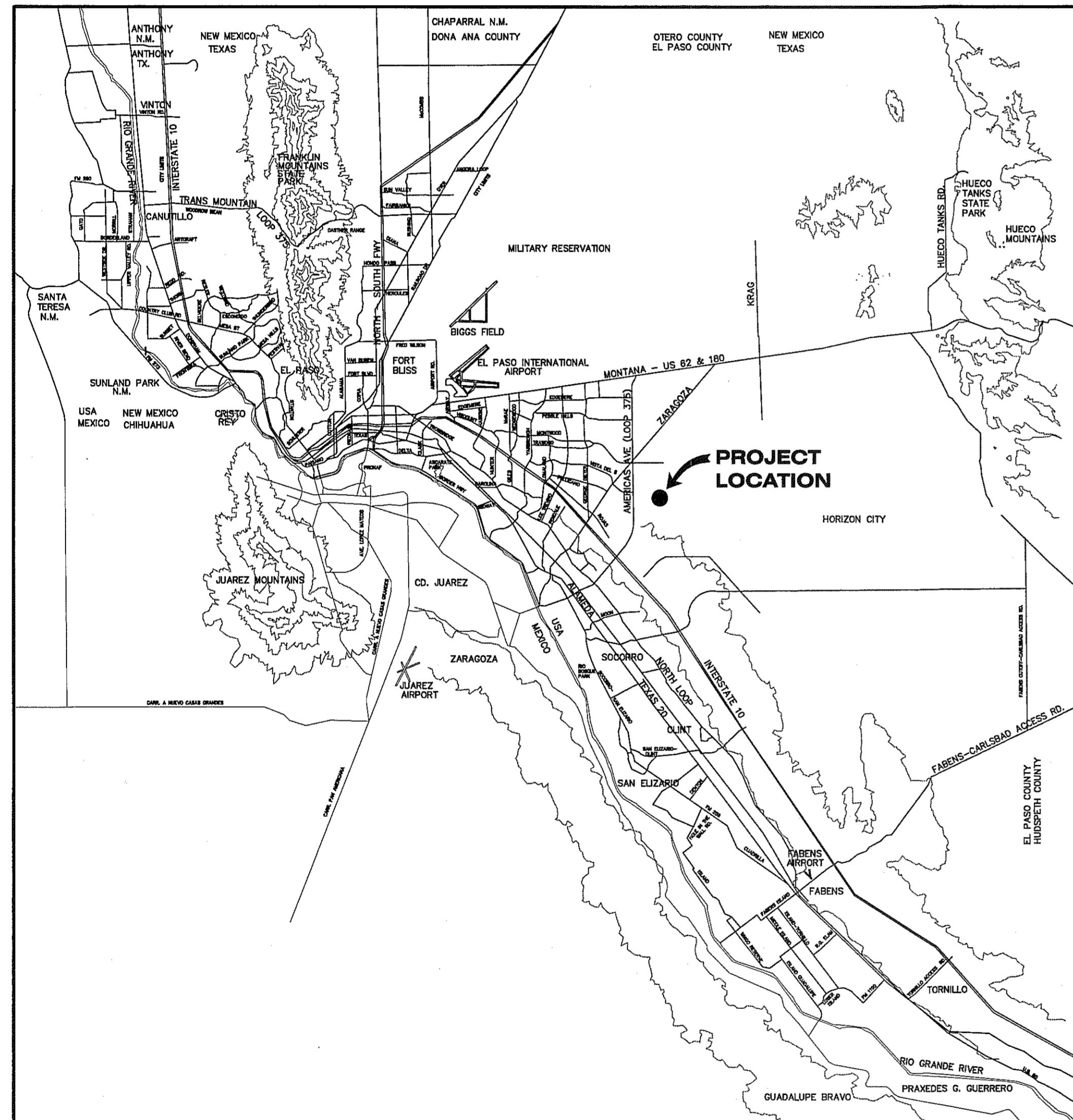


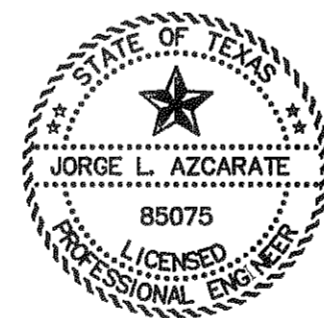
MESQUITE TRAILS UNIT NINE SUBDIVISION IMPROVEMENTS

BEING A PORTION OF SECTION No.16, BLOCK 79,
TOWNSHIP 3, TEXAS AND PACIFIC RAILWAY COMPANY SURVEYS,
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 17.737 ACRES ±



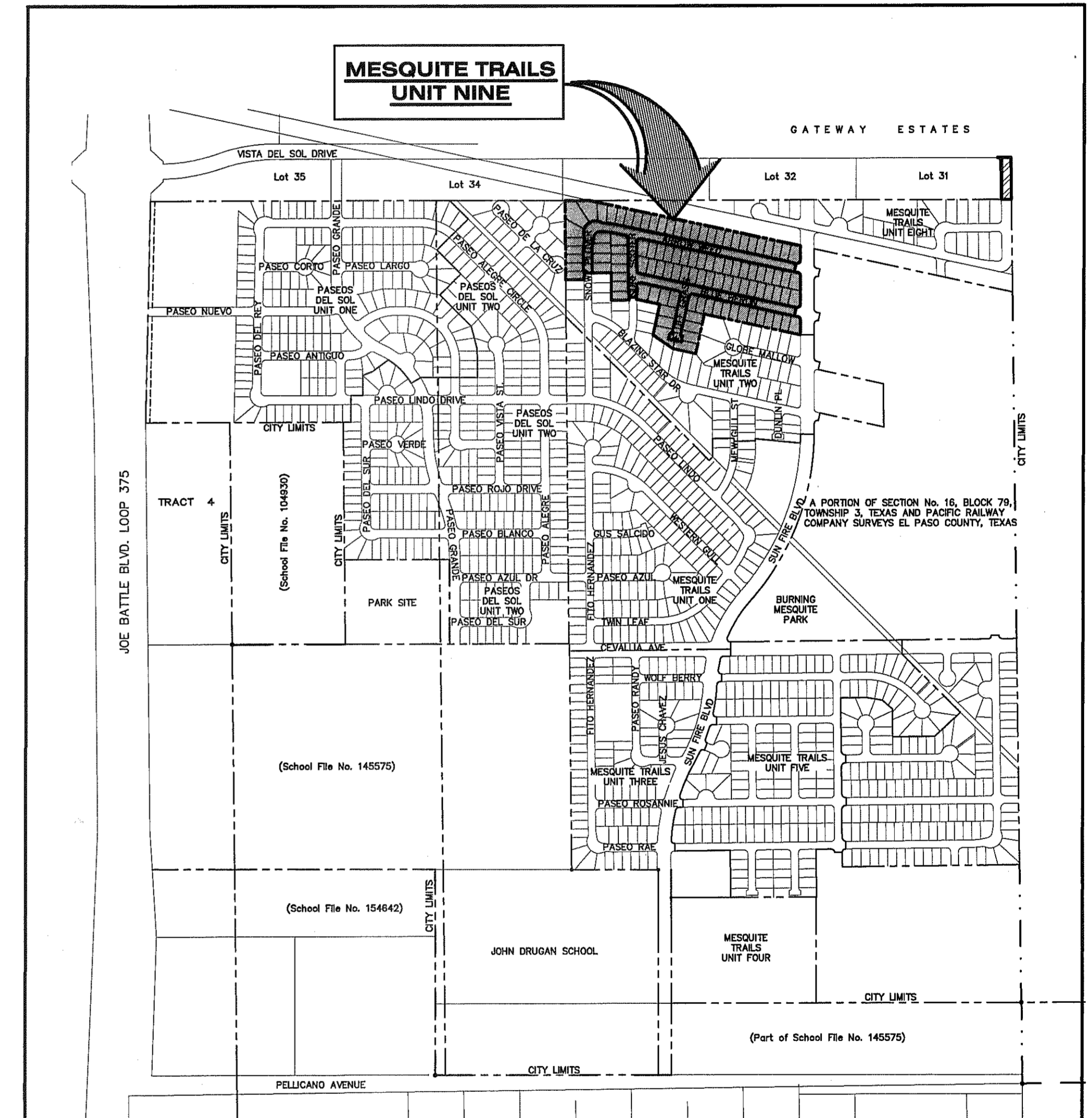
VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1	GRADING SECTIONS
C6.1-C6.5	STREET PLAN & PROFILES
C7.1	STORM SEWER PLAN & PROFILES
C8.1-C8.3	STANDARD DETAILS
C9.1-C9.2	DRAINAGE DETAILS
C10.1-C10.2	ILLUMINATION PLAN AND DETAILS
C11.1	WATER INDEX / GENERAL INFORMATION
C12.1-C12.4	WATER DETAILS
C13.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C14.1-C14.2	SANITARY SEWER PLAN & PROFILES
C15.1-C15.3	SANITARY SEWER DETAILS
C16.1-C16.3	STORM WATER POLLUTION PREVENTION PLAN



JL
9-11-13
JORGE L. AZCARATE, P.E. PROJECT MANAGER

cea
GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	AMERICAS LOOP 375 JOINT VENTURE	4655 COHEN AVENUE	EL PASO, TX 79924	(915) 821-3550	(915) 821-3556
ENGINEER:	CEA GROUP	4712 WOODROW BEAN DR. STE. F	EL PASO, TX 79924	(915) 544-5232	(915) 544-5233
SURVEYOR:	BARRAGAN & ASSOCIATES	10950 PELLICANO DR. BUILDING F	EL PASO, TX 79936	(915) 591-5709	(915) 591-5706



REVIEWED

GENERAL NOTES

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

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

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

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
- Q 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
- ROP 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

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

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GRADING SECTIONS	C5.1
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ARROW WEED DRIVE PLAN & PROFILE FROM STA. 10+18.24 TO STA. 15.00.00	C6.2
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REVIEWED

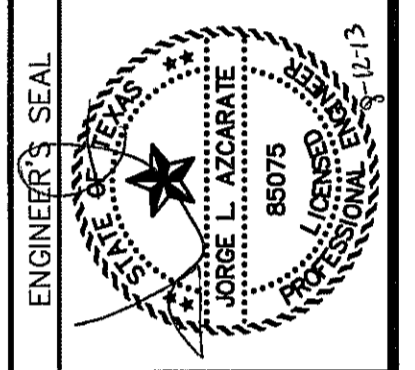
SPECIAL CONDITIONS

1. CONTRACTOR SHALL HAVE A QUALIFIED PROJECT SUPERINTENDENT AT THE PROJECT SITE AT ALL TIMES DURING THE CONSTRUCTION DURATION.
2. CONTRACTOR SHALL PREPARE CURB GRADES WITHIN 0.10- FEET.
3. CONTRACTOR TO INSTALL AND MAINTAIN SW3P BEST MANAGEMENT PRACTICES AS INDICATED ON THE PLANS. CONTRACTOR SHALL COMPLY WITH THE SW3P SPECIFICATIONS, AND TCEQ RULES AND REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMING TO ALL SWP3 REGULATIONS.
4. CONTRACTOR SHALL CONSTRUCT TEMPORARY SLOPES BETWEEN LOTS THAT HAVE A VERTICAL GRADE DIFFERENTIAL OF OVER 4- FEET.

DATE	REVISIONS	BY

EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASEO ALEGRE CIRCLE AND PASEO UNDO DRIVE.

CSA
ENGINEERS • ARCHITECTS • PLANNERS
TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5235 Fax: 915.544.5233 www.csaonline.net



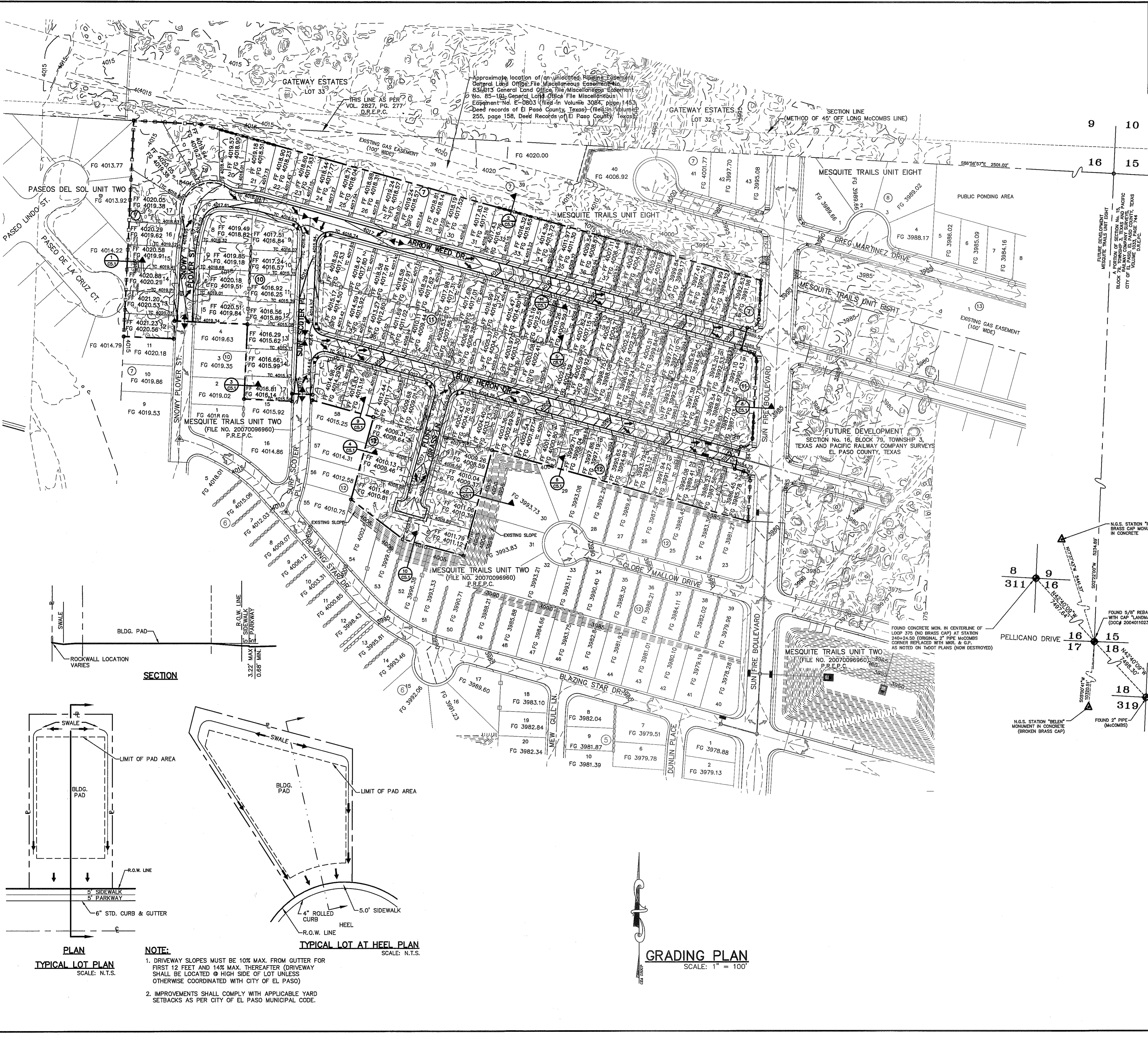
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Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2013
DESIGN BY:	R.C.
DRAWN BY:	R.C.
CHECKED BY:	J.L.A.
APPROVED BY:	J.L.A.
JOB No.:	2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

GENERAL INFORMATION

SHEET NO.
C1.1



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

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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

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

BENCHMARK
EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASEO ALLEGRO CIRCLE AND PASEO LINDO DRIVE.

FLOOD ZONE:
THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 02509, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

- LEGEND:**
- SUBDIVISION BOUNDARY LINE
 - STREET RIGHT OF WAY
 - PROPERTY LINE
 - STREET CENTERLINE
 - 10' UTILITY EASEMENT
 - LOT AND BLOCK NUMBER
 - EXISTING DRAINAGE FLOW
 - PROPOSED DRAINAGE FLOW
 - HIGH POINT
 - PROPOSED MONUMENT PROPERTY CORNER
 - NEW 4' HIGH RETAINING ROCKWALL (2'-3" RETAINING HEIGHT)
 - EXISTING RETAINING ROCKWALL (2'-3" RETAINING HEIGHT)
 - NEW 4' HIGH RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
 - EXISTING RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
 - EXISTING MONUMENT
 - PROPOSED MAJOR CONTOURS
 - PROPOSED MINOR CONTOURS
 - EXISTING MAJOR CONTOURS
 - EXISTING MINOR CONTOURS
 - PROPOSED INLET & STORM SEWER PIPE
 - EXISTING INLET & STORM SEWER PIPE

DATE	REVISIONS	BY

ENGINEER'S SEAL

CS&A
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-454
4712 Woodrow Beam, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.csandap.com

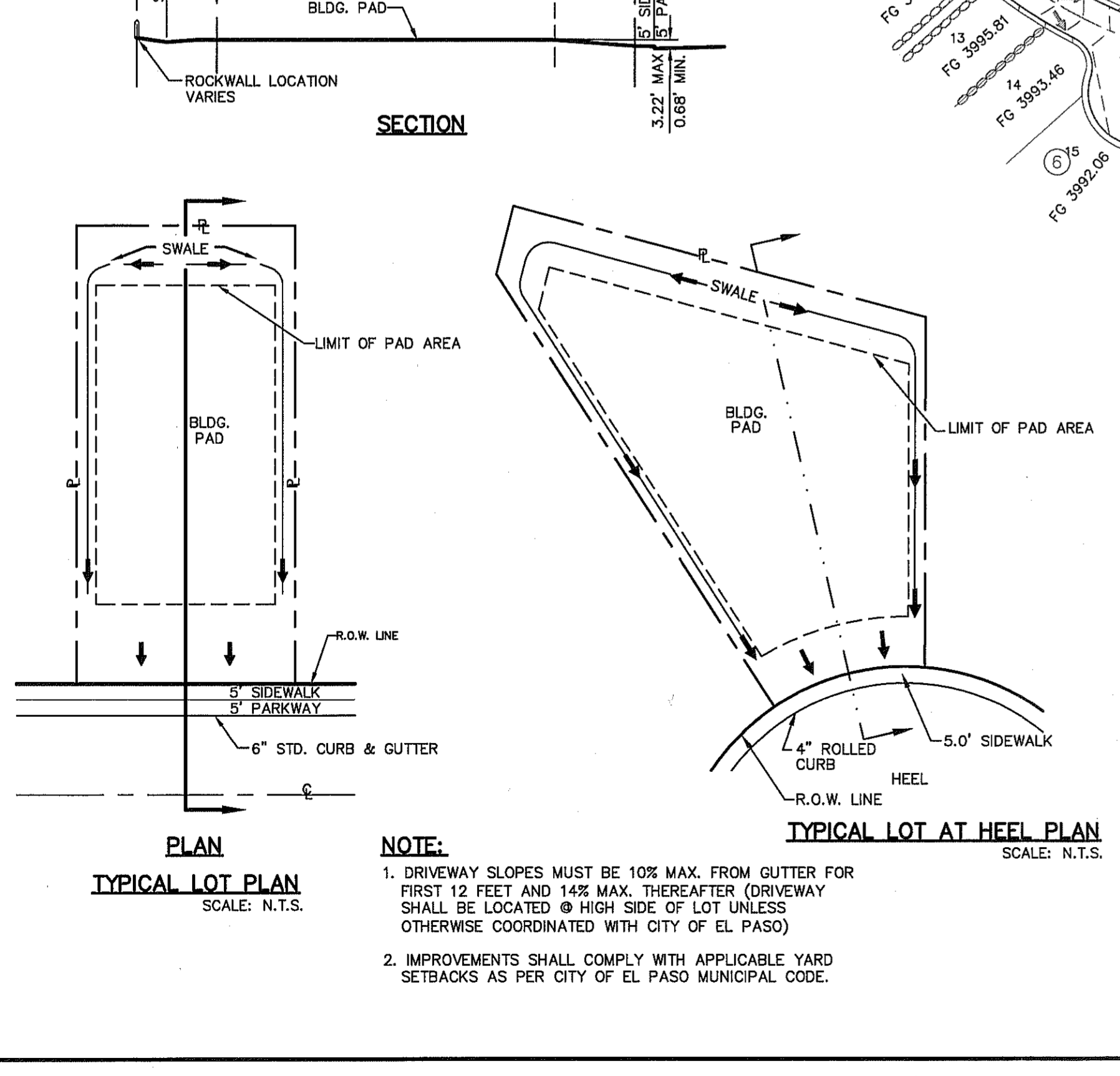
SCALE: 1"=100'

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

DATE: SEPTEMBER 2013
DESIGN BY: R.O.
DRAWN BY: J.G.
CHKD. BY: J.L.A.
APPRD. BY: J.L.A.
JOB NO. 2000-1691D

PROJECT TITLE
MESQUITE TRAILS UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING PLAN
SHEET NO.
C3.1



NOTE:

- DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)
- IMPROVEMENTS SHALL COMPLY WITH APPLICABLE YARD SETBACKS AS PER CITY OF EL PASO MUNICIPAL CODE.

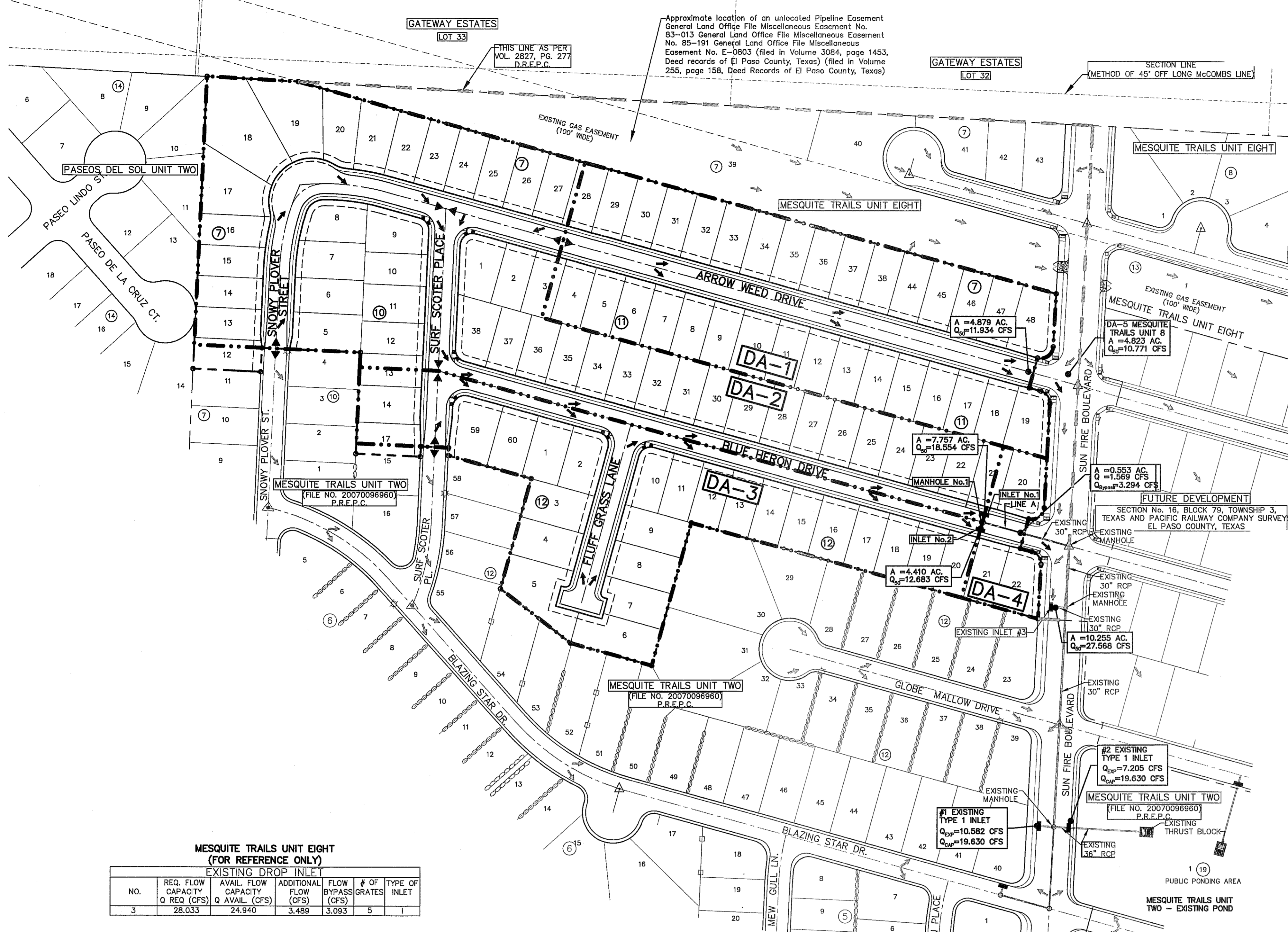
GRADING PLAN
SCALE: 1" = 100'

CITY DEVELOPMENT DEPARTMENT

Reviewed For Conformance For Condition Related To:

- Drainage
- Retaining Rock Walls
- Grading & Erosion
- Storm Sewer Pipes
- Other

Contractor Must Call 24 Hours Prior To Construction for Inspections
JAVIER GUTIERREZ SEPT. 29, 2013



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

LEGEND:
 --- EXISTING DRAINAGE AREA BOUNDARY
 --- DRAINAGE AREA BOUNDARY
 --- DRAINAGE FLOW
 ▲ HIGH POINT
 ▼ LOW POINT
 ○ STORM SEWER MANHOLE
 □ PROPOSED INLET & RCP PIPE
 □ EXISTING INLET & STORM SEWER PIPE
 □ DRAINAGE AREA

DA-10

FLOOD ZONE:
 THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 02508, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

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)
DA-1	4,879	3,717	22,500	0.658	11,934
DA-2	7,757	3,570	24,050	0.670	18,554
DA-3	4,410	4,286	17,450	0.671	12,683
DA-4	0,553	4,400	16,600	0.645	1,569

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)
 (1) WATERSHED AREA IDENTIFICATION
 (2) AREA FROM DRAINAGE PLAN
 (3) RAINFALL INTENSITY, 50 YEAR STORM => PLATE NO. 2-14
 (4) TIME OF CONCENTRATION: TC= T (OVERLAND) + T (GUTTER)
 (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A
 RESIDENTIAL AREA = 0.60
 PAVEMENT AREA = 0.90
 (6) $Q_{50} = C \times A \times I_{50}$

MESQUITE TRAILS UNIT EIGHT (FOR REFERENCE ONLY)
EXISTING DROP INLET

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW CAPACITY (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET
3	28,033	24,940	3,489	3,093	5	I

MESQUITE TRAILS UNIT TWO - EXISTING POND INFORMATION (FOR REFERENCE ONLY)

EXISTING POND CALCULATIONS
 $QT = (ARC)/12$
 $QT = 15.007$
 $A = 82.913$
 $R = 4"$
 $C = 0.543$
 $QT \times 25\% = 3,752$
 $15,007 + 3,752 = 18,759$

SILT VOLUME = 0.995
 0.012 AC-FT/AC
 $18,759 + 0.995 = 19,754 \text{ AC-FT}$
TOTAL req = 19,754 AC-FT

POND #1 MESQUITE TRAILS UNIT TWO

EXISTING POND AREAS

CONTOUR	ACCUMULATED VOLUME (AC-FT.)
3973	21,696
3972	20,047
3971	18,475
3970	16,980
3969	15,559
3968	14,212
3967	12,935
3966	11,728
3965	10,588
3964	9,515
3963	8,506
3962	7,561
3961	6,676
3960	5,851
3959	5,084
3958	4,374
3957	3,718
3956	3,115
3955	2,563
3954	2,061
3953	1,607
3952	1,199
3951	0,837
3950	0,517
3949	0,239
3948	0,000

EXISTING RETENTION BASIN

BASIN NO.	REQUIRED CAPACITY (AC.-FT.)	AVAILABLE CAPACITY (AC.-FT.)	PEAK INFLOW (CFS)	TOWER FLOW (CFS)	HIGH WATER SURFACE ELEV. (FT.)	BOTTOM ELEVATION (FT.)	FREE BOARD (FT.)
1	19,754	21,696	147,897	0	3971.81±	3948.00	1.190

NOTE:
 1. THE HWSE REFLECTS THE ELEVATION AS REQUIRED BY THE CITY OF EL PASO.
 $HWSE = QT + SILT VOLUME + 25\% \text{ EMERGENCY STORAGE}$
 $HWSE = 15,007 + 0.995 + 3,752 = 19,754 \text{ AC-FT}$
 $CONTOUR 3971, ACCUMULATED VOLUME = 18,475 \text{ AC-FT}$
 $CONTOUR 3972, ACCUMULATED VOLUME = 20,047 \text{ AC-FT}$
 $HIGH WATER SURFACE ELEVATION = 3971.81$

EXISTING DROP INLETS

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW CAPACITY (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET
#1 EXISTING	10,582	19,630	3,093	0,000	2	I
#2 EXISTING	7,205	19,630	0,000	0,000	2	I

MESQUITE TRAILS UNIT NINE DEVELOPED RUN-OFF IS TO BE DISCHARGED INTO THE EXISTING STORM SEWER INFRASTRUCTURE AND PONDING AREA LOCATED ON MESQUITE TRAILS UNIT TWO, WHICH HAS BEEN ORIGINALLY SIZED FOR ADEQUATE CAPACITY. REFERENCE MESQUITE TRAILS UNIT TWO AND MESQUITE TRAILS UNIT EIGHT FOR ADDITIONAL DRAINAGE INFORMATION

DRAINAGE PLAN
 SCALE: 1" = 100'

DROP INLETS

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	ADDITIONAL FLOW CAPACITY FROM INLET (CFS)	Q EXP. AT CROWN (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	Q(CFS) BYPASS TO INLET	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	18,554	N/A	0	18,554	17,551 ((#3 OFF-SITE)	1,003	5	I ON GRADE
2	12,683	N/A	0	12,683	10,392 ((#3 OFF-SITE)	2,291	3	I ON GRADE

NOTE: AVAILABLE FLOW CAPACITIES SHOWN REFLECT CAPACITIES WITH ON-GRADE INLET GRATE EFFICIENCY.

MOMENTUM COMPUTATION

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.312	6.268	1,956
2	0.271	5.700	1,545

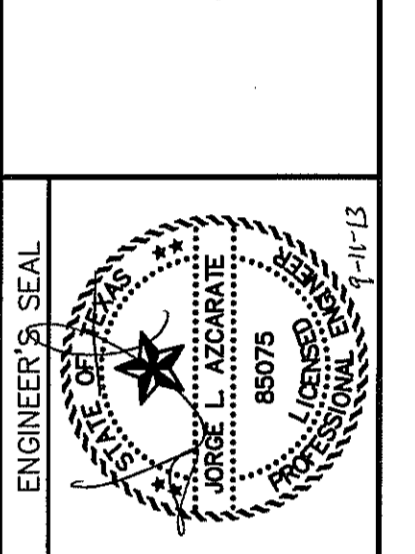
- (1) LOCATION
 (2) DEPTH
 (3) VELOCITY
 (4) PRODUCT NUMBER = DEPTH X VELOCITY

REFERENCES - BENCHMARKS

DATE	REVISIONS	BY

EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM)
 LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALFREO CIRCLE AND PASEO LINDO DRIVE.

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SCALE: 1" = 100'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: SEPTEMBER 2013
 DESIGN BY: R.O.
 DRAWN BY: R.O.
 CHKO. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO. 2000-1691D

PROJECT TITLE
MESQUITE TRAILS UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE PLAN

SHEET NO.
C4.1

CITY DEVELOPMENT DEPARTMENT
REVIEWED

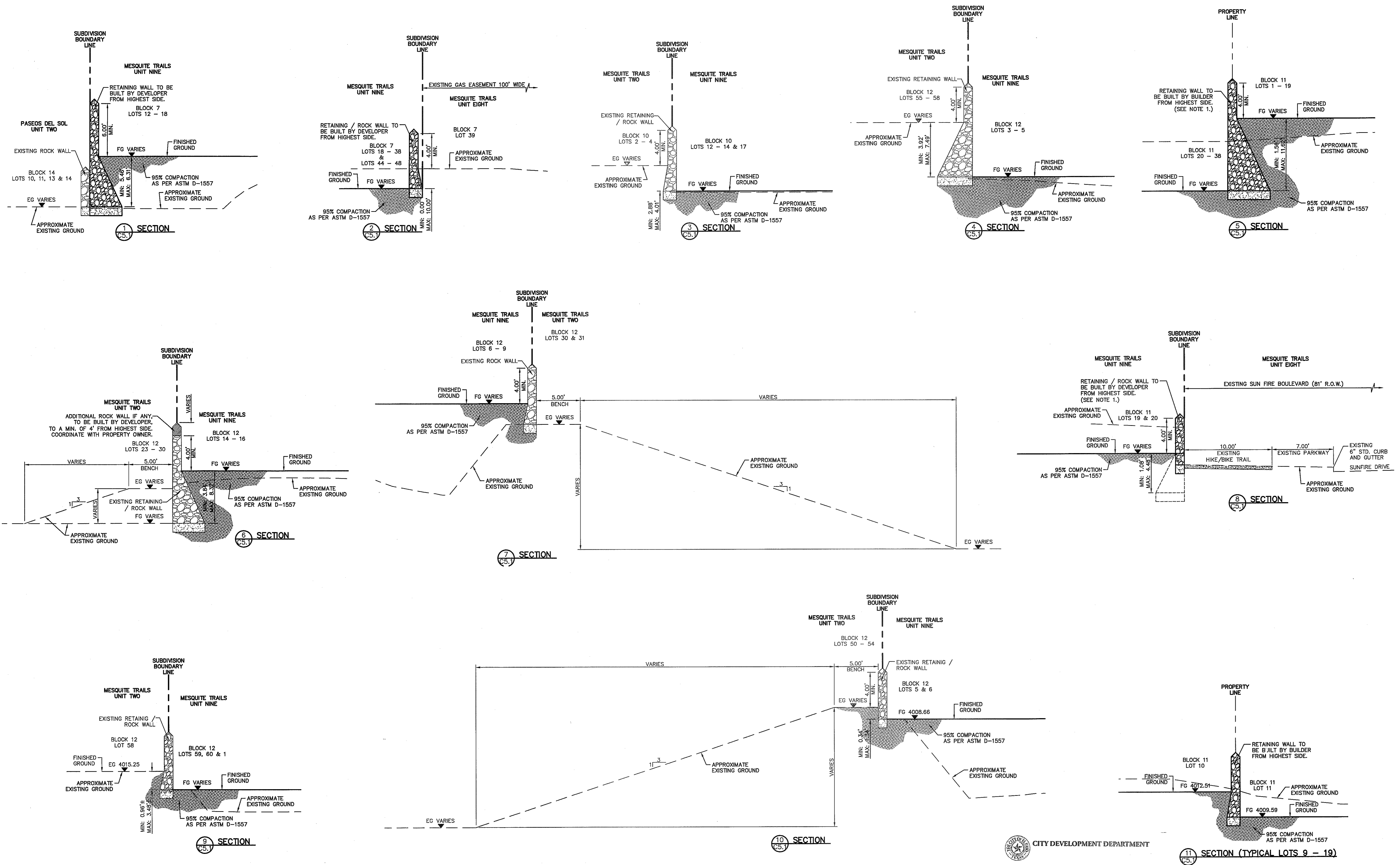
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S:\2005\2005-168-D-1078 - CIVIL\CONSTRUCTION\Drawings\Improvement\Plan\C5.1 Grading Sections.dwg, SECTION 9, 11/20/03 2:21:30 PM

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.
 2. SEE DETAIL 3 SHEET C8.2 FOR ADDITIONAL RETAINING WALL INFORMATION & SPECIFICATIONS.

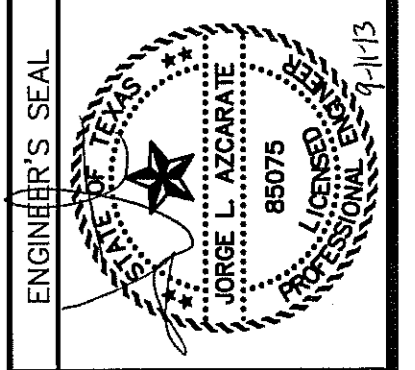
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
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REFERENCES - BENCHMARKS	
EXISTING CITY MONUMENT	ELEVATION-4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF PASADO ALFREGE CIRCLE AND PASADO UNDO DRIVE.	
DATE	REVISIONS
BY	

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SCALE: 1"=5'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: SEPTEMBER, 2003
 DESIGN BY: R.O.
 DRAWN BY: J.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No.: 2000-1891LD

PROJECT TITLE
MESQUITE TRAILS UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

GRADING SECTIONS

SHEET NO.

C5.1

CITY DEVELOPMENT DEPARTMENT
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AT&T	(800) 852-3786
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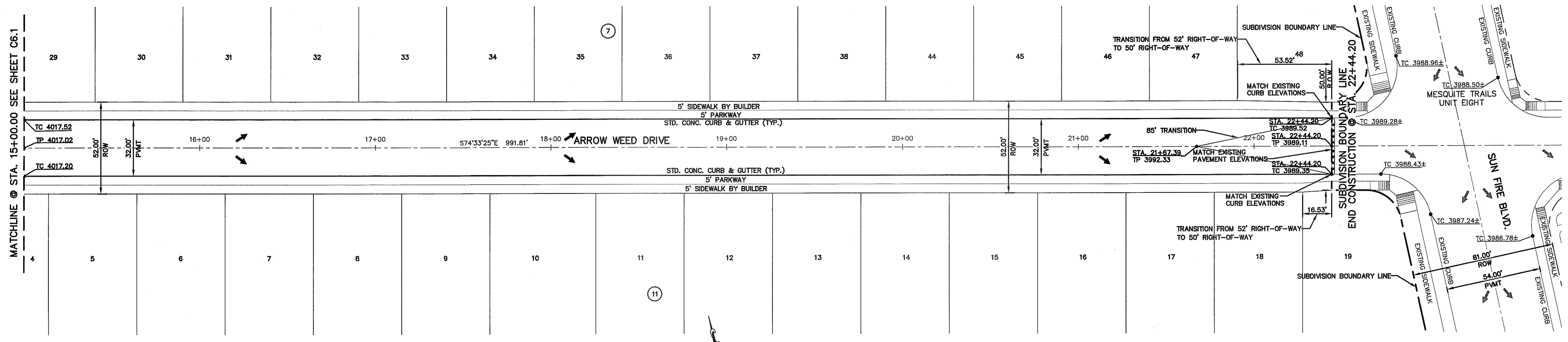
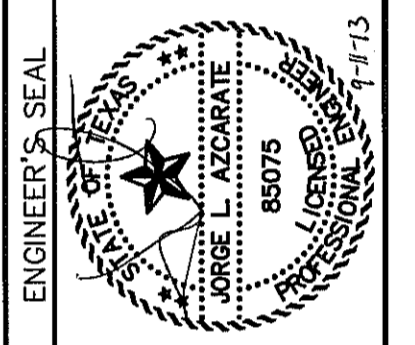
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REFERENCES - BENCHMARKS	
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASCO ALGEE CIRCLE AND PASCO LINDO DRIVE.	BY
DATE	REVISIONS

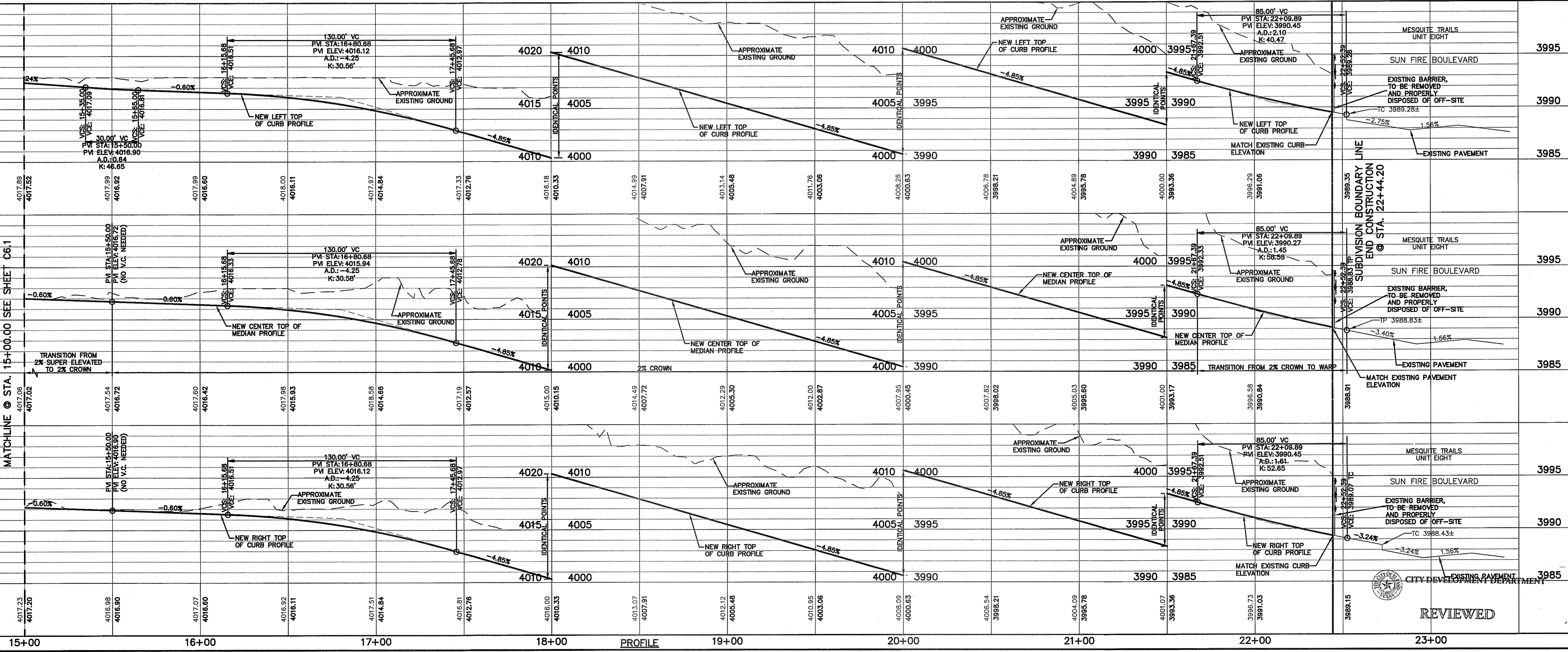
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LEGEND

WHEELCHAIR RAMP
BY DEVELOPER (TYP.)
(SEE DETAIL 1 SHEET C8.3)

PROFILE DEPICTS 6" DROP AT
INTERSECTION CURB RETURNS.
REFER TO PVI STATIONS FOR
ACTUAL PAVEMENT ELEVATIONS.



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

DATE: SEPTEMBER, 2013
DESIGN BY: R.O.
DRAWN BY: R.O.
CHKD. BY: J.G.
APPVD. BY: J.L.A.
JOB No.: 2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**ARROW WEED DRIVE
PLAN & PROFILE
FROM STA. 15+00.00
TO STA. 22+44.20**

SHEET NO.
C6.2

REVIEWED

S:\2000\2000-1691D-1019 0\1000\Construction Drawings\Improvements\Plan\DWG\1000\Profile\Profile.dwg, Armo: 8/17/2013 12:28:07 PM

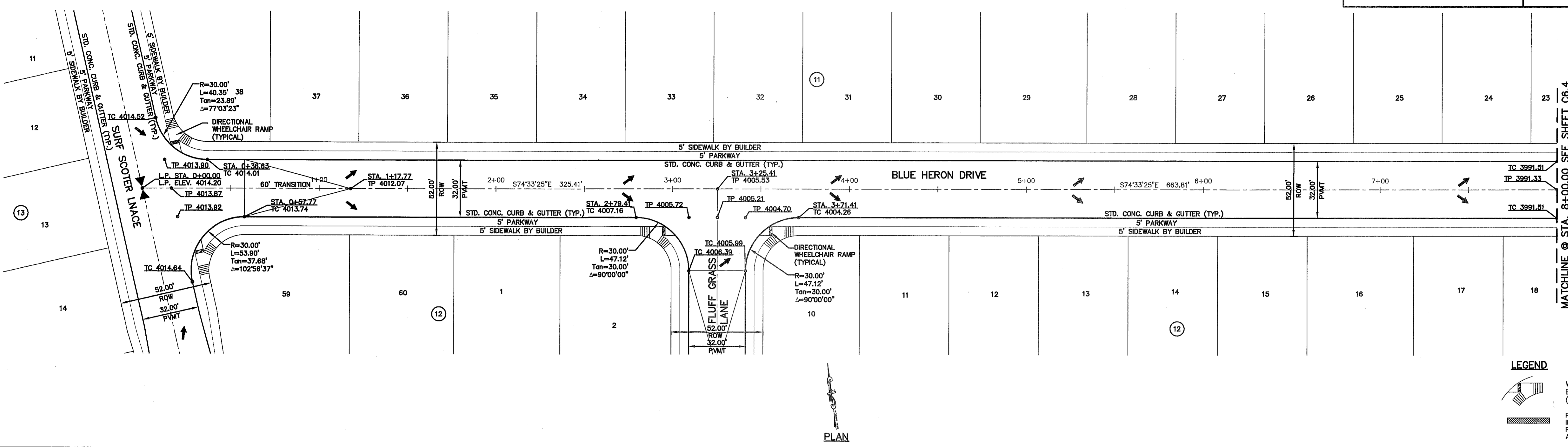
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
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EL PASO WATER UTILITIES	(915) 594-5500
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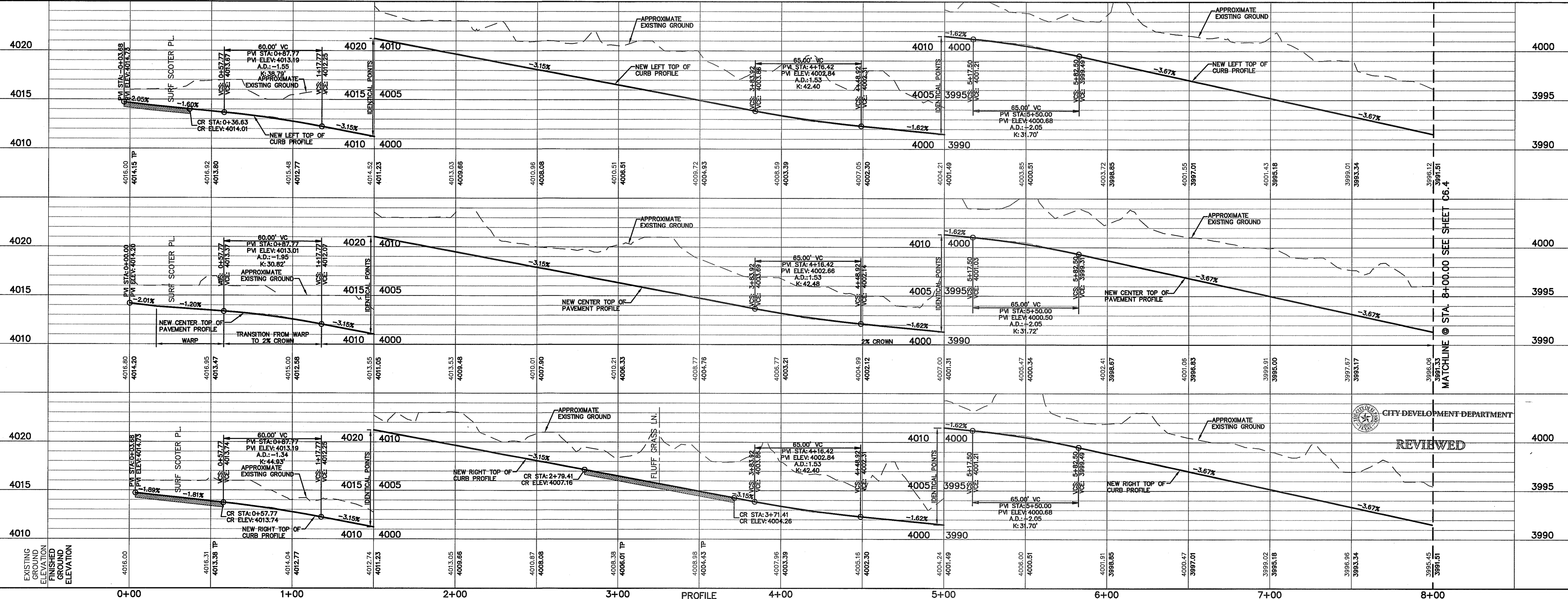
REFERENCES - BENCHMARKS	REVISIONS
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALLEGRE CIRCLE AND PASEO UNICO DRIVE	DATE
	BY



LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.) (SEE DETAIL 1 SHEET C6.3).

