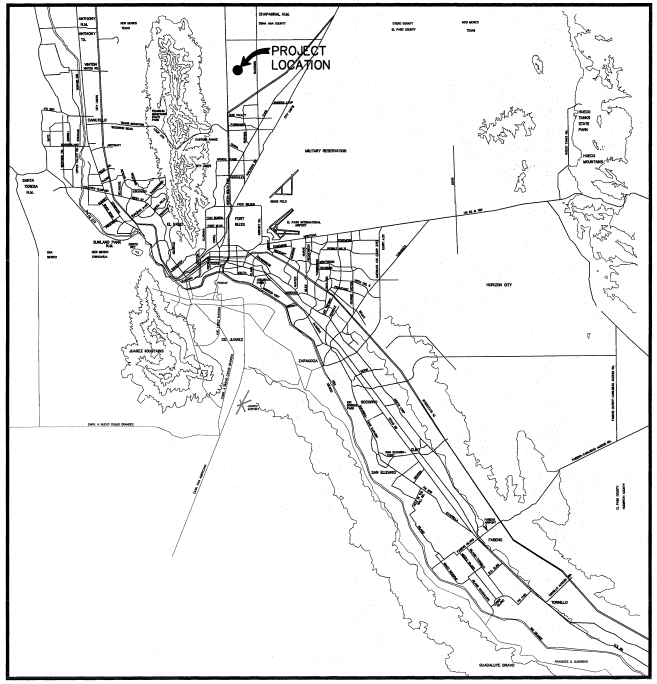
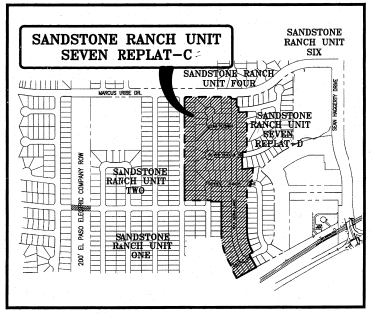
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

BEING A PORTION OF BLOCK 1, LOTS 66 TO 69 AND 88 TO 91; BLOCK 7, LOTS 14 TO 31; BLOCK 12, LOTS 3 TO 44; BLOCK 28, LOTS 1 TO 34; BLOCK 30, LOTS 1 TO 8; BLOCK 31, LOTS 1 TO 13; AND PORTIONS OF ROW OUT OF SILVER CHOLLA DR., BROKEN WIND, AND CATTLE LN. AND COYOTE RANCH LN., ALL ROW OUT OF RAY MENA LN., AND ALL UTILITY EASEMENTS WITHIN SANDSTONE RANCH UNIT SEVEN, AN ADDITION TO THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES



VICINITY MAP
APPROXIMATE SCALE: 1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET, GENERAL INFORMATION
1	GENERAL NOTES, GRADING SPECIFICATIONS
2,3	FINAL PLAT
4	GRADING PLAN
5	DRAINAGE PLAN
6-7	GRADING SECTIONS
8-12	STREET PLAN & PROFILES
13,14	STORM SEWER PLAN & PROFILES
15	SANITARY SEWER INDEX/ GENERAL INFORMATION
16-18	SANITARY SEWER PLAN & PROFILES
19-21	SANITARY SEWER DETAILS
22	WATER INDEX/ GENERAL INFORMATION
23-27	WATER DETAILS
28-30	STANDARD DETAILS
31, 32	DRAINAGE DETAILS
33	ILLUMINATION PLAN
34-36	SWPPP
L1-L2	LANDSCAPE & IRRIGATION PLANS



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'

JORGE L. AZCARATE, P.E. PROJECT MANAGER 8/10/11

STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED
PROFESSIONAL ENGINEER

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

DEVELOPMENT SERVICES DEPARTMENT
SITE PLAN REVIEW
Reviewed For Conformance For Conditions Related To:
- Demolition Only
- Grading & Drainage
- Wheelchair Ramps
- On Site Parking Layout
- Sidewalks
- Driveways
- Retaining Rock Walls
- On-Site Ponding of Storm Waters

Contractor Must Call 24 Hours Prior To Construction For Inspection
BY DATE 8/11/2011

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	TROPICANA DEVELOPMENT INC.	4655 COHEN AVE.	EL PASO, 79924	(915) 821-3550	(915) 821-3556
ENGINEER:	CEA GROUP	4712 WOODROW BEAN, STE. F	EL PASO, 79924	(915) 544-5232	(915) 544-5233
SURVEYOR:	BARRAGAN & ASSOCIATES	10850 PELLICANO BLDG F	EL PASO, 79935	(915) 591-5709	(915) 591-5706

SANDSTONE RANCH UNIT SEVEN REPLAT-C
COVER SHEET

DATE PREPARED	DRAWN BY:	DESIGN BY:	CHECKED BY:	APPROVED BY:
MAY 2011	J.H.	G.R.	G.R.	J.L.A.
REVISION NUMBER	SHEET NAME OR NUMBER	DESCRIPTION OF REVISION	DATE OF REVISION	REVISION APPROVED BY:

MAY 2011

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.

2. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AUTOMOBILE AND PEDESTRIAN ACCESS TO THE USER AT ALL TIMES, INCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS. THIS INCLUDES, BUT IS NOT LIMITED TO DRIVEWAYS, STREETS, PARKING, AND WALKWAYS. THIS REQUIREMENT SHALL BE FULFILLED AT NO EXTRA COST TO THE OWNER.

3. 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.

4. 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. SERVICE SHALL BE PROVIDED TO USER AT ALL TIMES.

5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF DURING THE COURSE OF THE 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.

6. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.

7. 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.

8. 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.

9. FOR ELEVATIONS, REFERENCE BENCHMARK IN TITLE BLOCK FOR ADDITIONAL INFORMATION.

10. VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE ENGINEER.

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

12. THE LOCATION OF THE FLUMES AND INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

13. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE FINAL APPROVED SUBDIVISION PLANS PRIOR TO COMMENCING ANY CONSTRUCTION WORK.

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 THREE (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 OR UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER, GEOTECHNICAL ENGINEER OR CITY ENGINEER.

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 TWELVE (12)

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 SIX (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 ONE (1) VERTICAL TO FOUR (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 EIGHT (8) INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN FOUR (4) INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIAL UNIFORMLY AROUND SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D1557.

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 TWO (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 IS REQUIRED DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

LEGEND

	SUBDIVISION BOUNDARY
	ROW LINE
	CURB LINE
	PROPERTY LINE
	STREET CENTERLINE
	EASEMENT LINE
	MATCH LINE
	STORM SEWER LINE
	HIGH WATER MARK
	CURB AND GUTTER DROP INLET
	STORM SEWER MANHOLE
4000	FINISHED GROUND CONTOUR ELEVATION (INDEX)
	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
4000	EXISTING GROUND CONTOUR ELEVATION (INDEX)
	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
	NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
	EXISTING RETAINING ROCKWALL
	NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
P P	EXISTING ELECTRICAL LINE
X / X	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
	STORM SEWER LINE FLOW
	HIGH POINT
	LOW POINT
	EXISTING HIGH POINT
	EXISTING LOW POINT
	HEADWALL WITH WINGWALLS
DA-4	DRAINAGE AREA
2:1 SLOPE	HORIZONTAL:VERTICAL SLOPE RATIO
3980	APPROXIMATE BASE FLOOD ELEVATION (NATIONAL GEODETIC VERTICAL DATUM, NGVD). TO CONVERT TO CITY OF EL PASO DATUM FROM NGVD, SUBTRACT 8.462-FEET.
	APPROXIMATE AREA OF 100 YEAR FLOOD, AS PER FIRM PANEL NO. 480214-0016-C (FEBRUARY 5, 1986)
	WHEELCHAIR RAMP

ABBREVIATIONS

LP	LOW POINT
HP	HIGH POINT
ELEV	ELEVATION
STA	STATION
VCS	VERTICAL CURVE STATION
VCE	VERTICAL CURVE ELEVATION
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TYP	TYPICAL
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
AD	ALGEBRAIC DIFFERENCE
CR	CURVE RETURN
ROW	RIGHT OF WAY
CL	CENTER LINE
PL	PROPERTY LINE
FG	FINISH GRADE
FF	FINISH FLOOR
EG	EXISTING GRADE
MIN.	MINIMUM
RCP	REINFORCED CONCRETE PIPE
Q	QUANTITY
CAP	CAPACITY
EXP	EXPECTED
INV	INVERT
CFS	CUBIC FEET PER SECOND
A	AREA
DA	DRAINAGE AREA
LF	LINEAR FEET
STD	STANDARD
CONC	CONCRETE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
L	LENGTH
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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

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REFERENCES – BENCHMARKS

FOUND 7/2OT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

aa group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4624
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5253 www.aagroup.net

ENGINEER'S SEAL

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2001
DESIGN BY: G.D.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-126-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

GENERAL INFORMATION

SHEET NO.

1

OF 36

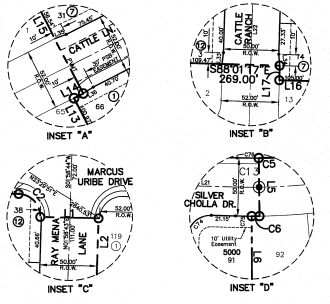
SANDSTONE RANCH UNIT SEVEN REPLAT-C

BEING A PORTION OF BLOCK 1, LOTS 66 TO 69 AND 88 TO 91; BLOCK 7, LOTS 14 TO 31; BLOCK 12, LOTS 3 TO 44; BLOCK 28, LOTS 1 TO 34; BLOCK 30, LOTS 1 TO 8; BLOCK 31, LOTS 1 TO 13; AND PORTIONS OF ROW OUT OF SILVER CHOLLA DR., BROKEN WIND, AND CATTLE LN. AND COYOTE RANCH LN., ALL ROW OUT OF RAY MENA LN., AND ALL UTILITY EASEMENTS WITHIN SANDSTONE RANCH UNIT SEVEN, AN ADDITION TO THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES

SHEET 1 OF 2

NOTE:

THIS REPLAT SUBDIVISION MODIFIES THE STREET R.O.W. WIDTH FROM A 52' R.O.W. TO A 50' R.O.W. AND REVISIONS TO LOT CONFIGURATIONS.



NOTES

THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO SANDSTONE RANCH UNIT SEVEN REPLAT C BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON MARCUS URIBE DRIVE, CATTLE RANCH STREET AND CATTLE LANE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.

TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No._____

VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING MARCUS URIBE DRIVE, SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No._____

RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No._____

INSTRUMENT No._____

SUBDIVISION AGREEMENT AND GUARANTEE LETTER ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.

THIS SUBDIVISION LIES WITH IN ZONE "C" AS DESIGNATED IN PANEL NO. 480214 0014 D, DATED AUGUST 5, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING.

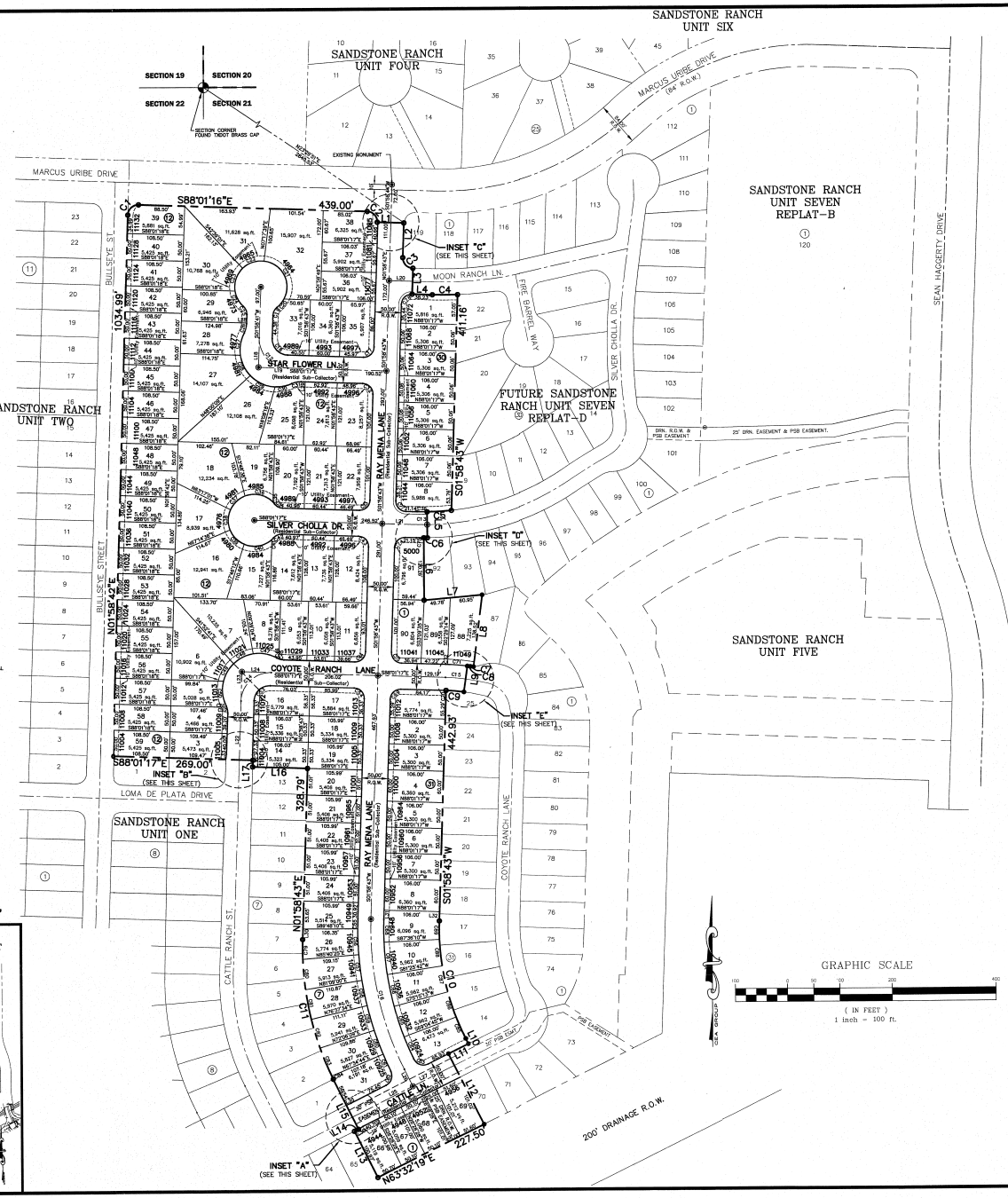
THIS SUBDIVISION LIES WITHIN THE EL PASO INDEPENDENT SCHOOL DISTRICT 8531 BOEING DR, EL PASO, TX 79925

SET 1/2" REBAR WITH CAP MARKED "B&A INC." AT ALL EXTERIOR BOUNDARY CORNERS UNLESS NOTED OTHERWISE.

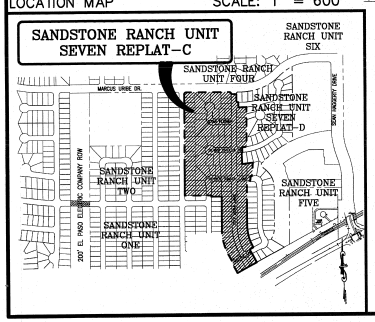
"U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."

(●) PROPOSED CITY MONUMENT (FOR EXACT LOCATION CONTACT CITY OF EL PASO)

(◆) EXISTING CITY MONUMENT



LOCATION MAP SCALE: 1" = 600'



DEDICATION

Tropicana Development Inc., property owner of this land does hereby present this plat and dedicates, if not previously dedicated, its respective portion of said property to the use of the public, the streets, drainage right of way, P.S.E. easement and utility easements, as hereon laid down and designated, including easements for overhang of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness our signature this _____ day of _____, 2011.

_____
TROPICANA DEVELOPMENT INC.

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared R. L. Bowling, III, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideations herein expressed.

Given under my hand and seal of office this _____ day of _____, 2011.

_____ _____
Notary Public in and for El Paso County My Commission Expires

CITY PLAN COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this _____ day of _____, 2011, A.D.

_____ _____
Chairperson Executive Secretary

Approved for filing this _____ day of _____, 2011.

_____
CITY ENGINEER

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas this _____ day of _____, 2011, A.D. in Document No._____ of the Plat Records.

_____ _____
County Clerk By Deputy

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

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

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

_____
Benito Barragan. R.P.L.S. Texas, No. 5615

OWNER

TROPICANA DEVELOPMENT INC.
4655 COHEN DRIVE
EL PASO, TEXAS 79924
VOICE (915) 821-3550
FAX (915) 821-3556
CONTACT: MR. R.L. BOWLING, III

ENGINEER

cea group
engineers • architects • planners
Castner Center @ Transmountain
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net
TEXAS FIRM REGISTRATION NO. 4564
CONTACT: JORGE L. AZCARATE, P.E.

SANDSTONE RANCH UNIT SEVEN REPLAT-C

BEING A PORTION OF BLOCK 1, LOTS 66 TO 69 AND 88 TO 91; BLOCK 7, LOTS 14 TO 31; BLOCK 12, LOTS 3 TO 44; BLOCK 28, LOTS 1 TO 34; BLOCK 30, LOTS 1 TO 8; BLOCK 31, LOTS 1 TO 13; AND PORTIONS OF ROW OUT OF SILVER CHOLLA DR., BROKEN WIND, AND CATTLE LN. AND COYOTE RANCH LN., ALL ROW OUT OF RAY MENA LN., AND ALL UTILITY EASEMENTS WITHIN SANDSTONE RANCH UNIT SEVEN, AN ADDITION TO THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES

SHEET 2 OF 2

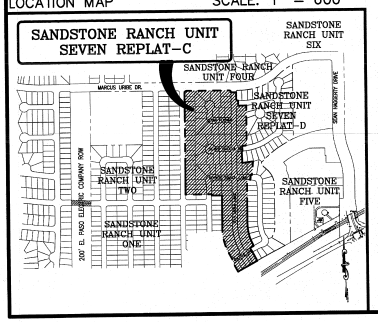
LINE TABLE

LINE	BEARING	LENGTH
L1	S88°01'16"E	51.00'
L2	S01°58'43"W	66.00'
L3	S01°58'46"W	50.00'
L4	S88°01'21"E	38.23'
L5	S00°17'47"E	50.00'
L6	S00°01'12"E	120.26'
L7	N84°58'37"E	110.72'
L8	N07°09'13"E	138.04'
L9	N07°50'00"E	50.00'
L10	S26°28'31"E	11.31'
L11	N63°31'32"E	42.52'
L12	S26°28'28"E	131.92'
L13	S26°28'27"E	99.97'
L14	N63°31'32"E	8.63'
L15	S26°28'27"E	107.54'
L16	S88°01'17"E	105.00'
L17	N01°58'43"E	13.00'
L18	S01°58'43"W	56.00'
L19	S88°01'17"E	56.00'
L20	S88°01'21"E	45.00'
L21	S88°01'21"E	66.15'
L22	N01°58'43"E	112.99'
L23	N01°58'43"E	56.00'
L24	S88°01'17"E	56.00'
L25	N63°31'00"E	130.39'
L26	S26°28'28"E	36.29'
L27	N63°32'20"E	88.48'
L28	S01°58'42"W	15.69'
L29	S88°01'17"E	7.47'
L30	N01°58'43"E	20.11'
L31	N01°58'43"E	17.64'
L32	S01°58'43"W	17.64'
L33	N07°22'26"E	10.06'
L34	S03°54'26"E	10.05'
L35	N69°14'10"E	10.05'
L36	N57°47'58"E	10.02'

CURVE TABLE

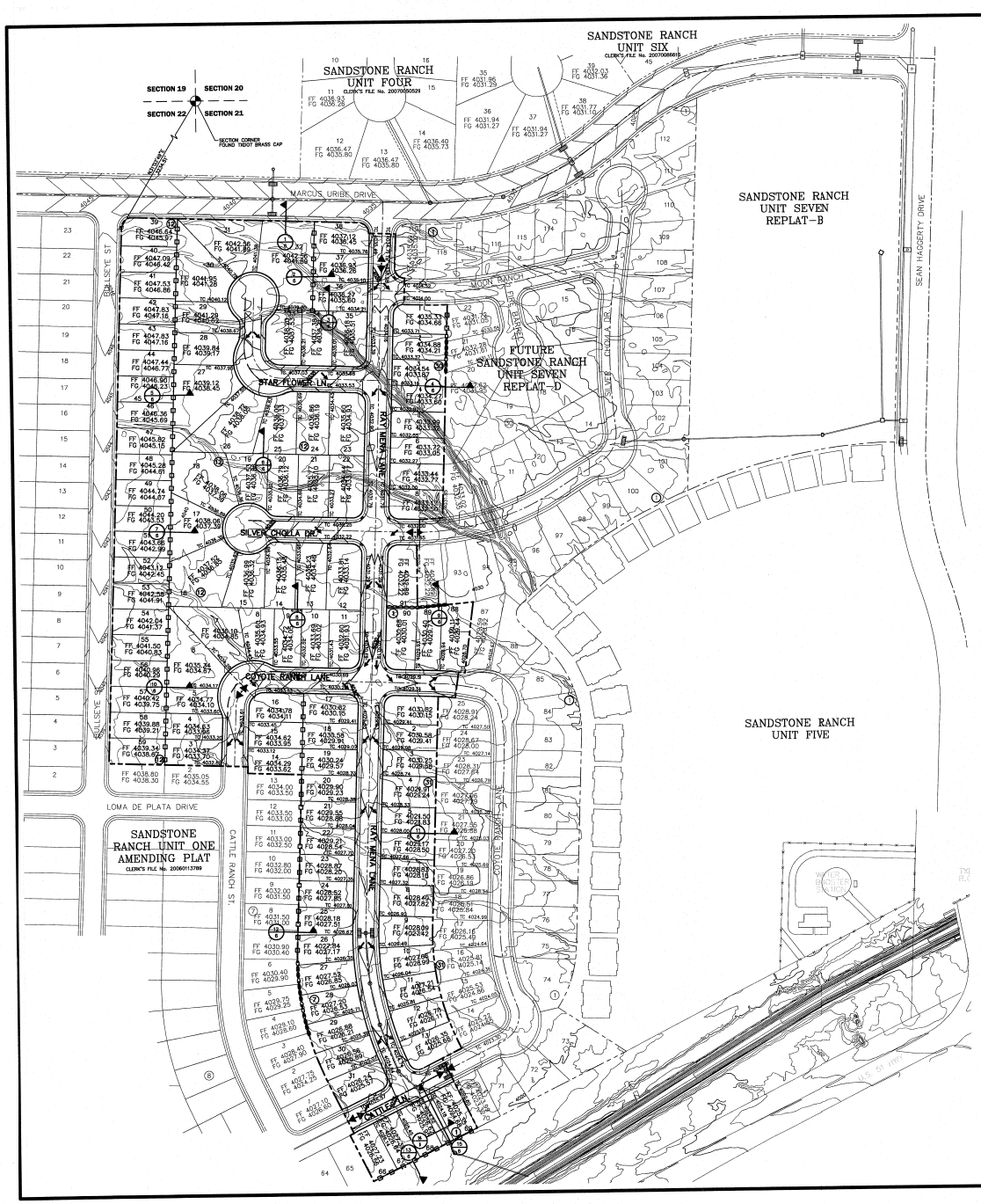
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	20.00'	31.42'	20.00'	28.28'	S46°58'44"W	90°00'01"
C2	20.00'	31.42'	20.00'	28.28'	N43°01'16"W	90°00'00"
C3	20.00'	31.42'	20.00'	28.28'	S43°01'19"E	90°00'03"
C4	711.31'	47.81'	23.91'	47.80'	S89°56'52"E	3°51'03"
C5	475.00'	46.21'	23.12'	46.19'	N86°55'01"E	5°34'25"
C6	525.00'	6.74'	3.37'	6.74'	S89°55'44"E	0°44'07"
C7	40.00'	6.11'	3.06'	6.10'	S85°42'08"E	8°44'57"
C8	400.00'	5.86'	2.93'	5.86'	N81°44'50"W	0°50'20"
C9	350.00'	33.92'	16.98'	33.91'	N84°56'36"W	5°33'16"
C10	469.00'	232.91'	118.91'	230.52'	S12°14'54"E	28°27'14"
C11	557.00'	276.80'	141.22'	273.77'	S12°14'52"E	28°27'10"
C12	56.00'	87.96'	56.00'	79.20'	S43°01'17"E	90°00'00"
C13	500.00'	19.84'	9.92'	19.84'	S89°09'34"E	2°16'26"
C14	56.00'	87.96'	56.00'	79.20'	S46°58'43"W	90°00'00"
C15	375.00'	38.32'	19.18'	38.30'	N85°05'39"W	5°51'17"
C16	600.00'	297.98'	152.12'	294.91'	S12°14'52"E	28°27'11"
C17	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C18	30.00'	47.12'	30.00'	42.43'	S43°01'16"E	89°59'59"
C19	20.00'	17.45'	9.33'	16.90'	S26°58'33"W	49°59'41"
C20	50.00'	20.85'	10.56'	20.70'	N40°01'40"E	23°53'26"
C21	50.00'	96.68'	72.46'	82.31'	N27°18'42"W	110°47'17"
C22	50.00'	44.94'	24.12'	43.45'	S71°32'38"W	51°30'04"
C23	50.00'	47.60'	25.78'	45.82'	S18°31'37"W	54°32'46"
C24	50.00'	34.26'	17.84'	33.60'	S28°23'05"E	39°15'49"
C25	20.00'	17.45'	9.33'	16.90'	N23°01'09"W	49°59'41"
C26	40.00'	18.22'	9.27'	18.06'	N15°01'34"E	26°05'44"
C27	70.00'	43.67'	22.57'	42.96'	S10°12'10"W	35°44'32"
C28	70.00'	43.72'	22.60'	43.02'	S25°33'47"E	35°47'21"
C29	70.00'	53.40'	28.07'	52.11'	S65°18'36"E	43°42'17"
C30	70.00'	32.93'	16.78'	32.63'	N79°21'37"E	26°57'16"
C31	40.00'	18.22'	9.27'	18.06'	S78°55'51"W	26°05'44"
C32	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C33	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C34	20.00'	17.45'	9.33'	16.90'	S63°01'26"E	49°59'41"
C35	50.00'	5.43'	2.72'	5.42'	N41°08'10"W	6°13'08"
C36	50.00'	57.99'	32.75'	54.80'	N77°28'27"W	66°27'26"
C37	50.00'	39.16'	20.65'	38.17'	S46°51'38"W	44°52'24"
C38	50.00'	40.17'	21.24'	39.10'	S01°24'23"W	46°02'05"
C39	50.00'	39.17'	20.65'	38.17'	S44°03'03"E	44°52'48"
C40	50.00'	56.99'	32.04'	53.96'	N80°51'22"E	65°18'24"
C41	50.00'	5.43'	2.72'	5.42'	N45°05'36"E	6°13'08"
C42	20.00'	17.45'	9.33'	16.90'	S66°58'52"W	49°59'41"
C43	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C44	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C45	30.00'	9.84'	4.98'	9.80'	S78°37'33"E	18°47'28"
C46	30.00'	4.50'	2.26'	4.50'	S64°55'45"E	8°36'08"
C47	70.00'	46.90'	24.37'	46.03'	N79°49'18"W	38°23'11"
C48	70.00'	42.45'	21.90'	41.80'	S63°36'47"W	34°44'43"
C49	70.00'	39.17'	20.11'	38.66'	S30°12'35"W	32°03'40"
C50	70.00'	48.37'	25.20'	47.42'	S00°37'04"E	39°35'38"
C51	30.00'	3.29'	1.65'	3.29'	N22°16'19"W	6°17'08"
C52	30.00'	11.05'	5.59'	10.99'	N38°34'30"W	21°06'27"
C53	30.00'	47.12'	30.00'	42.43'	S46°58'43"W	90°00'00"
C54	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C55	625.00'	19.43'	9.72'	19.43'	S01°05'16"W	1°46'53"
C56	625.00'	49.35'	24.69'	49.33'	S02°03'53"E	4°31'25"
C57	625.00'	49.35'	24.69'	49.33'	S06°35'18"E	4°31'25"
C58	625.00'	49.35'	24.69'	49.33'	S11°06'43"E	4°31'25"
C59	625.00'	49.35'	24.69'	49.33'	S15°38'08"E	4°31'25"
C60	625.00'	49.35'	24.69'	49.33'	S20°09'33"E	4°31'25"
C61	625.00'	35.80'	17.90'	35.79'	S24°03'43"E	3°16'55"
C62	20.00'	31.15'	19.73'	28.09'	N18°54'41"E	89°13'42"
C63	20.00'	31.73'	20.32'	28.50'	S71°01'34"E	90°53'48"
C64	575.00'	46.73'	23.38'	46.72'	S23°14'58"E	4°39'25"
C65	575.00'	61.97'	31.01'	61.94'	S17°50'01"E	6°10'28"
C66	575.00'	61.97'	31.01'	61.94'	S11°39'33"E	6°10'28"
C67	575.00'	61.97'	31.01'	61.94'	S05°29'04"E	6°10'28"
C68	575.00'	43.91'	21.97'	43.90'	S00°12'34"E	4°22'33"
C69	20.00'	31.42'	20.00'	28.28'	S46°58'43"W	90°00'00"
C70	350.00'	1.83'	0.92'	1.83'	N87°52'16"W	0°18'01"
C71	400.00'	37.32'	18.67'	37.31'	N84°50'23"W	5°20'46"
C72	400.00'	3.55'	1.78'	3.55'	N87°46'01"W	0°30'31"
C73	20.00'	31.42'	20.00'	28.28'	S43°01'17"E	90°00'00"
C74	20.00'	31.42'	20.00'	28.28'	S46°58'41"W	89°59'56"
C75	525.00'	14.10'	7.05'	14.10'	S88°47'30"E	1°32'20"
C76	475.00'	18.85'	9.43'	18.85'	S89°09'34"E	2°16'26"
C77	20.00'	31.42'	20.00'	28.28'	S43°01'19"E	90°00'04"
C78	20.00'	31.42'	20.00'	28.28'	S46°58'41"W	89°59'56"
C79	557.00'	37.81'	18.91'	37.80'	S00°02'03"W	3°53'20"
C80	557.00'	58.07'	29.06'	58.04'	S04°53'49"E	5°58'23"
C81	557.00'	58.12'	29.09'	58.09'	S10°52'22"E	5°98'43"
C82	557.00'	58.09'	29.07'	58.07'	S16°50'59"E	5°58'33"
C83	557.00'	57.99'	29.02'	57.96'	S22°49'12"E	5°57'54"
C84	557.00'	6.53'	3.26'	6.53'	S26°08'18"E	0°40'16"
C85	469.00'	45.47'	22.75'	45.45'	S23°41'53"E	5°33'15"
C86	469.00'	50.54'	25.30'	50.52'	S17°50'01"E	6°10'28"
C87	469.00'	50.54'	25.30'	50.52'	S11°39'33"E	6°10'28"
C88	469.00'	50.54'	25.30'	50.52'	S05°29'04"E	6°10'28"
C89	469.00'	35.82'	17.92'	35.81'	S00°12'34"E	4°22'33"

LOCATION MAP SCALE: 1" = 600'



OWNER
TROPICANA DEVELOPMENT INC.
4655 COHEN DRIVE
EL PASO, TEXAS 79924
VOICE (915) 821-3550
FAX (915) 821-3556
CONTACT: MR. R.L. BOWLING, III

ENGINEER
cea group
engineers • architects • planners
Cassner Center @ Transmountain
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net
TEXAS FIRM REGISTRATION NO. 4564
CONTACT: JORGE L. AZCARATE, P.E.



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) 852-3796
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

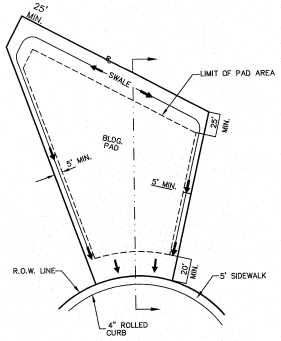
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

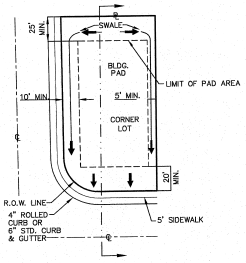
- EXISTING RETAINING WALL
- NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
- 5' X 5' WHEELCHAIR PASSING
- EXISTING MINOR CONTOUR
- 4075 EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 4075 PROPOSED MAJOR CONTOUR

NOTES:

1. RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2-FEET.
2. DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
3. IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU's, SIGNS, POLES, FIRE HYDRANTS, ETC.).
4. IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A. STANDARDS.
5. U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS.
6. EXISTING PAVEMENT SHALL BE DEMOLISHED TO THE CURB RETURNS. CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO NOT DAMAGE ADJACENT PROPERTY. ANY DAMAGE SHALL BE REPAIRED AT ORIGINAL OR BETTER CONDITION AT CONTRACTOR'S EXPENSE.
7. ALL WHEELCHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
8. RETAINING ROCKWALLS (PORTIONS) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
9. CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL NOT BE PERMITTED.



TYPICAL LOT DETAILS
SCALE: NTS



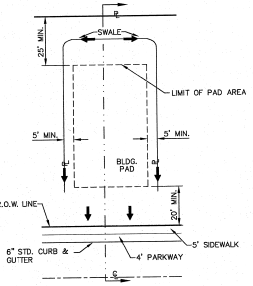
TYPICAL LOT DETAILS
SCALE: NTS

BENCHMARK:

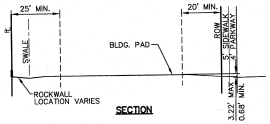
FOUND TXDOT BRASS CAP SECTION CORNERS 19, 20, 22 AND 21. ELEVATION: 4033.22 (NVGD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM)

FLOOD ZONE:

THIS SUBDIVISION LIES WITHIN ZONE "C" AS DESIGNATED IN PANEL NO. 480214-0014 D, DATED AUGUST 5, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING.



PLAN



SECTION

TYPICAL LOT PLAN
SCALE: 1" = 30'

NOTES:

1. 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)

GRADING PLAN
SCALE: 1" = 100'

GRAPHIC SCALE
50 0 50 100 200 300
(IN FEET)
1 inch = 100 ft.

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 22 AND 21. ELEVATION: 4033.22 (NVGD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4384
4712 Woodrow Bean, Suite C, El Paso, Texas 79924
Office: 915.566.6400 Fax: 915.566.6555 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. ACUAVIVE
85075

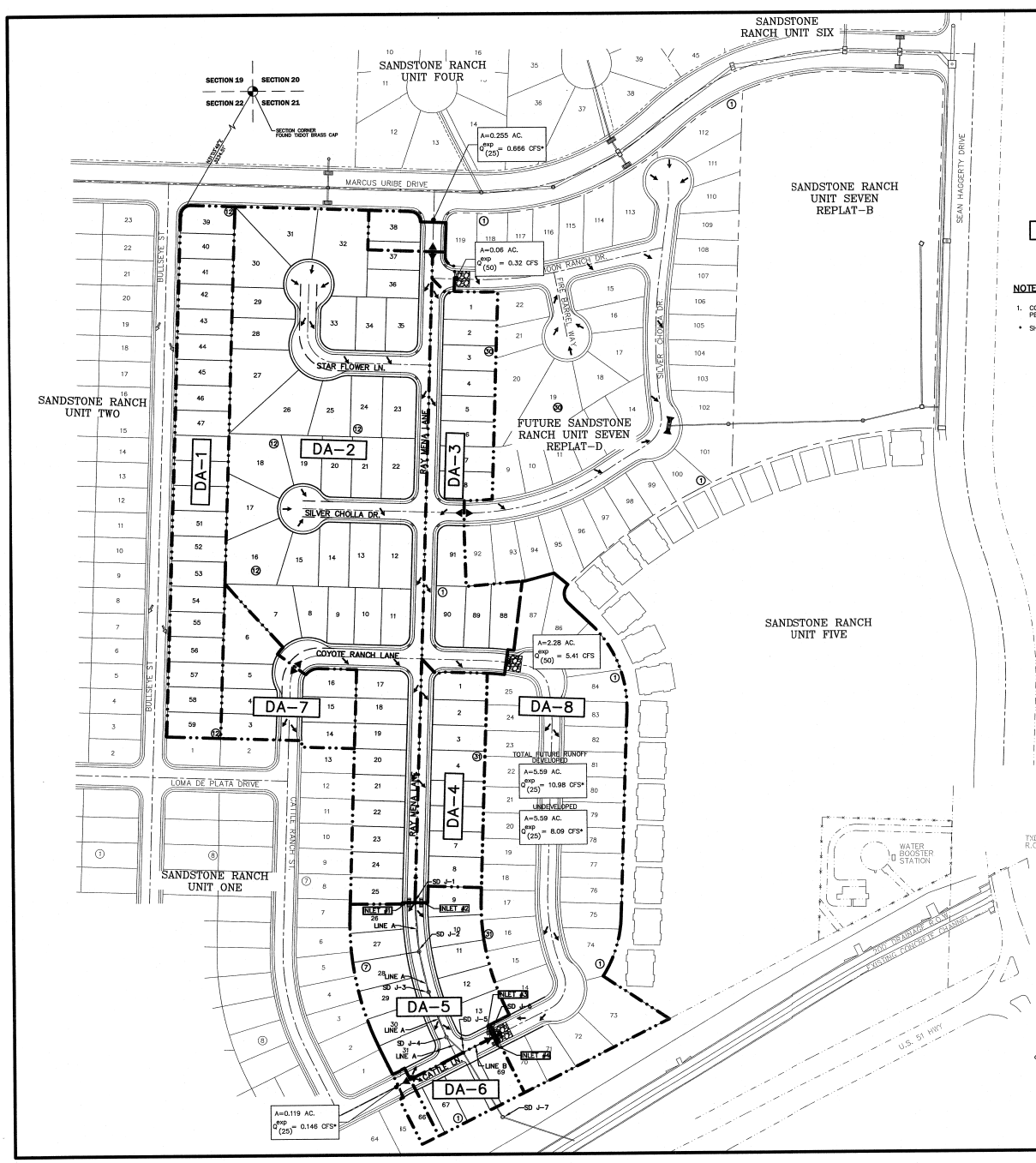
SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A

DATE:	MAY 2011
DESIGN BY:	G.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPR. BY:	J.L.A.
JOB No.	2000-128-D

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING PLAN

SHEET NO.
4
OF 36



DRAINAGE PLAN

SCALE: 1" = 100'

LEGEND:

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- DROP INLET
- STORM DRAIN MANHOLE
- RCP
- THRUST BLOCK STRUCTURE
- DA-1 — DRAINAGE AREA
- TEMPORARY SILT BASIN ENTRANCE

NOTES:

1. CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL NOT BE PERMITTED.

* SHOWN FOR INFORMATION ONLY.

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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

50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I50) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (7)
DA-1	2.63	3.71	22.57	0.60	5.85
DA-2	9.18	3.22	28.42	0.66	19.70
DA-3	2.30	3.42	25.85	0.69	5.41
DA-4	1.30	3.57	24.10	0.66	3.08
DA-5	1.96	3.67	23.00	0.69	4.82
DA-6	0.58	3.99	19.90	0.66	1.52
DA-7	1.18	3.65	23.20	0.65	2.80
DA-8	5.59	3.65	23.24	0.66	13.45

* Q50 IS BASED ON DEVELOPED RUNOFF

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 COIICENTRATION: TC= T (OVERLAND) + T (GUTTER)

(5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A
RESIDENTIAL AREA = 0.50 (≥ 6,000 SQ.FT.)
= 0.60 (< 6,000 SQ.FT.)

PAVEMENT AREA = 0.90

(6) $Q_{50} = C \times A \times I_{50}$

25 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I25) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q25 (CFS) (6)
DA-1	2.63	3.03	22.57	0.60	4.77
DA-2	9.18	2.65	28.42	0.67	16.22
DA-3	2.30	2.80	25.85	0.69	4.44
DA-4	1.30	2.92	24.10	0.66	2.52
DA-5	1.96	3.00	23.00	0.67	3.93
DA-6	0.58	3.24	19.90	0.66	1.24
DA-7	1.18	2.98	23.20	0.65	2.28
DA-8	5.59	2.98	23.24	0.66	10.98

* Q25 IS BASED ON DEVELOPED RUNOFF

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

(1) WATERSHED AREA IDENTIFICATION

(2) AREA FROM DRAINAGE PLAN

(3) RAINFALL INTENSITY, 25 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 = 0.50 (≥ 6,000 SQ.FT.)
= 0.60 (< 6,000 SQ.FT.)

PAVEMENT AREA = 0.90

(6) $Q_{25} = C \times A \times I_{25}$

DROP INLETS

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	11.39	14.237	0	0	3	I	ON-GRADE
2	11.39	14.237	0	0	3	I	ON-GRADE
3	12.60	19.267	0	0	2	I	SUMP
4	12.60	19.267	0	0	2	I	SUMP

MOMENTUM COMPUTATION

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.357	2.741	0.978
2	0.357	2.741	0.978
3	0.311	4.292	1.335
4	0.311	4.292	1.335

(1) LCCATION

(2) DEPTH

(3) VELOCITY

(4) PRODUCT NUMBER = DEPTH x VELOCITY

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4504
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.0202 Fax 915.544.0203 www.ceagroup.net

ENGINEER'S SEAL

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-1259-D

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE PLAN

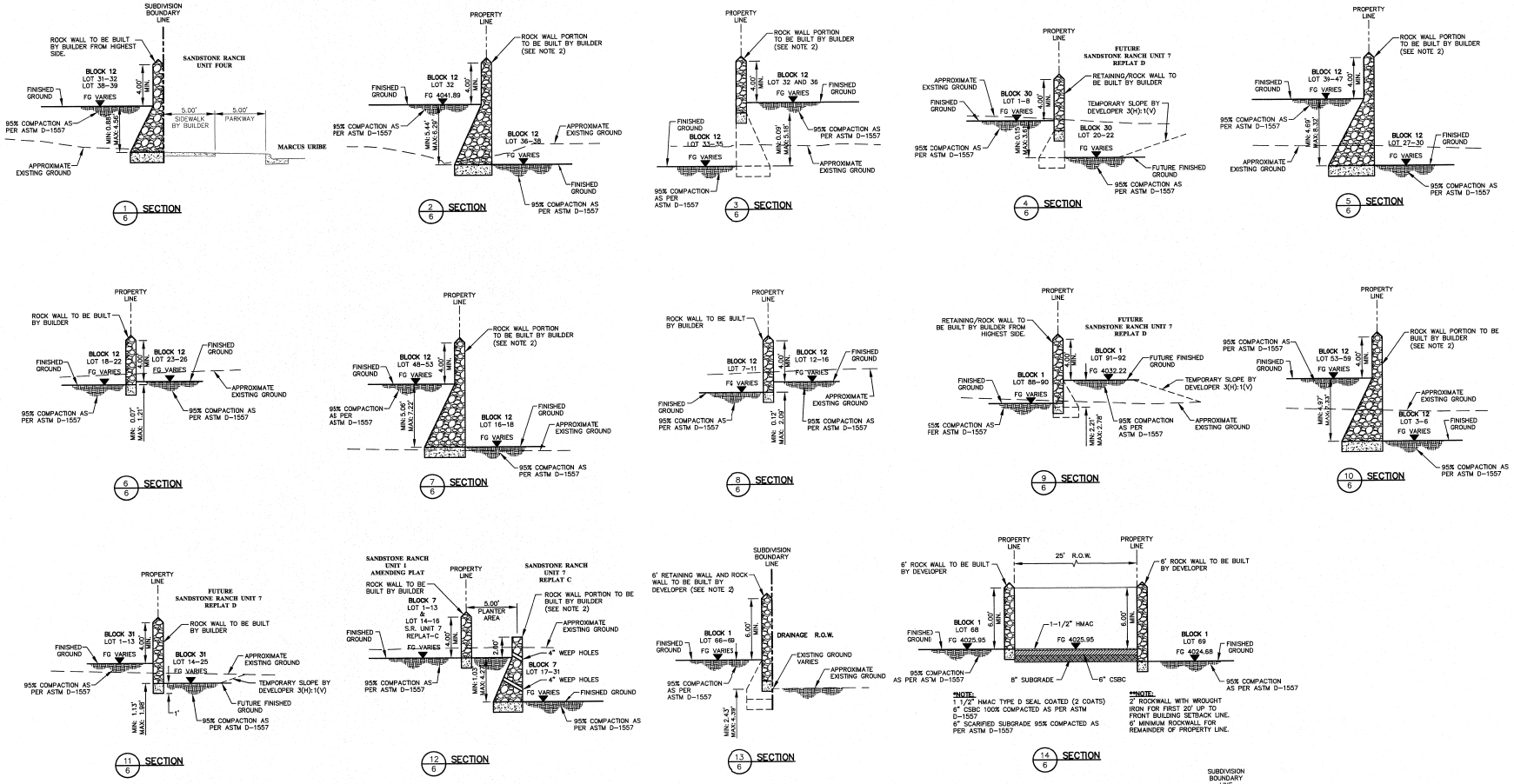
SHEET NO.

5

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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



NOTES:

1. SIDEWALK ON ALL DOUBLE FRONTAGE LOTS SHALL BE BUILT BY BUILDER.
2. DEVELOPER IS RESPONSIBLE FOR CONSTRUCTING ALL RETAINING WALL (RETAINING PORTION ONLY) FOR RETAINING HEIGHTS OF 4 FEET OR HIGHER

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS RESGISTERED ENGINEERING FIRM F-4064
4140 Rio Bravo, Suite 300 El Paso, Texas 79902
Office: 915.544.0200 Fax: 915.545.3233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. ACEVEDO
85075
STATE OF TEXAS
9/11/11

SCALE
Horizontal: NONE
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

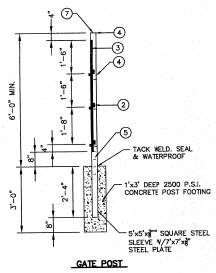
PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
SHEET 1 OF 2

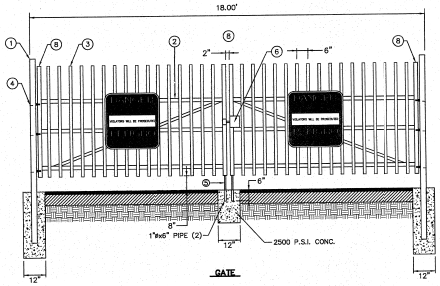
SHEET NO.
6
OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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



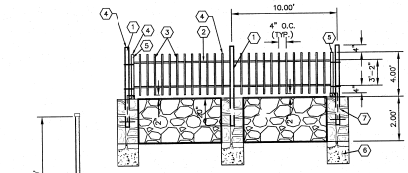
GATE POST

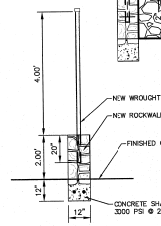


GATE

NOTES:
1. 3"x3"x3/16" SQUARE STEEL TUBING
2. 2"x1"x14 GA. RECTANGULAR STEEL TUBING
3. 1 1/2"x1 1/2"x16 GA. RECTANGULAR STEEL TUBING
4. BOLT HOOK AND STRAP HINGE
5. CANE BOLT LATCH W/KEEPER 5-8"x18" LONG (2 REQUIRED)
6. DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
7. FLAT TOP POLYVINYL CAP
8. 2"x1"x1C GA. RECT. STL. TUBING

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

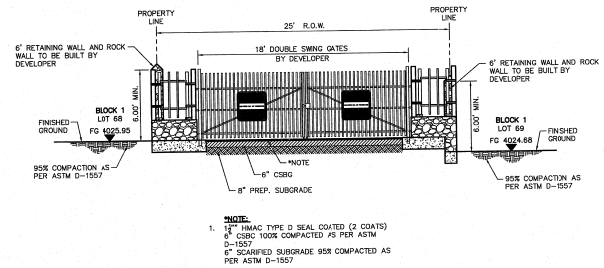




ROCKWALL SECTION
SCALE: 1/2"=1'-0"

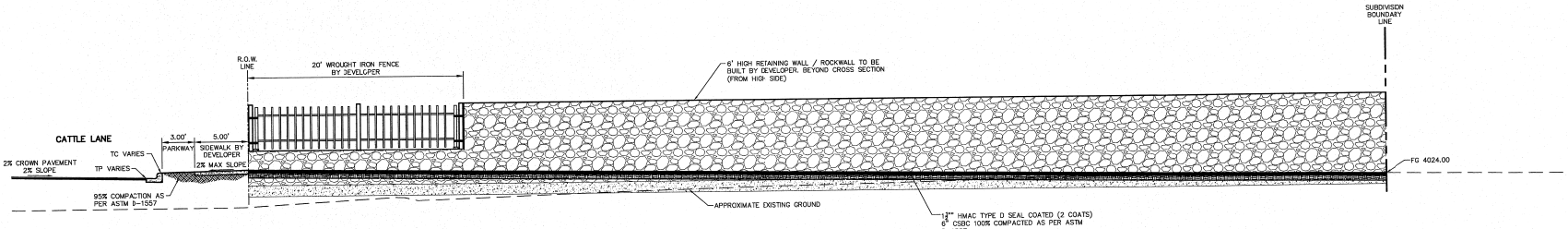
KEY NOTES
1. 3"x3"x3/16" SQUARE STEEL TUBING
2. 2"x1"x14 GA. RECTANGULAR STEEL TUBING
3. 1 1/2"x1 1/2"x16 GA. RECTANGULAR STEEL TUBING
4. STEEL CAPS TO BE COMPLETELY WELDED.
5. 2"x1"x10 GA. RECTANGULAR STEEL TUBING
6. 1'x1' DEEP 3000 PSI CONCRETE POST FOOTING
7. 5"x5"x3/8" SQUARE STEEL SLEEVE W/7"x7"x3/8" BASE PLATE
* ALL ASSEMBLY TO HAVE COMPLETE WELDS FOR RAILS AND SLATS ONTO EACH OTHER AND POST.

2/7 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS
SCALE: N.T.S.



*NOTE:
1. 1 1/2" HMAC TYPE D SEAL COATED (2 COATS)
6" CSBC 100% COMPACTED AS PER ASTM D-1557
6" SCARIFIED SUBGRADE 95% COMPACTED AS PER ASTM D-1557

3/7 FRONT VIEW
SCALE: N.T.S.



4/7 PLAN VIEW
SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4594
4172 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5253 www.ceagroup.net

ENGINEER'S SEAL
STATE OF TEXAS
JOHNNIE L. MCCLANAHAN
85073
LICENSED
PROFESSIONAL ENGINEER

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: G.R.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-10

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS

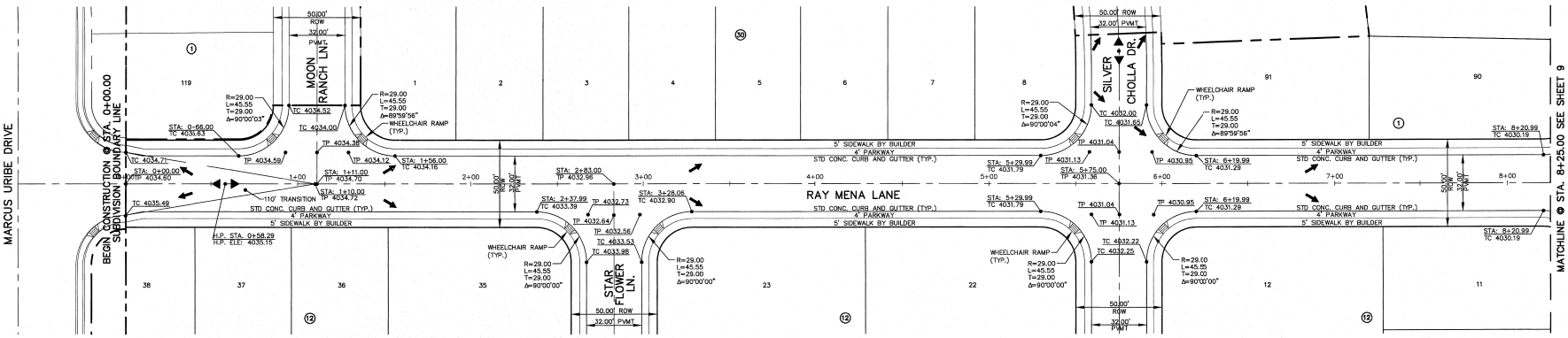
SHEET 2 OF 2

SHEET NO.
7
OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

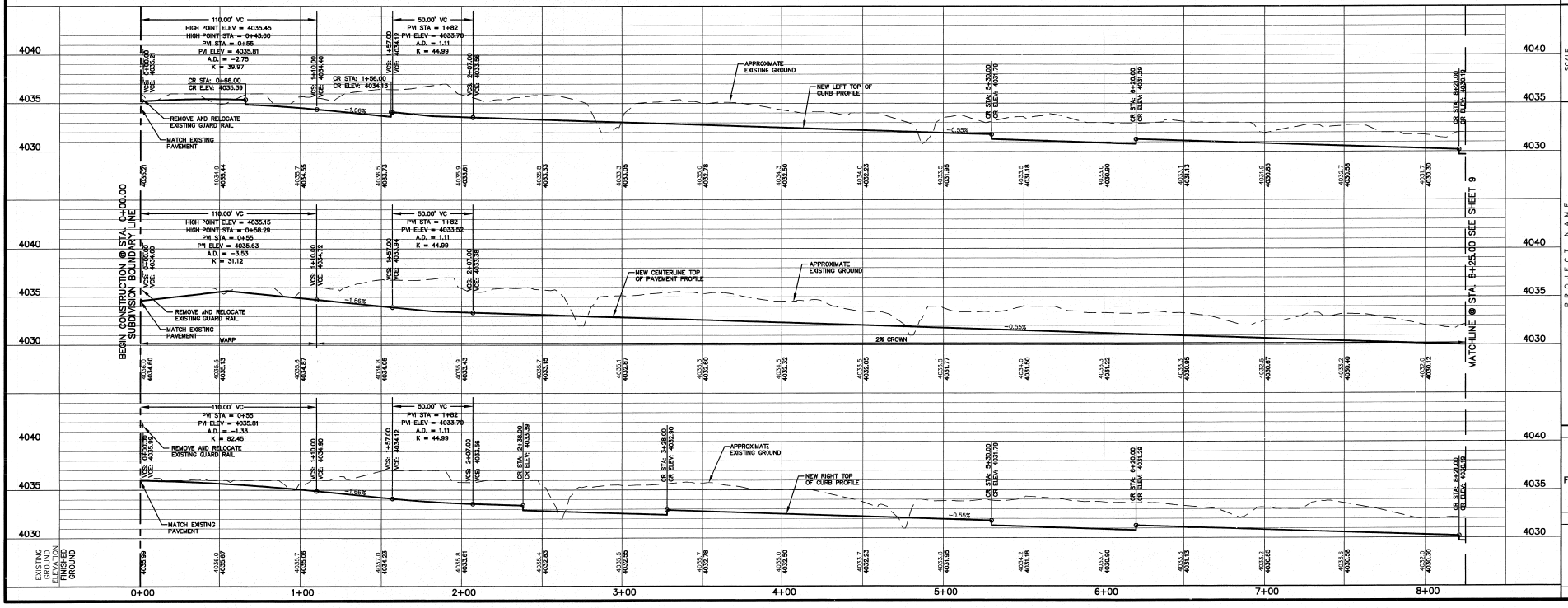
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES



PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEV. = 4033.22 (NGVD DATUM); 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-1654
4712 Wyoming Blvd., Ste. F El Paso, TX 79904
Office 915.544.6202 Fax: 915.544.6203 www.ceagroup.net

ENGINEER'S SEAL

85075 LICENSED TEXAS REGISTERED PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: R.C.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2006-179-10

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

RAY MENA ST. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 8+25.00

SHEET NO.

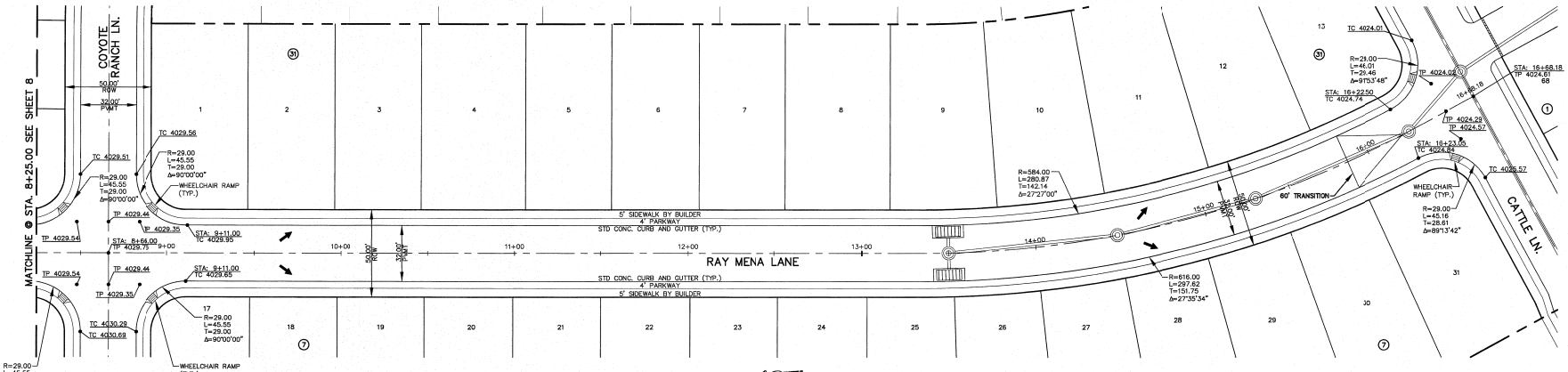
8

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

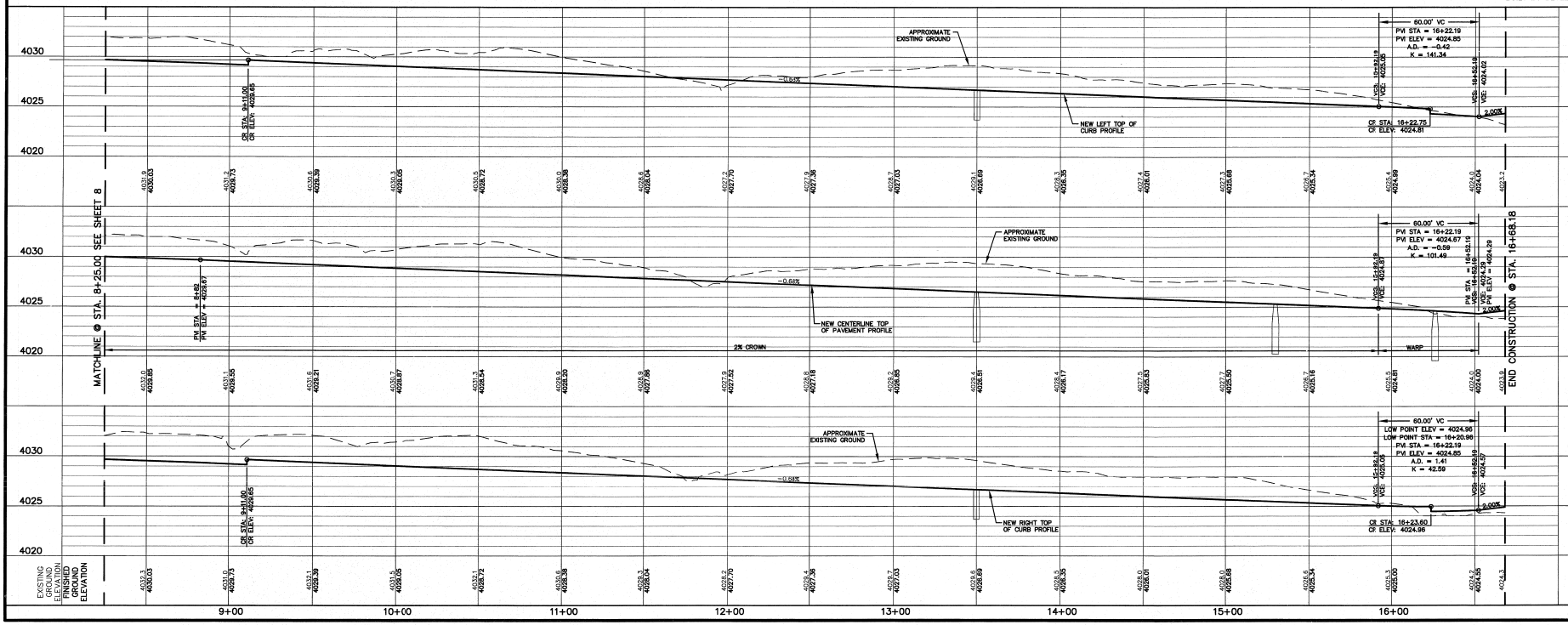
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES



PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER; ELEVATION = 4029.19 (NGVD DATUM) 4033.22 (NGVD DATUM) (SUBTRACT 3.482 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-1704
1155 Westmoreland Drive, Suite 200, El Paso, Texas 79925
Office: 915.544.0333 Fax: 915.544.0353 www.ceagroup.net

ENGINEER'S SEAL

STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED — PROFESSIONAL ENGINEER

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

DATE: MAY 2011
DESIGN BY: J.H.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-126-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

RAY MENA ST. PLAN & PROFILE FROM STA. 8+25.00 TO STA. 16+68.19

SHEET NO.

