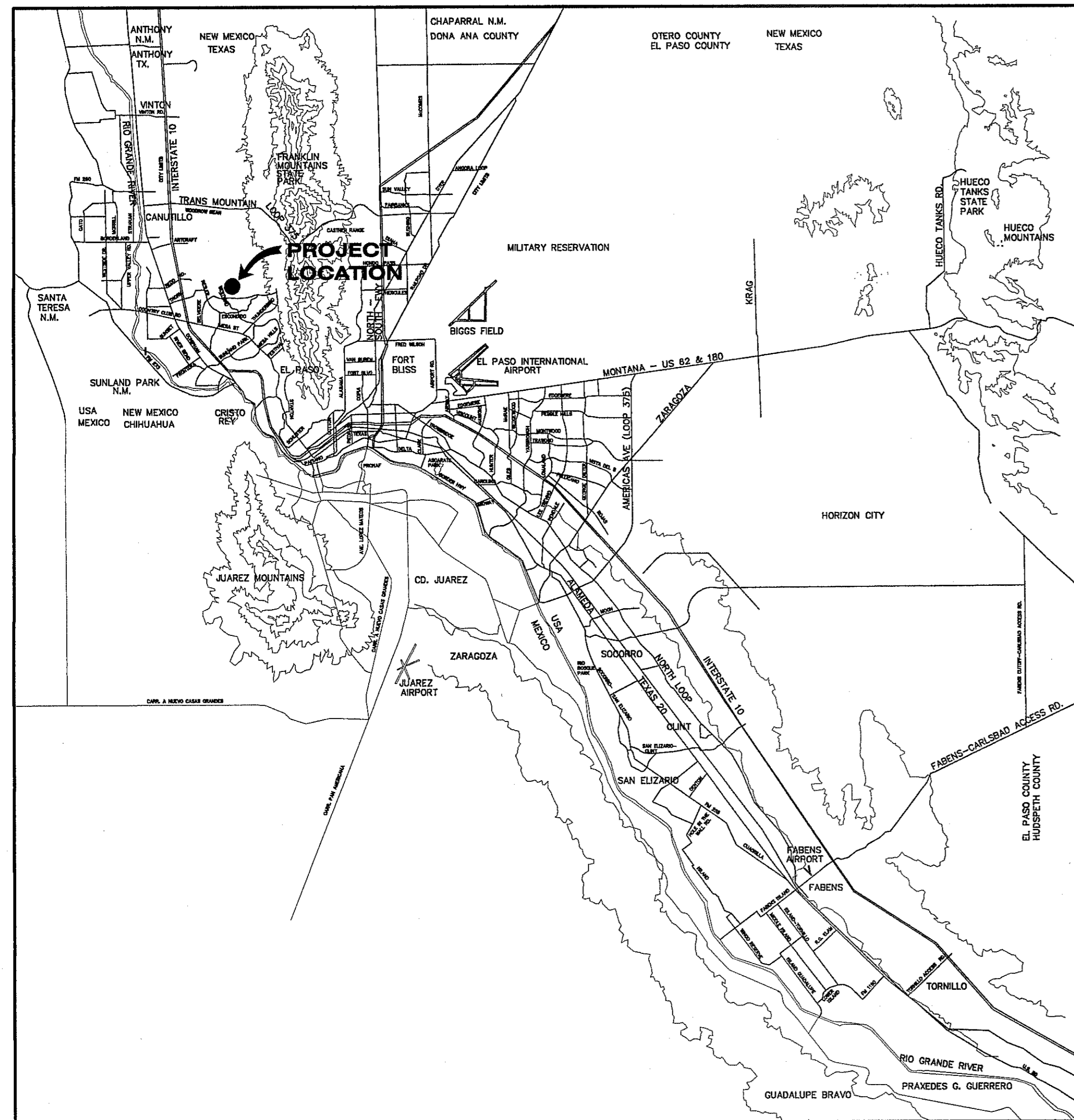


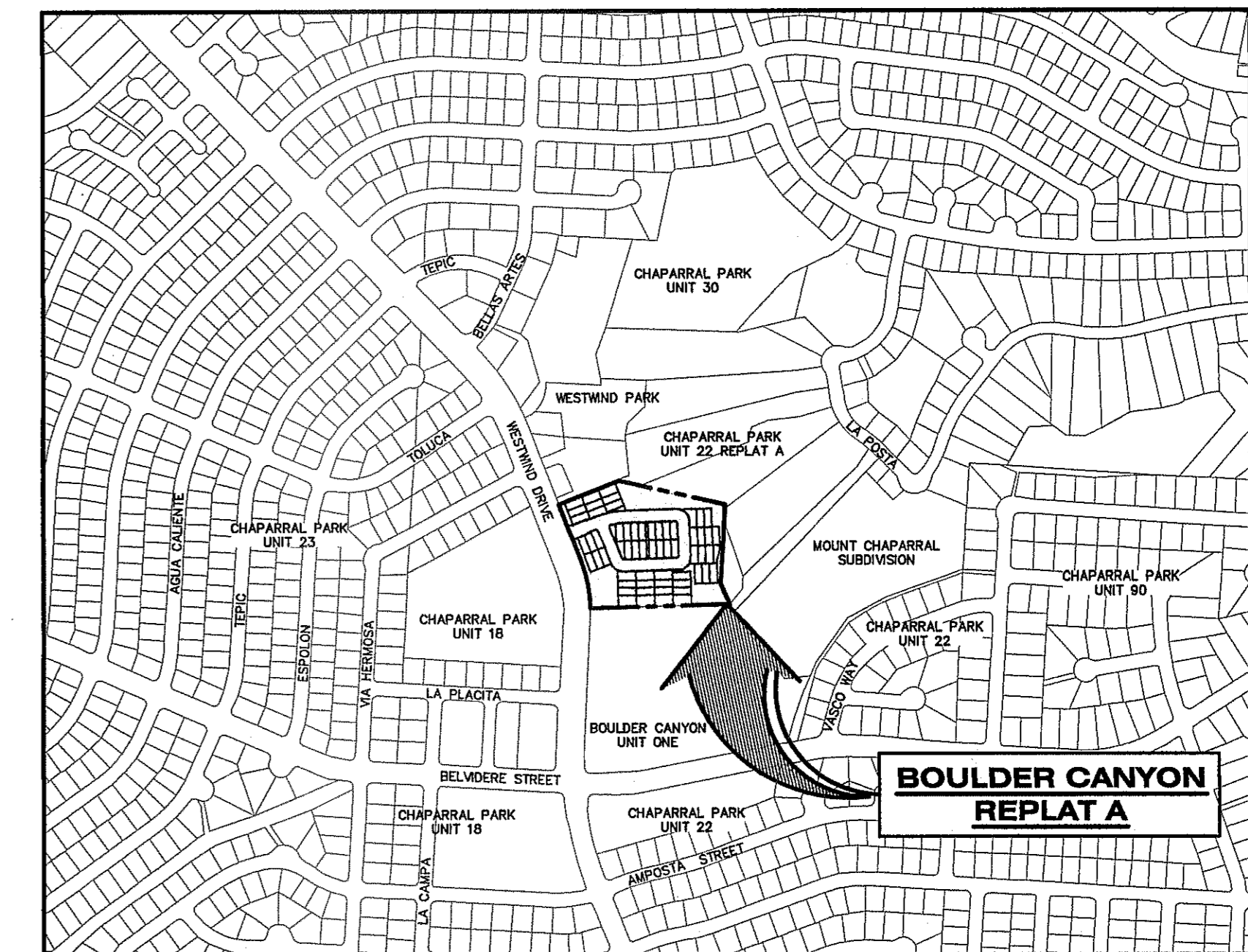
BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

BEING A REPLAT OF BOULDER CANYON SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 7.21 ± ACRES

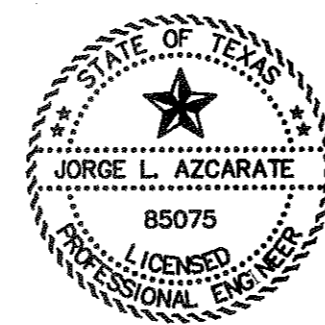


VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1, C2.2	FINAL PLAT
C3.1	GRADING PLAN
C3.2	ROCKWALL PLAN
C4.1	DRAINAGE PLAN
C5.1-C5.3	GRADING SECTIONS
C6.1-C6.3	STREET PLAN & PROFILES
C7.1-C7.2	AUTO COURT PLANS
C8.1-C8.3	STORM SEWER PLAN & PROFILES
C9.1-C9.3	STANDARD DETAILS
C10.1-C10.2	DRAINAGE DETAILS
C11.1-C11.2	ILLUMINATION & SIGNAGE PLAN
C12.1	WATER INDEX / GENERAL INFORMATION
C13.1-C13.4	WATER DETAILS
C14.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C15.1-C15.3	SANITARY SEWER PLAN & PROFILES
C16.1-C16.3	SANITARY SEWER DETAILS
C17.1-C17.3	STORM WATER POLLUTION PREVENTION PLAN
C18.1-C18.2	GRADING STABILIZATION PLAN
L-1 - L-6	LANDSCAPING & IRRIGATION PLANS



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'



JL 2-13-14
JORGE L. AZCARATE, P.E. PROJECT MANAGER

cea
GROUP
engineers • architects • planners
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Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.net

PRINCIPAL CONTACTS:

	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
OWNER:	DEVP. LAND.LLC	7910 GATEWAY EAST, STE. 102	EL PASO, TX 79915	(915) 591-6319	(915) 591-5451
ENGINEER:	CEA GROUP	4712 WOODROW BEAN DR. STE. F	EL PASO, TX 79924	(915) 544-5232	(915) 544-5233
SURVEYOR:	BARRAGAN & ASSOCIATES	10950 PELLICANO DR. BUILDING F	EL PASO, TX 79936	(915) 591-5709	(915) 591-5706



CITY DEVELOPMENT DEPARTMENT
Reviewed For Conformance For Condition Related To:
 Sidewalks Driveways
 Curbing & Drainage Retaining Rock Walls
 Wheelchair Ramps On Site Flooding of Storm Waters
 On Site Parking Layout

Contractor Must Call 24 Hours Prior To Construction For Inspections
By ROSS CHITSA 3/4/14 Date

GENERAL NOTES

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

GRADING SPECIFICATIONS

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

ABBREVIATIONS

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

LEGEND

---	SUBDIVISION BOUNDARY
---	ROW LINE
---	CURB LINE
---	PROPERTY LINE
---	STREET CENTERLINE
---	EASEMENT LINE
---	MATCH LINE
---	STORM SEWER LINE
---	HIGH WATER MARK
---	CURB AND GUTTER DROP INLET
○	STORM SEWER MANHOLE
4000	FINISHED GROUND CONTOUR ELEVATION (INDEX)
---	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
4000	EXISTING GROUND CONTOUR ELEVATION (INDEX)
---	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
○○○○○○○○	NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
□□□□□□□□	NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
X	STANDARD DETAIL/SECTION NUMBER
X	SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
4000.00	FINISHED SPOT ELEVATION
FG 56.00	LOT FINISHED GROUND ELEVATION
TC 4000.00	TOP OF CURB ELEVATION
TP 4000.00	TOP OF PAVEMENT ELEVATION
1 ②	SUBDIVISION LOT AND BLOCK NUMBER
→	DRAINAGE FLOW
▲	HIGH POINT
▼	LOW POINT
◁▷	EXISTING HIGH POINT
▷◁	EXISTING LOW POINT
◁▷	HEADWALL WITH WINGWALLS
DA-4	DRAINAGE AREA
3:1 SLOPE	HORIZONTAL:VERTICAL SLOPE RATIO
♿	WHEELCHAIR RAMP
●	PROPOSED CITY MONUMENT

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG

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

FOR FIELD LOCATING EXISTING UTILITIES

INDEX OF DRAWINGS

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BOULDER CANYON LANE PLAN & PROFILE FROM STA. 5+57.27 TO STA. 7+56.11	C6.2
RED CANYON SAGE LANE PLAN & PROFILE FROM STA. 7+56.11 TO STA. 12+39.55	C6.3
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LINE B PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+67.34	C8.2
LINE C PLAN & PROFILE FROM STA. 0+00.00 TO STA. 0+73.28	C8.3
LINE D PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+80.11	C8.3
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REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT PL LOCATED ON WESTWIND DR. SAID 88 DATUM ELEVATION = 6081.81 (CITY DATUM = 4070.77)

DATE	REVISIONS	BY

CEA

engineers • architects • planners

TEXAS REGISTERED ENGINEERING FIRM F.4684

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ENGINEER'S SEAL

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.

JORGE L. AZORARTE
REGISTERED PROFESSIONAL ENGINEER
NO. 88075

NOV 15 2013

JOB NO. - 2060-0261D

PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

GENERAL INFORMATION

SHEET NO.

C1.1

CITY DEVELOPMENT DEPARTMENT

REVIEWED

S:\2000\2060-026-10\DWG\Construction\Drawings\Improvement\Replat\CI-1-General Notes.dwg, General Notes, 2/12/2014 10:21:40 AM

BOULDER CANYON REPLAT "A" SUBDIVISION

BEING A REPLAT OF ALL BOULDER CANYON SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 7.21 ACRES±
SHEET 2 OF 2

LINE TABLE			LINE TABLE			LINE TABLE		
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	S65°21'23"W	5.08'	L42	S85°14'45"W	34.00'	L83	N65°21'23"E	32.00'
L2	S24°38'37"E	38.57'	L43	S85°14'45"W	32.00'	L84	N65°21'23"E	32.00'
L3	S24°38'37"E	32.00'	L44	S85°14'45"W	10.73'	L85	N65°21'23"E	32.00'
L4	S24°38'37"E	36.00'	L45	N85°14'45"E	10.73'	L86	N65°21'23"E	7.18'
L5	S65°21'23"W	35.37'	L46	N85°14'45"E	14.84'	L87	N65°21'23"E	13.10'
L6	N24°38'37"W	42.57'	L47	N85°14'45"E	32.00'	L88	S85°14'45"W	32.51'
L7	S24°38'37"E	42.57'	L48	N85°14'45"E	34.00'	L89	N85°14'45"E	32.00'
L8	S24°38'37"E	32.00'	L49	S04°45'15"E	10.76'	L90	N85°14'45"E	32.00'
L9	N24°38'37"W	32.00'	L50	S85°14'45"W	30.16'	L91	N85°14'45"E	32.00'
L10	S24°38'37"E	36.25'	L51	N04°45'15"W	32.00'	L92	N85°14'45"E	32.00'
L11	S65°21'23"W	20.35'	L52	S04°45'15"E	32.00'	L93	N85°14'45"E	32.00'
L12	N24°38'37"W	32.00'	L53	S04°45'15"E	32.00'	L94	N85°14'45"E	17.64'
L13	S24°38'37"E	42.57'	L54	S04°45'15"E	47.56'	L95	N85°14'45"E	17.64'
L14	S24°38'37"E	42.57'	L55	S04°45'15"E	39.74'	L96	N85°14'45"E	32.00'
L15	S24°38'37"E	32.00'	L56	S04°45'15"E	32.00'	L97	N85°14'45"E	32.00'
L16	S24°38'37"E	32.00'	L57	S04°45'15"E	32.00'	L98	N85°14'45"E	32.00'
L17	S24°38'37"E	33.00'	L58	S04°45'15"E	50.59'	L99	N85°14'45"E	32.00'
L18	N24°38'37"W	33.00'	L59	N04°45'15"W	50.59'	L100	N85°14'45"E	32.00'
L19	S24°38'37"E	22.98'	L60	N04°45'15"W	32.00'	L101	S85°14'45"W	32.51'
L20	N24°38'37"W	3.25'	L61	N04°45'15"W	32.00'	L102	S85°14'45"W	2.50'
L21	N65°00'25"W	15.36'	L62	N04°45'15"W	39.84'	L103	N85°14'45"E	10.00'
L22	S73°08'37"W	8.64'	L63	N04°45'15"W	39.84'	L104	N85°14'45"E	10.00'
L23	S85°14'45"W	32.00'	L64	S86°57'35"W	19.10'	L105	N46°35'52"E	14.76'
L24	N04°45'15"W	29.00'	L65	N04°45'15"W	39.36'	L106	N49°45'15"W	7.07'
L25	S85°14'45"W	32.00'	L66	N04°45'15"W	32.00'	L107	N30°20'18"E	6.11'
L26	S85°14'45"W	32.00'	L67	S86°57'35"W	18.64'			
L27	S85°14'45"W	32.00'	L68	N04°45'15"W	32.01'			
L28	S85°14'45"W	32.00'	L69	N04°45'15"W	32.00'			
L29	S85°14'45"W	32.00'	L70	S86°57'35"W	18.19'			
L30	S85°14'45"W	32.00'	L71	N04°45'15"W	32.01'			
L31	S85°14'45"W	32.00'	L72	N04°45'15"W	50.59'			
L32	S85°14'45"W	30.00'	L73	N04°45'15"W	51.15'			
L33	S85°14'45"W	32.00'	L74	N04°45'15"W	51.15'			
L34	S85°14'45"W	32.00'	L75	N04°45'15"W	32.01'			
L35	S85°14'45"W	32.00'	L76	N04°45'15"W	32.01'			
L36	S85°14'45"W	32.00'	L77	N04°45'15"W	39.36'			
L37	S85°14'45"W	32.00'	L78	N65°21'23"E	1.19'			
L38	N85°14'45"E	34.00'	L79	N65°21'23"E	32.00'			
L39	S85°14'45"W	30.00'	L80	N65°21'23"E	32.00'			
L40	N04°45'15"W	15.00'	L81	N65°21'23"E	32.00'			
L41	S85°14'45"W	14.84'	L82	N65°21'23"E	32.00'			

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C2	20.00'	31.42'	20.00'	28.28'	N69°38'37"W	090°00'00"
C3	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C4	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C5	407.00'	58.85'	29.48'	58.80'	S69°29'56"W	008°17'06"
C6	407.00'	81.56'	40.82'	81.43'	S79°22'57"W	011°28'56"
C7	242.36'	65.97'	33.19'	65.77'	N08°34'26"E	015°35'48"
C8	52.00'	20.03'	10.14'	19.91'	N83°43'08"W	022°04'14"
C9	52.00'	61.65'	35.03'	58.10'	N38°43'08"W	067°55'46"
C10	75.88'	27.97'	14.15'	27.81'	N85°41'18"W	021°07'20"
C11	52.00'	25.64'	13.09'	25.39'	N09°22'26"E	028°15'22"
C12	75.88'	21.54'	10.84'	21.46'	S83°15'32"E	016°15'47"
C13	75.88'	6.43'	3.22'	6.43'	N86°10'48"E	004°51'33"
C14	52.00'	56.04'	31.09'	53.36'	S54°22'26"W	061°44'38"
C15	607.73'	210.13'	106.13'	209.09'	N14°44'17"W	019°48'39"
C16	20.00'	31.42'	20.00'	28.28'	N20°21'23"E	090°00'00"
C17	52.00'	39.17'	20.57'	38.25'	S46°46'39"E	043°09'41"
C18	52.00'	0.57'	0.28'	0.57'	S24°52'59"E	000°37'39"
C19	72.00'	17.01'	8.54'	16.97'	N58°35'18"E	013°32'10"
C20	72.00'	8.10'	4.06'	8.10'	N55°02'39"E	006°28'53"
C21	72.00'	8.91'	4.46'	8.90'	N61°48'44"E	007°05'18"
C22	10.00'	15.72'	10.01'	14.15'	S69°36'23"E	090°04'28"
C23	10.00'	17.29'	11.72'	15.21'	N24°57'31"E	099°03'21"
C24	355.00'	18.22'	9.11'	18.21'	N75°57'24"E	002°56'24"
C25	355.00'	34.08'	17.05'	34.07'	N80°10'37"E	005°30'02"
C26	355.00'	14.37'	7.18'	14.37'	N84°05'12"E	002°19'07"
C27	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"
C28	276.00'	14.37'	7.19'	14.37'	N83°45'16"E	002°58'58"
C29	276.00'	34.18'	17.11'	34.16'	N78°42'56"E	007°05'42"
C30	276.00'	2.41'	1.21'	2.41'	N74°55'04"E	000°30'01"
C31	276.00'	36.59'	18.32'	36.56'	N78°27'55"E	007°35'44"
C32	276.00'	14.37'	7.19'	14.37'	N83°45'16"E	002°58'58"
C33	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C34	10.00'	12.25'	7.03'	11.50'	N59°39'42"W	070°11'05"
C35	381.00'	18.80'	9.40'	18.80'	N66°46'13"E	002°49'40"
C36	381.00'	113.46'	57.15'	113.04'	N76°42'54"E	017°03'42"
C37	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	090°00'00"
C38	26.00'	28.02'	15.54'	26.68'	S54°22'26"W	061°44'38"
C39	26.00'	31.85'	18.27'	29.89'	S59°39'42"E	070°11'05"
C40	26.00'	12.82'	6.54'	12.69'	N09°22'26"E	028°15'22"
C41	52.00'	23.96'	12.19'	23.74'	N81°33'22"W	026°23'45"

LOT AREAS			LOT AREAS		
BLOCK NO.	LOT NO.	AREA	BLOCK NO.	LOT NO.	AREA
BLOCK 1	1	2487 sq.ft.	BLOCK 1	36	3146 sq.ft.
BLOCK 1	2	3047 sq.ft.	BLOCK 1	37	2528 sq.ft.
BLOCK 1	3	2528 sq.ft.	BLOCK 1	38	2528 sq.ft.
BLOCK 1	4	2615 sq.ft.	BLOCK 1	39	4001 sq.ft.
BLOCK 1	5	3363 sq.ft.	BLOCK 1	40	4138 sq.ft.
BLOCK 1	6	2528 sq.ft.	BLOCK 1	41	2529 sq.ft.
BLOCK 1	7	2611 sq.ft.	BLOCK 1	42	2529 sq.ft.
BLOCK 1	8	3363 sq.ft.	BLOCK 1	43	3057 sq.ft.
BLOCK 1	9	2528 sq.ft.	BLOCK 1	44	24849 sq.ft.
BLOCK 1	10	2607 sq.ft.	BLOCK 1	45	2531 sq.ft.
BLOCK 1	11	925 sq.ft.	BLOCK 1	46	2530 sq.ft.
BLOCK 1	12	41006 sq.ft.	BLOCK 1	47	2529 sq.ft.
BLOCK 1	13	3011 sq.ft.	BLOCK 1	48	2528 sq.ft.
BLOCK 1	14	2528 sq.ft.	BLOCK 1	49	2561 sq.ft.
BLOCK 1	15	2528 sq.ft.	BLOCK 1	50	2633 sq.ft.
BLOCK 1	16	2528 sq.ft.	Block 2	1	1247 sq.ft.
BLOCK 1	17	2528 sq.ft.	Block 2	2	2696 sq.ft.
BLOCK 1	18	2528 sq.ft.	Block 2	3	2528 sq.ft.
BLOCK 1	19	2528 sq.ft.	Block 2	4	2528 sq.ft.
BLOCK 1	20	2568 sq.ft.	Block 2	5	2528 sq.ft.
BLOCK 1	21	2528 sq.ft.	Block 2	6	2528 sq.ft.
BLOCK 1	22	2686 sq.ft.	Block 2	7	2528 sq.ft.
BLOCK 1	23	1756 sq.ft.	Block 2	8	2528 sq.ft.
BLOCK 1	24	2856 sq.ft.	Block 2	9	2547 sq.ft.
BLOCK 1	25	2688 sq.ft.	Block 2	10	2547 sq.ft.
BLOCK 1	26	2688 sq.ft.	Block 2	11	2528 sq.ft.
BLOCK 1	27	16626 sq.ft.	Block 2	12	2528 sq.ft.
BLOCK 1	28	2528 sq.ft.	Block 2	13	2528 sq.ft.
BLOCK 1	29	2528 sq.ft.	Block 2	14	2528 sq.ft.
BLOCK 1	30	2528 sq.ft.	Block 2	15	2528 sq.ft.
BLOCK 1	31	3753 sq.ft.	Block 2	16	2526 sq.ft.
BLOCK 1	32	3997 sq.ft.	Block 2	17	1787 sq.ft.
BLOCK 1	33	2528 sq.ft.			
BLOCK 1	34	2528 sq.ft.			
BLOCK 1	35	3143 sq.ft.			

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

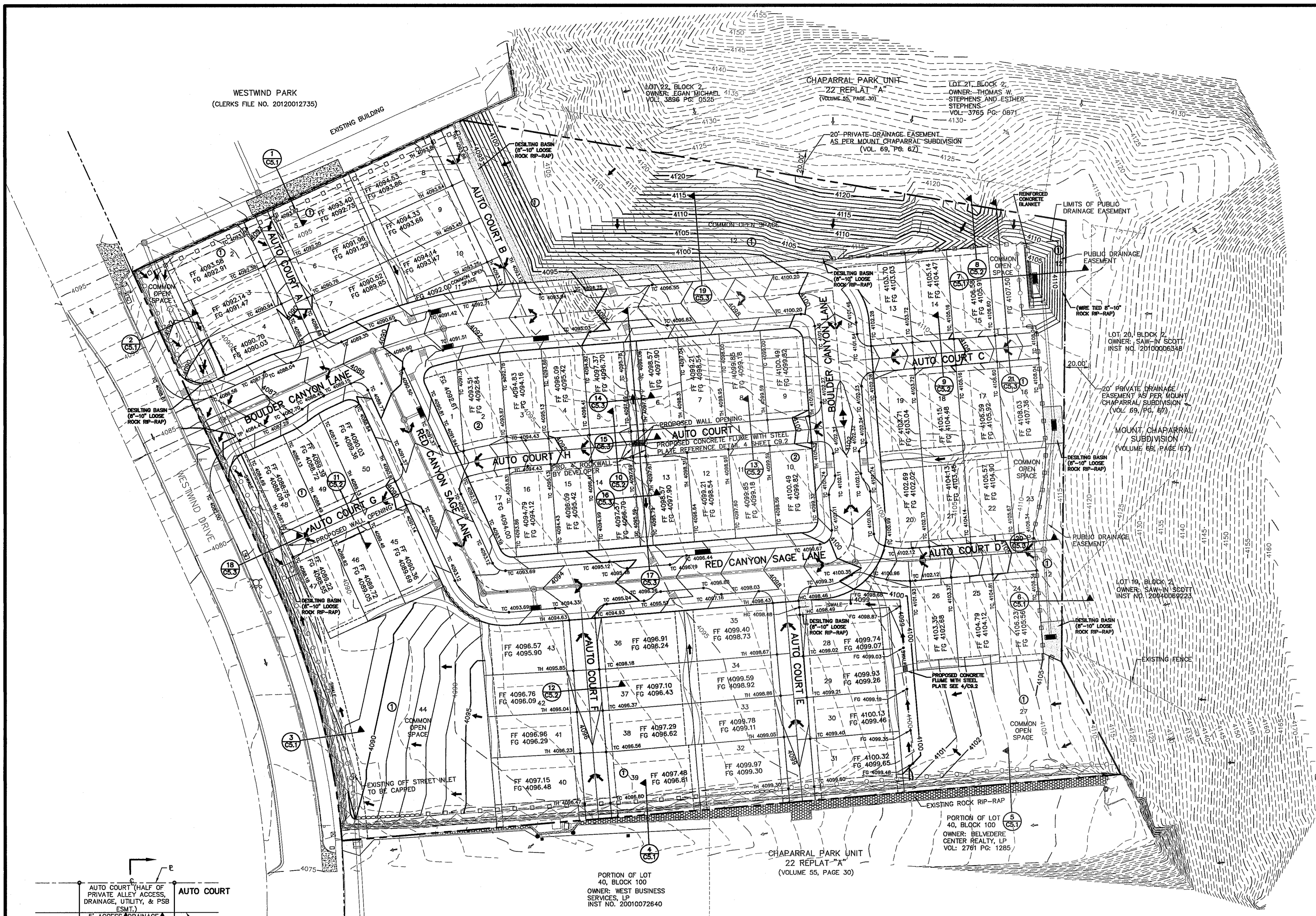


REVIEWED

SURVEYOR

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

DATE OF PREPARATION: OCTOBER 18, 2013



UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200
SEC	(800) 545-6006
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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1-800-344-8377

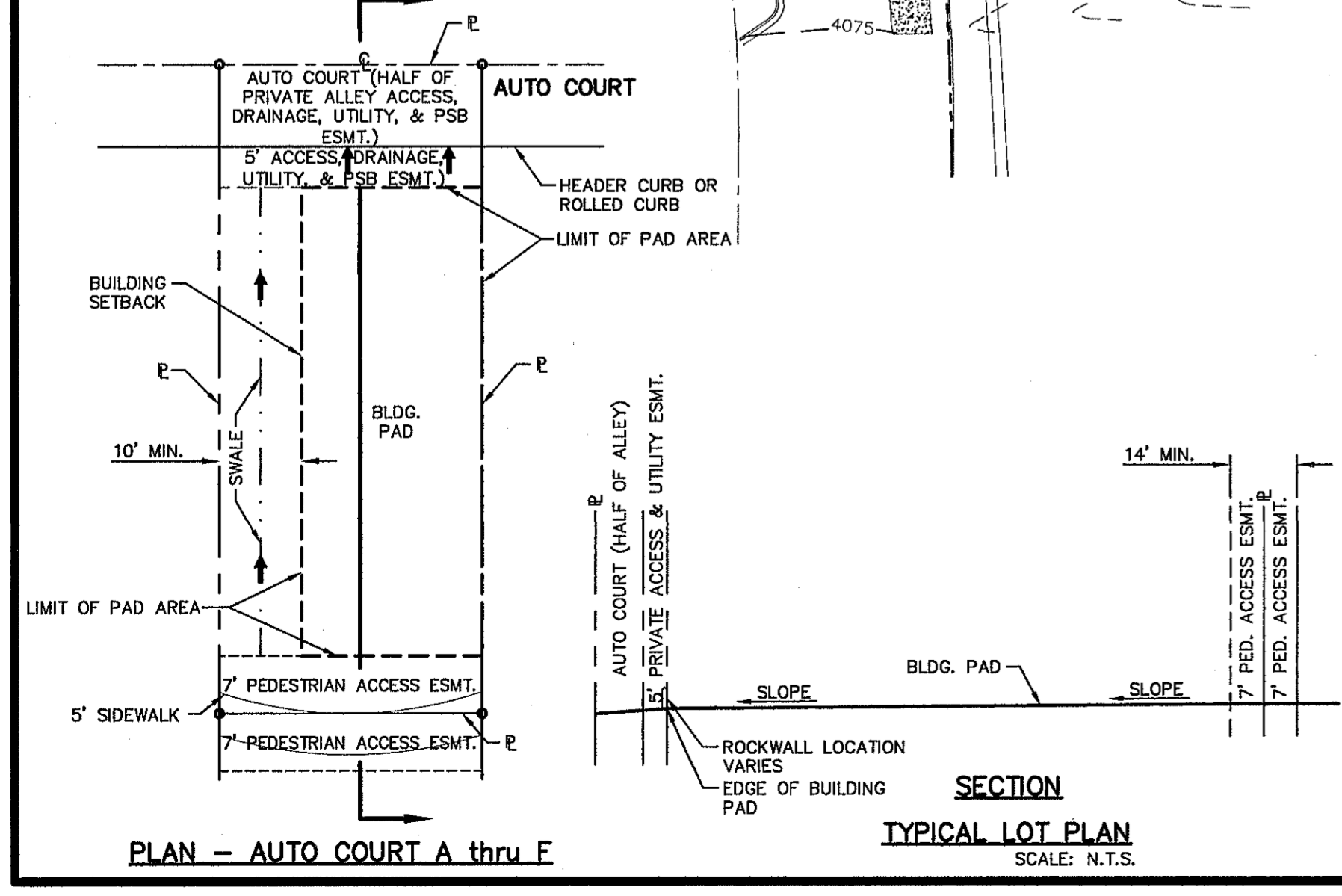
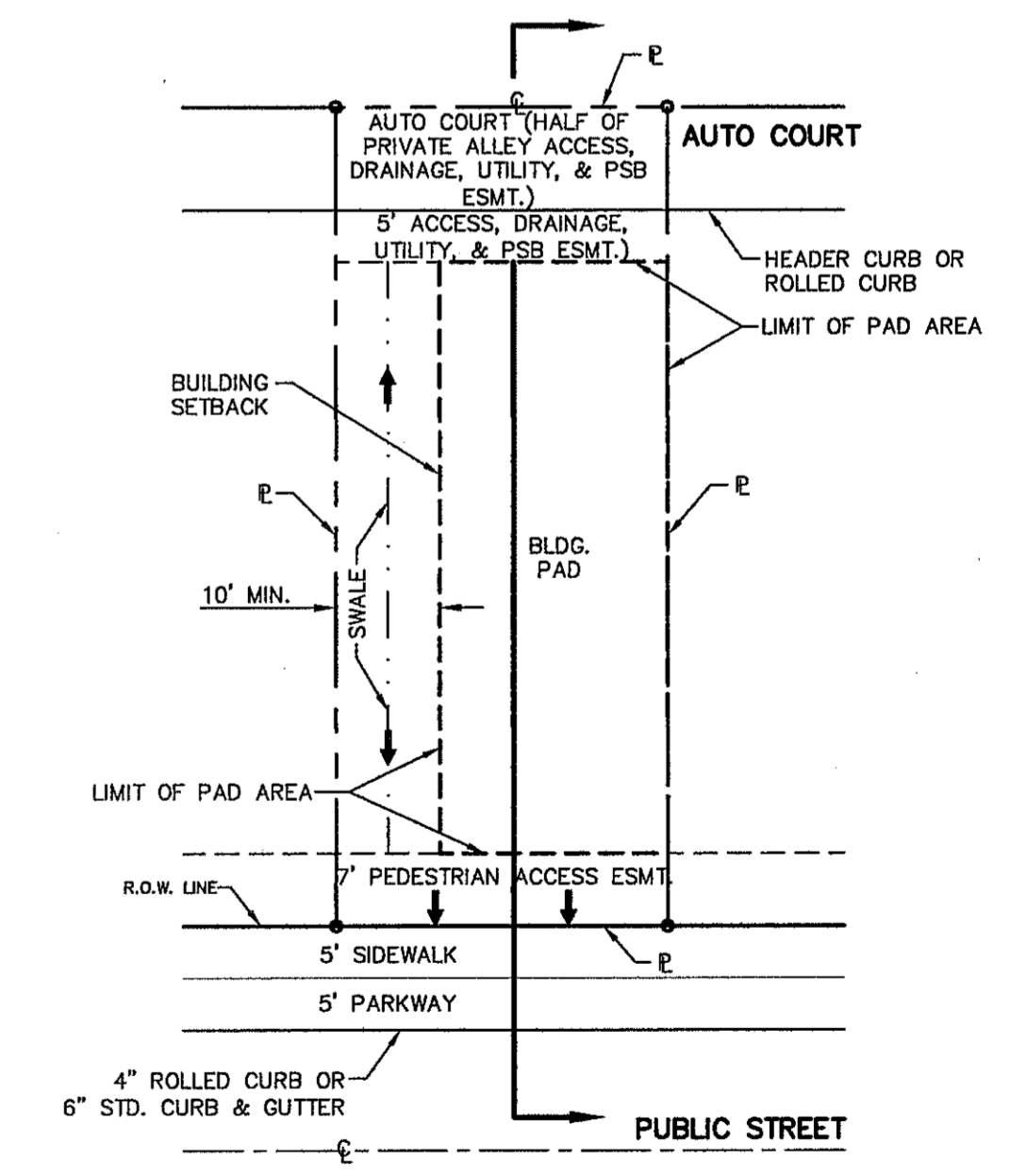
FOR FIELD LOCATING EXISTING UTILITIES

- NOTES:**
- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2-FEET.
 - SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
 - ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER, SHALL BE BUILT BY BUILDER.
 - DEVELOPER SHALL COMPLY WITH SECTION 13.08.070 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
 - IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBCU's, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
 - IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
 - WHEELCHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.

BENCHMARK
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

FLOOD ZONE:
THIS SUBDIVISION LIES WITH IN ZONE "C" AS DESIGNATED IN PANEL NO. 480214-0022E, DATED JANUARY 3, 1997, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

- LEGEND:**
- BUILDING SETBACK LINE
 - 4' HIGH ROCKWALL BY DEVELOPER
 - NEW 4' HIGH RETAINING ROCKWALL BY DEVELOPER (2'-3' RETAINING HEIGHT)
 - NEW 4' HIGH RETAINING ROCKWALL BY DEVELOPER (3'-9' RETAINING HEIGHT)
 - PUBLIC DRAINAGE EASEMENT
 - PROPOSED MAJOR CONTOURS
 - EXISTING MAJOR CONTOURS
 - PROPOSED MINOR CONTOURS
 - EXISTING MINOR CONTOURS
 - TC TOP OF CURB
 - TH TOP OF HEADER
 - FF FINISHED FLOOR
 - FG FINISHED GRADE
 - ROCK RIP-RAP
 - SWALE



18.44220 PERMIT CLOSEOUT PROCEDURE
AFTER THE PERMITTEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED. AS PART OF THE CLOSEOUT PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:

- A STATEMENT FROM THE ENGINEER OF RECORD THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS". THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS IMPLEMENTED.
- A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE, IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15.

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

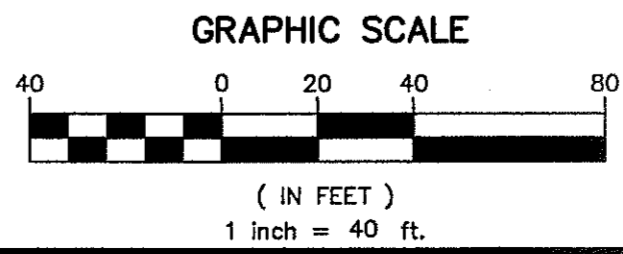
18.44090 WARRANTY
ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 16.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER.



REVIEWED

GRADING PLAN

SCALE: 1" = 40'



REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

ENGINEER'S SEAL
J. AZARATE
REGISTERED PROFESSIONAL ENGINEER
NO. 68075

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. 2060-0261D.

PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
GRADING PLAN

SHEET NO.
C3.1

REVISIONS
DATE
BY

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

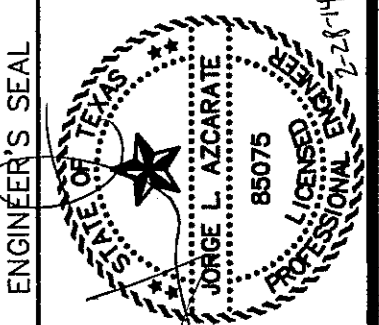
WARNING!
BEFORE YOU DIG

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

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT PL LOCATED ON WESTWIND DR NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

oa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4664
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5222 Fax: 915.544.6283 www.oaengineers.com

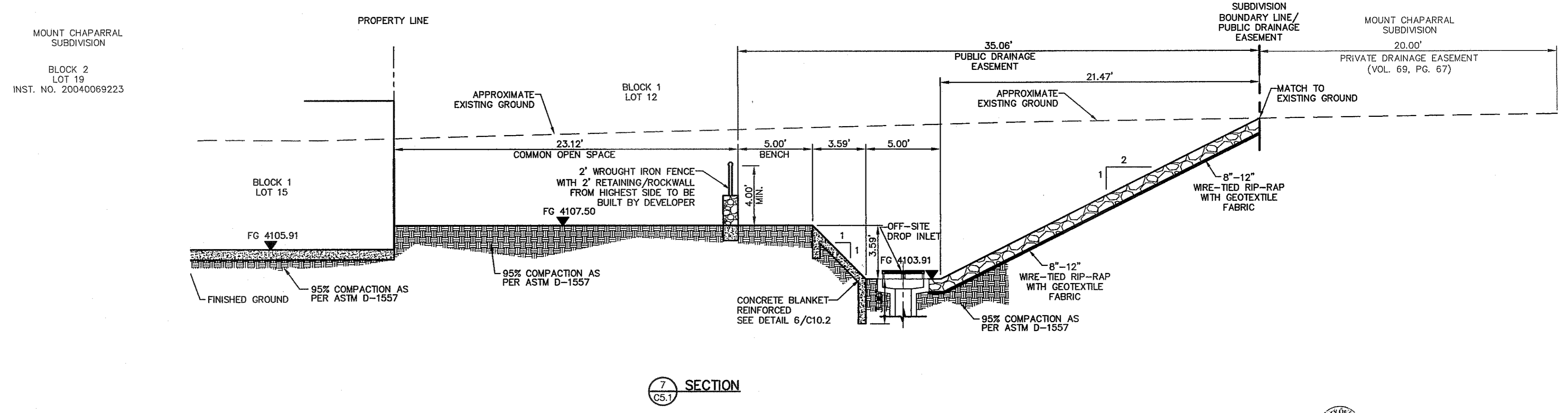
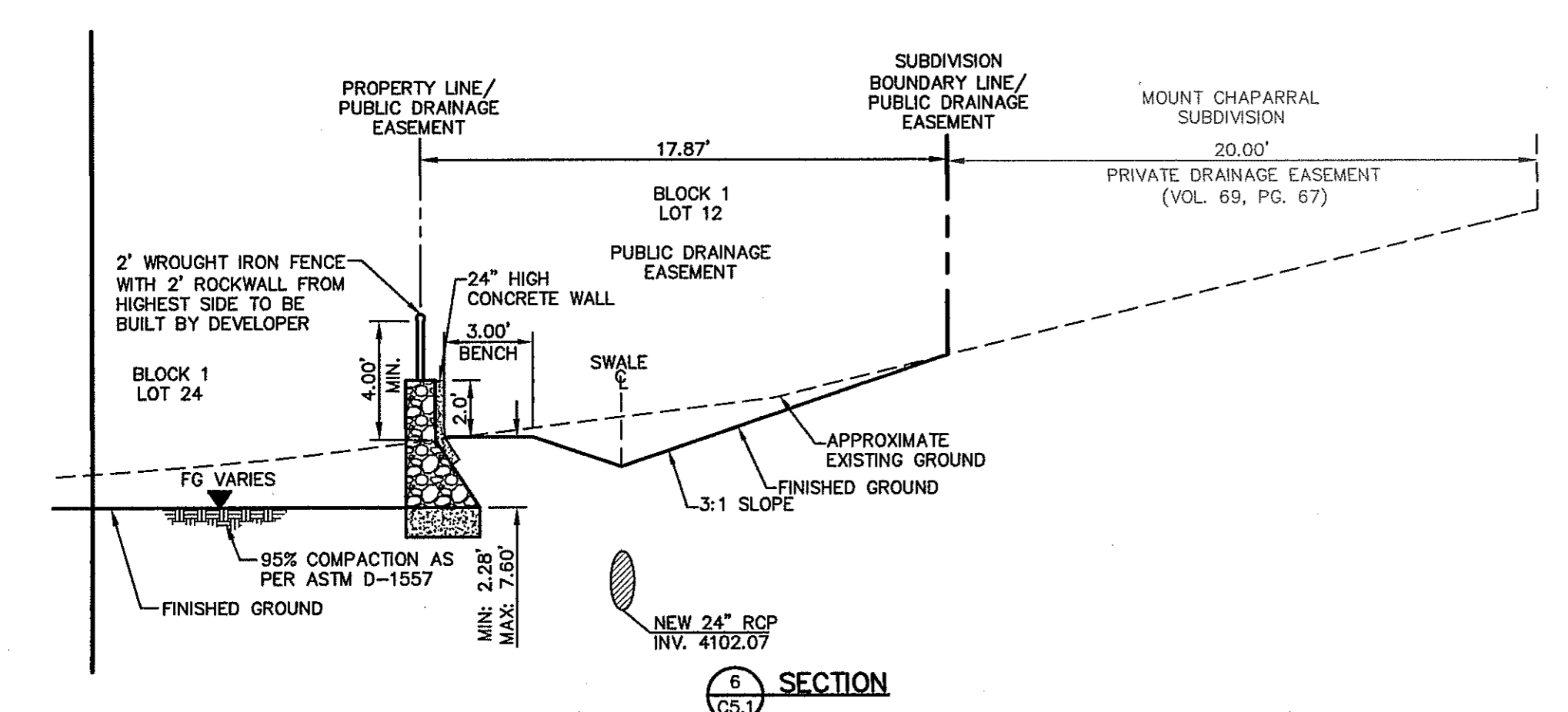
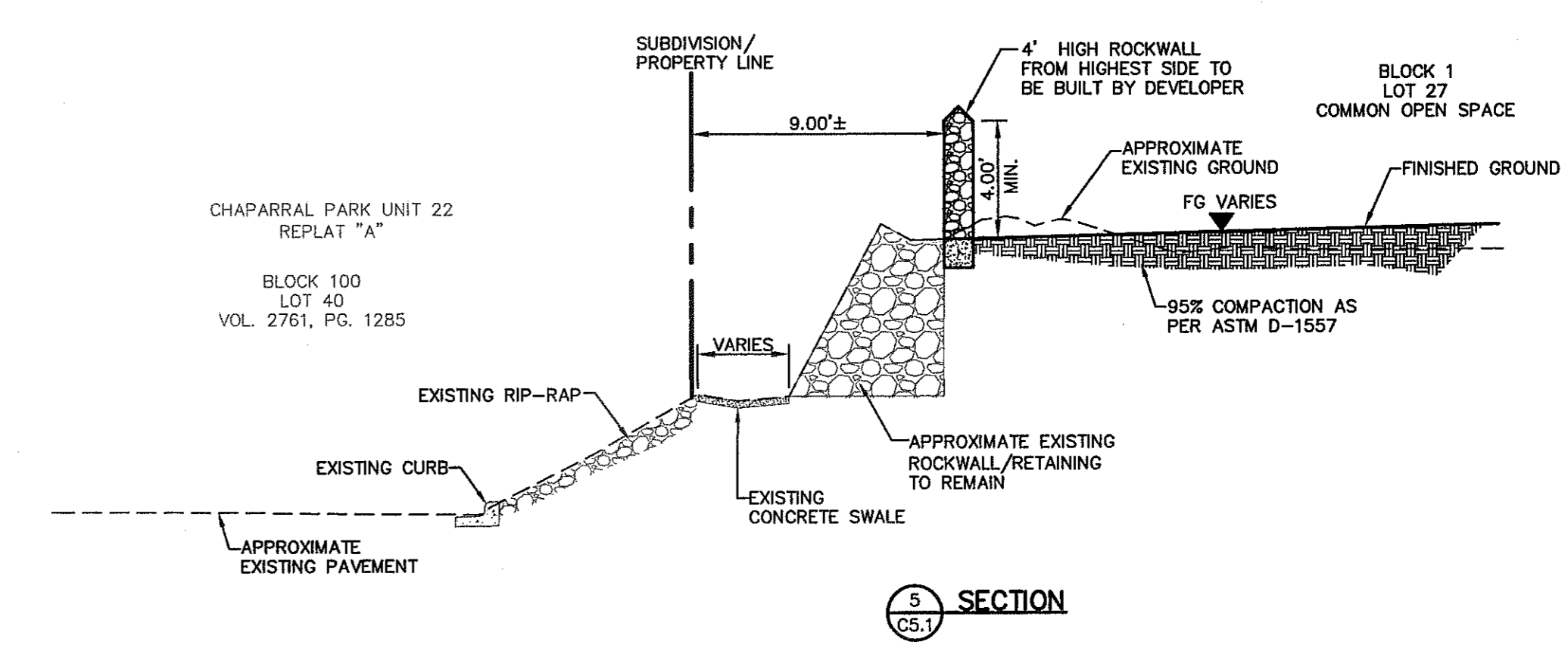
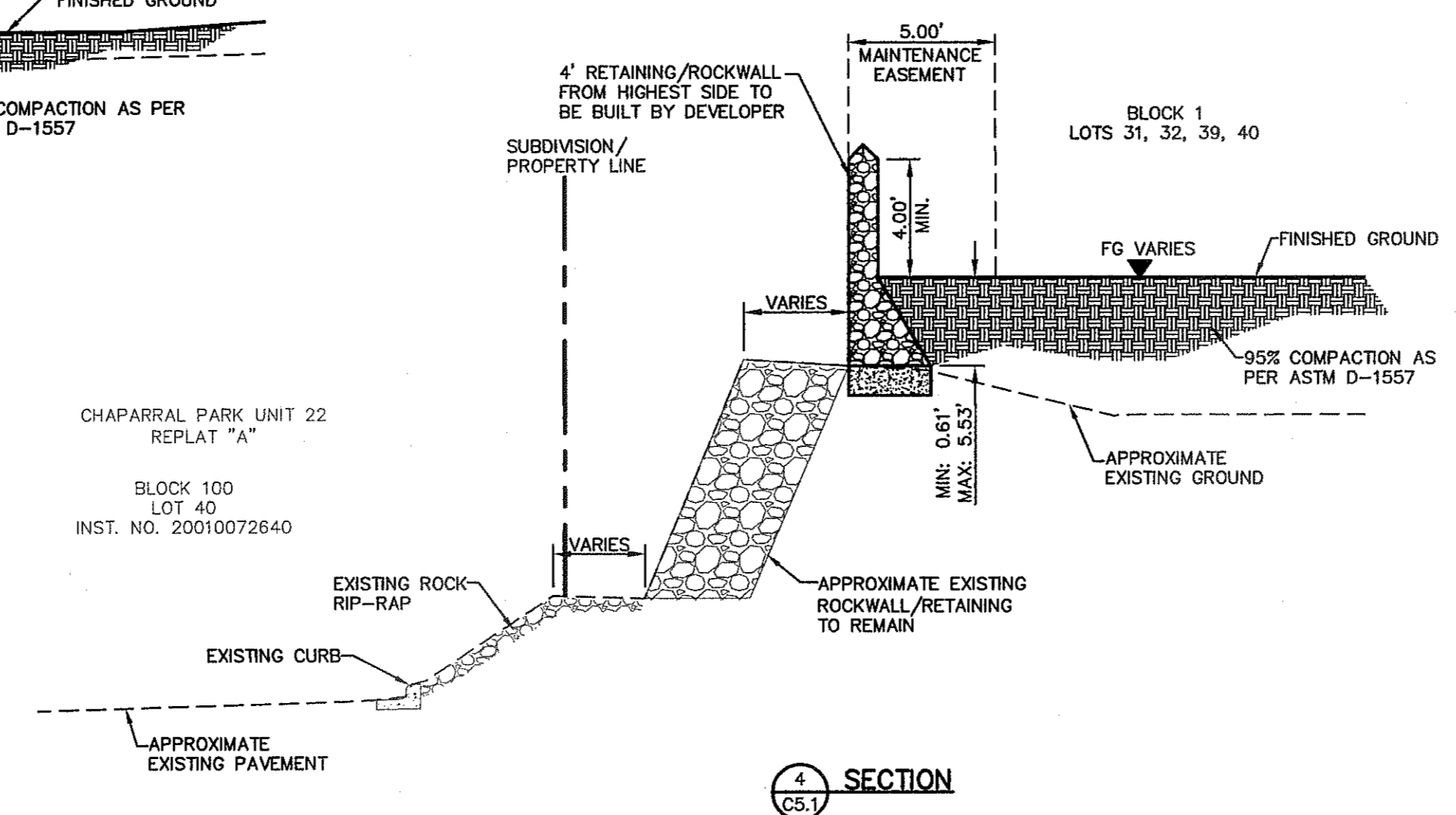
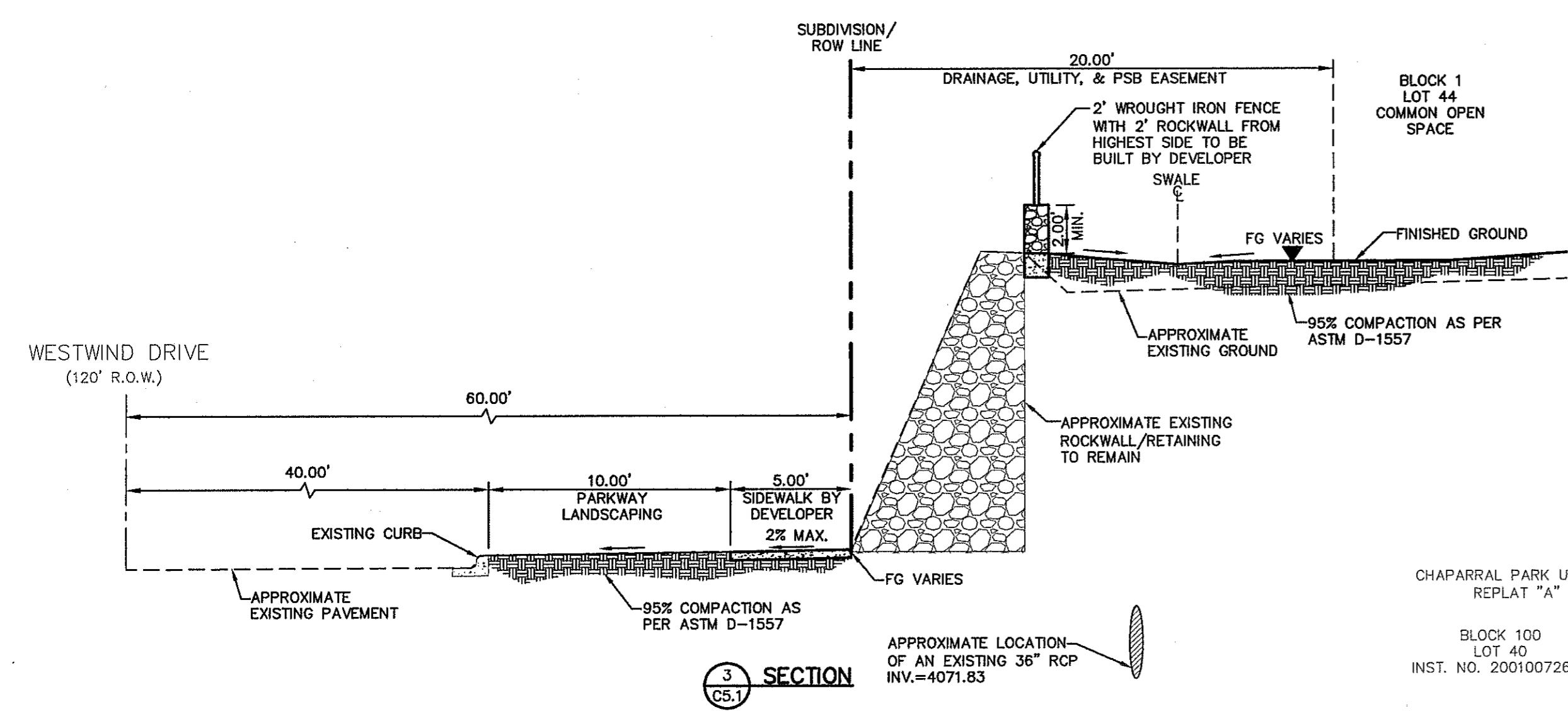
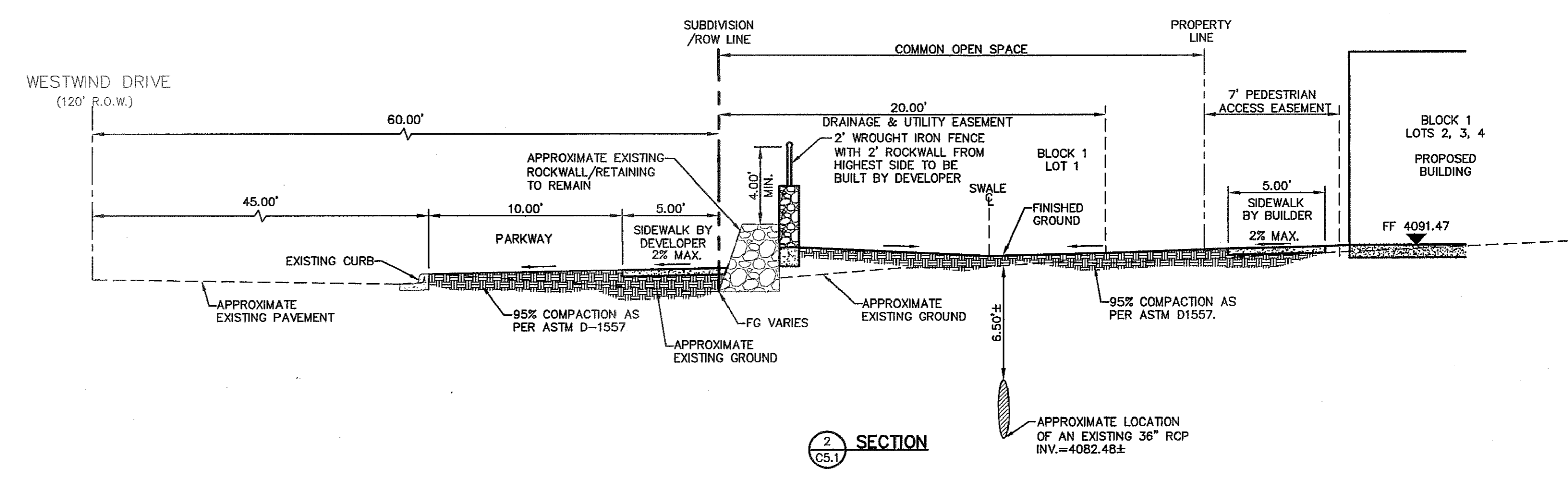
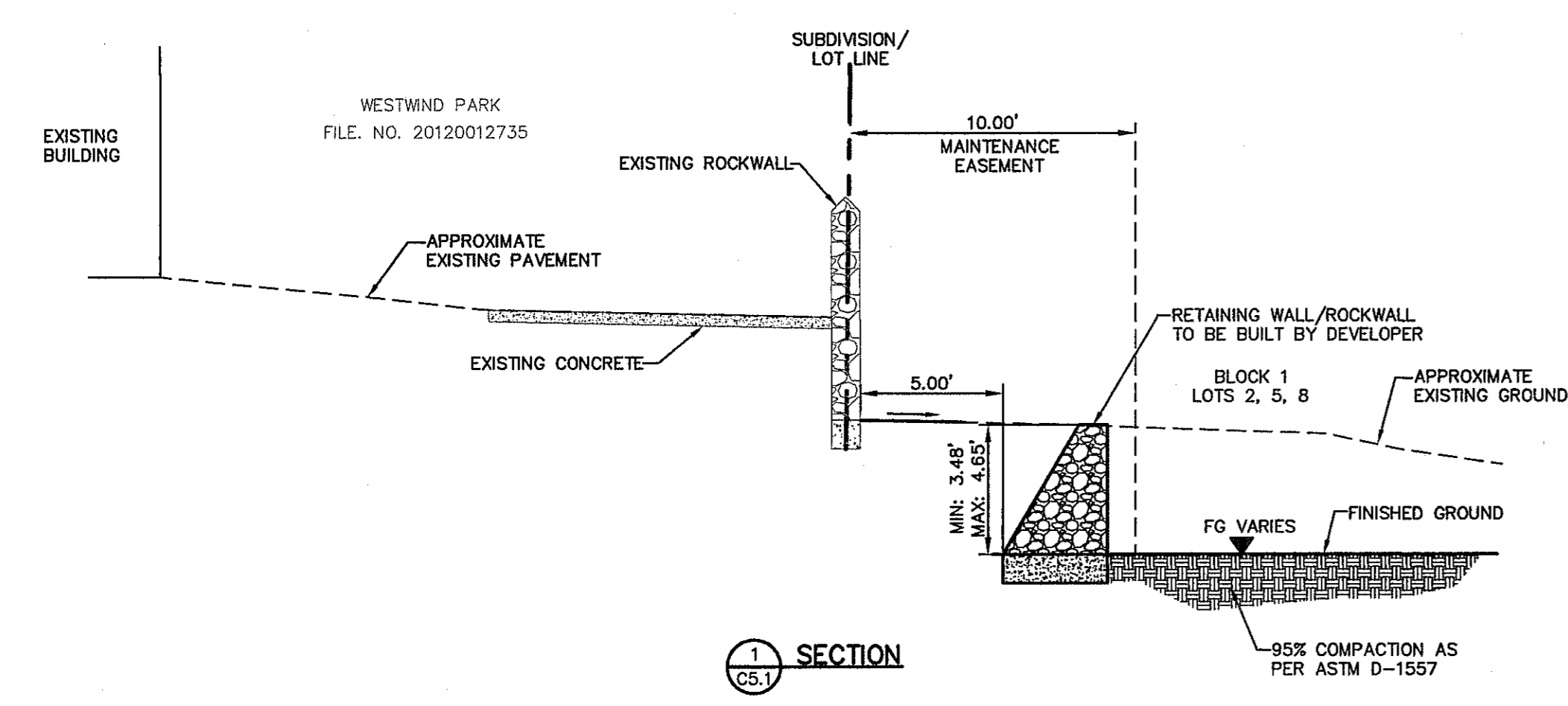


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Vertical: N/A
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB NO. 2080-0261D

PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
GRADING SECTIONS

SHEET NO.
C5.1



CITY DEVELOPMENT DEPARTMENT
REVIEWED

S:\3280\2080-026-10\DWG\Construction\BoulderCanyon\Improvements\Replat\CS1-C5.1-Grading\Sections\Grading Sections 1: 2/26/2014 4:48:28 PM

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

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

DATE	REVISIONS	BY

CSA
 ENGINEERS • ARCHITECTS • PLANNERS
 TEXAS REGISTERED ENGINEERING FIRM #454
 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 Office: 915-834-4422 Fax: 915-834-4223 www.csa-engineers.com

ENGINEER'S SEAL
 JORGE L. AZARATE
 80075
 LICENSED PROFESSIONAL ENGINEER
 CIVIL
 STATE OF TEXAS

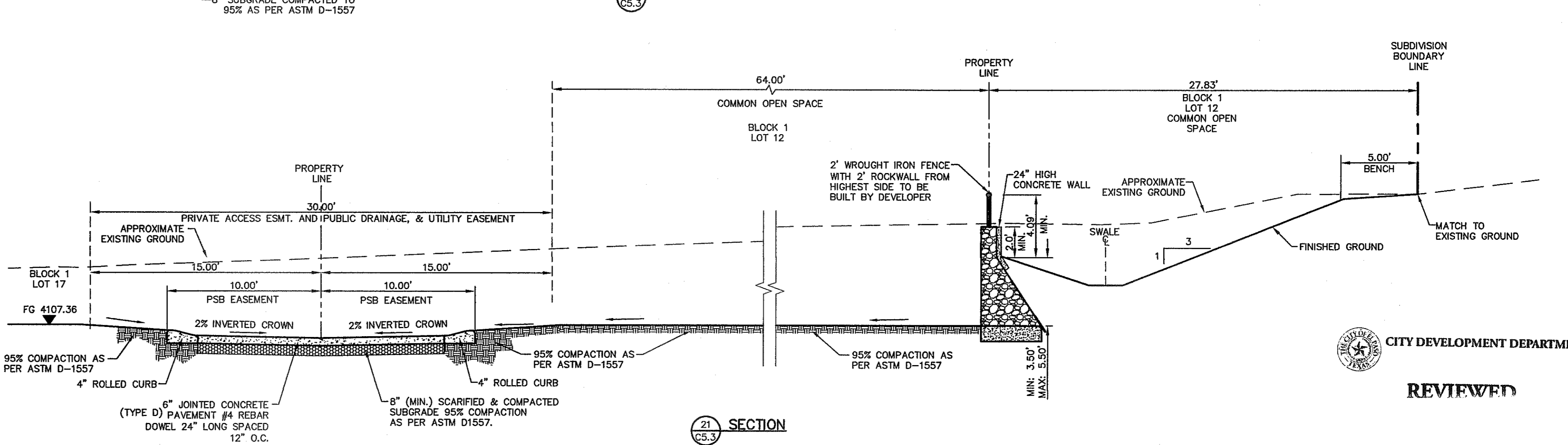
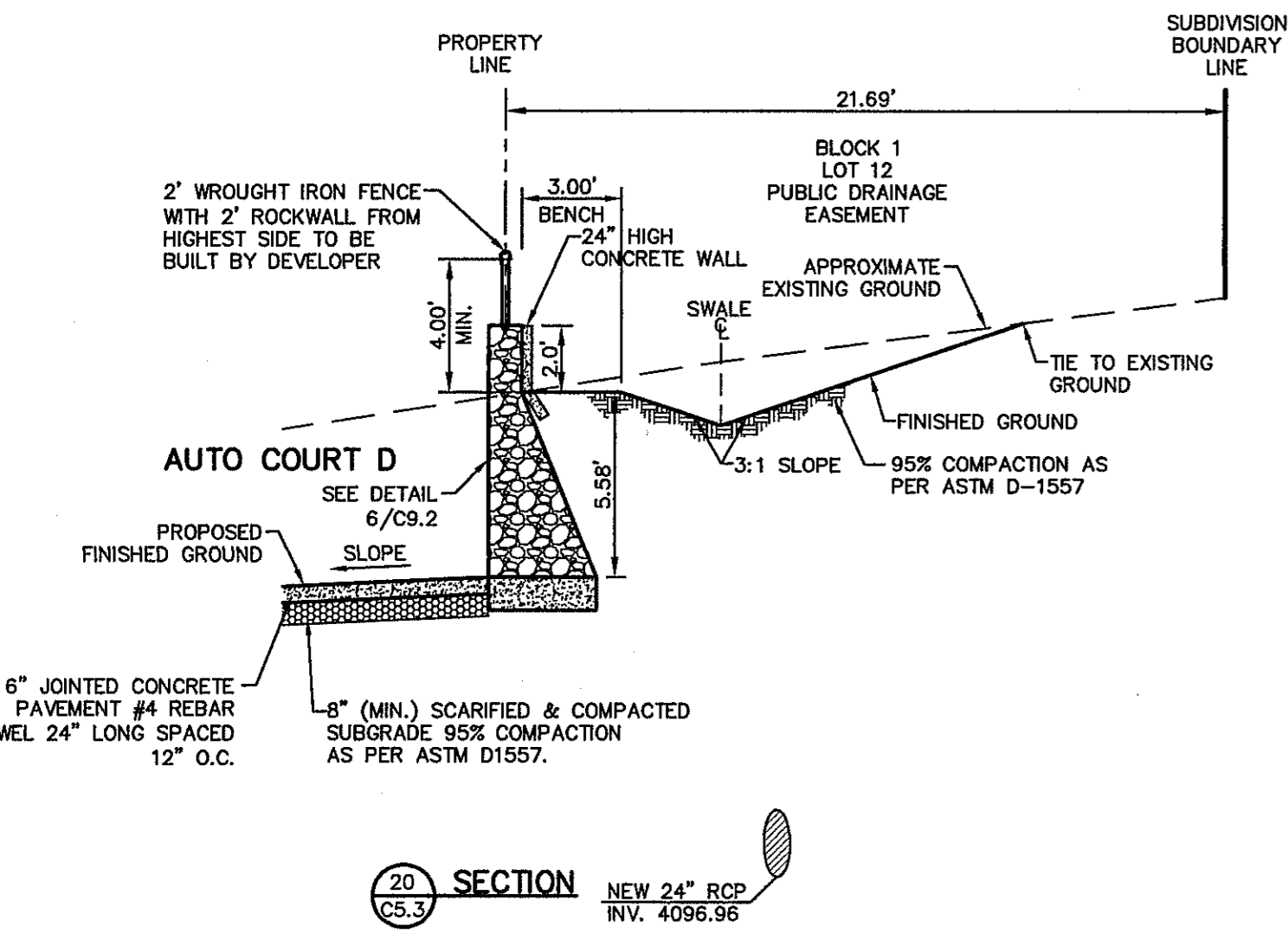
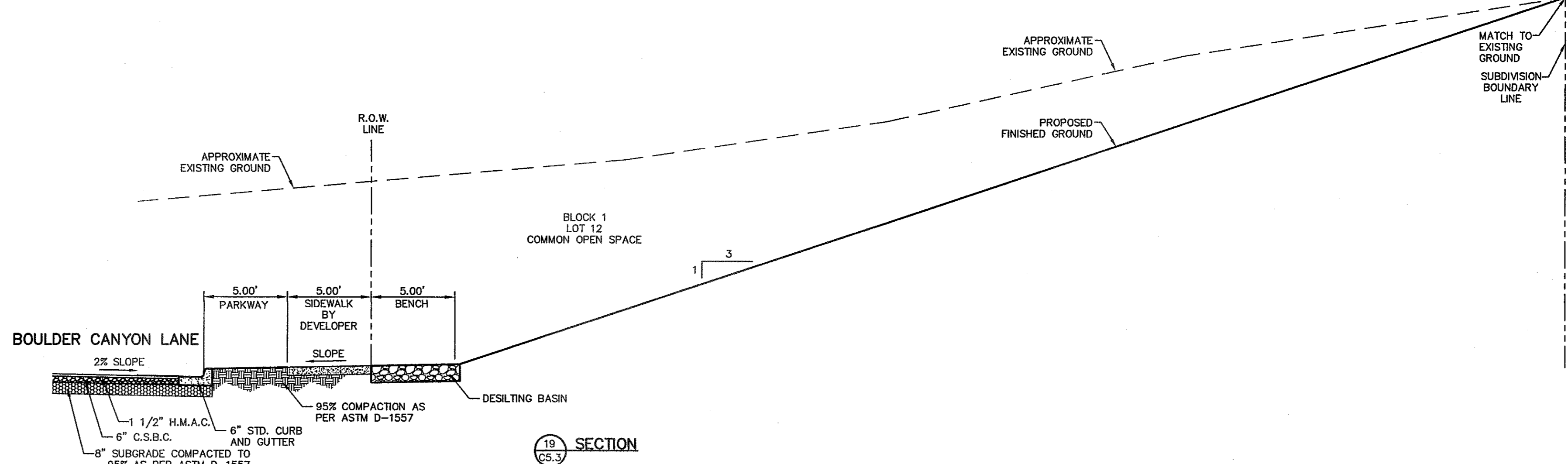
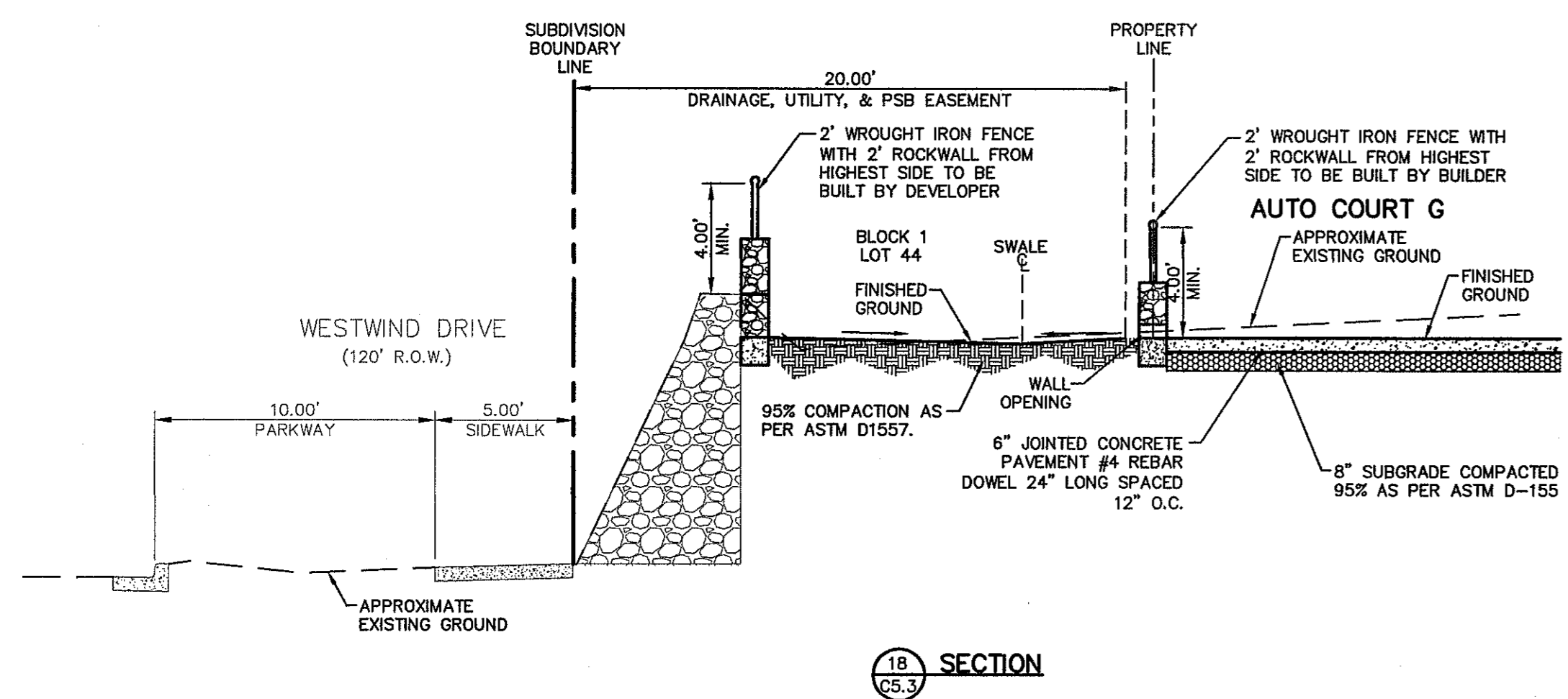
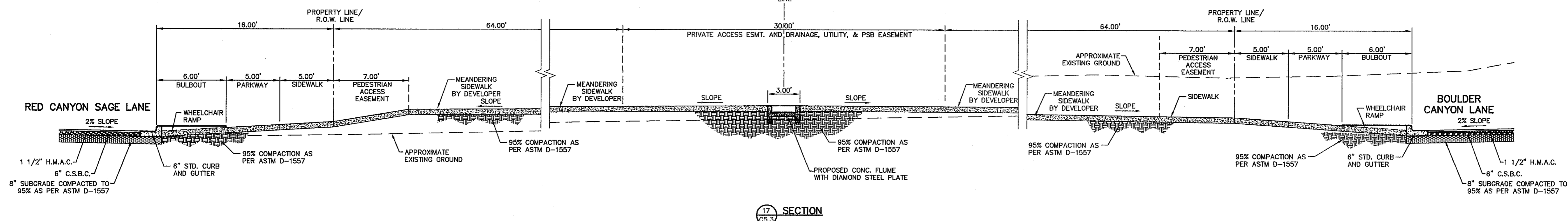
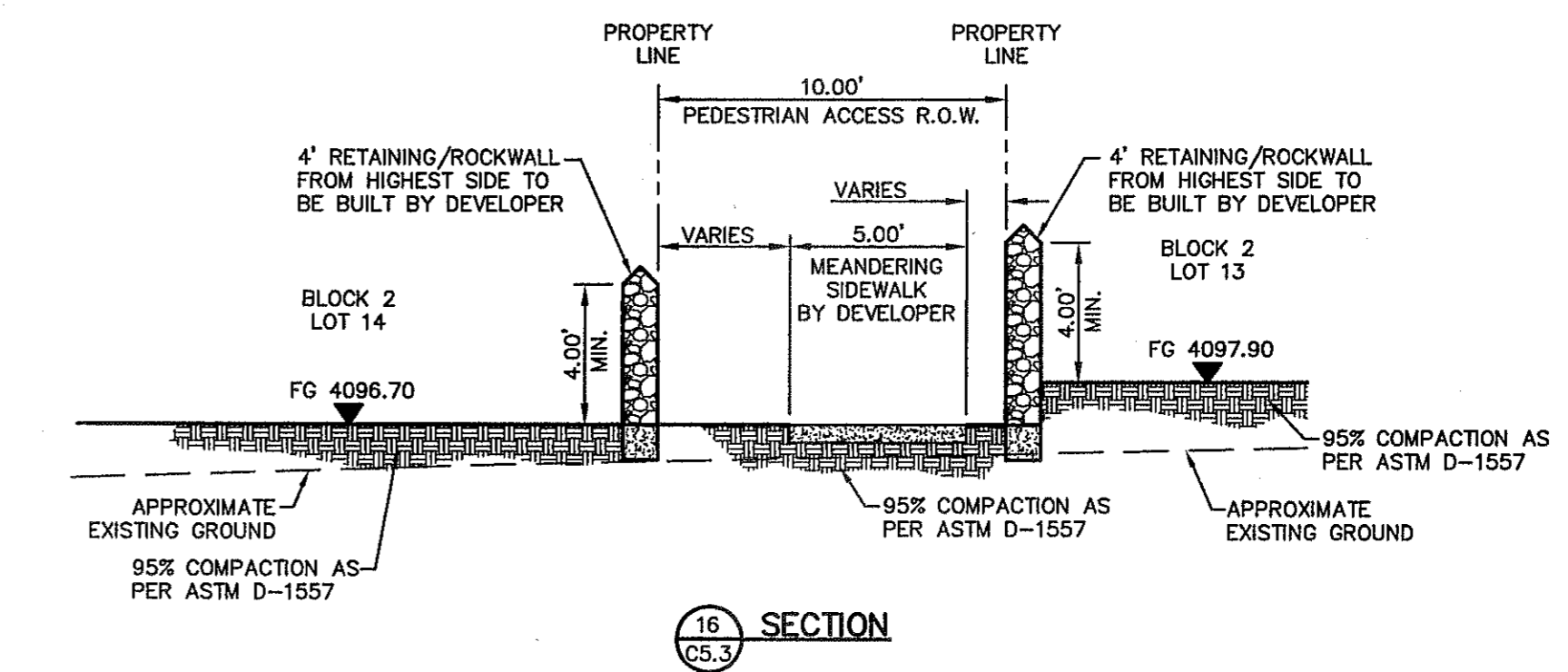
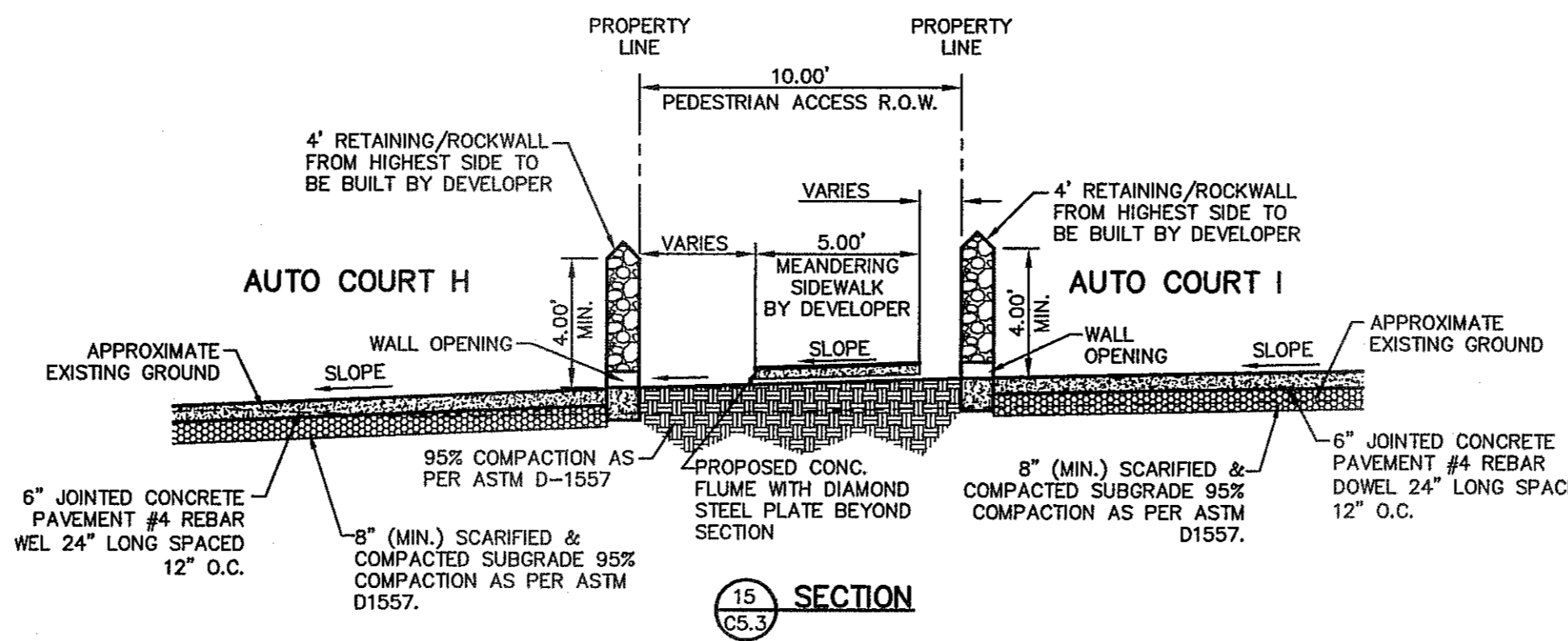
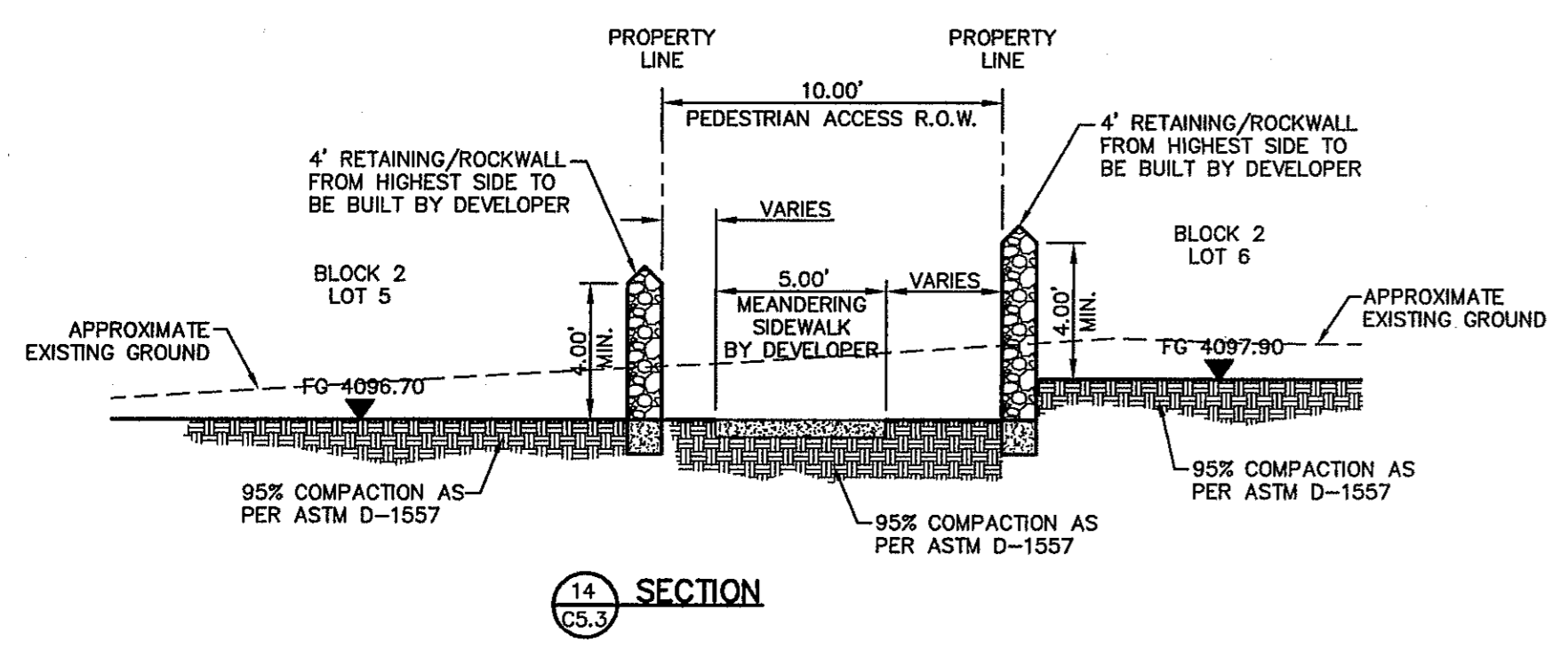
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Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.A.	
DRAWN BY: A.B.	
CHECKED BY: J.L.A.	
APP'D. BY: J.	
JOB No. 13000-026LD	