PROFILE DEPICTS 6" DROP AT INTERSECTION CURB RETURNS. REFER TO PVI STATIONS FOR ACTUAL PAVEMENT ELEVATIONS.



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ENGINEER'S SEAL

DATE: SEPTEMBER 2013
DESIGN BY: P.O.
DRAWN BY: J.C.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB NO.: 2000-1691.D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**BLUE HERON DRIVE
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 8+00.00**

SHEET NO.
C6.3

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

DATE: SEPTEMBER 2013
DESIGN BY: P.O.
DRAWN BY: J.C.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB NO.: 2000-1691.D

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UTILITY LOCATOR SERVICES	
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FOR FIELD LOCATING EXISTING UTILITIES

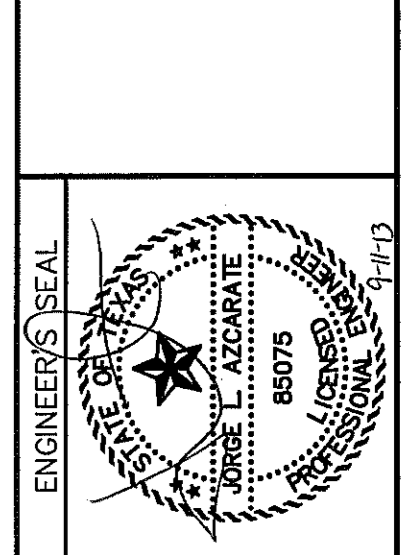
REFERENCES - BENCHMARKS	REVISIONS
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALFREGE CIRCLE AND PASEO UNDO DRIVE	DATE
	BY

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

DATE: SEPTEMBER 2013
DESIGN BY: R.O.
DRAWN BY: R.O.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No. _2000-1691.D_

PROJECT TITLE

MESQUITE TRAILS UNIT NINE

SUBDIVISION IMPROVEMENTS

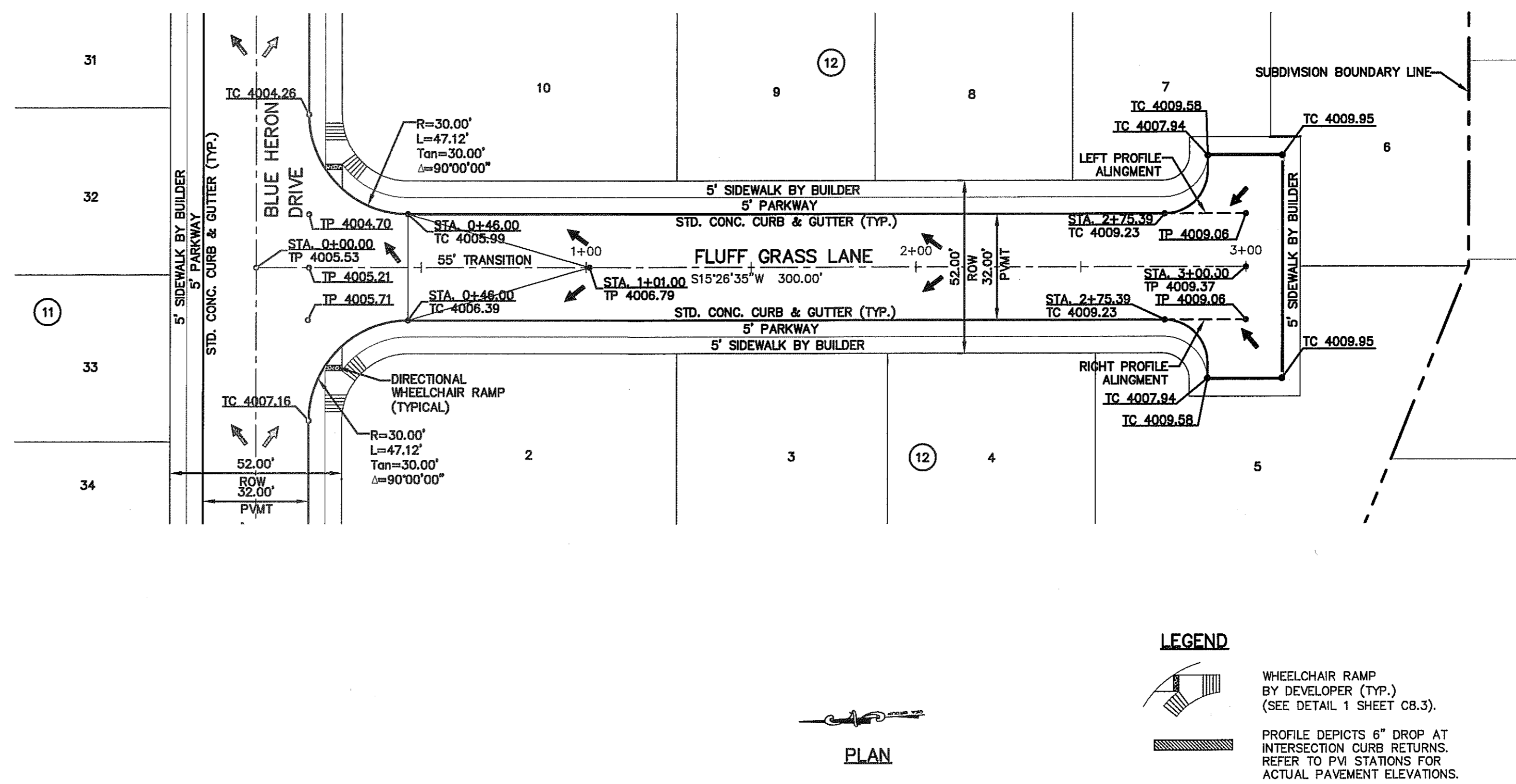
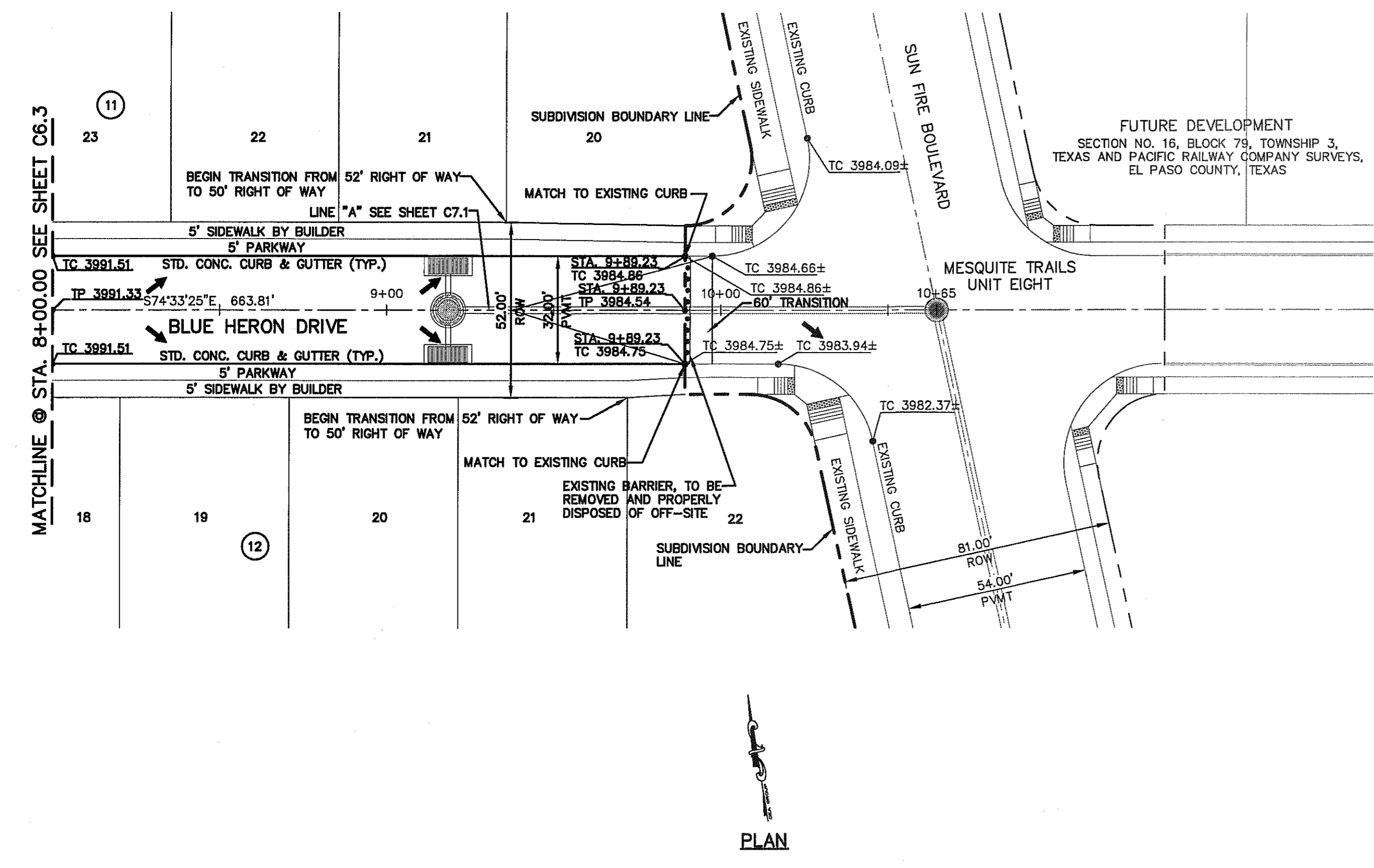
SHEET TITLE

BLUE HERON DRIVE PLAN & PROFILE FROM STA. 8+00.00 TO STA. 9+89.23

FLUFF GRASS LN. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+00.00

SHEET NO.

C6.4



LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.) (SEE DETAIL 1 SHEET C6.3).

PROFILE DEPICTS 6" DROP AT INTERSECTION CURB RETURNS. REFER TO PVI STATIONS FOR ACTUAL PAVEMENT ELEVATIONS.

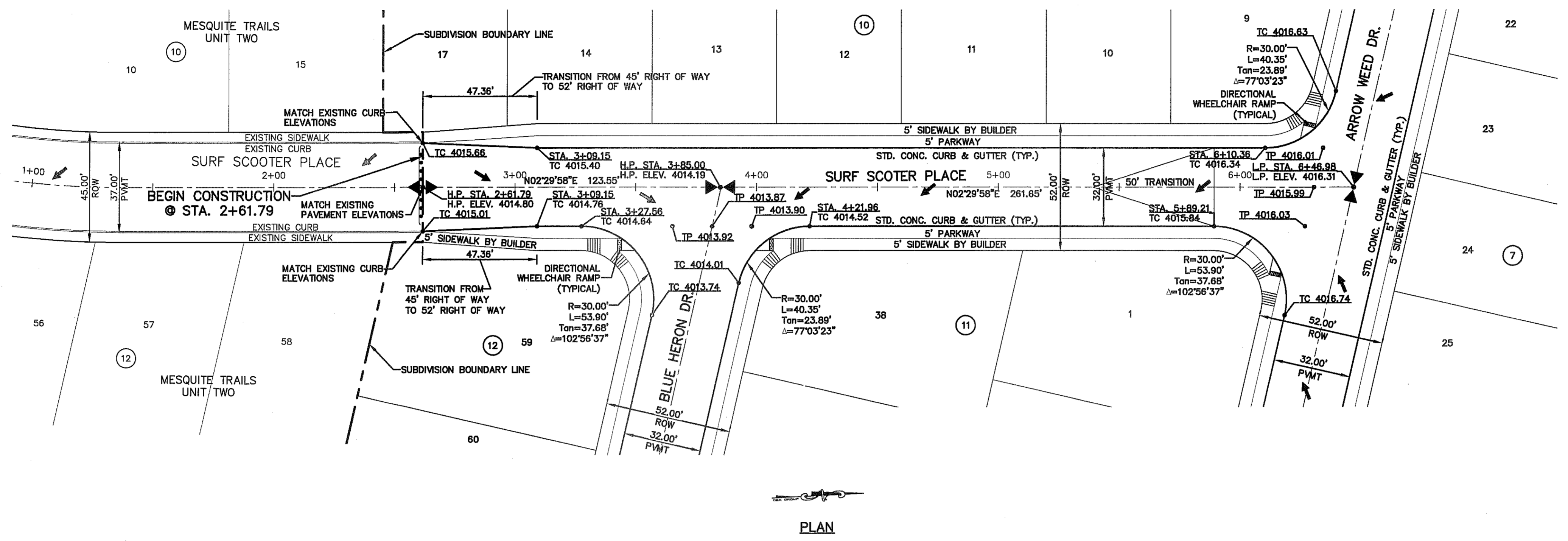
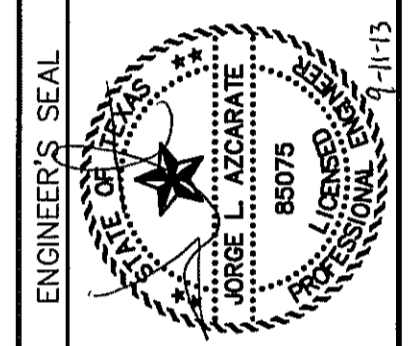
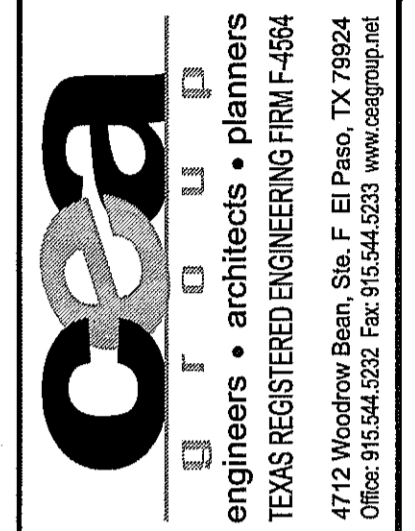
EXISTING GROUND ELEVATION	FINISHED GROUND ELEVATION	PROFILE	STATION	DESCRIPTION	STATION	DESCRIPTION	STATION	DESCRIPTION
3990	3985	3980	8+00	APPROXIMATE EXISTING GROUND	3990	4010	4010	NEW LEFT TOP OF CURB PROFILE
3985	3980	3975	8+00	NEW LEFT TOP OF CURB PROFILE	3985	4005	4005	APPROXIMATE EXISTING GROUND
3980	3975	3970	8+00	EXISTING PAVEMENT	3980	4000	4000	NEW CENTER TOP OF PAVEMENT PROFILE
3990	3985	3980	9+00	APPROXIMATE EXISTING GROUND	3990	4010	4010	NEW CENTER TOP OF PAVEMENT PROFILE
3985	3980	3975	9+00	NEW CENTER TOP OF PAVEMENT PROFILE	3985	4005	4005	APPROXIMATE EXISTING GROUND
3980	3975	3970	9+00	EXISTING PAVEMENT	3980	4000	4000	TRANSITION FROM 2% CROWN TO WARP
3990	3985	3980	10+00	APPROXIMATE EXISTING GROUND	3990	4010	4010	NEW RIGHT TOP OF CURB PROFILE
3985	3980	3975	10+00	NEW RIGHT TOP OF CURB PROFILE	3985	4005	4005	APPROXIMATE EXISTING GROUND
3980	3975	3970	10+00	EXISTING PAVEMENT	3980	4000	4000	END CONSTRUCTION @ STA. 3+00.00

S:\2000\2000-1691.D-MCR 9\03\25\Construction Drawings\Improvements Plan\PC1\mkup profile\C6.4 Blue Heron+Fluff Grass Plan+Profile.dwg, 9/17/2013 12:28:16 PM

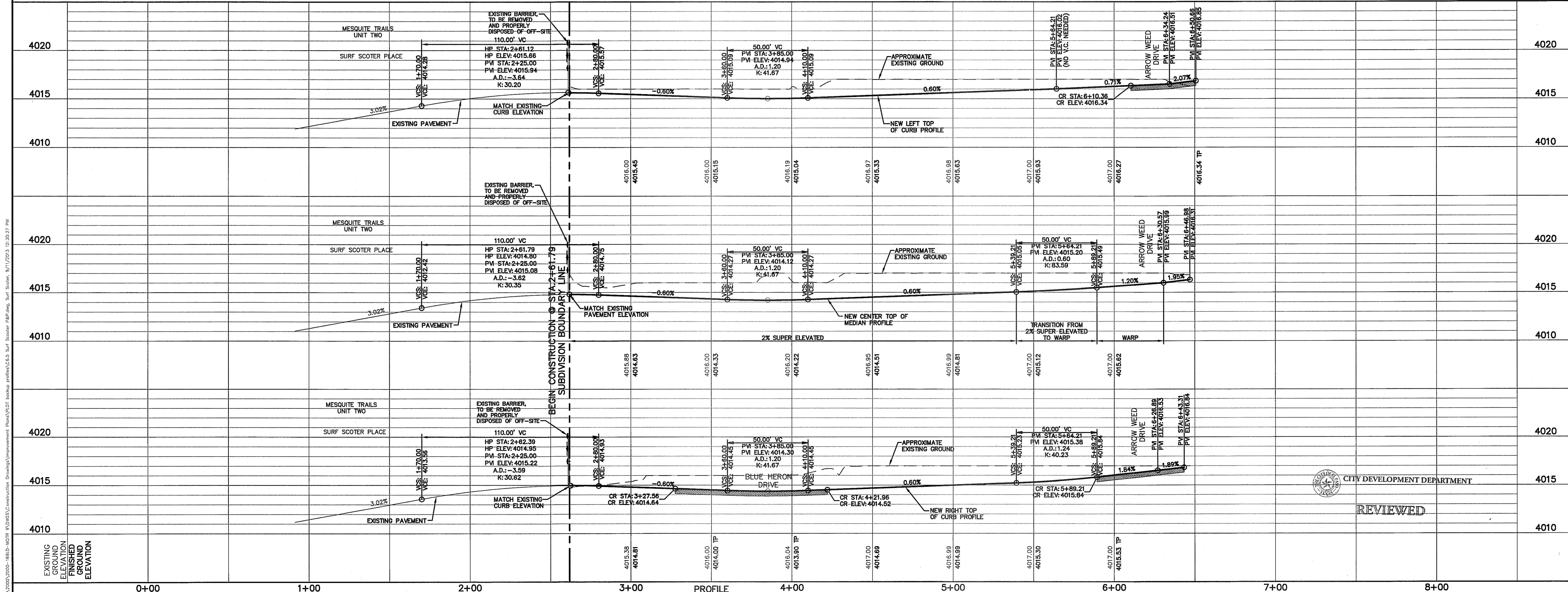
UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5244	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
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SBC	(800) 545-6005	
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REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALEGRE CURVE AND PASEO LINDO DRIVE			



LEGEND
 WHEELCHAIR RAMP BY DEVELOPER (TYP.) (SEE DETAIL 1 SHEET CB.3).
 PROFILE DEPICTS 6" DROP AT INTERSECTION CURB RETURNS. REFER TO PM STATIONS FOR ACTUAL PAVEMENT ELEVATIONS.



SCALE: 1"=30'
Horizontal: 1"=5'
Vertical: 1"=5'
Contour Interval: N/A
DATE: SEPTEMBER 2013
DESIGN BY: R.O.
DRAWN BY: J.G.
CHKD. BY: J.L.L.
APPRD. BY: J.L.L.
JOB NO.: 2000-189LD

PROJECT TITLE
MESQUITE TRAILS UNIT NINE SUBDIVISION IMPROVEMENTS

SHEET TITLE
SURF SCOOTER PL. PLAN & PROFILE FROM STA. 2+61.79 TO STA. 6+46.98

CITY DEVELOPMENT DEPARTMENT
REVIEWED

SHEET NO.
C6.5

S:\2000\2000-189LD-0078 (9)DWG\Construction Drawings\Improvement Plans\PL01 Surf Scooter R&P.dwg, Surf Scooter, 9/1/2013 12:35:27 PM

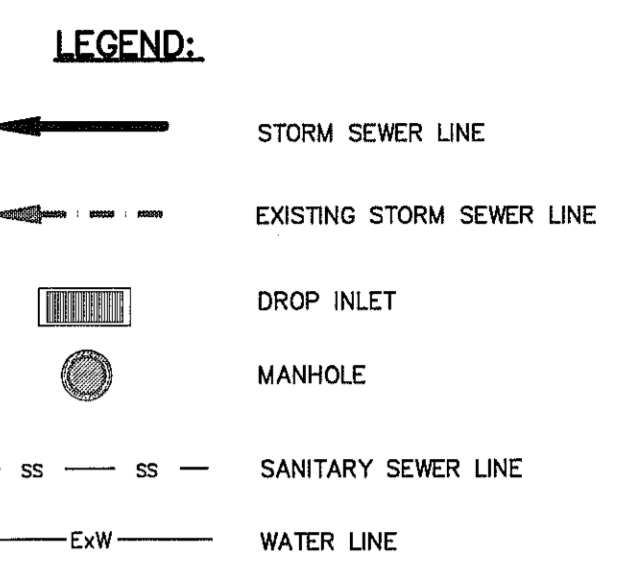
UTILITY LOCATOR SERVICES

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REFERENCES - BENCHMARKS

EXISTING CITY MONUMENT
ELEVATION=403.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASCO ALFREY DRIVE AND PASCO LINCO DRIVE.

DATE	REVISIONS	BY

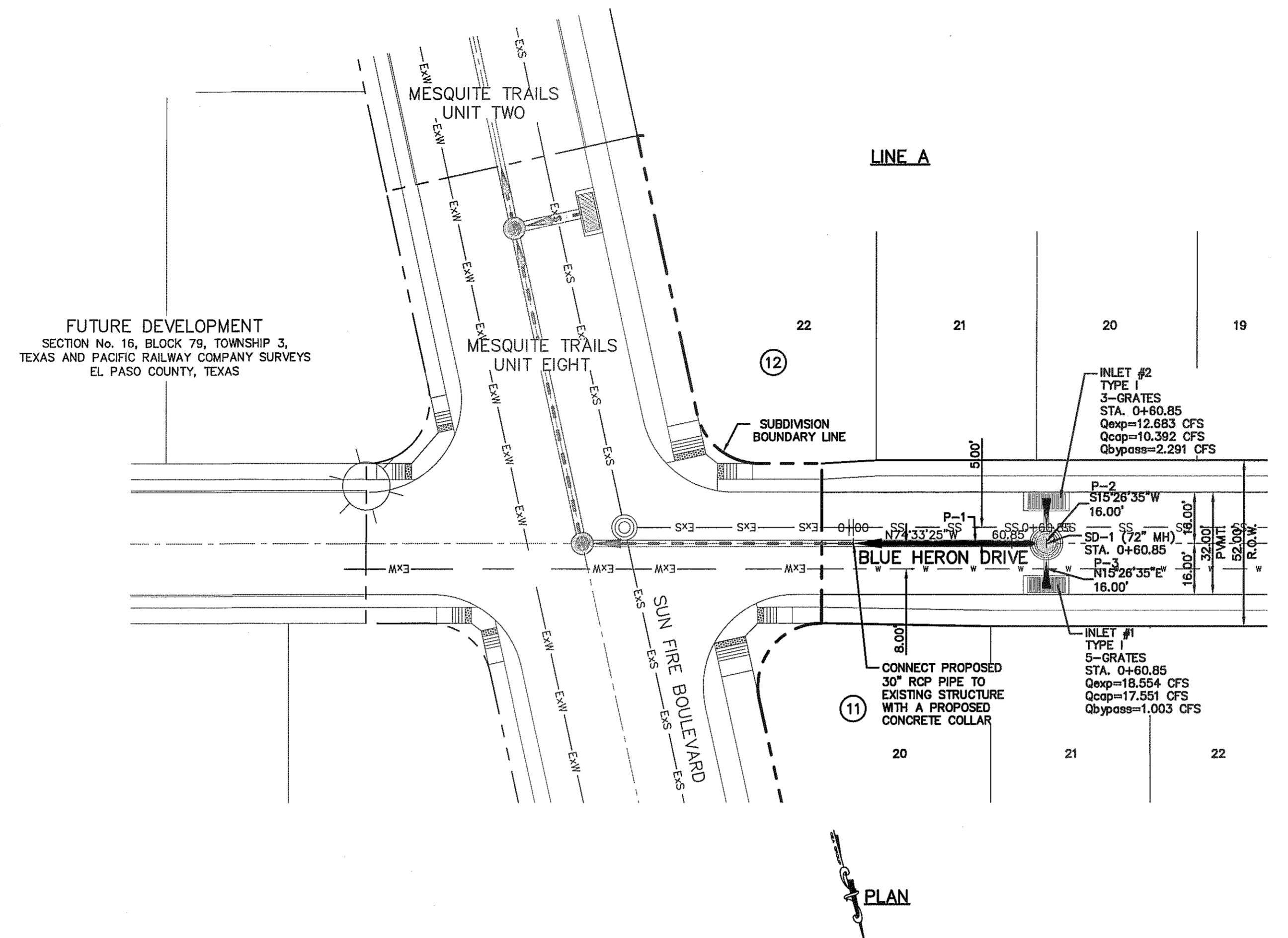
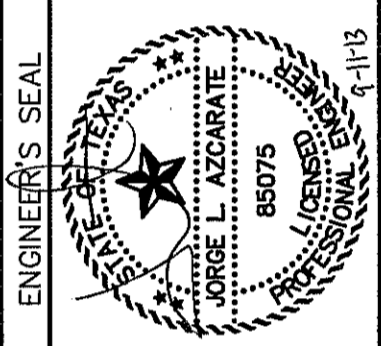
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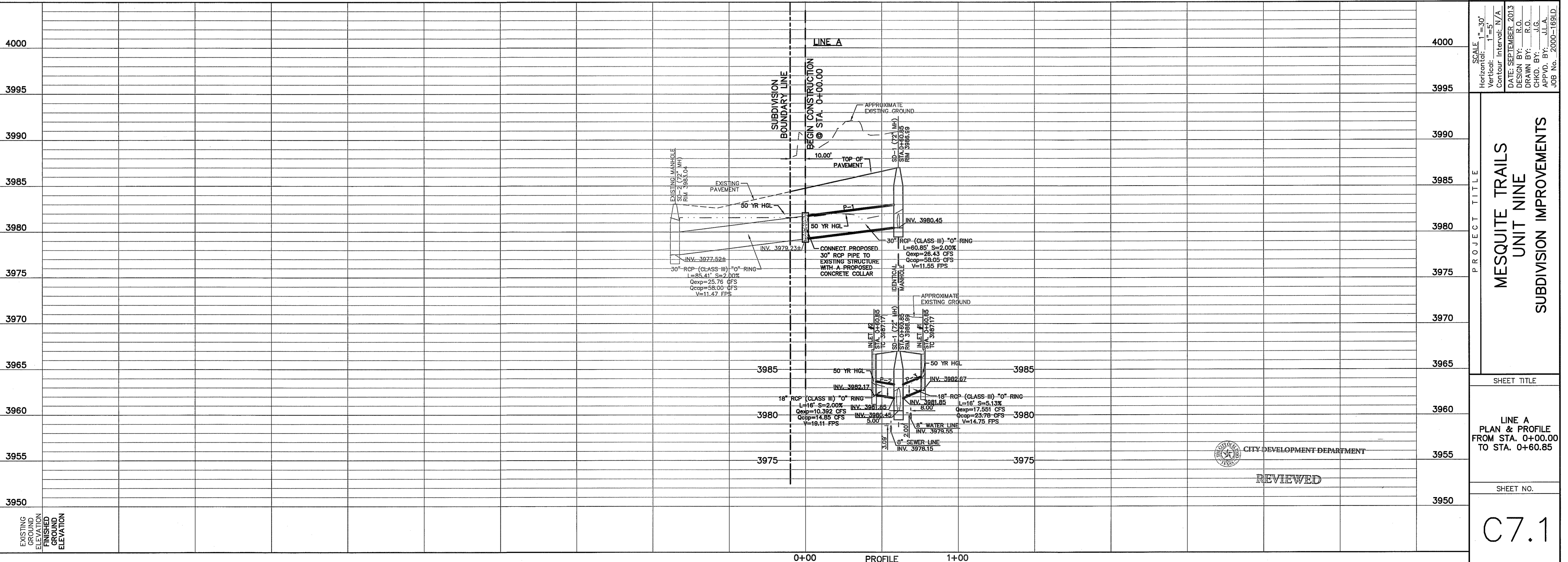
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STORM PIPE LINE A OUTPUT INFORMATION

PIPE	DOWNSTREAM INVERT ELEVATION (ft)	UPSTREAM INVERT ELEVATION (ft)	HYDRAULIC GRADE UPSTREAM (ft)	HYDRAULIC GRADE DOWNSTREAM (ft)	Q(50) Expected (cfs)	Q(50) Capacity (cfs)
P-1	3977.52	3980.45	3982.20	3981.57	26.43	58.05
P-2	3981.85	3982.17	3983.41	3982.88	10.392	14.85
P-3	3981.85	3982.67	3984.12	3983.01	17.551	23.78



SCALE

Horizontal: 1"=30'

Vertical: 1"=5'

Contour Interval: N/A

DATE: SEPTEMBER, 2013

DESIGN BY: R.O.

DRAWN BY: J.G.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-1691D

PROJECT TITLE

MESQUITE TRAILS UNIT NINE

SUBDIVISION IMPROVEMENTS

SHEET TITLE

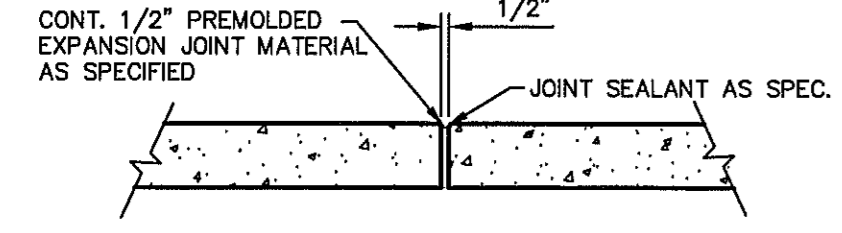
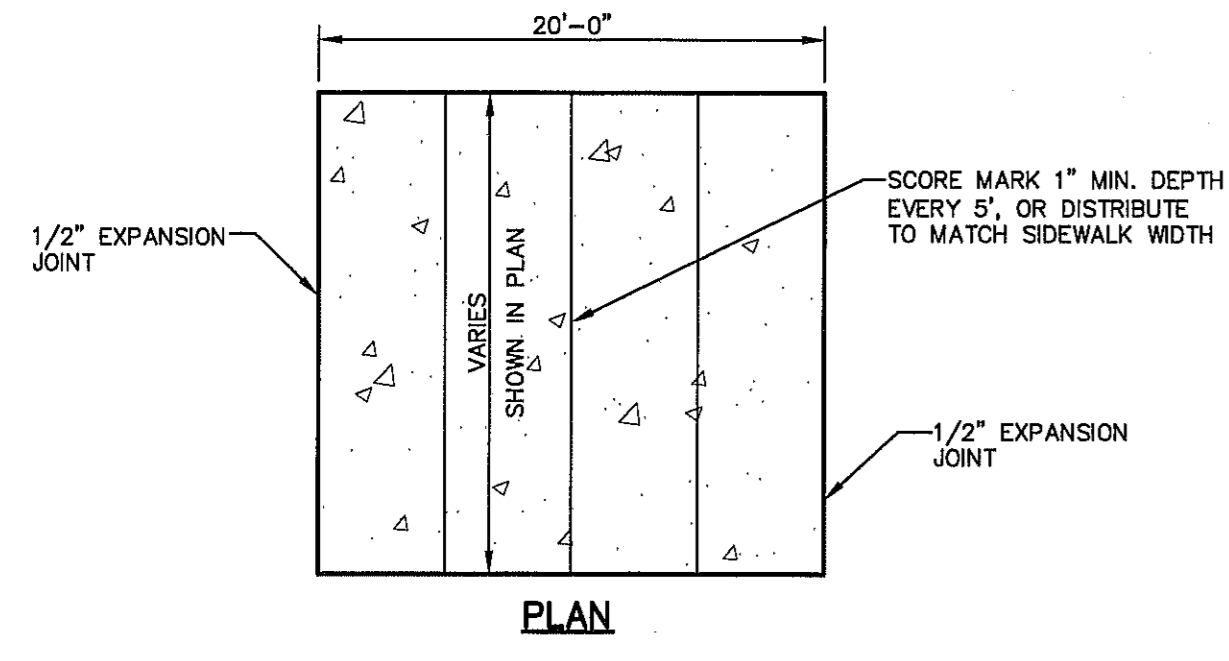
LINE A
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 0+60.85

REVIEWED

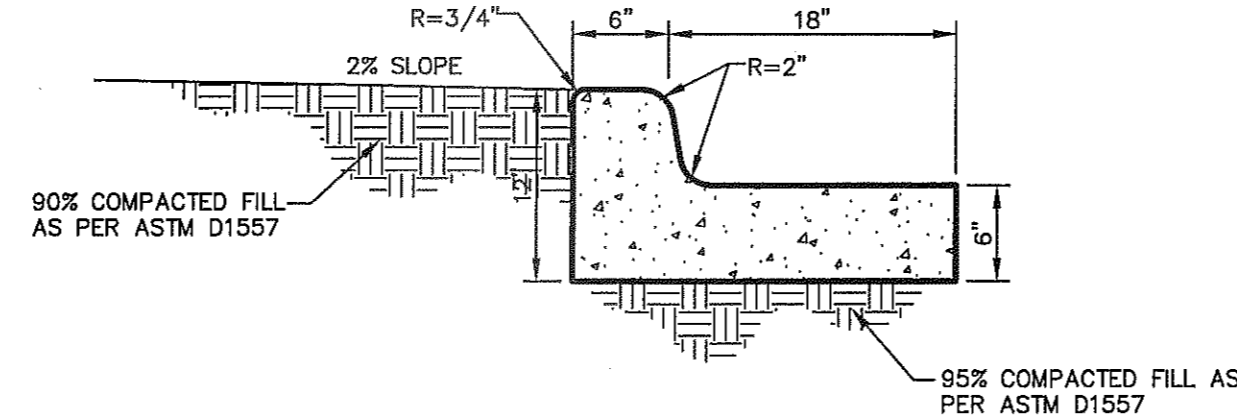
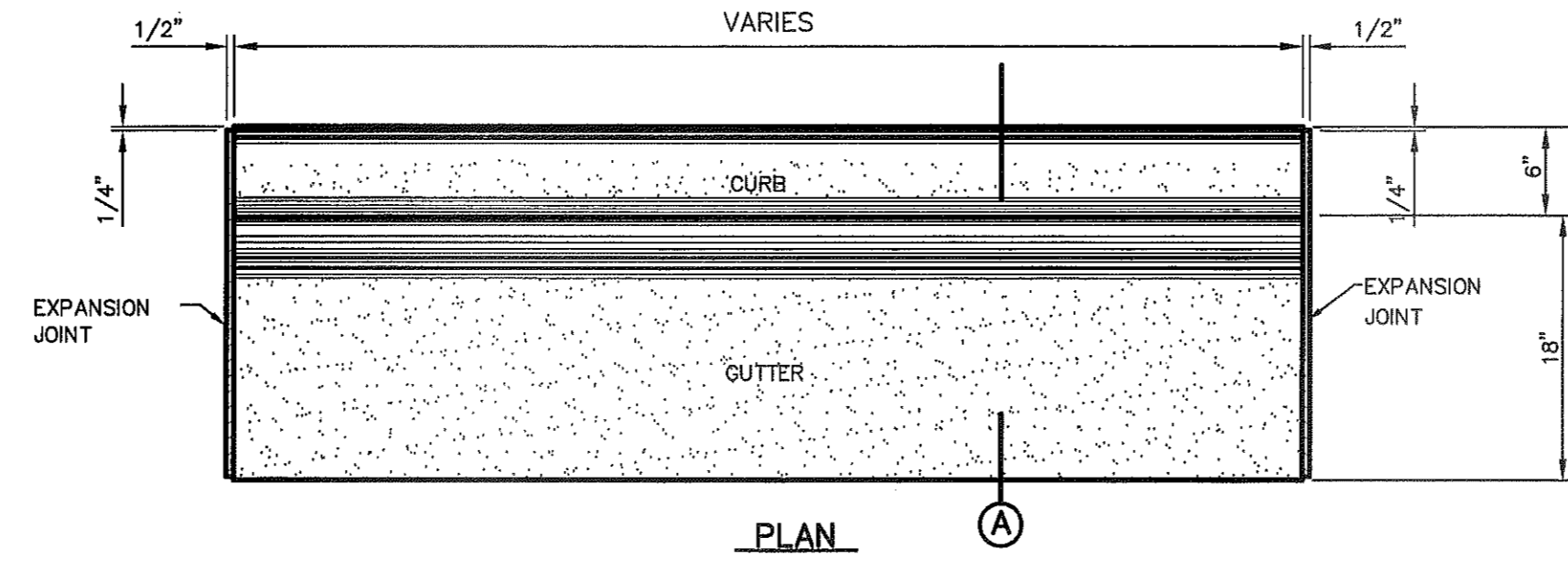
SHEET NO.

C7.1

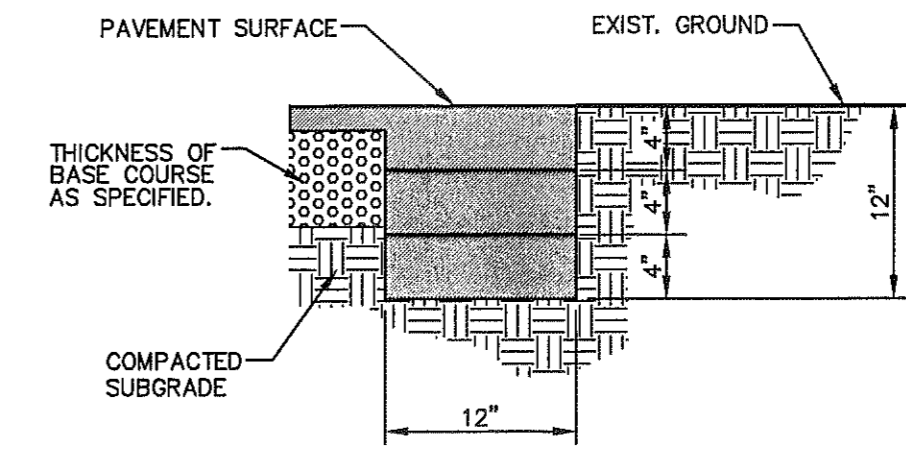
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**NOTES:**

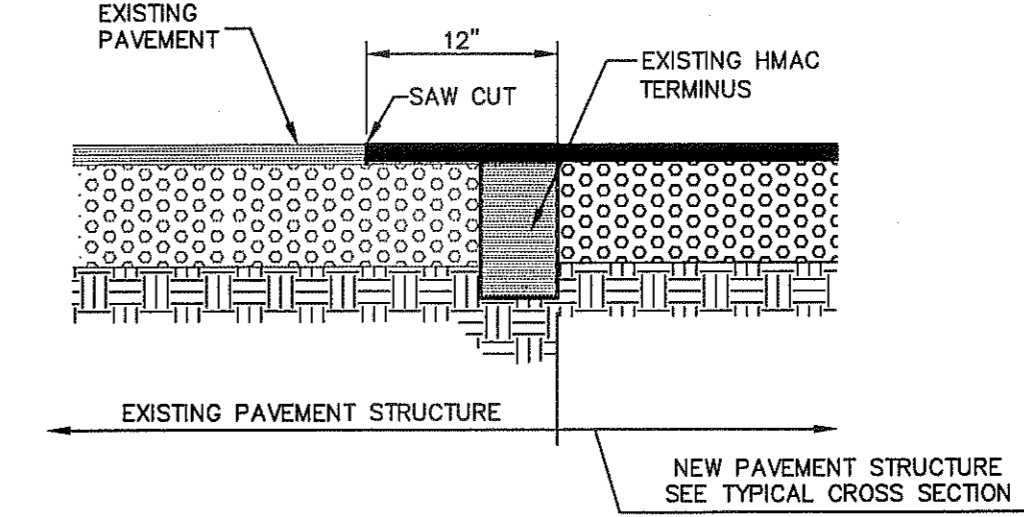
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33)
- EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
- WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

EXPANSION JOINT SECTION
SCALE: N.T.S.**SECTION (A)****NOTES:**

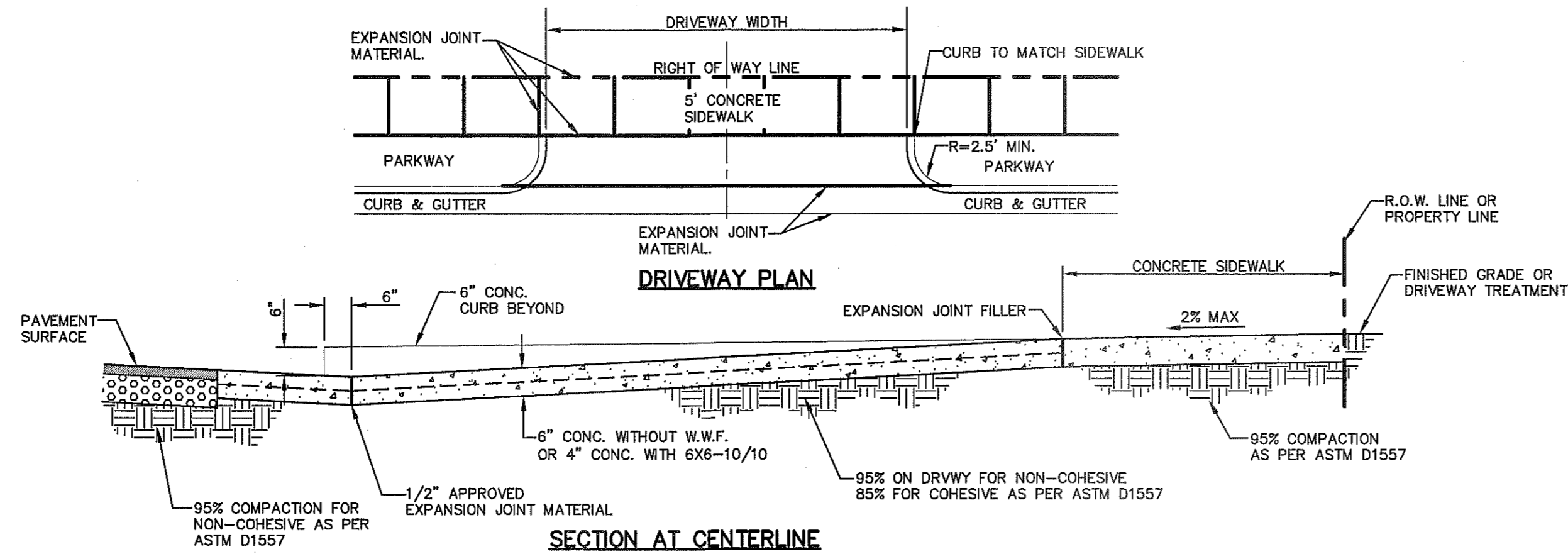
- CONCRETE SHALL BE 3,000 P.S.I. MIN.
- DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK
- EXPANSION MATERIAL REQUIRED AT CURB RETURNS AND AT 20' ON CENTER FOR SIDEWALKS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

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

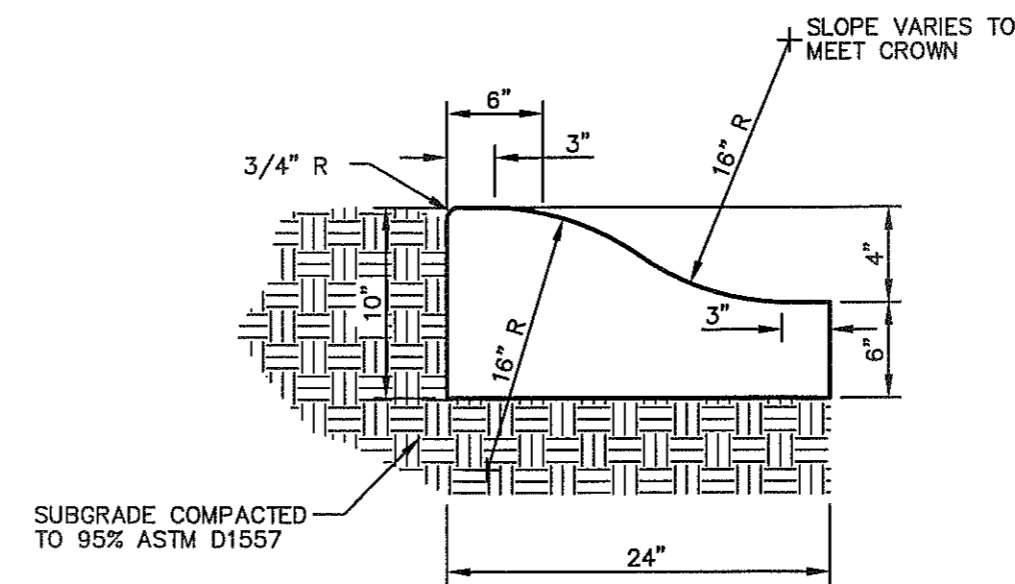
TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE.

3 TERMINUS OF STREET
SCALE: 1"=1'-0"**4 TYPICAL PAVEMENT JOINT SECTION**
SCALE: N.T.S.**SIDEWALK NOTES:**

- CONCRETE SIDEWALK SHALL BE 3,000 P.S.I.
- DUMMY JOINTS REQUIRED AT 5' O.C.
- EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM, USE 1/2" PREMOLDED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
- EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
- SUBGRADE TO BE COMPACTED TO 95% AS PER ASTM D1557.
- REINFORCEMENT (6X6-10/10 W.W.F.) SHALL BE PLACED WHEREVER SIDEWALK ABUTS A PEDESTRIAN WALKWAY AND/OR PARK.