9 OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

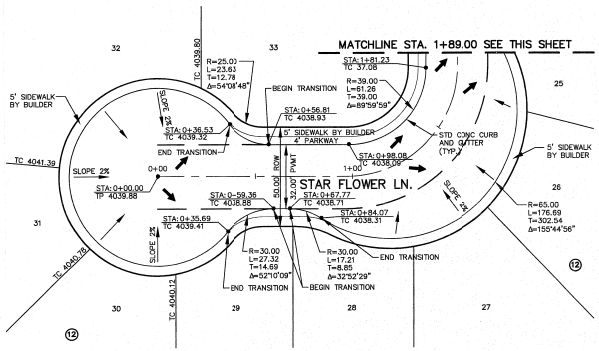
WARNING ! BEFORE YOU DIG

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

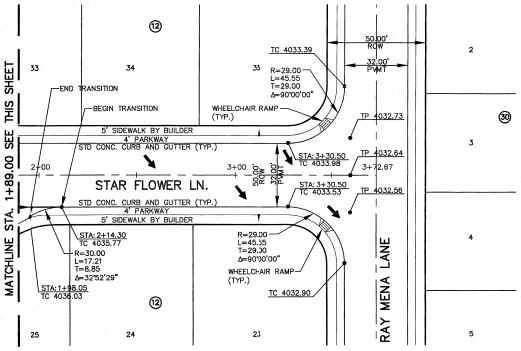
REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 29, 30 ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY



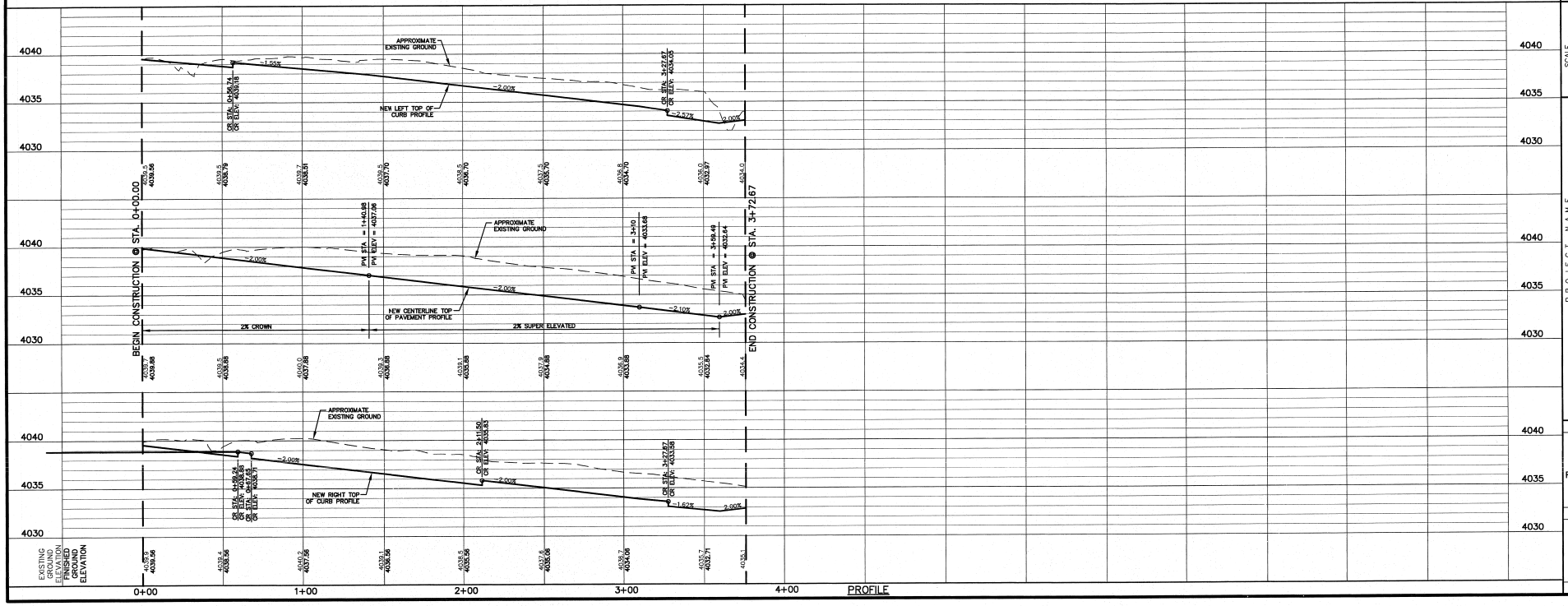
PLAN



PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



ENGINEER'S SEAL

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: A.A.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2006-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

STAR FLOWER LN. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+72.67

SHEET NO.

10

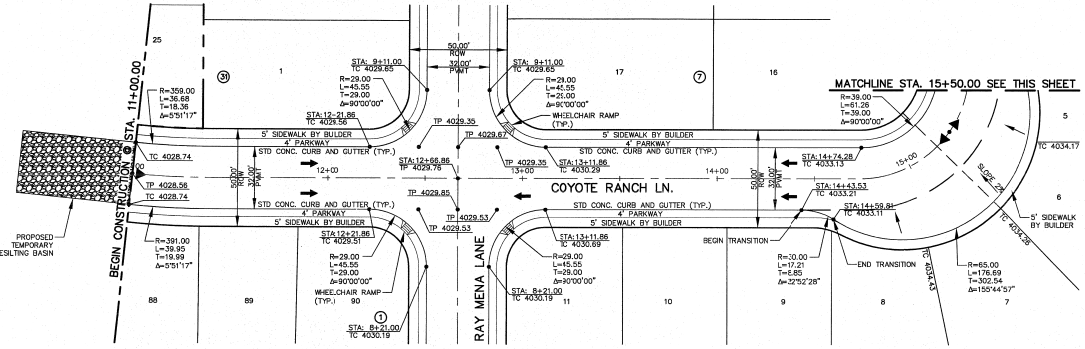
OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

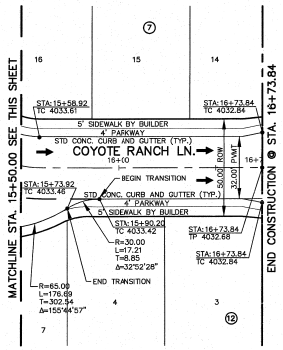
WARNING !
BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4042.23' (NAVD 88 DATUM) (SEE PLAT B-462 TO CONVERT TO CITY DATUM)

DATE	REVISIONS	BY

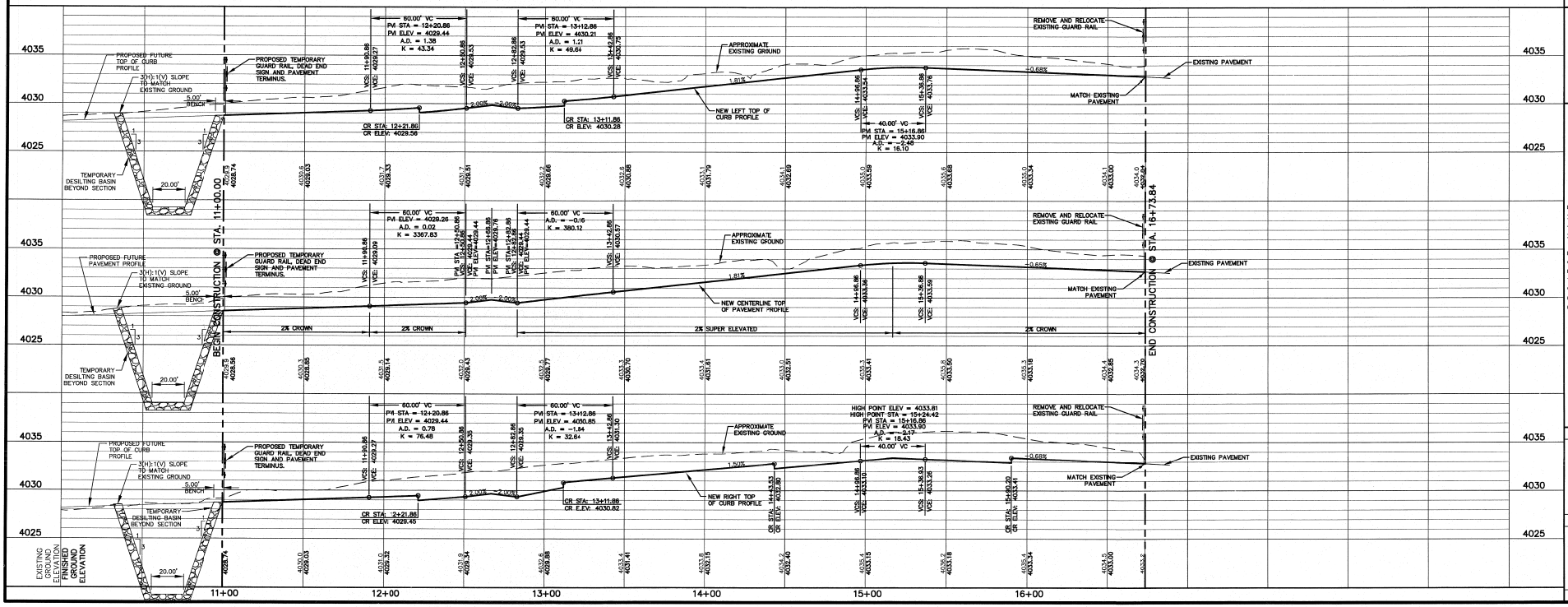


PLAN



PLAN

LEGEND:
WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



ENGINEER'S SEAL
JORGE L. AZCARATE
85075
TEXAS

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4694
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
(915) 581-3018 FAX (915) 581-3021 www.ceagroup.net

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: H.L.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
COYOTE RANCH LN. PLAN & PROFILE FROM STA. 11+00.00 TO STA. 16+73.84

SHEET NO.
11
OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

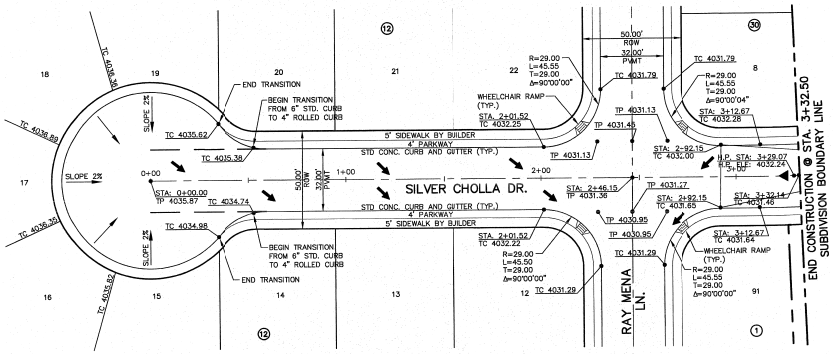
WARNING ! BEFORE YOU DIG

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

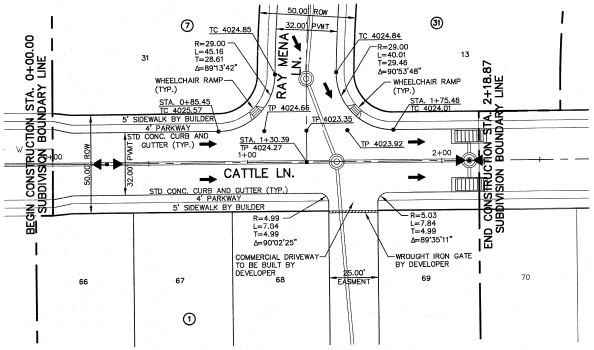
REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY



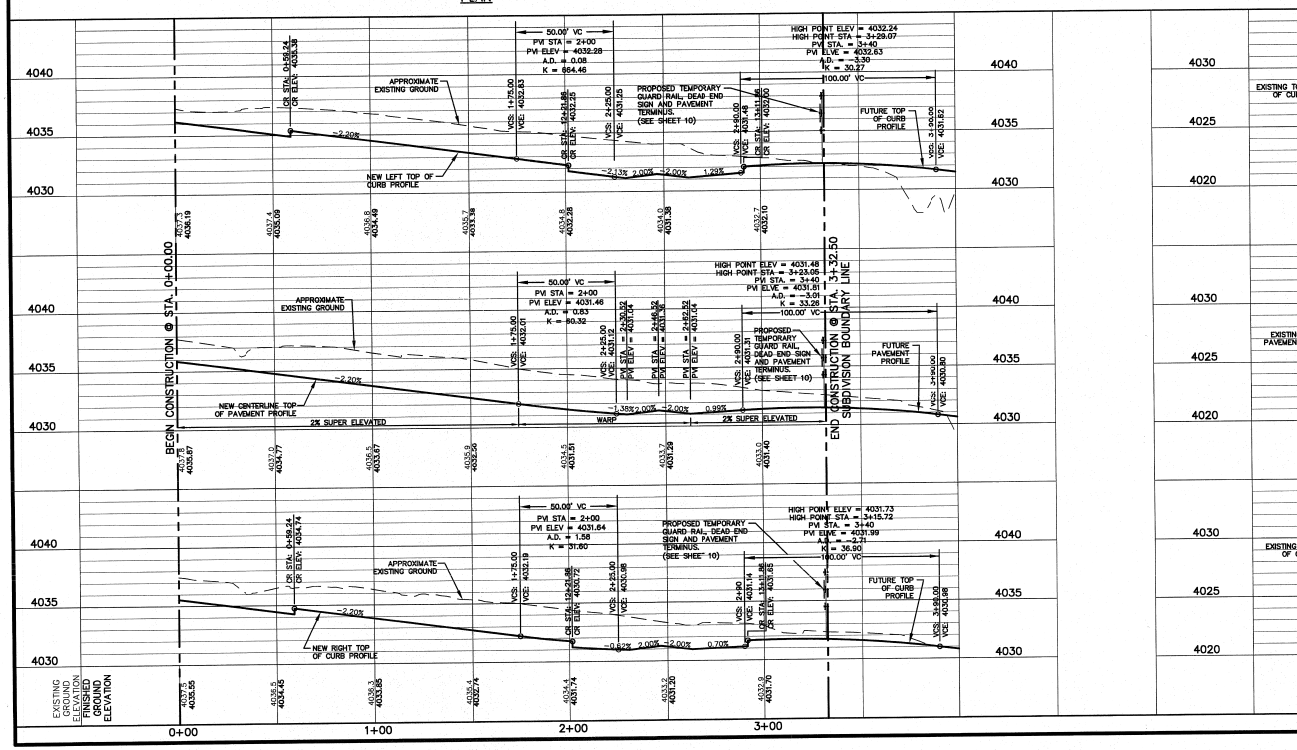
PLAN

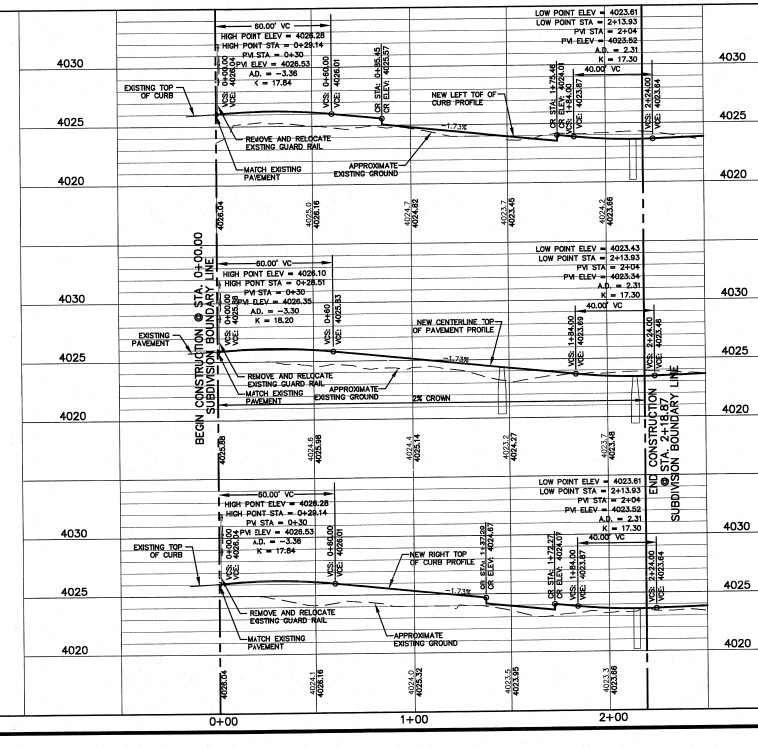


PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER





ENGINEER'S SEAL

JORGE L. ALCARATE
85075
TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHECKED BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SILVER CHOLLA PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+32.50 CATTLE LANE PLAN & PROFILE STA. 0+00.00 TO STA. 2+18.87

SHEET NO.

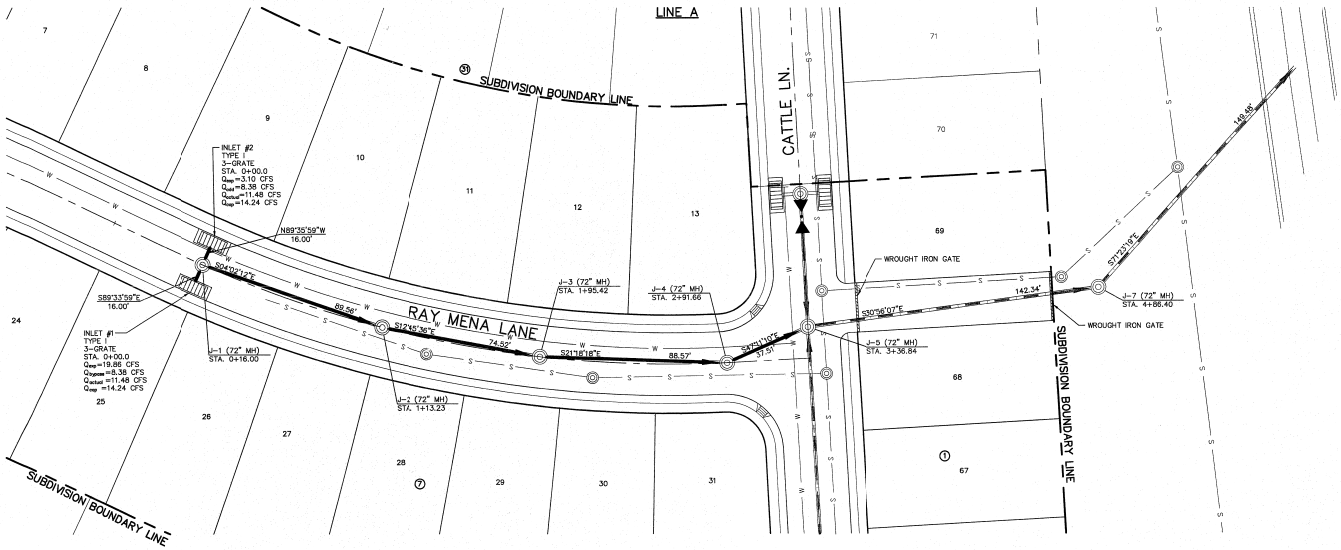
12

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

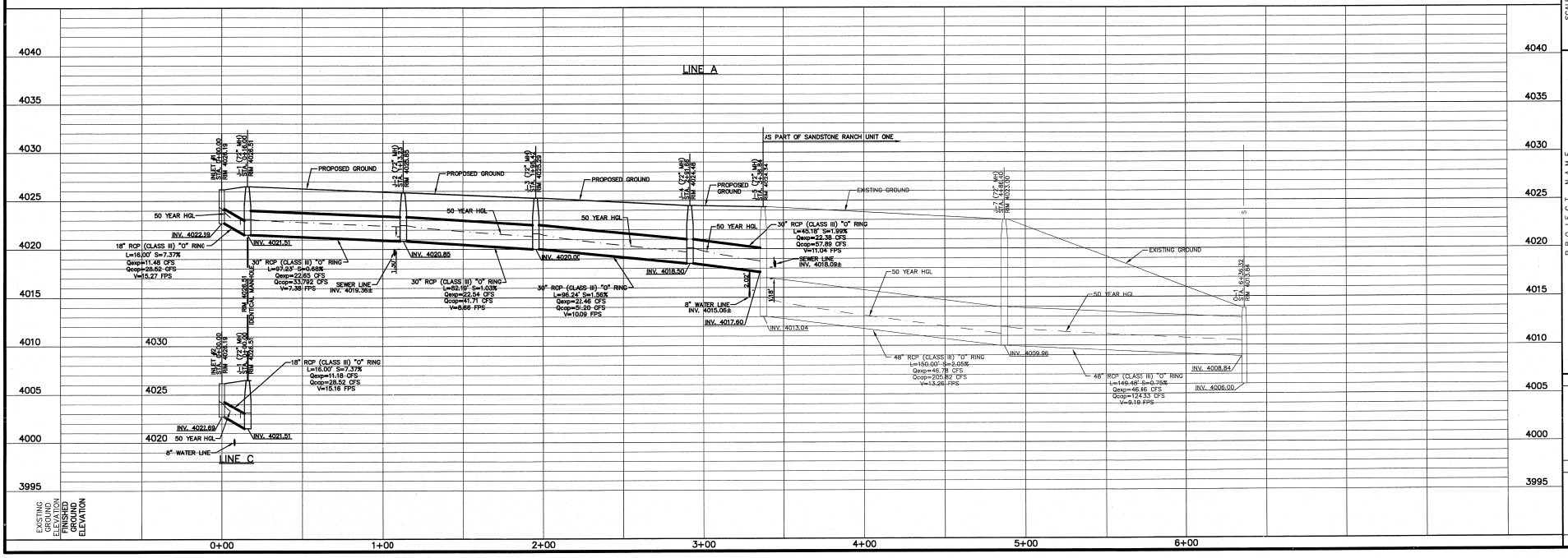
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES



PLAN

LEGEND:

- STORM SEWER LINE
- PROPOSED STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- WATER LINE
- SANITARY SEWER LINE
- DROP INLET
- MANHOLE



REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 29, AND 21. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.0232 Fax: 915.544.0293 www.ceagroup.net

ENGINEER'S SEAL

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

DATE: MAY 2011
DESIGN BY: J.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-129-L0

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM DRAIN PLAN & PROFILE "A" FROM STA. 0+00.00 TO STA. 6+36.32

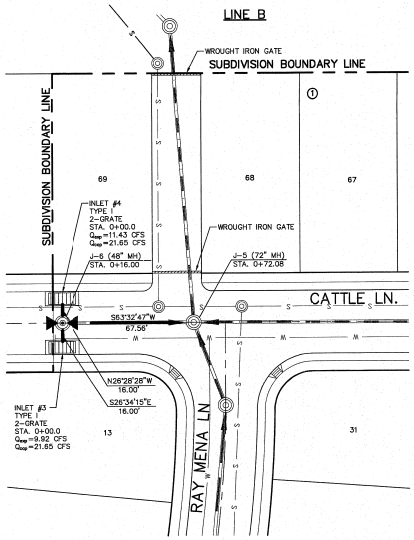
SHEET NO.

13

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

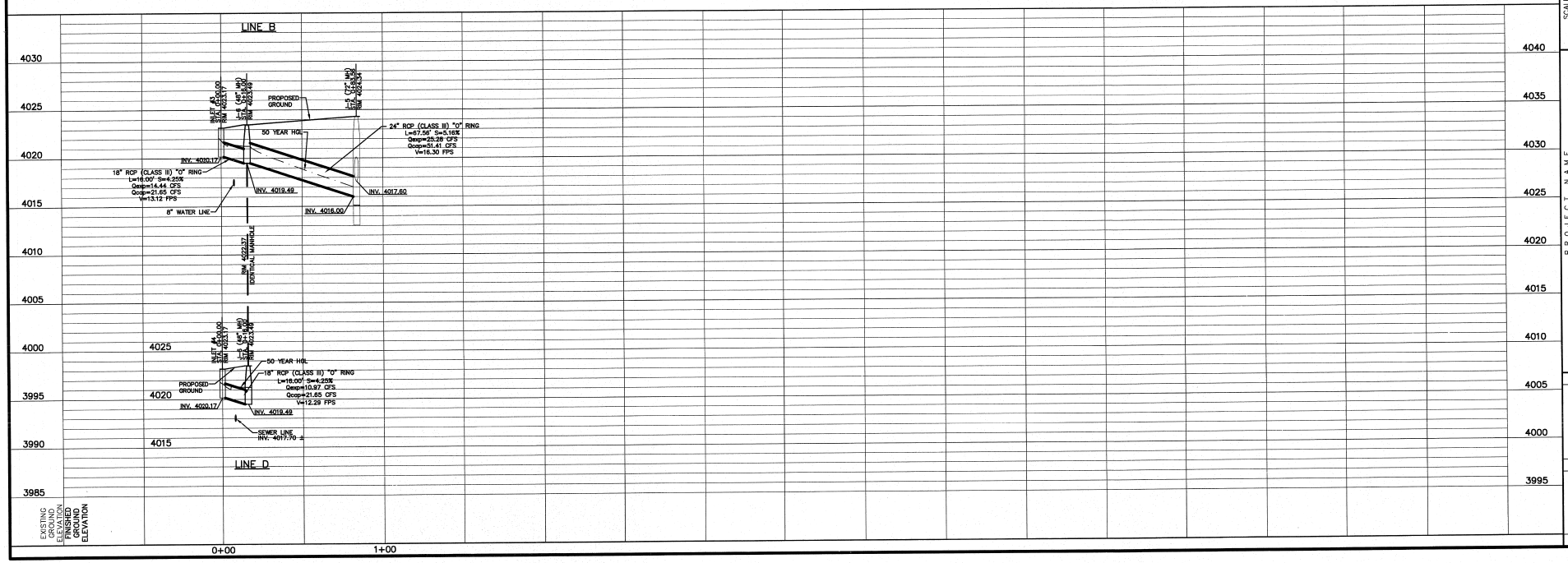
WARNING !
BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES



PLAN

LEGEND:

- STORM SEWER LINE
- PROPOSED STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- WATER LINE
- SANITARY SEWER LINE
- DROP INLET
- MANHOLE



REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

CEA GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4264
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.0232 Fax: 915.544.0233 www.ceagroup.net

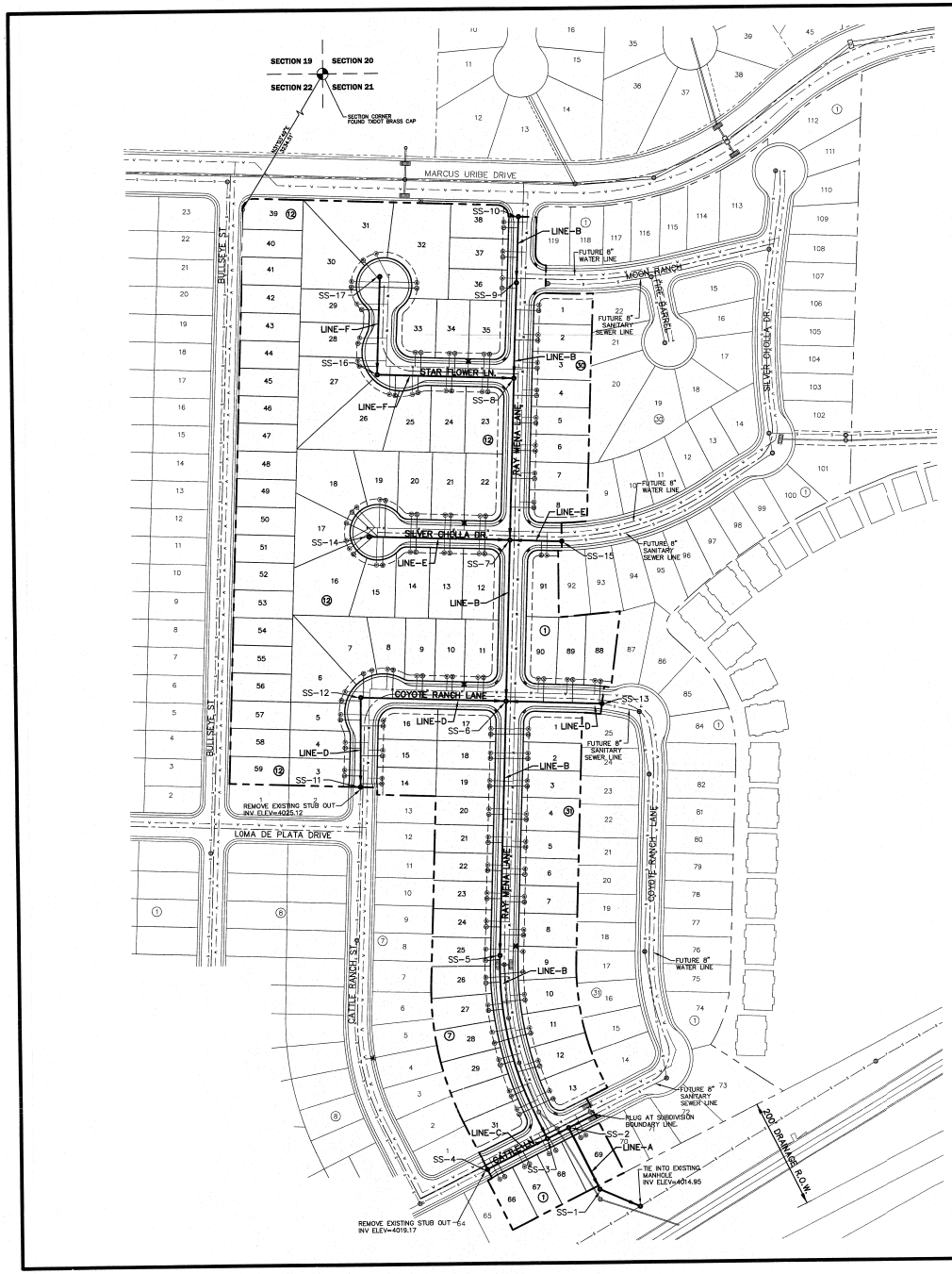
ENGINEER'S SEAL
STATE OF TEXAS
JOSEPH L. ALBANESE
65075
LICENSED
PROFESSIONAL ENGINEER

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: MAY 2001
DESIGN BY: G.B.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-10

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM DRAIN PLAN & PROFILE "B" FROM STA. 0+00.00 TO STA. 0+83.56

SHEET NO.
14
OF 36



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

GENERAL UTILITIES:
TEXAS EXCAVATION SAFETY SERVICE
11864 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. BODNE ST.
EL PASO, TX. 79905
(915) 534-7910
MR. RICK DERADISCH

FIBER OPTICS:
MCI TELECOMMUNICATIONS CORPS.
4040 DORIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
MR. DANIEL HERNANDEZ

FIBER OPTICS:
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
1(800) 852-3788
MS. DARIENE NORIS

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

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. DARYL W. COLE

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

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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.

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

GENERAL NOTES

1. LESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATION DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
2. 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, 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.
3. 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.
4. TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
5. 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.
6. 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.
7. 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.
8. IF REQUIRED, TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
9. ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPPERATIONAL WATER SYSTEM.
11. ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
12. CONSTRUCTION OF THE PUBLIC WATER AND SANITARY SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
13. ALL SEWER LINES SHALL BE PVC SDR35 PIPE UNLESS OTHERWISE REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.

LEGEND

SYMBOL	DESCRIPTION
	10' UTILITY EASEMENT
S S	EXISTING SEWER LINE
W W	EXISTING WATER LINE
W W	PROPOSED WATER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
8" SWR SDR35	PROPOSED SEWER LINE (PLAN VIEW)
12" SWR SDR35	PROPOSED SEWER LINE (PLAN VIEW)
P.V.C @ (SLOPE) Q=(CA²ACITY) GPM	PROPOSED SEWER LINE (PROFILE VIEW)
	PROPOSED STORM SEWER
	PROPOSED MANHOLE (PLAN VIEW)
	PROPOSED 8" CAP
S	PROPOSED SERVICE CONNECTION (PLAN VIEW)
	PROPOSED MANHOLE (PROFILE VIEW)
	EXISTING MANHOLE (PROFILE VIEW)

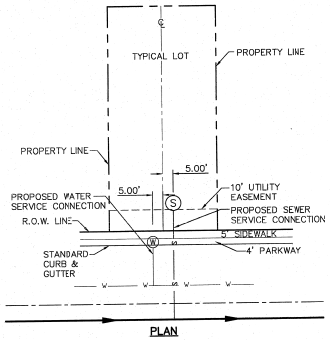
SANITARY INDEX MAP

SCALE: 1" = 100'

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.



PLAN

SERVICE LOCATION DETAIL

SCALE: N.T.S.

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-5664
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
90079
STATE OF TEXAS

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

DATE: APRIL 2011
DESIGN. BY: M.E.
DRAWN. BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER INDEX

SHEET NO.

15

OF 36

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) 545-6000
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

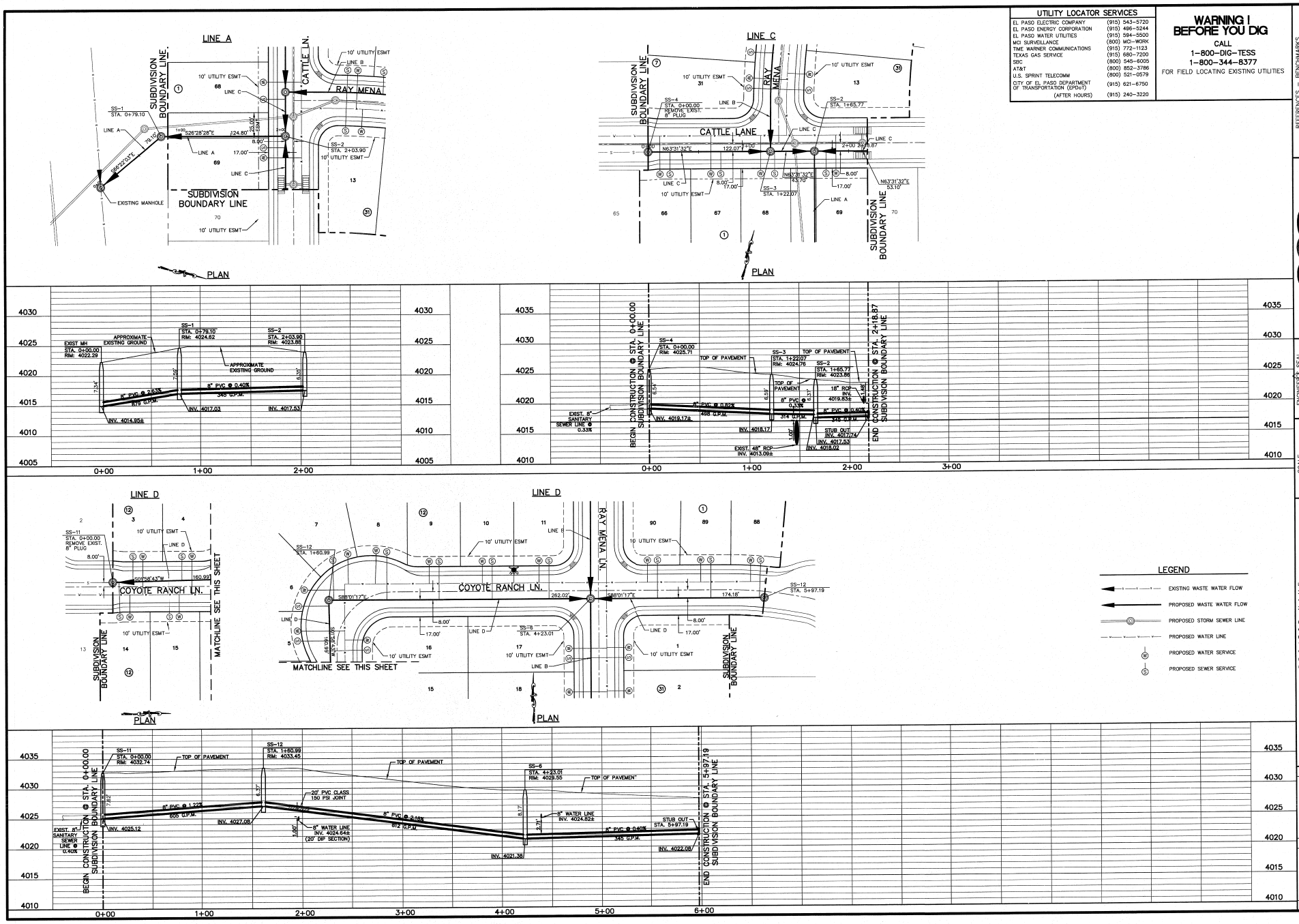
WARNING ! BEFORE YOU DIG

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

REFERENCES - BENCHMARKS

FOUND 3/8OT BRASS CAP AT SECTION CORNERS 19, 20, 29 AND 21 ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY



cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.544.3233 Fax: 915.544.3233 www.ceagroup.net

ENGINEER'S SEAL

85073
JAMES L. ADDAMS III
CITY OF EL PASO, TEXAS
PROFESSIONAL ENGINEER

SCALE	
Horizontal:	1"=40'
Vertical:	1"=5'
Contour Interval:	N/A
DATE:	MAY 2011
DESIGN BY:	G.C.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

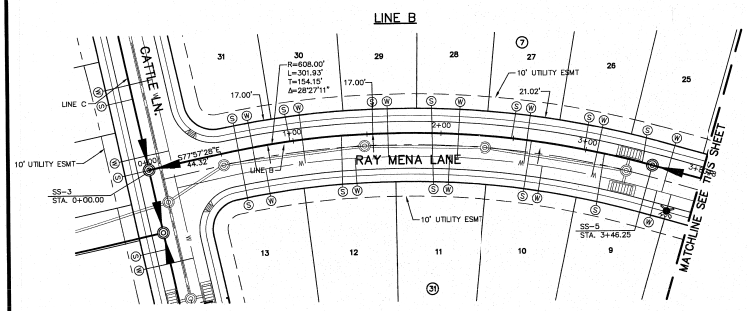
SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINES A, C & D

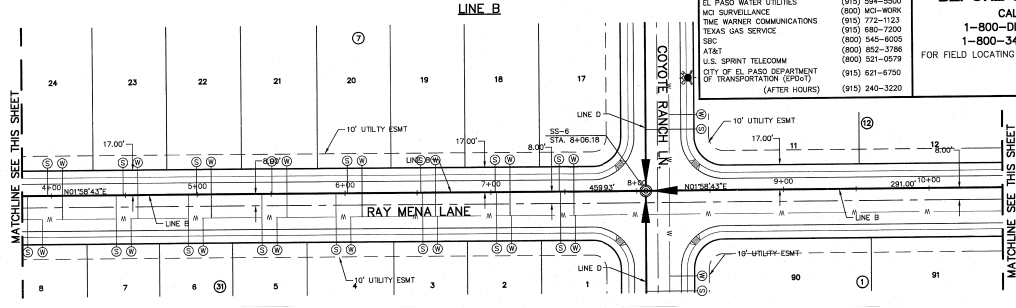
SHEET NO.

16

OF 36



PLAN



PLAN LINE B

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT) (AFTER HOURS)	(915) 621-6750 (915) 240-3220

WARNING ! BEFORE YOU DIG

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

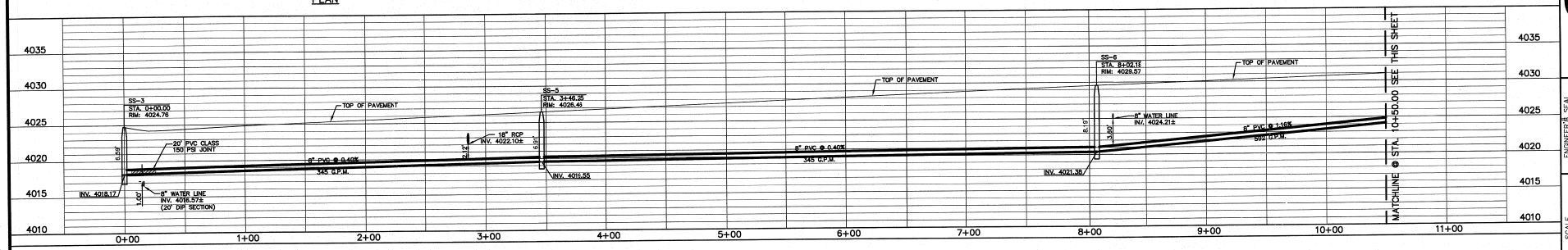
REFERENCES - BENCHMARKS

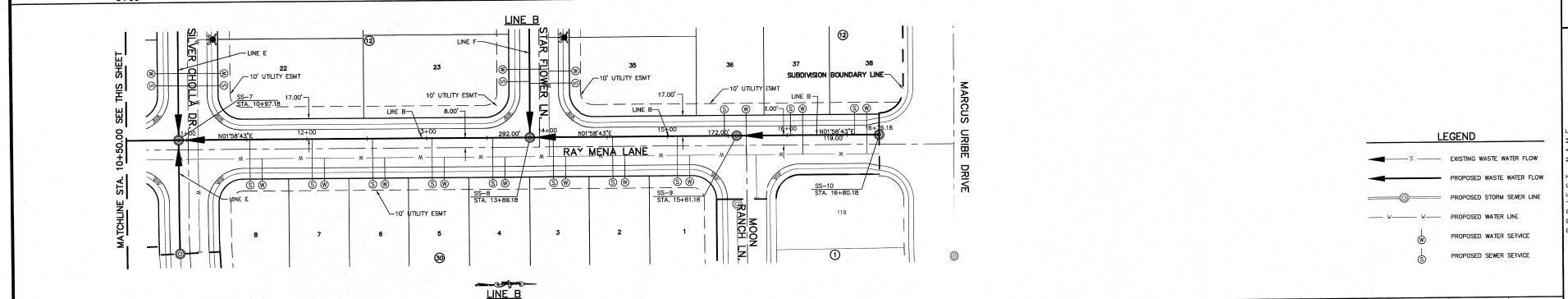
FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION: 4053.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-1086
4170 Pinnacle Ridge Drive, El Paso, Texas 79902
Office: 915.544.0202 Fax: 915.544.0233 www.ceagroup.net

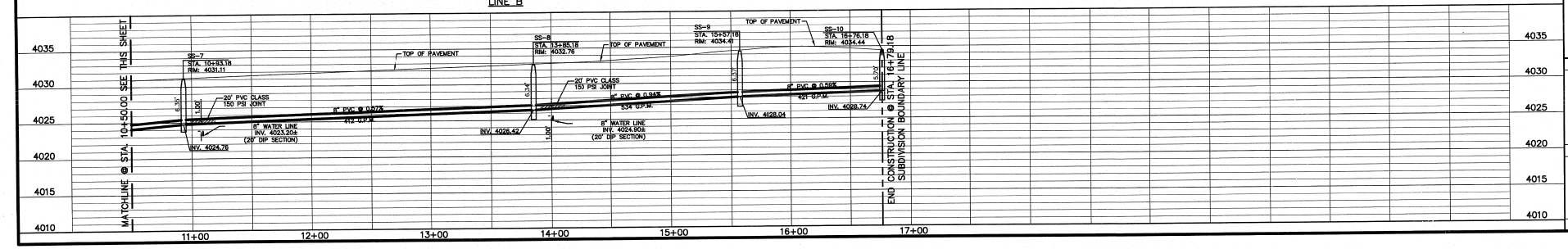
ENGINEER'S SEAL





LEGEND

- EXISTING WASTE WATER FLOW
- PROPOSED WASTE WATER FLOW
- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE



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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE B

SHEET NO.

17

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

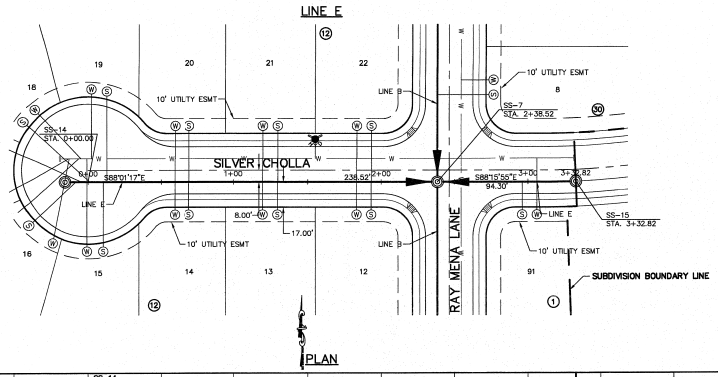
WARNING ! BEFORE YOU DIG

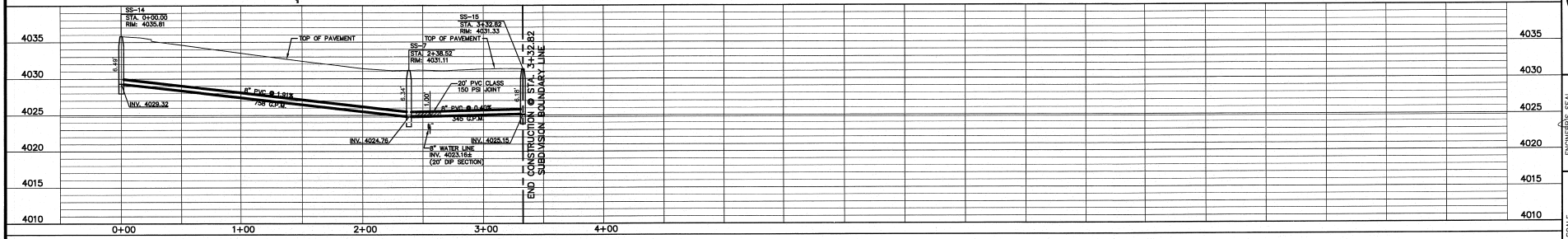
CALL

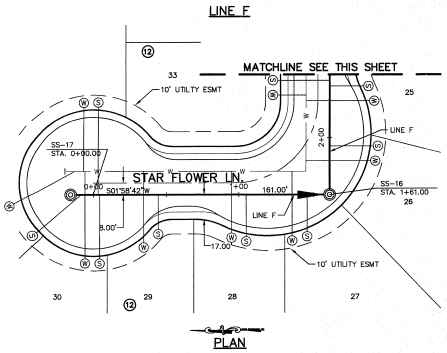
1-800-DIG-TESS

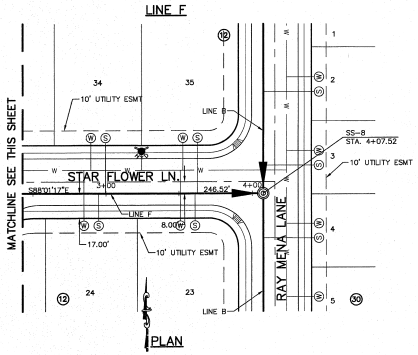
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES



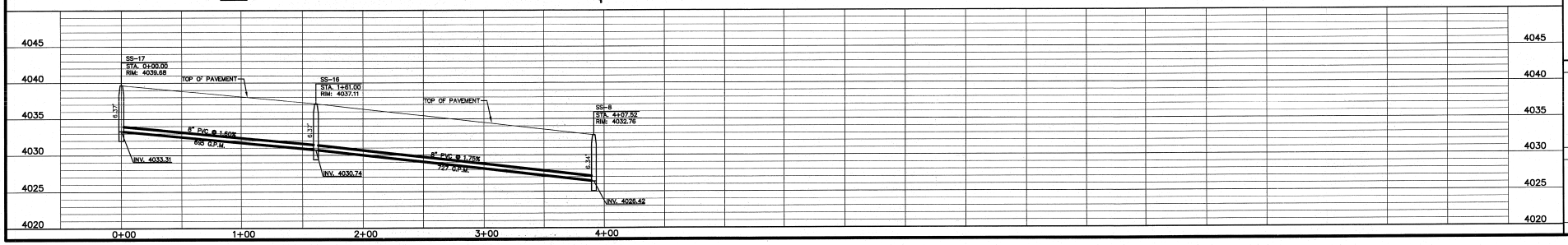






LEGEND

- EXISTING WASTE WATER FLOW
- PROPOSED WASTE WATER FLOW
- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE



REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4,043.37 (NAVD 1988) (USE CONTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
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ENGINEER'S SEAL

JORGE L. ACUAVITE
85075
CERTIFIED ENGINEER
STATE OF TEXAS

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHKD BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

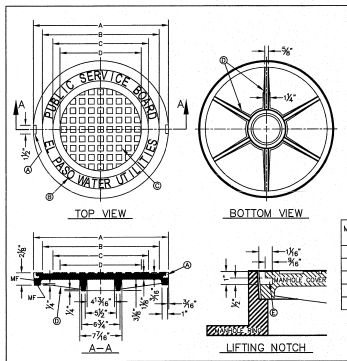
SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINES E & F

SHEET NO.

18

OF 36



GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

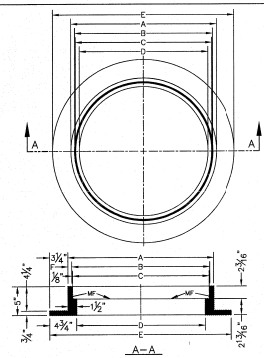
CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/8" RAISED LETTERING.
C. 1" SQUARES (3/8" TALL) WITH 3/8" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

MANHOLE COVER	MANHOLE – ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31 3/8"	23 7/8"
B	28 1/8"	20 5/8"
C	24 3/8"	16 7/8"
D	21 1/8"	14 3/8"
WEIGHT	200 lbs.	165 lbs.

*OBSOLETE –DO NOT USE (FOR REFERENCE ONLY)

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

1/19 STANDARD MANHOLE COVER DETAIL
SCALE: N.T.S.



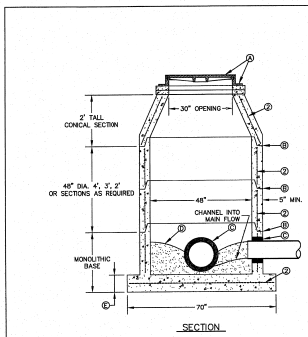
GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).

MANHOLE RING	MANHOLE – ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	33"	25 1/2"
B	31 3/4"	24 1/4"
C	31 1/2"	23 7/8"
D	30"	22 1/2"
E	30 1/2"	32"
F	9/16"	1 1/16"
WEIGHT	205 lbs.	170 lbs.

*OBSOLETE –DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL	DATE: 11/1992 REV: 2/21/2011	SEWER MANHOLE RING	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 377

2/19 STANDARD MANHOLE RING DETAIL
SCALE: N.T.S.

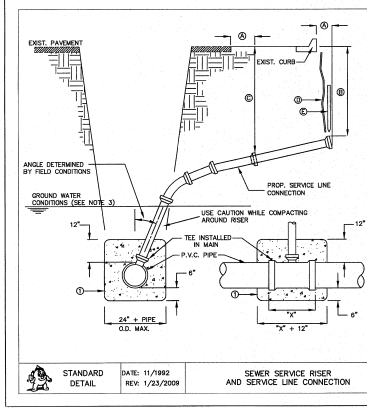


GENERAL NOTES:
1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
2. PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" Ø OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
3. CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.
7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.

CONSTRUCTION KEY NOTES:
A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
B. ALL JOINTS TO BE TONGUE, GROOVE, AND SEALED WITH RAM-NEK OR APPROVED EQUAL.
C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM-923). "KOR-N-SEAL" OR APPROVED EQUAL.
D. GROUT AS REQUIRED.
E. CONCRETE BASE SHALL BE 8" FOR MH's UP TO 12' DEEP AND 12" FOR DEPTHS GREATER THAN 12'.

STANDARD DETAIL	DATE: 11/1992 REV: 9/18/2009	MANHOLE TYPE "A"	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 370-1

3/19 STANDARD MANHOLE TYPE "A"
SCALE: N.T.S.

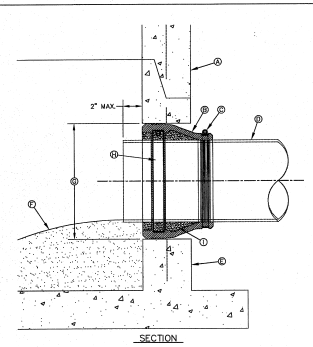


GENERAL NOTES:
1. IN GROUNDWATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED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

CONSTRUCTION KEY NOTES:
A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6" BEHIND THE CURB OR 18" BEYOND THE EDGE OF PAVMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
B. 18" FOR STANDARD SUBDIVISION, 3.5' FOR SUBDIVISIONS WITH ON-SITE DRAINAGE OR FLAT TERRAIN.
C. RISERS OR LATERALS EXTENDING BEYOND EXISTING PAVING SHALL BE INSTALLED TO 3.5' MINIMUM TOP OF GROUND OR PAVEMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
D. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6" OF GROUND SURFACE OR METALLIC DISK.
E. WOODEN STAKE (1"x2"x36") VERTICALLY PLACED AT PLUGGED END OF PROPOSED SERVICE LINE.

STANDARD DETAIL	DATE: 11/1992 REV: 1/23/2009	SEWER SERVICE RISER AND SERVICE LINE CONNECTION	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 391

4/19 SEWER SERVICE RISER AND SERVICE LINE CONNECTION
SCALE: N.T.S.

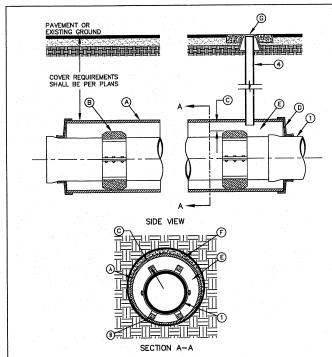


GENERAL NOTES:
1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

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

STANDARD DETAIL	DATE: 11/1992 REV: 8/13/2009	PIPE CONNECTION TO MANHOLE	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 376

5/19 PIPE CONNECTION TO MANHOLE
SCALE: N.T.S.



GENERAL NOTES:
1. INSTALLATION FOR APPROVED CARRIER PIPE.
2. CASING SHALL BE INSTALLED USING EITHER JACKING, BORING OR TUNNELING METHODS FROM THE END BRACE CREATES A MINIMUM OF ACCESS AND RELOCATION PROBLEMS.
3. INSULATED SPACERS SHALL BE USED WHEN SPECIFIED, TO PROVIDE CORROSION PROTECTION.
4. PRECAUTIONARY OUTLET (6") WITH BONNET BOX AND COVER SHALL BE USED WHEN REQUIRED BY OTHER GOVERNING AGENCIES.

CONSTRUCTION KEY NOTES:
A. STEEL CASING MINIMUM YIELD 35000 PSI, SIZE AND LENGTH AS SPECIFIED.
B. CASING INSULATORS, SPACING AND LOCATION PER MANUFACTURES RECOMMENDATIONS. INSULATORS SHALL FIT SNUG OVER THE CARRIER PIPE.
C. POSITION CARRIER PIPE APPROXIMATELY IN CENTER OF CASING. MINIMUM SPACING (BETWEEN INSULATOR AND CARRIER PIPE SHALL BE 1", MAXIMUM SPACING SHALL BE 2".
D. END SHALL BE SEALED WITH BRICK AND MORTAR, BULKHEAD AND GROUT, OR WITH SYNTHETIC RUBBER SEAL, AS SPECIFIED.
E. ANNULAR SPACE SHALL BE LEFT OPEN FOR CATHODICALLY PROTECTED SYSTEM WHERE BOTH CASING AND CARRIER PIPE ARE METALLIC MATERIAL, OR AS OTHERWISE SPECIFIED.
F. PRESSURE GROUT ANNULAR SPACE OUTSIDE CASING AFTER CASING IS INSTALLED.
G. BONNET BOX AND COVER (SEE DETAILS 268, 269-1 & 269-2) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 260).

STANDARD DETAIL	DATE: 3/1994 REV: 6/24/2010	CARRIER PIPE INSTALLATION WITH CASING INSULATORS	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 180

6/19 CARRIER PIPE W/CASING INSULATORS
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION FOREMAN'S BACK AND AZ. ELEVATION: 4033.22' (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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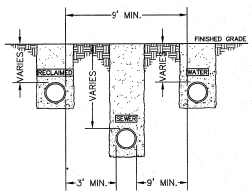
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE N/A
Horizontal:
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: C.S.
DRAWN BY: S.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 1 OF 3)

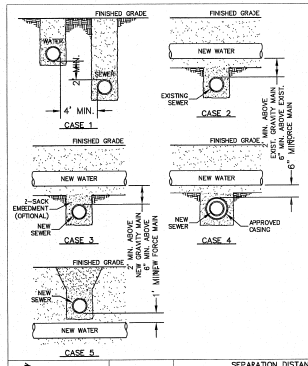
SHEET NO.
19
OF 36



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

STANDARD DETAIL	DATE: 8/3/2006 REV: 3/28/2017	SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER N.T.S.	EL PASO COUNTY UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 160

1/20 SEPARATION DISTANCE–NEW WATER AND NEW SEWER
SCALE: N.T.S.



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

CONSTRUCTION REQUIREMENTS
IF THE MINIMUM SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:

CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(e)(3)(E))
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
- SEPARATE TRENCHES SHALL BE USED.

CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(e)(4)(iii) AND §290.44(e)(4)(iv))
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
- CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
- MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

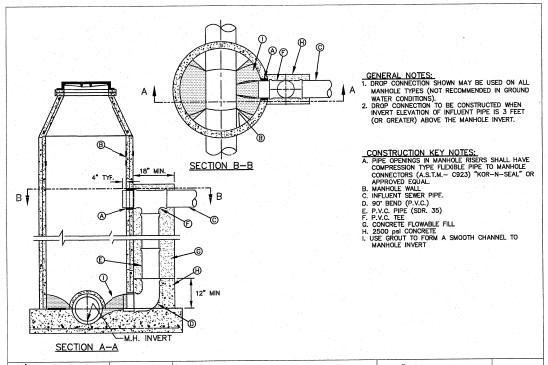
CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(iv), §290.44(e)(6)(iv) AND §290.44(e)(6)(v))
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN (PVC SDR35 OR PE) or DI REQUIRED. CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150PSI) OR DI REQUIRED. FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 10' 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 (150PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35 SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 10' BEYOND THE JOINT AT EACH END.

CASE 4. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(iv)(iii)(iv) 10).
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN (PVC SDR35 OR PE) ACCEPTABLE. NEW FORCE MAIN - PVC (150PSI) OR DI REQUIRED. IN ADDITION, NEW SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
- CENTER CASING PIPE ON WATER MAIN.

CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(e)(4)(iv)(iii)(iv) 10).
- 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, NEW 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 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 COUNTY UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 161

2/20 SEPARATION DISTANCE–SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
SCALE: N.T.S.

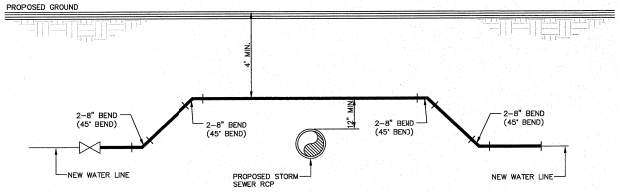


GENERAL NOTES:
1. DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
2. DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

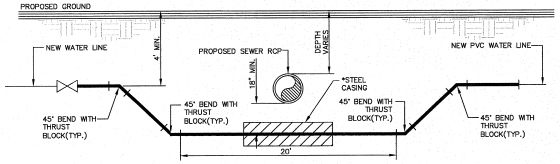
CONSTRUCTION KEY NOTES:
A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M.– C923) "KOR–N–SEAL" OR APPROVED EQUAL.
B. MANHOLE WALL.
C. INFLUENT SEWER PIPE.
D. 90° BEND (P.V.C.)
E. P.V.C. PIPE (SDR. 35)
F. P.V.C. TEE
G. CONCRETE FLOWABLE FILL
H.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

STANDARD DETAIL	DATE: 3/18/1998 REV: 6/19/2009	DROP CONNECTION – EXTERNAL MANHOLE INSTALLATION N.T.S.	EL PASO COUNTY UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 375-1

3/20 DROP CONNECTION–EXTERNAL MANHOLE INSTALLATION
SCALE: N.T.S.

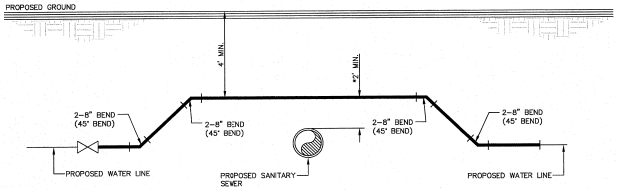


4/20 STORM SEWER CROSSING DETAIL
N.T.S.



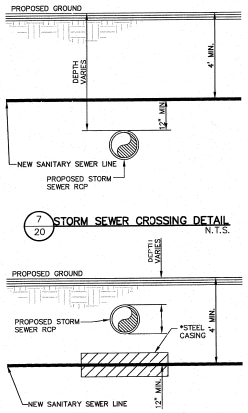
*NOTE:
STEEL CASING REQUIRED IF STORM SEWER RCP IS LARGER THAN 30" IN DIAMETER AND SEPARATION IS LESS THAN 2'.

5/20 STORM SEWER CROSSING DETAIL
N.T.S.



*NOTE:
IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6"(MIN.)–2'(MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPARATION DISTANCE (SPECIAL CONDITION) DETAIL.

6/20 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



*NOTE:
STEEL CASING REQUIRED IF STORM SEWER RCP IS LARGER THAN 30" IN DIAMETER AND SEPARATION IS LESS THAN 2'

7/20 STORM SEWER CROSSING DETAIL
N.T.S.

8/20 STORM SEWER CROSSING DETAIL
N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER, BLOCK 22, ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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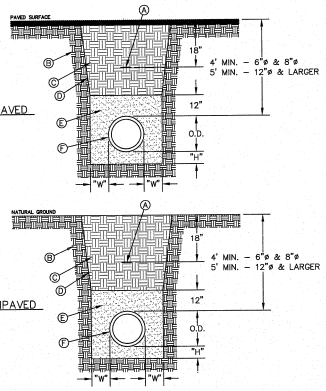
2/11/11

SCALE N/A
Horizontal Scale:
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-10

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 2 OF 3)

SHEET NO.
20
OF 36



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

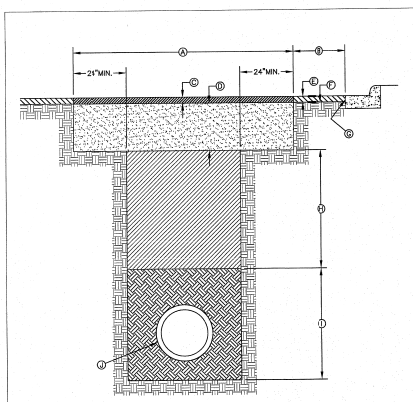
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D–1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D–1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

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

PIPE DIAMETER	"W"
6" – 30"	6"
GREATER THAN 30"	12"

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

1/21 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.

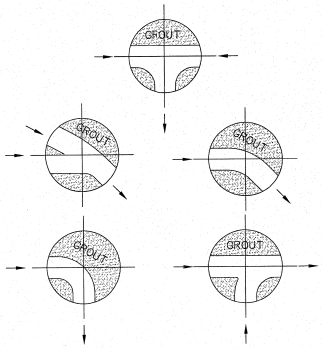


GENERAL NOTES:
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

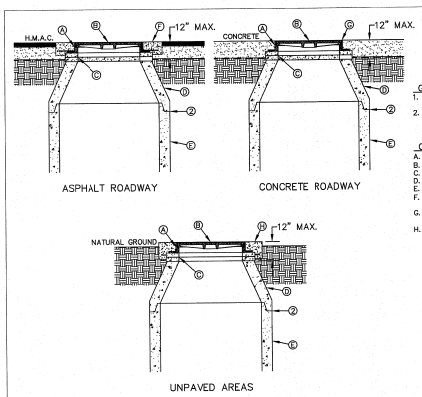
CONSTRUCTION KEY NOTES:
A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
B. DIMENSION VARIES. WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMAC IN THIS AREA.
C. 2" ASPHALT MIN.
D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
E. EXISTING HMAC–THICKNESS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

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

2/21 PAVEMENT REPLACEMENT DETAIL
N.T.S.



3/21 TYPICAL INVERT PLANS
SCALE: N.T.S.