PROJECT TITLE
**BOULDER CANYON
 REPLAT A
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
GRADING SECTIONS

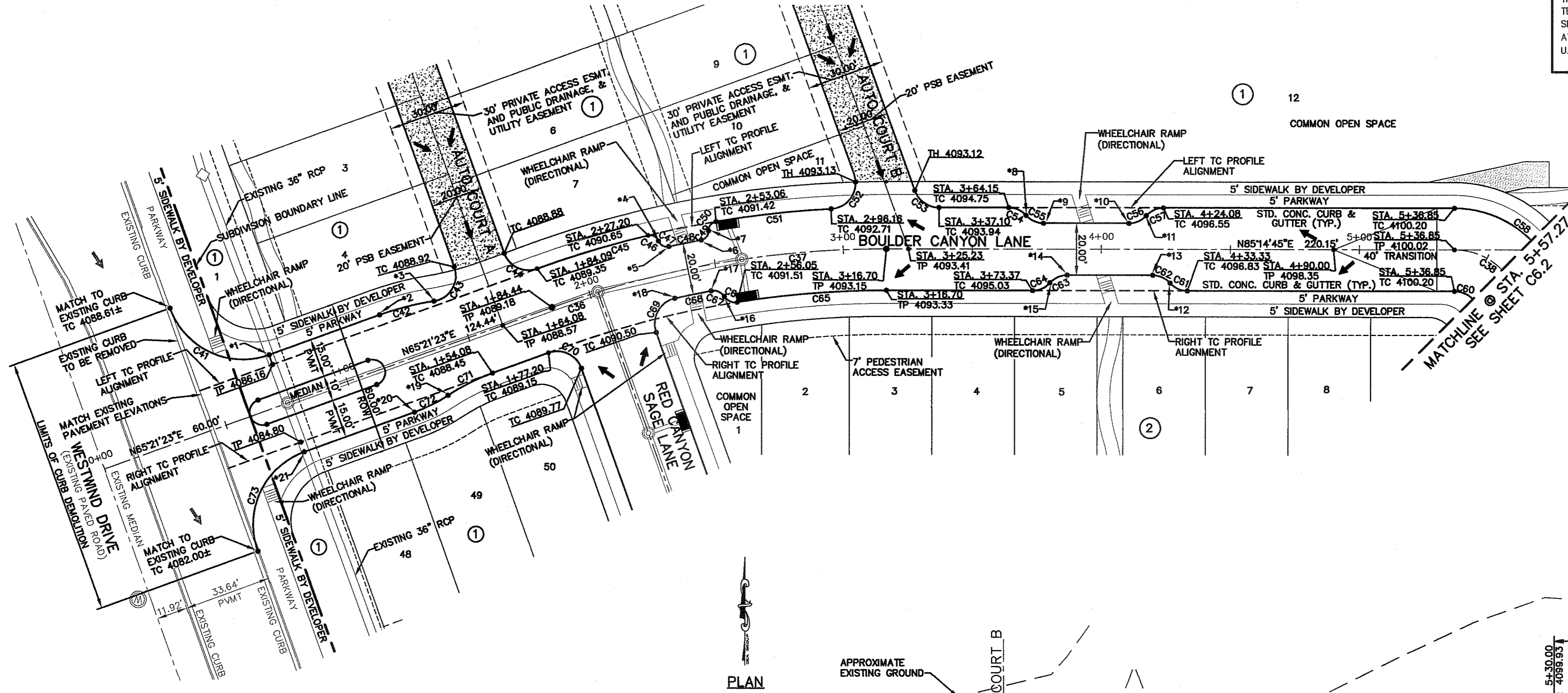
SHEET NO.
C5.3

CITY DEVELOPMENT DEPARTMENT
REVIEWED



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CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C36	381.00'	18.80'	9.40'	18.80'	S66°46'13"W	002°49'40"
C37	381.00'	113.46'	57.15'	113.04'	S76°42'54"W	017°03'42"
C38	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	090°00'00"
C41	30.00'	47.08'	29.96'	42.40'	S69°41'00"E	089°55'14"
C42	110.00'	21.81'	10.94'	21.77'	S71°02'09"W	011°21'33"
C43	10.00'	17.69'	12.21'	15.47'	N26°02'09"E	101°21'33"
C44	10.00'	15.72'	10.01'	14.15'	S69°40'06"E	090°02'59"
C45	397.00'	44.90'	22.47'	44.88'	S68°32'48"W	006°28'49"
C46	3.50'	5.03'	3.06'	4.61'	N67°04'04"W	082°17'27"
C47	3.50'	4.97'	3.00'	4.56'	S66°33'50"E	081°17'00"
C48	391.00'	12.79'	6.40'	12.79'	S73°43'54"W	001°52'28"
C49	3.50'	4.97'	3.00'	4.56'	N34°01'38"E	081°17'00"
C50	3.50'	5.03'	3.06'	4.61'	S34°31'51"W	082°17'27"
C51	397.00'	44.91'	22.48'	44.89'	S78°55'02"W	006°28'54"
C52	10.00'	18.64'	13.47'	16.06'	N28°45'26"E	106°48'06"
C53	10.00'	12.24'	7.02'	11.49'	S59°41'56"E	070°08'38"
C54	9.00'	7.55'	4.01'	7.33'	N70°36'22"W	048°05'01"
C55	9.00'	7.57'	4.02'	7.35'	S70°39'33"E	048°11'23"
C56	9.00'	7.57'	4.02'	7.35'	N61°09'04"E	048°11'23"
C57	9.00'	7.55'	4.01'	7.33'	S61°05'53"W	048°05'01"
C58	42.00'	65.97'	42.00'	59.40'	N49°45'15"W	090°00'00"
C59	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"
C60	10.00'	15.71'	10.00'	14.14'	N49°45'15"W	090°00'00"
C61	9.00'	7.57'	4.02'	7.35'	S70°39'33"E	048°11'23"
C62	9.00'	7.57'	4.02'	7.35'	N70°39'33"W	048°11'23"
C63	9.00'	7.57'	4.02'	7.35'	S61°09'04"W	048°11'23"
C64	9.00'	7.55'	4.01'	7.33'	N61°05'53"E	048°05'01"
C65	365.00'	58.10'	29.11'	58.04'	S80°41'10"W	009°07'11"
C66	5.00'	5.73'	3.23'	5.43'	S71°01'07"E	065°42'37"
C67	5.00'	5.86'	3.32'	5.53'	N71°43'56"W	067°08'14"
C68	371.00'	14.37'	7.19'	14.37'	S73°35'22"W	002°13'09"
C69	10.00'	16.94'	11.31'	14.98'	S23°57'19"W	097°02'57"
C70	10.00'	15.72'	10.01'	14.15'	N69°36'23"W	090°04'28"
C71	82.00'	19.31'	9.70'	19.27'	S58°36'32"W	013°29'42"
C72	62.00'	14.65'	7.36'	14.61'	N58°35'17"E	013°32'09"
C73	30.00'	47.18'	30.05'	42.46'	S20°18'27"W	090°05'52"

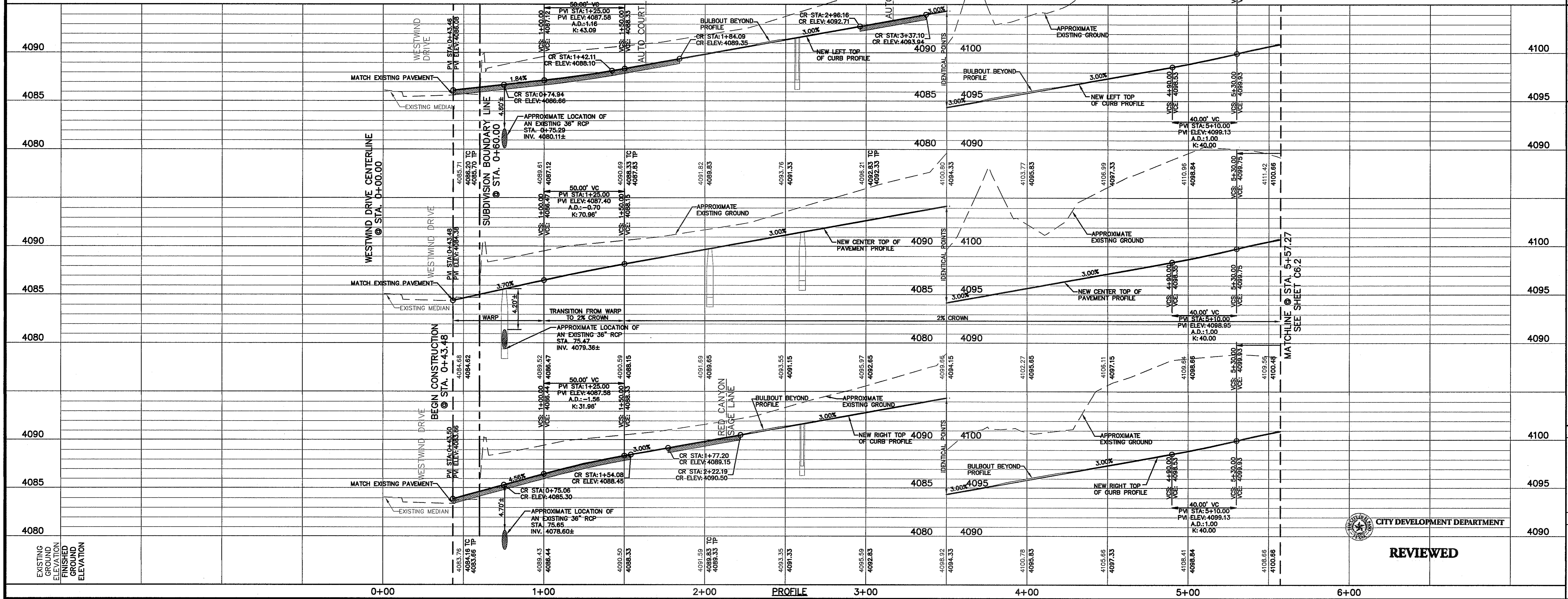


UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

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

#	STA.	TC	TC ELEV.	OFFSET
*1	STA. 0+74.94	TC 4088.58		OFFSET: 20.00' LEFT
*2	STA. 1+20.45	TC 4087.30		OFFSET: 20.00' LEFT
*3	STA. 1+42.11	TC 4088.04		OFFSET: 17.85' LEFT
*4	STA. 2+30.55	TC 4090.80		OFFSET: 12.98' LEFT
*5	STA. 2+33.90	TC 4090.98		OFFSET: 10.00' LEFT
*6	STA. 2+46.36	TC 4091.34		OFFSET: 10.00' LEFT
*7	STA. 2+49.71	TC 4091.38		OFFSET: 12.98' LEFT
*8	STA. 3+70.84	TC 4095.02		OFFSET: 12.98' LEFT
*9	STA. 3+77.55	TC 4095.28		OFFSET: 10.00' LEFT
*10	STA. 4+10.68	TC 4096.27		OFFSET: 10.00' LEFT
*11	STA. 4+17.39	TC 4096.41		OFFSET: 13.00' LEFT
*12	STA. 4+26.63	TC 4096.69		OFFSET: 13.00' RIGHT
*13	STA. 4+19.92	TC 4096.55		OFFSET: 10.00' RIGHT
*14	STA. 3+86.77	TC 4095.55		OFFSET: 10.00' RIGHT
*15	STA. 3+80.08	TC 4095.29		OFFSET: 13.00' RIGHT
*16	STA. 2+51.33	TC 4091.43		OFFSET: 13.00' RIGHT
*17	STA. 2+46.56	TC 4091.34		OFFSET: 10.00' RIGHT
*18	STA. 2+31.81	TC 4090.90		OFFSET: 10.00' RIGHT
*19	STA. 1+34.89	TC 4087.80		OFFSET: 18.28' RIGHT
*20	STA. 1+20.38	TC 4087.29		OFFSET: 20.00' RIGHT
*21	STA. 0+75.06	TC 4088.22		OFFSET: 20.00' RIGHT

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



REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON BOLDER CANYON LANE. BENCHMARK ELEVATION = 4081.51 (CITY DATUM = 4070.77)

ENGINEER'S SEAL

SCALE: 1" = 30'
 Horizontal: 1" = 30'
 Vertical: Contour Interval: 1/2" = 10'

DATE: NOVEMBER 2013
 DESIGN BY: J.A.
 DRAWN BY: J.A.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO. 2060-026LD

PROJECT TITLE
BOLDER CANYON LANE REPLAT A
SUBDIVISION IMPROVEMENTS

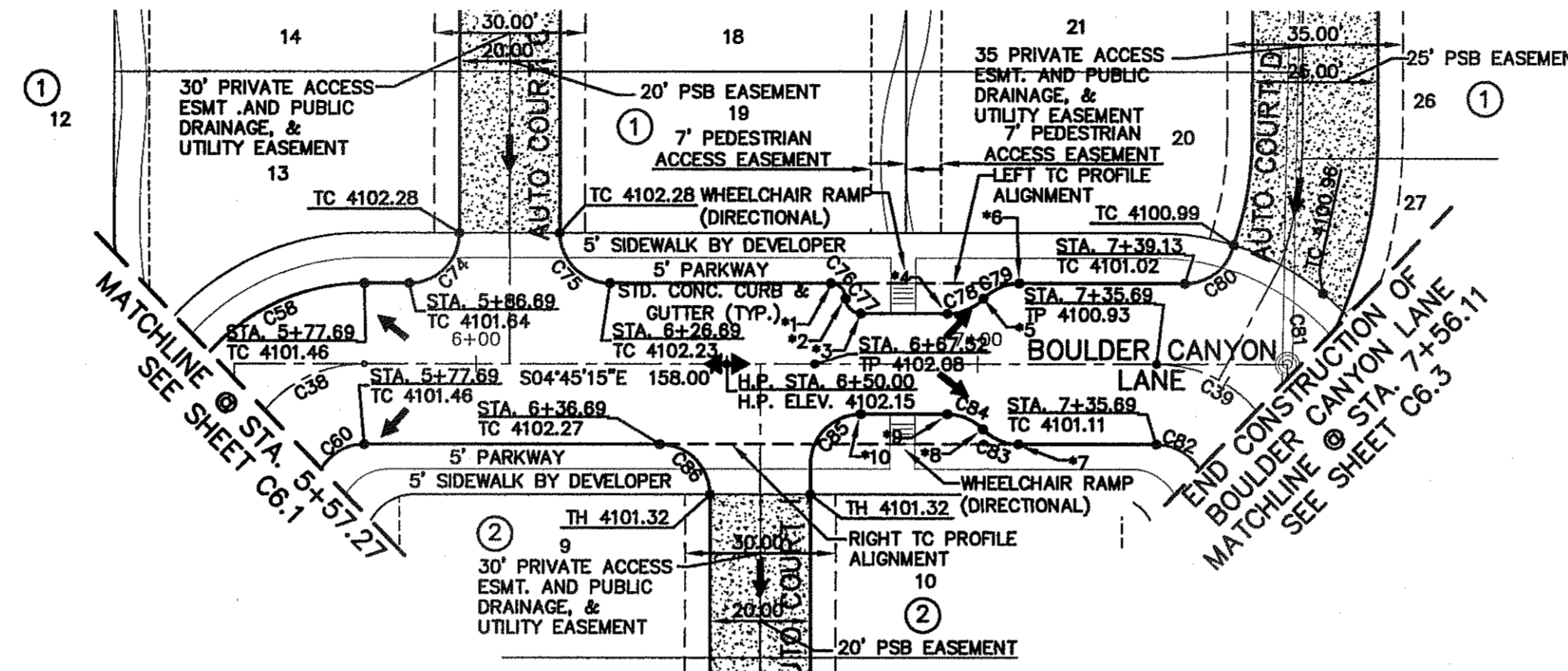
SHEET TITLE
BOLDER CANYON LANE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 5+57.27

SHEET NO.
C6.1

REVIEWED
 CITY DEVELOPMENT DEPARTMENT

S:\2060\2060-026LD\026LD\Construction Drawings\Improvement Plans\C6.1 - Boulder Canyon Lane Rpl. 1 (1) Job - Boulder Canyon Lane, 2/25/2014 14:23:39 P.M.

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C38	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	089°59'59"
C39	26.00'	40.84'	26.00'	36.77'	N40°14'45"E	090°00'00"
C58	42.00'	65.97'	42.00'	59.40'	N49°45'15"W	090°00'00"
C60	10.00'	15.71'	10.00'	14.14'	N49°45'15"W	090°00'00"
C74	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"
C75	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C76	3.00'	4.71'	3.00'	4.24'	N40°14'50"E	089°59'50"
C77	3.00'	4.71'	3.00'	4.24'	S40°14'45"W	090°00'00"
C78	10.00'	7.95'	4.20'	7.75'	S27°32'26"E	045°34'23"
C79	10.00'	7.95'	4.20'	7.75'	N27°32'26"W	045°34'23"
C80	10.00'	12.17'	6.97'	11.43'	S39°36'46"E	069°43'02"
C81	10.00'	10.91'	6.07'	10.37'	S78°04'11"W	062°29'47"
C82	10.00'	15.71'	10.00'	14.14'	N40°14'45"E	090°00'00"
C83	10.00'	7.95'	4.20'	7.75'	S18°01'57"W	045°34'23"
C84	10.00'	7.95'	4.20'	7.75'	N18°01'57"E	045°34'23"
C85	10.00'	15.71'	10.00'	14.14'	N49°45'15"W	090°00'00"
C86	10.00'	15.71'	10.00'	14.14'	N40°14'45"E	090°00'00"



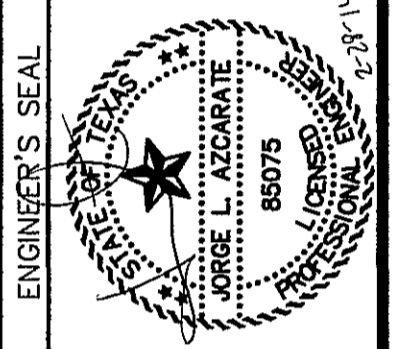
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*2	STA. 6+73.69	TC 4102.29	OFFSET: 13.00' LEFT
*3	STA. 6+76.69	TC 4102.32	OFFSET: 10.00' LEFT
*4	STA. 6+93.99	TC 4102.11	OFFSET: 10.00' LEFT
*5	STA. 7+01.13	TC 4101.95	OFFSET: 13.00' LEFT
*6	STA. 7+08.27	TC 4101.74	OFFSET: 16.00' LEFT
*7	STA. 7+08.19	TC 4101.74	OFFSET: 16.00' RIGHT
*8	STA. 7+01.05	TC 4101.95	OFFSET: 13.00' RIGHT
*9	STA. 6+93.91	TC 4102.11	OFFSET: 10.00' RIGHT
*10	STA. 6+76.69	TC 4102.32	OFFSET: 10.00' RIGHT

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

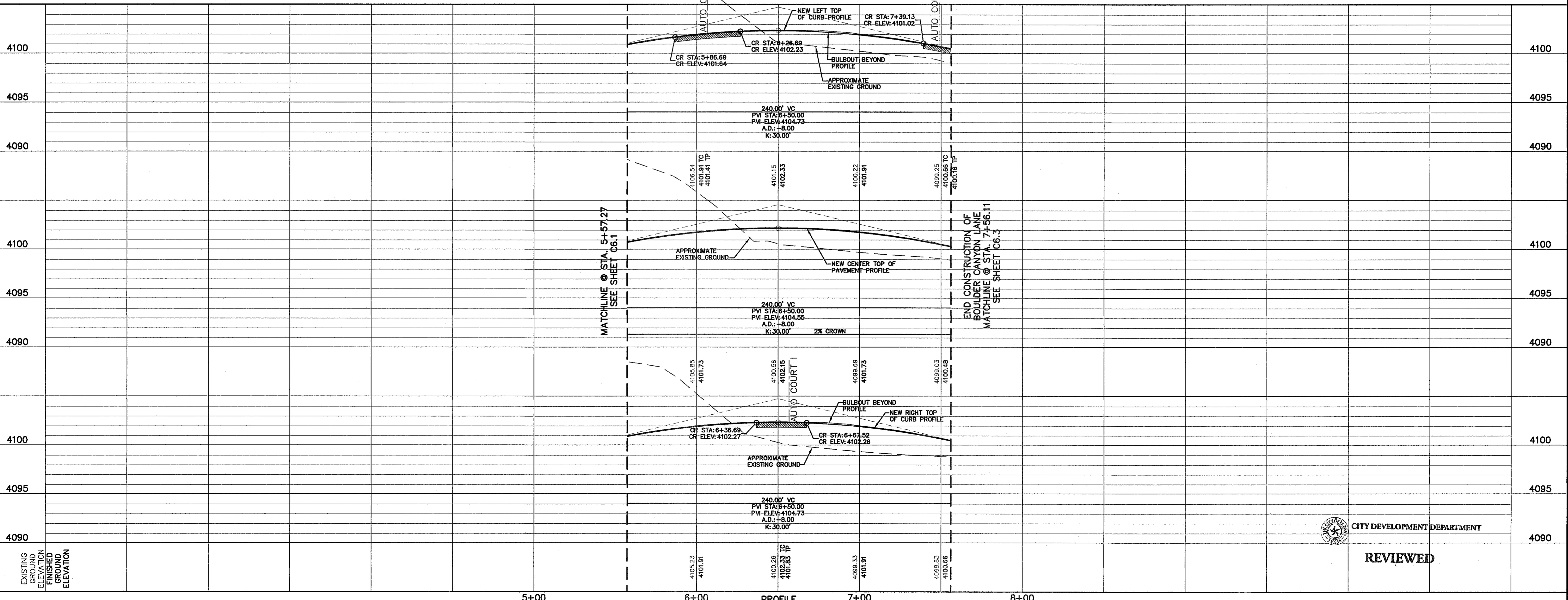
WARNING I BEFORE YOU DIG
 CALL
 1-800-DIG-TESS
 1-800-344-8377
 FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 83 DATUM ELEVATION = 4061.81 (CITY DATUM = 4076.77)
 DATE _____ BY _____
 REVISIONS _____

CSA
 engineers • architects • planners
 TEXAS REGISTERED ENGINEERING FIRM F-464
 4712 Woodrow Bann, Ste. F El Paso, TX 79924
 Office: 915.544.5322 Fax: 915.544.5223 www.csaep.com



LEGEND
 [Symbol] BULBOUT BEYOND PROFILE
 [Symbol] PROFILE DEPICTS 6" DROP AT INTERSECTION CURB RETURNS. REFER TO PW STATIONS FOR ACTUAL PAVEMENT ELEVATIONS.



SCALE: 1" = 30'
 Horizontal: 1" = 30'
 Vertical: 1" = 5'
 Contour Interval: N/A
 DATE: NOVEMBER 2013
 DESIGN BY: J.A.
 DRAWN BY: A.B.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No. 2060-0261.D

PROJECT TITLE
BOULDER CANYON LANE REPLAT A
SUBDIVISION IMPROVEMENTS

SHEET TITLE
BOULDER CANYON LANE PLAN & PROFILE FROM STA. 5+57.27 TO STA. 7+56.11

SHEET NO.
C6.2

CITY DEVELOPMENT DEPARTMENT
REVIEWED

S:\2013\0206-026-02\0206026-02.dwg (2/26/2014 4:14:56 PM) Boulder Canyon Lane 8'x2' 2" by Boulder Canyon Lane, 2/26/2014 4:14:56 PM

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3789
U.S. SPRINT TELECOMM	(800) 521-0579

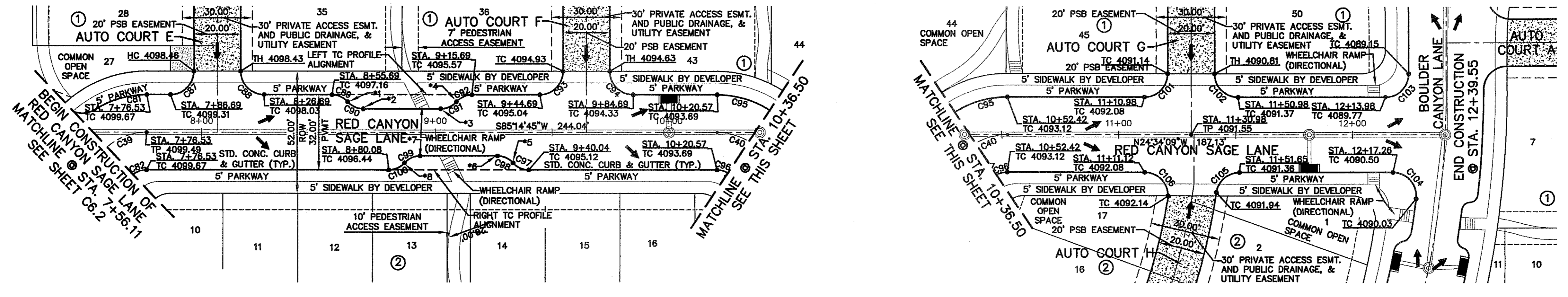
WARNING I BEFORE YOU DIG

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

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C39	26.00'	40.84'	26.00'	36.77'	N40°14'45"E	090°00'00"
C40	26.00'	31.85'	18.27'	29.89'	S59°39'42"E	070°11'05"
C81	42.00'	28.17'	14.64'	27.64'	N66°02'01"E	038°25'28"
C82	10.00'	15.71'	10.00'	14.14'	N40°14'45"E	090°00'00"
C87	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C88	10.00'	15.71'	10.00'	14.14'	N49°45'15"W	090°00'00"
C89	9.00'	7.57'	4.02'	7.35'	S70°39'33"E	048°11'23"
C90	9.00'	7.57'	4.02'	7.35'	N70°39'33"W	048°11'23"
C91	9.00'	7.57'	4.02'	7.35'	S61°09'04"W	048°11'23"
C92	9.00'	7.57'	4.02'	7.35'	N61°09'02"E	048°11'19"
C93	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C94	10.00'	15.71'	10.00'	14.14'	N49°45'15"W	090°00'00"
C95	42.00'	51.45'	29.51'	48.29'	S59°39'42"E	070°11'05"
C96	10.00'	12.25'	7.03'	11.50'	S59°39'42"E	070°11'05"
C97	9.00'	7.57'	4.02'	7.35'	N70°39'33"W	048°11'23"
C98	9.00'	7.57'	4.02'	7.35'	S70°39'33"E	048°11'23"
C99	9.00'	7.57'	4.02'	7.35'	N61°09'04"W	048°11'23"
C100	9.00'	7.55'	4.01'	7.33'	S61°05'53"W	048°05'01"
C101	10.00'	15.72'	10.01'	14.15'	N69°36'23"W	090°04'28"
C102	10.00'	15.69'	9.99'	14.13'	N20°23'37"E	089°55'32"
C103	10.00'	15.72'	10.01'	14.15'	N69°36'23"W	090°04'28"
C104	10.00'	16.94'	11.31'	14.98'	S23°57'19"W	087°02'57"
C105	10.00'	14.21'	8.60'	13.04'	S65°15'55"E	081°23'32"
C106	10.00'	17.45'	11.91'	15.32'	S25°24'49"W	099°57'56"

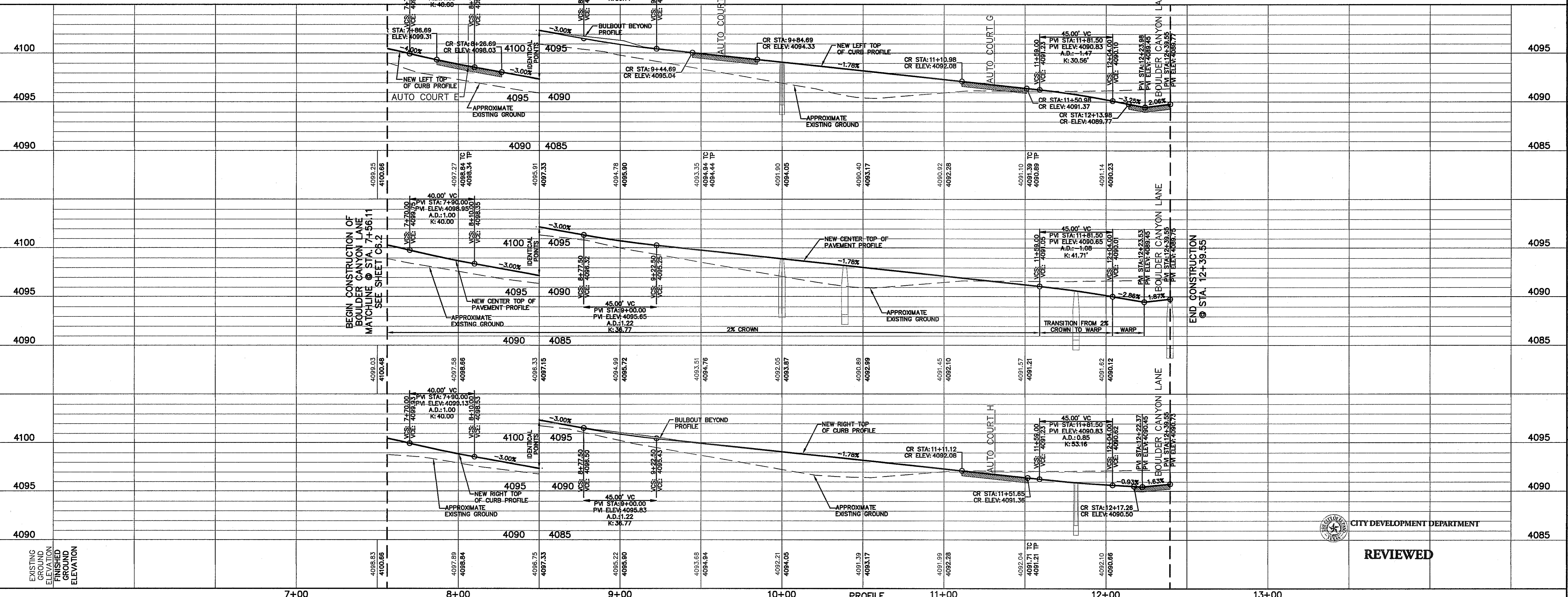


*1	STA. 8+26.40	TC 4097.02	OFFSET: 13.00' LEFT
*2	STA. 8+89.11	TC 4096.88	OFFSET: 10.00' LEFT
*3	STA. 9+02.27	TC 4096.26	OFFSET: 10.00' LEFT
*4	STA. 9+08.98	TC 4095.77	OFFSET: 13.00' LEFT
*5	STA. 9+33.33	TC 4095.30	OFFSET: 13.00' RIGHT
*6	STA. 9+26.63	TC 4095.48	OFFSET: 10.00' RIGHT
*7	STA. 8+93.48	TC 4096.19	OFFSET: 10.00' RIGHT
*8	STA. 8+86.77	TC 4096.32	OFFSET: 13.00' RIGHT

LEGEND

— BULBOUT BEYOND PROFILE

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



REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON STATION DR. IN 1995 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5322 Fax: 915.544.2293 www.oaep.com

ENGINEER'S SEAL

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB No. : 2060-0261D

PROJECT TITLE
BOULDER CANYON REPLAT A
SUBDIVISION IMPROVEMENTS

SHEET TITLE
RED CANYON SAGE LANE PLAN & PROFILE FROM STA. 7+56.11 TO STA. 12+39.55

SHEET NO.
C6.3

CITY DEVELOPMENT DEPARTMENT
REVIEWED

S:\2009\2009-2014\0000\Construction Drawings\Improvement Plans\C6.3-Red Canyon Sage Lane.dwg, Red Canyon Sage Lane, 2/25/2014, 4:40:38 PM

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

WARNING!
BEFORE YOU DIG

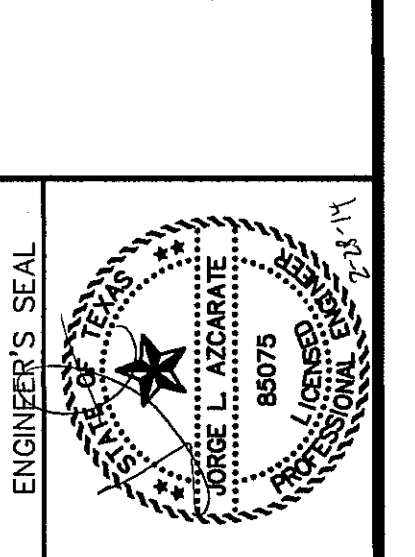
CALL
1-800-DIG-TESS
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

RESURVEY IS CITY ADJUMENT AT P.L. LOCATED ON
WESTWIND PARK
BEARING N 89° 00' 00" W
(CITY DATUM = 4070.77)

CSA
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM # 454
4712 Woodrow Beam, Ste. F El Paso, TX 79924
Office: 915.544.8326 Fax: 915.544.8253 www.csaengr.com



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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: J.A.B.
CHKD. BY: J.L.A.
APPRD. BY: J.L.A.
JOB No. - 2060-C026LD

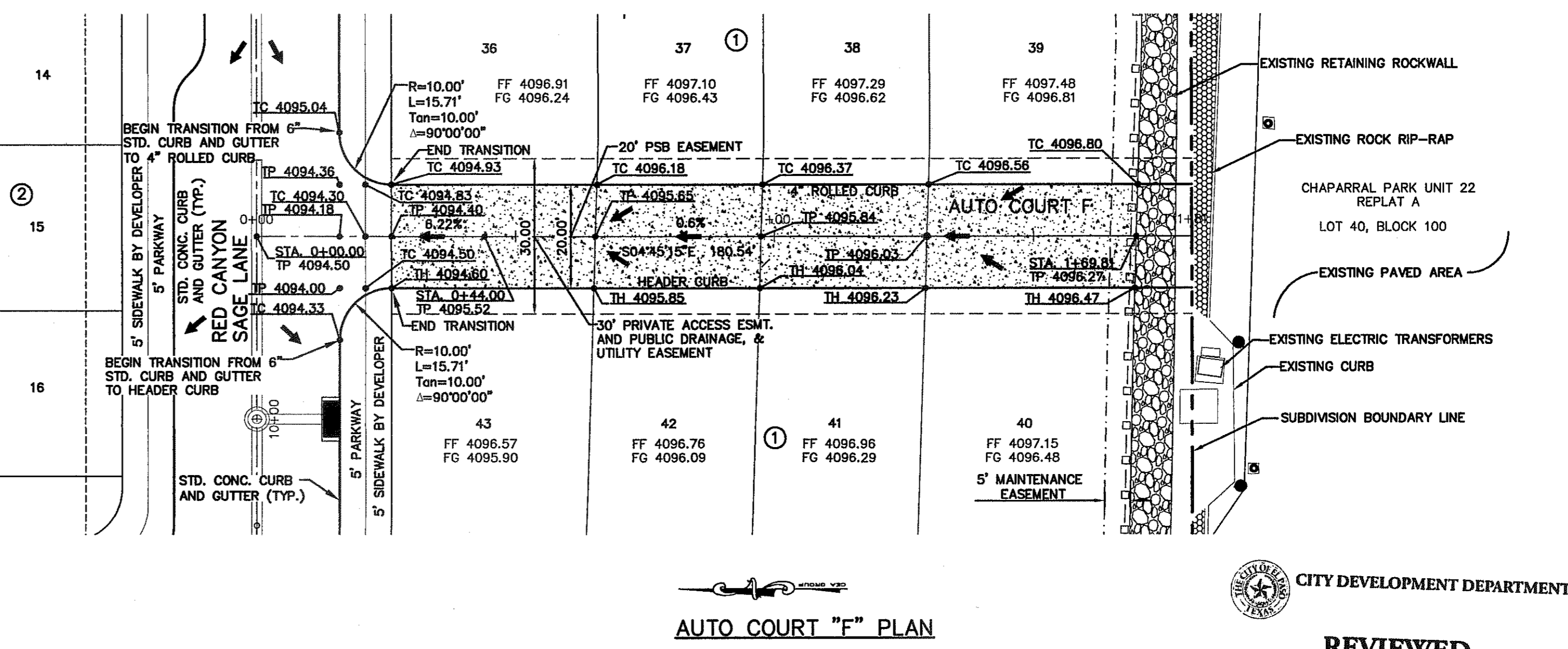
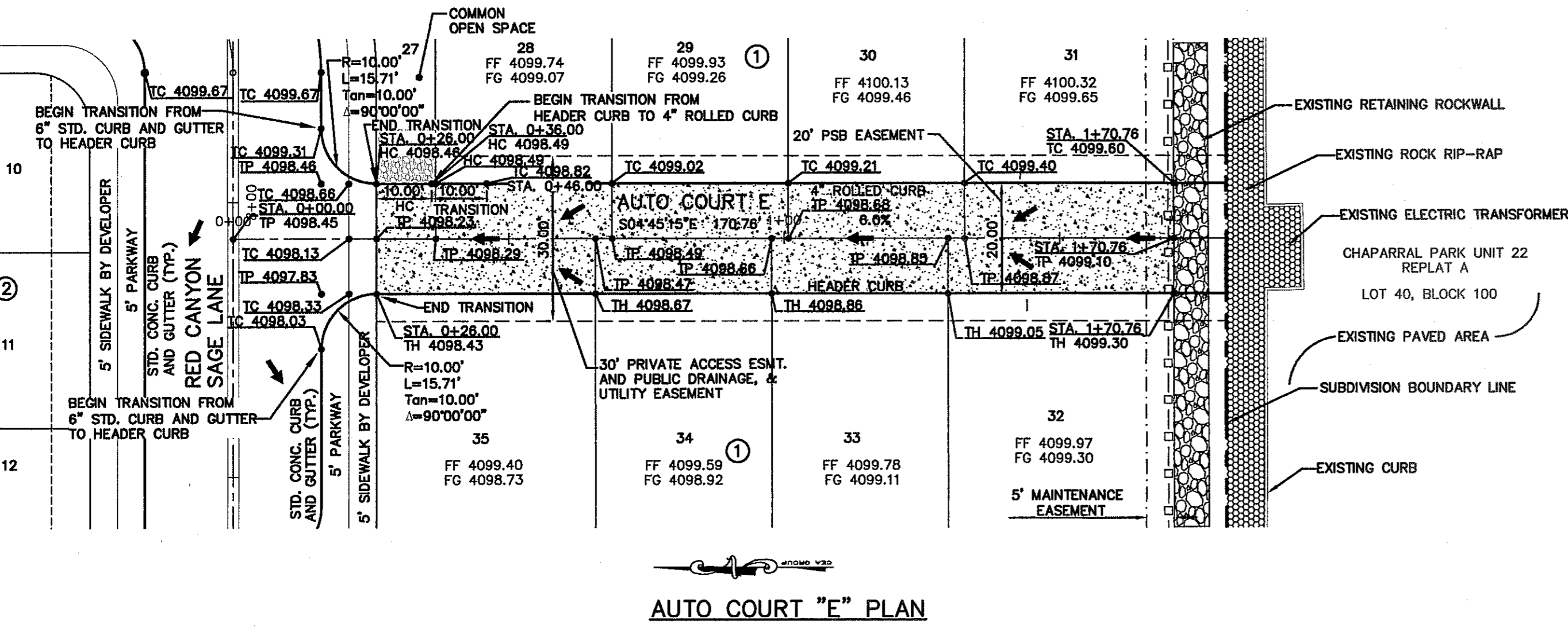
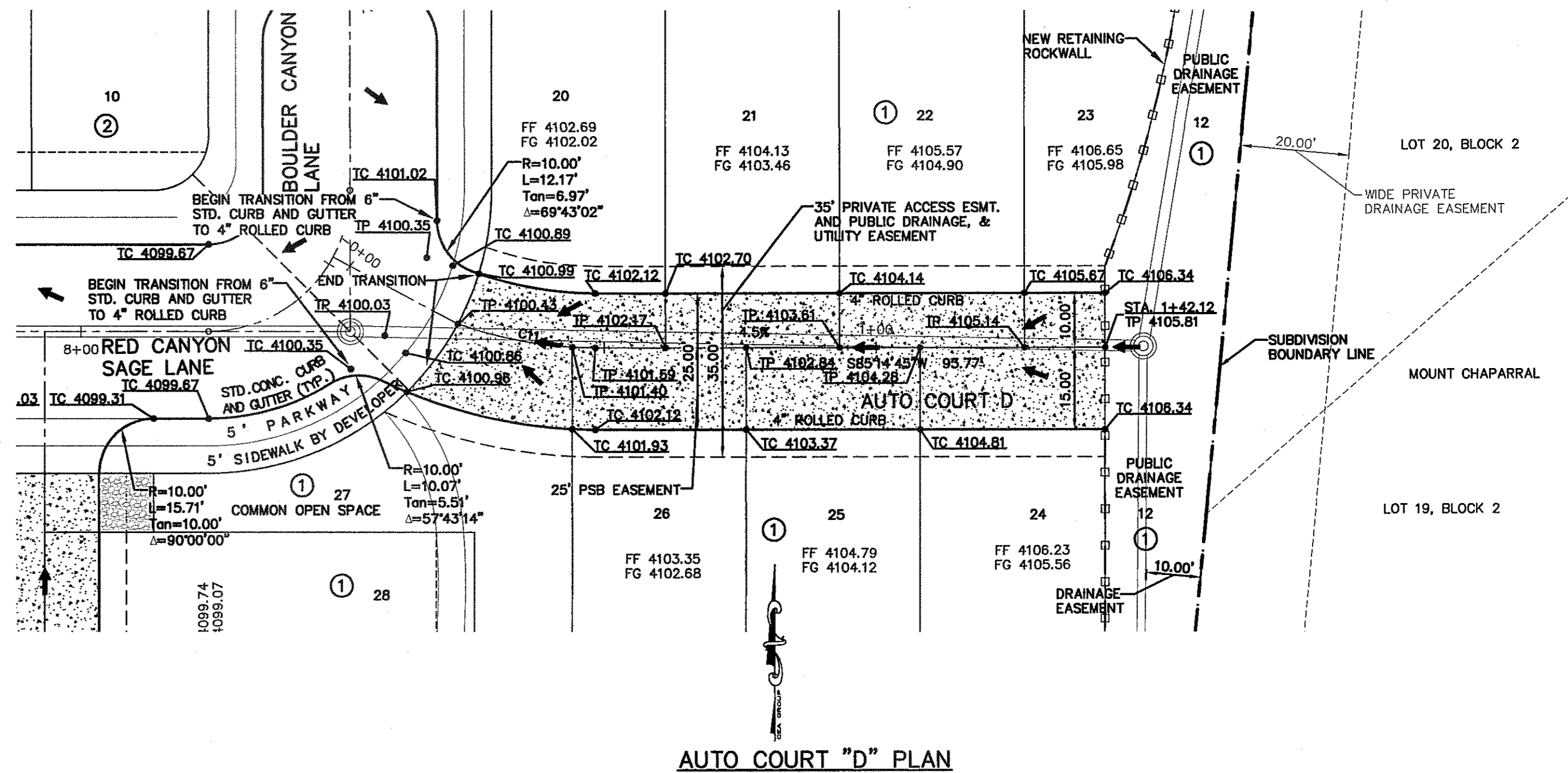
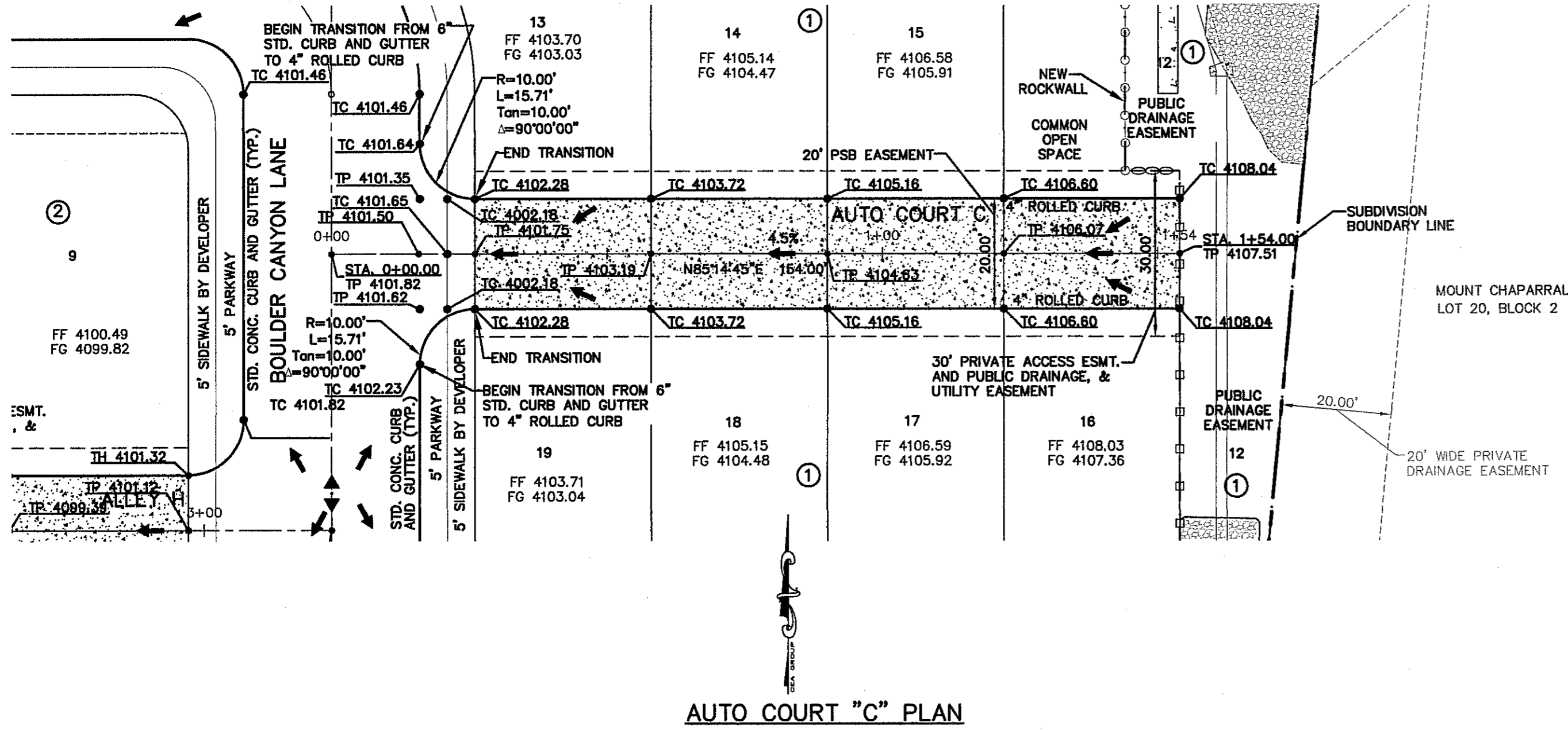
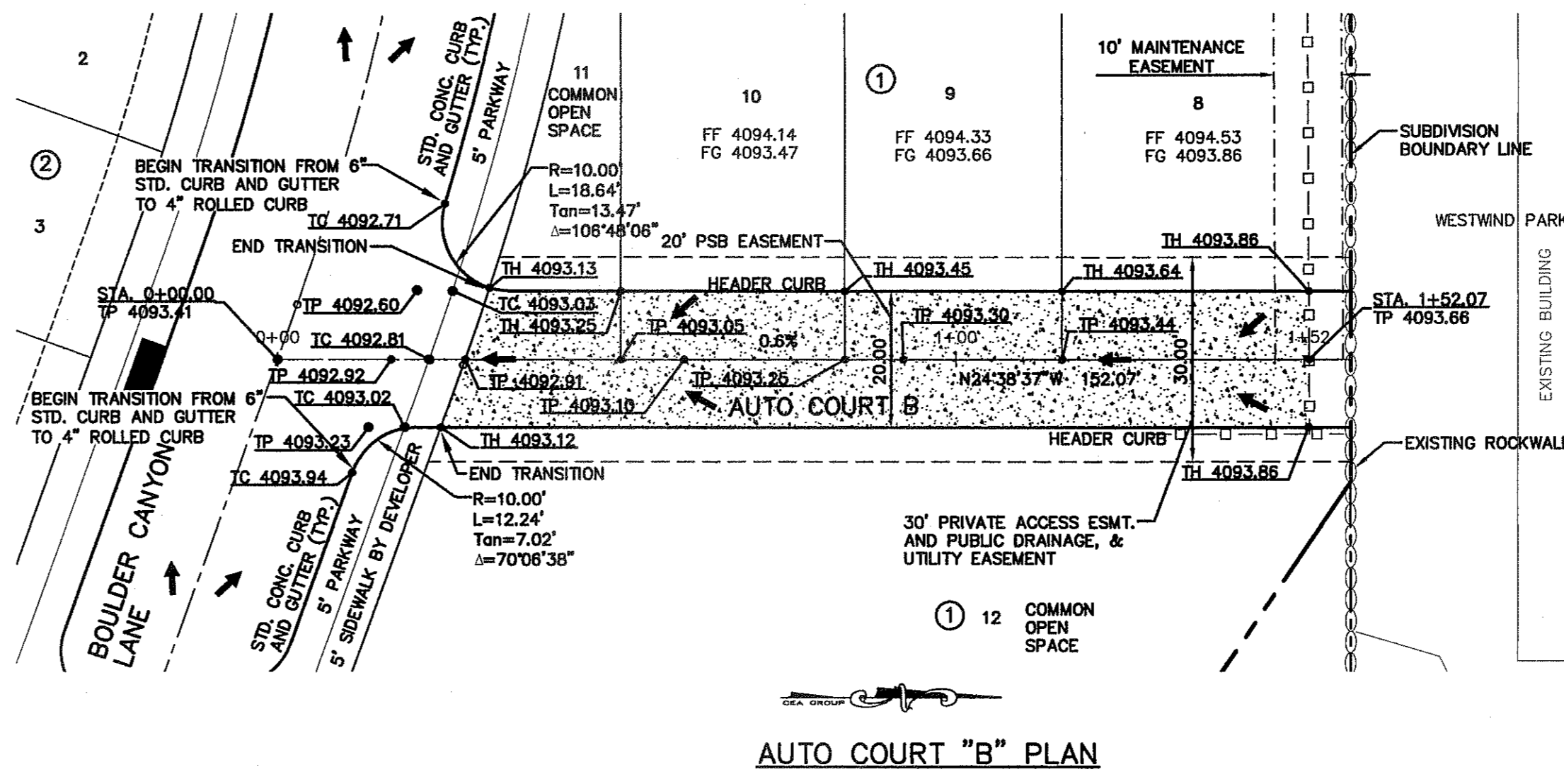
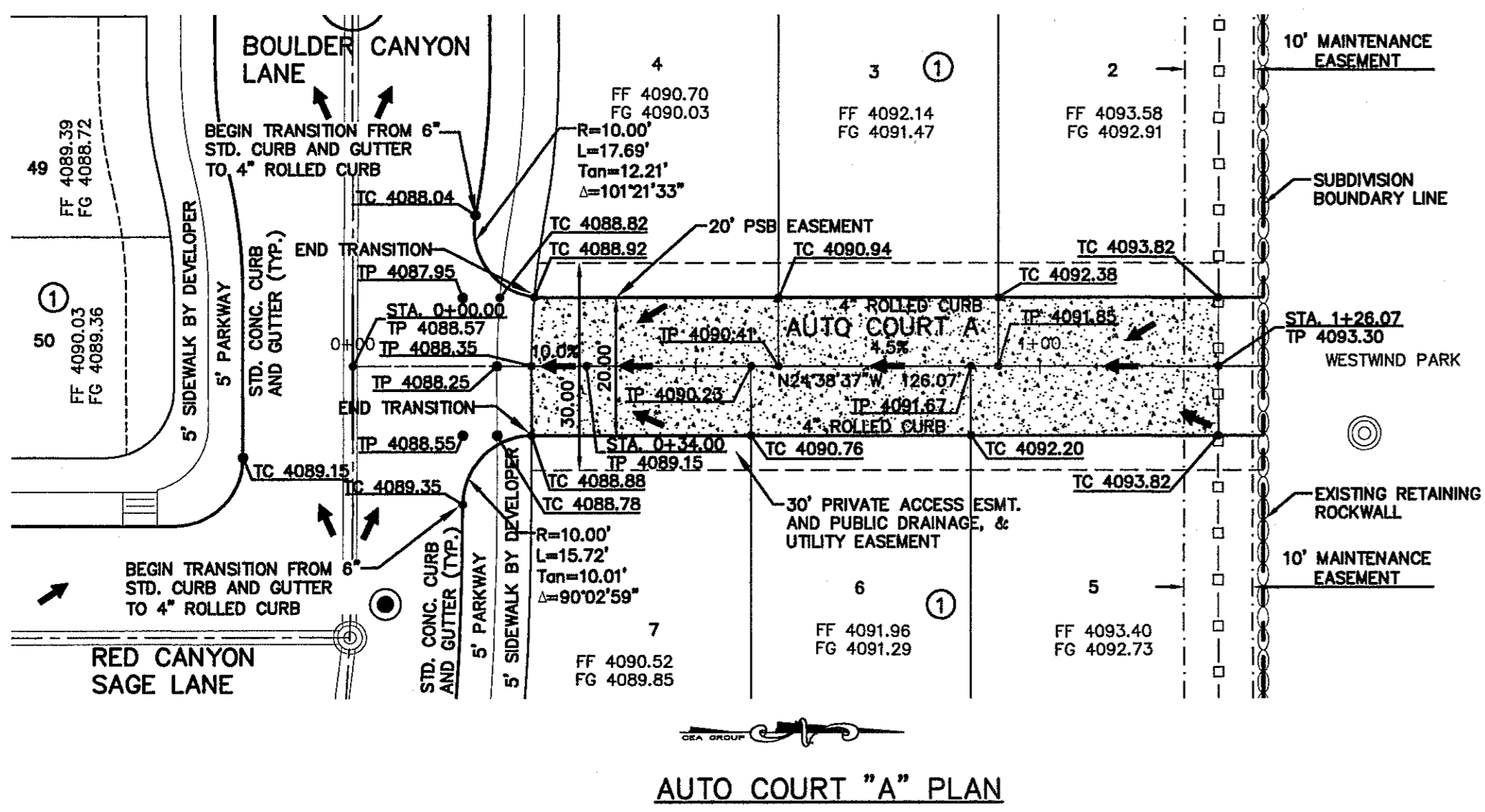
PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**AUTO COURTS "A"-
"F" GRADING PLAN**

SHEET NO.
C7.1

REVIEWED

- LEGEND:**
- EXISTING ROCKWALL
 - - - - NEW 6" HIGH RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
 - - - - PROPOSED 4" ROCKWALL BY DEVELOPER
 - TH 4091.48 TOP OF HEADER ELEVATION
 - TP 4091.65 TOP OF PAVEMENT ELEVATION
 - TC 4092.43 TOP OF CURB ELEVATION
 - PROPOSED STORM SEWER
 - NEW 6" JOINTED CONCRETE
 - EXISTING ROCK RIP-RAP
 - EXISTING RETAINING ROCKWALL



S:\0840\0840-0840-0840\0840\Construction Drawings\Improvement Plans\C7.1-1-27-AutoCourts A-F.dwg, 2/26/2014, 4:31:53 PM

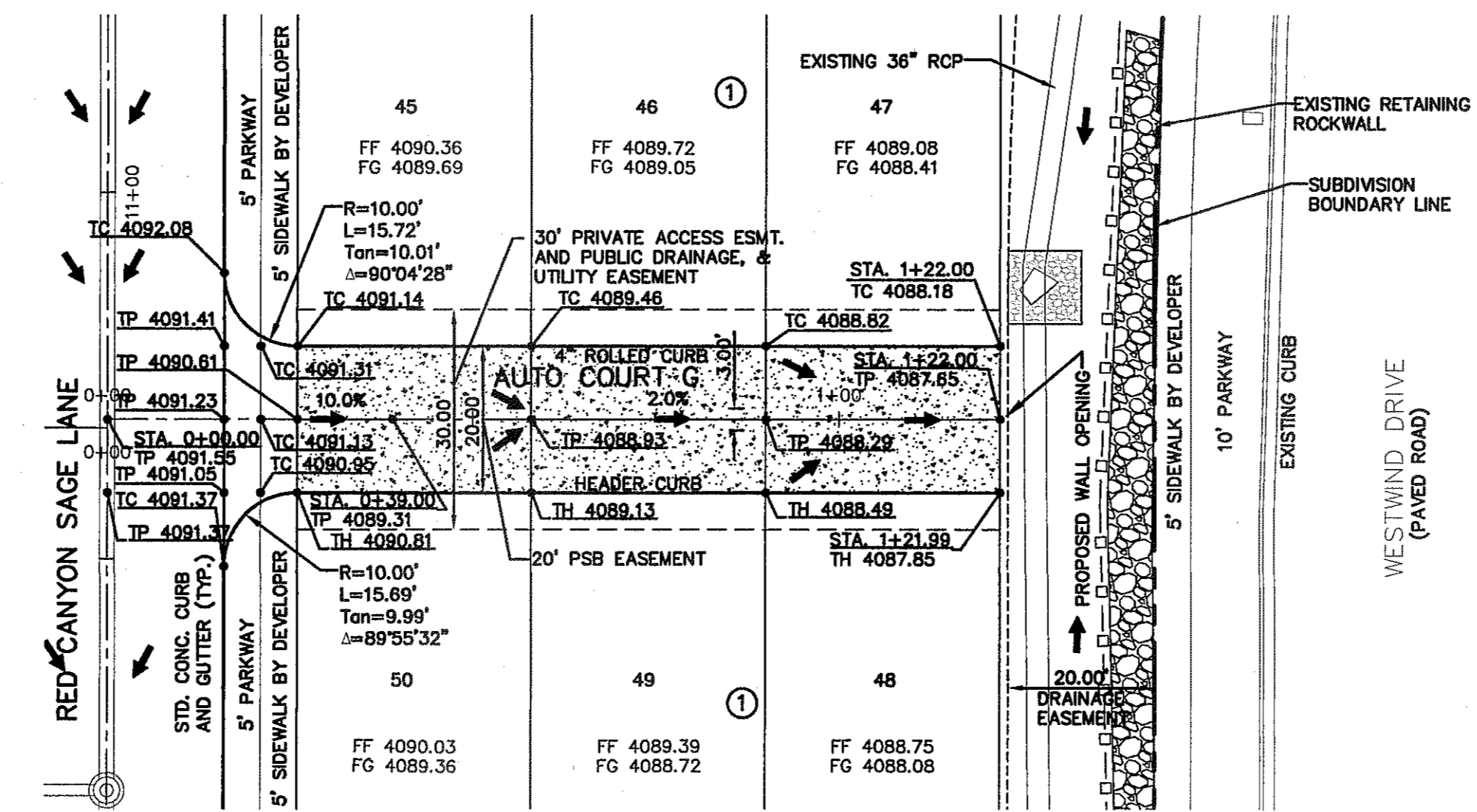
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

**WARNING !
BEFORE YOU DIG**

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

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BENCHMARK IS CITY MONUMENT AT PL LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)
DATE	REVISIONS
BY	



- LEGEND:**
- EXISTING ROCKWALL
 - NEW 6' HIGH RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
 - PROPOSED 4' ROCKWALL BY DEVELOPER
 - TH 4091.48 TOP OF HEADER ELEVATION
 - TP 4091.65 TOP OF PAVEMENT ELEVATION
 - TC 4092.43 TOP OF CURB ELEVATION
 - PROPOSED STORM SEWER
 - NEW 6" JOINTED CONCRETE
 - EXISTING ROCK RIP-RAP
 - EXISTING RETAINING ROCKWALL

ENGINEER'S SEAL

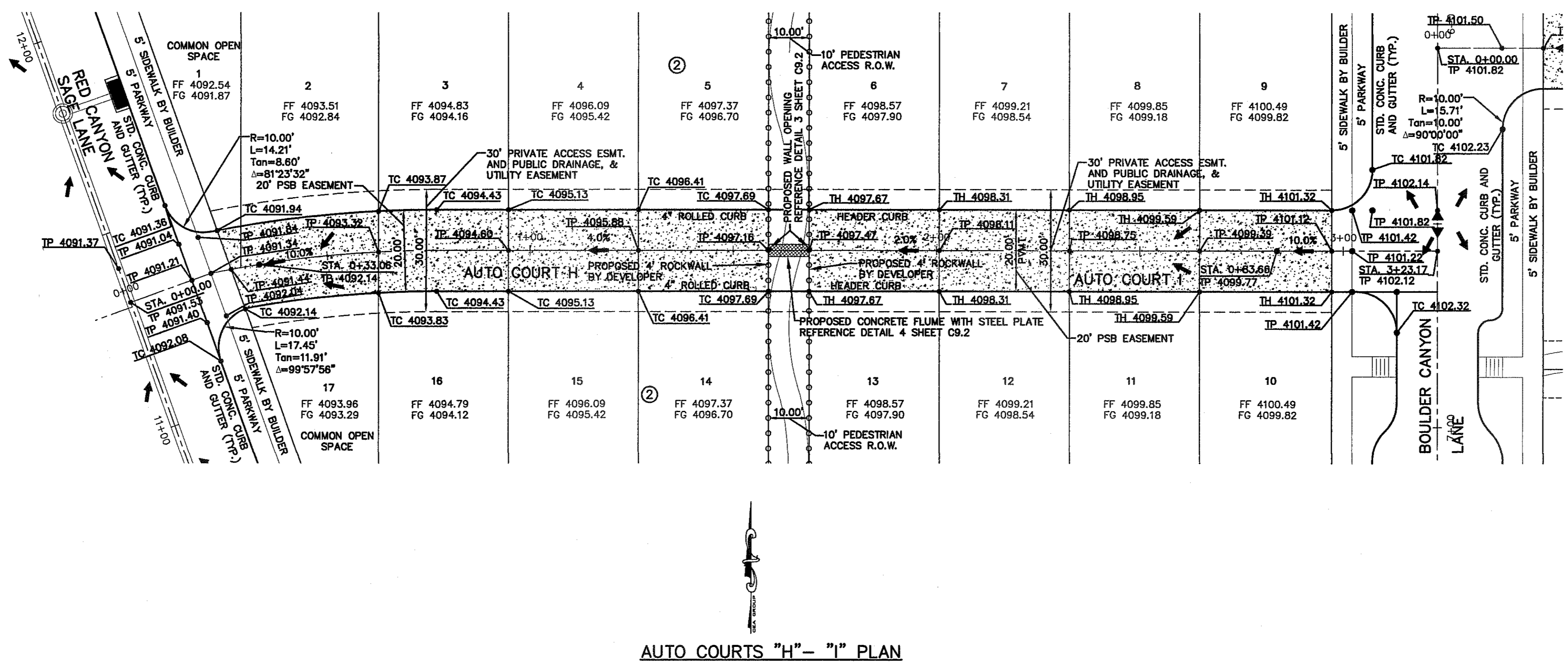
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Cite: 915/444-8322 Fax: 915/444-8323 www.cogroup.com

SCALE

Horizontal: 1"=20'
Vertical: N/A

CONTOUR INTERVAL: N/A

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPRD. BY: J.L.A.
JOB NO.: 2060-0261.D



PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**AUTO COURTS "G-I"
GRADING PLAN**

SHEET NO.

