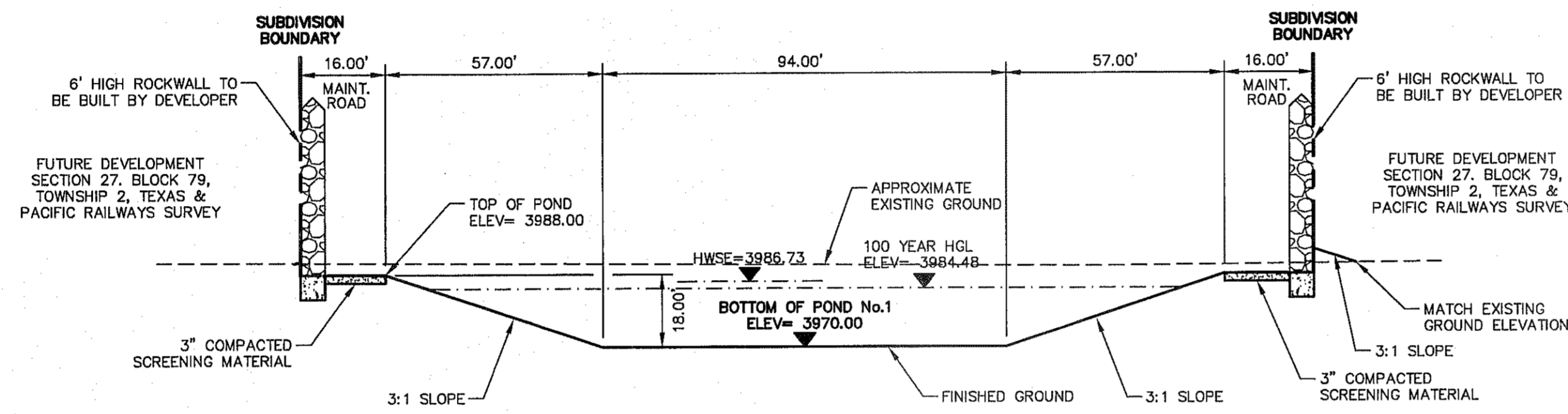
PROJECT TITLE  
**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE  
**POND No.2 DESIGN PLAN**

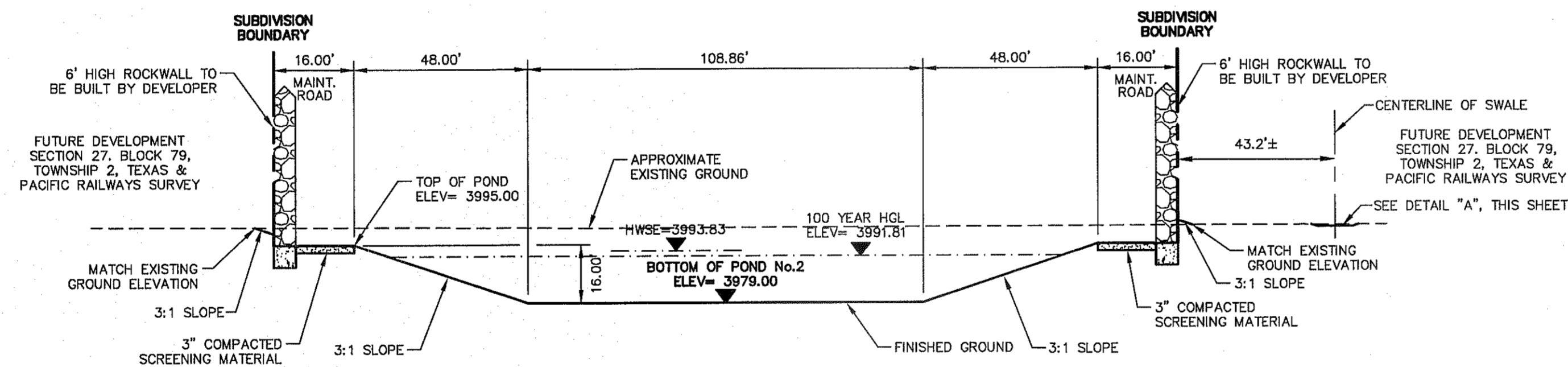
SHEET NO.  
**C15.2**



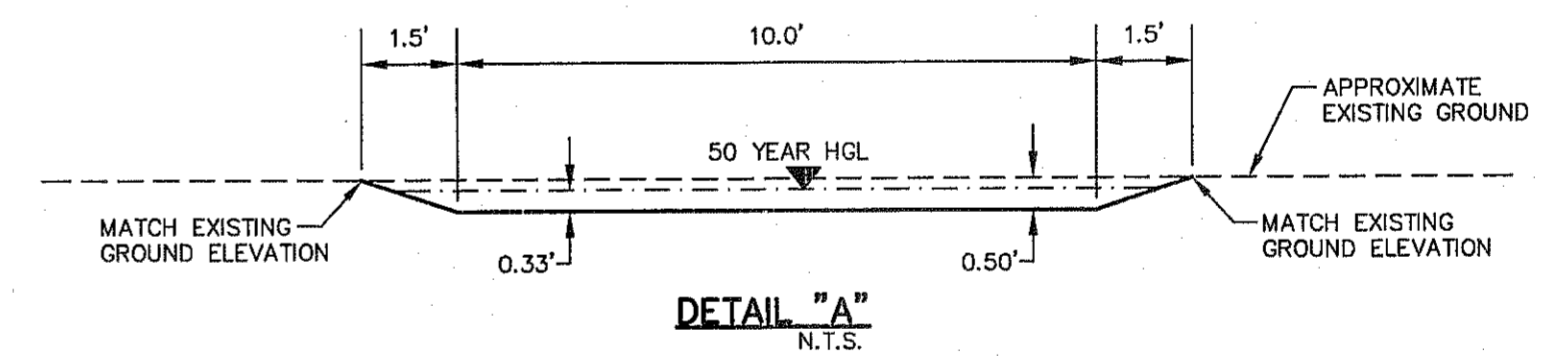
SECTION 1  
C15.3



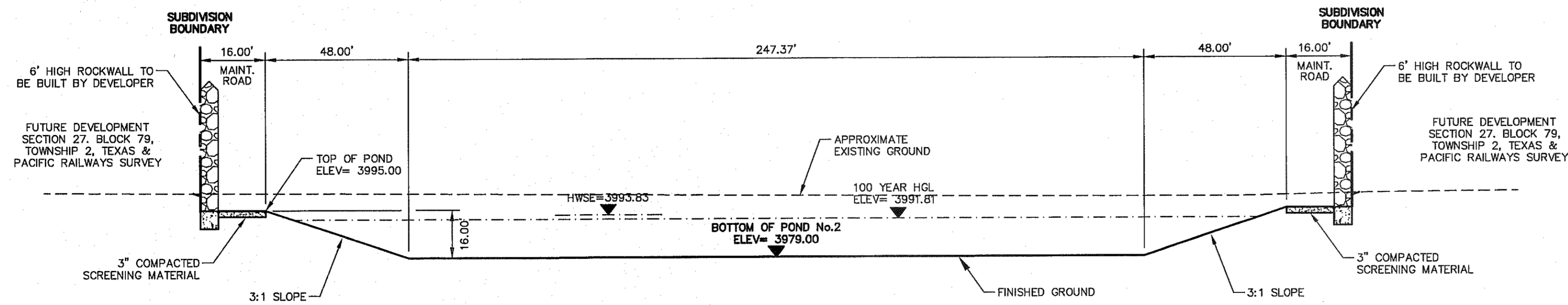
SECTION 2  
C15.3



SECTION 3  
C15.3



DETAIL "A"  
N.T.S.



SECTION 4  
C15.3

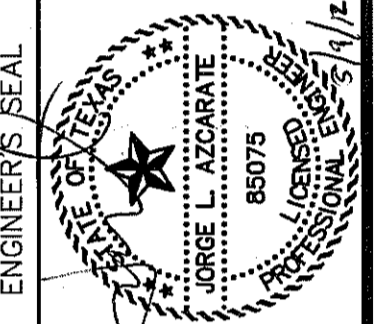


REVIEWED

DATE	REVISIONS	BY

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

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4712 Woodrow Bean, Ste. F, El Paso, TX 79924  
Office: 915.545.5252 Fax: 915.545.5253 www.csaengineers.com



SCALE: Horizontal: 1" = 30'  
Vertical: 1" = 10'  
Contour Interval: N/A

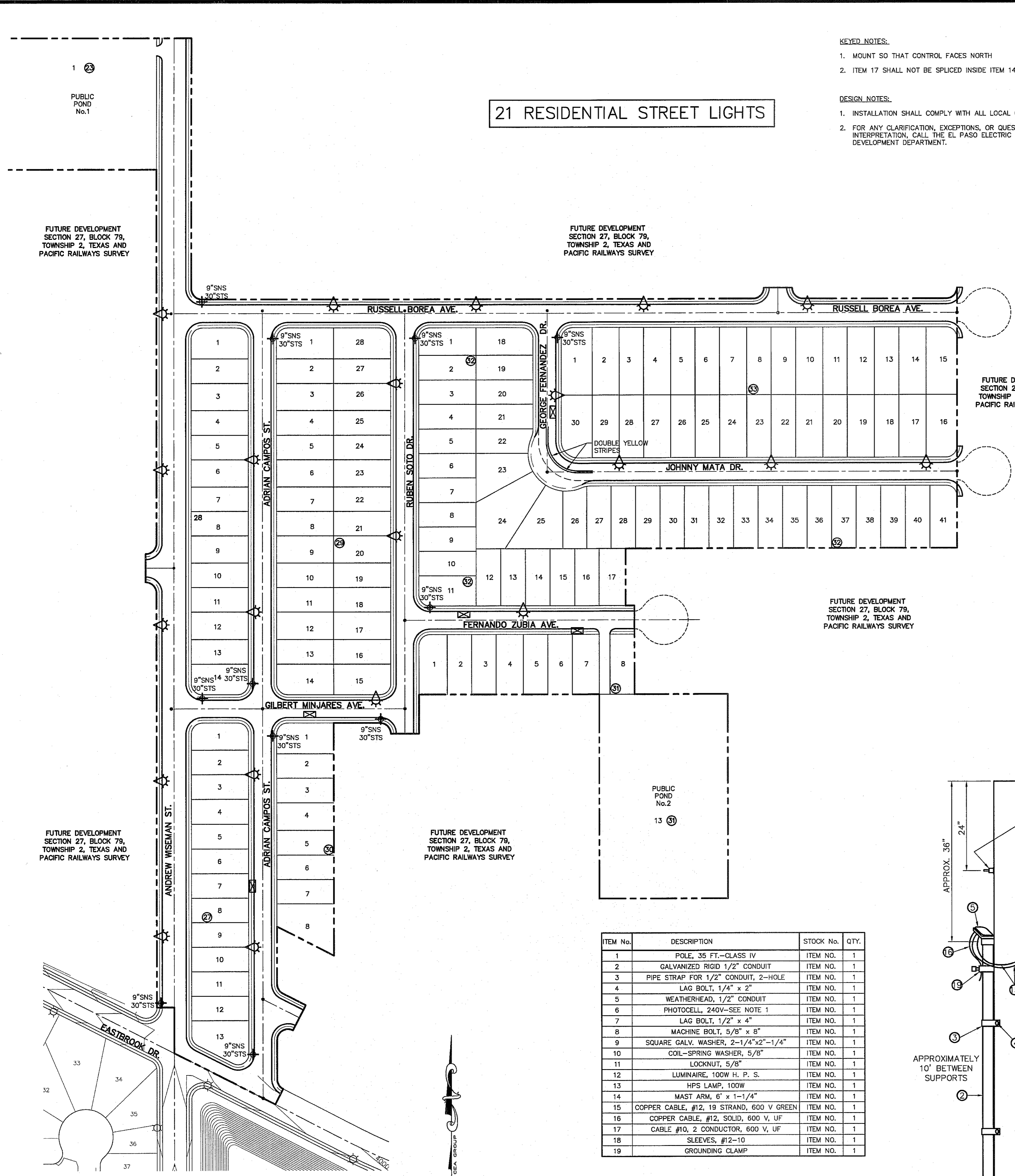
DATE: MAY 2012  
DESIGN BY: J.H.  
DRAWN BY: J.H.  
CHKD. BY: J.L.A.  
APP'D. BY: J.L.A.  
JOB No.: 2000-134-LD

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

SHEET TITLE  
**POND No.1 &  
POND No.2  
SECTIONS**

SHEET NO.

C15.3



**21 RESIDENTIAL STREET LIGHTS**

- KEYED NOTES:**
1. MOUNT SO THAT CONTROL FACES NORTH
  2. ITEM 17 SHALL NOT BE SPLICED INSIDE ITEM 14
- DESIGN NOTES:**
1. INSTALLATION SHALL COMPLY WITH ALL LOCAL CODE REQUIREMENTS.
  2. FOR ANY CLARIFICATION, EXCEPTIONS, OR QUESTIONS REGARDING CODE INTERPRETATION, CALL THE EL PASO ELECTRIC CO. DISTRIBUTION DEVELOPMENT DEPARTMENT.

- GENERAL NOTES:**
1. A MINIMUM 3' CLEARANCE SHALL BE PROVIDED ON THE SIDEWALK AFTER THE LIGHT POLES & FIRE HYDRANTS ARE PLACED. SIDEWALK SHALL COMPLY WITH A.D.A. AND T.D.L.R. STANDARDS.
  2. U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) THAT WILL BE PLACED OUTSIDE SUBDIVISION BOUNDARY LIMITS DUE TO THE SUBDIVISION PRIVATE LOCATION.
  3. POSTS MUST BE BREAK-AWAY TYPE AS SHOWN ON THIS SHEET.
  4. TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.

**UTILITY LOCATOR SERVICES**

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MCI SURVEILLANCE	(800) MCI-WORK
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U.S. SPRINT TELECOMM	(800) 521-0579

**WARNING!**  
**BEFORE YOU DIG**

CALL  
**1-800-DIG-TESS**  
**1-800-344-8377**

FOR FIELD LOCATING EXISTING UTILITIES

- LEGEND:**
- ☉ EXISTING RESIDENTIAL STREET LIGHT
  - ☉ PROPOSED RESIDENTIAL STREET LIGHT
  - ☉ PROPOSED 9" STREET NAME SIGN (TWO SIGNS) AND 30" STOP SIGN
  - ☉ W14-1P DEAD END SIGN
  - ☉ PROPOSED N.D.B.C.U. MAIL BOX

**REFERENCES - BENCHMARKS**

CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., 5084331'E, A DISTANCE OF 487.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DATUM. ELEVATION: 4065.40

DATE	REVISIONS	BY

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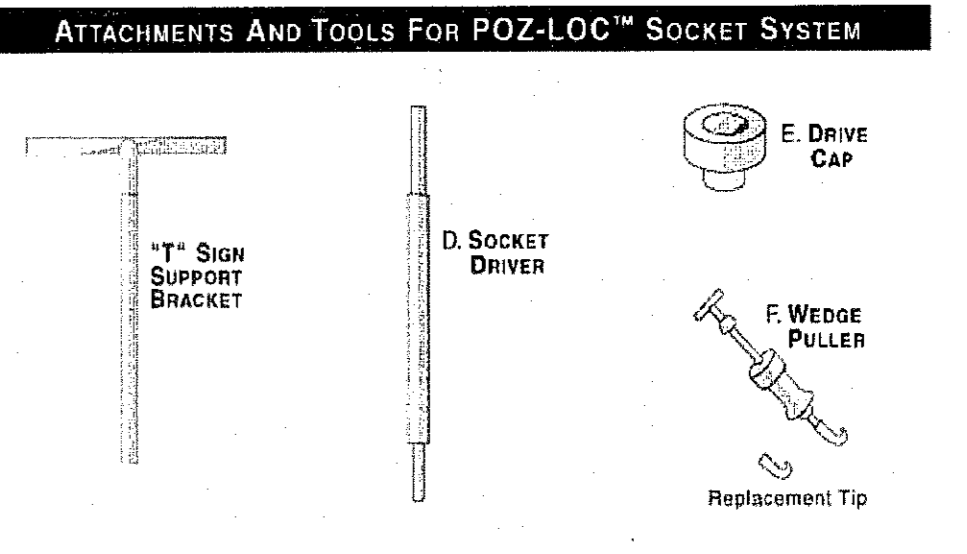
Office: 915.544.5232 Fax: 915.544.6233 www.csandup.net

**COMPONENTS OF THE POZITUBE® TRAFFIC POST**

POZITUBE® Traffic Posts may be ordered with pre-punched 13-hole pattern or with hot-dipped galvanized mounting brackets including nuts and bolts.

Sign Mounting Brackets 2" = #208, 2.5" = #207 Quantities of 100 w/nuts & washers

Product	Outside Diameter	Nominal Post Size	Wall Thickness	Weight Per Foot
Traffic Post	2.375"	2"	.065	1.09 lb
POSTS ARE AVAILABLE IN 8"-14", IN 1" INCREMENTS			.080	1.96 lb
			.095	2.313 lb



**POZ-LOC™ SIGN POST SOCKET SYSTEM**

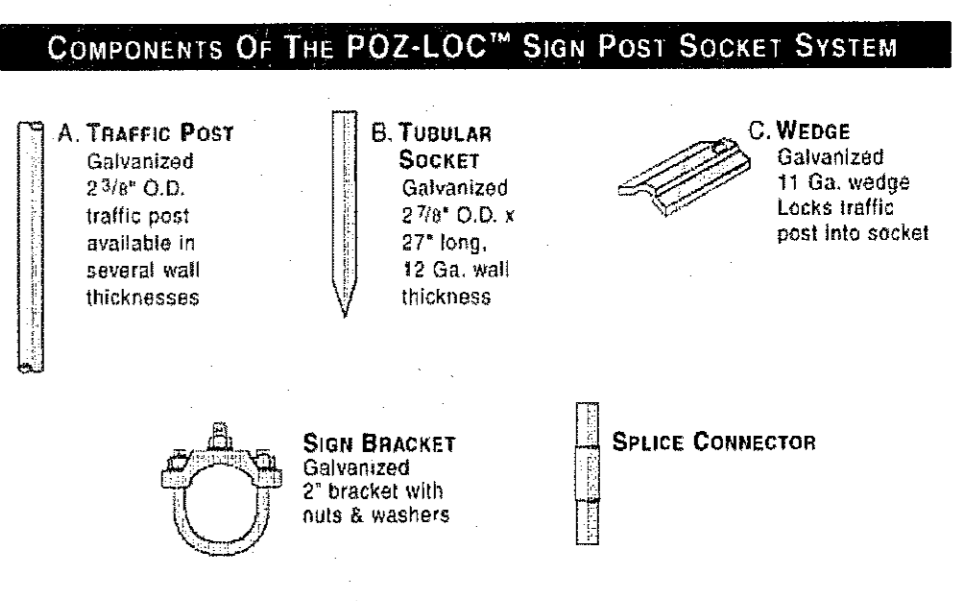
Northwest Pipe Company also manufactures the POZ-LOC™ Sign Post Socket System which offers the simplest, most cost effective breakaway sign post system available today. It is installed flush with the ground, which prevents damage to the socket system and the vehicle upon impact. The POZ-LOC™ Socket System is easiest to install and simplest to reuse after impact.