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

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

STANDARD DETAIL	DATE: 6/22/2009 REV:	MANHOLE RING AND COVER INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 185

4/21 MANHOLE RING AND COVER INSTALLATION
N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER OF ALTON AVE. & ALTON. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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engineers • architects • planners
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4171 N. Mesa, Suite B-110 El Paso, Texas 79902
Office 915.544.0325 Fax: 915.544.3233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. ACUAVITE
85075
CITY OF EL PASO
TEXAS
PROFESSIONAL ENGINEER

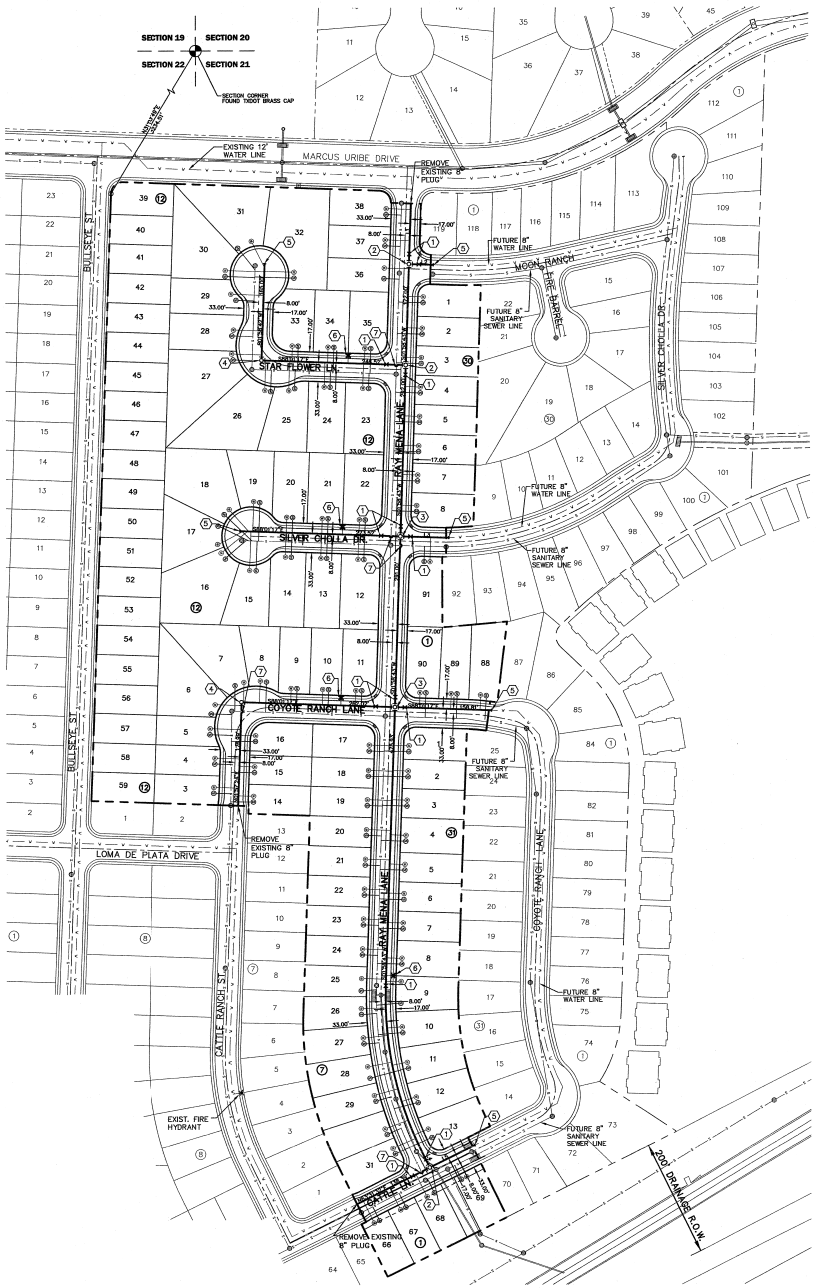
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A

DATE:	APRIL, 2011
DESIGN BY:	G.R.
DRAWN BY:	J.L.A.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000–128–1D

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 3 OF 3)

SHEET NO.
21
OF 36



WATER KEYED NOTES
(1) 8" ø GATE VALVE
(2) 8" X 8" X 8" TEE
(3) 8" X 8" X 8" CROSS
(4) 8" BEND
(5) 8" PLUG
(6) FIRE HYDRANT
(7) 8" DUCTILE IRON PIPE

WATER LINE TABLE		
LINE	BEARING	LENGTH
L1	S01°58'43"W	103.00'
L2	S88°01'21"E	36.00'
L3	S88°16'59"E	76.67'
L4	S26°26'28"E	28.31'
L5	N63°31'32"E	79.48'

WATER MAP
SCALE: 1" = 100'

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.

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. DARYL W. COLE

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

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

FIBER OPTICS:
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
1(800) 852-3798
MS. DARLENE NORIS

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

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

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

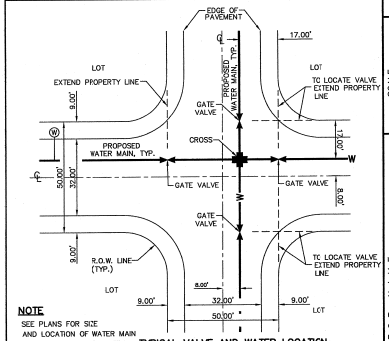
GENERAL NOTES

1. LESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATION DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
2. THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE A" LEAST 60" FROM INVERT OF PIPELINE TO PROPOSED 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.
3. 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.
4. TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
5. 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.
6. 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.
7. 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.
8. TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
9. ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPPERATIONAL WATER SYSTEM.
11. ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
12. CONSTRUCTION OF THE PUBLIC WATER AND SANITARY SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
13. ALL WATER LINES SHALL COMPLY WITH AWWA C-900, DR-14, PRESSURE CLASS OF 305 OR UNLESS OTHERWISE REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

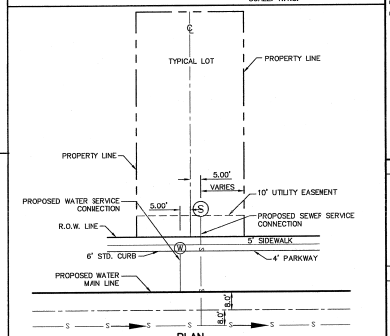
LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	SUBDIVISION BOUNDARY
	STREET R.O.W. LINE
	10' UTILITY EASEMENT
8" WTR.	PROPOSED 8", C-900 P.V.C. PIPE, CLASS 305, UNLESS OTHERWISE SPECIFIED
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
S S	EXISTING SEWER LINE
W W	EXISTING WATER LINE
W	PROPOSED SERVICE CONNECTION
	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
	EXISTING FIRE HYDRANT
	PROPOSED GATE VALVE
	EXISTING GATE VALVE
	PLUG
O	POINT OF TANGENCY



NOTE
SEE PLANS FOR SIZE AND LOCATION OF WATER MAIN AND LOTS TO BE SERVICED.

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



PLAN
SERVICE LOCATION DETAIL
SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND 7/8DIT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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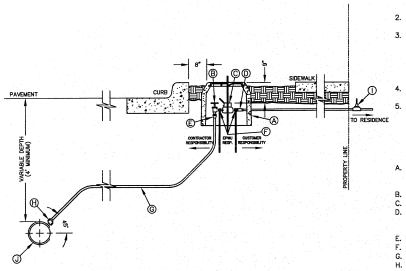
ENGINEER'S SEAL
JORGE L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER

SCALE 1"=100'
Horizontal:
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2000-126-D

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER INDEX

SHEET NO.
22
OF 36



GENERAL NOTES:

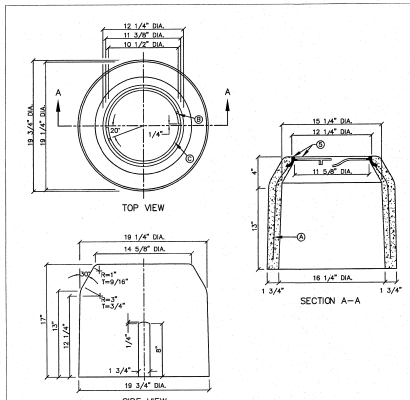
1. DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
2. WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER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

CONSTRUCTION KEY NOTES:

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

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 SERVICE BOARD	DETAIL No. 290-4

1/23 TYPICAL SERVICE LINE INSTALLATION
N.T.S.



GENERAL NOTES:

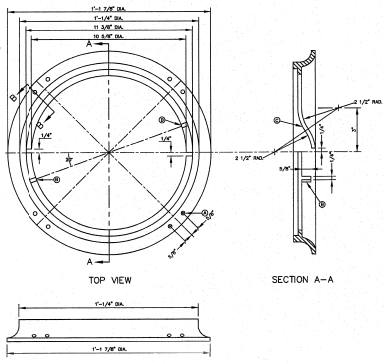
1. INSTALL TO GRADE MATCHING TOP OF CURB.
2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
4. WHERE NO CURBING EXIST, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS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

CONSTRUCTION KEY NOTES:

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

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

2/23 METER BOX DETAIL
N.T.S.



GENERAL NOTES:

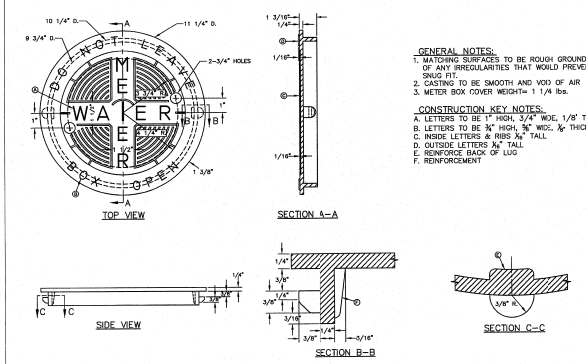
1. MATCHING SURFACES TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
3. METER BOX RING WEIGHT = 7 LBS.
4. METER BOX RING MADE OF CAST IRON.

CONSTRUCTION KEY NOTES:

A. 3/4" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
B. LUG STOP
C. 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 SERVICE BOARD	DETAIL No. 300

3/23 METER BOX RING DETAIL
N.T.S.



GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

A. LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8" THICK
B. LETTERS TO BE 3/4" HIGH, 3/4" WIDE, 3/16" THICK
C. INSIDE LETTERS & RIBS 1/4" TALL
D. OUTSIDE LETTERS 1/4" TALL
E. REINFORCE BACK OF LUG
F. 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 SERVICE BOARD	DETAIL No. 301

4/23 METER BOX COVER DETAIL
N.T.S.

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER, ROUTE 178 AND ZARAGOSA; 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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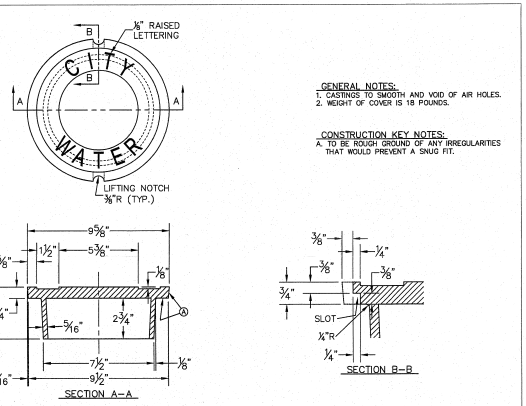
ENGINEER'S SEAL: JAMIE L. ACKMANN 85075 STATE OF TEXAS

SCALE: Horizontal: N/A. Vertical: Contour Interval: N/A.
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: G.R.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-1251-10

PROJECT NAME: SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE: WATER DETAILS (SHEET 1 OF 5)

SHEET NO. 23 OF 36

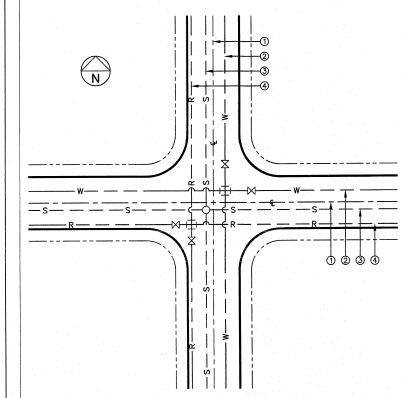


GENERAL NOTES:
1. CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF COVER IS 18 POUNDS.

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

STANDARD DETAIL	DATE: 2/16/2006 REV: 12/14/2007	BONNET BOX COVER (FLIP RESISTANT) N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 269–2

1/24 BONNET BOX COVER & EXTENSION (FLIP RESISTANT)
N.T.S.



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

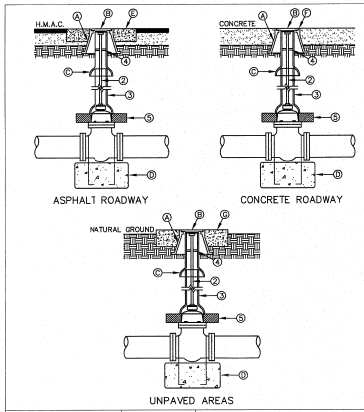
CONSTRUCTION KEY NOTES:
A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY			
RIGHT-OF-WAY WIDTH*	OFFSET FROM CENTERLINE**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
45 FT.	7.5 F'.	7.5 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
78 FT.	10 FT.	5 FT.	10 FT.
84 FT.	22 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

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

STANDARD DETAIL	DATE: 03/1994 REV: 3/28/2007	LOCATION FOR UTILITY LINES N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 140

2/24 STANDARD LOCATION FOR EXTENSIONS DETAIL
N.T.S.

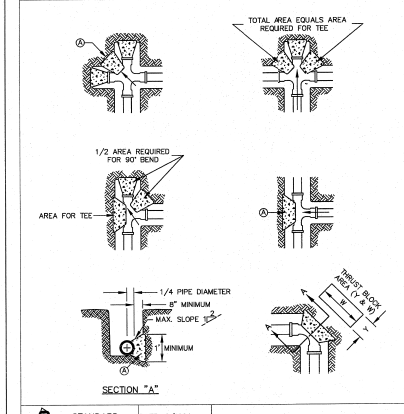


GENERAL NOTES:
1. VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
3. 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE. PIPE SHALL NOT REST ON VALVE BODY.
4. ¼" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS ⅜".
5. MINIMUM 2½" CONCRETE OR BRICK ALL AROUND.
6. CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
7. COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS, VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
A. BONNET BOX (SEE DETAIL 268).
B. BONNET BOX COVER (SEE DETAILS 269–1 & 269–2)
C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).
D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).
E. CONCRETE COLLAR (SEE DET 184–1) FLUSH WITH TOP OF H.M.A.C.
F. BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
G. CONCRETE APRON (SEE DETAIL 184–2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL	DATE: 5/1994 REV: 6/22/2009	GATE VALVE INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 260

3/24 GATE VALVE INSTALLATION
N.T.S.



GENERAL NOTES:
1. TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY. 2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
4. THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
5. SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
6. KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
7. BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
8. WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE-RODS (INSTALLED PER MANUFACTURERS' RECOMMENDATIONS) OR OTHER APPROVED METHODS.

CONSTRUCTION KEY NOTES:
A. LENGTH "Y & W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
C. MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

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

STANDARD DETAIL	DATE: 2/1994 REV: 8/7/2006	CONCRETE THRUST BLOCKING N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 270

4/24 THRUST BLOCKING
N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION: 3,927.19 (NGVD DATUM) 4033.22 (NGVD DATUM) (SUBTRACT 8.482 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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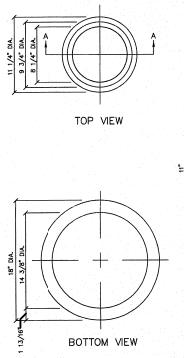
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: H.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 2 OF 5)

SHEET NO.
24
OF 36



GENERAL NOTES:

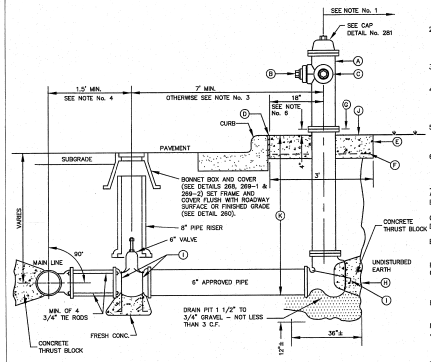
1. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:

A. TO BE ROUGH GROUND OF AN" IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL	FEB. 1994 REV:	BONNET BOX N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 268

1/25 BONNET BOX
N.T.S.



GENERAL NOTES:

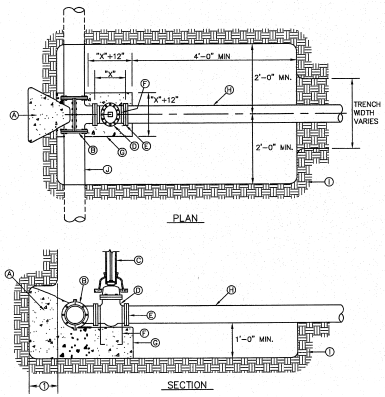
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
3. WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
4. VALVE MAY BE CONNECTED TO TEE A" MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
5. COMPLY WITH REQUIREMENTS OF AWWA C-502, DRY BARREL FIRE HYDRANTS AND AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

CONSTRUCTION KEY NOTES:

A. FIRE HYDRANT PER SPEC'S.
B. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
C. HOSE NOZZLE 2½".
D. ½" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
E. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
F. #10; 6/6 WWF.
G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYDRANT TO CONTROLLED ELEVATION.
H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH. F.H. WEEP HOLE MUST BE UNOBSTRUCTED.
I. 2"x1/4" STEEL ANCHOR PINS.
J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT. UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
K. CONTRACTOR IS TO PROVIDE ADDITIONAL SPOOLS IF NEEDED TO MAINTAIN THE 4' MIN. CLEARANCE FROM THE CONTROLLED ELEV. LINE TO TOP OF SLAB.

STANDARD DETAIL	DATE: 2/1993 REV: 8/11/2009	FIRE HYDRANT INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 280-1

2/25 STANDARD FIRE HYDRANT INSTALLATION
N.T.S.



GENERAL NOTES:

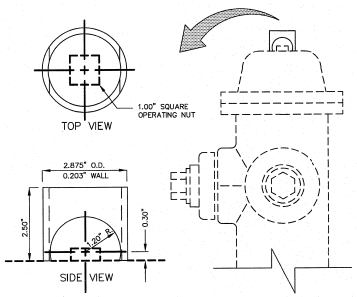
1. THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
2. TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
3. REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
4. JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.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

CONSTRUCTION KEY NOTES:

A. CONCRETE THRUST BLOCKING, PER DETAIL 270.
B. TAPPING SLEEVE.
C. RISER INSTALLATION, PER DETAIL 260.
D. TAPPING VALVE.
E. VALVE ENDS FOR TYPE OF PIPE INSTALLED.
F. 2–#5 REBAR HAIRPINS, PAINT UNEMBEDDED PORTION OF BARS WITH 2–COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR.
G. CONCRETE VALVE SUPPORT, PER DETAIL 271.
H. NEW WATER LINE TO BE INSTALLED.
I. UNDISTURBED EARTH.
J. EXISTING WATER MAIN TO BE TAPPED.

STANDARD DETAIL	DATE: 9/1994 REV: 8/9/2006	TAPPING SLEEVE AND VALVE INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 266

3/25 TAPPING SLEEVE AND VALVE INSTALLATION
N.T.S.



GENERAL NOTES:

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

STANDARD DETAIL	FEB. 1993 REV: FEB. 1994	FIRE HYDRANT CAP N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 281

4/25 FIRE HYDRANT CAP
N.T.S.

REFERENCES – BENCHMARKS

FOUND TxDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL

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85075

SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. 2000-1/28-10

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

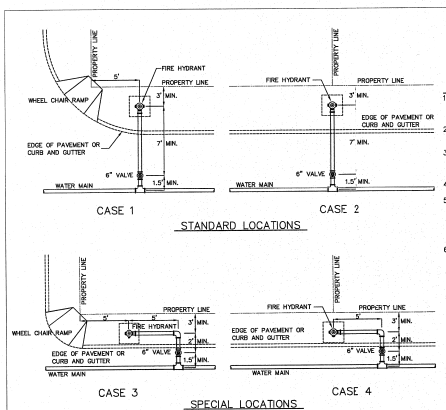
WATER DETAILS

(SHEET 3 OF 5)

SHEET NO.

25

OF 36

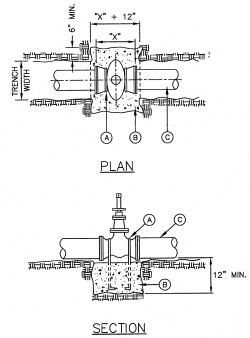


GENERAL NOTES:

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

STANDARD DETAIL	DATE: 5/1994 REV: 6/25/2007	FIRE HYDRANT LOCATIONS N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 282

1/26 FIRE HYDRANT LOCATIONS
N.T.S.



GENERAL NOTES:

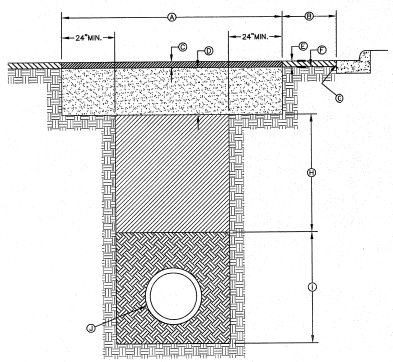
1. THE ENGINEER SHALL PROVIDE DESIGN FOR ALL VALVES GREATER THAN 12".
2. COMPLY WITH REQUIREMENTS OF AWWA C-550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES.

CONSTRUCTION KEY NOTES:

A. TWO No. 5 REBAR HAIR PINS. PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.
B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE
C. APPROVED PIPE.

STANDARD DETAIL	DATE: 2/1994 REV: 8/9/2006	VALVE ANCHOR N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 271

2/26 VALVE ANCHOR
N.T.S.



GENERAL NOTES:

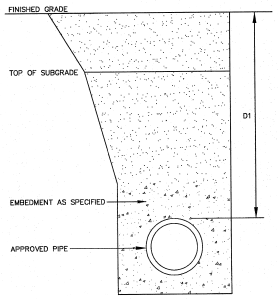
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:

A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
B. DIMENSION VARIES. WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMAC IN THIS AREA.
C. 2" ASPHALT MIN.
D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
E. EXISTING HMAC-THICKNESS MAY VARY.
F. EXISTING BASE COURSE-THICKNESS MAY VARY.
G. EXISTING GUTTER FACE, EDGE OF PAVEMENT OR BEGINNING OF SHOULDER.
H. BACKFILL DEPTH VARIES, REFER TO REQUIREMENTS LISTED IN EMBEDMENT DETAILS (DETAIL 17 THRU DETAIL 173).
I. PIPE BEDDING AS SPECIFIED, REFER TO APPROPRIATE EMBEDMENT DETAIL (DETAIL 171 THRU DETAIL 173).
J. APPROVED PIPE.

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

3/26 PAVEMENT REPAIR DETAIL
N.T.S.



GENERAL NOTES:

1. REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
2. TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

CONSTRUCTION KEY NOTES:

A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS,

CONDITION A – NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION

CONDITION B – NEW SUBDIVISIONS, NON-PAVED AREA

AND SHALL BE AS FOLLOWS.

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

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

4/26 STANDARD COVER FOR WATER MAINS
N.T.S.

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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11/8/11

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

DATE: APRIL 2011
DESIGN BY: J.C.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

(SHEET 4 OF 5)

SHEET NO.

26

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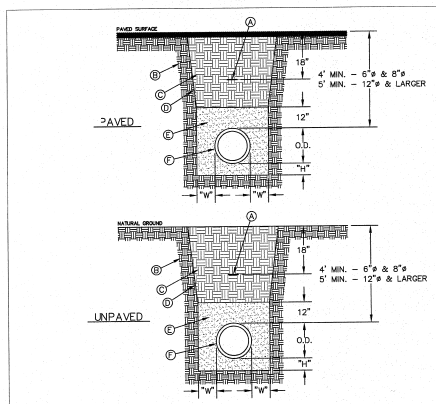


GENERAL NOTES:
1. BEDDING FOR PRESSURE AND GRAVITY PIPE IN DRY CONDITIONS.
2. PROVIDE TRENCH SAFETY SYSTEM FOR TRENCH DEPTHS GREATER THAN 5 FEET.
3. IF THE NATIVE MATERIAL EXCAVATED FROM THE TRENCH IS UNSUITABLE AS BACKFILL MATERIAL, OR THE REQUIRED COMPACTION IS UNATTAINABLE, THE CONTRACTOR SHALL, AT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

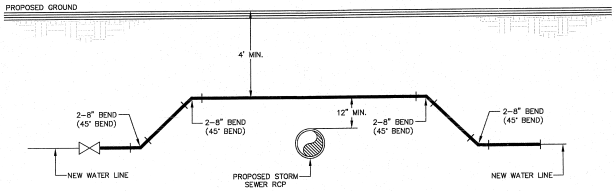
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

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

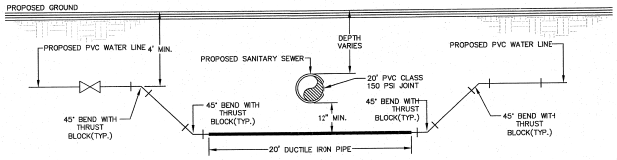
PIPE DIAMETER	"W"
6" – 30"	8"
GREATER THAN 30"	12"

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

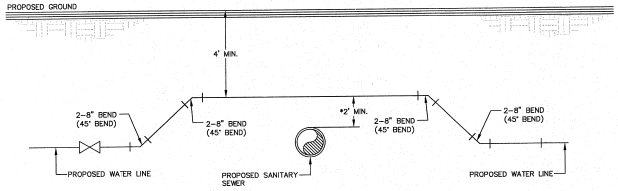
1/27 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.



2/27 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.

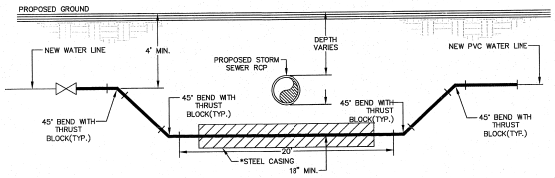


3/27 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



*NOTE:
IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6"(MIN.)-2'(MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPERATION DISTANCE (SPECIAL CONDITION) DETAIL.

4/27 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



*NOTE:
STEEL CASING IF STORM SEWER RCP IS LARGER THEN 30" IN DIAMETER AND SEPARATION IS LESS THEN 2'.

5/27 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS IN PORTIONS 71 AND 72. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
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4171 N. Mesa, Suite C-100 El Paso, TX 79902
Office 915.544.3232 Fax: 915.544.3233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. ACUNA
86075
TEXAS
04/11/11

SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A.
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.R.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

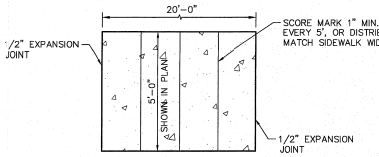
SHEET TITLE
WATER DETAILS
(SHEET 5 OF 5)

SHEET NO.
27
OF 36

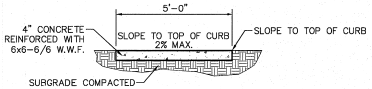
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (DOT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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



PLAN

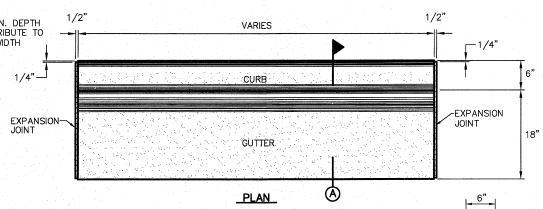


SECTION

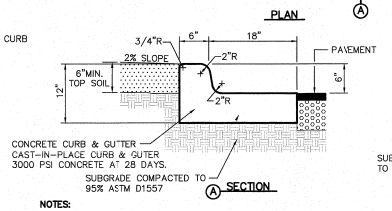
SIDEWALK NOTES:

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

1/28 SECTION-SIDEWALK/SLAB
SCALE: 1" = 2'-0"



PLAN

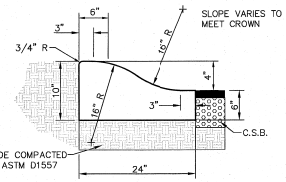


SECTION

NOTES:

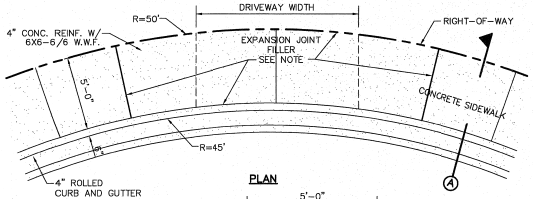
1. CONCRETE CURB, GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
2. DUMMY JOINTS REQUIRED AT 10' O.C.
3. 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURBS RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
4. SUBGRADE UNDER CURBS MUST BE FORMED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

2/28 CURB & GUTTER DETAIL

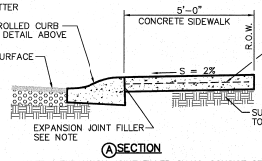


1. CONCRETE TO BE 3000 PSI MIN.
2. DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK
3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
4. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
5. EXPANSION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

3/28 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1" = 1'-0"



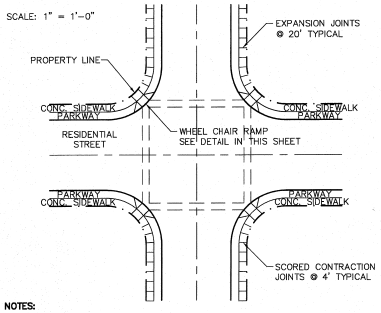
PLAN



A SECTION

NOTE: EXPANSION JOINT FILLER SHALL CONSIST OF 1/2" BITUMINOUS TYPE PREFORMED (AASHTO M-33)

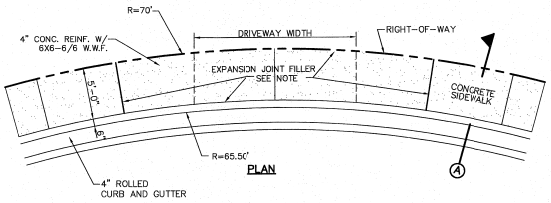
4/28 CUL-DE-SAC (50' R) DRIVEWAY DETAIL
SCALE: N.T.S.



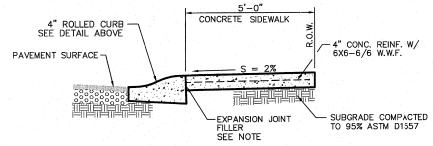
NOTES:

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

5/28 WHEELCHAIR RAMP STREET PLAN
SCALE: 1" = 30'-0"

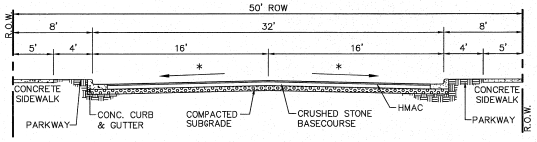


PLAN



A SECTION

6/28 HEEL (70' R) DRIVEWAY DETAIL
SCALE: NTS

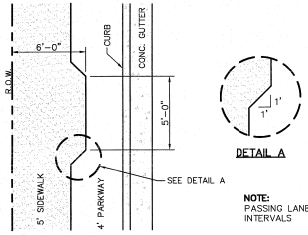


(*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS

NOTE:

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

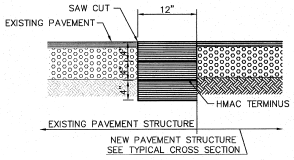
7/28 TYPICAL ROW STREET SECTIONS DETAIL
SCALE: 1" = 6'-0"



DETAIL A

NOTE:
PASSING LANES AT 200' MAX. INTERVALS

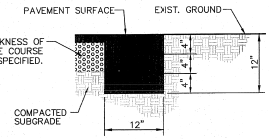
8/28 ACCESSIBLE PASSING SPACE DETAIL
SCALE: 1" = 4'-0"



NOTES:

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

9/28 TYPICAL PAVEMENT JOINT SECTION
SCALE: 1" = 1'-0"



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

10/28 TERMINUS OF STREET
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22 ELEVATION: 4043.72 (NAVD 88) (SEE TRACT 8-62 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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PROFESSIONAL ENGINEER
STATE OF TEXAS

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
STANDARD DETAILS
(SHEET 1 OF 3)

SHEET NO.
28
OF 36

UTILITY LOCATOR SERVICES	
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(AFTER HOURS)	(915) 240-3220

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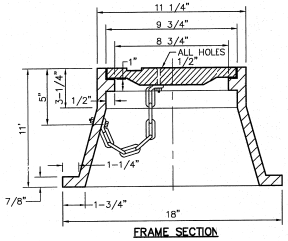
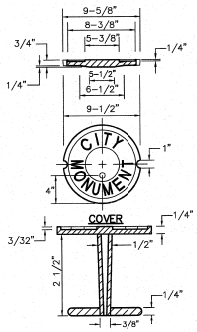
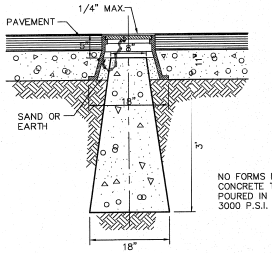
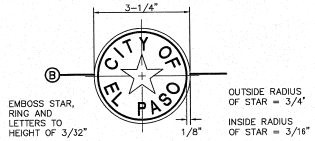
FOR FIELD LOCATING EXISTING UTILITIES



FRAME SECTION

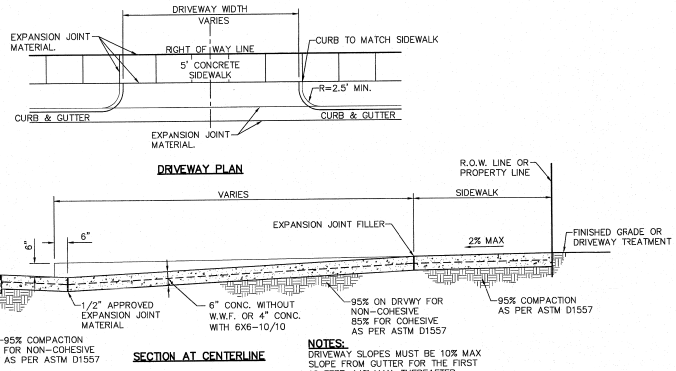






BRONZE MONUMENT CAP

1/29 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.

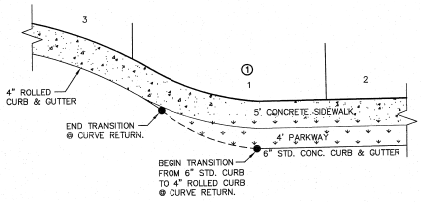


DRIVEWAY PLAN

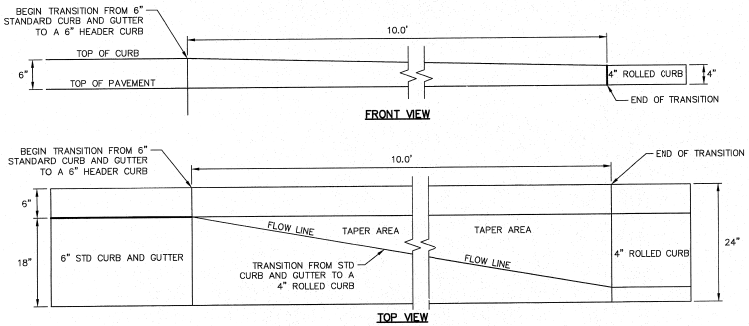
SECTION AT CENTERLINE

NOTES:
DRIVEWAY SLOPES MUST BE 10% MAX SLOPE FROM GUTTER FOR THE FIRST 12 FEET, 14% MAX. THEREAFTER.

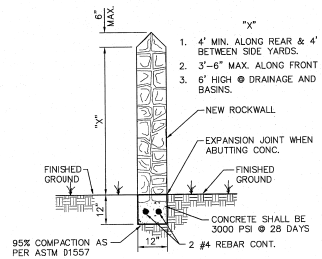
2/29 TYPICAL RESIDENTIAL DRIVEWAY DETAIL
SCALE: N.T.S.



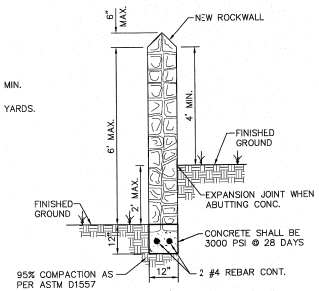
3/29 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.



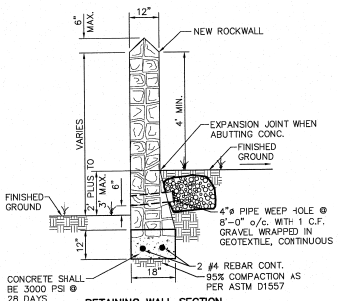
4/29 CURB TRANSITION DETAIL
SCALE 1" = 1'-0"



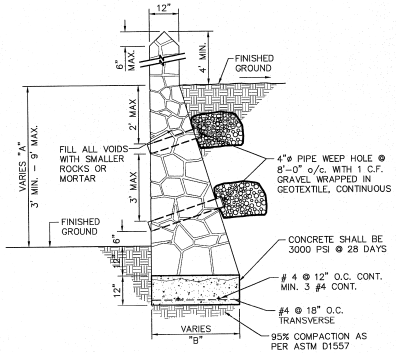
GARDEN WALL SECTION



GARDEN WALL SECTION (2' MAX.)



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



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

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

ROCK WALL NOTES

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

5/29 TYPICAL ROCKWALL/RETAINING WALL DETAILS
SCALE: 1" = 2'-0"

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION: 3,937.72' (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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JORGE L. ALCARATE
65075
CITY OF EL PASO, TEXAS
EXPIRES 12/31/2011

SCALE
Horizontal:
Vertical:
Contour Interval: N/A.
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHECKED BY: G.R.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STANDARD DETAILS
(SHEET 2 OF 3)

SHEET NO.
29
OF 36

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(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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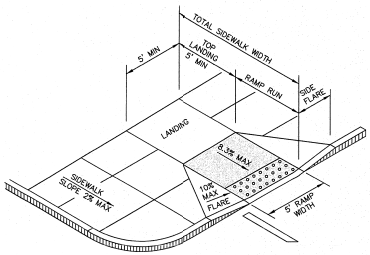
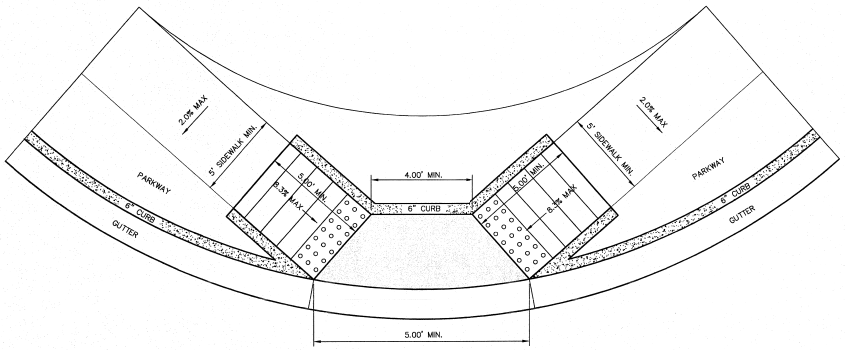
1-800-DIG-TESS

1-800-344-8377

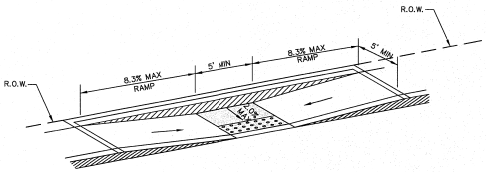
FOR FIELD LOCATING EXISTING UTILITIES



1/30 PERPENDICULAR CURB RAMP (TYPE I)
SCALE: N.T.S.



2/30 DIRECTIONAL RAMP @ INTERSECTION
SCALE: N.T.S.



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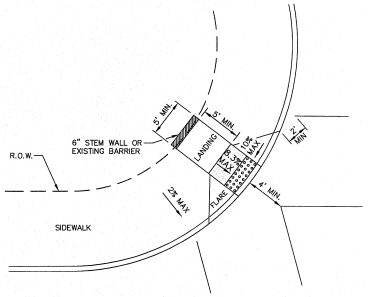
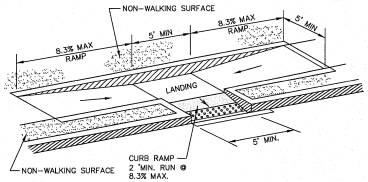
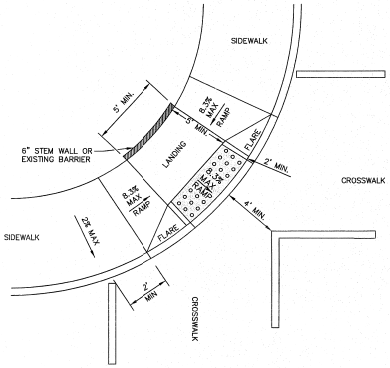
SCALE: N.T.S.



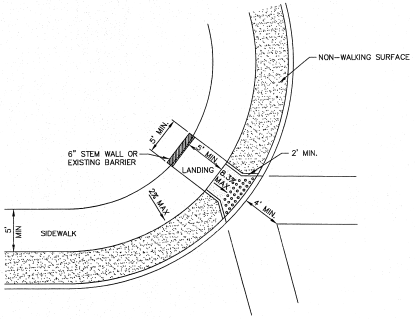
4/30 DIAGONAL CURB RAMP (FLARED SIDES) (TYPE V)
SCALE: N.T.S.



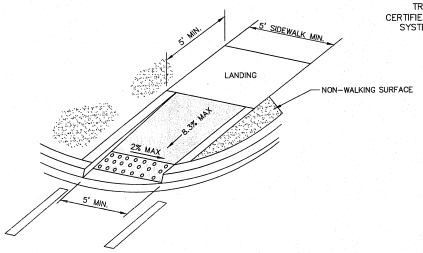
5/30 COMBINATION CURB RAMPS (TYPE VII)
SCALE: N.T.S.



6/30 DIAGONAL COMBINATION CURB RAMP (TYPE III)
SCALE: N.T.S.



7/30 DIAGONAL CURB RAMP (RETURNED CURB) (TYPE VI)
SCALE: N.T.S.



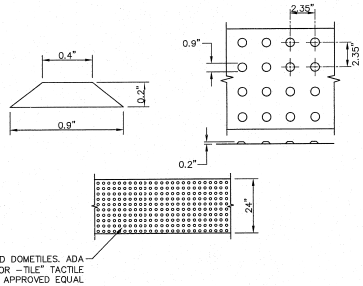
8/30 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
SCALE: N.T.S.

LEGEND

DETECTABLE WARNING SURFACE SHALL CONSIST OF A COLOR CONTRAST VISUALLY WITH ADJOINING SURFACES.

GENERAL NOTES:

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



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

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

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

9/30 DOME SIZE AND SPACING
SCALE: N.T.S.

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER, ELEVATION 3,955.67 (NAVD 88) 4033.22 (NOVO DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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engineers • architects • planners
TBPE Registration No. F-1704
TBAE Registration No. BR-2101
Office: 915.544.3232 Fax: 915.544.3233 www.ceagroup.net

ENGINEER'S SEAL

STATE OF TEXAS
JOHN E. ACCARDO
85075
LICENSED
PROFESSIONAL ENGINEER
9/14/11

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: G.R.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-126-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

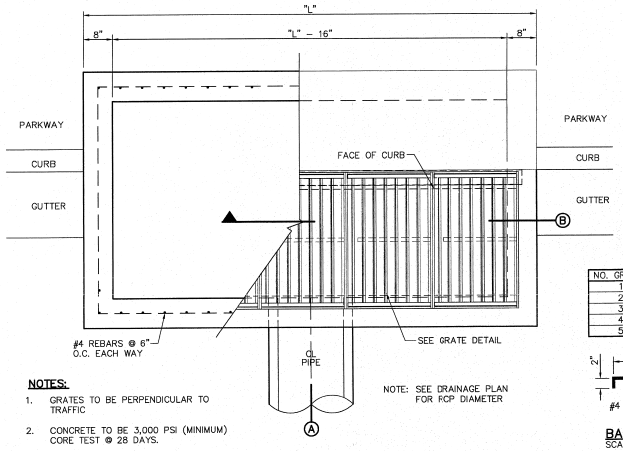
STANDARD DETAILS

(SHEET 3 OF 3)

SHEET NO.

30

OF 36



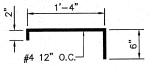
NOTE: SEE DRAINAGE PLAN FOR FCP DIAMETER

NOTES:

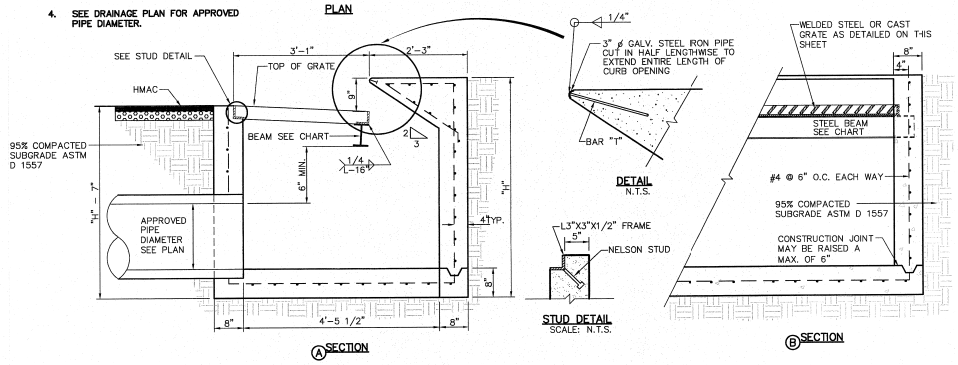
1. GRATES TO BE PERPENDICULAR TO TRAFFIC
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.
3. H=20' MAXIMUM
4. **SEE DRAINAGE PLAN FOR APPROVED PIPE DIAMETER.**

PLAN

NO. GRATES	CAPACITY	"L"	BEAM LENGTH	BEAM (MIN. SIZES)
1	9.84 CFS	3'–2 5/8"	2'–10"	W6x12, S4x13, MC6x8.2
2	19.63 CFS	5'–1 1/8"	4'–7 1/8"	W6x12, S6x12.5, MC6x15.1
3	28.69 CFS	7'–0 1/4"	6'–5 1/8"	W8x15, S7x15.3, MC7x17.6
4	36.10 CFS	8'–9 7/8"	8'–3 7/8"	W9x18, S8x18.4, MC10x21.9
5	46.72 CFS	10'–8"	10'–2"	W12x16, S8x21, MC10x21.9



BAR "T" DETAIL
SCALE: 1" = 1' – 0"



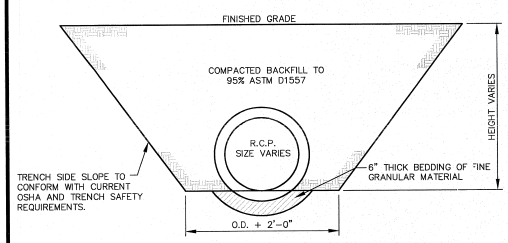
SECTION A

DETAIL
N.T.S.

STUD DETAIL
SCALE: N.T.S.

SECTION B

1/31 DROP INLET (TYPE 1) DETAILS
SCALE: 3" = 4'–0"

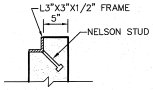


3/31 STORM SEWER BEDDING DETAIL
SCALE: 1" = 2'–0"

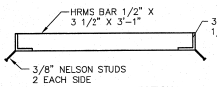
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543–5720
EL PASO ENERGY CORPORATION	(915) 496–5244
EL PASO WATER UTILITIES	(915) 594–5500
MCI SURVEILLANCE	(800) MCI–WORK
TIME WARNER COMMUNICATIONS	(915) 772–1123
TEXAS GAS SERVICE	(915) 680–7200
SBC	(800) 545–6005
AT&T	(800) 852–3786
U.S. SPRINT TELECOMM	(800) 521–0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621–6750
(AFTER HOURS)	(915) 240–3220

WARNING ! BEFORE YOU DIG

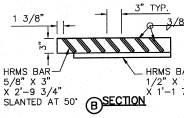
CALL
1–800–DIG–TESS
1–800–344–8377
FOR FIELD LOCATING EXISTING UTILITIES



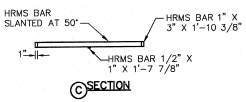
STUD DETAIL



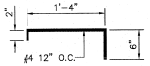
SECTION A



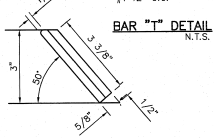
SECTION B



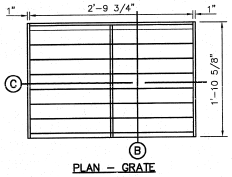
SECTION C



BAR "T" DETAIL
N.T.S.

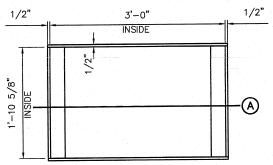


SLANTED BAR DETAIL



PLAN – GRATE

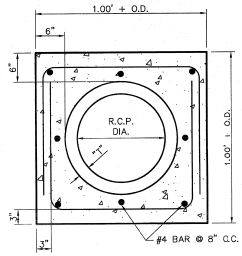
2/31 GRATE AND FRAME DETAILS
SCALE: 1" = 1'–0"



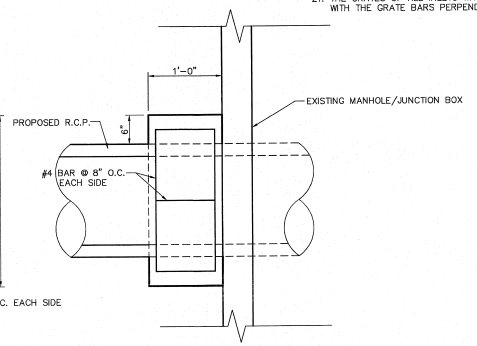
PLAN – FRAME

DROP INLET GENERAL NOTES:

1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M–183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M–161 OR M–222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
6. GRATES MADE OF M–183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASSHTO M–111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL HAVE A MINIMUM OF ¼" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL AB: 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 TC THE REQUIREMENTS OF AASHTO M–105, CLASS 35B OR ASTM A–48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M–103 SCOPE 1.2.1, GRADE N–1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHELL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
10. ALL CASTING SHALL BE MANUFACTURED TRUE T PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000psi. CHAMFER ALL EXPOSED EDGES ¾". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 ½" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE ½" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TxDOT. ITEM 446 "PAINT AND PAINTING"
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
17. ALL REINFORCING BARS TO BE #4 AT 6" O.C. GRAD 60. BEND BARS AROUND PIPE OPENINGS.
18. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
19. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
20. TWO ½"ø×4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
21. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.



FRONT SECTION



SIDE VIEW

NOTES:

1. CONCRETE COLLARS SHALL BE USED AT LOCATIONS AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER, IN ORDER TO ENSURE A PROPER WATER TIGHT SEAL ON ALL REINFORCED CONCRETE PIPE CONNECTIONS AS DIRECTED BY ENGINEER.
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.

4/31 CONCRETE COLLAR DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARKS

FOUND TIDOT BRASS CAP AT SECTION CORNER, 2.7' EAST OF ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL

JAMES L. MCDANIEL
85075
CERTIFIED PROFESSIONAL ENGINEER
STATE OF TEXAS

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: G.R.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000–128–10

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE DETAILS

(SHEET 1 OF 2)

SHEET NO.

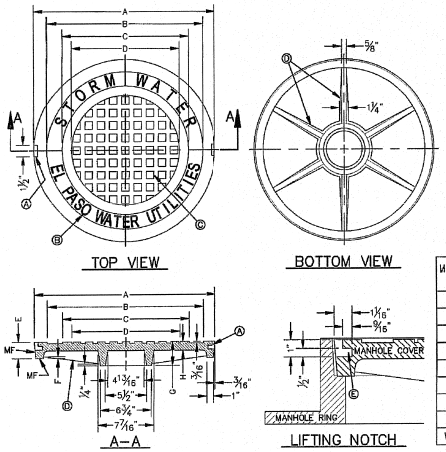
31

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING! BEFORE YOU DIG

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



GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%± (AASHTO M306-07).
6. SHADED DIMENSIONS IN TABLE FOR REFERENCE ONLY. SOURCE: CITY OF EL PASO DESIGN STANDARDS FOR CONSTRUCTION, DETAIL 2-7.

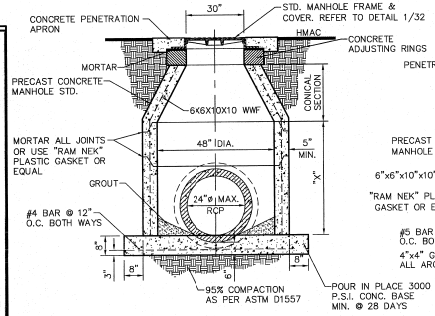
CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/16" RAISED LETTERING.
C. 1" SQUARES (3/16" TALL) WITH 5/8" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

SEE NOTE 6

MANHOLE COVER	MANHOLE - ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	31 3/16"	23 3/4"	31 1/4"
B	28 1/8"	20 5/8"	28 1/8"
C	24 9/16"	16 7/16"	24 1/8"
D	21 7/16"	14 3/16"	21 1/8"
E	2 1/4"	3"	3"
F	1/4"	1 1/4"	1 1/4"
G	3/8"	3"	3"
H	1 1/4"	1"	1"
WEIGHT	265 lbs.	175 lbs.	310 lbs.

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

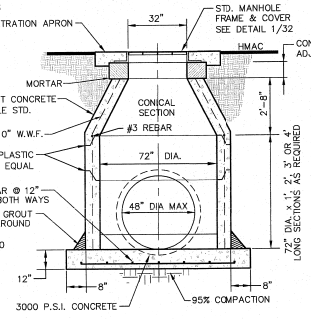
1/32 STORM WATER MANHOLE COVER
SCALE AS SHOWN



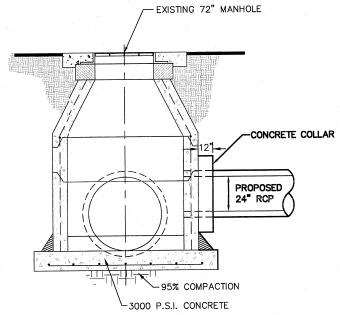
"X"= 48" DIA. < 12", 24", 36", OR 48" PRE-CAST LONG SECTIONS AS REQUIRED

NOTE:
95% COMPACTION AS PER ASTM D-1557 UNDER ALL CONCRETE STRUCTURES.

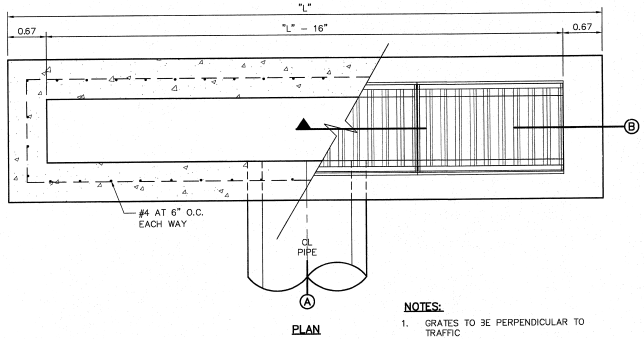
2/32 48" STANDARD MANHOLE DETAIL
SCALE: N.T.S.



3/32 72" STANDARD MANHOLE DETAIL
SCALE: N.T.S.



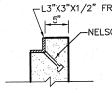
4/32 CONCRETE COLLAR DETAIL FOR SD-4
SCALE: N.T.S.



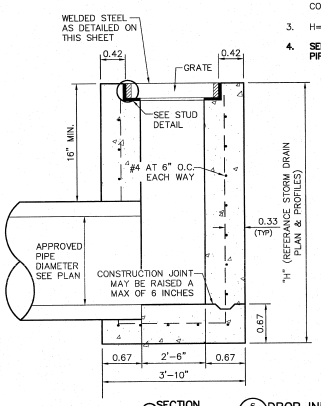
NUMBER OF GRATES	"L"	CAPACITY*
1	3'-2 5/8"	4.718 CFS
2	5'-2 1/4"	9.436 CFS
3	7'-1 7/8"	14.155 CFS
4	9'-1 1/2"	18.873 CFS
5	11'-1 1/8"	23.592 CFS

* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5

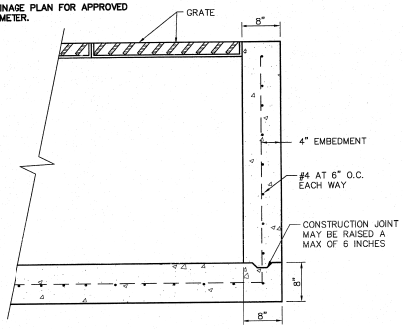
NOTES:
1. GRATES TO BE PERPENDICULAR TO TRAFFIC
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.
3. H=20' MAXIMUM
4. **SEE DRAINAGE PLAN FOR APPROVED PIPE DIAMETER.**



STUD DETAIL
N.T.S.

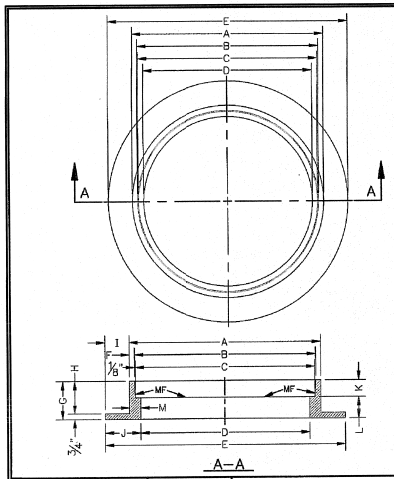


A SECTION



B SECTION

6/32 DROP INLET (TYPE III) DETAILS
SCALE: N.T.S.



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

SEE NOTE 6

MANHOLE RING	MANHOLE - ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	33"	25 1/4"	32 3/4"
B	31 3/4"	23 7/8"	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	5/8"	11/16"	11/16"
G	5"	6"	6"
H	4 3/4"	5 1/4"	5 1/4"
I	3 1/4"	4 1/16"	4 1/16"
J	4 3/4"	6"	6"
K	2 9/16"	3 1/16"	3 1/16"
L	2 13/16"	2 15/16"	2 15/16"
M	1 1/2"	1 5/8"	1 5/8"
WEIGHT	220 lbs.	165 lbs.	225 lbs.

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

5/C14.2 STORM WATER MANHOLE RING
SCALE AS SHOWN

REFERENCES - BENCHMARKS
COUND TXDOT BRASS CAP AT SECTION CORNER IN THE ROAD. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL
STATE OF TEXAS
85075
JAMIE L. ALCANTAR
LICENSED
PROFESSIONAL ENGINEER

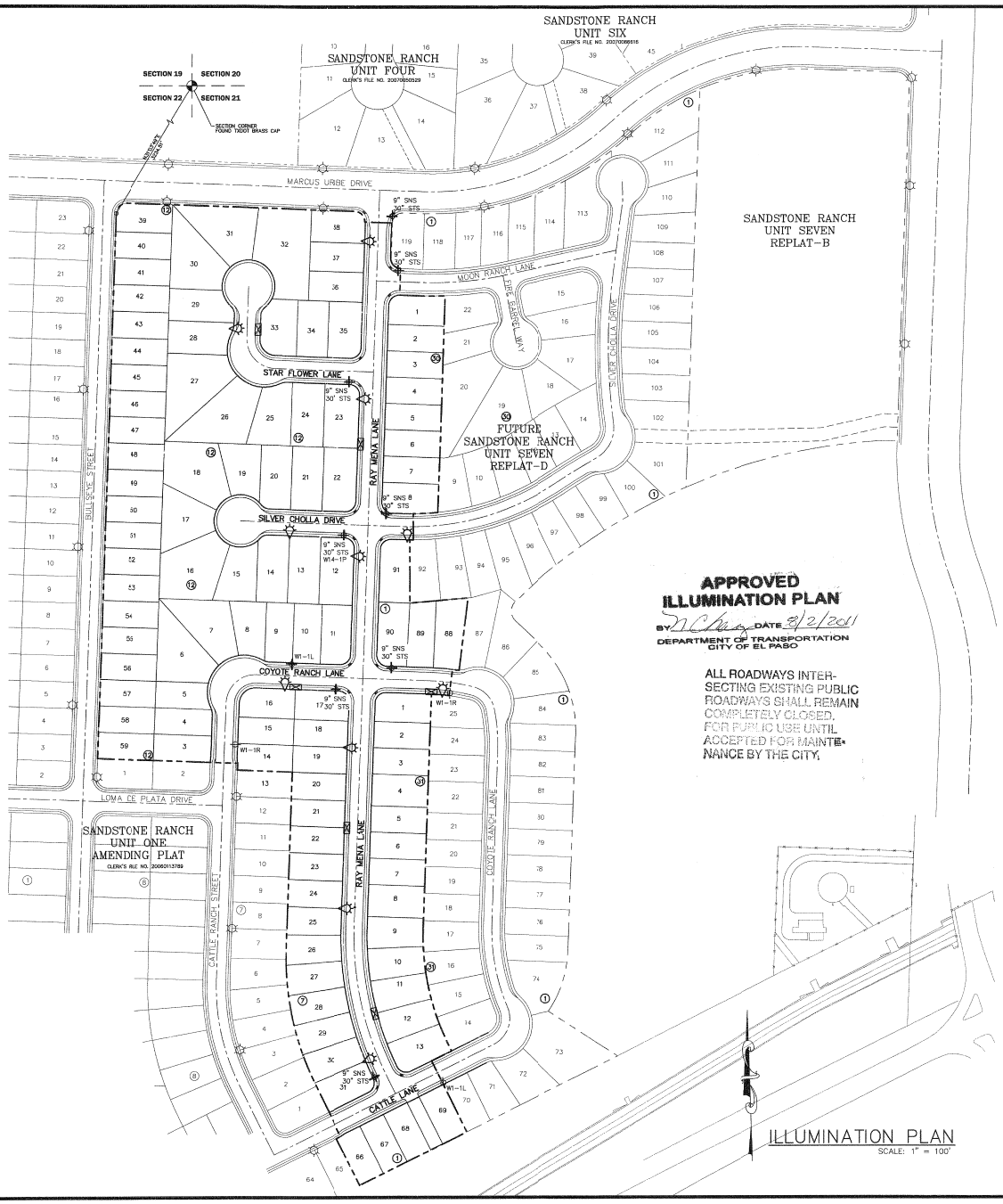
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A

DATE:	MAY 2011
DESIGN BY:	C.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPV'D. BY:	J.L.A.
JOB No.	2000-129-10

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE DETAILS
(SHEET 2 OF 2)

SHEET NO.
32
OF 36



APPROVED ILLUMINATION PLAN
BY N. Chavez DATE 8/2/2011
DEPARTMENT OF TRANSPORTATION CITY OF EL PASO

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

ILLUMINATION PLAN
SCALE: 1" = 100'

GENERAL NOTES:

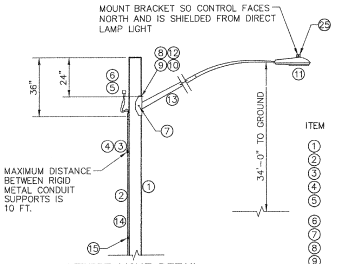
1. A MINIMUM 3' CLEARANCE SHALL BE PROVIDED ON THE SIDEWALK AFTER THE LIGHT POLES & FIRE HYDRANTS ARE PLACED. SIDEWALK SHALL COMPLY WITH A.D.A AND T.D.L.R. STANDARDS.
2. U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) THAT WILL BE PLACED OUTSIDE SUBDIVISION BOUNDARY LIMITS DUE TO THE SUBDIVISION PRIVATE LOCATION.