1 SECTION-SIDEWALK/SLAB
SCALE: N.T.S.**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)
- RESIDENTIAL**
6" CONCRETE WITHOUT W.W.F.
4" CONCRETE WITH 6X6-10/10

5 TYPICAL DRIVEWAY DETAIL
SCALE: N.T.S.**6 4" CONCRETE ROLLED CURB DETAIL**
SCALE: 1"=1'-0"

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

REFERENCES - BENCHMARKS	
EXISTING CITY MONUMENT ELEVATION=403.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASCO ALEGRE CIRCLE AND PASCO LINDDO DRIVE.	BY
DATE	REVISIONS

C&A
engineers • architects • planners
TDCAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.caengineers.com

ENGINEER'S SEAL
L. AZARATE
86075

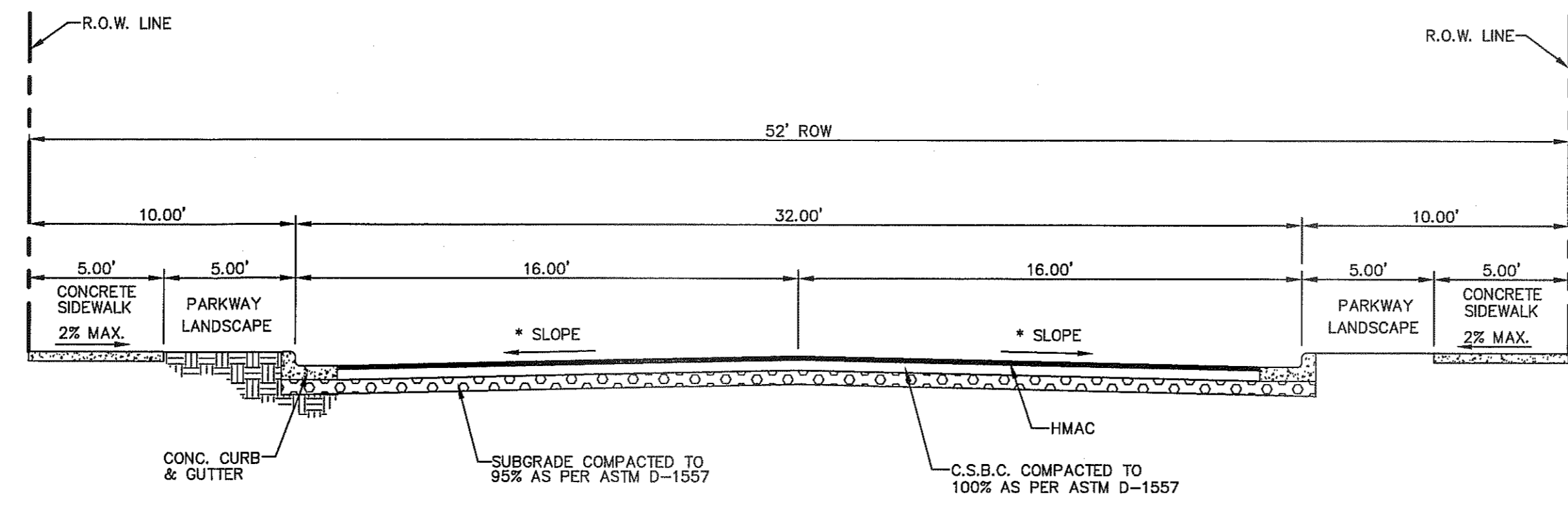
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Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE: SEPTEMBER 2013	
DESIGN BY: R.O.	
DRAWN BY: J.G.	
CHKD. BY: J.L.A.	
APP'D. BY: J.L.A.	
JOB No. 2000-1691D	

PROJECT TITLE
MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS

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

C8.1

CITY DEVELOPMENT DEPARTMENT
REVIEWED



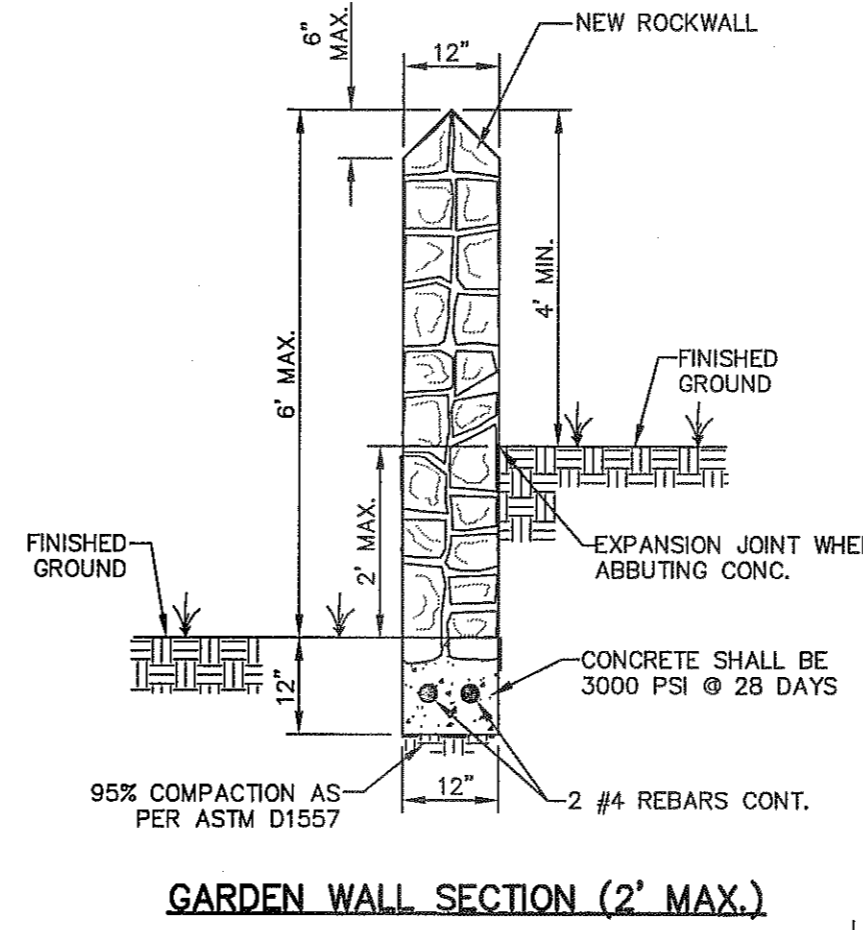
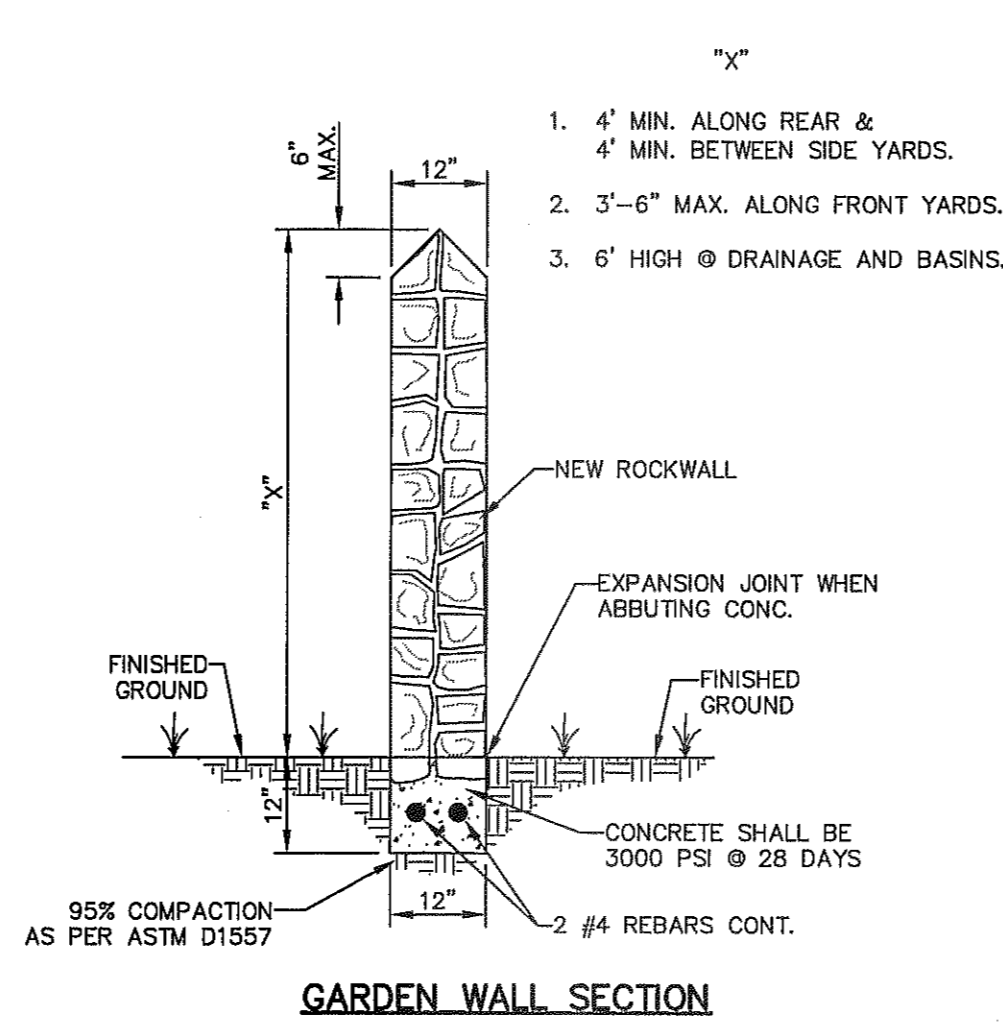
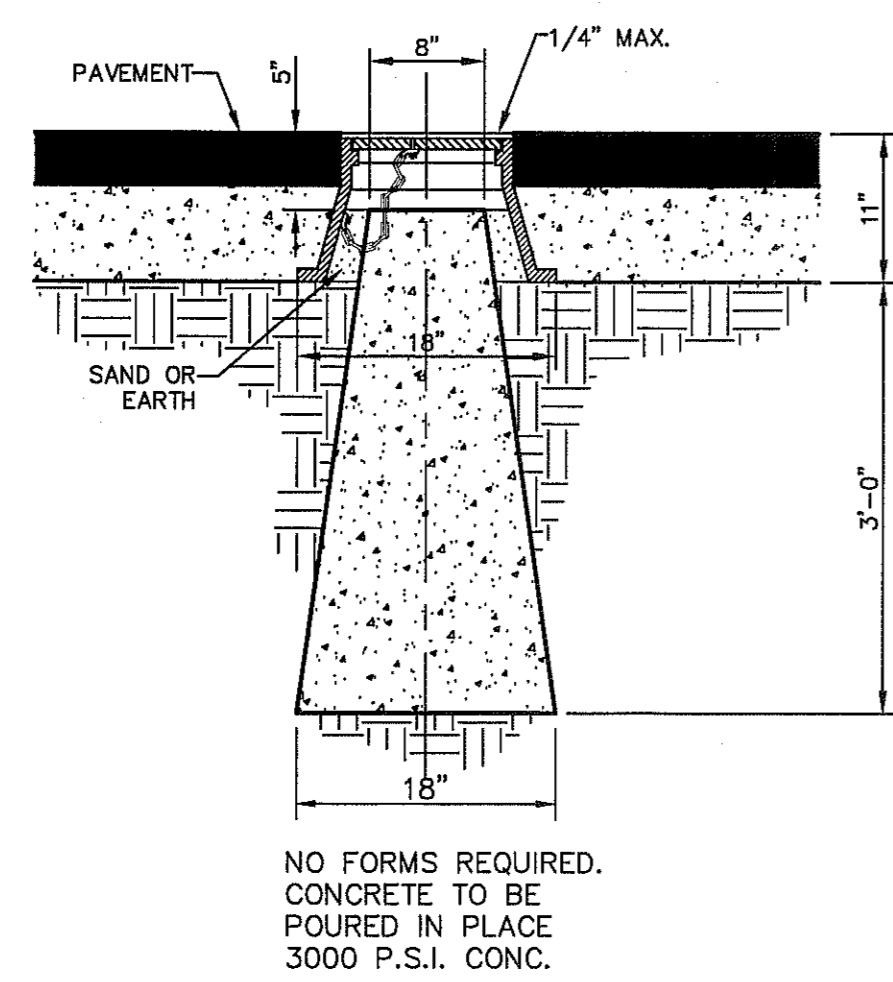
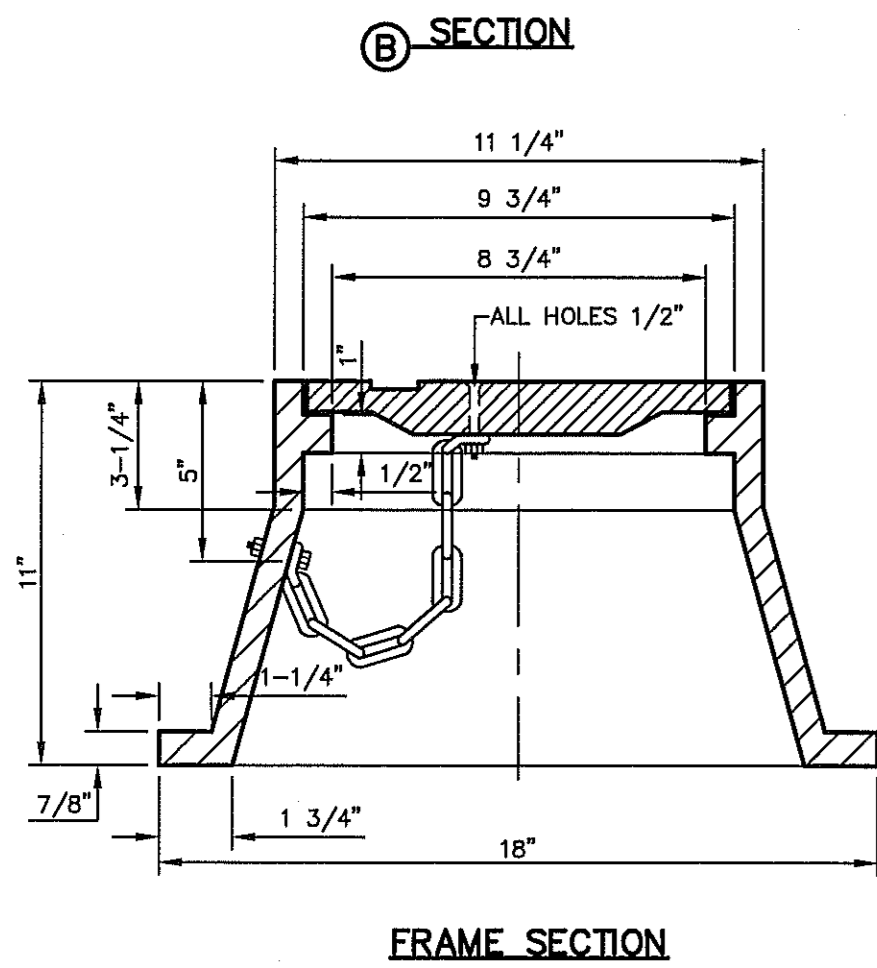
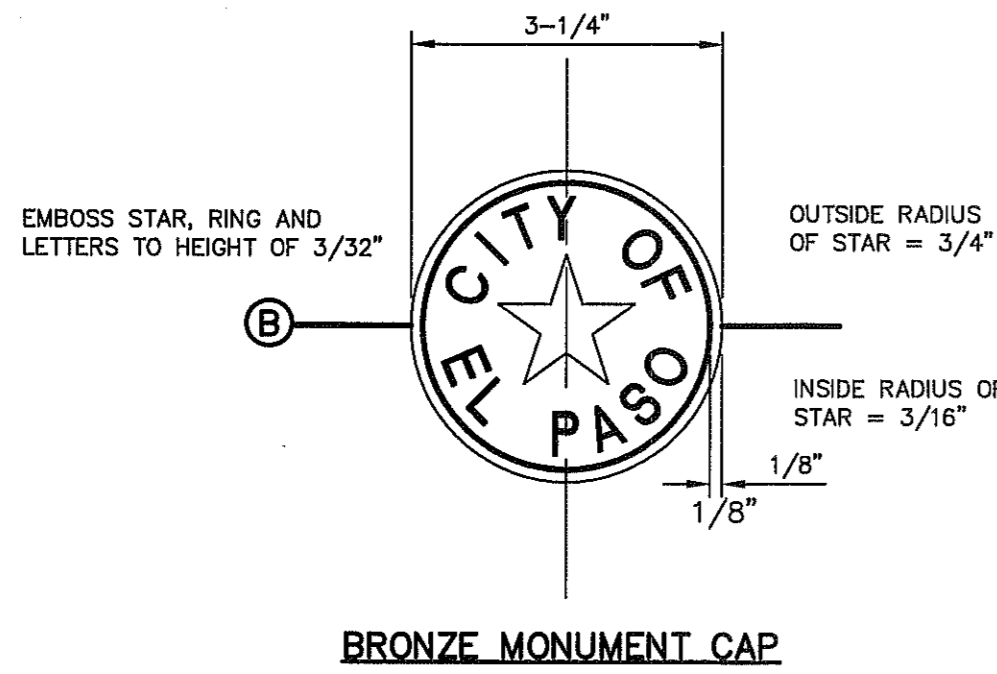
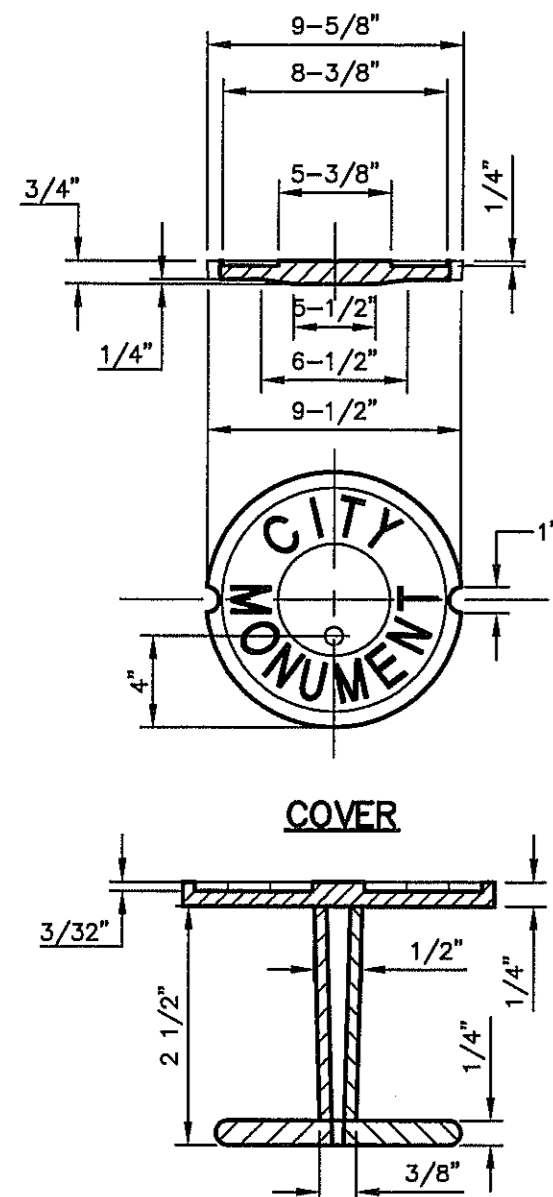
STREETS NOTES:

- (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
- SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.
- 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 FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT.

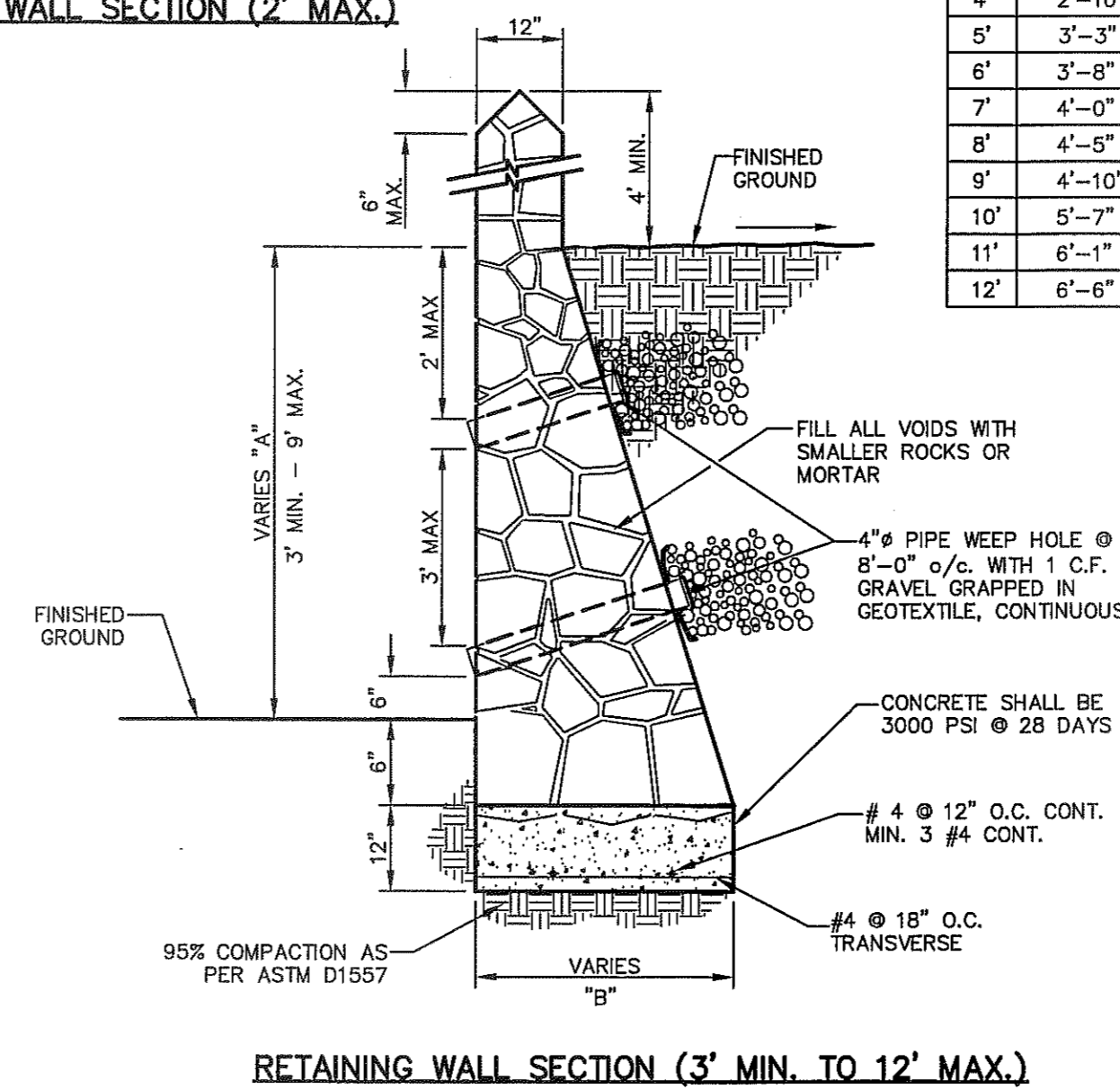
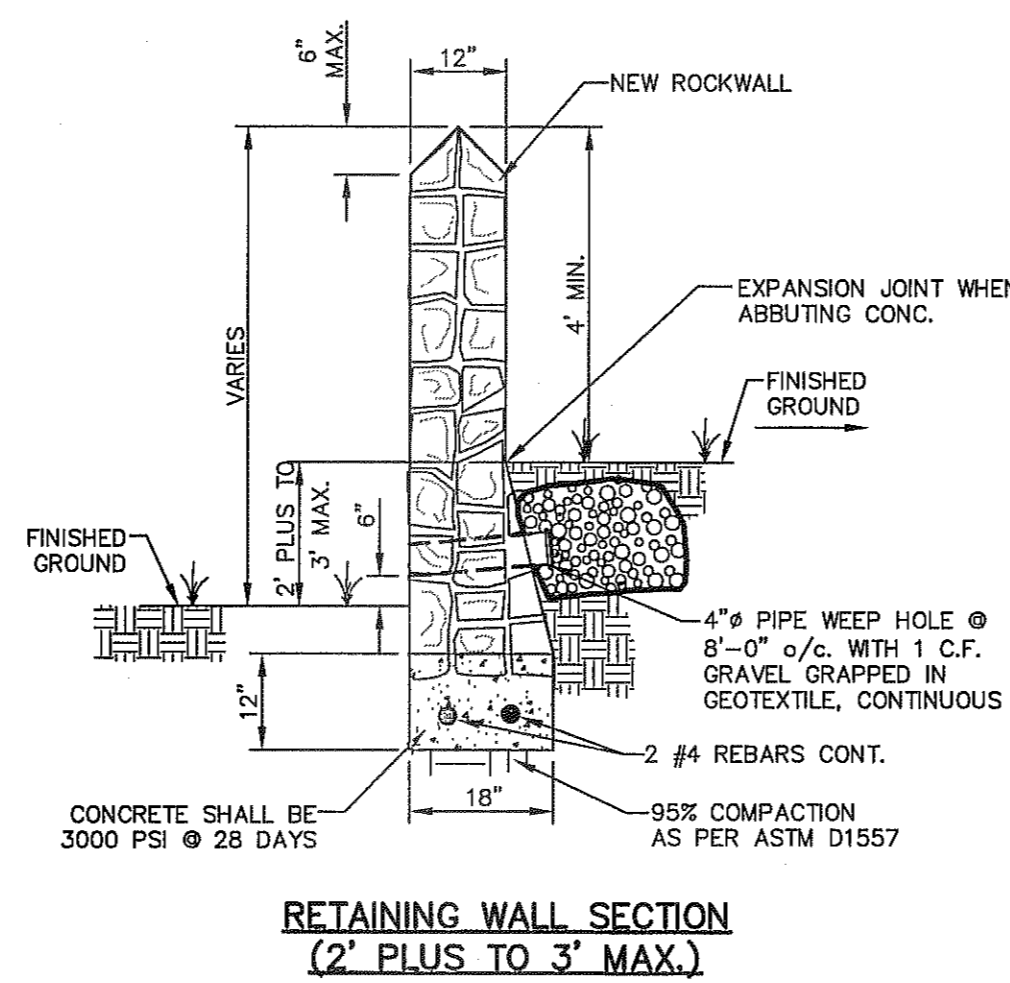
***CBR NOTE:**

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

1
C8.2 TYPICAL 52' ROW STREET SECTION DETAIL
SCALE: N.T.S.



RETAINING ROCK WALL	
"A"	"B"
3.0'	2'-6"
4'	2'-10"
5'	3'-3"
6'	3'-8"
7'	4'-0"
8'	4'-5"
9'	4'-10"
10'	5'-7"
11'	6'-1"
12'	6'-6"



ROCK WALL NOTES:

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

2
C8.2 COUNTY SURVEY MONUMENT DETAILS
SCALE: N.T.S.

3
C8.2 TYPICAL ROCKWALL DETAILS
SCALE: 1" = 2'-0"

REFERENCES - BENCHMARKS

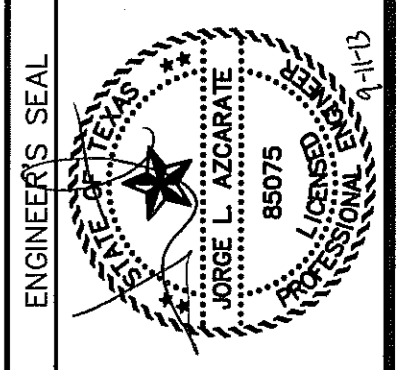
EXISTING CITY MONUMENT
ELEVATION-4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASEO ALFREGE CIRCLE AND PASEO UNDO DRIVE.

DATE	REVISIONS	BY

CSA ENGINEERS & ARCHITECTS • PLANNERS

TEXAS REGISTERED ENGINEERING FIRM #484

4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.csaeng.net



SCALE

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

DATE: SEPTEMBER 2013
DESIGN BY: R.O.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB No. 2000-1691D

PROJECT TITLE

MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

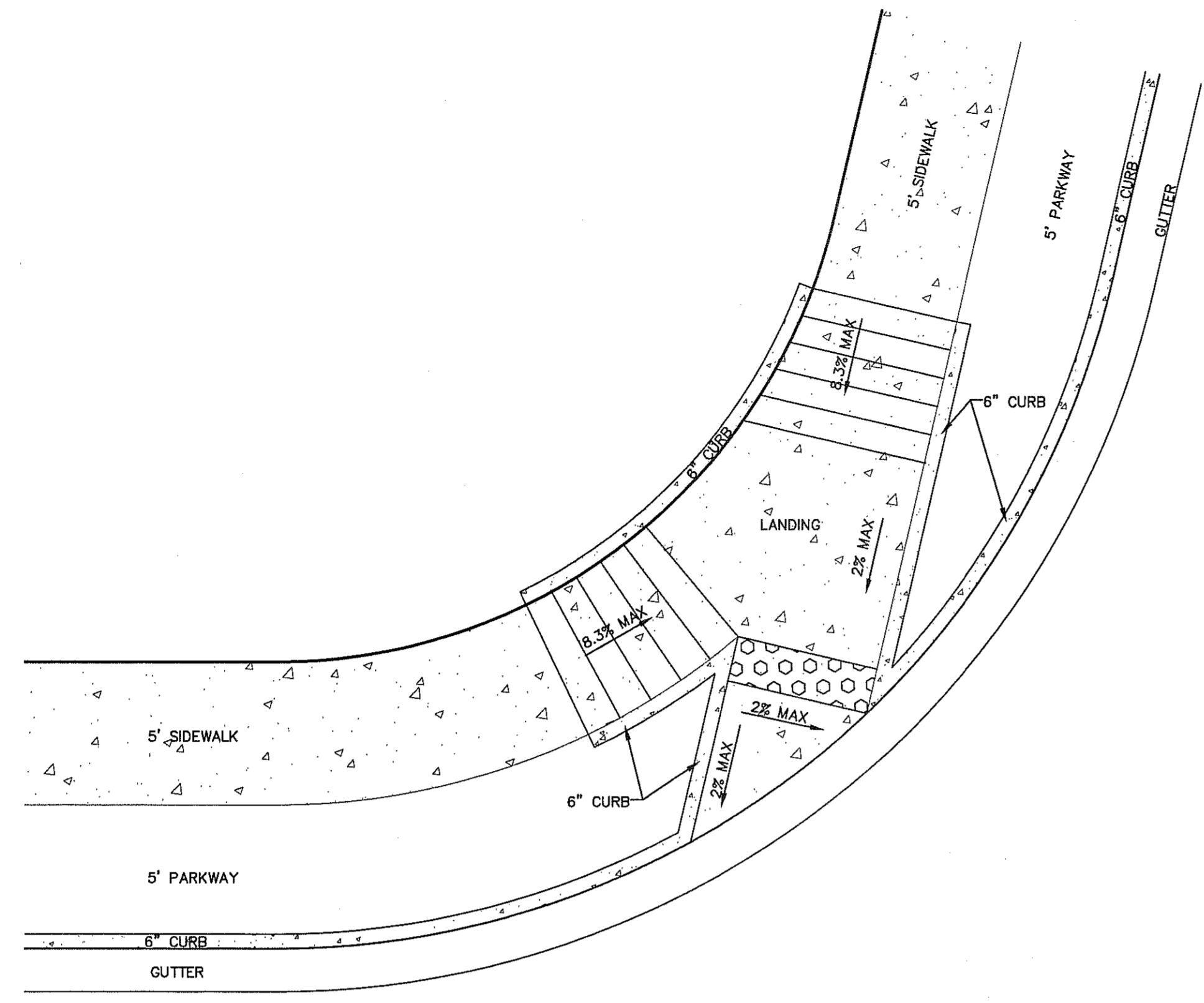
STANDARD DETAILS

(SHEET 2 OF 3)
SHEET NO.

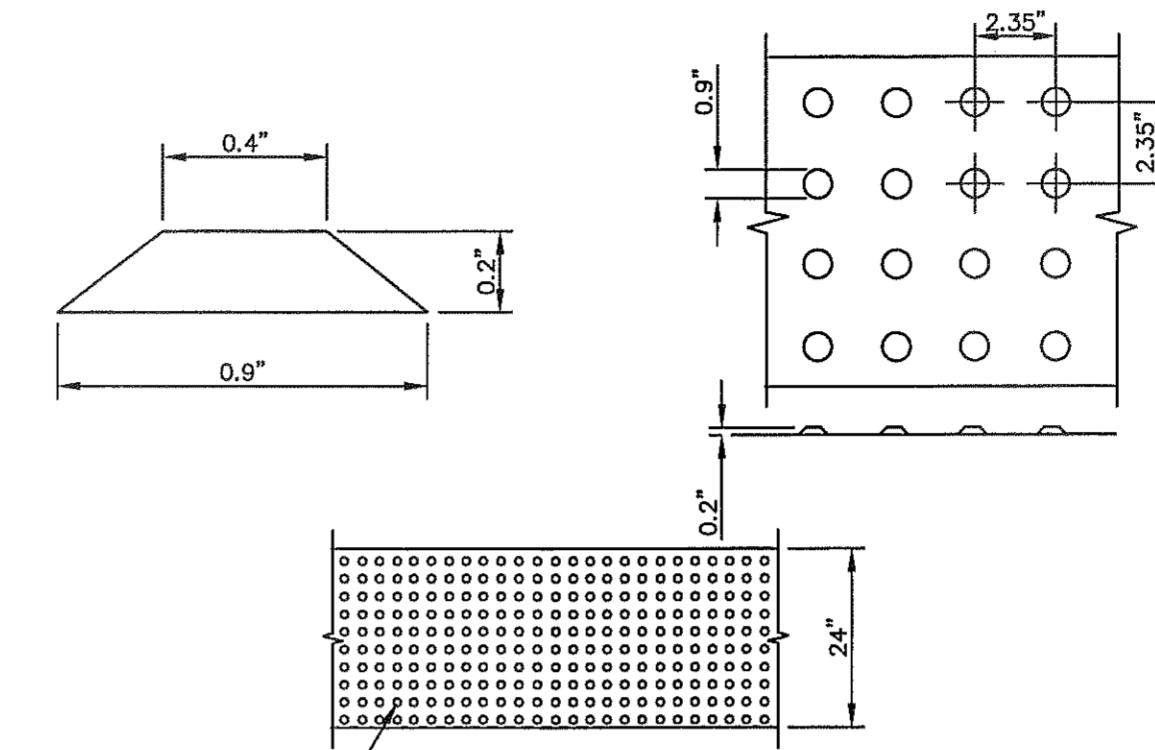
C8.2

CITY DEVELOPMENT DEPARTMENT

REVIEWED



1 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
 C8.3 SCALE: N.T.S.



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

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

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

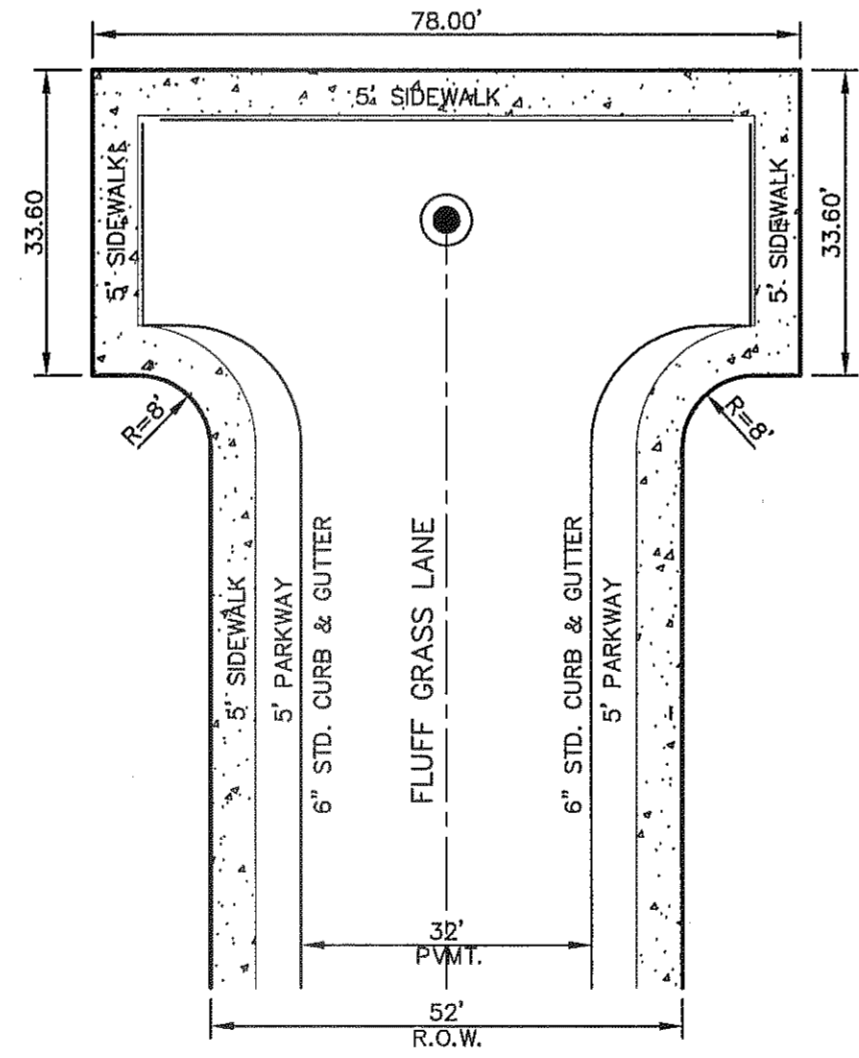
CONTRAST, THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE. OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. 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.

2 TRUNCATED DOME SIZE AND SPACING
 C8.3 SCALE: N.T.S.

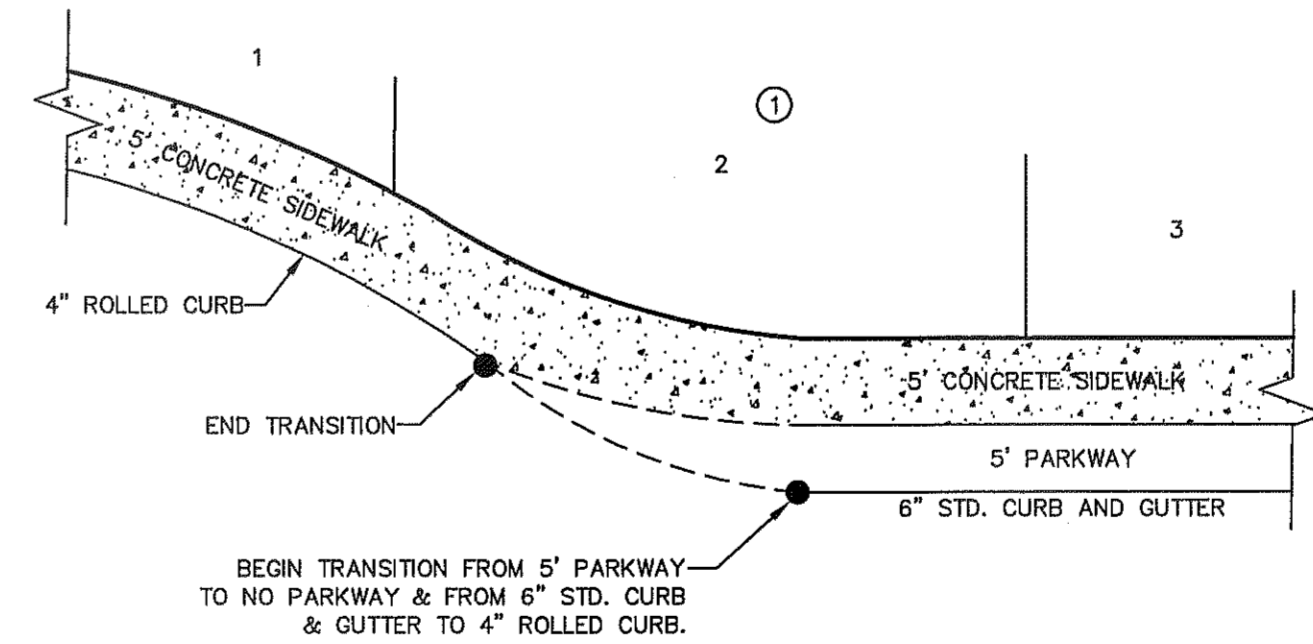
LEGEND
 DETECTABLE WARNING SURFACE

GENERAL NOTES:

- IMPROVEMENTS SHALL COMPLY WITH AMERICANS WITH DISSABILITY ACT (ADA) AND TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) STANDARDS.
- 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.
- THE MINIMUM SIDEWALK WIDTH IS FOUR (4) FEET. WHERE A FIVE (5) FEET SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM THREE (3) FEET SIDEWALK WITH 5'x5' PASSING SPACE AREAS ARE REQUIRED TO BE LOCATED AT REASONABLE INTERVALS NOT TO EXCEED TWO-HUNDRED (200) FEET.
- LANDINGS SHALL BE 5'x5' MINIMUM WITH A MAXIMUM TWO (2%) PERCENT SLOPE IN ANY DIRECTION.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'x4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED WITH A MAXIMUM 10(H):1(V) SLOPE. IF THE LANDING DEPTH IS LESS THAN FOUR (4) FEET, THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 12(H):1(V) SLOPE.
- ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
- 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.
- 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.
- ACCESSIBLE ROUTES WITH A RUNNING SLOPE GREATER THAN FIVE (5%) PERCENT IS A RAMP AND SHALL COMPLY WITH TDLR 4.8 - RAMPS. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS TWO (2%) PERCENT.
- 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 TDLR.



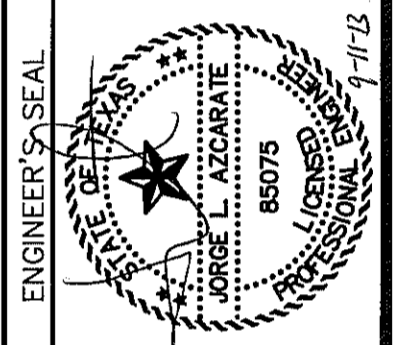
3 "T" CUL-D-SAC W/SIDEWALK DETAIL
 C8.3 SCALE: N.T.S.



4 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
 C8.3 SCALE: N.T.S.

REFERENCES - BENCHMARKS	
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALFREO CIRCLE AND PASEO UNDO DRIVE.	
DATE	REVISIONS
	BY

CSA
 ENGINEERS • ARCHITECTS • PLANNERS
 TEXAS REGISTERED ENGINEERING FIRM F-4584
 4712 Woodrow Bean, Ste. F El Paso, TX 79904
 Office: 915.544.5232 Fax: 915.544.5233 www.csa-group.net



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	SEPTEMBER 2013
DESIGN BY:	R.O.
DRAWN BY:	J.G.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
 UNIT NINE
 SUBDIVISION IMPROVEMENTS**

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

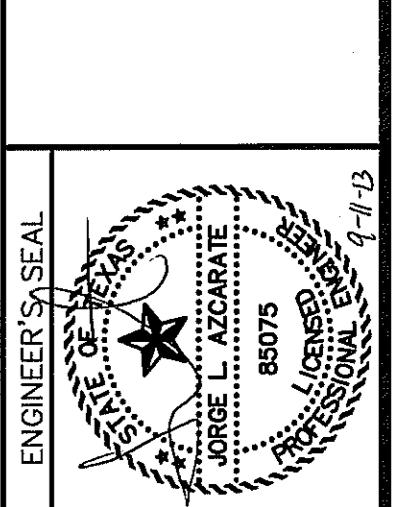
CITY DEVELOPMENT DEPARTMENT
REVIEWED
 C8.3

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

DATE	REVISIONS	BY

EXISTING CITY MONUMENT
 ELEVATION=4003.10 FEET (CITY DATUM)
 LOCATED AT THE CENTERLINE INTERSECTION OF
 PASCO ALGEE CIRCLE AND PASCO UNDO DRIVE.



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Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	SEPTEMBER 2013
DESIGN BY:	R.O.
DRAWN BY:	J.G.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2000-1691D

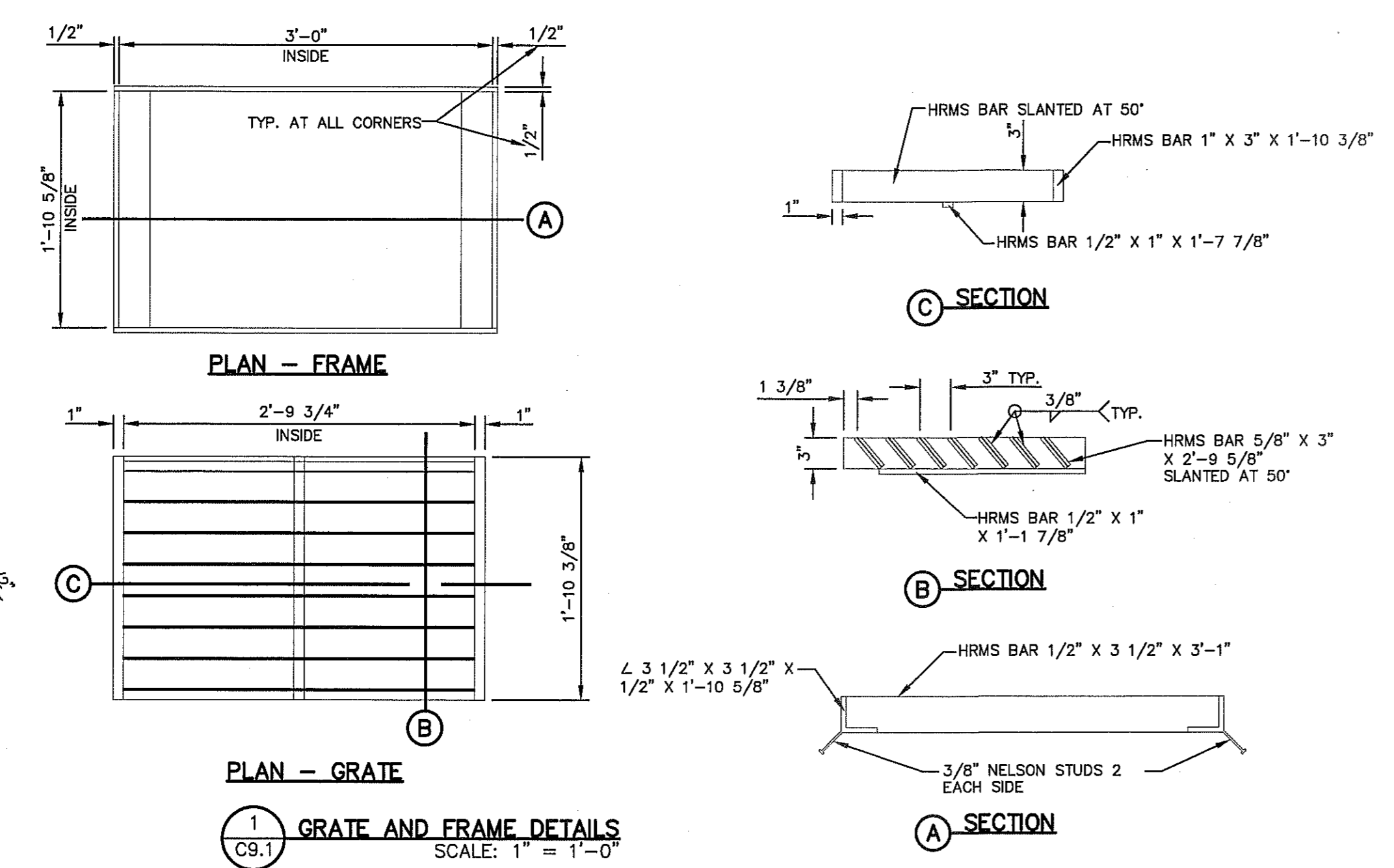
PROJECT TITLE
**MESQUITE TRAILS
 UNIT NINE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**DRAINAGE
 DETAILS**

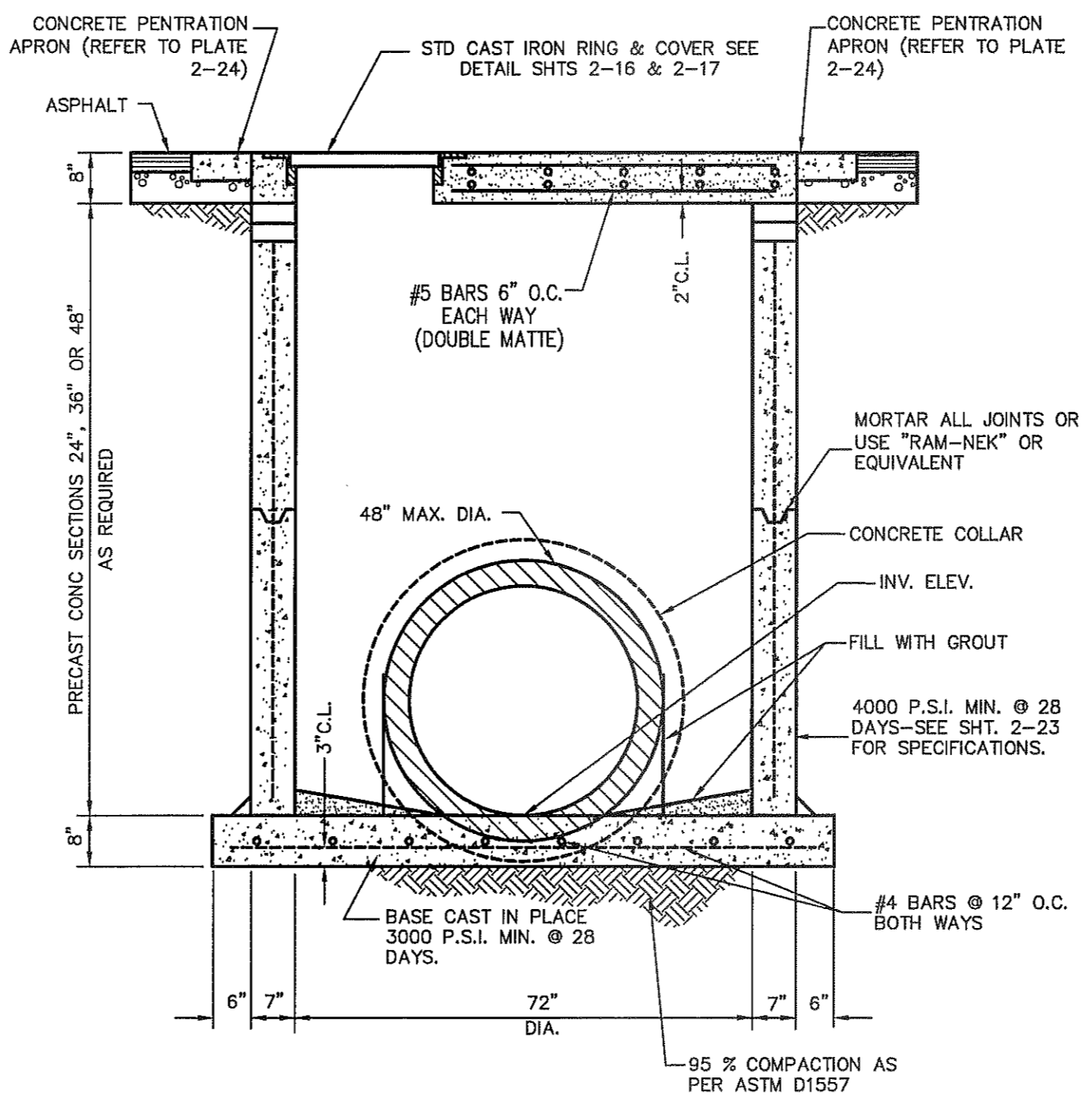
(SHEET 1 OF 2)
 SHEET NO.