**POZITUBE® TRAFFIC POST**

**GALVANIZED TRAFFIC POSTS**  
COLOR COATINGS AVAILABLE  
• High Visibility Yellow • Clear Coat • Green • Black • Brown

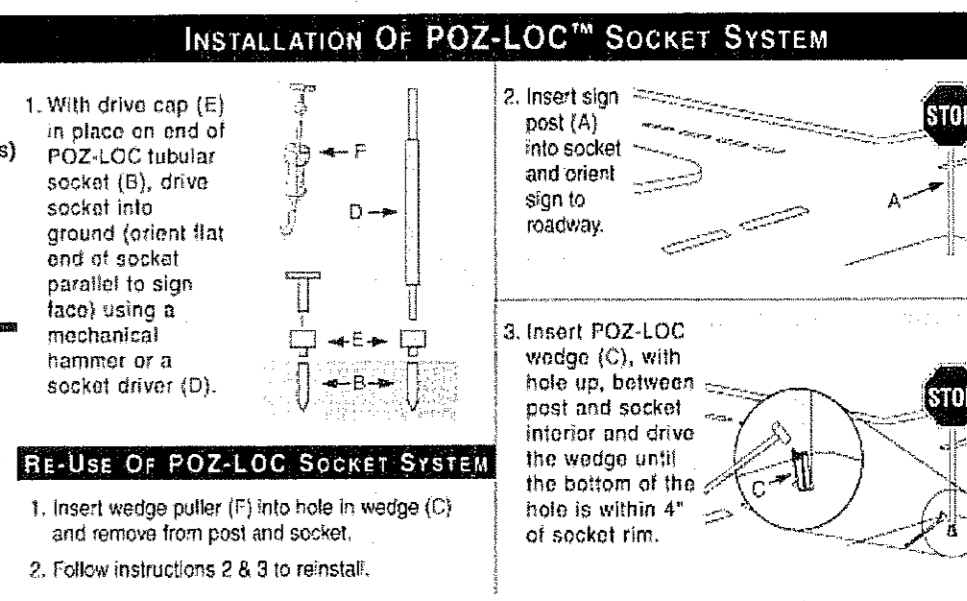
POZITUBE® Traffic Posts have the following characteristics and properties:

1. Galvanized (inside and out).
2. Electrostatically powder coated for years of additional life.
3. Electric resistance welded from hot-dipped galvanized steel sheet conforming to ASTM specifications A-525-090 commercial weight.
4. Tubing is produced to ASTM A-513, Specification For Welded Mechanical Tubing.
5. Excellent resistance to urban environments where air pollution causes accelerated corrosion.
6. Resistant to damage by impact, abrasion, scratches, temperature variations. Provides superb protection against rust and chemicals such as salt, fertilizers, insecticides, fungicides and solvents such as motor oils, gasoline and other normally damaging substances.
7. May be ordered with sign mounting brackets (listed under components), our standard 13-hole pre-punched pattern or punched to your specifications.



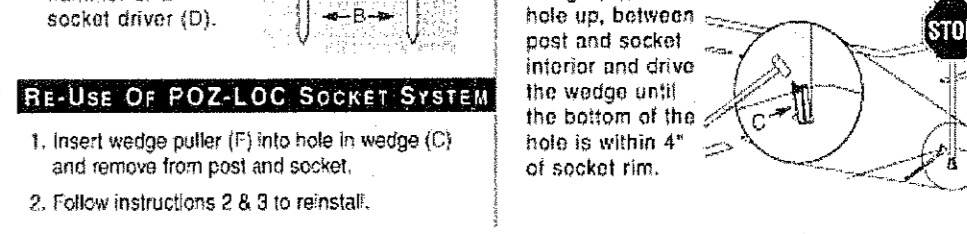
**POZ-LOC™ SOCKET SYSTEM ORDERING INFORMATION**

Description	Part No.	Wt. (LBS)	Description	Part No.	Wt. (LBS)
Socket 2 7/8" x 27"	2804	7.3	2 7/8" Drive Cap	2700	11.9
Wedge	2813	1.0	Wedge Puller	2713	6.0
Sign Post 2 3/8"	2719	1.0	Puller Replacement Tip	2719	1.0
Sign Brackets 2"	206	0.38	Socket Driver	2712	45.0

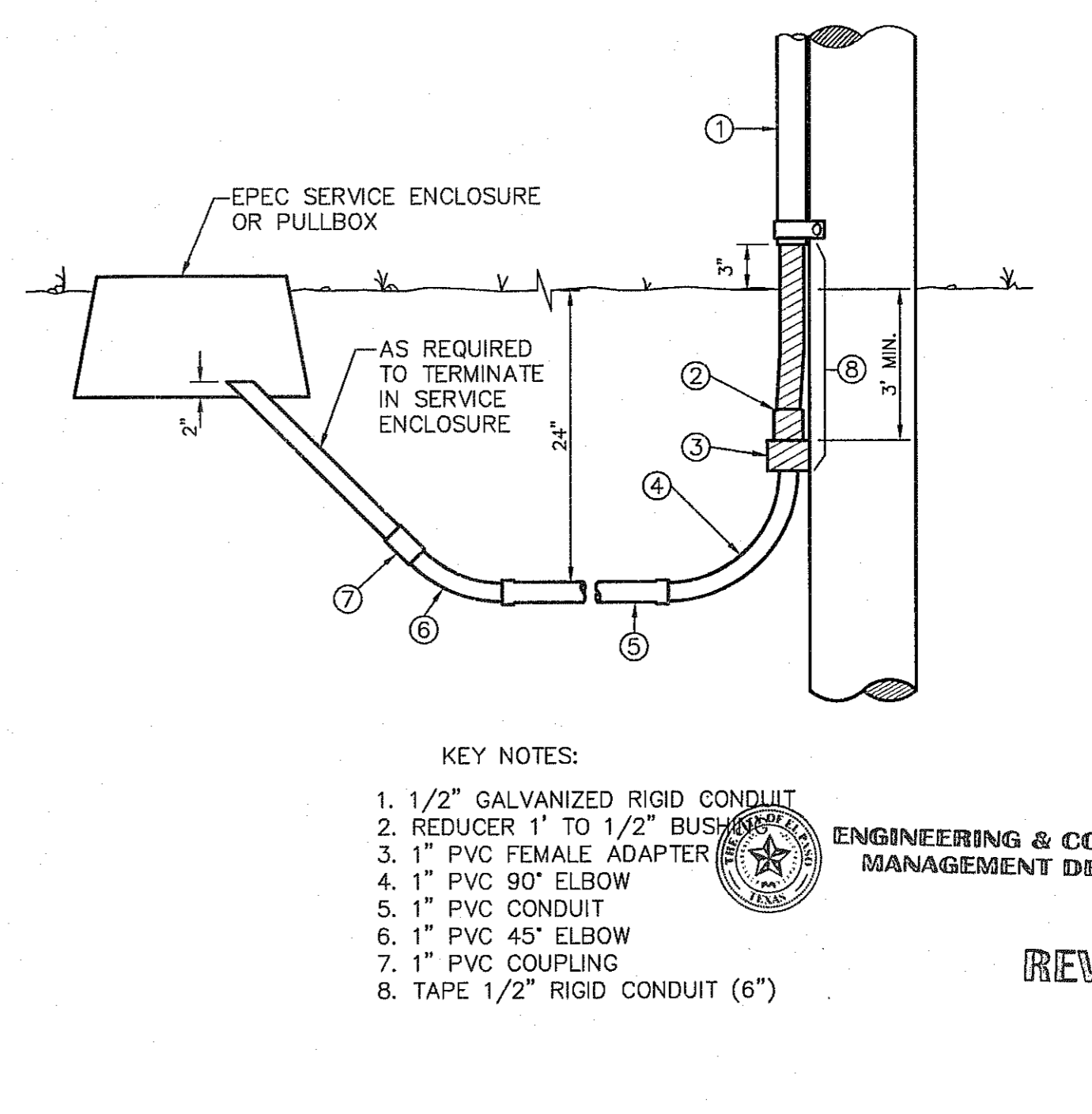
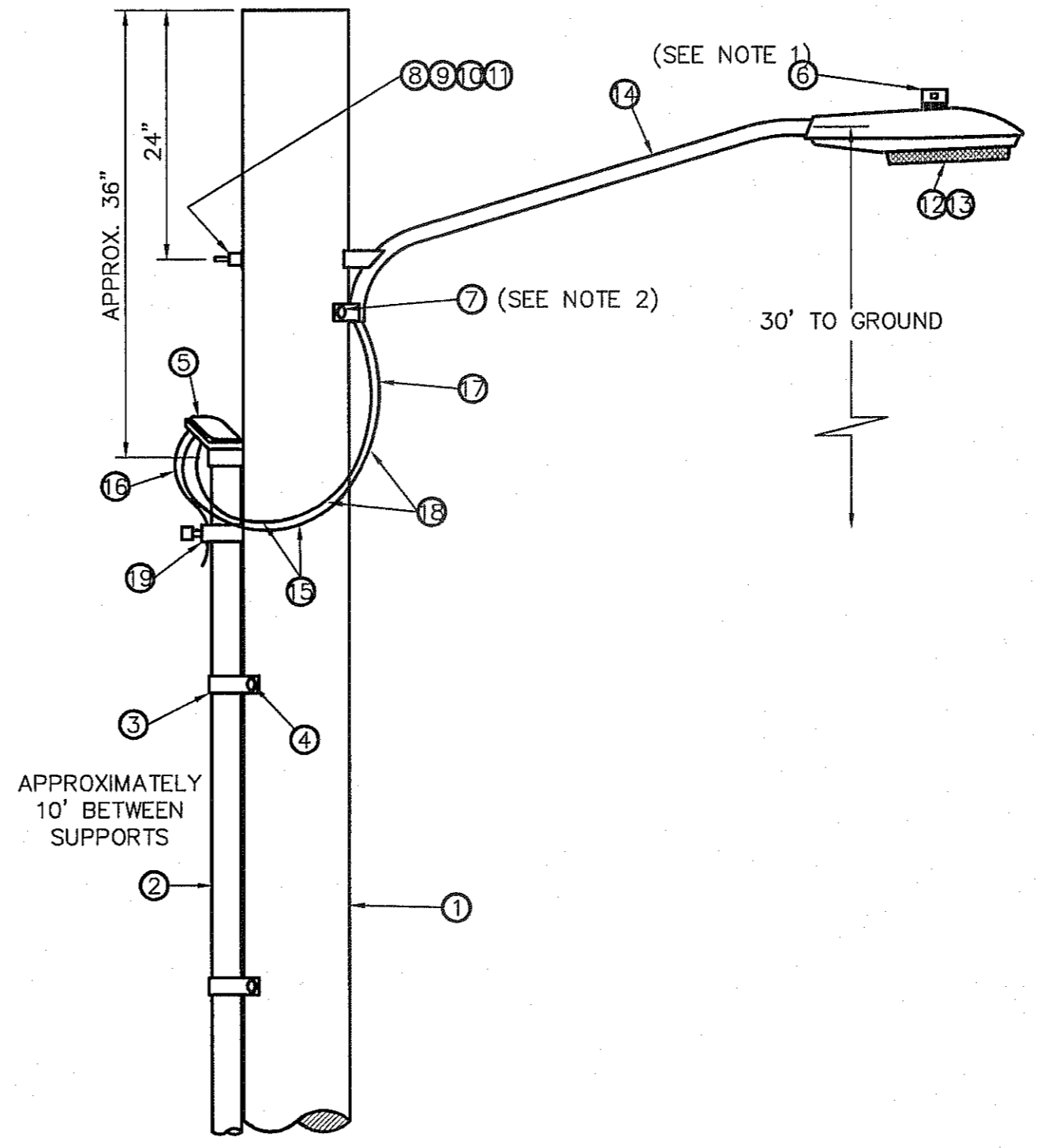


**COMPLETE POZ-LOC POST & SOCKET ASSEMBLIES**  
(Posts Are Available In 8"-14", In 1" Increments)

Part No.	Outside Diameter	Nominal Pipe Size	Post Wall Thickness	Post Weight Per Foot	Plus weight of one socket and wedge per post 0.3 lbs.
238065	2.375	2"	.065	1.60 lb.	
238060	2.375	2"	.080	1.96 lb.	
238095	2.375	2"	.095	2.313 lb.	



ITEM No.	DESCRIPTION	STOCK No.	QTY.
1	POLE, 35 FT.-CLASS IV	ITEM NO.	1
2	GALVANIZED RIGID 1/2" CONDUIT	ITEM NO.	1
3	PIPE STRAP FOR 1/2" CONDUIT, 2-HOLE	ITEM NO.	1
4	LAG BOLT, 1/4" x 2"	ITEM NO.	1
5	WEATHERHEAD, 1/2" CONDUIT	ITEM NO.	1
6	PHOTOCELL, 240V-SEE NOTE 1	ITEM NO.	1
7	LAG BOLT, 1/2" x 4"	ITEM NO.	1
8	MACHINE BOLT, 5/8" x 8"	ITEM NO.	1
9	SQUARE GALV. WASHER, 2-1/4"x2"-1/4"	ITEM NO.	1
10	COIL-SPRING WASHER, 5/8"	ITEM NO.	1
11	LOCKNUT, 5/8"	ITEM NO.	1
12	LUMINAIRE, 100W H. P. S.	ITEM NO.	1
13	HPS LAMP, 100W	ITEM NO.	1
14	MAST ARM, 6" x 1-1/4"	ITEM NO.	1
15	COPPER CABLE, #12, 19 STRAND, 600 V GREEN	ITEM NO.	1
16	COPPER CABLE, #12, SOLID, 600 V, UF	ITEM NO.	1
17	CABLE #10, 2 CONDUCTOR, 600 V, UF	ITEM NO.	1
18	SLEEVES, #12-10	ITEM NO.	1
19	GROUNDING CLAMP	ITEM NO.	1



- KEY NOTES:**
1. 1/2" GALVANIZED RIGID CONDUIT
  2. REDUCER 1" TO 1/2" BUSING
  3. 1" PVC FEMALE ADAPTER
  4. 1" PVC 90° ELBOW
  5. 1" PVC CONDUIT
  6. 1" PVC 45° ELBOW
  7. 1" PVC COUPLING
  8. TAPE 1/2" RIGID CONDUIT (6")

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED SHEET NO.

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

ILLUMINATION MAN & DETAILS

C16.1

S:\2020\2020-134\DWG\Construction Drawings\Improvement Plans\C16.1 ILLUMINATION PL.dwg, 3/8/2017, 5:40:20 PM

SITE DESCRIPTION

PROJECT NAME AND LIMITS: TRES SUEÑOS UNIT EIGHT
THE PROJECT IS BORDERED BY SECTION 27, BLOCK 79, TOWNSHIP 2, TEXAS AND PACIFIC RAILWAYS SURVEY TO THE WEST, NORTH, AND EAST, AND TRES SUEÑOS UNIT SIX TO THE SOUTH

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 31.095± ACRES, AND WILL CONTAIN 142 RESIDENTIAL LOTS AND 2 PONDING AREAS.

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

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

TOTAL PROJECT AREA: 31.095± A.C.

TOTAL AREA TO BE DISTURBED: 35.193± A.C.

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.692

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: HUECO-WNK 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: STORM RUNOFF FROM THE NEW SUBDIVISION WILL BE CONVEYED BY STREET SHEET FLOW TO ULTIMATELY BE DISCHARGED TO A PONDING AREA NORHT-WEST OF THE DEVELOPMENT VIA STORM SEWER INFRASTRUCTURE.

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
EARTHEN BERMS
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 SHEET C4.1 AND C4.2, FOR ADDITIONAL 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 TCEQ.

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.

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

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

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.