C7.2

CITY DEVELOPMENT DEPARTMENT

REVIEWED

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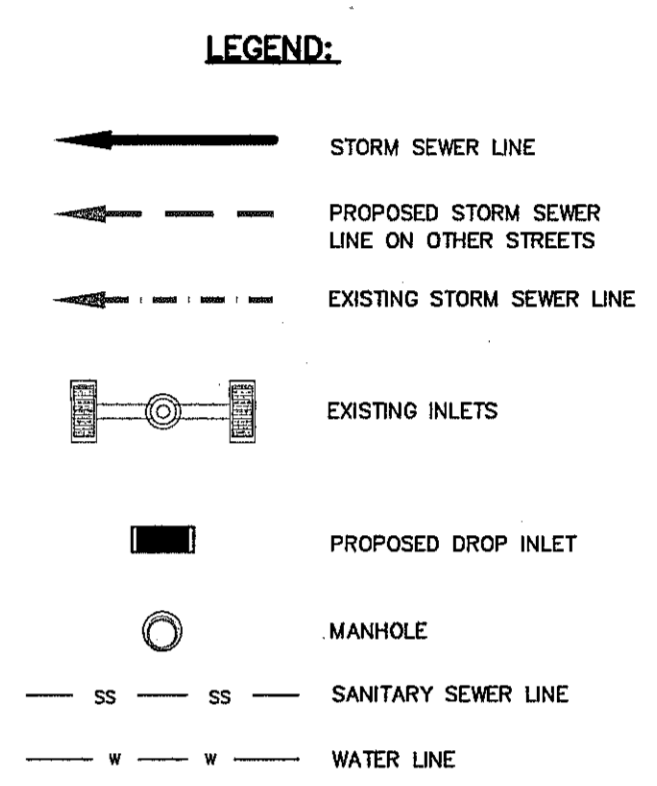
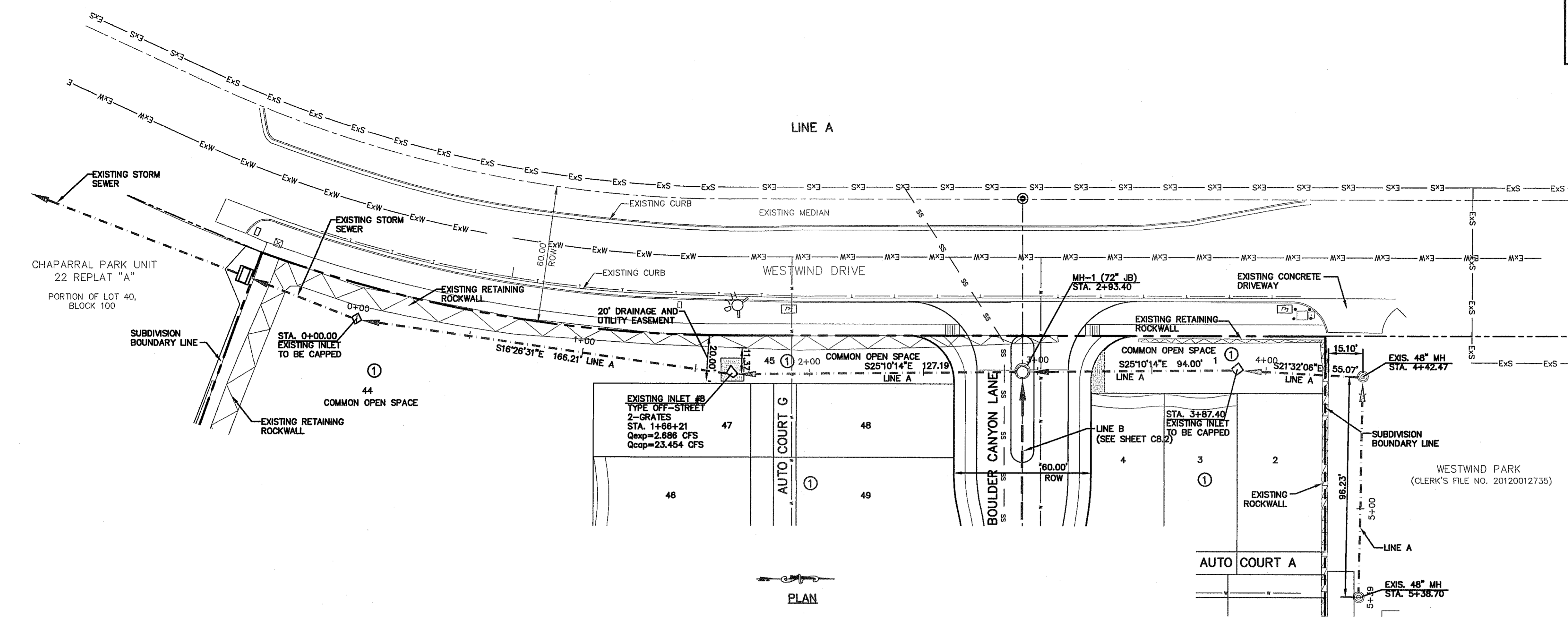
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING I BEFORE YOU DIG

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

FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

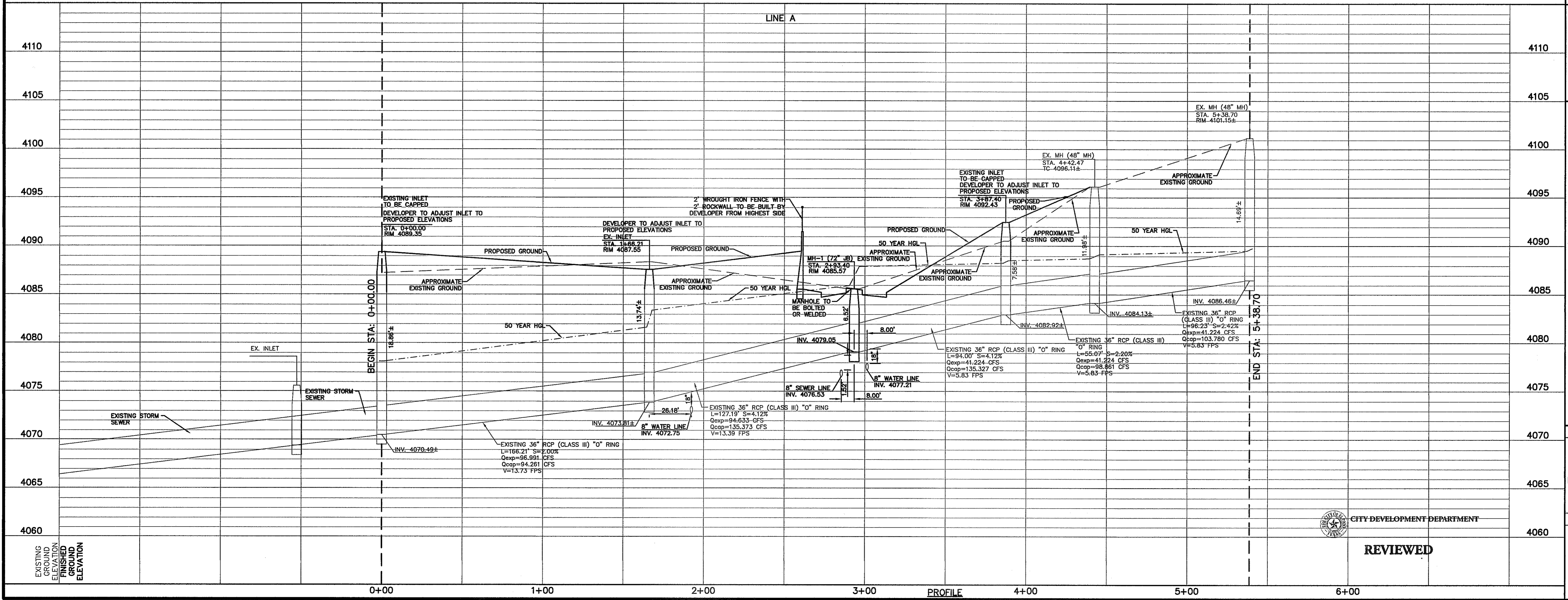
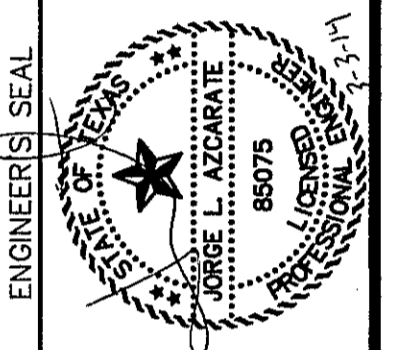


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SCALE

Horizontal: 1"=30'

Vertical: 1"=5'

Contour Interval: N/A

DATE: NOVEMBER 2013

DESIGN BY: J.A.

DRAWN BY: A.B.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB NO. - 2060-026LD

PROJECT TITLE

BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS

SHEET TITLE

LINE A
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 5+38.70

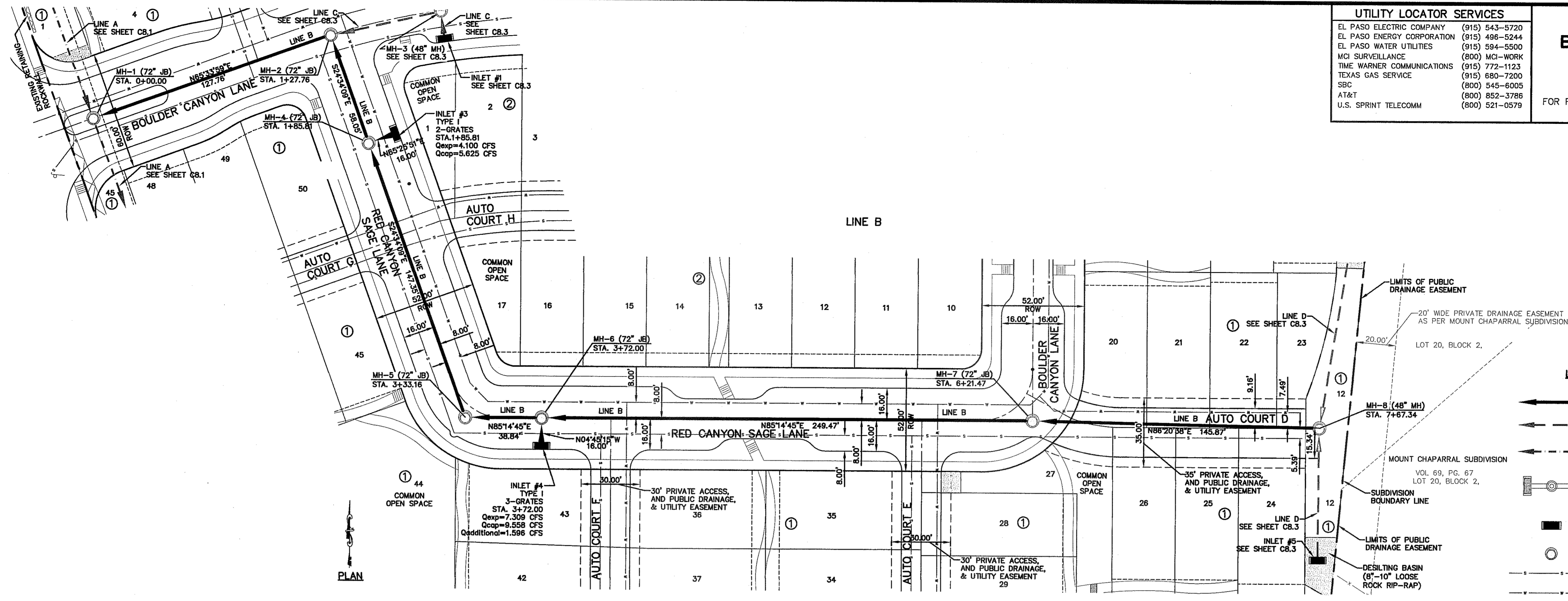
SHEET NO.

C8.1

REVIEWED

CITY DEVELOPMENT DEPARTMENT

S:\3060_026-026-LD\0265-Construction-Drawings\Improvement-Plan\CA_Storm Sewer Line A_7/2/2014 8:18:18 AM



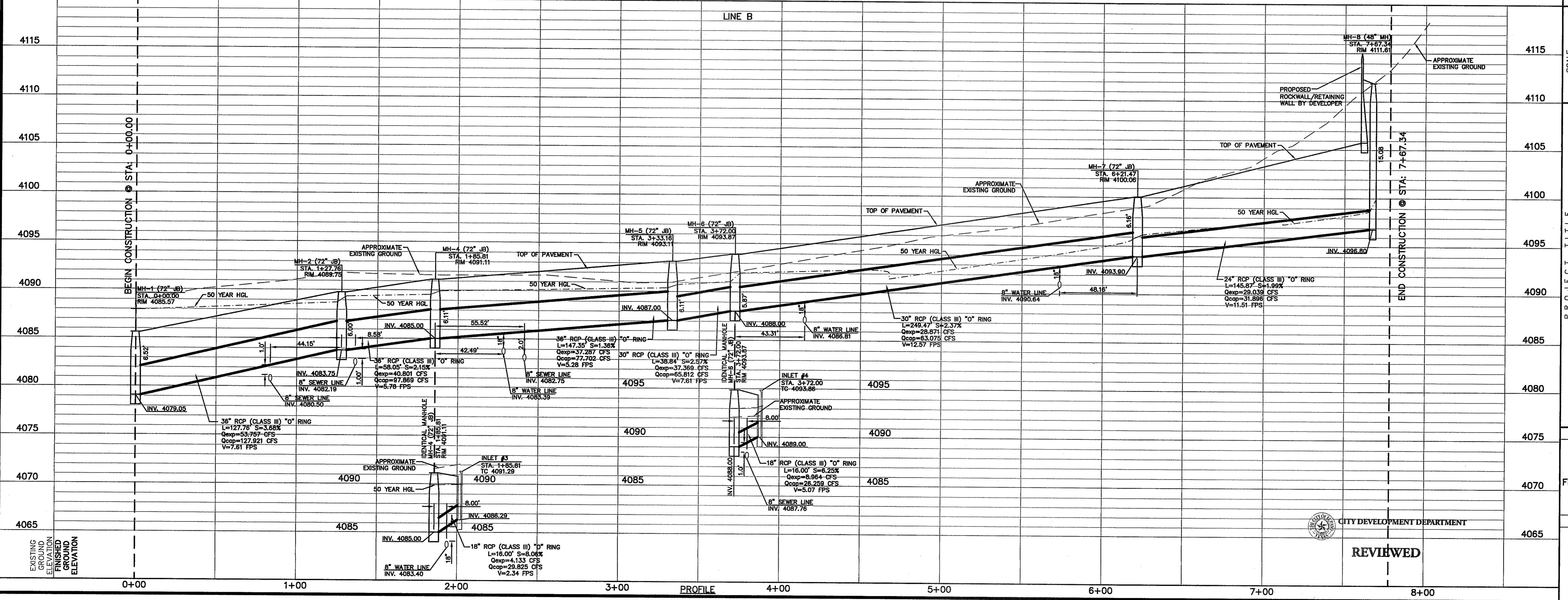
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 486-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

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

DATE	REVISIONS	BY

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PROJECT TITLE
BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

SHEET TITLE
LINE B PLAN & PROFILE FROM STA. 0+00.00 TO STA. 7+67.34

SHEET NO.
C8.2

SCALE: 1"=30'
 Horizontal: 1"=5'
 Vertical: Contour Interval: N/A
 DATE: NOVEMBER 2013
 DESIGN BY: A.A.
 DRAWN BY: A.B.
 CHECKED BY: J.L.A.
 APPROVED BY: J.L.A.
 JOB NO.: 2060-026LD

CITY DEVELOPMENT DEPARTMENT
 REVIEWED

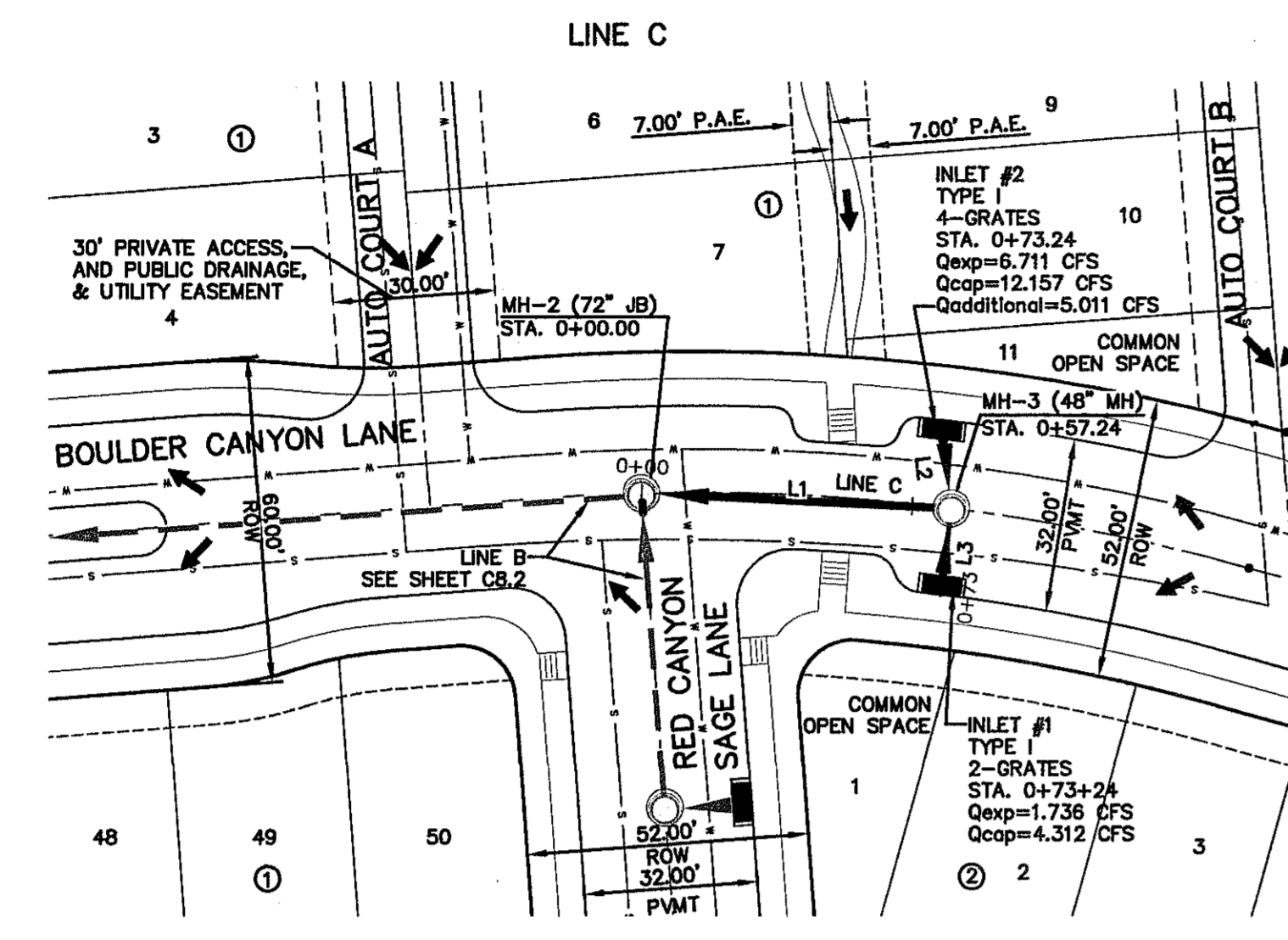
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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200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

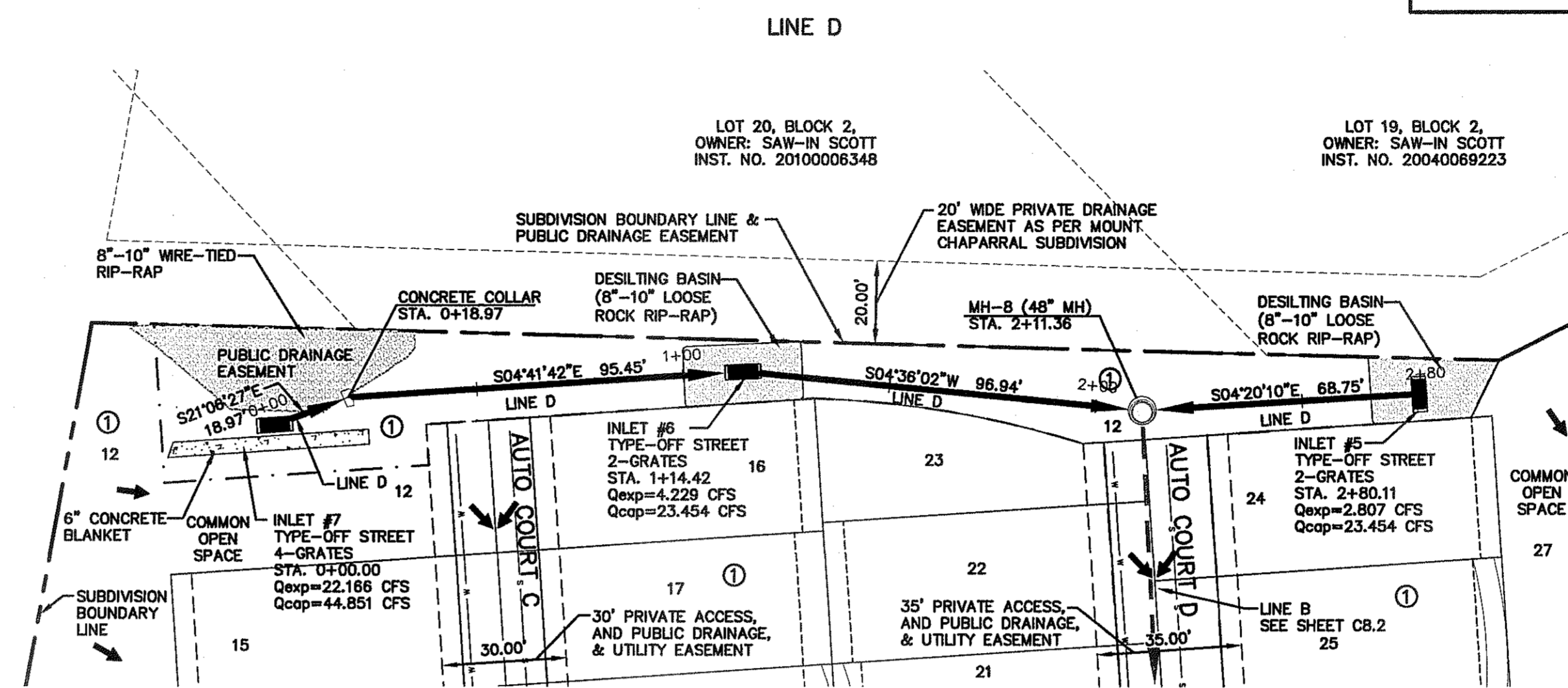
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1-800-344-8377

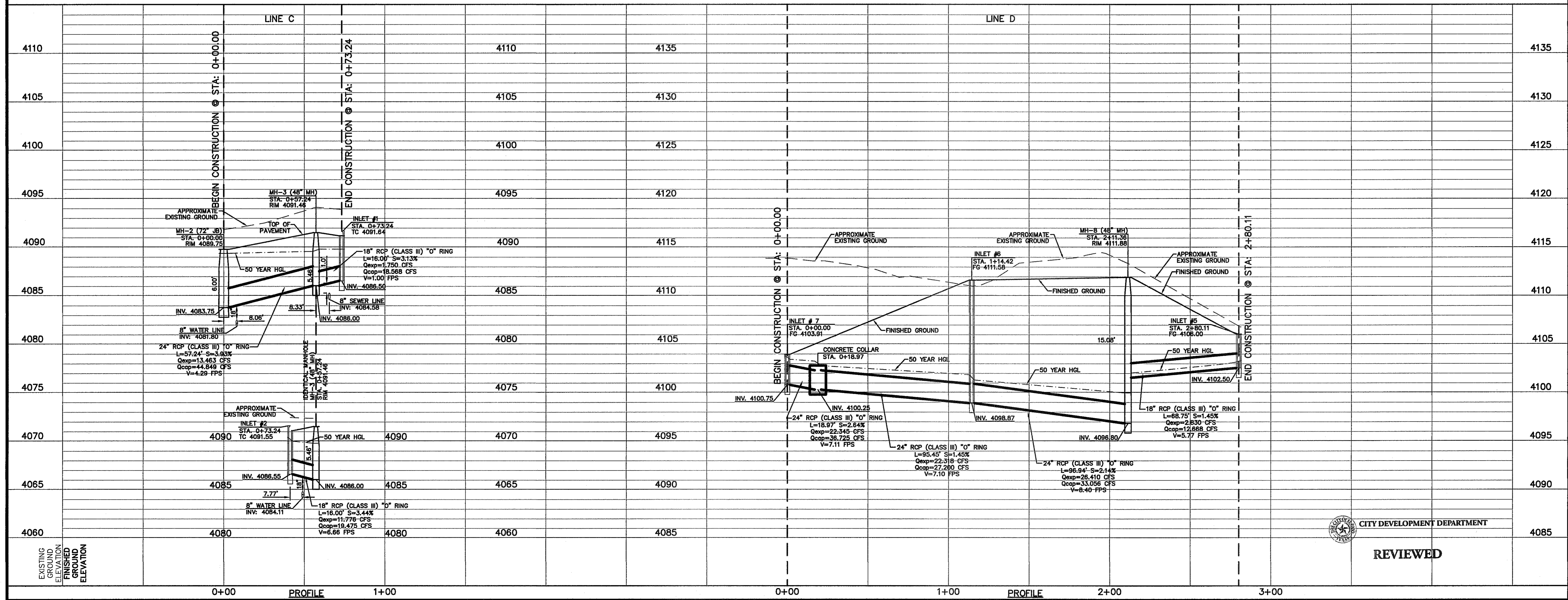
FOR FIELD LOCATING EXISTING UTILITIES



LINE TABLE		
LINE	BEARING	LENGTH
L1	N72°29'33"E	57.24'
L2	N26°56'21"W	16.00'
L3	N13°11'57"W	16.00'



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



REFERENCES - BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAD 83 DATUM ELEVATION = 4081.81 (CITY DATUM = +0676.77)

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ENGINEER'S SEAL

SCALE
 Horizontal: 1"=30'
 Vertical: 1"=5'
 Contour Interval: 1/2'

DATE: NOVEMBER 2013
 DESIGN BY: J.A.
 DRAWN BY: J.L.A.
 CHKD. BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB No. _2060-0261.D

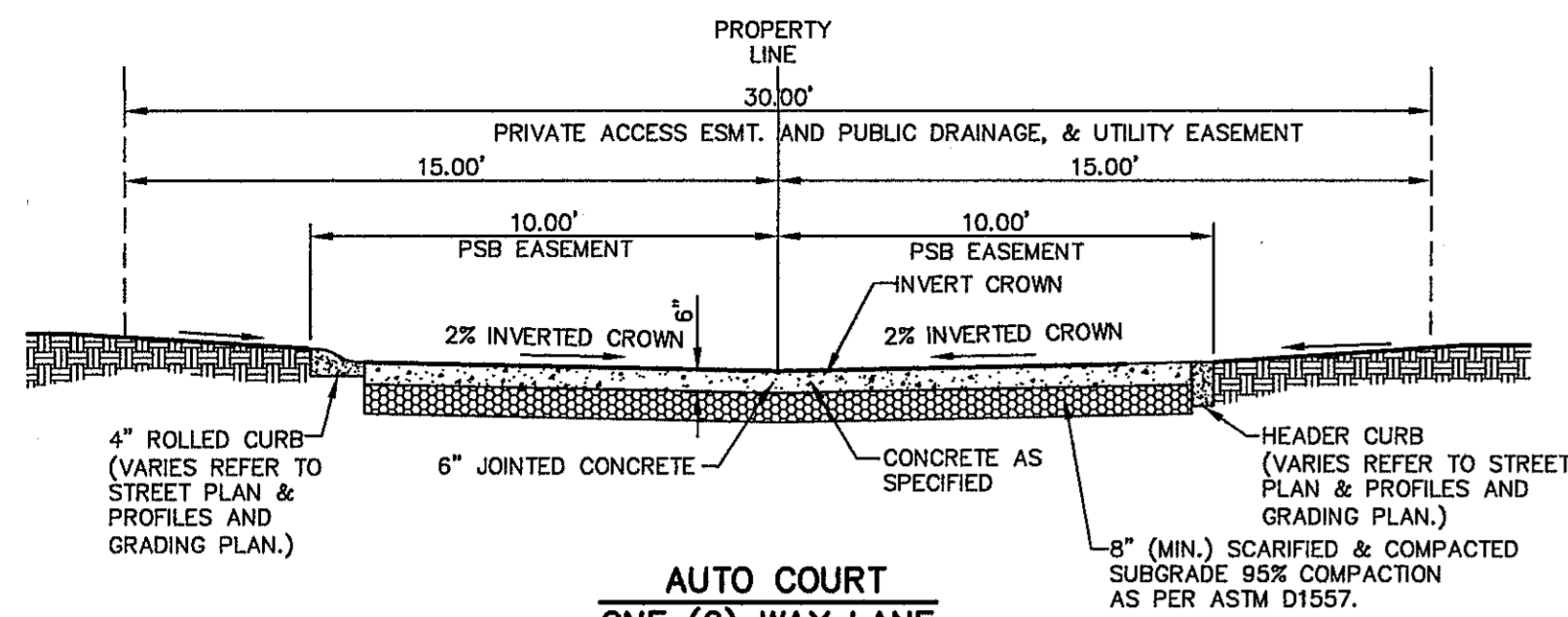
PROJECT TITLE
BOULDER CANYON REPLAT A
SUBDIVISION IMPROVEMENTS

SHEET TITLE
LINE C
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 0+73.24
LINE D
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 2+80.11
 SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

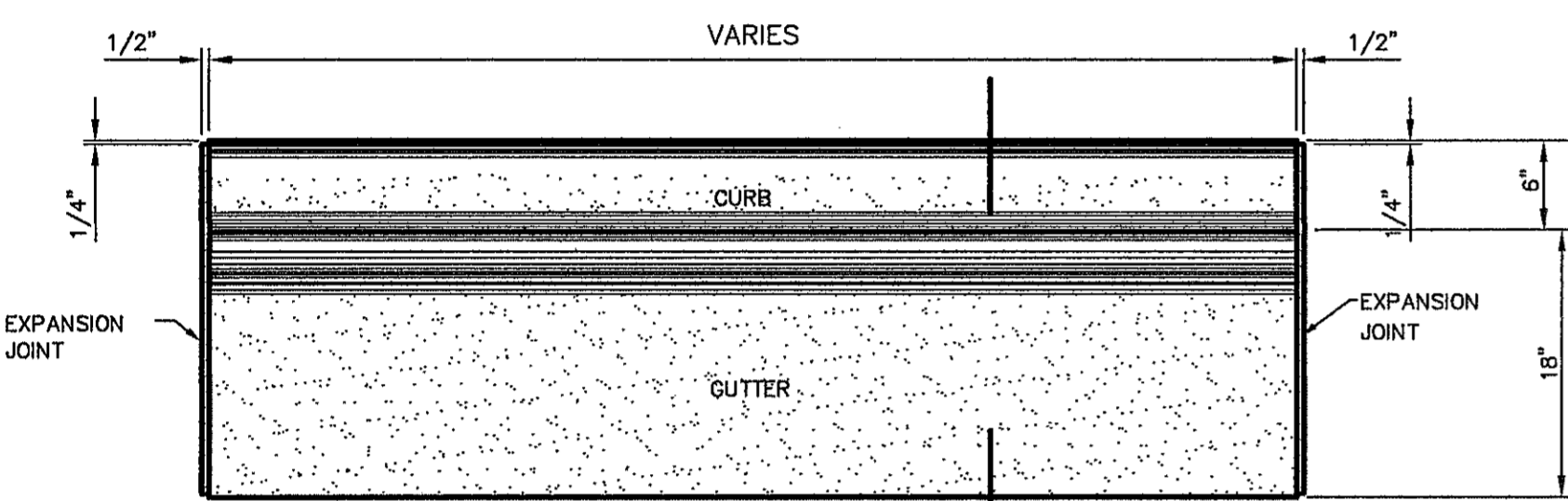
C8.3

S:\2060\2060-0261.D\DWG\Construction Drawings\Improvements\Plan\Line C & D.dwg Storm Sewer Line C & D, 2/28/2014 4:33:18 PM



NOTES:

- ONE (1)-THREE FOOT CONCRETE VALLEY GUTTER LOCATED AT THE CENTERLINE OF THE RIGHT-OF-WAY WHEN THE LONGITUDINAL SLOPE OF THE ALLEY IS LESS THAN ONE (1) PERCENT, AND DRAINAGE IS TO BE CARRIED WITHIN THE ALLEY.
- NO CONCRETE VALLEY GUTTER REQUIRED WHEN LONGITUDINAL SLOPE OF THE ALLEY IS EQUAL OR GREATER THAN ONE (1) PERCENT.



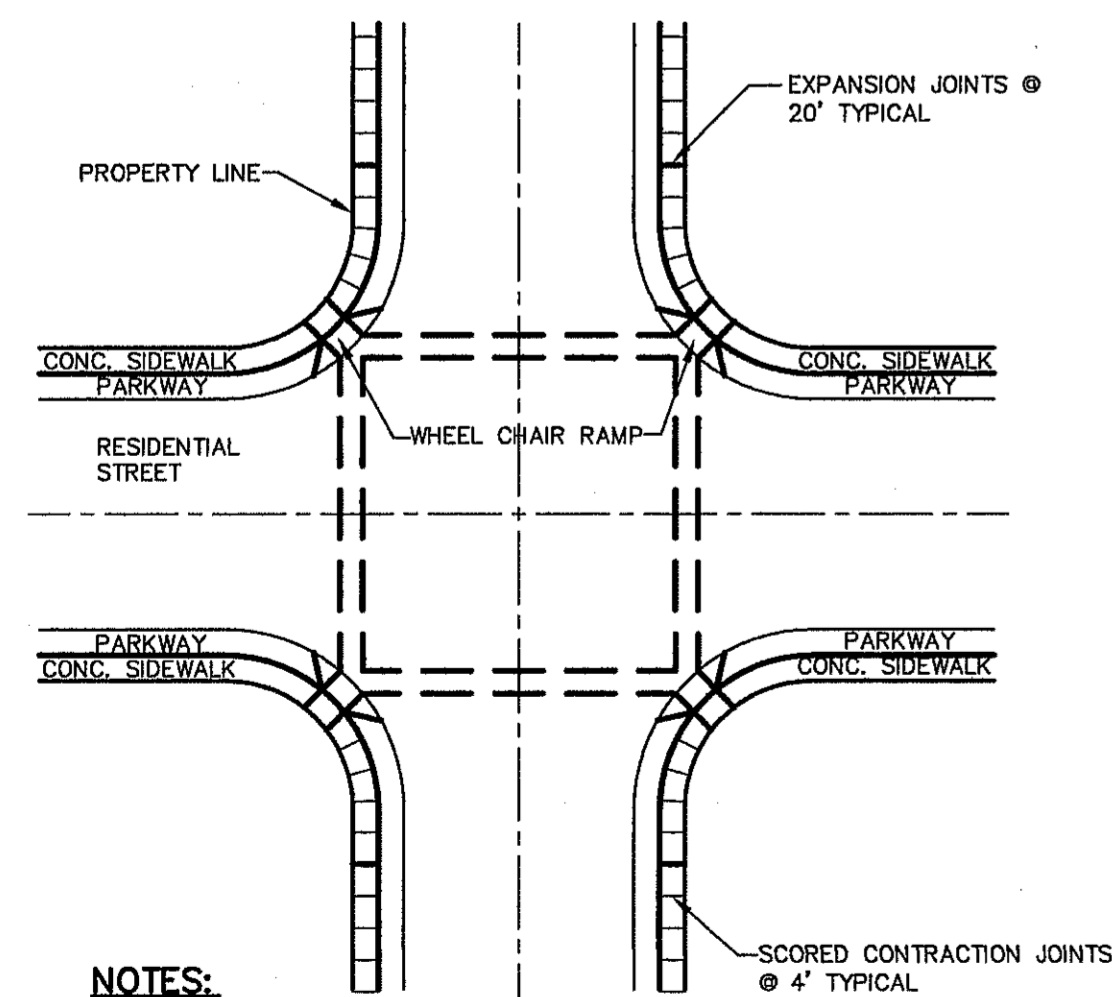
PLAN

A SECTION

NOTES:

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

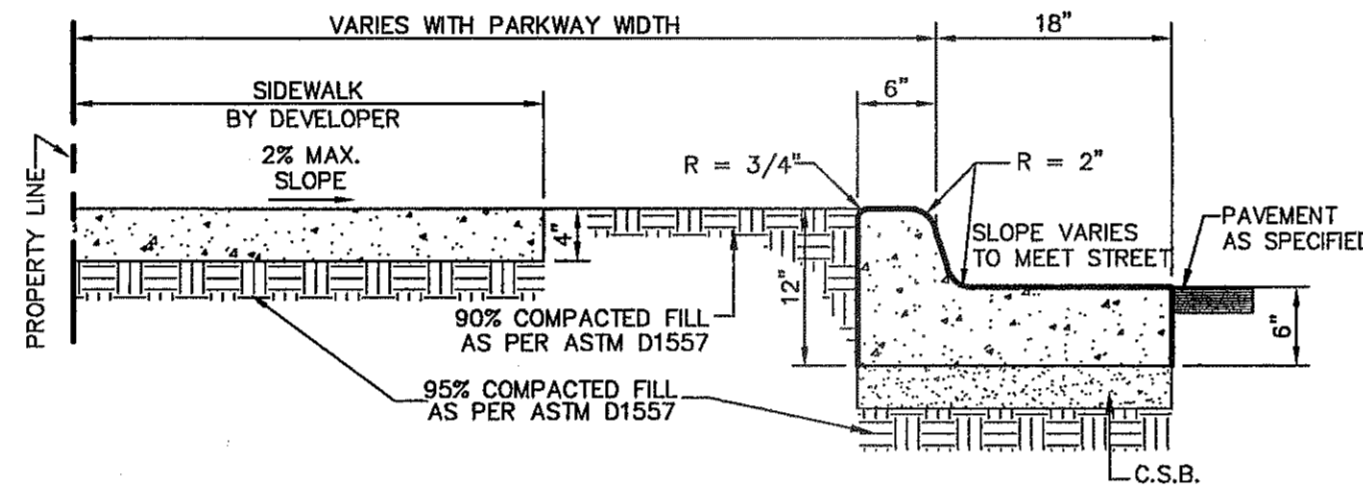
4 CURB & GUTTER DETAIL
SCALE: 1" = 1'-0"



NOTES:

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

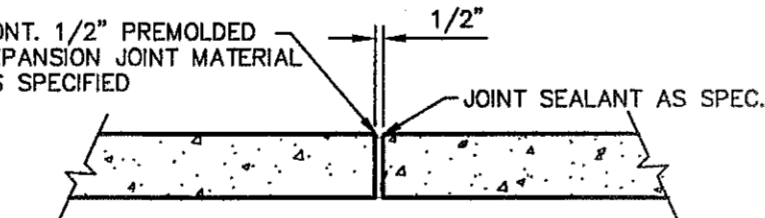
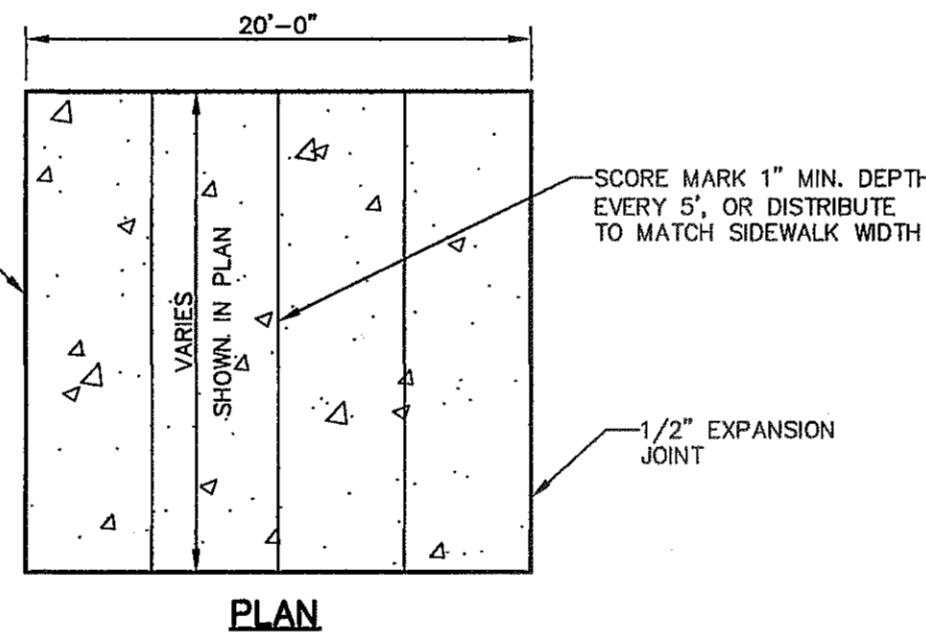
9 WHEELCHAIR RAMP STREET PLAN
SCALE: 1" = 30'-0"



NOTES:

- CONCRETE SHALL BE 3000 P.S.I. MIN.
- DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER AND 5' O.C. FOR SIDEWALK.
- EXPANSION MATERIAL REQUIRED AT CURB RETURNS AND AT 20' ON CENTER FOR SIDEWALKS WITH 1/2" PREMOULDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

5 CURB WITH SIDEWALK SECTION
SCALE: N.T.S.



NOTES:

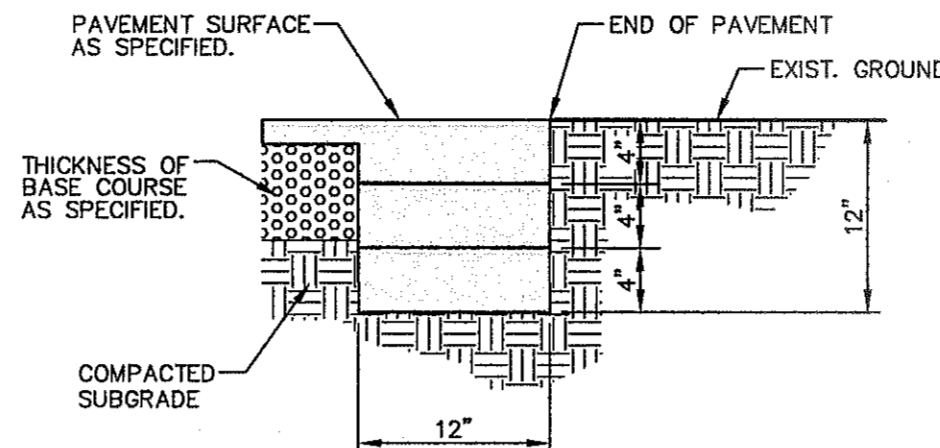
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33)
- EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
- WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

EXPANSION JOINT SECTION
SCALE: N.T.S.

SIDEWALK NOTES:

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

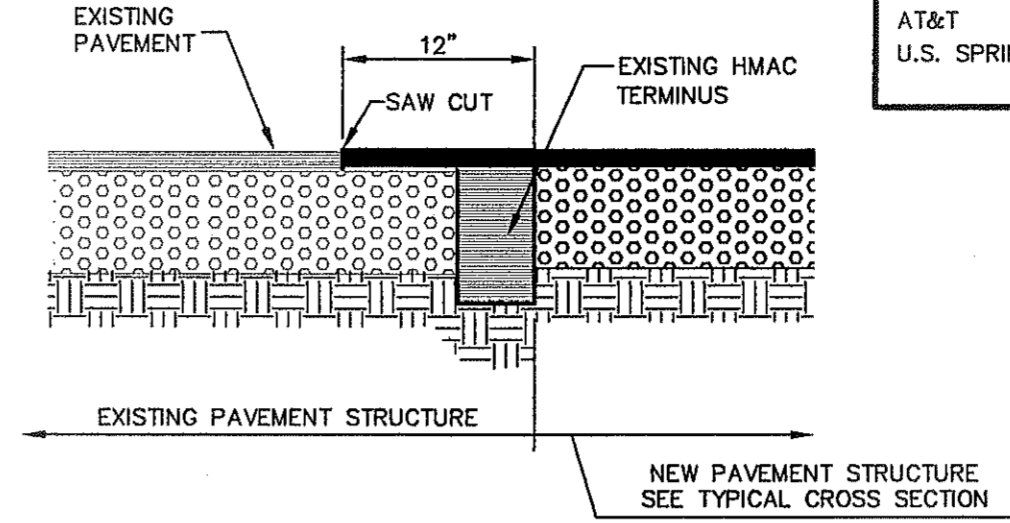
10 SECTION-SIDEWALK/SLAB
SCALE: N.T.S.



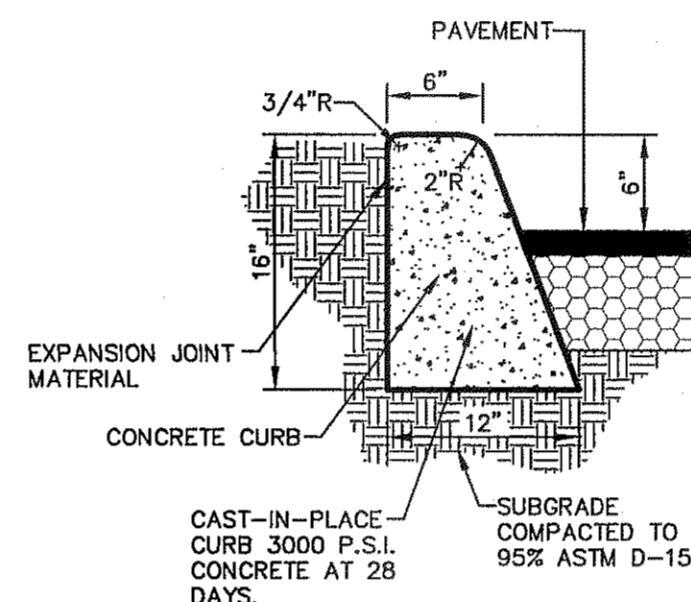
NOTE:

TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE. COMPACTION REQUIREMENTS SHALL BE 98% MINIMUM AS PER ASTM D1557 OR AS RECOMMENDED BY THE PROJECT GEOTECHNICAL ENGINEER.

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



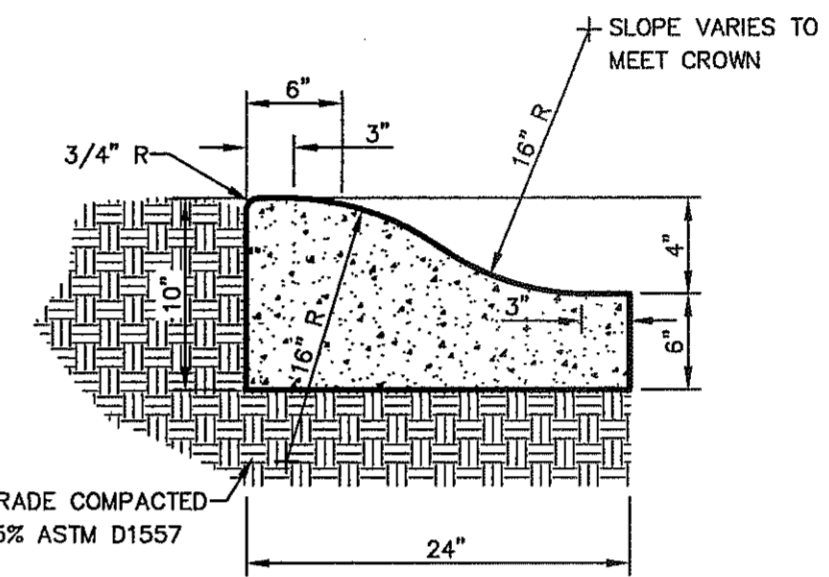
3 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



NOTES:

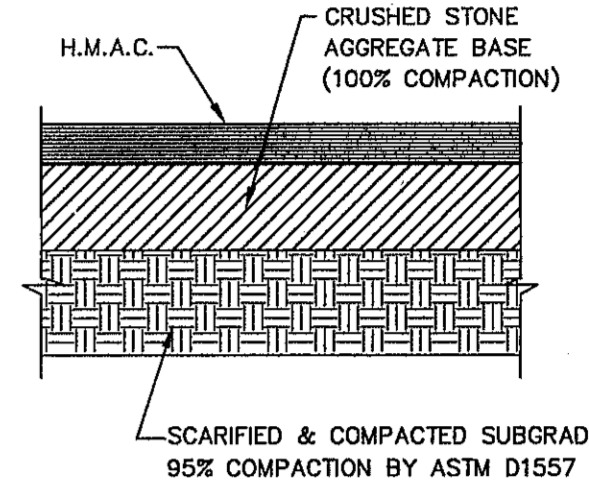
- DUMMY JOINTS REQUIRED AT 10' O.C.
- CONCRETE HEADER CURB, CURB, GUTTER & GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
- 1/2" PREMOULDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
- SUBGRADE UNDER CURBS MUST BE FORMED AND COMPACTED TO 95% ASTM D-1557.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

6 6" CURB DETAIL
SCALE: 1" = 1'-0"



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

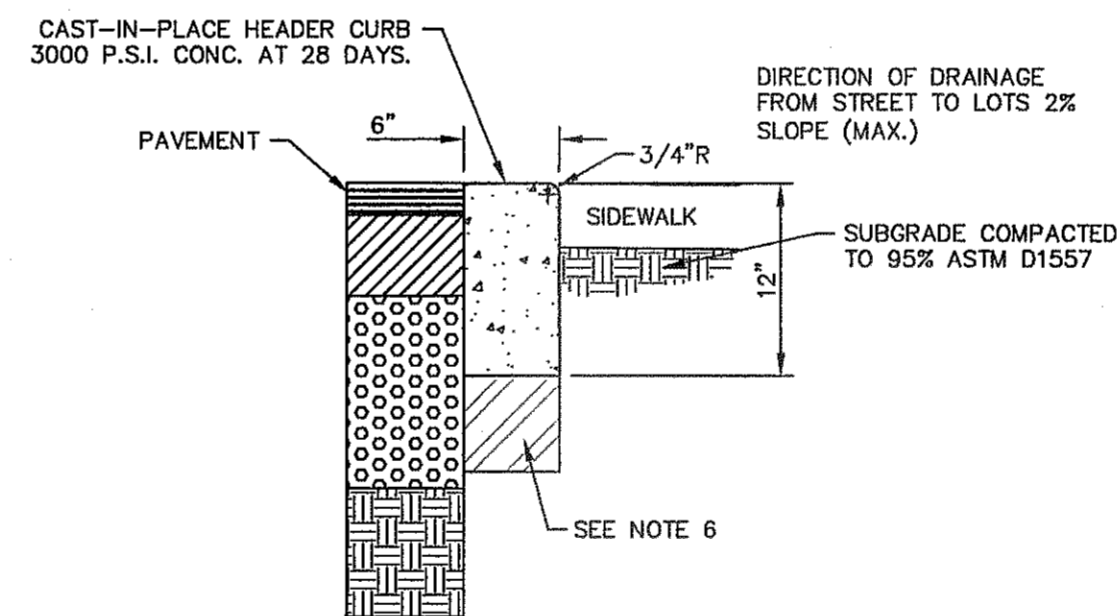
7 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1" = 1'-0"



PAVEMENT SECTION NOTES:

- SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
- MINIMUM PAVEMENT DESIGN DETAILS ARE SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.
- STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS. CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO 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 THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

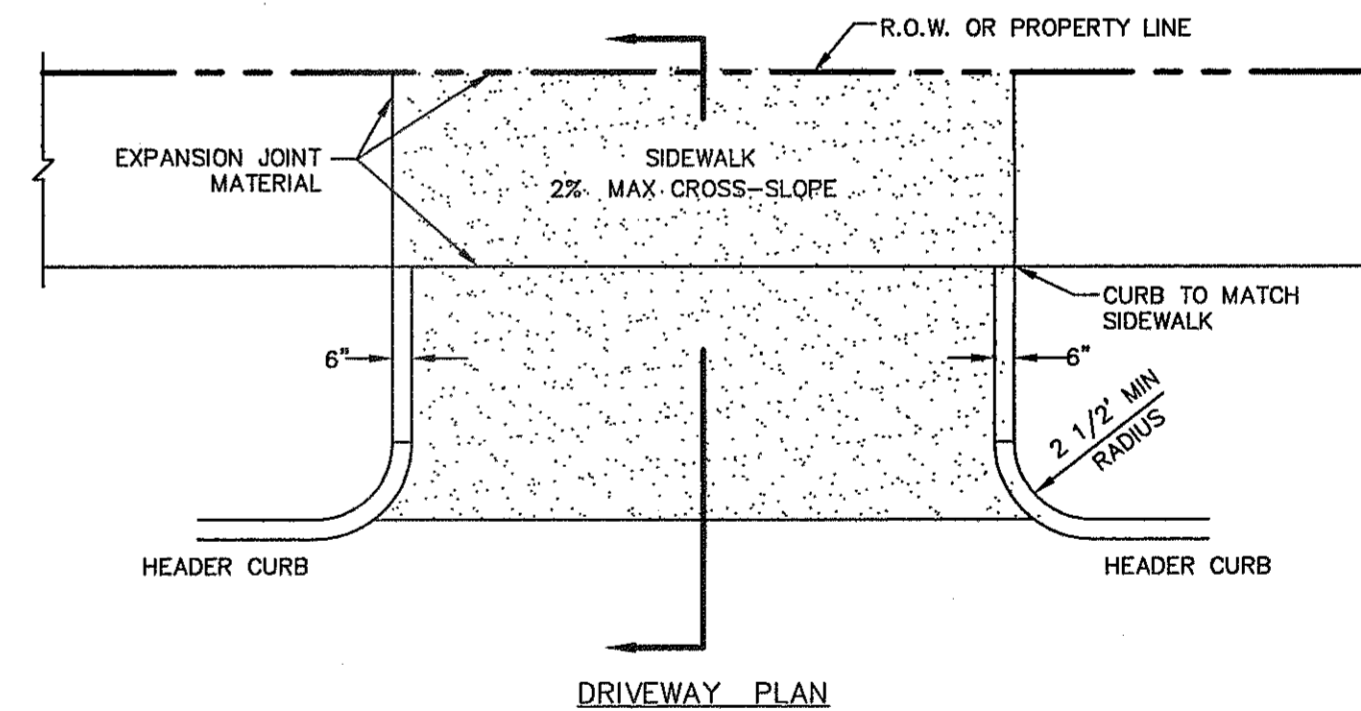
8 PAVEMENT SECTION
SCALE: N.T.S.



NOTES:

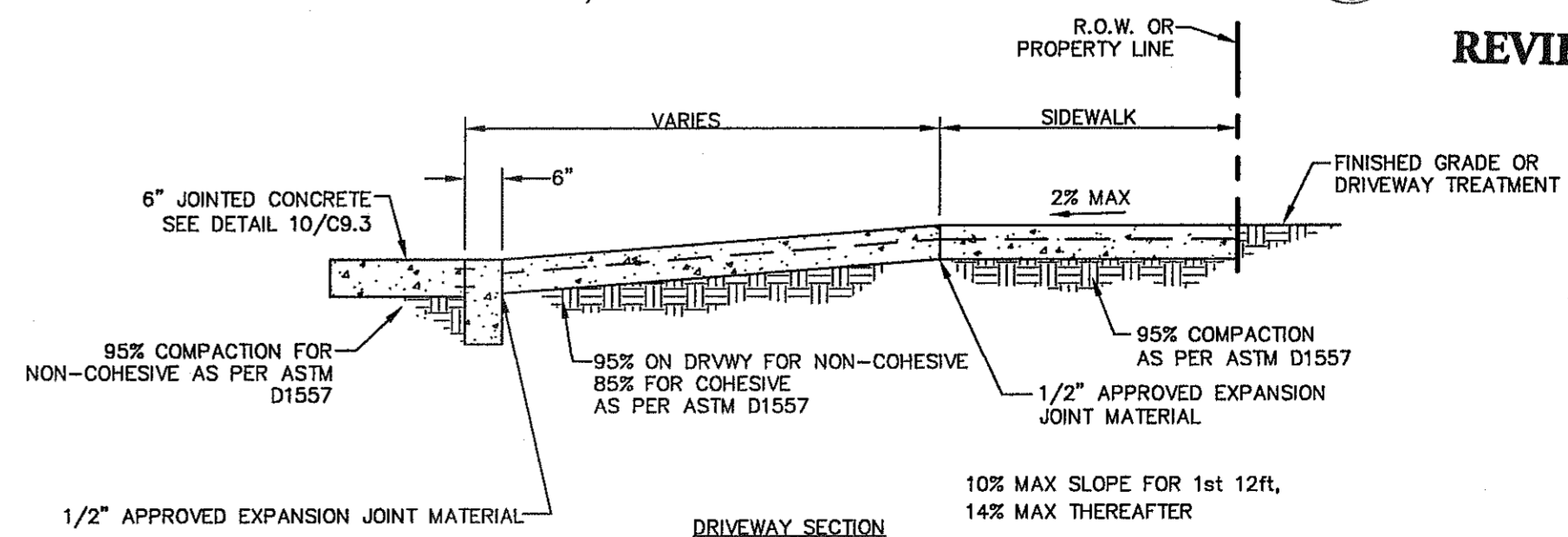
- EXPANSION JOINTS WILL BE REQUIRED EVERY 50', AT THE END OF CURB RETURNS AND AT POINT OF TANGENCY WITH STRAIGHT RUNS.
- CONTRACTION JOINTS (1/2" INCH MIN. SCORED JOINTS) MUST BE INSTALLED EVERY 10' O.C. IN HEADER CURB AND 5' O.C. FOR SIDEWALKS.
- 1/2" PREMOULDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT HEADER CURB DIMENSION.
- CONCRETE TO BE CLASS "A", 3000 P.S.I. MIN. @ 28 DAYS.
- SUBGRADE COMPACTED TO 95% ASTM D1557.
- HEADER CURB SHALL BEAR ON 6" (MIN.) OF CSBC OR 8" (MIN.) OF SUITABLE NATIVE OR IMPORTED SOIL MATERIAL AS APPROVED BY THE DESIGN ENGINEER AND/OR THE CITY OF EL PASO.

11 HEADER CURB DETAIL
SCALE: 1" = 1'-0"



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

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



NOTES:

- DUMMY JOINTS REQUIRED AT 10' O.C.
- CONCRETE HEADER CURB, CURB, GUTTER & GUTTER, AND RETURNS SHALL BE 3,000 P.S.I. MIN.
- 1/2" PREMOULDED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB & GUTTER DIMENSION.
- SUBGRADE UNDER CURBS MUST BE FORMED AND COMPACTED TO 95% ASTM D-1557.
- EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR CURBS.

12 CONCRETE APRON FOR DRIVEWAYS/ALLEYS
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
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- SBC (800) 545-6005
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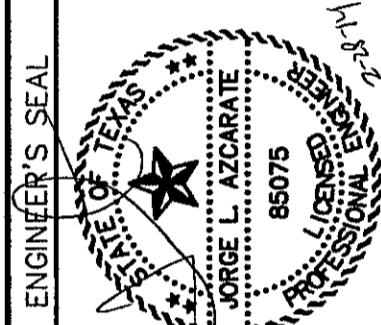
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REFERENCES - BENCHMARKS

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(CITY DATUM = 4070.77)

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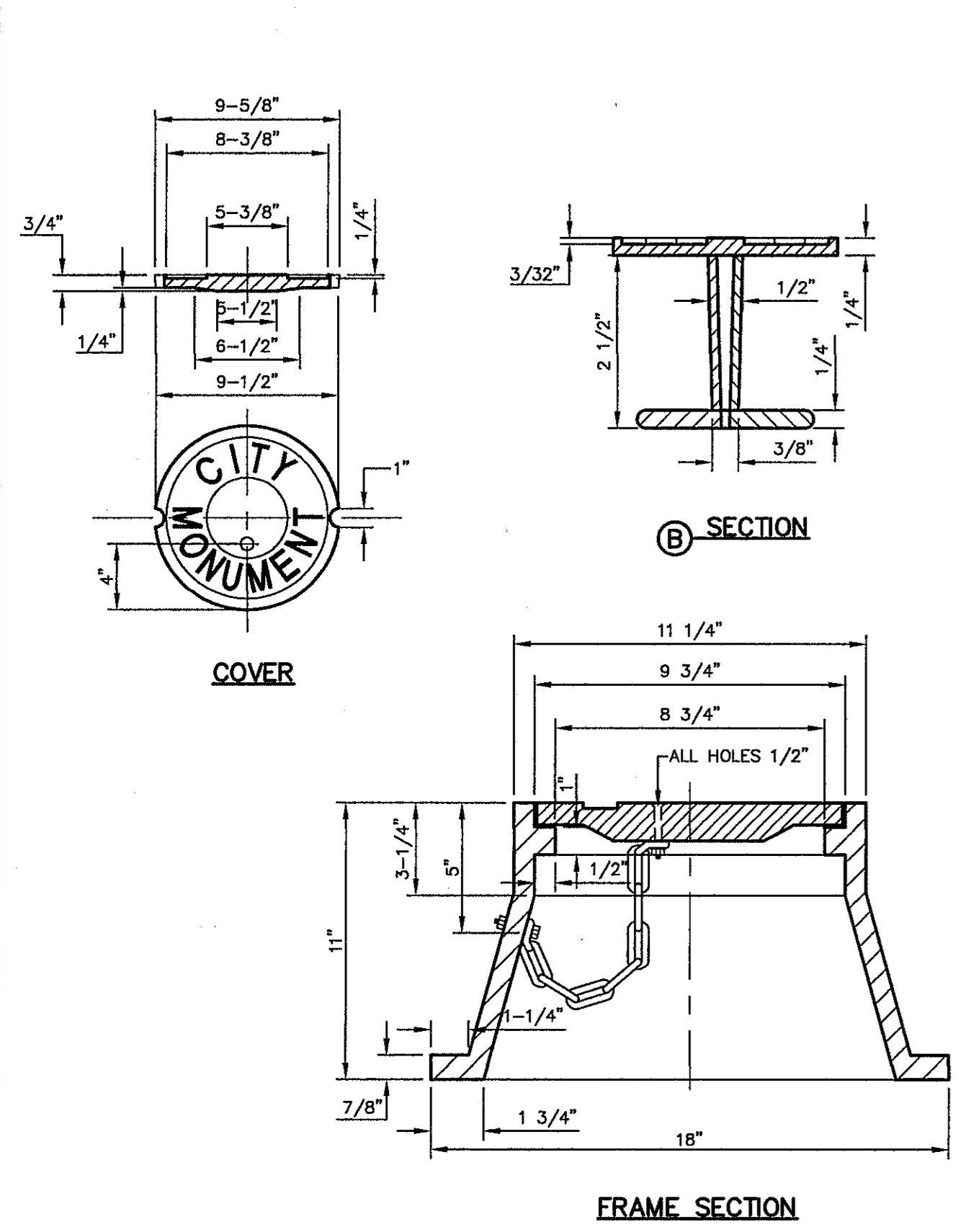
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Vertical: AS SHOWN
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.A.B.
DRAWN BY: J.A.B.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2060-C2BLD

PROJECT TITLE
BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

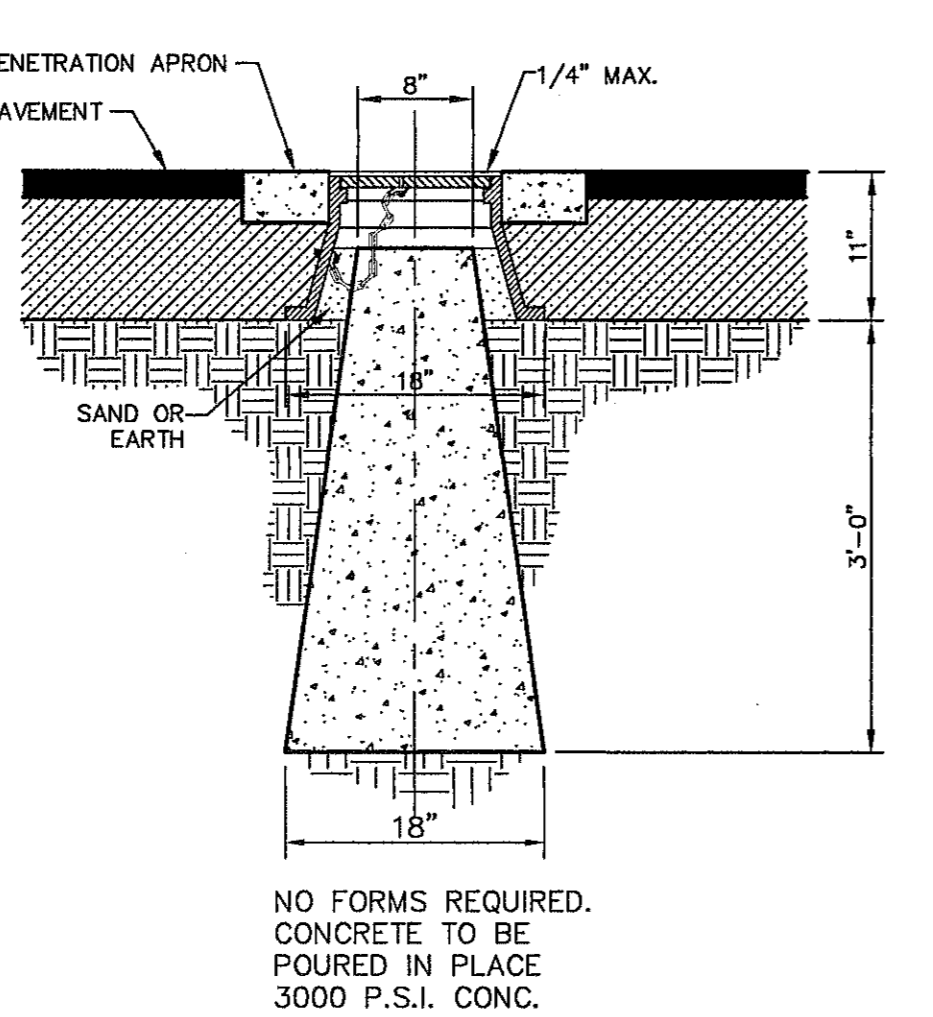
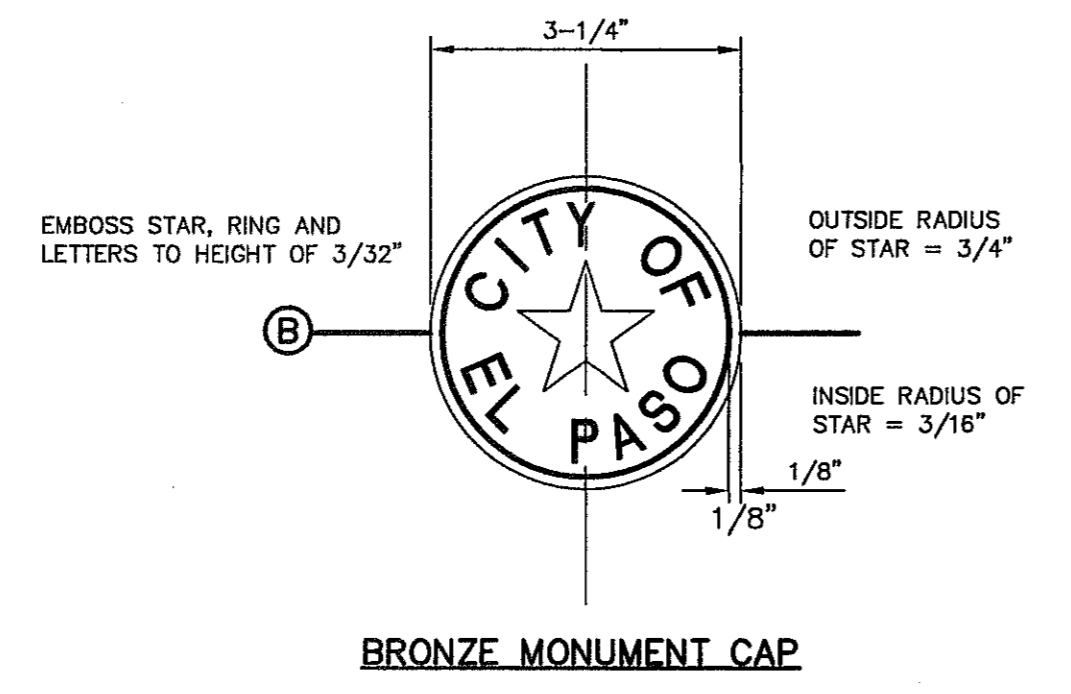
CITY DEVELOPMENT DEPARTMENT
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SHEET TITLE
STANDARD DETAILS

(SHEET 1 OF 3)
SHEET NO.
C9.1

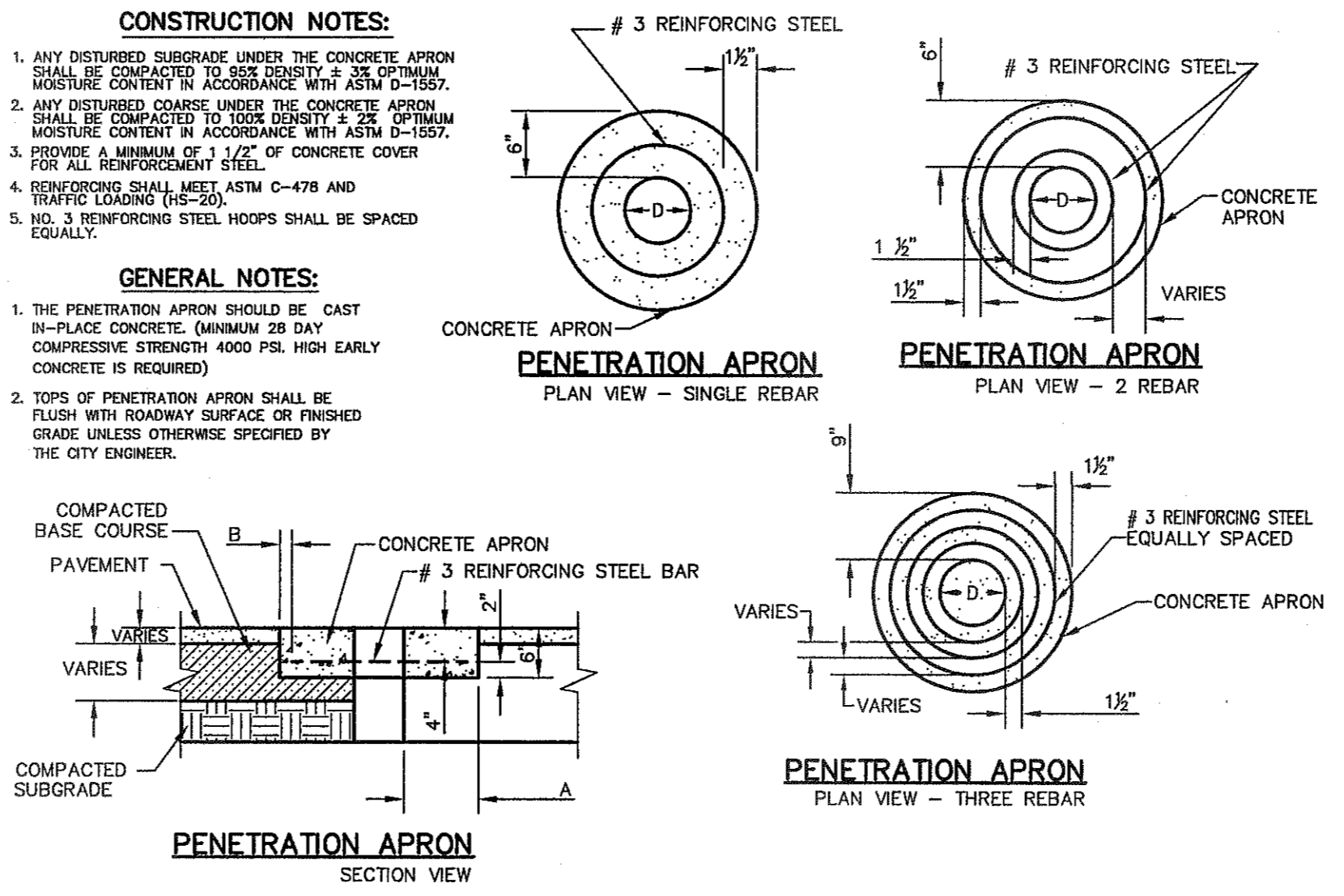


1 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.



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

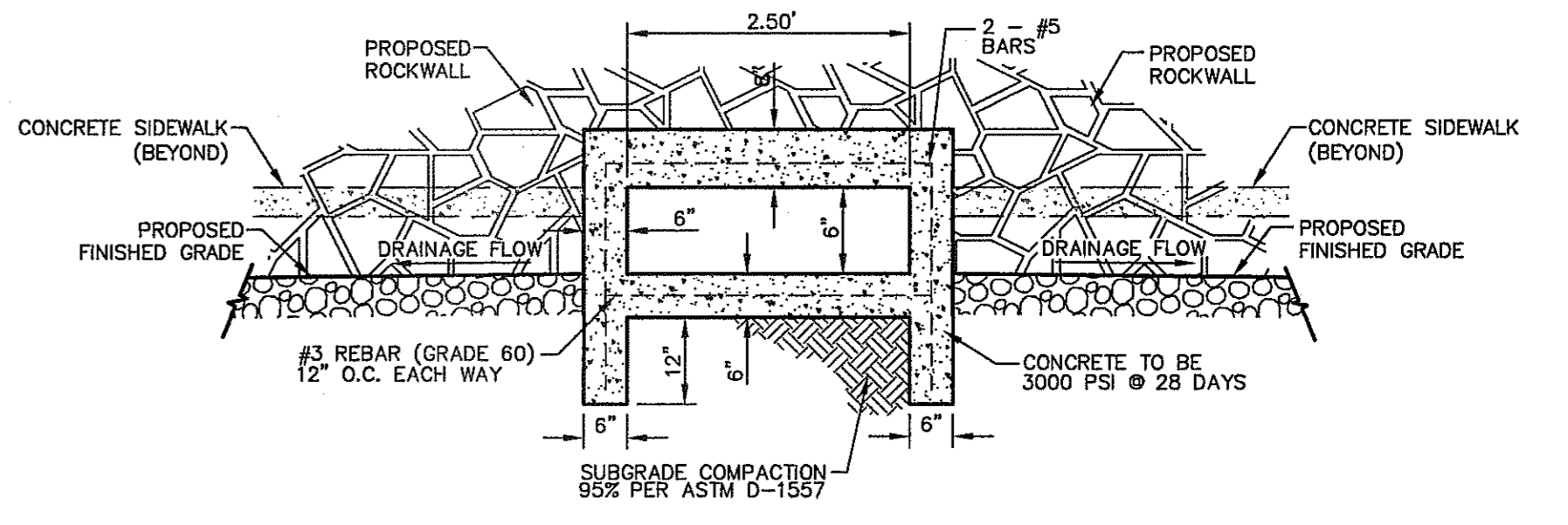
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0 TO 6.01	6	1	1 1/2	1 1/2
6.01 TO 18.01	8	2	1 1/2	1 1/2
18.01 AND OVER	12	3	1 1/2	1 1/2



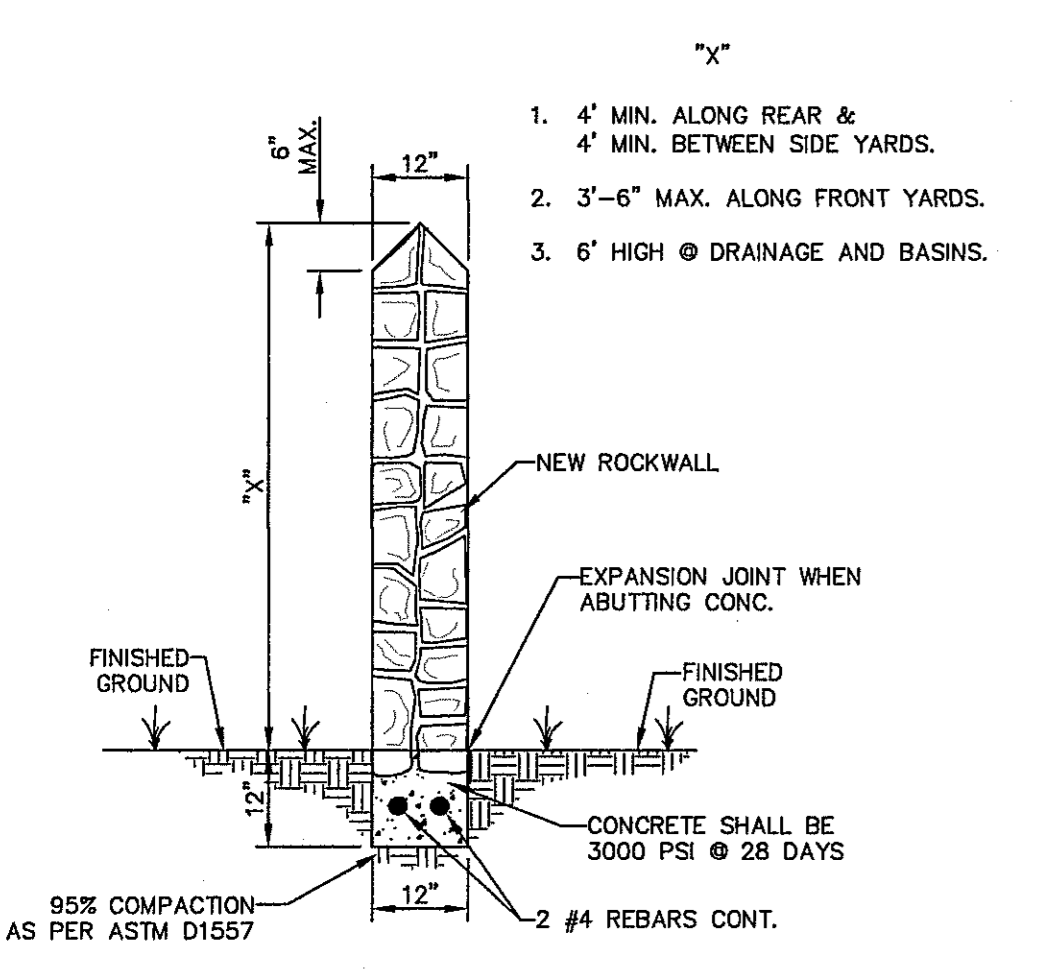
2 PENETRATION APRON
SCALE: N.T.S.