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) 772-1121
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

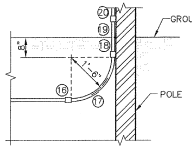
WARNING! BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

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



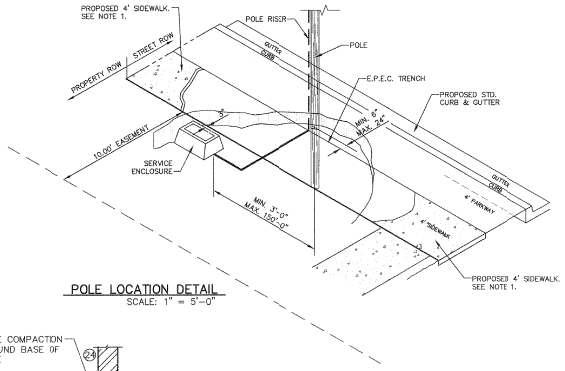
STREET LIGHT DETAIL
SCALE: 1" = 3'-0"



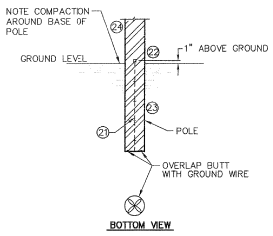
POLE RISER DETAIL
SCALE: 1" = 2'-0"

ITEM	QTY.	DESCRIPTION
1	1	POLE, PENTA TREATED PINE 40' CLASS III
2	27	1/2" RIGID GALVANIZED STEEL CONDUIT
3	4	TWO HOLE STEEL PIPE STRAP FOR 1/2" CONDUIT
4	8	1/4" x 1" LAG BOLT
5	1	PHOTO CELL RECEPTACLE WITH 1/2" THREADED BASE AND MOUNTING BRACKET
6	1	PHOTO CELL 240V.
7	4	1/2" x 4" LAG BOLT
8	1	WASHER, SQ. GALV. 2-1/4" x 2-1/4"
9	1	MACHINE BOLT 5/8" x 8"
10	1	LOCKNUT 5/8"
11	1	LUMINARE 100W H.P.S.
12	1	WASHER, COIL SPRING 5/8"
13	1	STEEL LUMINAIRE SUPPORT (10' OR 8') UNION METAL MANUF. CO. DESIGN 348 OR EQUIVALENT
14	2	#12 COPPER WIRES WITH THW INSULATION
15	1	GROUND CLAMP FOR 1/2" RIGID CONDUIT
16	1	1/2" SCHEDULE 40 PVC COUPLING
17	1	1/2" SCHEDULE 40 PVC 18" RADIAL BEND
18	1	1/2" SCHEDULE 40 PVC FEMALE ADAPTER
19	1	1/2" x 8" PVC COATED RIGID STEEL CONDUIT NIPPLE
20	1	1/2" PVC COATED RIGID STEEL COUPLING
21		COPPER WIRE, #6 BARE SOLID HARD DRAWN
22		ALUMINUM WIRE, #4 BARE SOLID HARD DRAWN
23		1/2# STAPLE, GALV. 1-1/2" NO. 9
24	1	SPLICE, #4 SOLID ALUM. TO #6 SOLID CU.
25	1	PHOTO CELL, 240V

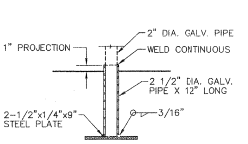
* MUST MEET OCCIDENTAL COATING CO. SPECS.



POLE LOCATION DETAIL
SCALE: 1" = 5'-0"



(BUTT GROUNDING)
DISTRIBUTION DETAIL
SCALE: 1" = 2'-0"



POST SLEEVE DETAIL
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS:
FOUND TXDOT BRASS CAP AT SECTION CORNER, SECTION 19, 20, 21, 22 ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-126-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION PLAN

SHEET NO.
33
OF 36

SITE DESCRIPTION

PROJECT NAME AND LIMITS: SANDSTONE RANCH UNIT SEVEN REPLAT-C
THE PROJECT IS BORDERED BY SANDSTONE RANCH UNIT FOUR, AND SIX TO THE NORTH, SANDSTONE RANCH UNIT ONE, AND TWO TO THE WEST, SANDSTONE RANCH UNIT FIVE TO THE EAST, AND THE WESTERN FREEWAY CHANNEL TO THE SOUTH

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 19.519± ACRES, AND WILL CONTAIN 104 RESIDENTIAL LOTS

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

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

TOTAL PROJECT AREA: 19.544± A.C.

TOTAL AREA TO BE DISTURBED: 19.544-± A.C.

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.37

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: IGNEOUS ROCK LAND-LIMESTONE ROCK LAND ASSOCIATION: VERY STEEP AREAS OF IGNEOUS AND LIMESTONE ROCKS AND STONY SOILS; IN THE FRANKLIN MOUNTAINS

NAME OF RECEIVING WATERS: STORM RUNOFF FROM THE NEW SUBDIVISION WILL BE CONVEYED BY STREET SHEET FLOW TO ULTIMATELY BE DISCHARGED TO THE WESTERN FREEWAY CHANNEL.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER:

STRUCTURAL PRACTICES:

- X SILT FENCES
- X EARTHEN BERMS
- ____ ROCK BERMS
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ____ DIVERSION DIKE AND SWALE COMBINATION
- ____ PIPE SLOPE DRAINS
- ____ CONCRETE FLUMES
- X ROCK BEDDING AT CONSTRUCTION EXIT
- ____ TIMBER MATTING AT CONSTRUCTION EXIT
- ____ CHANNEL LINERS
- ____ SEDIMENT TRAPS
- ____ SEDIMENT BASINS
- ____ STORM INLET SEDIMENT TRAP
- ____ STONE OUTLET STRUCTURES
- X CURBS AND GUTTERS
- X 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 SUBDIVISON 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. REFER TO DRAINAGE PLAN SHEET 5, FOR ADDITIONAL INFORMATION ON WATERSHED AREAS AND RUNOFF QUANTITIES (Q).
6. THE FOLLOWING HAVE BEEN IDENTIFIED AS POTENTIAL CONTAMINATION SOURCES: CLEARED AND GRADED AREAS; CONSTRUCTION SITE ENTRANCE AND ASPHALT PARKING AREA CONSTRUCTION; ASPHALT LOADING/UNLOADING AREAS; CONCRETE LOADING/UNLOADING AREAS; AND, ALL UNDISTURBED AREAS.
7. THE FOLLOWING IS A LIST OF POTENTIAL CONSTRUCTION SITE STORM WATER POLLUTANTS: ASPHALT; CONCRETE; GLUE/ADHESIVE; PAINTS; CURING COMPOUNDS; WASTEWATER FROM CONSTRUCTION EQUIPMENT WASHING; HYDRAULIC OIL/FLUIDS; GASOLINE; DIESEL FUEL; KEROSENE; ANTIFREEZE/COOLANT; AND EROSION.

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE AND REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION). THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

V. GOOD HOUSEKEEPING:

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

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

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

VII. PETROLEUM PRODUCTS:

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

VIII. SPILL CONTROL PRACTICES:

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

IX. MAINTENANCE AND INSPECTION PROCEDURES:

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

X. REMARKS:

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

XI. OFFSITE VEHICLE TRACKING:

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

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

XII. REFER TO SWPPP REPORT FOR ADDITIONAL INFORMATION

SUSP #: 11-00082
SUSP DATE: 05-26-11

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNER, BLOCK 79, TSP 2, EL PASO. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
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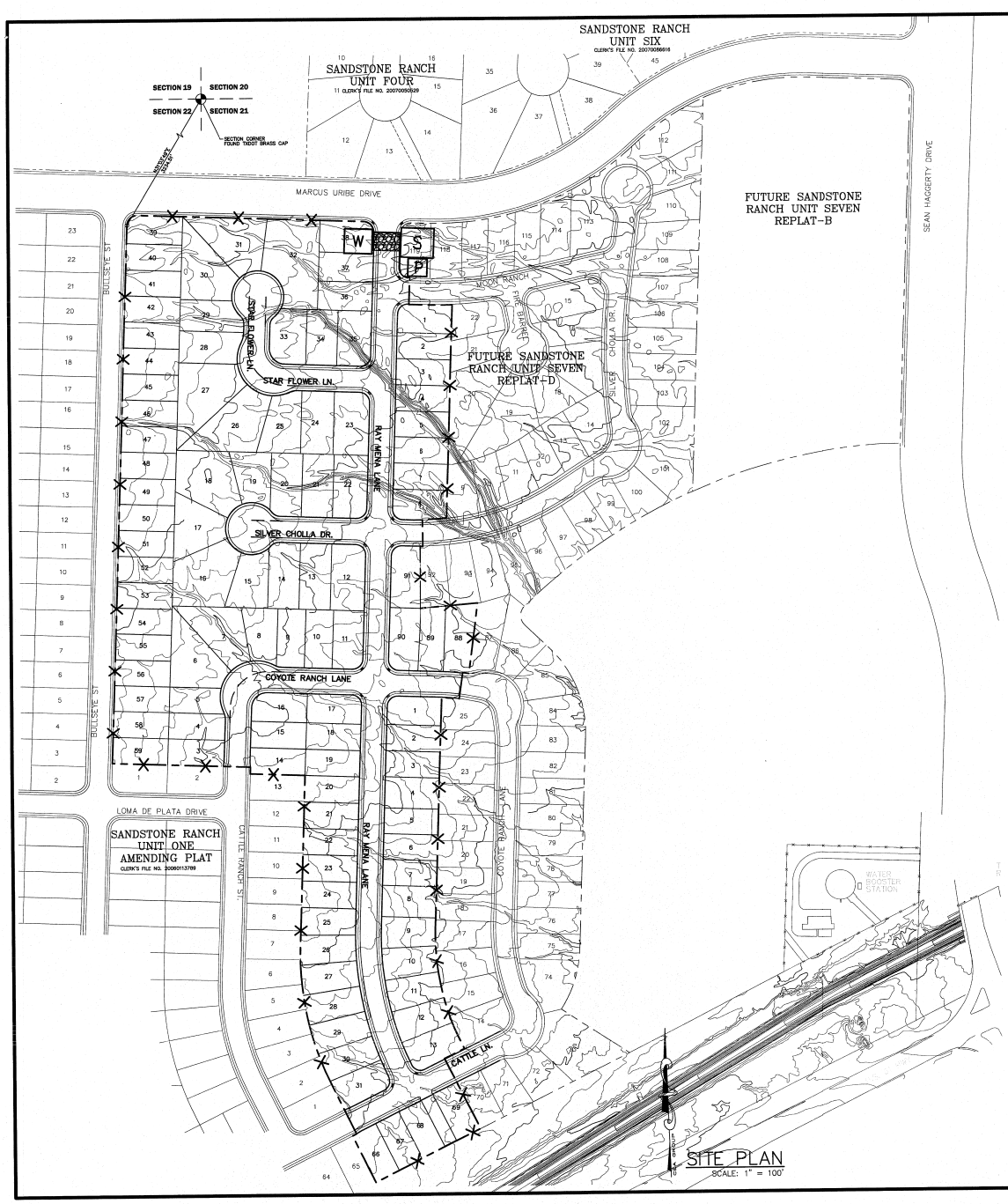
ENGINEER'S SEAL
JAMIE L. WILLIAMS
85075
LICENSED
STATE OF TEXAS

SCALE
Horizontal: ____
Vertical: ____
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.H.
DRAWN BY: G.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-126-10

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.
34
OF 36



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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

LEGEND

—X—X— SILT FENCE OR EARTHERN BERM

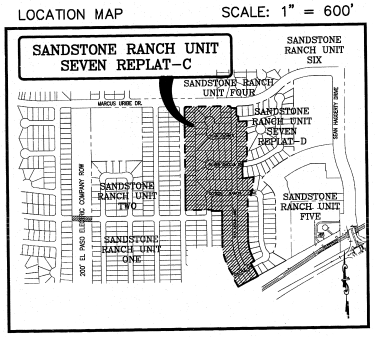
STABILIZED CONSTRUCTION ENTRANCE

S STAGING AREA

P PORTABLE TOILETS

W WASHOUT SITE

LOCATION MAP SCALE: 1" = 600'



SUSP #: 11-00082
SDPCP DATE: 05-26-11

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER, SECTION 19, 20, 21, 22 (ELEV. 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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1790 Hotel Drive, Suite 2 El Paso, TX 79912
Office: 915.544.5233 Fax: 915.544.5253 www.ceagroup.net

ENGINEER'S SEAL

JORGE L. AZCARATE 85075 STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN

SHEET NO.

35

OF 36

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED T FILTER A MAXIMUM FLOW THROUGH RATE OF 60gpm/ft² OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED T CONTROL EROSION FROM DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8ft/sec OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.

TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

UTILITY LOCATOR SERVICES

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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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(AFTER HOURS)	(915) 240-3220

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1-800-DIG-TESS

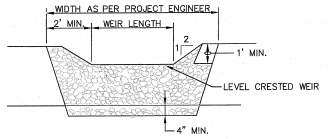
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

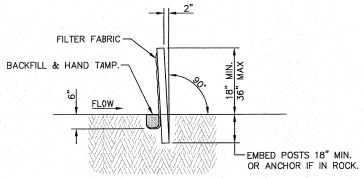
REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS FOR 21 AND 22. ELEVATION: 4,043.72 (NAVD 1988) (SEE ELEVATION TO CONVERT TO CITY DATUM.)

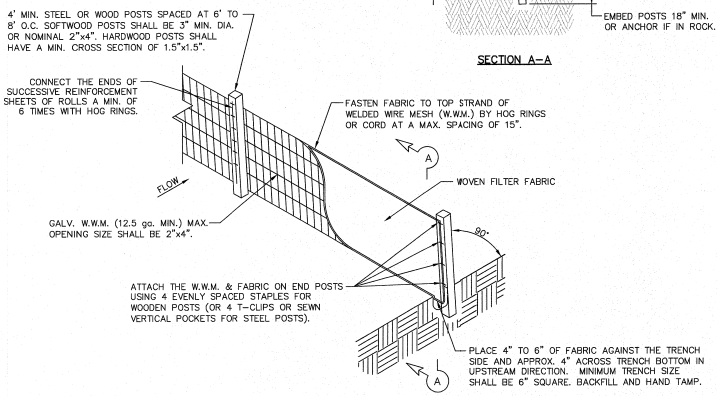
DATE	REVISIONS	BY



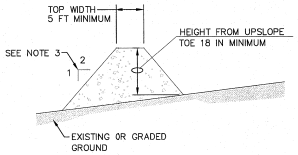
PROFILE



SECTION A-A



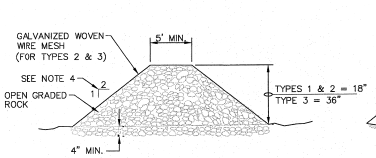
TEMPORARY SEDIMENT CONTROL FENCE



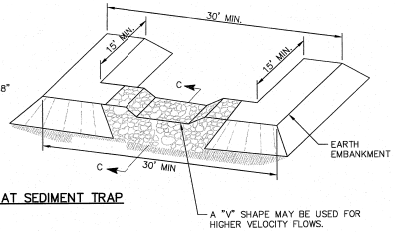
GENERAL NOTES:

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 HERON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

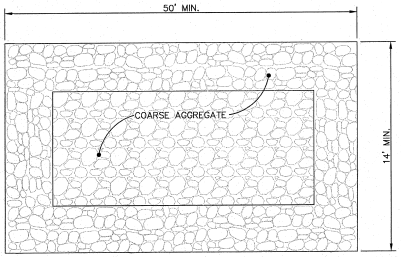
TYPICAL BERM CONFIGURATION



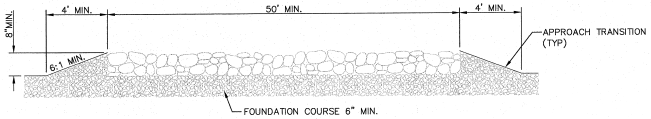
SECTION C-C



FILTER DAM AT SEDIMENT TRAP



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)

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-8584
4171 N. Mesa, Suite C110 El Paso, Texas 79902
Office 915.544.0202 Fax 915.544.0233 www.ceagroup.net

ENGINEER'S SEAL

JAMIE L. AZCARATE 85075 TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

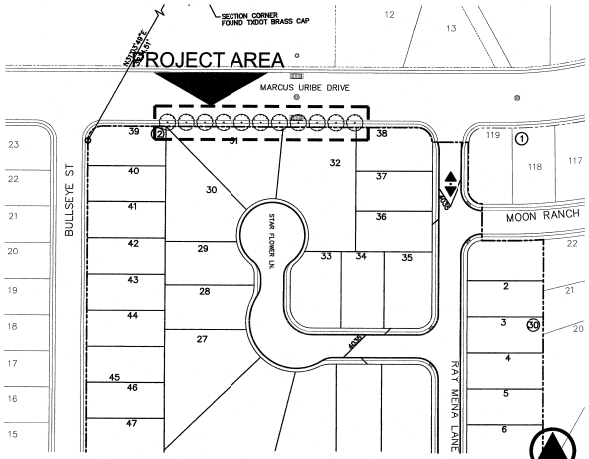
SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.

36

OF 36



SITE LOCATION MAP

SCALE: 1" = 80'

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

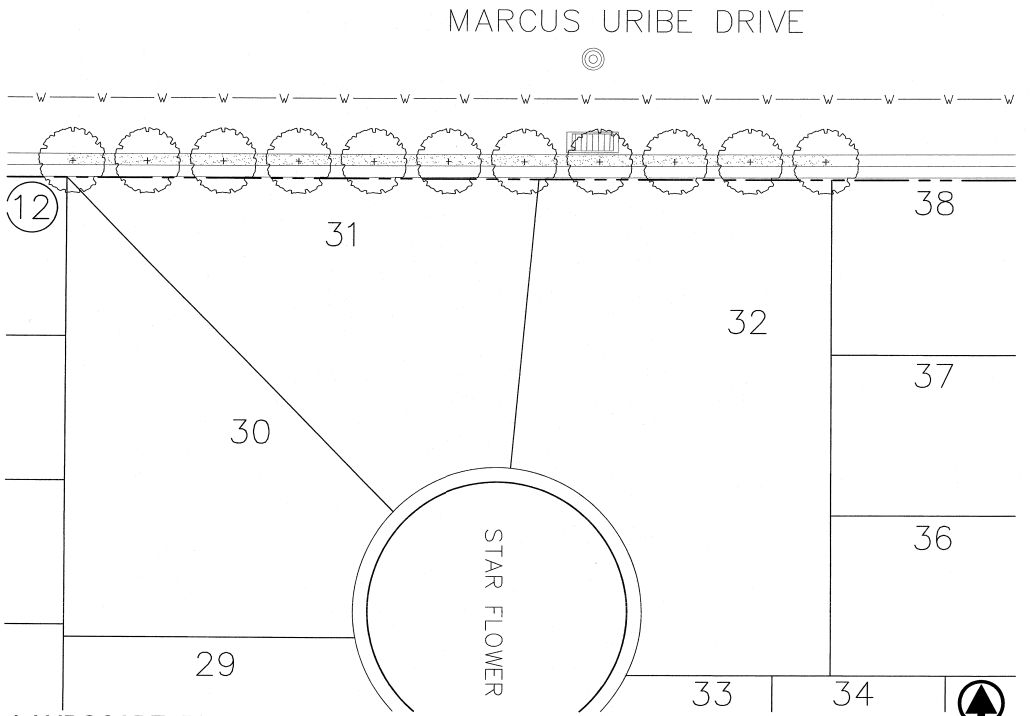
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LANDSCAPE LEGEND

SYMBOL	COMMON NAME	BOTANICAL NAME	QTY
2" CALIPER TREE - 10' HEIGHT MINIMUM			
+	SOUTHERN LIVE OAK	QUERCUS VIRGINIANA	11
TURF, GRAVELS, & MULCHES			
	FRANKLIN RED 3/4" ROCK, 3" DEPTH W/ DEWITT PRO-5 WEED BARRIER		

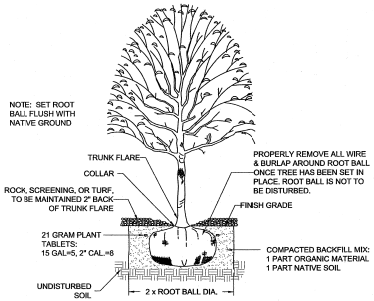
LANDSCAPE NOTES

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



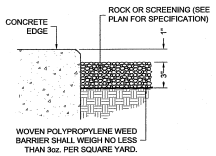
LANDSCAPE PLAN

SCALE: 1" = 20'



TREE PLANTING DETAIL

NOT TO SCALE



ROCK/SCREENING DETAIL

NOT TO SCALE

desert elements
LANDSCAPE DESIGN, LLC
1-3 ardovino drive, sunland park, new mexico 88063
DE-jennifer@dep.rr.com • phone: 575.589.9100 • fax: 575.589.9101

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.0232 Fax: 915.544.0235 www.cagroup.net

CONSULTANTS SEAL

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

DATE: JULY 2011
DESIGN BY: CH
DRAWN BY: CH
CHKD. BY: BA
APPVD. BY: XXX
JOB No. 2010-128-LD

PROJECT NAME

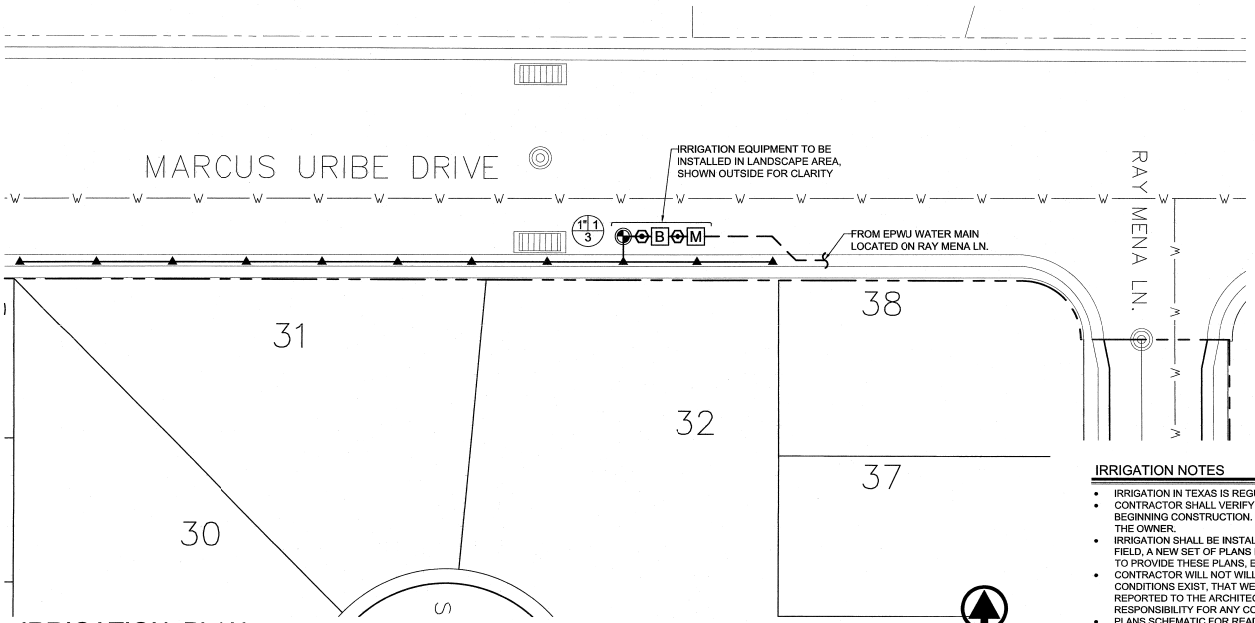
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

LANDSCAPE PLAN

SHEET NO.

L1.00



SCALE: 1" = 20'

IRRIGATION PLAN

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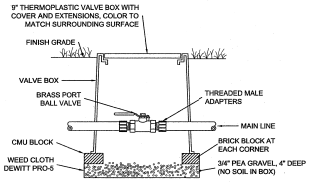
IRRIGATION LEGEND

SYMBOL	ITEM
M	5/8" METER (BY OWNER)
B	3/4" FEBCO 850 DOUBLE CHECK VALVE BACKFLOW PREVENTER W/ 17"X30" REINFORCED CONCRETE BOX W/ SCREW DOWN STEEL CHECKER LID
	1" BRASS PORT VALVE
	1" REMOTE CONTROL VALVE, RAINBIRD 100-PESB W/ AMIAD Y FILTER AFTER THE VALVE RAIN BIRD TBOS CONTROLLER/ WITH POTTED LATCHING SOLENOID & TBOS FIELD TRANSMITTER (SEE DETAIL FOR INSTALLATION)
	MAINLINE - 1" SCHED. 40 PVC
	PVC SLEEVE - 2 SIZES LARGER THAN LATERAL OR MAIN
	LATERAL LINE - SCHED. 40 PVC - 1" UNLESS OTHERWISE INDICATED
	RAINBIRD XERI-BIRD 8 MULTI-OUTLET EMISSION DEVICE RAINBIRD XB-20 DRIP EMITTERS - 8 PER TREE
A B C	A) STATION NUMBER B) SIZE OF VALVE IN INCHES C) TOTAL GPM

IRRIGATION NOTES

- IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13067, AUSTIN, TX 78711.
- CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- IRRIGATION SHALL BE INSTALLED ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS. SHOULD CHANGES BE IMPLEMENTED IN THE FIELD, A NEW SET OF PLANS IS REQUIRED TO BE SUBMITTED TO THE CITY OF EL PASO. LANDSCAPE DESIGNER IS NOT UNDER CONTRACT TO PROVIDE THESE PLANS, EXCEPT AS PROVIDED FOR IN ORIGINAL CONTRACT.
- CONTRACTOR WILL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM IRRIGATION SYSTEM AS DESIGNED, WHEN IT IS OBVIOUS THAT FIELD CONDITIONS EXIST, THAT WERE NOT CONSIDERED AT TIME OF DESIGNING THE SYSTEM. ANY CONDITIONS NOTED AS SUCH, SHALL BE REPORTED TO THE ARCHITECT AND IRRIGATION DESIGNER. IF THE CONTRACTOR FAILS TO DO SO, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY CORRECTIONS NEEDED.
- PLANS SCHEMATIC FOR READABILITY. CONTRACTOR TO ADJUST AS NECESSARY TO FIT SITE.
- CONTRACTOR SHALL VERIFY STATIC PRESSURE AT METER MEETS SYSTEM NEEDS. LICENSED IRRIGATOR TO AMEND AS NECESSARY.
- PROVIDE SHUTOFF VALVE BETWEEN METER AND BACKFLOW.
- CONTROL VALVE SHALL BE PROVIDED TO MAINLINE AFTER BACKFLOW
- CONTRACTOR IS RESPONSIBLE FOR CONNECTING AUTOMATIC CONTROLLER TO ELECTRICITY.
- 14 GA. SOLID COPPER WIRE (PVC INSULATED AND UL APPROVED) SHALL RUN FROM CONTROLLER TO VALVES. COMMON WIRE TO BE 12GA.
- ALL CONTROL WIRING FROM THE VALVES TO THE CONTROLLER MUST BE INSTALLED IN A 1" PVC CONDUIT PIPE IF BURIED BENEATH CONCRETE OR ASPHALT SURFACES.
- LOCATE VALVES AWAY FROM LOW SPOTS OR AREAS OF DRAINAGE FLOW.
- VALVE CAPS SHALL MATCH COLOR OF SURROUNDING MATERIAL, AS CLOSELY AS POSSIBLE.
- ALL MAINLINES SHALL BE BURIED MIN. 18", ALL LATERALS 12".
- MAINTAIN 4" MINIMUM CLEARANCE BETWEEN PIPE RUNNING IN THE SAME TRENCH. CONTROL WIRE SHALL ALWAYS BE TO THE SIDE AND BELOW THE TOP OF THE PIPE RUNNING IN THE SAME TRENCH.
- POLYETHYLENE TUBING TO BE PLACED UNDER WEED BARRIER FABRIC. MICROTUBING TO BE STAKED.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS-BUILT DRAWINGS ON MYLAR PRIOR TO APPROVAL OF FINAL PAYMENT.
- ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, SIDEWALKS, ETC.) SHALL BE INSTALLED IN SCH 40 PVC SLEEVES. SLEEVES SHALL BE OF THE SIZE SO THAT THE INSIDE DIAMETER OF THE SLEEVE IS 3 TIMES GREATER THAN THAT OF THE COMBINED OUTER DIAMETER OF ALL ITEMS INSTALLED IN THE SLEEVES.
- PEA GRAVEL SHALL BE INSTALLED AT THE BASE OF ALL VALVE BOXES, WITH A CLEARANCE OF MIN. 2" BETWEEN VALVE AND TOP OF GRAVEL.



ISOLATION VALVE DETAIL
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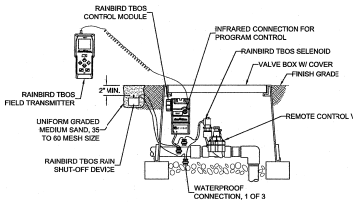

TBOS BATTERY OPERATED CONTROLLER W/ TRANSMITTER
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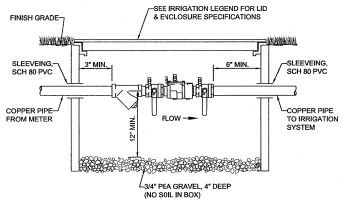

DOUBLE CHECK ASSY. FEBCO Mo.850
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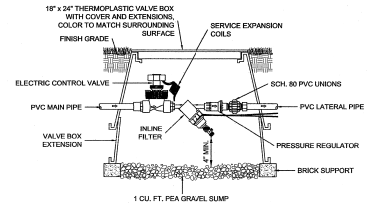
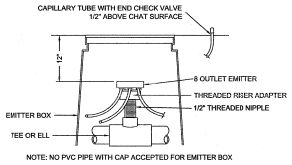
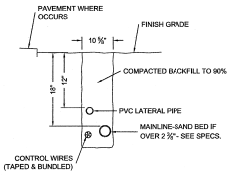


REMOTE CONTROL VALVE, PRESSURE REGULATOR & FILTER
NOT TO SCALE

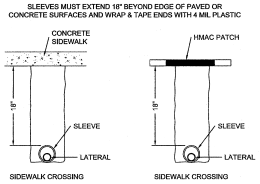


NOTE: NO PVC PIPE WITH CAP ACCEPTED FOR EMITTER BOX

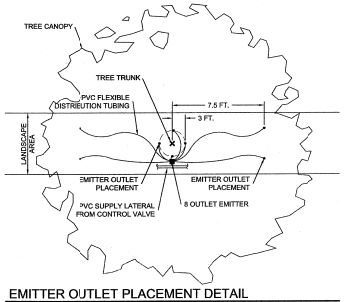
DRIP EMITTER DETAIL
NOT TO SCALE



TRENCHING DETAIL
NOT TO SCALE



SLEEVING STANDARD DETAIL
NOT TO SCALE



EMITTER OUTLET PLACEMENT DETAIL
NOT TO SCALE

desert elements
LANDSCAPE DESIGN, LLC
1-3 ardovino drive, sunland park, new mexico 88063
DE-jennifer@epcyr.com • phone 575.589.9100 • fax 575.589.9104

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4264
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office 915.845.4225 fax 915.845.4229 www.ceagroup.net

CONSULTANT'S SEAL
STATE OF TEXAS
CARLOS HOQUIN
115907
07/07/11
REGISTERED PROFESSIONAL ENGINEER

SCALE
Horizontal: 1" = 20'
Vertical: —
Contour Interval: N/A
DATE: JULY 2011
DESIGN BY: CH
DRAWN BY: JB
CHECKED BY: XXX
APPV'D. BY: XXX
JOB No. 2000-128-D

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

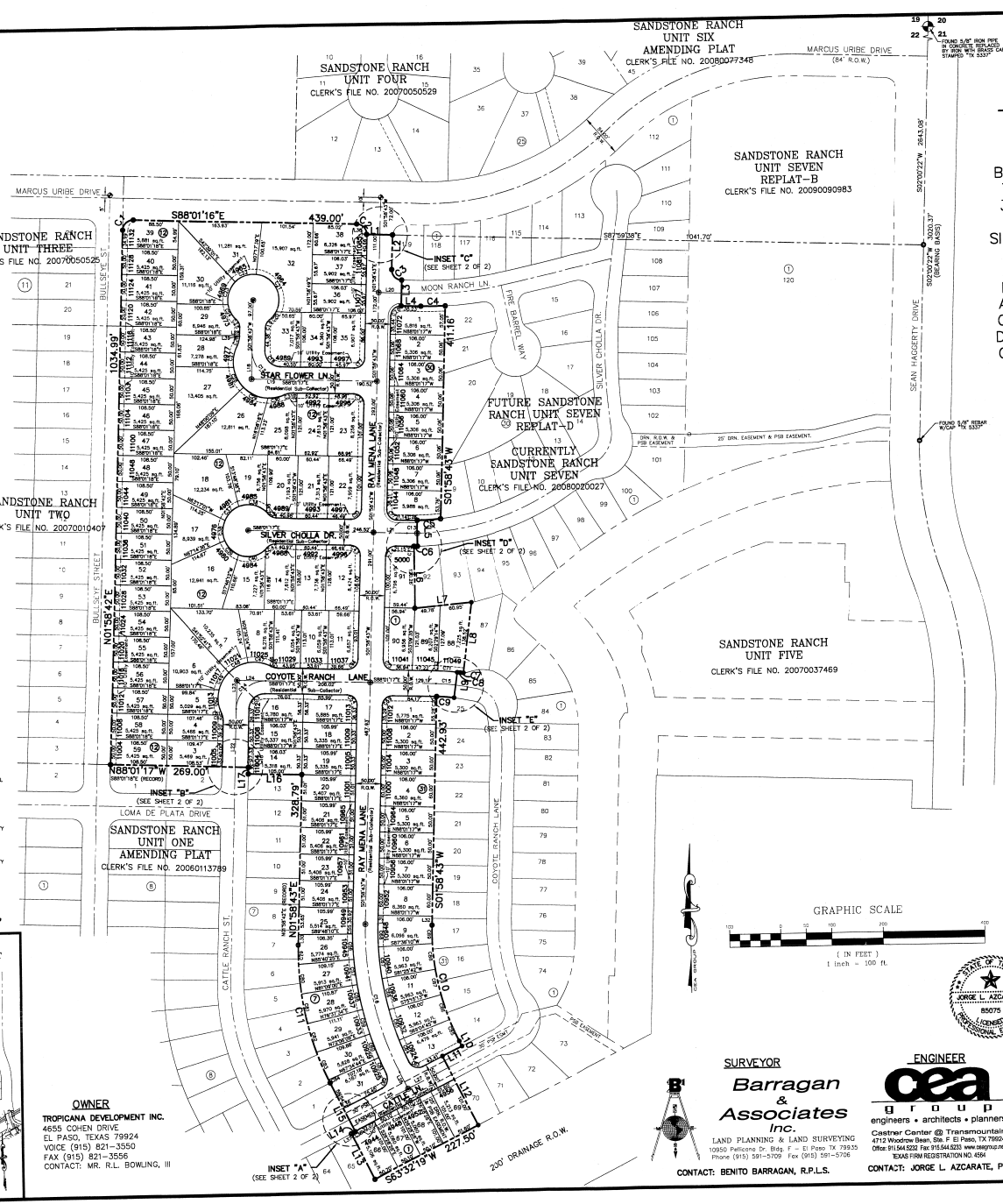
SHEET TITLE
IRRIGATION PLAN

SHEET NO.
L2.00

SANDSTONE RANCH UNIT SEVEN REPLAT-C

BEING LOTS 66 TO 69 AND 88 TO 91, BLOCK 1; LOTS 14 TO 31, BLOCK 7; LOTS 3 TO 44, BLOCK 12; LOTS 1 TO 34, BLOCK 28; LOTS 1 TO 8, BLOCK 30; LOTS 1 TO 13, BLOCK 31; AND PORTIONS OF RIGHT OF WAY OUT OF SILVER CHOLLA DRIVE, MOON RANCH DRIVE, CATTLE RANCH STREET, CATTLE LANE AND COYOTE RANCH DRIVE, AND ALL RIGHT OF WAY OF RAY MENA DRIVE, AND UTILITY EASEMENTS ALL WITHIN SANDSTONE RANCH UNIT SEVEN, AND A PORTION OF RIGHT OF WAY AT THE INTERSECTION OF MARCUS URIBE DRIVE AND CATTLE RANCH STREET AS DEDICATED IN SANDSTONE RANCH UNIT FOUR, ALL IN THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES

SHEET 1 OF 2



NOTE:

THIS REPLAT SUBDIVISION MODIFIES THE STREET R.O.W. WIDTH FROM A 52' R.O.W. TO A 50' R.O.W. AND REVISIONS TO LOT CONFIGURATIONS.

NOTES:

THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO SANDSTONE RANCH UNIT SEVEN REPLAT-C BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON MARCUS URIBE DRIVE, CATTLE RANCH STREET AND CATTLE LANE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.

TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. 20110071461-20110071879

VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING MARCUS URIBE DRIVE, SHALL BE FROM OTHER DEDICATED STREETS ONLY. NO DIRECT ACCESS ALLOWING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No. 20110071463

RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No. 20110071462

SUBDIVISION AGREEMENT AND GUARANTEE LETTER ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.

THIS SUBDIVISION LIES WITHIN ZONE "C", AS DESIGNATED IN PANEL NO. 480214 0014 D, DATED AUGUST 5, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING.

THIS SUBDIVISION LIES WITHIN THE EL PASO INDEPENDENT SCHOOL DISTRICT
6531 BOEING DR, EL PASO, TX 79925

SET 1/2" REBAR WITH CAP MARKED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS NOTED OTHERWISE.

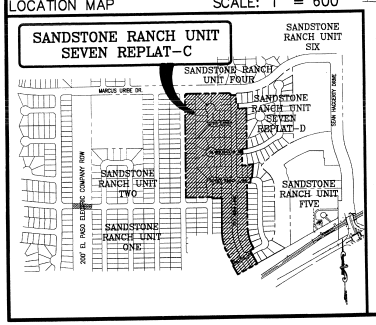
BEARINGS SHOWN ARE BASED ON THE DEED FILED FOR RECORD IN DOCUMENT NO. 20050088130, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.

"U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."

◉ DENOTES PROPOSED CITY MONUMENT (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION - TO VERIFY EXACT LOCATION CONTACT THE CITY OF EL PASO)

◈ DENOTES EXISTING CITY MONUMENT

LOCATION MAP SCALE: 1" = 600'



OWNER

TROPICANA DEVELOPMENT INC.
4655 COHEN DRIVE
EL PASO, TEXAS 79924
VOICE (915) 821-3550
FAX (915) 821-3556
CONTACT: MR. R.L. BOWLING, III

SURVEYOR

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

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

ENGINEER

cea group
engineers • architects • planners
Castner Center @ Transmountain
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net
TEXAS FIRM REGISTRATION NO. 4564

CONTACT: JORGE L. AZCARATE, P.E.

DEDICATION

Tropicana Development Inc., property owner of this land does hereby present this plat and dedicates, if not previously dedicated, its respective portion of said property to the use of the public, the streets, drainage right of way, P.S.B. easement and utility easements, as hereon laid down and designated, including easements for overhang of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness our signature this 13th day of September 2011.

TROPICANA DEVELOPMENT INC.

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared R. L. Bowling, III, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations herein expressed.

Given under my hand and seal of office this 13th day of September 2011.

Notary Public in and for El Paso County

My Commission Expires

CITY PLAN COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 6th day of October 2011, A.D.

Chairperson

Executive Secretary

Approved for filing this 25th day of September, 2011.

CITY ENGINEER

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 17 day of October 2011, A.D. in Document No. 20110071461 of the Plat Records

County Clerk

By Deputy

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

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

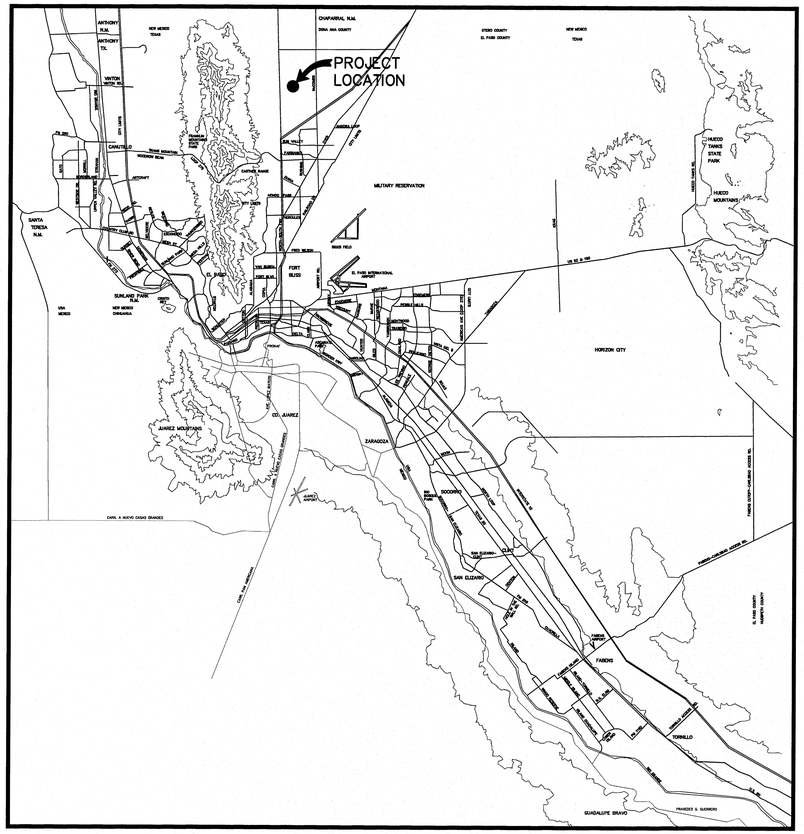
This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Land Survey Professional and Technical Standards.

9/9/2011

Benito Barragan TX R.P.L.S. No. 5615

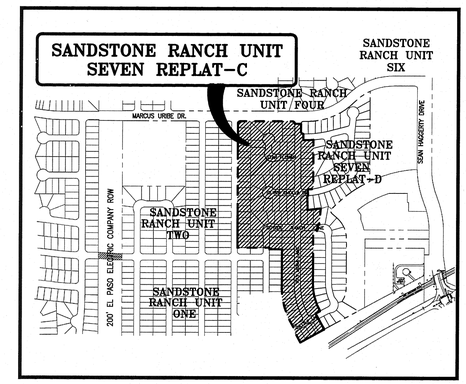
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

BEING A PORTION OF BLOCK 1, LOTS 66 TO 69 AND 88 TO 91; BLOCK 7, LOTS 14 TO 31; BLOCK 12, LOTS 3 TO 44; BLOCK 28, LOTS 1 TO 34; BLOCK 30, LOTS 1 TO 8; BLOCK 31, LOTS 1 TO 13; AND PORTIONS OF ROW OUT OF SILVER CHOLLA DR., BROKEN WIND, AND CATTLE LN. AND COYOTE RANCH LN., ALL ROW OUT OF RAY MENA LN., AND ALL UTILITY EASEMENTS WITHIN SANDSTONE RANCH UNIT SEVEN, AN ADDITION TO THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES



VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET, GENERAL INFORMATION
1	GENERAL NOTES, GRADING SPECIFICATIONS
2,3	FINAL PLAT
4	GRADING PLAN
5	DRAINAGE PLAN
6-7	GRADING SECTIONS
8-12	STREET PLAN & PROFILES
13,14	STORM SEWER PLAN & PROFILES
15	SANITARY SEWER INDEX/ GENERAL INFORMATION
16-18	SANITARY SEWER PLAN & PROFILES
19-21	SANITARY SEWER DETAILS
22	WATER INDEX/ GENERAL INFORMATION
23-27	WATER DETAILS
28-30	STANDARD DETAILS
31, 32	DRAINAGE DETAILS
33	ILLUMINATION PLAN
34-36	SWPPP
L1-L2	LANDSCAPE & IRRIGATION PLANS



LOCATION MAP
APPROXIMATE SCALE:
1" = 600'

JORGE L. AZCARATE, P.E. PROJECT MANAGER 8/10/11

STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED
PROFESSIONAL ENGINEER

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

DEVELOPMENT SERVICES DEPARTMENT
SITE PLAN REVIEW
Reviewed For Conformance For Conditions Related To:

- Demolition Only
- Grading & Drainage
- Wheelchair Ramps
- On Site Parking Layout
- Sidewalks
- Driveways
- Retaining Rock Walls
- On-Site Ponding of Storm Waters

Contractor Must Call 24 Hours Prior To Construction For Inspection
BY DATE 8/11/2011

PRINCIPAL CONTACTS:

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

SANDSTONE RANCH UNIT SEVEN REPLAT-C

COVER SHEET

DATE PREPARED	DRAWN BY:	DESIGN BY:	CHECKED BY:	APPROVED BY:
MAY 2011	J.H.	G.R.	G.R.	J.L.A.
REVISION NUMBER	SHEET NAME OR NUMBER	DESCRIPTION OF REVISION	DATE OF REVISION	REVISION APPROVED BY:

MAY 2011

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.

2. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AUTOMOBILE AND PEDESTRIAN ACCESS TO THE USER AT ALL TIMES, INCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS. THIS INCLUDES, BUT IS NOT LIMITED TO DRIVEWAYS, STREETS, PARKING, AND WALKWAYS. THIS REQUIREMENT SHALL BE FULFILLED AT NO EXTRA COST TO THE OWNER.

3. 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.

4. 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. SERVICE SHALL BE PROVIDED TO USER AT ALL TIMES.

5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF DURING THE COURSE OF THE 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.

6. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.

7. 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.

8. 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.

9. FOR ELEVATIONS, REFERENCE BENCHMARK IN TITLE BLOCK FOR ADDITIONAL INFORMATION.

10. VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE ENGINEER.

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

12. THE LOCATION OF THE FLUMES AND INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

13. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN THE FINAL APPROVED SUBDIVISION PLANS PRIOR TO COMMENCING ANY CONSTRUCTION WORK.

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 THREE (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. OR UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER, GEOTECHNICAL ENGINEER OR CITY ENGINEER.

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 TWELVE (12)

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 SIX (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 ONE (1) VERTICAL TO FOUR (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 EIGHT (8) INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN FOUR (4) INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND–OPERATED TAMPERS. BEFORE COMPACTION, MOISTEN OR AERATE EACH LAYER AS NECESSARY TO PROVIDE OPTIMUM MOISTURE CONTENT. PLACE FILL MATERIALS EVENLY ADJACENT TO SITE APPURTENANCES, PIPING, OR CONDUIT TO REQUIRED ELEVATIONS. PREVENT WEDGING ACTION OF BACKFILL AGAINST SITE APPURTENANCES OR DISPLACEMENT OF PIPING OR CONDUIT BY CARRYING MATERIAL UNIFORMLY AROUND SITE APPURTENANCES, PIPING, OR CONDUIT TO APPROXIMATELY SAME ELEVATION IN EACH LIFT. COMPACT SOIL TO NOT LESS THAN 95% OF MAXIMUM DENSITY, IN ACCORDANCE WITH ASTM D1557.

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 TWO (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 IS REQUIRED DURING THE GRADING OPERATIONS TO ENSURE GRADING WORK IN ACCORDANCE WITH THIS PLAN AND SPECIFICATIONS.

LEGEND

	SUBDIVISION BOUNDARY
	ROW LINE
	CURB LINE
	PROPERTY LINE
	STREET CENTERLINE
	EASEMENT LINE
	MATCH LINE
	STORM SEWER LINE
	HIGH WATER MARK
	CURB AND GUTTER DROP INLET
	STORM SEWER MANHOLE
4000	FINISHED GROUND CONTOUR ELEVATION (INDEX)
	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
4000	EXISTING GROUND CONTOUR ELEVATION (INDEX)
	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
	NEW RETAINING ROCKWALL (3'–9' IN HEIGHT)
	EXISTING RETAINING ROCKWALL
	NEW RETAINING ROCKWALL (2'–3' IN HEIGHT)
P P	EXISTING ELECTRICAL LINE
X / X	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
	STORM SEWER LINE FLOW
	HIGH POINT
	LOW POINT
	EXISTING HIGH POINT
	EXISTING LOW POINT
	HEADWALL WITH WINGWALLS
DA–4	DRAINAGE AREA
2:1 SLOPE	HORIZONTAL: VERTICAL SLOPE RATIO
3980	APPROXIMATE BASE FLOOD ELEVATION (NATIONAL GEODETIC VERTICAL DATUM, NGVD). TO CONVERT TO CITY OF EL PASO DATUM FROM NGVD, SUBTRACT 8.462–FEET.
	APPROXIMATE AREA OF 100 YEAR FLOOD, AS PER FIRM PANEL NO. 480214–0016–C (FEBRUARY 5, 1986)
	WHEELCHAIR RAMP

ABBREVIATIONS

LP	LOW POINT
HP	HIGH POINT
ELEV	ELEVATION
STA	STATION
VCS	VERTICAL CURVE STATION
VCE	VERTICAL CURVE ELEVATION
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TYP	TYPICAL
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
AD	ALGEBRAIC DIFFERENCE
CR	CURVE RETURN
ROW	RIGHT OF WAY
CL	CENTER LINE
PL	PROPERTY LINE
FG	FINISH GRADE
FF	FINISH FLOOR
EG	EXISTING GRADE
MIN.	MINIMUM
RCP	REINFORCED CONCRETE PIPE
Q	QUANTITY
CAP	CAPACITY
EXP	EXPECTED
INV	INVERT
CFS	CUBIC FEET PER SECOND
A	AREA
DA	DRAINAGE AREA
LF	LINEAR FEET
STD	STANDARD
CONC	CONCRETE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENT
L	LENGTH
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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621–6750
(AFTER HOURS)	(915) 240–3220

WARNING ! BEFORE YOU DIG

CALL
1–800–DIG–TESS
1–800–344–8377
FOR FIELD LOCATING EXISTING UTILITIES

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REFERENCES – BENCHMARKS

FOUND TYDOT BRASS CAP AT SECTION CORNERS, 19 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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Office 915.544.5232 Fax 915.544.5233 www.ceagroup.net

ENGINEER'S SEAL

JORGE L. AZCARATE 85075

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000–123–LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE

GENERAL INFORMATION

SHEET NO.

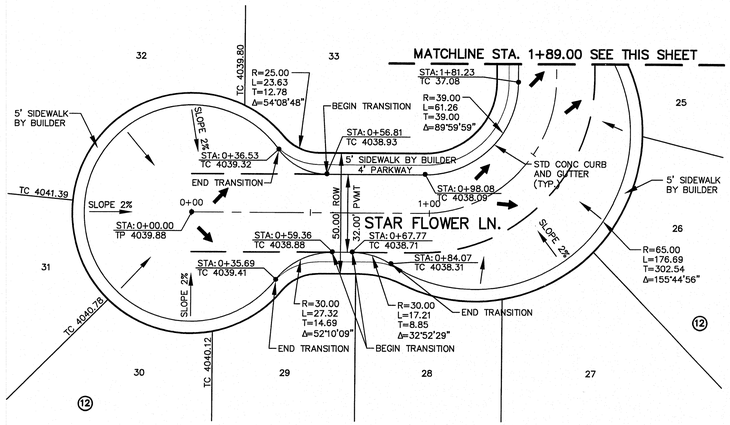
1

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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



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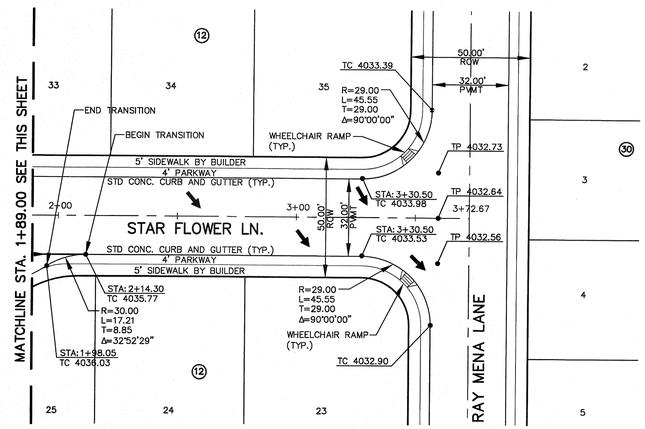

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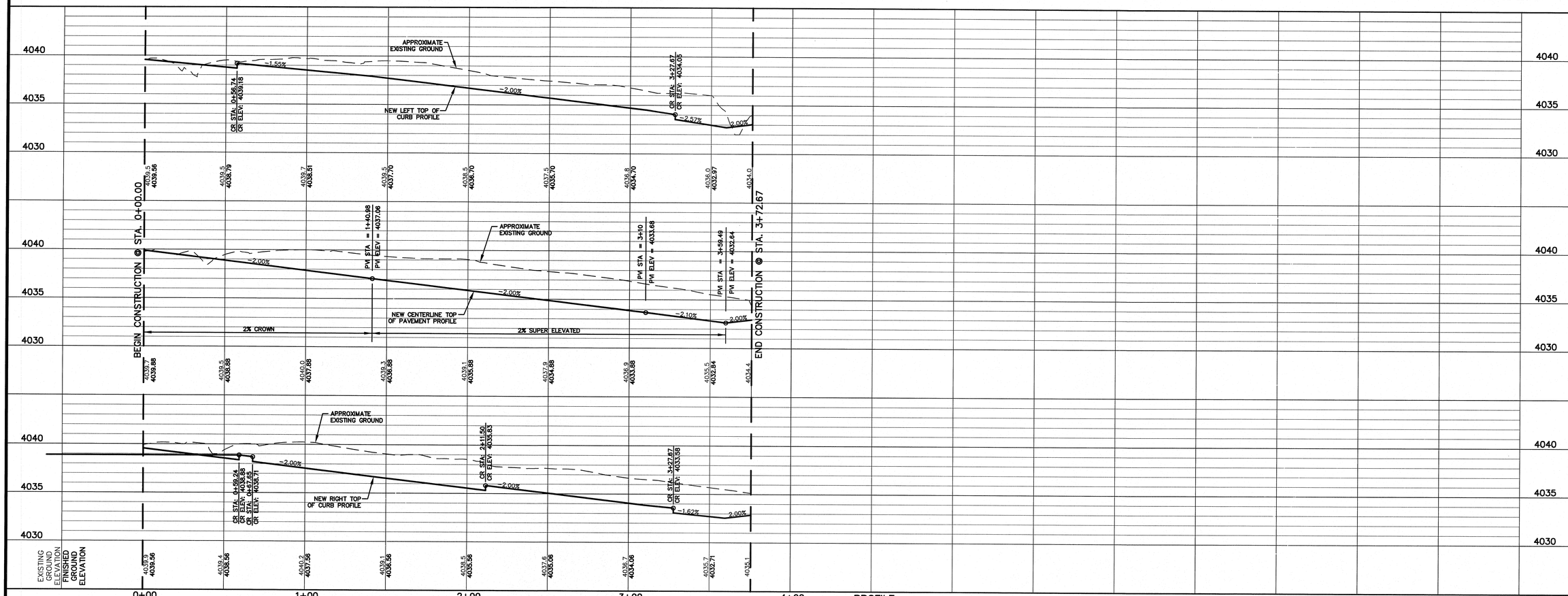
LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



PROFILE

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL
JORGE L. AZCARATE
85075

SCALE
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Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

STAR FLOWER LN. PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+72.67

SHEET NO.

10

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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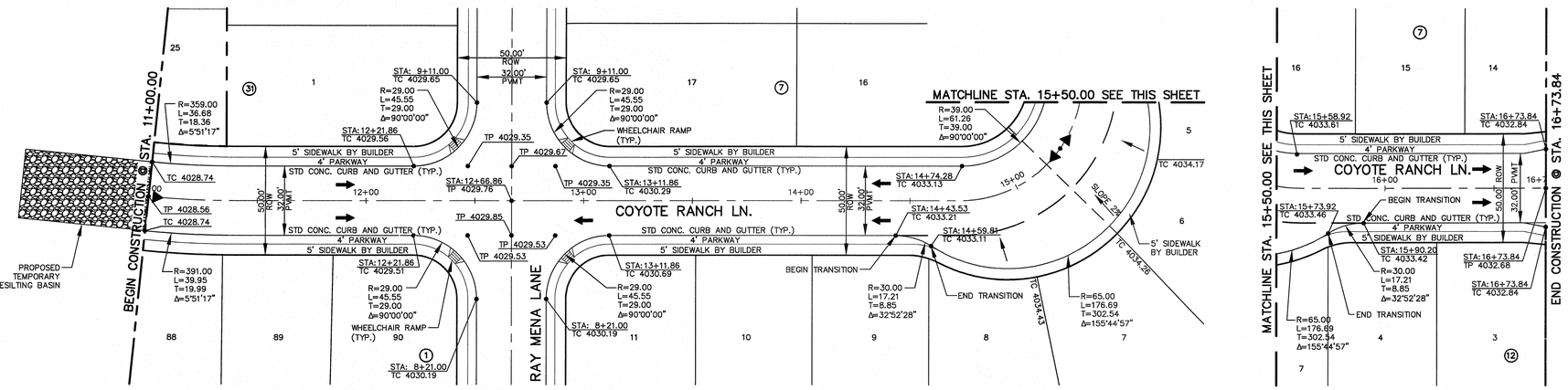
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

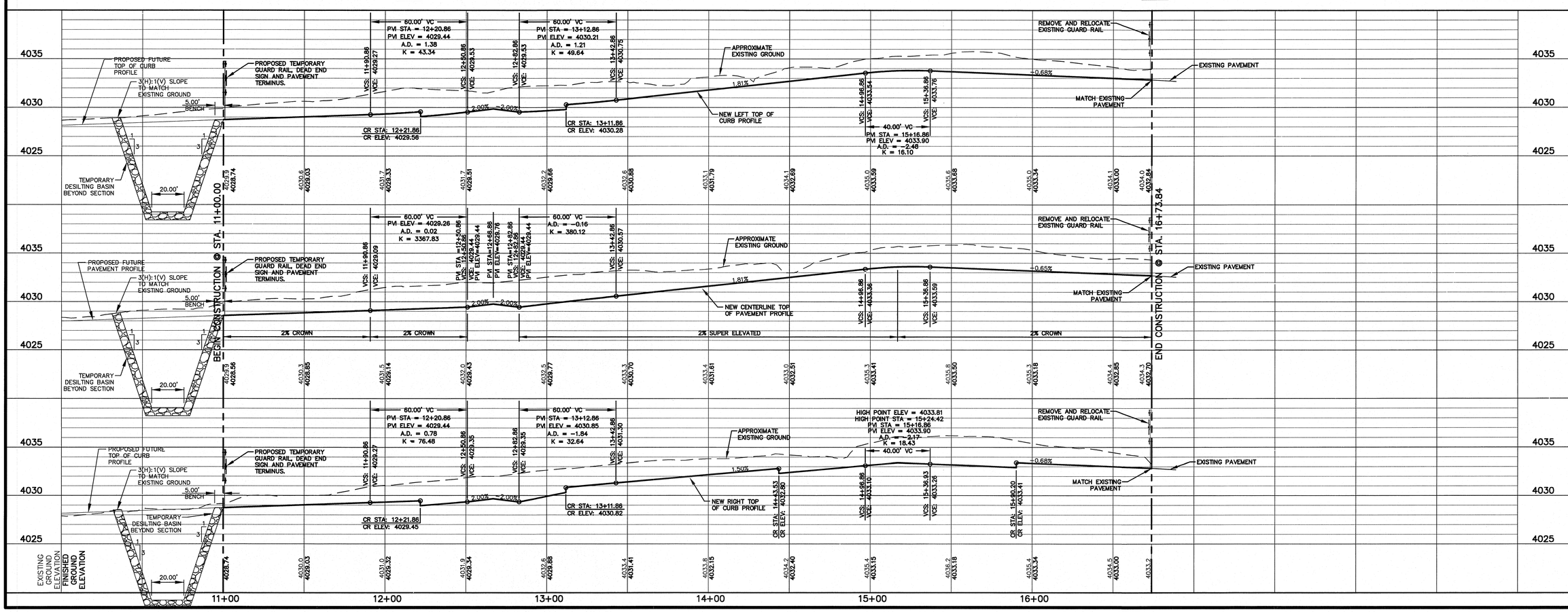


PLAN

PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 6.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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engineers • architects • planners
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ENGINEER'S SEAL

JORGE L. AZCARATE 85075 TEXAS REGISTERED PROFESSIONAL ENGINEER

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

COYOTE RANCH LN. PLAN & PROFILE FROM STA. 11+00.00 TO STA. 16+73.84

SHEET NO.