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

V. 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.

VI. 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.

VII. OFFSITE VEHICLE TRACKING:

IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:

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

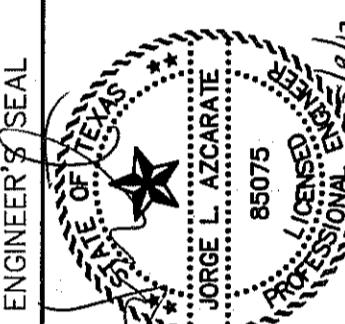
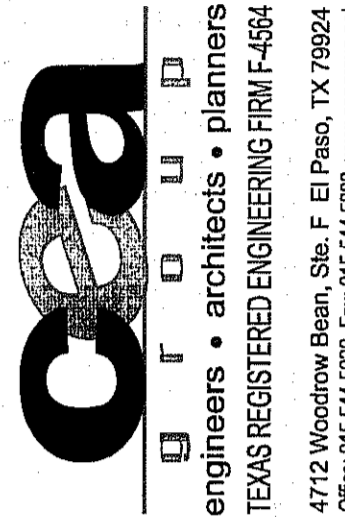
VIII. REFER TO SWPPP REPORT FOR ADDITIONAL INFORMATION



REVIEWED

SDPCP #:
SDPCP DATE:

REFERENCES - BENCHMARKS
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLD., 5084337 E. A DISTANCE OF 467.58 FEET FROM THE INTERSECTION OF MONTANA AVENUE CITY DATUM. ELEVATION: 4065.76



SCALE:
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: MAY 2012
DESIGN BY: J.H.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB No. 2000-154-LD

PROJECT TITLE
TRES SUEÑOS UNIT EIGHT SUBDIVISION IMPROVEMENTS

SHEET TITLE

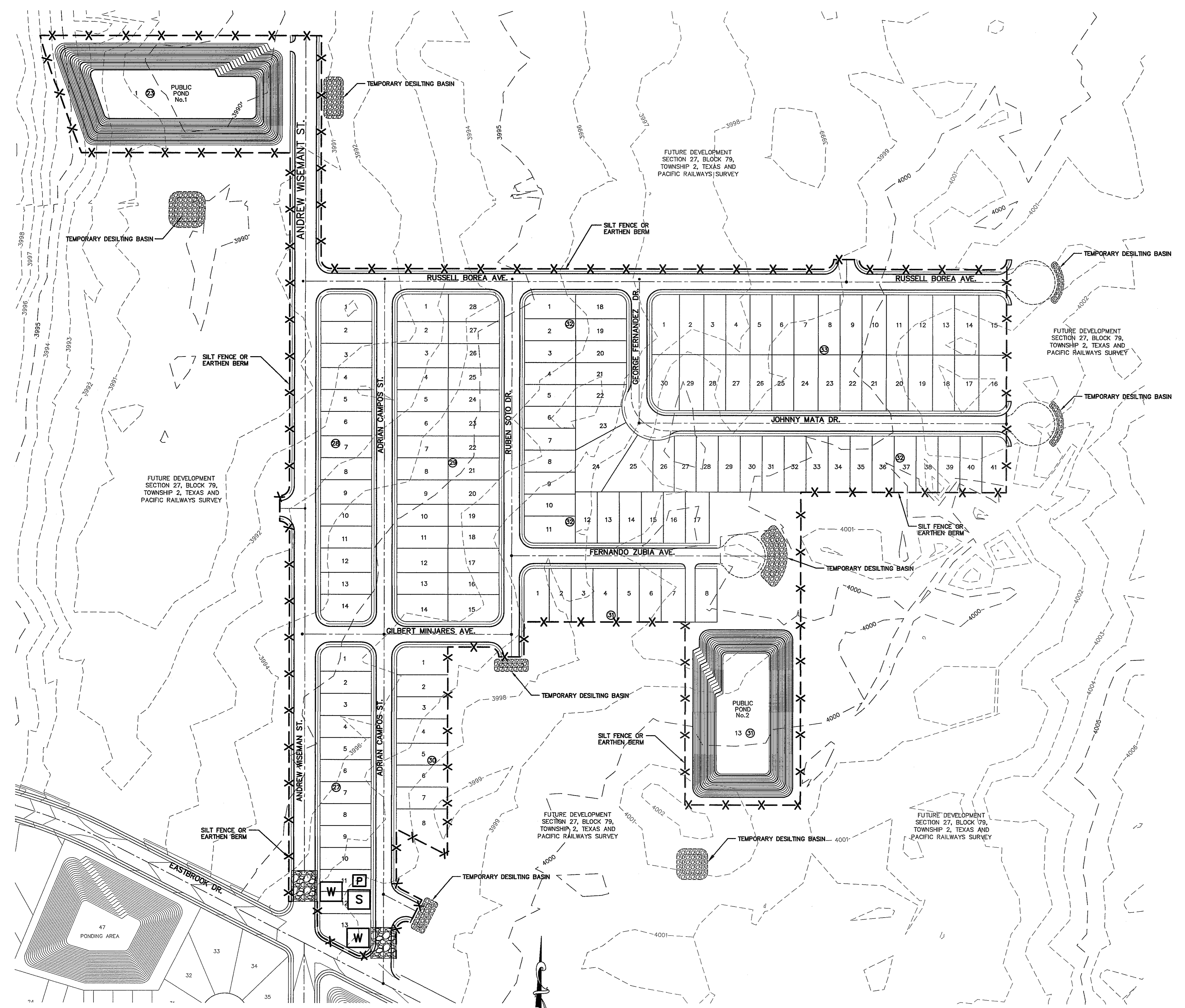
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.

C17.1



S:\2020\2020-154\Drawings\Construction Drawings\Improvement Plans\C17.2 Storm Water\5/11/2012 11:16:29 AM



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

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 495-5244
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

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1-800-DIG-TESS  
1-800-344-8377

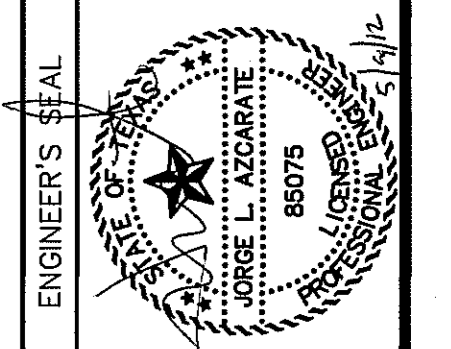
FOR FIELD LOCATING EXISTING UTILITIES

- LEGEND**
- X-X-
  - STABILIZED CONSTRUCTION ENTRANCE
  - S STAGING AREA
  - P PORTABLE TOILETS
  - W WASHOUT SITE

**FLOOD ZONE:**  
THIS SUBDIVISION LIES WITHIN ZONES "X" (AREAS OF MINIMAL FLOODING) AS DESIGNATED IN PANEL NO. 480212 0125B, DATED SEPTEMBER 4, 1991, OF THE UNINCORPORATED FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS AND ZONE "B" (AREAS BETWEEN LIMITS OF THE 100-YEAR FLOOD AND 500-YEAR FLOOD) AS DESIGNATED IN PANEL NO. 480214 0016C, DATED FEBRUARY 5, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS

REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLDG. 5084337E A DISTANCE OF 467.98 FEET FROM THE POINT OF TANGENCY AT LINE INTERSECTION AVENUE CITY DATUM. ELEVATION: 4005.40			

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4712 Woodrow Bean, Ste. F, El Paso, TX 79924  
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SCALE: 1"=100'	DATE: MAY 2012
Horizontal: N/A	DESIGN BY: J.H.
Vertical: N/A	DRAWN BY: J.H.
Contour Interval: N/A	CHKD. BY: J.L.A.
	APP'D. BY: J.L.A.
	JOB No. 2000-134-LD

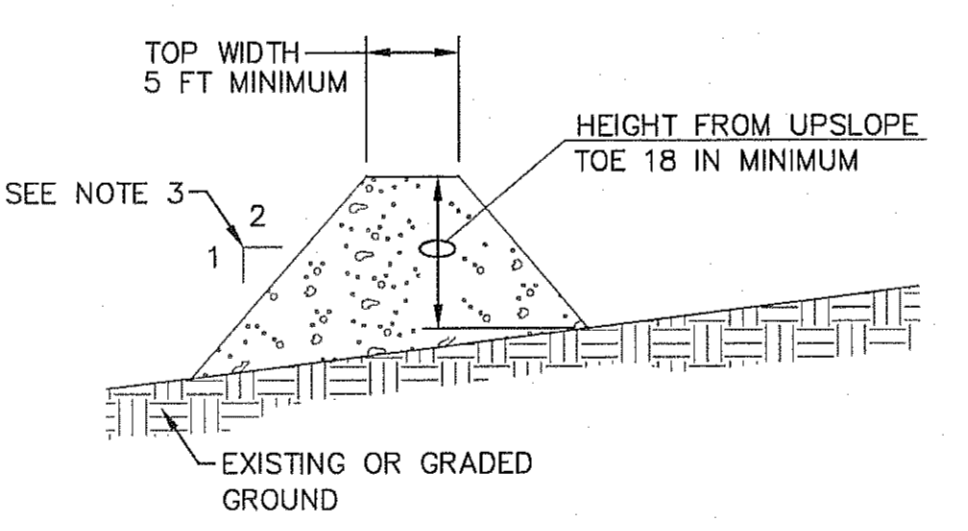
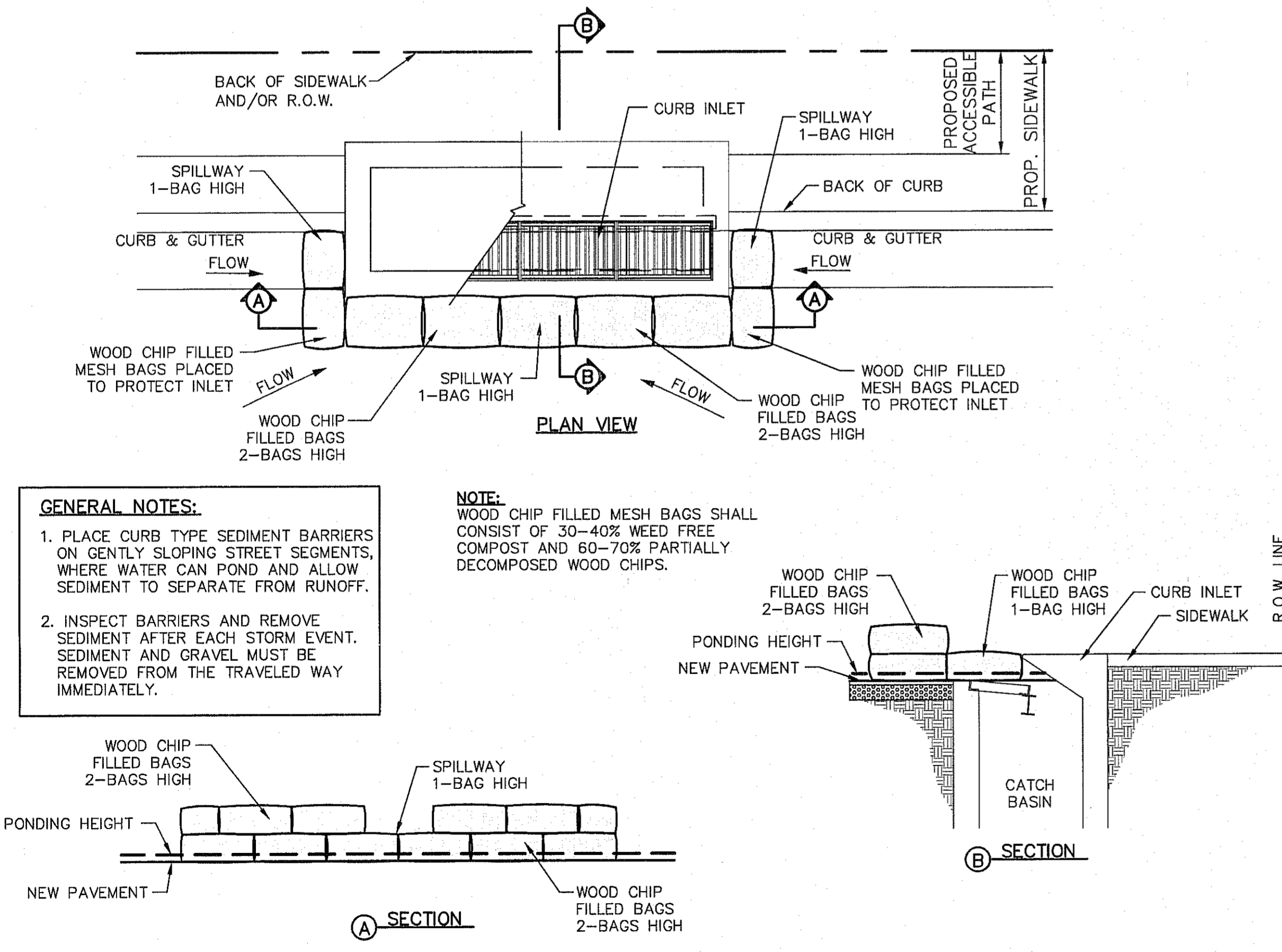
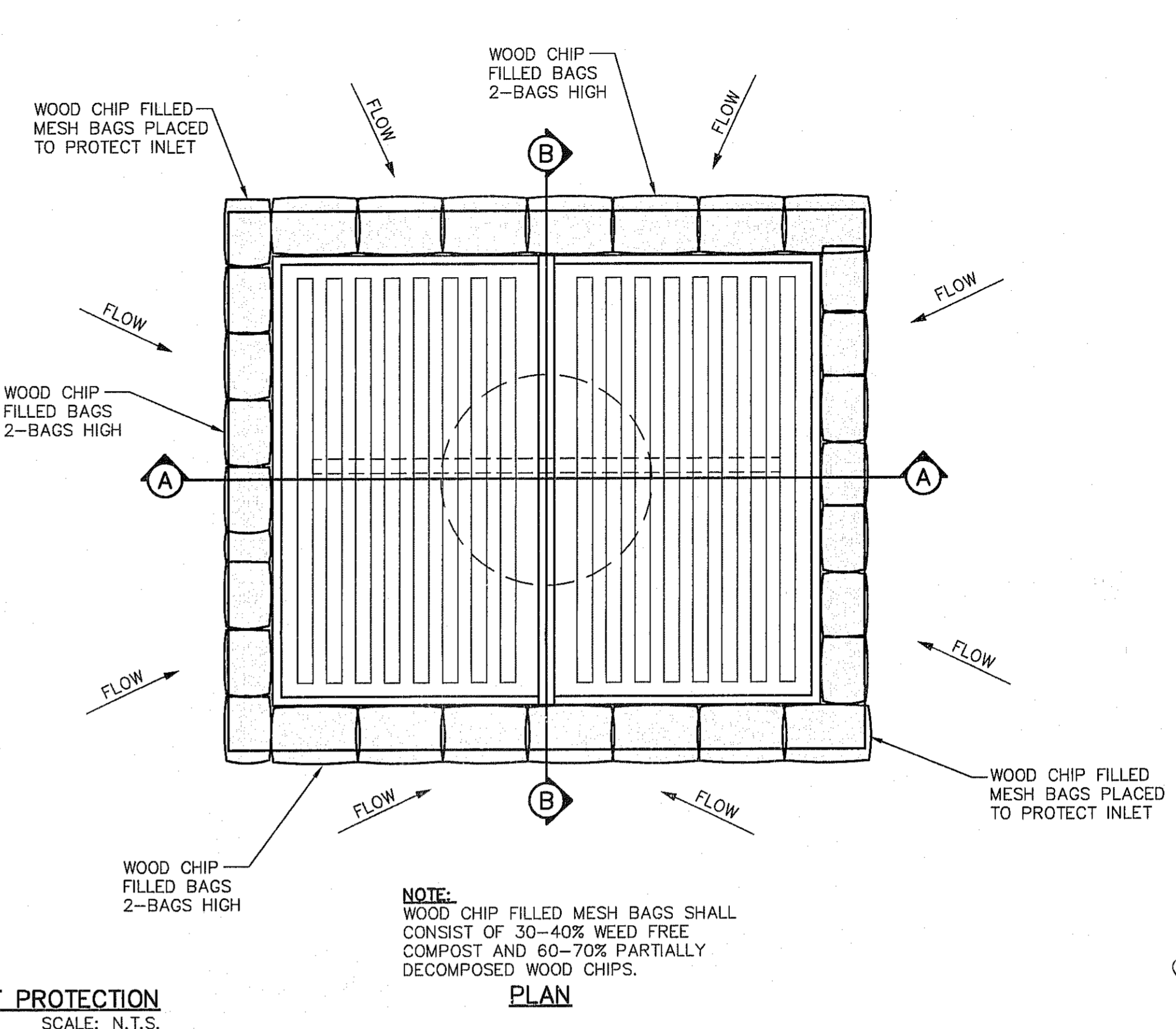
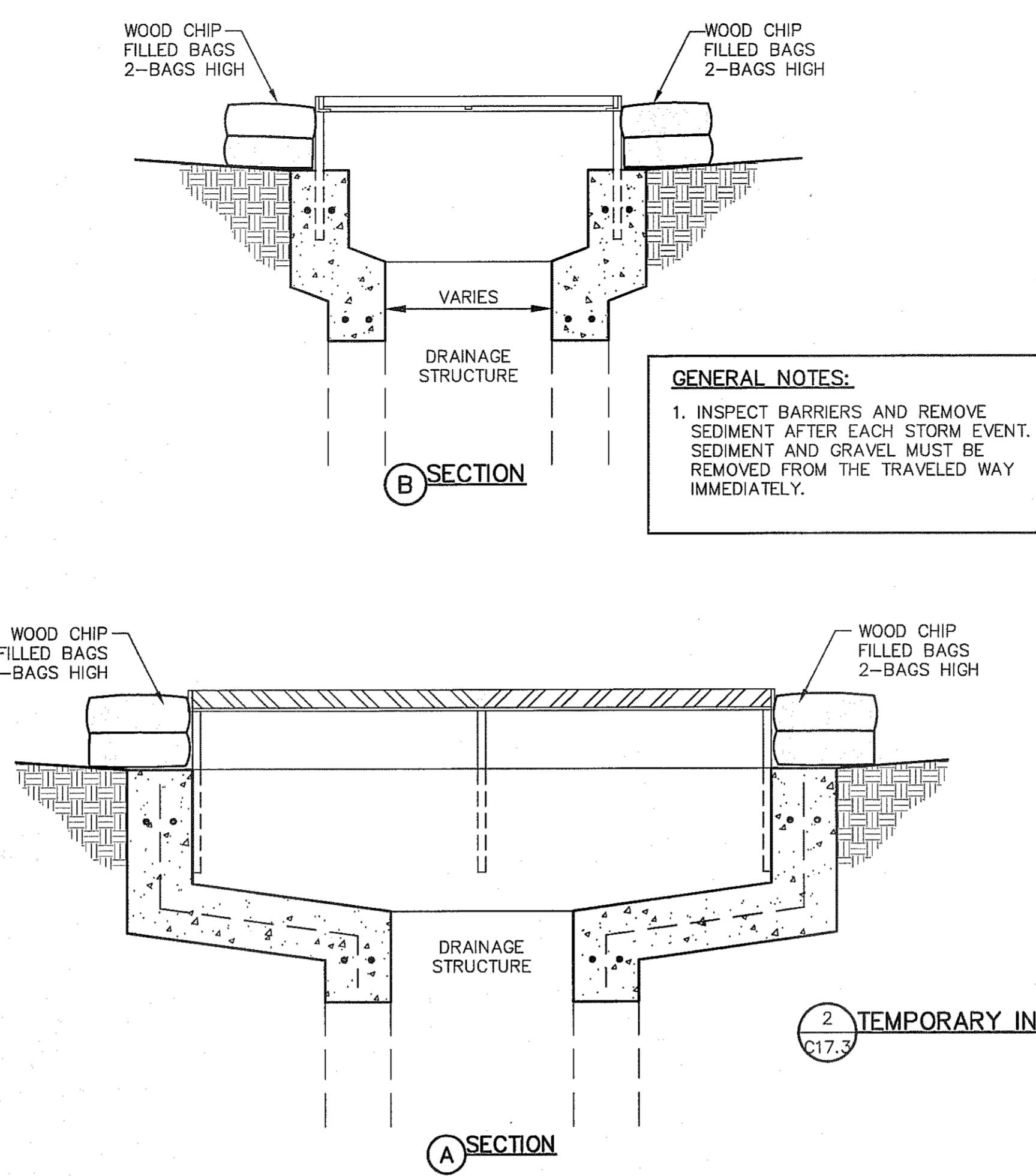
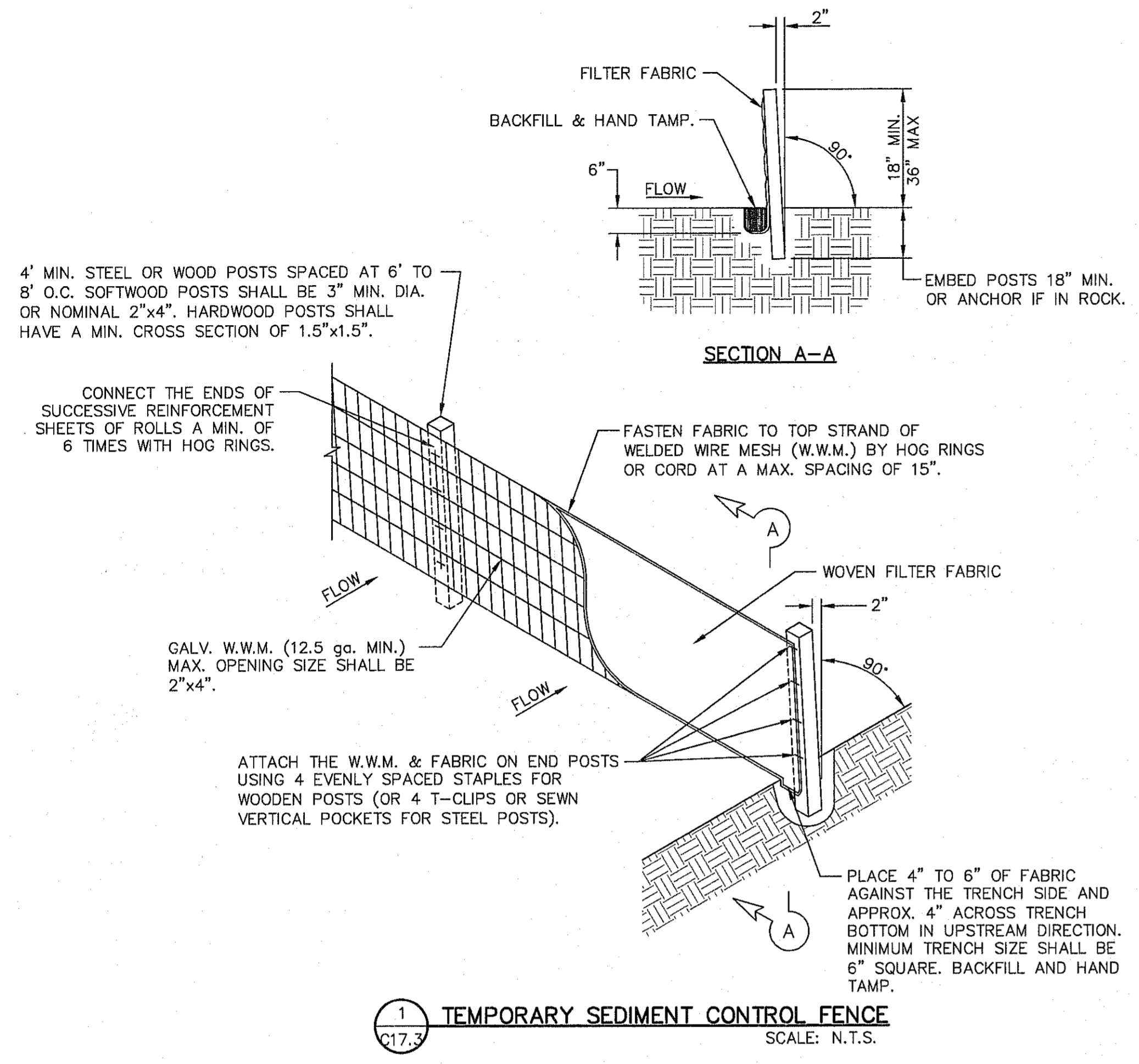
PROJECT TITLE  
**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