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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SBC	(800) 545-6005
AT&T	(800) 852-3788
U.S. SPRINT TELECOMM	(800) 521-0579

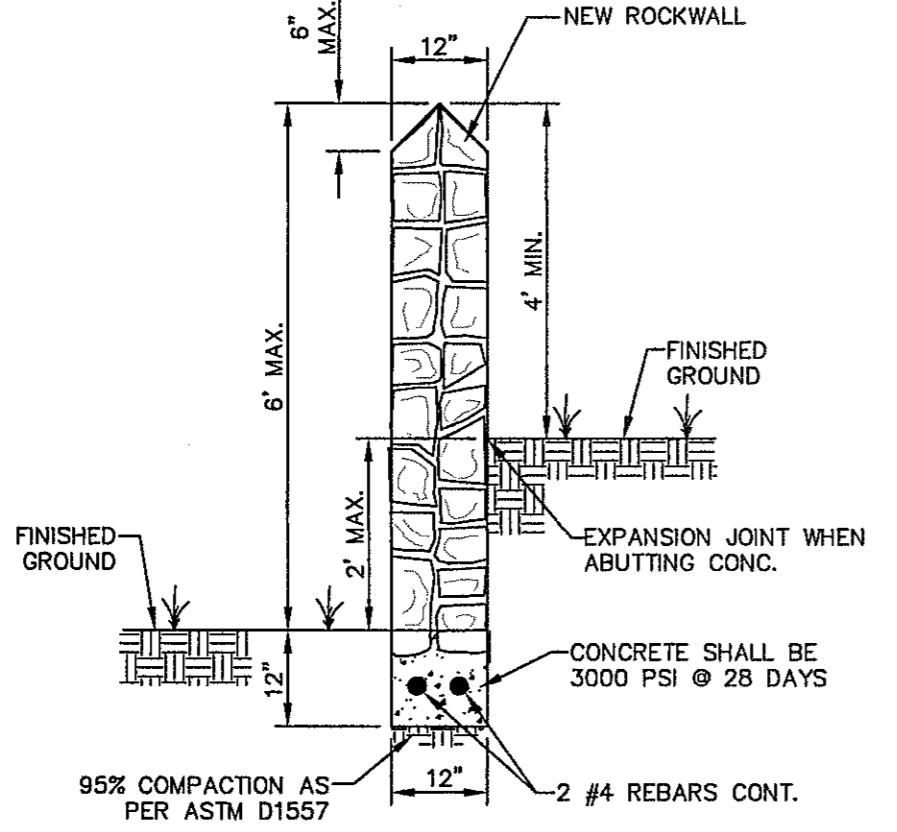
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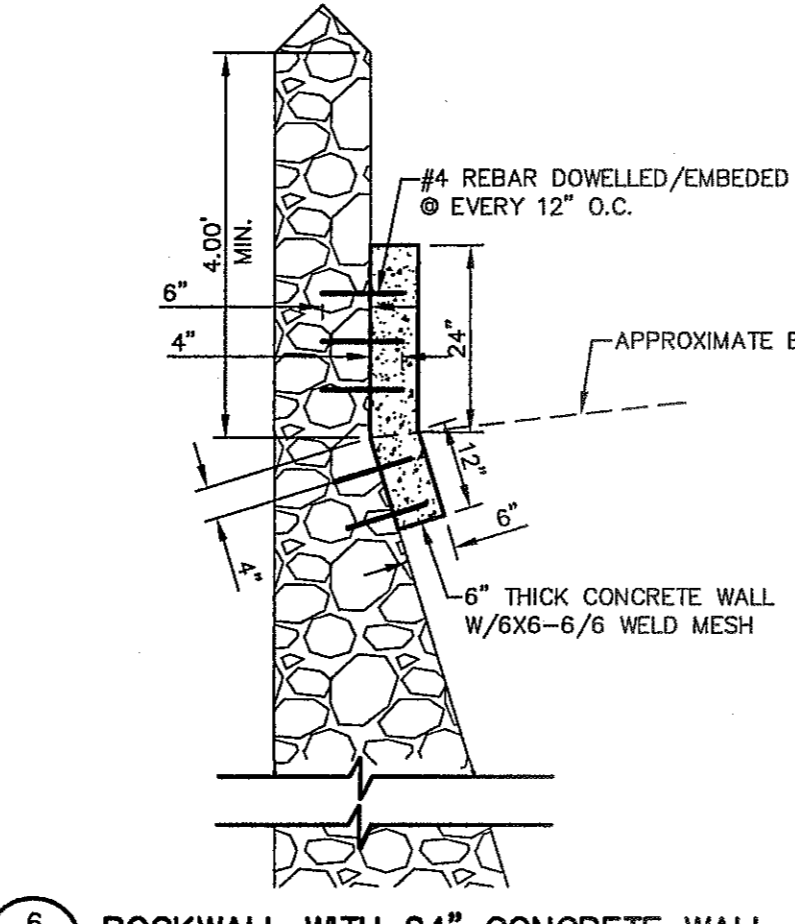
3 SMALL WALL OPENING FOR DRAINAGE
SCALE: N.T.S.



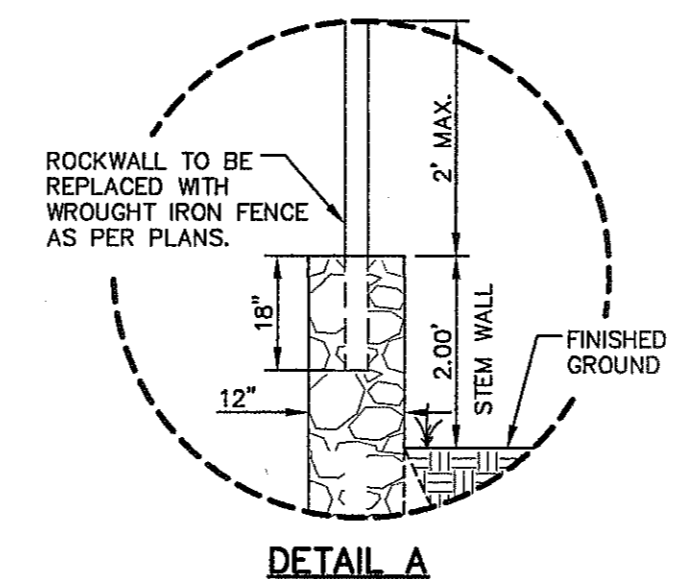
GARDEN WALL SECTION (2' MAX.)
SCALE: N.T.S.



GARDEN WALL SECTION (2' MAX.)
SCALE: N.T.S.



6 ROCKWALL WITH 24\"/>

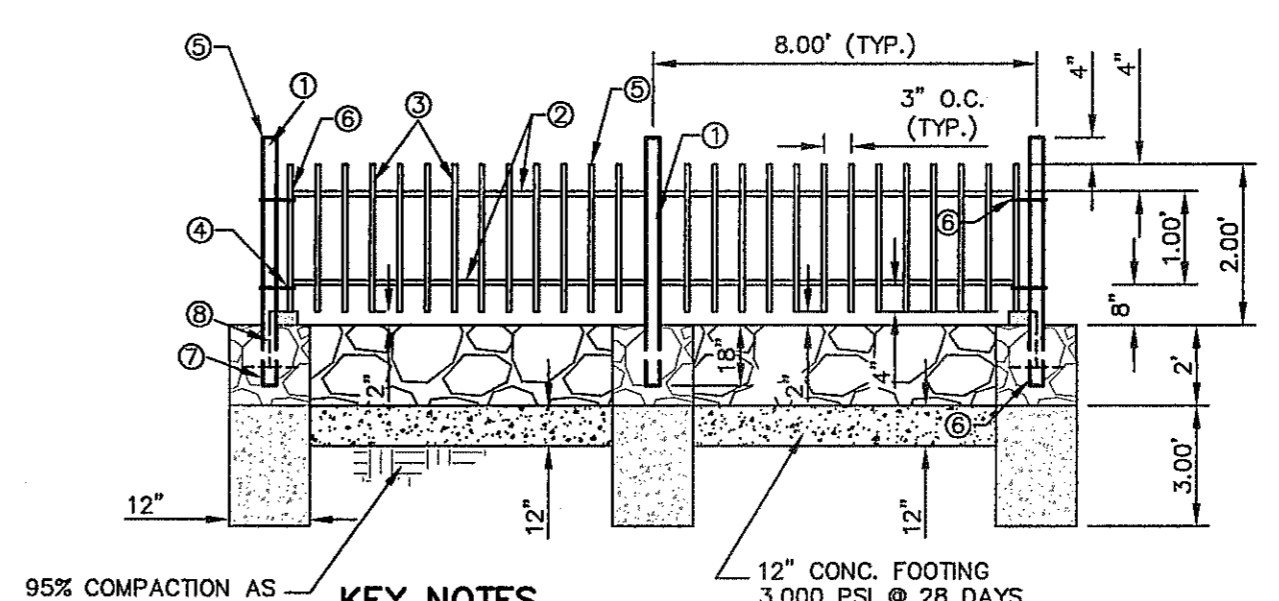


DETAIL A

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

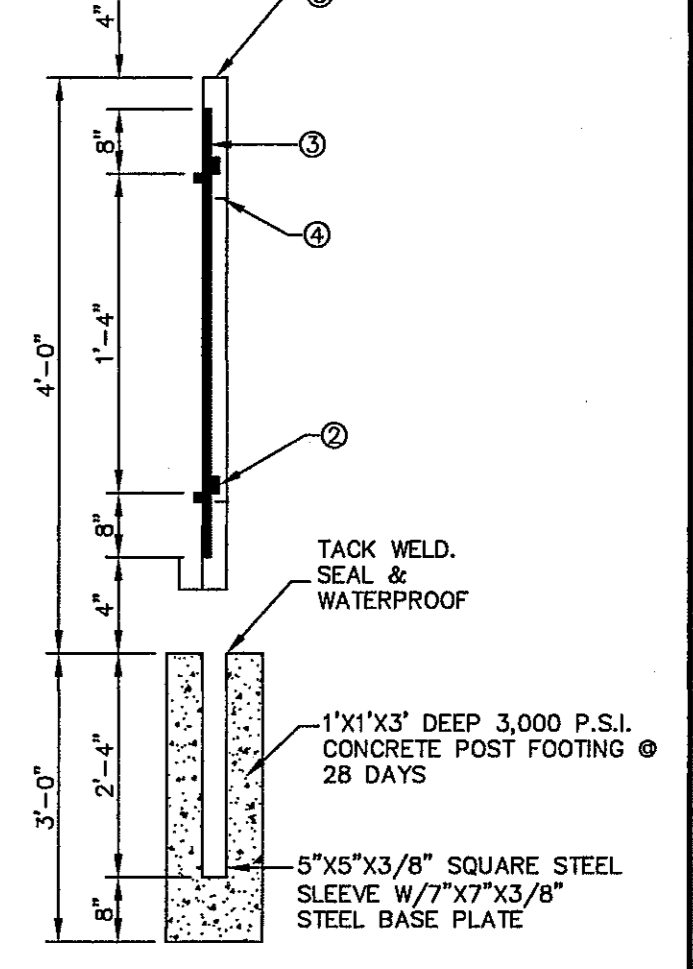
ROCK WALL NOTES:

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

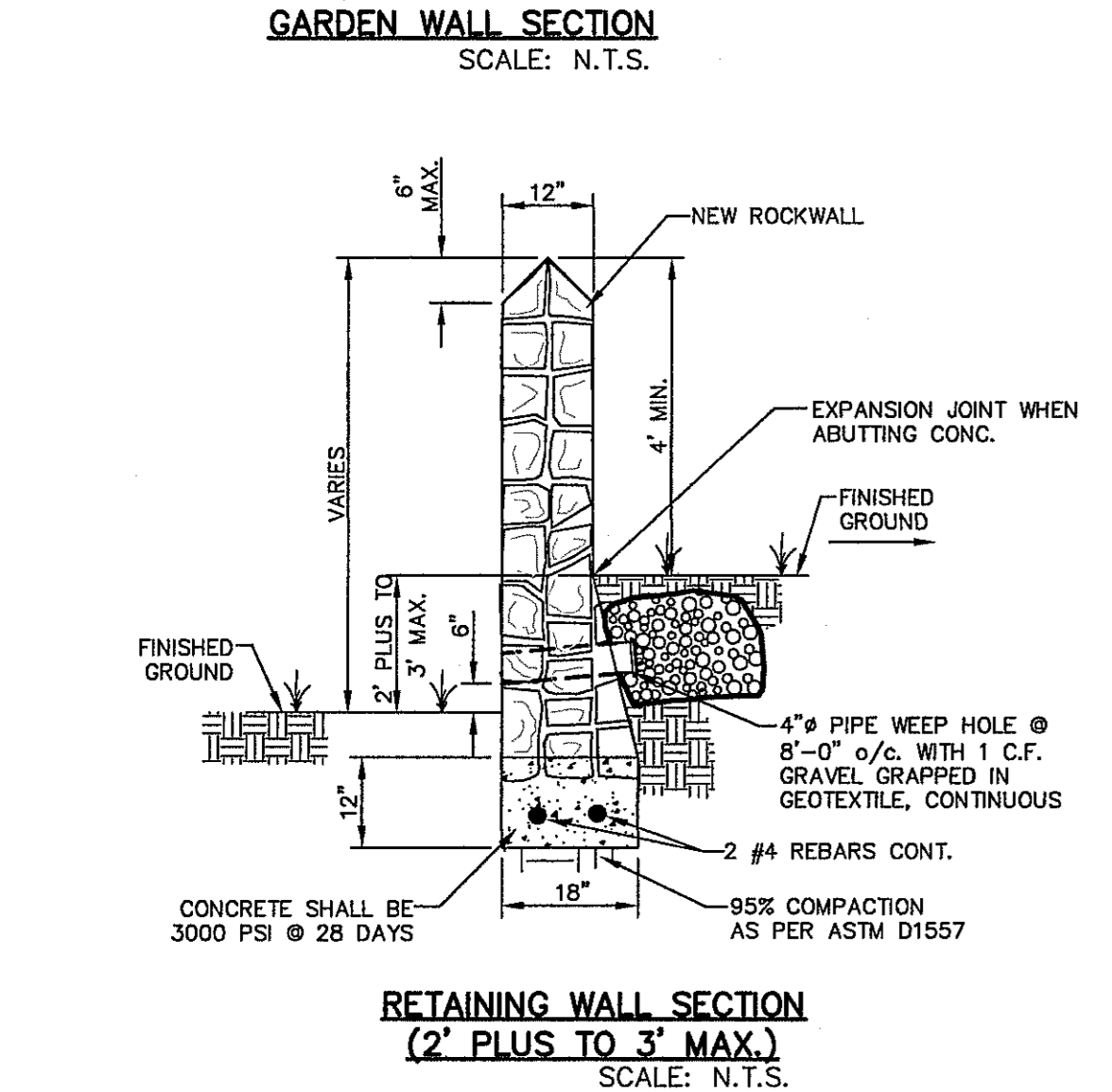


- KEY NOTES**
- 3" x 3" x 10 GA. SQUARE STEEL TUBING
 - 2" x 1" x 18 GA. RECTANGULAR STEEL TUBING
 - 1/2" x 1/2" x 18 GA. RECTANGULAR STEEL TUBING
 - BOLT HOOK AND STRAP HINGE
 - FLAT TOP POLYVINYL CAP (TYP.)
 - 2" x 1" x 18 GA. RECTANGULAR STEEL TUBING
 - 1" x 3" DEEP 3,000 PSI CONCRETE POST FOOTING
 - 5" x 5" x 3/8" SQUARE STEEL SLEEVE W/ 7" x 7" x 3/8" BASE PLATE

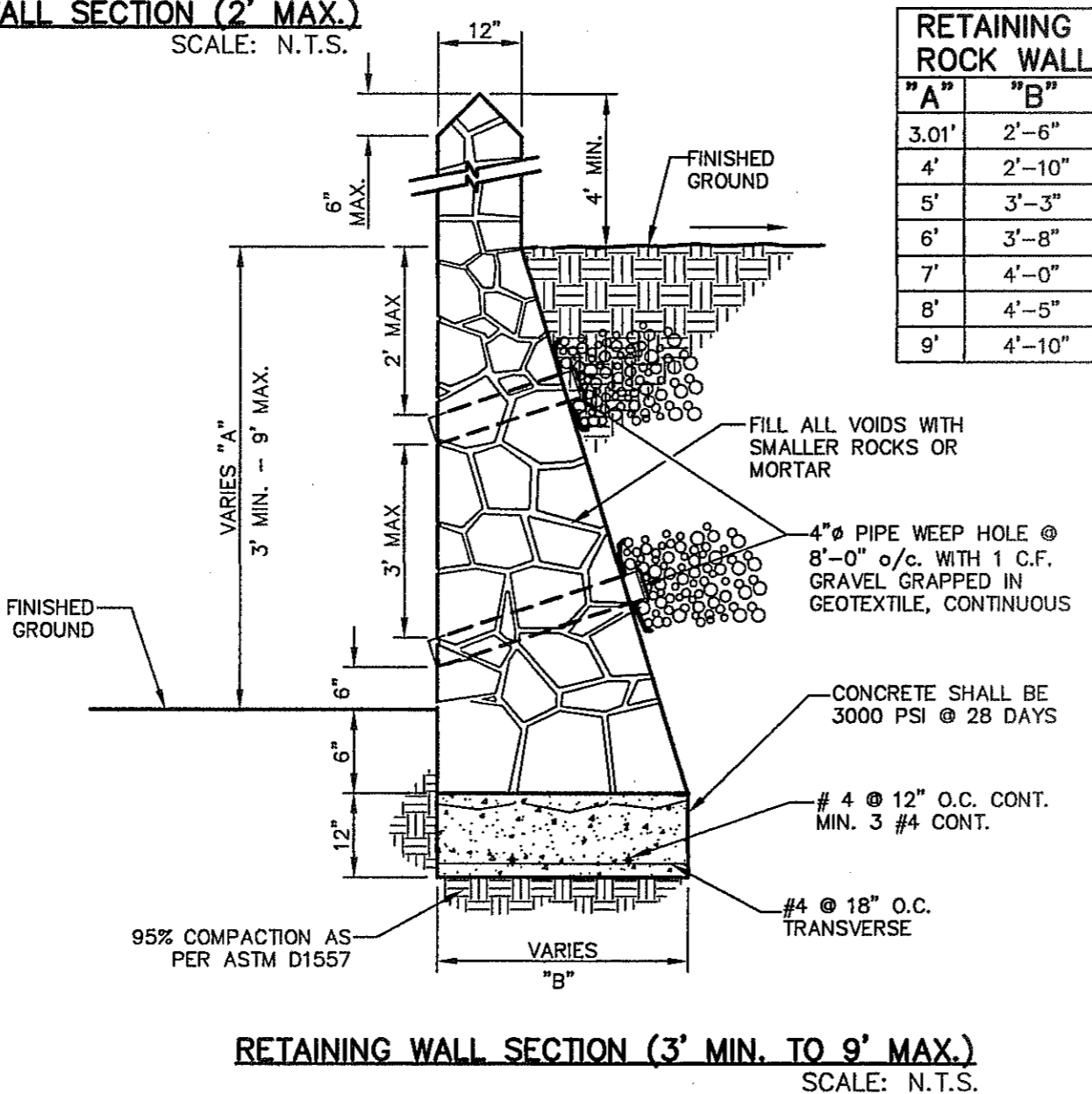
7 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS
SCALE: N.T.S.



POST



RETAINING WALL SECTION (2' PLUS TO 3' MAX.)
SCALE: N.T.S.

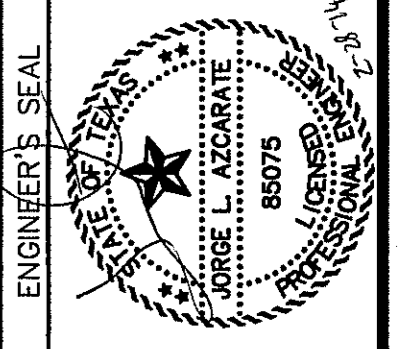


RETAINING WALL SECTION (3' MIN. TO 9' MAX.)
SCALE: N.T.S.

5 TYPICAL ROCKWALL DETAILS
SCALE: N.T.S.

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON BENTLEY DR. NAD 83 DATUM ELEVATION = 4081.81 (CITY DATUM = 4076.77)

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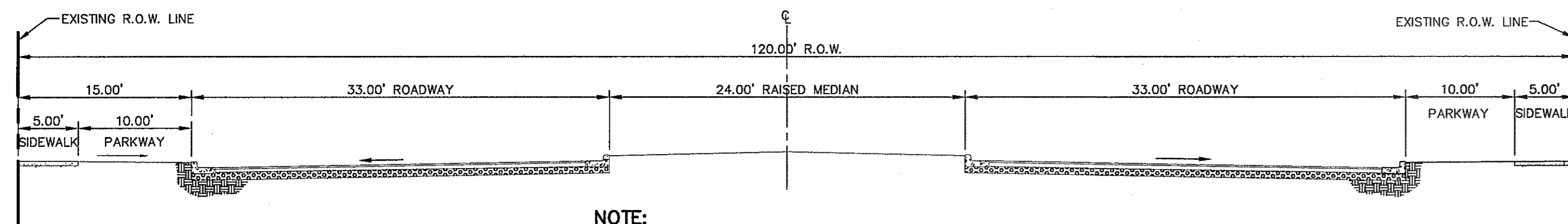
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DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No. _2060-0261.D

PROJECT TITLE
BOULDER CANYON REPLAT A
SUBDIVISION IMPROVEMENTS

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

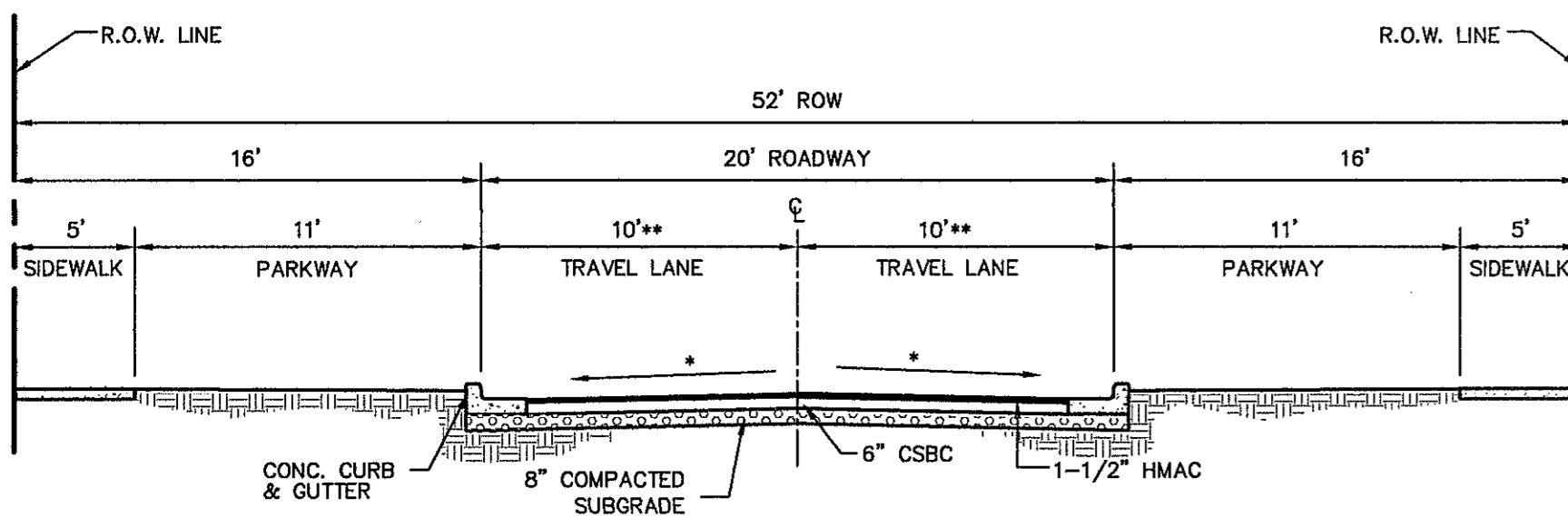
CITY DEVELOPMENT DEPARTMENT
REVIEWED

C9.2



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

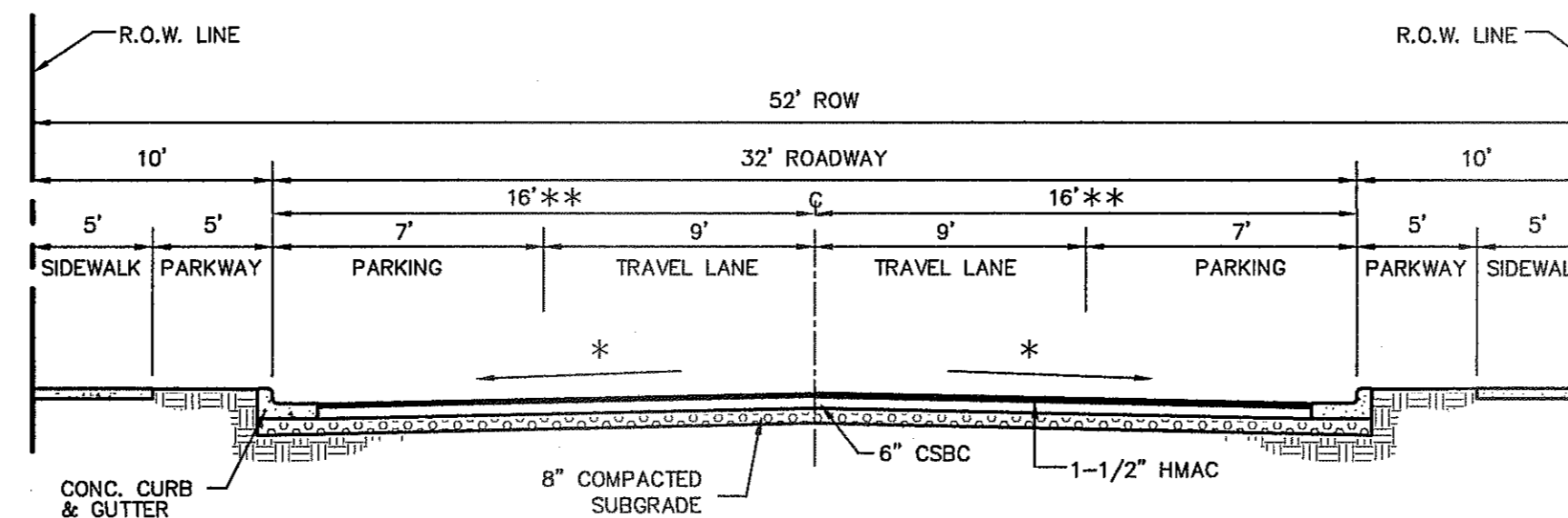
1 EXISTING 120' ROW SECTION DETAIL @ WESTWIND DRIVE (MAJOR ARTERIAL STREET)
SCALE: N.T.S.



**PAVEMENT WIDTHS DECREASE AT MID-BLOCK CHOKERS AND STREET BULB-OUTS
(*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
NOTE: CROSS SECTIONS ARE MINIMUM STANDARD REQUIREMENTS

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

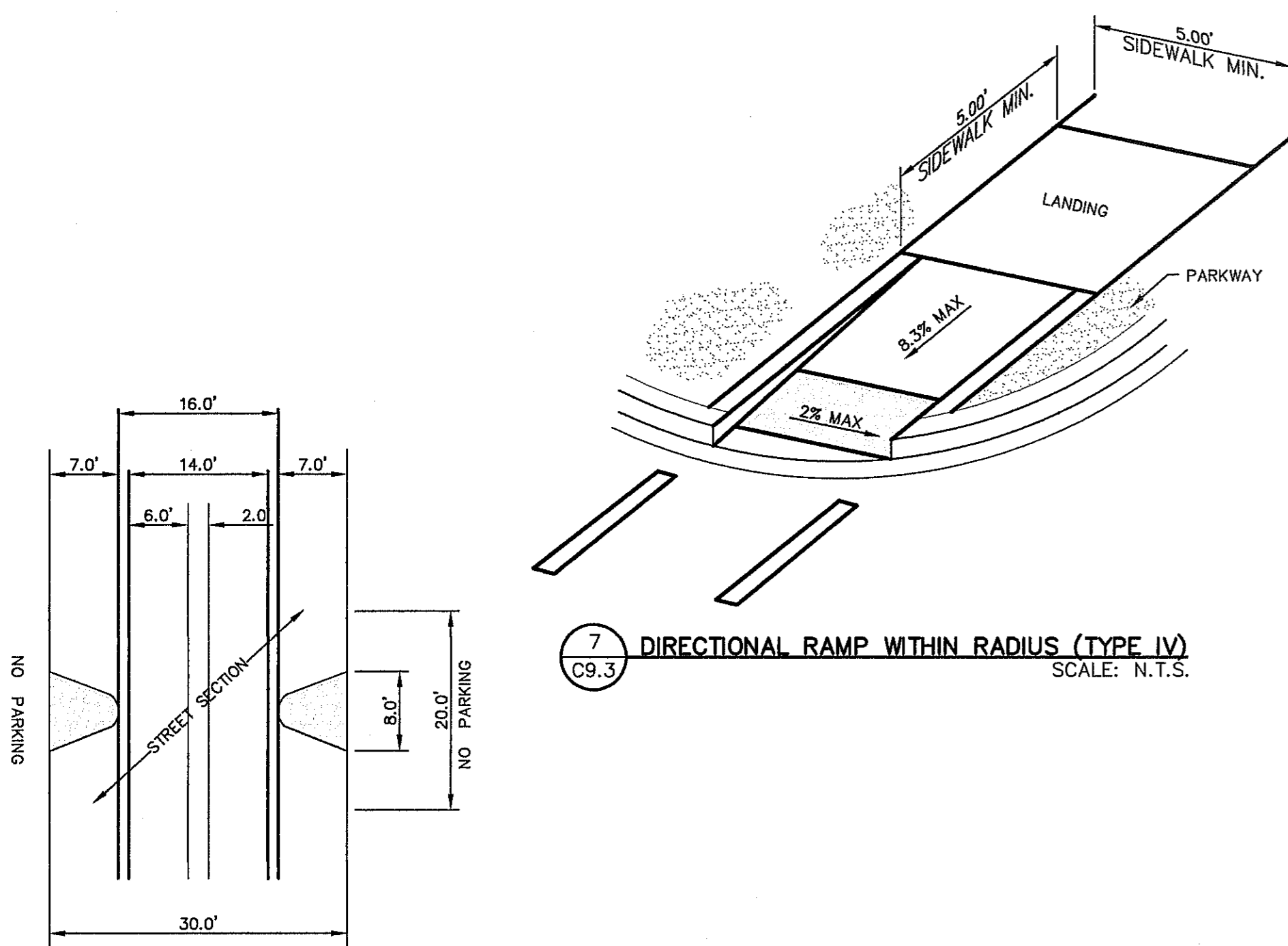
3 TYPICAL 52' R.O.W. STREET SECTION @ MID-BLOCK CHOKERS DETAIL (RESIDENTIAL SUB-COLLECTOR)
SCALE: N.T.S.



**PAVEMENT WIDTHS DECREASE AT MID-BLOCK CHOKERS AND STREET BULB-OUTS
(*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
NOTE: CROSS SECTIONS ARE MINIMUM STANDARD REQUIREMENTS

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4 TYPICAL 52' R.O.W. STREET SECTION DETAIL (RESIDENTIAL SUB-COLLECTOR)
SCALE: N.T.S.



7 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
SCALE: N.T.S.

8 BULBOUT (MIDBLOCK TREATMENT)
SCALE: N.T.S.

MIN. 30' WIDE STREET FOR WIDER STREETS MAKE BULB DEEPER

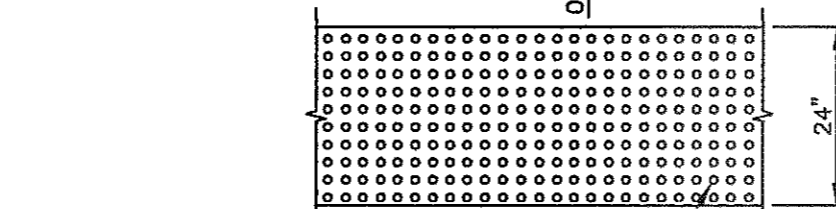
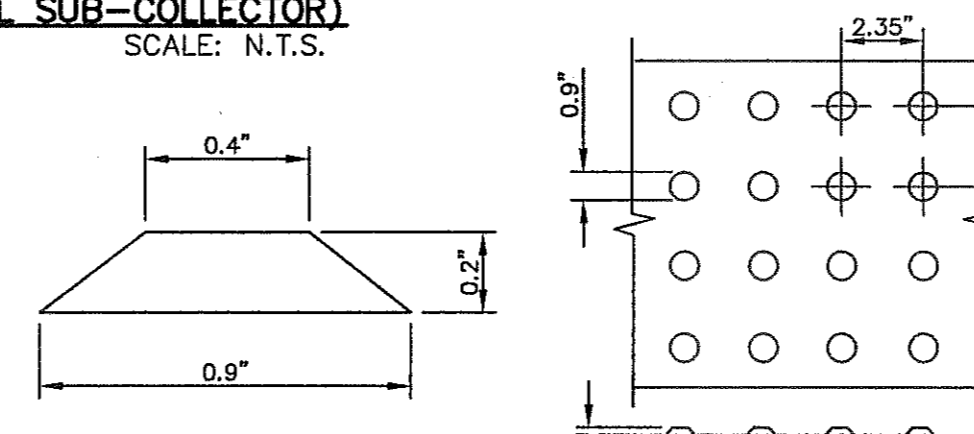
THE BULB-OUT DRAWING SHOWN IS FOR A 30 FOOT WIDE STREET. IF A STREET IS WIDER, THE BULB WOULD BE DEEPER. EACH BULB SHOWN IS SEVEN FEET DEEP. THE WIDTH BETWEEN BULBS SHOULD BE 16 FEET, WHICH ALLOWS FOR ON FOOT BETWEEN BULB AND CAR, SIX FEET PER CAR AND TWO FEET BETWEEN CARS. THIS WOULD REQUIRE CARS TO SLOW DOWN SUBSTANTIALLY IN ORDER TO PASS. THE BULB WOULD RESTRICT PARKING FOR APPROXIMATELY 20 FEET (ONE CAR LENGTH FOR PARKING PURPOSES) IN ORDER FOR THE BULB TO BE VISIBLE, ALLOW WIDER VEHICLES TO PULL TO THE RIGHT AND ALLOW OPPOSING VEHICLE TO PASS. IT MAY BE POSSIBLE TO PLANT A TREE IN EACH BULB.

LEGEND

DETECTABLE WARNING SURFACE

GENERAL NOTES:

- IMPROVEMENTS SHALL COMPLY WITH AMERICANS WITH DISABILITY ACT (ADA) AND TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) STANDARDS.
- ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
- THE MINIMUM SIDEWALK WIDTH IS FOUR (4') FEET. WHERE A FIVE (5') FEET SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A MINIMUM THREE (3') FEET SIDEWALK WITH 5'x5' PASSING SPACE AREAS ARE REQUIRED TO BE LOCATED AT REASONABLE INTERVALS NOT TO EXCEED TWO-HUNDRED (200') FEET.
- LANDINGS SHALL BE 5'x5' MINIMUM WITH A MAXIMUM TWO (2%) PERCENT SLOPE IN ANY DIRECTION.
- MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'x4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. OTHERWISE, FLARED SIDES SHALL BE PROVIDED WITH A MAXIMUM 10(H)-1(V) SLOPE. IF THE LANDING DEPTH IS LESS THAN FOUR (4') FEET, THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 12(H)-1(V) SLOPE.
- ALL CONCRETE SIDEWALK SURFACES SHALL RECEIVE A LIGHT BROOM FINISH UNLESS NOTED OTHERWISE IN THE PLANS.
- RAMP TEXTURES MUST CONSIST OF TRUNCATED DOME SURFACES. TEXTURES ARE REQUIRED TO BE DETECTABLE UNDERFOOT. SURFACES THAT WOULD ALLOW WATER TO ACCUMULATE ARE PROHIBITED. REFER TO TRUNCATED DOME DETAIL.
- CROSSWALK DIMENSIONS, CROSSWALK MARKINGS AND STOP BAR LOCATIONS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS. AT INTERSECTIONS WHERE CROSSWALK MARKINGS ARE NOT REQUIRED, RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
- ACCESSIBLE ROUTES WITH A RUNNING SLOPE GREATER THAN FIVE (5%) PERCENT IS A RAMP. A RAMP SHALL COMPLY WITH TDLR 4.8 - RAMPS. MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND RAMP SURFACES IS TWO (2%) PERCENT.
- ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) PREPARED AND ADMINISTERED BY TDLR.



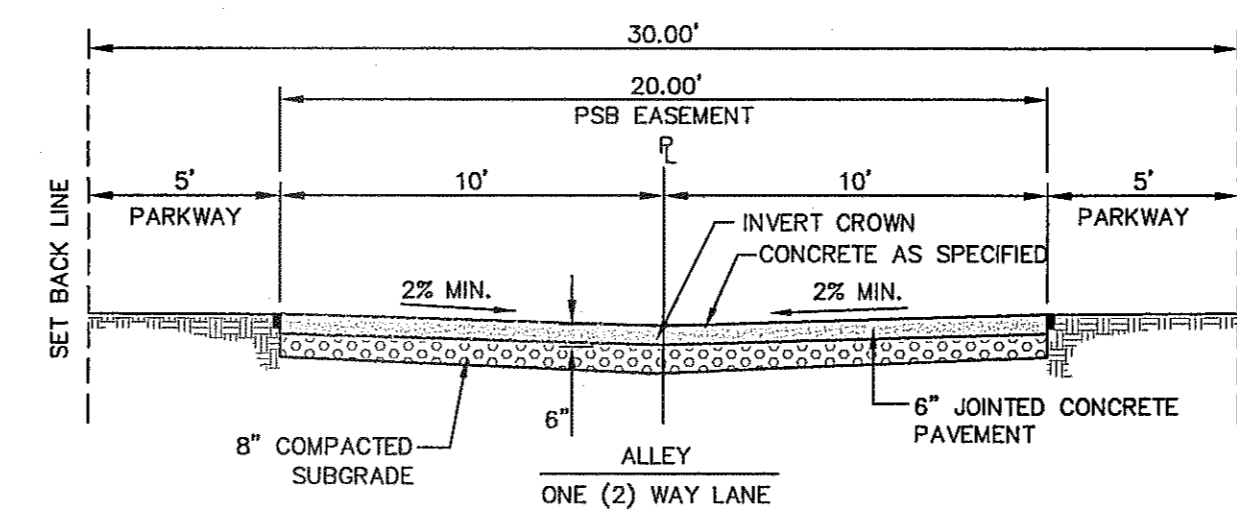
TRUNCATED DOME TILES, ADA CERTIFIED "ARMOR-TILE" TACTILE SYSTEMS OR APPROVED EQUAL

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 PLAGING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF SURFACE SHALL BE PERMITTED.

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

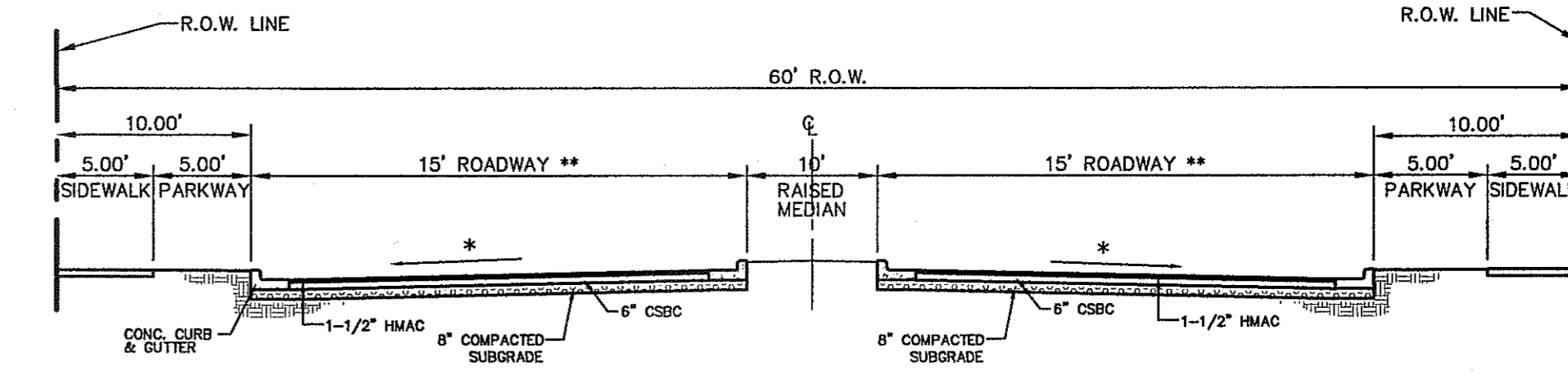


2 30' PRIVATE ACCESS ESMT. PUBLIC DRAINAGE, UTILITY EASEMENT, & PSB EASEMENT
SCALE: N.T.S.

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) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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

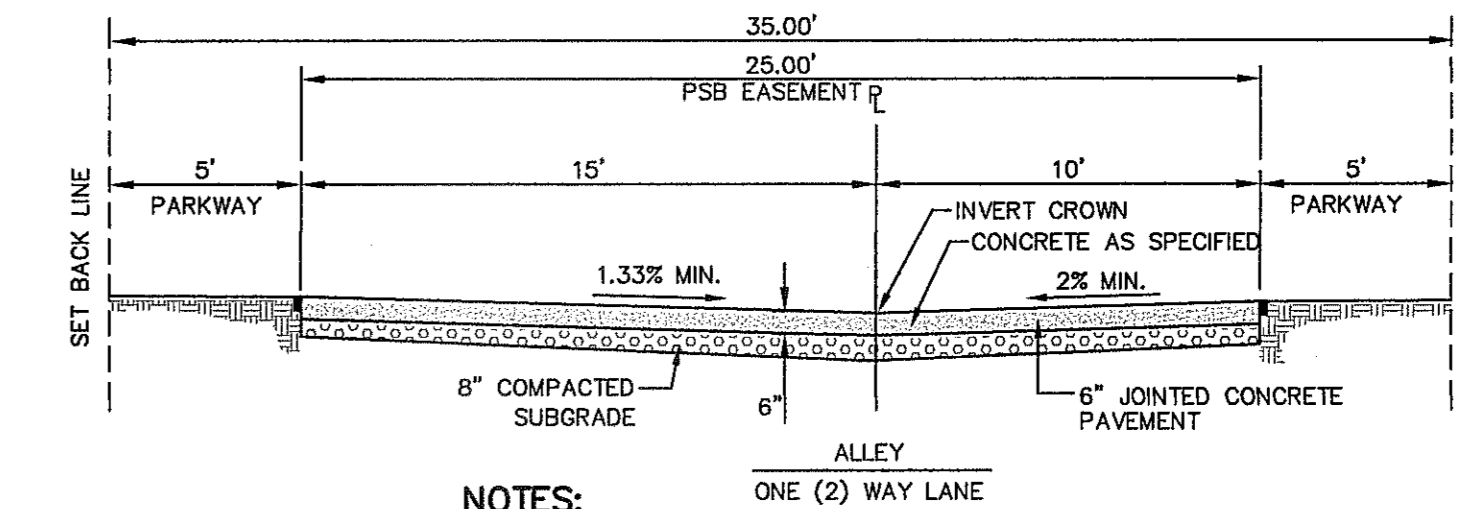
NOTES:
1. ONE (1)-THREE FOOT CONCRETE VALLEY GUTTER LOCATED AT THE CENTERLINE OF THE RIGHT-OF-WAY WHEN THE LONGITUDINAL SLOPE OF THE ALLEY IS LESS THAN ONE (1) PERCENT, AND DRAINAGE IS TO BE CARRIED WITHIN THE ALLEY.
2. NO CONCRETE VALLEY GUTTER REQUIRED WHEN LONGITUDINAL SLOPE OF THE ALLEY IS EQUAL OR GREATER THAN ONE (1) PERCENT.



**PAVEMENT WIDTHS DECREASE AT MID-BLOCK CHOKERS AND STREET BULB-OUTS
(*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
NOTE: CROSS SECTIONS ARE MINIMUM STANDARD REQUIREMENTS

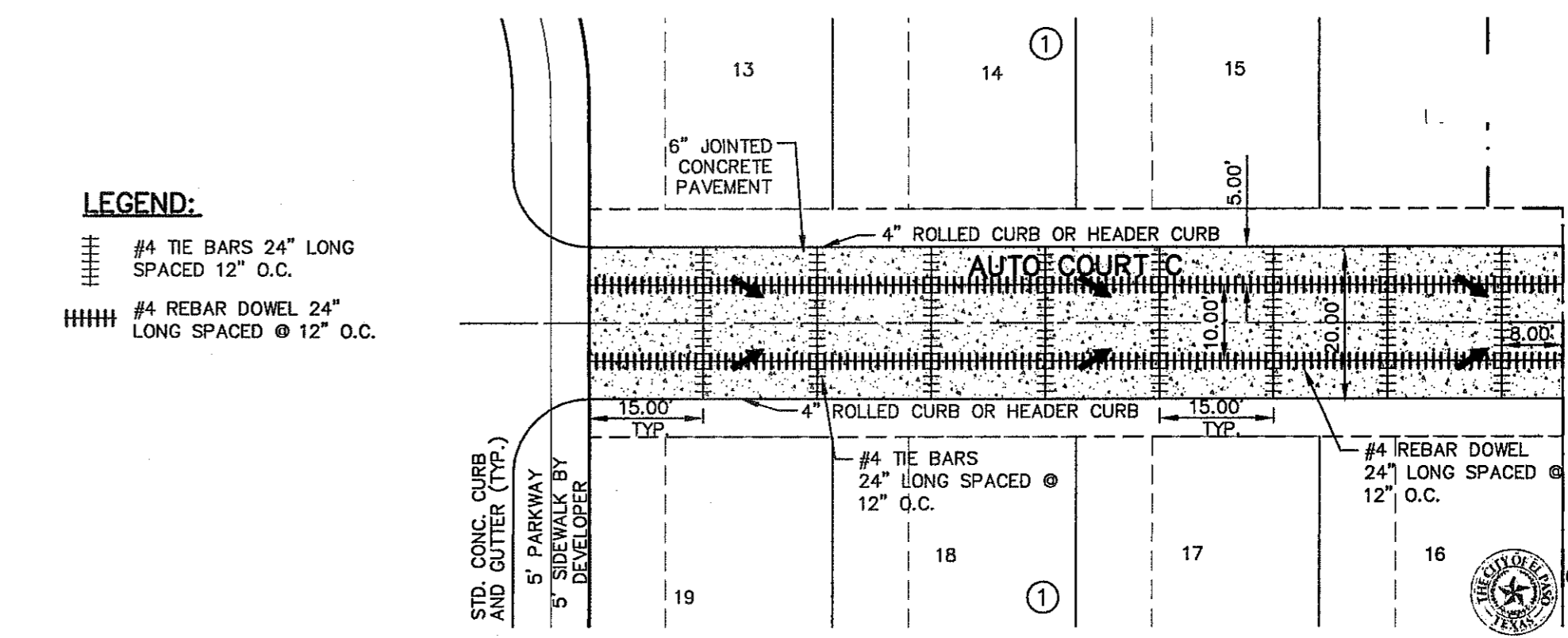
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5 60' R.O.W. BOULDER CANYON LANE ENTRANCE STREET SECTION DETAIL (RESIDENTIAL SUB-COLLECTOR)
SCALE: N.T.S.



NOTES:
1. ONE (1)-THREE FOOT CONCRETE VALLEY GUTTER LOCATED AT THE CENTERLINE OF THE RIGHT-OF-WAY WHEN THE LONGITUDINAL SLOPE OF THE ALLEY IS LESS THAN ONE (1) PERCENT, AND DRAINAGE IS TO BE CARRIED WITHIN THE ALLEY.
2. NO CONCRETE VALLEY GUTTER REQUIRED WHEN LONGITUDINAL SLOPE OF THE ALLEY IS EQUAL OR GREATER THAN ONE (1) PERCENT.

6 35' PRIVATE ACCESS ESMT. PUBLIC DRAINAGE, UTILITY EASEMENT, & PSB EASEMENT
SCALE: N.T.S.



LEGEND:

#4 TIE BARS 24" LONG SPACED 12" O.C.
#4 REBAR DOWEL 24" LONG SPACED @ 12" O.C.

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

CONSTRUCTION JOINT DETAIL

10 TYPICAL CONCRETE PAVEMENT JOINT PLAN
SCALE: N.T.S.

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81
(CITY DATUM = 4070.77)

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ENGINEER'S SEAL
J. A. ALVARADO
JULY 1987
86075

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.A.
DRAWN BY: A.L.B.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2060-0261.D

PROJECT TITLE
BOULDER CANYON REPLAT A
SUBDIVISION IMPROVEMENTS

REVIEWED

SHEET TITLE

STANDARD DETAILS

(SHEET 3 OF 3)

SHEET NO.

C9.3

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY (915) 543-5720
 EL PASO ENERGY CORPORATION (915) 496-5244
 EL PASO WATER UTILITIES (915) 594-5500
 MCI SURVEILLANCE (800) MCI-WORK
 TIME WARNER COMMUNICATIONS (915) 772-1123
 TEXAS GAS SERVICE (915) 680-7200
 SBC (800) 545-6005
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DATE	REVISIONS	BY

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ENGINEER'S SEAL

SCALE AS SHOWN

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

DATE: NOVEMBER 2013
 DESIGN BY: J.A.
 DRAWN BY: A.B.
 CHKD. BY: J.L.A.
 APP'D. BY: J.L.A.
 JOB NO.: 2009-0261D

PROJECT TITLE

**BOULDER CANYON
 REPLAT A
 SUBDIVISION IMPROVEMENTS**

CITY DEVELOPMENT DEPARTMENT

REVIEWED

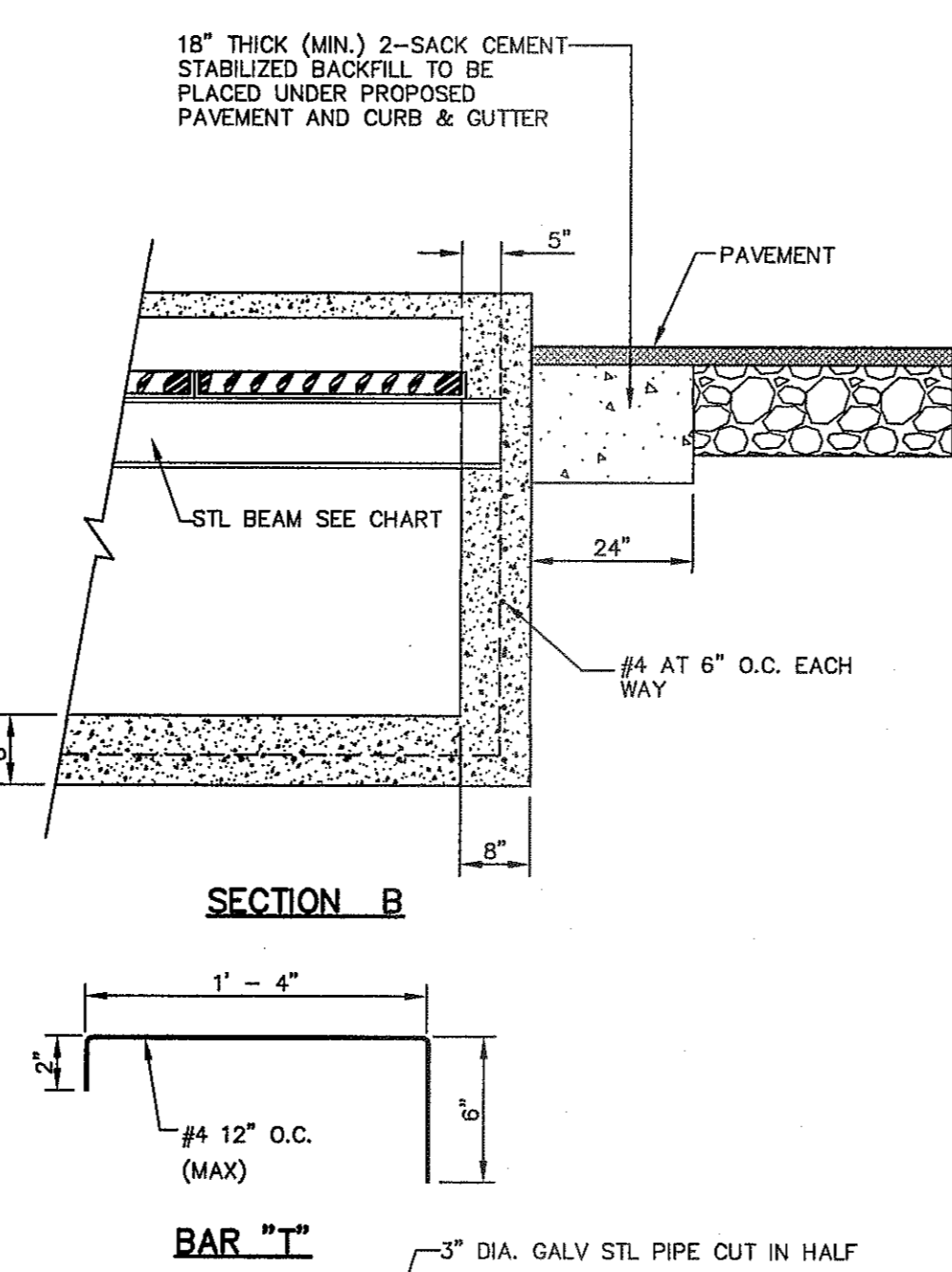
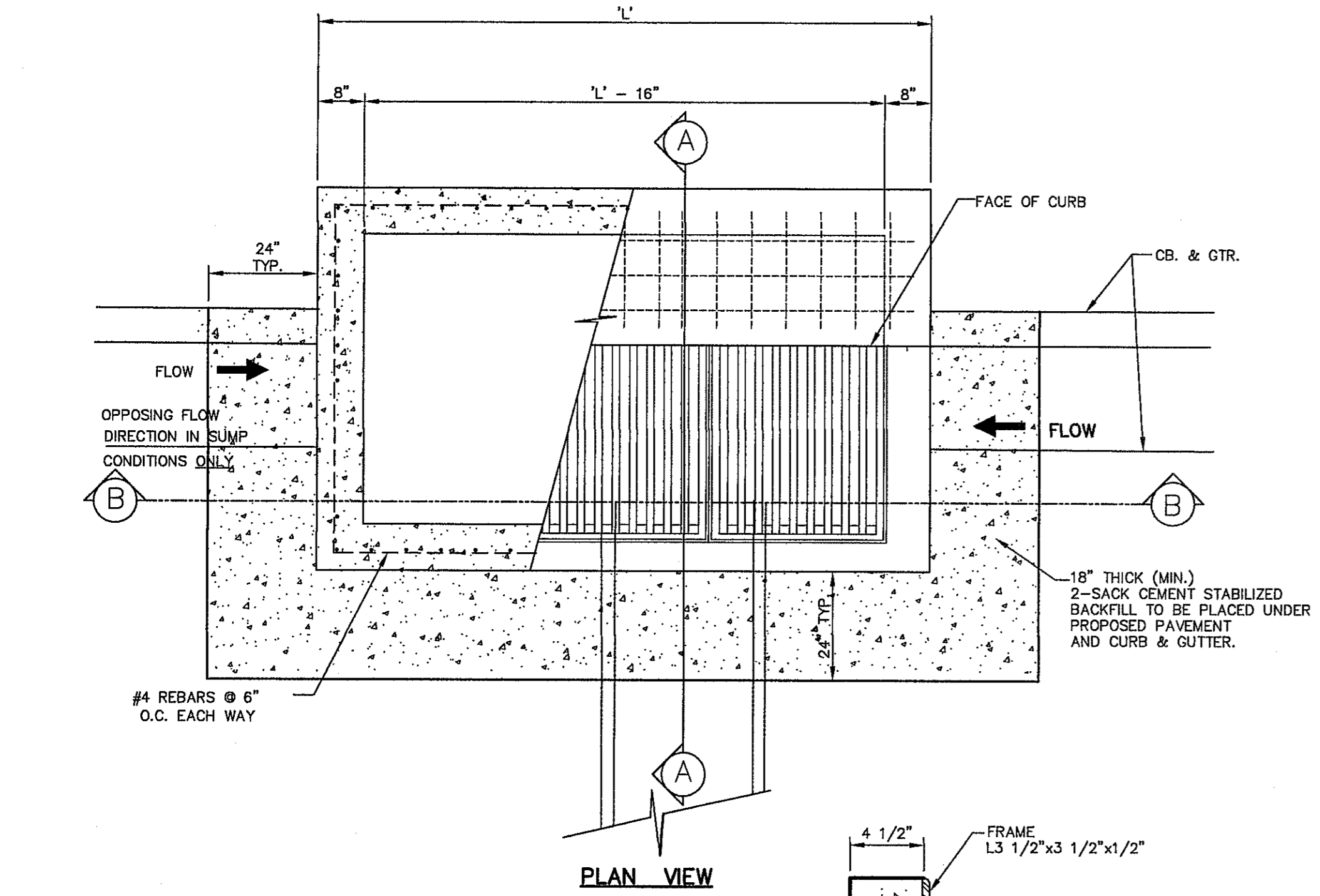
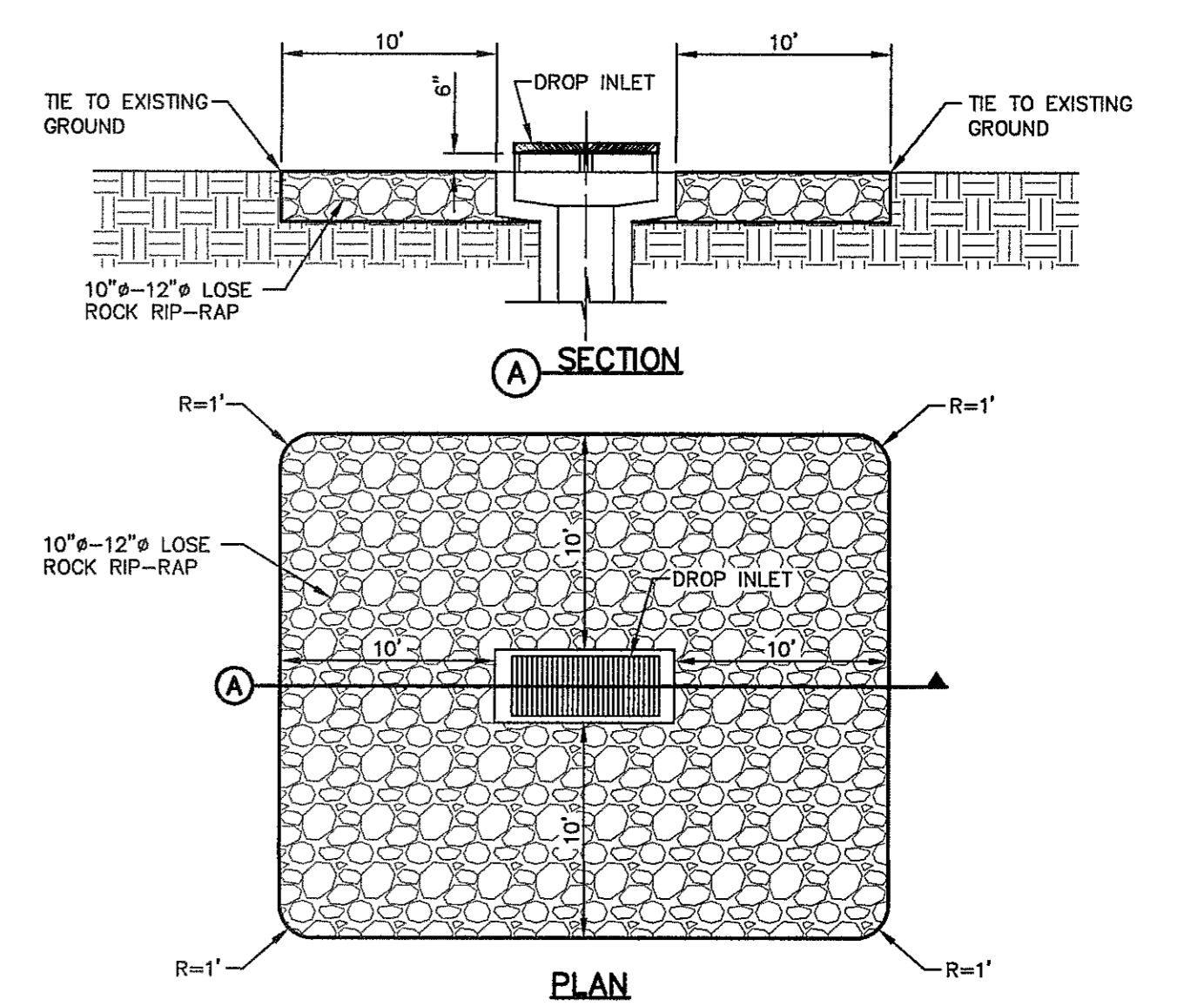
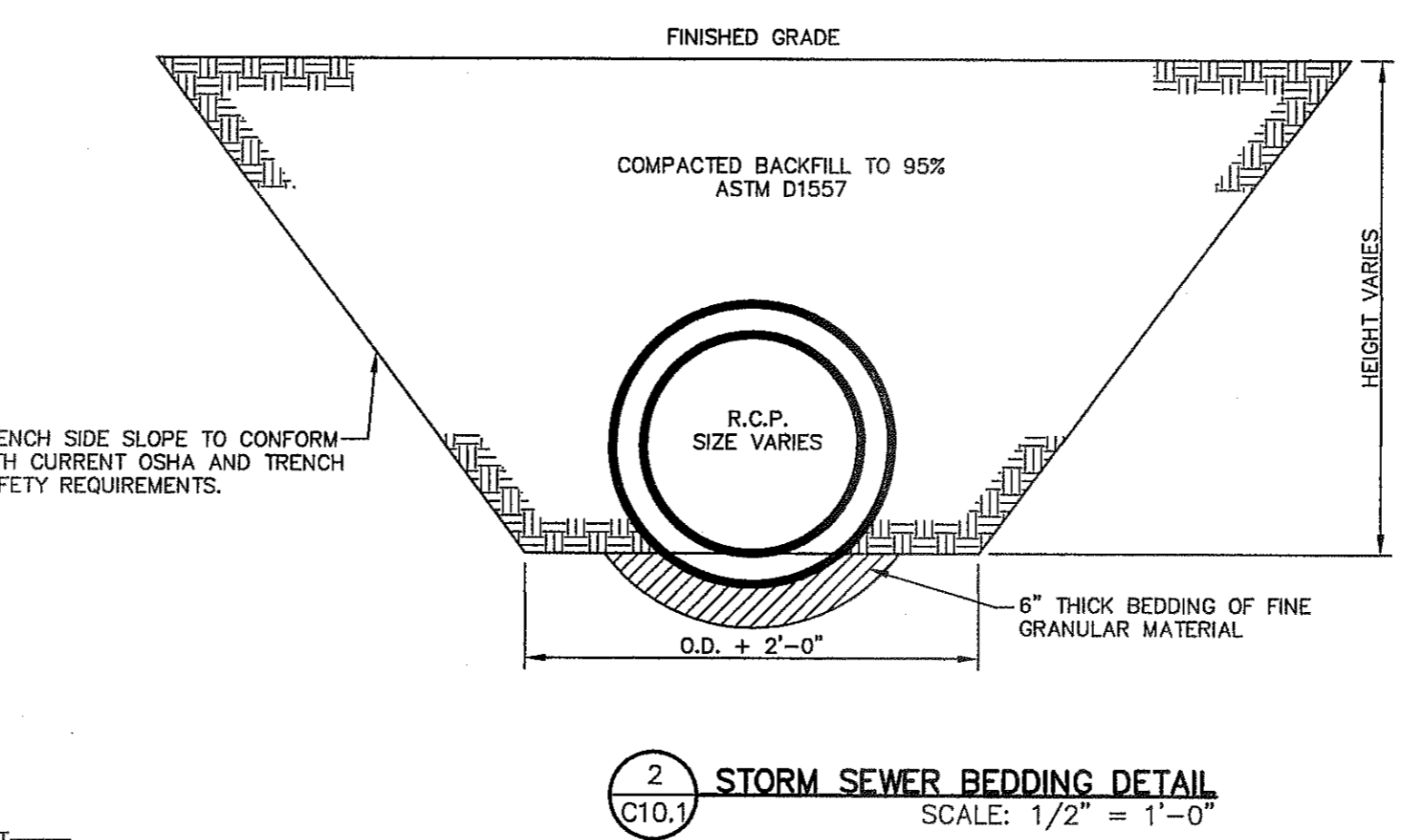
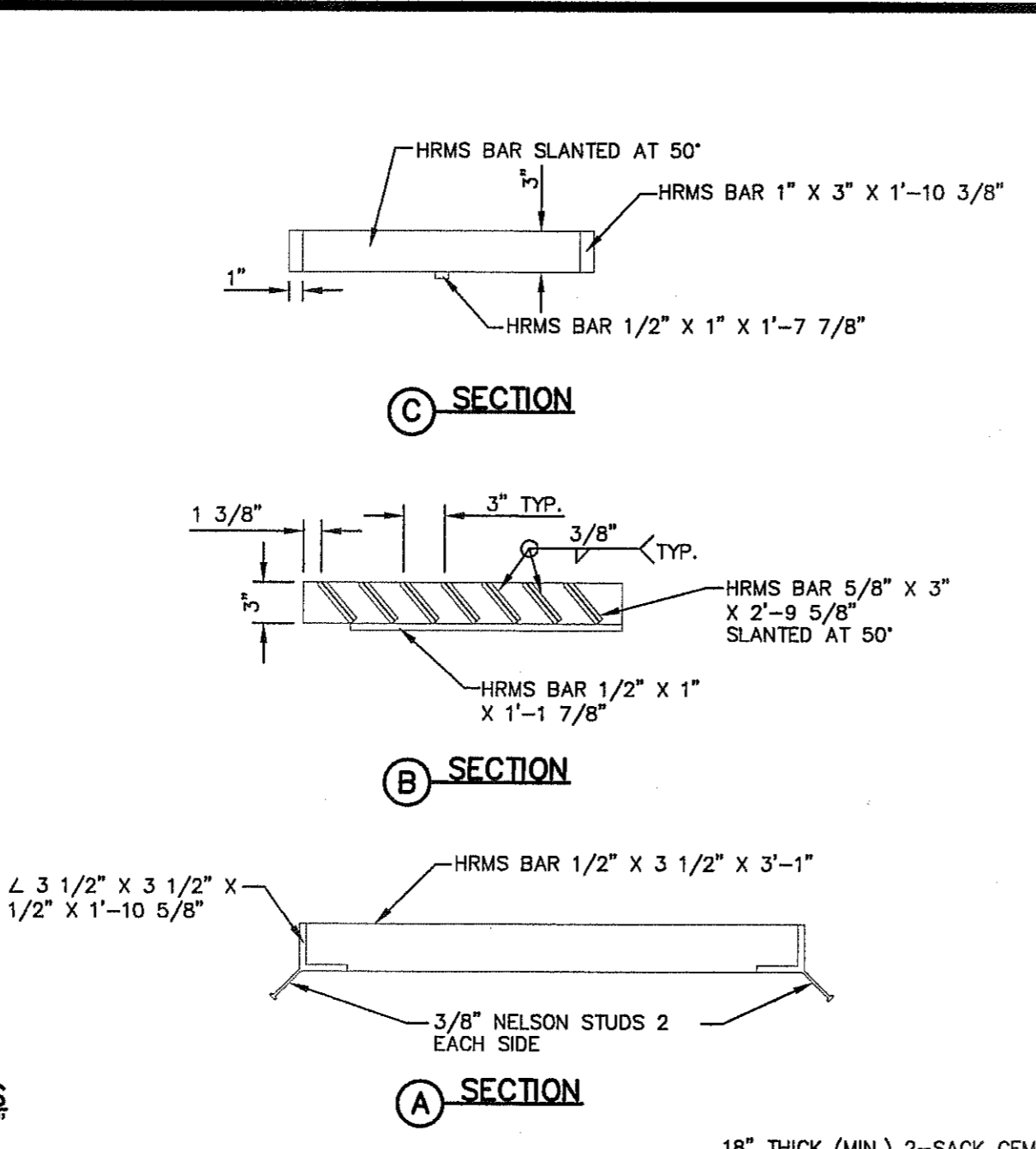
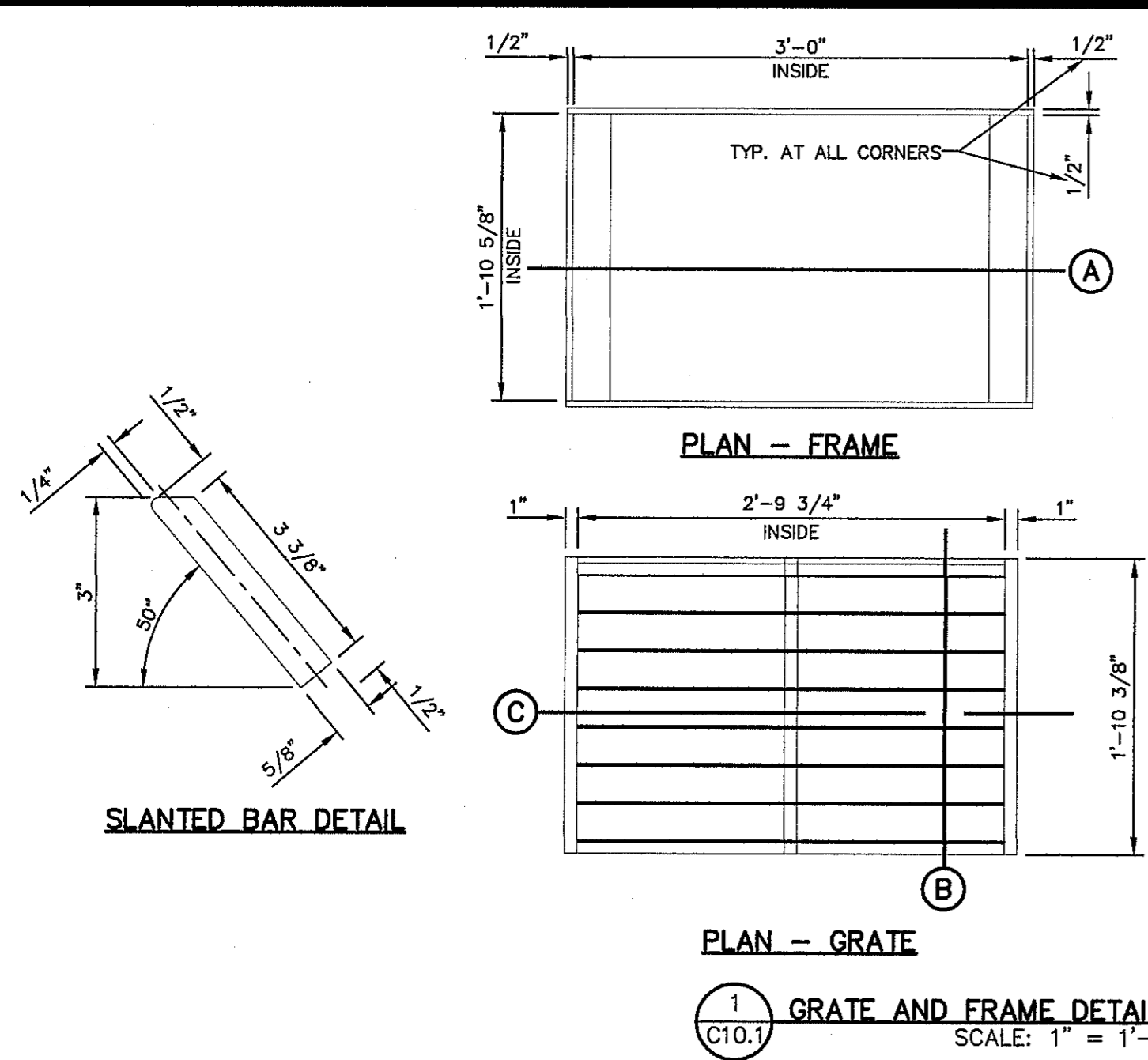
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DRAINAGE DETAILS

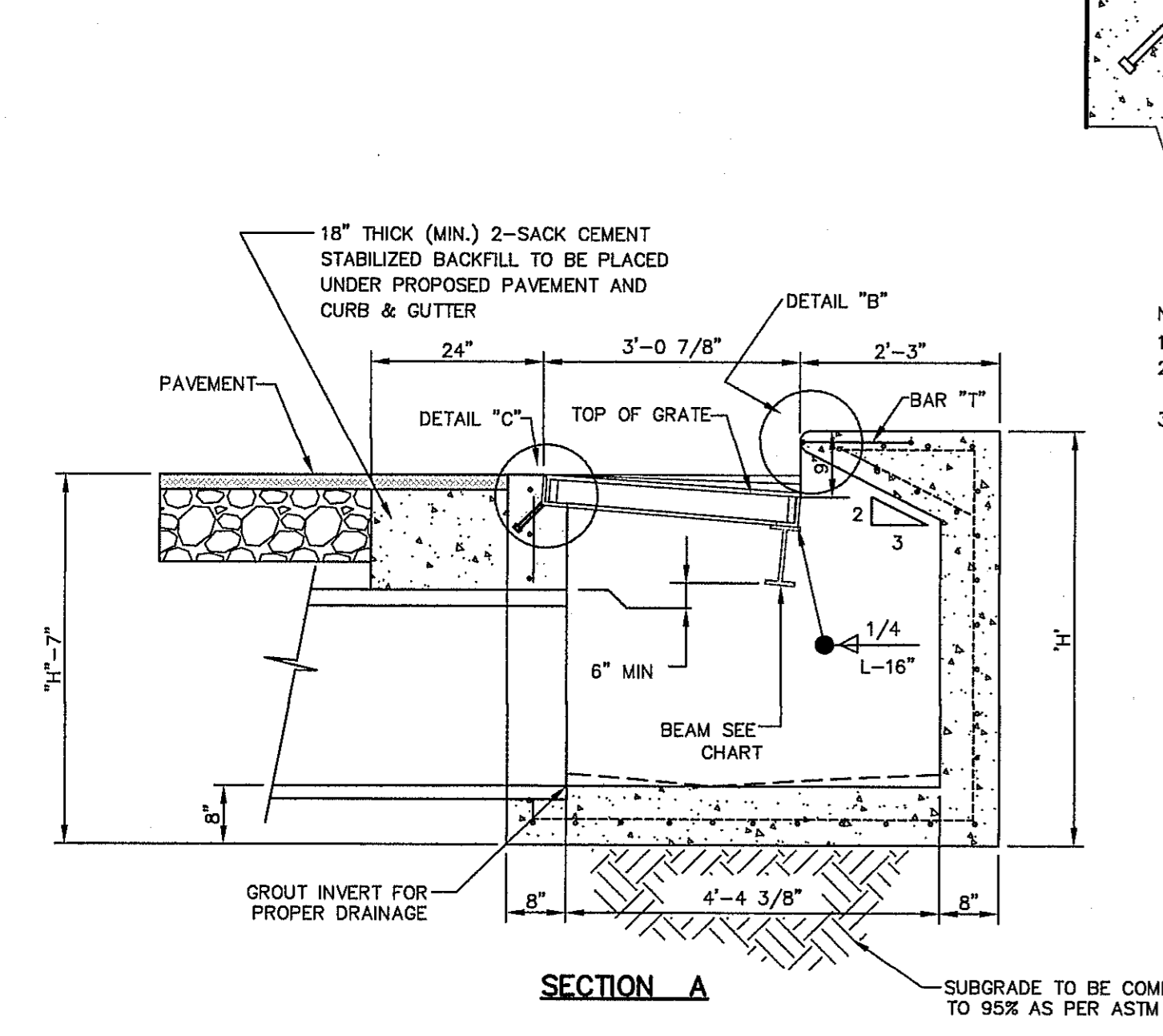
(SHEET 1 OF 2)

SHEET NO.