CITY DEVELOPMENT DEPARTMENT
 REVIEWED
 C9.1

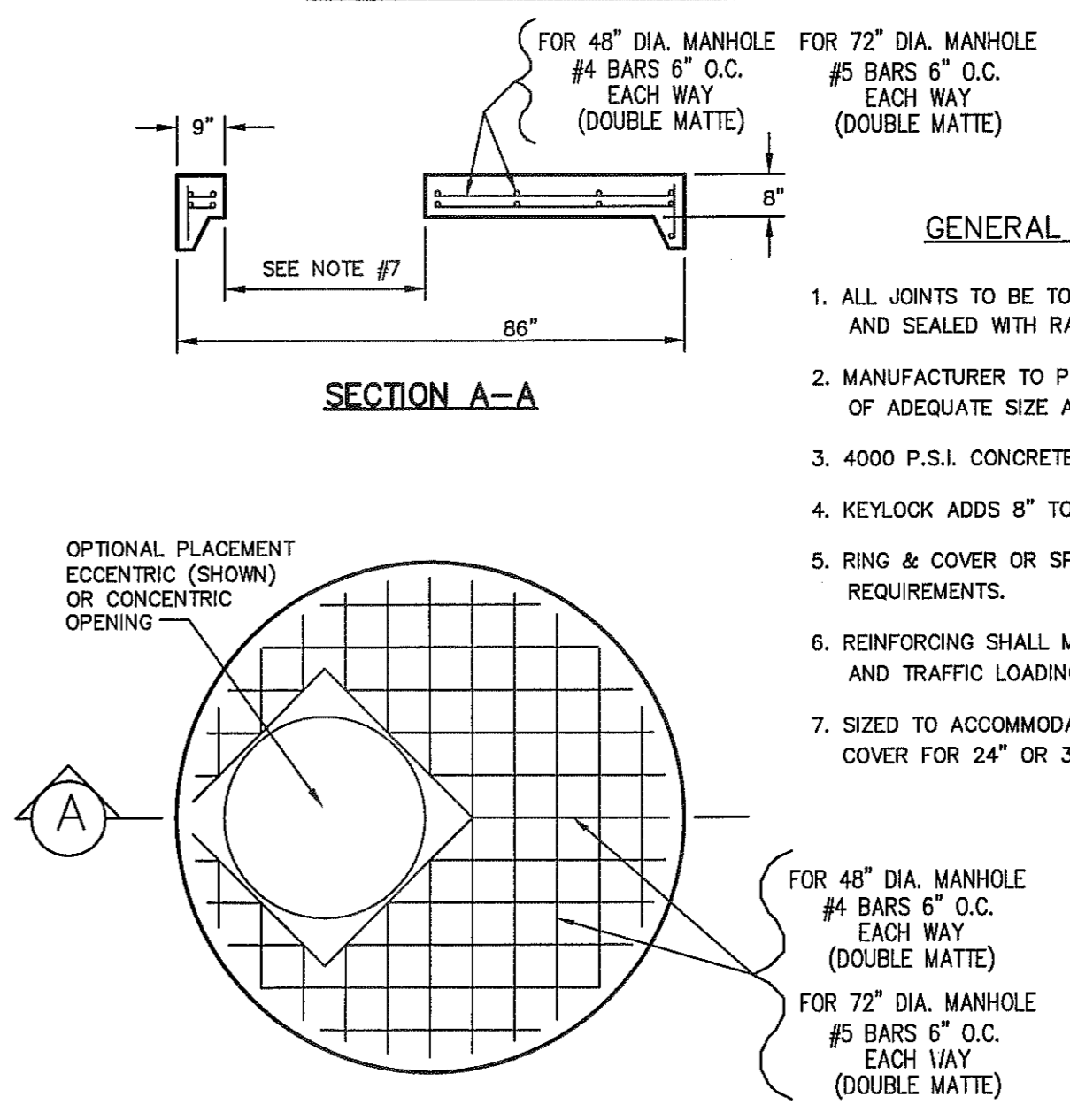
SEE SHT 2-23 FOR STANDARD PRECAST MANHOLE SPECIFICATIONS



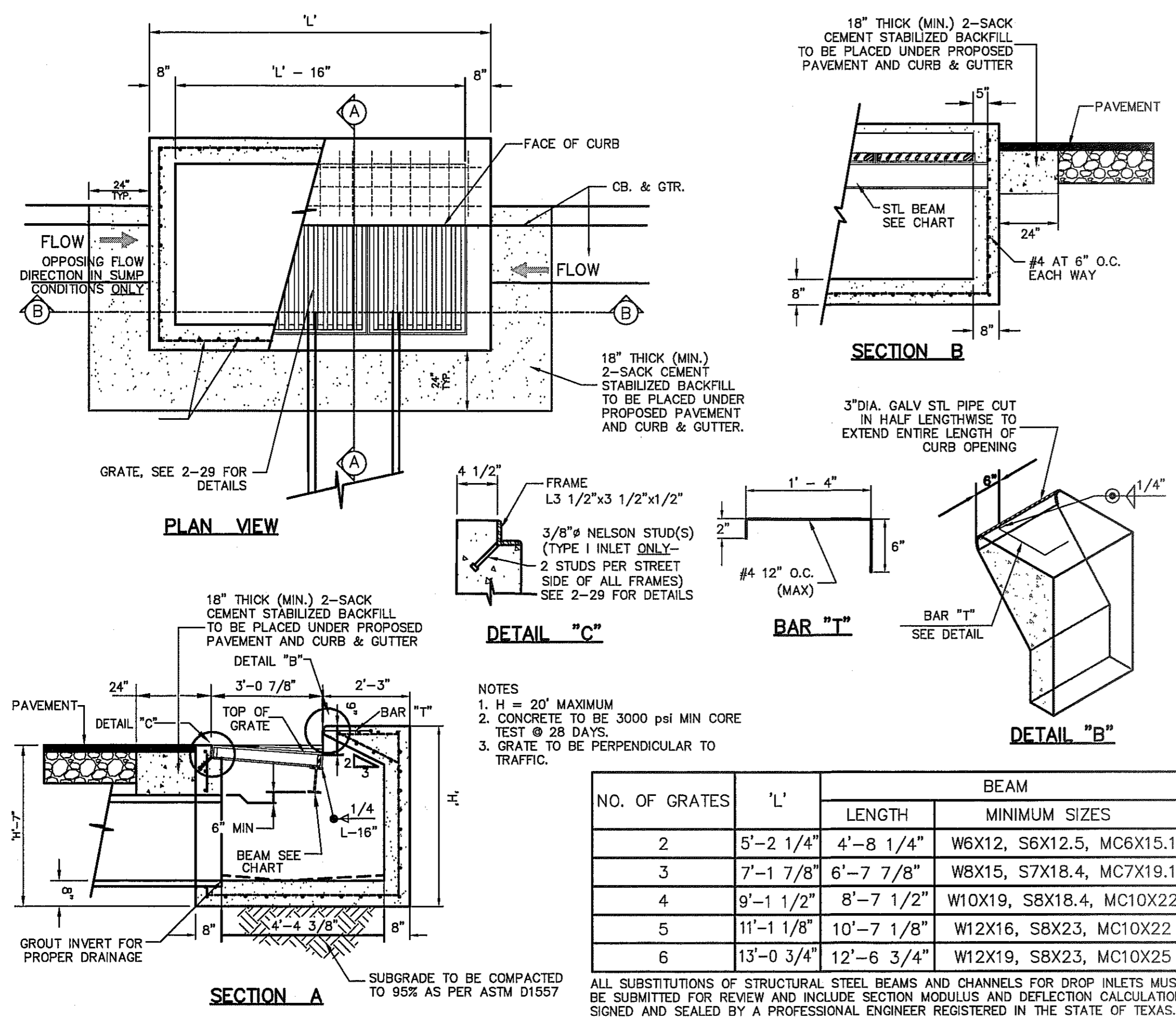
1 GRATE AND FRAME DETAILS
 SCALE: 1" = 1'-0"



2 72" DIAMETER PRECAST MANHOLE SECTIONS
 SCALE: N.T.S.



3 MANHOLE COVER FOR 48" and 72" MANHOLE
 SCALE: N.T.S.



- NOTES
- H = 20' MAXIMUM
 - CONCRETE TO BE 3000 PSI MIN CORE TEST @ 28 DAYS.
 - GRATE TO BE PERPENDICULAR TO TRAFFIC.

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, SBX18.4, MC10X22
5	11'-1 1/8"	10'-7 1/8"	W12X16, SBX23, MC10X22
6	13'-0 3/4"	12'-6 3/4"	W12X19, SBX23, 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.

4 DROP INLET (TYPE I) DETAILS
 SCALE: N.T.S.

DROP INLET GENERAL NOTES:

- 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 DERESSED 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.
- THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.

2/10/2013 10:59:59 AM - 6910-14079 - 01/10/2013 Construction - 01/10/2013 - 12:12:00 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
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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

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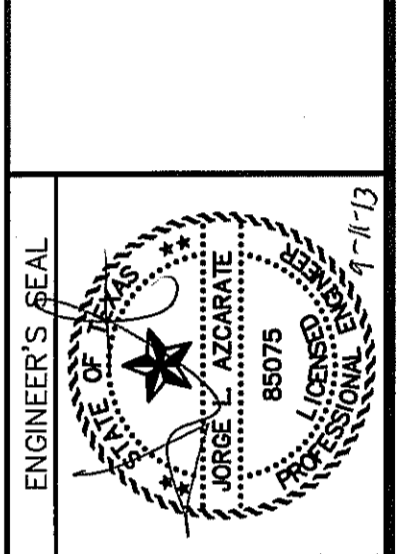
CALL
1-800-DIG-TESS
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASO ALFREY CIRCLE AND PASO LINCO DRIVE.

csa
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TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F, El Paso, TX 79904
Office: 915.544.5232 Fax: 915.544.5233 www.csaengineers.com



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	SEPTEMBER 2013
DESIGN BY:	R.O.
DRAWN BY:	J.G.
CHKD. BY:	J.L.L.
APPVD. BY:	J.L.L.
JOB No.	2000-169LD

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**DRAINAGE
DETAILS**

(SHEET 2 OF 2)
SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED
C9.2

GENERAL NOTES:

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

MANHOLE RING	MANHOLE ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	33"	25 1/2"	32 3/4"
B	31 1/4"	23 3/8"	31 3/8"
C	31 1/2"	23 3/8"	31 1/8"
D	30"	22 1/2"	30"
E	39 1/2"	34 1/2"	42"
F	5"	1 1/2"	1 1/2"
G	5"	6"	6"
H	4 1/4"	5 1/4"	5 1/4"
I	3 1/4"	4 1/4"	4 1/4"
J	4 3/4"	6"	6"
K	2 3/16"	3 1/8"	3 1/8"
L	2 1/16"	2 5/16"	2 5/16"
M	1 1/2"	1 3/8"	1 3/8"
WEIGHT	220 lbs.	165 lbs.	225 lbs.

SEE NOTE 6

STANDARD DETAIL DATE: 8/19/2009 REV: STORMWATER MANHOLE RING N.T.S. EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD DETAIL No. 916

1
C9.2 STORMWATER MANHOLE RING
N.T.S.

GENERAL NOTES:

- MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
- CASTING TO BE SMOOTH & VOID OF AIR HOLES.
- CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
- AS-CAST DIMENSIONS MAY VARY $\pm 1/16"$ PER FOOT (AASHTO M306-07).
- WEIGHT MAY VARY $\pm 2\%$ (AASHTO M306-07).
- SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-17.

CONSTRUCTION KEY NOTES:

- LIFTING NOTCH.
- 3/8" RAISED LETTERING.
- 1" SQUARES (3/8" TALL) WITH 3/8" SPACE BETWEEN.
- REINFORCING RIBS.
- SLOT.

MANHOLE COVER	MANHOLE ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	31 3/4"	23 3/4"	31 1/4"
B	28 3/8"	20 3/8"	28 3/8"
C	24 3/8"	16 3/8"	24 3/8"
D	21 7/8"	14 3/8"	21 7/8"
E	2 1/8"	3"	3"
F	1/4"	1 1/4"	1 1/4"
G	3 1/4"	3"	3"
H	1 1/8"	1"	1"
WEIGHT	265 lbs.	175 lbs.	310 lbs.

SEE NOTE 6

STANDARD DETAIL DATE: 8/19/2009 REV: STORMWATER MANHOLE COVER N.T.S. EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD DETAIL No. 917

2
C9.2 STORMWATER MANHOLE COVER
N.T.S.

PLAN VIEW - SINGLE REBAR

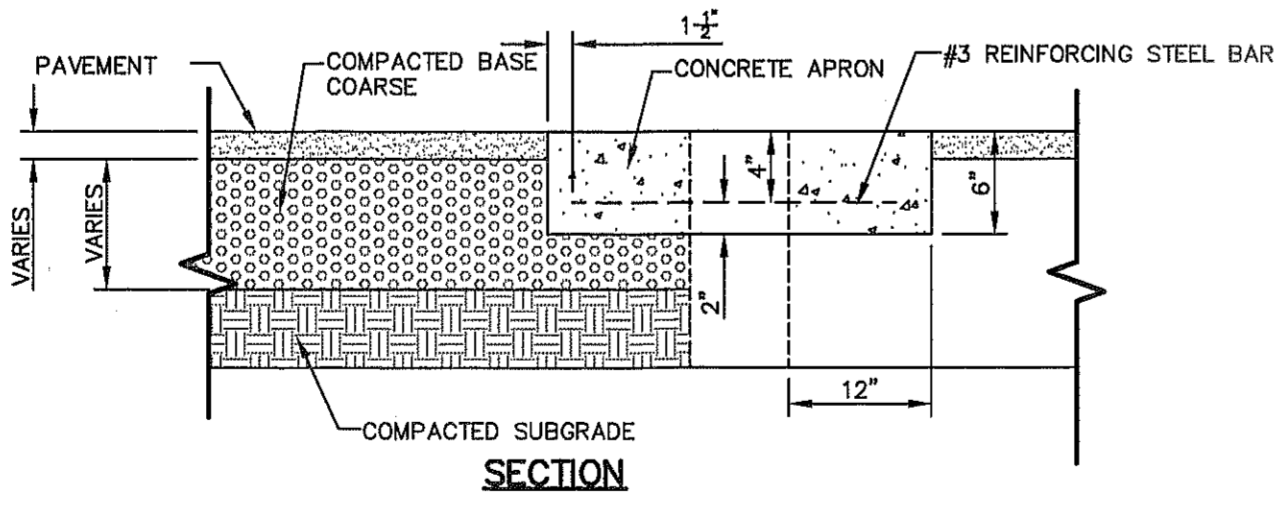
PLAN VIEW - 2 REBAR

PLAN VIEW - 3 REBAR

#3 REINFORCING STEEL BARS EQUALLY SPACED

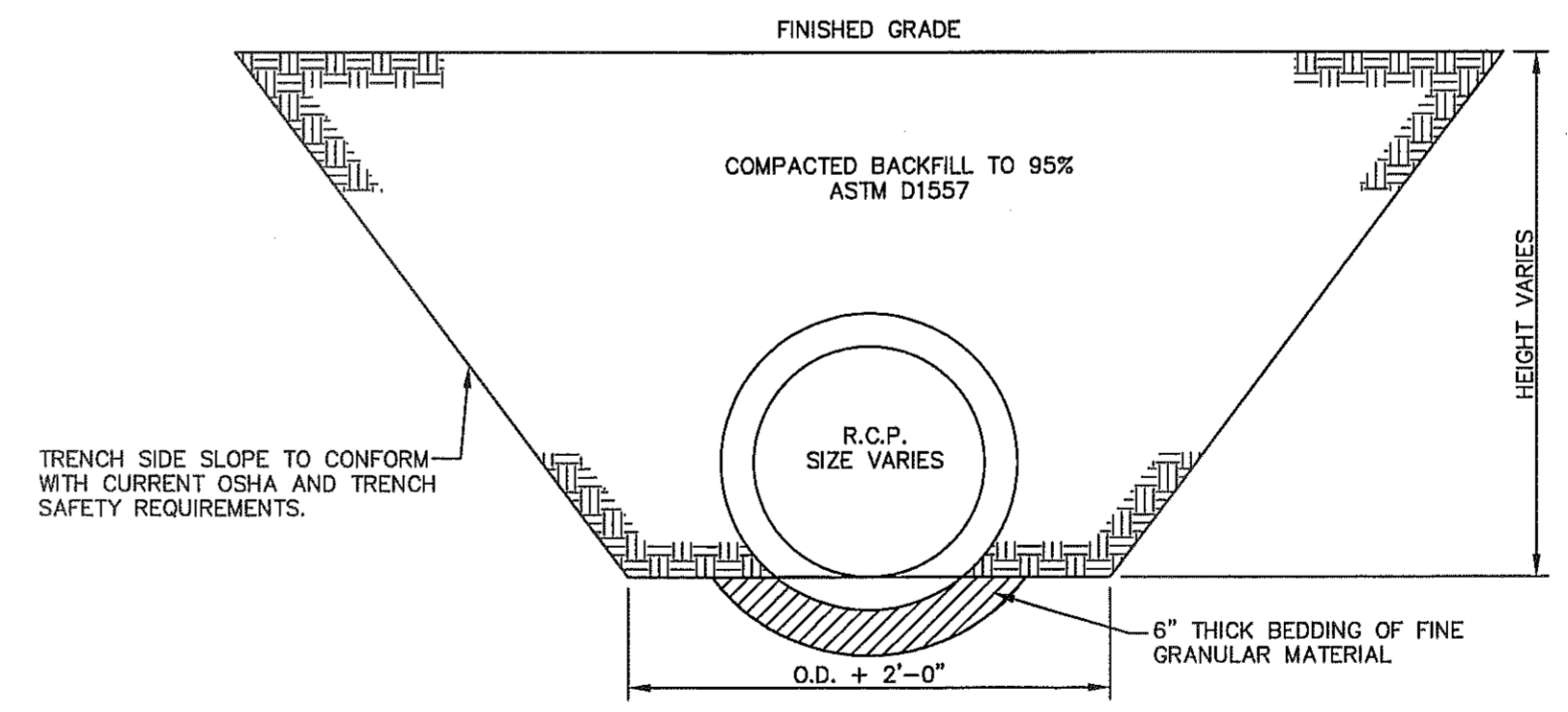
- CONSTRUCTION NOTES:**
- ANY DISTURBED SUBGRADE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 95% DENSITY $\pm 3\%$ OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D-1557.
 - ANY DISTURBED COARSE UNDER THE CONCRETE APRON SHALL BE COMPACTED TO 100% DENSITY $\pm 2\%$ OPTIMUM MOISTURE CONTENT IN ACCORDANCE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

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



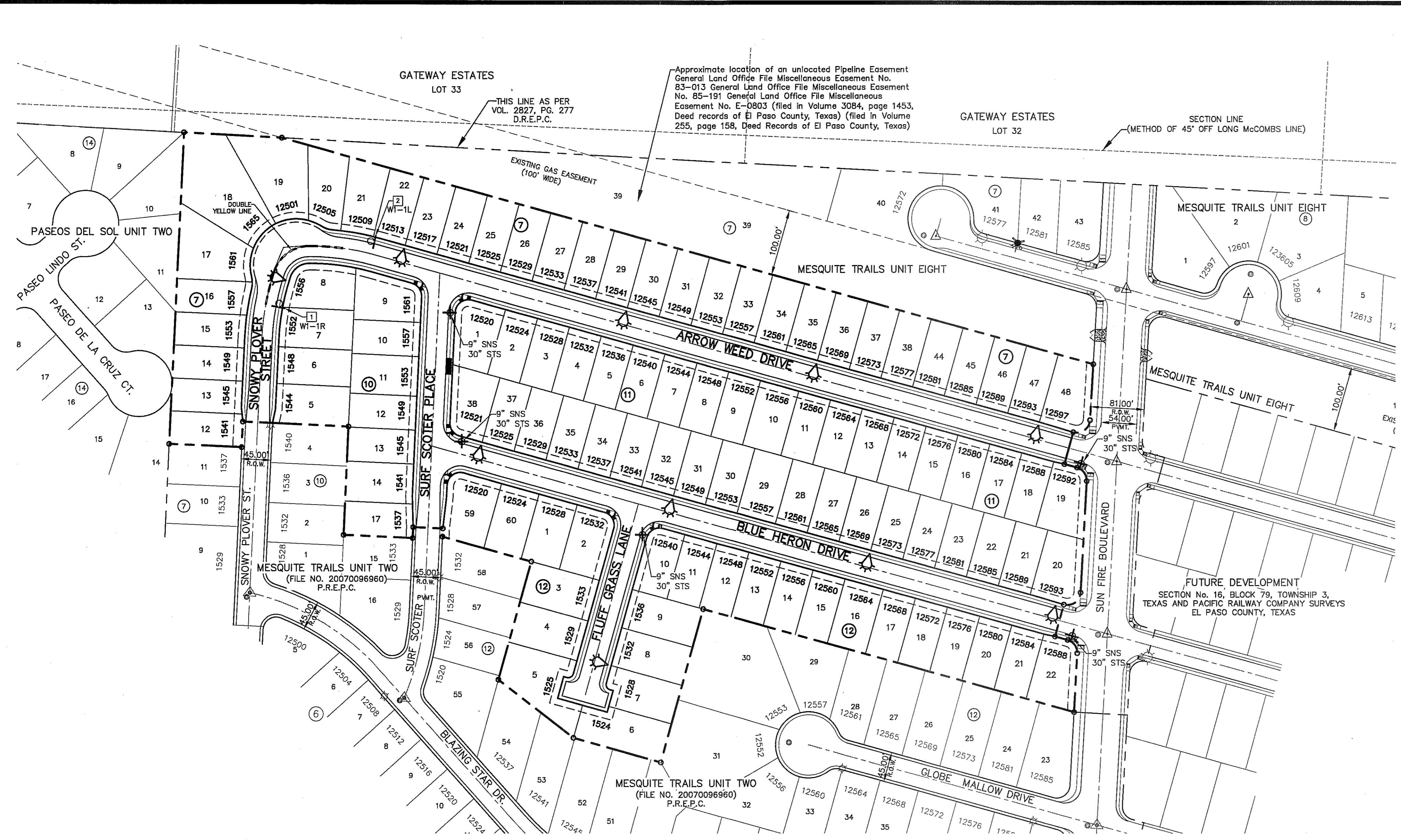
"D" DIAMETER OF PENETRATION (INCHES)	"A" CONCRETE HORIZONTAL DIMENSION FROM PENETRATION (INCHES)	NUMBER OF NO. 3 REINFORCING STEEL BARS (QUANTITY)	"B" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST REBAR (INCHES)	"C" MINIMUM CLEARANCE FROM PENETRATION EDGE TO CENTER OF NEAREST REBAR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

3
C9.2 PENETRATION APRON DETAILS
SCALE: N.T.S.



4
C9.2 STORM SEWER BEDDING DETAIL
SCALE: 1/2" = 1'-0"

S:\2000\2000-169LD-081P-001P-01\0002\Construction\Drawings\Improvements\Plan\C9.2_Drainage\Sheet\Title.dwg, Date: 9/17/2013, 12:18:27 PM



UTILITY LOCATOR SERVICES

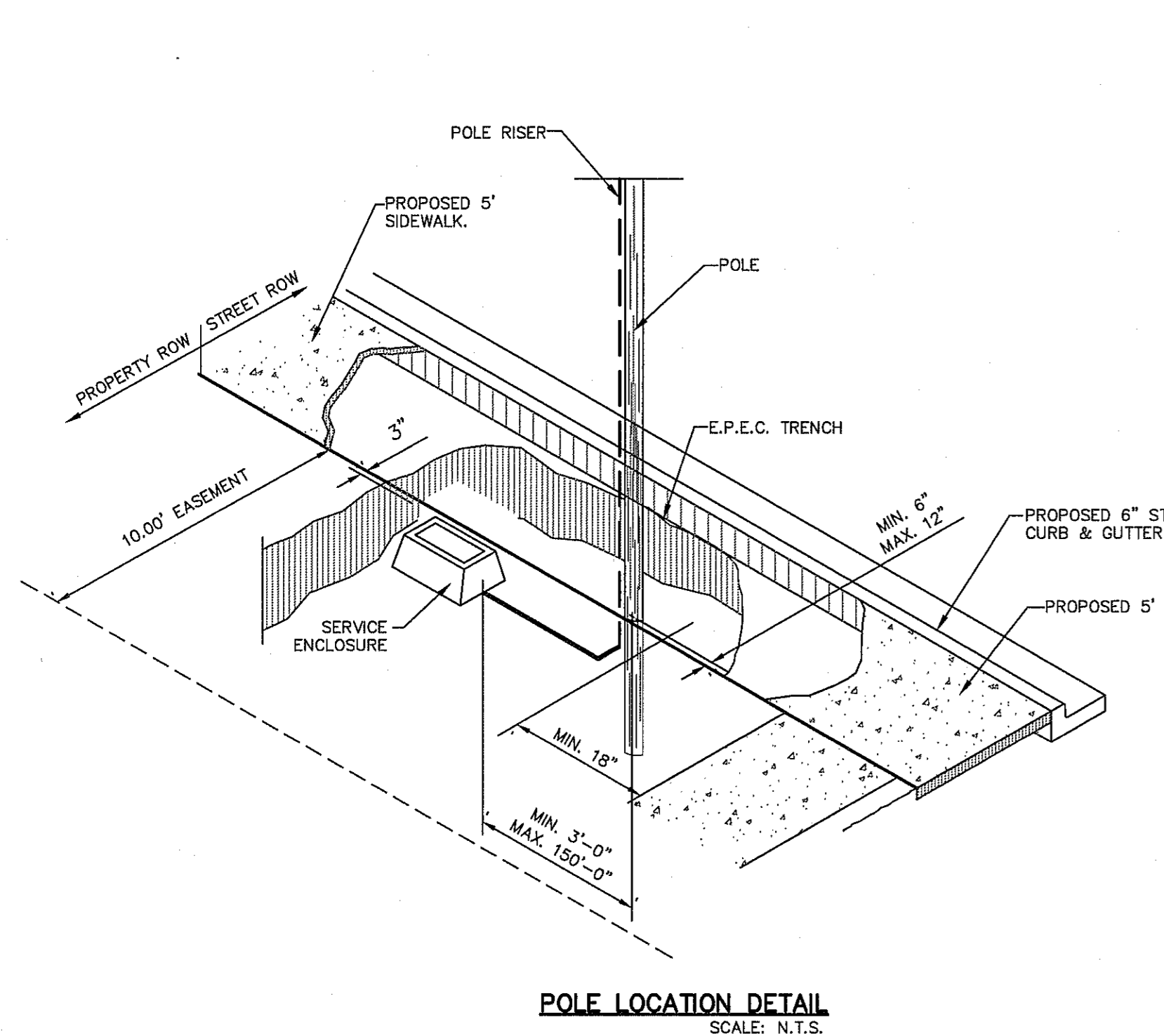
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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1-800-344-8377
 FOR FIELD LOCATING EXISTING UTILITIES

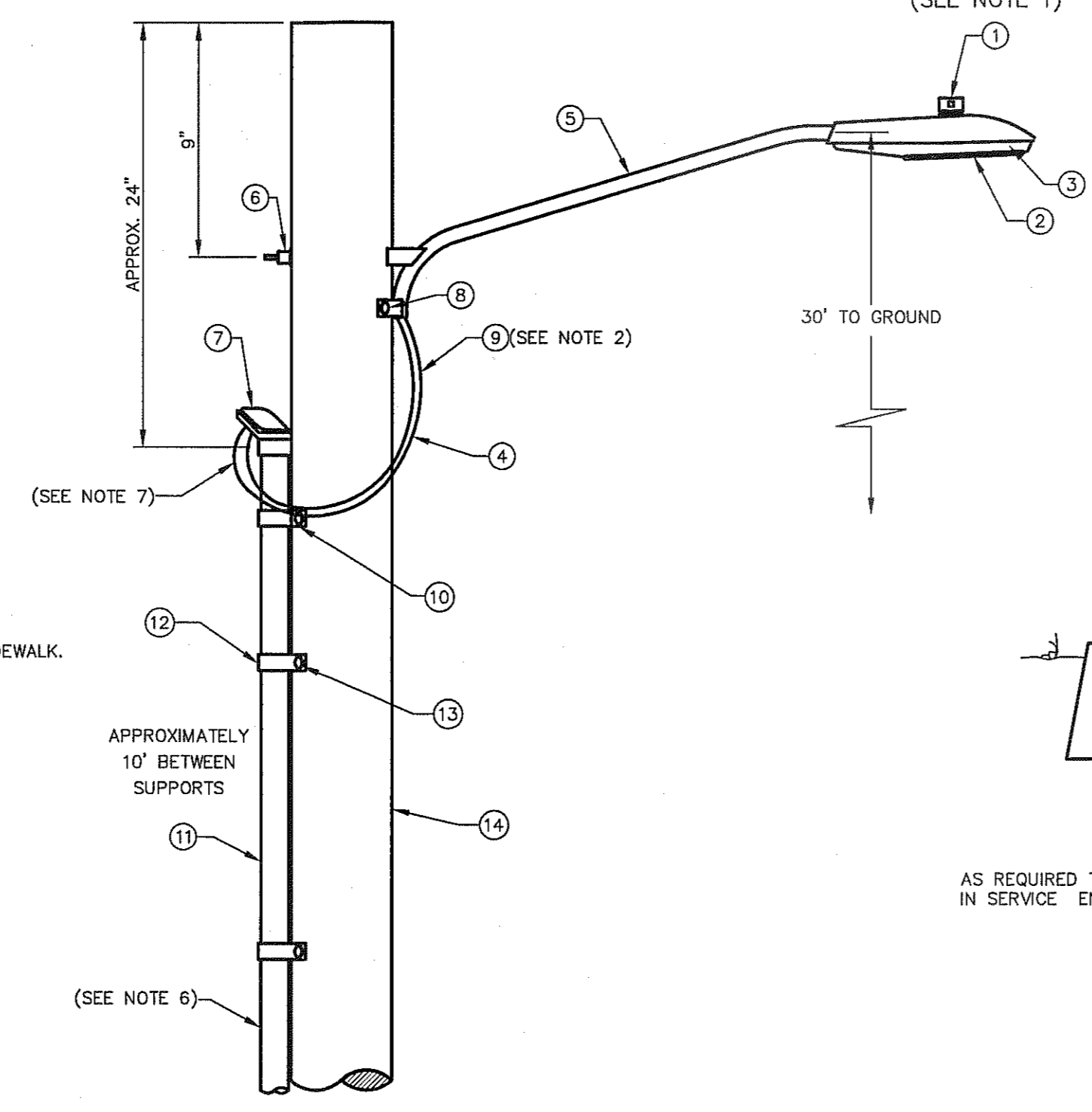
ITEM NO.	DESCRIPTION	STOCK NO.	QTY.	
1	PHOTO CELL, 240 V-SEE NOTE 1	21-225	1	LCOBRAHD
2	HPS LASMP, 100W	21-085	1	
3	LUMINARE, 100W H.P.S.	21-335	1	
4	SLEEVES, #12-10	05-140	2	LSLV1210
5	MAST ARM, 6" X 1 1/4"	21-200	1	LBRKT1*6
6	MACHINE BOLT, 5/8" X 12"	02-470	1	
	SQUARE GALV. WASHER, 2 1/4" X 2 1/4"	02-760	1	LMB5/812
	COIL SPRING WASHER, 5/8"	02-786	1	
LOCK NUT, 5/8"	02-705	1		LCOBRAUG
7	SERVICE ENTRANCE CAP FOR 1" PVC CONDUIT	17-281	1	LSVCCAP1
8	LAG BOLT, 3/8" X 3"	02-343	1	LLAG38*3
9	CABLE, #10, 2 CONDUCTOR, 600V, UF	13-600	8'	L2C#10S
10	COPPER CABLE, #12, SOLID, 600V, BLUE	13-702	60'	LC#12CU
11	SCHEDULE 80 1" PVC CONDUIT	17-280	30'	LSCH801
12	PIPE STRAP FOR 1" PVC CONDUIT, 2-HOLE	17-283	9'	LPVCSTRP
13	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-427	.25#	LNAL14*2
14	POLE, 35 FT. - CLASS 4	09-035	1	L354UG
15	1" PVC 90 DEGREE ELBOW	17-297	1	LEL901
16	1" PVC 45 DEGREE ELBOW	17-298	1	LEL451
17	1" PVC COUPLING	17-296	1	LOPLG1
18	1" PVC CONDUIT	17-299	AS REQ	LPVC1

RESIDENTIAL STREET LIGHT WOOD POLE

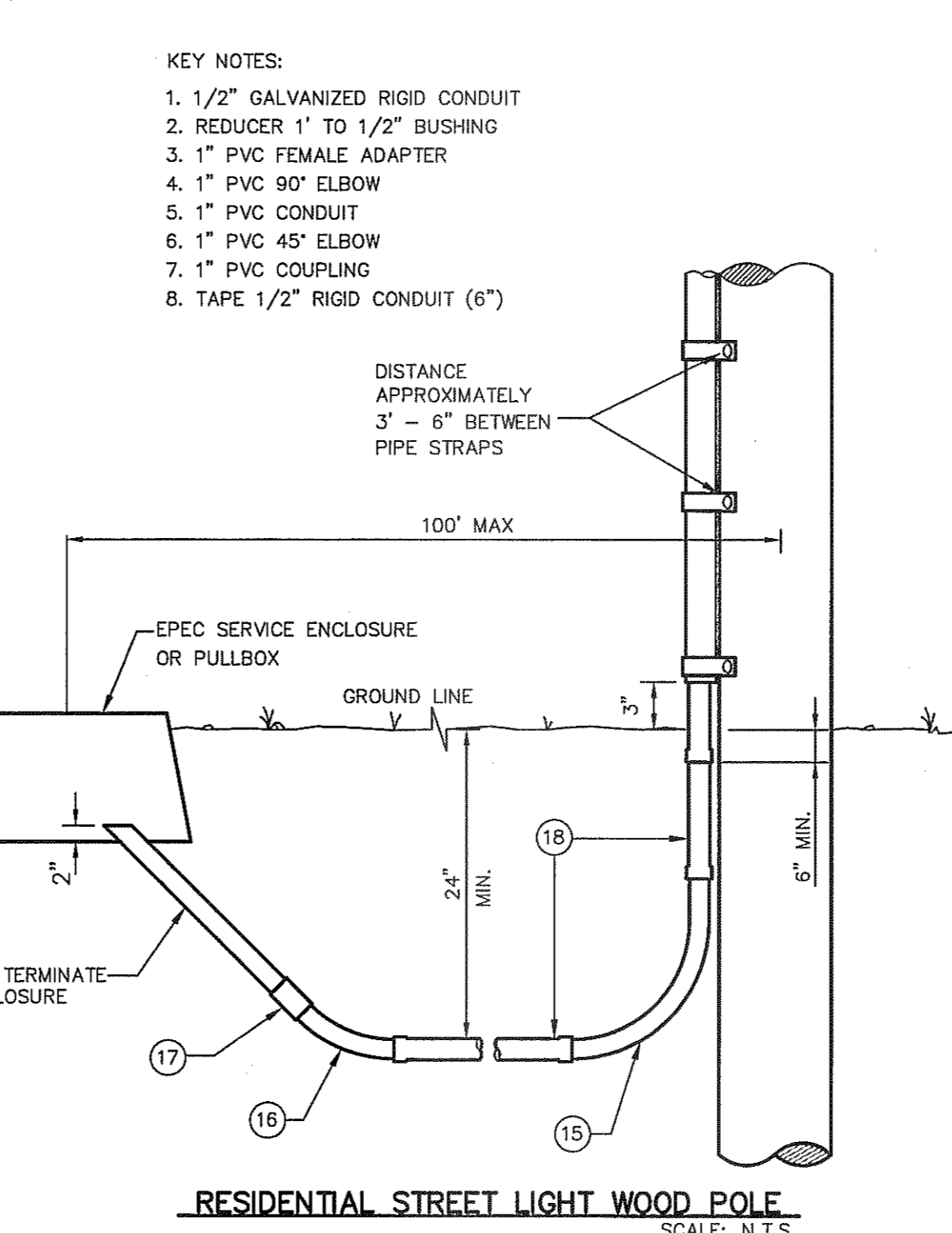
- MOUNT SO THAT PHOTO CELL IS FACING NORTH.
- ITEM # 9 SHALL NOT BE SPLICED INSIDE ITEM # 5.
- INSTALLATION MUST COMPLY WITH LOCAL CODE REQUIREMENTS.
- FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.
- ON STREETS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



POLE LOCATION DETAIL
 SCALE: N.T.S.



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



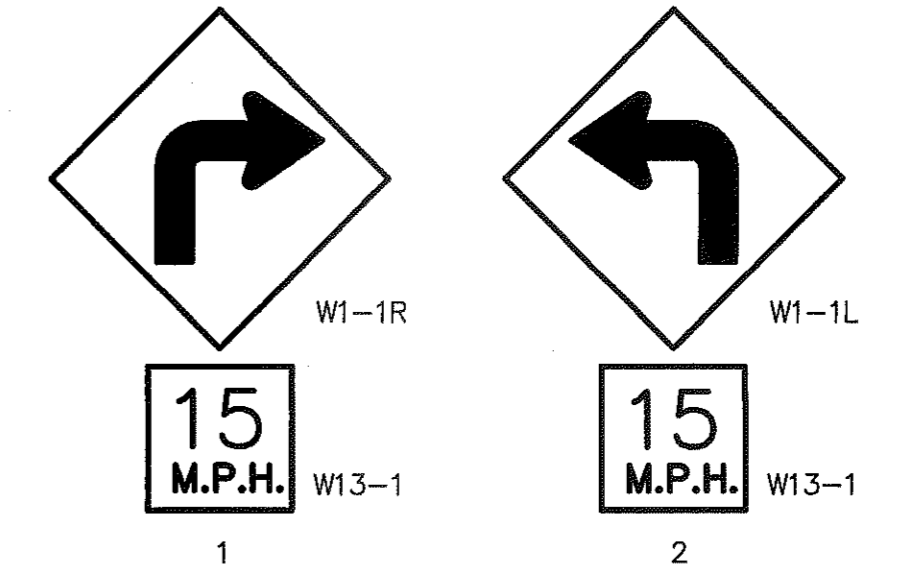
RESIDENTIAL STREET LIGHT WOOD POLE
 SCALE: N.T.S.

LEGEND:

- ☼ EXISTING RESIDENTIAL STREET LIGHT
- ☼ PROPOSED RESIDENTIAL STREET LIGHT
- ⊕ PROPOSED 9" STREET NAME SIGN (TWO SIGNS) AND 30" STOP SIGN
- ▬ PROPOSED N.D.B.C.U. MAIL

NOTE

- TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.



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

SIGNS DETAIL

SCALE: N.T.S.

10 RESIDENTIAL STREET LIGHTS

CITY DEVELOPMENT DEPARTMENT

REVIEWED



ILLUMINATION & SIGNAGE PLAN
 SCALE: 1" = 100'

REFERENCES - BENCHMARKS

EXISTING CITY MONUMENT
 ELEVATION=4003.10 FEET (CITY DATUM)
 LOCATED AT THE CENTERLINE INTERSECTION OF
 PASADO ALBEE CIRCLE AND PASADO LINDO DRIVE

BY	
DATE	
REVISIONS	

CSA
 engineers • architects • planners
 TEXAS REGISTERED ENGINEERING FIRM F-4584
 4712 Woodchuck Bluff, Ste. F, El Paso, TX 79924
 (915) 544-8222 Fax: (915) 544-5555 www.csa-engineers.com

ENGINEER'S SEAL

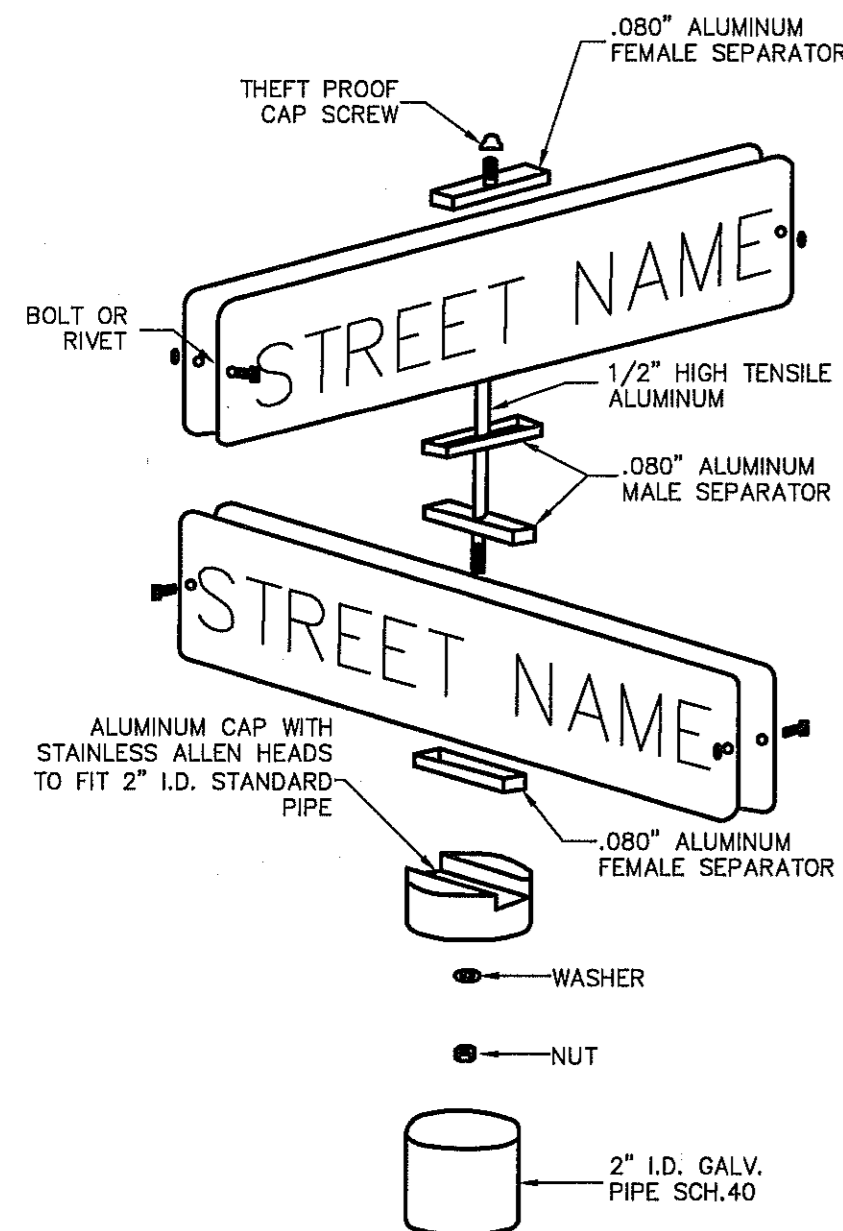
SCALE: 1"=100'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A

DATE: SEPTEMBER 2013
 DESIGN BY: R.O.
 DRAWN BY: J.L.
 APP'D. BY: J.L.
 JOB No. 2000-1591.D

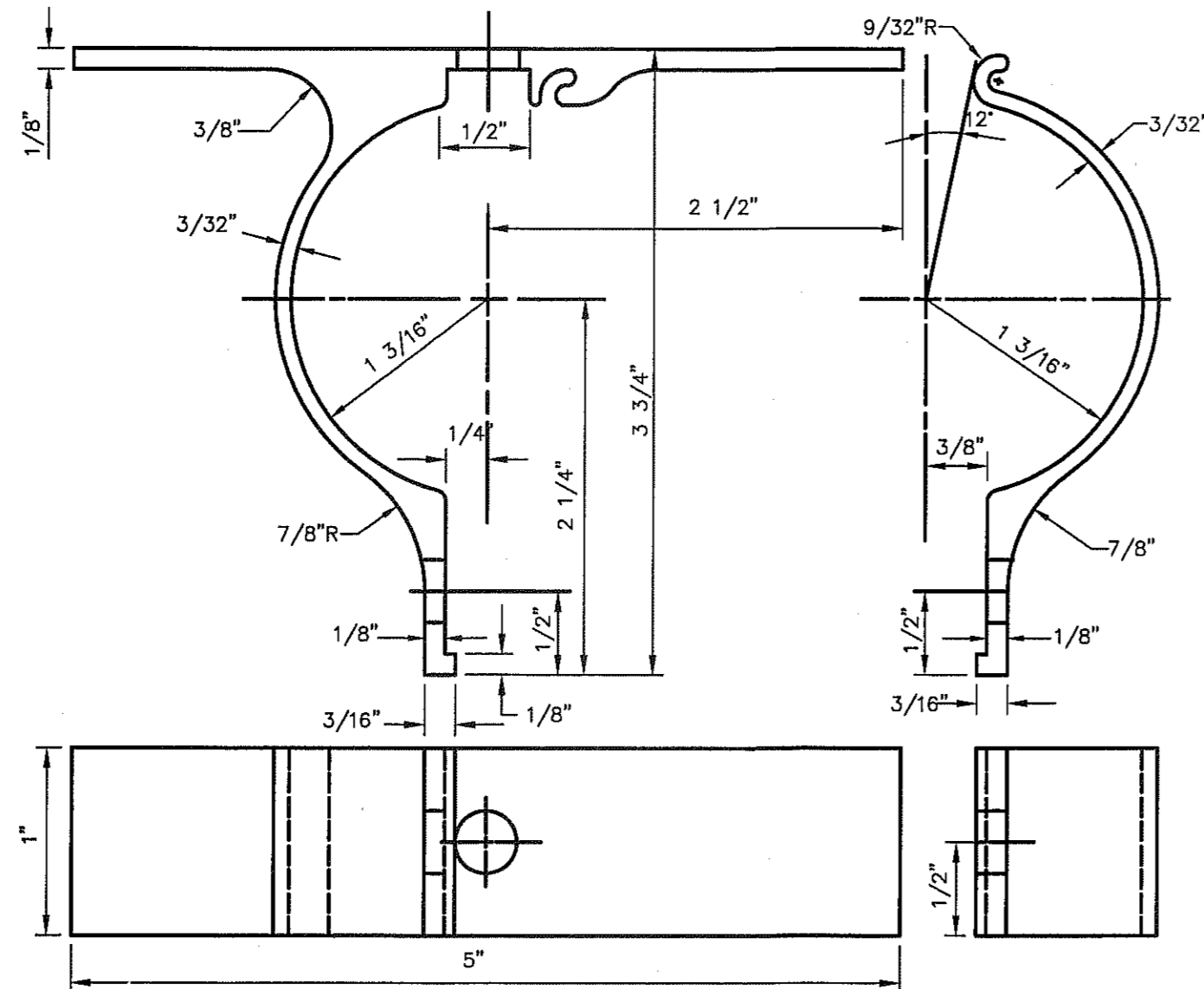
PROJECT TITLE
MESQUITE TRAILS UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION & SIGNAGE
 (SHEET 1 OF 2)
SHEET NO.

C10.1

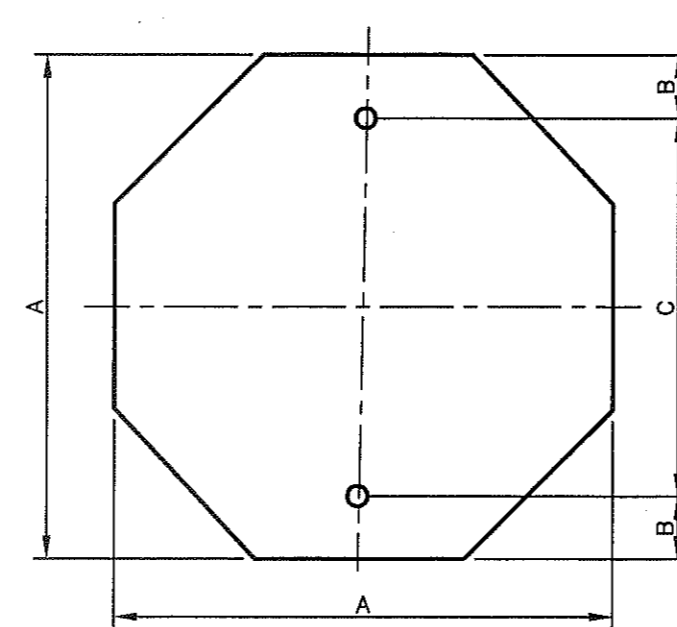


1 9" STREET NAME ASSEMBLY
SCALE: N.T.S.