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

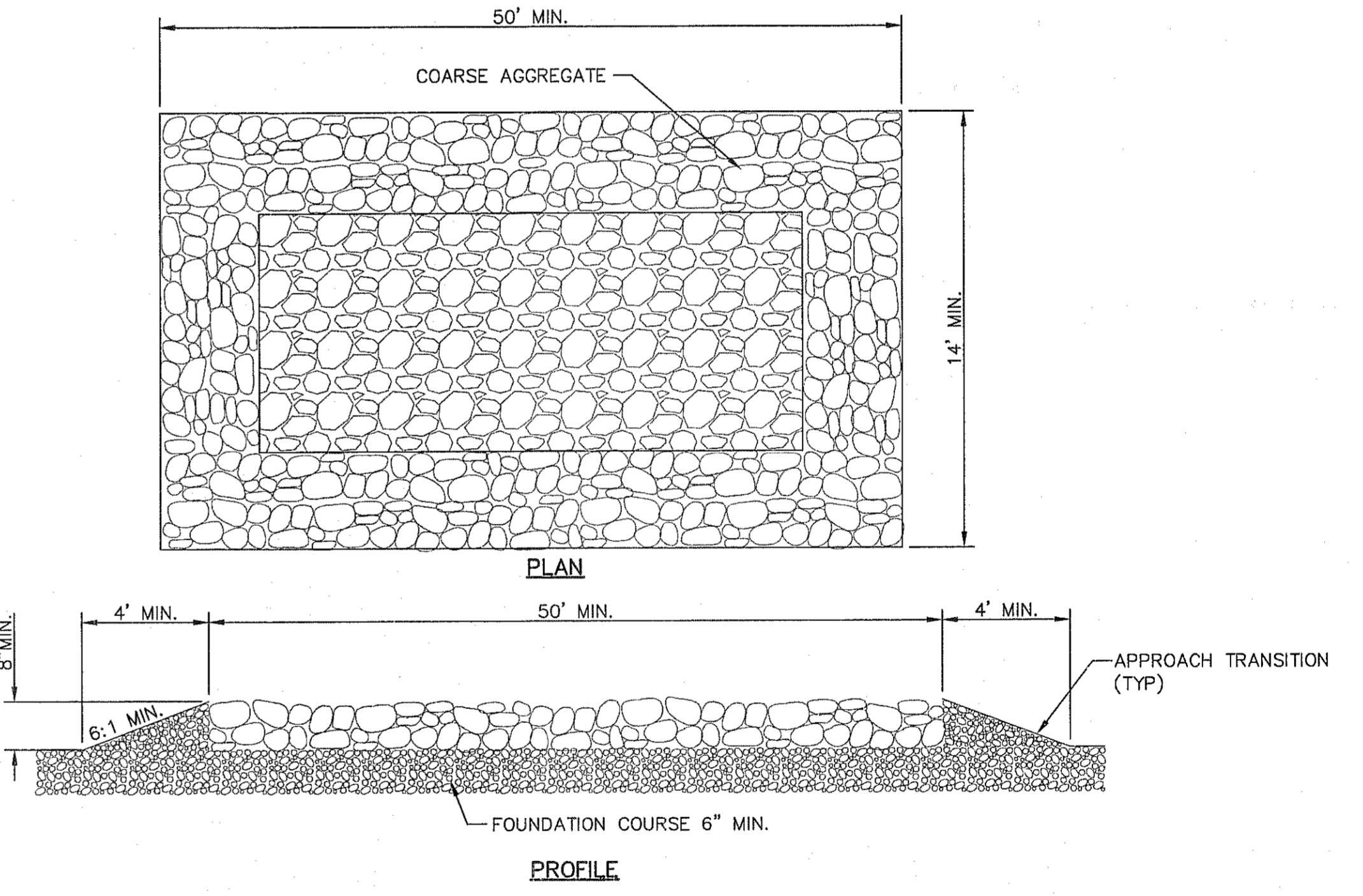
SHEET NO.  
**C17.2**



REVIEWED



- GENERAL NOTES:**
- SOIL USED IN BERM CONSTRUCTION SHALL BE MACHINE COMPACTED.
  - TOP WIDTH AND HEIGHT OF BERM MAY BE MODIFIED WITH PRIOR APPROVAL OF THE ENGINEER.
  - SIDE SLOPES WITHIN THE SAFETY CLEAR ZONE OF A ROADWAY SHALL BE 6:1 OR FLATTER.
  - GRADING SHALL BE SHOWN ELSEWHERE IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
  - THE ENGINEER RESERVES THE RIGHT TO MODIFY THE DIMENSIONS SHOWN FOR THE BERM DEPENDENT ON RUNOFF VOLUME CHARACTERISTICS.
  - BERM THAT ARE IN PLACE FOR MORE THAN 14 CALENDAR DAYS SHOULD BE STABILIZED TO PREVENT SEDIMENT RUNOFF.
  - THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.



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

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

DATE \_\_\_\_\_ REVISIONS \_\_\_\_\_ BY \_\_\_\_\_

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ENGINEER'S SEAL  
J. L. ALVARADO  
88075  
J.L.A.

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

DATE: MAY 2012  
DESIGN BY: J.L.H.  
DRAWN BY: J.L.A.  
CHECK BY: J.L.A.  
APP'D BY: J.L.A.  
JOB No. 2000-134-LD

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

SHEET TITLE  
**STORM WATER  
POLLUTION  
PREVENTION PLAN:  
DETAILS**

SHEET NO.  
**C17.3**

REVIEWED

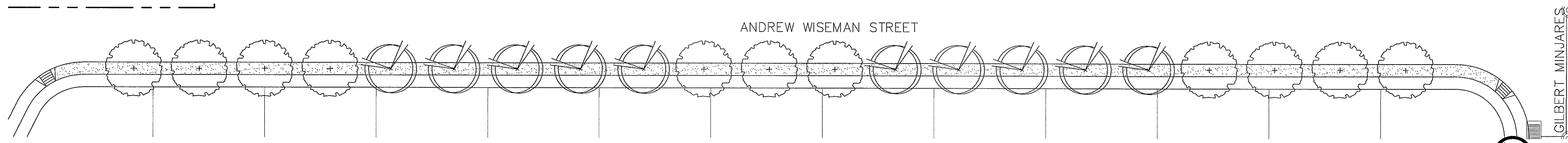
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SDG	(800) 545-8005
AT&T	(800) 852-3788
U.S. SPRINT TELECOMM	(800) 521-0579

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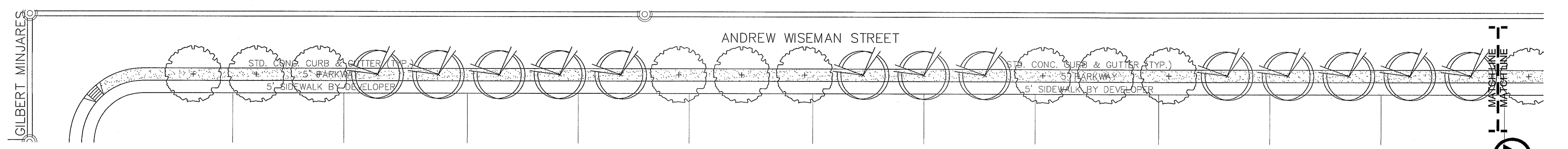
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

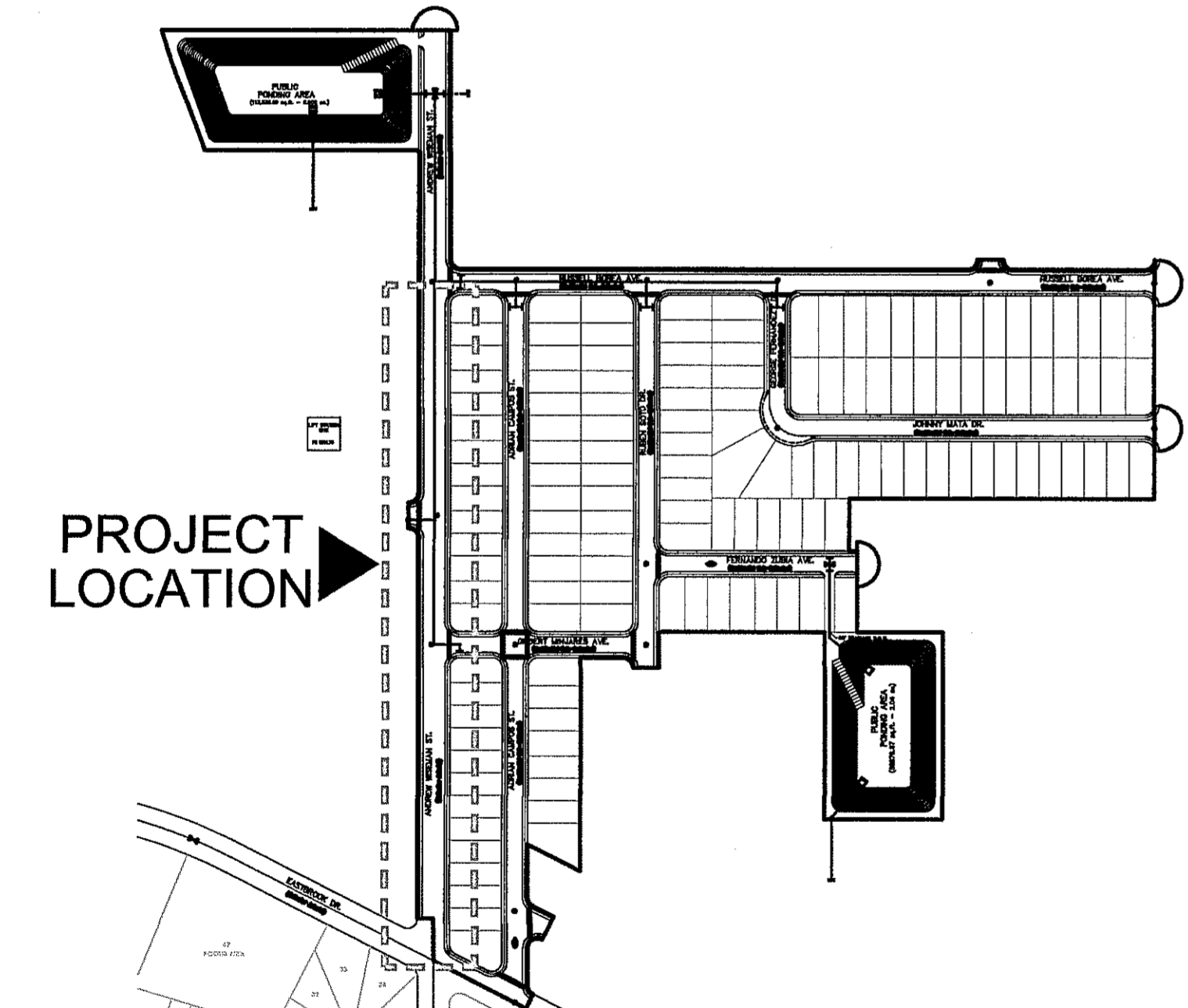
DATE	REVISIONS	BY



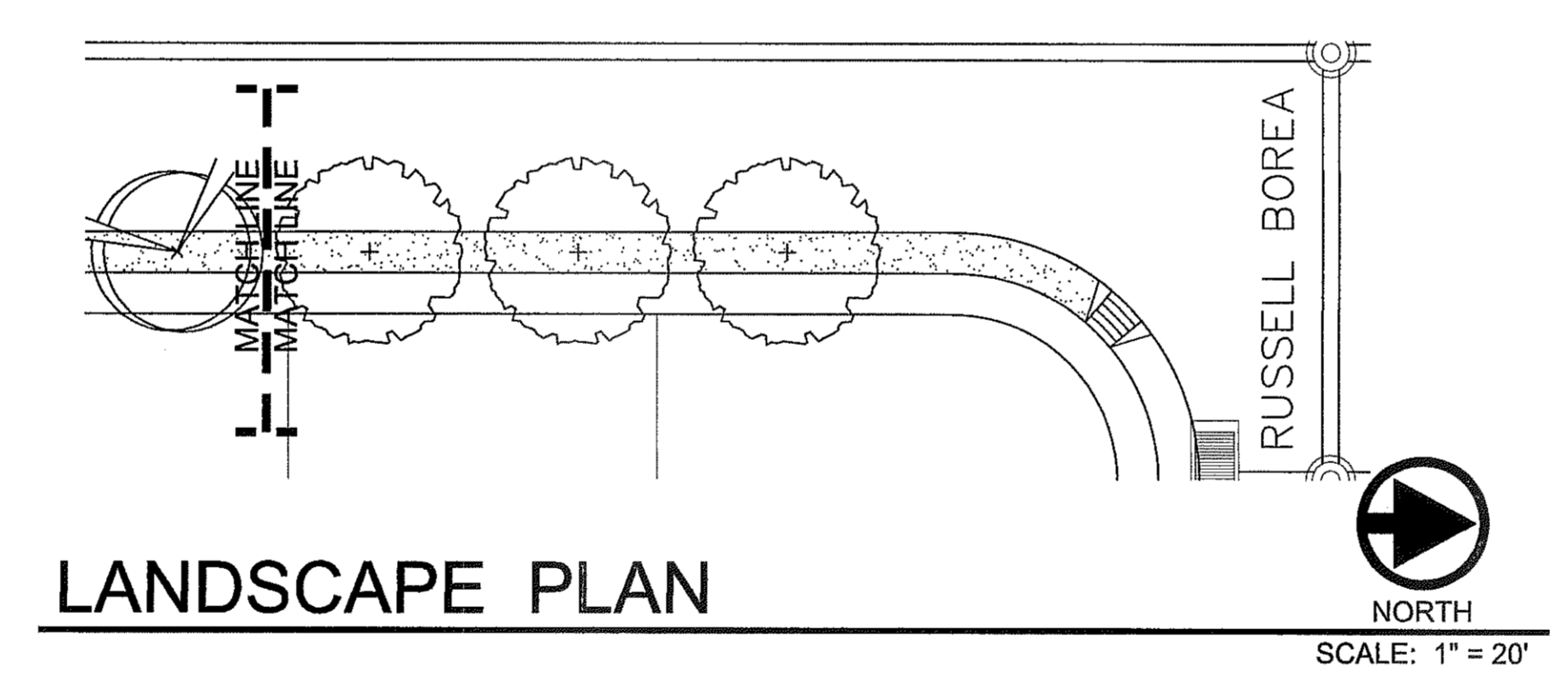
**LANDSCAPE PLAN**



**LANDSCAPE PLAN**



**SITE PLAN**



**LANDSCAPE PLAN**

**LANDSCAPE LEGEND**

SYMBOL	COMMON NAME	BOTANICAL NAME	QTY
<b>2" CALIPER TREE - 10' HEIGHT MINIMUM</b>			
	HONEY MESQUITE (SINGLE TRUNK)	PROSOPIS GLANDULOSA	23
	SEEDLESS DESERT WILLOW	CHILOPSIS LINEARIS 'ART'S SEEDLESS'	23
<b>TURF, GRAVELS, &amp; MULCHES</b>			
	FRANKLIN RED 3/4" ROCK, 3" DEPTH W/ DEWITT PRO-5 WEED BARRIER		

**LANDSCAPE NOTES**

- ALL UTILITY EASEMENTS SHALL BE MARKED PRIOR TO EXCAVATION, AND PARTICULAR ATTENTION PAID TO TREE PLACEMENT WITHIN AND THROUGHOUT SITE.
- THERE SHALL BE NO STEEL EDGING BETWEEN ROCK TYPES.
- CONTRACTOR SHALL PROVIDE ROCK SAMPLES AND OBTAIN APPROVAL FROM OWNER PRIOR TO FINAL DELIVERY OF QUARRIED MATERIALS.
- CONTRACTOR TO PAY CLOSE ATTENTION TO FINISH GRADES. SHOULD GRAVELED AREAS EXCEED 4:1 SLOPE, CONTRACTOR TO OBTAIN APPROVAL OF LANDSCAPE DESIGNER PRIOR TO MULCH INSTALLATION.
- ALL TREES SHALL BE SINGLE LEADER TRUNK, UNLESS INDICATED IN PLANS.

**ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT**

**REVIEWED**

PROJECT TITLE  
TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS

DATE: FEBRUARY 2012  
DESIGN BY: JHL  
CHECK BY: JHL  
APPROV. BY: JHL  
JOB NO. 2000-13A-LD

ENGINEER'S SEAL

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

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH FROM BENCH MARK DISTANCE OF 167.58 FEET FROM BENCH MARK TO POINT OF CURVE CENTERLINE ELEVATION 4006.40 AVENUE CITY DATUM.

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Office: 915.541.5232 Fax: 915.541.5203 www.oagp.com

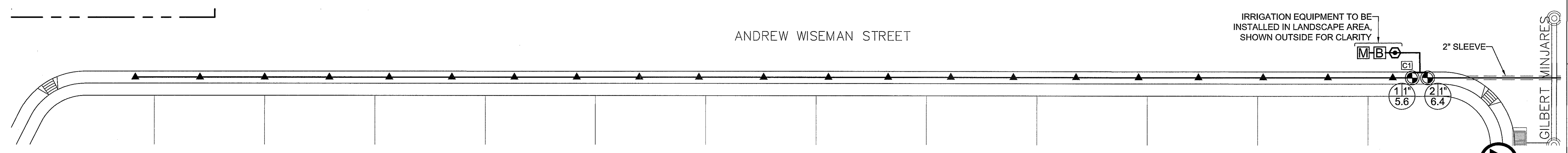
SHEET TITLE	LANDSCAPE PLAN
SHEET NO.	L1.0

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EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
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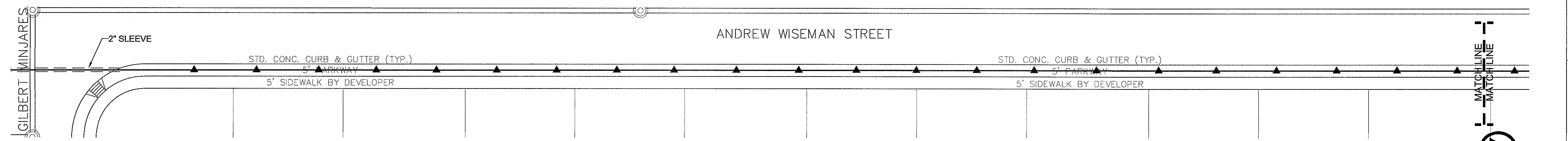
CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES



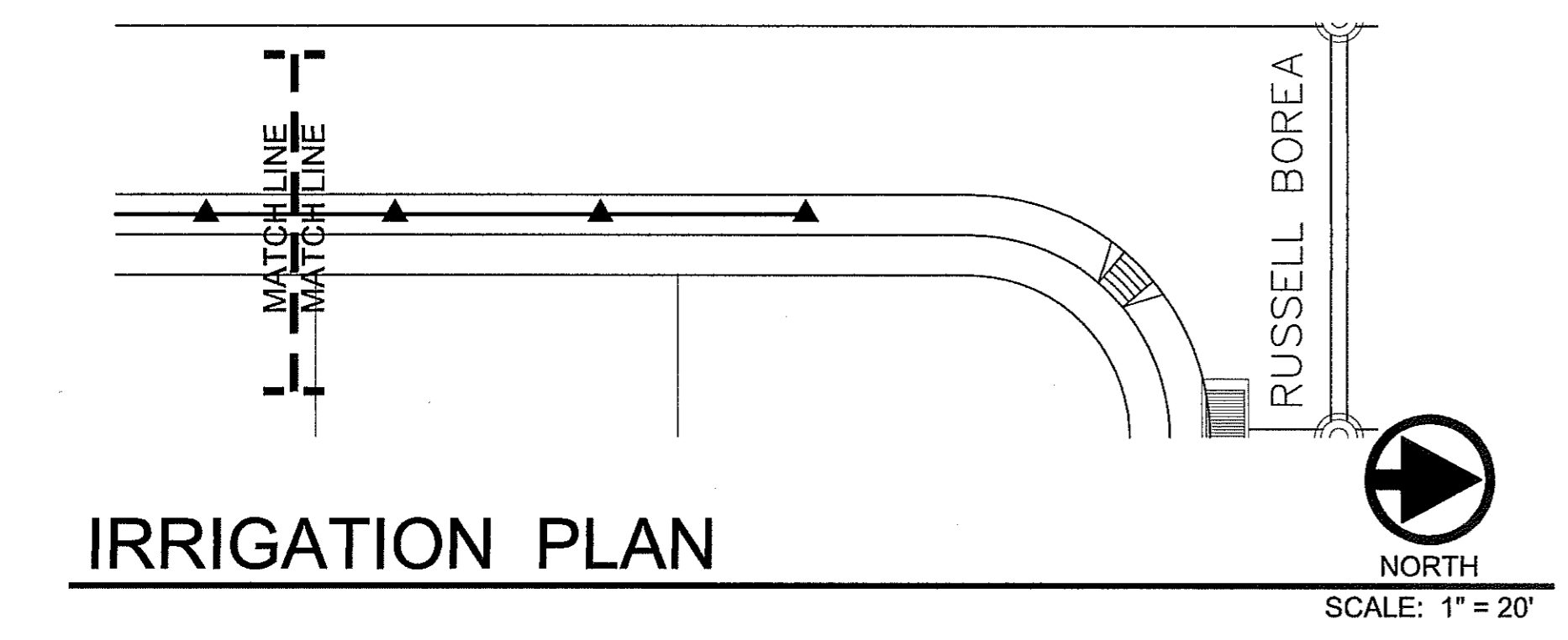
**IRRIGATION PLAN**

NORTH  
SCALE: 1" = 20'



**IRRIGATION PLAN**

NORTH  
SCALE: 1" = 20'



**IRRIGATION PLAN**

**IRRIGATION NOTES**

- IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13067, AUSTIN, TX 78711.
- 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.
- IRRIGATION SHALL BE INSTALLED ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS. SHOULD CHANGES BE IMPLEMENTED IN THE FIELD, A NEW SET OF PLANS IS REQUIRED TO BE SUBMITTED TO THE CITY OF EL PASO. LANDSCAPE DESIGNER IS NOT UNDER CONTRACT TO PROVIDE THESE PLANS, EXCEPT AS PROVIDED FOR IN ORIGINAL CONTRACT.
- CONTRACTOR WILL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS DESIGNED, WHEN IT IS OBVIOUS THAT FIELD CONDITIONS EXIST, THAT WERE NOT CONSIDERED AT TIME OF DESIGNING THE SYSTEM. ANY CONDITIONS NOTED AS SUCH, SHALL BE REPORTED TO THE ARCHITECT AND IRRIGATION DESIGNER. IF THE CONTRACTOR FAILS TO DO SO, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY CORRECTIONS NEEDED.
- PLANS SCHEMATIC FOR READABILITY. CONTRACTOR TO ADJUST AS NECESSARY TO FIT SITE.
- CONTRACTOR SHALL VERIFY STATIC PRESSURE AT METER MEETS SYSTEM NEEDS. LICENSED IRRIGATOR TO AMEND AS NECESSARY.
- PROVIDE SHUTOFF VALVE BETWEEN METER AND BACKFLOW.
- CONTRACTOR IS RESPONSIBLE FOR CONNECTING AUTOMATIC CONTROLLER TO ELECTRICITY.
- 14 GA. SOLID COPPER WIRE (PVC INSULATED AND UL APPROVED) SHALL RUN FROM CONTROLLER TO VALVES. COMMON WIRE TO BE 12GA.
- ALL CONTROL WIRING FROM THE VALVES TO THE CONTROLLER MUST BE INSTALLED IN A 1" PVC CONDUIT PIPE IF BURIED BENEATH CONCRETE OR ASPHALT SURFACES.
- LOCATE VALVES AWAY FROM LOW SPOTS OR AREAS OF DRAINAGE FLOW.
- VALVE CAPS SHALL MATCH COLOR OF SURROUNDING MATERIAL, AS CLOSELY AS POSSIBLE.
- ALL MAINLINES SHALL BE BURIED MIN. 18", ALL LATERALS 12".
- MAINTAIN 4" MINIMUM CLEARANCE BETWEEN PIPE RUNNING IN THE SAME TRENCH. CONTROL WIRE SHALL ALWAYS BE TO THE SIDE AND BELOW THE TOP OF THE PIPE RUNNING IN THE SAME TRENCH.
- POLYETHYLENE TUBING TO BE PLACED UNDER WEED BARRIER FABRIC. MICROTUBING TO BE STAKED.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS-BUILT DRAWINGS ON MYLAR PRIOR TO APPROVAL OF FINAL PAYMENT.
- ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, SIDEWALKS, ETC.) SHALL BE INSTALLED IN SCH 40 PVC SLEEVES. SLEEVES SHALL BE OF THE SIZE SO THAT THE INSIDE DIAMETER OF THE SLEEVE IS 3 TIMES GREATER THAN THAT OF THE COMBINED OUTER DIAMETER OF ALL ITEMS INSTALLED IN THE SLEEVES.
- PEA GRAVEL SHALL BE INSTALLED AT THE BASE OF ALL VALVE BOXES, WITH A CLEARANCE OF MIN. 2" BETWEEN VALVE AND TOP OF GRAVEL.

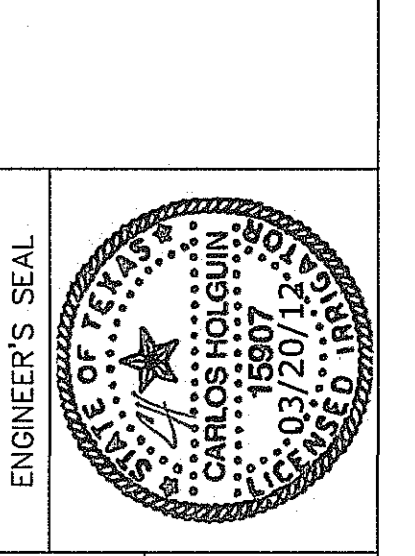
**IRRIGATION LEGEND**

SYMBOL	ITEM
	3/4" METER (BY OWNER)
	3/4" FEBCO 850 DOUBLE CHECK VALVE BACKFLOW PREVENTER W/ 17"x30" REINFORCED CONCRETE BOX W/ SCREW DOWN STEEL CHECKER LID
	1" BRASS PORT VALVE
	1" REMOTE CONTROL VALVE, RAINBRD 100-PESB W/ AMIAD Y FILTER AFTER THE VALVE & RAIN BIRD TBS04CMUS CONTROLLER/ WITH POTTED LATCHING SOLENOID & TBS0FTUS FIELD TRANSMITTER (SEE DETAIL FOR INSTALLATION)
	1" REMOTE CONTROL VALVE, RAINBIRD 100-PESB W/ AMIAD Y FILTER AFTER THE VALVE
	MAINLINE - 1" SCHED. 40 PVC
	PVC SLEEVE - 2 SIZES LARGER THAN LATERAL OR MAIN
	LATERAL LINE - SCHED. 40 PVC - 1" UNLESS OTHERWISE INDICATED
	RAINBIRD XERI-BIRD 8 MULTI-OUTLET EMISSION DEVICE RAINBIRD XB-10 DRIP EMITTERS - 2 PER SHRUB & GROUND COVER RAINBIRD XB-20 DRIP EMITTERS - 8 PER TREE
	A) STATION NUMBER
	B) SIZE OF VALVE IN INCHES
	C) TOTAL GPM

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S09°43'31"E, A DISTANCE OF 487.88 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVENUE CITY DANIEL. ELEVATION:.....4055.40

**CSA**  
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SCALE	
Horizontal:	As Shown
Vertical:	Interval: N/A
DATE:	FEBRUARY 2012
DESIGN BY:	J.H.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-134-LD

PROJECT TITLE  
TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS

SHEET TITLE  
IRRIGATION PLAN

SHEET NO.  
L2.0

ENGINEERING & CONSTRUCTION  
MANAGEMENT DEPARTMENT

REVIEWED

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EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
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SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

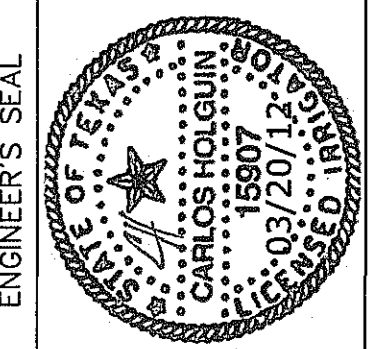
**WARNING !  
BEFORE YOU DIG**

CALL  
1-800-DIG-TESS  
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

**ceca**  
engineers architects planners  
TEXAS REGISTERED ENGINEERING FIRM-4584  
4712 Woodrow Bean, Ste. F El Paso, TX 79924  
Office: 915.544.5202 Fax: 915.544.5233 www.cecaonline.net



SCALE	
Vertical:	1" = 1'-0"
Horizontal:	1" = 10'-0"
DATE:	FEBRUARY 2012
DESIGN BY:	J.H.
CHECK BY:	J.H.
APPROV. BY:	J.H.
JOB NO.:	2000-134-LD

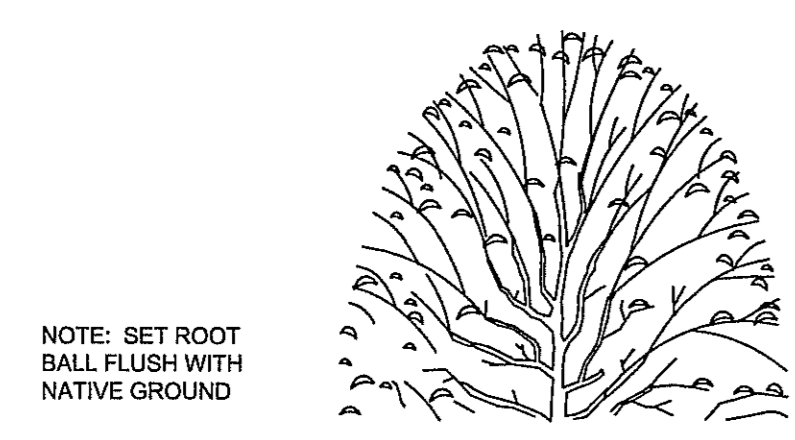
PROJECT TITLE  
**TRES SUEÑOS  
UNIT EIGHT  
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

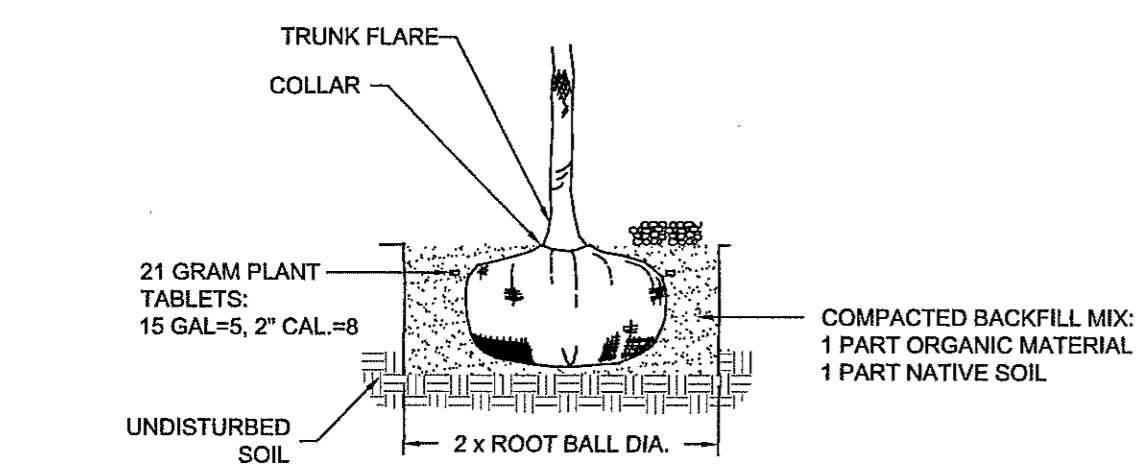
LANDSCAPE & IRRIGATION DETAILS

SHEET NO.