C10.1



- DROP INLET GENERAL NOTES:**
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
 - SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
 - GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
 - WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRADES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
 - GRATED MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
 - ALL WELDS SHALL HAVE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
 - CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
 - FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT-BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY OR BRITTLE.
 - ALL CASTING SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
 - ALL CONCRETE TO BE 3000 PSI. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO THE REINFORCING STEEL ARE TO CENTER OF BARS.
 - MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
 - EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR APPROVED CONCRETE OR MASONRY STRUCTURE.
 - STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH TxDOT ITEM 446 "PAINT AND PAINTING".
 - SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM TO SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
 - GRATES WILL BE DEPRESSED 1" BELOW PROPOSED OR EXISTING GRADE.
 - ALL REINFORCED BARS TO BE #4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
 - INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
 - LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
 - THE GRATED OF ALL INLETS WITH THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.



DETAIL "C"

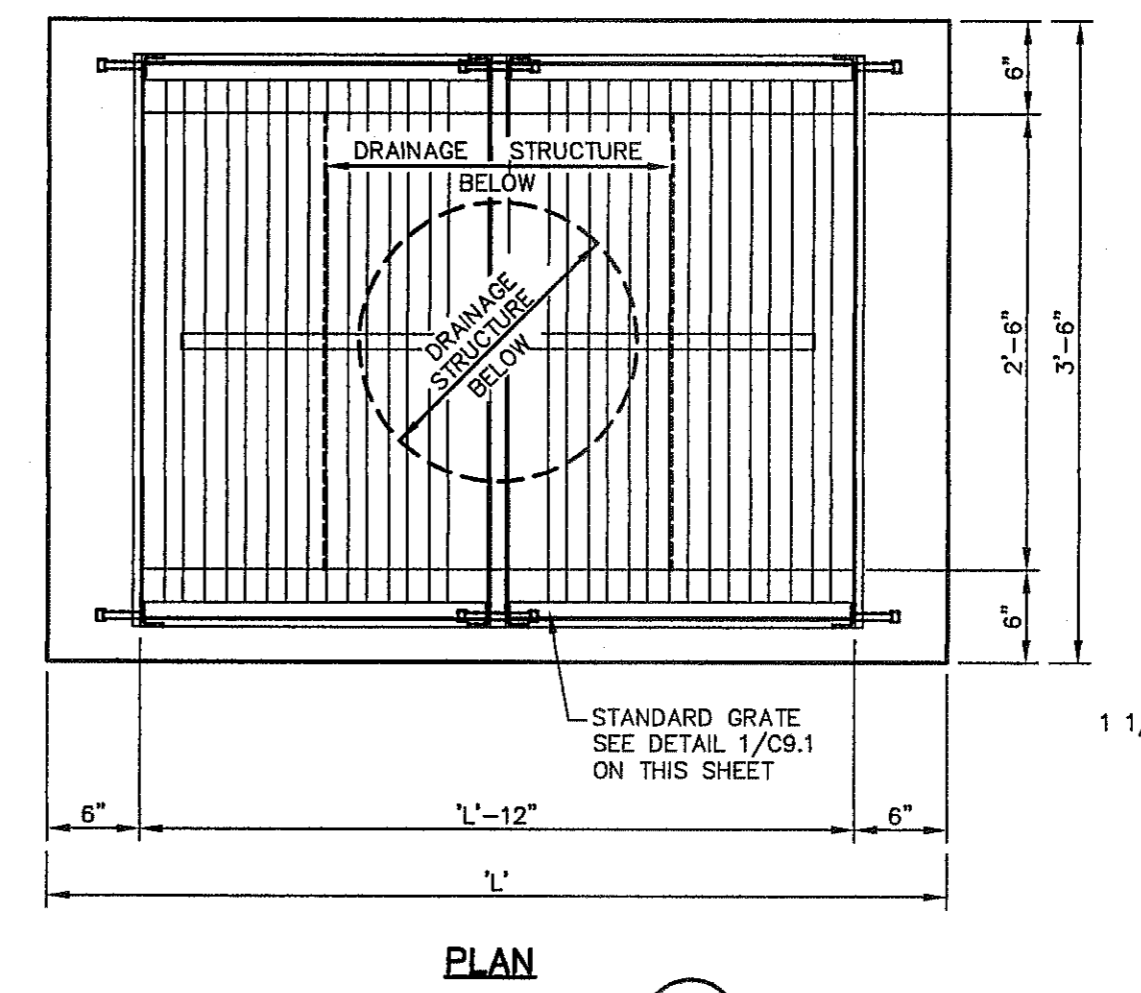
NOTES:

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

NO. OF GRATES	L'	BEAM	
		LENGTH	MINIMUM SIZES
2	5'-2 1/4"	4'-8 1/4"	WBX12, SBX12.5, MC6X15.1
3	7'-1 7/8"	6'-7 7/8"	WBX15, S7X18.4, MC7X19.1
4	9'-1 1/2"	8'-7 1/2"	W10X19, SBX18.4, MC10X22
5	11'-1 1/8"	10'-7 1/8"	W12X16, SBX23, MC10X22
6	13'-0 3/4"	12'-6 3/4"	W12X19, SBX23, MC10X25

DETAIL "B"

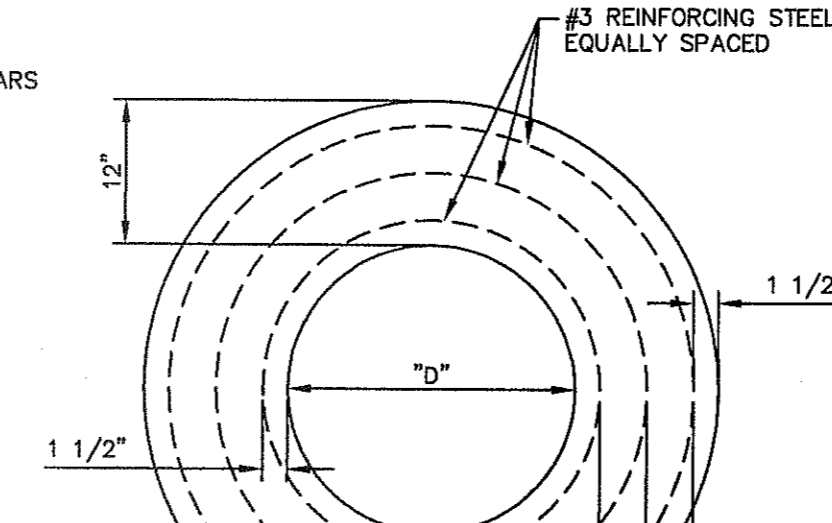
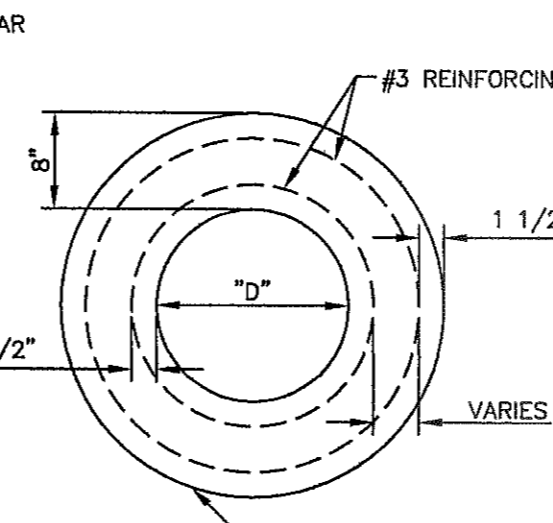
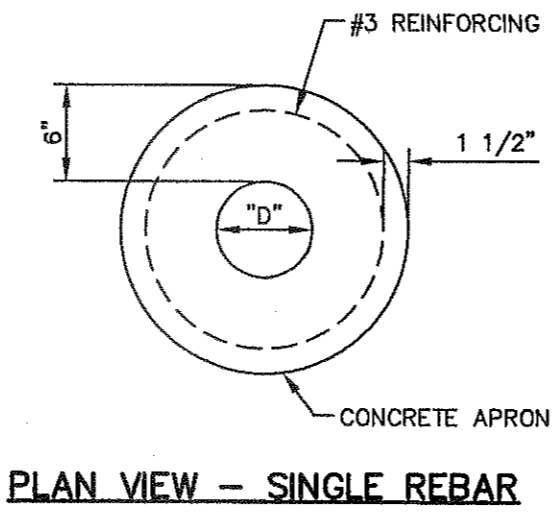
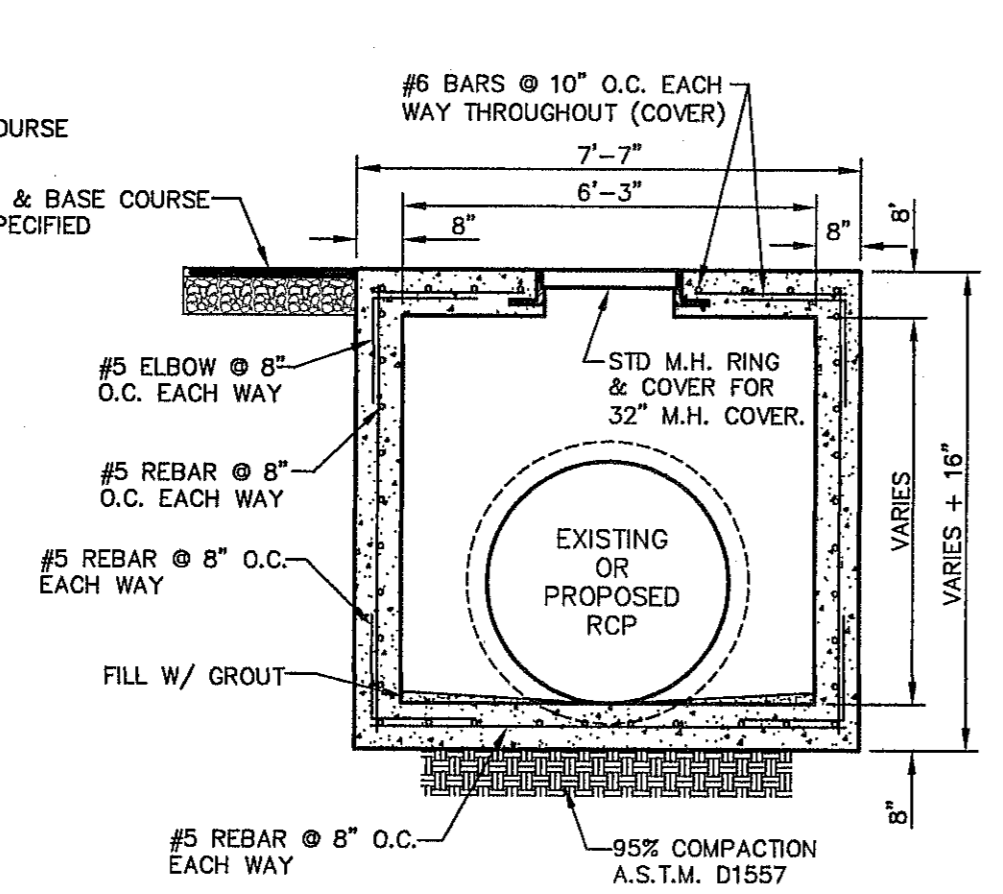
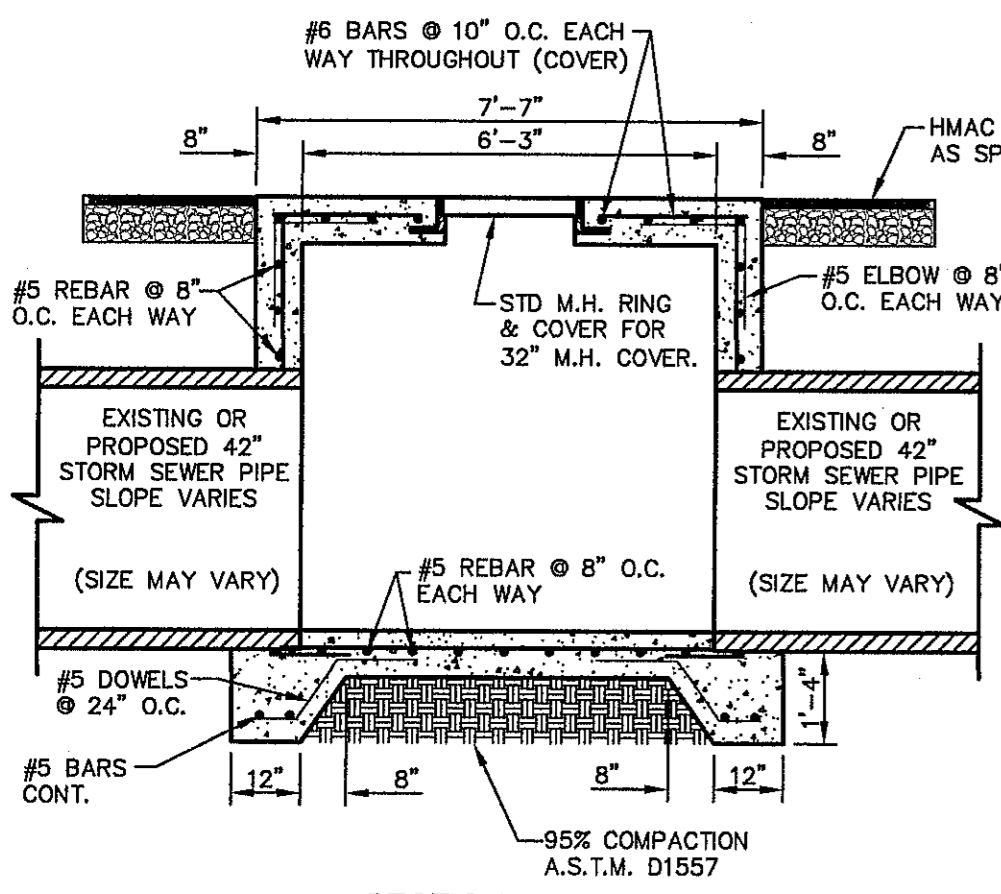
ALL SUBSTITUTIONS OF STRUCTURAL STEEL BEAMS AND CHANNELS FOR DROP INLETS MUST BE SUBMITTED FOR REVIEW AND INCLUDE SECTION MODULUS AND DEFLECTION CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS.



NUMBER OF GRATES	L'
1	2'-11 5/8"
2	5'-3/4"
3	6'-10 3/4"
4	8'-9 1/2"
5	10'-8"



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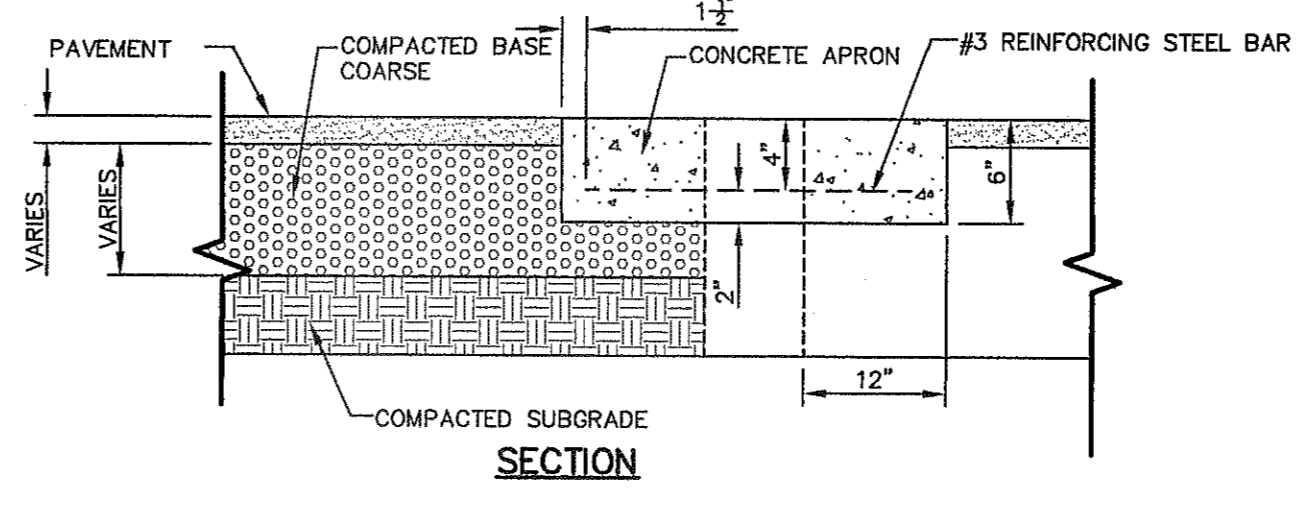


CONSTRUCTION NOTES:

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

GENERAL NOTES:

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



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

UTILITY LOCATOR SERVICES

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

WARNING! BEFORE YOU DIG

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

FOR FIELD LOCATING EXISTING UTILITIES

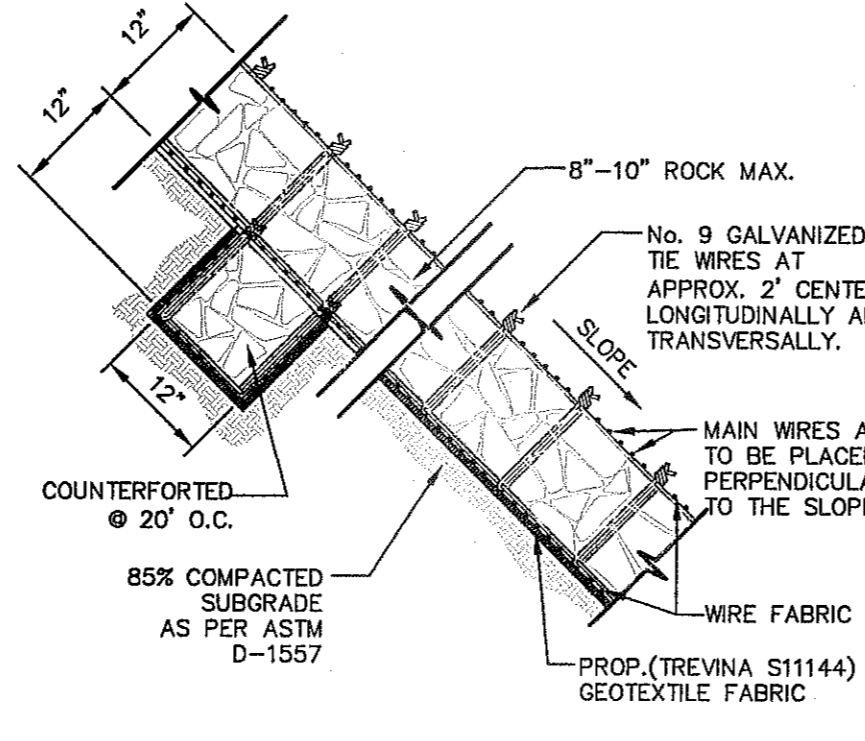
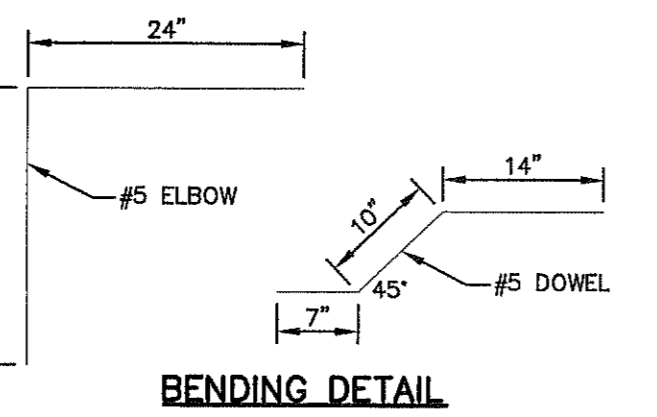
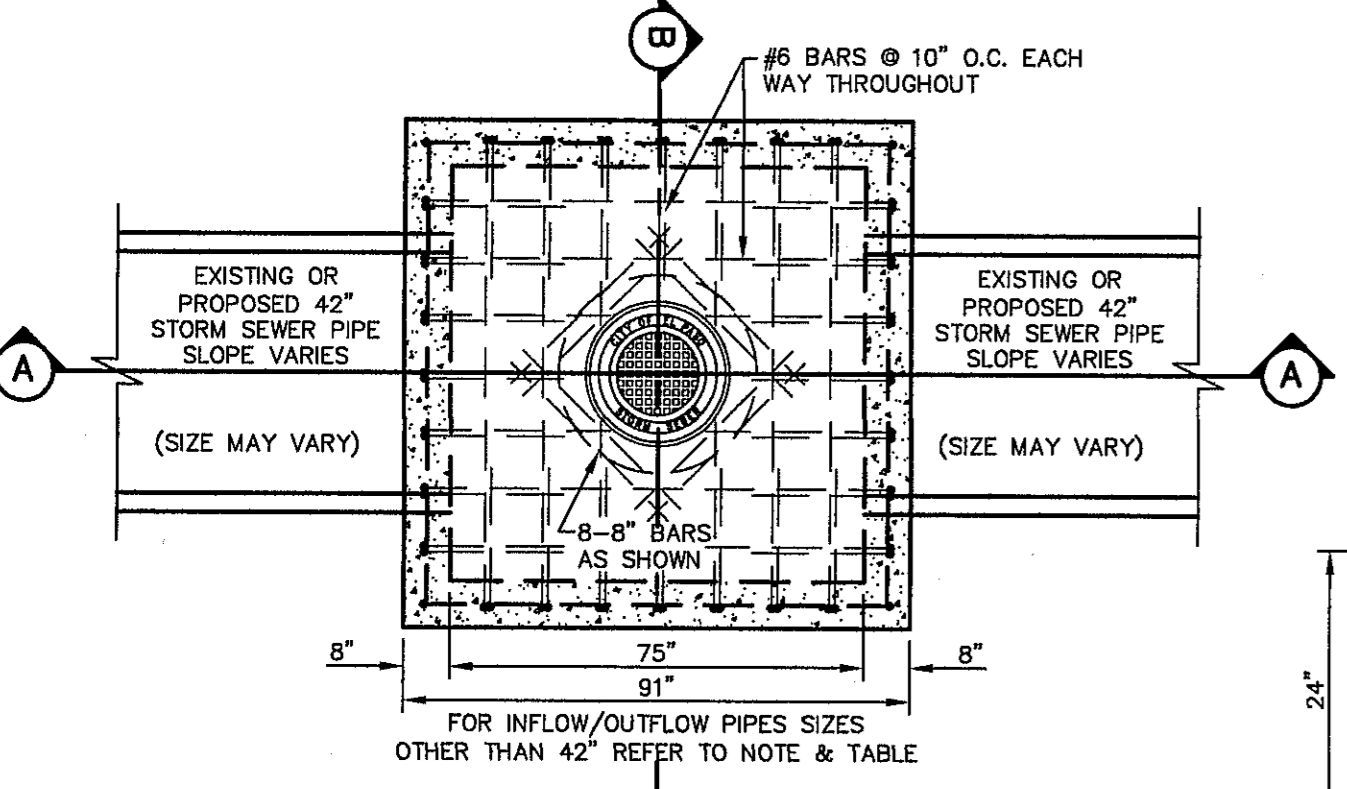
REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTWIND DR. N.W. 88' DATUM ELEVATION = 4001.81 (CITY DATUM = 4070.77)

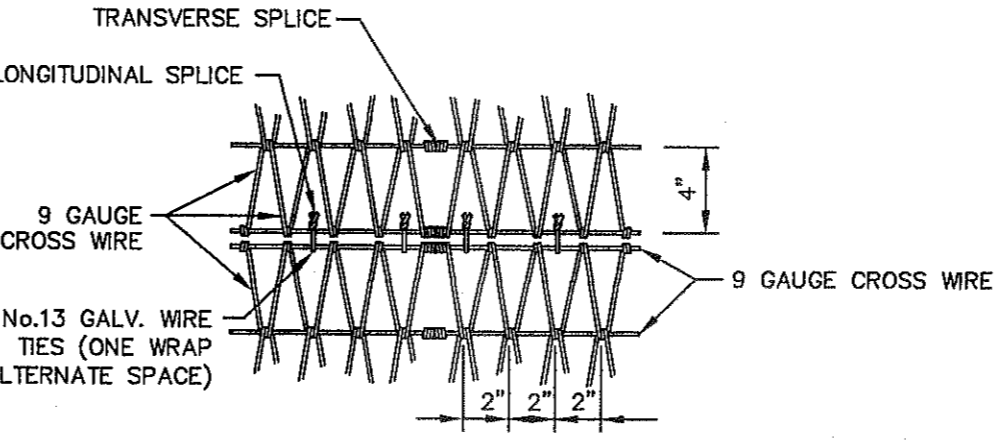
DATE	REVISIONS	BY

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

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



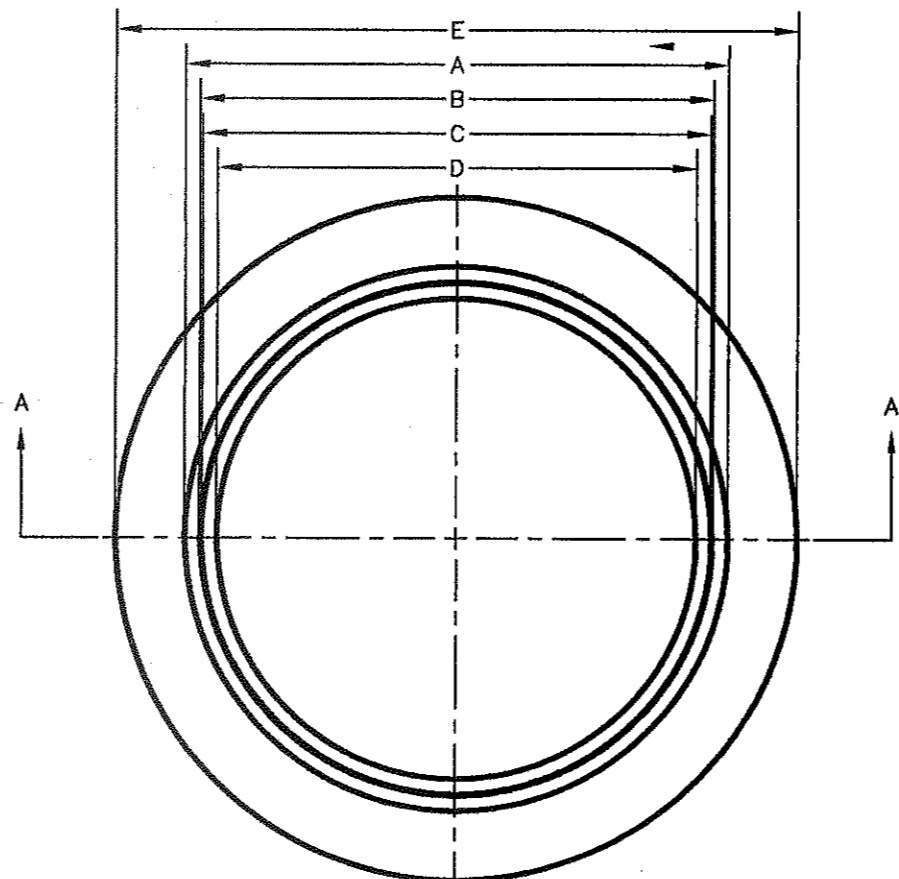
2 WIRE WRAPPED RIP RAP
 SCALE: NTS



WIRE FABRIC AND SPLICE DETAIL (FOR NON-COHESIVE SOIL)
 SCALE: NTS

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 2-17.

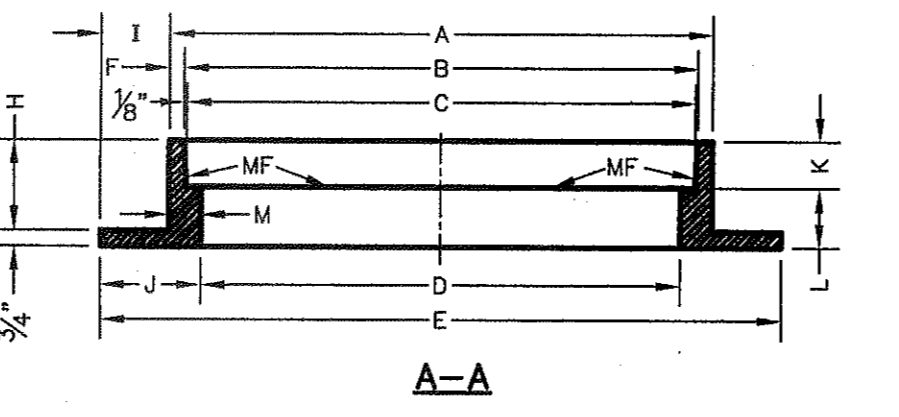


CONSTRUCTION KEY NOTES:

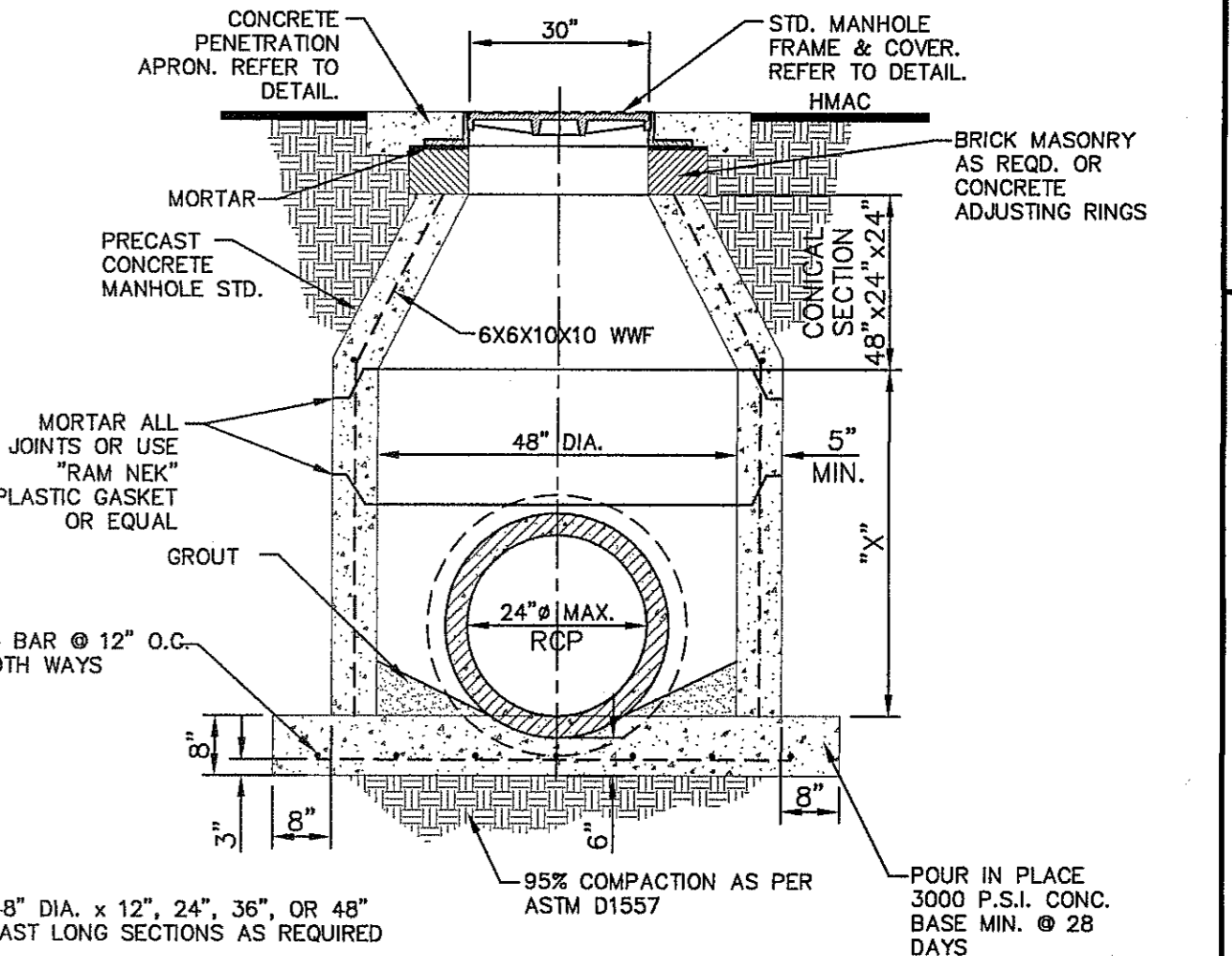
- A. LIFTING NOTCH.
- B. 3/16" RAISED LETTERING.
- C. 1" SQUARES (3/16" TALL) WITH 5/8" SPACE BETWEEN.
- D. REINFORCING RIBS.
- E. SLOT.

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

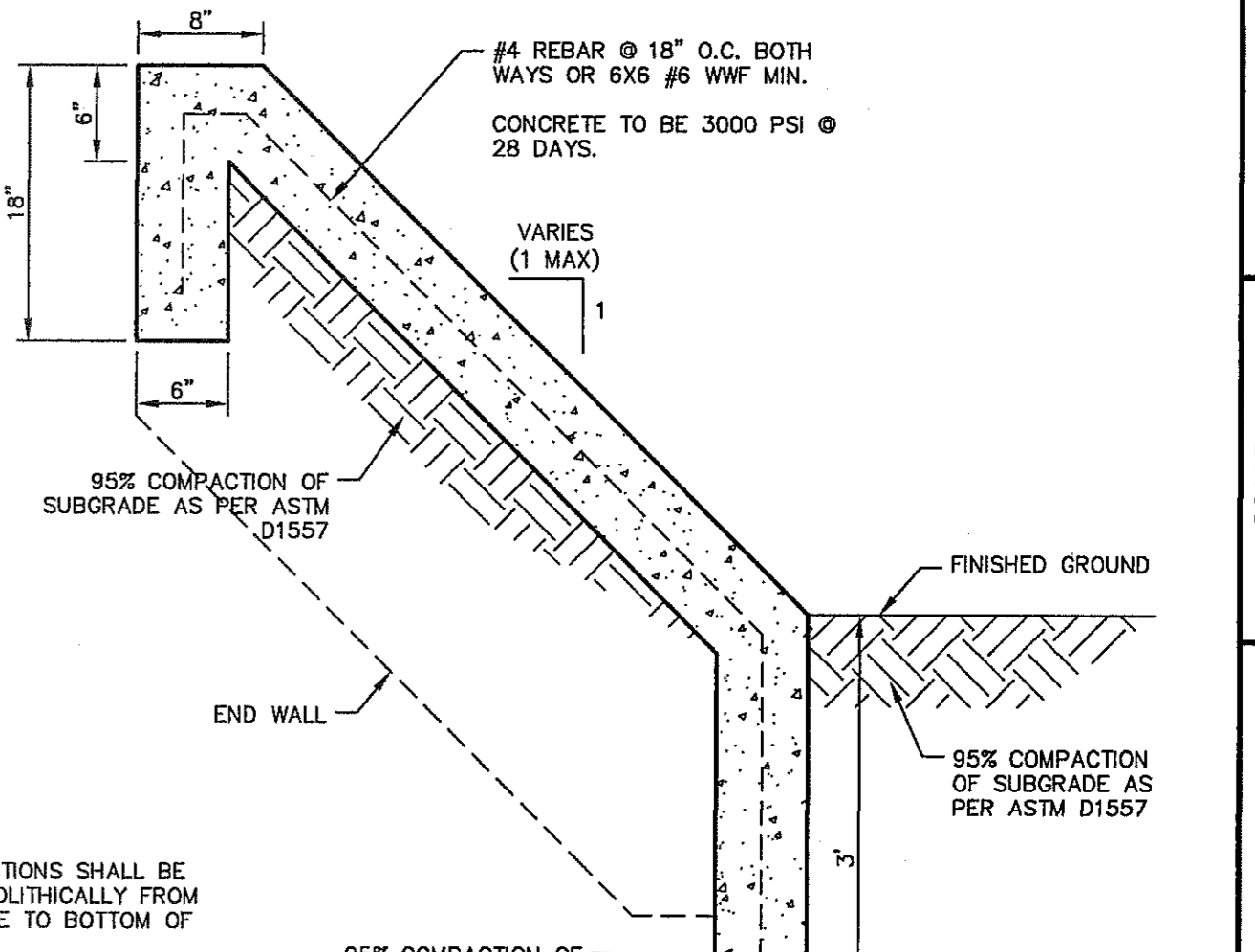
5 MANHOLE RING AND COVER DETAILS
 SCALE: N.T.S.



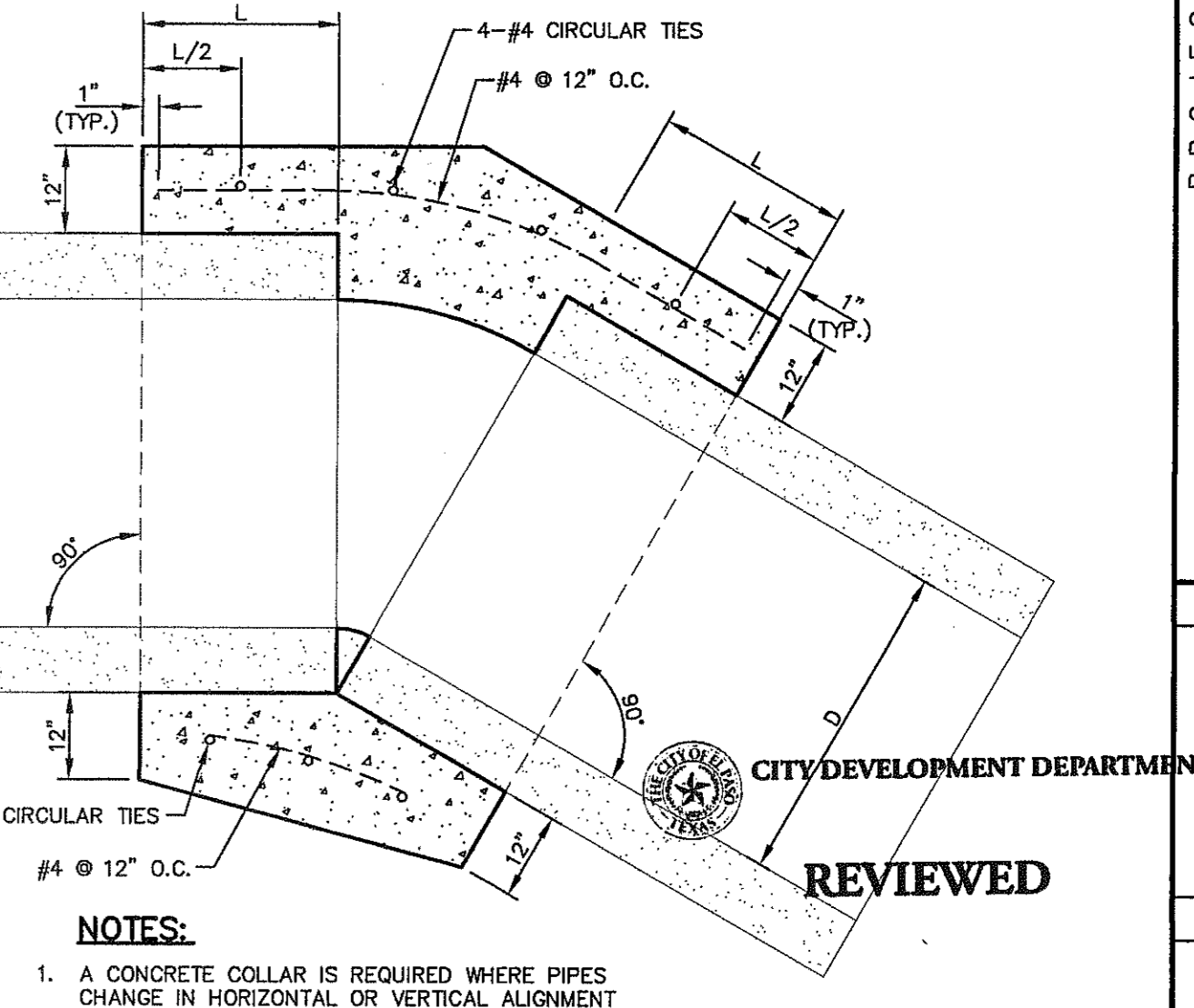
STORM WATER MANHOLE RING



4 48" STANDARD MANHOLE DETAIL
 SCALE: N.T.S.



6 CONCRETE BLANKET DETAIL
 SCALE: N.T.S.



7 CONCRETE ANCHOR COLLAR
 SCALE: 3/4" = 1'-0"

ENGINEER'S SEAL

PROFESSIONAL ENGINEER

JORGE L. AZARATE
 80075
 TEXAS REGISTERED ENGINEERING FIRM F-484

4712 Woodrow Bean, Ste. F El Paso, TX 79904
 Office: 915.564.5522 Fax: 915.564.5523 www.joaz.com

PROJECT TITLE

BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE DETAILS (SHEET 2 OF 2)

CITY DEVELOPMENT DEPARTMENT

REVIEWED

NOTES:

1. A CONCRETE COLLAR IS REQUIRED WHERE PIPES CHANGE IN HORIZONTAL OR VERTICAL ALIGNMENT
2. FOR PIPES 24" OR LESS IN DIAMETER, REINFORCE WITH W.W.M.

SCALE: 3/4" = 1'-0"

WESTWIND PARK
(CLERKS FILE NO. 20120012735)

LOT 22, BLOCK 2,
OWNER: EGAN MICHAEL
VOL: 3896 PG: 0525

CHAPARRAL PARK UNIT
22 REPLAT "A"
(VOLUME 55, PAGE 30)

LOT 21, BLOCK 2,
OWNER: THOMAS W.
STEPHENS
AND ESTHER STEPHENS
VOL: 3765 PG: 0871

LOT 20, BLOCK 2,
OWNER: SAW-IN SCOTT
INST NO. 2010006348

MOUNT CHAPARRAL
SUBDIVISION
(VOLUME 69, PAGE 67)

LOT 19, BLOCK 2,
OWNER: SAW-IN SCOTT
INST NO. 20040069223

PORTION OF LOT
40, BLOCK 100
OWNER: WEST BUSINESS
SERVICES, LP
INST NO. 20010072640

CHAPARRAL PARK UNIT
22 REPLAT "A"
(VOLUME 55, PAGE 30)

PORTION OF LOT
40, BLOCK 100
OWNER: BELVIDERE
CENTER REALTY, LP
VOL: 2761 PG: 1285

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) 660-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG

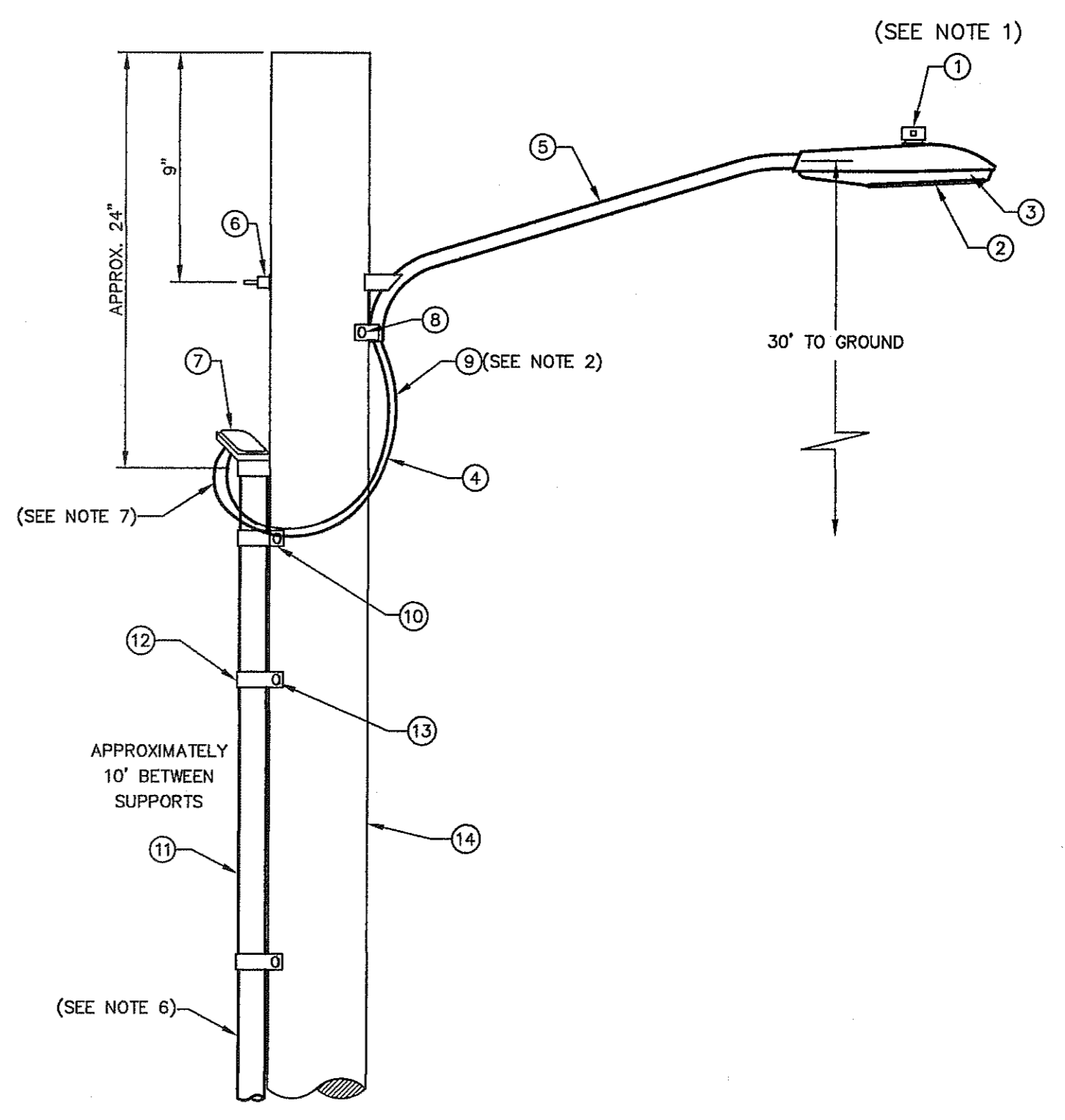
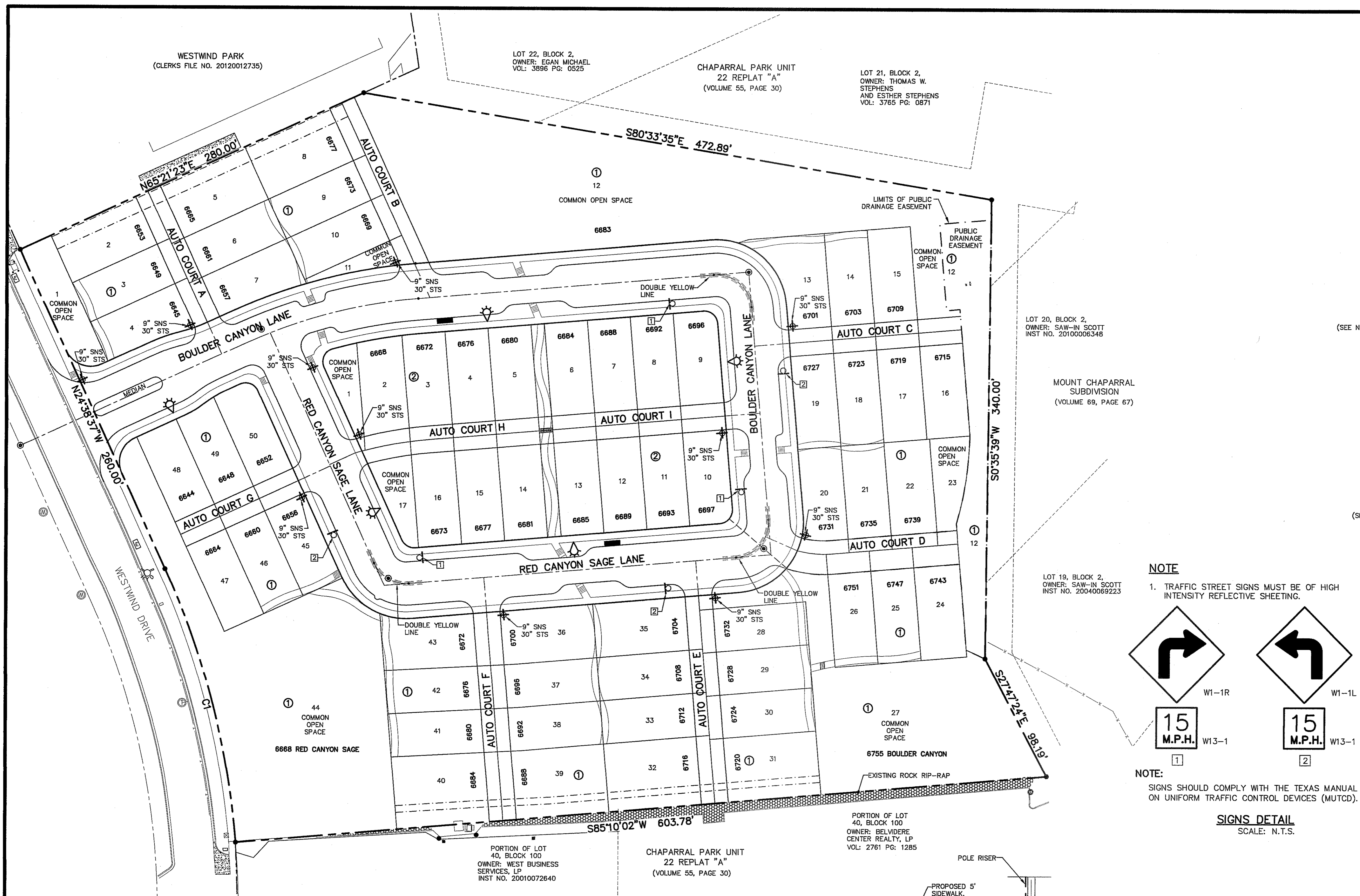
CALL
1-800-DIG-TESS
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

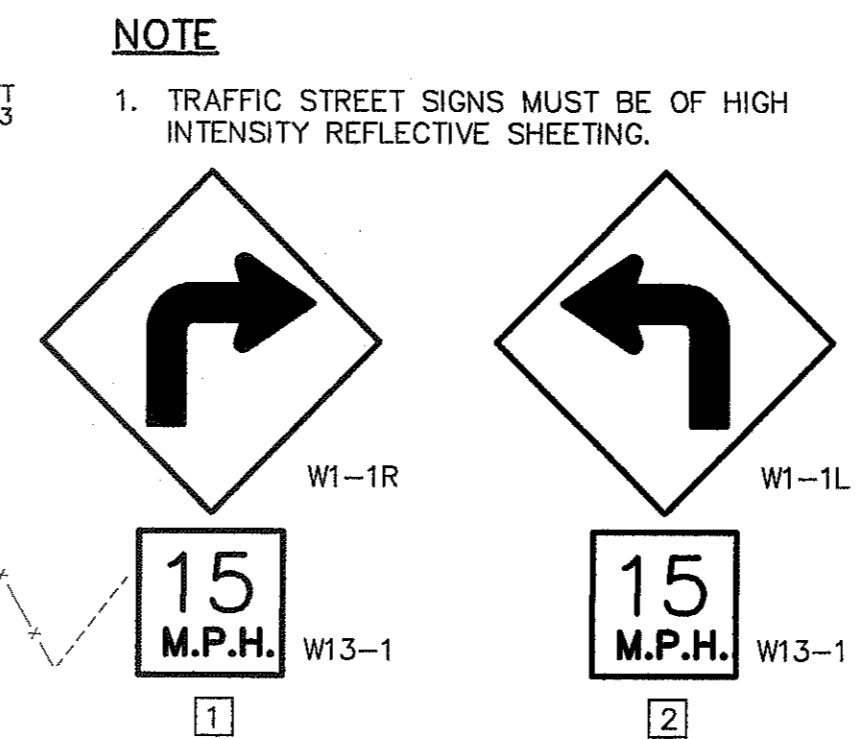
DATE	REVISIONS	BY

CA

engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-454
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.541.5232 Fax: 915.541.5233 www.cadgroup.net



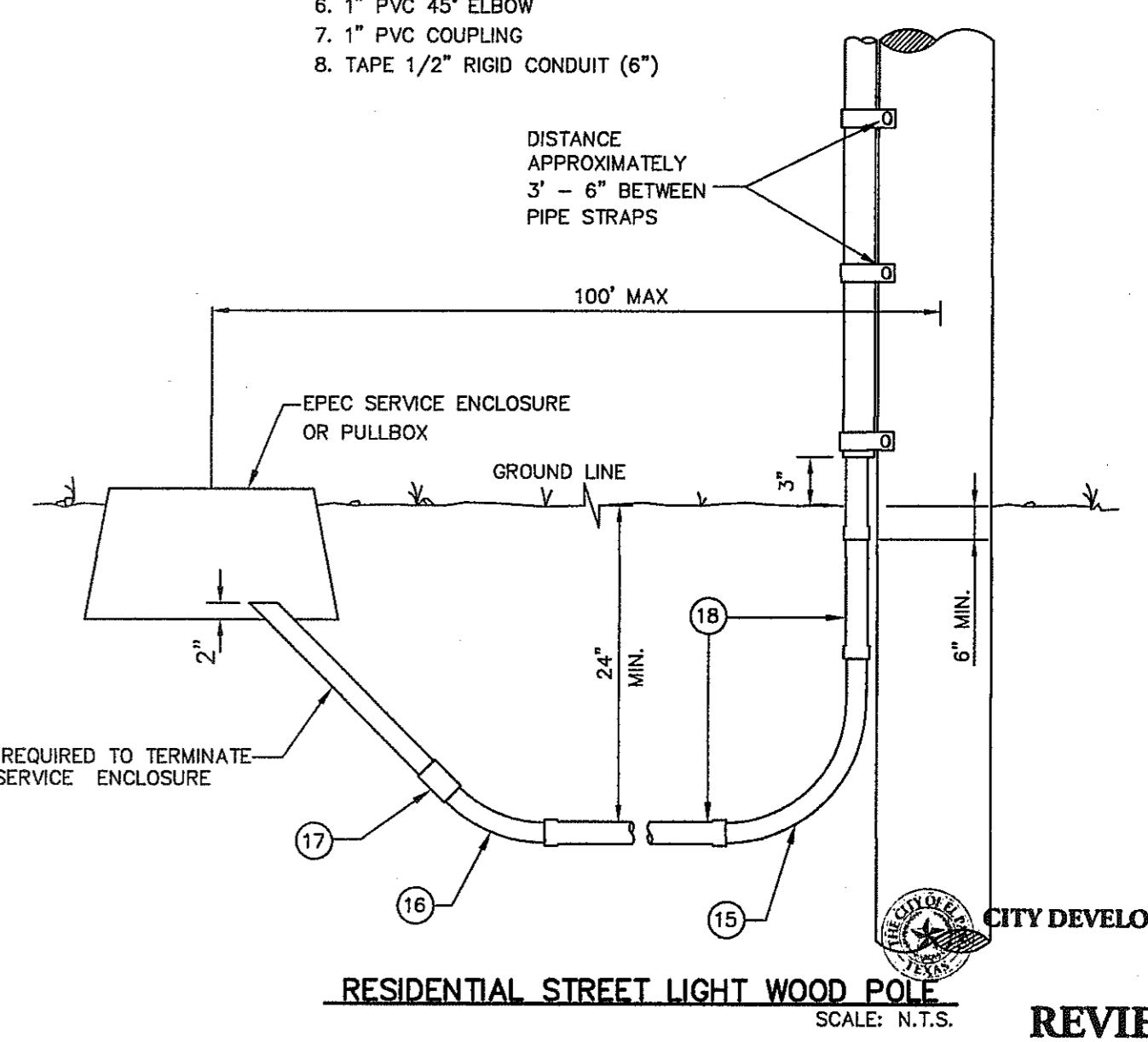
RESIDENTIAL STREET LIGHT WOOD POLE
SCALE: N.T.S.



NOTE
1. TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.

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

SIGNS DETAIL
SCALE: N.T.S.

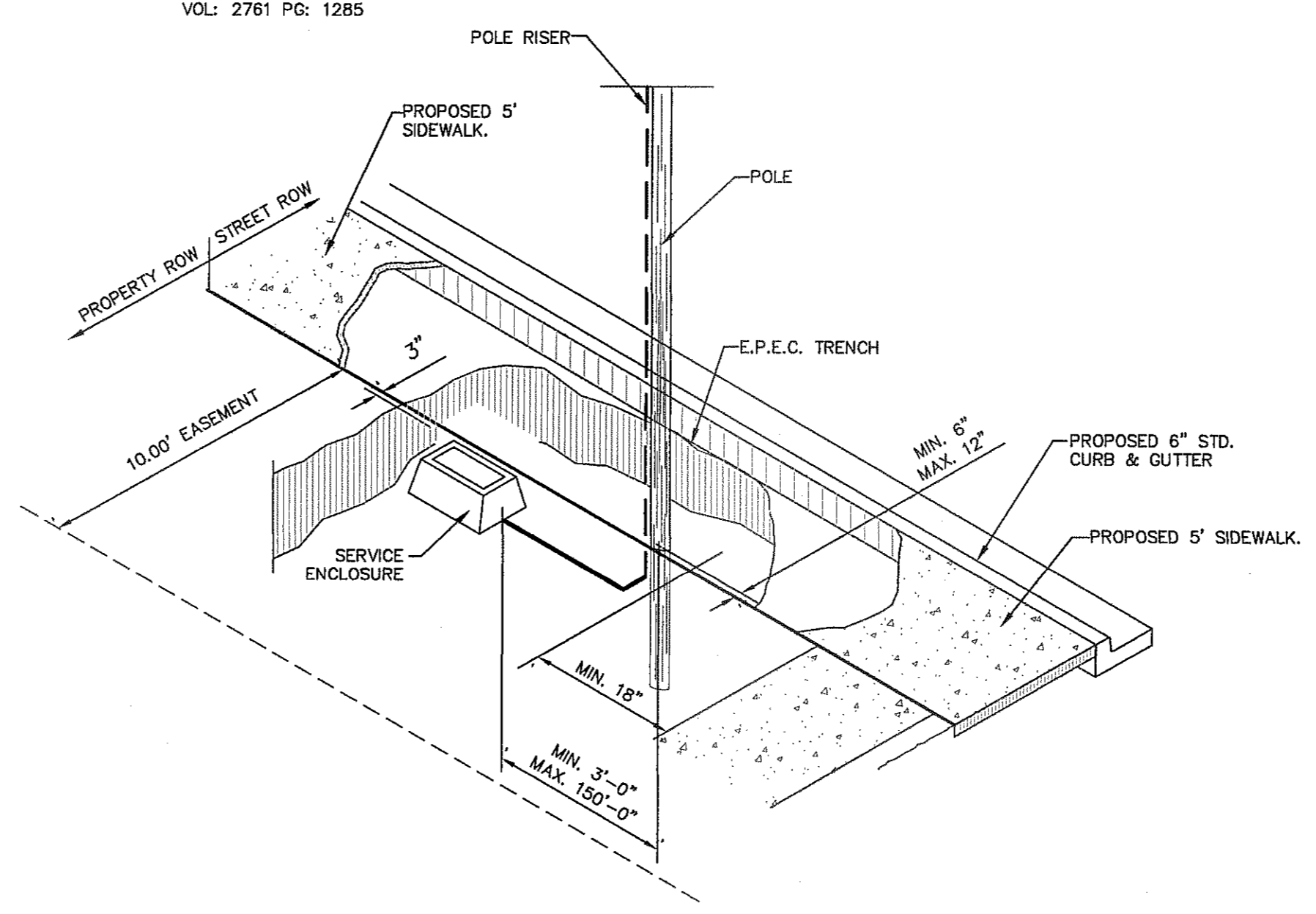


RESIDENTIAL STREET LIGHT WOOD POLE
SCALE: N.T.S.

ITEM NO.	DESCRIPTION	STOCK NO.	QTY.	
1	PHOTO CELL, 240 V-SEE NOTE 1	21-225	1	LCOBRAHD
2	HPS LAMPS, 100W	21-085	1	
3	LUMINAIRE, 100W H.P.S.	21-335	1	
4	SLEEVES, #12-10	05-140	2	
5	MAST ARM, 6' X 1 1/4"	21-200	1	
6	MACHINE BOLT, 5/8" X 12"	02-470	1	LMB5/812
7	SQUARE GALV. WASHER, 2 1/4" X 2 1/4"	02-760	1	
8	COIL SPRING WASHER, 5/8"	02-786	1	
9	LOCK NUT, 5/8"	02-705	1	
10	SERVICE ENTRANCE CAP FOR 1" PVC CONDUIT	17-281	1	
11	LAG BOLT, 3/8" X 3"	02-343	1	
12	CABLE, #10, 2 CONDUCTOR, 600V, UF	13-600	8'	
13	COPPER CABLE, #12, SOLID, 600V, BLUE	13-702	60'	
14	SCHEDULE 80 1" PVC CONDUIT	17-280	30'	
15	PIPE STRAP FOR 1" PVC CONDUIT, 2-HOLE	17-283	9'	
16	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-427	.25#	
17	POLE, 35 FT. - CLASS 4	09-035	1	
18	1" PVC 90 DEGREE ELBOW	17-297	1	
19	1" PVC 45 DEGREE ELBOW	17-298	1	
20	1" PVC COUPLING	17-296	1	
21	1" PVC CONDUIT	17-299	AS REQ	
22				LCOBRAUG
23				
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RESIDENTIAL STREET LIGHT WOOD POLE

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



POLE LOCATION DETAIL
SCALE: N.T.S.

LEGEND:

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

5 RESIDENTIAL STREET LIGHTS

ILLUMINATION & SIGNAGE PLAN
SCALE: 1" = 40'

PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

ENGINEER'S SEAL

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

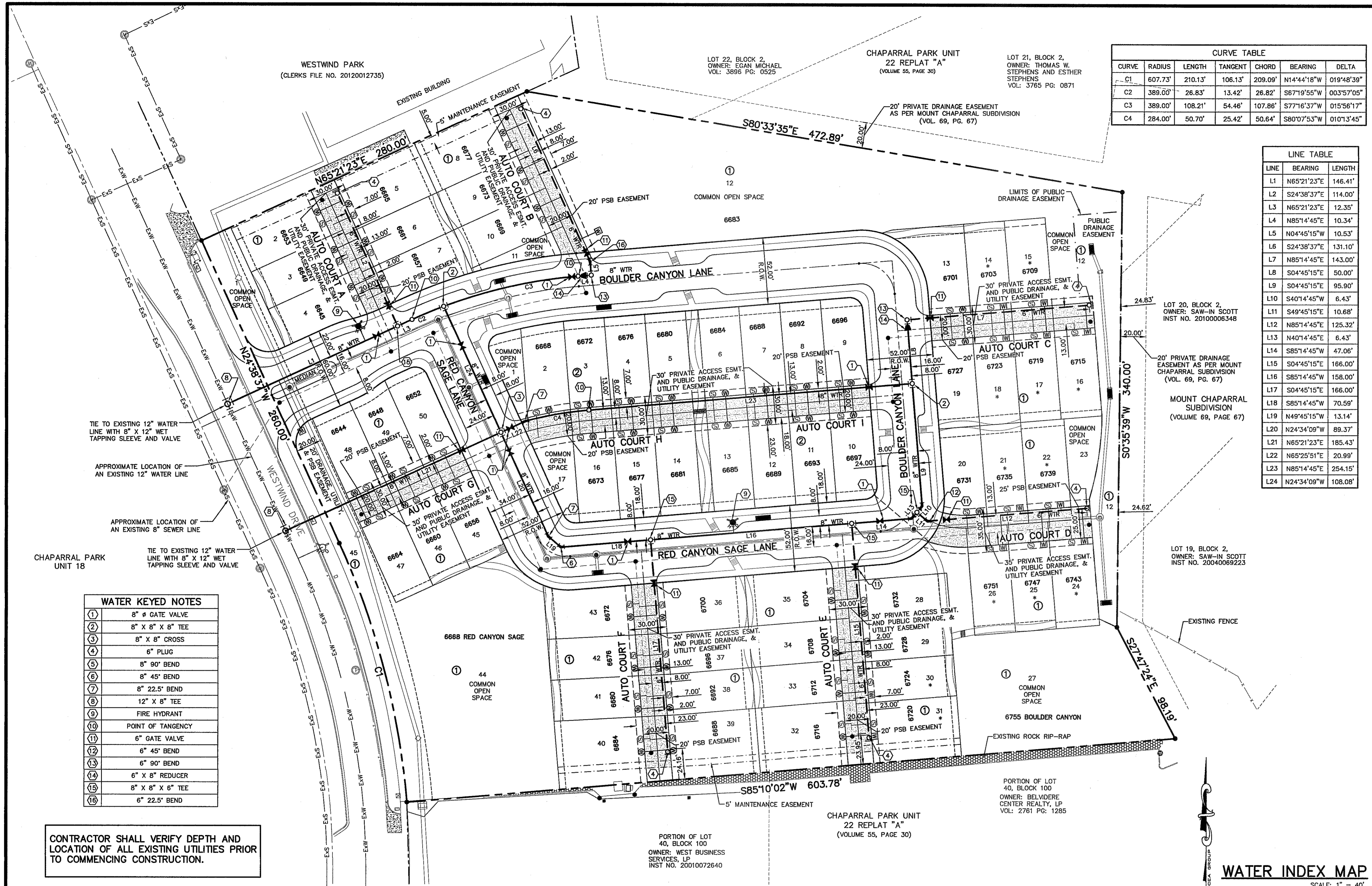
DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: J.A.B.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2060-0261D

CITY DEVELOPMENT DEPARTMENT
REVIEWED

SHEET TITLE
ILLUMINATION PLAN

SHEET NO.
C11.1

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CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C2	389.00'	26.83'	13.42'	26.82'	S67°19'55"W	003°57'05"
C3	389.00'	108.21'	54.46'	107.86'	S77°16'37"W	015°56'17"
C4	284.00'	50.70'	25.42'	50.64'	S80°07'53"W	010°13'45"

LINE TABLE		
LINE	BEARING	LENGTH
L1	N65°21'23"E	146.41'
L2	S24°38'37"E	114.00'
L3	N65°21'23"E	12.35'
L4	N85°14'45"E	10.34'
L5	N04°45'15"W	10.53'
L6	S24°38'37"E	131.10'
L7	N85°14'45"E	143.00'
L8	S04°45'15"W	50.00'
L9	S04°45'15"W	95.90'
L10	S40°14'45"W	6.43'
L11	S49°45'15"E	10.68'
L12	N85°14'45"E	125.32'
L13	N40°14'45"E	6.43'
L14	S85°14'45"W	47.06'
L15	S04°45'15"W	166.00'
L16	S85°14'45"W	158.00'
L17	S04°45'15"W	166.00'
L18	S85°14'45"W	70.59'
L19	N49°45'15"W	13.14'
L20	N24°34'09"W	89.37'
L21	N65°21'23"E	185.43'
L22	N65°25'51"E	20.99'
L23	N85°14'45"E	254.15'
L24	N24°34'09"W	108.08'

INDEX
SHEET NO. C12.1
DESCRIPTION WATER MAIN PIPE LAYOUT
 WATER DETAILS

- NOTES:**
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
 - ALL WATER LINES SHALL BE AWWA PVC C-900, CLASS 305.
 - REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.

LEGEND

SYMBOL	DESCRIPTION
6" WTR.	PROPOSED 6" AWWA C-900, CLASS 305 P.V.C. PIPE
8" WTR.	PROPOSED 8" AWWA C-900, CLASS 305 P.V.C. PIPE
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
---	PUBLIC DRAINAGE EASEMENT
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
---	PROPOSED STORM SEWER
---	PROPOSED 3/4" SERVICE CONNECTION (PLAN VIEW)
---	PROPOSED 1" SERVICE CONNECTION (PLAN VIEW)
---	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
---	PROPOSED 8" PLUG
---	PROPOSED 8" TEE
---	PROPOSED 8" CROSS
---	PROPOSED 8" BEND
---	POINT OF TANGENCY
---	EXISTING FIRE HYDRANT
ExS	EXISTING 8" SEWER LINE AND MANHOLE
ExW	EXISTING 12" WATER LINE
*	LOTS SHALL BE FIRE SPRINKLED AND REQUIRE A 1" WATER METER.

WATER KEYED NOTES

1	8" # GATE VALVE
2	8" X 8" X 8" TEE
3	8" X 8" CROSS
4	6" PLUG
5	8" 90° BEND
6	8" 45° BEND
7	8" 22.5° BEND
8	12" X 8" TEE
9	FIRE HYDRANT
10	POINT OF TANGENCY
11	6" GATE VALVE
12	6" 45° BEND
13	6" 90° BEND
14	6" X 8" REDUCER
15	8" X 8" X 8" TEE
16	6" 22.5° BEND

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

- GENERAL NOTES**
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
 - THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 60" FROM INVERT OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE WATER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
 - TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
 - THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
 - EXISTING STREETS, DRIVEWAYS, PARKING LOTS, MAILBOXES, SIGNS, CHAIN-LINK FENCES, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
 - TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
 - ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
 - CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATER SYSTEM.
 - ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
 - CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM EPWU-PSB SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
 - FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
 - THE WATER METERS FOR THE PROPOSED WATER SERVICE CONNECTIONS SHALL BE INSTALLED ON THE PARKWAYS. SYMBOLS ARE ONLY SHOWN FOR DEPICTION PURPOSES ONLY.
 - * LOTS 14-18, 21, 22, 24-26, AND 30 & 31, BLOCK 1 SHALL BE FIRE SPRINKLED AND REQUIRE A 1" WATER METER.