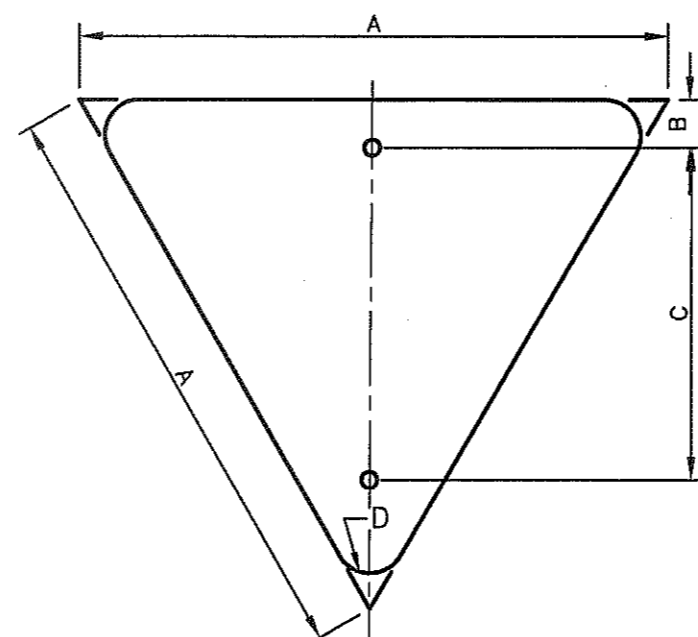
- NOTES:**
- ALL HOLES 3/8" PUNCH
 - FILLET & ROUNDS 1/16"=R
 - FURNISH THE FOLLOWING HARDWARE FOR EACH BRACKET:
 - 1 - 5/16" x 3/4" BOLTS
 - 1 - 5/16" x 1 1/4" BOLT
 - 2 - 5/16" x NUTS & LOCK WASHERS
 - 2 - FLAT WASHERS
 - THE BRACKET IS TO BE MADE FROM HIGH STRENGTH ALUMINUM ALLOY. THE BRACKET IS TO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

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



OCTAGON
N.T.S.

3/8" HOLE DIA.		
A	B	C
24	3	18
30	3	24
36	3	30



EQUILATERAL TRIANGLE
N.T.S.

3/8" HOLE DIA.			
A	B	C	D
36	3	21	2
42	3	24	2 1/2
48	3	35	3

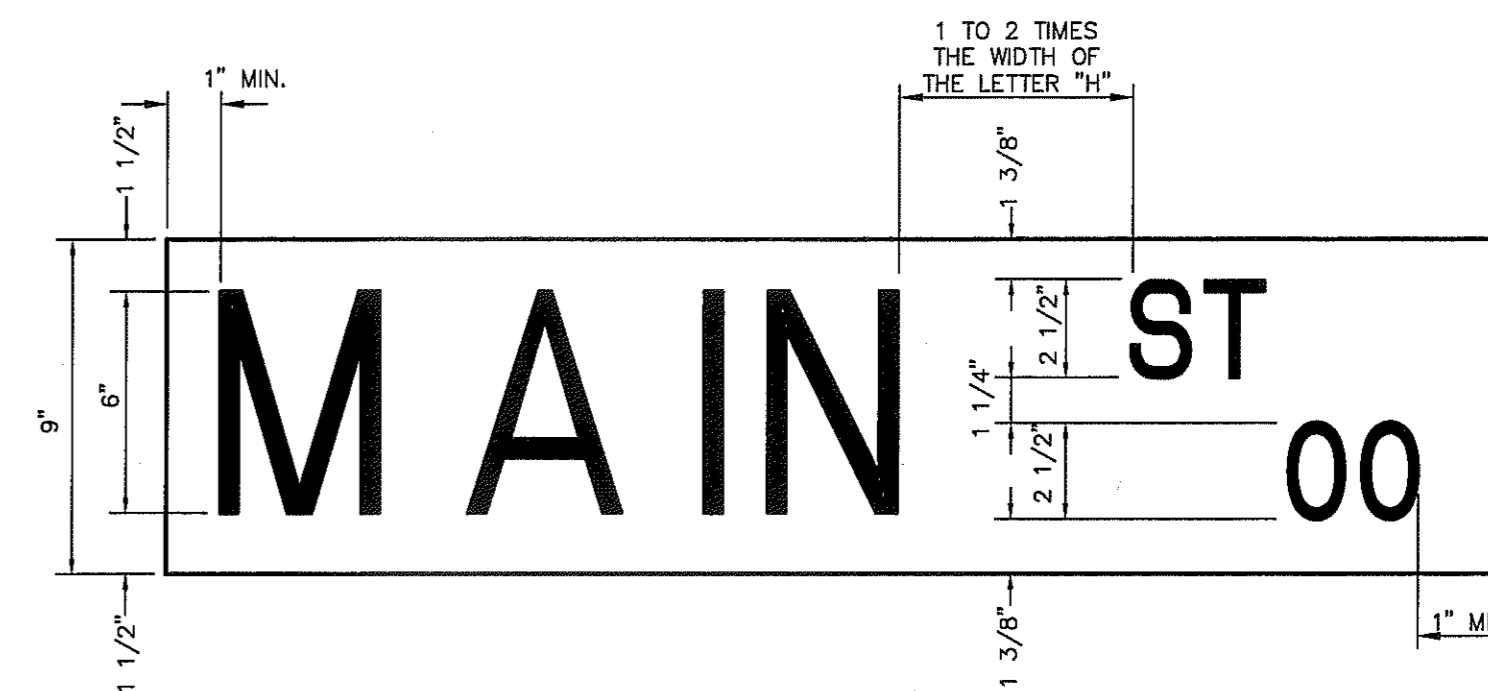
3 D.H.T. BLANK STANDARDS
SCALE: N.T.S.

UTILITY LOCATOR SERVICES

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

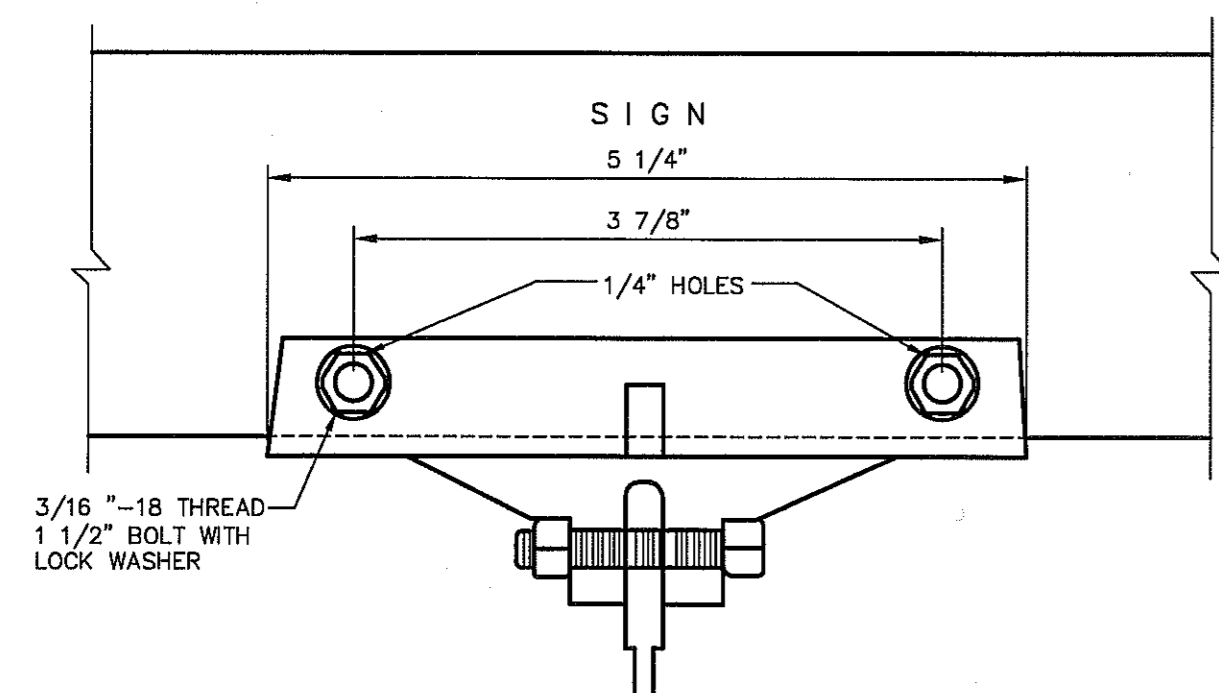


SIGN CLASS	SIGN LENGTH	PRIMARY LETTERS SIZE & SERIES	SUFFIX & BLOCK NUMBER SIZE & SERIES
9" ARTERIAL STREETS	36"	6" C,D SERIES	3" C SERIES
	42"	6" C,D SERIES	3" C SERIES
	48"	6" A,B,C,D SERIES	3" C SERIES

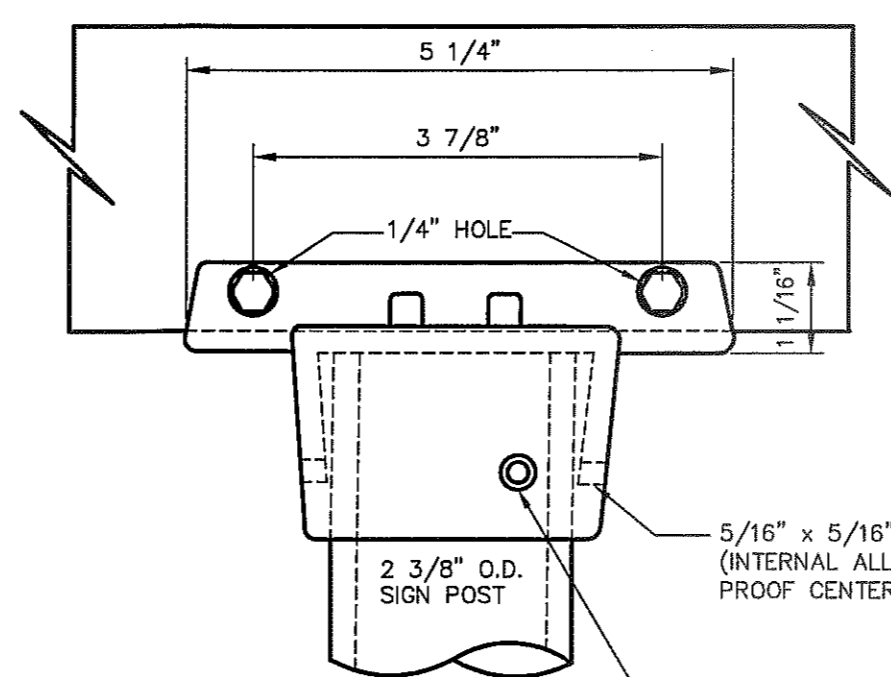
4 LAYOUT FOR 9" STREET NAME SIGNS
SCALE: N.T.S.

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

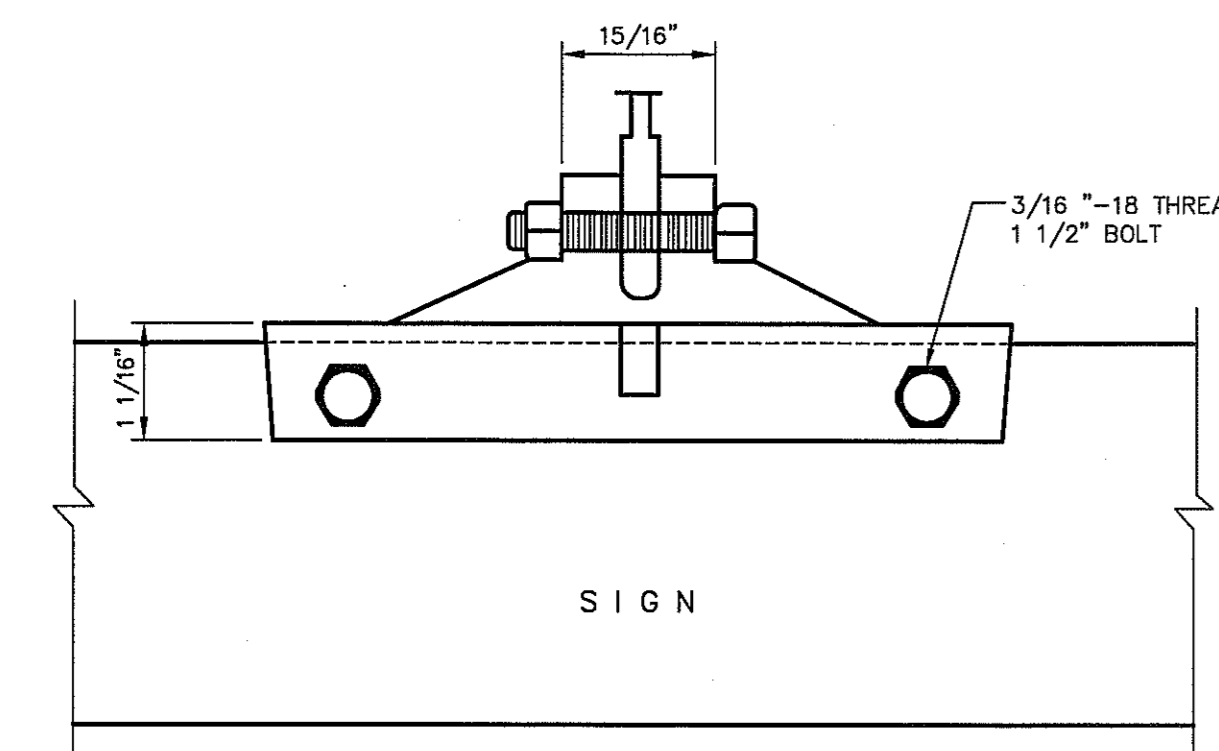
- COLOR OF SIGNS:** THE FINISHED SIGN MUST HAVE A REFLECTORIZED BLUE BACKGROUND. THE BLUE MUST CONFORM WITH THE BUREAU OF PUBLIC ROADS HIGHWAY BLUE. THE LEGEND MUST BE REFLECTORIZED SILVER WHITE (BLUE REVERSE SCREENED BACKGROUND WITH SILVER COPY).
- LETTER DESIGN:** THE LETTERING OF ALL LEGENDS MUST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



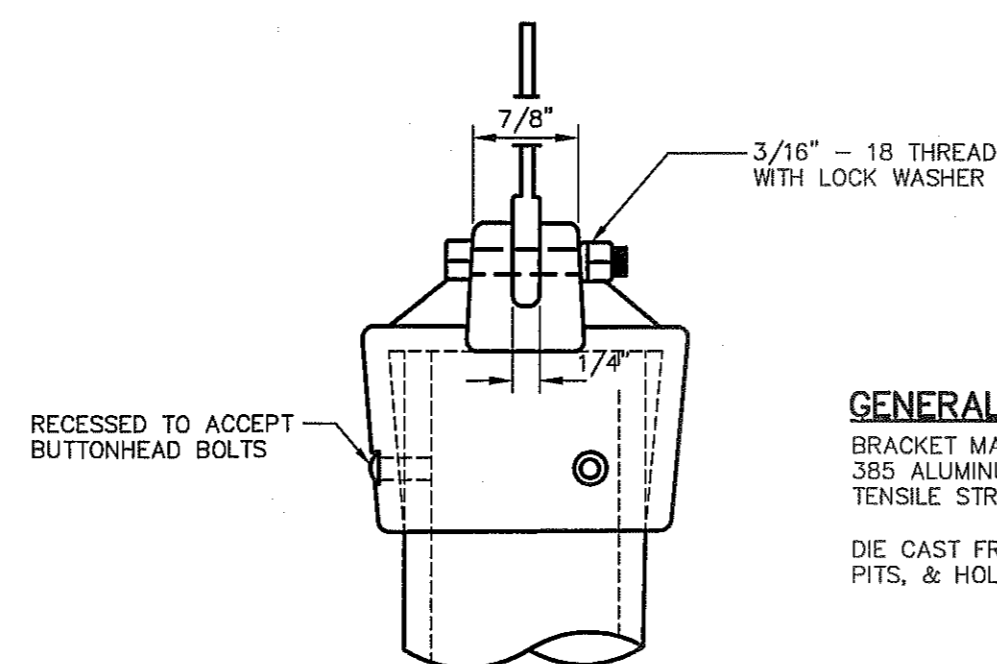
90° SIGN TO SIGN BRACK
(FOR EXTRUDED BLADES)



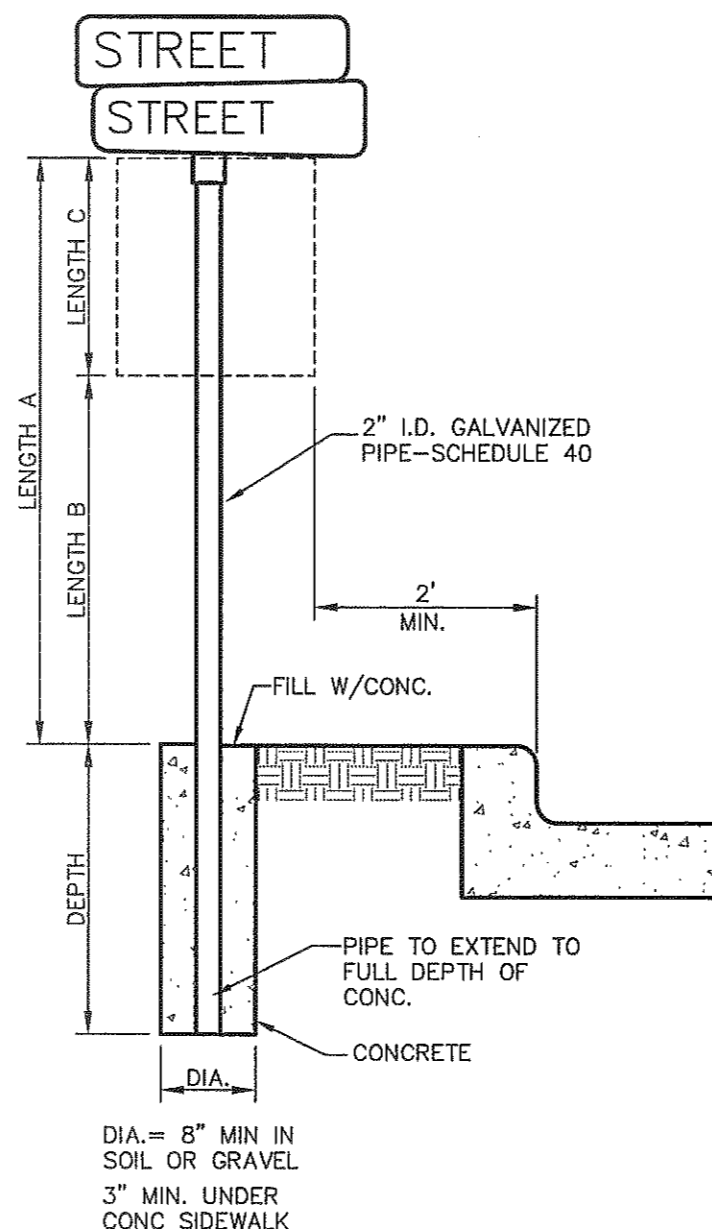
POST CAP BRACKET
(FOR EXTRUDED BLADES)



5 9" STREET NAME SIGN ASSEMBLY
SCALE: N.T.S.



GENERAL NOTES
BRACKET MATERIALS TO BE 305 ALUMINUM ALLOY TENSILE STRENGTH 4900 P.S.I.
DIE CAST FREE OF BURRS, PITS, & HOLES



DIA. = 8" MIN IN SOIL OR GRAVEL
3" MIN. UNDER CONC SIDEWALK

SIGN POST INSTALLATION

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

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

REFERENCES -	BENCHMARKS
EXISTING CITY MONUMENT ELEVATION=4033.10 FEET (CITY DATUM)	
LOCATED AT THE CENTERLINE INTERSECTION OF PASO ALEGRE CIRCLE AND PASO UNDO DRIVE.	
DATE	REVISIONS
BY	

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engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM #4684
4712 Woodrow Bark, Ste. F El Paso, TX 79924
Office: 915.544.5222 Fax: 915.544.5233 www.candagroup.net

SCALE	N/A	N/A	N/A
Horizontal:	N/A	N/A	N/A
Vertical:	N/A	N/A	N/A
Contour Interval:	N/A	N/A	N/A
DATE:	SEPTEMBER 2013		
DESIGN BY:	R.O.		
DRAWN BY:	J.G.		
CHKD. BY:	J.L.A.		
APPVD. BY:	J.L.A.		
JOB No.	2000-1891D.		

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

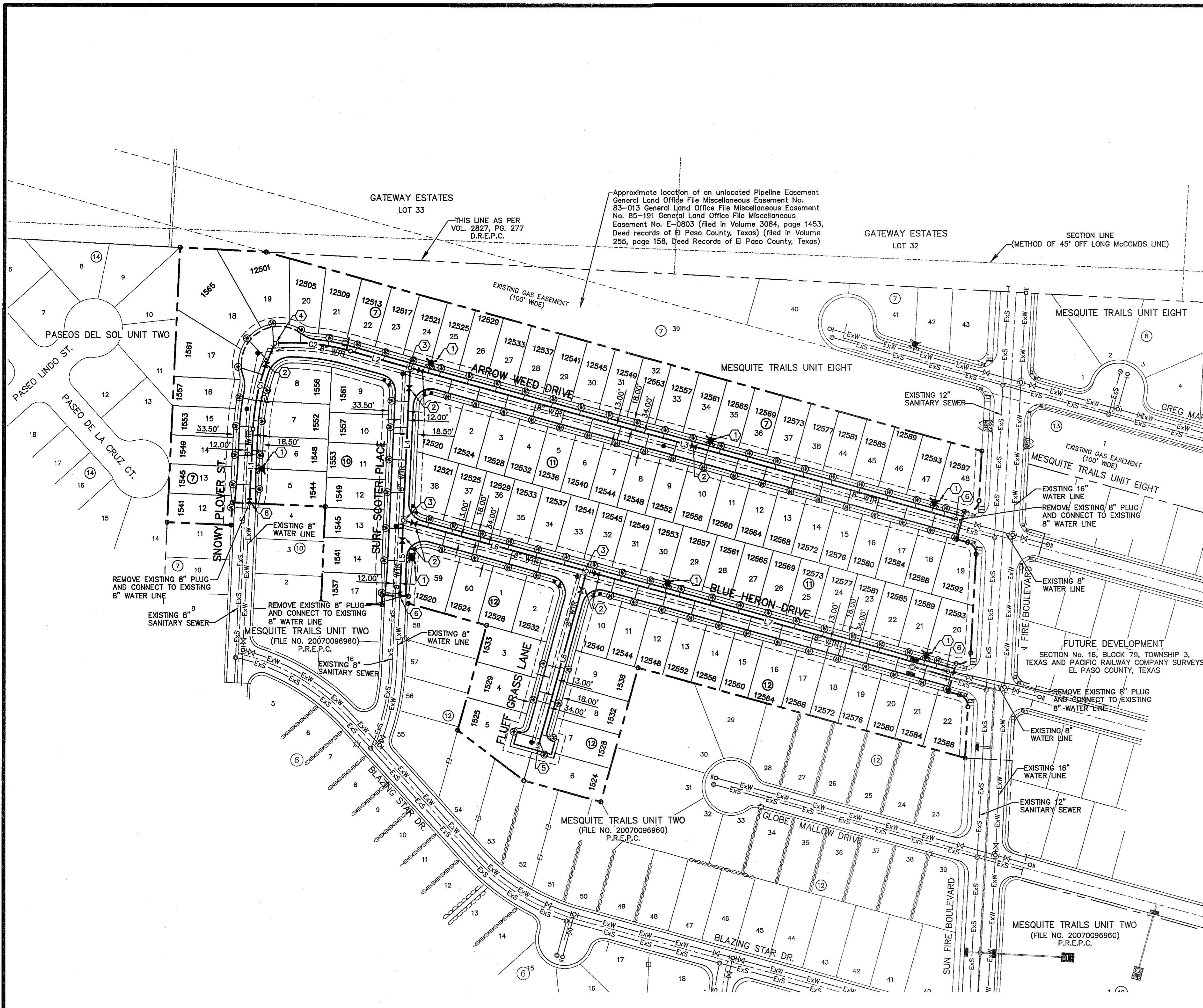
TRAFFIC SIGN
DETAILS
(SHEET 2 OF 2)

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C10.2



WATER KEYED NOTES

①	FIRE HYDRANT
②	8" # GATE VALVE
③	8" TEE
④	8" BEND
⑤	8" PLUG
⑥	EXISTING 8" PLUG TO BE REMOVED

CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	367.50'	152.31'	77.26'	151.22'	S14°25'40"W	023°44'45"
C2	383.00'	131.23'	66.27'	130.59'	N84°22'23"W	019°37'57"

LINE TABLE

LINE	BEARING	LENGTH
L1	N02°33'17"E	127.23'
L2	N74°33'25"W	106.34'
L3	N74°33'25"W	975.95'
L4	S02°29'58"W	261.65'
L5	S02°29'58"W	130.03'
L6	N74°33'25"W	327.56'
L7	N74°33'25"W	645.81'
L8	S15°26'35"W	308.00'

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

WATER INDEX MAP
SCALE: 1" = 100'

INDEX

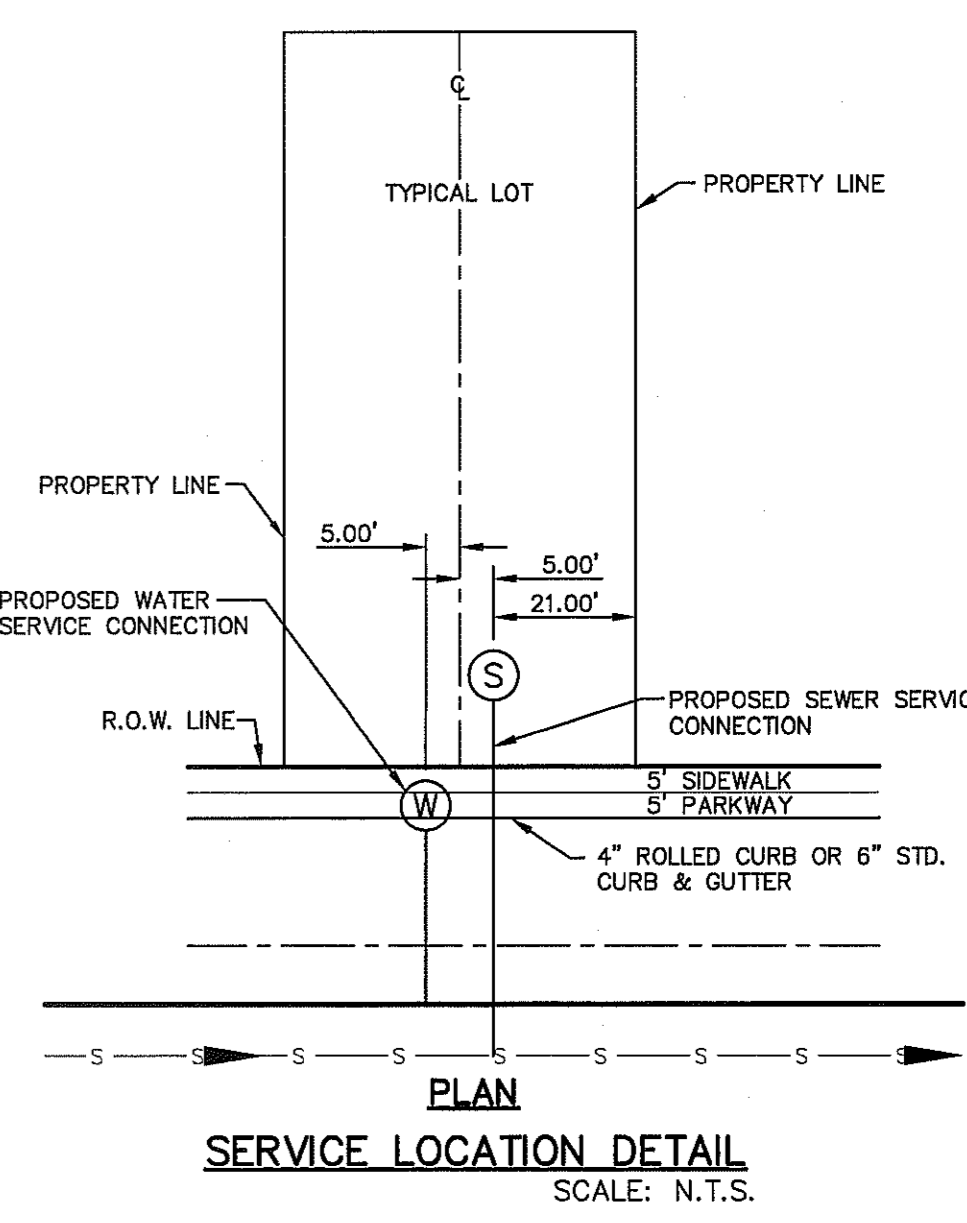
SHEET NO.	DESCRIPTION
C11.1	MESQUITE TRAILS UNIT NINE WATER MAIN PIPE LAYOUT
C12.1 - C12.4	WATER DETAILS

- NOTES:**
- CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
 - ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
 - ALL WATER LINES SHALL BE PVC C-900, CLASS 150.
 - REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.

LEGEND

SYMBOL	DESCRIPTION
8" WTR.	PROPOSED 8" C-900, CLASS 150 P.V.C. PIPE
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED STORM SEWER
W	PROPOSED SERVICE CONNECTION (PLAN VIEW)
*	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
+	PROPOSED 8" PLUG
X	PROPOSED GATE VALVE
o	POINT OF TANGENCY
X	EXISTING GATE VALVE
*	EXISTING FIRE HYDRANT
+	EXISTING PLUG
---	EXISTING SEWER LINE
---	EXISTING WATER LINE

CITY DEVELOPMENT DEPARTMENT
REVIEWED



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

- GENERAL NOTES**
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
 - THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 60" FROM INVERT OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, 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 CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
 - TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
 - AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH VALVE, FIRE HYDRANT, ELBOW, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
 - THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
 - EXISTING STREETS, DRIVEWAYS, PARKING LOTS, MAILBOXES, SIGNS, CHAIN-LINK FENCES, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
 - TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
 - ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
 - CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATER SYSTEM.
 - ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
 - CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM EPWU-PSB SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
 - FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
 - THE WATER METERS FOR THE PROPOSED WATER SERVICE CONNECTIONS SHALL BE INSTALLED ON THE PARKWAYS. SYMBOLS ARE ONLY SHOWN FOR DEPICTION PURPOSES ONLY.

- GENERAL UTILITIES:**
TEXAS EXCAVATION SAFETY SERVICE
1184 GREENVILLE AVENUE
DALLAS, TX. 75243
(800) 344-8377
- CABLE TELEVISION:**
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123
- RESIDENTIAL GAS LINES:**
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX. 79930
(915) 595-5151
- ENGINEER:**
CEA GROUP
CASTNER CENTER @ TRANSMOUNTAIN
4712 WOODROW BEAN, STE. F
EL PASO, TX. 79924
(915) 544-5232
MR. JORGE L. AZCARATE, P.E.
- WATER & SEWER:**
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.
- TELEPHONE:**
SBC
11200 PELICANO
EL PASO, TX. 79935
(915) 595-5151
MR. TIM BROWN
- FIBER OPTICS:**
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
(800) 852-3786
MS. DARLENE NORIS
- FIBER OPTICS:**
MCI TELECOMMUNICATIONS CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
MR. DANIEL HERNANDEZ
- ELECTRIC:**
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX. 79902
(915) 543-2076
MR. FRANK VIGEL (DISTRIBUTION)
- EL PASO STREETS**
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7968 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. TED MARQUEZ, P.E.

REFERENCES - BENCHMARKS
EXISTING CITY MONUMENT
ELEVATION=4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF
PASEO ALBARE CIRCLE AND PASEO LINDO DRIVE

REVISIONS
DATE
BY

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4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. AZCARATE
80075
10000

SCALE: 1"=100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2013
DESIGN BY: R.O.
DRAWN BY: R.O.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB NO.: 2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
WATER INDEX

SHEET NO.
C11.1

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

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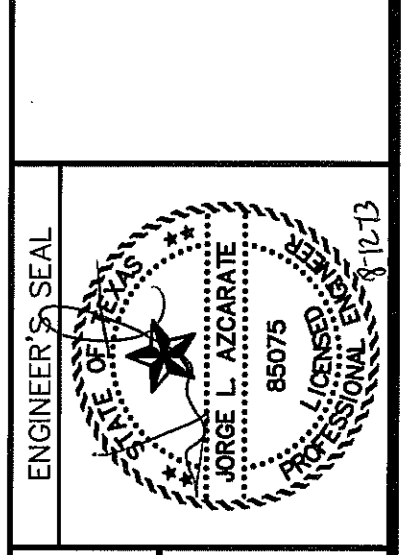
CALL
1-800-DIG-TESS
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	REVISIONS
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASADO ALLEGE, CIRCLE AND PASADOLIND DRIVE.	DATE
	BY

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4719 Woodshire Bluffs, Suite 4, El Paso, TX 79904
Office: 915.544.5232 Fax: 915.544.5231 www.osaeng.com



SCALE	Horizontal	Vertical	Contour Interval	DATE	DESIGN BY	CHKD. BY	APPVD. BY	JOB No.
N/A	N/A	N/A	N/A	AUGUST 2013	R.O.	J.G.	J.L.A.	2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**WATER
DETAILS**

(SHEET 1 OF 4)
SHEET NO.

C12.1

GENERAL NOTES:

- DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
- WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER BOXES REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE PRIVATE OWNER TO HAVE A CERTIFIED PLUMBER INSTALL A BACKFLOW PREVENTER AND EXTEND SERVICE LINE ON DISCHARGE SIDE OF METER.
- NO SPLICING SHALL BE ALLOWED. FULL LENGTH OF PIPING SERVICE SHALL BE INSTALLED.
- THE EPWU WILL FURNISH AND INSTALL THE METER.

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL DATE: 10/20/2000 REV: 5/24/2007 SERVICE LINE 3/4" AND 1" INSTALLATION BY CONTRACTOR N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 290-4

1 TYPICAL SERVICE LINE INSTALLATION SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- 3/16", 9 GAUGE BLACK ANNEALED WIRE
- LUG-STOP C. CAST IRON RING

STANDARD DETAIL DATE: 4/1994 REV: 8/24/2006 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 291

2 METER BOX DETAIL SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- 1/2" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
- LUG STOP.
- LOCKING LUG SLIDE.

STANDARD DETAIL DATE: 1/1995 REV: 8/10/2006 METER BOX RING FOR TYPE "A" & "B" METER BOXES N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 300

3 METER BOX RING DETAIL SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8" THICK
- LETTERS TO BE 3/4" HIGH, 5/8" WIDE, 1/8" THICK
- INSIDE LETTERS & RIBS 1/8" TALL
- OUTSIDE LETTERS 1/2" TALL
- REINFORCE BACK OF LUG
- REINFORCEMENT

STANDARD DETAIL DATE: 4/1994 REV: 8/10/2006 METER BOX COVER FOR TYPE "A" & "B" METER BOXES N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 301

4 METER BOX COVER DETAIL SCALE: N.T.S.

CITY DEVELOPMENT 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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1-800-344-8377

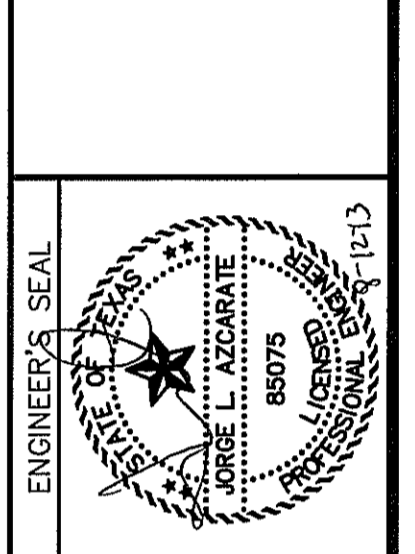
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

EXISTING CITY MONUMENT	ELEVATION=4003.10 FEET (CITY DATUM)
LOCATED AT THE CENTERLINE INTERSECTION OF	PASECO ALEGRE CIRCLE AND PASECO LINDO DRIVE.
DATE	
REVISIONS	
BY	

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



SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2013
DESIGN BY:	R.O.
DRAWN BY:	R.O.
CHKD. BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB No.:	2000-1691D

PROJECT TITLE

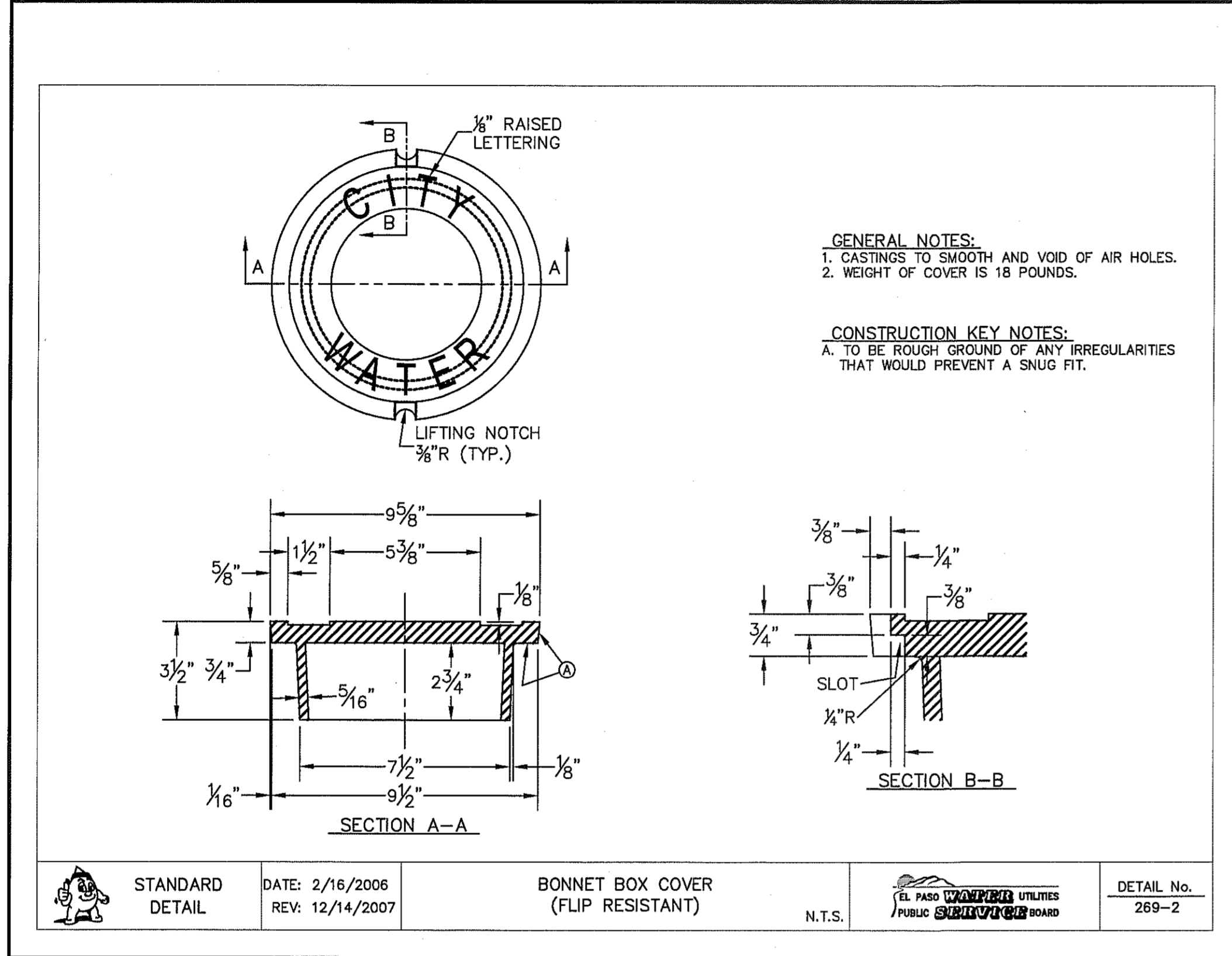
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

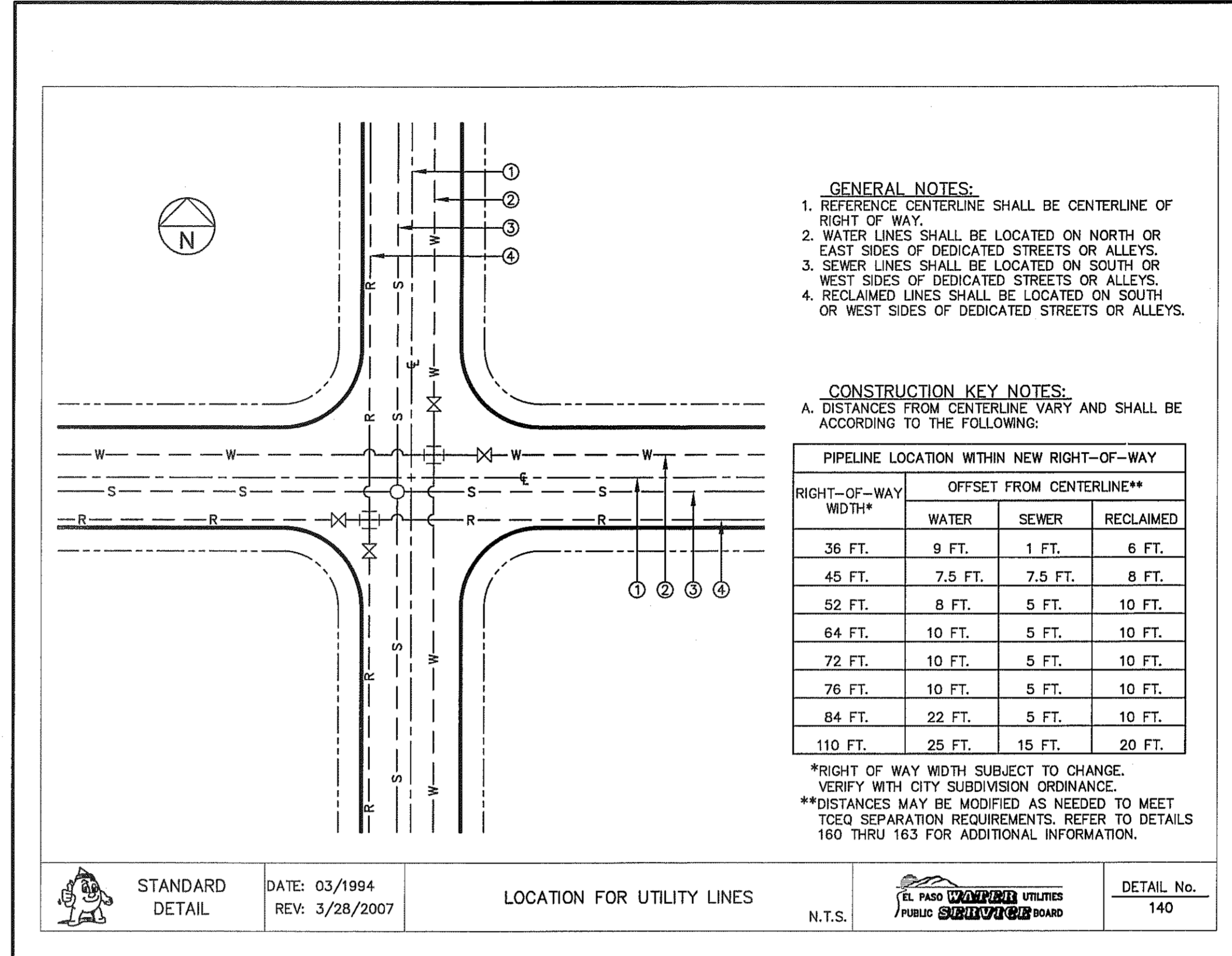
**WATER
DETAILS**

(SHEET 2 OF 4)
SHEET NO.

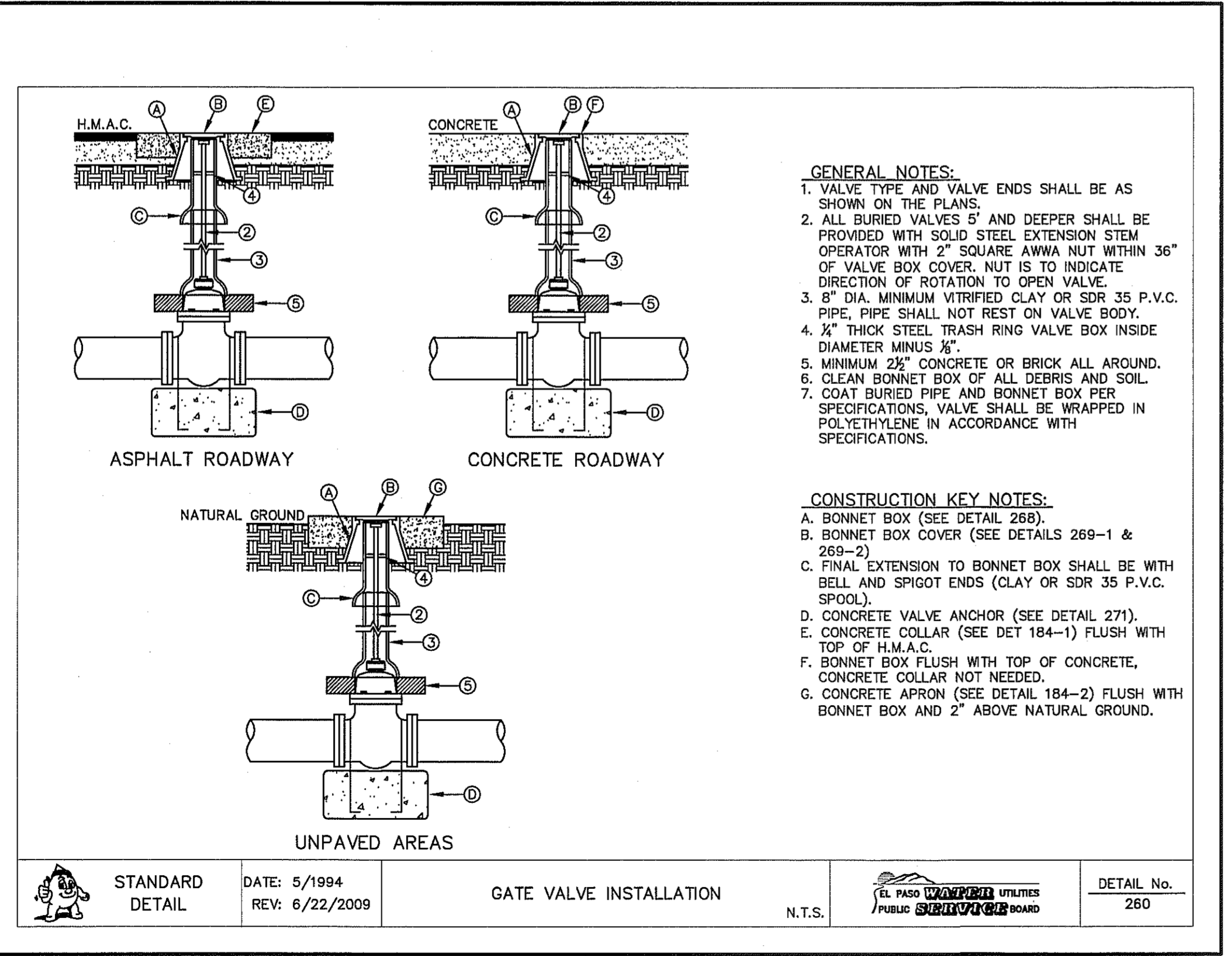
C12.2



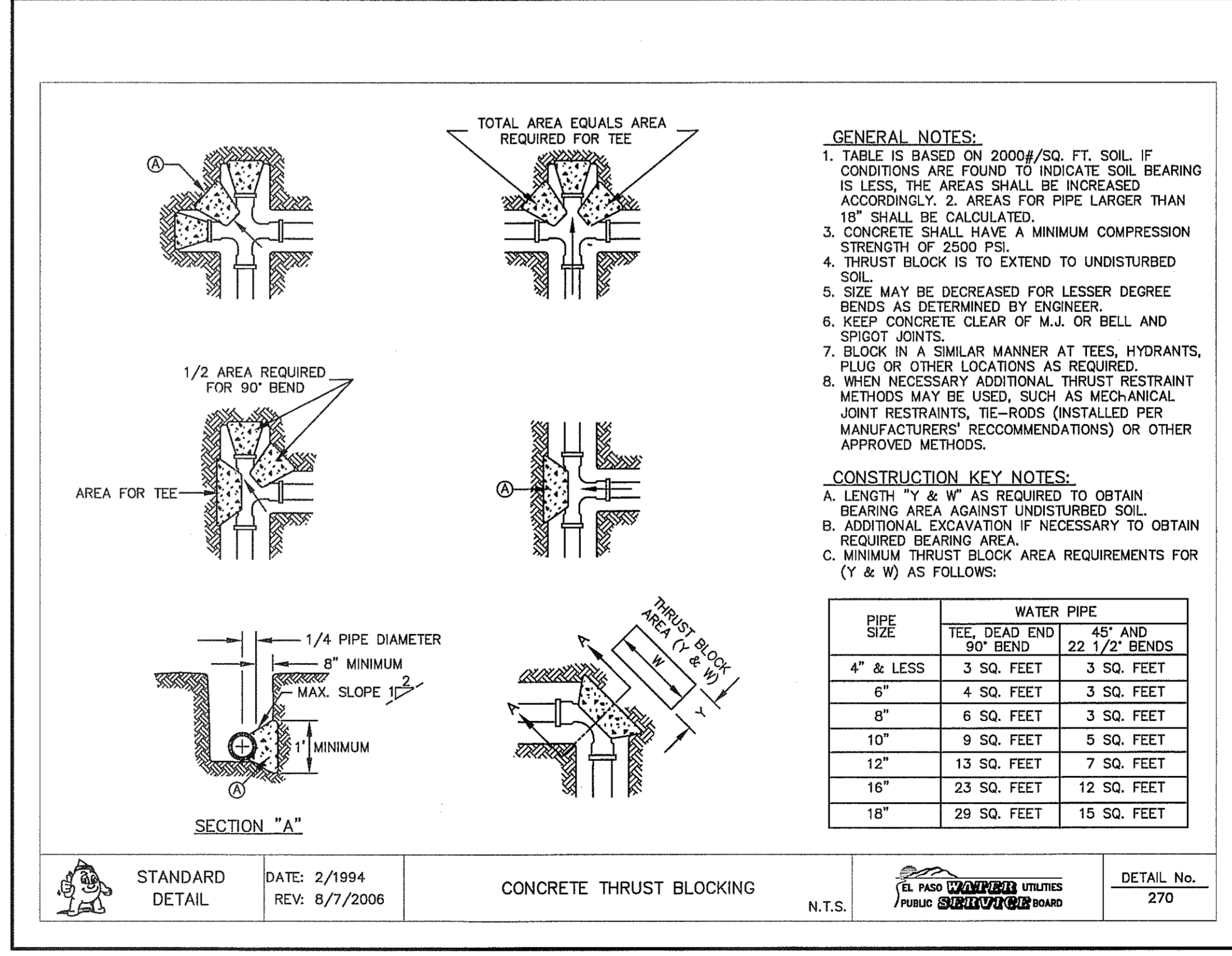
1 BONNET BOX COVER (FLIP RESISTANT) SCALE: N.T.S.