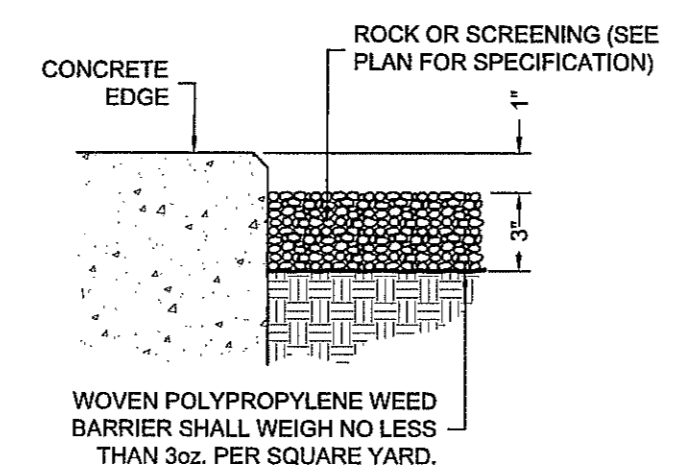
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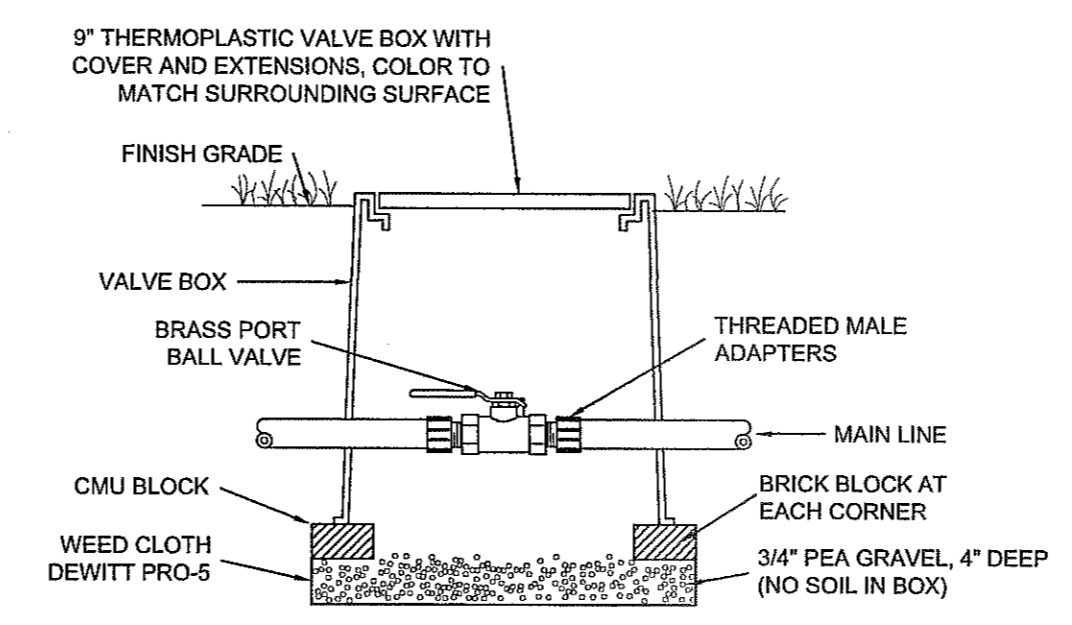
NOTE: SET ROOT BALL FLUSH WITH NATIVE GROUND



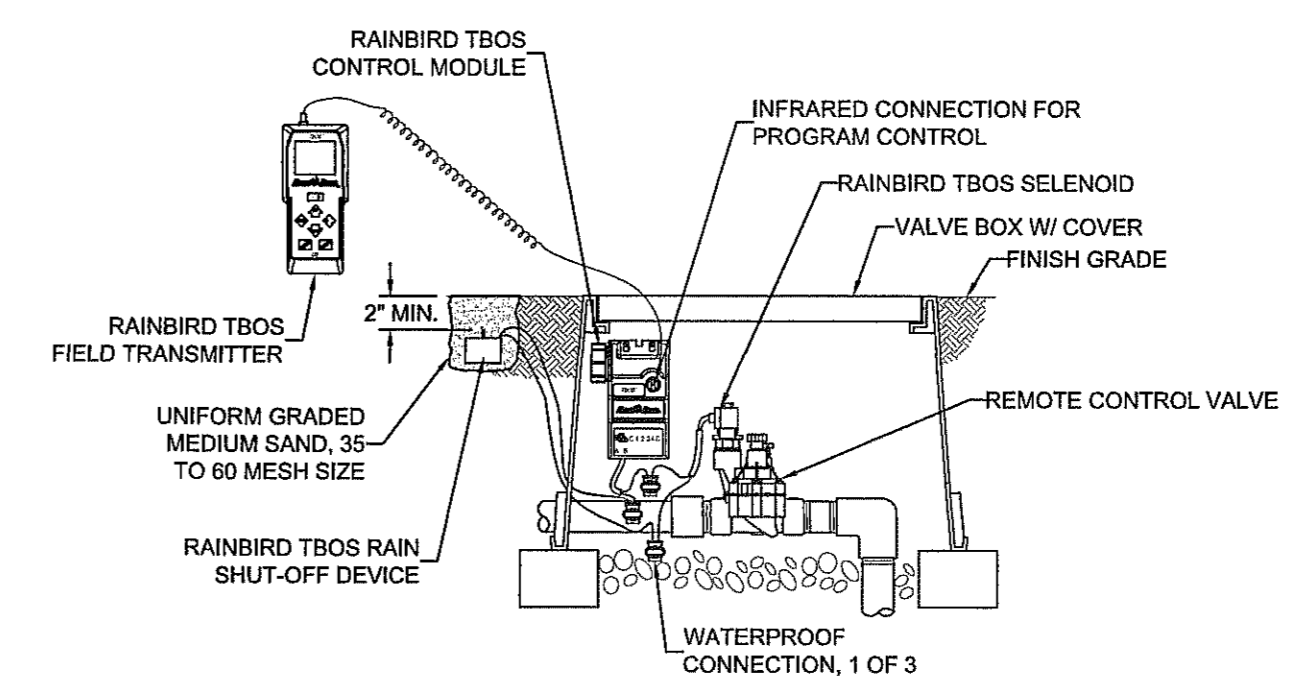
**TREE PLANTING DETAIL**  
NOT TO SCALE



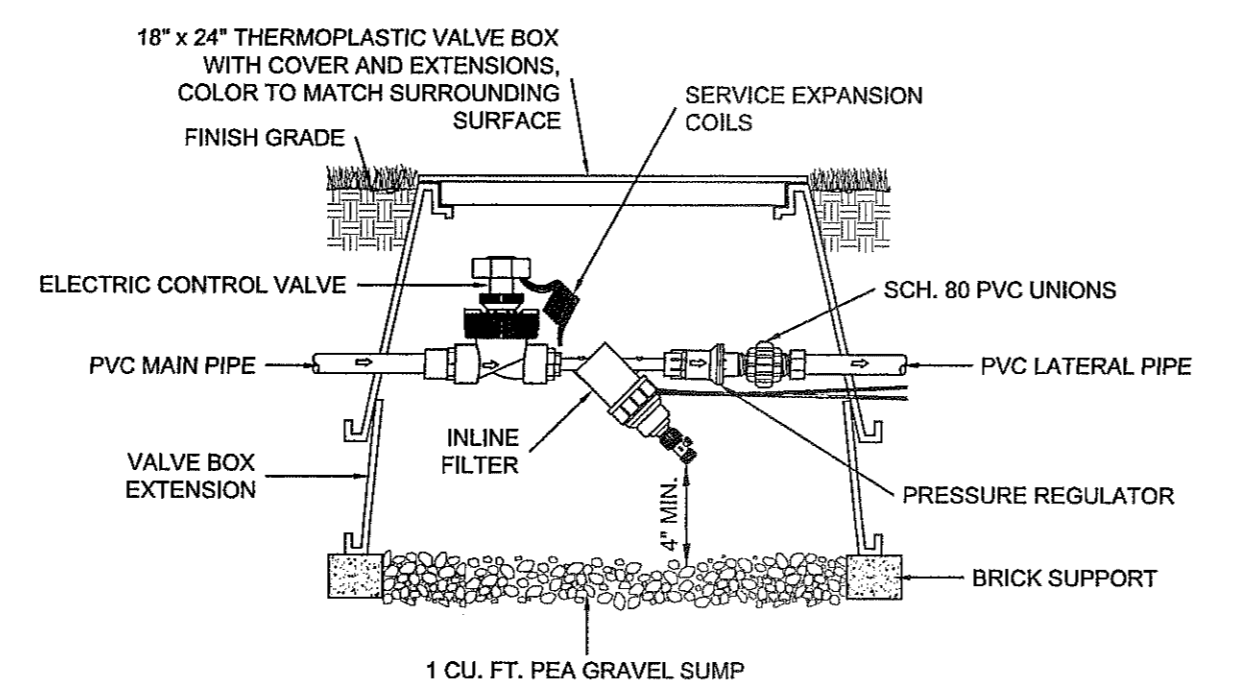
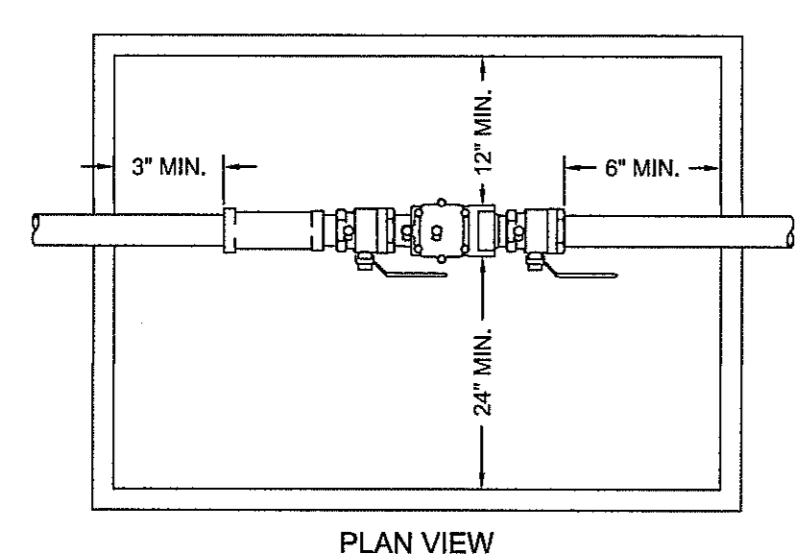
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NOT TO SCALE



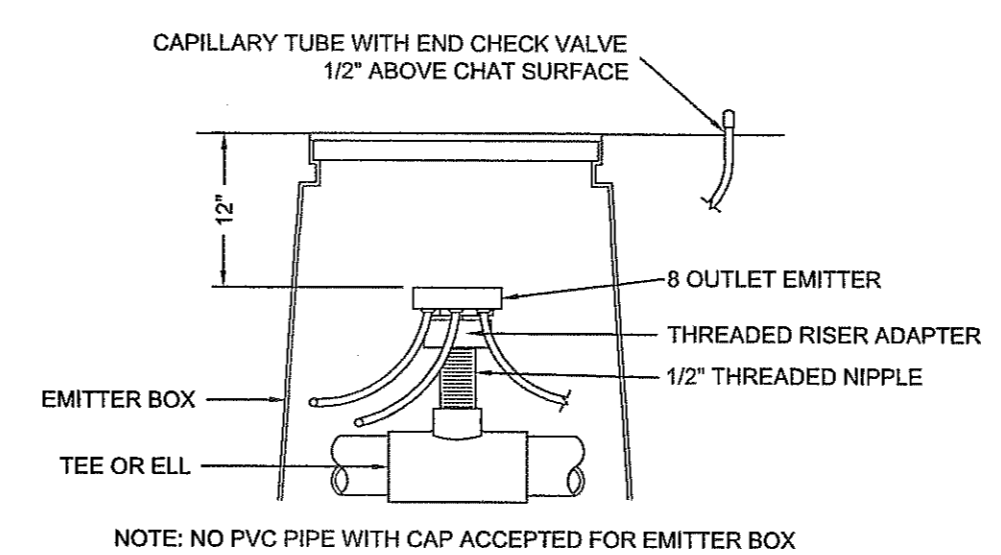
**ISOLATION VALVE DETAIL**  
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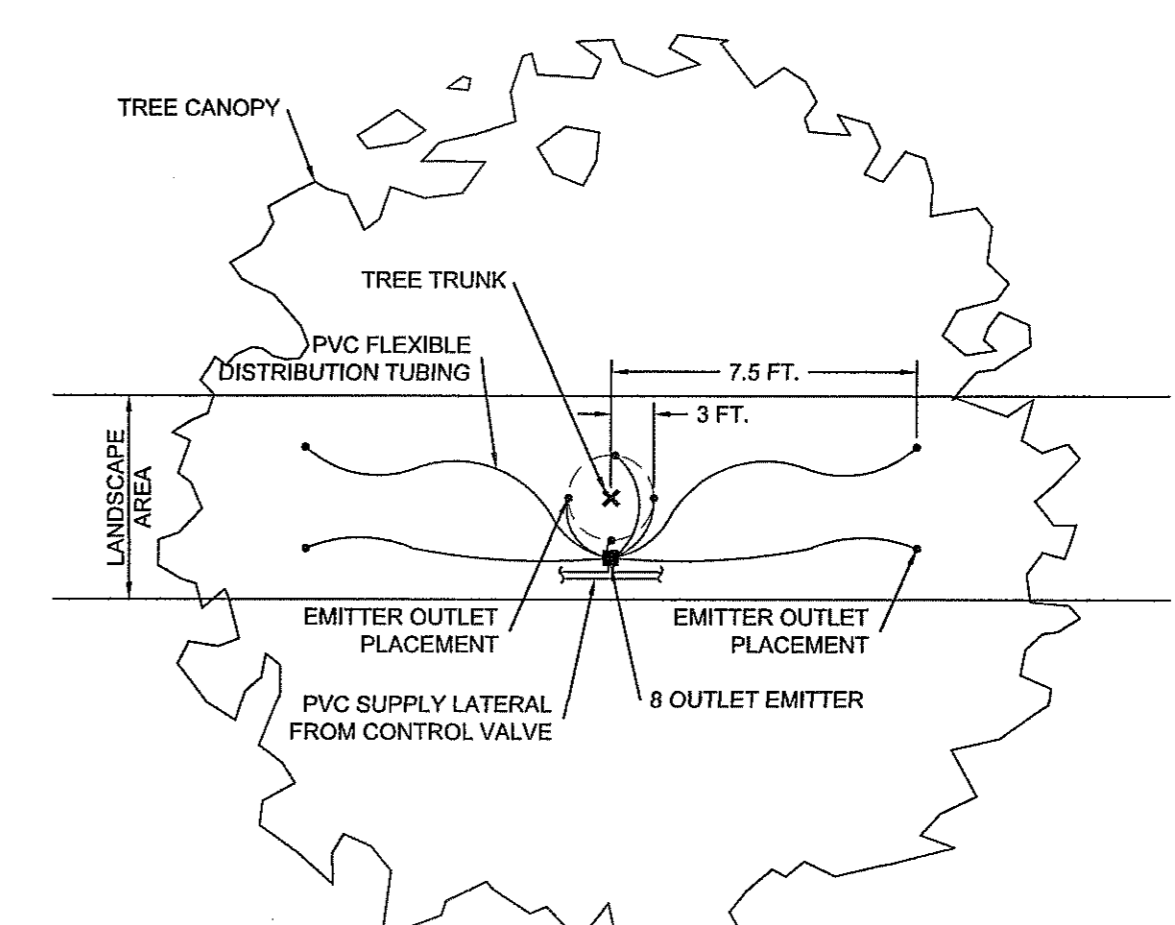
**TBOS BATTERY OPERATED CONTROLLER W/ TRANSMITTER**  
NOT TO SCALE



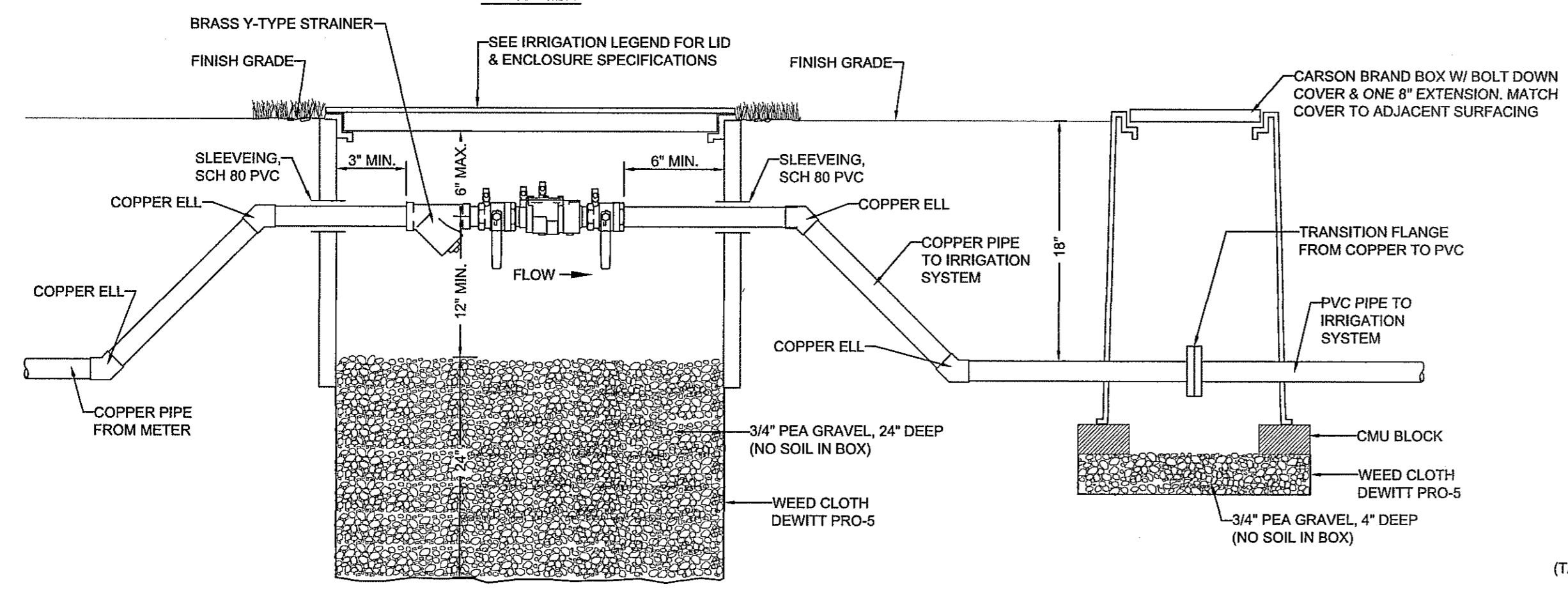
**REMOTE CONTROL VALVE, PRESSURE REGULATOR & FILTER**  
NOT TO SCALE



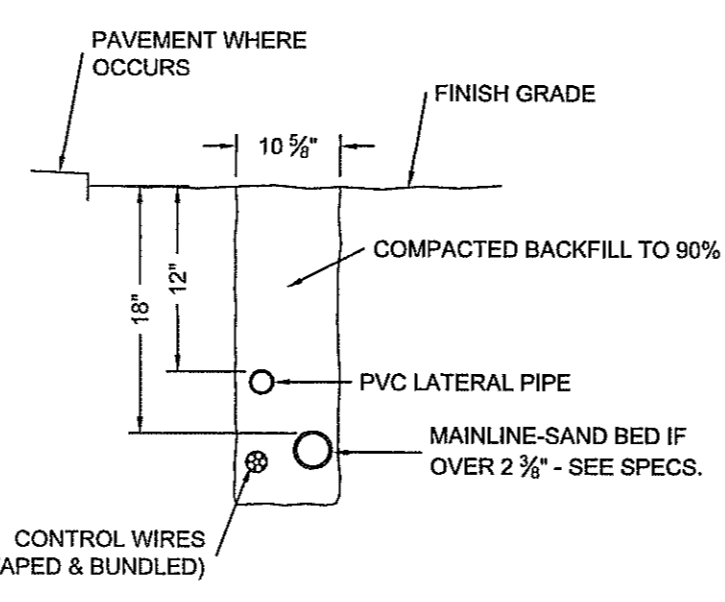
**DRIP EMITTER DETAIL**  
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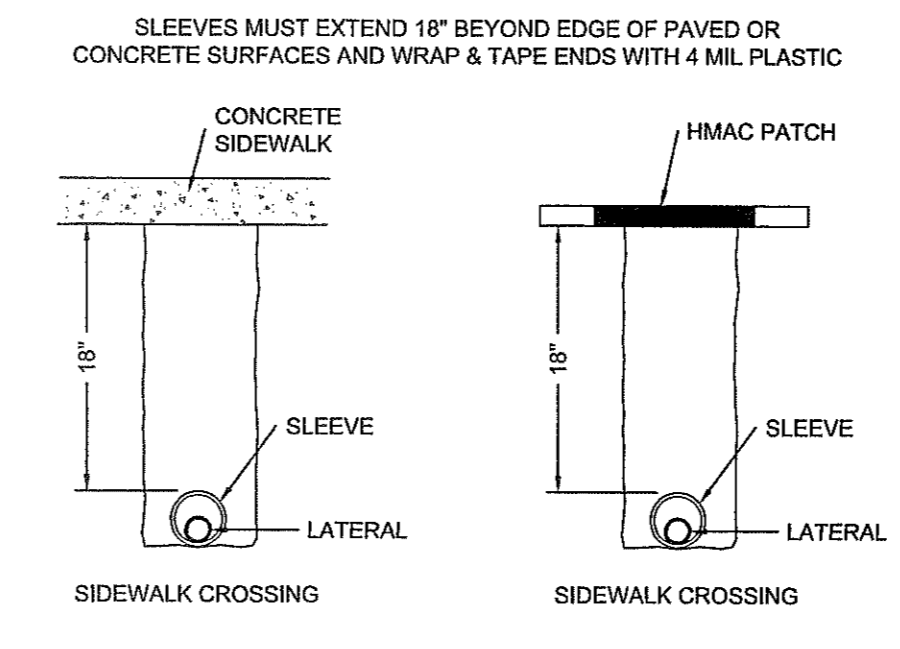
**EMITTER OUTLET PLACEMENT DETAIL**  
NOT TO SCALE