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

CABLE TELEVISION:
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 EL PASO, TX 79906
 (915) 772-1123

RESIDENTIAL GAS LINES:
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 4700 POLLARD ST.
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 (915) 680-7329

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

FIBER OPTICS:
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 (800) 852-3786

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

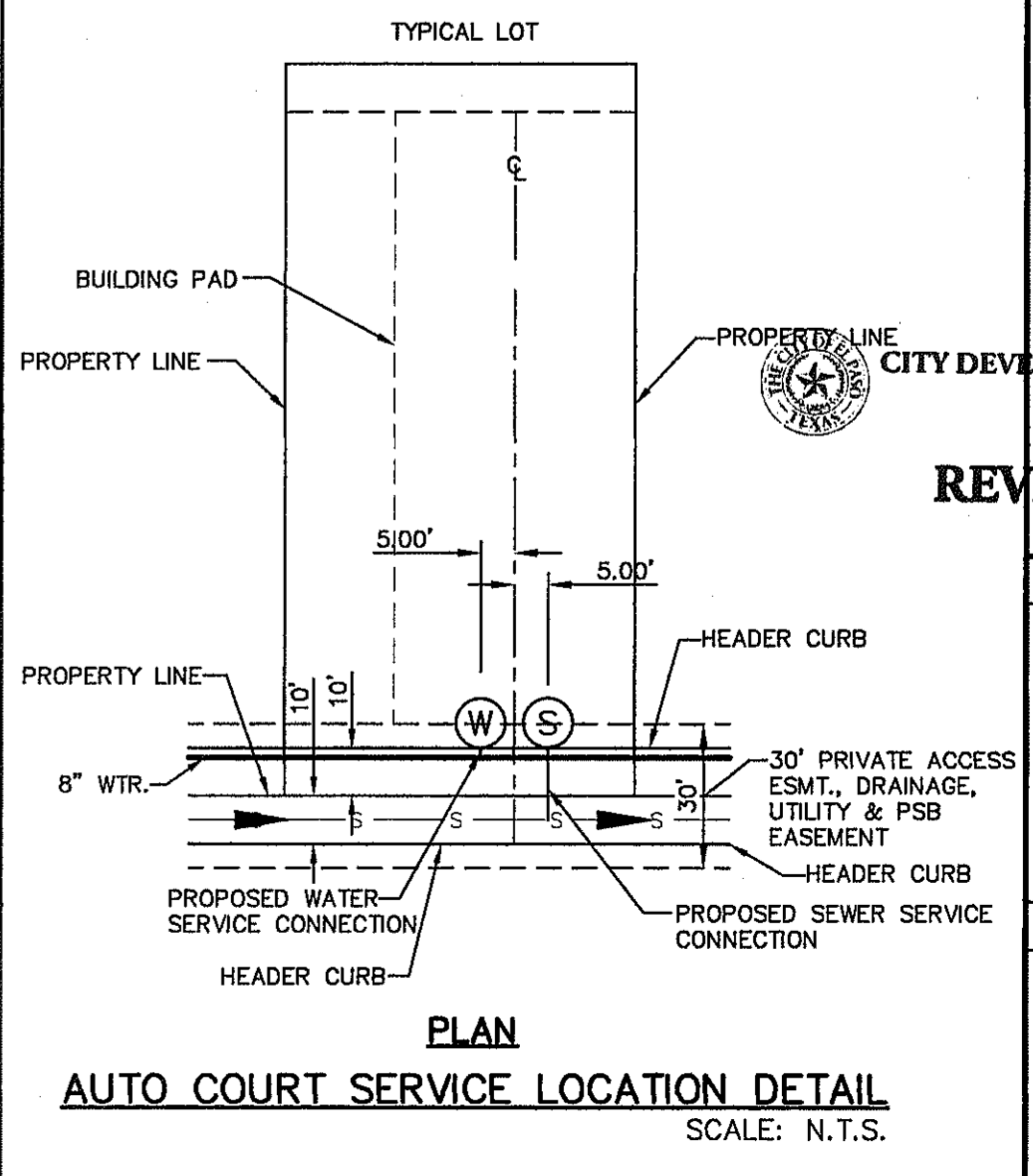
WATER & SEWER:
 EL PASO WATER UTILITIES
 1154 HAWKINS BOULEVARD
 EL PASO, TX 79961
 (915) 594-5530
 MR. FELIPE LOPEZ, JR., P.E.

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 EL PASO, TX 79902
 (915) 543-2076
 MR. FRANK VIGEL (DISTRIBUTION)

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 CITY OF EL PASO
 DEPARTMENT OF TRANSPORTATION
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 (915) 621-6750

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 FOR FIELD LOCATING EXISTING UTILITIES



INDEX

REFERENCES - BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAD 85 DATUM ELEVATION = 4061.81
 (CITY DATUM = 4076.77)

ENGINEERS - ARCHITECTS - PLANNERS
 TEXAS REGISTERED ENGINEERING FIRM F-664
 4712 WOODROW BEAN, STE. F EL PASO, TX 79924
 OFFICE 915.544.5232 FAX 915.544.6293 www.ceagroup.net

LEGEND

SYMBOL DESCRIPTION

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

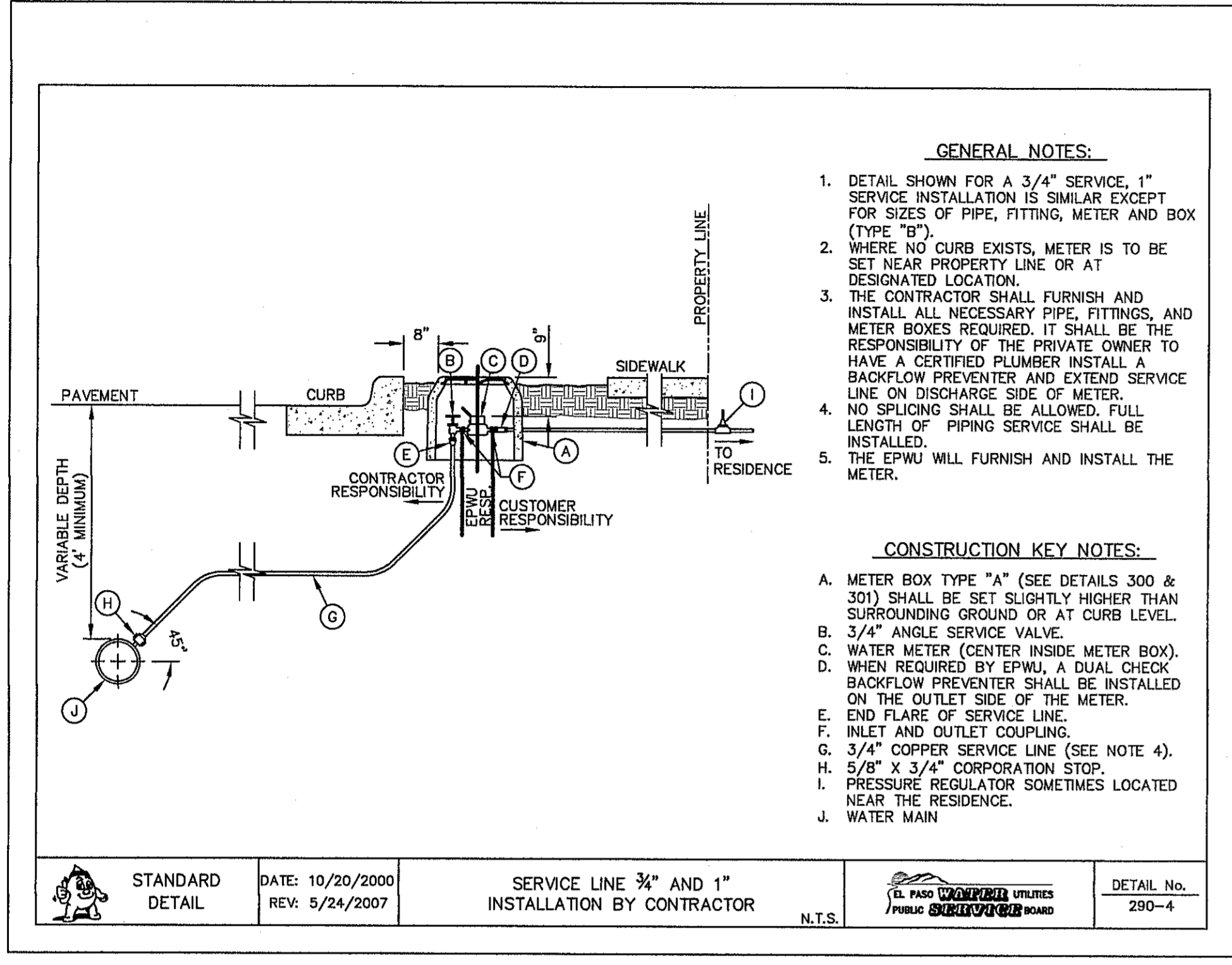
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DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.

PROJECT TITLE
BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS

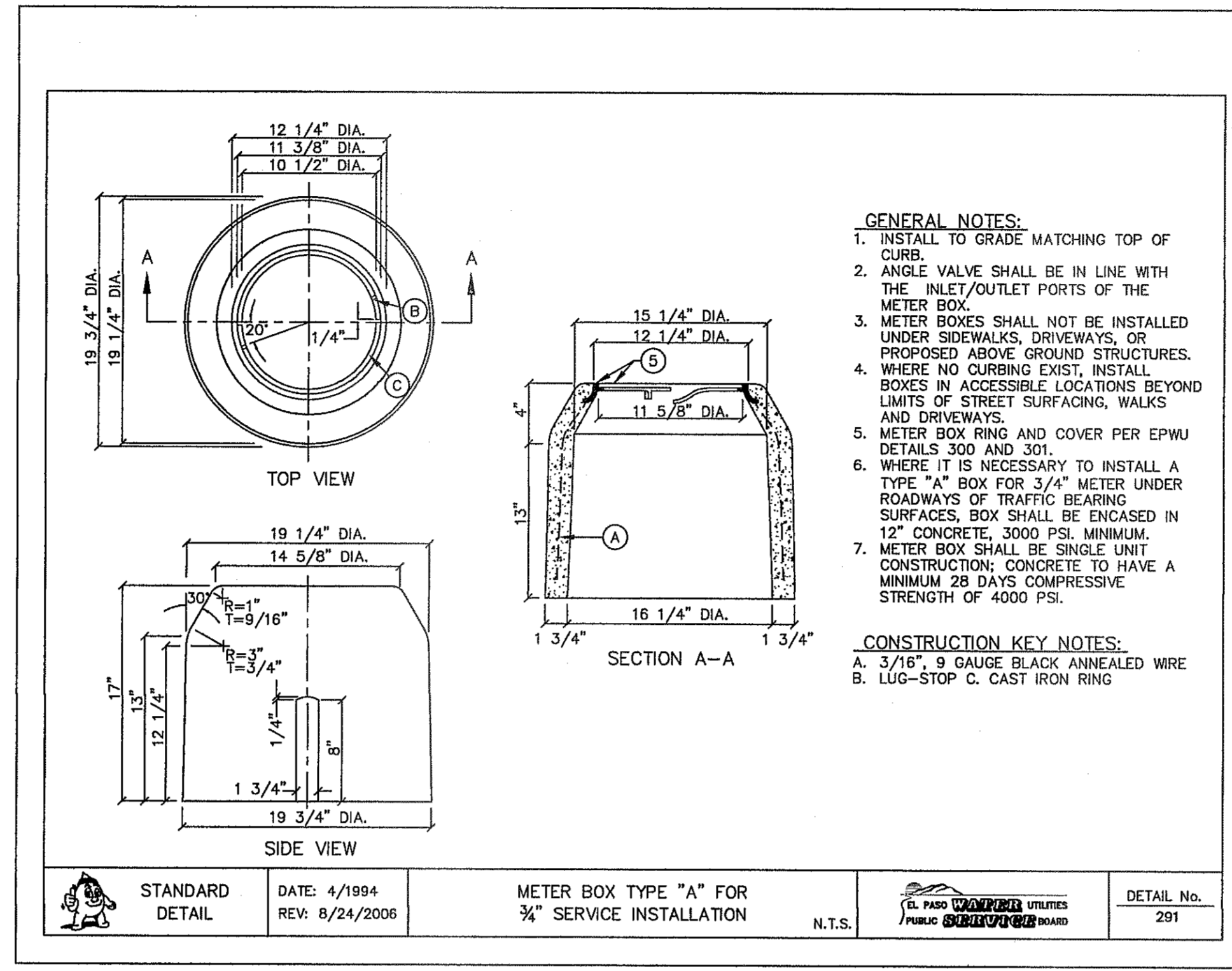
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SHEET TITLE
WATER INDEX/
GENERAL
INFORMATION

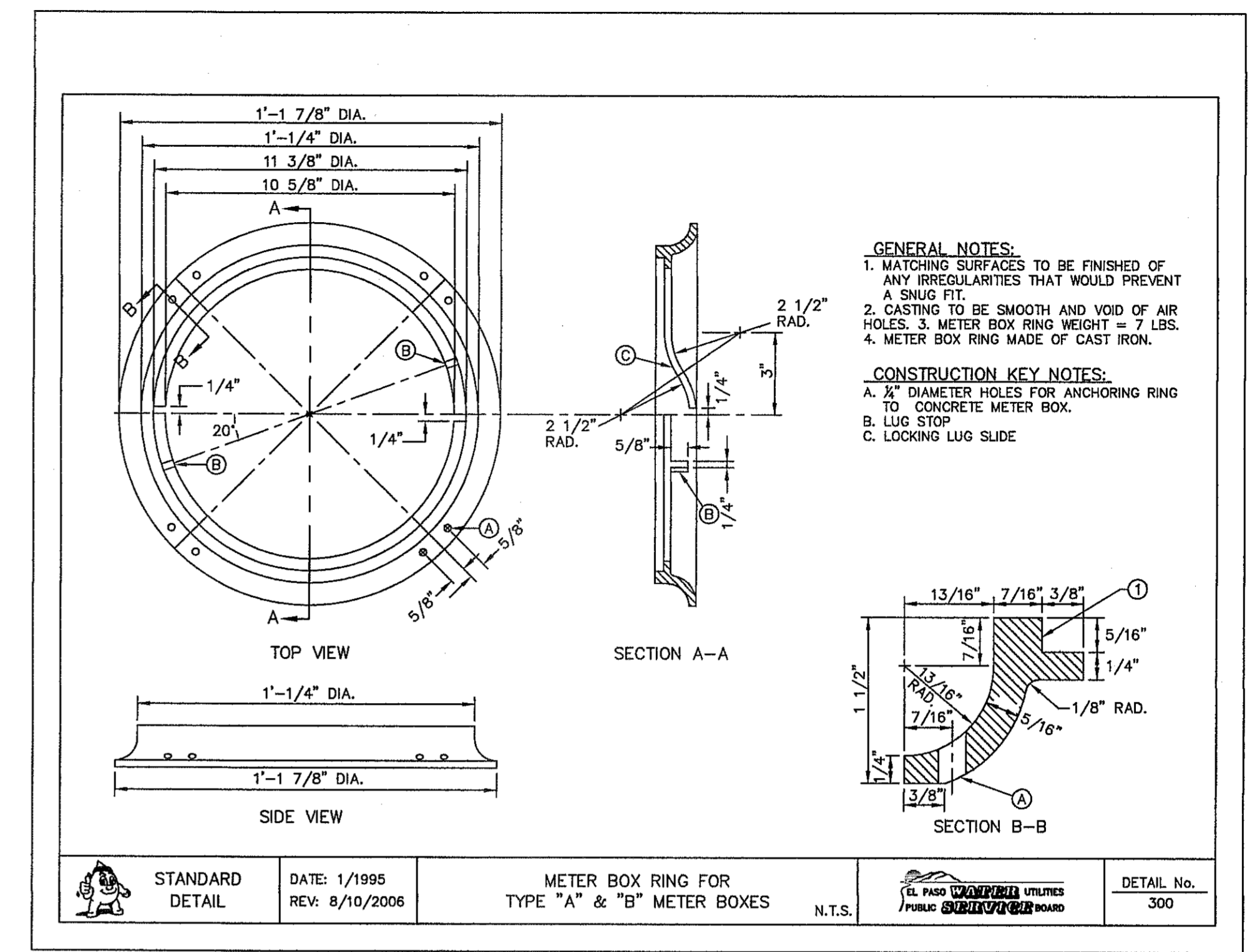
SHEET NO.
C12.1



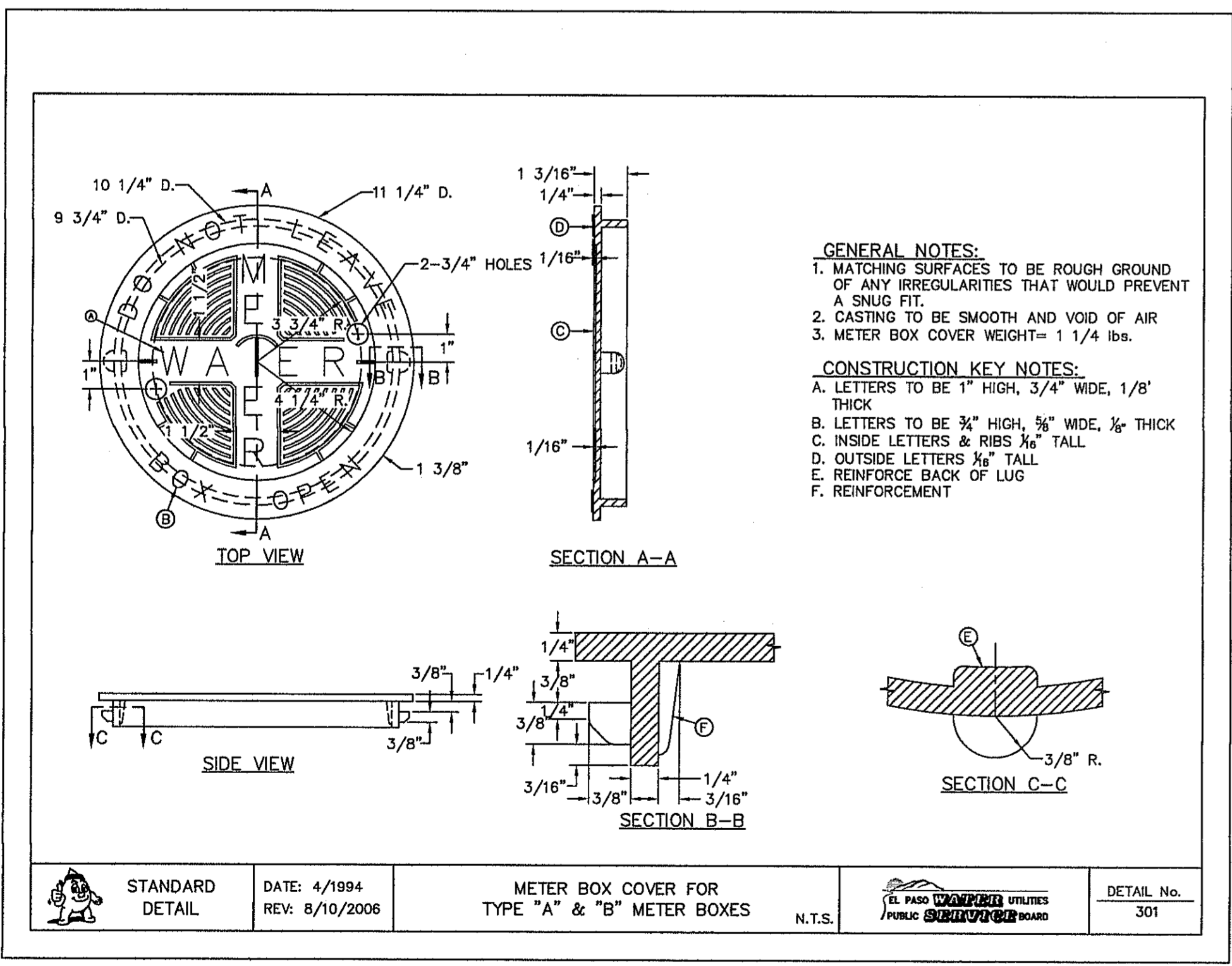
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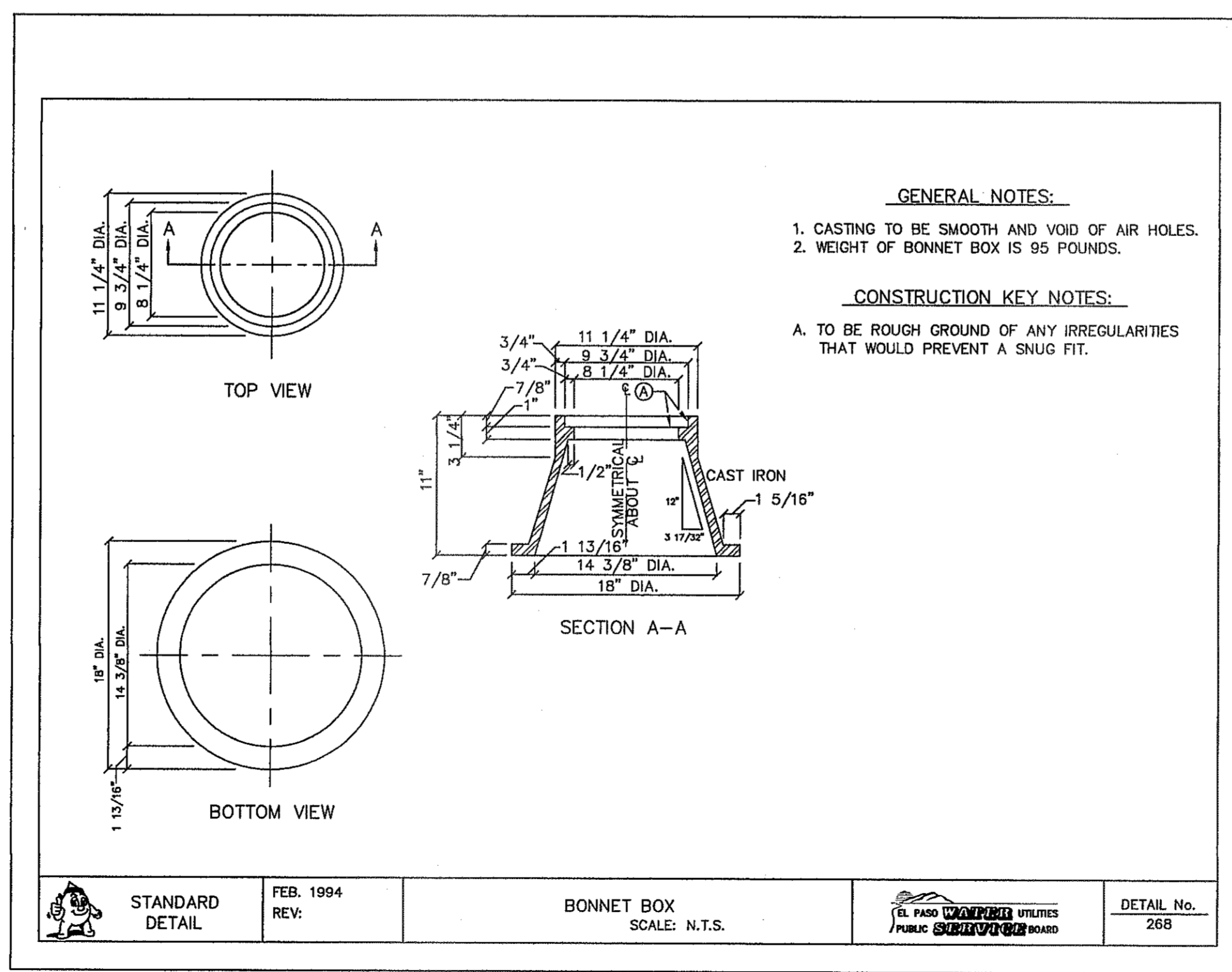
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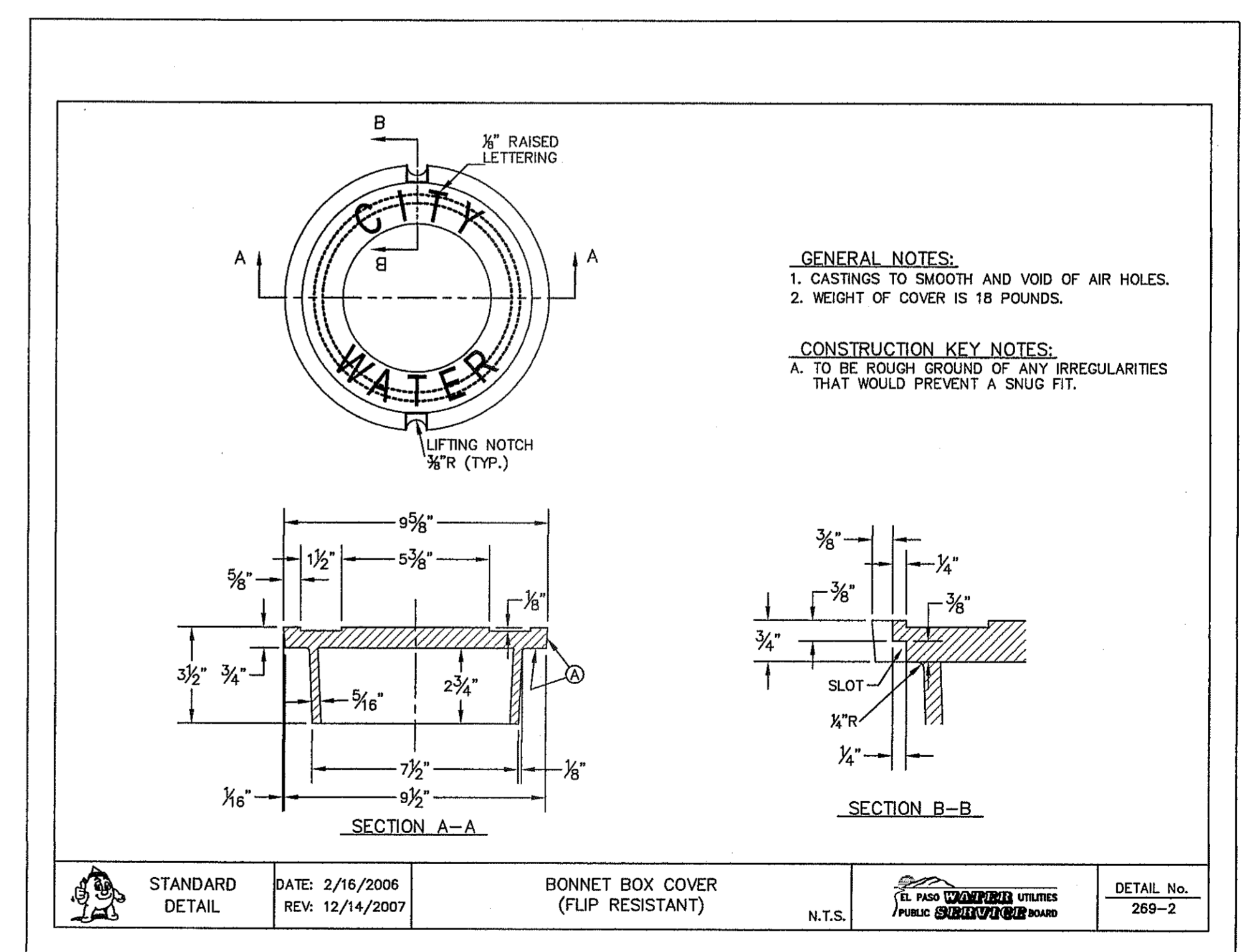
3 METER BOX RING DETAIL
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4 METER BOX COVER DETAIL
SCALE: N.T.S.



5 BONNET BOX
SCALE: N.T.S.



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

REFERENCES - BENCHMARKS	BY
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.61 (CITY DATUM = 4076.77)	DATE
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Office: 910.544.5332 Fax: 910.544.5333 www.csaengineers.com

EL PASO COUNTY UTILITIES
PUBLIC UTILITIES BOARD

ENGINEER'S SEAL

JORGE L. AZARATE
80075

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHECKED BY: J.L.A.
APP'D. BY: B.Y.
JOB NO.: 2003-0261.D

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.A.	
DRAWN BY: A.B.	
CHECKED BY: J.L.A.	
APP'D. BY: B.Y.	
JOB NO.: 2003-0261.D	

PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

WATER DETAILS

(SHEET 1 OF 4)

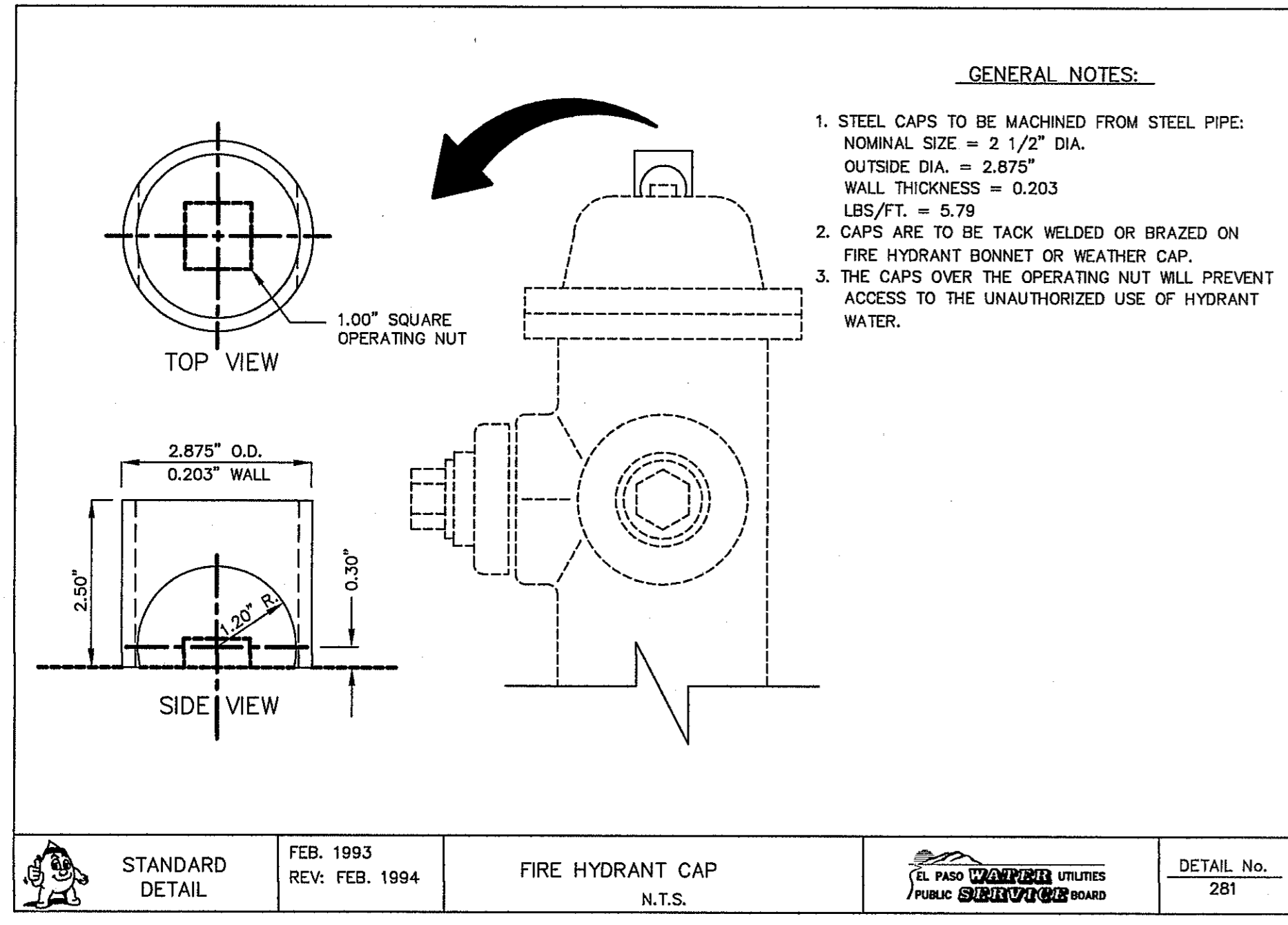
SHEET NO.

C13.1

CITY DEVELOPMENT DEPARTMENT

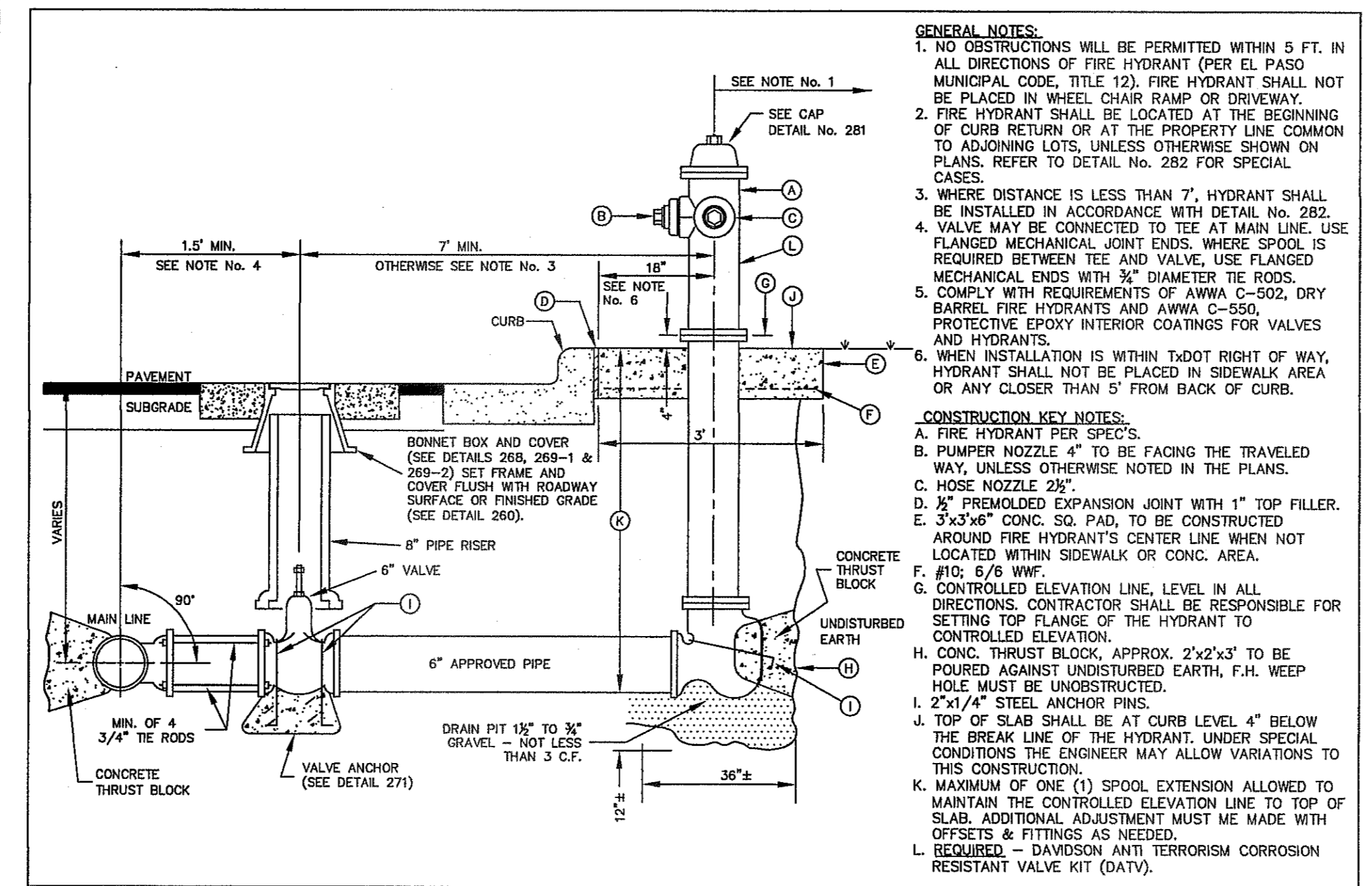
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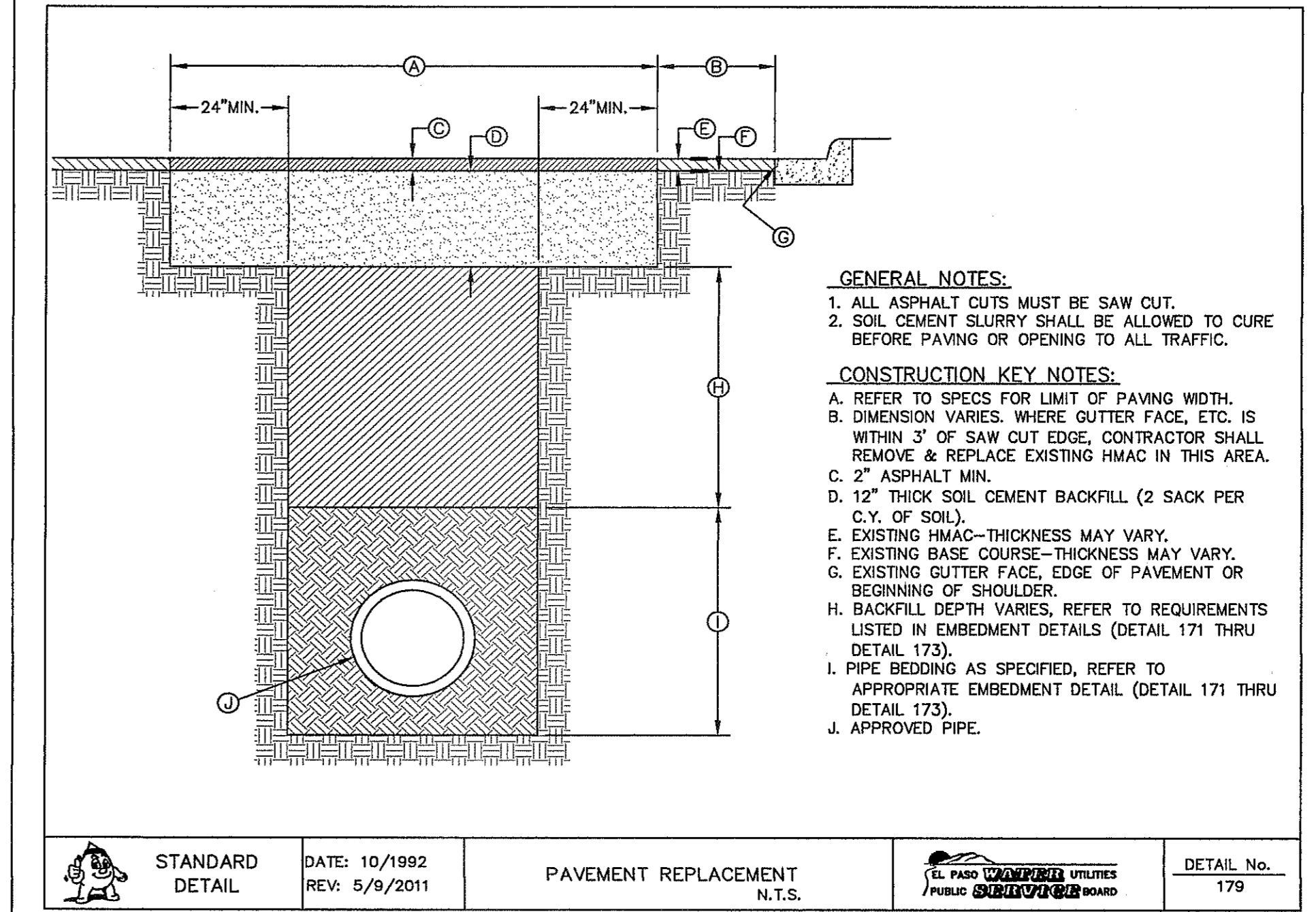
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1 FIRE HYDRANT CAP
SCALE: N.T.S.



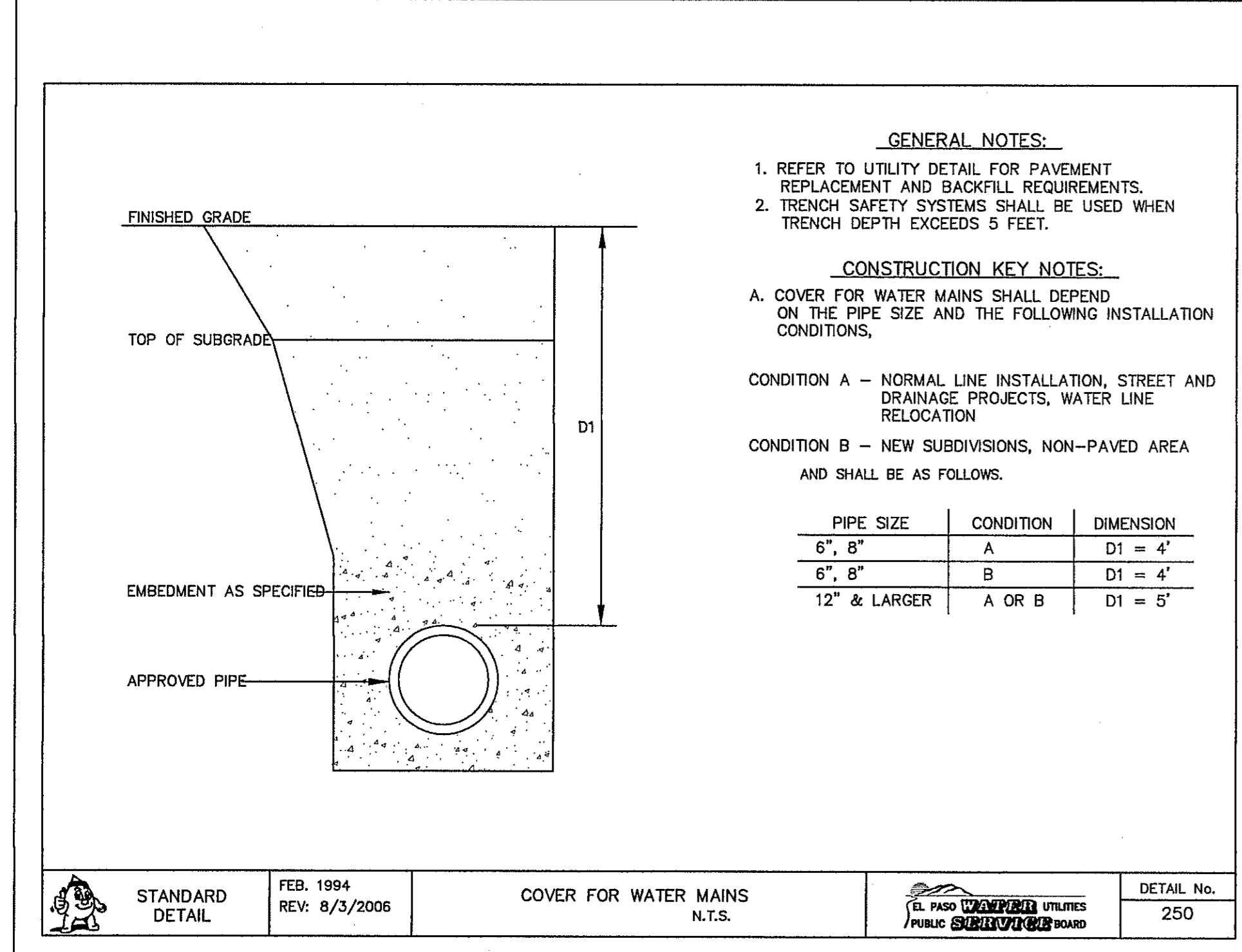
STANDARD DETAIL	DATE: 2/1993 REV: 10/1/2013	FIRE HYDRANT INSTALLATION N.T.S.	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 280-1
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2 STANDARD FIRE HYDRANT INSTALLATION
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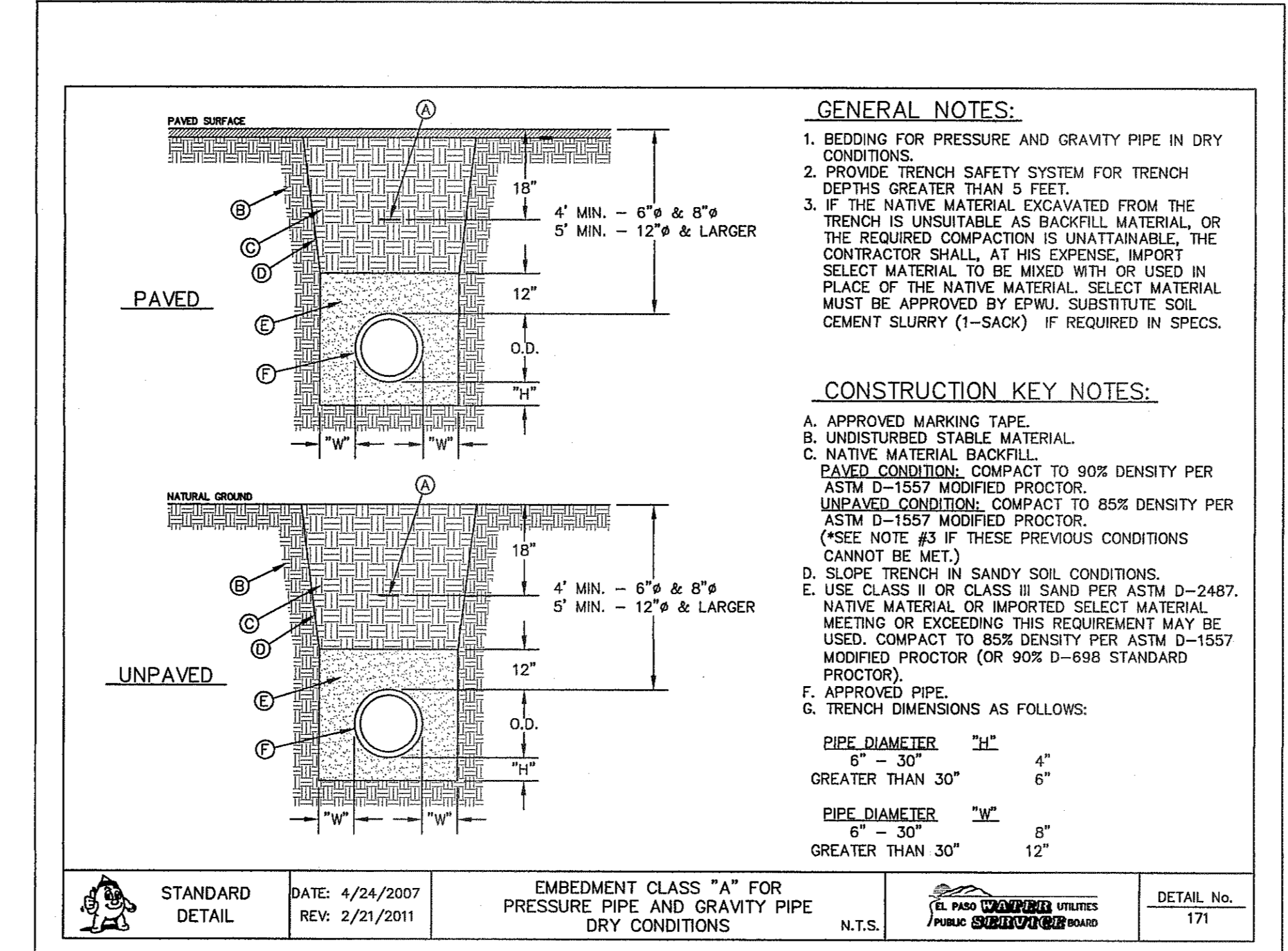
STANDARD DETAIL	DATE: 10/1992 REV: 5/9/2011	PAVEMENT REPAIR N.T.S.	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 179
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3 PAVEMENT REPAIR DETAIL
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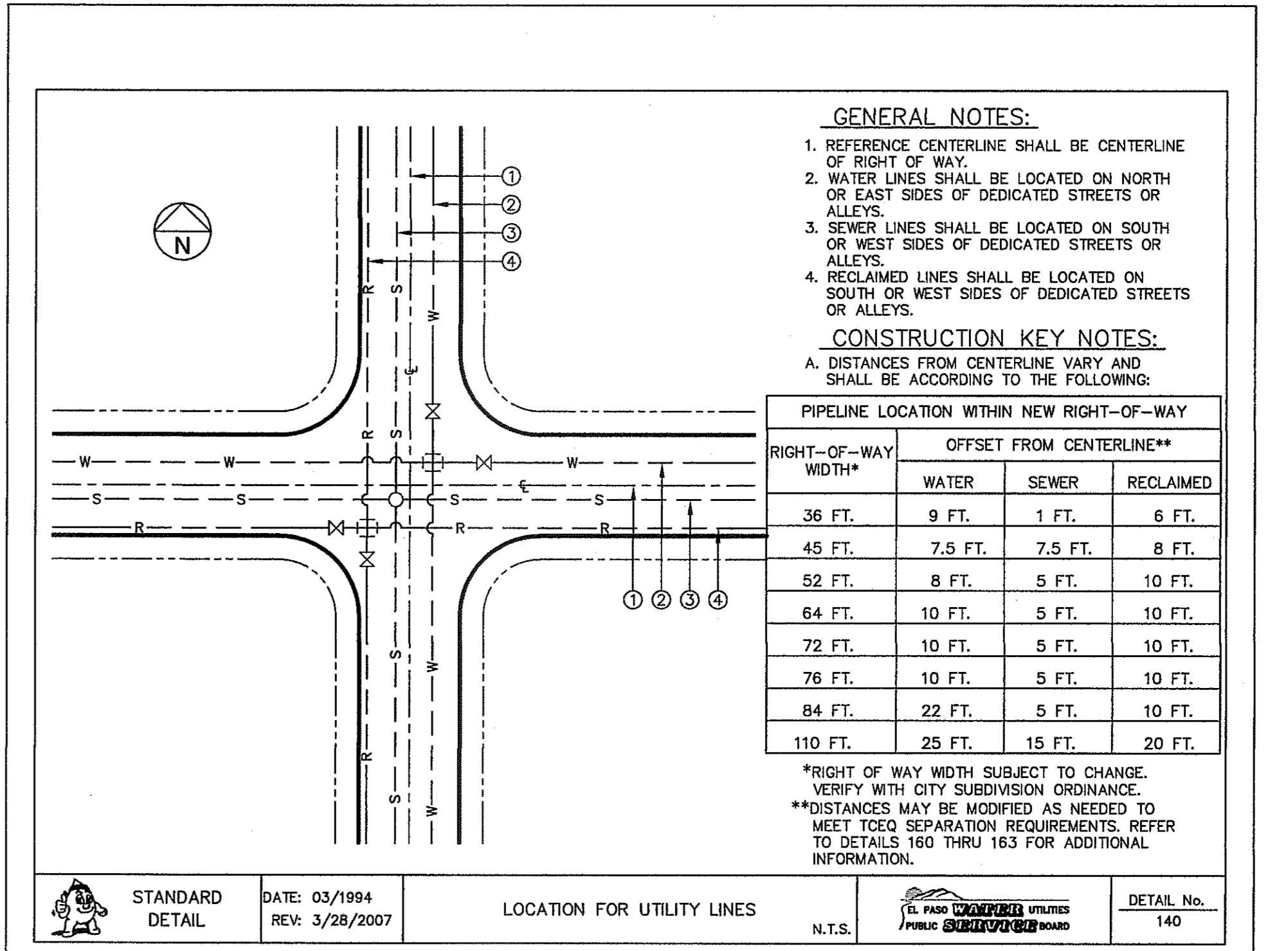
STANDARD DETAIL	FEB. 1994 REV: 8/3/2006	COVER FOR WATER MAINS N.T.S.	EL PASO WATER UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 250
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4 STANDARD COVER FOR WATER MAINS
SCALE: N.T.S.



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 UTILITIES BOARD	DETAIL No. 171
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5 BEDDING CLASS DETAILS
FOR P.V.C. PRESSURE PIPE
SCALE: N.T.S.



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

REFERENCES - BENCHMARKS	BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTINGHOUSE BLVD. DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)
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REVISIONS	
BY	

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Office: 915.544.2502 Fax: 915.544.2528 www.csaengr.com

EL PASO WATER UTILITIES
PUBLIC UTILITIES BOARD
SEAL OF THE CITY OF EL PASO, TEXAS
JULY 1898

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.A.	
DRAWN BY: J.A.	
CHKD. BY: J.L.A.	
APP'D. BY: J.L.A.	
JOB No. 2060-028LD	

PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

WATER
DETAILS

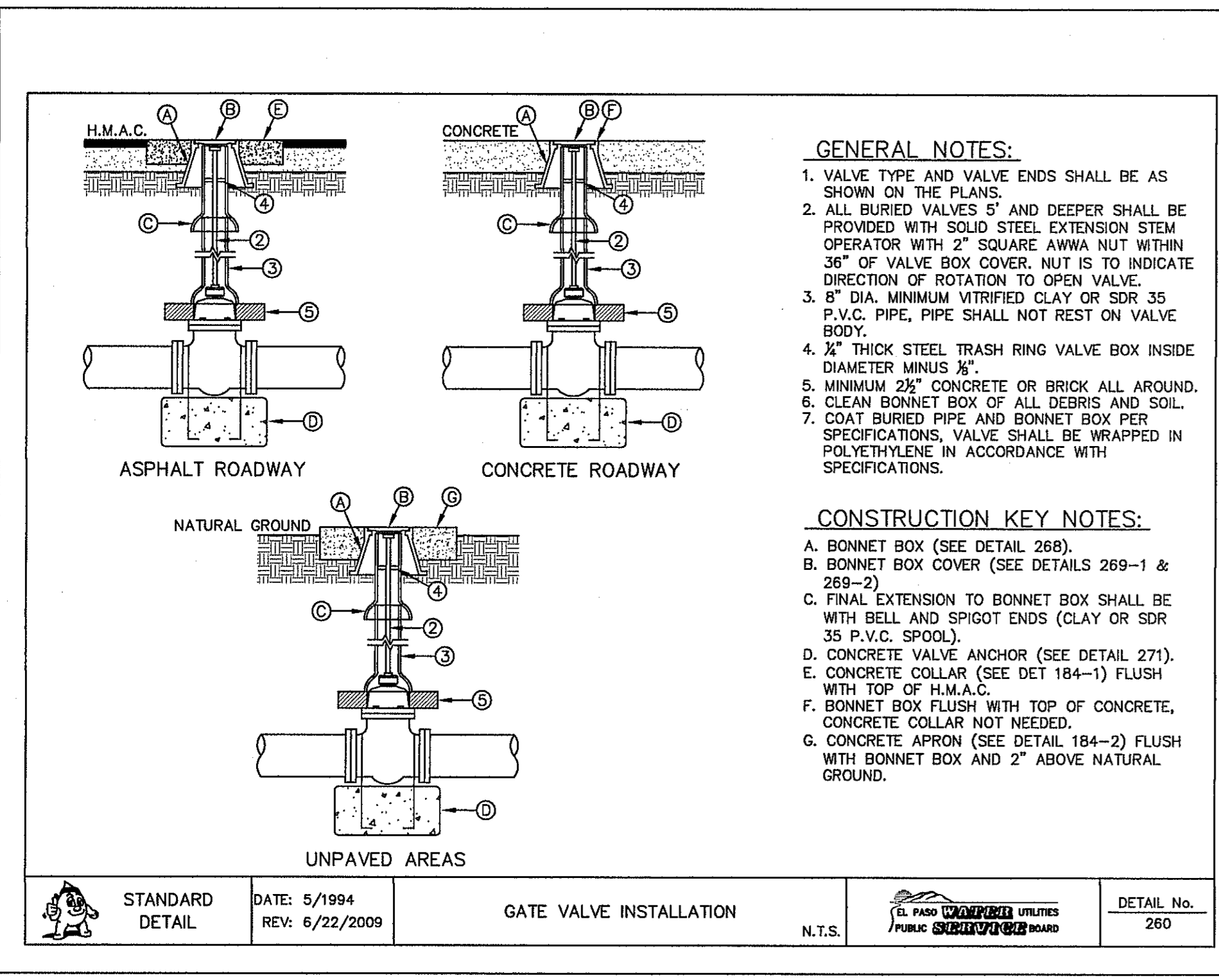
(SHEET 2 OF 4)

SHEET NO.

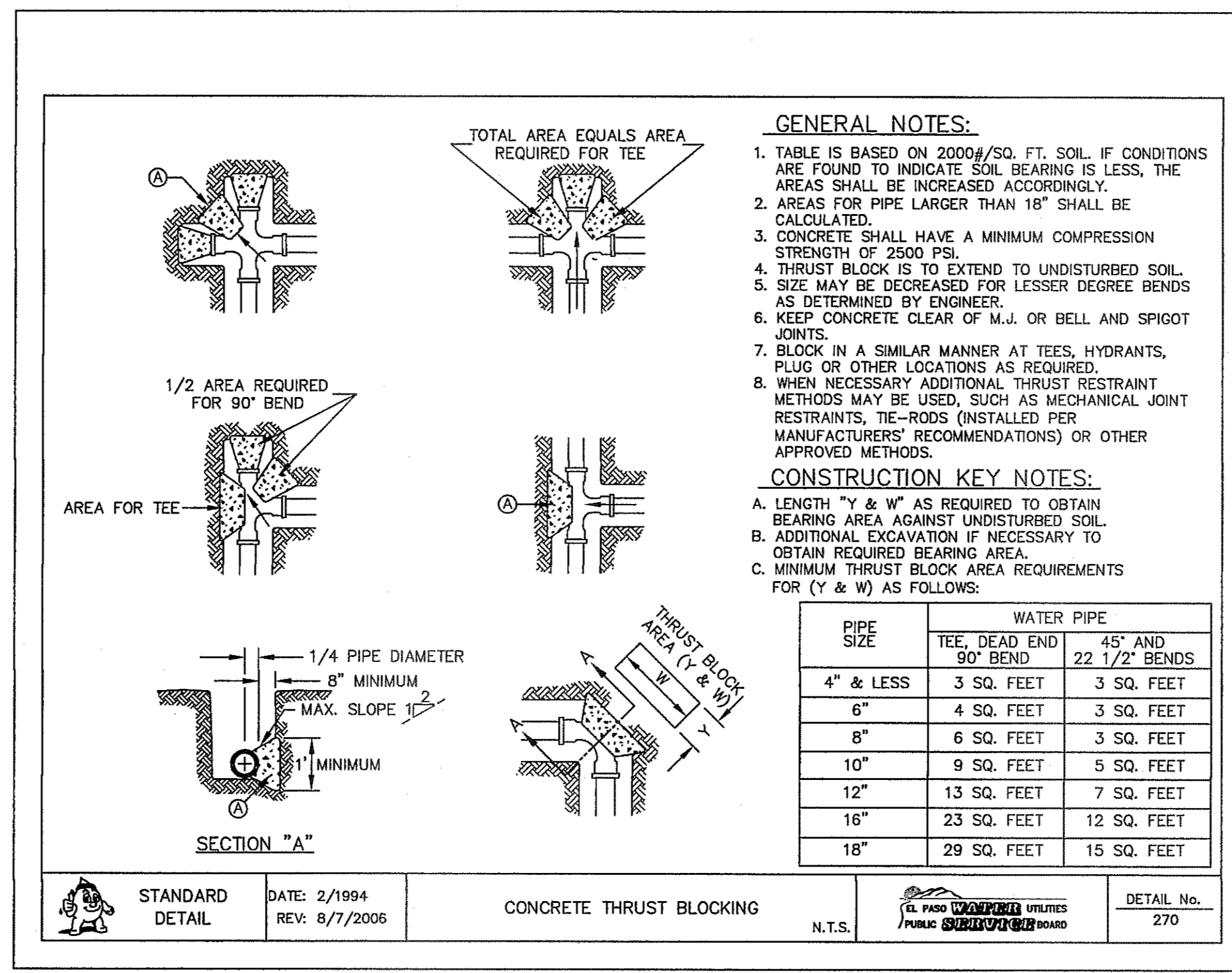
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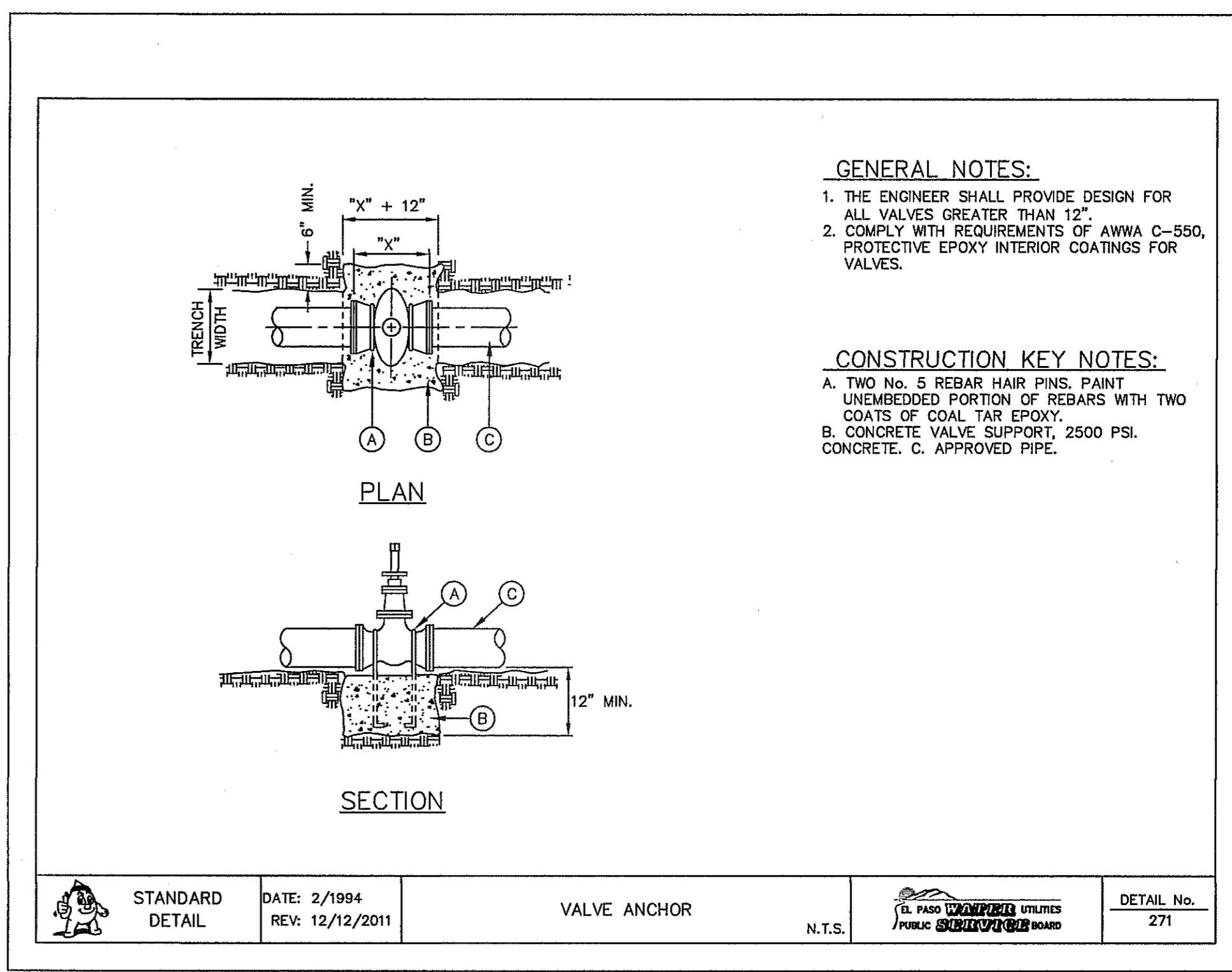
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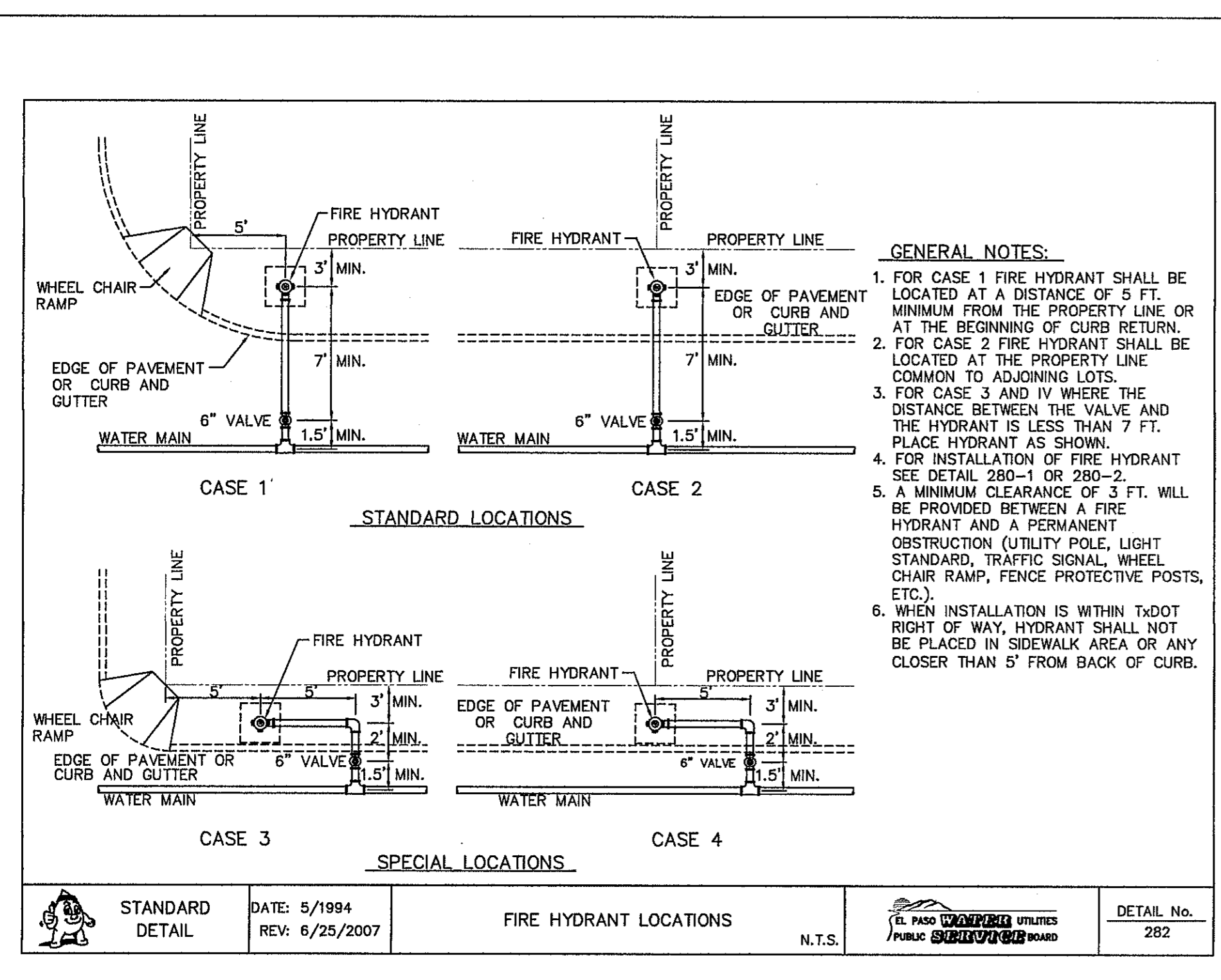
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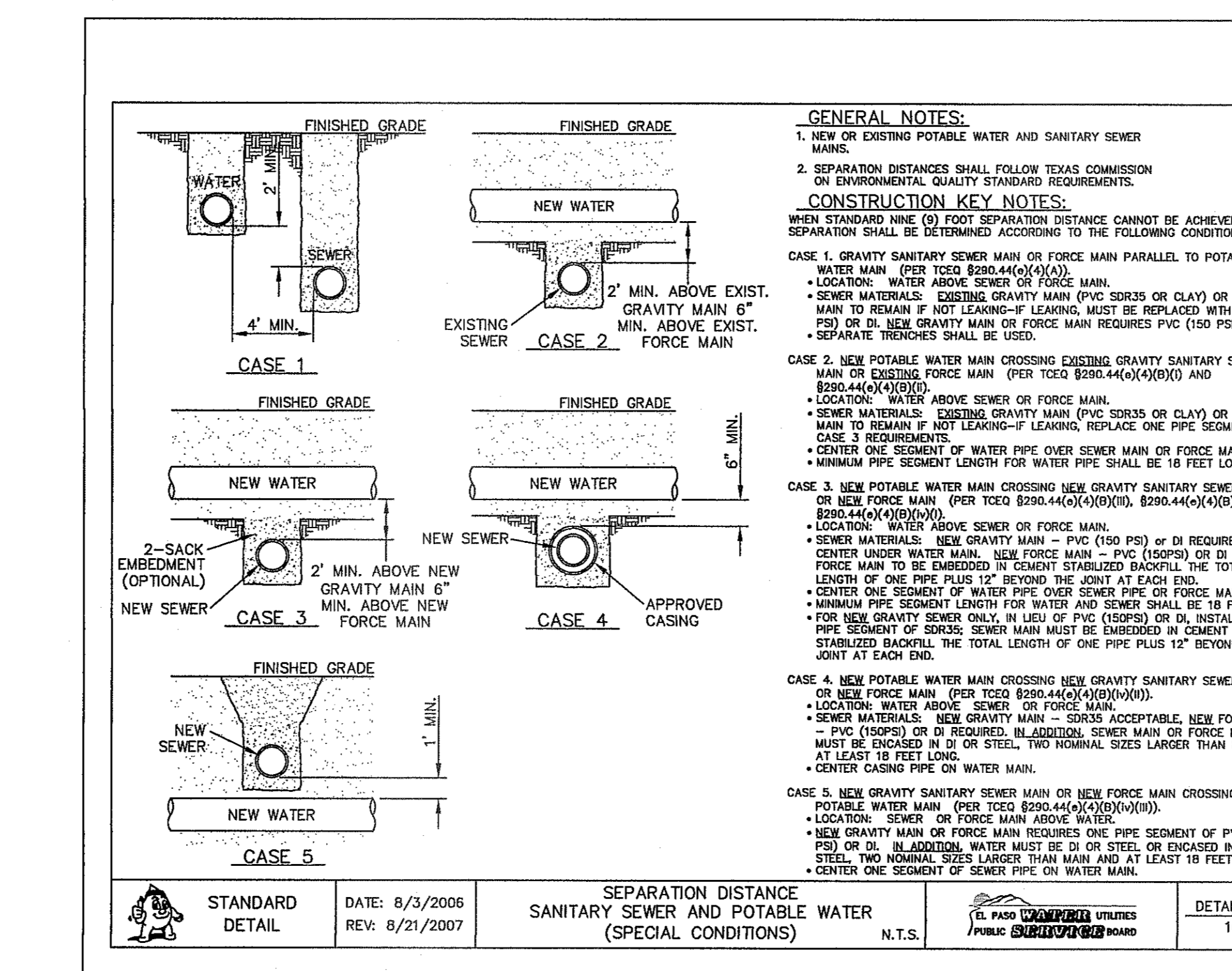
2 THRUST BLOCKING SCALE: N.T.S.