2 STANDARD LOCATION FOR EXTENSIONS DETAIL SCALE: N.T.S.



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



4 THRUST BLOCKING SCALE: N.T.S.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

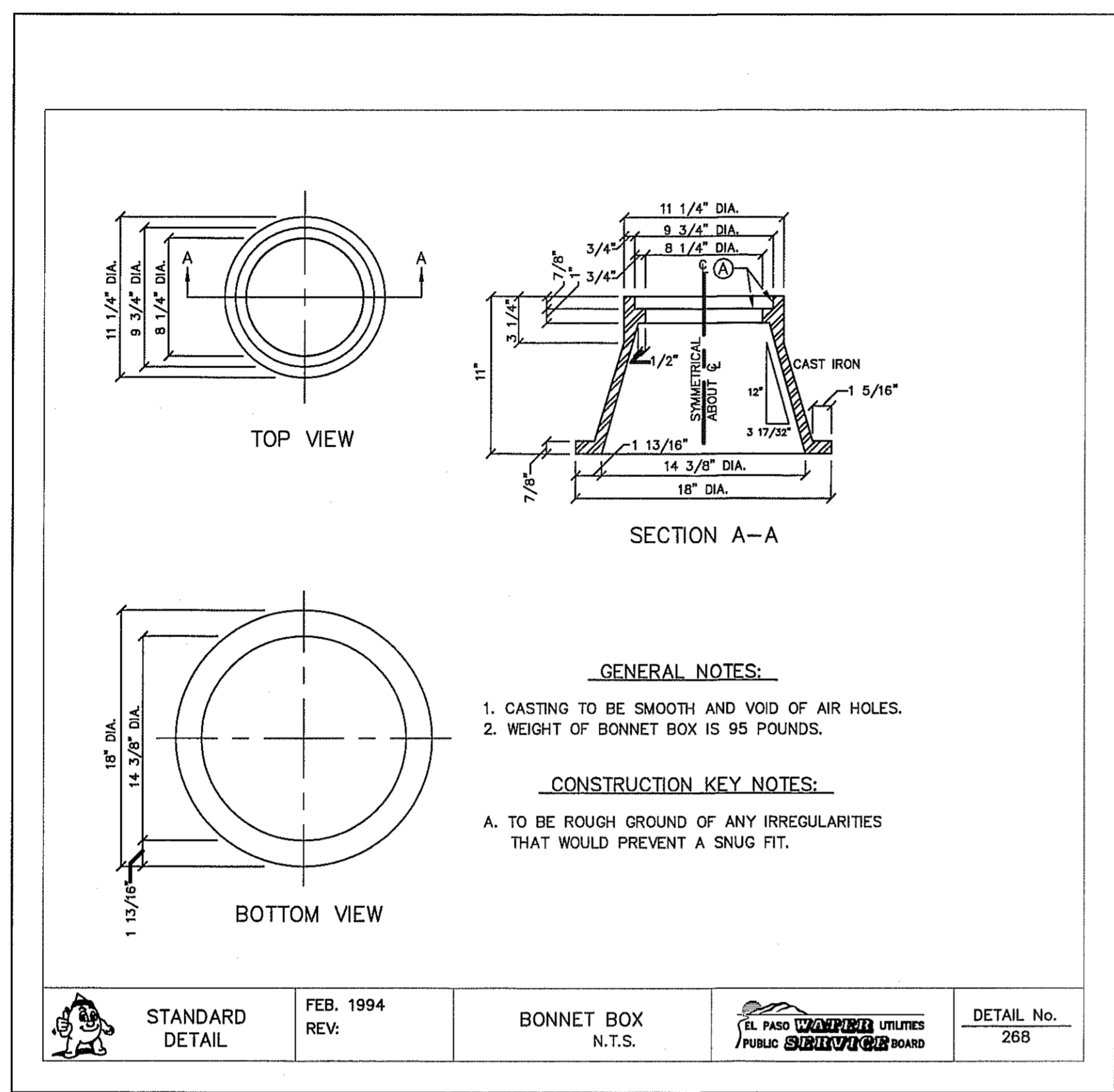
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5800
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TIME WARNER COMMUNICATIONS	(915) 772-1123
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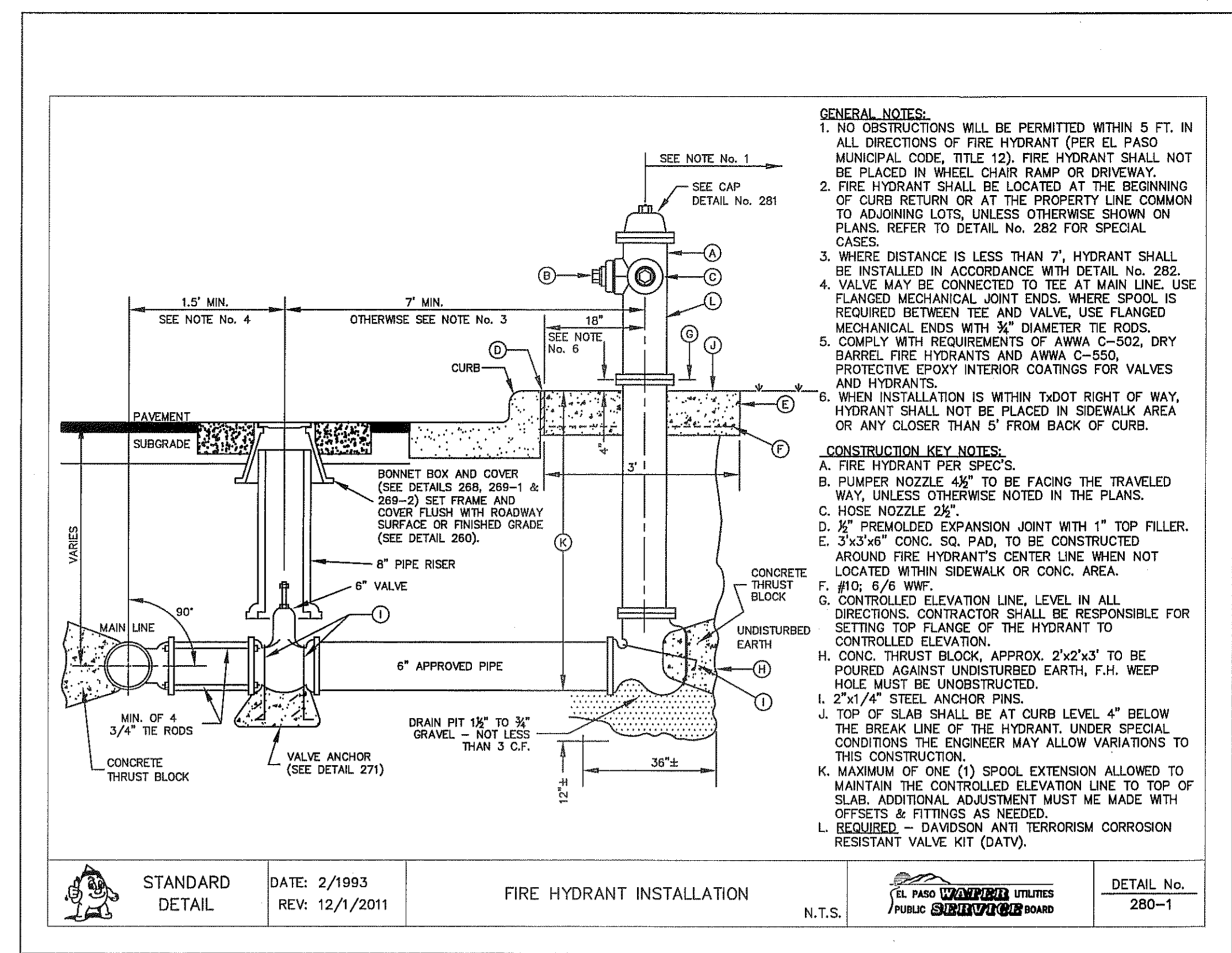
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

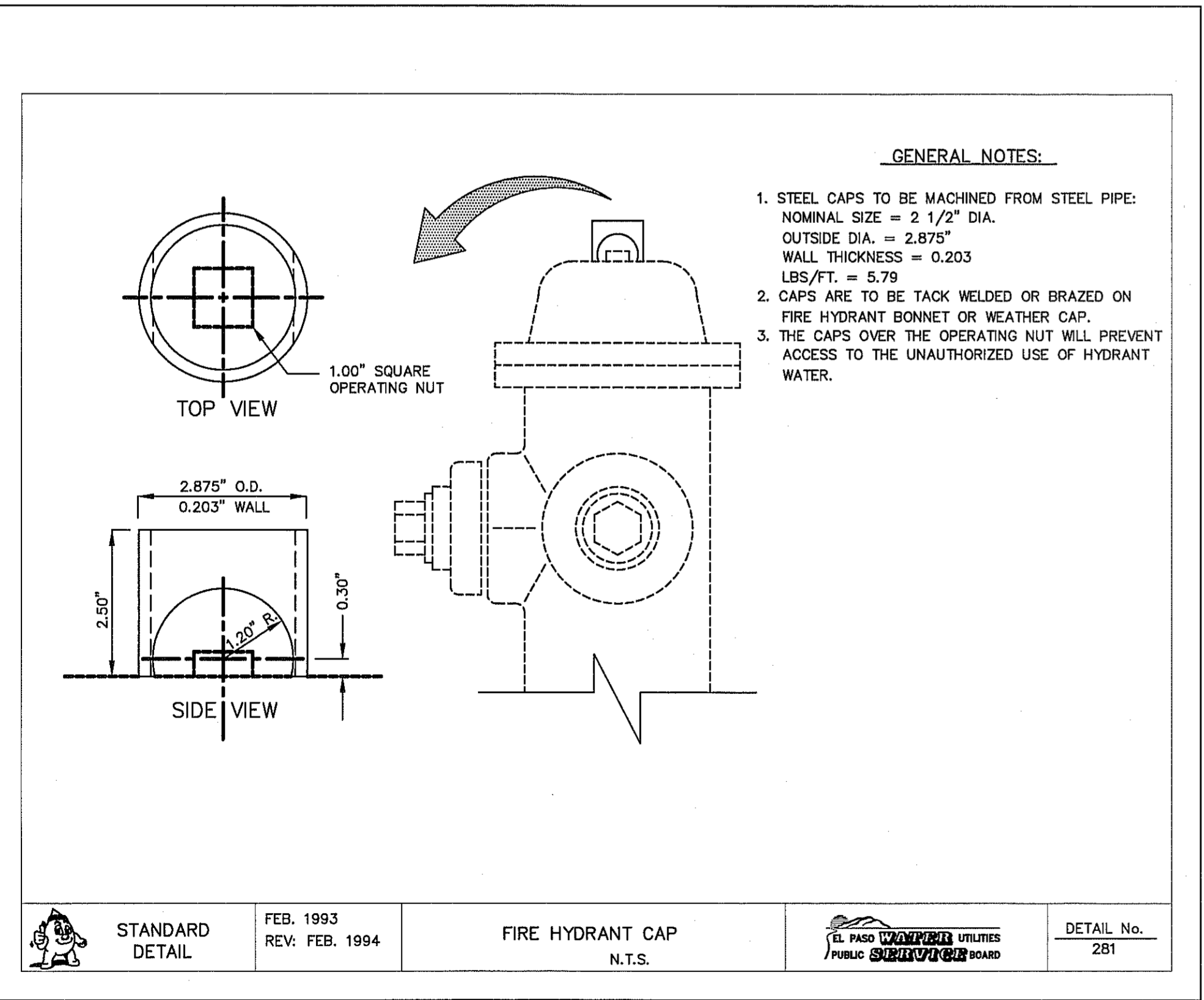
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DATE	REVISIONS
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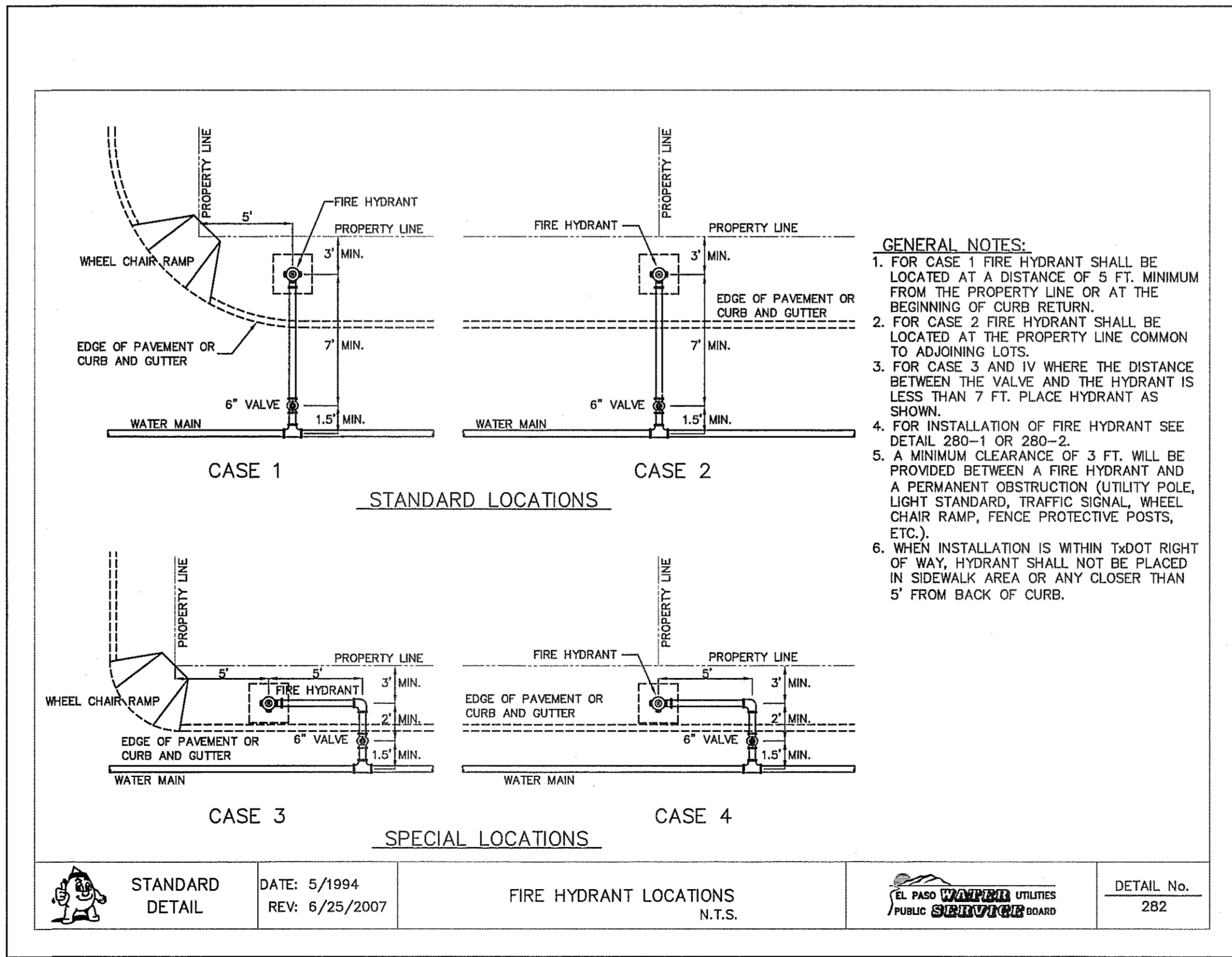
1 **BONNET BOX**
SCALE: N.T.S.



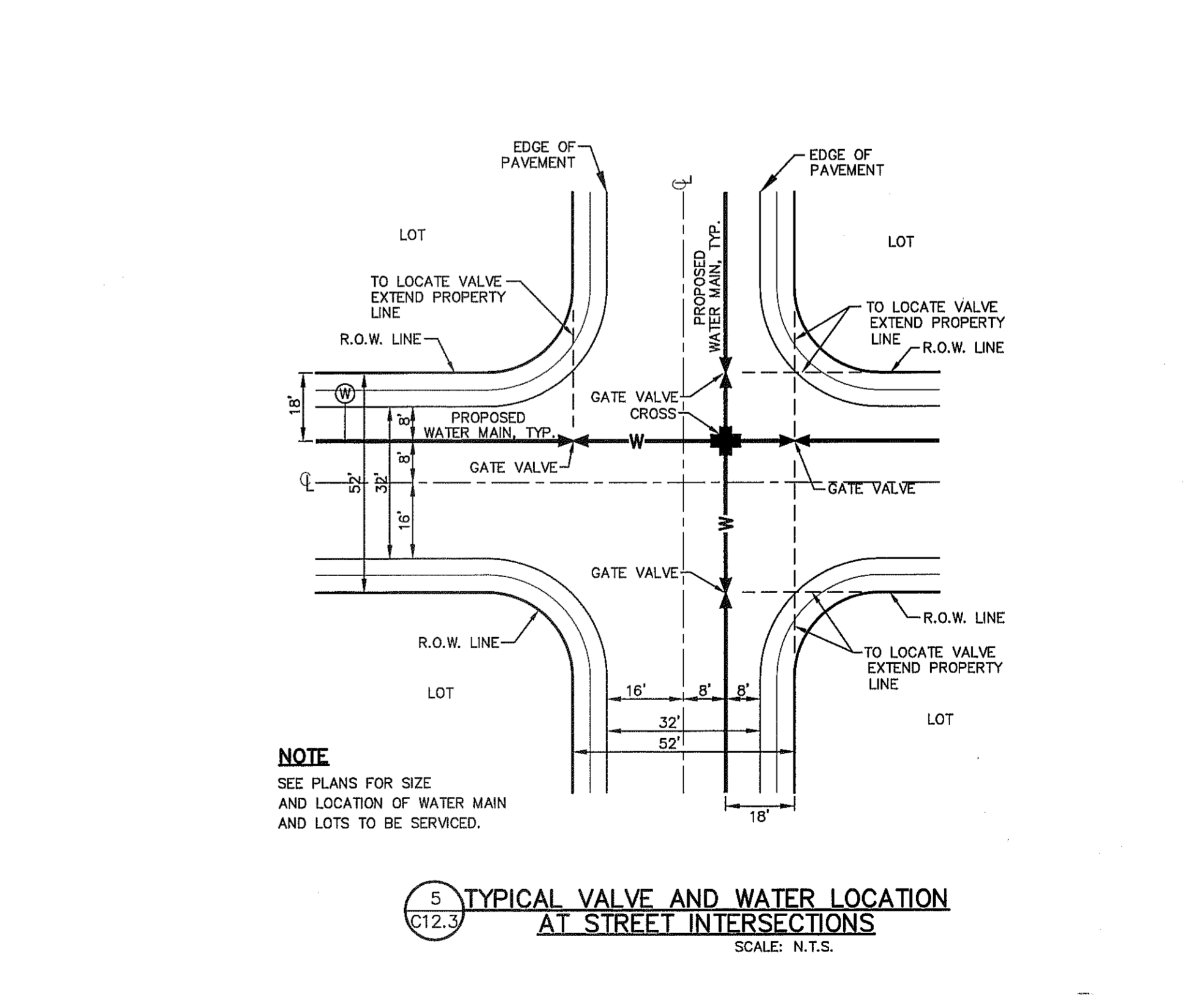
2 **STANDARD FIRE HYDRANT INSTALLATION**
SCALE: N.T.S.



3 **FIRE HYDRANT CAP**
SCALE: N.T.S.

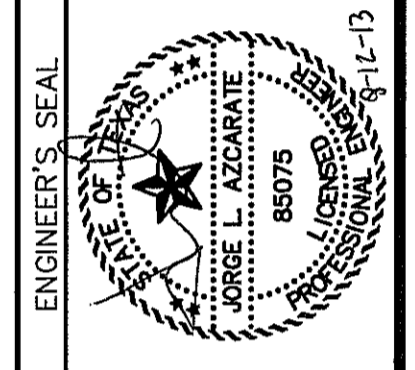


4 **FIRE HYDRANT LOCATIONS**
SCALE: N.T.S.



5 **TYPICAL VALVE AND WATER LOCATION AT STREET INTERSECTIONS**
SCALE: N.T.S.

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4712 Westchase Blv., Ste. F, El Paso, TX 79904
Office: 915-544-4424 Fax: 915-544-5555 www.ceba.com



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	AUGUST 2013
DESIGN BY	R.O.
DRAWN BY	R.O.
CHECKED BY	J.L.A.
APP'D. BY	J.L.A.
JOB No.	2000-1591.D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**WATER
DETAILS**

(SHEET 3 OF 4)
SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

C12.3

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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SBC	(915) 680-7200
AT&T	(800) 545-6005
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FOR FIELD LOCATING EXISTING UTILITIES

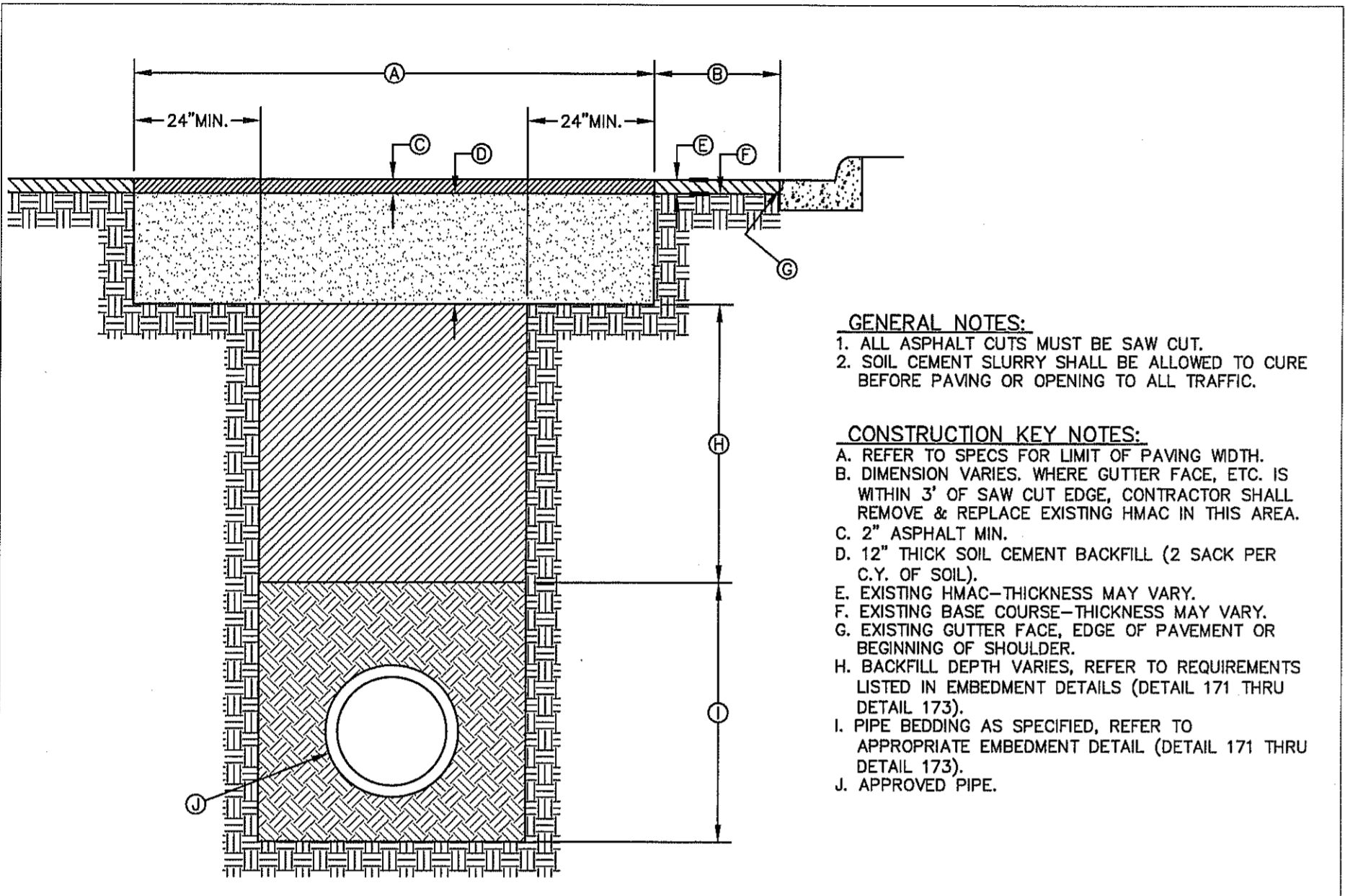
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DATE _____

REVISIONS

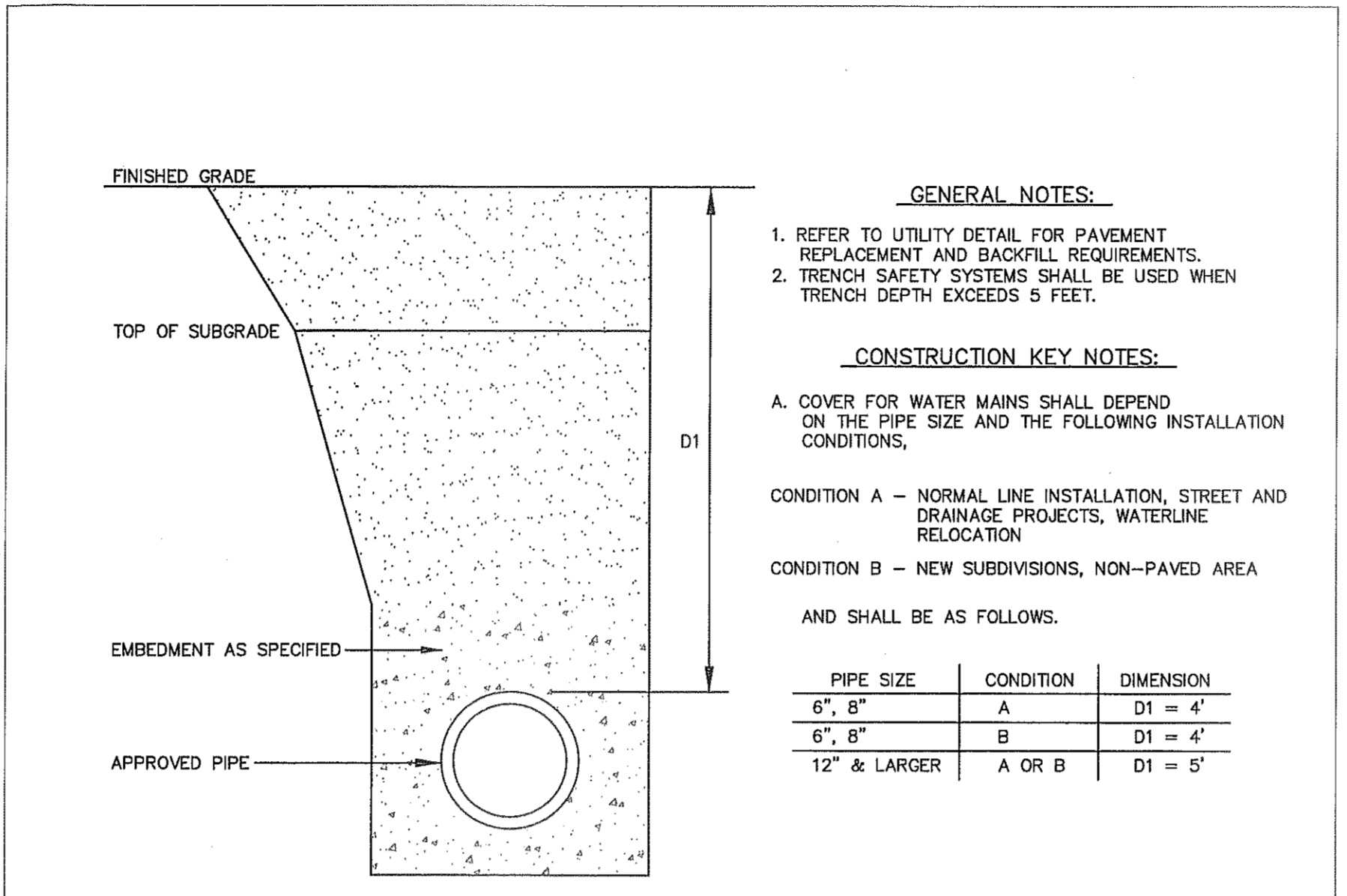
BY _____



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

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011 PAVEMENT REPLACEMENT N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 179

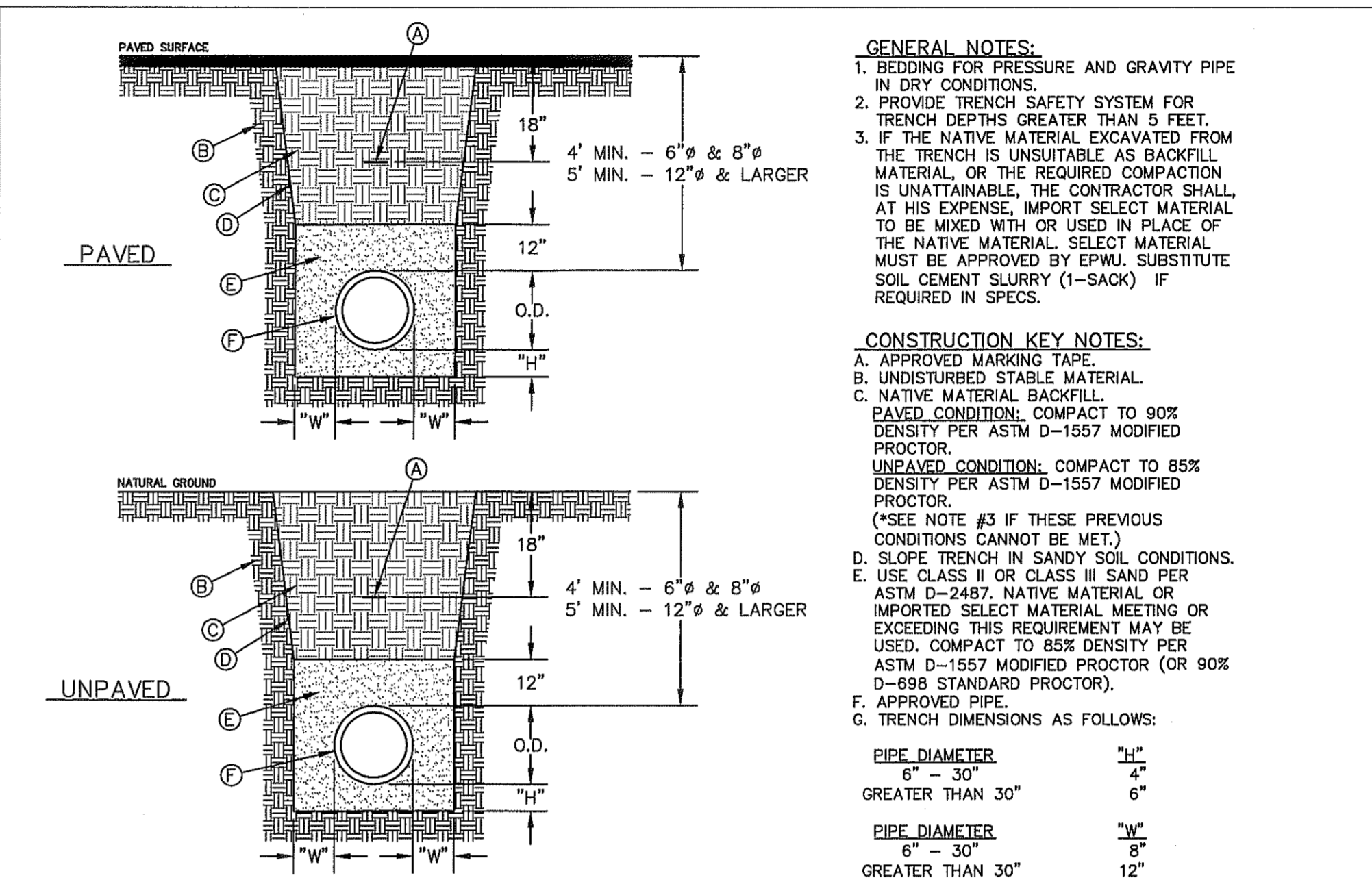
1 PAVEMENT REPAIR DETAIL SCALE: N.T.S.



- GENERAL NOTES:**
- REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
 - TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.
- CONSTRUCTION KEY NOTES:**
- A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS.
- CONDITION A — NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION
- CONDITION B — NEW SUBDIVISIONS, NON-PAVED AREA
- AND SHALL BE AS FOLLOWS:
- | PIPE SIZE | CONDITION | DIMENSION |
|--------------|-----------|-----------|
| 6", 8" | A | D1 = 4' |
| 6", 8" | B | D1 = 4' |
| 12" & LARGER | A OR B | D1 = 5' |

STANDARD DETAIL FEB. 1994 REV: 8/3/2006 COVER FOR WATER MAINS N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 250

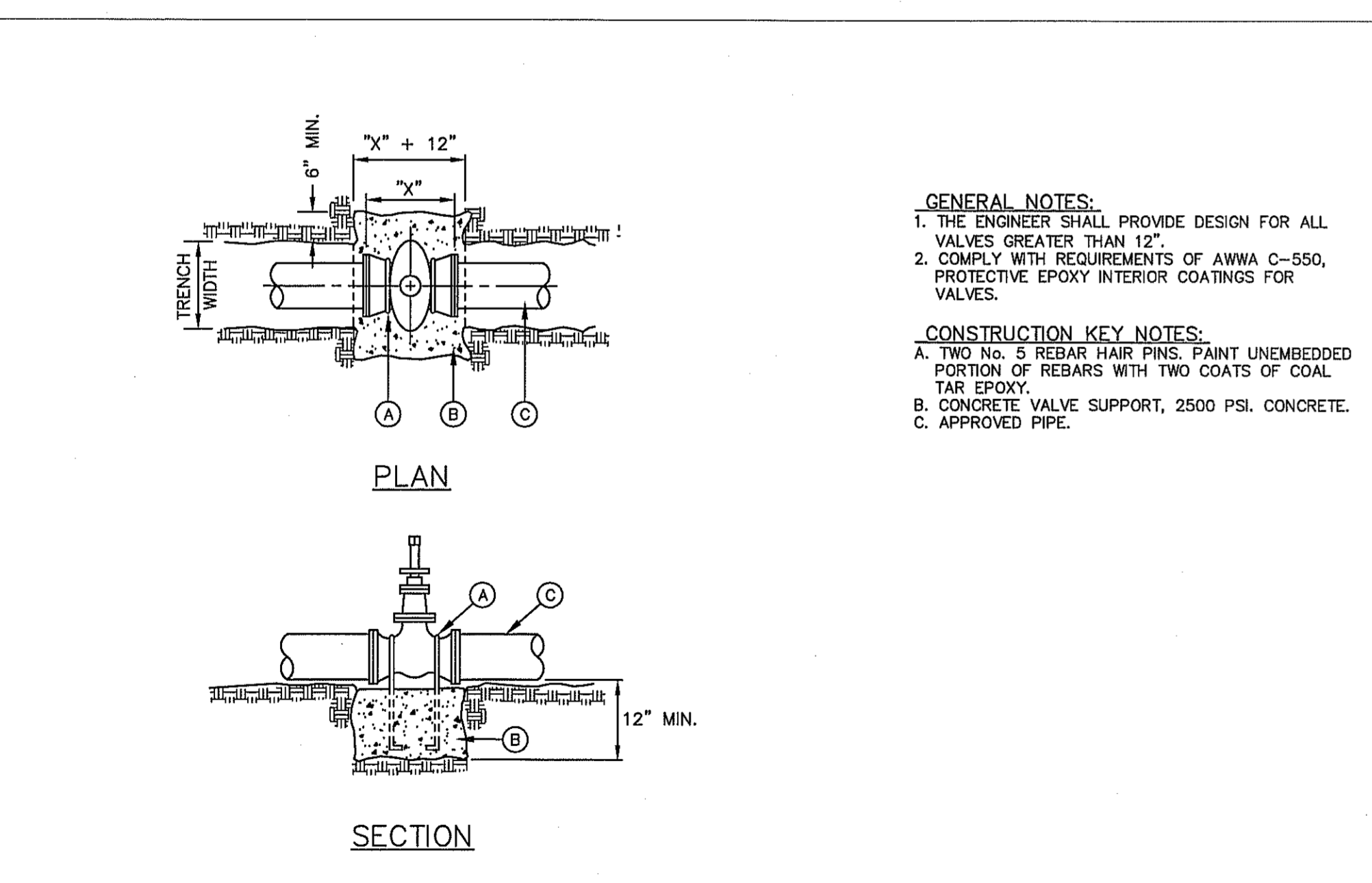
2 STANDARD COVER FOR WATER MAINS SCALE: N.T.S.



- GENERAL NOTES:**
- BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
 - PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
 - IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT HIS EXPENSE, IMPORT SELECT MATERIAL TO BE MIXED WITH OR USED IN PLACE OF THE NATIVE MATERIAL. SELECT MATERIAL MUST BE APPROVED BY EPWU. SUBSTITUTE SOIL CEMENT SLURRY (1-SACK) IF REQUIRED IN SPECS.
- CONSTRUCTION KEY NOTES:**
- APPROVED MARKING TAPE.
 - UNDISTURBED STABLE MATERIAL.
 - NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
 - SLOPE TRENCH IN SANDY SOIL CONDITIONS. E. USE CLASS II OR CLASS III SAND PER ASTM D-2487. NATIVE MATERIAL OR IMPORTED SELECT MATERIAL MEETING OR EXCEEDING THIS REQUIREMENT MAY BE USED. COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR (OR 90% D-698 STANDARD PROCTOR).
 - APPROVED PIPE.
 - TRENCH DIMENSIONS AS FOLLOWS:
- | PIPE DIAMETER | "H" |
|------------------|-----|
| 6" - 30" | 4" |
| GREATER THAN 30" | 6" |
- | PIPE DIAMETER | "W" |
|------------------|-----|
| 6" - 30" | 5" |
| GREATER THAN 30" | 12" |

STANDARD DETAIL DATE: 4/24/2007 REV: 2/21/2011 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 171

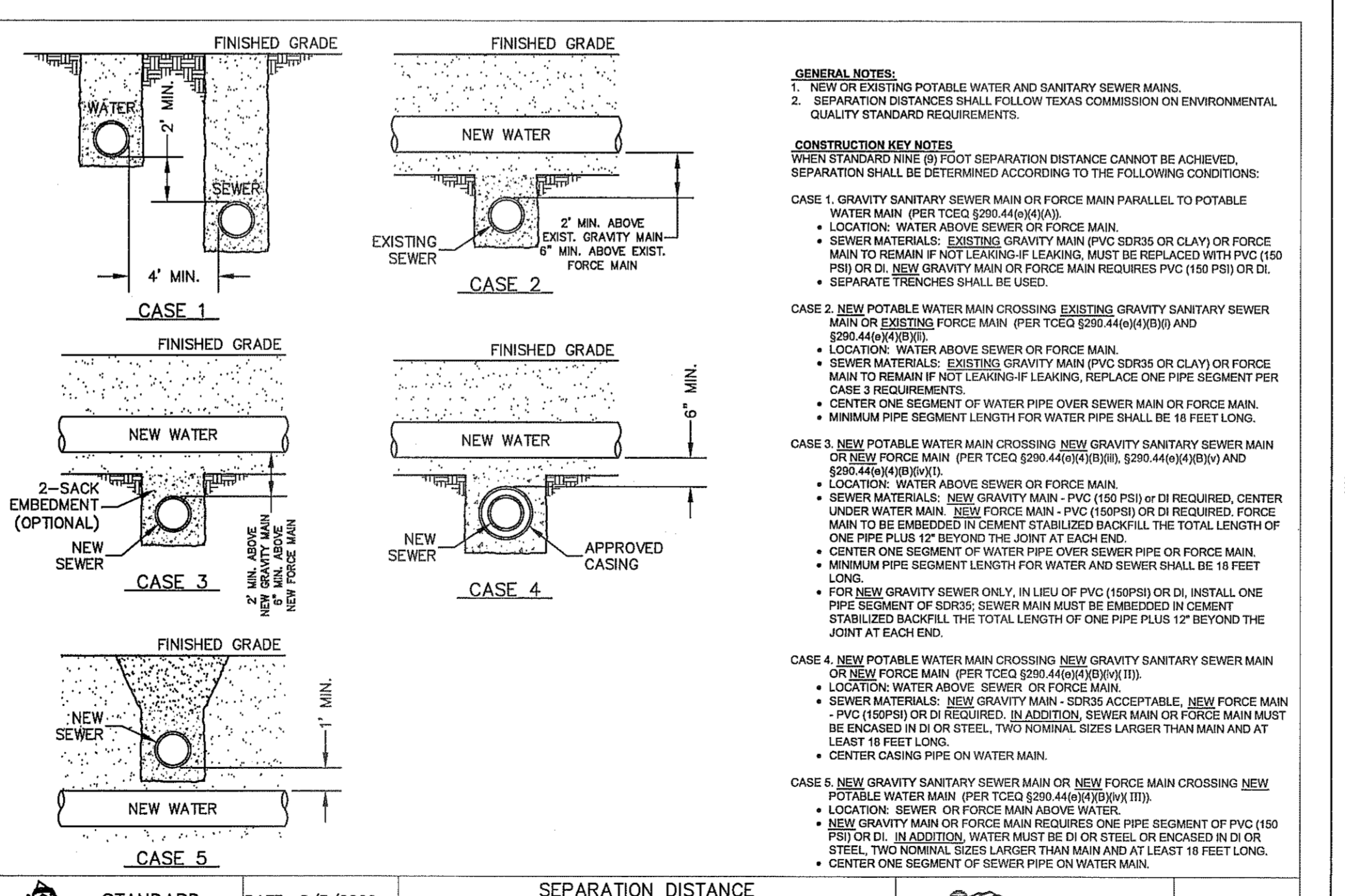
3 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



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

STANDARD DETAIL DATE: 2/1994 REV: 12/12/2011 VALVE ANCHOR N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 271

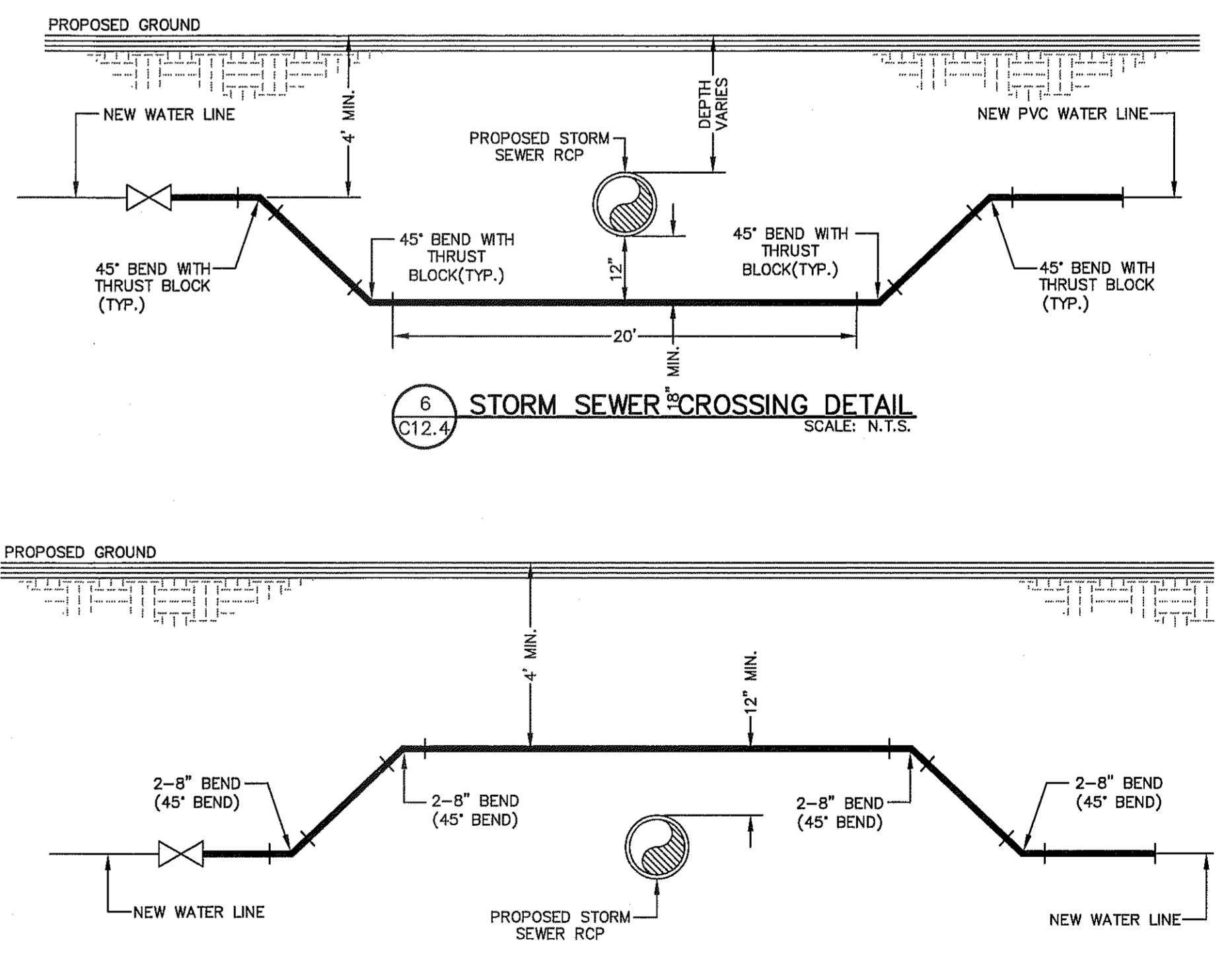
4 VALVE ANCHOR SCALE: N.T.S.



- GENERAL NOTES:**
- NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 - SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.
- CONSTRUCTION KEY NOTES:**
- WHEN STANDARD NINE (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:
- CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §200.440(a)(4)(A)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING OR LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
 - SEPARATE TRENCHES SHALL BE USED.
- CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §200.440(a)(4)(B) AND §200.440(a)(4)(C)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING OR LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.
- CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §200.440(a)(4)(B) AND §200.440(a)(4)(C)).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI REQUIRED, CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED, FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL. THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 - FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35; SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL. THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
- CASE 4. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §200.440(a)(4)(B) AND §200.440(a)(4)(C)).
- LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 - SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER CASING PIPE ON WATER MAIN.
- CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §200.440(a)(4)(B) AND §200.440(a)(4)(C)).
- LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 - NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL OR ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

STANDARD DETAIL DATE: 8/3/2006 REV: 8/21/2007 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 161

5 SEPARATION DISTANCE—SANITARY SEWER AND POTABLE WATER SCALE: N.T.S.



6 STORM SEWER CROSSING DETAIL SCALE: N.T.S.

7 STORM SEWER CROSSING DETAIL SCALE: N.T.S.

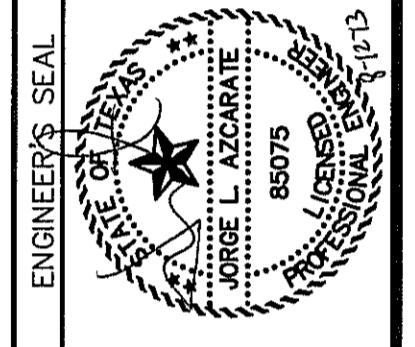
STANDARD DETAIL DATE: 4/24/2007 REV: 2/21/2011 STORM SEWER CROSSING DETAIL N.T.S. EL PASO WATER UTILITIES PUBLIC SUBDIVISION BOARD DETAIL No. 171

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4712 Westchase Blvd., Ste. F, Frisco, TX 75034
Office: 915.544.5337 Fax: 915.544.5333 www.csa-engineers.com



SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: AUGUST 2013

DESIGN BY: P.O.