**DOUBLE CHECK ASSY. FBCO Mo.850 & TRANSITION FLANGE**  
NOT TO SCALE



**TRENCHING DETAIL**  
NOT TO SCALE

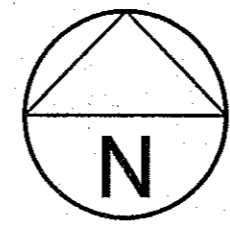


**SLEEVING STANDARD DETAIL**  
NOT TO SCALE

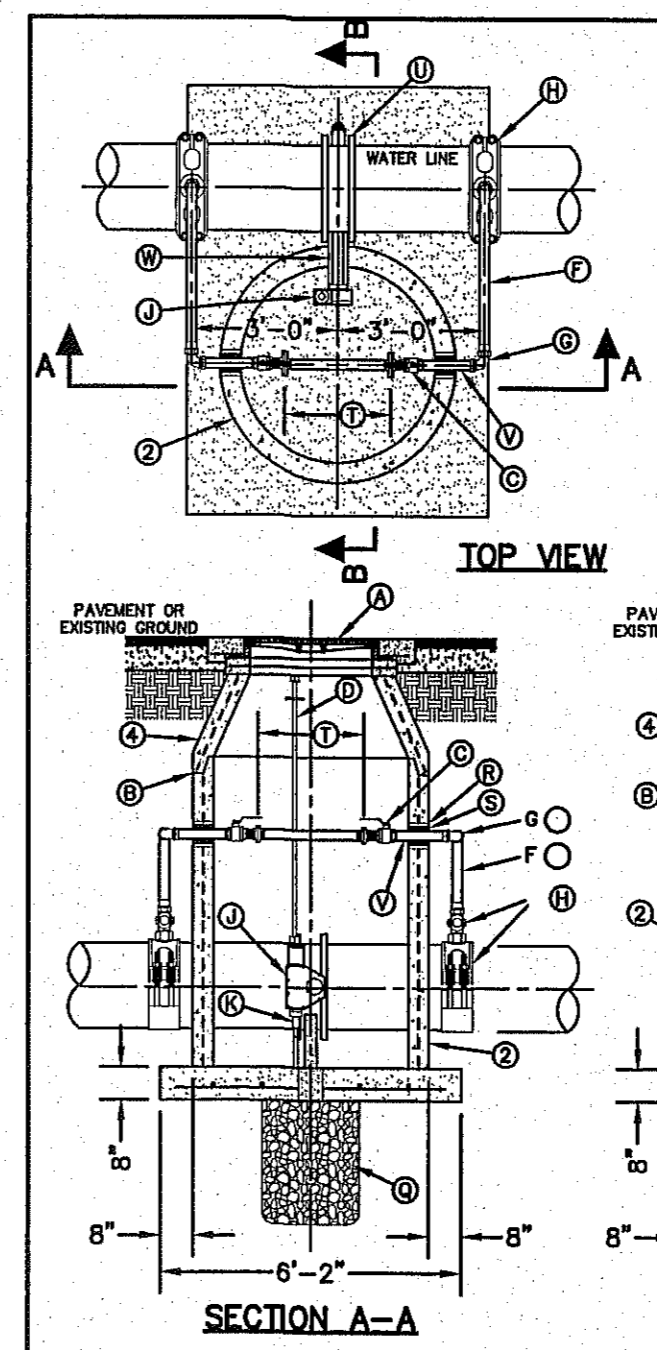
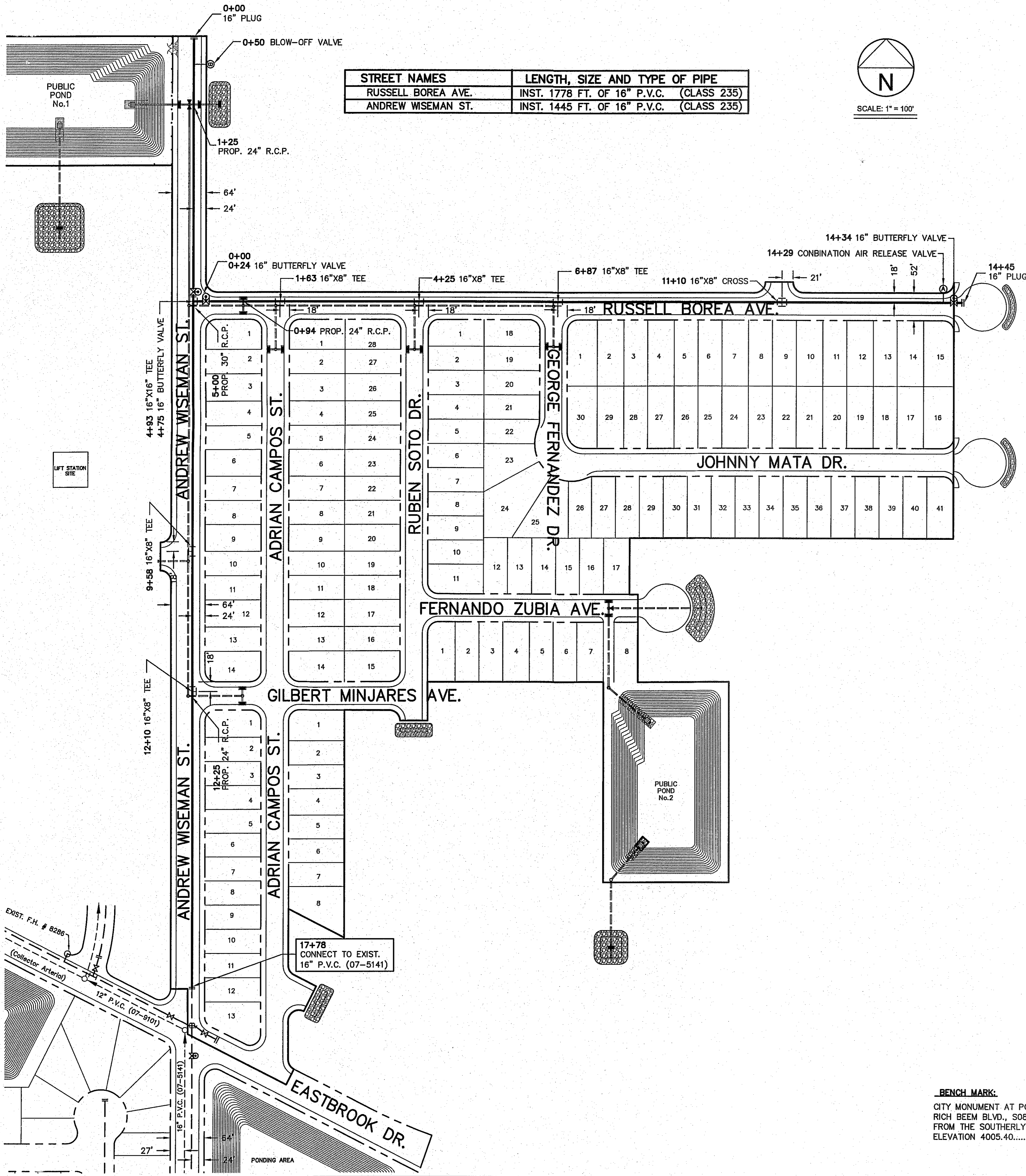


REVIEWED

STREET NAMES	LENGTH, SIZE AND TYPE OF PIPE
RUSSELL BOREA AVE.	INST. 1778 FT. OF 16" P.V.C. (CLASS 235)
ANDREW WISEMAN ST.	INST. 1445 FT. OF 16" P.V.C. (CLASS 235)

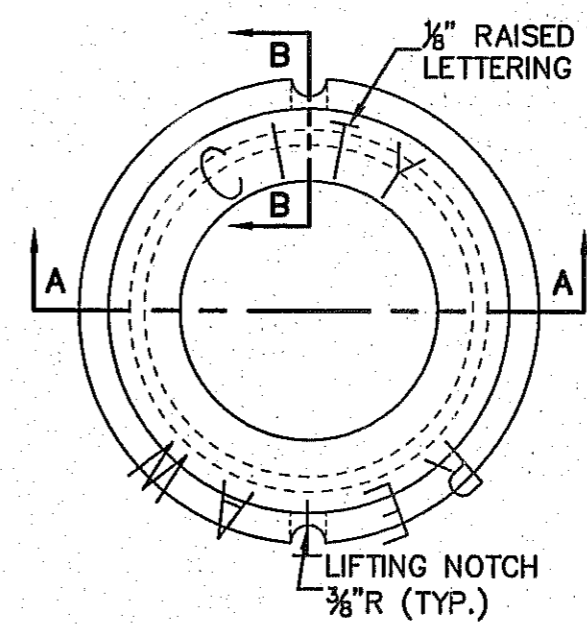


SCALE: 1" = 100'

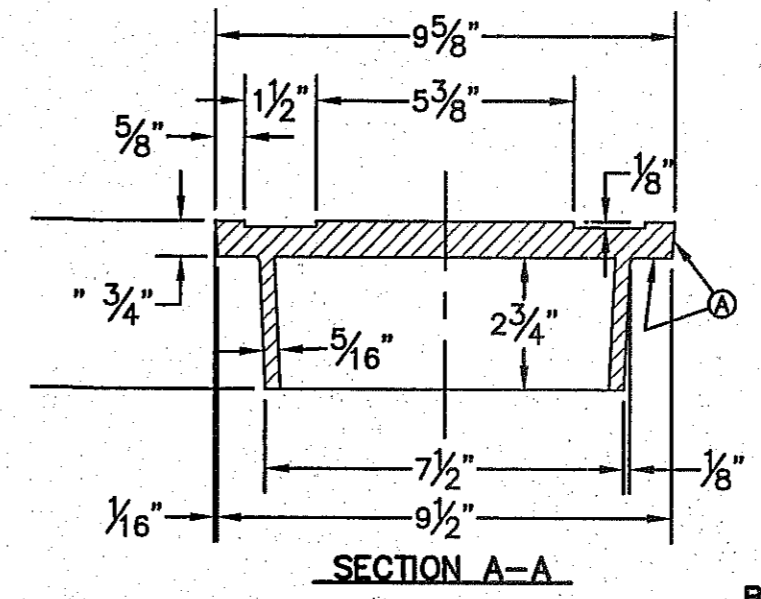


- GENERAL NOTES:**
- INSTALLATION APPLICABLE TO P.V.C. & DUCTILE IRON WATER MAINS ONLY. INSTALLATION FOR OTHER PIPE MATERIALS REQUIRE E.P.W.U. APPROVAL.
  - PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" OF OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
  - MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
  - ECCENTRIC CONE SECTION REINFORCEMENT IN ACCORDANCE WITH ASTM C-478.
- CONSTRUCTION KEY NOTES:**
- MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
  - ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
  - 2" BALL VALVE (NORMALLY CLOSED).
  - 1/4" ON BOTTOM TO FIT 2" SQUARE VALVE NUT AND 2" SQUARE OPERATOR NUT ON TOP.
  - ADJUSTABLE EXTENSION STEM GUIDE (AS PER DETAIL 281-3) @ 6" MAX. INTERVALS.
  - 2" COPPER PIPE (TYPE-K).
  - THREADED END TO FLARED END 90° ELBOW (TYP.).
  - 20"x2" OR 16"x2" SADDLE TAP WITH 2" CORPORATION STOP.
  - BUTTERFLY VALVE OPERATOR.
  - ADJUSTABLE SUPPORT OR APPROVED EQUAL.
  - 6" DIAMETER DRAIN HOLE FILLED WITH GRAVEL.
  - #5 @ 12" O.C.E.W.
  - CONCRETE SUPPORT.
  - NOTCH MANHOLE SECTION FOR VALVE OPERATOR. FILL WITH BRICK AND MORTAR AFTER VALVE INSTALLATION.
  - 24" DIAMETER BY 2'-8" DEEP GRAVEL SUMP.
  - CEMENT GROUT.
  - 1" PREMOULDED ASPHALT EXPANSION JOINT.
  - INSTALL A 2" DIA. BRASS SPOOL PIECE WITH FLANGED ENDS. ONE SPOOL PIECE TO BE PROVIDED FOR EACH BUTTERFLY VALVE LOCATION. PROVIDE A 1" THREADED OUTLET WITH PLUG ON SPOOL PIECE. ALL SPOOL PIECES TO BE PROVIDED WITH FULL FACE GASKETS.
  - BUTTERFLY VALVE.
  - 2" BRASS NIPPLE PIECE (TYP.).
  - VALVE OPERATOR EXTENSION - 12" LONG.
  - FLARED END TO FLARED END 90° ELBOW (TYP.).

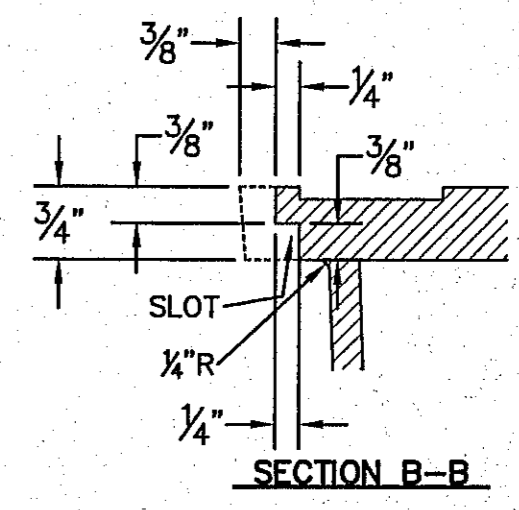
BUTTERFLY VALVE IN MANHOLE INSTALLATION FOR 16" AND 20" WATER LINES N.T.S.



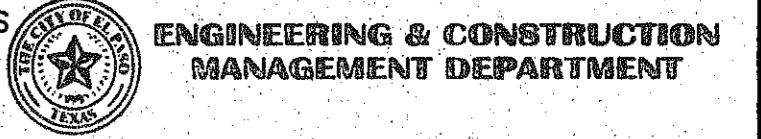
- GENERAL NOTES:**
- CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
  - WEIGHT OF COVER IS 18 POUNDS.
- CONSTRUCTION KEY NOTES:**
- TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.



BONNET BOX COVER (FLIP RESISTANT) N.T.S.