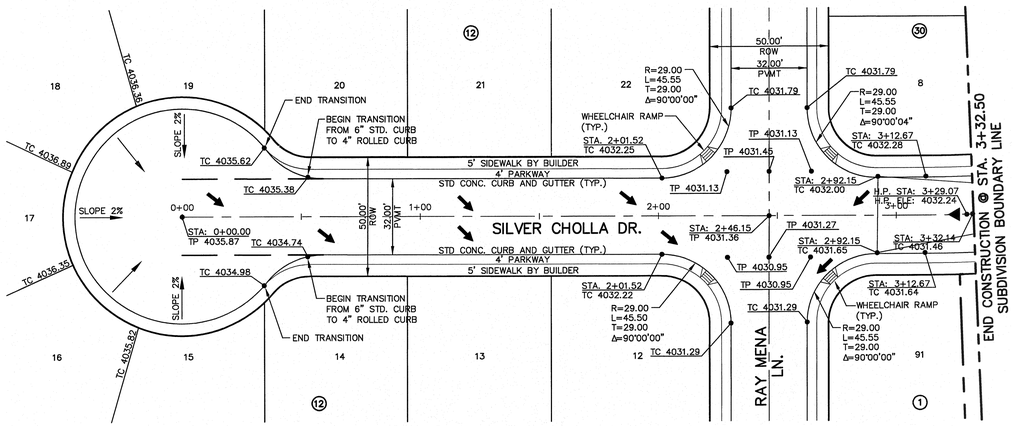
11

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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



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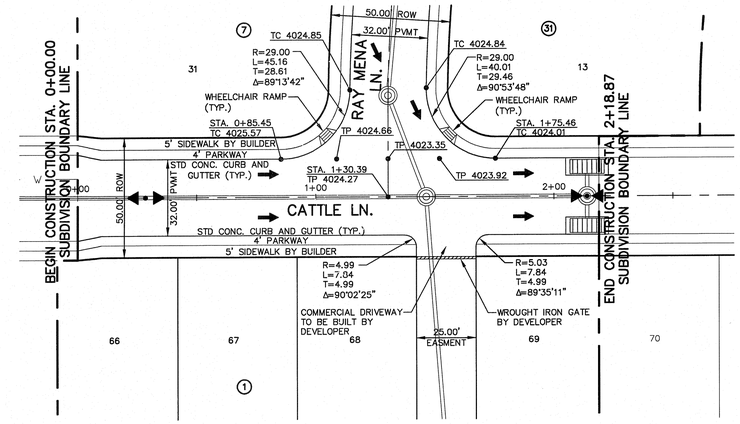
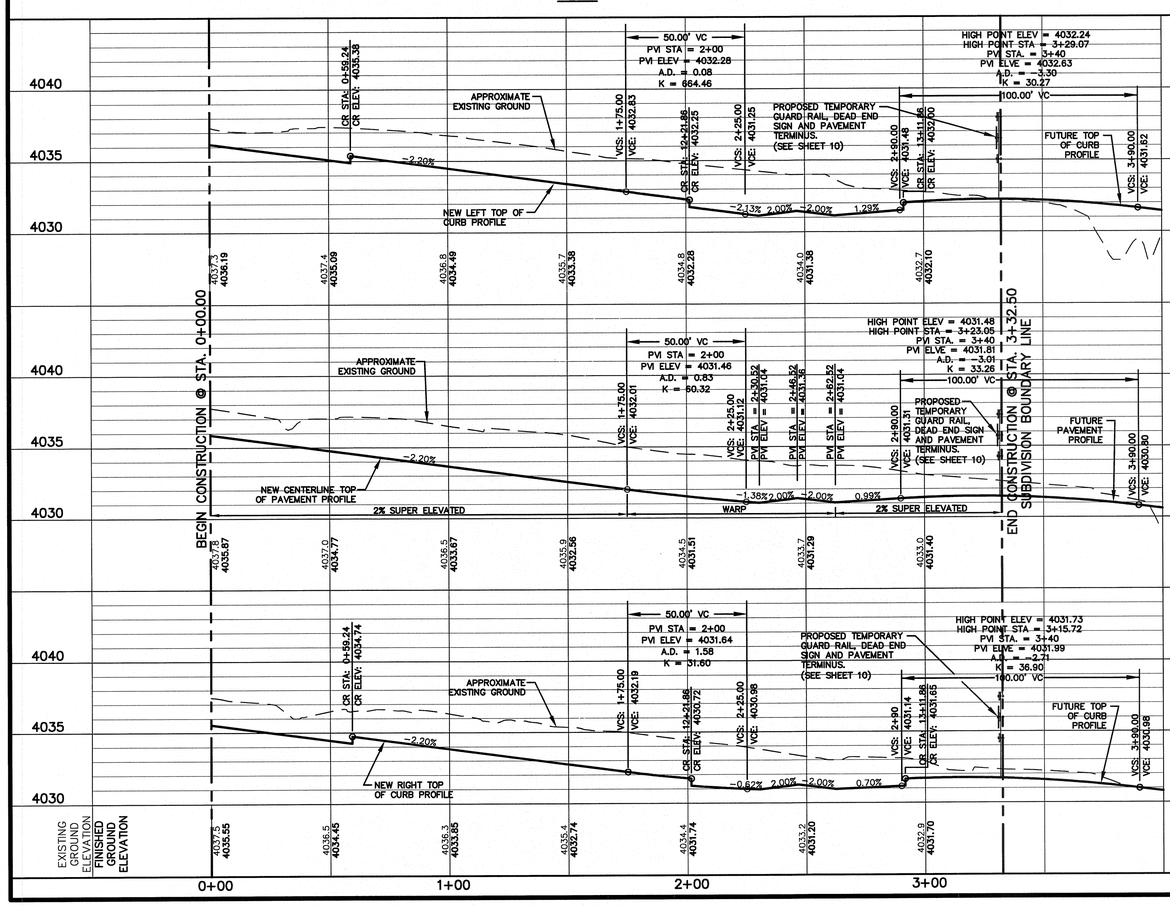
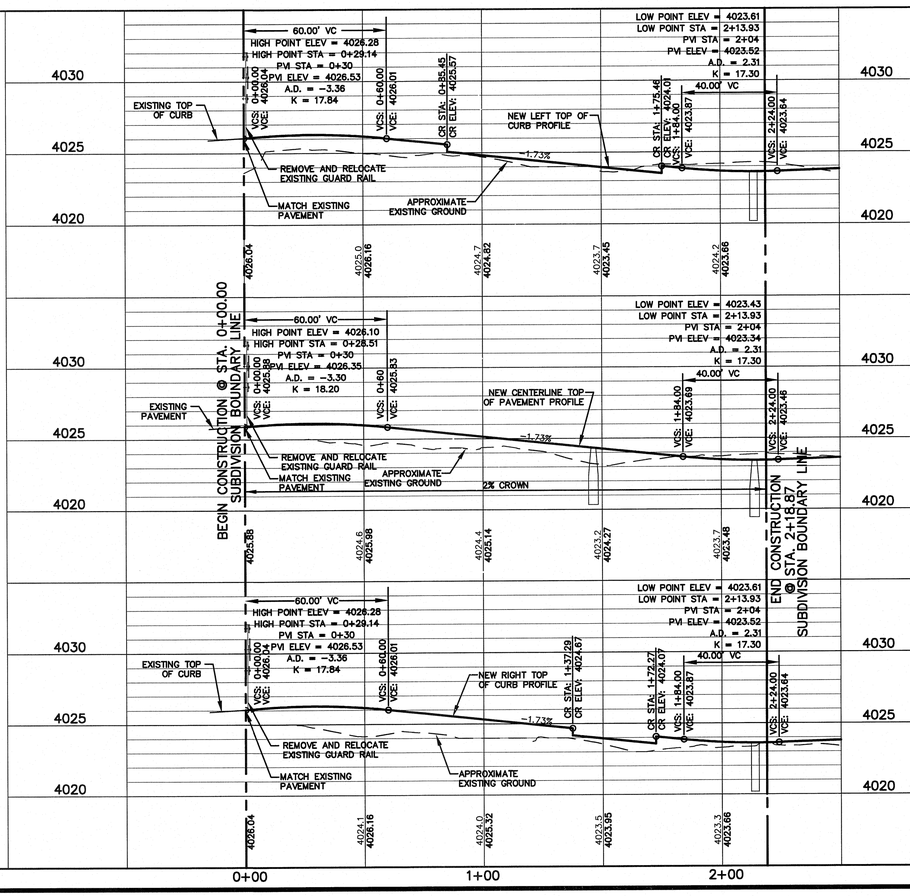


PLAN

LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER





REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.32 (NGVD DATUM) (SUBTRACT 8.452 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL

MICHAEL L. AZCARATE 85075 LICENSED PROFESSIONAL ENGINEER

SCALE
Horizontal: N/A
Vertical:
Contour Interval:

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SILVER CHOLLA PLAN & PROFILE FROM STA. 0+00.00 TO STA. 3+32.50 CATTLE LANE PLAN & PROFILE STA. 0+00.00 TO STA. 2+18.87

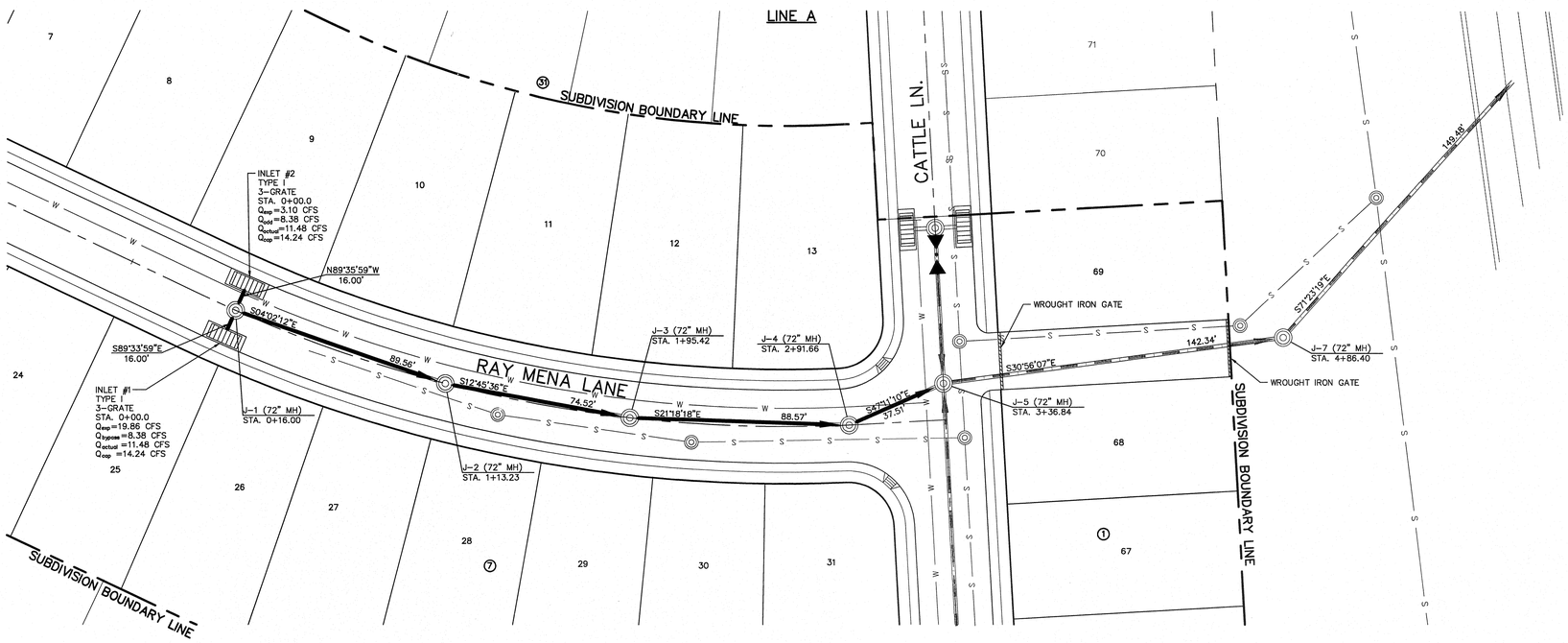
SHEET NO.

12

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

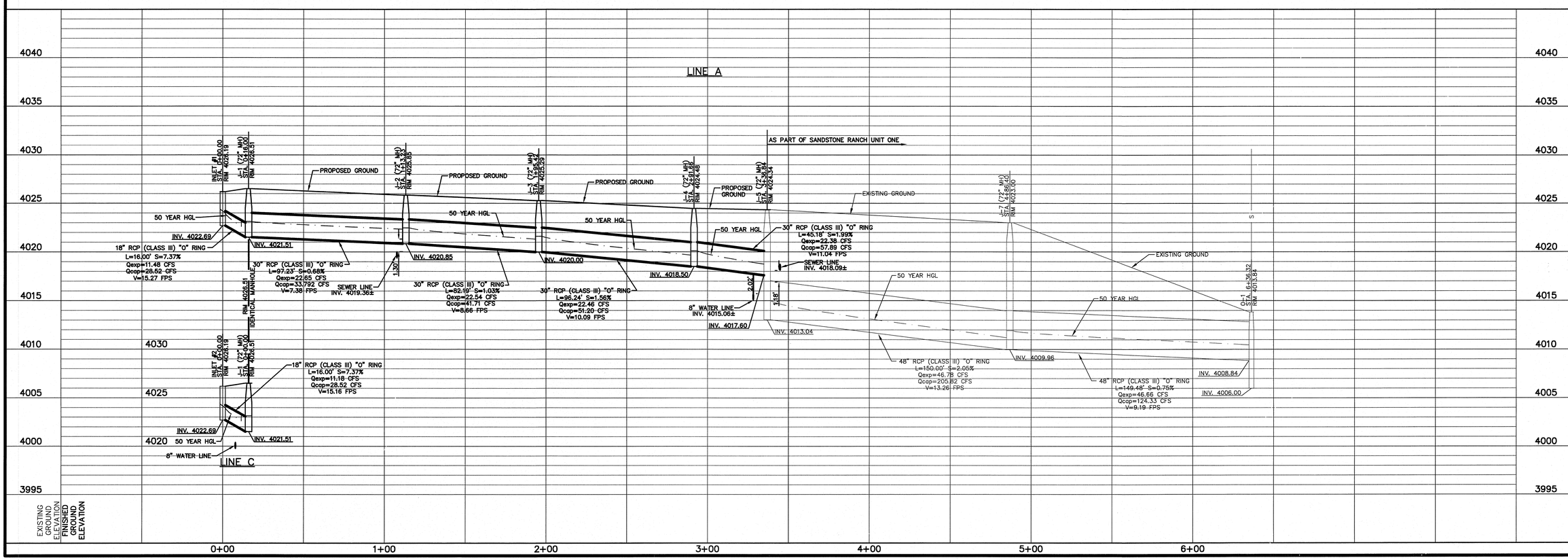
WARNING !
BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES



PLAN

LEGEND:

- STORM SEWER LINE
- PROPOSED STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- WATER LINE
- SANITARY SEWER LINE
- DROP INLET
- MANHOLE



REFERENCES - BENCHMARKS
FOUND TYGOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22 ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
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TEXAS REGISTERED ENGINEERING FIRM F-4564
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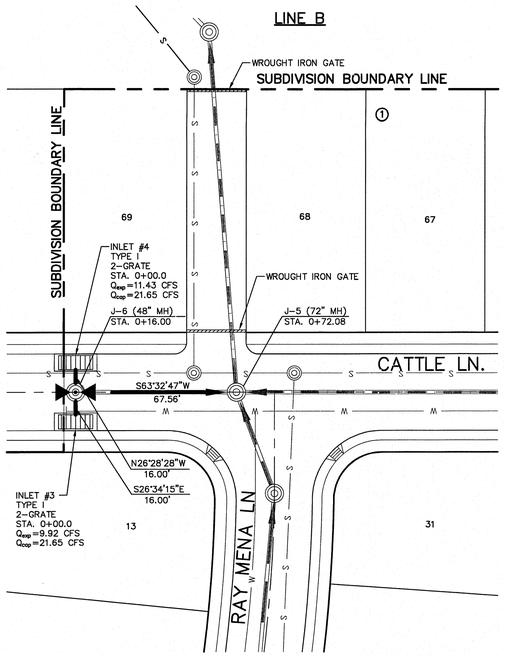
JORGE L. AZCARATE
85075
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A.
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM DRAIN PLAN & PROFILE "A" FROM STA. 0+00.00 TO STA. 6+36.32

SHEET NO.
13
OF 36



PLAN

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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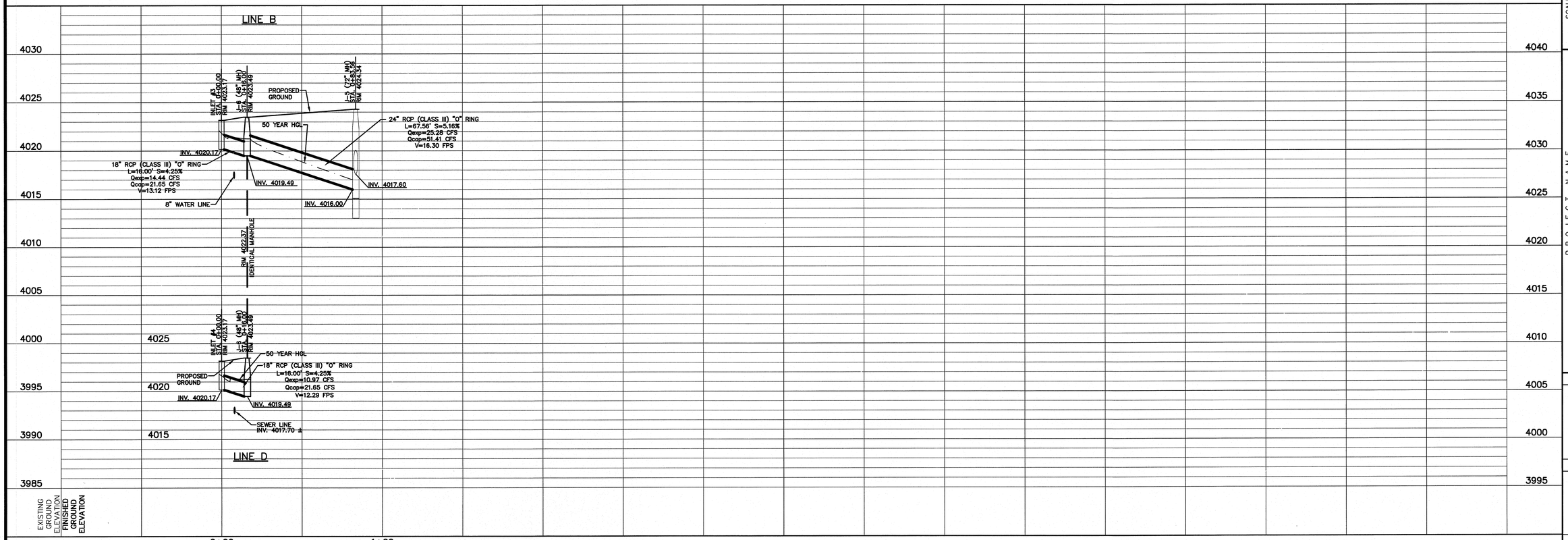
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

- STORM SEWER LINE
- PROPOSED STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- W — W — WATER LINE
- S — S — SANITARY SEWER LINE
- DROP INLET
- MANHOLE



REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22 ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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85075
LICENSED PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

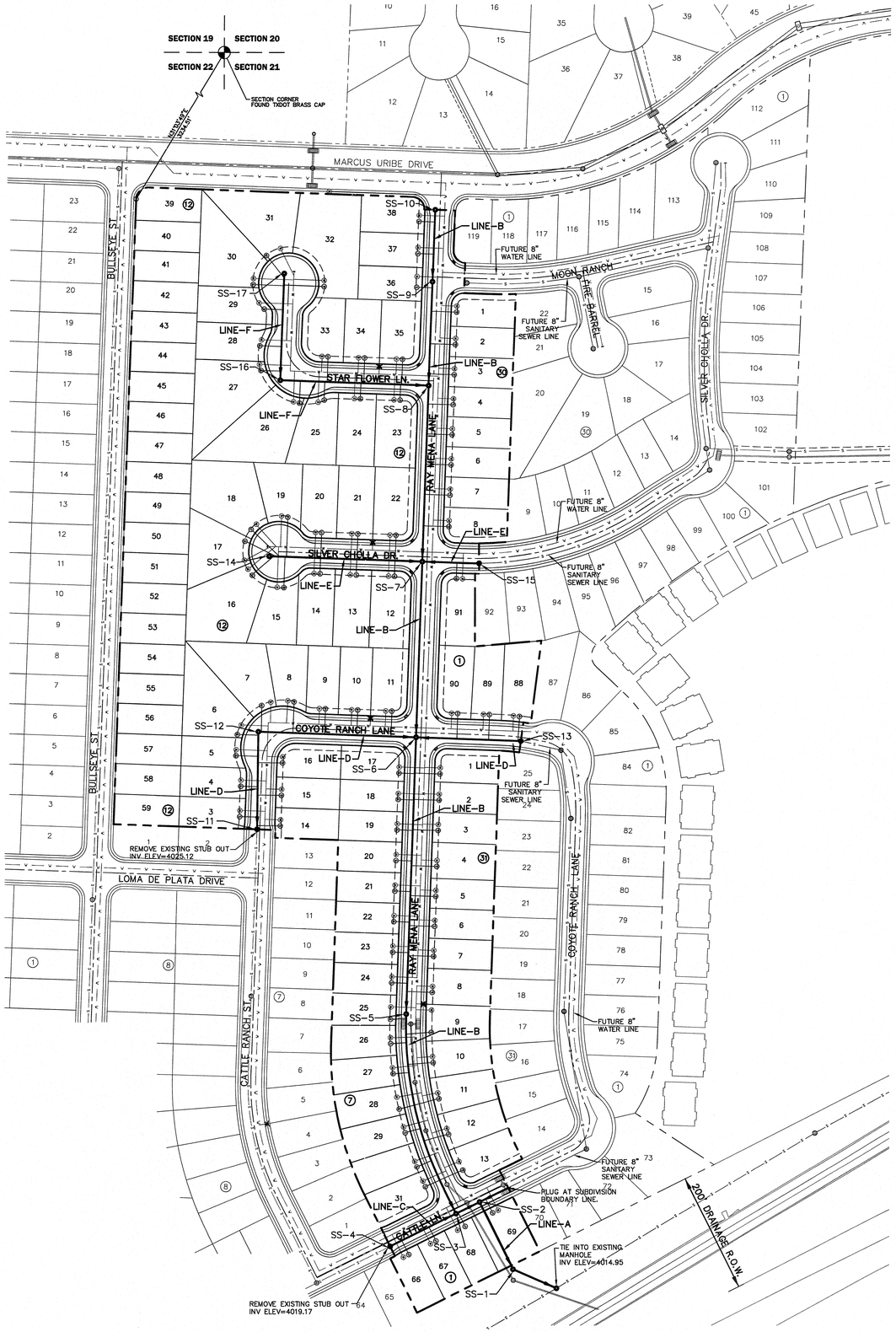
SHEET TITLE

STORM DRAIN PLAN & PROFILE "B" FROM STA. 0+00.00 TO STA. 0+83.56

SHEET NO.

14

OF 36



GENERAL UTILITIES:
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DALLAS, TX. 75243
(800) 344-8377

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

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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

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

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
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. DARYL W. COLE

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

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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.

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

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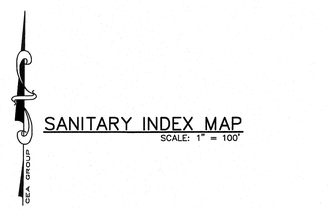
BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

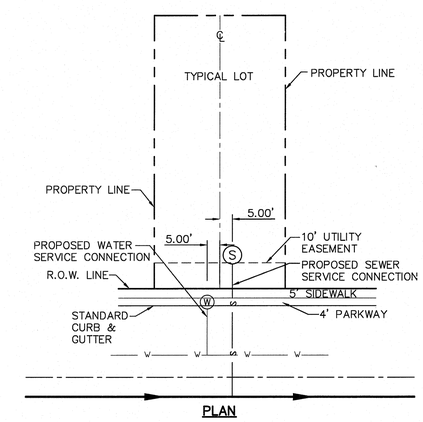
GENERAL NOTES

1. LESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATION DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
2. 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, 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.
3. 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 AQCUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
4. TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
5. 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.
6. 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.
7. 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.
8. IF REQUIRED, TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
9. ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPPERATIONAL WATER SYSTEM.
11. ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
12. CONSTRUCTION OF THE PUBLIC WATER AND SANITARY SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
13. ALL SEWER LINES SHALL BE PVC SDR35 PIPE UNLESS OTHERWISE REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.

LEGEND

SYMBOL	DESCRIPTION
	10' UTILITY EASEMENT
S S	EXISTING SEWER LINE
W W	EXISTING WATER LINE
W W	PROPOSED WATER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
8" SWR SDR35	PROPOSED SEWER LINE (PLAN VIEW)
12" SWR SDR35	PROPOSED SEWER LINE (PLAN VIEW)
P.V.C. @ (SLOPE) Q=(CAPACITY) GPM	PROPOSED SEWER LINE (PROFILE VIEW)
	PROPOSED STORM SEWER
	PROPOSED MANHOLE (PLAN VIEW)
	PROPOSED 8" CAP
S	PROPOSED SERVICE CONNECTION (PLAN VIEW)
	PROPOSED MANHOLE (PROFILE VIEW)
	EXISTING MANHOLE (PROFILE VIEW)





SERVICE LOCATION DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL
STATE OF TEXAS
JORGE L. AZCARATE
86075
LICENSED PROFESSIONAL ENGINEER

SCALE
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Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

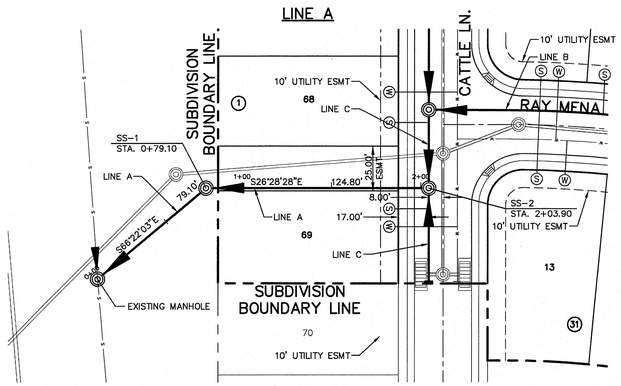
SHEET TITLE
SANITARY SEWER INDEX

SHEET NO.
15
OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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



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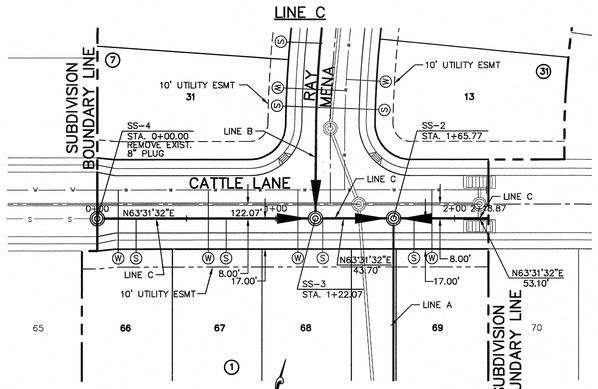

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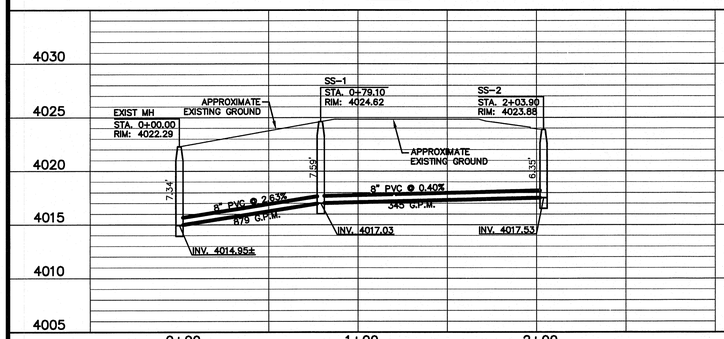

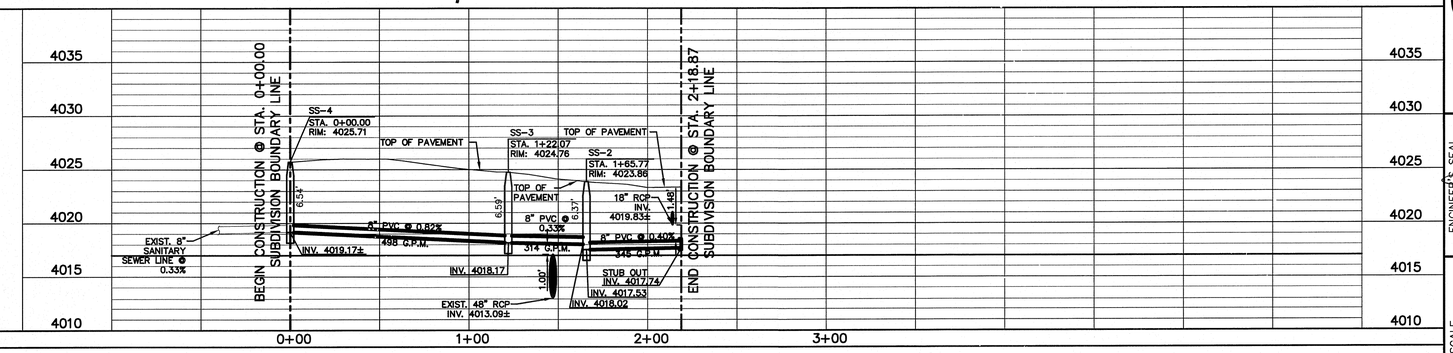

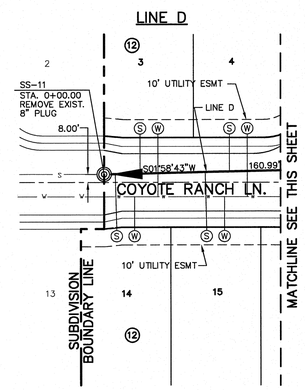

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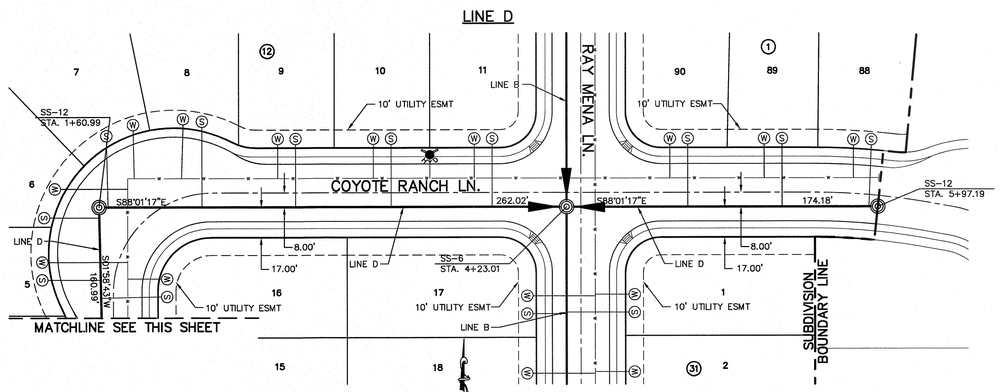

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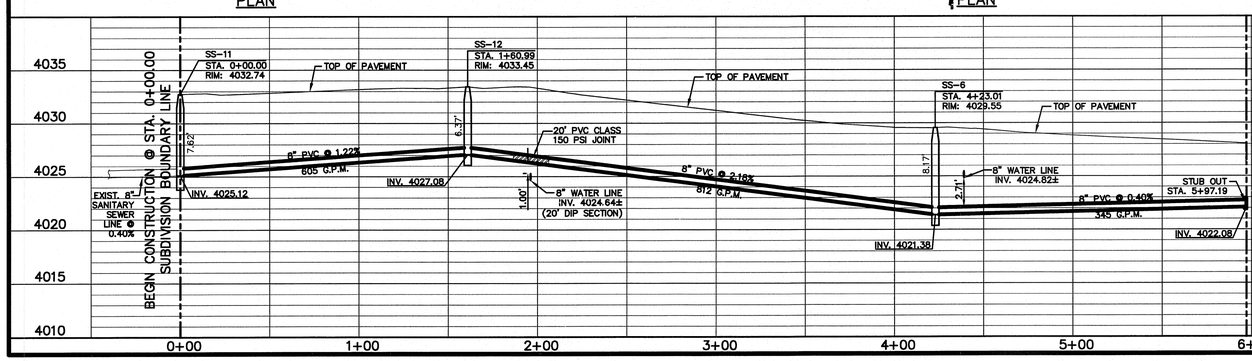

LEGEND

- EXISTING WASTE WATER FLOW
- PROPOSED WASTE WATER FLOW
- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22; ELEVATION: 4033.222 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL
JORGE L. AZCARATE
86075

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINES A, C & D

SHEET NO.

16

OF 36

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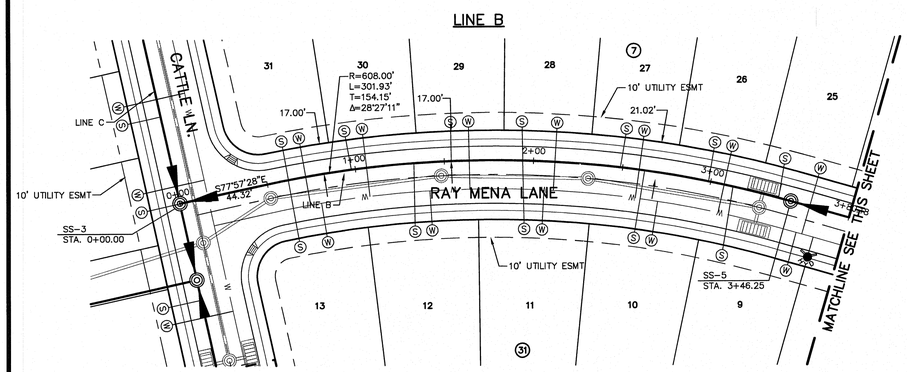

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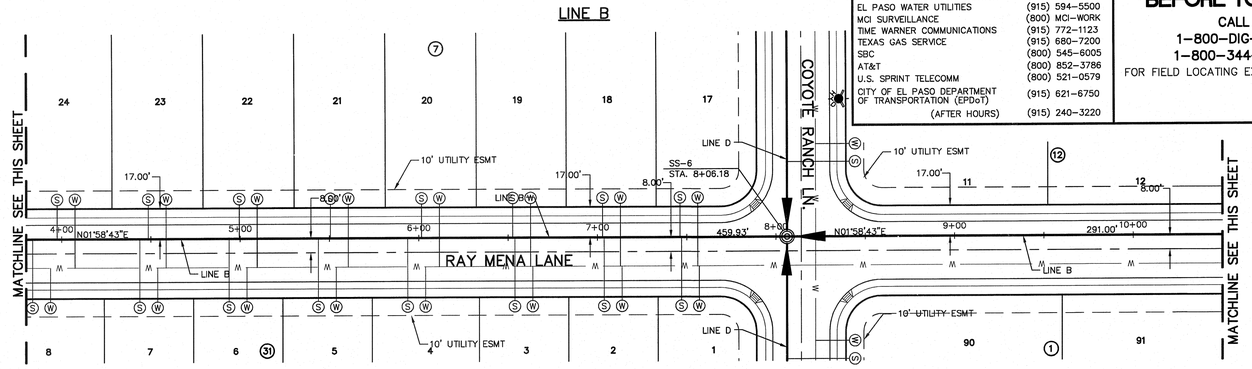

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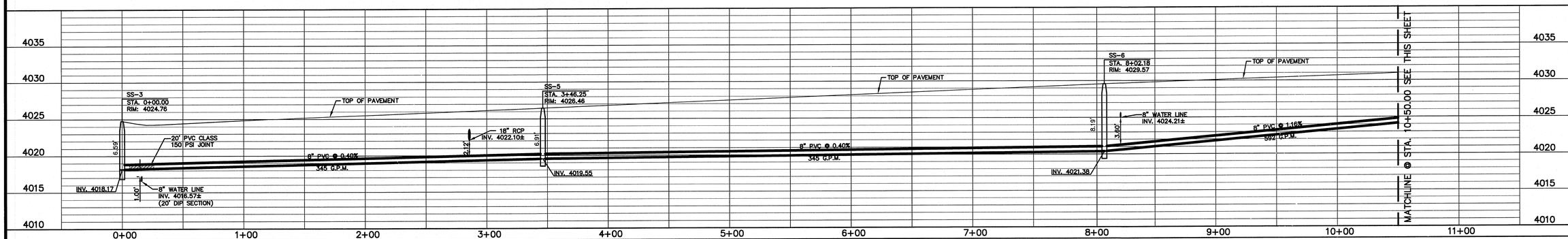

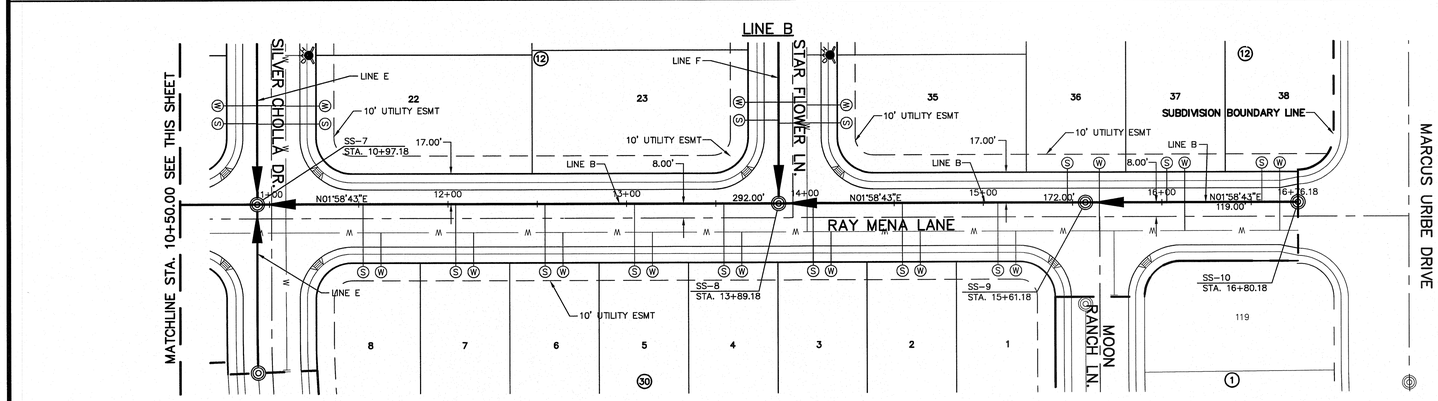

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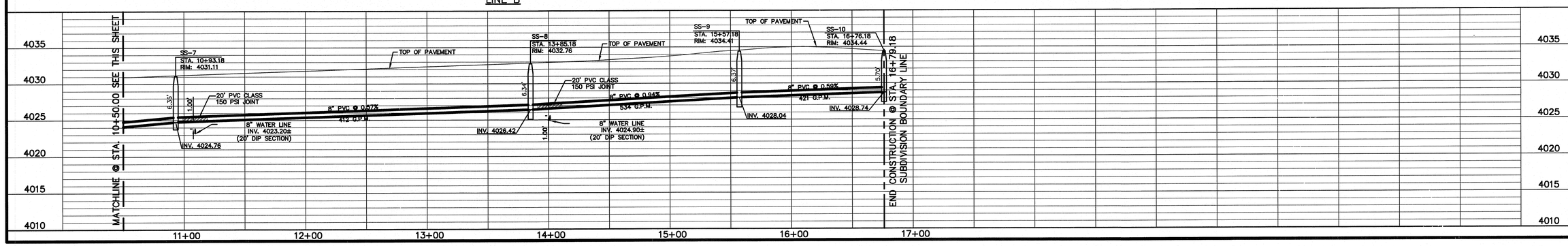

LEGEND

- EXISTING WASTE WATER FLOW
- PROPOSED WASTE WATER FLOW
- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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86075
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE
Horizontal: 1"=40'
Vertical: 1"=5'
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE B

SHEET NO.

17

OF 36

UTILITY LOCATOR SERVICES	
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(AFTER HOURS)	(915) 240-3220

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FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

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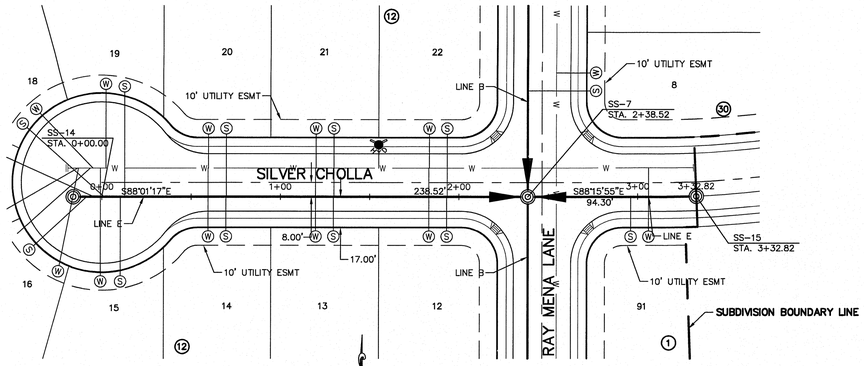
DATE	REVISIONS	BY

LINE E



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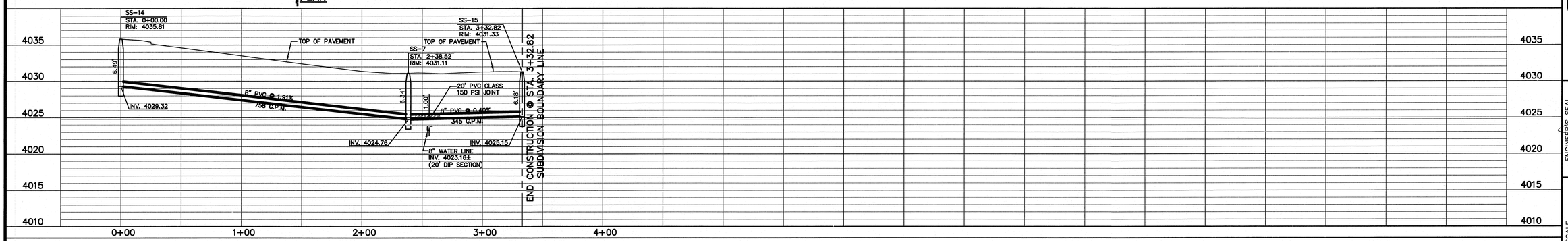

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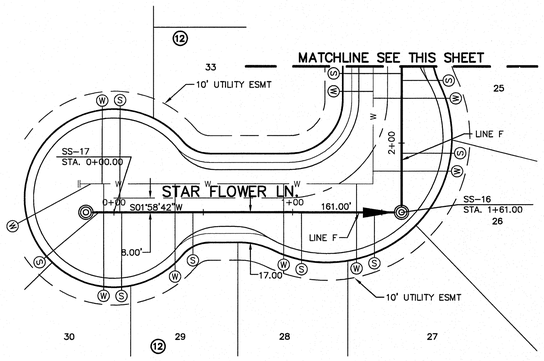

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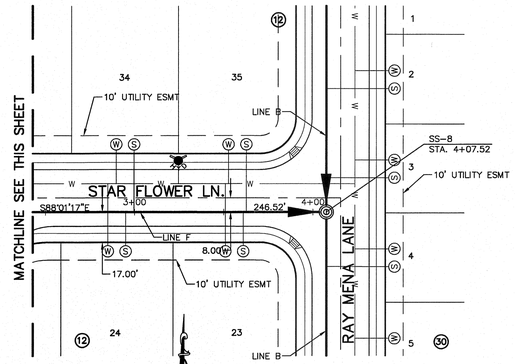

PLAN

LEGEND

- EXISTING WASTE WATER FLOW
- PROPOSED WASTE WATER FLOW
- PROPOSED STORM SEWER LINE
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- PROPOSED WATER SERVICE
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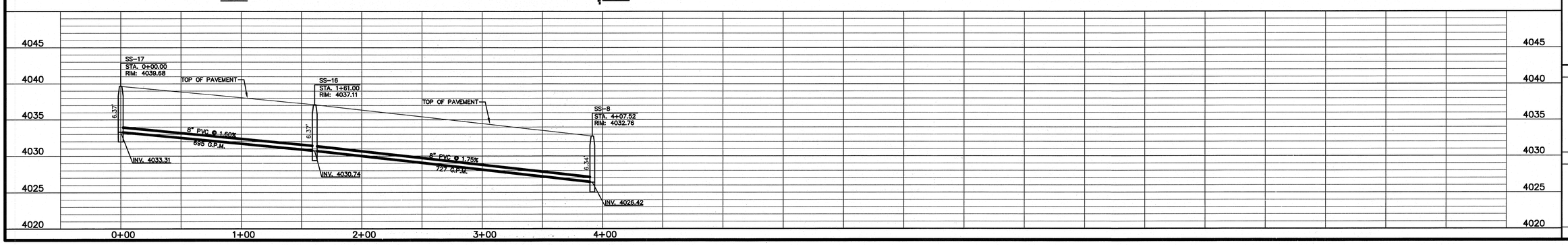

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STATE OF TEXAS
JORGE L. ACURATE
86075
LICENSED
PROFESSIONAL ENGINEER

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

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

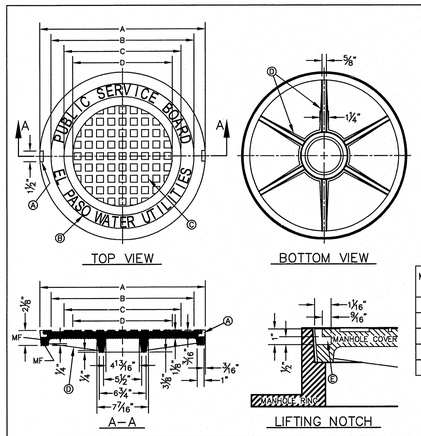
SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINES E & F

SHEET NO.

18

OF 36



GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306–07.
4. AS–CAST DIMENSIONS MAY VARY 1/16"±/ PER FOOT (AASHTO M306–07).
5. WEIGHT MAY VARY 5%± (AASHTO M306–07).

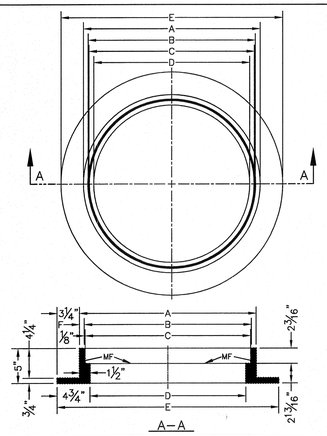
CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/8" RAISED LETTERING.
C. 1" SQUARES (3/16" TALL) WITH 5/8" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

MANHOLE COVER	MANHOLE – ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31 3/8"	23 7/8"
B	28 1/8"	20 5/8"
C	24 3/8"	16 7/8"
D	21 7/8"	14 3/8"
WEIGHT	200 lbs.	165 lbs.

*OBSOLETE –DO NOT USE (FOR REFERENCE ONLY)

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

1/19 STANDARD MANHOLE COVER DETAIL
SCALE: N.T.S.



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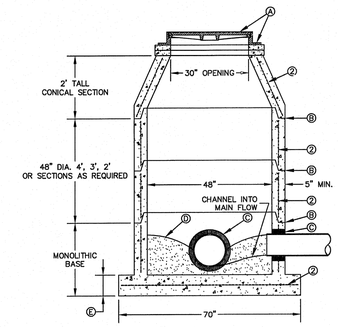
5. WEIGHT MAY VARY 5%± (AASHTO M306–07).

MANHOLE RING	MANHOLE – ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	33"	25 1/2"
B	31 3/4"	24 1/8"
C	31 1/2"	23 7/8"
D	30"	22 1/2"
E	39 1/2"	32"
F	5/8"	1 1/16"
WEIGHT	205 lbs.	170 lbs.

*OBSOLETE –DO NOT USE (FOR REFERENCE ONLY)

STANDARD DETAIL	DATE: 11/1992 REV: 2/21/2011	SEWER MANHOLE RING	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 377

2/19 STANDARD MANHOLE RING DETAIL
SCALE: N.T.S.

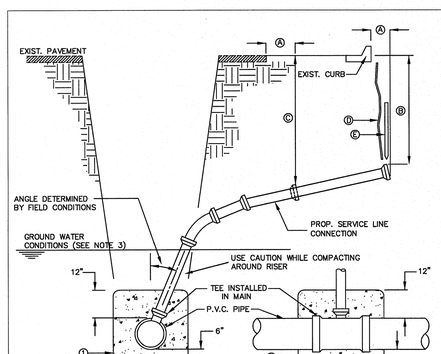


GENERAL NOTES:
1. MANHOLE TYPE "A" SHALL BE USED FOR LINES 21" AND SMALLER.
2. PRE–CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C–478 AND SHALL MEET HS–20 LOADING. PROVIDE REINFORCEMENT WITHIN 3" @ OPENINGS OR KNOCKOUTS. OPENINGS (UP TO 8") MADE IN FIELD SHALL BE CORE DRILLED.
3. CEMENT SHALL BE TYPE I–II, PER ASTM C–150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
4. THE BASE & RISER SHALL BE INTEGRALLY CAST. CONCRETE SHALL BE MIN. 28 DAY COMPRESSIVE STRENGTH 4000psi.
5. MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
6. THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D–1557.
7. MANHOLES BELOW GROUNDWATER TO BE EXTERNALLY AND INTERNALLY COATED WITH BITUMINOUS COATING.

CONSTRUCTION KEY NOTES:
A. MANHOLE RING AND COVER (SEE DETAILS 377 & 378). SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 185).
B. ALL JOINTS TO BE TONGUE, GROOVE AND SEALED WITH RAM–NEK OR APPROVED EQUAL.
C. PIPE OPENINGS/KNOCKOUTS AS REQUIRED TO FIT PIPE SIZE AND SHALL HAVE FLEXIBLE PIPE TO MANHOLE CONNECTORS (COMPRESSION TYPE ASTM–923), "KOR–N–SEAL" OR APPROVED EQUAL.
D. GROUT AS REQUIRED.
E. CONCRETE BASE SHALL BE 8" FOR MH's UP TO 12' DEEP AND 12" FOR DEPTHS GREATER THAN 12'.

STANDARD DETAIL	DATE: 11/1992 REV: 9/18/2009	MANHOLE TYPE "A"	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 370–1

3/19 STANDARD MANHOLE TYPE "A"
SCALE: N.T.S.

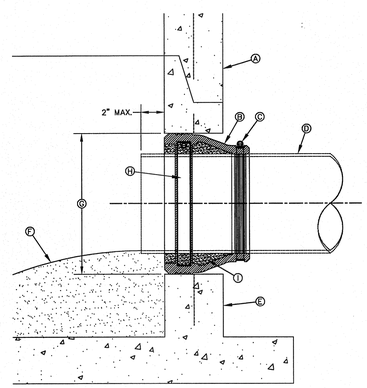


GENERAL NOTES:
1. IN GROUNDWATER CONDITIONS ONLY, P.V.C. SADDLES OR TEES ARE TO BE ENCASED WITH CLASS B CONCRETE.
2. UNDER CERTAIN CONDITIONS FIELD INVESTIGATIONS WILL BE REQUIRED TO DETERMINE THE ADEQUACY OF THE DEPTH ON THE LATERAL.
3. WHEN GROUND WATER IS ENCOUNTERED SERVICE RISER SHALL BE EXTENDED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

CONSTRUCTION KEY NOTES:
A. CONTRACTOR TO INSTALL SEWER SERVICE LINE FROM THE MAIN TO A LOCATION 6" BEHIND THE CURB OR 18" BEYOND THE EDGE OF PAVMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
B. 18" FOR STANDARD SUBDIVISION, 3.5' FOR SUBDIVISIONS WITH ON–SITE PONDING OR FLAT TERRAIN.
C. RISERS OR LATERALS EXTENDING BEYOND EXISTING PAVING SHALL BE INSTALLED TO 3.5' MINIMUM TOP OF GROUND OR PAVEMENT, UNLESS CONDITIONS REQUIRE OTHERWISE.
D. PLASTIC METALLIC MARKING TAPE RISING TO WITHIN 6" OF GROUND SURFACE OR METALLIC DISK.
E. WOODEN STAKE (1"x2"x36") VERTICALLY PLACED AT PLUGGED END OF PROPOSED SERVICE LINE.

STANDARD DETAIL	DATE: 11/1992 REV: 1/23/2009	SEWER SERVICE RISER AND SERVICE LINE CONNECTION	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 391

4/19 SEWER SERVICE RISER AND SERVICE LINE CONNECTION
SCALE: N.T.S.

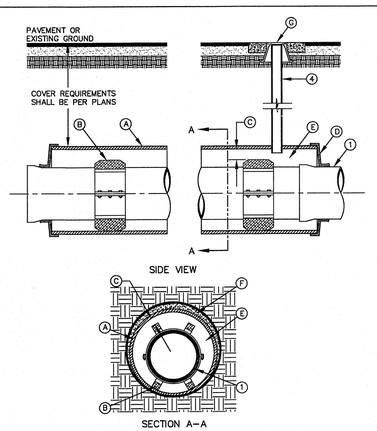


GENERAL NOTES:
1. MANHOLE CONNECTOR SHALL BE KOR–N–SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C–923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

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

STANDARD DETAIL	DATE: 11/1992 REV: 8/13/2009	PIPE CONNECTION TO MANHOLE	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 376

5/19 PIPE CONNECTION TO MANHOLE
SCALE: N.T.S.



GENERAL NOTES:
1. INSTALLATION FOR APPROVED CARRIER PIPE.
2. CASING SHALL BE INSTALLED USING EITHER JACKING, BORING OR TUNNELING METHODS FROM THE END WHICH CREATES A MINIMUM OF ACCESS AND RELOCATION PROBLEMS.
3. INSULATED SPACERS SHALL BE USED WHEN SPECIFIED, TO PROVIDE CORROSION PROTECTION.
4. PRECAUTIONARY OUTLET (6") WITH BONNET BOX AND COVER SHALL BE USED WHEN REQUIRED BY OTHER GOVERNING AGENCIES.

CONSTRUCTION KEY NOTES:
A. STEEL CASING MINIMUM YIELD 35000 PSI, SIZE AND LENGTH AS SPECIFIED.
B. CASING INSULATORS, SPACING AND LOCATION PER MANUFACTURES RECOMMENDATIONS. INSULATORS SHALL FIT SNUG OVER THE CARRIER PIPE.
C. POSITION CARRIER PIPE APPROXIMATELY IN CENTER OF CASING. MINIMUM SPACING BETWEEN INSULATOR AND CARRIER PIPE SHALL BE 1", MAXIMUM SPACING SHALL BE 2'.
D. END SHALL BE SEALED WITH BRICK AND MORTAR, BULKHEAD AND GROUT, OR WITH SYNTHETIC RUBBER SEAL, AS SPECIFIED.
E. ANNULAR SPACE SHALL BE LEFT OPEN FOR CATHODICALLY PROTECTED SYSTEM WHERE BOTH CASING AND CARRIER PIPE ARE METALLIC MATERIAL, OR AS OTHERWISE SPECIFIED.
F. PRESSURE GROUT ANNULAR SPACE OUTSIDE CASING AFTER CASING IS INSTALLED.
G. BONNET BOX AND COVER (SEE DETAILS 268, 269–1 & 269–2) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 260).

STANDARD DETAIL	DATE: 3/1994 REV: 6/24/2010	CARRIER PIPE INSTALLATION WITH CASING INSULATORS	N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 180

6/19 CARRIER PIPE W/CASING INSULATORS
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS (19, 20, 21 AND 22) ELEVATION: 403.32 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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LICENSED

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

DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000–128–LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 1 OF 3)

SHEET NO.
19
OF 36

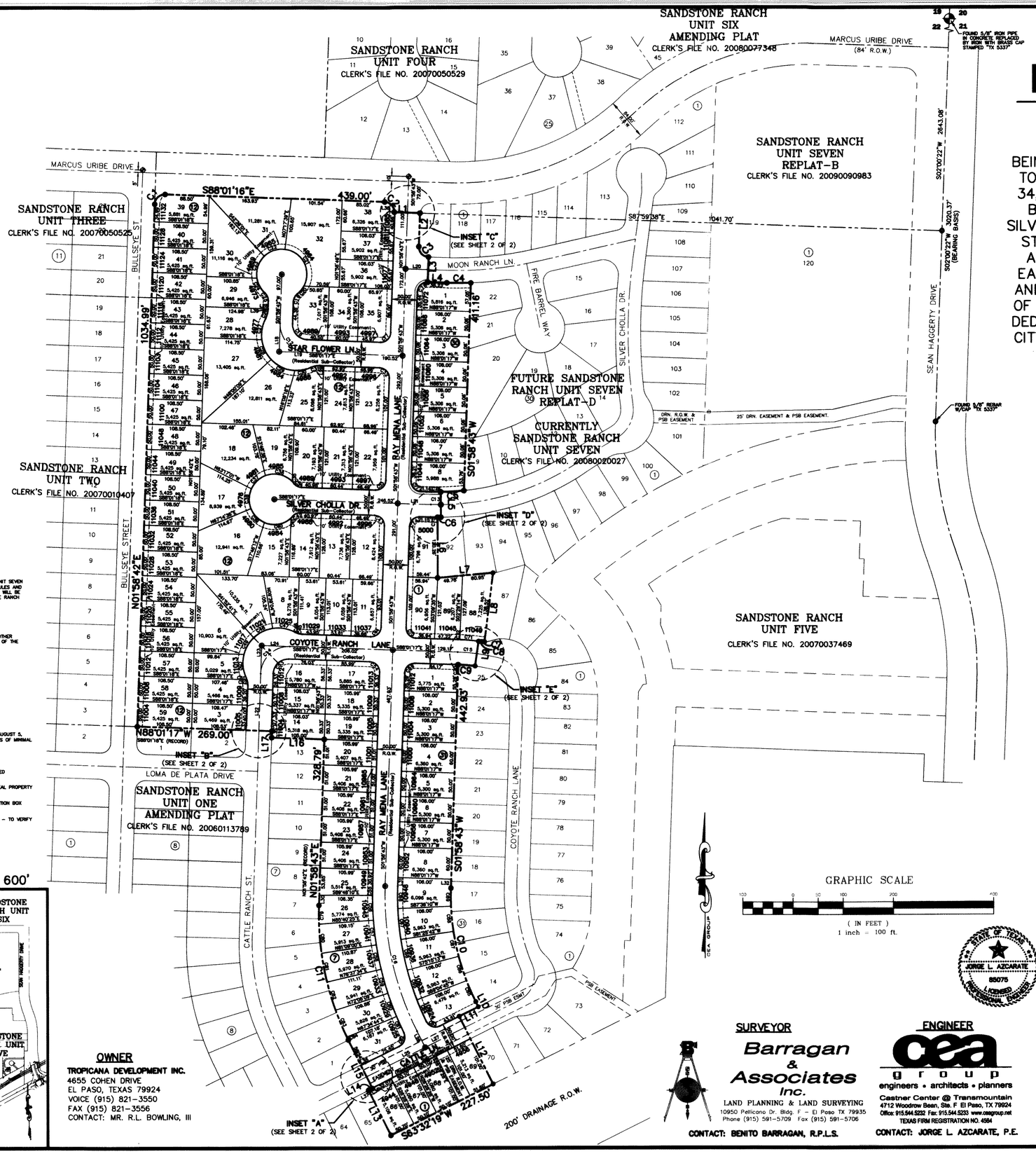
SANDSTONE RANCH UNIT SEVEN REPLAT-C

BEING LOTS 66 TO 69 AND 88 TO 91, BLOCK 1; LOTS 14 TO 31, BLOCK 7; LOTS 3 TO 44, BLOCK 12; LOTS 1 TO 34, BLOCK 28; LOTS 1 TO 8, BLOCK 30; LOTS 1 TO 13, BLOCK 31; AND PORTIONS OF RIGHT OF WAY OUT OF SILVER CHOLLA DRIVE, MOON RANCH DRIVE, CATTLE RANCH STREET, CATTLE LANE AND COYOTE RANCH DRIVE, AND ALL RIGHT OF WAY OF RAY MENA DRIVE, AND UTILITY EASEMENTS ALL WITHIN SANDSTONE RANCH UNIT SEVEN, AND A PORTION OF RIGHT OF WAY AT THE INTERSECTION OF MARCUS URIBE DRIVE AND CATTLE RANCH STREET AS DEDICATED IN SANDSTONE RANCH UNIT FOUR, ALL IN THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES

SHEET 1 OF 2

NOTE:

THIS REPLAT SUBDIVISION MODIFIES THE STREET R.O.W. WIDTH FROM A 52' R.O.W. TO A 50' R.O.W. AND REVISIONS TO LOT CONFIGURATIONS.



NOTES:

THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO SANDSTONE RANCH UNIT SEVEN REPLAT C BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 18.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON MARCUS URIBE DRIVE, CATTLE RANCH STREET AND CATTLE LANE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.

TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION, INSTRUMENT No. 20110071465-20110071879

VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ABUTTING MARCUS URIBE DRIVE, SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No. 20110071463

RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INSTRUMENT No. 20110071462

SUBDIVISION AGREEMENT AND GUARANTEE LETTER ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.

INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.

THIS SUBDIVISION LIES WITH IN ZONE "C" AS DESIGNATED IN PANEL NO. 480214 0014 D, DATED AUGUST 5, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING.

THIS SUBDIVISION LIES WITHIN THE EL PASO INDEPENDENT SCHOOL DISTRICT
6531 BOEING DR, EL PASO, TX 79925

SET 1/2" REBAR WITH CAP MARKED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS NOTED OTHERWISE.

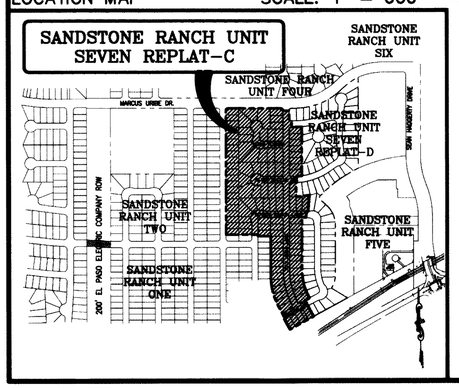
BEARINGS SHOWN ARE BASED ON THE DEED FILED FOR RECORD IN DOCUMENT NO. 20050068130, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.

"U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."

● DENOTES PROPOSED CITY MONUMENT (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION – TO VERIFY EXACT LOCATION CONTACT THE CITY OF EL PASO)

◆ DENOTES EXISTING CITY MONUMENT

LOCATION MAP SCALE: 1" = 600'



OWNER

TROPICANA DEVELOPMENT INC.
4655 COHEN DRIVE
EL PASO, TEXAS 79924
VOICE (915) 821-3550
FAX (915) 821-3556
CONTACT: MR. R.L. BOWLING, III

DEDICATION

Tropicana Development Inc., property owner of this land does hereby present this plat and dedicates, if not previously dedicated, its respective portion of said property to the use of the public, the streets, drainage right of way, P.S.B. easement and utility easements, as hereon laid down and designated, including easements for overhang of service wires, conduits and pipes for underground utilities, the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness our signature this 13th day of September 2011.

TROPICANA DEVELOPMENT INC.

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, the undersigned authority, on this day personally appeared R. L. Bowling, III, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and considerations herein expressed.

Given under my hand and seal of office this 13th day of September 2011.

Notary Public in and for El Paso County — My Commission Expires January 8, 2015

MICHELLE SIGNORIZE
My Commission Expires
January 8, 2015

CITY PLAN COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 6th day of October 2011, A.D.

Chairperson — Executive Secretary

Approved for filing this 28th day of September 2011.

CITY ENGINEER

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 17 day of October, 2011, A.D. in Document No. 20110071461 of the Plat Records.

County Clerk — By Deputy

SURVEYOR

Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
10950 Pellicano Dr. Bldg. F – El Paso TX 79935
Phone (915) 591-5709 Fax (915) 591-5706
CONTACT: BENITO BARRAGAN, R.P.L.S.

ENGINEER

cea group
engineers • architects • planners
Castner Center @ Transmountain
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net
TEXAS FIRM REGISTRATION NO. 4564
CONTACT: JORGE L. AZCARATE, P.E.

STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED — PROFESSIONAL ENGINEER

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

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

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

Benito Barragan, TX R.P.L.S. No. 5615 — 9/7/2011

STATE OF TEXAS — REGISTERED — BENITO BARRAGAN — 5615 — PROFESSIONAL — LAND SURVEYOR

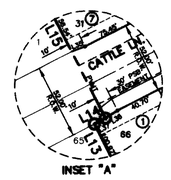
SANDSTONE RANCH UNIT SEVEN REPLAT-C

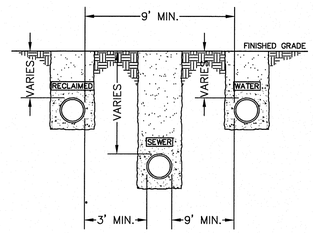
BEING LOTS 66 TO 69 AND 88 TO 91, BLOCK 1; LOTS 14 TO 31, BLOCK 7; LOTS 3 TO 44, BLOCK 12; LOTS 1 TO 34, BLOCK 28; LOTS 1 TO 8, BLOCK 30; LOTS 1 TO 13, BLOCK 31; AND PORTIONS OF RIGHT OF WAY OUT OF SILVER CHOLLA DRIVE, MOON RANCH DRIVE, CATTLE RANCH STREET, CATTLE LANE AND COYOTE RANCH DRIVE, AND ALL RIGHT OF WAY OF RAY MENA DRIVE, AND UTILITY EASEMENTS ALL WITHIN SANDSTONE RANCH UNIT SEVEN, AND A PORTION OF RIGHT OF WAY AT THE INTERSECTION OF MARCUS URIBE DRIVE AND CATTLE RANCH STREET AS DEDICATED IN SANDSTONE RANCH UNIT FOUR, ALL IN THE CITY OF EL PASO, EL PASO COUNTY, TEXAS; CONTAINING APPROXIMATELY 19.544± ACRES

SHEET 2 OF 2

LINE TABLE		
LINE	BEARING	LENGTH
L1	S88°01'16"E	51.00'
L2	S01°58'43"W	66.00'
L3	S01°58'46"W	50.00'
L4	S88°01'21"E	38.23'
L5	S00°17'47"E	50.00'
L6	S00°01'12"E	129.26'
L7	N84°58'37"E	110.72'
L8	S07°09'13"W	138.04'
L9	S07°50'00"W	50.00'
L10	S26°28'31"E	11.31'
L11	S63°31'32"W	42.52'
L12	S26°28'28"E	151.02'
L13	N26°28'27"W	99.97'
L13(R)	N26°28'28"W	100.00'
L14	N63°31'32"E	8.63'
L15	N26°28'27"W	107.54'
L15(R)	N26°28'28"W	107.52'
L16	N88°01'17"W	105.00'
L16(R)	N88°01'18"W	105.00'
L17	N01°58'43"E	13.00'
L17(R)	N01°58'42"E	13.00'
L18	S01°58'42"W	56.00'
L19	S88°01'17"E	56.00'
L20	S88°01'21"E	45.00'
L21	S88°01'21"E	66.15'
L22	N01°58'43"E	112.99'
L23	N01°58'43"E	56.00'
L24	S88°01'17"E	56.00'
L25	N63°31'32"E	130.39'
L26	S26°28'28"E	36.29'
L27	N63°31'32"E	88.49'
L28	S01°58'42"W	15.69'
L29	S88°01'17"E	7.47'
L30	N01°58'43"E	20.11'
L31	N01°58'43"E	17.64'
L32	S01°58'43"W	17.64'
L33	N07°22'26"E	10.04'
L34	S03°54'28"E	10.05'
L35	N69°14'10"E	10.05'
L36	N57°47'58"E	10.02'
L37	N63°31'32"E	8.65'
L38	N88°01'16"E	1.00'
L39	S01°58'42"W	1.52'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	20.00'	31.42'	20.00'	28.28'	N46°58'44"E	90°00'01"
C2	20.00'	31.42'	20.00'	28.28'	S43°01'16"E	90°00'00"
C3	20.00'	31.42'	20.00'	28.28'	S43°01'19"E	90°00'03"
C4	711.31'	47.81'	23.91'	47.80'	S89°56'52"E	3°51'03"
C5	475.00'	46.21'	23.12'	46.19'	S86°55'01"W	5°34'25"
C6	525.00'	6.74'	3.37'	6.74'	N89°55'44"W	0°44'07"
C7	40.00'	6.11'	3.06'	6.10'	N85°42'08"W	8°44'57"
C8	400.00'	5.86'	2.93'	5.86'	N81°44'50"W	0°50'20"
C9	350.00'	33.93'	16.98'	33.92'	N84°56'38"W	5°33'16"
C10	469.00'	232.91'	118.91'	230.52'	S12°14'54"E	28°27'14"
C11	557.00'	276.60'	141.22'	273.77'	N12°14'52"W	28°27'10"
C11(R)	557.00'	276.60'	141.22'	273.77'	N12°14'53"W	28°27'10"
C12	56.00'	87.96'	56.00'	79.20'	S43°01'17"E	90°00'00"
C13	500.00'	19.84'	9.92'	19.84'	S89°09'34"E	2°16'26"
C14	56.00'	87.96'	56.00'	79.20'	S46°58'43"W	90°00'00"
C15	375.00'	38.32'	19.18'	38.30'	N85°05'39"W	5°51'17"
C16	600.00'	297.96'	152.12'	294.91'	S12°14'52"E	28°27'11"
C17	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C18	30.00'	47.12'	30.00'	42.43'	S43°01'16"E	89°59'59"
C19	20.00'	17.45'	9.33'	16.90'	S28°58'33"W	49°58'41"
C20	50.00'	20.85'	10.58'	20.70'	N40°01'40"E	23°53'26"
C21	50.00'	96.68'	72.46'	82.31'	N27°16'42"W	110°47'17"
C22	50.00'	44.94'	24.12'	43.45'	S71°32'38"W	51°30'04"
C23	50.00'	47.80'	25.78'	45.62'	S18°31'13"W	54°32'46"
C24	50.00'	34.26'	17.84'	33.60'	S28°23'05"E	39°15'49"
C25	20.00'	17.45'	9.33'	16.90'	N23°01'09"W	49°58'41"
C26	40.00'	18.22'	9.27'	18.06'	N15°01'34"E	26°05'44"
C27	70.00'	43.67'	22.57'	42.96'	S10°12'10"W	35°44'32"
C28	70.00'	43.72'	22.60'	43.02'	S25°33'47"E	35°47'21"
C29	70.00'	53.40'	28.07'	52.11'	S85°16'36"E	43°42'17"
C30	70.00'	32.93'	16.78'	32.63'	N79°21'37"E	26°57'16"
C31	40.00'	18.22'	9.27'	18.06'	S78°55'51"W	26°05'44"
C32	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C33	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C34	20.00'	17.45'	9.33'	16.90'	S63°01'26"E	49°58'41"
C35	50.00'	5.43'	2.72'	5.42'	N41°08'10"W	6°13'08"
C36	50.00'	57.99'	32.75'	54.80'	N77°28'27"W	66°27'26"
C37	50.00'	39.16'	20.65'	38.17'	S46°51'38"W	44°52'24"
C38	50.00'	40.17'	21.24'	39.10'	S01°24'23"W	46°02'05"
C39	50.00'	39.17'	20.65'	38.17'	S44°03'03"E	44°52'48"
C40	50.00'	56.99'	32.04'	53.96'	N80°51'22"E	65°18'24"
C41	50.00'	5.43'	2.72'	5.42'	N45°05'36"E	6°13'08"
C42	20.00'	17.45'	9.33'	16.90'	S66°58'52"W	49°58'41"
C43	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C44	20.00'	31.42'	20.00'	28.28'	N46°58'43"E	90°00'00"
C45	30.00'	9.84'	4.98'	9.80'	S78°37'33"E	18°47'28"
C46	30.00'	4.50'	2.26'	4.50'	S64°55'45"E	8°36'08"
C47	70.00'	46.90'	24.37'	46.03'	N79°49'16"W	38°23'11"
C48	70.00'	42.45'	21.90'	41.80'	S83°36'47"W	34°44'43"
C49	70.00'	39.17'	20.11'	38.66'	S30°12'35"W	32°03'40"
C50	70.00'	48.37'	25.20'	47.42'	S05°37'04"E	39°35'38"
C51	30.00'	3.29'	1.65'	3.28'	N22°16'19"W	6°17'09"
C52	30.00'	11.05'	5.59'	10.99'	N08°34'30"W	21°06'27"
C53	30.00'	47.12'	30.00'	42.43'	S46°58'43"W	90°00'00"
C54	20.00'	31.42'	20.00'	28.28'	N43°01'17"W	90°00'00"
C55	625.00'	19.43'	9.72'	19.43'	S01°05'16"W	1°46'53"
C56	625.00'	49.35'	24.69'	49.33'	S02°03'53"E	4°31'25"
C57	625.00'	49.35'	24.69'	49.33'	S06°35'18"E	4°31'25"
C58	625.00'	49.35'	24.69'	49.33'	S11°06'43"E	4°31'25"
C59	625.00'	49.35'	24.69'	49.33'	S15°38'08"E	4°31'25"
C60	625.00'	49.35'	24.69'	49.33'	S20°09'33"E	4°31'25"
C61	625.00'	35.80'	17.90'	35.79'	S24°03'43"E	3°16'55"
C62	20.00'	31.15'	19.73'	28.09'	N18°54'41"E	89°13'42"
C63	20.00'	31.73'	20.32'	28.50'	S71°01'34"E	90°53'48"
C64	575.00'	46.73'	23.38'	46.72'	S23°14'58"E	4°39'25"
C65	575.00'	61.97'	31.01'	61.94'	S17°50'01"E	6°10'28"
C66	575.00'	61.97'	31.01'	61.94'	S11°39'33"E	6°10'28"
C67	575.00'	61.97'	31.01'	61.94'	S05°29'04"E	6°10'28"
C68	575.00'	43.91'	21.97'	43.90'	S00°12'34"E	4°22'33"
C69	20.00'	31.42'	20.00'	28.28'	S46°58'43"W	90°00'00"
C70	350.00'	1.83'	0.92'	1.83'	N87°52'16"W	0°18'01"
C71	400.00'	37.32'	18.67'	37.31'	N84°50'23"W	5°20'46"
C72	400.00'	3.55'	1.78'	3.55'	N87°48'01"W	0°30'31"
C73	20.00'	31.42'	20.00'	28.28'	S43°01'17"E	90°00'00"
C74	20.00'	31.42'	20.00'	28.28'	S46°58'41"W	89°59'56"
C75	525.00'	14.10'	7.05'	14.10'	S88°47'30"E	1°32'20"
C76	475.00'	18.85'	9.43'	18.85'	S89°09'34"E	2°16'26"
C77	20.00'	31.42'	20.00'	28.28'	S43°01'19"E	90°00'04"
C78	20.00'	31.42'	20.00'	28.28'	S46°58'41"W	89°59'56"
C79	557.00'	37.81'	18.91'	37.80'	S00°02'03"W	3°53'20"
C80	557.00'	58.07'	29.08'	58.04'	S04°53'49"E	5°58'23"
C81	557.00'	58.12'	29.09'	58.09'	S10°52'22"E	5°58'43"
C82	557.00'	58.09'	29.07'	58.07'	S16°50'59"E	5°58'33"
C83	557.00'	57.99'	29.02'	57.96'	S22°49'12"E	5°57'54"
C84	557.00'	6.53'	3.26'	6.53'	S26°08'18"E	0°40'18"
C85	469.00'	45.47'	22.75'	45.45'	S23°41'53"E	5°33'15"
C86	469.00'	50.54'	25.30'	50.52'	S17°50'01"E	6°10'28"
C87	469.00'	50.54'	25.30'	50.52'	S11°39'33"E	6°10'28"
C88	469.00'	50.54'	25.30'	50.52'	S05°29'04"E	6°10'28"
C89	469.00'	35.82'	17.92'	35.81'	S00°12'34"E	4°22'33"



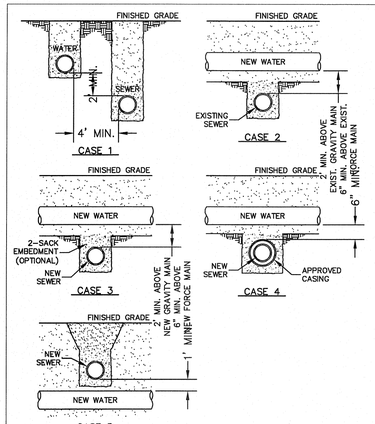


SECTION

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

STANDARD DETAIL	DATE: 8/3/2006 REV: 3/28/2007	SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 160

1/20 SEPARATION DISTANCE–NEW WATER AND NEW SEWER
SCALE: N.T.S.



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

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

CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN. (PER TCEQ §290.44(e)(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-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
- SEPARATE TRENCHES SHALL BE USED.

CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN. (PER TCEQ §290.44(e)(4)(B)) AND §290.44(e)(4)(B)(i):
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: EXISTING GRAVITY MAIN (PVC SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
- CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
- MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.

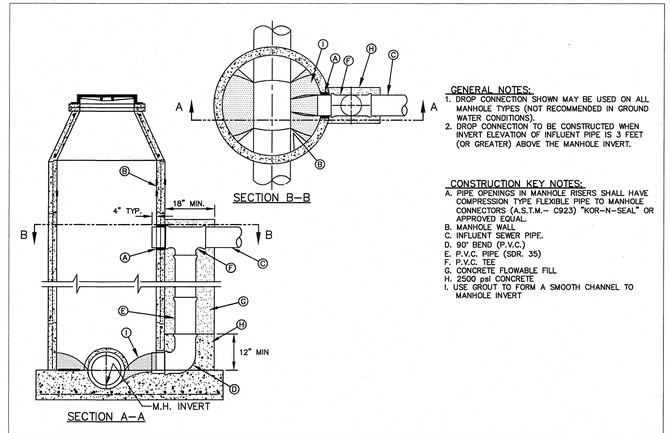
CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(e)(4)(B)(ii), §290.44(e)(4)(B)(v) AND §290.44(e)(4)(B)(vi)(I):
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) or DI REQUIRED, CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150PSI) 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 (150PSI) 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 §290.44(e)(4)(B)(iv)(V,VI)):
- LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
- SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN (150PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN CR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
- CENTER CASING PIPE ON WATER MAIN.

CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN. (PER TCEQ §290.44(e)(4)(B)(iv) (III)):
- 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 SERVICE BOARD	DETAIL No. 161

2/20 SEPARATION DISTANCE–SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
SCALE: N.T.S.

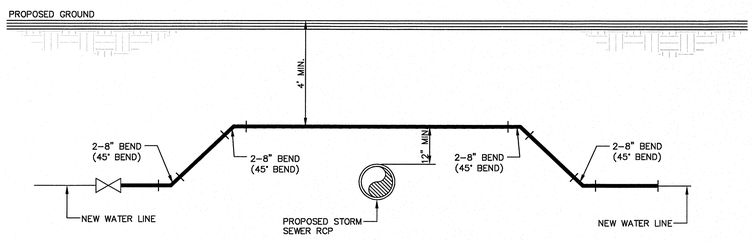


GENERAL NOTES:
1. DROP CONNECTION SHOWN MAY BE USED ON ALL MANHOLE TYPES (NOT RECOMMENDED IN GROUND WATER CONDITIONS).
2. DROP CONNECTION TO BE CONSTRUCTED WHEN INVERT ELEVATION OF INFLUENT PIPE IS 3 FEET (OR GREATER) ABOVE THE MANHOLE INVERT.

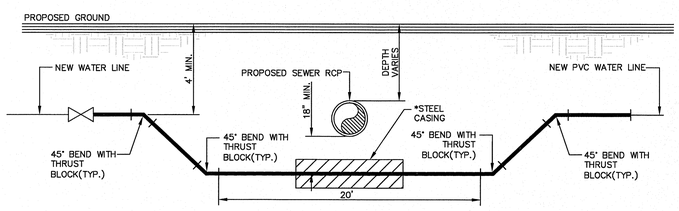
CONSTRUCTION KEY NOTES:
A. PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M.– C923) "KOR–N–SEAL" OR APPROVED EQUAL.
B. MANHOLE WALL
C. INFLUENT SEWER PIPE.
D. 90° BEND (P.V.C.)
E. P.V.C. PIPE (SDR. 35)
F. P.V.C. TEE
G. CONCRETE FLOWABLE FILL
H.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

STANDARD DETAIL	DATE: 3/18/1998 REV: 6/19/2009	DROP CONNECTION – EXTERNAL MANHOLE INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 375–1

3/20 DROP CONNECTION–EXTERNAL MANHOLE INSTALLATION
SCALE: N.T.S.

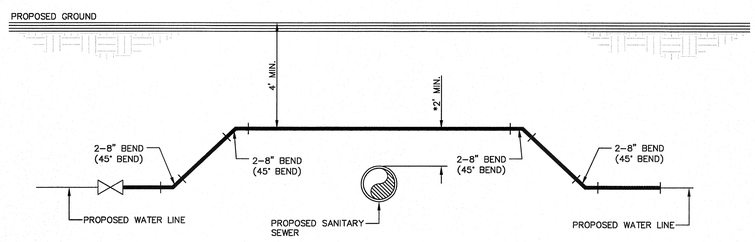


4/20 STORM SEWER CROSSING DETAIL
N.T.S.



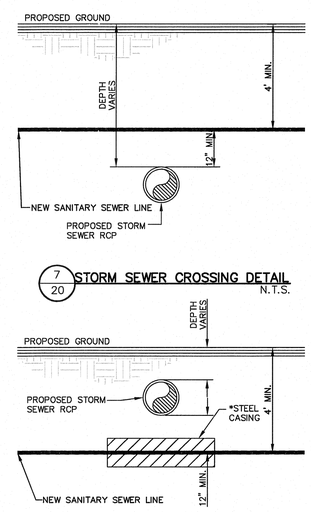
*NOTE:
STEEL CASING REQUIRED IF STORM SEWER RCP IS LARGER THAN 30" IN DIAMETER AND SEPARATION IS LESS THAN 2'.

5/20 STORM SEWER CROSSING DETAIL
N.T.S.



*NOTE:
IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6"(MIN.)–2'(MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPARATION DISTANCE (SPECIAL CONDITION) DETAIL.

6/20 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



7/20 STORM SEWER CROSSING DETAIL
N.T.S.

*NOTE:
STEEL CASING REQUIRED IF STORM SEWER RCP IS LARGER THAN 30" IN DIAMETER AND SEPARATION IS LESS THAN 2'.

8/20 STORM SEWER CROSSING DETAIL
N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 5.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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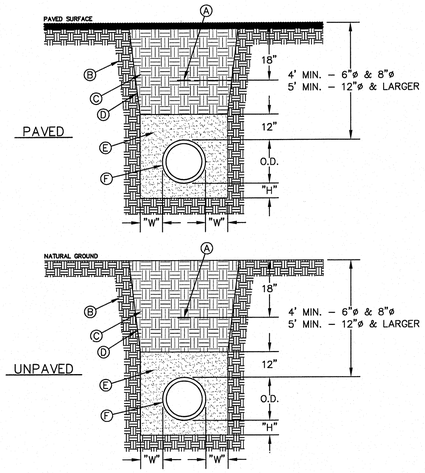
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A

DATE:	APRIL 2011
DESIGN BY:	G.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000–128–LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 2 OF 3)

SHEET NO.
20
OF 36



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

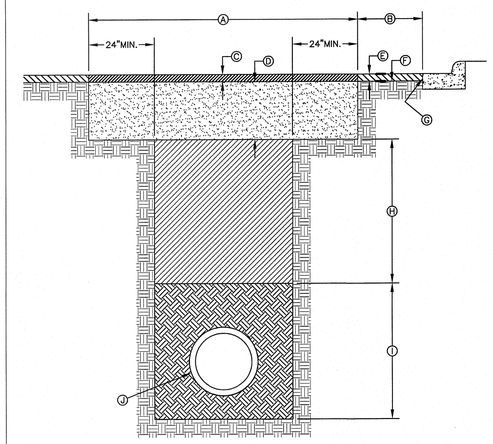
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

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

PIPE DIAMETER	"W"
6" – 30"	8"
GREATER THAN 30"	12"

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

1/21 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.

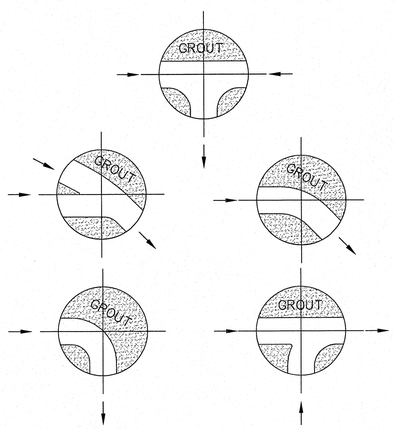


GENERAL NOTES:
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

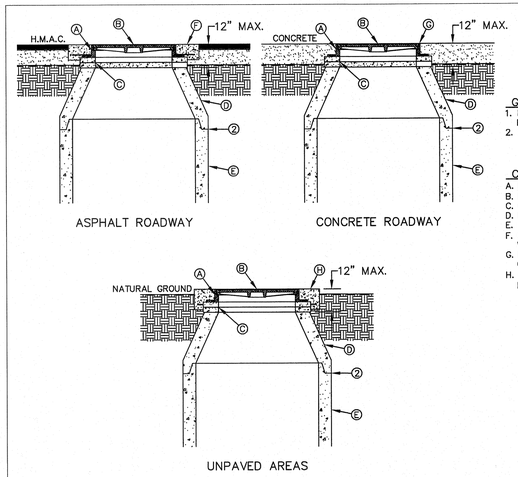
CONSTRUCTION KEY NOTES:
A. REFER TO SPECS FOR LIMIT OF PAVING WIDTH.
B. DIMENSION VARIES. WHERE GUTTER FACE, ETC. IS WITHIN 3' OF SAW CUT EDGE, CONTRACTOR SHALL REMOVE & REPLACE EXISTING HMAC IN THIS AREA.
C. 2" ASPHALT MIN.
D. 12" THICK SOIL CEMENT BACKFILL (2 SACK PER C.Y. OF SOIL).
E. EXISTING HMAC-THICKNESS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

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

2/21 PAVEMENT REPLACEMENT DETAIL
N.T.S.



3/21 TYPICAL INVERT PLANS
SCALE: N.T.S.



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

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

STANDARD DETAIL	DATE: 6/22/2009 REV:	MANHOLE RING AND COVER INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 185

4/21 MANHOLE RING AND COVER INSTALLATION
N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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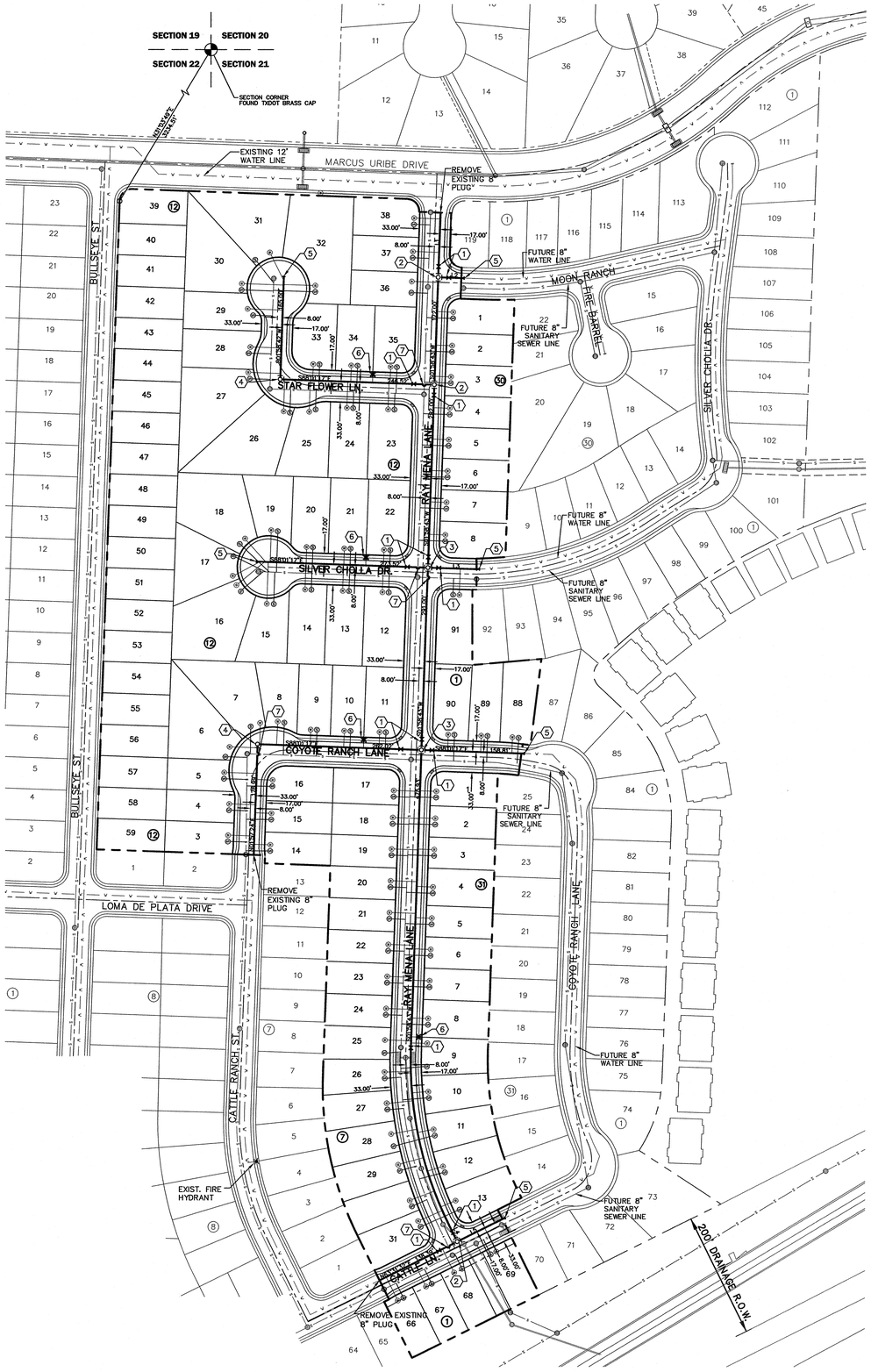
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER DETAILS
(SHEET 3 OF 3)

SHEET NO.
21
OF 36



WATER MAP
SCALE: 1" = 100'

WATER KEYED NOTES	
1	8" ø GATE VALVE
2	8" X 8" X 8" TEE
3	8" X 8" X 8" CROSS
4	8" BEND
5	8" PLUG
6	FIRE HYDRANT
7	8" DUCTILE IRON PIPE

WATER LINE TABLE		
LINE	BEARING	LENGTH
L1	S01°58'43"W	103.00'
L2	S88°01'21"E	36.00'
L3	S88°16'59"E	76.67'
L4	S26°28'28"E	28.31'
L5	N63°31'32"E	79.48'

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

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

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WATER & SEWER:
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1154 HAWKINS BOULEVARD
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MR. FELIPE LOPEZ, JR., P.E.

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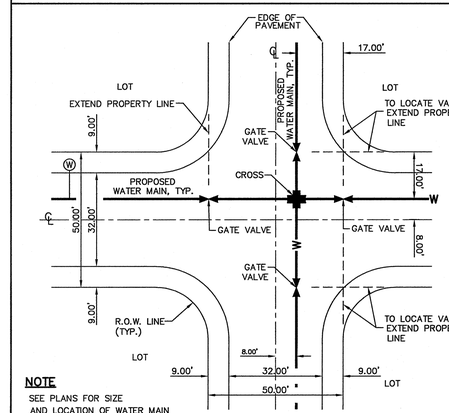
FOR FIELD LOCATING EXISTING UTILITIES

GENERAL NOTES

1. LESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATION DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
2. 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, 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.
3. 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 AQCUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
4. TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
5. 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.
6. 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.
7. 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.
8. TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
9. ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPPERATIONAL WATER SYSTEM.
11. ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
12. CONSTRUCTION OF THE PUBLIC WATER AND SANITARY SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM TO EPWU-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
13. ALL WATER LINES SHALL COMPLY WITH AWWA C-900, DR-14, PRESSURE CLASS OF 305 OR UNLESS OTHERWISE REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.

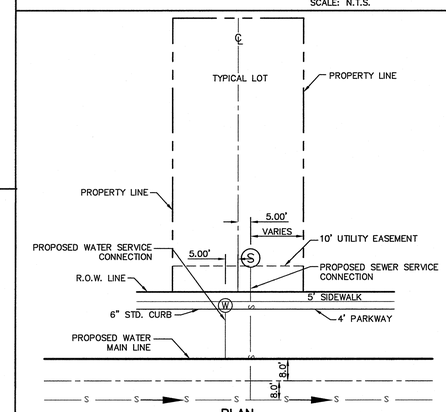
LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	SUBDIVISION BOUNDARY
	STREET R.O.W. LINE
	10' UTILITY EASEMENT
8" WTR.	PROPOSED 8", C-900 P.V.C. PIPE, CLASS 305, UNLESS OTHERWISE SPECIFIED
	PROPOSED SANITARY SEWER
	PROPOSED STORM SEWER
S S	EXISTING SEWER LINE
W W	EXISTING WATER LINE
W	PROPOSED SERVICE CONNECTION
	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
	EXISTING FIRE HYDRANT
	PROPOSED GATE VALVE
	EXISTING GATE VALVE
	PLUG
O	POINT OF TANGENCY



NOTE
SEE PLANS FOR SIZE AND LOCATION OF WATER MAIN AND LOTS TO BE SERVICED.

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



PLAN
SERVICE LOCATION DETAIL
SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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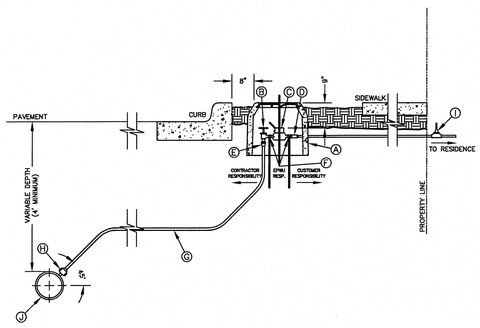
JORGE L. AZCARATE 85075 CENSED PROFESSIONAL ENGINEER

SCALE 1"=100'
Horizontal:
Vertical:
Contour Interval: N/A.
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-D

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER INDEX

SHEET NO.
22
OF 36



GENERAL NOTES:

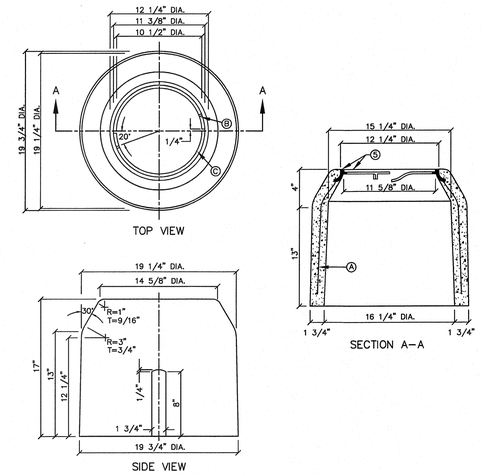
1. DETAIL SHOWN FOR A 3/4" SERVICE, 1" SERVICE INSTALLATION IS SIMILAR EXCEPT FOR SIZES OF PIPE, FITTING, METER AND BOX (TYPE "B").
2. WHERE NO CURB EXISTS, METER IS TO BE SET NEAR PROPERTY LINE OR AT DESIGNATED LOCATION.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE, FITTINGS, AND METER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

CONSTRUCTION KEY NOTES:

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

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 SERVICE BOARD	DETAIL No. 290-4

1/23 TYPICAL SERVICE LINE INSTALLATION
N.T.S.



GENERAL NOTES:

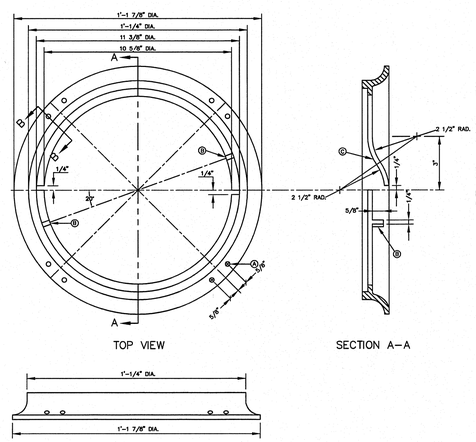
1. INSTALL TO GRADE MATCHING TOP OF CURB.
2. ANGLE VALVE SHALL BE IN LINE WITH THE INLET/OUTLET PORTS OF THE METER BOX.
3. METER BOXES SHALL NOT BE INSTALLED UNDER SIDEWALKS, DRIVEWAYS, OR PROPOSED ABOVE GROUND STRUCTURES.
4. WHERE NO CURBING EXIST, INSTALL BOXES IN ACCESSIBLE LOCATIONS BEYOND LIMITS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

CONSTRUCTION KEY NOTES:

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

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

2/23 METER BOX DETAIL
N.T.S.



GENERAL NOTES:

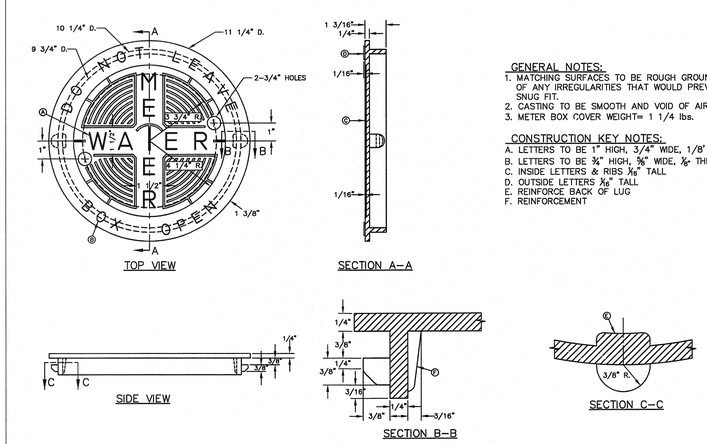
1. MATCHING SURFACES TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
3. METER BOX RING WEIGHT = 7 LBS.
4. METER BOX RING MADE OF CAST IRON.

CONSTRUCTION KEY NOTES:

A. 3/4" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
B. LUG STOP
C. 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 SERVICE BOARD	DETAIL No. 300

3/23 METER BOX RING DETAIL
N.T.S.



GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

A. LETTERS TO BE 1" HIGH, 3/4" WIDE, 1/8' THICK
B. LETTERS TO BE 3/4" HIGH, 5/8" WIDE, 1/8" THICK
C. INSIDE LETTERS & RIBS 1/16" TALL
D. OUTSIDE LETTERS 1/4" TALL
E. REINFORCE BACK OF LUG
F. 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 SERVICE BOARD	DETAIL No. 301

4/23 METER BOX COVER DETAIL
N.T.S.

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22: ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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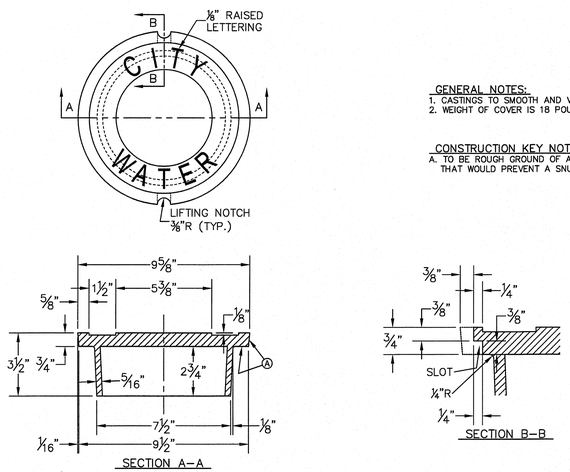
SCALE
Horizontal: N/A
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: G.R.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 1 OF 5)

SHEET NO.
23
OF 36

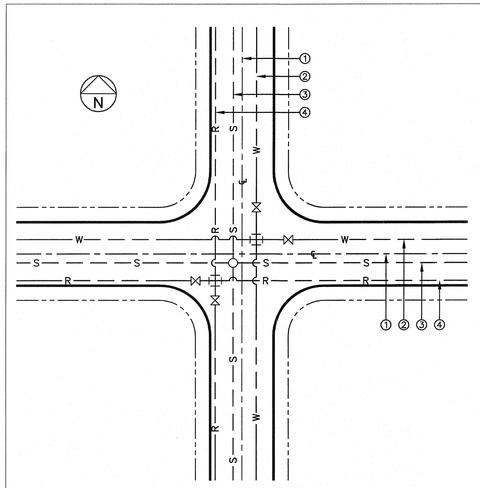


GENERAL NOTES:
1. CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF COVER IS 18 POUNDS.

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

STANDARD DETAIL	DATE: 2/16/2006 REV: 12/14/2007	BONNET BOX COVER (FLIP RESISTANT) N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 269–2

1/24 BONNET BOX COVER & EXTENSION (FLIP RESISTANT)
N.T.S.



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

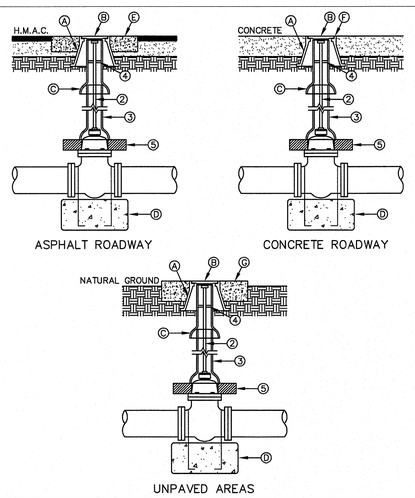
CONSTRUCTION KEY NOTES:
A. DISTANCES FROM CENTERLINE VARY AND SHALL BE ACCORDING TO THE FOLLOWING:

PIPELINE LOCATION WITHIN NEW RIGHT–OF–WAY			
RIGHT–OF–WAY WIDTH*	OFFSET FROM CENTERLINE**		
	WATER	SEWER	RECLAIMED
36 FT.	9 FT.	1 FT.	6 FT.
45 FT.	7.5 FT.	7.5 FT.	8 FT.
52 FT.	8 FT.	5 FT.	10 FT.
64 FT.	10 FT.	5 FT.	10 FT.
72 FT.	10 FT.	5 FT.	10 FT.
76 FT.	10 FT.	5 FT.	10 FT.
84 FT.	22 FT.	5 FT.	10 FT.
110 FT.	25 FT.	15 FT.	20 FT.

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

STANDARD DETAIL	DATE: 03/1994 REV: 3/28/2007	LOCATION FOR UTILITY LINES N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 140

2/24 STANDARD LOCATION FOR EXTENSIONS DETAIL
N.T.S.

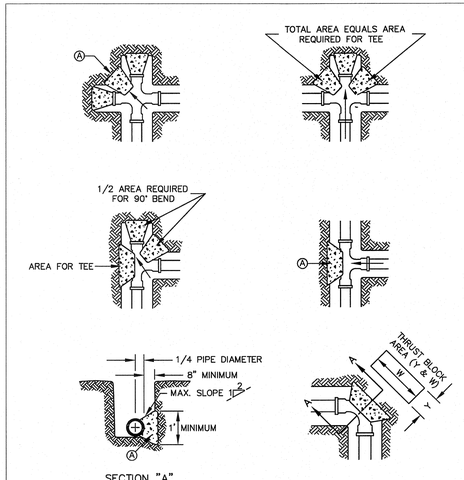


GENERAL NOTES:
1. VALVE TYPE AND VALVE ENDS SHALL BE AS SHOWN ON THE PLANS.
2. ALL BURIED VALVES 5' AND DEEPER SHALL BE PROVIDED WITH SOLID STEEL EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
3. 8" DIA. MINIMUM VITRIFIED CLAY OR SDR 35 P.V.C. PIPE, PIPE SHALL NOT REST ON VALVE BODY.
4. ¼" THICK STEEL TRASH RING VALVE BOX INSIDE DIAMETER MINUS ⅛".
5. MINIMUM 2½" CONCRETE OR BRICK ALL AROUND.
6. CLEAN BONNET BOX OF ALL DEBRIS AND SOIL.
7. COAT BURIED PIPE AND BONNET BOX PER SPECIFICATIONS, VALVE SHALL BE WRAPPED IN POLYETHYLENE IN ACCORDANCE WITH SPECIFICATIONS.

CONSTRUCTION KEY NOTES:
A. BONNET BOX (SEE DETAIL 268).
B. BONNET BOX COVER (SEE DETAILS 269–1 & 269–2)
C. FINAL EXTENSION TO BONNET BOX SHALL BE WITH BELL AND SPIGOT ENDS (CLAY OR SDR 35 P.V.C. SPOOL).
D. CONCRETE VALVE ANCHOR (SEE DETAIL 271).
E. CONCRETE COLLAR (SEE DET 184–1) FLUSH WITH TOP OF H.M.A.C.
F. BONNET BOX FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
G. CONCRETE APRON (SEE DETAIL 184–2) FLUSH WITH BONNET BOX AND 2" ABOVE NATURAL GROUND.

STANDARD DETAIL	DATE: 5/1994 REV: 6/22/2009	GATE VALVE INSTALLATION N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 260

3/24 GATE VALVE INSTALLATION
N.T.S.



GENERAL NOTES:
1. TABLE IS BASED ON 2000#/SQ. FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY. 2. AREAS FOR PIPE LARGER THAN 18" SHALL BE CALCULATED.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF 2500 PSI.
4. THRUST BLOCK IS TO EXTEND TO UNDISTURBED SOIL.
5. SIZE MAY BE DECREASED FOR LESSER DEGREE BENDS AS DETERMINED BY ENGINEER.
6. KEEP CONCRETE CLEAR OF M.J. OR BELL AND SPIGOT JOINTS.
7. BLOCK IN A SIMILAR MANNER AT TEES, HYDRANTS, PLUG OR OTHER LOCATIONS AS REQUIRED.
8. WHEN NECESSARY ADDITIONAL THRUST RESTRAINT METHODS MAY BE USED, SUCH AS MECHANICAL JOINT RESTRAINTS, TIE–RODS (INSTALLED PER MANUFACTURERS' RECCOMMENDATIONS) OR OTHER APPROVED METHODS.

CONSTRUCTION KEY NOTES:
A. LENGTH "Y & W" AS REQUIRED TO OBTAIN BEARING AREA AGAINST UNDISTURBED SOIL.
B. ADDITIONAL EXCAVATION IF NECESSARY TO OBTAIN REQUIRED BEARING AREA.
C. MINIMUM THRUST BLOCK AREA REQUIREMENTS FOR (Y & W) AS FOLLOWS:

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

STANDARD DETAIL	DATE: 2/1994 REV: 8/7/2006	CONCRETE THRUST BLOCKING N.T.S.	EL PASO WATER UTILITIES PUBLIC SERVICE BOARD	DETAIL No. 270

4/24 THRUST BLOCKING
N.T.S.

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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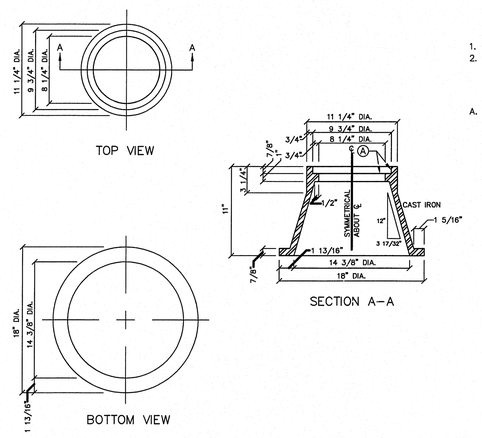
SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE:	APRIL 2011
DESIGN BY:	G.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000–128–LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 2 OF 5)

SHEET NO.
24
OF 36



GENERAL NOTES:

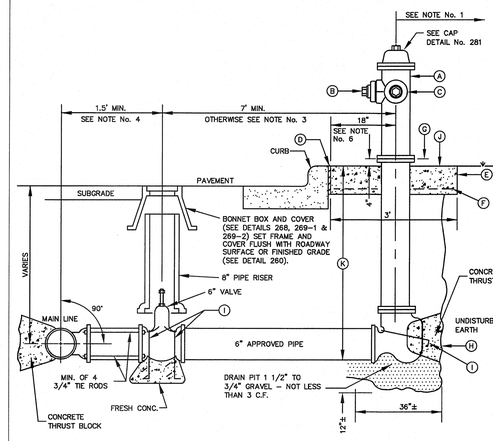
1. CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
2. WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:

A. TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.

STANDARD DETAIL	FEB. 1994 REV:	BONNET BOX N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 268

1/25 BONNET BOX
N.T.S.



GENERAL NOTES:

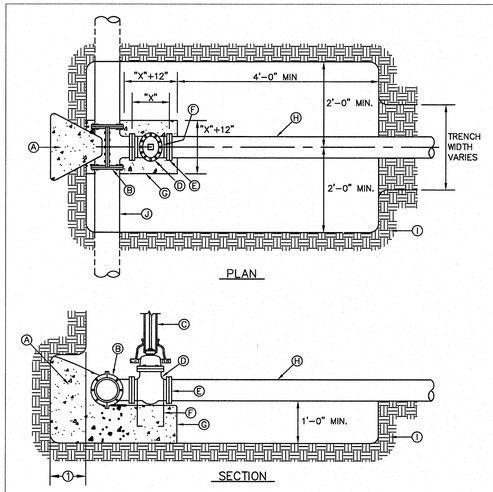
1. NO OBSTRUCTIONS WILL BE PERMITTED WITHIN 5 FT. IN ALL DIRECTIONS OF FIRE HYDRANT (PER EL PASO MUNICIPAL CODE, TITLE 12). FIRE HYDRANT SHALL NOT BE PLACED IN WHEEL CHAIR RAMP OR DRIVEWAY.
2. FIRE HYDRANT SHALL BE LOCATED AT THE BEGINNING OF CURB RETURN OR AT THE PROPERTY LINE COMMON TO ADJOINING LOTS, UNLESS OTHERWISE SHOWN ON PLANS. REFER TO DETAIL No. 282 FOR SPECIAL CASES.
3. WHERE DISTANCE IS LESS THAN 7', HYDRANT SHALL BE INSTALLED IN ACCORDANCE WITH DETAIL No. 282.
4. VALVE MAY BE CONNECTED TO TEE AT MAIN LINE. USE FLANGED MECHANICAL JOINT ENDS. WHERE SPOOL IS REQUIRED BETWEEN TEE AND VALVE, USE FLANGED MECHANICAL ENDS WITH ¾" DIAMETER TIE RODS.
5. COMPLY WITH REQUIREMENTS OF AWWA C–502, DRY BARREL FIRE HYDRANTS AND AWWA C–550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES AND HYDRANTS.
6. WHEN INSTALLATION IS WITHIN TxDOT RIGHT OF WAY, HYDRANT SHALL NOT BE PLACED IN SIDEWALK AREA OR ANY CLOSER THAN 5' FROM BACK OF CURB.

CONSTRUCTION KEY NOTES:

A. FIRE HYDRANT PER SPEC'S.
B. PUMPER NOZZLE 4½" TO BE FACING THE TRAVELED WAY, UNLESS OTHERWISE NOTED IN THE PLANS.
C. HOSE NOZZLE 2½".
D. ½" PREMOLDED EXPANSION JOINT WITH 1" TOP FILLER.
E. 3'x3'x6" CONC. SQ. PAD, TO BE CONSTRUCTED AROUND FIRE HYDRANT'S CENTER LINE WHEN NOT LOCATED WITHIN SIDEWALK OR CONC. AREA.
F. #10 6/6 WWF.
G. CONTROLLED ELEVATION LINE, LEVEL IN ALL DIRECTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING TOP FLANGE OF THE HYRANT TO CONTROLLED ELEVATION.
H. CONC. THRUST BLOCK, APPROX. 2'x2'x3' TO BE POURED AGAINST UNDISTURBED EARTH, F.H. WEEP HOLE MUST BE UNOBSTRUCTED.
I. 2"x1/4" STEEL ANCHOR PINS.
J. TOP OF SLAB SHALL BE AT CURB LEVEL 4" BELOW THE BREAK LINE OF THE HYDRANT. UNDER SPECIAL CONDITIONS THE ENGINEER MAY ALLOW VARIATIONS TO THIS CONSTRUCTION.
K. CONTRACTOR IS TO PROVIDE ADDITIONAL SPOOLS IF NEEDED TO MAINTAIN THE 4' MIN. CLEARANCE FROM THE CONTROLLED ELEV. LINE TO TOP OF SLAB.

STANDARD DETAIL	DATE: 2/1993 REV: 8/11/2009	FIRE HYDRANT INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 280–1

2/25 STANDARD FIRE HYDRANT INSTALLATION
N.T.S.



GENERAL NOTES:

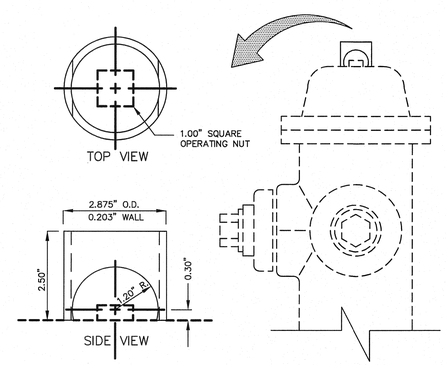
1. THRUST BLOCKING SHALL EXTEND TO UNDISTURBED EARTH.
2. TAPPING SLEEVE SHALL BE 18" MINIMUM FROM ANY BELL, COUPLING, VALVE OR FITTING LOCATED ALONG EXISTING WATER LINE TO BE TAPPED.
3. REPLACE EXCAVATED MATERIAL WITH CEMENT STABILIZED BACKFILL PRIOR TO PAVING.
4. JOINTS AND BOLTS SHALL BE CLEAR OF CONCRETE.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

CONSTRUCTION KEY NOTES:

A. CONCRETE THRUST BLOCKING, PER DETAIL 270.
B. TAPPING SLEEVE.
C. RISER INSTALLATION, PER DETAIL 260.
D. TAPPING VALVE.
E. VALVE ENDS FOR TYPE OF PIPE INSTALLED.
F. 2–#5 REBAR HAIRPINS, PAINT UNEMBEDDED PORTION OF BARS WITH 2–COATS OF COAL TAR EPOXY, THEN COVER WITH 2" MINIMUM OF CEMENT MORTAR.
G. CONCRETE VALVE SUPPORT, PER DETAIL 271.
H. NEW WATER LINE TO BE INSTALLED.
I. UNDISTURBED EARTH.
J. EXISTING WATER MAIN TO BE TAPPED.

STANDARD DETAIL	DATE: 9/1994 REV: 8/9/2006	TAPPING SLEEVE AND VALVE INSTALLATION N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 266

3/25 TAPPING SLEEVE AND VALVE INSTALLATION
N.T.S.



GENERAL NOTES:

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

STANDARD DETAIL	FEB. 1993 REV: FEB. 1994	FIRE HYDRANT CAP N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 281

4/25 FIRE HYDRANT CAP
N.T.S.

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4043.22 (NAVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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

DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000–128–LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT–C SUBDIVISION IMPROVEMENTS

SHEET TITLE

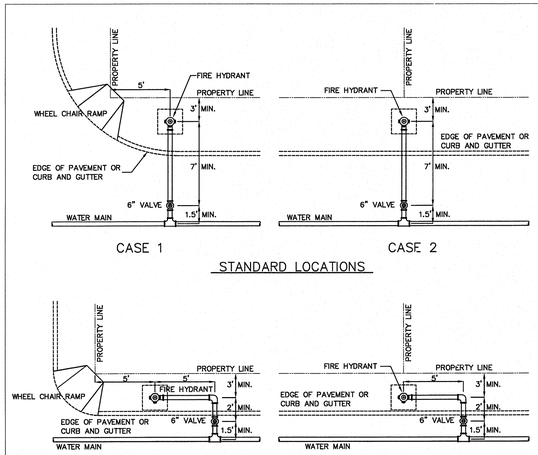
WATER DETAILS

(SHEET 3 OF 5)

SHEET NO.

25

OF 36

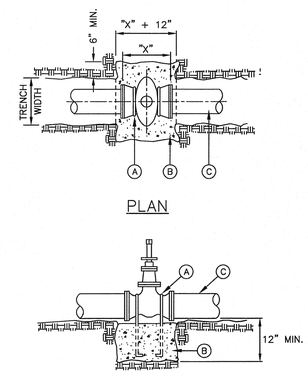


GENERAL NOTES:

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

STANDARD DETAIL	DATE: 5/1994 REV: 6/25/2007	FIRE HYDRANT LOCATIONS N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 282

1/26 FIRE HYDRANT LOCATIONS
N.T.S.



GENERAL NOTES:

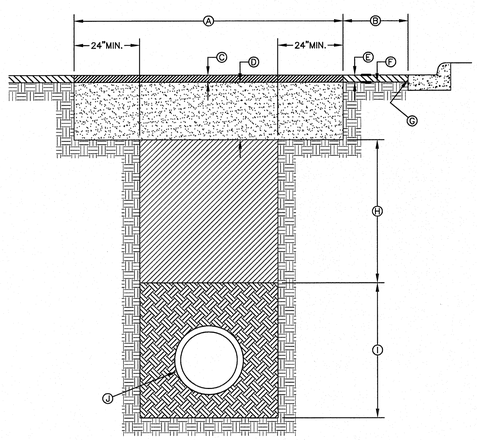
1. THE ENGINEER SHALL PROVIDE DESIGN FOR ALL VALVES GREATER THAN 12".
2. COMPLY WITH REQUIREMENTS OF AWWA C–550, PROTECTIVE EPOXY INTERIOR COATINGS FOR VALVES.

CONSTRUCTION KEY NOTES:

A. TWO No. 5 REBAR HAIR PINS. PAINT UNEMBEDDED PORTION OF REBARS WITH TWO COATS OF COAL TAR EPOXY.
B. CONCRETE VALVE SUPPORT, 2500 PSI. CONCRETE.
C. APPROVED PIPE.

STANDARD DETAIL	DATE: 2/1994 REV: 8/9/2006	VALVE ANCHOR N.T.S.	EL PASO WATER UTILITIES / PUBLIC SERVICE BOARD	DETAIL No. 271

2/26 VALVE ANCHOR
N.T.S.



GENERAL NOTES:

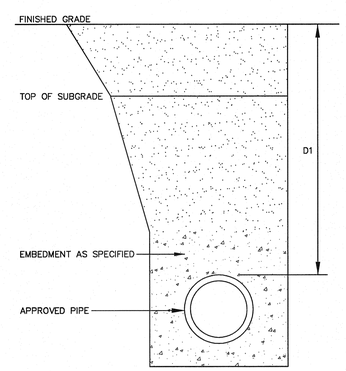
1. ALL ASPHALT CUTS MUST BE SAW CUT.
2. SOIL CEMENT SLURRY SHALL BE ALLOWED TO CURE BEFORE PAVING OR OPENING TO ALL TRAFFIC.

CONSTRUCTION KEY NOTES:

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

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

3/26 PAVEMENT REPAIR DETAIL
N.T.S.



GENERAL NOTES:

1. REFER TO UTILITY DETAIL FOR PAVEMENT REPLACEMENT AND BACKFILL REQUIREMENTS.
2. TRENCH SAFETY SYSTEMS SHALL BE USED WHEN TRENCH DEPTH EXCEEDS 5 FEET.

CONSTRUCTION KEY NOTES:

A. COVER FOR WATER MAINS SHALL DEPEND ON THE PIPE SIZE AND THE FOLLOWING INSTALLATION CONDITIONS,

CONDITION A – NORMAL LINE INSTALLATION, STREET AND DRAINAGE PROJECTS, WATERLINE RELOCATION

CONDITION B – NEW SUBDIVISIONS, NON–PAVED AREA

AND SHALL BE AS FOLLOWS.

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

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

4/26 STANDARD COVER FOR WATER MAINS
N.T.S.

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22: ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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ENGINEER'S SEAL

STATE OF TEXAS — JORGE L. AZCARATE — 85075 — LICENSED — PROFESSIONAL ENGINEER

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

DATE:	APRIL 2011
DESIGN BY:	G.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000–128–LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

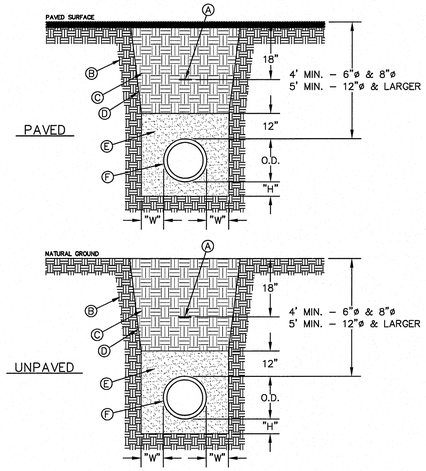
WATER DETAILS

(SHEET 4 OF 5)

SHEET NO.

26

OF 36



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

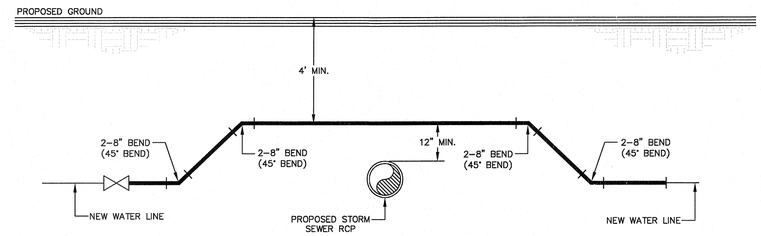
CONSTRUCTION KEY NOTES:
A. APPROVED MARKING TAPE.
B. UNDISTURBED STABLE MATERIAL.
C. NATIVE MATERIAL BACKFILL.
PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D–1557 MODIFIED PROCTOR.
UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D–1557 MODIFIED PROCTOR.
(*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS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

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

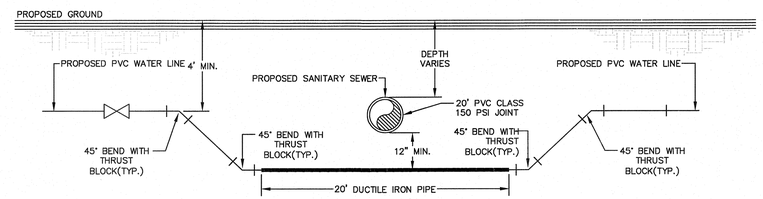
PIPE DIAMETER	"W"
6" – 30"	8"
GREATER THAN 30"	12"

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

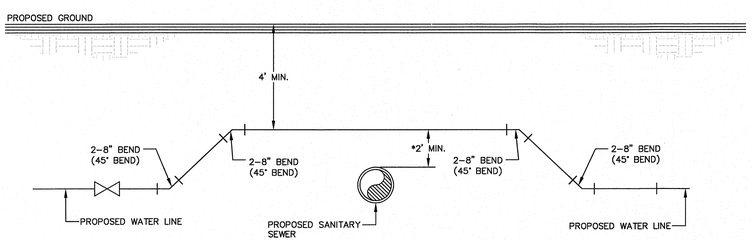
1/27 BEDDING CLASS DETAILS FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.



2/27 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.

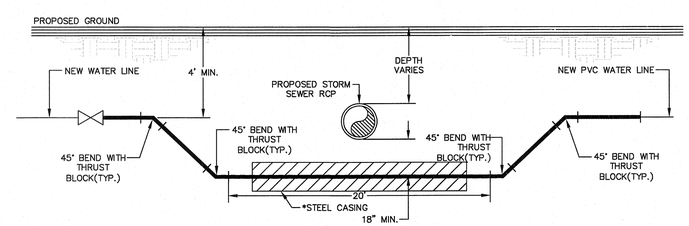


3/27 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



*NOTE:
IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6"(MIN.)–2'(MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPERATION DISTANCE (SPECIAL CONDITION) DETAIL.

4/27 SANITARY SEWER CROSSING WATER LINE DETAIL
SCALE: N.T.S.



*NOTE:
STEEL CASING IF STORM SEWER RCP IS LARGER THEN 30" IN DIAMETER AND SEPARATION IS LESS THEN 2'.

5/27 STORM SEWER CROSSING DETAIL
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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ENGINEER'S SEAL
STATE OF TEXAS
JORGE L. AZCARATE
85075
LICENSED PROFESSIONAL ENGINEER

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

DATE:	APRIL 2011
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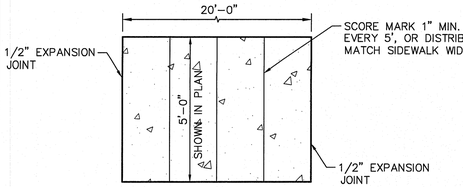
JOB No.	2000–128–LD

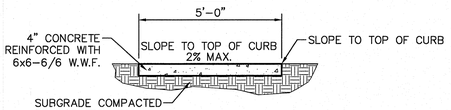
PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
WATER DETAILS
(SHEET 5 OF 5)

SHEET NO.
27
OF 36



PLAN

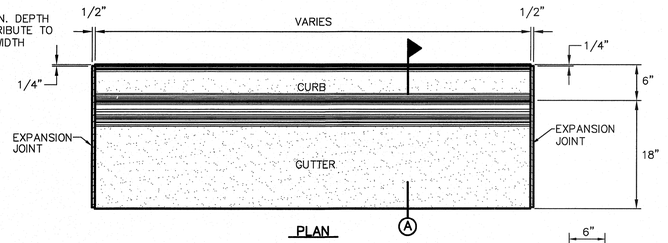


SECTION

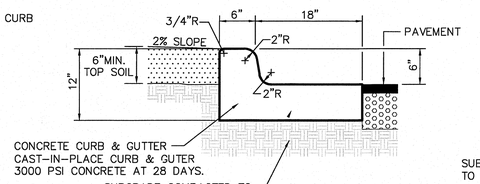
SIDEWALK NOTES:

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

1/28 SECTION-SIDEWALK/SLAB
SCALE: 1" = 2'-0"



PLAN

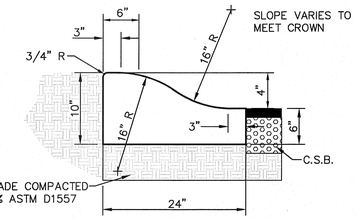


A SECTION

NOTES:

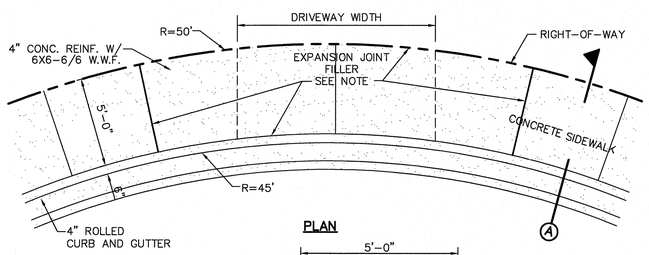
1. CONCRETE CURB, GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
2. DUMMY JOINTS REQUIRED AT 10' O.C.
3. 1/2" PREMOLDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURBS RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
4. SUBGRADE UNDER CURBS MUST BE FORMED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

2/28 CURB & GUTTER DETAIL

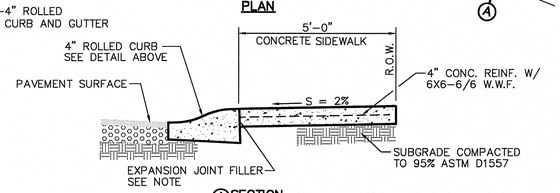


1. CONCRETE TO BE 3000 PSI MIN.
2. DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK
3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
4. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
5. EXPANSION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

3/28 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1" = 1'-0"



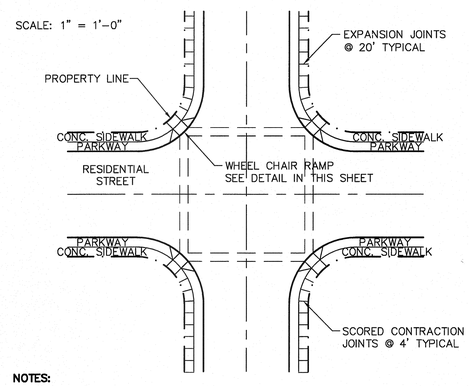
PLAN



A SECTION

NOTE: EXPANSION JOINT FILLER SHALL CONSIST OF 1/2" BITUMINOUS TYPE PREFORMED (AASHTO M-33)

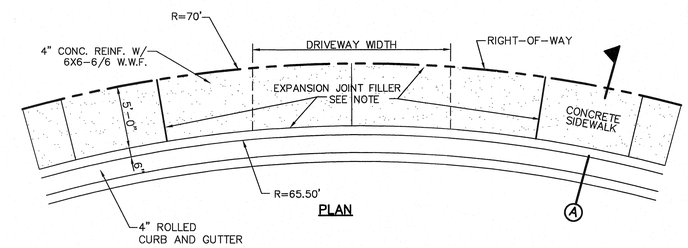
4/28 CUL-DE-SAC (50' R) DRIVEWAY DETAIL
SCALE: N.T.S.