3 VALVE ANCHOR SCALE: N.T.S.



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



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

REFERENCES - BENCHMARKS
BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON BOUNDARY OF LAND 89' DATUM ELEVATION = 408.51 (CITY DATUM = 407.77)

ENGINEER'S SEAL
CITY DEVELOPMENT DEPARTMENT
BOULDER CANYON REPLAT A
SUBDIVISION IMPROVEMENTS

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB No. 2060-0261D

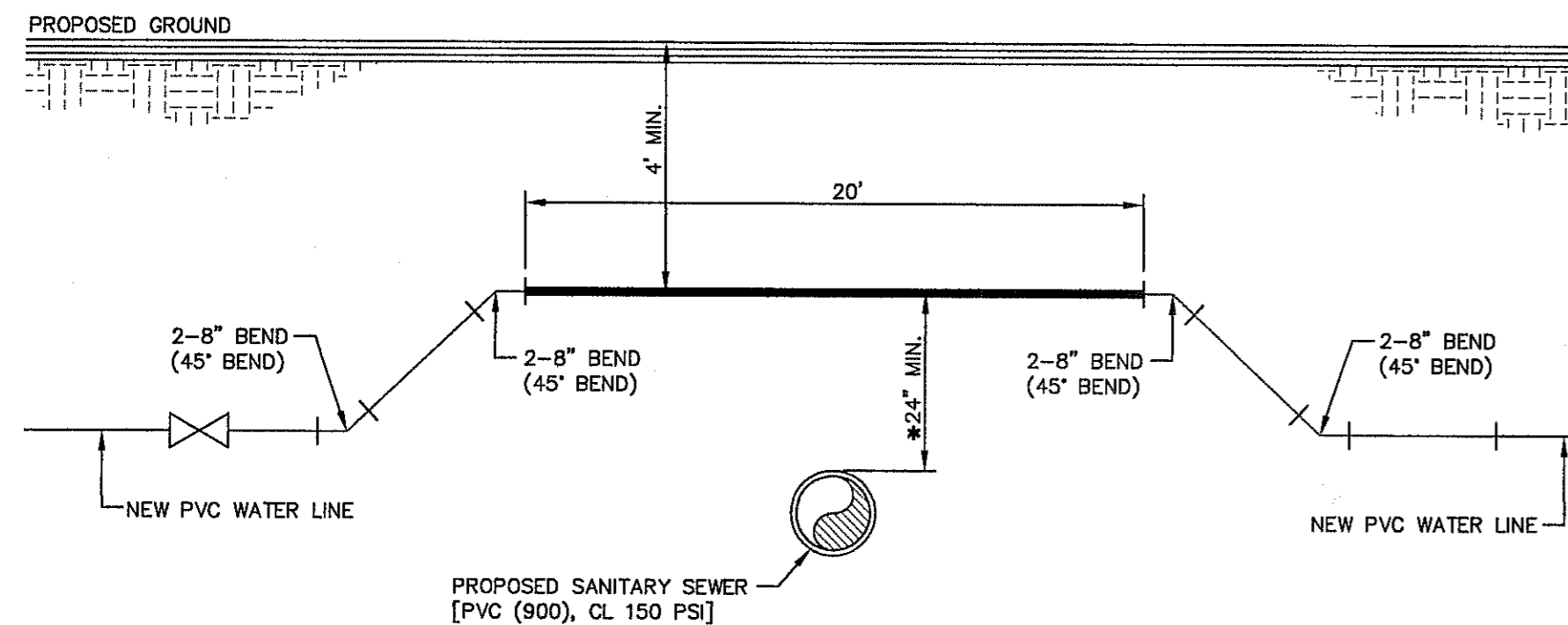
REVISIONS
DATE
BY

PROJECT TITLE
SHEET TITLE
WATER DETAILS
(SHEET 3 OF 4)
SHEET NO.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

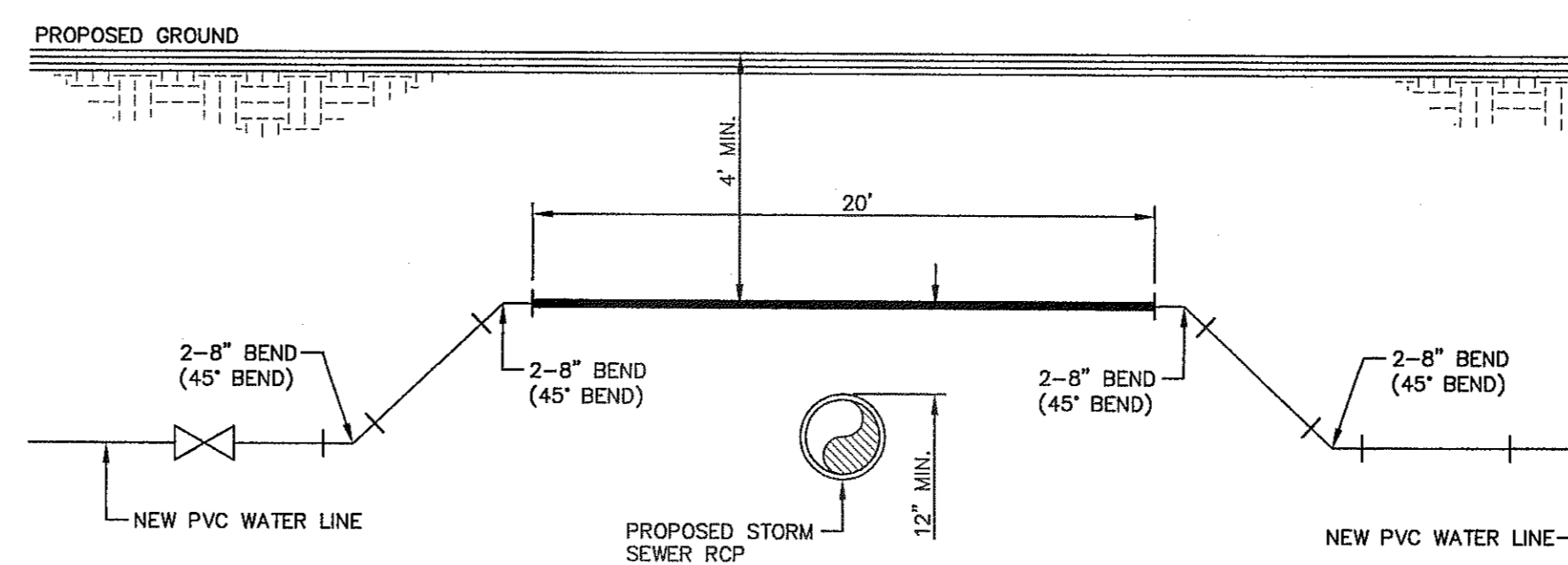
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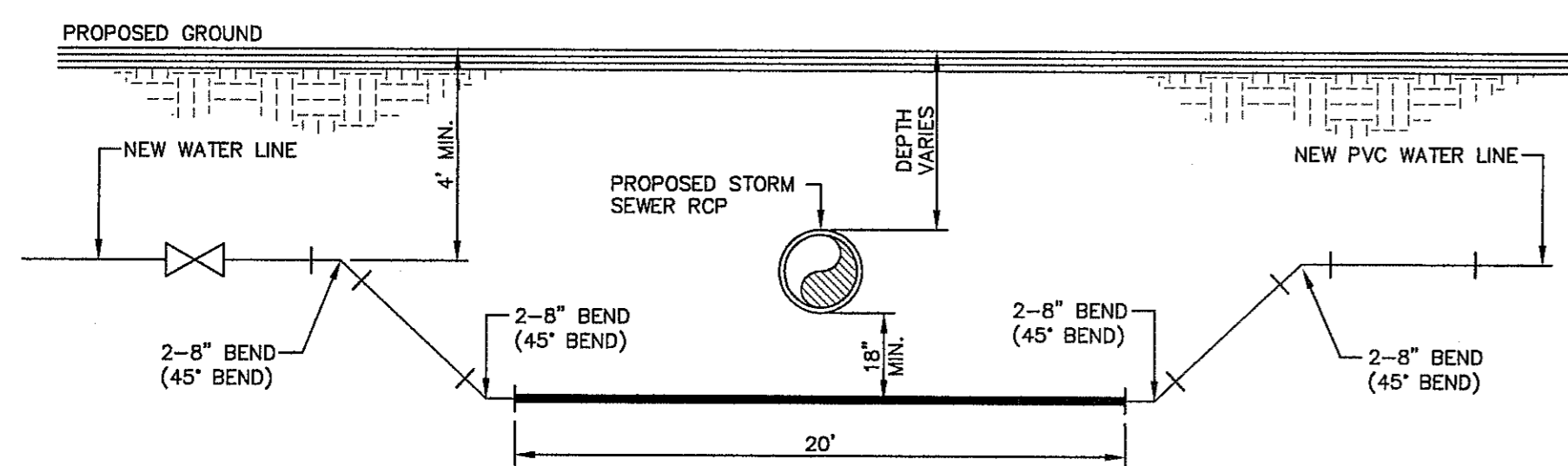


* IF DISTANCE BETWEEN PROPOSED SANITARY SEWER AND PROPOSED WATER LINE IS BETWEEN 6" (MIN.)-2' (MAX.), SANITARY SEWER MUST BE ENCASED IN DUCTILE IRON PIPE AS PER SEPARATION DISTANCE (SPECIAL CONDITION) DETAIL.

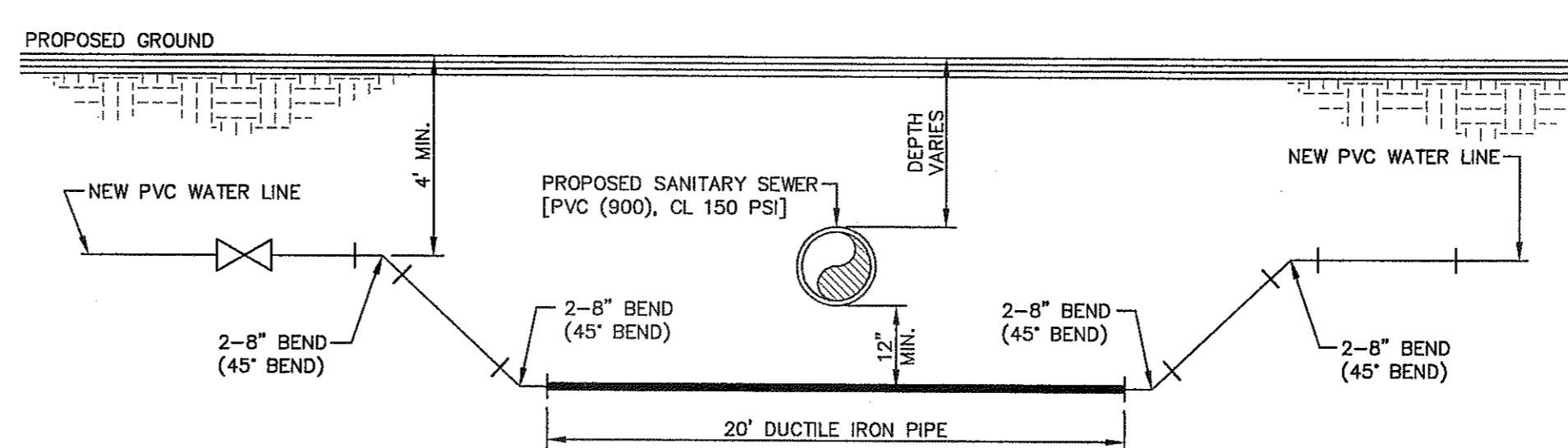
1 WATER LINE OVER SANITARY SEWER CROSSING DETAIL
SCALE: N.T.S.



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



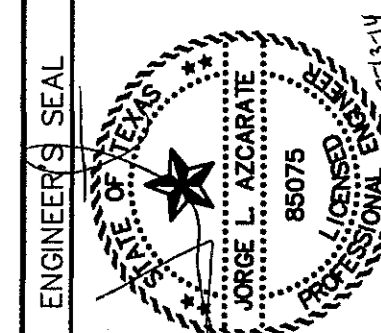
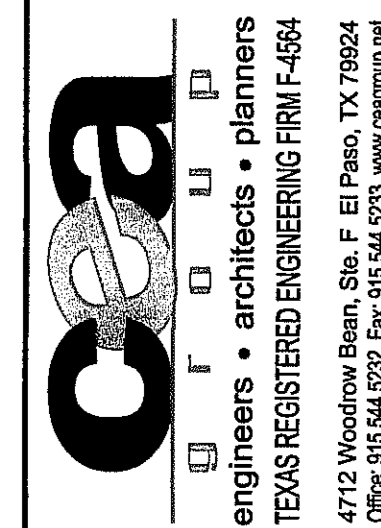
3 WATER LINE UNDER STORM SEWER CROSSING DETAIL
SCALE: N.T.S.



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

S:\2006\2006-028-028-LD\025\Construction Drawings\Improvement Plans\C13.4-C13.4-Water Distribution Water Details 4, 2/12/2014 11:02:13 AM

REFERENCES - BENCHMARKS	
BENCHMARK IS CITY INSTRUMENT AT P.A. LOCATED ON WESTWIND DR. N.W.D. 88 DATUM ELEVATION = 4661.81 (CITY DATUM = 4070.77)	
DATE	REVISIONS
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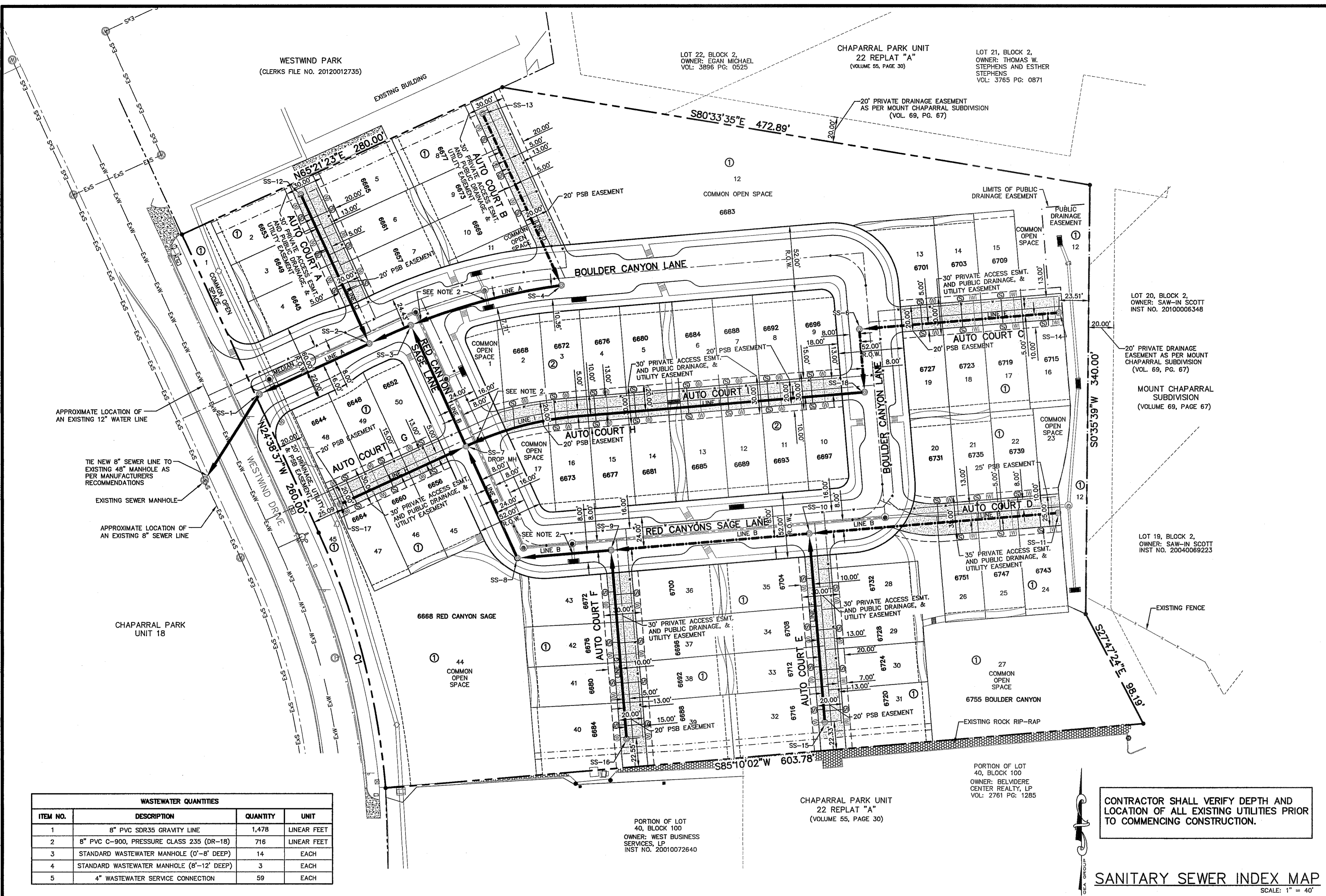
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DATE	NOVEMBER 2013
DESIGN BY:	J.A.
DRAWN BY:	A.B.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB NO.	2060-028LD

PROJECT TITLE
BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS

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

CITY DEVELOPMENT DEPARTMENT
REVIEWED

C13.4



NOTES:

1. ALL SANITARY SEWER PIPES SHALL BE PVC SDR35, UNLESS OTHERWISE REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
2. REFERENCE SANITARY SEWER DETAILS FOR SEWER CROSSINGS AT STORM SEWER.

LEGEND

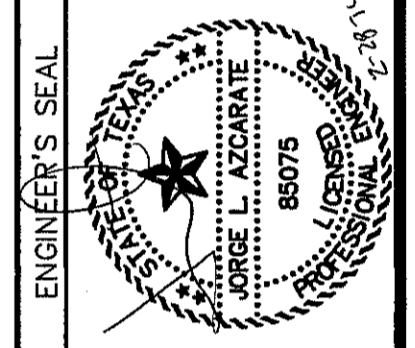
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	PROPOSED STORM SEWER LINE
	SUBD. BOUNDARY LINE
	PROPERTY LINE
	CENTER LINE
	PUBLIC DRAINAGE EASEMENT
	PROPOSED SEWER LINE (PLAN VIEW)
	PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
	PROPOSED SEWER LINE (PROFILE VIEW)
	PROPOSED SERVICE CONNECTION (PLAN VIEW)
	PROPOSED MANHOLE (PLAN VIEW)
	EXISTING MANHOLE (PLAN VIEW)
	PROPOSED WATER LINE
	EXISTING SEWER LINE
	EXISTING 12" WATER LINE
	PROPOSED MANHOLE (PROFILE VIEW)
	EXISTING MANHOLE (PROFILE VIEW)

REFERENCES - BENCHMARKS

BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81
(CITY DATUM = 4070.77)

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4710 Nicholson Blvd. Ste. F El Paso, TX 79904
CENR 915.541.5232 Fax 915.541.5233 www.osaengineers.com



SCALE 1" = 40'

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

DATE: NOVEMBER 2013
DESIGN BY: ALB
CHECK BY: J.L.A.
APP'D. BY: J.L.A.
JOB No. - 20100-0261D

PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

WASTEWATER QUANTITIES

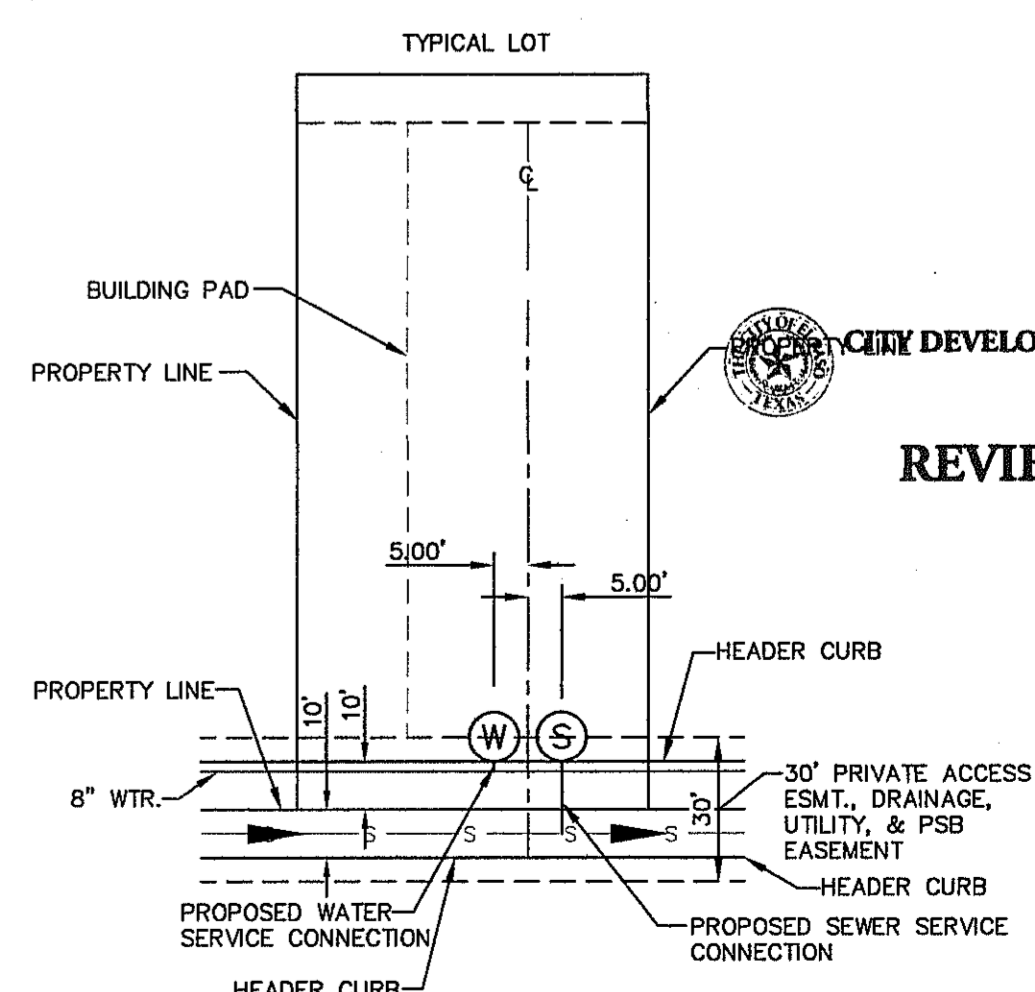
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	1,478	LINEAR FEET
2	8" PVC C-900, PRESSURE CLASS 235 (DR-18)	716	LINEAR FEET
3	STANDARD WASTEWATER MANHOLE (0'-8" DEEP)	14	EACH
4	STANDARD WASTEWATER MANHOLE (8'-12" DEEP)	3	EACH
5	4" WASTEWATER SERVICE CONNECTION	59	EACH

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

- GENERAL UTILITIES:**
TEXAS EXCAVATION SAFETY SERVICE
11884 GREENVILLE AVENUE
DALLAS, TX. 75243
(800) 344-8377
- ENGINEER:**
CEA GROUP
CASTNER CENTER @ TRANSMOUNTAIN
4712 WOODROW BEAN, STE. F
EL PASO, TX. 79924
(915) 544-5232
MR. JORGE L. AZCARATE, P.E.
- FIBER OPTICS:**
U.S. SPRINT
151 N. BOONE ST.
EL PASO, TX. 79905
(915) 534-7910
MR. RICK DERAGISCH
- FIBER OPTICS:**
MCI TELECOMMUNICATIONS CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
- WATER & SEWER:**
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.
- ELECTRIC:**
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX. 79902
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MR. FRANK VIGEL (DISTRIBUTION)
- EL PASO STREETS**
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
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TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
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EL PASO, TX. 79949
1(800) 852-3786
- RESIDENTIAL GAS LINES:**
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX. 79930
(915) 680-7218

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

SANITARY SEWER INDEX MAP
SCALE: 1" = 40'



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

CITY DEVELOPMENT DEPARTMENT

REVIEWED

SHEET TITLE

**SEWER INDEX/
GENERAL
INFORMATION**

SHEET NO.

C14.1

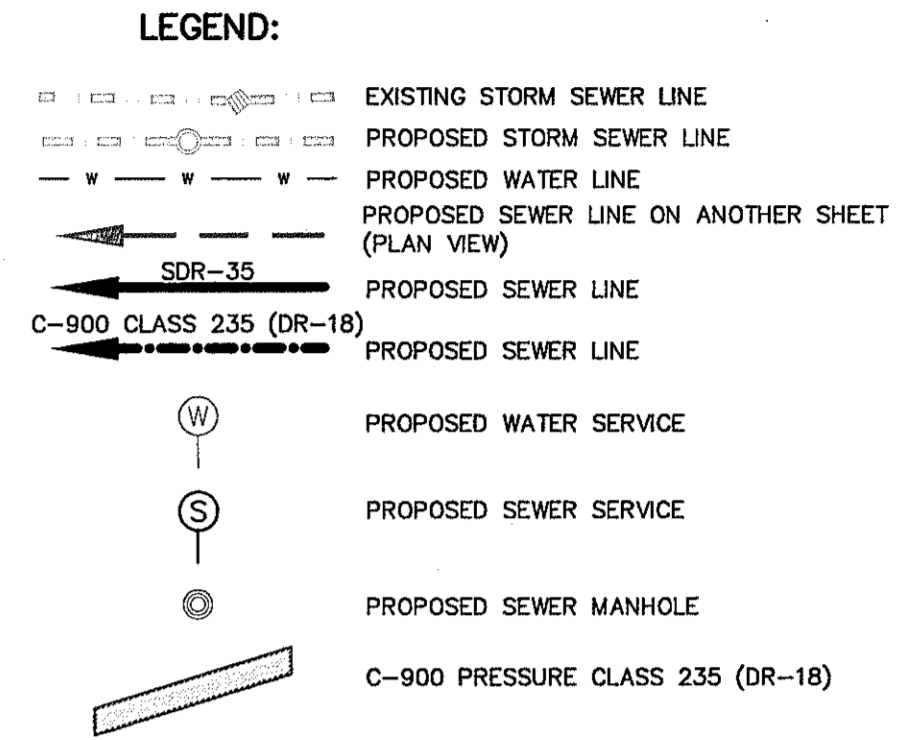
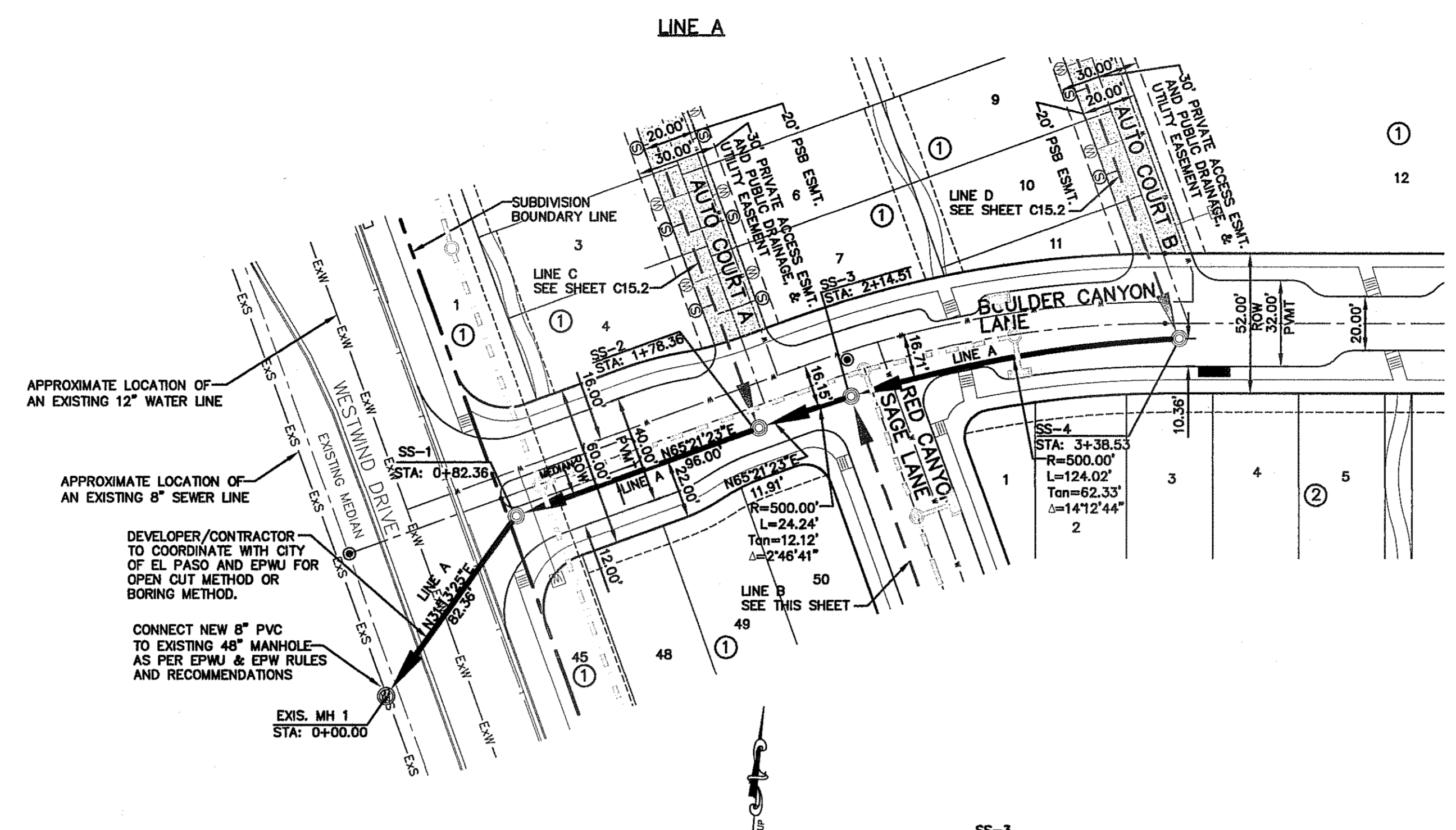
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BY
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 85 DATUM ELEVATION = 4081.81 (CITY DATUM = 4076.17)	DATE
REVISIONS	BY



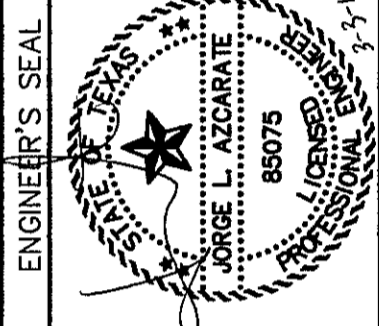
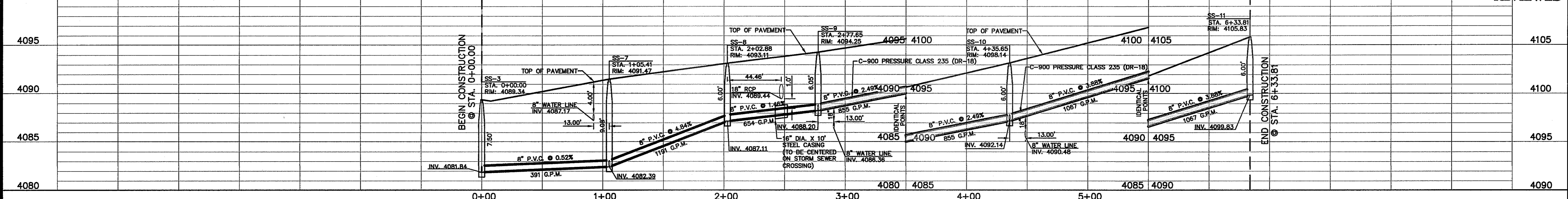
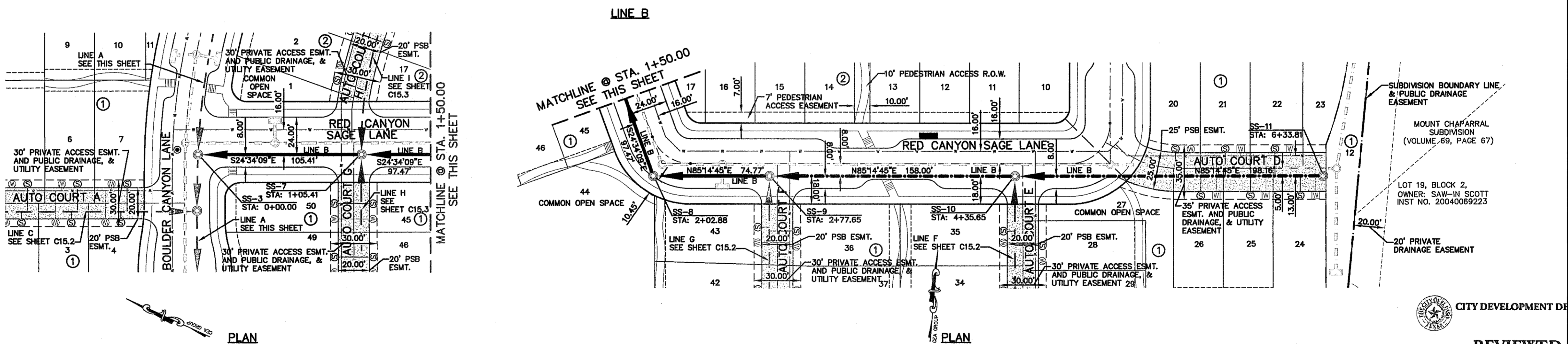
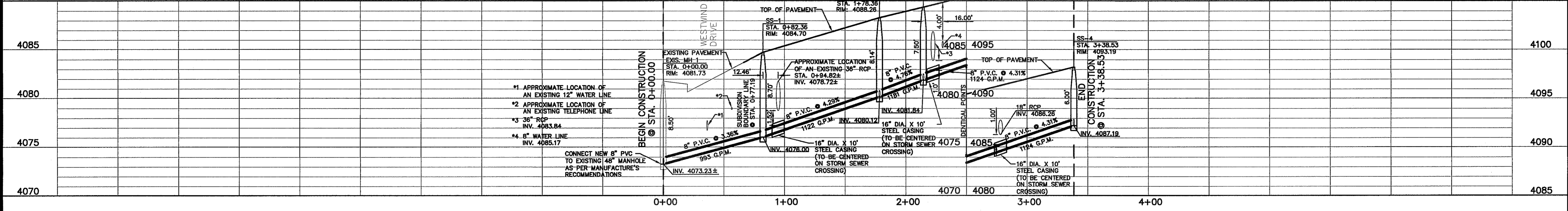
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4712 Woodrow Beam, Ste. F El Paso, TX 79924

Office: 915.544.5232 Fax: 915.544.5233 www.csaengineers.com



SCALE: 1"=40'

Horizontal: 1"=50'

Vertical: 1"=5'

Contour Interval: N/A

DATE: NOVEMBER 2013

DESIGN BY: J.A.

DRAWN BY: J.A.

CHKD. BY: J.A.

APPD. BY: J.A.

JOB No. 2060-0261.D

PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

CITY DEVELOPMENT DEPARTMENT

REVIEWED

SHEET TITLE

**SANITARY SEWER
PLAN & PROFILE
LINE A & B**

SHEET NO.

C15.1

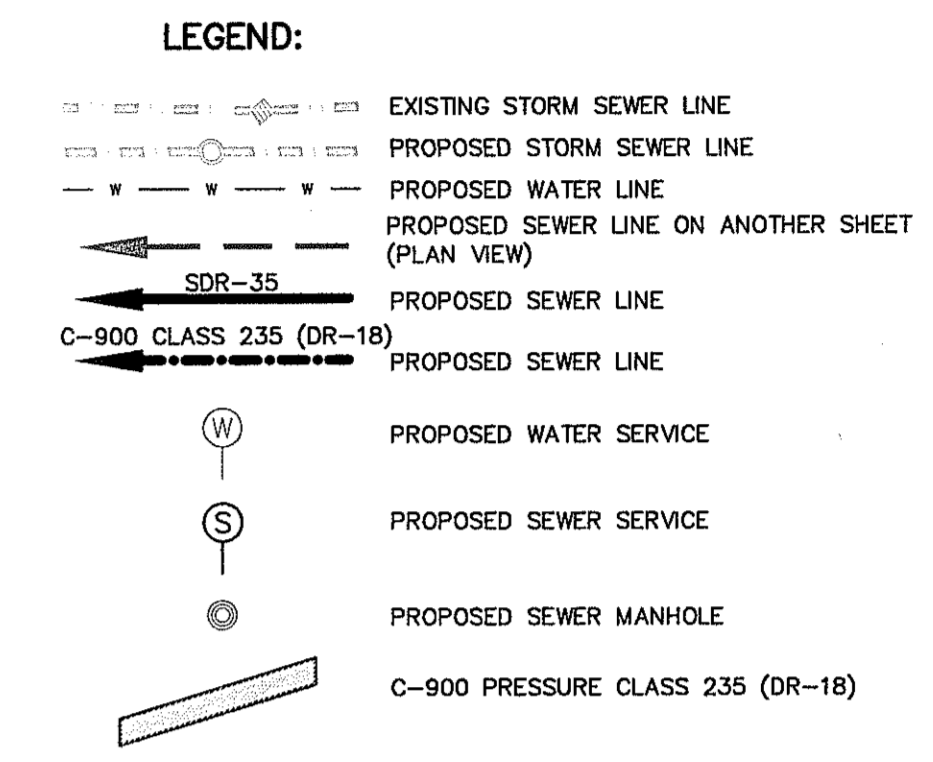
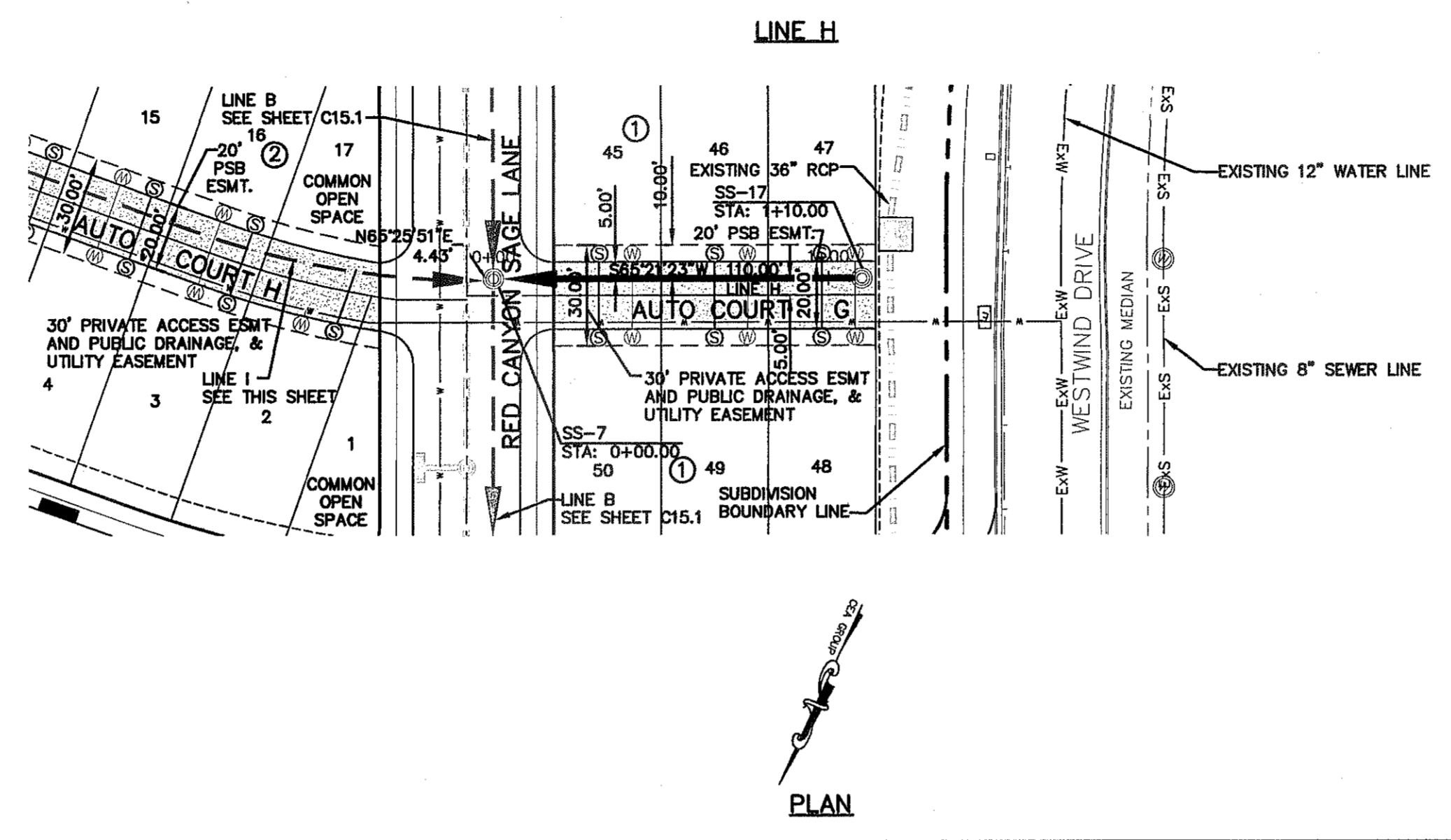
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
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TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
A&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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1-800-344-8377

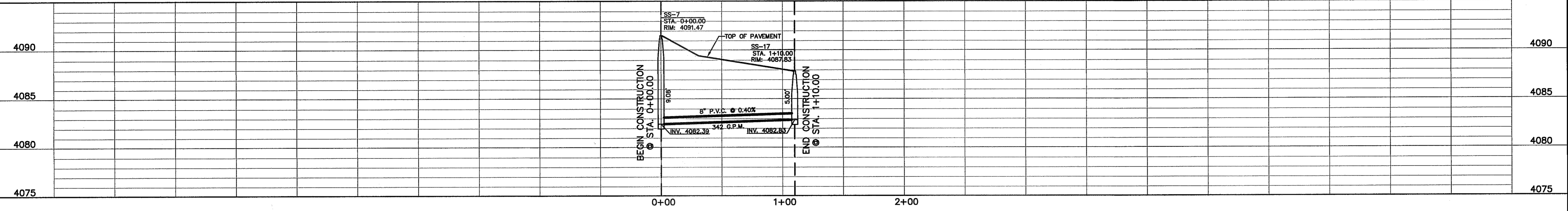
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BENCHMARK'S CITY MONUMENT AT P.L. LOCATED ON N. 10TH ST. DATUM ELEVATION = 4081.51 (CITY DATUM = 4070.77)
DATE	REVISIONS
BY	



COA

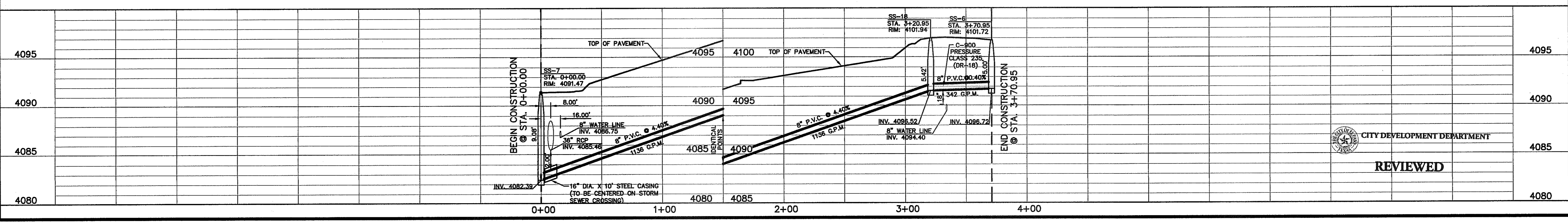
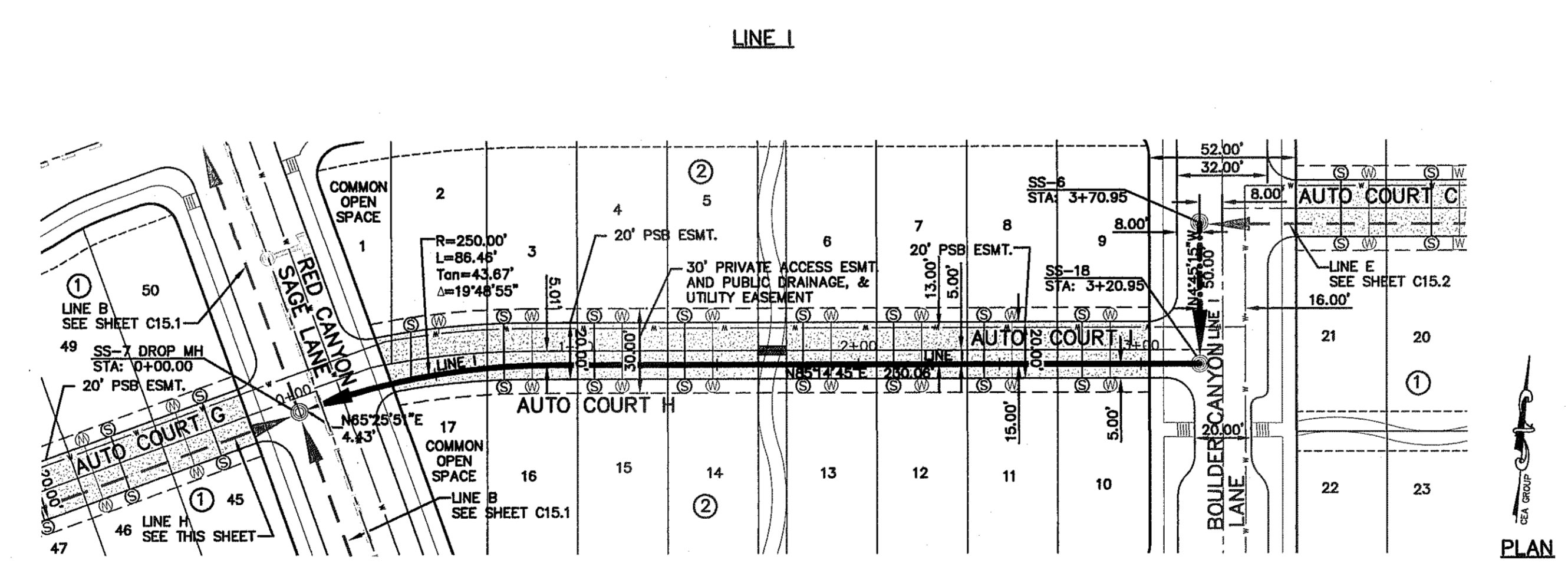
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4712 Woodrow Blank, Ste. F El Paso, TX 79924
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ENGINEER'S SEAL

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

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: A.B.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2060-0261D



PROJECT TITLE

**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER
PLAN & PROFILE
LINE H & I**

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C15.3

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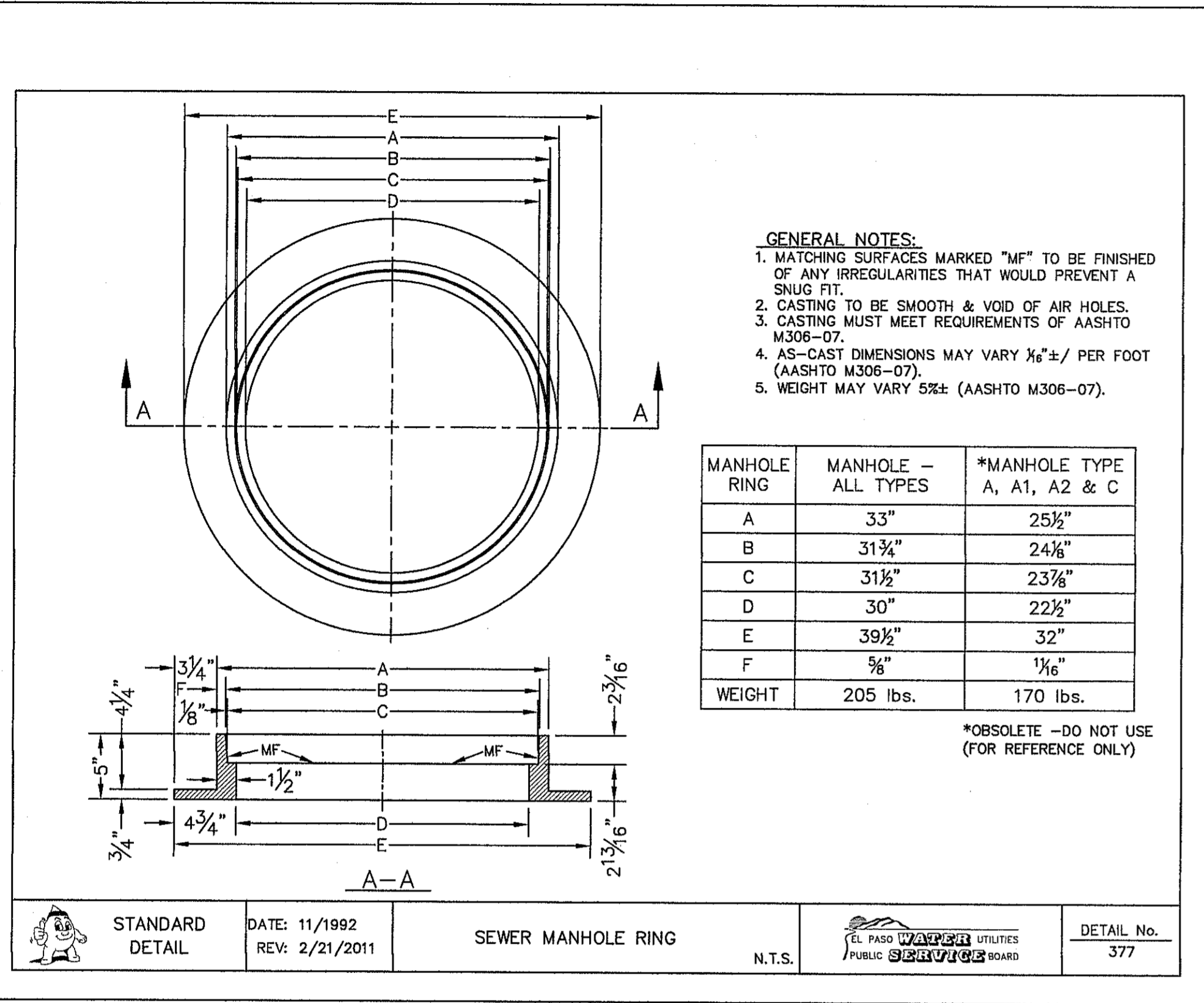
UTILITY LOCATOR SERVICES	
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SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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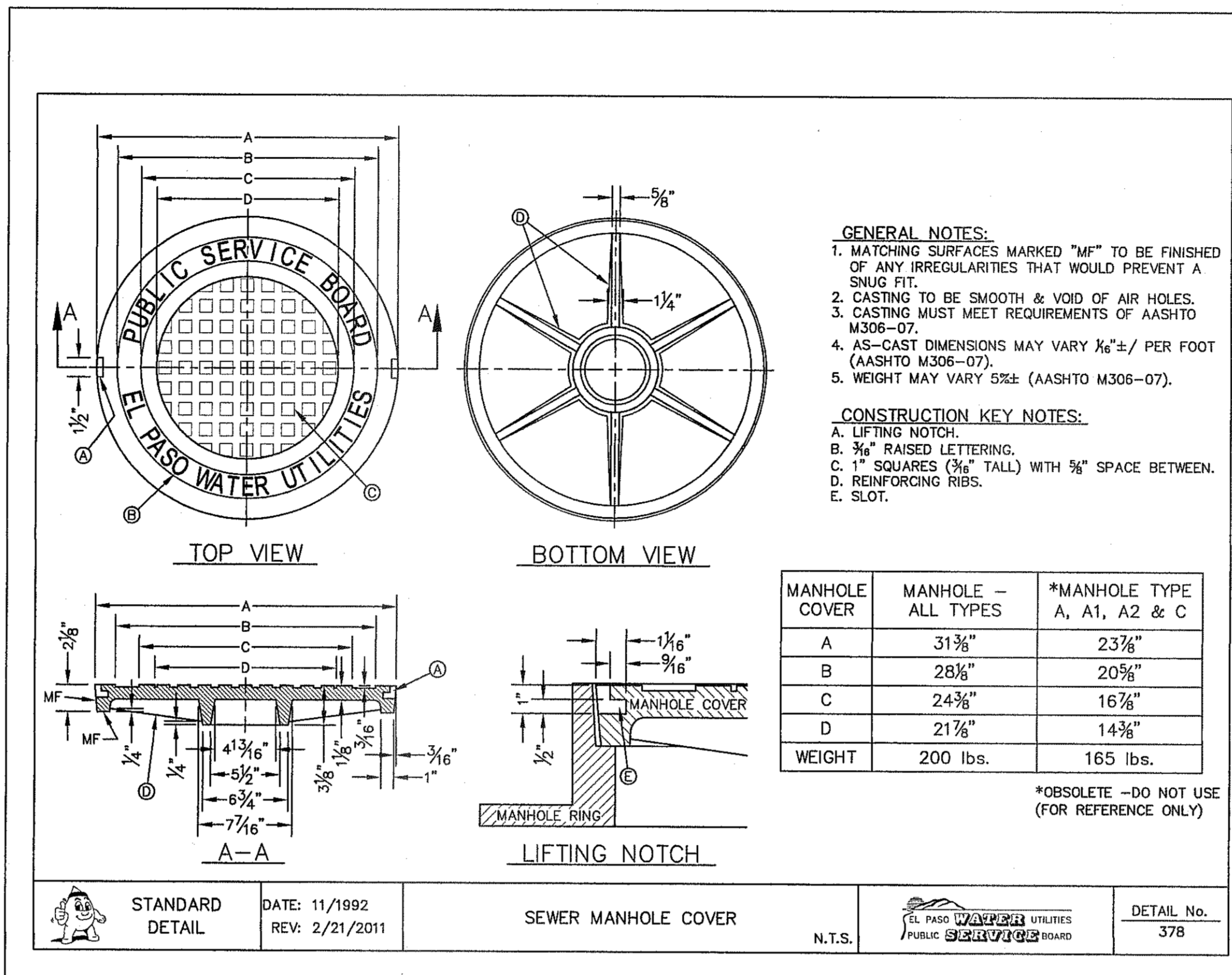
CALL
1-800-DIG-TESS
1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

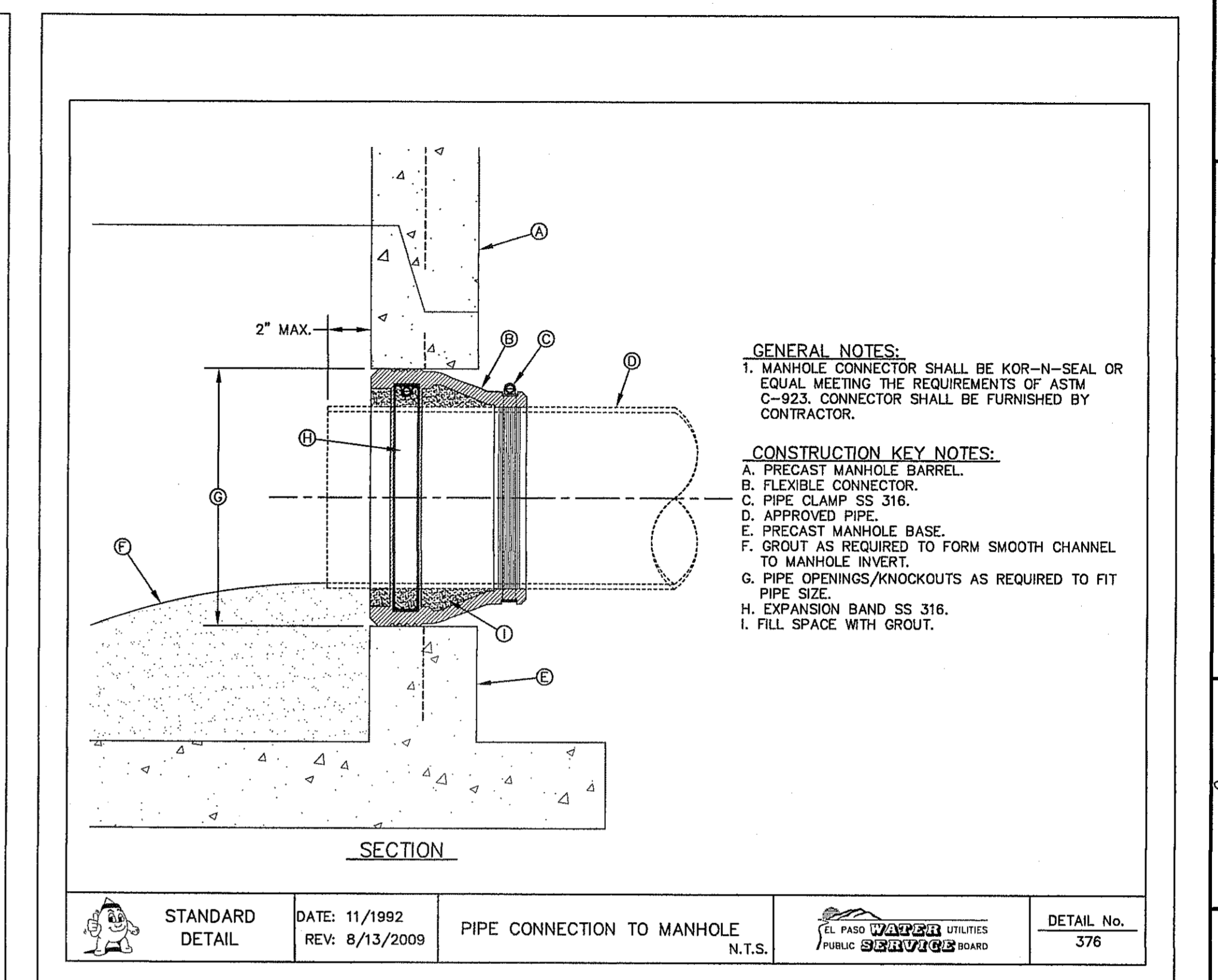
REVISIONS	DATE	BY



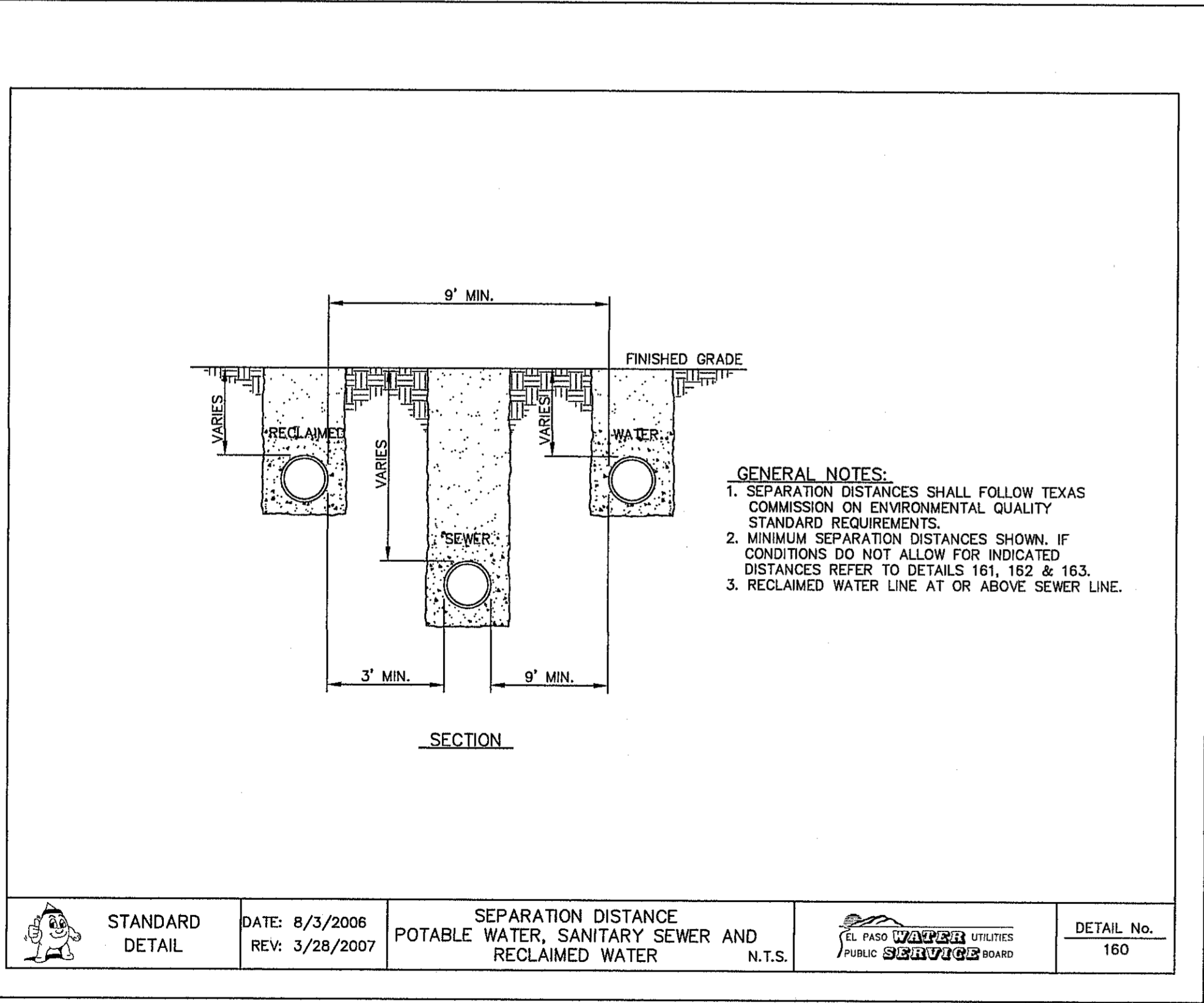
1 STANDARD MANHOLE RING N.T.S.



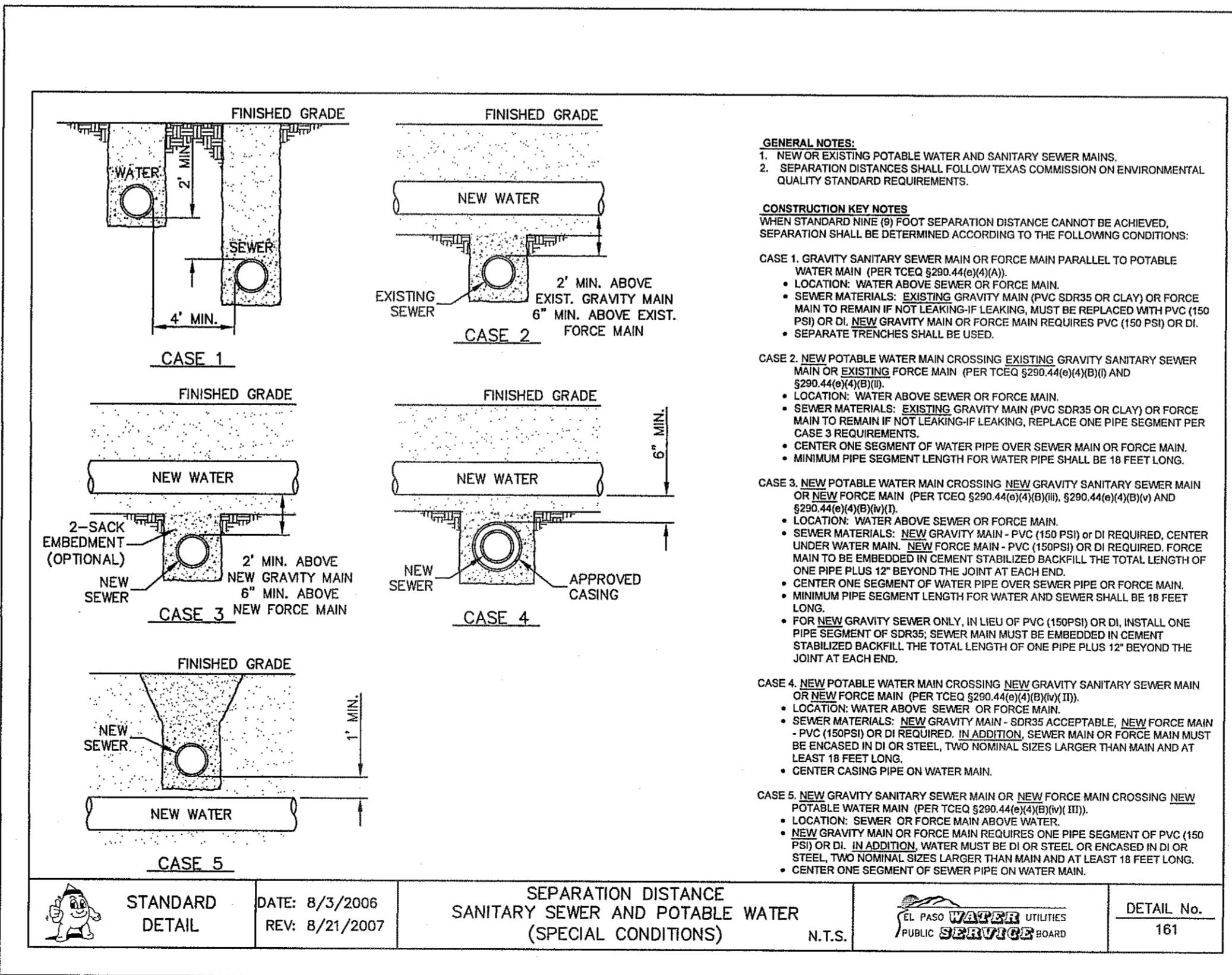
2 STANDARD COVER DETAIL N.T.S.



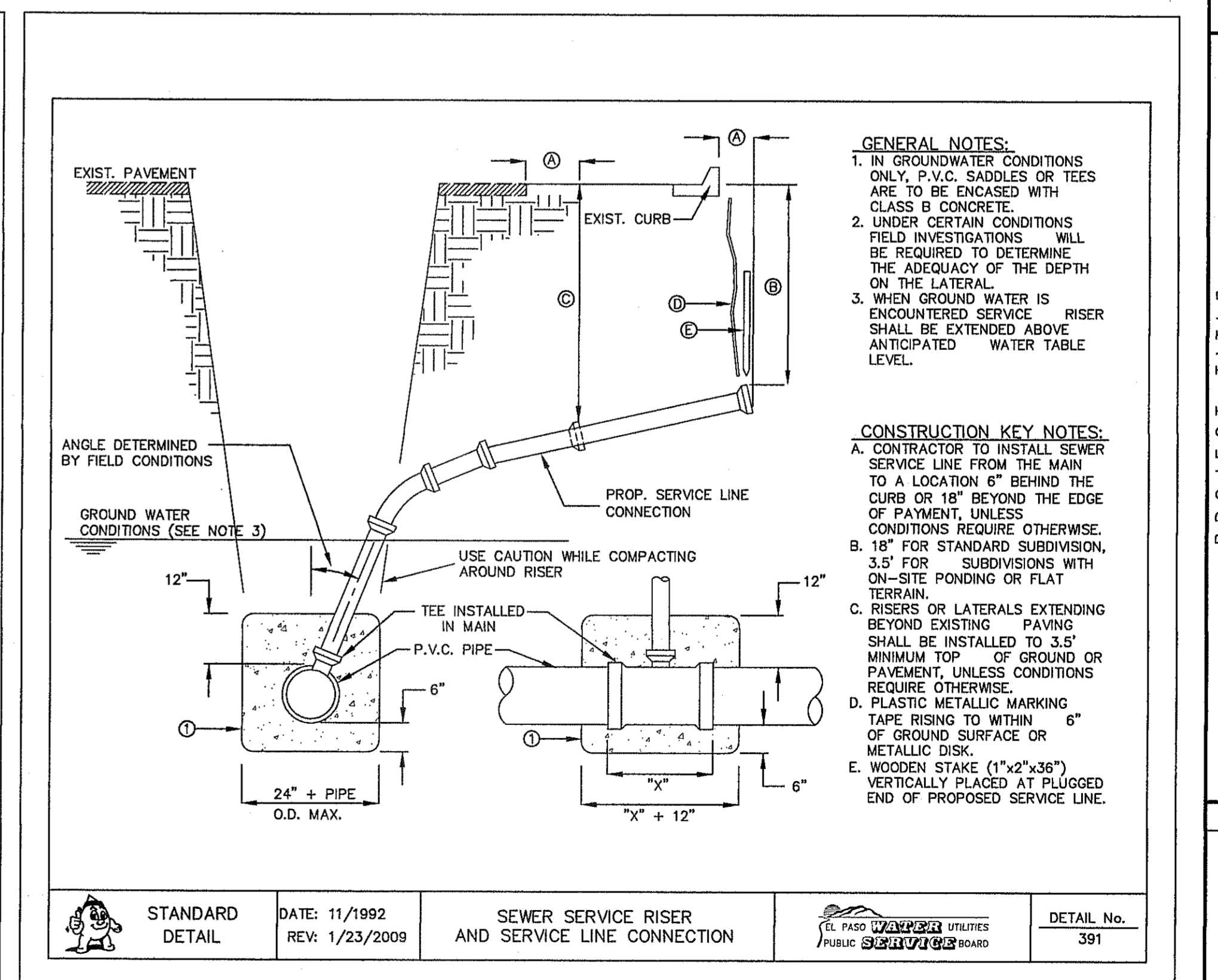
3 PIPE CONNECTION TO MANHOLE N.T.S.



4 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER N.T.S.



5 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS) N.T.S.

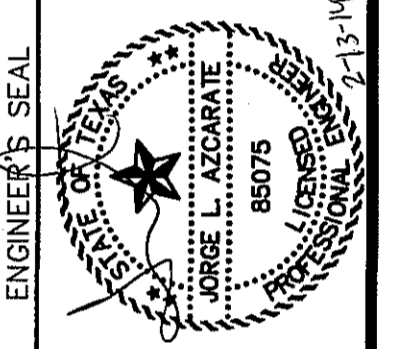


6 SEWER SERVICE RISER AND SERVICE LINE CONNECTION N.T.S.

ENGINEER'S SEAL

BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

DATE: NOVEMBER 2013
DESIGN BY: J.A.
DRAWN BY: J.A.B.
CHKD. BY: J.L.A.
APPROV. BY: J.L.A.
JOB NO.: 2060-0261D



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

PROJECT TITLE
BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

SHEET TITLE
SEWER DETAILS

(SHEET 1 OF 3)

SHEET NO.

C16.1

REVIEWED

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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SBC	(800) 545-6005
AT&T	(800) 852-3786
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTWIND DR. U.S.D. 889. DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)
DATE	REVISIONS
BY	

GENERAL NOTES:

- MANHOLE TYPE "A1" SHALL BE USED FOR LINES 24" AND SMALLER. NOT TO BE USED IN GROUNDWATER CONDITIONS.
- PRE-CAST MANHOLE SECTIONS SHALL BE OF REINFORCED CONCRETE CONFORMING TO ASTM C-478 AND SHALL MEET HS-20 LOADING.
- CEMENT SHALL BE TYPE I-II, PER ASTM C-150, AND MUST CONTAIN A MINIMUM OF 4% FLY ASH OF THE TOTAL MANHOLE WEIGHT.
- THE BASE SHALL BE CAST IN PLACE CONCRETE (MINIMUM 28 DAY COMPRESSIVE STRENGTH 4000 P.S.I.) POURED ON UNDISTURBED OR THOROUGHLY COMPACTED SUB-BASE.
- MANUFACTURER TO PROVIDE LIFTERS OF ADEQUATE SIZE AS NEEDED.
- THE SUBGRADE UNDER THE BASE SHALL BE COMPACTED TO 95% DENSITY IN ACCORDANCE WITH ASTM D-1557.

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL DATE: 11/1992 REV: 12/1/2011 MANHOLE TYPE "A1" N.T.S. EL PASO WATER UTILITIES PUBLIC SURVEILLANCE BOARD DETAIL No. 370-2

1 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.

GENERAL NOTES:

- MANHOLE TYPE SHALL BE AS SHOWN ON THE PLANS.
- SEAL JOINTS PER SPECIFICATIONS.

CONSTRUCTION KEY NOTES:

- MANHOLE RING (SEE DETAIL 377).
- MANHOLE COVER (SEE DETAIL 378).
- CONCRETE ADJUSTMENT RINGS AS REQUIRED.
- MANHOLE CONE SECTION.
- MANHOLE BARREL SECTION.
- CONCRETE COLLAR (SEE DETAIL 184-1) FLUSH WITH TOP OF H.M.A.C. OR SEE PENETRATION DETAIL.
- MANHOLE RING FLUSH WITH TOP OF CONCRETE, CONCRETE COLLAR NOT NEEDED.
- 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 SURVEILLANCE BOARD DETAIL No. 185

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

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- PIPE OPENINGS IN MANHOLE RISERS SHALL HAVE COMPRESSION TYPE FLEXIBLE PIPE TO MANHOLE CONNECTORS (A.S.T.M. - C923) "KOR-N-SEAL" OR APPROVED EQUAL.
- MANHOLE WALL.
- INFLUENT SEWER PIPE.
- 90° BEND (P.V.C.)
- P.V.C. PIPE (SDR-35)
- P.V.C. TEE
- CONCRETE FLOWABLE FILL
- 2500 PSI CONCRETE
- USE GROUT TO FORM A SMOOTH CHANNEL TO MANHOLE INVERT

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

3 DROP CONNECTION - EXTERNAL MANHOLE INSTALLATION N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

- APPROVED MARKING TAPE.
- UNDISTURBED STABLE MATERIAL.
- NATIVE MATERIAL BACKFILL. PAVED CONDITION: COMPACT TO 90% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. UNPAVED CONDITION: COMPACT TO 85% DENSITY PER ASTM D-1557 MODIFIED PROCTOR. (*SEE NOTE #3 IF THESE PREVIOUS CONDITIONS CANNOT BE MET.)
- SLOPE TRENCH IN SANDY SOIL CONDITIONS.
- 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-558 STANDARD PROCTOR).
- APPROVED PIPE.
- TRENCH DIMENSIONS AS FOLLOWS:

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"
PIPE DIAMETER	"H"
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 SURVEILLANCE BOARD DETAIL No. 171

4 EMBEDMENT CLASS "A" FOR PRESSURE PIPE AND GRAVITY PIPE DRY CONDITIONS N.T.S.

GENERAL NOTES:

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

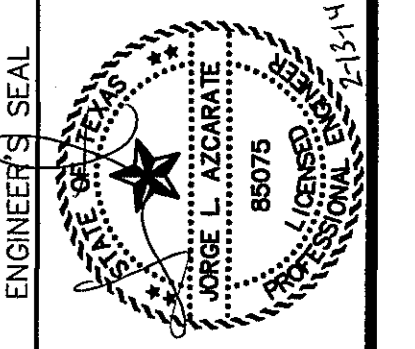
CONSTRUCTION KEY NOTES:

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

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

5 PAVEMENT REPAIR DETAIL N.T.S.

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Office: 915.544.5522 Fax: 915.544.5525 www.csaeng.com



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.A.	
DRAWN BY: A.B.	
CHKD. BY: J.L.A.	
APPVD. BY: J.L.A.	
JOB No. 2060-0281D	

PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

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

CITY DEVELOPMENT DEPARTMENT
REVIEWED

C16.2

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SITE DESCRIPTION

PROJECT NAME AND LIMITS: BOULDER CANYON REPLAT A IS BORDERED BY WESTWIND DRIVE TO WEST, CHAPARRAL PARK UNIT 22 REPLAT A TO NORTH AND SOUTH, MOUNT CHAPARRAL TO THE EAST.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 7.21± ACRES, AND WILL CONTAIN A TOTAL OF 61 RESIDENTIAL LOTS AND 7 COMMON OPEN SPACES.