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

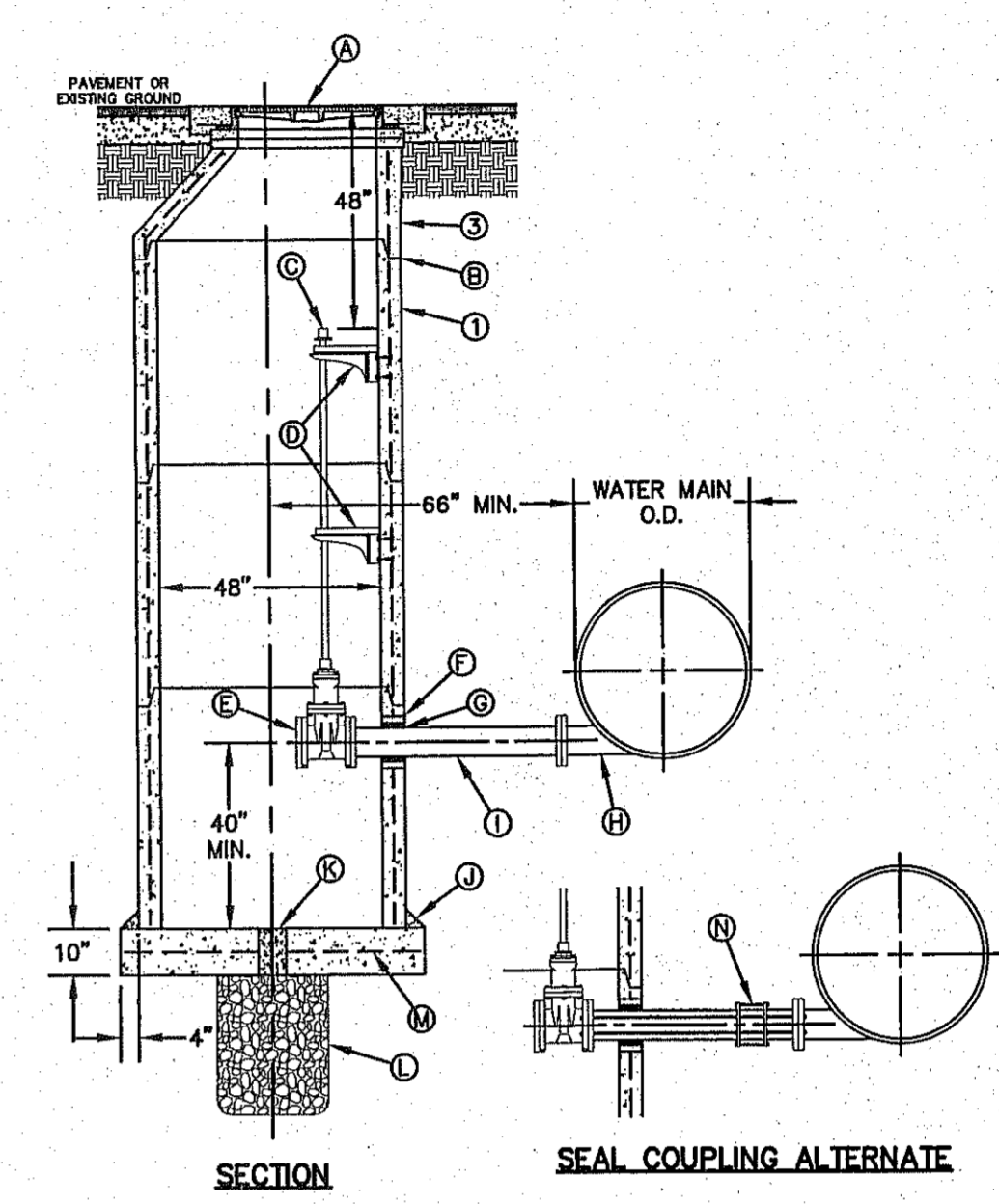
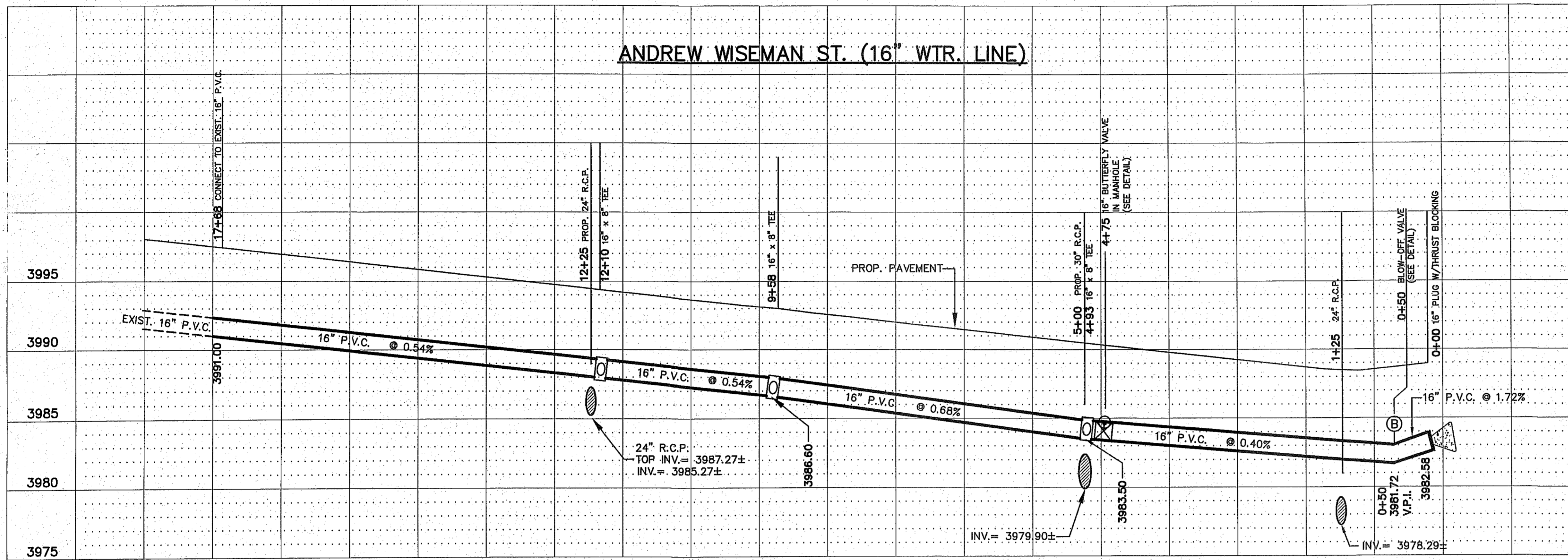


REVIEWED

**BENCH MARK:**  
CITY MONUMENT AT POINT OF CURVE CENTERLINE RICH BEEM BLVD., S08°13'31"E A DISTANCE OF 467.58 FEET FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVE. ELEVATION 4005.40.....(CITY DATUM)

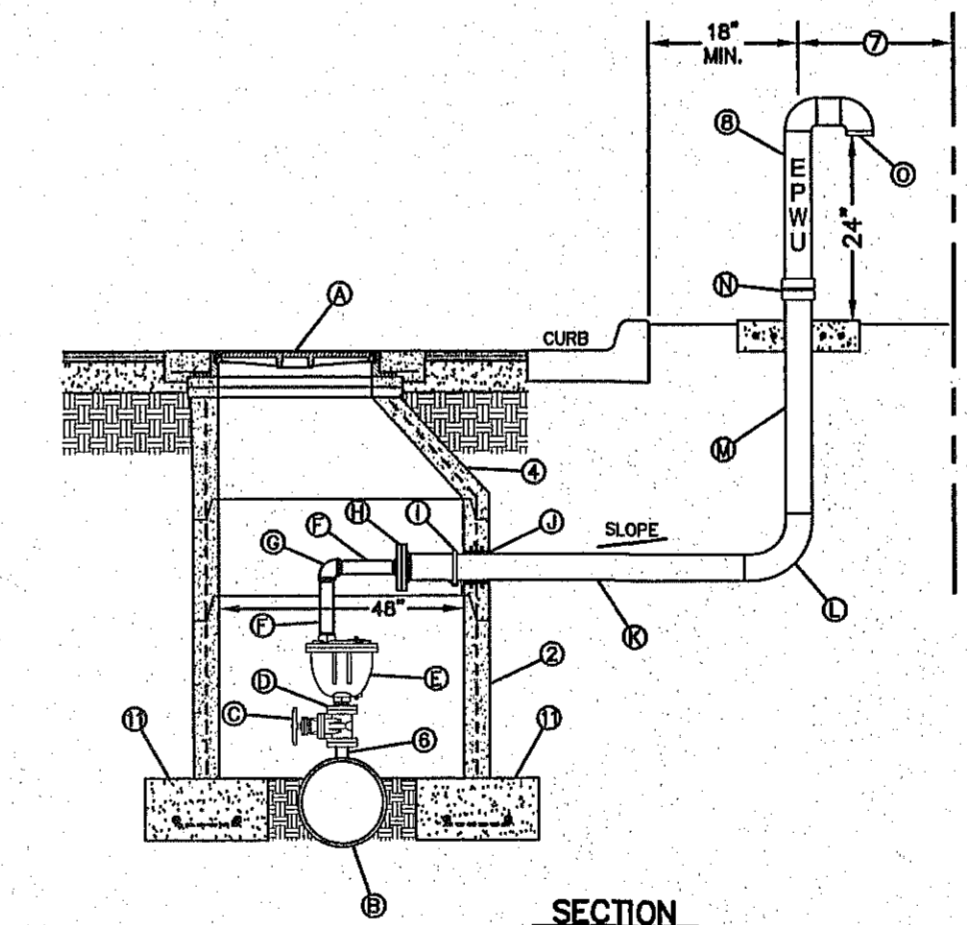
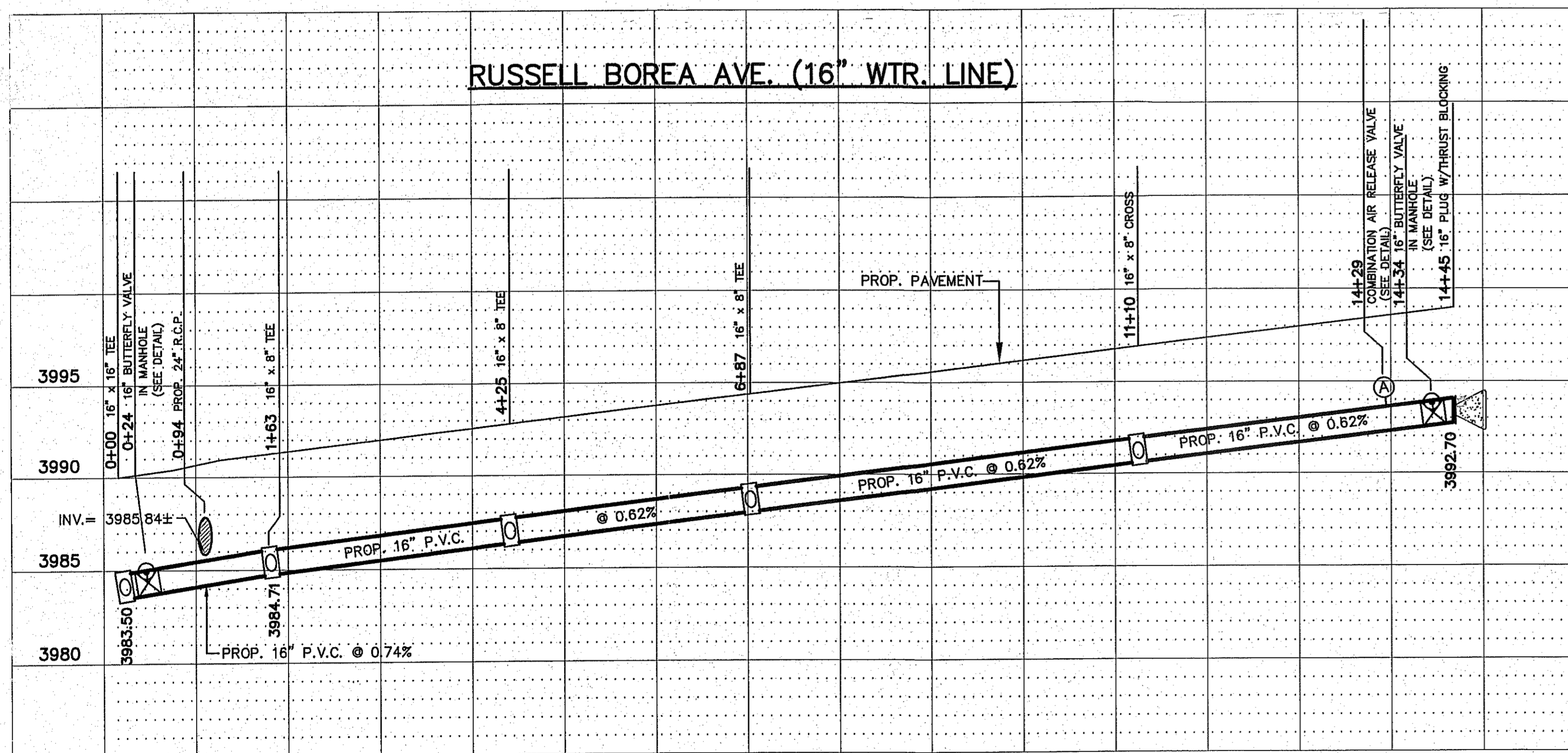
ENGINEER'S SEAL	REVISIONS	DATE	REVISED BY	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD					
				<b>TRES SUEÑOS UNIT EIGHT WATER DISTRIBUTION SYSTEM</b>					
							SCALE	DRAWN BY	JOB NO.
							HOR. 1" = 100'	B.S.	00-0000
							VERT. 1" = 5'	CHECKED BY	DESIGNED BY
							A.C.		
				DATE					
				00/00/00					
				SHT. 1 OF 2					

ANDREW WISEMAN ST. (16" WTR. LINE)



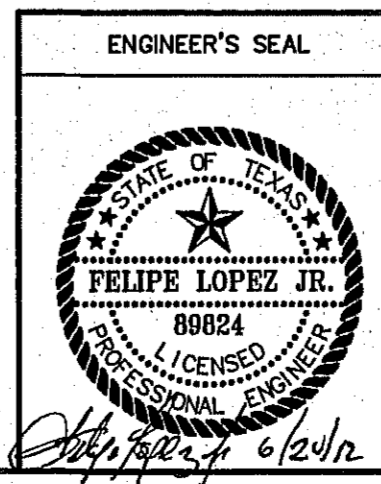
- GENERAL NOTES:**
1. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADINGS. PROVIDE REINFORCEMENT WITHIN 3" Ø OPENINGS OR KNOCKOUTS, OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
  2. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
  3. ECCENTRIC CONE SECTION REINFORCEMENT IN ACCORDANCE WITH ASTM C-478.
- 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. 1½" DIAMETER SOLID STEEL EXTENSION STEM WITH SQUARE SOCKET ON BOTTOM TO FIT 2" SQUARE VALVE NUT AND 2" SQUARE OPERATOR NUT ON TOP.
  - D. ADJUSTABLE EXTENSION STEM GUIDE AS PER DETAIL 261-3) @ 6" MAX. INTERVALS.
  - E. 6" FLANGED GATE VALVE (NORMALLY CLOSED) WITH BLIND FLANGE.
  - F. NON-SHRINK GROUT.
  - G. 1" SPONGE RUBBER.
  - H. 6" BOTTOM TANGENT OUTLET (SCCP OR STEEL PIPE). USE BOTTOM OUTLET FOR DIP.
  - I. PROVIDE SPOOL PIECE WITH BOLTED FLANGES BOTH ENDS.
  - J. 4"x4" GROUT ALL AROUND.
  - K. 6" DIAMETER DRAIN HOLE FILLED WITH GRAVEL.
  - L. 24" DIAMETER BY 2'-6" DEEP GRAVEL SUMP.
  - M. #5 @ 12" O.C.E.W.
  - N. IF SEAL COUPLING IS USED, MUST INSTALL ¾" STAINLESS STEEL HARNESS RODS WELDED OR BOLTED TO BOTH END FLANGES FOR PROPER RESTRAINT. COAT RODS WITH NON-CORROSIVE INHIBITIVE PAINT. WRAP ENTIRE COUPLING & ROD ASSEMBLY WITH POLYETHYLENE WRAP.

RUSSELL BOREA AVE. (16" WTR. LINE)



- GENERAL NOTES:**
1. INSTALLATION SHALL GENERALLY BE FOR A MAIN-LINE 16" AND SMALLER (2" COMBINATION AIR VALVE SHOWN). INSTALLATION OF OTHER SIZED VALVES IS SIMILAR.
  2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADINGS. PROVIDE REINFORCEMENT WITHIN 3" Ø OPENINGS OR KNOCKOUTS, OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
  3. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
  4. ECCENTRIC CONE SECTION REINFORCEMENT IN ACCORDANCE WITH ASTM C-478.
  5. VALVE AND PIPE SIZES AS SPECIFIED.
  6. WHERE TOP OUTLET FITTING IS NOT PROVIDED BY MANUFACTURER, PROVIDE TAPPING SLEEVE (DRY TAP MAIN LINE) WITH VERTICAL FLANGE TO SIZE OF AIR VALVE.
  7. WHEN INSTALLATION IS WITHIN TxDOT R.O.W., VENT PIPE SHALL BE LOCATED 6" FROM TxDOT R.O.W. VENT PIPE SHALL NOT BE PLACED IN SIDEWALK AREA.
  8. AIR VENT PIPING (SIZE AS REQUIRED PER COMBINATION AIR VALVE) TO BE SCHEDULE 40 WELDED STEEL WITH FORGED STEEL WELD FITTINGS. BURIED VENT PIPING SHALL HAVE 2 COATS OF EPOXY POLYAMIDE COATING. ABOVE GROUND PIPING TO BE PRIMED AND PAINTED BLUE (PURPLE FOR RECLAIMED) WITH A SEMI-GLOSS ENAMEL AND LABELED "EPWU" WITH 3-INCH HIGH WHITE LETTERS.
  9. AIR VENT PIPING SHALL BE LOCATED CLEAR OF PAVED ROADWAY.
  10. PRE-CAST MANHOLE SHALL NOT REST ON PIPE.
  11. 12"x24" FOOTING WITH No.5 REBAR AT 12" ON CENTER EACH WAY IS REQUIRED.
- 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. MAINLINE, SIZE AS SPECIFIED.
  - C. 2" CAST IRON COMPANION FLANGE.
  - D. 2" CAST IRON COMPANION FLANGE.
  - E. COMBINATION AIR VALVE, SIZE AS SPECIFIED.
  - F. 2" MALE THREADED BRASS NIPPLE.
  - G. 2" FEMALE THREADED BRONZE 90° ELBOW.
  - H. 4"x2" CAST IRON REDUCING COMPANION FLANGE.
  - I. ANCHOR PIPING TO VALVE WALL WITH 3"x3"x¼" ANGLE & ¾" STRAP.
  - J. PIPE WALL SLEEVE (LINK SEAL OR EQUAL).
  - K. 4" FLANGED BY PLAIN END SCHEDULE 40 STEEL PIPE (GALVANIZED NOT ALLOWED).
  - L. 4" STEEL 90° BEND WELDED.
  - M. 4" PLAIN END BY THREADED MALE SCHEDULE 40 STEEL PIPE (GALVANIZED NOT ALLOWED).
  - N. BREAK-A-WAY COUPLING, SEE DET 263-5.
  - O. INSECT SCREEN.

**BENCH MARK:**  
CITY MONUMENT AT POINT OF CURVE CENTERLINE  
RICH BEEM BLVD., S08°13'31"E A DISTANCE OF 467.58 FEET  
FROM THE SOUTHERLY RIGHT OF WAY LINE OF MONTANA AVE.  
ELEVATION 4005.40.....(CITY DATUM)



REVISIONS	DATE	REVISED BY

**EL PASO WATER UTILITIES**  
PUBLIC SERVICE BOARD

**TRES SUEÑOS UNIT EIGHT**  
WATER DISTRIBUTION SYSTEM

SCALE: HOR. 1" = 100', VERT. 1" = 5'

DRAWN BY: B.S. JOB NO. 00/0000 DATE 7/00/00  
CHECKED BY: A.C. DESIGNED BY: SHT 2 OF 2

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT  
REVIEWED