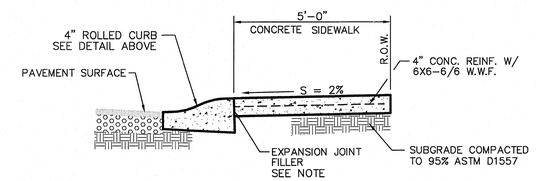
NOTES:

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

5/28 WHEELCHAIR RAMP STREET PLAN
SCALE: 1" = 30'-0"

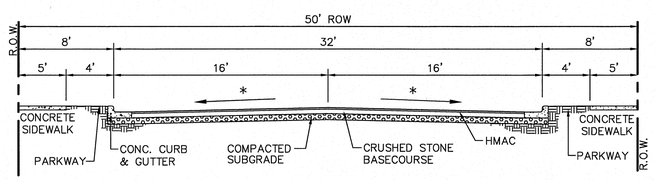


PLAN



A SECTION

6/28 HEEL (70' R) DRIVEWAY DETAIL
SCALE: NTS

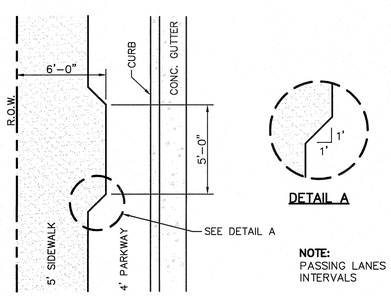


(*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS

NOTE:

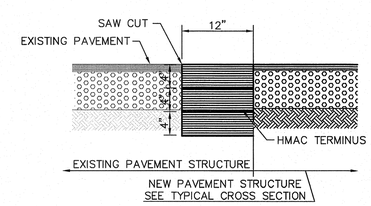
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS: CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT. THE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

7/28 TYPICAL ROW STREET SECTIONS DETAIL
SCALE: 1" = 6'-0"



NOTE:
PASSING LANES AT 200' MAX. INTERVALS

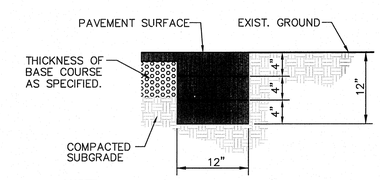
8/28 ACCESSIBLE PASSING SPACE DETAIL
SCALE: 1" = 4'-0"



NOTES:

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

9/28 TYPICAL PAVEMENT JOINT SECTION
SCALE: 1" = 1'-0"



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

10/28 TERMINUS OF STREET
SCALE: 1" = 1'-0"

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

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

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22; ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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JORGE L. ACUARATE
86075
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STANDARD DETAILS
(SHEET 1 OF 3)

SHEET NO.
28
OF 36

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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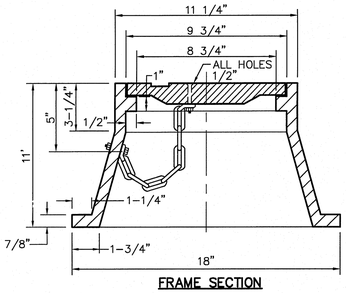
FOR FIELD LOCATING EXISTING UTILITIES



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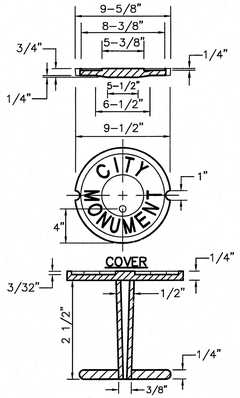
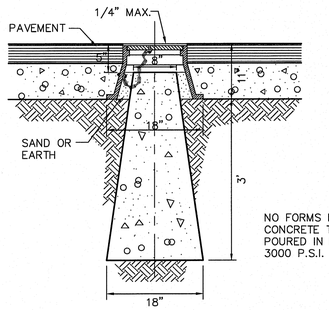
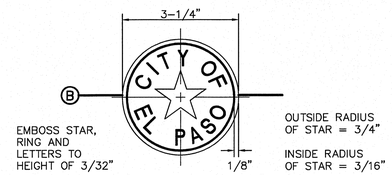


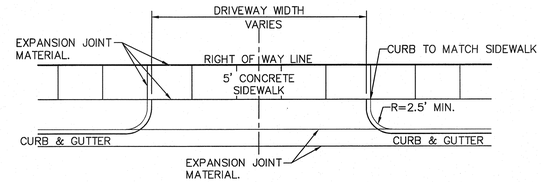


NO FORMS REQUIRED. CONCRETE TO BE POURED IN PLACE 3000 P.S.I. CONC.

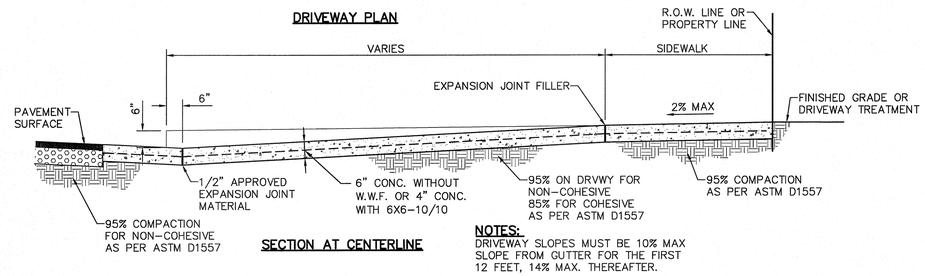


BRONZE MONUMENT CAP

1/29 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.



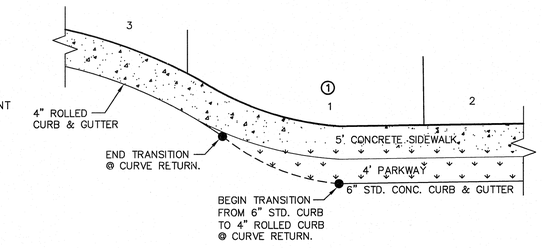
DRIVEWAY PLAN



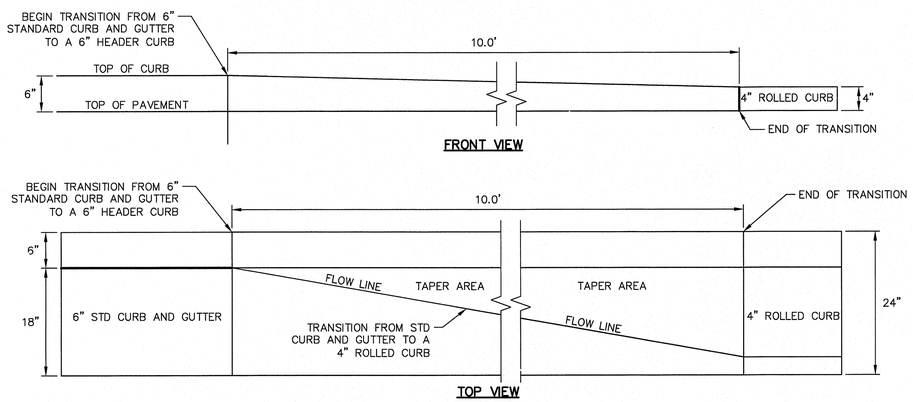
SECTION AT CENTERLINE

NOTES:
DRIVEWAY SLOPES MUST BE 10% MAX SLOPE FROM GUTTER FOR THE FIRST 12 FEET, 14% MAX. THEREAFTER.

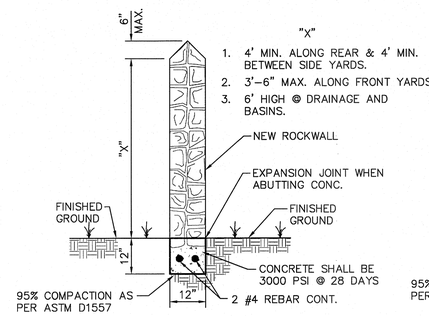
2/29 TYPICAL RESIDENTIAL DRIVEWAY DETAIL
SCALE: N.T.S.



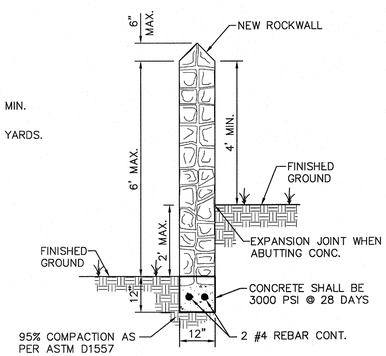
3/29 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.



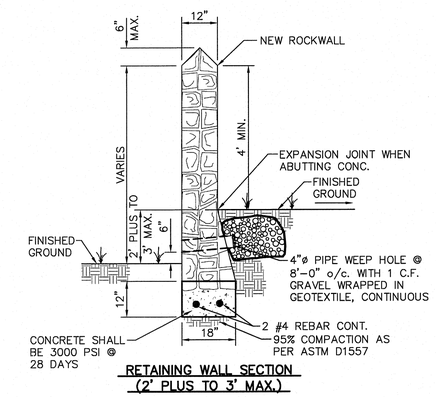
4/29 CURB TRANSITION DETAIL
SCALE: 1" = 1'-0"



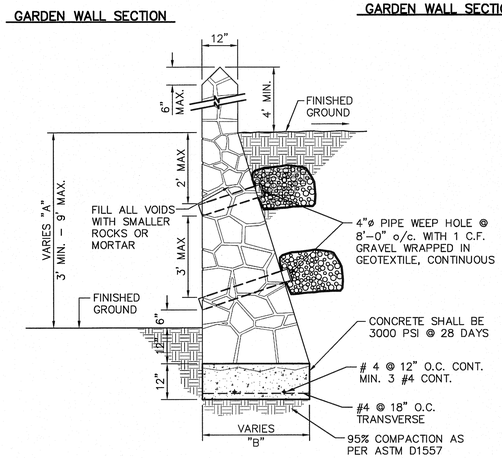
GARDEN WALL SECTION



GARDEN WALL SECTION (2' MAX.)



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



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

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

ROCK WALL NOTES

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

5/29 TYPICAL ROCKWALL/RETAINING WALL DETAILS
SCALE: 1" = 2'-0"

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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4712 Woodrow Bean, Stop. E El Paso, TX 79924
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ENGINEER'S SEAL
JORGE L. AZCARATE
85075
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

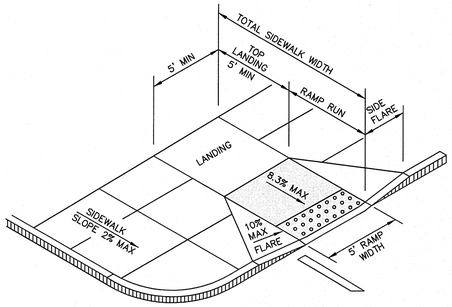
SHEET TITLE
STANDARD DETAILS
(SHEET 2 OF 3)

SHEET NO.
29
OF 36

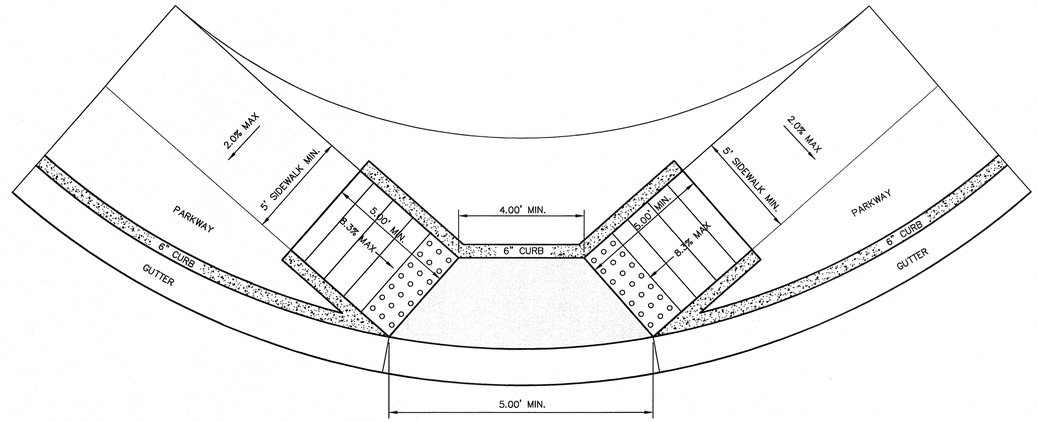
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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



1/30 PERPENDICULAR CURB RAMP (TYPE I)
SCALE: N.T.S.



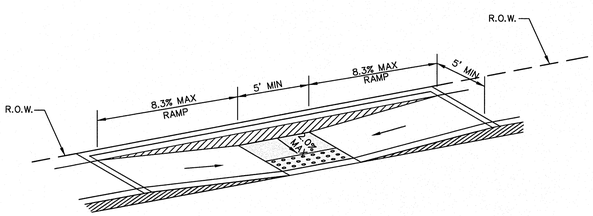
2/30 DIRECTIONAL RAMP @ INTERSECTION
SCALE: N.T.S.

LEGEND

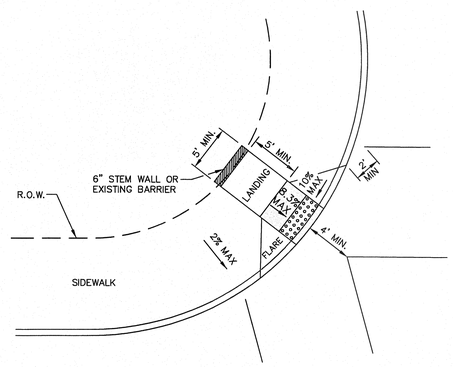
DETECTABLE WARNING SURFACE SHALL CONSIST OF A COLOR CONTRAST VISUALLY WITH ADJOINING SURFACES.

GENERAL NOTES:

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



3/30 PARALLEL CURB RAMP (TYPE II)
SCALE: N.T.S.



4/30 DIAGONAL CURB RAMP (FLARED SIDES) (TYPE V)
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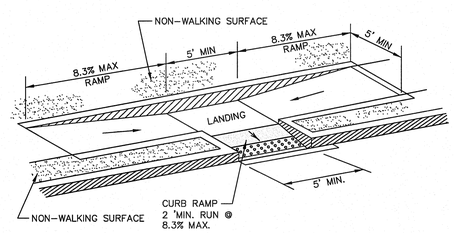

5/30 COMBINATION CURB RAMPS (TYPE VII)
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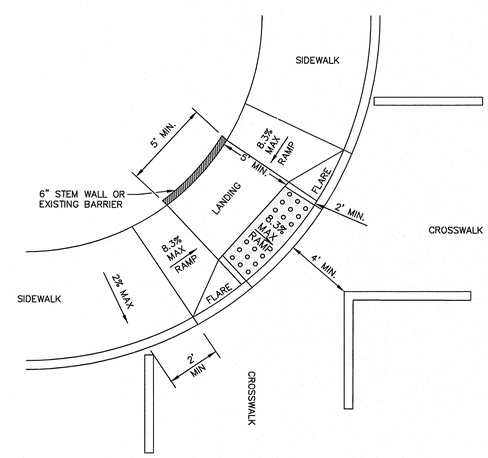

6/30 DIAGONAL COMBINATION CURB RAMP (TYPE III)
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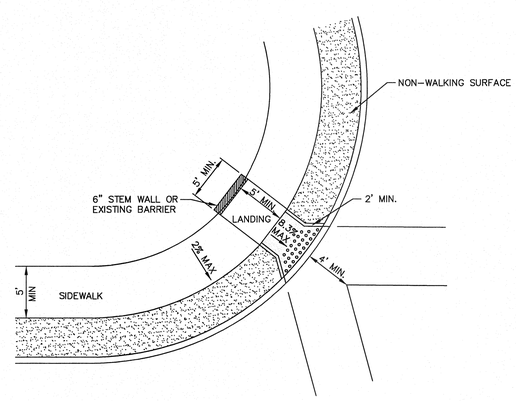

7/30 DIAGONAL CURB RAMP (RETURNED CURB) (TYPE VI)
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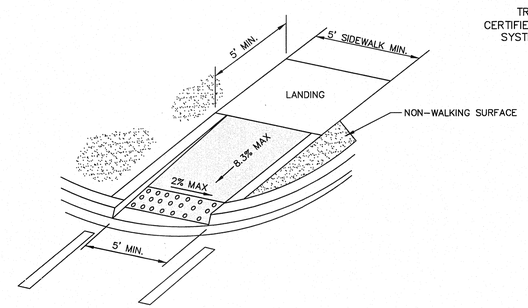
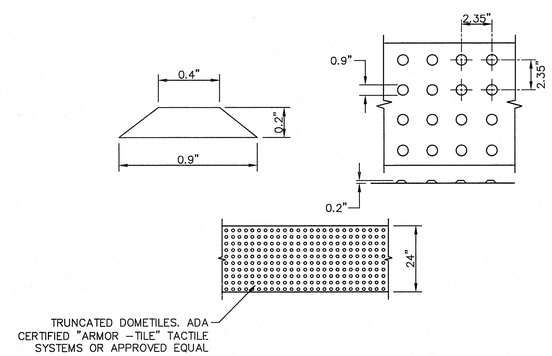


8/30 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
SCALE: N.T.S.



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

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

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

9/30 DOME SIZE AND SPACING
SCALE: N.T.S.

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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engineers • architects • planners
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4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5202 Fax: 915.544.5203 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. AZCARATE
86075
REGISTERED PROFESSIONAL ENGINEER

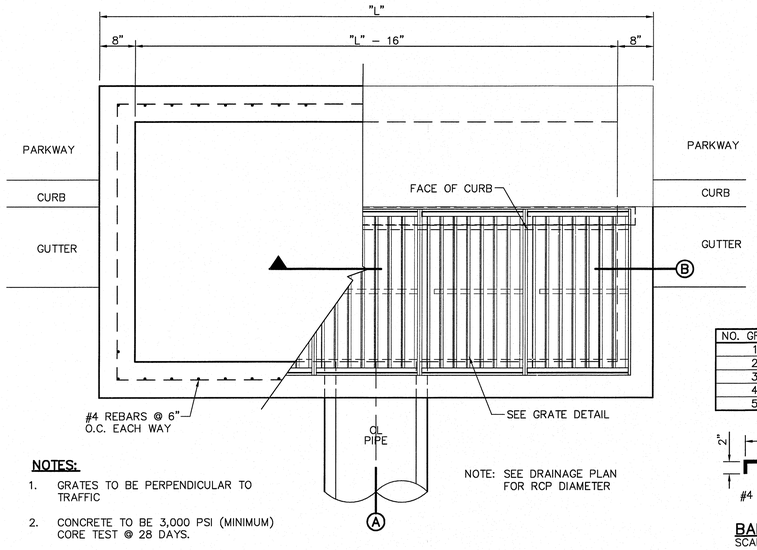
SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STANDARD DETAILS
(SHEET 3 OF 3)

SHEET NO.
30
OF 36



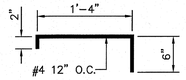
NOTE: SEE DRAINAGE PLAN FOR RCP DIAMETER

NOTES:

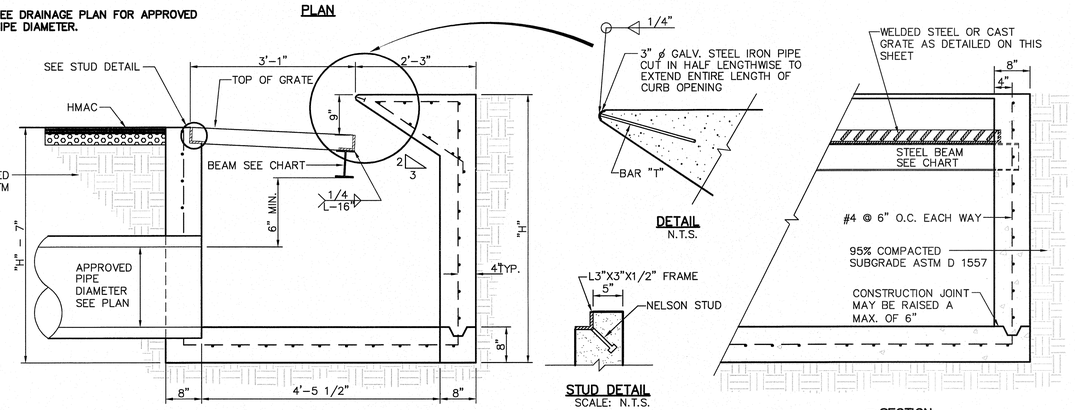
1. GRATES TO BE PERPENDICULAR TO TRAFFIC
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.
3. H=20' MAXIMUM
4. **SEE DRAINAGE PLAN FOR APPROVED PIPE DIAMETER.**

PLAN

NO. GRATES	CAPACITY	"L"	BEAM LENGTH	BEAM (MIN. SIZES)
1	9.84 CFS	3'–2 5/8"	2'–10"	W6x12, S4x13, MC6x8.2
2	19.63 CFS	5'–1 1/8"	4'–7 1/8"	W6x12, S6x12.5, MC6x15.1
3	29.69 CFS	7'–0 1/4"	6'–5 1/8"	W8x15, S7x15.3, MC7x17.6
4	39.10 CFS	8'–9 7/8"	8'–3 7/8"	W9x18, S8x18.4, MC10x21.9
5	48.72 CFS	10'–8"	10'–2"	W12x16, S8x21, MC10x21.9



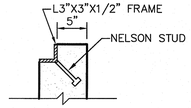
BAR "T" DETAIL
SCALE: 1" = 1' – 0"



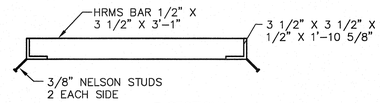
A SECTION

B SECTION

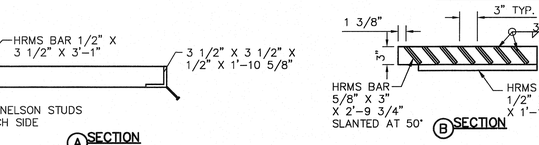
1/31 DROP INLET (TYPE 1) DETAILS
SCALE: 3" = 4'–0"



STUD DETAIL



A SECTION



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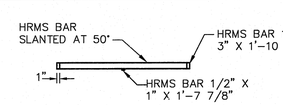
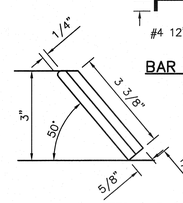
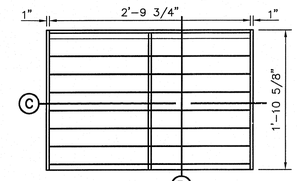


C SECTION

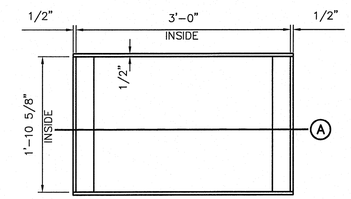


BAR "T" DETAIL
N.T.S.

SLANTED BAR DETAIL



PLAN – GRATE

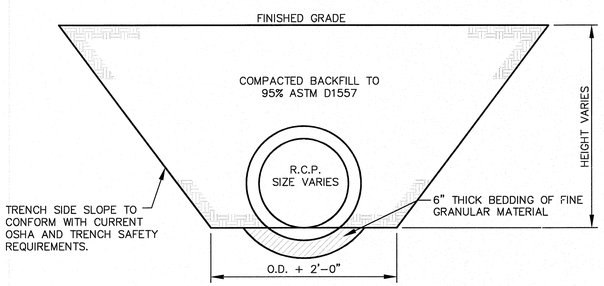


PLAN – FRAME

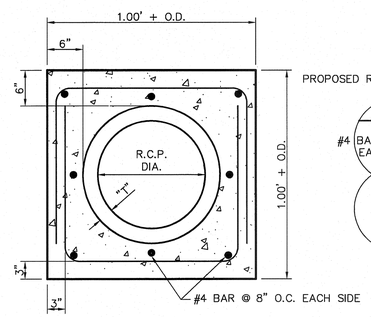
2/31 GRATE AND FRAME DETAILS
SCALE: 1" = 1'–0"

DROP INLET GENERAL NOTES:

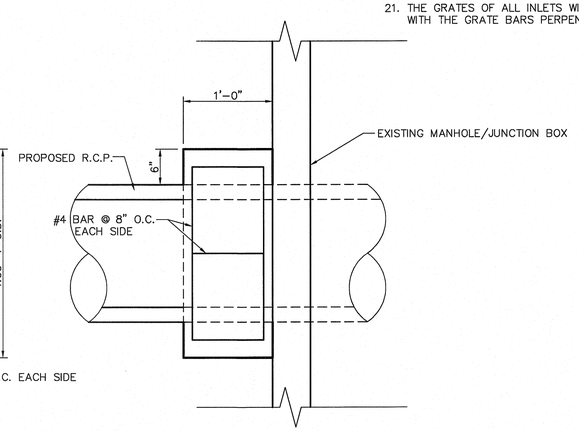
1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M–183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M–161 OR M–222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
6. GRATES MADE OF M–183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASSHTO M–111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL HAVE A MINIMUM OF ¼" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL ABE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M–103, GRADE 65–35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A–536. SPECIAL GRADE 60–45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M–105, CLASS 35B OR ASTM A–48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M–103 SCOPE 1.2.1, GRADE N–1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHELL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
10. ALL CASTING SHALL BE MANUFACTURED TRUE T PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000psi. CHAMFER ALL EXPOSED EDGES ¾". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 ½" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE ½" BITUMINOUS FIBER AND PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TxDOT. ITEM 446 "PAINT AND PAINTING"
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
17. ALL REINFORCING BARS TO BE #4 AT 6" O.C. GRAD 60. BEND BARS AROUND PIPE OPENINGS.
18. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
19. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
20. TWO ½"øx4" LONG CONCRETE ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
21. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.



3/31 STORM SEWER BEDDING DETAIL
SCALE: 1" = 2'–0"



FRONT SECTION



SIDE VIEW

NOTES:

1. CONCRETE COLLARS SHALL BE USED AT LOCATIONS AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER, IN ORDER TO ENSURE A PROPER WATER TIGHT SEAL ON ALL REINFORCED CONCRETE PIPE CONNECTIONS AS DIRECTED BY ENGINEER.
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.

4/31 CONCRETE COLLAR DETAIL
SCALE: N.T.S.

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621–6750
(AFTER HOURS)	(915) 240–3220

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

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4654
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
86075

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000–128–LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT–C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE DETAILS
(SHEET 1 OF 2)

SHEET NO.
31
OF 36

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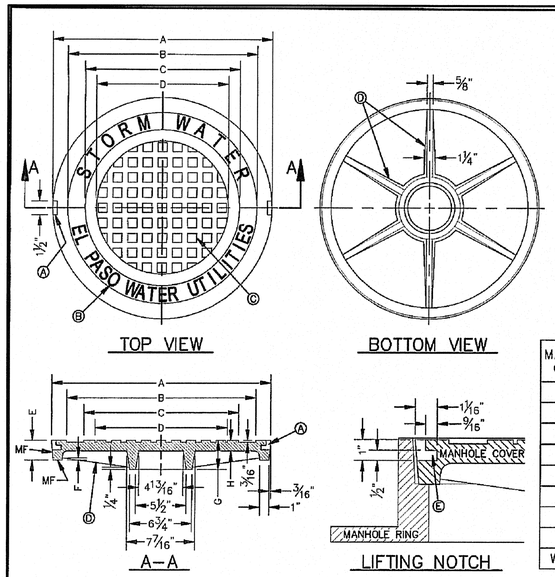


GENERAL NOTES:
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
4. AS-CAST DIMENSIONS MAY VARY 1/8"±/ PER FOOT (AASHTO M306-07).
5. WEIGHT MAY VARY 5%±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

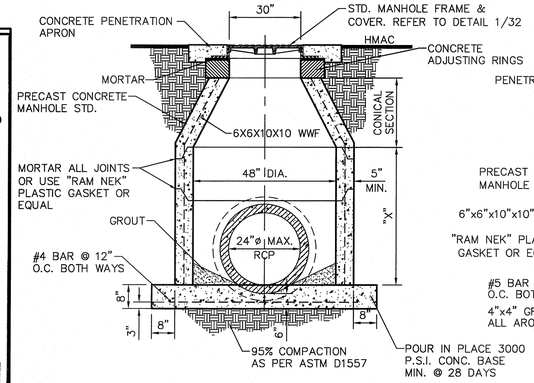
CONSTRUCTION KEY NOTES:
A. LIFTING NOTCH.
B. 3/8" RAISED LETTERING.
C. 1" SQUARES (3/16" TALL) WITH 3/8" SPACE BETWEEN.
D. REINFORCING RIBS.
E. SLOT.

SEE NOTE 6

MANHOLE COVER	MANHOLE – ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	31 3/8"	23 3/4"	31 1/4"
B	28 1/8"	20 5/8"	28 1/8"
C	24 3/8"	16 7/8"	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 1/8"	3"	3"
H	1 7/8"	1"	1"
WEIGHT	265 lbs.	175 lbs.	310 lbs.

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

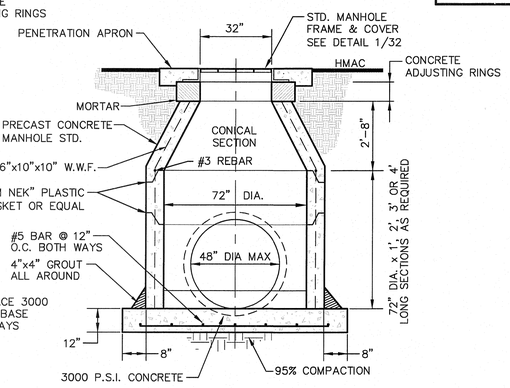
1/32 STORM WATER MANHOLE COVER
SCALE AS SHOWN



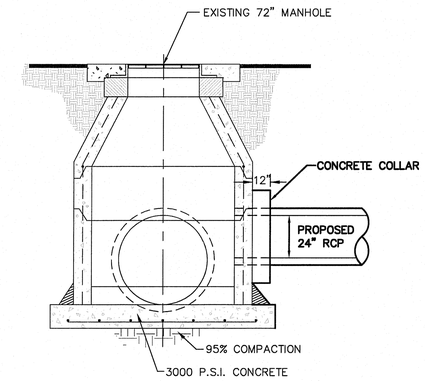
"X"= 48" DIA. x 12", 24", 36", OR 48" PRE-CAST LONG SECTIONS AS REQUIRED

NOTE:
95% COMPACTION AS PER ASTM D-1557 UNDER ALL CONCRETE STRUCTURES.

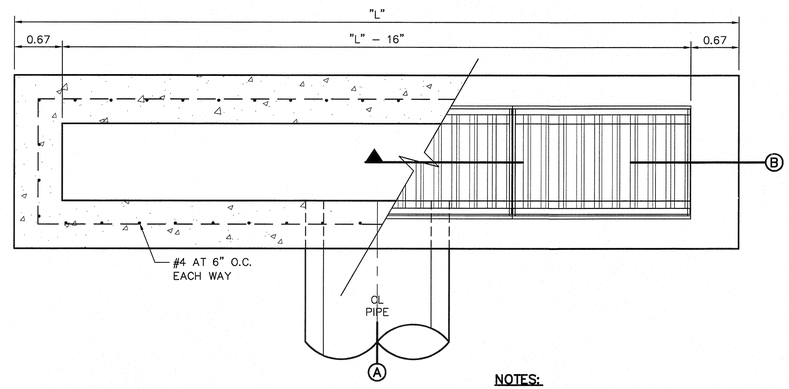
2/32 48" STANDARD MANHOLE DETAIL
SCALE: N.T.S.



3/32 72" STANDARD MANHOLE DETAIL
SCALE: N.T.S.



4/32 CONCRETE COLLAR DETAIL FOR SD-4
SCALE: N.T.S.

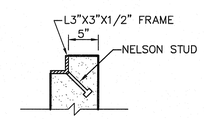


PLAN

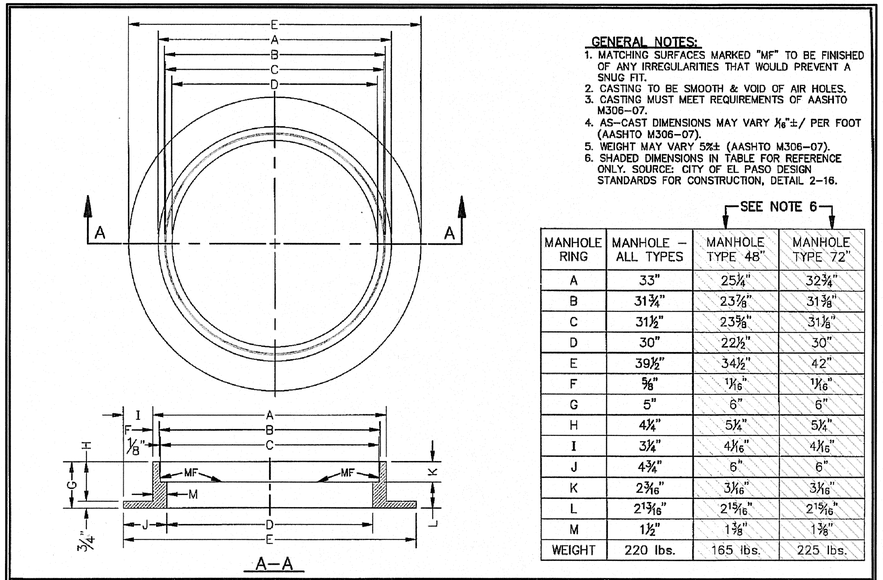
NUMBER OF GRATES	"L"	CAPACITY*
1	3'-2 5/8"	4.718 CFS
2	5'-2 1/4"	9.436 CFS
3	7'-1 7/8"	14.155 CFS
4	9'-1 1/2"	18.873 CFS
5	11'-1 1/8"	23.592 CFS

* THESE CAPACITIES CORRESPOND TO A CLOGGING FACTOR OF 0.5

NOTES:
1. GRATES TO BE PERPENDICULAR TO TRAFFIC
2. CONCRETE TO BE 3,000 PSI (MINIMUM) CORE TEST @ 28 DAYS.
3. H=20' MAXIMUM
4. **SEE DRAINAGE PLAN FOR APPROVED PIPE DIAMETER.**



STUD DETAIL
N.T.S.



GENERAL NOTES:
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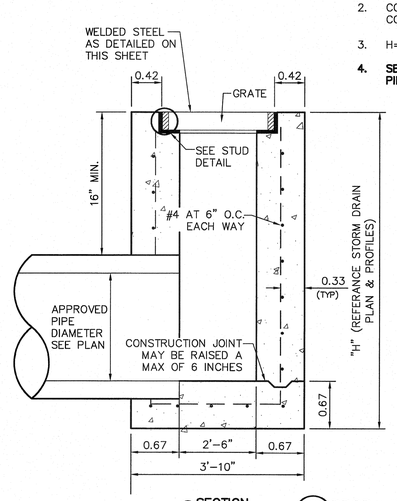
SEE NOTE 6

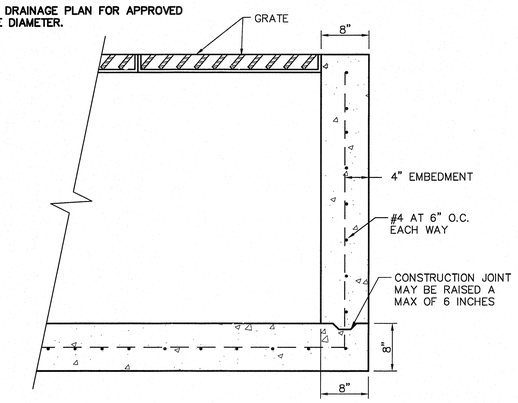
MANHOLE RING	MANHOLE – ALL TYPES	MANHOLE TYPE 48"	MANHOLE TYPE 72"
A	33"	25 1/4"	32 3/4"
B	31 3/4"	23 7/8"	31 7/8"
C	31 1/2"	23 5/8"	31 1/8"
D	30"	22 1/2"	30"
E	39 1/2"	34 1/2"	42"
F	5/8"	1 1/16"	1 1/16"
G	5"	6"	6"
H	4 1/4"	5 1/4"	5 1/4"
I	3 1/4"	4 1/16"	4 1/16"
J	4 3/4"	6"	6"
K	2 3/16"	3 1/16"	3 1/16"
L	2 13/16"	2 15/16"	2 15/16"
M	1 1/2"	1 7/8"	1 7/8"
WEIGHT	220 lbs.	165 lbs.	225 lbs.

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

5/C14.2 STORM WATER MANHOLE RING
SCALE AS SHOWN



A SECTION



B SECTION

6/32 DROP INLET (TYPE III) DETAILS
SCALE: N.T.S.

REFERENCES – BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4694
4712 Woodrow Bean Sta. E. El Paso, TX 79904
Office: 915.544.5223 Fax: 915.544.5203 www.ceagroup.net

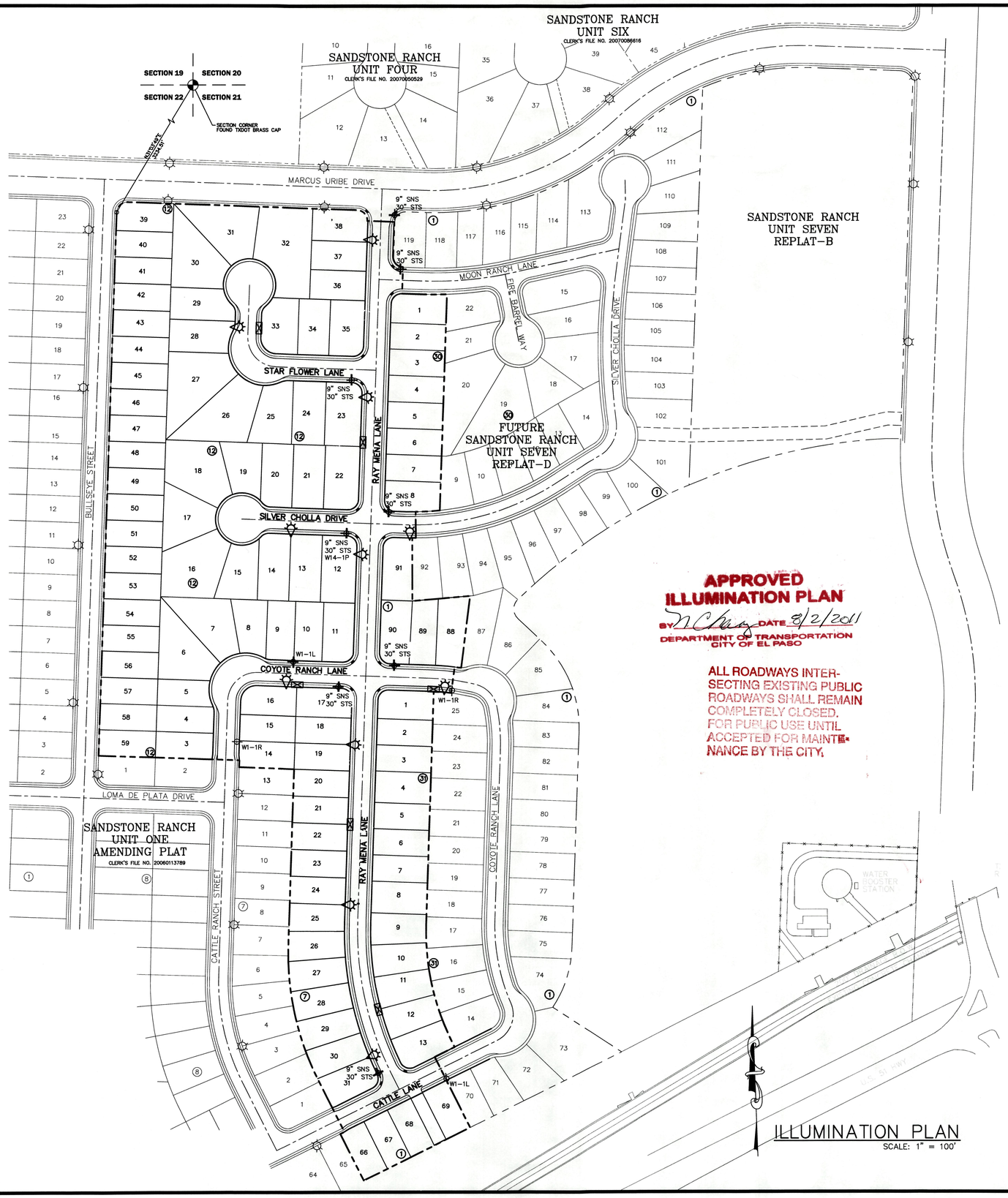
ENGINEER'S SEAL
JORGE L. AZCARATE 85075 REGISTERED PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
DRAINAGE DETAILS
(SHEET 2 OF 2)

SHEET NO.
32
OF 36



APPROVED
ILLUMINATION PLAN
BY N Chang DATE 8/2/2011
DEPARTMENT OF TRANSPORTATION
CITY OF EL PASO

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

ILLUMINATION PLAN
SCALE: 1" = 100'

GENERAL NOTES:

1. A MINIMUM 3' CLEARANCE SHALL BE PROVIDED ON THE SIDEWALK AFTER THE LIGHT POLES & FIRE HYDRANTS ARE PLACED. SIDEWALK SHALL COMPLY WITH A.D.A AND T.D.L.R. STANDARDS.
2. U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) THAT WILL BE PLACED OUTSIDE SUBDIVISION BOUNDARY LIMITS DUE TO THE SUBDIVISION PRIVATE LOCATION.

UTILITY LOCATOR SERVICES

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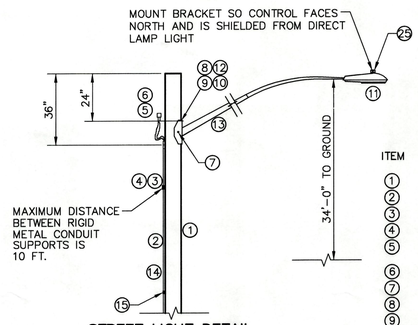
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

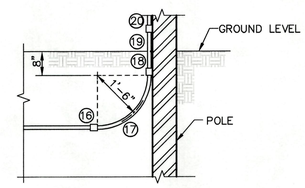
WARNING ! BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

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



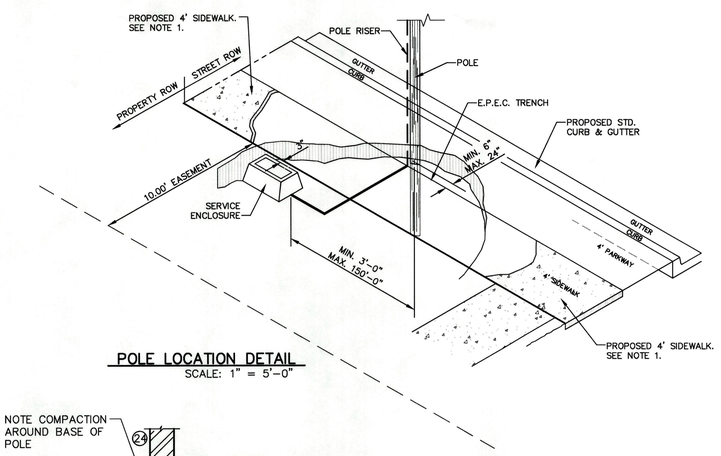
STREET LIGHT DETAIL
SCALE: 1" = 3'-0"



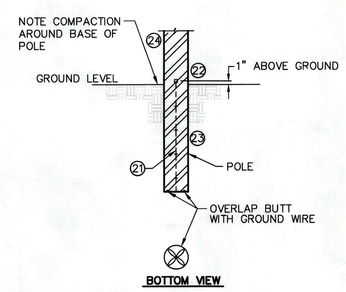
POLE RISER DETAIL
SCALE: 1" = 2'-0"

ITEM	QTY.	DESCRIPTION
1	1	POLE, PENTA TREATED PINE 40' CLASS III
2	27	1/2" RIGID GALVANIZED STEEL CONDUIT
3	4	TWO HOLE STEEL PIPE STRAP FOR 1/2" CONDUIT
4	8	1/4" x 1" LAG BOLT
5	1	PHOTO CELL RECEPTACLE WITH 1/2" THREADED BASE AND MOUNTING BRACKET
6	1	PHOTO CELL 240V.
7	4	1/2" x 4" LAG BOLT
8	1	WASHER, SQ. GALV. 2-1/4" x 2-1/4"
9	1	MACHINE BOLT 5/8" x 8"
10	1	LOCKNUT 5/8"
11	1	LUMINARE 100W H.P.S.
12	1	WASHER, COIL SPRING 5/8"
13	1	STEEL LUMINAIRE SUPPORT (10' OR 8') UNION METAL MANUF. CO. DESIGN 348 OR EQUIVALENT
14	2	#12 COPPER WIRES WITH THW INSULATION
15	1	GROUND CLAMP FOR 1/2" RIGID CONDUIT
16	1	1/2" SCHEDULE 40 PVC COUPLING
17	1	1/2" SCHEDULE 40 PVC 18" RADIAL BEND
18	1	1/2" SCHEDULE 40 PVC FEMALE ADAPTER
*19	1	1/2" x 8" PVC COATED RIGID STEEL CONDUIT NIPPLE
*20	1	1/2" PVC COATED RIGID STEEL COUPLING
21		COPPER WIRE, #6 BARE SOLID HARD DRAWN
22		ALUMINUM WIRE, #4 BARE SOLID HARD DRAWN
23		1/2# STAPLE, GALV. 1-1/2" NO. 9
24	1	SPLICE, #4 SOLID ALUM. TO #6 SOLID CU.
25	1	PHOTO CELL, 240V

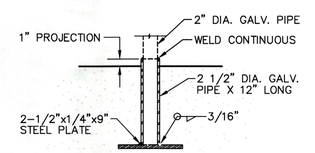
* MUST MEET OCCIDENTAL COATING CO. SPECS.



POLE LOCATION DETAIL
SCALE: 1" = 5'-0"



(BUTT GROUNDING)
DISTRIBUTION DETAIL
SCALE: 1" = 2'-0"



POST SLEEVE DETAIL
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS
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DATE	REVISIONS	BY

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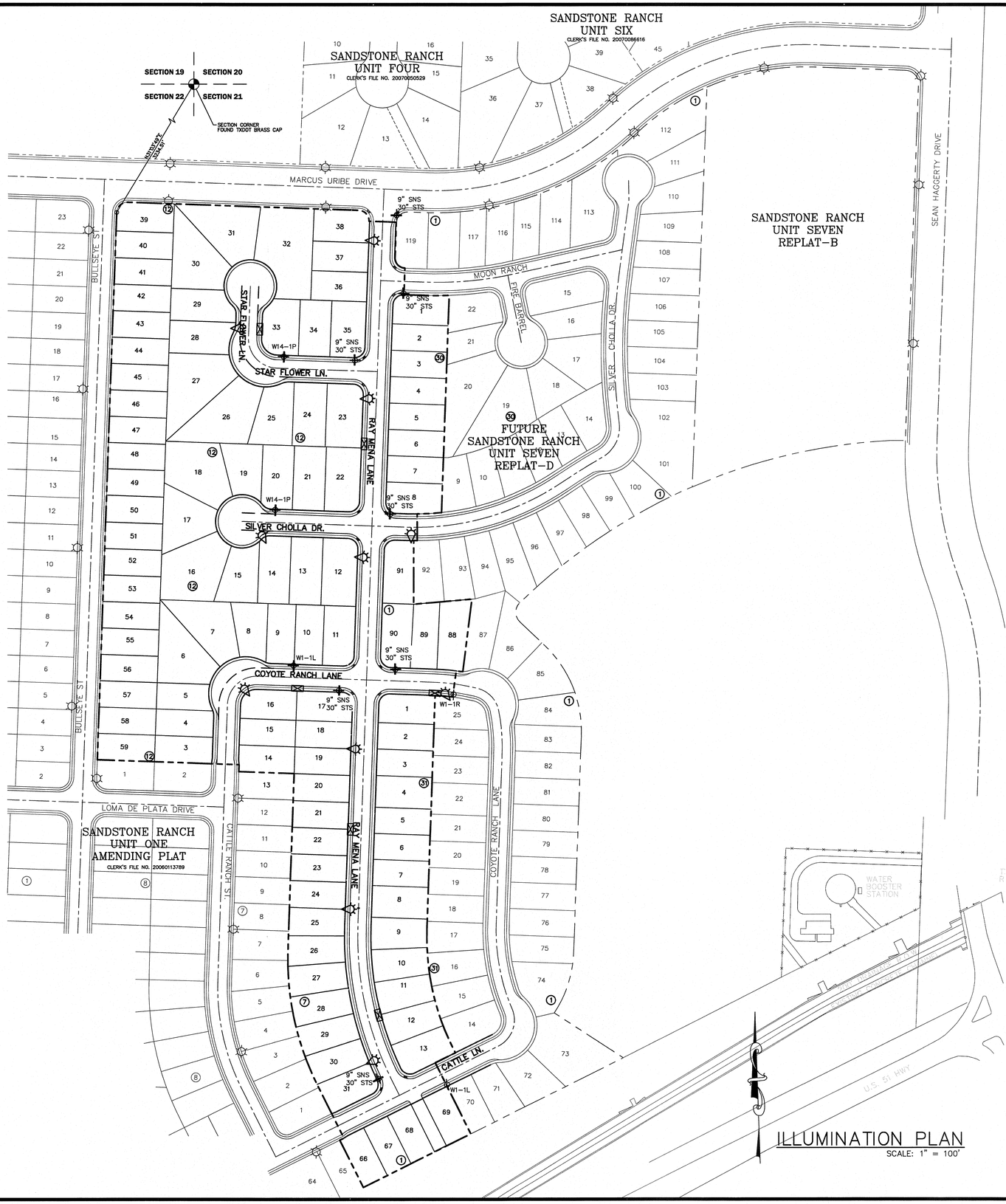
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.H.
APPD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION PLAN

SHEET NO.
33
OF 36



ILLUMINATION PLAN
SCALE: 1" = 100'

GENERAL NOTES:

1. A MINIMUM 3' CLEARANCE SHALL BE PROVIDED ON THE SIDEWALK AFTER THE LIGHT POLES & FIRE HYDRANTS ARE PLACED. SIDEWALK SHALL COMPLY WITH A.D.A AND T.D.L.R. STANDARDS.
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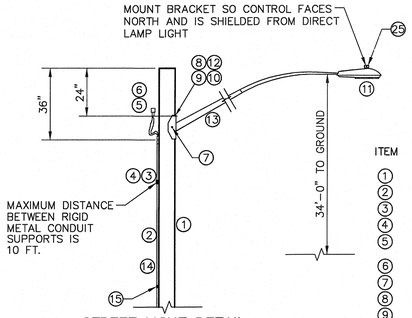
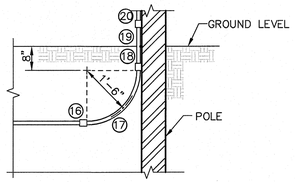
- W14-1P DEAD END SIGN
- PROPOSED N.D.B.C.U. MAIL BOX



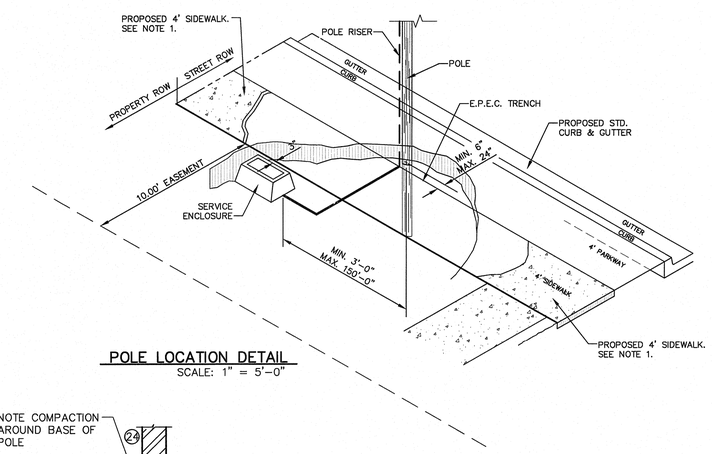
STREET LIGHT DETAIL
SCALE: 1" = 3'-0"



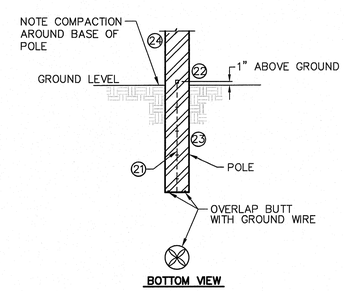
POLE RISER DETAIL
SCALE: 1" = 2'-0"

ITEM	QTY.	DESCRIPTION
1	1	POLE, PENTA TREATED PINE 40' CLASS III
2	27	1/2" RIGID GALVANIZED STEEL CONDUIT
3	4	TWO HOLE STEEL PIPE STRAP FOR 1/2" CONDUIT
4	8	1/4" x 1" LAG BOLT
5	1	PHOTO CELL RECEPTACLE WITH 1/2" THREADED BASE AND MOUNTING BRACKET
6	1	PHOTO CELL 240V.
7	4	1/2" x 4" LAG BOLT
8	1	WASHER, SQ. GALV. 2-1/4" x 2-1/4"
9	1	MACHINE BOLT 5/8" x 8"
10	1	LOCKNUT 5/8"
11	1	LUMINARE 100W H.P.S.
12	1	WASHER, COIL SPRING 5/8"
13	1	STEEL LUMINAIRE SUPPORT (10' OR 8') UNION METAL MANUF. CO. DESIGN 348 OR EQUIVALENT
14	2	#12 COPPER WIRES WITH THW INSULATION
15	1	GROUND CLAMP FOR 1/2" RIGID CONDUIT
16	1	1/2" SCHEDULE 40 PVC COUPLING
17	1	1/2" SCHEDULE 40 PVC 18" RADIAL BEND
18	1	1/2" SCHEDULE 40 PVC FEMALE ADAPTER
*19	1	1/2" x 8" PVC COATED RIGID STEEL CONDUIT NIPPLE
*20	1	1/2" PVC COATED RIGID STEEL COUPLING
21		COPPER WIRE, #6 BARE SOLID HARD DRAWN
22		ALUMINUM WIRE, #4 BARE SOLID HARD DRAWN
23		1/2# STAPLE, GALV. 1-1/2" NO. 9
24	1	SPLICE, #4 SOLID ALUM. TO #6 SOLID CU.
25	1	PHOTO CELL, 240V

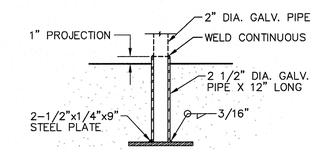
* MUST MEET OCCIDENTAL COATING CO. SPECS.



POLE LOCATION DETAIL
SCALE: 1" = 5'-0"



(BUTT GROUNDING)
DISTRIBUTION DETAIL
SCALE: 1" = 2'-0"



POST SLEEVE DETAIL
SCALE: 1" = 1'-0"

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22: ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION PLAN

SHEET NO.
33
OF 36

SITE DESCRIPTION

PROJECT NAME AND LIMITS: SANDSTONE RANCH UNIT SEVEN REPLAT-C
THE PROJECT IS BORDERED BY SANDSTONE RANCH UNIT FOUR, AND SIX TO THE NORTH, SANDSTONE RANCH UNIT ONE, AND TWO TO THE WEST, SANDSTONE RANCH UNIT FIVE TO THE EAST, AND THE WESTERN FREEWAY CHANNEL TO THE SOUTH

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 19.519± ACRES, AND WILL CONTAIN 104 RESIDENTIAL LOTS

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

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

TOTAL PROJECT AREA: 19.544± A.C.

TOTAL AREA TO BE DISTURBED: 19.544-± A.C.

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.67

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: IGNEOUS ROCK LAND-LIMESTONE ROCK LAND ASSOCIATION: VERY STEEP AREAS OF IGNEOUS AND LIMESTONE ROCKS AND STONY SOILS; IN THE FRANKLIN MOUNTAINS

NAME OF RECEIVING WATERS: STORM RUNOFF FROM THE NEW SUBDIVISION WILL BE CONVEYED BY STREET SHEET FLOW TO ULTIMATELY BE DISCHARGED TO THE WESTERN FREEWAY CHANNEL.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER:

STRUCTURAL PRACTICES:

- X SILT FENCES
- X EARTHEN BERMS
- ____ ROCK BERMS
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ____ DIVERSION DIKE AND SWALE COMBINATION
- ____ PIPE SLOPE DRAINS
- ____ CONCRETE FLUMES
- X ROCK BEDDING AT CONSTRUCTION EXIT
- ____ TIMBER MATTING AT CONSTRUCTION EXIT
- ____ CHANNEL LINERS
- ____ SEDIMENT TRAPS
- ____ SEDIMENT BASINS
- ____ STORM INLET SEDIMENT TRAP
- ____ STONE OUTLET STRUCTURES
- X CURBS AND GUTTERS
- X 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. REFER TO DRAINAGE PLAN SHEET 5, FOR ADDITIONAL INFORMATION ON WATERSHED AREAS AND RUNOFF QUANTITIES (Q).
6. THE FOLLOWING HAVE BEEN IDENTIFIED AS POTENTIAL CONTAMINATION SOURCES: CLEARED AND GRADED AREAS; CONSTRUCTION SITE ENTRANCE AND ASPHALT PARKING AREA CONSTRUCTION; ASPHALT LOADING/UNLOADING AREAS; CONCRETE LOADING/UNLOADING AREAS; AND, ALL UNDISTURBED AREAS.
7. THE FOLLOWING IS A LIST OF POTENTIAL CONSTRUCTION SITE STORM WATER POLLUTANTS: ASPHALT; CONCRETE; GLUE/ADHESIVE; PAINTS; CURING COMPOUNDS; WASTEWATER FROM CONSTRUCTION EQUIPMENT WASHING; HYDRAULIC OIL/FLUIDS; GASOLINE; DIESEL FUEL; KEROSENE; ANTIFREEZE/COOLANT; AND EROSION.

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

ALL WASTE MATERIALS, INCLUDING CONSTRUCTION DEBRIS, SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. NO CONSTRUCTION WASTE MATERIAL SHALL BE BURIED ON SITE. THE TRANSIT DUMPSTER SHALL COMPLY WITH ORDINANCE 18.52.010 (ENCLOSURE AND REMOVAL OF WASTE MATERIALS DURING CONSTRUCTION). THE DUMPSTER SHALL BE EMPTIED AS NECESSARY OR AS REQUIRED BY ORDINANCE 9.04 (SOLID WASTE MANAGEMENT) AND THE TRASH SHALL BE HAULED TO A LICENSED LANDFILL.

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

V. GOOD HOUSEKEEPING:

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

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

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

VII. PETROLEUM PRODUCTS:

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

VIII. SPILL CONTROL PRACTICES:

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

IX. MAINTENANCE AND INSPECTION PROCEDURES:

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

X. REMARKS:

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

XI. OFFSITE VEHICLE TRACKING:

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

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

XII. REFER TO SWPPP REPORT FOR ADDITIONAL INFORMATION

SUSP #: 11-00082
SUSP DATE: 05-26-11

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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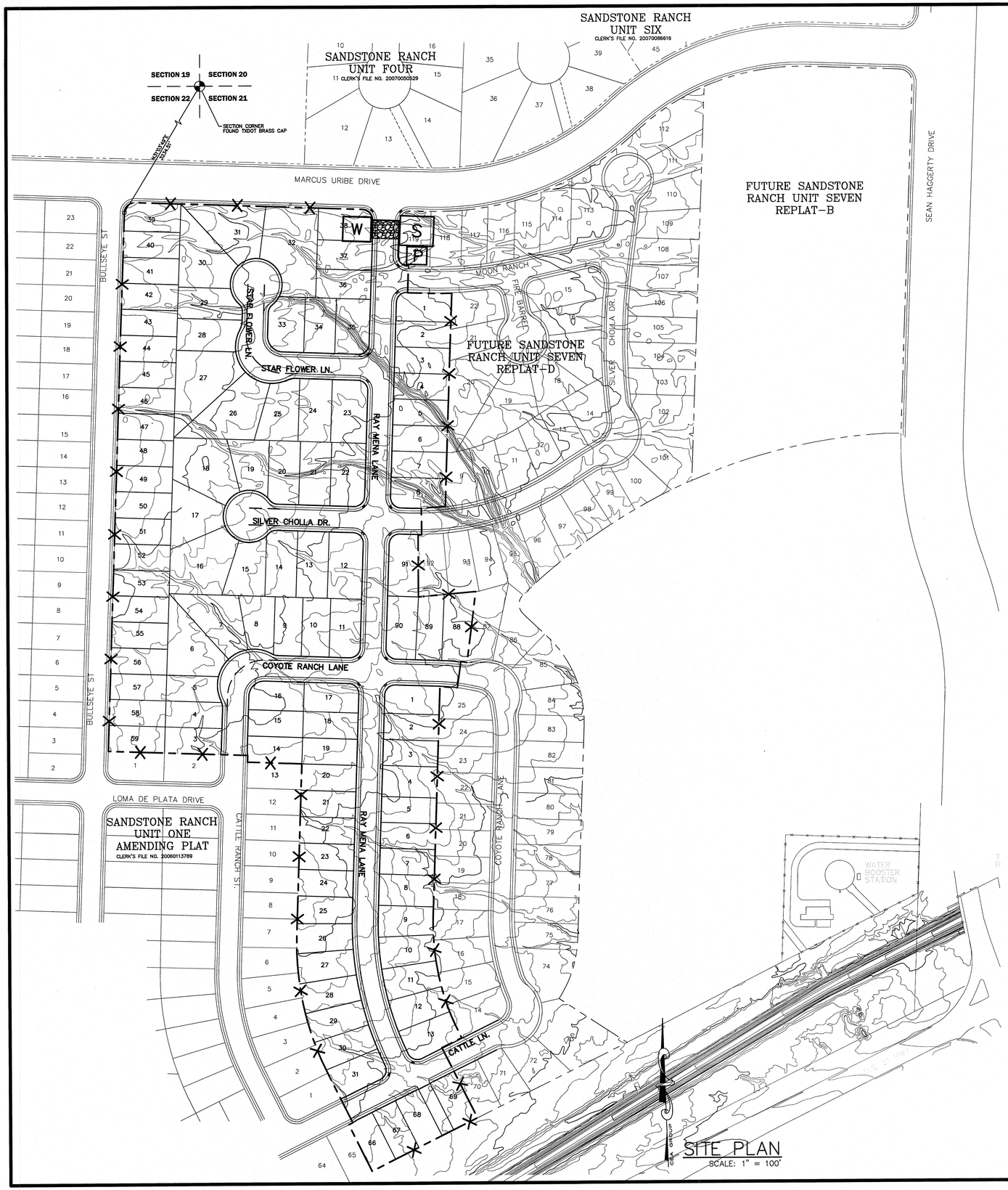
86075

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: APRIL 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES

SHEET NO.
34
OF 36



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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

LEGEND

—X—X— SILT FENCE OR EARTHERN BERM

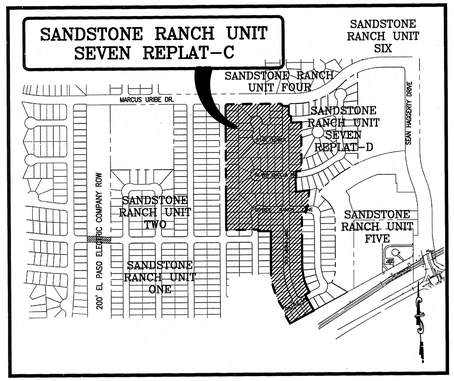
STABILIZED CONSTRUCTION ENTRANCE

S STAGING AREA

P PORTABLE TOILETS

W WASHOUT SITE

LOCATION MAP SCALE: 1" = 600'



SUSP #: 11-00082
SDPCP DATE: 05-26-11

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

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PROFESSIONAL ENGINEER

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Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN

SHEET NO.