DRAWN BY: J.L.A.

CHKD BY: J.L.A.

APPROV. BY: J.L.A.

JOB No. 2000-1691.D

PROJECT TITLE

MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

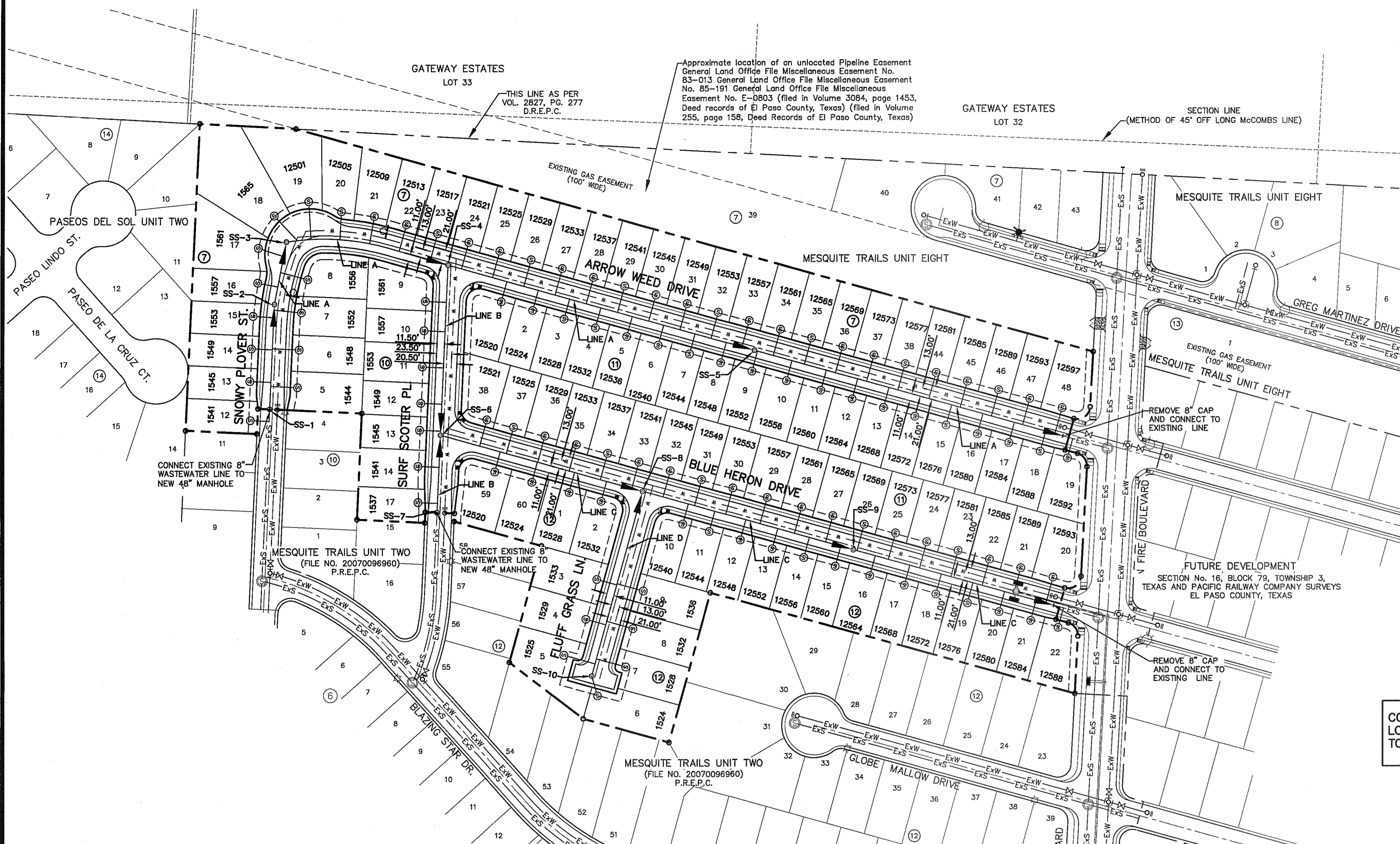
(SHEET 4 OF 4)

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C12.4



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

SANITARY SEWER INDEX MAP
SCALE: 1" = 100'

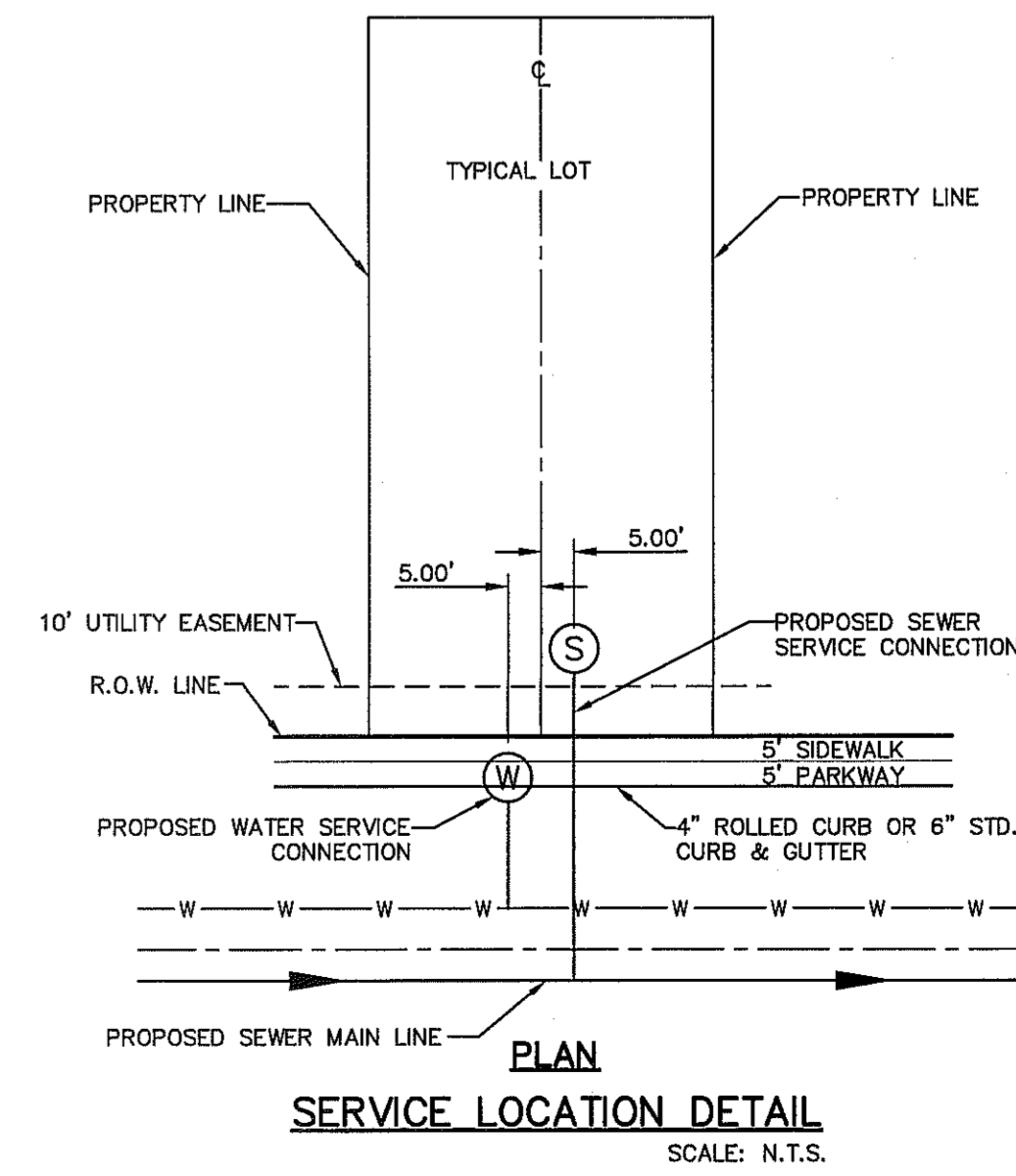
NOTES:
1. ALL SANITARY SEWER PIPES SHALL BE PVC SDR35, UNLESS OTHERWISE REQUIRED BY THE EPWJ/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.

LEGEND

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

CITY DEVELOPMENT DEPARTMENT

REVIEWED



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

- GENERAL UTILITIES:**
TEXAS EXCAVATION SAFETY SERVICE
11884 GREENVILLE AVENUE.
DALLAS, TX. 75243
(800) 344-8377
- ENGINEER:**
CEA GROUP
CASTNER CENTER @ TRANSMOUNTAIN
4712 WOODROW BEAN, STE. F
EL PASO, TX. 79924
(915) 544-5232
MR. JORGE L. AZCARATE, P.E.
- FIBER OPTICS:**
U.S. SPRINT
151 N. BOONE ST.
EL PASO, TX. 79905
(915) 534-7910
MR. RICK DERAGISCH
- FIBER OPTICS:**
MCI TELECOMMUNICATIONS CORPS.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
MR. DANIEL HERNANDEZ
- WATER & SEWER:**
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.
- ELECTRIC:**
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX. 79902
(915) 543-2076
MR. FRANK VIGEL (DISTRIBUTION)
- EL PASO STREETS:**
CITY OF EL PASO
DEPARTMENT OF TRANSPARATION
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. TED MARQUEZ, PE.
- CABLE TELEVISION:**
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79908
(915) 772-1123

- TELEPHONE:**
SBC
11200 PELICANO
EL PASO, TX. 79935
(915) 595-5151
MR. TIM BROWN
- FIBER OPTICS:**
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
(800) 852-3786
MS. DARLENE NORIS
- RESIDENTIAL GAS LINES:**
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX. 79930
(915) 680-7218
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CALL
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1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALFRE, CIRCLE AND PASEO LINDO DRIVE	BY
DATE	REVISIONS

CEA GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4684
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
CEN: 915-544-5232 FAX: 915-544-5233 www.ceagroup.com

ENGINEER'S SEAL

SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: SEPTEMBER 2013
DESIGN BY: J.O.
DRAWN BY: R.O.
CHECKED BY: J.A.
JOB NO.: 2000-1591.D

PROJECT TITLE

MESQUITE TRAILS UNIT NINE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER INDEX

SHEET NO.

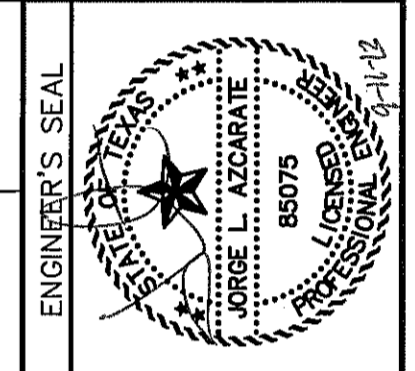
C13.1

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

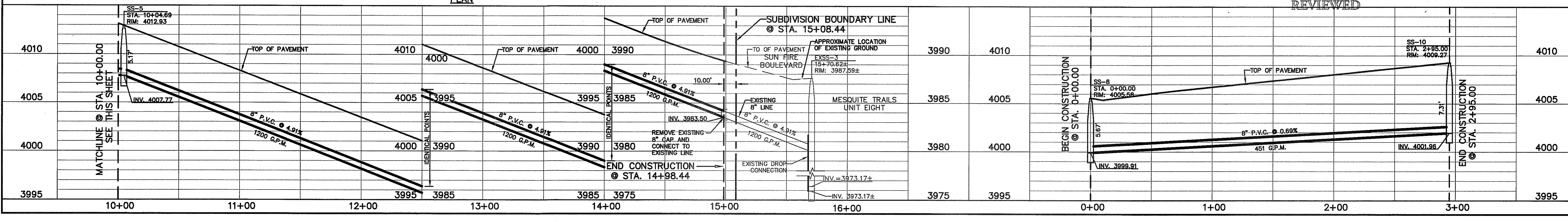
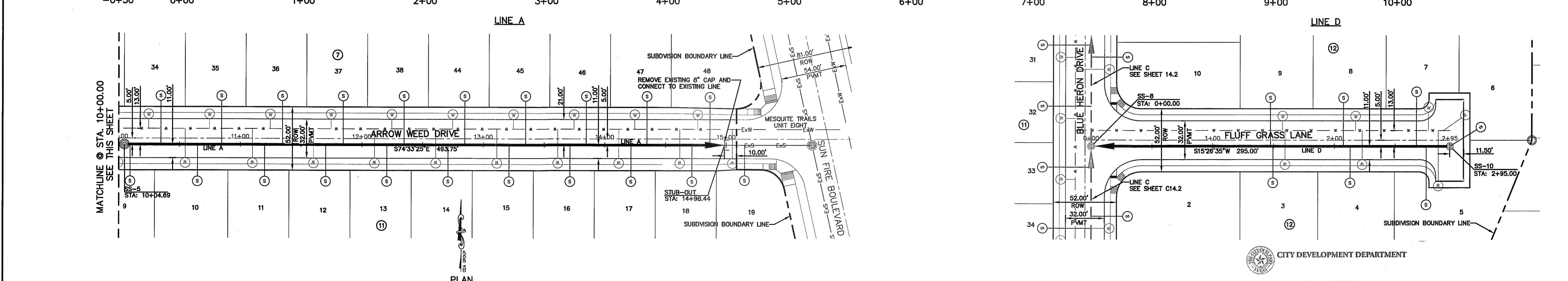
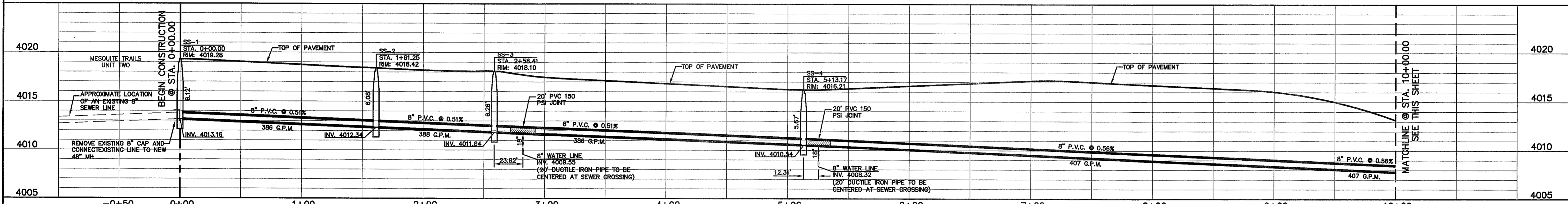
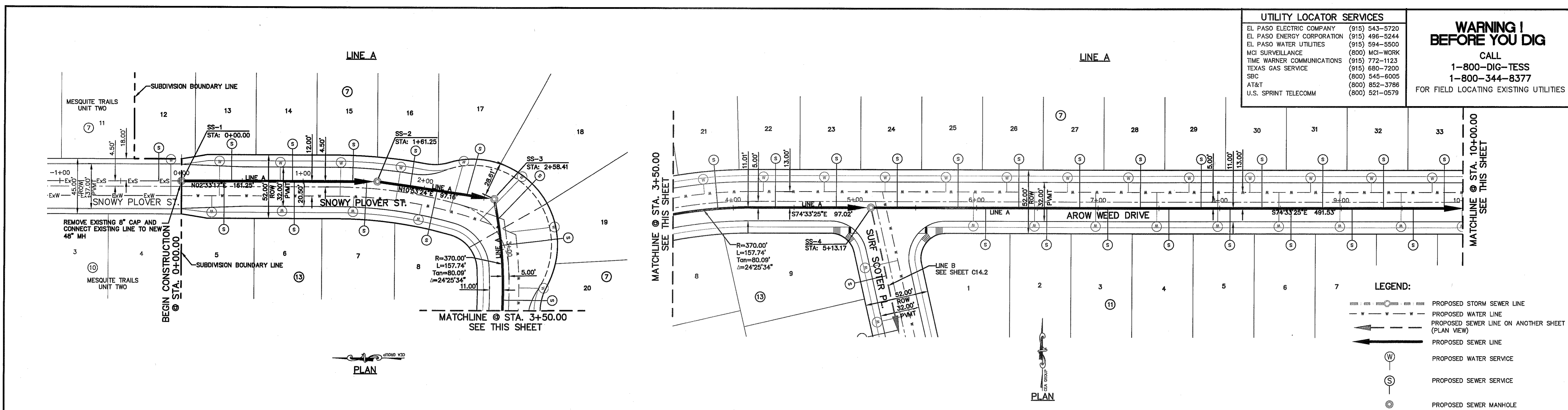
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REFERENCES - BENCHMARKS
 EXISTING CITY MONUMENT
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 LOCATED AT THE CENTERLINE INTERSECTION OF
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 4712 Woodrow Wilson, Ste. F, El Paso, TX 79924
 Office: 915.544.8222 Fax: 915.544.8233 www.ceba.com



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 Horizontal: 1"=50'
 Vertical: 1"=5'
 Contour Interval: N/A
 DATE: SEPTEMBER 2013
 DESIGN BY: R.O.
 DRAWN BY: R.O.
 CHECKED BY: J.L.A.
 APPROVED BY: J.L.A.
 JOB No. _2000-1691.D



PROJECT TITLE
**MESQUITE TRAILS
 UNIT NINE
 SUBDIVISION IMPROVEMENTS**

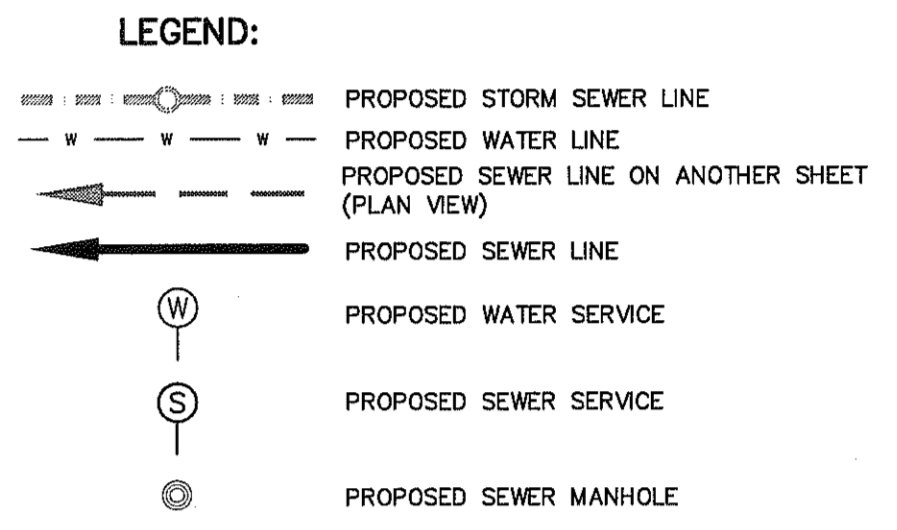
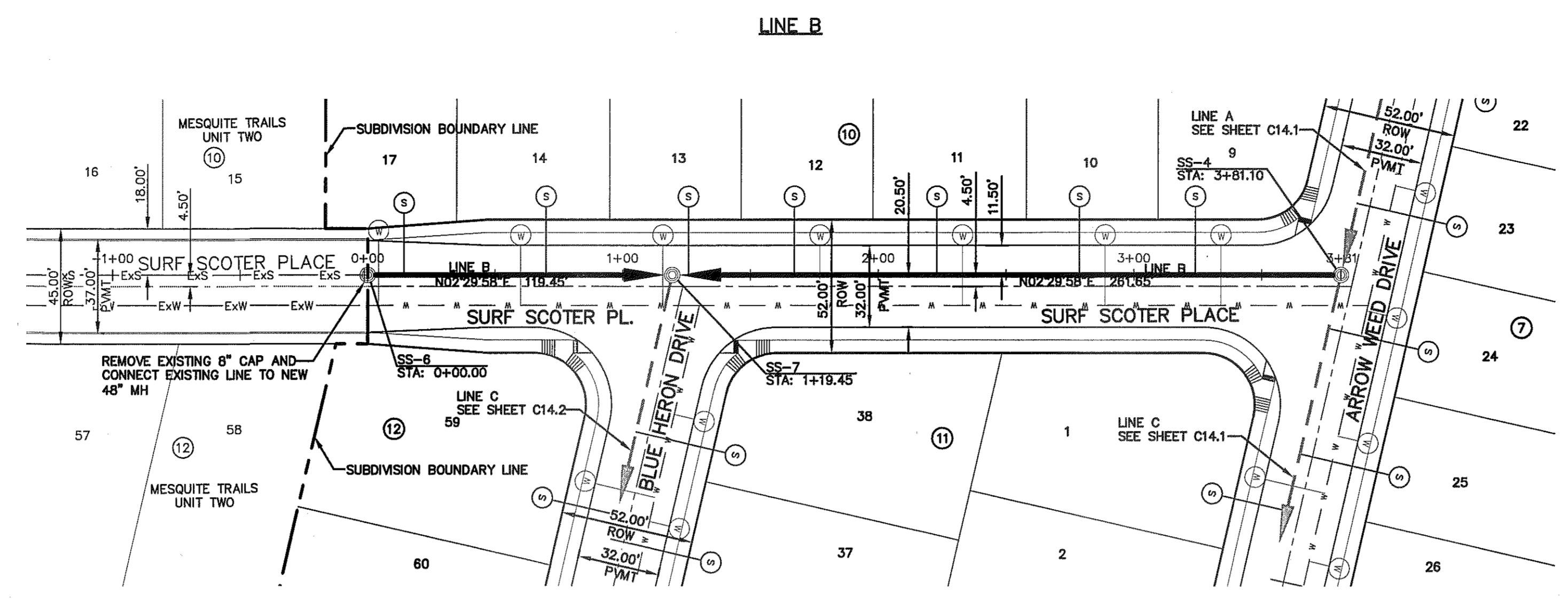
SHEET TITLE
**SANITARY SEWER
 PLAN & PROFILE
 LINE A & D**

SHEET NO.
C14.1

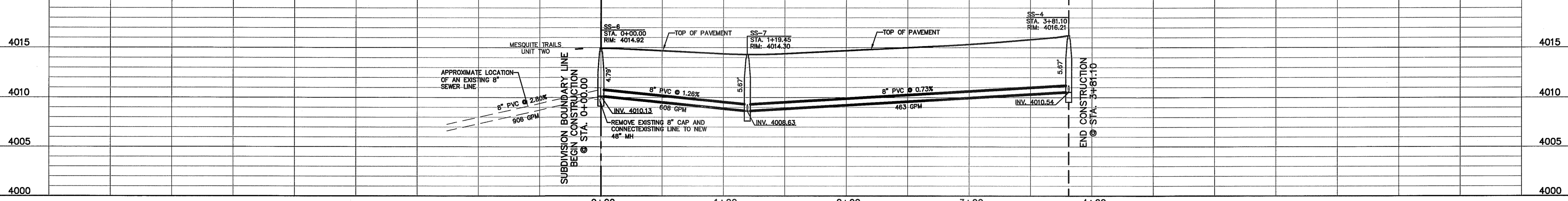
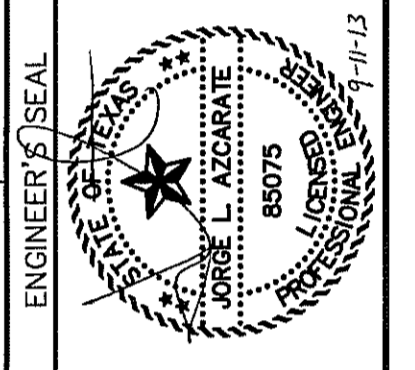
UTILITY LOCATOR SERVICES	
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EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
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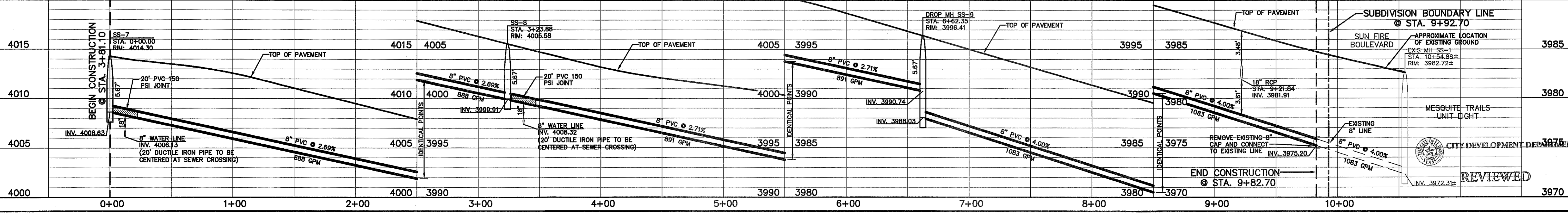
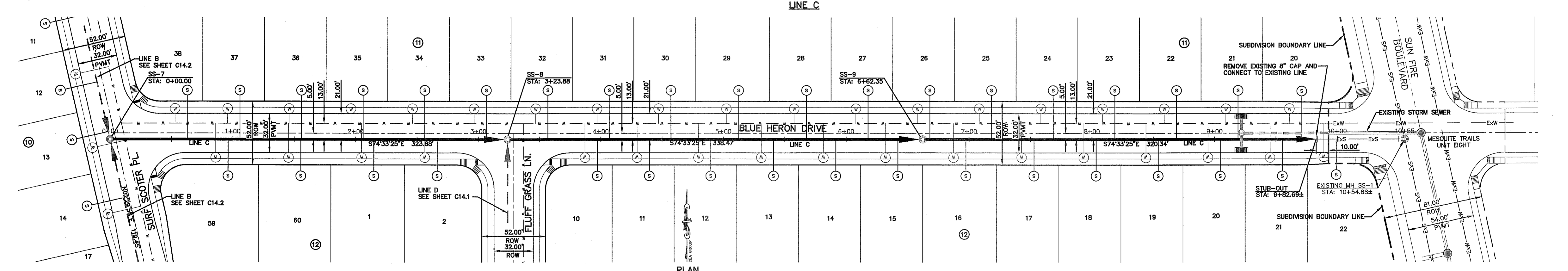
DATE	REVISIONS	BY



CS&A
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 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 Office: 915.544.5252 Fax: 915.544.5233 www.csandpa.net



SCALE:
 Horizontal: 1"=40'
 Vertical: 1"=5'
 Contour Interval: 5'/A
 DATE: SEPTEMBER 2013
 DESIGN BY: R.O.
 DRAWN BY: J.L.A.
 APP'D BY: J.L.A.
 JOB No. 2000-1691D



PROJECT TITLE
 MESQUITE TRAILS UNIT NINE
 SUBDIVISION IMPROVEMENTS

SHEET TITLE
 SANITARY SEWER PLAN & PROFILE
 LINE B & C

SHEET NO.
 C14.2

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

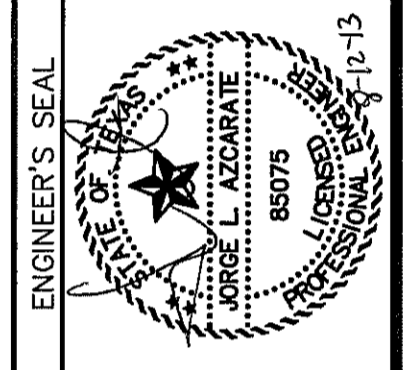
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1-800-344-8377

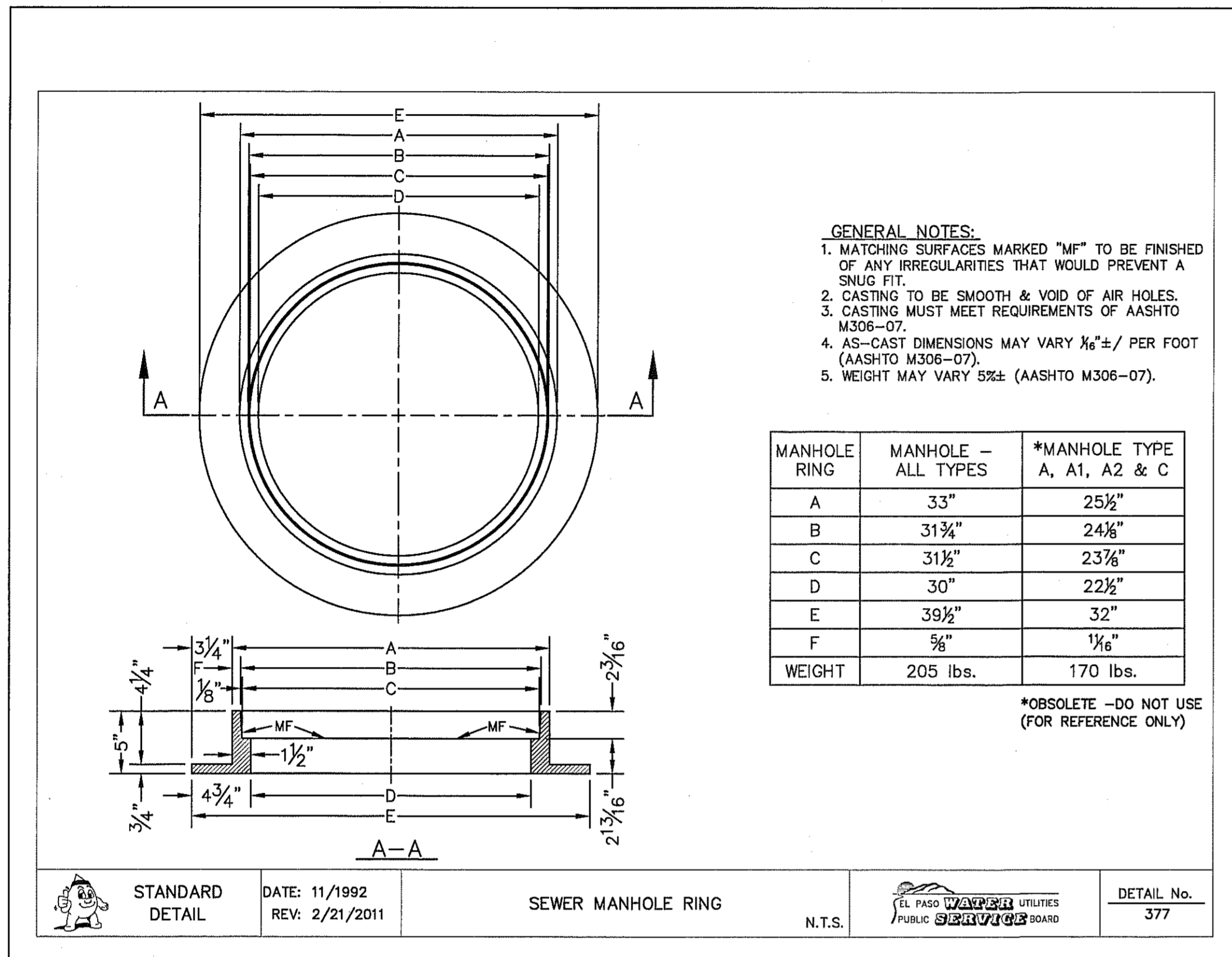
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BY
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DATE	REVISIONS

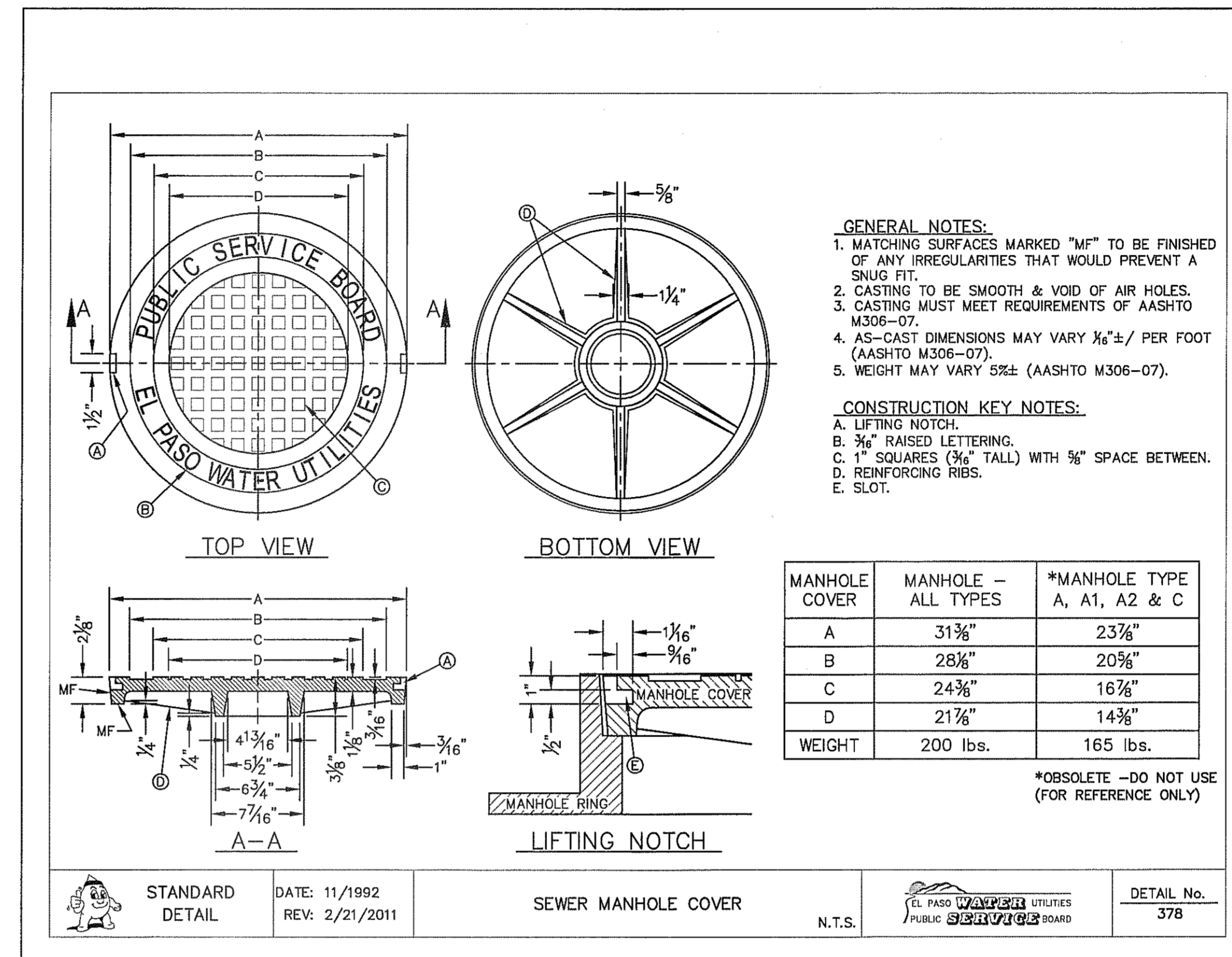
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4712 Westchase Blvd., Ste. F, El Paso, TX 79904
Office: 915.544.5232 Fax: 915.544.5233 www.csa-engineers.com



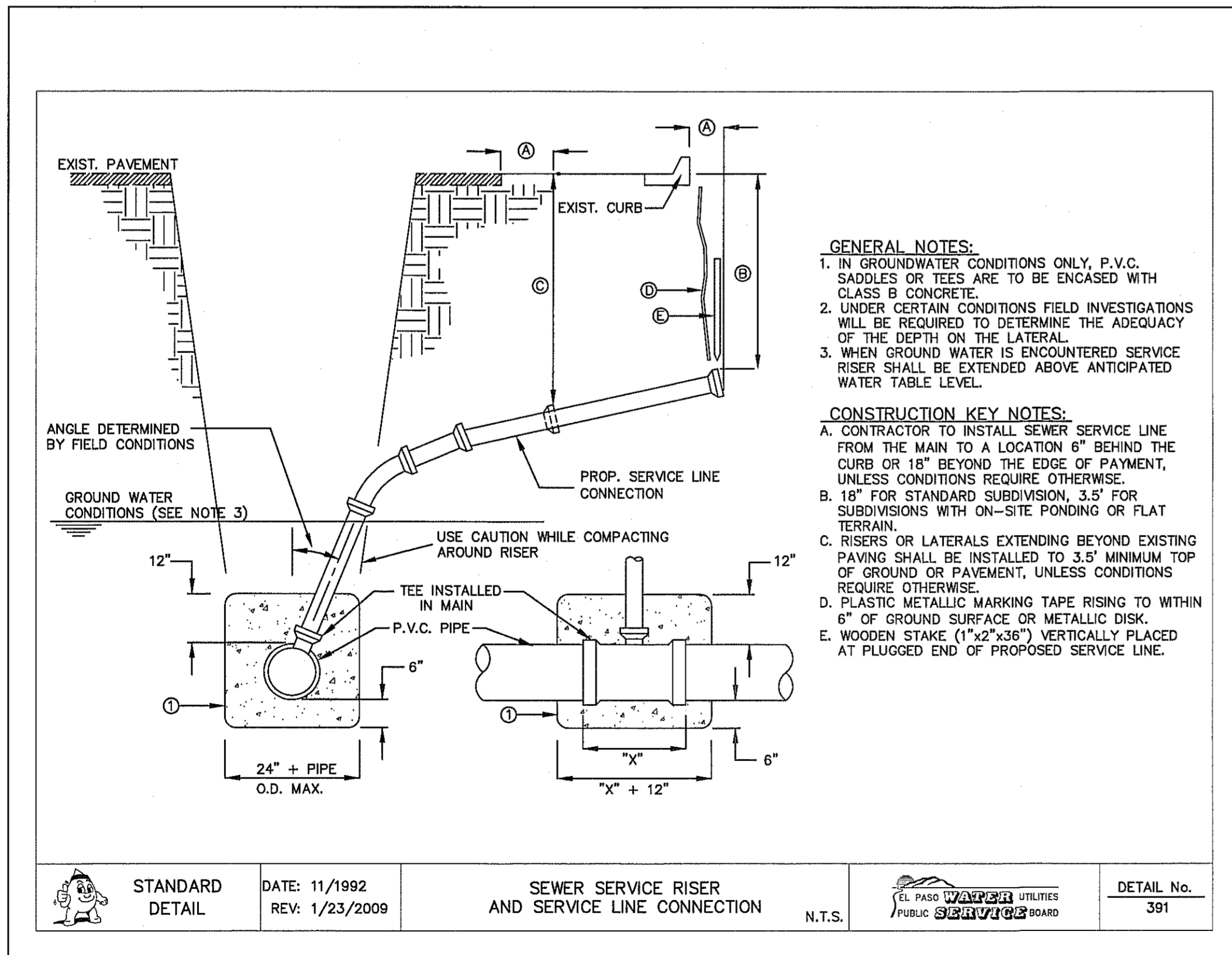
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Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2013
DESIGN BY:	P.O.
DRAWN BY:	J.G.
CHKD. BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB No.	2000-1691D



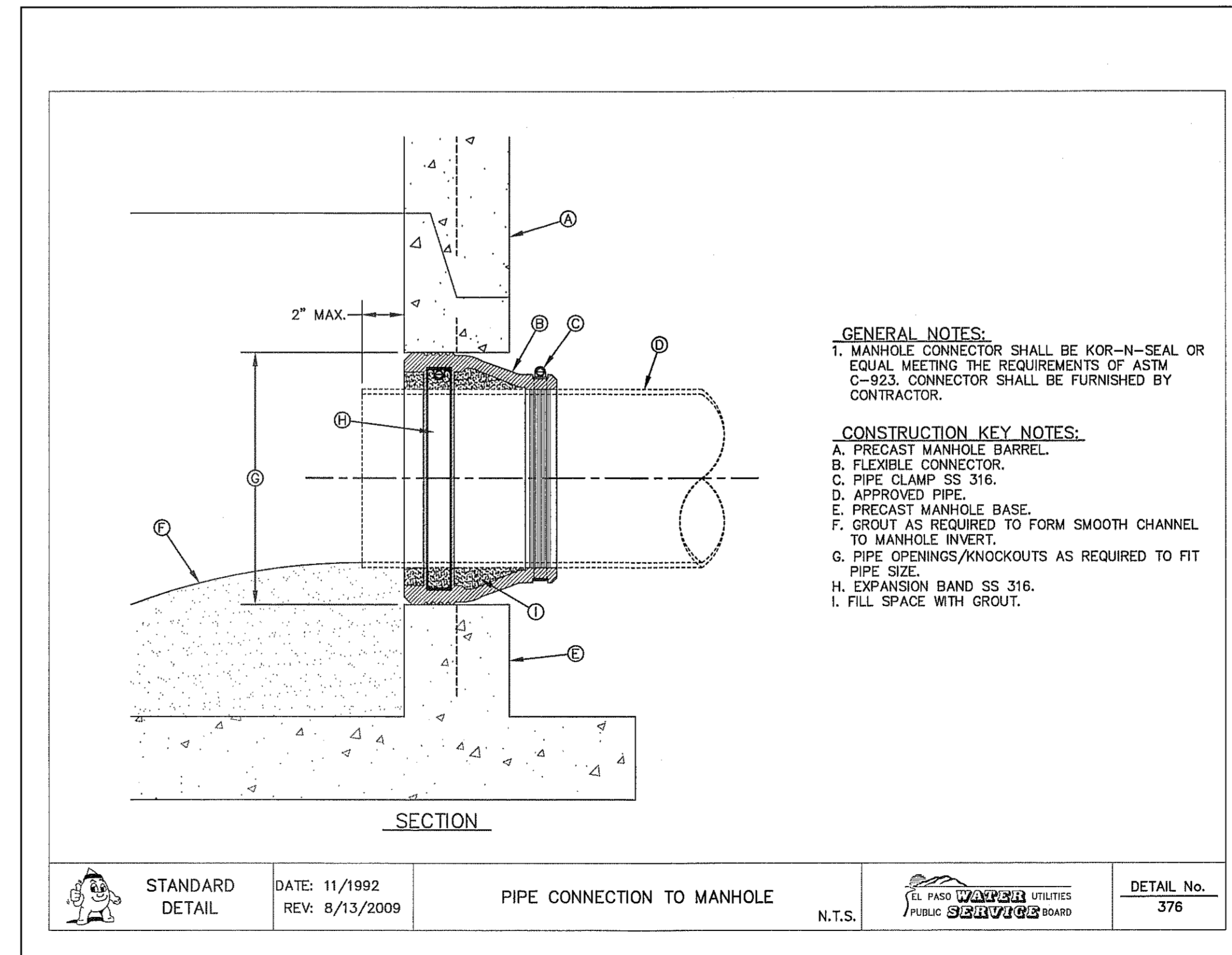
1 STANDARD MANHOLE RING
SCALE: N.T.S.