35

OF 36

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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CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

ROCK FILTER DAM USAGE GUIDELINES

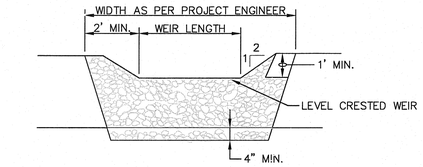
ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED T FILTER A MAXIMUM FLOW THROUGH RATE OF 60gpm/ft² OF CROSS SECTIONAL AREA. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 (18" HIGH WITH NO WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED T CONTROL EROSION FROM DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8ft/sec OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.

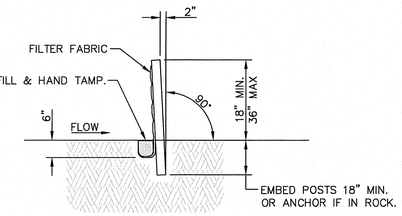
TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

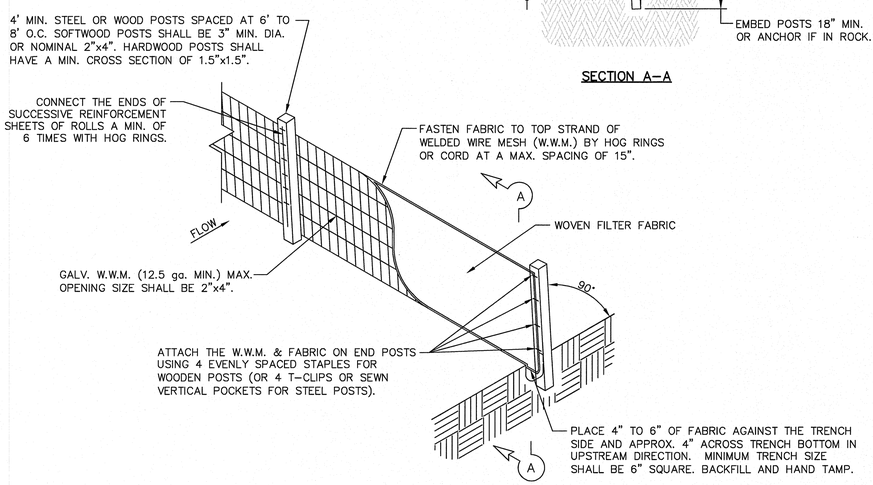
TYPE 4 (SACK GABIONS): TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.



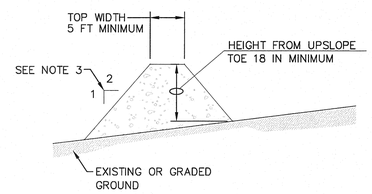
PROFILE



SECTION A-A



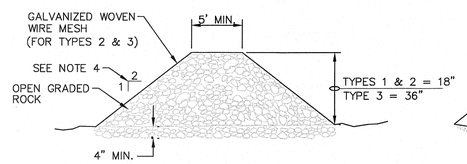
TEMPORARY SEDIMENT CONTROL FENCE



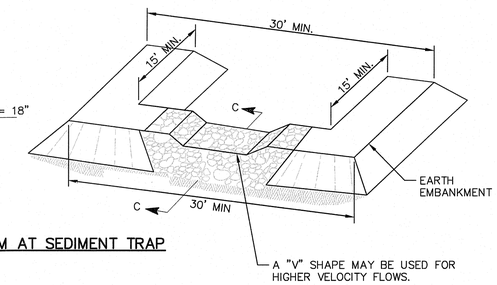
GENERAL NOTES:

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 HERON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

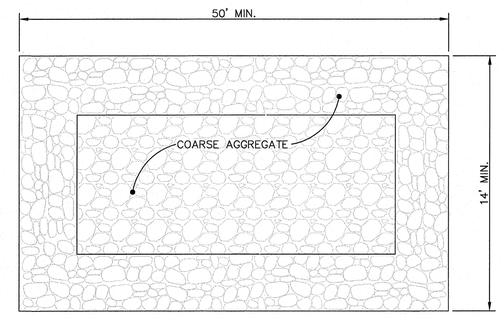
TYPICAL BERM CONFIGURATION



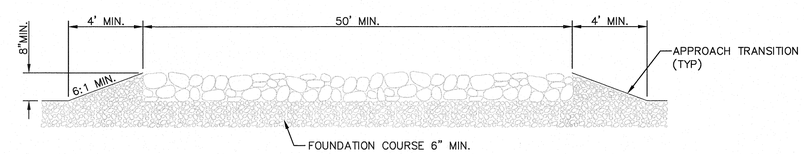
SECTION C-C



FILTER DAM AT SEDIMENT TRAP



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)

REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.0202 Fax: 915.544.5203 www.ceagroup.net

ENGINEER'S SEAL

STATE OF TEXAS
JORGE L. AZCARATE
86075
PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

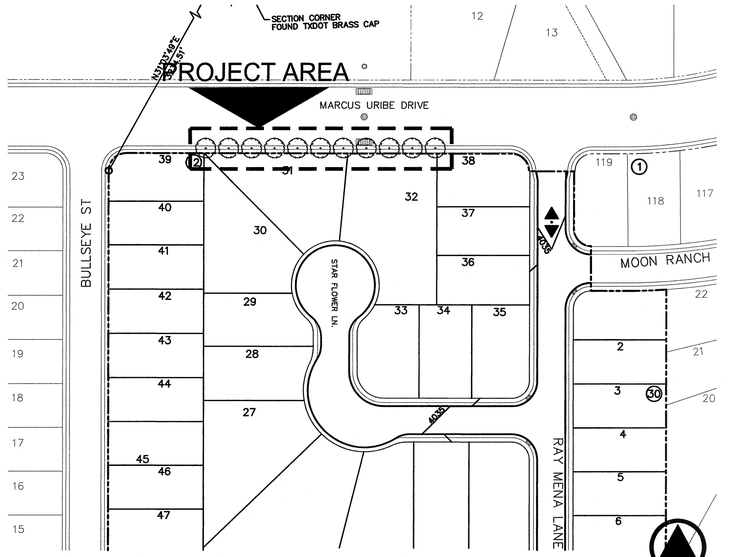
SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

SHEET NO.

36

OF 36



SITE LOCATION MAP

SCALE: 1" = 80'

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

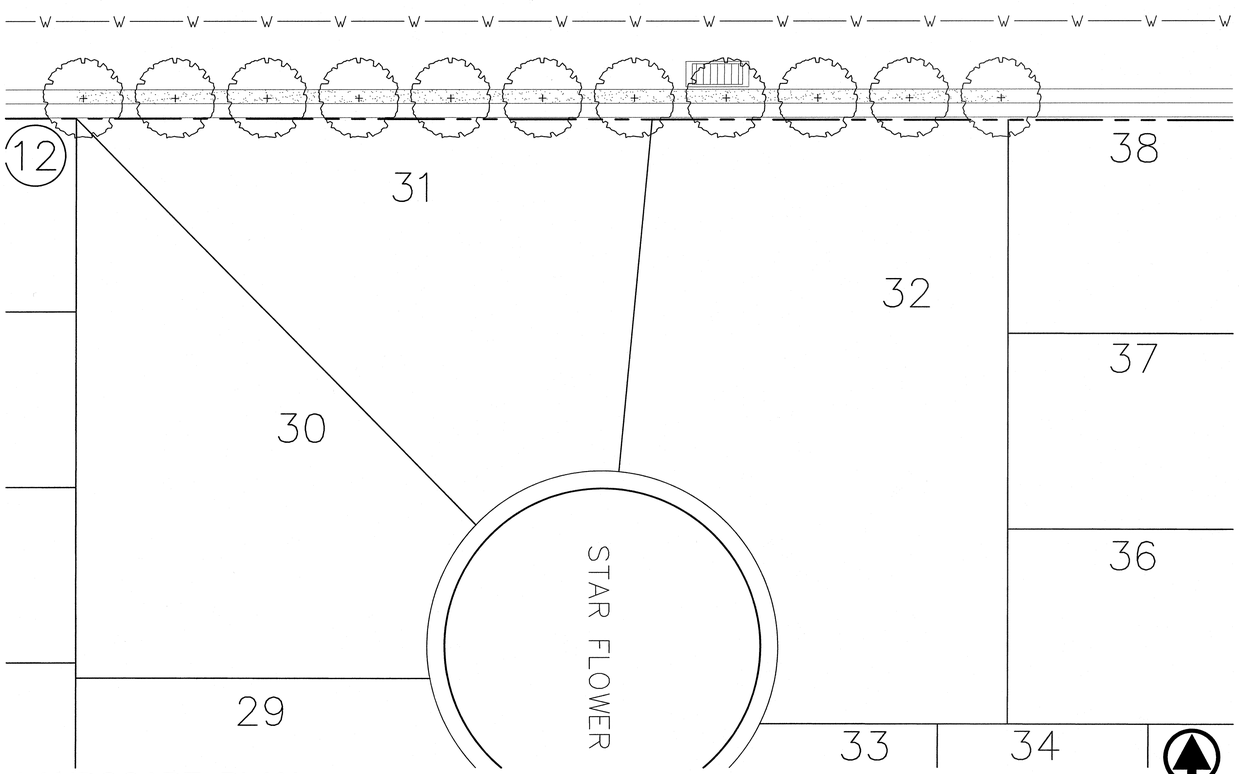
LANDSCAPE LEGEND

SYMBOL	COMMON NAME	BOTANICAL NAME	QTY
2" CALIPER TREE - 10' HEIGHT MINIMUM			
+	SOUTHERN LIVE OAK	QUERCUS VIRGINIANA	11
TURF, GRAVELS, & MULCHES			
	FRANKLIN RED 3/4" ROCK, 3" DEPTH W/ DEWITT PRO-5 WEED BARRIER		

LANDSCAPE NOTES

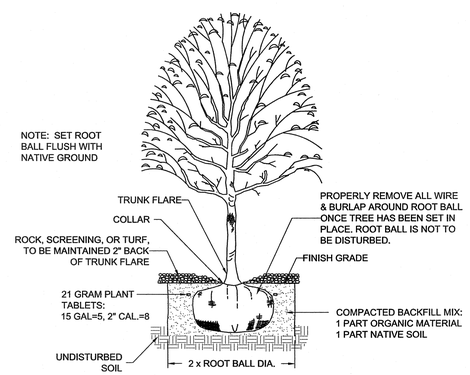
- ALL UTILITY EASEMENTS SHALL BE MARKED PRIOR TO EXCAVATION, AND PARTICULAR ATTENTION PAID TO TREE PLACEMENT WITHIN AND THROUGHOUT SITE.
- THERE SHALL BE NO STEEL EDGING BETWEEN ROCK TYPES.
- CONTRACTOR SHALL PROVIDE ROCK SAMPLES AND OBTAIN APPROVAL FROM OWNER PRIOR TO FINAL DELIVERY OF QUARRIED MATERIALS.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

MARCUS URIBE DRIVE



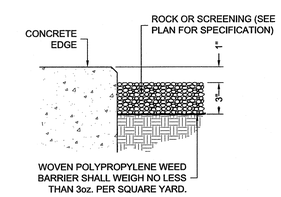
LANDSCAPE PLAN

SCALE: 1" = 20'



TREE PLANTING DETAIL

NOT TO SCALE



ROCK/SCREENING DETAIL

NOT TO SCALE

desert elements
LANDSCAPE DESIGN, LLC
1-3 ardovino drive, sunland park, new mexico 88063
DE-jennifer@elpu.rr.com • phone: 575.589.9100 • fax: 575.589.9104

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER 19, 20, 27 AND 28 ELEVATION: 4043.32 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cag group
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TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.cagroup.net

CONSULTANT'S SEAL

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: JULY 2011
DESIGN BY: CH
DRAWN BY: CH
CHKD. BY: JBA
APPVD. BY: XXX
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE

LANDSCAPE PLAN

SHEET NO.

L1.00

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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CITY OF EL PASO DEPARTMENT OF TRANSPORTATION. (EPDoT)	(915) 621-6750
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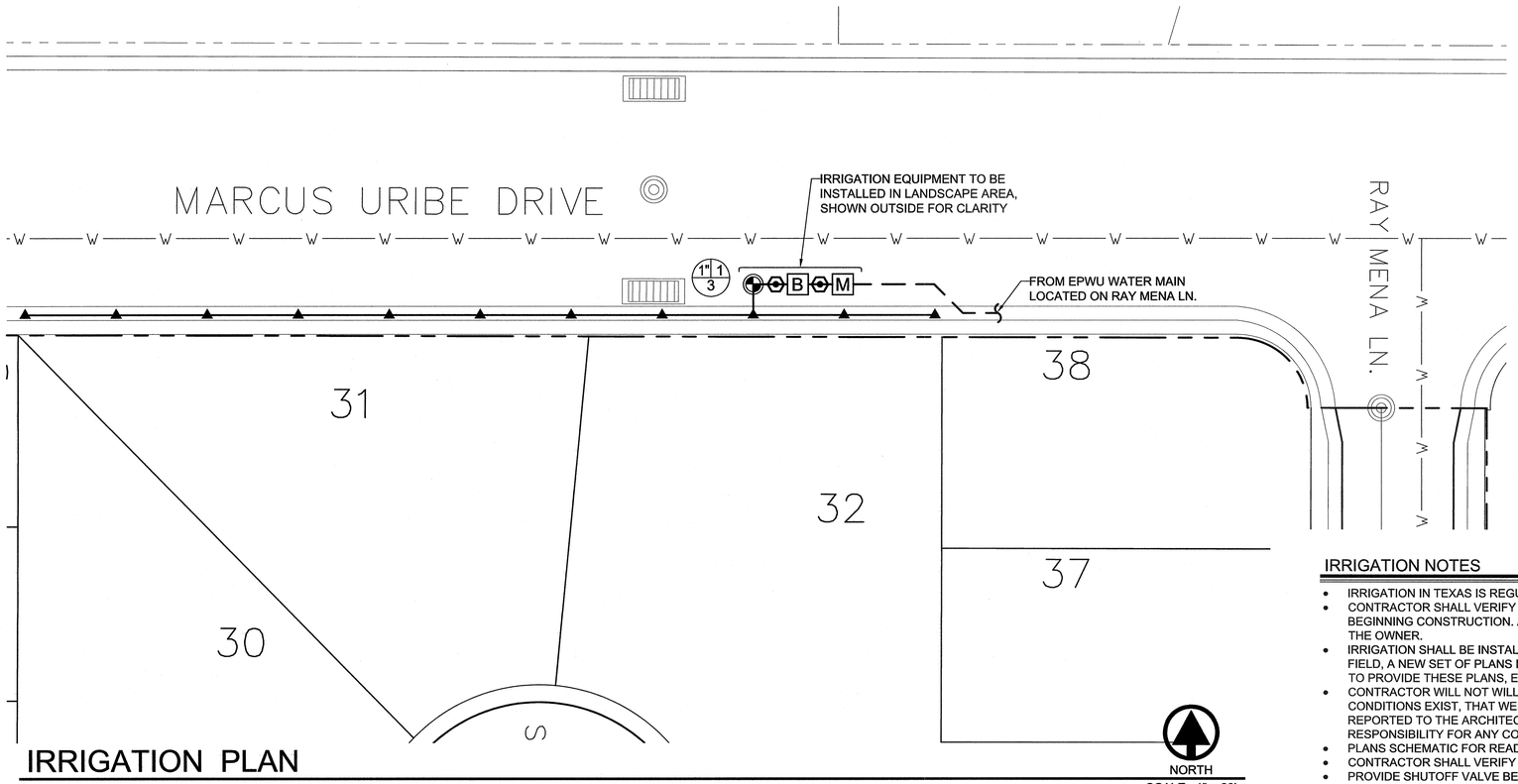


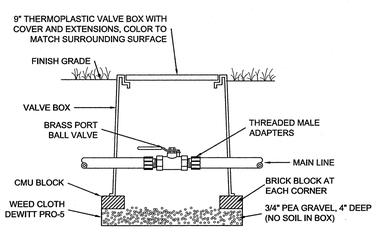
IRRIGATION PLAN

IRRIGATION LEGEND

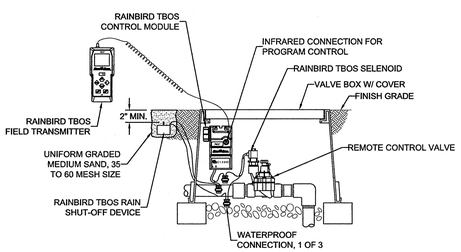
SYMBOL	ITEM
M	5/8" METER (BY OWNER)
B	3/4" FEBCO 850 DOUBLE CHECK VALVE BACKFLOW PREVENTER W/ 17"X30" REINFORCED CONCRETE BOX W/ SCREW DOWN STEEL CHECKER LID
	1" BRASS PORT VALVE
	1" REMOTE CONTROL VALVE, RAINBIRD 100-PESB W/ AMIAD Y FILTER AFTER THE VALVE RAIN BIRD TBOS CONTROLLER/ WITH POTTED LATCHING SOLENOID & TBOS FIELD TRANSMITTER (SEE DETAIL FOR INSTALLATION)
	MAINLINE - 1" SCHED. 40 PVC
	PVC SLEEVE - 2 SIZES LARGER THAN LATERAL OR MAIN
	LATERAL LINE - SCHED. 40 PVC - 1" UNLESS OTHERWISE INDICATED
▲	RAINBIRD XERI-BIRD 8 MULTI-OUTLET EMISSION DEVICE RAINBIRD XB-20 DRIP EMITTERS - 8 PER TREE
A B C	A) STATION NUMBER B) SIZE OF VALVE IN INCHES C) TOTAL GPM

IRRIGATION NOTES

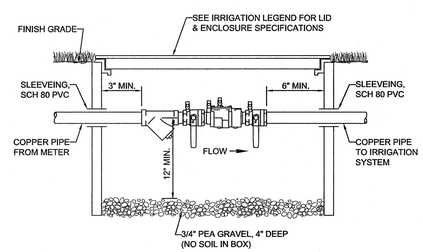
- IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13067, AUSTIN, TX 78711.
- CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING AND PROPOSED UTILITIES AND ALL SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- IRRIGATION SHALL BE INSTALLED ACCORDING TO PLANS, DETAILS, AND SPECIFICATIONS. SHOULD CHANGES BE IMPLEMENTED IN THE FIELD, A NEW SET OF PLANS IS REQUIRED TO BE SUBMITTED TO THE CITY OF EL PASO. LANDSCAPE DESIGNER IS NOT UNDER CONTRACT TO PROVIDE THESE PLANS, EXCEPT AS PROVIDED FOR IN ORIGINAL CONTRACT.
- CONTRACTOR WILL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM IRRIGATION SYSTEM AS DESIGNED, WHEN IT IS OBVIOUS THAT FIELD CONDITIONS EXIST, THAT WERE NOT CONSIDERED AT TIME OF DESIGNING THE SYSTEM. ANY CONDITIONS NOTED AS SUCH, SHALL BE REPORTED TO THE ARCHITECT AND IRRIGATION DESIGNER. IF THE CONTRACTOR FAILS TO DO SO, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY CORRECTIONS NEEDED.
- PLANS SCHEMATIC FOR READABILITY. CONTRACTOR TO ADJUST AS NECESSARY TO FIT SITE.
- CONTRACTOR SHALL VERIFY STATIC PRESSURE AT METER MEETS SYSTEM NEEDS. LICENSED IRRIGATOR TO AMEND AS NECESSARY.
- PROVIDE SHUTOFF VALVE BETWEEN METER AND BACKFLOW.
- CONTROL VALVE SHALL BE PROVIDED TO MAINLINE AFTER BACKFLOW
- CONTRACTOR IS RESPONSIBLE FOR CONNECTING AUTOMATIC CONTROLLER TO ELECTRICITY.
- 14 GA. SOLID COPPER WIRE (PVC INSULATED AND UL APPROVED) SHALL RUN FROM CONTROLLER TO VALVES. COMMON WIRE TO BE 12GA.
- ALL CONTROL WIRING FROM THE VALVES TO THE CONTROLLER MUST BE INSTALLED IN A 1" PVC CONDUIT PIPE IF BURIED BENEATH CONCRETE OR ASPHALT SURFACES.
- LOCATE VALVES AWAY FROM LOW SPOTS OR AREAS OF DRAINAGE FLOW.
- VALVE CAPS SHALL MATCH COLOR OF SURROUNDING MATERIAL, AS CLOSELY AS POSSIBLE.
- ALL MAINLINES SHALL BE BURIED MIN. 18", ALL LATERALS 12".
- MAINTAIN 4" MINIMUM CLEARANCE BETWEEN PIPE RUNNING IN THE SAME TRENCH. CONTROL WIRE SHALL ALWAYS BE TO THE SIDE AND BELOW THE TOP OF THE PIPE RUNNING IN THE SAME TRENCH.
- POLYETHYLENE TUBING TO BE PLACED UNDER WEED BARRIER FABRIC. MICROTUBING TO BE STAKED.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH AS-BUILT DRAWINGS ON MYLAR PRIOR TO APPROVAL OF FINAL PAYMENT.
- ALL PIPING/WIRING RUNNING BENEATH PAVED SURFACES (DRIVES, SIDEWALKS, ETC.) SHALL BE INSTALLED IN SCH 40 PVC SLEEVES. SLEEVES SHALL BE OF THE SIZE SO THAT THE INSIDE DIAMETER OF THE SLEEVE IS 3 TIMES GREATER THAN THAT OF THE COMBINED OUTER DIAMETER OF ALL ITEMS INSTALLED IN THE SLEEVES.
- PEA GRAVEL SHALL BE INSTALLED AT THE BASE OF ALL VALVE BOXES, WITH A CLEARANCE OF MIN. 2" BETWEEN VALVE AND TOP OF GRAVEL.



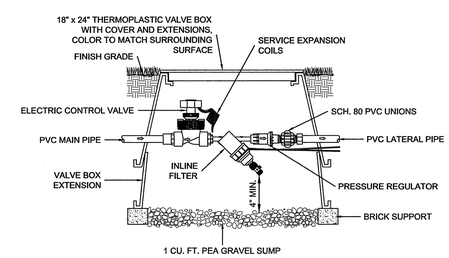
ISOLATION VALVE DETAIL
NOT TO SCALE



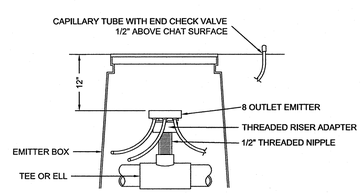
TBOS BATTERY OPERATED CONTROLLER W/ TRANSMITTER
NOT TO SCALE



DOUBLE CHECK ASSY. FEBCO Mo.850
NOT TO SCALE

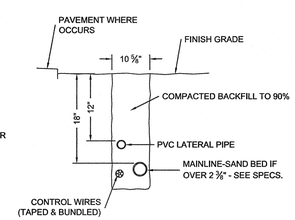


REMOTE CONTROL VALVE, PRESSURE REGULATOR & FILTER
NOT TO SCALE



NOTE: NO PVC PIPE WITH CAP ACCEPTED FOR EMITTER BOX

DRIP EMITTER DETAIL
NOT TO SCALE



TRENCHING DETAIL
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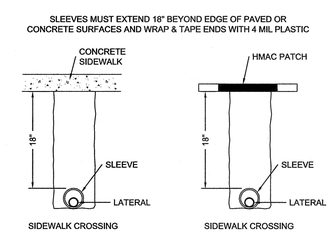
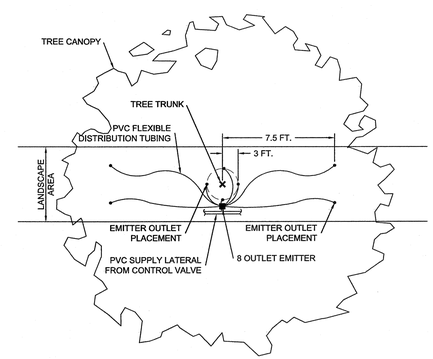


SLEEVING STANDARD DETAIL
NOT TO SCALE



EMITTER OUTLET PLACEMENT DETAIL
NOT TO SCALE

desert elements
LANDSCAPE DESIGN, LLC
1-3 ardovino drive, sunland park, new mexico 88063
DE-jennifer@zlp.rr.com • phone: 575.589.9100 • fax: 575.589.9104

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 5, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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

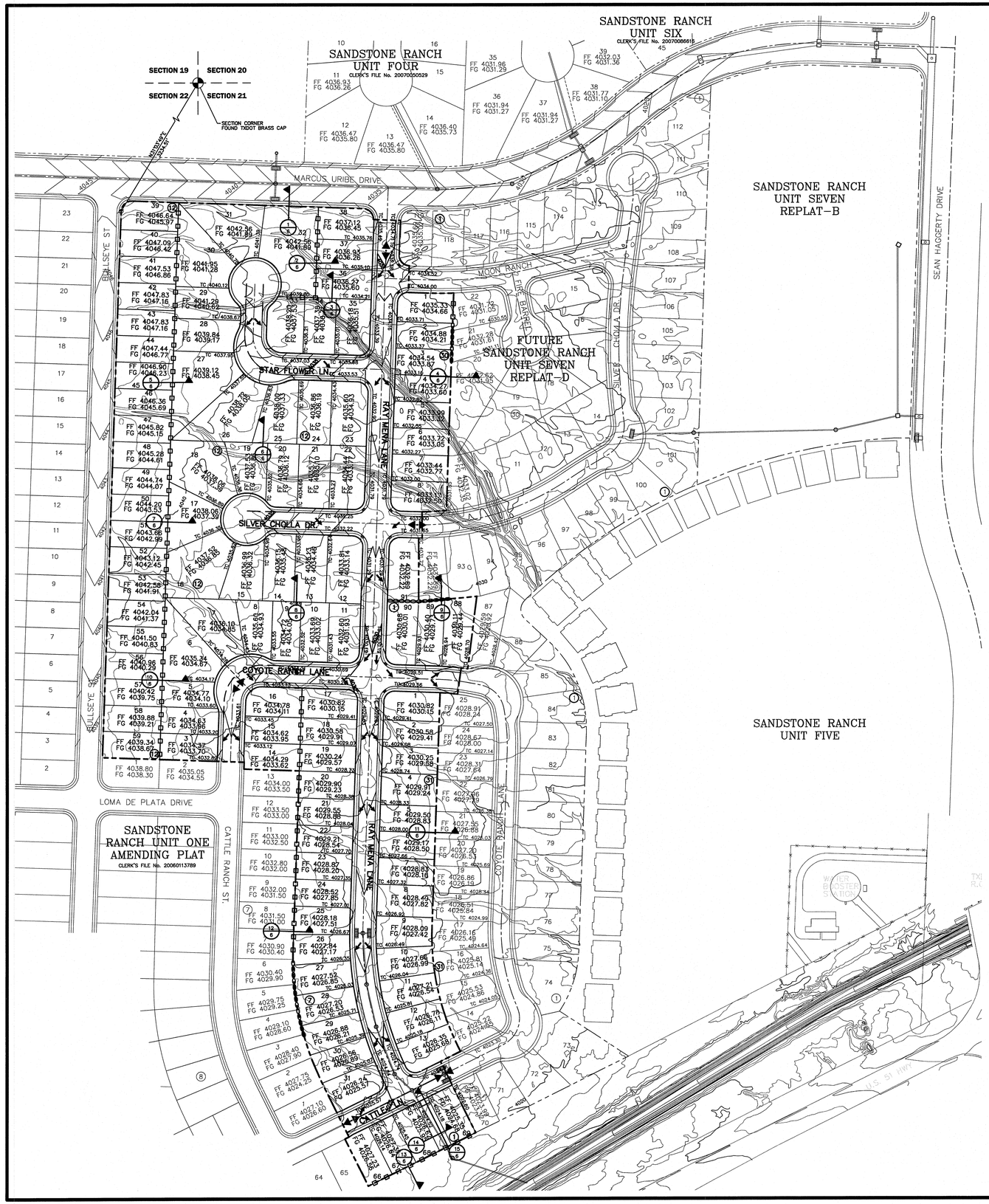
CONSULTANT'S SEAL
STATE OF TEXAS
CARLOS HOLGUIN
15807
07/01/11
LICENSED LANDSCAPE ARCHITECT

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: JULY 2011
DESIGN BY: CH
DRAWN BY: CH
CHKD. BY: JBA
APPVD. BY: XXX
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
IRRIGATION PLAN

SHEET NO.
L2.00



UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

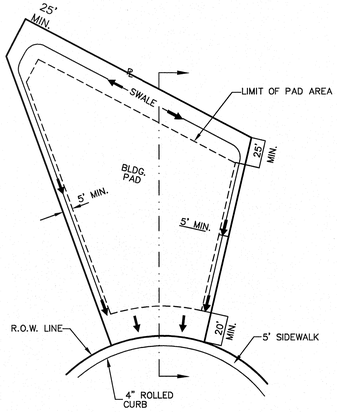
WARNING !
BEFORE YOU DIG
CALL
1-800-DIG-TESS
1-800-344-8377
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

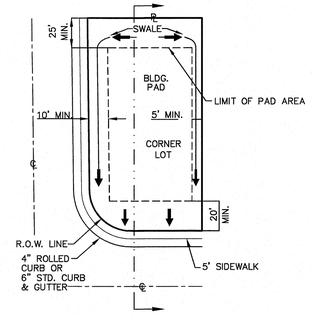
- EXISTING RETAINING WALL
- NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
- 5' X 5' WHEELCHAIR PASSING
- EXISTING MINOR CONTOUR
- 4075 EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 4075 PROPOSED MAJOR CONTOUR

NOTES:

1. RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2-FEET.
2. DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
3. IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU's, SIGNS, POLES, FIRE HYDRANTS, ETC.).
4. IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A. STANDARDS.
5. U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS.
6. EXISTING PAVEMENT SHALL BE DEMOLISHED TO THE CURB RETURNS. CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO NOT DAMAGE ADJACENT PROPERTY. ANY DAMAGE SHALL BE REPAIRED AT ORIGINAL OR BETTER CONDITION AT CONTRACTOR'S EXPENSE.
7. ALL WHEELCHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
8. RETAINING ROCKWALLS (PORTIONS) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
9. CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL NOT BE PERMITTED.



TYPICAL LOT DETAILS
SCALE: NTS



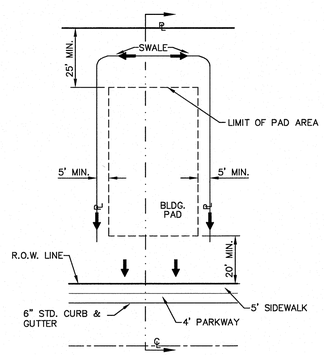
TYPICAL LOT DETAILS
SCALE: NTS

BENCHMARK:

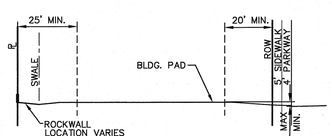
FOUND TXDOT BRASS CAP SECTION CORNERS 19, 20, 22 AND 21. ELEVATION: 4033.22 (NVGD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM)

FLOOD ZONE:

THIS SUBDIVISION LIES WITHIN ZONE "C", AS DESIGNATED IN PANEL NO. 480214-0014 D, DATED AUGUST 5, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING.



PLAN



SECTION

TYPICAL LOT PLAN
SCALE: 1" = 30'

NOTES:

1. 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)

GRADING PLAN
SCALE: 1" = 100'

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

CEA GROUP
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TEXAS REGISTERED ENGINEERING FIRM F-4084
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

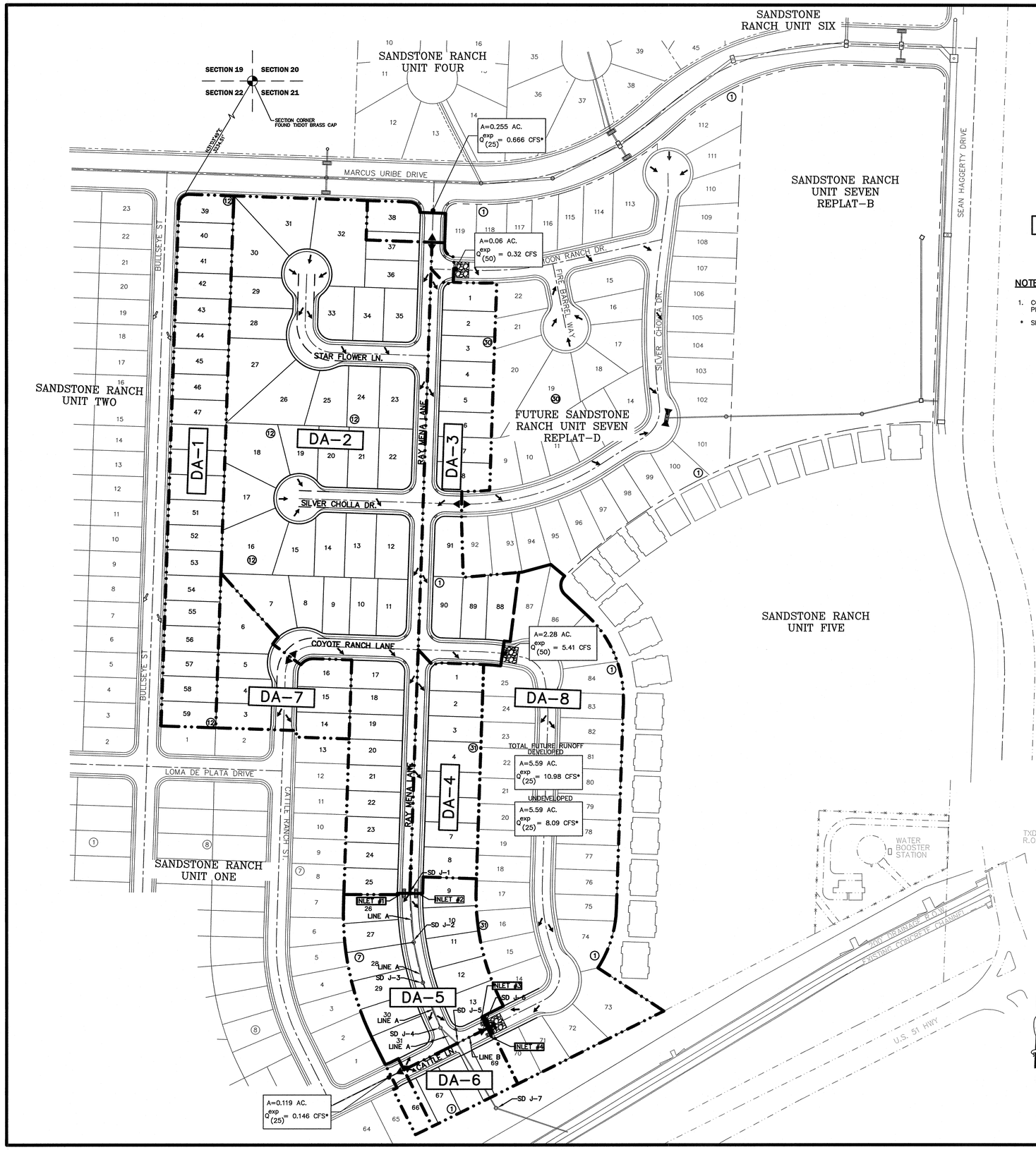
ENGINEER'S SEAL
JORGE L. AZCARATE
85075
CONSTITUTIONAL
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING PLAN

SHEET NO.
4
OF 36



LEGEND:

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- DROP INLET
- STORM DRAIN MANHOLE
- RCP
- THRUST BLOCK STRUCTURE
- DA-1 — DRAINAGE AREA
- TEMPORARY SILT BASIN ENTRANCE

NOTES:

1. CONCENTRATED RUNOFF OVER UNPROTECTED SLOPES SHALL NOT BE PERMITTED.

* SHOWN FOR INFORMATION ONLY.

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

WARNING ! BEFORE YOU DIG

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

50 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I50) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (7)
DA-1	2.63	3.71	22.57	0.60	5.85
DA-2	9.18	3.22	28.42	0.66	19.70
DA-3	2.30	3.42	25.85	0.69	5.41
DA-4	1.30	3.57	24.10	0.66	3.08
DA-5	1.96	3.67	23.00	0.69	4.82
DA-6	0.58	3.99	19.90	0.66	1.52
DA-7	1.18	3.65	23.20	0.65	2.80
DA-8	5.59	3.65	23.24	0.66	13.45

* Q50 IS BASED ON DEVELOPED RUNOFF

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 = 0.50 (≥ 6,000 SQ.FT.)
= 0.60 (< 6,000 SQ.FT.)
PAVEMENT AREA = 0.90

(6) $Q_{50} = C \times A \times I_{50}$

25 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (I25) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q25 (CFS) (6)
DA-1	2.63	3.03	22.57	0.60	4.77
DA-2	9.18	2.65	28.42	0.67	16.22
DA-3	2.30	2.80	25.85	0.69	4.44
DA-4	1.30	2.92	24.10	0.66	2.52
DA-5	1.96	3.00	23.00	0.67	3.93
DA-6	0.58	3.24	19.90	0.66	1.24
DA-7	1.18	2.98	23.20	0.65	2.28
DA-8	5.59	2.98	23.24	0.66	10.98

* Q25 IS BASED ON DEVELOPED RUNOFF

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

(1) WATERSHED AREA IDENTIFICATION

(2) AREA FROM DRAINAGE PLAN

(3) RAINFALL INTENSITY, 25 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 = 0.50 (≥ 6,000 SQ.FT.)
= 0.60 (< 6,000 SQ.FT.)
PAVEMENT AREA = 0.90

(6) $Q_{25} = C \times A \times I_{25}$

DROP INLETS

NO.	REQ. FLOW CAPACITY Q REQ (CFS)	AVAIL. FLOW CAPACITY Q AVAIL (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS (CFS)	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	11.39	14.237	0	0	3	I	ON-GRADE
2	11.39	14.237	0	0	3	I	ON-GRADE
3	12.60	19.267	0	0	2	I	SUMP
4	12.60	19.267	0	0	2	I	SUMP

MOMENTUM COMPUTATION

LOCATION @ INLET (1)	DEPTH (2)	VELOCITY (3)	PRODUCT NUMBER (4)
1	0.357	2.741	0.978
2	0.357	2.741	0.978
3	0.311	4.292	1.335
4	0.311	4.292	1.335

(1) LOCATION

(2) DEPTH

(3) VELOCITY

(4) PRODUCT NUMBER = DEPTH x VELOCITY

DRAINAGE PLAN

SCALE: 1" = 100'

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNER 19, 20, 21 AND 22. ELEVATION: 4033.23 (NAVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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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

ENGINEER'S SEAL

STATE OF TEXAS — JORGE L. ACCARATE — 85075 — LICENSED PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE PLAN

SHEET NO.

5

OF 36

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EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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(AFTER HOURS)	(915) 240-3220

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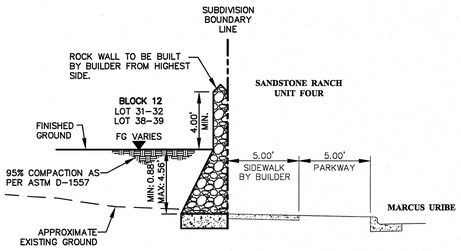
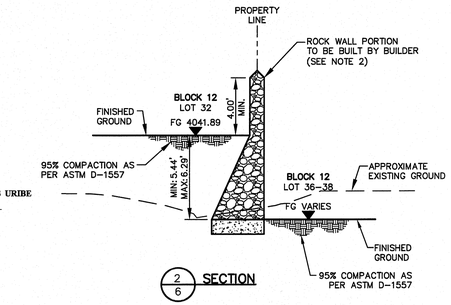
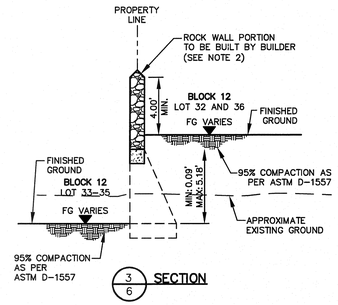


1/6 SECTION



2/6 SECTION



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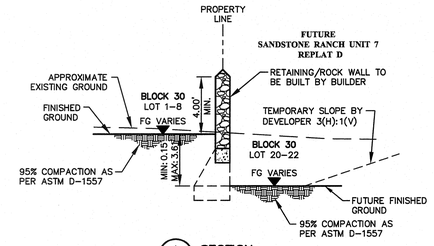

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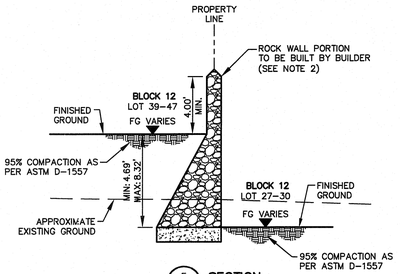

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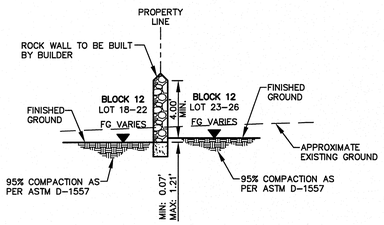
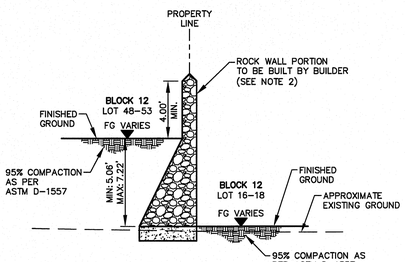
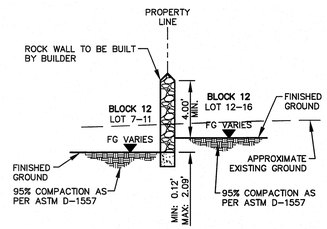


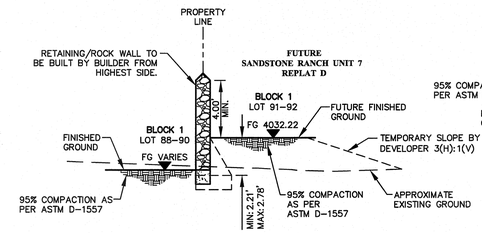
6/6 SECTION



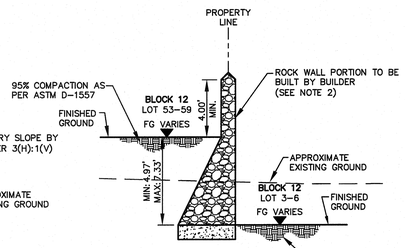
7/6 SECTION



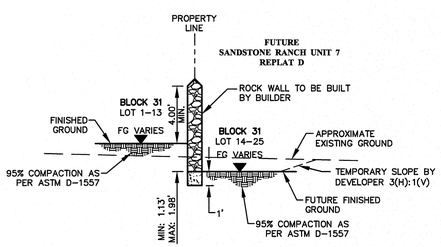
8/6 SECTION



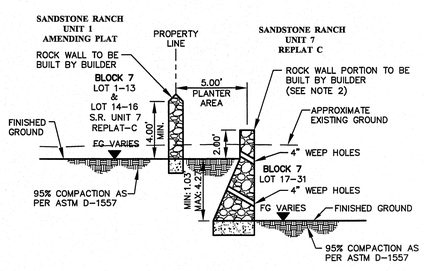
9/6 SECTION



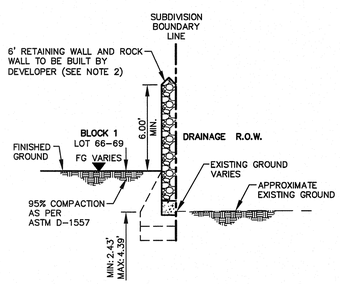
10/6 SECTION



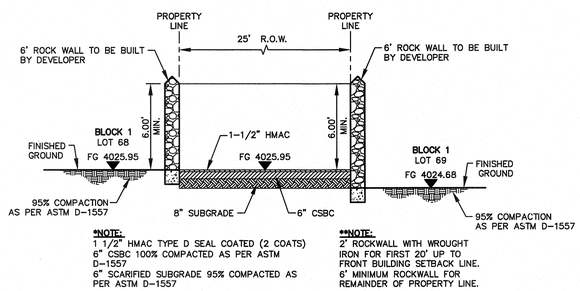
11/6 SECTION



12/6 SECTION



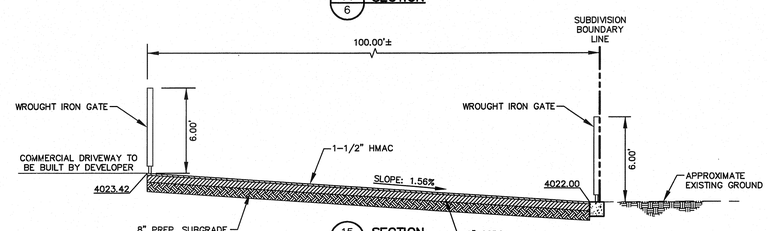
13/6 SECTION



*NOTE:
1 1/2" HMAC TYPE D SEAL COATED (2 COATS)
6" CSBC 100% COMPACTED AS PER ASTM D-1557
6" SCARIFIED SUBGRADE 95% COMPACTED AS PER ASTM D-1557

**NOTE:
2' ROCKWALL WITH WROUGHT IRON FOR FIRST 20' UP TO FRONT BUILDING SETBACK LINE.
6' MINIMUM ROCKWALL FOR REMAINDER OF PROPERTY LINE.

14/6 SECTION



15/6 SECTION

NOTES:

1. SIDEWALK ON ALL DOUBLE FRONTAGE LOTS SHALL BE BUILT BY BUILDER.
2. DEVELOPER IS RESPONSIBLE FOR CONSTRUCTING ALL RETAINING WALL (RETAINING PORTION ONLY) FOR RETAINING HEIGHTS OF 4 FEET OR HIGHER

REFERENCES - BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS, 60.0' ALONG ELEVATION: 4043.23' (NAVD 88) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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

ENGINEER'S SEAL

JORGE L. AZCARATE 85075

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPV'D. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

GRADING SECTIONS

SHEET 1 OF 2

SHEET NO.

6

OF 36

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
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CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
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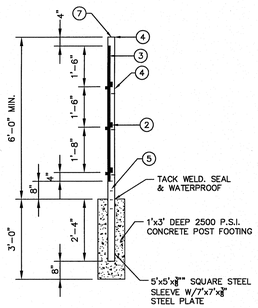
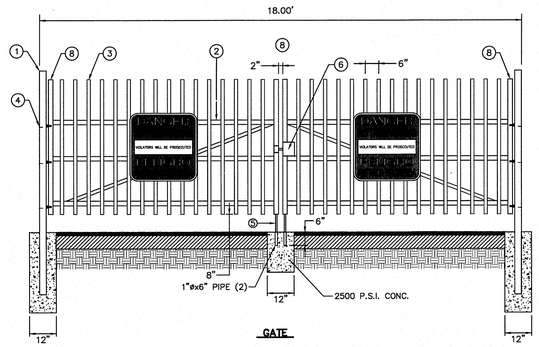


GATE POST

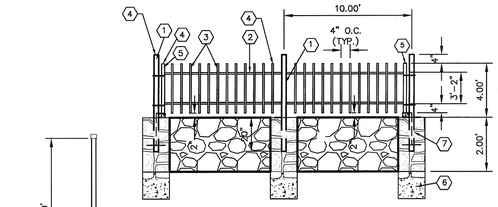


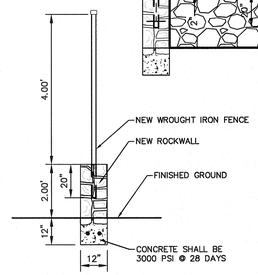
GATE

NOTES:

1. 3"x3"x3/16" SQUARE STEEL TUBING
2. 2"x1"x14 GA. RECTANGULAR STEEL TUBING
3. 1½"x½"x16 GA. RECTANGULAR STEEL TUBING
4. BOLT HOOK AND STRAP HINGE
5. CANE BOLT LATCH W/KEEPER 5-8"x18" LONG (2 REQUIRED)
6. DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
7. FLAT TOP POLYVINYL CAP
8. 2"x1"x10 GA. RECT. STL. TUBING

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





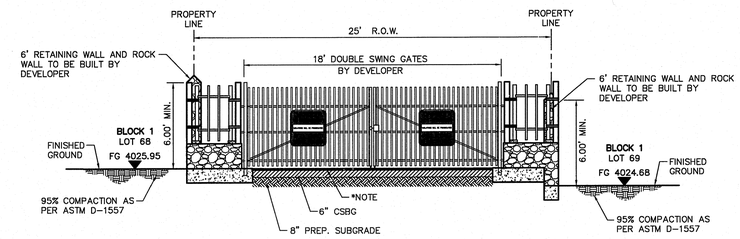
ROCKWALL SECTION
SCALE: 1/2"=1'-0"

KEY NOTES

1. 3"x3"x3/16" SQUARE STEEL TUBING
2. 2"x1"x14 GA. RECTANGULAR STEEL TUBING
3. 1½"x½"x16 GA. RECTANGULAR STEEL TUBING
4. STEEL CAPS TO BE COMPLETELY WELDED.
5. 2"x1"x10 GA. RECTANGULAR STEEL TUBING
6. 1'x1' DEEP 3000 PSI CONCRETE POST FOOTING
7. 5"x5"x3/8" SQUARE STEEL SLEEVE W/7"x7"x3/8" BASE PLATE

* ALL ASSEMBLY TO HAVE COMPLETE WELDS FOR RAILS AND SLATS ONTO EACH OTHER AND POST.

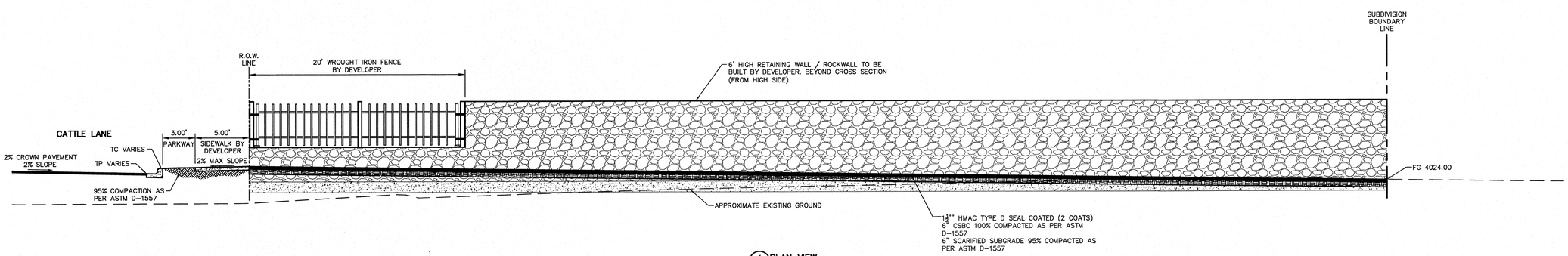
2/7 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS
SCALE: N.T.S.



***NOTE:**

1. 1½" HMAC TYPE D SEAL COATED (2 COATS)
   6" CSBC 100% COMPACTED AS PER ASTM D-1557
   6" SCARIFIED SUBGRADE 95% COMPACTED AS PER ASTM D-1557

3/7 FRONT VIEW
SCALE: N.T.S.



4/7 PLAN VIEW
SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22: ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
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TEXAS REGISTERED ENGINEERING FIRM F-4664
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5203 Fax: 915.544.5203 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. ACCARATE
86075
CERTIFIED ENGINEER
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A
DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN
REPLAT-C
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
SHEET 2 OF 2

SHEET NO.
7
OF 36

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
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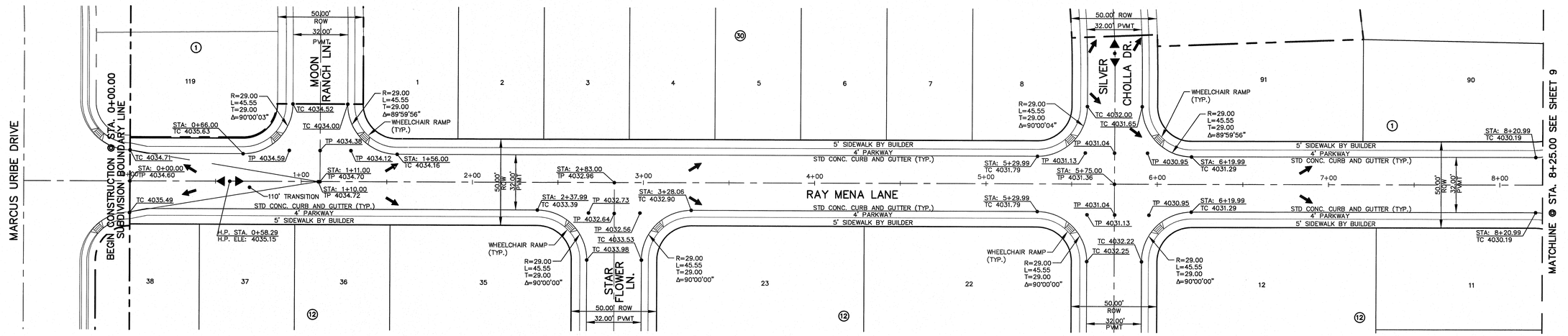
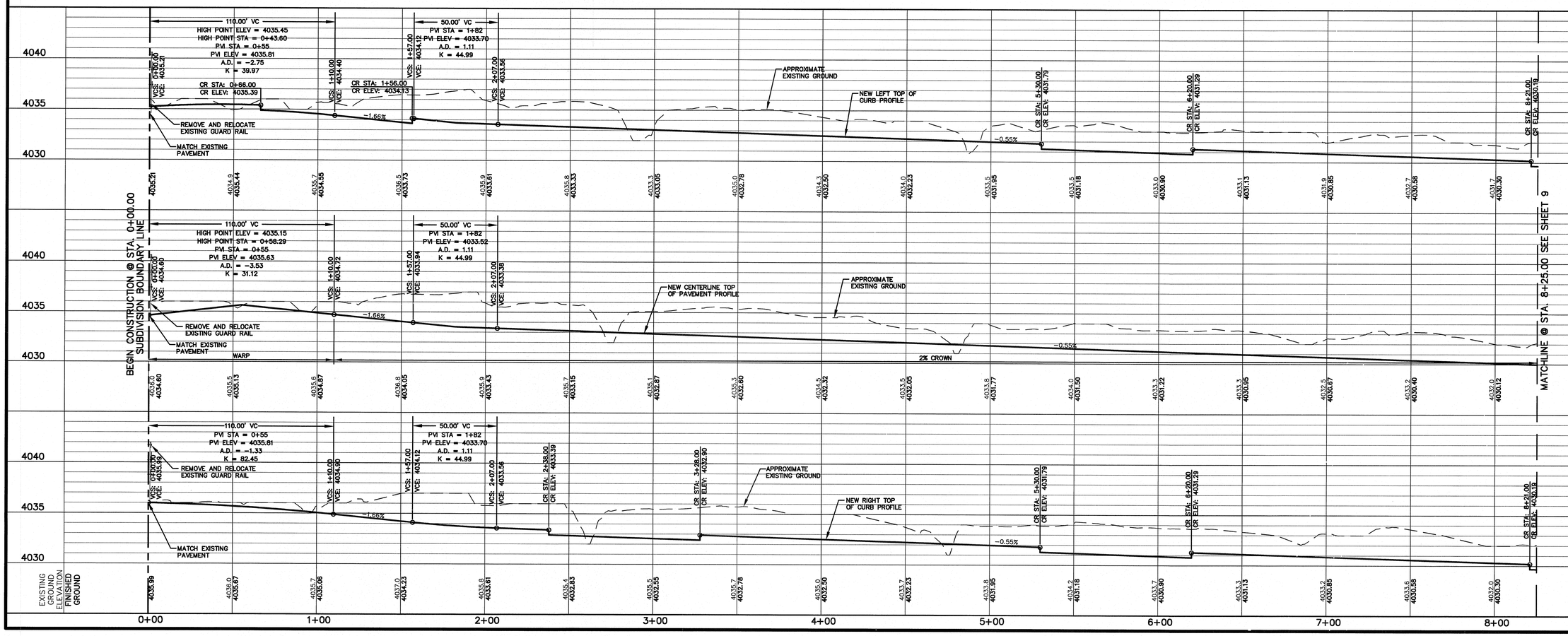


LEGEND:

WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



REFERENCES – BENCHMARKS

FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

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

ENGINEER'S SEAL

JORGE L. AZCARATE
85075
TEXAS
PROFESSIONAL ENGINEER

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE: MAY 2011
DESIGN BY: G.R.
DRAWN BY: J.H.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-128-LD

PROJECT NAME

SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE

RAY MENA ST.
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 8+25.00

SHEET NO.

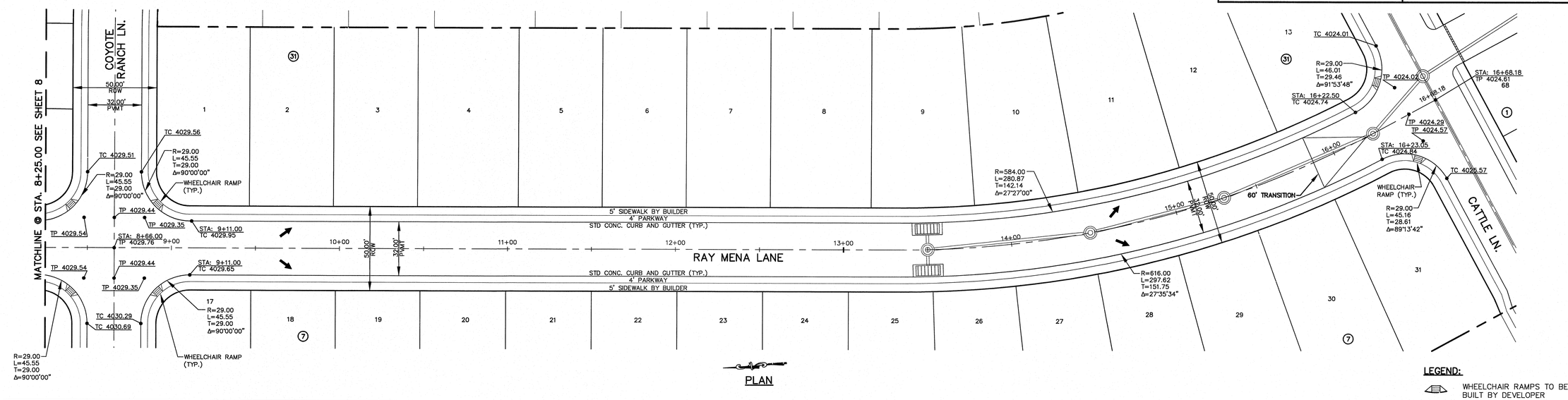
8

OF 36

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
CITY OF EL PASO DEPARTMENT OF TRANSPORTATION (EPDoT)	(915) 621-6750
(AFTER HOURS)	(915) 240-3220

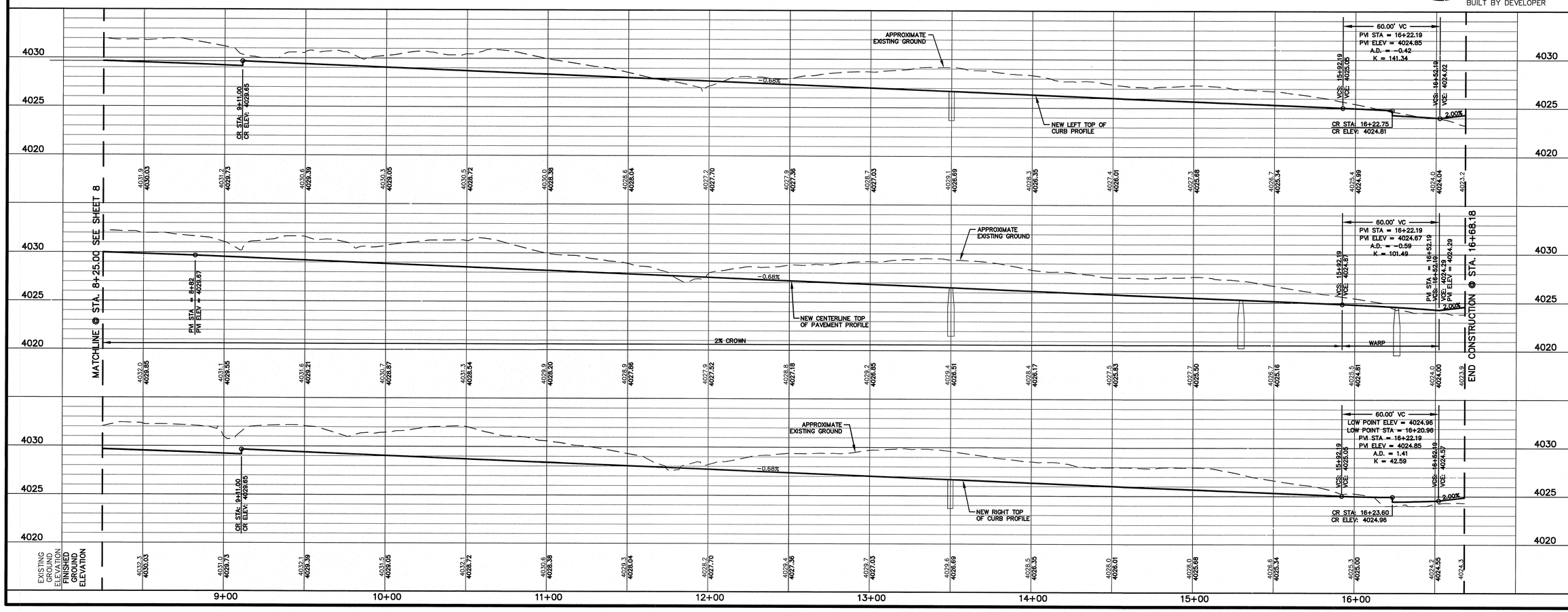
WARNING ! BEFORE YOU DIG

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



PLAN

LEGEND:
WHEELCHAIR RAMPS TO BE BUILT BY DEVELOPER



REFERENCES - BENCHMARKS
FOUND TXDOT BRASS CAP AT SECTION CORNERS 19, 20, 21 AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM.)

DATE	REVISIONS	BY

cea group
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4964
4712 Woodrow Bean Sta. F El Paso, TX 79924
Office 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

ENGINEER'S SEAL
JORGE L. AZCARATE
85075
PROFESSIONAL ENGINEER
STATE OF TEXAS

SCALE
Horizontal:
Vertical:
Contour Interval: N/A

DATE:	MAY 2011
DESIGN BY:	G.R.
DRAWN BY:	J.H.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-128-LD

PROJECT NAME
SANDSTONE RANCH UNIT SEVEN REPLAT-C SUBDIVISION IMPROVEMENTS

SHEET TITLE
RAY MENA ST. PLAN & PROFILE FROM STA. 8+25.00 TO STA. 16+68.19

SHEET NO.
9
OF 36