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



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



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

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SEWER
DETAILS**

(SHEET 1 OF 3)
SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C15.1

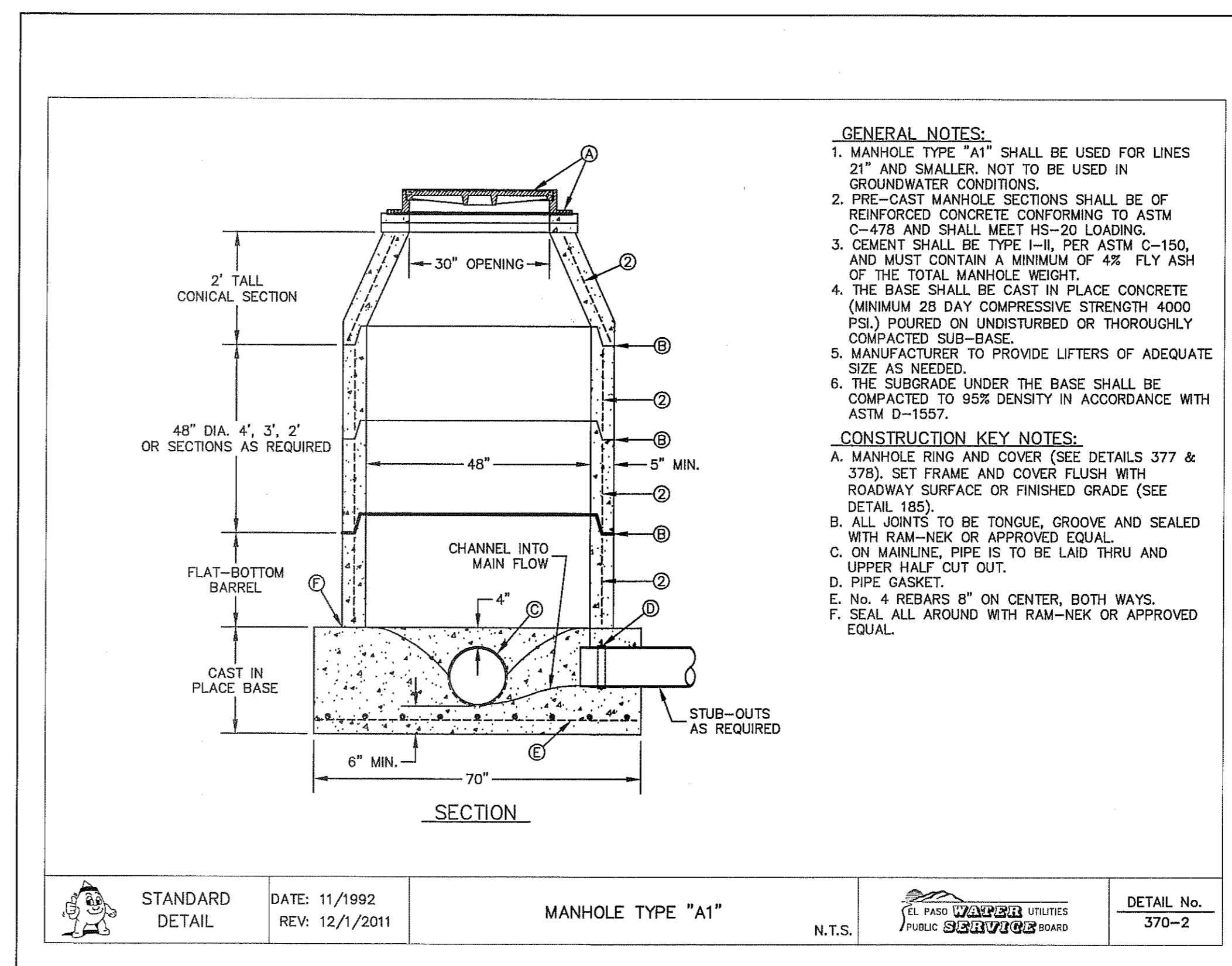
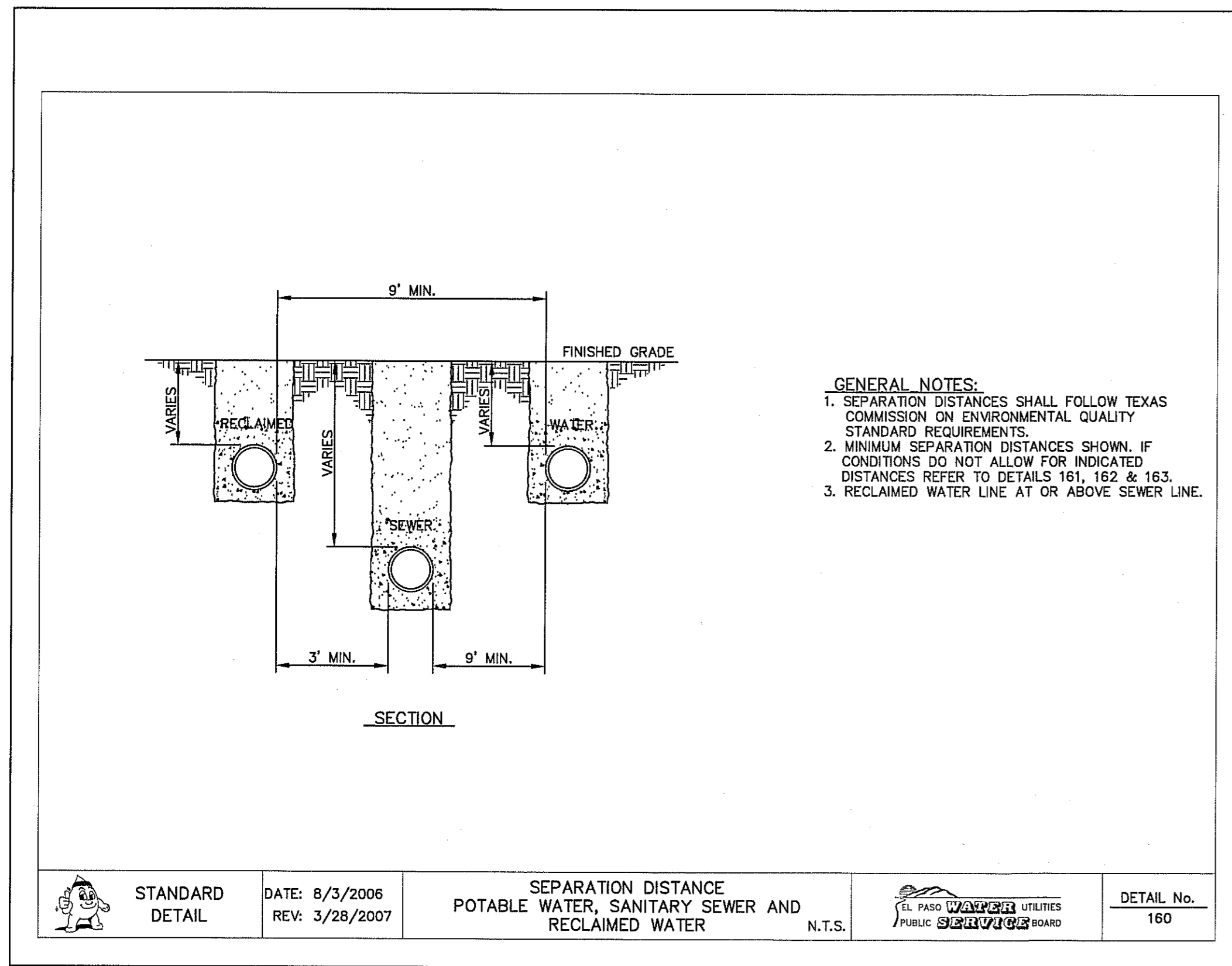
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
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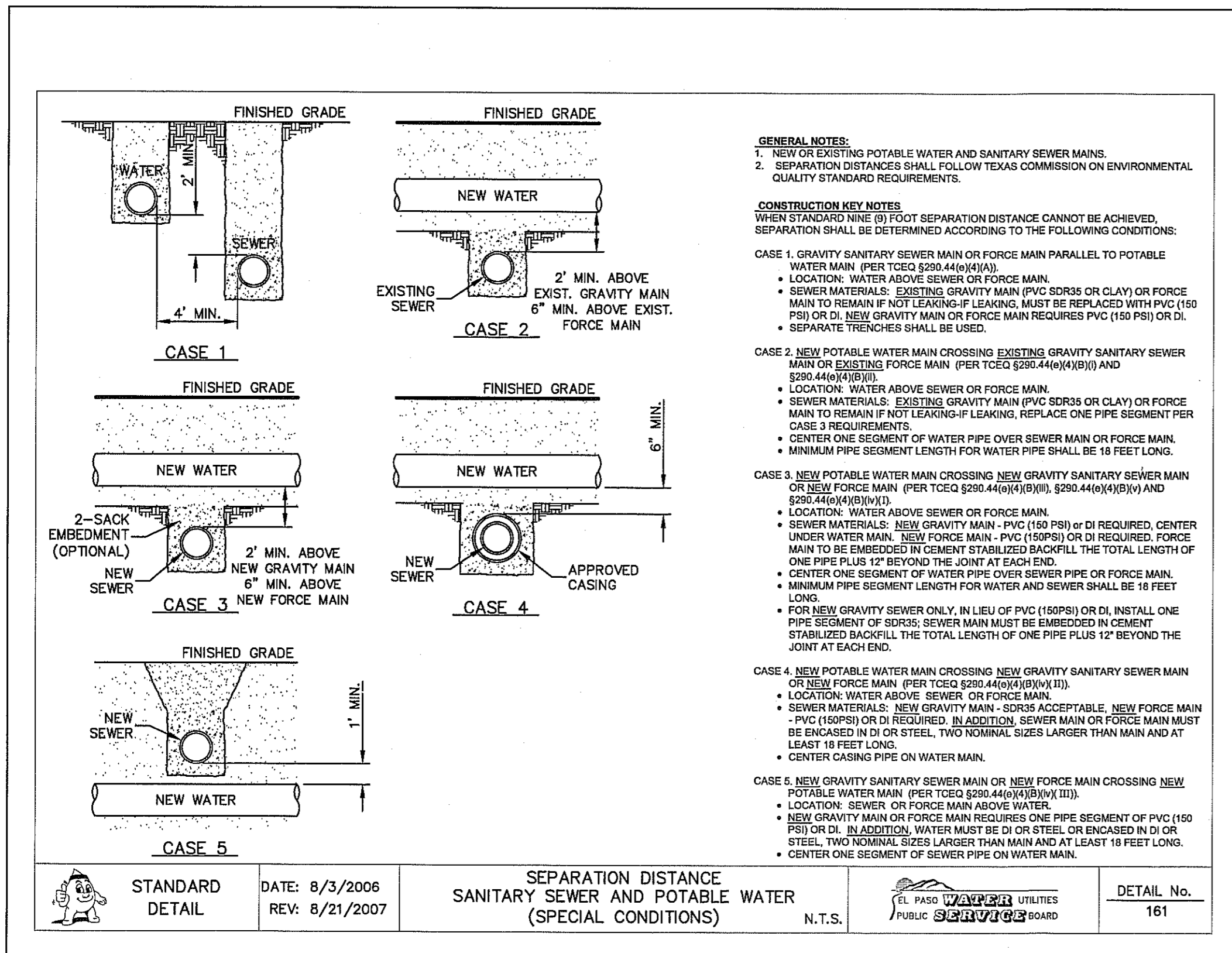
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REFERENCES - BENCHMARKS	REVISIONS
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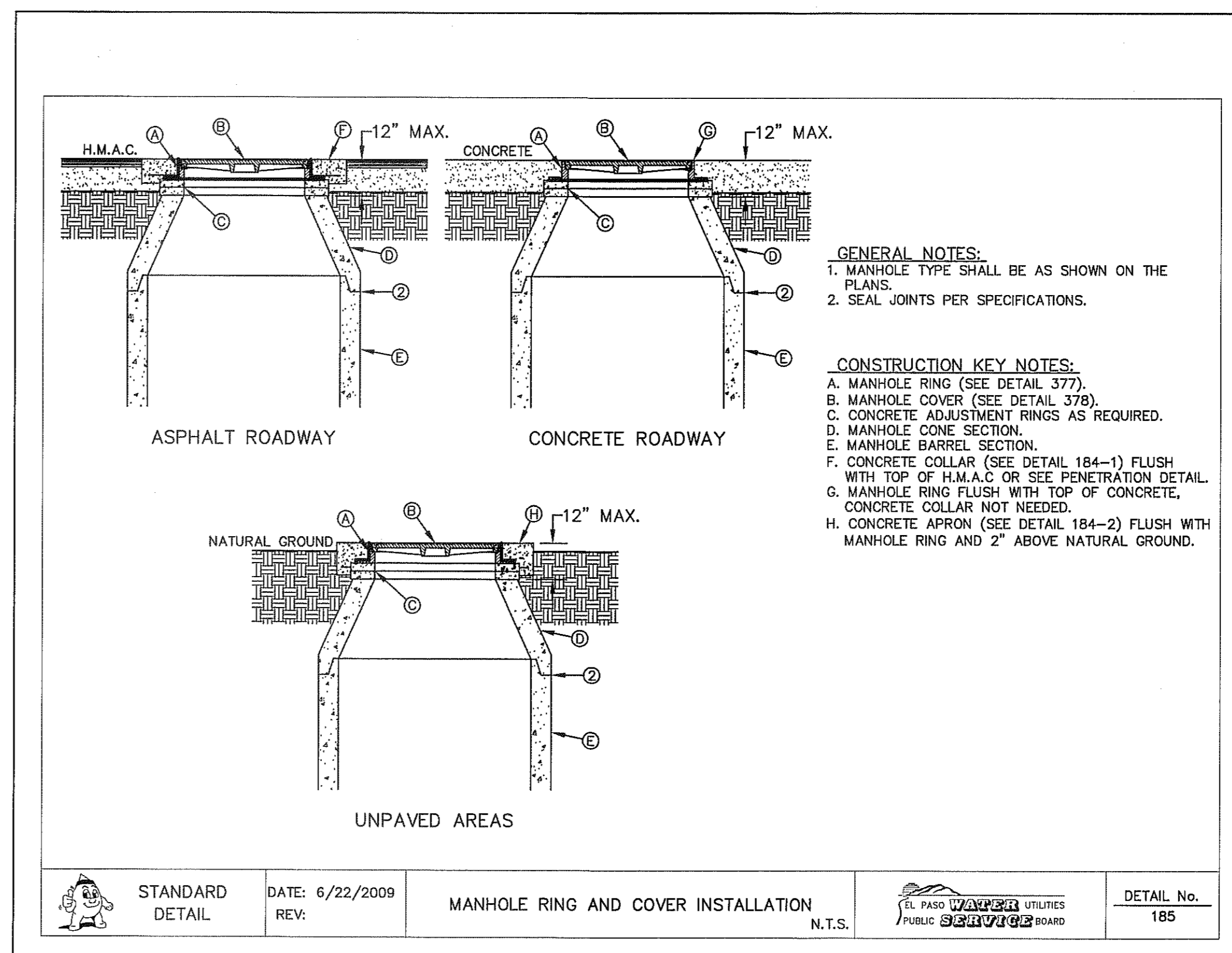


1 C15.2 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.

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

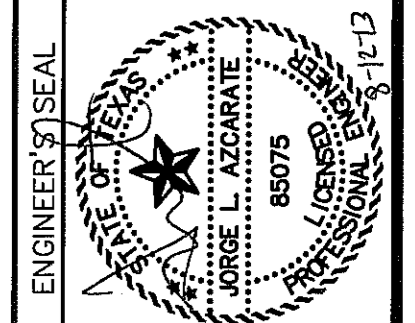


3 C15.2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) SCALE: N.T.S.



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

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SCALE	N/A
Horizontal:	N/A
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Contour Interval:	N/A
DATE:	AUGUST 2013
DRAWN BY:	R.O.
CHECKED BY:	J.C.
APPROVED BY:	J.L.A.
JOB No.:	2000-1691D

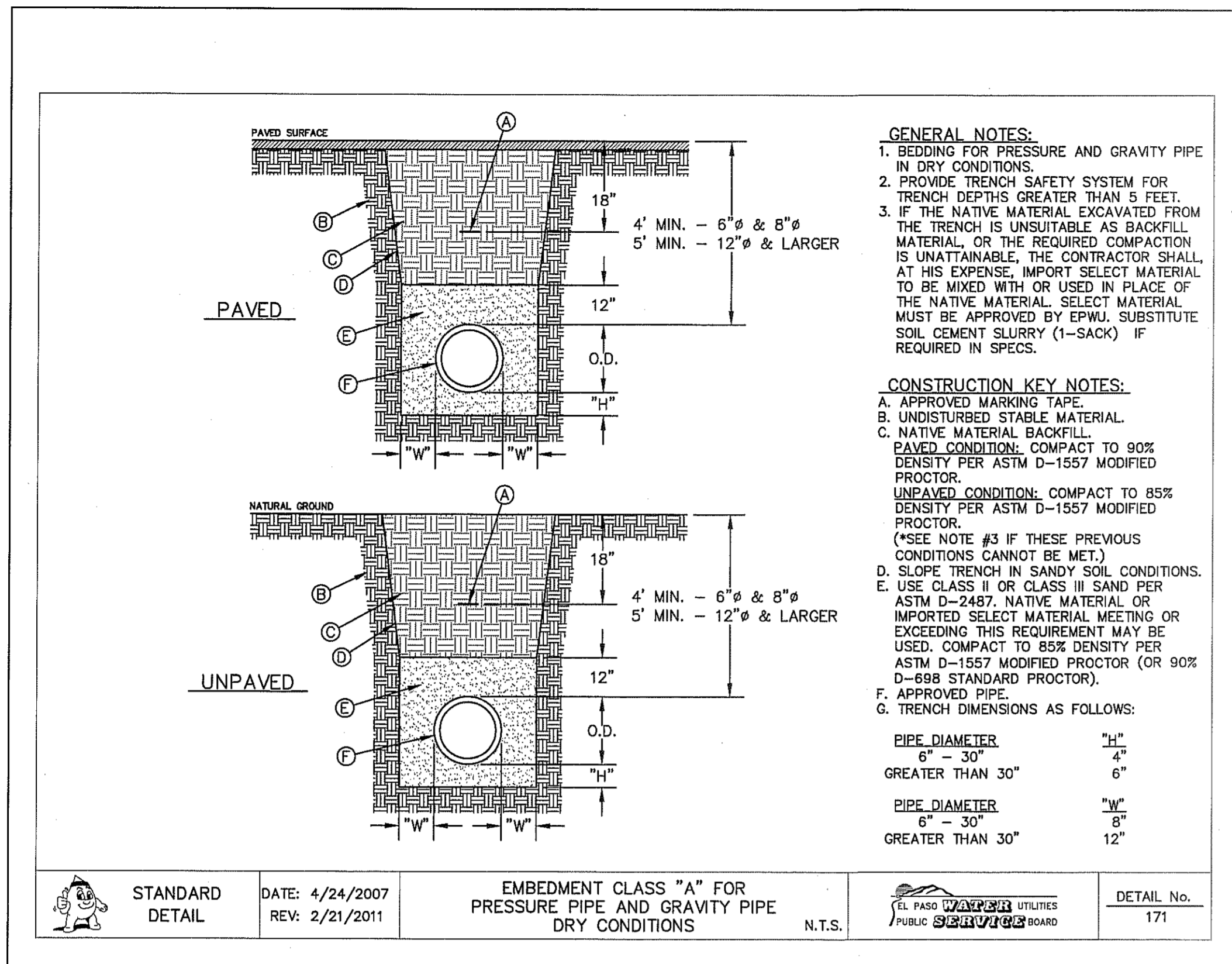
PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SEWER
DETAILS**

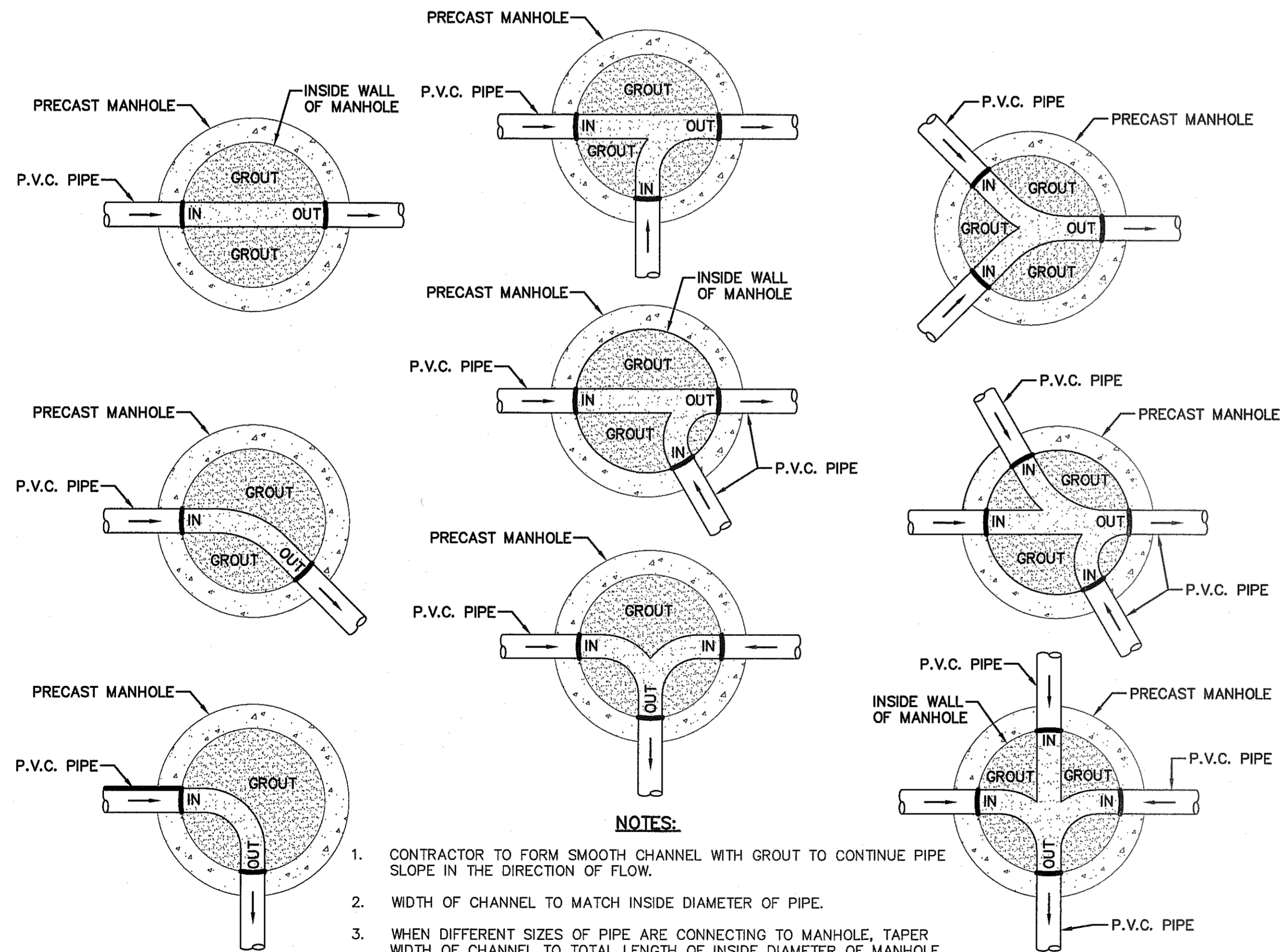
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SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

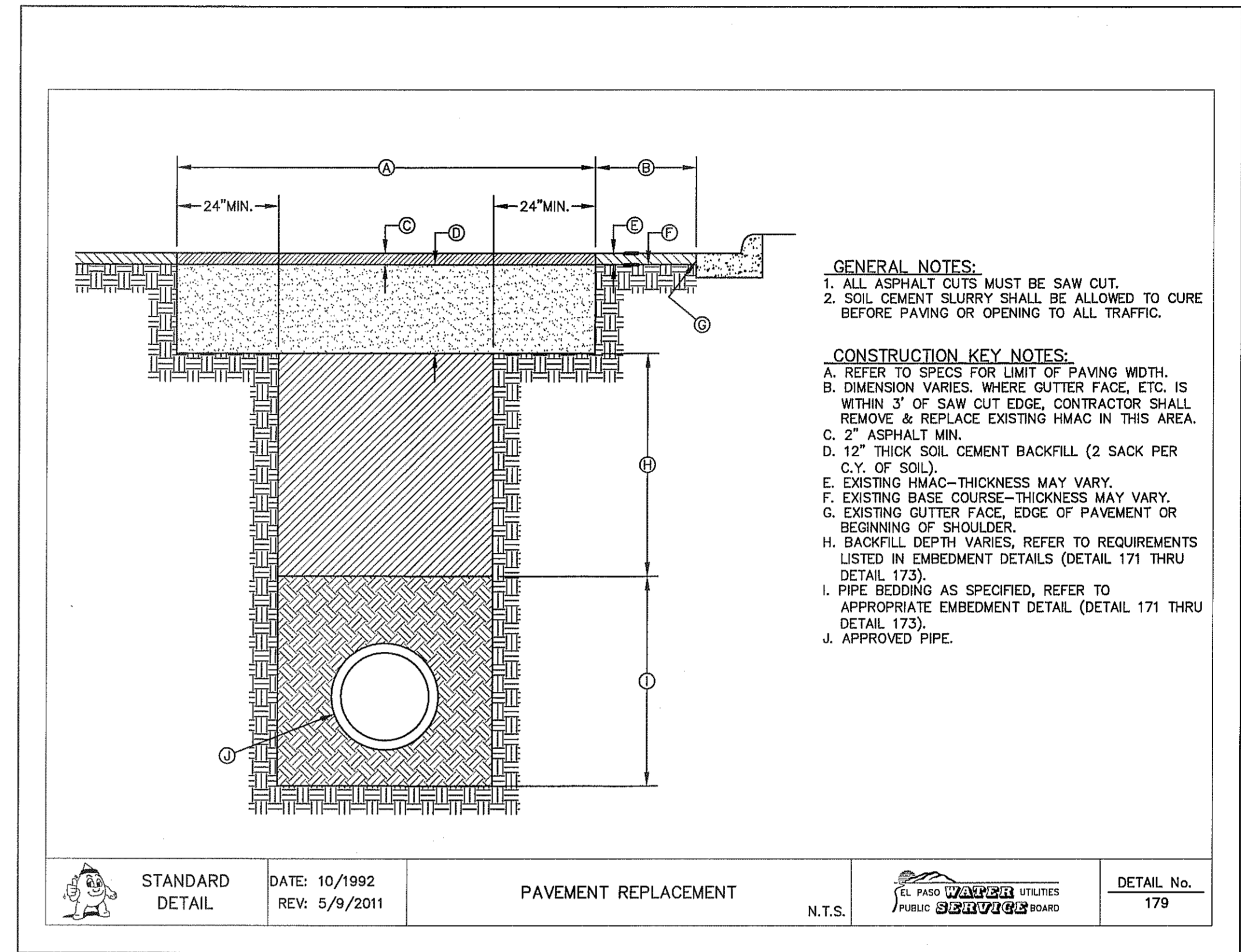
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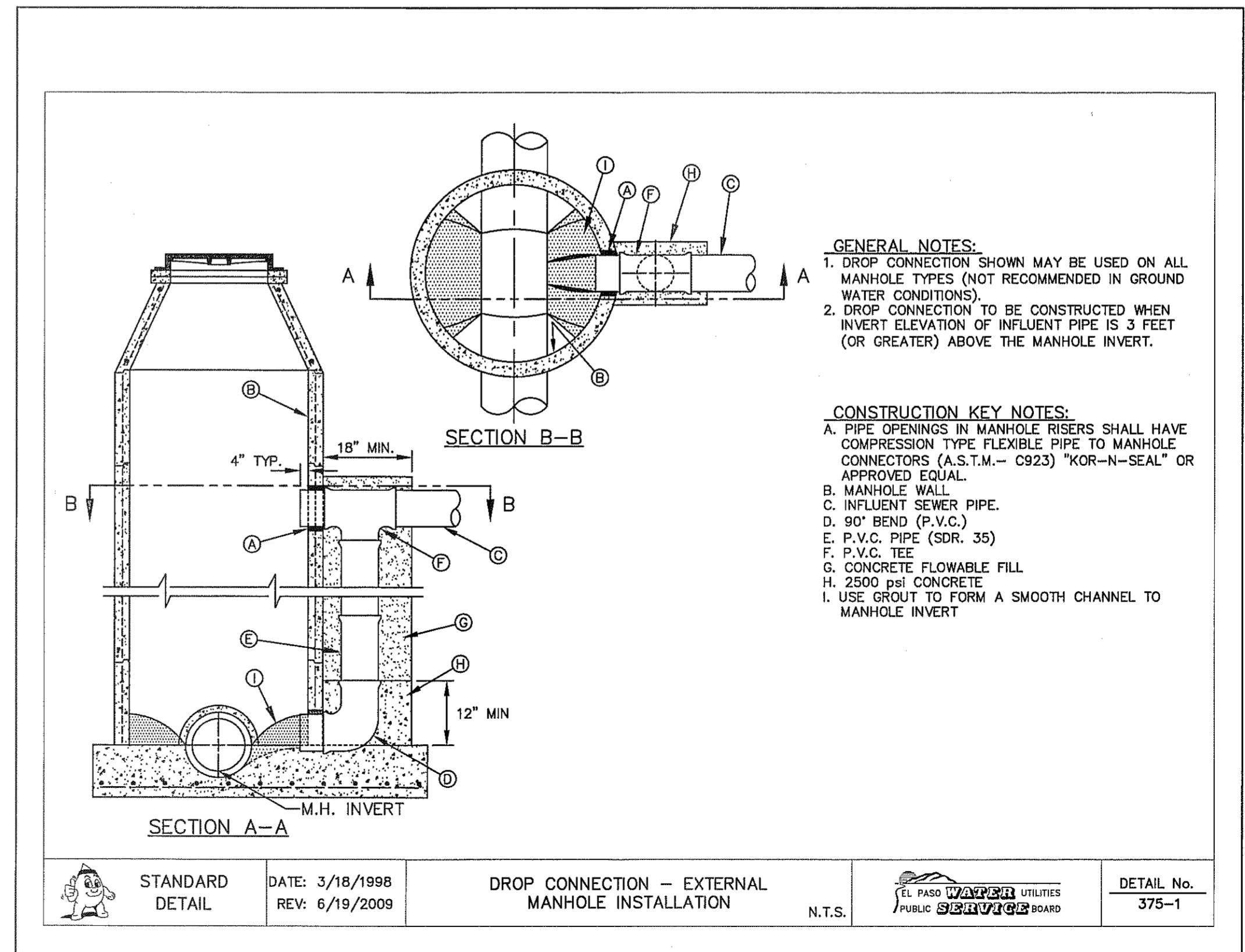
1 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS SCALE: N.T.S.



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



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



4 DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION SCALE: N.T.S.

UTILITY LOCATOR SERVICES

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EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

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LOCATED AT THE CENTERLINE INTERSECTION OF PASO ALBERE CIRCLE AND PASO UNDO DRIVE

BY	
REVISIONS	
DATE	

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ENGINEER'S SEAL

SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: SEPTEMBER 2013

DESIGN BY: R.O.

DRAWN BY: J.L.A.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-1591.D

PROJECT TITLE

MESQUITE TRAILS UNIT NINE SUBDIVISION IMPROVEMENTS

SHEET TITLE

SEWER DETAILS

(SHEET 3 OF 3)

SHEET NO.

C15.3

REVIEWED

CITY DEVELOPMENT DEPARTMENT

SITE DESCRIPTION

PROJECT NAME AND LIMITS: MESQUITE TRAILS UNIT NINE IS BORDERED BY MESQUITE TRAILS UNIT EIGHT TO THE NORTH AND EAST, PASEOS DEL SOL UNIT TWO TO THE WEST, AND MESQUITE TRAILS UNIT TWO TO THE SOUTH.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 17.737± ACRES AND WILL CONTAIN A TOTAL OF 105 RESIDENTIAL LOTS

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

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

TOTAL PROJECT AREA: 17.737±

TOTAL AREA TO BE DISTURBED: 17.737±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.67

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE HUECO-WINK ASSOCIATION. THE SOILS IN THESE AREA ARE GENERALLY DESCRIBED AS 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: MESQUITE TRAILS UNIT NINE SUBDIVISION WILL DISCHARGE INTO AN ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO A RETENTION BASIN IN MESQUITE TRAILS UNIT TWO SUBDIVISION.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER: _____

STRUCTURAL PRACTICES:

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

OTHER: _____

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

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

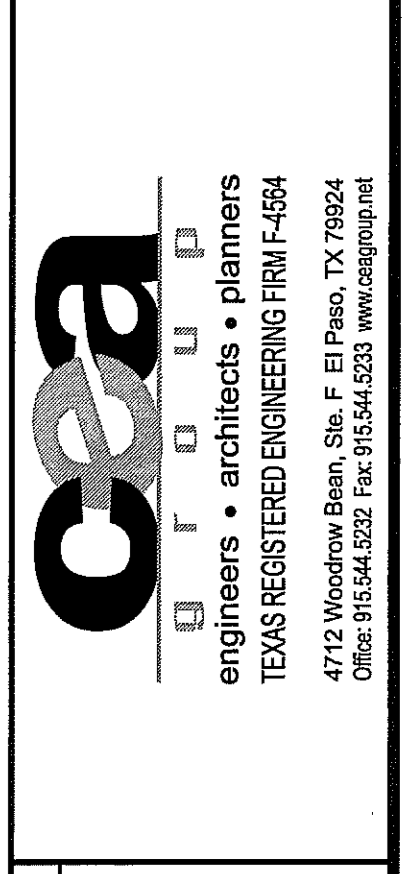
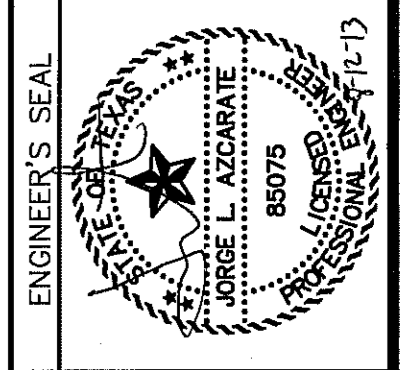
SWPPP GENERAL NOTES:

1. PLACEMENT OF SILT FENCE SHALL BE ADJUSTED AS NECESSARY TO PREVENT THE BLOCKING OF DRIVEWAYS OR DRIVING LANES.
2. THE SWPPP MANUAL IDENTIFIES THE DUTIES AND RESPONSIBILITIES OF THE GENERAL CONTRACTOR IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. THIS ITEM SHALL BE SUBSIDIARY TO THE SWPP BEST MANAGEMENT PRACTICES (COMPLETE IN PLACE) ITEMS. THE SWPPP PROJECT MANUAL IS AVAILABLE FOR REVIEWING AT THE CITY OF EL PASO--ENGINEERING DEPARTMENT. UPON SELECTION, THE CONTRACTOR WILL BE PROVIDED AN SWPPP MANUAL. THE CONTRACTOR SHALL MAINTAIN THIS MANUAL AT THE CONSTRUCTION SITE AT ALL TIMES THROUGHOUT THE CONSTRUCTION PERIOD.
3. THE CONTRACTOR SHALL COMPLETE AND SUBMIT ALL REGULATORY FORMS AND APPLICATIONS, AS PROVIDED IN THE SWPPP MANUAL, INCLUDING, BUT NOT LIMITED TO: NOI, NOT, 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. 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.
6. 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 TNRC.
- III. **SANITARY WASTE:**
ALL SANITARY WASTE SHALL BE COLLECTED FROM THE CONSTRUCTION PORTABLE UNITS AS NECESSARY OR AS REQUIRED, CHAPTER 18.08 (BUILDING CODE), BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR. ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IV. **SPILL PREVENTION:**
THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURES OF MATERIALS TO STORM WATER RUNOFF.
- V. **GOOD HOUSEKEEPING:**
 - A. STORE ONLY ENOUGH PRODUCTS REQUIRED TO DO THE JOB
 - B. NEATLY STORE MATERIALS ON-SITE IN AN ORDERLY MANNER
 - C. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER
 - D. DO NOT MIX SUBSTANCES WITH ONE ANOTHER, UNLESS OTHERWISE RECOMMENDED BY THE MANUFACTURER
 - E. USE ENTIRE CONTENTS OF A PRODUCT BEFORE DISPOSING THE CONTAINER
 - F. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL
- VI. **HAZARDOUS PRODUCTS:**
PRACTICES USED TO REDUCE RISKS:
 - A. KEEP PRODUCTS IN THEIR ORIGINAL CONTAINER IF AT ALL POSSIBLE
 - B. RETAIN ORIGINAL LABELS, PRODUCT INFORMATION AND MATERIAL SAFETY DATA SHEETS (MSDS)
 - C. DISPOSE SURPLUS PRODUCT IN ACCORDANCE WITH MANUFACTURER'S OR LOCAL & STATE RECOMMENDED METHODS
- VII. **PETROLEUM PRODUCTS:**
ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
- VIII. **SPILL CONTROL PRACTICES:**
 - A. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES;
 - B. MATERIALS AND EQUIPMENT NECESSARY FOR CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON-SITE;
 - C. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY
 - D. SPILL AREA SHALL BE WELL VENTILATED AND APPROPRIATE CLOTHING WILL BE WORN;
 - E. ANY SPILL SHALL BE REPORTED TO THE APPROPRIATE GOVERNMENTAL AGENCY
 - F. MEASURES SHALL BE TAKEN TO PREVENT A SPILL FROM REOCCURRING
- IX. **MAINTENANCE AND INSPECTION PROCEDURES:**
ALL POLLUTION PREVENTION MEASURES SHALL BE INSPECTED AT LEAST ONCE A MONTH OR WITHIN 24-HOURS PRIOR TO ANTICIPATED STORM EVENT AND FOLLOWING A STORM EVENT OF 0.5 INCHES OR MORE. INSPECTION IN FINAL STABILIZED AREAS OR DURING ARID PERIODS WILL BE CONDUCTED MONTHLY, BEST MANAGEMENT PRACTICES AND POLLUTION CONTROL PROCEDURES SHALL BE INSPECTED FOR ADEQUACY.
- X. **REMARKS:**
DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. ALL WATERWAYS SHALL BE CLEANED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSEWORK, PILING DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.
- XI. **OFFSITE VEHICLE TRACKING:**
IN ADDITION TO THE STABILIZED CONSTRUCTION ENTRANCES, THE FOLLOWING MEASURES SHALL BE OBSERVED DURING CONSTRUCTION:
 - HAUL ROADS SHALL BE DAMPENED FOR DUST CONTROL
 - LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPULIN
 - EXCESS DIRT ON ROAD SHALL BE REMOVED IMMEDIATELY
 - STABILIZED CONSTRUCTION ENTRANCE
 - OTHER: _____

REFERENCES -- BENCHMARKS	
EXISTING CITY MONUMENT ELEVATION-4003.10 FEET (CITY DATUM)	BY
LOCATED AT THE CENTERLINE INTERSECTION OF PASEO ALEGRE CIRCLE AND PASEO UNDO DRIVE.	DATE
	REVISIONS

SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2013
DESIGN BY:	R.O.
DRAWN BY:	R.O.
CHKD. BY:	J.L.A.
APPRD. BY:	J.L.A.
JOB No.:	2000-1691D

PROJECT TITLE
MESQUITE TRAILS UNIT NINE SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.

EL PASO COUNTY DEVELOPMENT DEPARTMENT
REVIEWED

C16.1

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
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FOR FIELD LOCATING EXISTING UTILITIES



SITE PLAN
SCALE: 1" = 100'

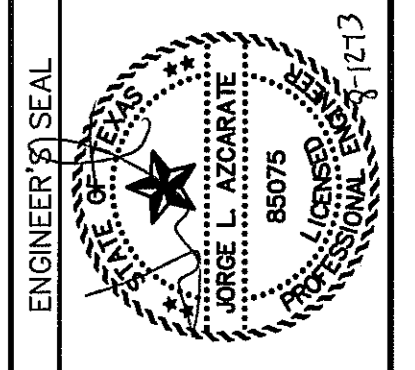
LEGEND

- SILT FENCE OR EARTHEN BERM
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AREA
- PORTABLE TOILETS
- WASH OUT
- LOCATION OF NOTICE OF INTENT (NOI)
- INLET PROTECTION
- OUTFALL

REFERENCES - BENCHMARKS	
EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASO ALGIRE CIRCLE AND PASO LINDO DRIVE.	BY
DATE	REVISIONS

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4712 Woodrow Boon, Ste. 4 El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceainc.net



SCALE	
Horizontal:	1" = 100'
Vertical:	N/A
Contour Interval:	N/A
DATE:	AUGUST 2013
DESIGN BY:	R.O.
DRAWN BY:	J.G.
CHKD. BY:	J.L.A.
APPRD. BY:	J.L.A.
JOB No.:	2000-1691D.

PROJECT TITLE

**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

STORM WATER
POLLUTION
PREVENTION PLAN:
SITE PLAN

SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

C16.2

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

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

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

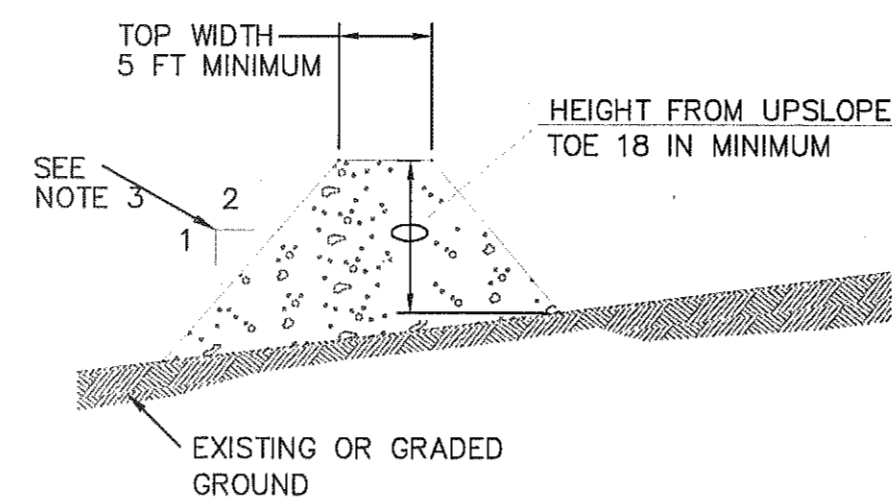
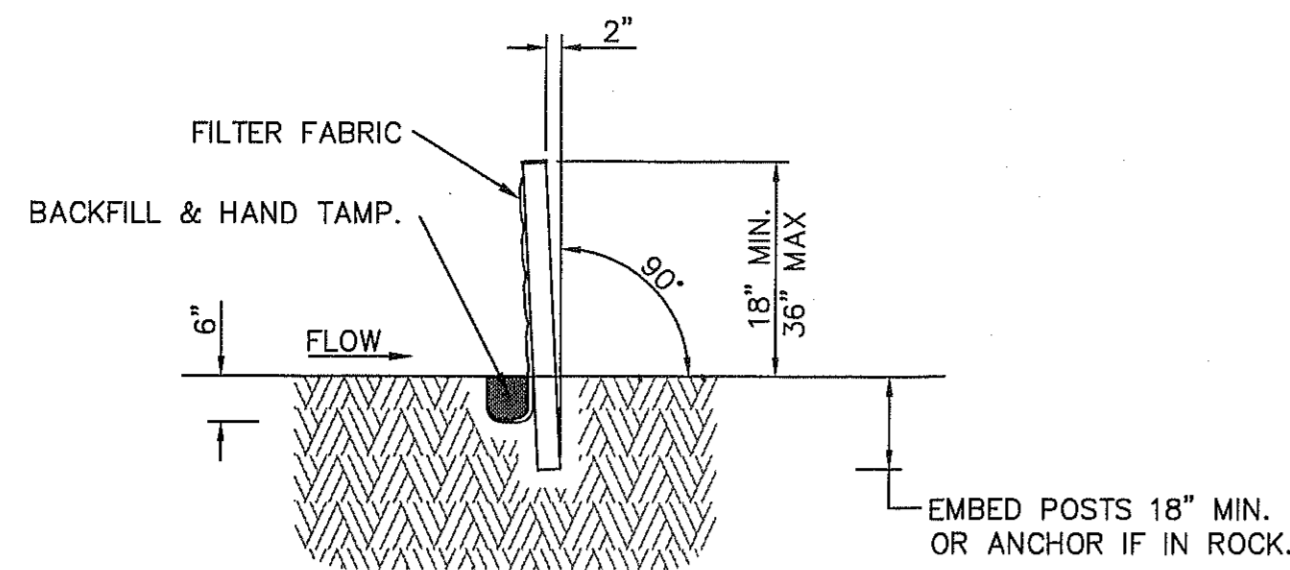
ATTACH THE W.W.M. & FABRIC ON END POSTS
USING 4 EVENLY SPACED STAPLES FOR
WOODEN POSTS (OR 4 T-CLIPS OR SEWN
VERTICAL POCKETS FOR STEEL POSTS).

SECTION A-A

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

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

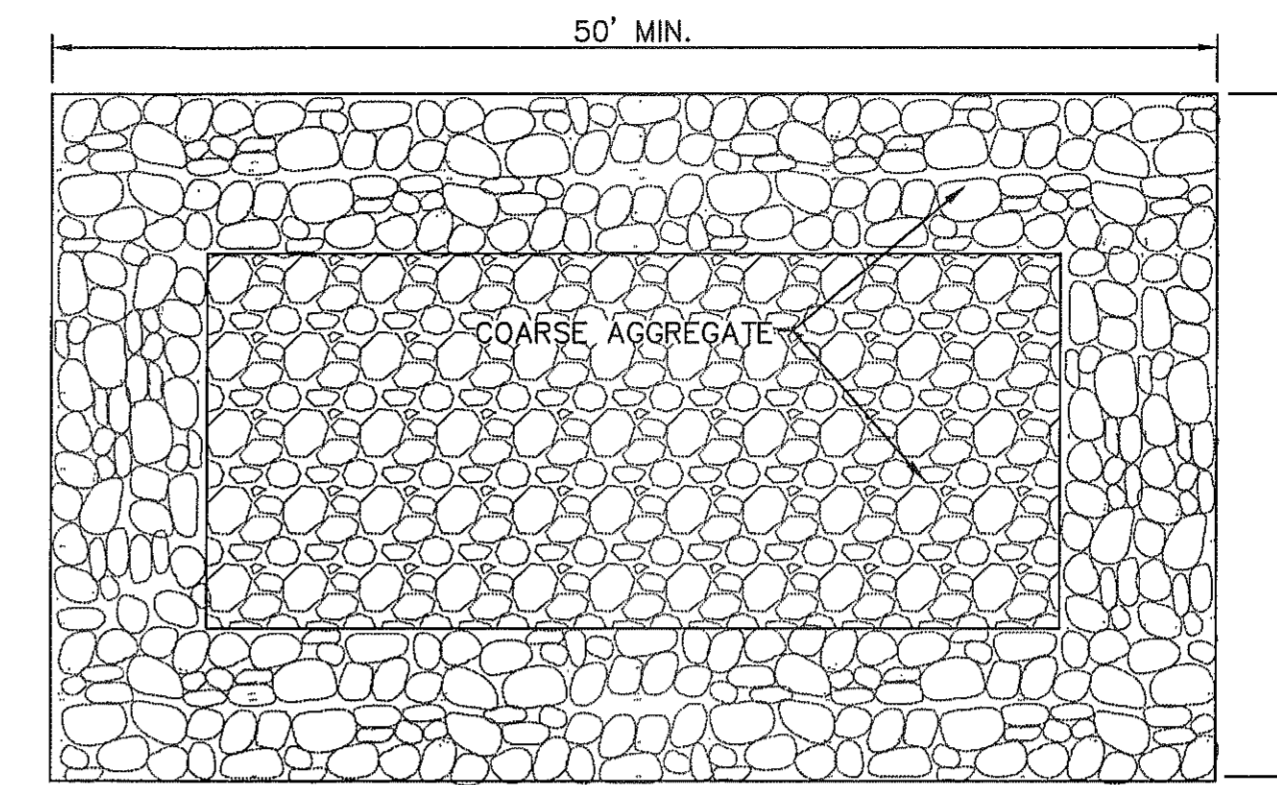
TEMPORARY SEDIMENT CONTROL FENCE



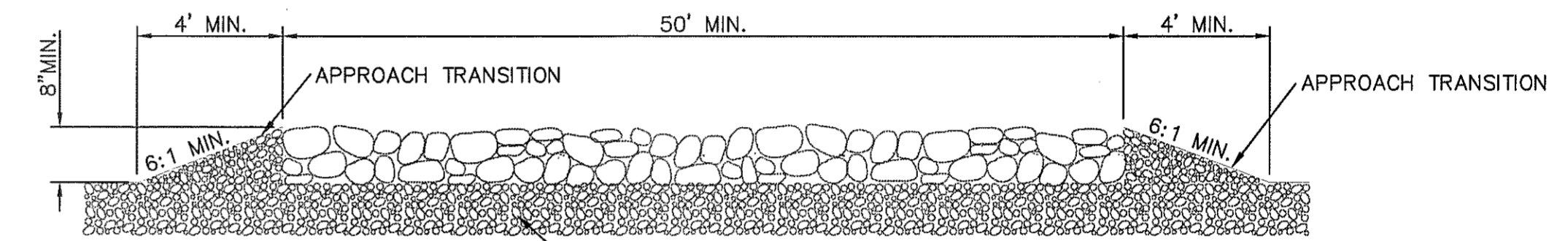
GENERAL NOTES:

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

TYPICAL BERM CONFIGURATION



PLAN

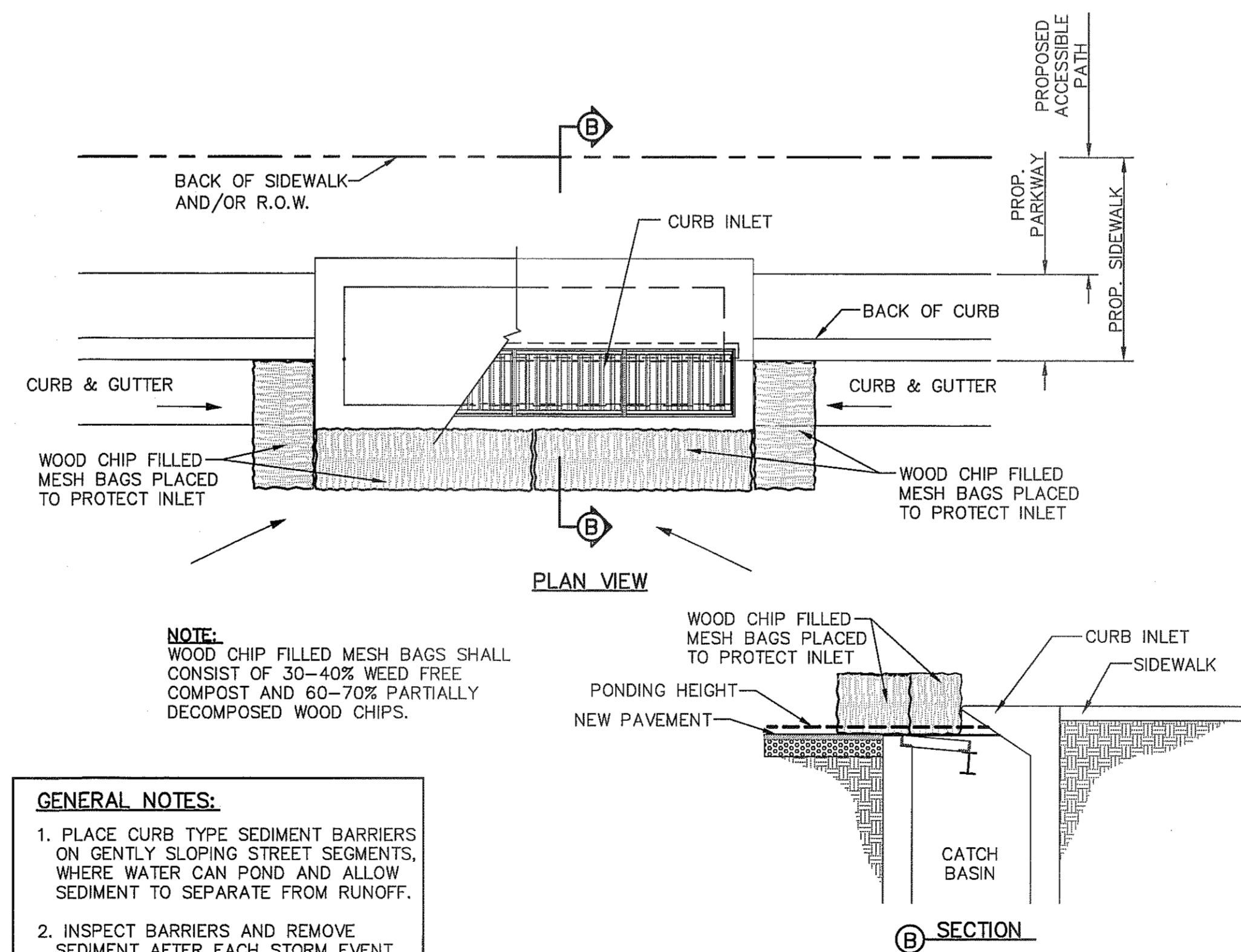


PROFILE

GENERAL NOTES

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

CONSTRUCTION EXIT (TYPE 1)



NOTE:
WOOD CHIP FILLED MESH BAGS SHALL
CONSIST OF 30-40% WEED FREE
COMPOST AND 60-70% PARTIALLY
DECOMPOSED WOOD CHIPS.

GENERAL NOTES:

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

TEMPORARY INLET PROTECTION

REFERENCES - BENCHMARKS	EXISTING CITY MONUMENT ELEVATION=4003.10 FEET (CITY DATUM) LOCATED AT THE CENTERLINE INTERSECTION OF PASCO ALEGRE CIRCLE AND PASCO LINCO DRIVE.
DATE	REVISIONS
BY	

osa
OF O U D
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.osaengr.com



SCALE	Horizontal: N/A
Vertical:	Contour Interval: N/A
DATE:	AUGUST 2013
DESIGN BY:	R.O.
DRAWN BY:	J.C.
CHKD. BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB No.	2000-1691D

PROJECT TITLE
**MESQUITE TRAILS
UNIT NINE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**STORM WATER
POLLUTION
PREVENTION PLAN:
DETAILS**

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C16.3