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

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

TOTAL PROJECT AREA: 7.21±

TOTAL AREA TO BE DISTURBED: 7.21±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.630

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

NAME OF RECEIVING WATERS: BOULDER CANYON REPLAT A WILL DISCHARGE INTO AN EXISTING ON-SITE STORM SEWER INFRASTRUCTURE AND ULTIMATELY DISCHARGE INTO TWO EXISTING OFF-SITE 36" CMP'S.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER: _____

STRUCTURAL PRACTICES:

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

OTHER: _____

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

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

SWPPP GENERAL NOTES:

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

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

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

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

V. GOOD HOUSEKEEPING:

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

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

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

VII. PETROLEUM PRODUCTS:

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

VIII. SPILL CONTROL PRACTICES:

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

IX. MAINTENANCE AND INSPECTION PROCEDURES:

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

X. REMARKS:

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

XI. OFFSITE VEHICLE TRACKING:

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

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

REFERENCES - BENCHMARKS	BENCHMARK IS CITY INSTRUMENT AT P.L. LOCATED ON WESTWIND DR. N.W.D. 88 DATUM ELEVATION = 4681.81 (CITY DATUM = 4070.77)
DATE	REVISIONS
BY	

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.A.	
DRAWN BY: J.A.	
CHECK BY: J.L.A.	
APP'D. BY: J.L.A.	
JOB NO. 2009-028LD	

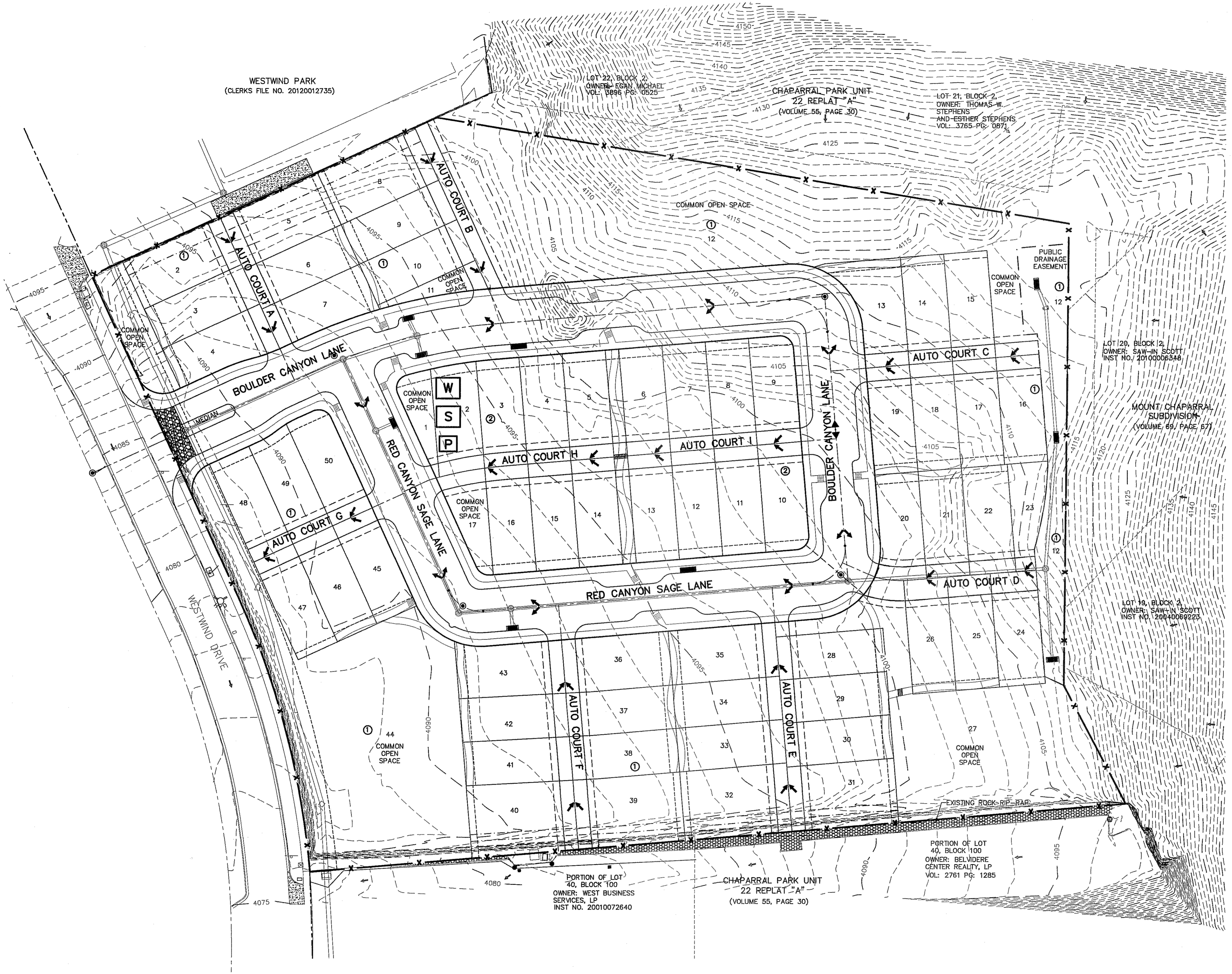
PROJECT TITLE
**BOULDER CANYON
REPLAT A
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**STORM WATER
POLLUTION
CONTROL PLAN:
(GENERAL NOTES)**
(SHEET 1 OF 3)
SHEET NO.



C17.1

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

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

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

DATE	REVISIONS	BY

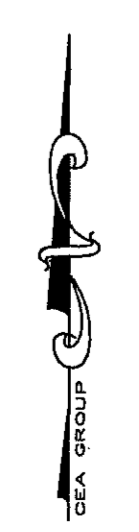
REFERENCES - BENCHMARKS
 BENCHMARK IS CITY MONUMENT AT PL. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81
 (CITY DATUM = 4070.77)

ENGINEER'S SEAL

SCALE	1" = 40'
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	J.A.
DESIGN BY:	J.A.
DRAWN BY:	J.L.A.
APPROV. BY:	J.L.A.
JOB NO.	2060-026LD

PROJECT TITLE
**BOULDER CANYON
 REPLAT A
 SUBDIVISION IMPROVEMENTS**

CITY DEVELOPMENT DEPARTMENT
REVIEWED

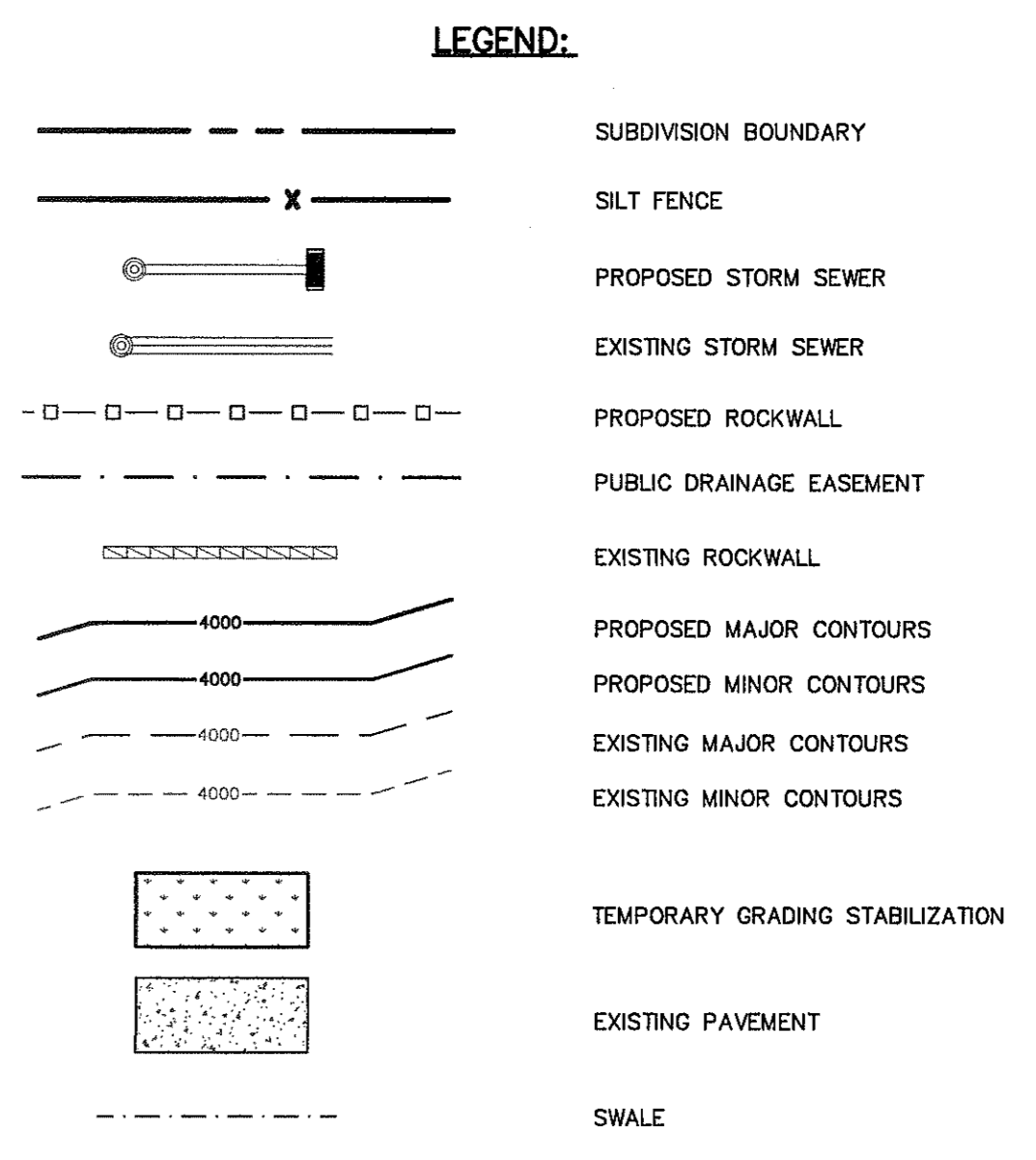
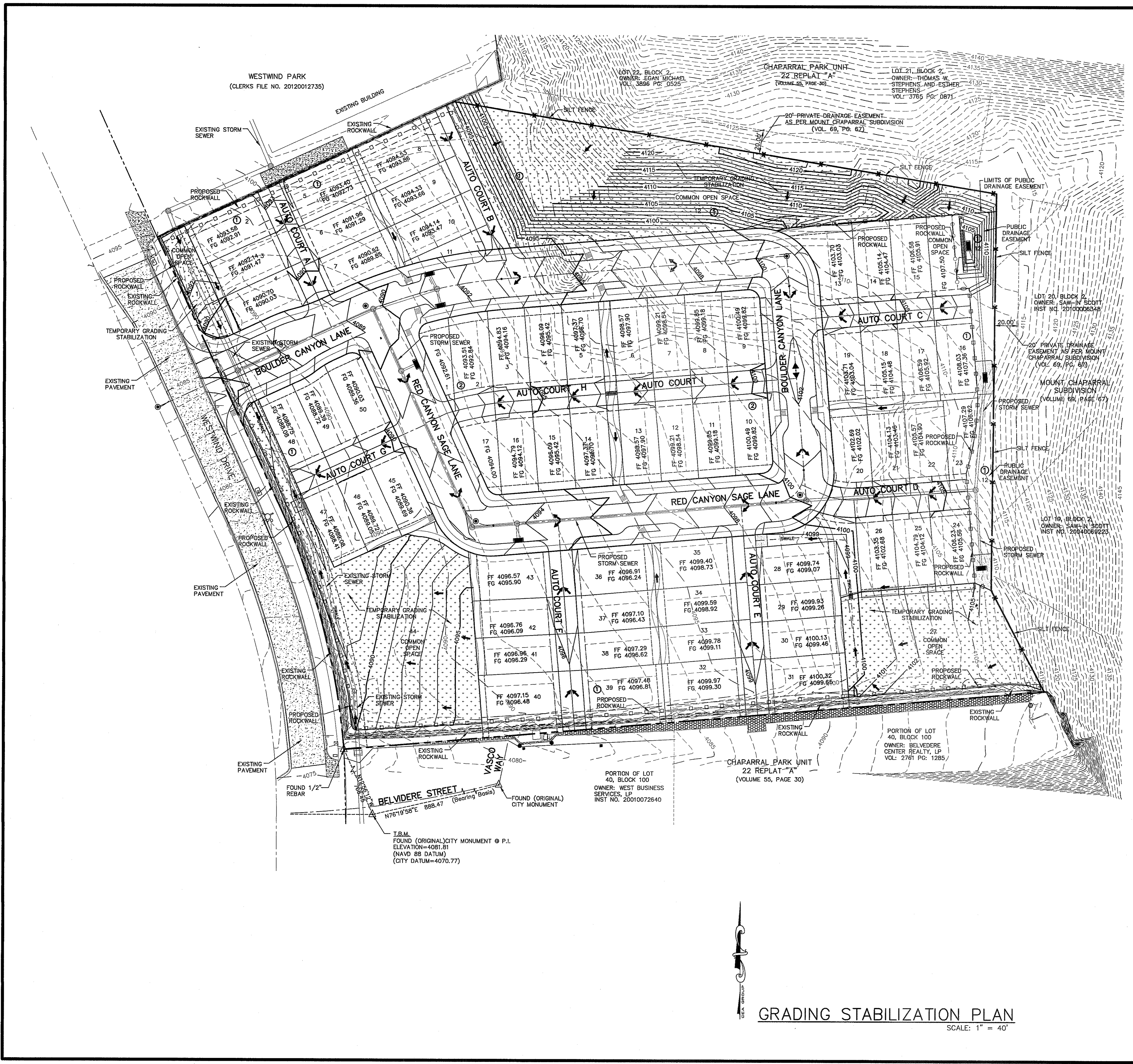


SITE PLAN
 SCALE: 1" = 40'

SHEET TITLE
**STORM WATER
 POLLUTION
 CONTROL PLAN:
 (SITE PLAN)**
 (SHEET 2 OF 3)
 SHEET NO.

C17.2

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- NOTES:**
- THE PURPOSE OF THE GRADING STABILIZATION PLAN (GSP) IS TO STABILIZE THE SITE TO PREVENT EXCESSIVE EROSION AFTER COMPLETION OF THE GRADING OPERATION AND/OR IF SITE BECOMES IDLE FOR MORE THAN 180 CALENDAR DAYS.
1. THE GRADING STABILIZATION PLAN SHALL BE UPDATED IN ACCORDANCE WITH THE ACTUAL CONSTRUCTION SEQUENCE, AND THE STABILIZATION MEASURES ARE IMPLEMENTED ACCORDING TO ACTUAL CONSTRUCTION PROCESS.
 2. SEDIMENT CAUSED BY EXCESSIVE EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE LEAVING THE SITE.
 3. DISTURBED AREAS, SITES AND SLOPES SHALL BE STABILIZED THROUGH THE IMPLEMENTATION OF A STABILIZATION MEASURE TO PREVENT EXCESSIVE EROSION BY WIND OR WATER.
 4. OWNER ENSURES THAT STABILIZATION MEASURES ARE IMPLEMENTED PROPERLY AND MAINTENANCE ACTIVITIES, BOTH SHORT AND LONG TERM, ARE SPECIFIED TO ENSURE EFFECTIVENESS OF THE STABILIZATION MEASURES.
 5. CRITICAL AREAS SUCH AS SLOPES OF THREE (HORIZONTAL) TO ONE (VERTICAL) OR STEEPER AND DRAINAGE WAYS SHALL BE STABILIZED IMMEDIATELY AFTER THE COMPLETION OF THE GRADING.
 6. AFTER COMPLETION OF SITE GRADING THE PROJECT AREA SHALL BE WATERED AS REQUIRED TO CONTROL WIND EROSION.
 7. THE FOLLOWING WEEDS AND VEGETATION SHALL BE EXEMPT FROM NEEDS AND MAINTENANCE PROHIBITED SECTION 9.04.870. NATIVE DESERT VEGETATION AND/OR PROPERTY THAT HAS BEEN STABILIZED IN ACCORDANCE WITH AN APPROVED GRADING STABILIZATION PLAN PURSUANT TO TITLE 18.44 (GRADING);
 8. THE ENTIRE PROJECT SUBDIVISION LIMITS SHALL INSTALL/PLACE TEMPORARY GRADING STABILIZATION IF THE SUBDIVISION IMPROVEMENTS ARE NOT COMMENCED WITHIN SIX (6) MONTHS OF DISTURBANCE/GRADING OF THE PROJECT.

- INSTALLATION AND MAINTENANCE OF GSP**
1. INSTALLATION: PRIOR TO APPLYING ANY SOIL STABILIZATION MEASURES, THE CONTRACTOR SHALL INSPECT THE DISTURBED AREA TO ENSURE THE SOIL SURFACE HAS BEEN PROPERLY PREPARED. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSTALLATION OF ALL SOIL STABILIZATION MEASURES AFTER INSTALLATION. ALL AREAS WHERE SOIL STABILIZATION MEASURES HAVE BEEN APPLIED SHALL BE INSPECTED BY THE CONTRACTOR FOR PROPER INSTALLATION AND REPAIRED IF NECESSARY.
 2. STORM EVENT: AFTER A STORM EVENT, AREAS WHERE SOIL STABILIZATION MEASURES HAVE BEEN APPLIED SHALL BE INSPECTED BY THE OWNER OR THE OWNER'S ENGINEER FOR WEAK SPOTS, DAMAGED SURFACES, AND/OR FAILURES, AND REPAIRED OR REAPPLIED AS NECESSARY.
 3. MAINTENANCE: THE OWNER IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL SLOPES AND SHEET FLOW AREAS TO PREVENT EROSION. REFER TO THE PROJECT SWPPP MANUAL OR THE CONSTRUCTION SITE NOTICE FOR INSPECTION AND MAINTENANCE NEEDS. ANY SOIL STABILIZATION MEASURES THAT DO NOT PROVIDE ADEQUATE COVER SHALL BE REAPPLIED.
 4. CLEAN-UP: SOIL STABILIZATION MEASURES MAY BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE AREA CAN BE PERMANENTLY STABILIZED.

- NOTES:**
- TEMPORARY SOIL STABILIZATION BMP'S CAN BE APPLIED TO THE DISTURBED AREA IN ORDER TO REDUCE EROSION AND THE POTENTIAL TRANSPORT OF SEDIMENT POLLUTANTS. PROTECTION OF THE DISTURBED AREAS FROM EROSION FORCES OF WIND AND WATER CAN BE MANAGED WITH THE USE OF TEMPORARY SOIL STABILIZATION BMP'S CONSISTING OF:
- HYDRAULIC MULCH
 - HYDROSEEDING
 - SOIL BINDERS
 - STRAW MULCH

BENCHMARK:
 RM24 AS DESCRIBED IN PANEL NO. 480214 00270 BY RTK OBSERVATION, 2003 GEOD. BOUNDARY MONUMENT NO. 97, ABOUT 20 FEET SOUTHWEST OF EMORY ROAD; ABOUT 570 FEET SOUTHEAST OF SUNLAND PARK DRIVE. A CONCRETE MONUMENT WITH BRONZE TABLET STAMPED "3735 MON. NO. 37". ELEVATION= 3734.36 NGVD 29 DATUM = 3738.28 NAVD 88

<p>REFERENCES - BENCHMARKS</p> <p>BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTWIND PARK UNIT 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)</p>	<p>DATE</p> <p>REVISIONS</p> <p>BY</p>
<p>O&A engineers • architects • planners TEXAS REGISTERED ENGINEERING FIRM #484 4712 Woodrow Bean, Ste. F El Paso, TX 79904 Office: 915.544.5202 Fax: 915.544.5233 www.oandaplanet.com</p>	
<p>ENGINEER'S SEAL</p> <p>SCALE: 1" = 40'</p> <p>Horizontal: N/A</p> <p>Vertical: N/A</p> <p>Contour Interval: N/A</p> <p>DATE: NOVEMBER 2013</p> <p>DESIGN BY: J.A.</p> <p>DRAWN BY: A.B.</p> <p>CHECKED BY: J.L.A.</p> <p>APPROVED BY: J.L.A.</p> <p>JOB NO.: 2006-028LD</p>	
<p>PROJECT TITLE</p> <p>BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS</p>	
<p>CITY DEVELOPMENT DEPARTMENT</p> <p>REVIEWED</p>	
<p>SHEET TITLE</p> <p>GRADING STABILIZATION PLAN</p>	
<p>SHEET 1 OF 2</p> <p>SHEET NO.</p>	
<p>C18.1</p>	

GRADING STABILIZATION PLAN
 SCALE: 1" = 40'

HYDRAULIC MULCH

DESCRIPTION

HYDRAULIC MULCH IS A MIXTURE OF WOOD MULCH, AND WATER, (WITH OR WITHOUT COMBINATIONS OF STABILIZING EMULSION, RECYCLED PAPER, AND/OR SYNTHETIC FIBERS). THIS SLURRY IS APPLIED TO DISTURBED SOIL AREAS USING HYDRO-MULCHING EQUIPMENT TO TEMPORARILY STABILIZE THE SOIL AND REDUCE EROSION CAUSED BY WIND AND WATER. THERE ARE TWO TYPES OF HYDRAULIC MULCHES:

- HYDRAULIC MULCH
- HYDRAULIC MATRIX

HYDRAULIC MULCH:

HYDRAULIC MULCH CONSISTS OF SHREDDED WOOD FIBERS, WATER, AND /OR A STABILIZING EMULSION. HYDRAULIC MULCH CAN BE SPECIFIED WITH OR WITHOUT A STABILIZING EMULSION. HYDRAULIC MULCH IS 100 PERCENT BIODEGRADABLE. THE WOOD MULCH AND STABILIZING EMULSION (IF SPECIFIED) ARE MIXED WITH WATER IN A HYDRAULIC MULCHER, AND SPRAYED ONTO A DISTURBED SOIL AREA AS LIQUID SLURRY.

HYDRAULIC MATRIX:

A HYDRAULIC MATRIX CONSISTS OF A STABILIZING EMULSION COMBINED WITH WOOD FIBER, PAPER FIBER, AND WATER. HYDRAULIC MATRIX CAN BE APPLIED AS EITHER A MULTI-LAYERED BMP WITH A LAYER OF WOOD FIBER AS THE BASE AND A LAYER OF PAPER FIBER AS THE TOP, OR A MIXTURE OF THE WOOD AND PAPER FIBERS AS ONE LAYER. HYDRAULIC MATRIX IS 100 PERCENT BIODEGRADABLE. EACH CONSTITUENT IS MIXED IN A HYDRAULIC MULCHER, AND SPRAYED ONTO A DISTURBED SOIL AREA AS LIQUID SLURRY. IF APPLIED AS A MULTI-LAYER BMP, MULTIPLE PASSES WILL BE REQUIRED.

LIMITATIONS OF HYDRAULIC MULCH

CATEGORY	LIMITATION
SELECTION	- HYDRAULIC MULCH CONSISTING OF ONLY PAPER OR RECYCLED PAPER FIBERS IS PROHIBITED. PAPER IS ACCEPTABLE IF INCORPORATED WITH A BIODEGRADABLE FIBER (SUCH AS WOOD). - NOT TO BE USED IN AREAS IN WHICH THE MULCH WOULD BE CONSIDERED UNSUITABLE, OR WITH IMMEDIATE FUTURE EARTHWORK AND WOULD, THEREFORE, NEED TO BE REMOVED OR REAPPLIED. - THE SITE MUST BE ACCESSIBLE TO MULCHING EQUIPMENT FOR HYDRAULIC MULCH TO BE APPLIED.
INSTALLATION	- AVOID OVERSPRAYING HYDRAULIC MULCH ONTO EXISTING VEGETATION, SIDEWALKS, TRAVELWAYS, SOUND WALLS, AND CHANNELS. - WALKING, MOVING EQUIPMENT, AND/OR VEHICULAR TRAFFIC ACROSS AREAS WHERE HYDRAULIC MULCH HAS BEEN APPLIED WILL DAMAGE THE BMP BY BREAKING THE CRUSTED SURFACE OF THE POROUS MAT.
FLOW CONDITIONS	- HYDRAULIC MULCH SHALL NOT BE USED IN AREAS CONTAINING SWIFT-MOVING CONCENTRATED FLOW OR HIGH-VOLUME SHEET FLOW BECAUSE IT HAS A TENDENCY TO BE WASHED AWAY. - WHEN NECESSARY, USE WITH OTHER SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S TO REDUCE THE SLOPE LENGTHS AND LIMIT RUN-ON FLOWS TO THE AREAS WHERE THE HYDRAULIC MULCH IS APPLIED.
TIME UNTIL EFFECTIVE	- HYDRAULIC MULCH REQUIRES MINIMUM DRYING TIMES, THEREFORE, IT CANNOT BE APPLIED IMMEDIATELY BEFORE RAINFALL, DURING RAINFALL, AND/OR WHERE STANDING WATER IS PRESENT.
DURATION OF NEED	- HYDRAULIC MULCH IS A SHORT-TERM SOIL STABILIZATION PRACTICE IN THAT IT GENERALLY LASTS THROUGH ONLY A PORTION OF THE GROWING/RAINY SEASON.
MAINTENANCE	- REAPPLICATION OF HYDRAULIC MULCH MAY BE NECESSARY TO EFFECTIVELY STABILIZE THE SOIL THROUGHOUT THE SEASON.

STANDARDS AND SPECIFICATIONS:

THE SELECTION OF HYDRAULIC MULCH BY THE CONTRACTOR MUST BE APPROVED BY THE PROJECT ENGINEER OR THE CITY OF EL PASO.

PRIOR TO APPLICATION OF THE HYDRAULIC MULCH, THE SOIL SURFACE MUST BE PREPARED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALSO, ROUGHEN THE SOIL SURFACE WITH FURROWS THAT TREND ALONG THE CONTOURS. ROUGHENING CAN BE DONE BY RIPPING OR SHEEPSFOOT ROLLING. TRACK WALKING IS AN ALTERNATIVE METHOD OF ROUGHENING, BUT SHOULD ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.

COMBINED WITH HYDROSEEDING, A MIXTURE OF HYDRAULIC MULCH, WATER, SEEDS, AND FERTILIZER CAN BE SPRAYED OVER AN AREA OF DISTURBED SOIL TO PROMOTE PLANT GROWTH BY PROVIDING PROTECTION AND WARMTH FOR SEEDS.

APPLICATION RATES OF HYDRAULIC MULCH

TYPE	APPLICATION RATE	GUIDELINES
HYDRAULIC MULCH	kg/ha 2,250-4,500	SOME GENERAL GUIDELINES TO BE FOLLOWED REGARDING THE APPLICATION RATE AND PERCENT SOIL BINDER INCLUDE: - INCREASE THE APPLICATION RATE AND PERCENT SOIL BINDER (IF APPLICABLE) AS THE SLOPE INCREASES. - INCREASE THE APPLICATION RATE AND PERCENT SOIL BINDER (IF APPLICABLE) TO SOILS WITH A HIGH INFILTRATION RATE AND EXPANSIVE PROPERTIES.
	lb/oc 2,000-4,000	
HYDRAULIC MATRIX	% soil binder 0-5	- INCREASE THE APPLICATION RATE AND PERCENT SOIL BINDER (IF APPLICABLE) TO ROUGHENED SOILS FOR COMPLETE COVERAGE. - INCREASE APPLICATION RATES IN AREAS OF HEAVY RAINFALL.
	kg/ha 2,250-4,500	
	lb/oc 2,000-4,000	
	% soil binder 5-10	

TIME AND COST OF HYDRAULIC MULCH

TYPE	DELIVERY TIME	INSTALLATION TIME	TIME UNTIL EFFECTIVE	COST OF INSTALLATION
	days	hours/hectare	days	\$/hectare \$/acre
HYDRAULIC MULCH	3-7	10	1 to 2	2,200-3,230 900-1,300
HYDRAULIC MATRIX	3-7	10	1 to 2	2,200-3,230 900-1,300

DESCRIPTION

HYDROSEEDING IS THE PROCESS OF VEGETATING DISTURBED SOIL AREAS BY APPLYING A MIXTURE OF STABILIZING EMULSION, SEED, FERTILIZER, AND WOOD FIBER TO DISTURBED SOIL USING HYDRO-MULCH EQUIPMENT. HYDROSEEDING STABILIZES DISTURBED SOIL AREAS, REDUCES EROSION, AND PROVIDES DUST CONTROL. BY DISSIPATING THE ENERGY OF RAIN, INCREASING INFILTRATION, AND TRAPPING SEDIMENT. HYDROSEEDING CAN BE APPLIED AS A STAND ALONE BMP OR IN CONJUNCTION WITH OTHER ALTERNATIVE SOIL STABILIZATION BMP'S. HYDROSEEDING CAN BE APPLIED IN THE FOLLOWING WAYS:

- STAND ALONE
- HYDRAULIC MULCH
- SOIL BINDER
- STRAW MULCH

LIMITATIONS OF HYDROSEEDING

CATEGORY	LIMITATION
SELECTION	- THE EFFECTIVENESS OF HYDROSEEDING CAN BE LIMITED BY THE INCREASED POTENTIAL OF EROSION DURING THE PERIOD OF VEGETATION ESTABLISHMENT. - HYDROSEEDING SHALL NOT TO BE USED IN AREAS IN WHICH THE MULCH WOULD BE CONSIDERED UNSUITABLE, OR WITH IMMEDIATE FUTURE EARTHWORK AND WOULD, THEREFORE, NEED TO BE REMOVED OR REAPPLIED. - SOME REGIONS MAY HAVE A LIMITED GROWING SEASON DUE TO THE COLD CLIMATE. PROPER ESTABLISHMENT OF VEGETATION MUST BE COORDINATED WITH THE CLIMATIC CONDITIONS OR SEASONAL VARIATIONS OF THE REGION. - SOME METHODS OF APPLICATION MAY REQUIRE MULTIPLE APPLICATIONS (PASSES). PROCEDURES THAT REQUIRE MULTIPLE APPLICATIONS CAN ADD TO THE COST. - IT CAN BE DIFFICULT TO ESTABLISH VEGETATION ON STEEP SLOPES AND ARID CLIMATES. SOME SOIL TYPES (E.G. COARSE SANDY INFERTILE SOILS ON CUT SLOPES) ARE ALSO DIFFICULT TO VEGETATE. - STABLE SOIL TEMPERATURE AND MOISTURE CONTENT DURING THE PERIOD OF GERMINATION IS ESSENTIAL FOR THE ESTABLISHMENT OF VEGETATION - VEGETATION MAY NOT BE ESTABLISHED PROPERLY WITHOUT INCLUDING SUPPLEMENTAL IRRIGATION, WHICH CAN ADD SIGNIFICANTLY TO THE COST. - AVOID OVERSPRAY ONTO EXISTING VEGETATION, SIDEWALKS, TRAVELWAYS, SOUND WALLS, AND CHANNELS. - WALKING, MOVING EQUIPMENT, AND/OR VEHICULAR TRAFFIC ACROSS AREAS WHERE HYDROSEED HAS BEEN APPLIED WILL DAMAGE THE BMP BY TRAMPLING/DESTROYING THE SEED OR THE NEW GROWTH. - HYDROSEEDING SHALL NOT BE USED IN AREAS CONTAINING SWIFT-MOVING CONCENTRATED FLOW OR HIGH-VOLUME SHEET FLOW BECAUSE IT HAS A TENDENCY TO BE WASHED AWAY, UNLESS USED IN CONJUNCTION WITH A BMP THAT CAN WITHSTAND CONCENTRATED FLOWS. - WHEN NECESSARY, USE WITH OTHER SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S TO REDUCE THE SLOPE LENGTHS AND LIMIT RUN-ON FLOWS TO THE AREAS WHERE THE HYDROSEED IS APPLIED.
INSTALLATION	- HYDROSEEDING IS NOT AN IMMEDIATE METHOD OF SOIL STABILIZATION. - TEMPORARY VEGETATION IS NOT RECOMMENDED FOR SHORT DURATIONS. - REAPPLICATION OF HYDROSEEDING MAY BE NECESSARY TO EFFECTIVELY STABILIZE THE SOIL THROUGHOUT THE SEASON. - IF NOT PROPERLY MAINTAINED (E.G., MOVED OR WATERED), ESTABLISHED GRASSES CAN BECOME A FIRE HAZARD. - TEMPORARY VEGETATION MAY HAVE TO BE REMOVED BEFORE PERMANENT VEGETATION CAN BE ESTABLISHED.
FLOW CONDITIONS	- HYDROSEEDING SHALL NOT BE USED IN AREAS CONTAINING SWIFT-MOVING CONCENTRATED FLOW OR HIGH-VOLUME SHEET FLOW BECAUSE IT HAS A TENDENCY TO BE WASHED AWAY, UNLESS USED IN CONJUNCTION WITH A BMP THAT CAN WITHSTAND CONCENTRATED FLOWS. - WHEN NECESSARY, USE WITH OTHER SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S TO REDUCE THE SLOPE LENGTHS AND LIMIT RUN-ON FLOWS TO THE AREAS WHERE THE HYDROSEED IS APPLIED.
TIME UNTIL EFFECTIVE	- HYDROSEEDING IS NOT AN IMMEDIATE METHOD OF SOIL STABILIZATION.
DURATION OF NEED	- TEMPORARY VEGETATION IS NOT RECOMMENDED FOR SHORT DURATIONS.
MAINTENANCE	- REAPPLICATION OF HYDROSEEDING MAY BE NECESSARY TO EFFECTIVELY STABILIZE THE SOIL THROUGHOUT THE SEASON. - IF NOT PROPERLY MAINTAINED (E.G., MOVED OR WATERED), ESTABLISHED GRASSES CAN BECOME A FIRE HAZARD. - TEMPORARY VEGETATION MAY HAVE TO BE REMOVED BEFORE PERMANENT VEGETATION CAN BE ESTABLISHED.

STANDARDS AND SPECIFICATIONS:

THE SELECTION OF HYDROSEEDING MATERIALS MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CITY OF EL PASO AND SHALL COMPLY WITH STANDARD MANUFACTURER'S SPECIFICATIONS, AND ANY SPECIAL PROVISIONS OF THE PROJECT. THE SELECTION OF A SEED MIXTURE MUST BE APPROVED BY THE PROJECT ENGINEER AND THE CITY OF EL PASO AND SHALL COMPLY WITH STANDARD MANUFACTURER'S SPECIFICATIONS, AND ANY SPECIAL PROVISIONS OF THE PROJECT. TO SELECT THE APPROPRIATE HYDROSEEDING MIXTURES, AN EVALUATION OF THE SOIL CONDITIONS, SITE TOPOGRAPHY, SEASON/CLIMATE, ADJACENT ENVIRONMENTALLY SENSITIVE AREAS, WATER AVAILABILITY, MAINTENANCE NEEDS, AND PLANS FOR PERMANENT VEGETATION IS REQUIRED.

ALL SEEDS INCORPORATED IN THE HYDROSEED MIXTURE SHALL COMPLY WITH THE COUNTY OF EL PASO. EACH SEED BAG SHALL BE DELIVERED TO THE SITE SEALED AND CLEARLY MARKED AS TO SPECIES, PURITY, PERCENT GERMINATION, DEALER'S GUARANTEE, AND DATES OF TEST. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER WITH SUCH DOCUMENTATION. THE CONTAINER SHALL BE LABELED TO CLEARLY REFLECT THE AMOUNT OF PURE LIVE SEED CONTAINED. ALL LEGUME SEED SHALL BE PELLET-INOCULATED.

INOCULANT SOURCES SHALL BE SPECIES-SPECIFIED AND SHALL BE APPLIED AT A RATE OF 2 KILOGRAMS OF INOCULANT PER 100 KILOGRAMS OF SEED (2 POUNDS INOCULANT PER 100 POUNDS OF SEED).

PRIOR TO APPLICATION OF THE HYDROSEED, THE SOIL SURFACE MUST BE PREPARED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALSO, ROUGHEN THE SOIL SURFACE WITH FURROWS THAT TREND ALONG THE CONTOURS. ROUGHENING CAN BE DONE BY RIPPING OR SHEEPSFOOT ROLLING. TRACK WALKING IS AN ALTERNATIVE METHOD OF ROUGHENING, BUT SHOULD ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.

HYDROSEEDING CAN BE ACCOMPLISHED USING A ONE-STEP OR MULTIPLE-STEP PROCESS; REFER TO THE SPECIAL PROVISIONS FOR THE SPECIFIED PROCESS. WHEN THE ONE-STEP PROCESS IS USED TO APPLY THE MIXTURE OF FIBER, SEED, ETC., THE SEED RATE SHALL BE INCREASED TO ENSURE THAT ALL SEEDS HAVE DIRECT CONTACT WITH THE SOIL. THE MULTIPLE-STEP PROCESS ENSURES MAXIMUM DIRECT CONTACT OF THE SEEDS TO SOIL.

APPLY A HYDRAULIC MULCH, STRAW MULCH, OR WOOD MULCH ON TOP OF THE HYDROSEEDED AREA (IF NECESSARY) TO KEEP SEEDS IN PLACE AND TO MODERATE SOIL MOISTURE AND TEMPERATURE UNTIL THE SEEDS GERMINATE AND GROW. SEE MANUFACTURER'S RECOMMENDATIONS FOR FURTHER INFORMATION.

RE-SEED, FERTILIZE, MULCH, AND WATER DURING THE PLANTING SEASON, USING NOT LESS THAN HALF THE ORIGINAL APPLICATION RATES OR AS NEEDED TO MAINTAIN COVERAGE AND ENCOURAGE THE ESTABLISHMENT OF VEGETATION.

IF APPLICABLE, REFER TO SPECIAL PROVISIONS OF THE PROJECT OR THE MANUFACTURER'S SPECIFICATIONS FOR EXACT APPLICATION RATES AND DRYING TIMES OF STABILIZING EMULSIONS USED IN CONJUNCTION WITH THE HYDROSEED.

HYDROSEEDING

DESCRIPTION

SOIL BINDERS ARE STABILIZING EMULSIONS APPLIED DIRECTLY TO THE SURFACE OF DISTURBED SOIL AREAS OR USED AS THE STABILIZING EMULSION IN HYDRAULIC MULCH, HYDROSEEDING, AND/OR ON STRAW MULCH. SOIL BINDERS APPLIED DIRECTLY TO THE SURFACE TEMPORARILY REDUCE EROSION CAUSED BY WATER AND WIND BY PENETRATING THE TOP SOIL AND BINDING THE SOIL PARTICLES TOGETHER. SOIL BINDERS USED AS STABILIZING EMULSIONS IN HYDRAULIC AND STRAW MULCHES ACT AS THE BINDING AGENT FOR THE MULCH. DEPENDING ON THE CHOICE, SOIL BINDERS CAN BE EFFECTIVE FOR PERIODS OF 3 MONTHS TO 2 YEARS. SOIL BINDERS ARE CATEGORIZED AS:

- SHORT-LIVED PLANT-BASED MATERIALS
- LONG-LIVED PLANT-BASED MATERIALS
- POLYMERIC EMULSION BLENDS (ACRYLIC POLYMERS)
- CEMENTITIOUS-BASED BINDERS

TACKIFIERS ARE LESS DURABLE STABILIZING EMULSIONS. TACKIFIERS ARE APPLIED TO THE SOIL SURFACE OR USED AS THE STABILIZING EMULSION IN HYDRAULIC AND STRAW MULCHES FOR DISTURBED SOIL AREAS THAT REQUIRE SHORT TERM STABILIZATION. SHORT-LIVED PLANT-BASED MATERIALS AND HIGHLY DILUTED POLYMERIC EMULSIONS AND CEMENTITIOUS BINDERS ARE TACKIFIERS.

THE MORE DURABLE STABILIZING EMULSIONS ARE HEAVY DUTY SOIL BINDERS. HEAVY DUTY SOIL BINDERS ARE APPLIED DIRECTLY TO THE SOIL SURFACE OR USED AS THE STABILIZING EMULSION IN HYDRAULIC AND STRAW MULCHES FOR DISTURBED SOIL AREAS THAT REQUIRE LONG TERM STABILIZATION. LONG-LIVED PLANT-BASED MATERIALS AND LESS DILUTED POLYMERIC EMULSIONS AND CEMENTITIOUS BINDERS ARE HEAVY DUTY SOIL BINDERS.

LIMITATIONS OF SOIL BINDERS

CATEGORY	LIMITATION
SELECTION	- THE CONSTITUENTS OF SOME SOIL BINDERS HAVE THE POTENTIAL TO LEACH OUT OF THE SOIL AND/OR BECOME SLIPPERY DURING RAINY CONDITIONS. - SOME SOIL BINDERS REQUIRE THAT STORM WATER SAMPLING BE PERFORMED TO DETERMINE IF THE WATER FLOWING OVER OR LEACHING OUT OF THE SOIL BINDER IS CONTAMINATED. - SOIL BINDERS MAY NOT BE COMPATIBLE WITH CERTAIN SOILS. (E.G. SOILS PRIMARILY CONSISTING OF SILT OF CLAY OR HIGHLY COMPACTED SOILS MAY NOT ALLOW THE SOIL BINDER TO PENETRATE THE TOP SOIL.) - SOIL CHEMISTRY CAN LIMIT HOW EFFECTIVE A SOIL BINDER MAY PERFORM. - DO NOT APPLY TO AREAS WHERE THE BINDER WOULD BE CONSIDERED UNSUITABLE, OR WITH IMMEDIATE FUTURE EARTHWORK AND WOULD NEED TO BE REMOVED OR REAPPLIED. - THE SITE MUST BE ACCESSIBLE TO EQUIPMENT NEEDED TO APPLY SOIL BINDERS.
INSTALLATION	- LOW RELATIVE HUMIDITY CAN ADVERSELY AFFECT THE SOIL BINDERS. - SOIL BINDERS CANNOT BE APPLIED WHEN THE TEMPERATURE IS BELOW 4 DEGREES CELSIUS (40 DEGREES FAHRENHEIT), IN AREAS WHERE SOIL IS FROZEN, OR WHEN THE SITE EXPERIENCES FREEZE AND THAW CONDITIONS. - THE NUMBER AND FREQUENCY OF APPLICATIONS MAY BE AFFECTED BY THE SURFACE AND SUBGRADE TYPE AND CONDITIONS, ATMOSPHERIC CONDITIONS, AND SCHEDULED MAINTENANCE. - WALKING, MOVING EQUIPMENT, AND/OR VEHICULAR TRAFFIC ACROSS AREAS WHERE A SOIL BINDER IS APPLIED WILL DAMAGE THE BMP BY BREAKING THE BONDS OF THE TREATED TOP SOIL. - CARE MUST BE TAKEN NOT TO OVERSPRAY SOIL BINDERS ONTO EXISTING VEGETATION, SIDEWALKS, TRAVEL WAYS, SOUND WALLS, AND CHANNELS.
FLOW CONDITIONS	- SOIL BINDERS SHALL NOT BE USED IN AREAS CONTAINING SWIFT-MOVING CONCENTRATED FLOW OR HIGH-VOLUME SHEET FLOW BECAUSE IT HAS A TENDENCY TO BE WASHED AWAY. - WHEN NECESSARY, USE WITH OTHER SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S IN ORDER TO REDUCE THE SLOPE LENGTHS AND LIMIT RUN-ON FLOWS TO AREAS WHERE THE SOIL BINDER IS APPLIED.
TIME UNTIL EFFECTIVE	- SOIL BINDERS HAVE MINIMUM DRYING TIMES, THEREFORE, SOIL BINDERS CANNOT BE APPLIED IMMEDIATELY BEFORE RAINFALL, DURING RAINFALL, AND/OR WHERE STANDING WATER IS PRESENT.
DURATION OF NEED	- SOME SOIL BINDERS ARE A SHORT TERM SOIL STABILIZATION PRACTICE IN THAT THEY GENERALLY LAST THROUGH ONLY A PORTION OF THE GROWING/RAINY SEASON.
MAINTENANCE	- REAPPLICATION OF SOIL BINDERS MAY BE NECESSARY TO EFFECTIVELY STABILIZE THE SOIL THROUGHOUT THE SEASON. - RUNOFF CAN PENETRATE A SOIL BINDER TREATED AREA AT THE TOP OF THE SLOPE, UNDERCUT THE TREATED SOIL AND CAUSE SPOT FAILURES BY DISCHARGING AT A POINT FURTHER DOWN THE SLOPE.

STANDARDS AND SPECIFICATIONS:

THE CONTRACTOR'S SOIL BINDER SELECTION MUST BE APPROVED BY THE PROJECT ENGINEER OR THE CITY ENGINEER.

CONSIDER WHERE THE SOIL BINDER WILL BE APPLIED WHEN DETERMINING IF IT NEEDS A HIGH RESISTANCE TO LEACHING OR ABRASION, AND WHETHER IT NEEDS TO BE COMPATIBLE WITH ANY EXISTING VEGETATION. DETERMINE THE LENGTH OF TIME SOIL STABILIZATION WILL BE NEEDED AND IF THE SOIL BINDER WILL BE PLACED IN AN AREA WHERE IT WILL DEGRADE RAPIDLY. IN GENERAL, SLOPE STEEPNESS IS NOT A LIMITING FACTOR FOR SOIL BINDERS, BUT A HIGHER APPLICATION RATE MAY BE REQUIRED FOR STEEPER SLOPES. SITE-SPECIFIC SOIL TYPES WILL DICTATE THE APPROPRIATE SOIL BINDERS TO BE USED.

FINES AND MOISTURE CONTENT ARE KEY PROPERTIES OF SURFACE MATERIALS. CONSIDER A SOIL BINDER'S ABILITY TO PENETRATE, LIKELIHOOD OF LEACHING, AND ABILITY TO FORM A SURFACE CRUST ON THE SURFACE MATERIALS.

THE FREQUENCY OF APPLICATION CAN BE AFFECTED BY SUBGRADE CONDITIONS, SURFACE TYPE, ATMOSPHERIC CONDITIONS, AND MAINTENANCE SCHEDULE. FREQUENT APPLICATIONS AND INCREASED APPLICATION RATES COULD LEAD TO HIGH COSTS. APPLICATION FREQUENCY MAY BE MINIMIZED IF THE SOIL BINDER HAS GOOD PENETRATION, LOW EVAPORATION, AND GOOD LONGEVITY. CONSIDER ALSO THAT FREQUENT APPLICATION WILL REQUIRE FREQUENT EQUIPMENT CLEANUP.

A SOIL BINDER MUST BE ENVIRONMENTALLY BENIGN (NON-TOXIC TO PLANT AND ANIMAL LIFE), EASY TO APPLY, EASY TO MAINTAIN, ECONOMIC, AND MUST NOT STAIN PAVED OR PAINTED SURFACES. SOME SOIL BINDERS ARE COMPATIBLE WITH EXISTING VEGETATION. PERFORMANCE OF SOIL BINDERS DEPENDS ON TEMPERATURE, HUMIDITY, AND TRAFFIC ACROSS TREATED AREAS.

SOME SOIL BINDERS ARE COMPATIBLE WITH EXISTING VEGETATION. PERFORMANCE OF SOIL BINDERS DEPENDS ON TEMPERATURE, HUMIDITY, AND TRAFFIC ACROSS TREATED AREAS.

PRIOR TO THE APPLICATION OF THE SOIL BINDER, THE SOIL SURFACE MUST BE PREPARED. ALSO, ROUGHEN THE SOIL SURFACE WITH FURROWS THAT TREND ALONG CONTOURS. ROUGHENING CAN BE DONE BY RIPPING OR SHEEPSFOOT ROLLING. TRACK WALKING IS AN ALTERNATIVE METHOD OF ROUGHENING, BUT SHOULD ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.

REFER TO SPECIAL PROVISIONS OF THE PROJECT OR THE MANUFACTURER'S SPECIFICATIONS FOR APPLICATION RATES, PRE-WETTING NEEDS, EQUIPMENT CLEANING REQUIREMENTS, AND CURING TIMES (GENERALLY 24 HOURS) OF SOIL BINDERS.

CARE MUST BE TAKEN NOT TO OVERSPRAY SOIL BINDERS ONTO EXISTING VEGETATION, SIDEWALKS, TRAVEL WAYS, SOUND WALLS, AND ANY DRAINAGE CHANNELS.

DEPENDING ON THE APPLICATION RATE AND DILUTION RATE, SOIL BINDERS CAN BE COMBINED WITH HYDROSEEDING. A MIXTURE OF SOIL BINDER, WATER, SEEDS, FERTILIZER, AND/OR STRAW OR WOOD MULCH CAN BE SPAYED OVER AN AREA OF DISTURBED SOIL TO PROMOTE PLANT GROWTH BY PROVIDING PROTECTION AND WARMTH FOR THE SEEDS.

SOIL BINDERS SHALL NOT BE APPLIED IMMEDIATELY BEFORE OR DURING A RAIN EVENT OR WHERE STANDING WATER IS PRESENT.

SOIL BINDERS

STRAW MULCH

DESCRIPTION

STRAW MULCH CONSISTS OF AN APPLIED UNIFORM LAYER OF STRAW OVER A DISTURBED SOIL AREA TO TEMPORARILY STABILIZE THE SOIL AND REDUCE EROSION CAUSED BY WIND AND WATER. STRAW MULCH IS APPLIED BY HAND (MANUAL LABOR) OR BY MECHANICAL MEANS (STRAW BLOWER). METHODS OF SECURING STRAW TO THE SOIL INCLUDE:

- INTEGRATING INTO THE SOIL BY CRIMPING OR PUNCHING
- STABILIZING EMULSION
- ROLLED EROSION CONTROL PRODUCT

LIMITATIONS OF STRAW MULCH

CATEGORY	LIMITATION
SELECTION	- DUE TO HIGH DEMAND PRIOR TO THE RAINY SEASON, SUPPLIES OF STRAW AND/OR AVAILABLE EROSION CONTROL CONTRACTORS MAY BE LIMITED. THIS CAN IN TURN INCREASE THE COST OF INSTALLATION AND/OR RESTRICT THE ABILITY TO INSTALL STRAW MULCH IN A TIMELY MANNER. - STRAW MULCH SHALL NOT BE USED IN AREAS IN WHICH THE MULCH WOULD BE CONSIDERED UNSUITABLE, OR WITH IMMEDIATE FUTURE EARTHWORK AND WOULD, THEREFORE, NEED TO BE REMOVED OR REAPPLIED.
INSTALLATION	- INSTALLING STRAW MULCH MANUALLY CAN BE PHYSICALLY CHALLENGING AND TIME INTENSIVE. THESE FACTORS DECREASE THE ABILITY TO EASILY DISPERSE STRAW MULCH OVER LARGE AREAS AND LIMIT THE AMOUNT OF SURFACE AREA THAT CAN BE COVERED IN A TIMELY, COST EFFECTIVE MANNER. - DUE TO EQUIPMENT LIMITATIONS, INSTALLING STRAW MULCH WITH A STRAW BLOWER REQUIRES THAT THE DISTURBED SOIL AREA BE WITHIN FORTY-FIVE METERS (150 FEET) WITH A HOSE ATTACHMENT NINETY METERS (300 FEET) OF A SURFACE OR ROAD HAVING THE ABILITY TO SUPPORT HEAVY EQUIPMENT. - IF NOT ANCHORED CORRECTLY TO THE SOIL, STRAW MULCH CAN BE BLOWN OFF BY WIND OR WASHED AWAY FROM THE DISTURBED SOIL AREAS ONTO STREETS, ENVIRONMENTALLY SENSITIVE AREAS, AND/OR INTO STORM DRAINS. - CARE MUST BE TAKEN NOT TO OVERSPRAY STRAW MULCH ONTO EXISTING VEGETATION, SIDEWALKS, TRAVEL WAYS, AND CHANNELS. - WALKING, MOVING EQUIPMENT, AND/OR VEHICULAR TRAFFIC ACROSS AREAS WHERE STRAW MULCH IS APPLIED CAN DAMAGE THE BMP BY BREAKING THE BOND BETWEEN THE SOIL AND STRAW AND IF USED AS A STABILIZING EMULSION, IN TURN EXPOSING THE UNDERLYING SOIL TO WIND AND WATER.
FLOW CONDITIONS	- STRAW MULCH SHALL NOT BE USED IN AREAS CONTAINING SWIFT-MOVING CONCENTRATED FLOWS OR HIGH-VOLUME SHEET FLOW BECAUSE IT HAS A TENDENCY TO BE WASHED AWAY. - WHEN NECESSARY, USE WITH OTHER SOIL STABILIZATION AND SEDIMENT CONTROL BMP'S TO REDUCE THE SLOPE LENGTHS AND LIMIT RUN-ON FLOWS TO THE AREAS WHERE THE STRAW MULCH IS APPLIED.
TIME UNTIL EFFECTIVE	- IF USED IN CONJUNCTION WITH SOIL BINDERS IT WILL HAVE A MINIMUM DRYING TIME. IN THIS SITUATION, IT WOULD NOT BE APPLIED IMMEDIATELY BEFORE RAINFALL, DURING RAINFALL, AND/OR WHERE STANDING WATER IS PRESENT.
DURATION OF NEED	- STRAW MULCH BIODEGRADES OVER TIME AND WILL THEREFORE LAST FOR A MODERATE LENGTH OF TIME.
MAINTENANCE	- REAPPLICATION OF STRAW MULCH MAY BE NECESSARY TO EFFECTIVELY STABILIZE THE SOIL THROUGHOUT THE SEASON.

STANDARDS AND SPECIFICATIONS:

THE CONTRACTOR'S STRAW MULCH SELECTION MUST BE APPROVED BY THE PROJECT ENGINEER OR THE CITY ENGINEER. THE STRAW MULCH MUST BE DERIVED FROM BARLEY, RICE, OR WHEAT.

PRIOR TO THE APPLICATION OF STRAW MULCH, THE SOIL SURFACE MUST BE PREPARED IN ACCORDANCE WITH STANDARD MANUFACTURER'S SPECIFICATIONS. ALSO, IF A STABILIZING EMULSION WILL BE USED IN LIEU OF INCORPORATION, ROUGHEN THE SOIL SURFACES WITH FURROWS THAT TREND ALONG THE CONTOURS. ROUGHENING CAN BE DONE BY RIPPING OR SHEEPSFOOT ROLLING. TRACK WALKING IS AN ALTERNATIVE METHOD OF ROUGHENING, BUT SHOULD ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.

APPLYING AND/OR INCORPORATING STRAW MULCH SHALL FOLLOW STANDARD MANUFACTURER'S SPECIFICATIONS. APPLYING A STABILIZING EMULSION SHALL FOLLOW STANDARD MANUFACTURER'S SPECIFICATIONS.

WHEN STRAW MULCH IS APPLIED TO SLOPES THAT ARE UNABLE TO SUPPORT CONSTRUCTION EQUIPMENT, THE METHOD OF ANCHORING PREFERRED IS A STABILIZING EMULSION. THE SELECTION OF STABILIZING EMULSION SHALL BE BASED ON THE ABILITY TO HOLD THE FIBERS IN PLACE AND THE LENGTH OF TIME THE TEMPORARY SOIL STABILIZATION WILL BE NEEDED. STRAW MULCH ANCHORED WITH A STABILIZING EMULSION SHALL NOT BE APPLIED IMMEDIATELY BEFORE OR DURING A RAIN EVENT OR ONTO STANDING WATER.

ON SLOPES STABLE ENOUGH AND OF SUFFICIENT GRADIENT TO SAFELY SUPPORT CONSTRUCTION EQUIPMENT WITHOUT CONTRIBUTING TO COMPACTION AND INSTABILITY PROBLEMS, STRAW CAN BE PUNCHED INTO THE GROUND USING A KNIFE-BLADE ROLLER OR A STRAIGHT BLADED COULTER, OR CRIMPER.

ON SMALL AREAS AND/OR STEEP SLOPES, STRAW CAN ALSO BE HELD IN PLACE USING PLASTIC NETTING OR JUTE. THE NETTING SHALL BE HELD IN PLACE USING 11-GAUGE WIRE STAPLES, GEOTEXTILE PINS OR WOODEN STAKES. REFER TO BMP SS-7, GEOTEXTILES, PLASTIC COVERS, EROSION CONTROL BLANKETS, AND MATS FOR DETAILS ABOUT THESE OPTIONS. REFER TO SPECIAL PROVISIONS OF THE PROJECT OR THE MANUFACTURER'S SPECIFICATIONS FOR MORE DETAILS ABOUT ROLLED EROSION CONTROL PRODUCTS USED IN CONJUNCTION WITH THE STRAW MULCH.

CARE SHOULD BE TAKEN WHEN APPLYING STRAW MULCH NOT TO PLACE OR OVERSPRAY THE STRAW ONTO ENVIRONMENTALLY SENSITIVE AREAS, EXISTING VEGETATION, SIDEWALKS, TRAVEL WAYS, AND DRAINAGE CHANNELS.

APPLICATION RATE:

THE APPLICATION RATE FOR STRAW MULCH IS CONSTANT. THIS RATE WILL APPLY AN AVERAGE DEPTH OF 25.4 TO 38.1 MILLIMETERS (1.0 TO 1.5 INCHES) OF STRAW MULCH AS LONG AS IT IS EVENLY DISTRIBUTED OVER THE DISTURBED SOIL AREA.

IF USED IN CONJUNCTION WITH A STABILIZING EMULSION, REFER TO SPECIAL PROVISIONS OF THE PROJECT OR THE MANUFACTURER'S SPECIFICATIONS FOR APPLICATION RATES AND DRYING TIMES.

REFERENCES - BENCHMARKS	BENCHMARK IS CITY MONUMENT AT P.L. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4076.77)
DATE	REVISIONS
BY	

ENGINEERS SEAL

BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

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BOULDER CANYON REPLAT A SUBDIVISION IMPROVEMENTS

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APPROVED

2-1-14

SCALE 1"=40'	Horizontal: N/A
Vertical: N/A	Contour Interval: N/A
DATE: NOVEMBER 2013	DESIGN BY: J.A.
DRAWN BY: J.A.	CHECKED BY: J.A.
APP'D. BY: J.L.A.	J.L.A.
JOB NO.: 2000-026D	

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CARE SHOULD BE TAKEN WHEN APPLYING STRAW MULCH NOT TO PLACE OR OVERSPRAY THE STRAW ONTO ENVIRONMENTALLY SENSITIVE AREAS, EXISTING VEGETATION, SIDEWALKS, TRAVEL WAYS, AND DRAINAGE CHANNELS.

BOULDER CANYON ESTATES LANDSCAPE PLANS

WESTWIND DRIVE * EL PASO * TEXAS

LANDSCAPE & IRRIGATION GENERAL NOTES

GENERAL NOTES

- CONTRACTOR SHALL BE FAMILIAR WITH PLANS, DETAILS AND SPECIFICATIONS AS THEY PERTAIN TO THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IF ANY ITEMS CONTAINED WITHIN THE SCOPE OF WORK DEFINED HEREIN, ARE IN CONFLICT WITH PROPOSED CONTRACT.
- EXISTING UTILITY LINES ARE TO BE BLUE STAKED PRIOR TO EXCAVATION, CHECK AND FIELD VERIFY ALL SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO EXCAVATION. CALL FOR BLUE STAKING.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS.

PLANTING NOTES

GENERAL

- SCOPE: WORK COVERED IN THESE NOTES CONSISTS OF THE PLANTING OF SEEDING, TREES, SHRUBS AND GROUND COVERS, GRADING AND MULCHING, INCLUDING THE FURNISHING OF ALL LABOR, EQUIPMENT, MATERIALS AND PERFORMING ALL WORK IN CONNECTION WITH THE DRAWINGS AND SPECIFICATIONS.

PROTECTION

- PROTECTION OF PERSONS AND PROPERTY: CONTRACTOR IS TO BARRICADE OPEN EXCAVATIONS OCCURRING AS PART OF THIS WORK AND POST WITH WARNING LIGHTS OR OTHER WARNING MEASURES AS NECESSARY. PROTECTION OF EXISTING SHRUBS, TREES AND OTHER PLANT MATERIALS ARE ALSO TO BE INCLUDED.
- PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY EARTHWORK OPERATIONS. ALL DAMAGES THAT MAY OCCUR DURING THIS PHASE OF WORK SHALL BE THE CONTRACTOR'S FINANCIAL RESPONSIBILITY.

GRADING

- PERFORM GRADING AND EXCAVATION WORK IN COMPLIANCE WITH APPLICABLE SPECIFICATIONS, REQUIREMENTS, CODES AND ORDINANCES OF ALL GOVERNING BODIES HAVING JURISDICTION.

- FINE GRADING: SURFACE SHALL BE RAKED FREE OF STONES AND EXTRANEUS MATERIALS AND DEBRIS TO A SMOOTH AND EVEN TEXTURE. ALL EXTRANEUS MATTER WILL BE DISPOSED OF BY CONTRACTOR.

PLANTINGS

- PLANT MATERIAL SUBSTITUTIONS SHALL NOT BE MADE WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT. THE USE OF MATERIALS DIFFERING IN KIND, QUALITY OR SIZE FROM THAT SPECIFIED WILL BE ALLOWED ONLY AFTER THE LANDSCAPE ARCHITECT IS CONVINCED THAT ALL MEANS OF OBTAINING THE SPECIFIED MATERIAL HAVE BEEN EXHAUSTED. AT THE TIME BIDS ARE SUBMITTED, THE CONTRACTOR IS ASSUMED TO HAVE LOCATED THE MATERIALS NECESSARY TO COMPLETE THE JOB AS SPECIFIED. ALL REQUESTS FOR SUBSTITUTIONS MUST BE SUBMITTED NO LATER THAN 2 WEEKS PRIOR TO THE INITIATION OF WORK.
- PLANT MATERIAL QUALITY, SIZE AND CONDITION SHALL BE IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK, 1980 EDITION. AS PUBLISHED BY THE COMMITTEE ON HORTICULTURAL STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
- ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. ALL PLANTS SHALL HAVE NORMAL, WELL DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISFIGURING KNOTS, ABRASIONS OF THE BARK, UNSCALED INJURIES, PLANT DISEASES, INSECT EGGS, BORES AND ALL OTHER FORMS OF INFECTIONS.

- UNLESS OTHERWISE STATED ON THE DRAWINGS OR APPROVED BY OWNER'S REPRESENTATIVE, ALL PLANTS SHALL BE NURSERY GROWN AND SHALL BE TAGGED WITH NURSERY LABELS INDICATING SPECIES AND VARIETY.
- NONCONTAINER GROWN PLANTS SHALL HAVE A SOLID BALL OF EARTH OF MINIMUM SPECIFIED SIZE AND HELD IN PLACE SECURELY BY BURLAP AND A STOUT TWINE OR ROPE. BROKEN OR LOOSE BALLS WILL BE REJECTED.
- UNLESS SPECIFICALLY NOTED ON THE DRAWING, ALL TREES SHALL HAVE A SINGLE TRUNK THAT IS STRAIGHT AND FREE OF 'DOG-LEGS', 'CROOKS', 'Y-CROTCHES', OR OTHER DISFIGURING SHAPES. THE CENTRAL LEADER OF ALL TREES SHALL NOT HAVE BEEN PRUNED. TREES WITH DOUBLE LEADERS ARE NOT ACCEPTABLE, UNLESS SPECIFIED AS MULTI-TRUNKED.
- ALL PLANT MATERIAL SHALL HAVE A UNIFORM SHAPE AROUND ITS COMPLETE CIRCUMFERENCE. PLANT MATERIAL WITH IRREGULAR BRANCHING PATTERNS OR WITH BRANCHING PATTERNS MORE HIGHLY DEVELOPED ON ONE SIDE THAN ON OTHER SIDES SHALL NOT BE ACCEPTABLE.

JOB SITE

- THE LANDSCAPE ARCHITECT WILL INSPECT PLANT MATERIAL AT A WHOLESALE NURSERY OF THE CONTRACTOR'S CHOICE PRIOR TO DELIVERY OF MATERIALS TO THE CONTRACTOR'S YARD. HOWEVER, AT NO ADDITIONAL EXPENSE TO THE OWNER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAVEL EXPENSES INCURRED BY THE OWNER'S REPRESENTATIVE FOR ANY TRAVEL OUTSIDE OF THE LOCAL AREA.

- THE CONTRACTOR SHALL BE LIABLE FOR ANY LOSS OR DAMAGE TO ANY WORK OR MATERIALS, SUPPLIES AND EQUIPMENT ON THE JOB SITE CAUSED BY THE CONTRACTOR, ITS EMPLOYEES OR ANY PROJECT WITH THE OWNER'S REPRESENTATIVE/OWNER.

- LANDSCAPE ARCHITECT AND PARKS STAFF SHALL BE THE JUDGE OF THE QUALITY AND ACCEPTABILITY OF ALL PLANT MATERIALS. ALL REJECTED MATERIAL SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND REPLACED WITH ACCEPTABLE MATERIAL AT NO ADDITIONAL COST TO OWNER.

MULCHING

- ALL PLANTING BEDS SHOWN ON PLANS SHALL BE MULCHED. NO BEDS WILL BE LEFT UNCOVERED OR NOT TOP DRESSED, UNLESS OTHERWISE SPECIFIED.

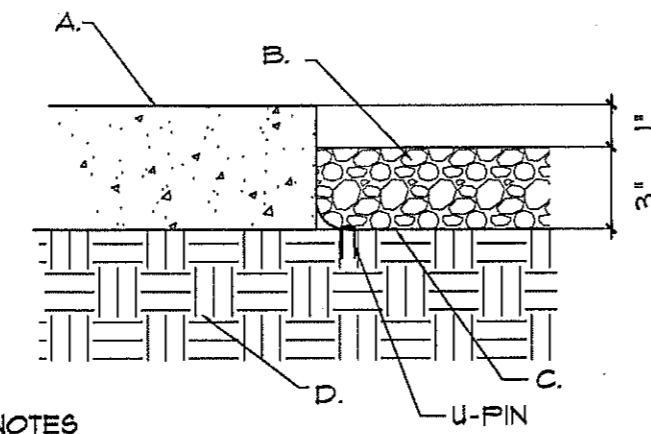
CARE AND REPLACEMENT

- ALL TREES, SHRUBS AND GROUND COVERS SHALL BE GUARANTEED FOR THE PERIOD OF ONE FULL YEAR BEGINNING ON THE DATE OF FINAL ACCEPTANCE.

SEEDING NOTES

GENERAL

- ALL AREAS DISTURBED OR DENUDED OF VEGETATION SHALL BE RESEEDED WITH THE SEED MIX OR SOD AS DESCRIBED IN THE PLANS AND SPECIFICATIONS.
- ALL DISTURBED OR DENUDED AREAS BEYOND THE LIMITS OF CONSTRUCTION SHALL BE RESEEDED AS PER THE SEED MIX AND AS PER THE LANDSCAPE ARCHITECT'S DIRECTION.
- ALL RECLAMATION SEEDING OUTSIDE THE LIMITS OF CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO CONTRACT.



GENERAL NOTES

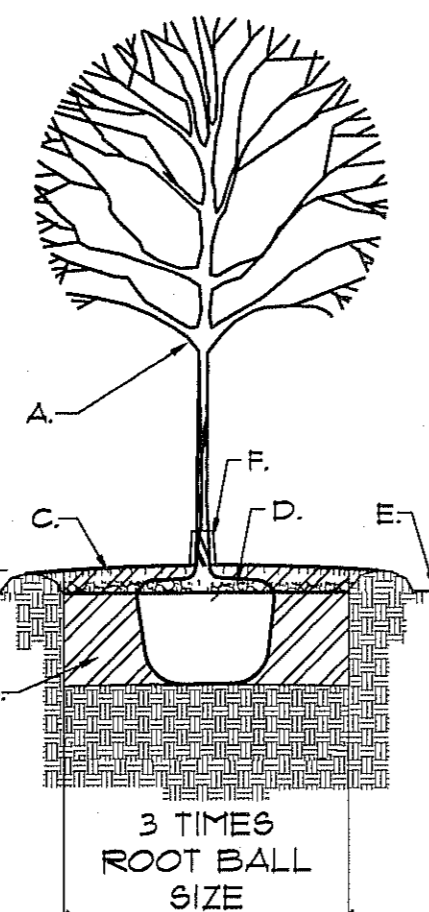
- ALL GRAVEL MULCH FINISHED GRADES TO BE 1" BELOW CONCRETE EDGES.

CONSTRUCTION NOTES

- CONCRETE SIDEWALK OR CURB.
- 3" GRAVEL MULCH, SEE PLAN.
- WEED BARRIER FABRIC - FIN ALONG EDGER & OVERLAPS EVERY 12" ON CENTER (10 QUITS PER 5 OR 11' FAIR 320)
- OR APPROVED EQUAL.
- EXISTING EARTH OR PLANTING MIX

1 GRVEL MULCH DETAIL

NOT TO SCALE



GENERAL NOTES:

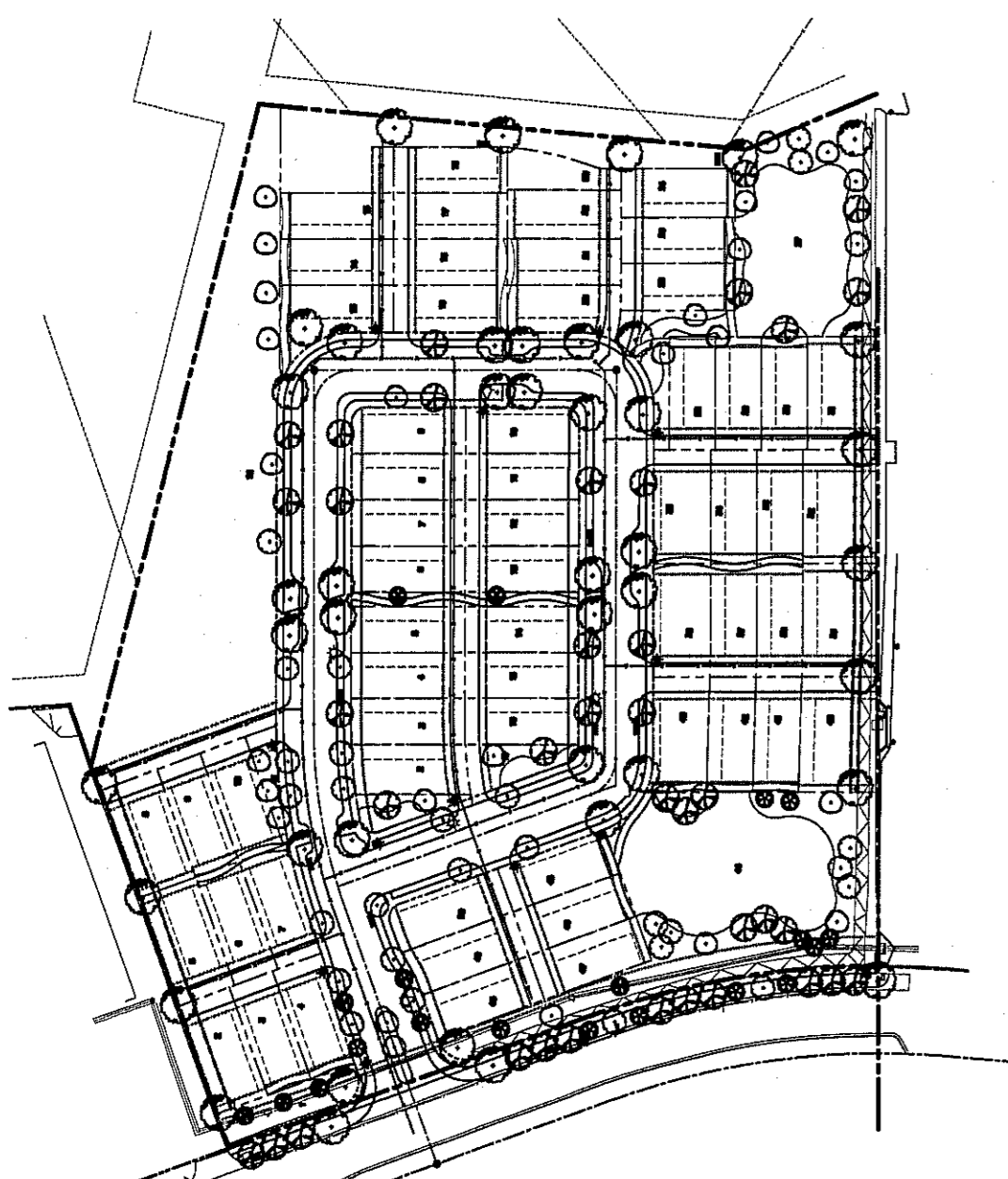
- DO NOT DISTURB EXISTING SOIL TO BE BELOW ROOT BALL.
- TOP OF ROOTBALL INDICATES LEVEL AT WHICH TREE WAS GROWN AND DUG; THIS REPRESENTS THE LEVEL AT WHICH THE TREE SHOULD BE INSTALLED; THAT LEVEL MAY NOT BE EXCEEDED BY A LAYER OF MULCH.
- PRIOR TO BACKFILLING TREE, ALL WIRE, ROPE AND SYNTHETIC MATERIALS SHALL BE REMOVED FROM THE TREE AND THE PLANTING PIT.
- PRIOR TO BACKFILLING, ALL BURLAP SHALL BE CUT AWAY AND REMOVED FROM THE ROOTBALL.

CONSTRUCTION NOTES:

- TREE
- USE NATIVE SOIL WITH AMENDMENT (SEE SPECIFICATIONS)
- WATER RETENTION BASIN
- 4" DEPTH OF BARK MULCH ON WEED CLOTH DEWITT
- 5' ROOT AND FIN @ 12" O/C ALONG THE EDGE
- FINISH GRADE
- ARBOR GUARD TRUNK GUARD

2 TREE PLANTING

NOT TO SCALE



OVERALL SITE PLAN

LANDSCAPE LEGEND

SYMBOL	COMMON NAME	BOTANICAL NAME	SIZE	QTY	HEIGHT
	DESERT WILLOW	CHILIPIS LINEARIS	2"	25	10'-12"
	HONEY MESQUITE	PROSOPIA GLANDULOSA	2"	36	10'-12"
	DESERT MARSH PALO VERDE	CERCOPHYLLUM PARADOXIA	2"	28	10'-12"
	SWEET ACACIA	ACACIA SPALLII	2" GAL.	20	10'-12"
	LIVE OAK	QUERCUS VERNAIANA	2" GAL.	43	10'-12"
	TX MOUNTAIN LAUREL	SOPHORA SECUNDIFLORA	5" GAL.	25	
	GREEN CAMELIA	CAMELIA NIPPONICA	5" GAL.	12	
	CAMELIA	GENA ANTHEMIDES	5" GAL.	46	
	BLUE RANGER	LEUCOPHYLLUM ZYGOPHYLLUM	5" GAL.	18	
	REGAL HOT GRASS	HALEBERGIA REGAL HOT	1 GAL.	156	
	DEER GRASS	HALEBERGIA REGENS	5" GAL.	109	
	RED YUCCA	HEMEROCALLIS PARVIFLORA	5" GAL.	100	
	YELLOW BELL	TICOCIA STANS	5" GAL.	24	
	PURPLE VERBENA	VERBENA TENNISSETTA	1 GAL.	110	
	NEW GOLD LANTANA	LANTANA CAMARA 'NEW GOLD'	1 GAL.	106	
	POINCAILLE	ARTEMISIA POINCAILLE	1 GAL.	41	
	MEXICAN BUSH SAGE	SALVIA LEUCANTHA	5" GAL.	16	
	CHAPARRAL SAGE	SALVIA CLEVELANDII	5" GAL.	31	
	EVERGREEN SOTOLAG	IRIDIS REPENS	5" GAL.	12	
	GREEN CLOUD SAGE	LEUCOPHYLLUM FRUIT 'GREEN CLOUD'	5" GAL.	75	
	BLACKFOOT DAISY	MELAMPYRUM LEUCANTHA	1 GAL.	25	
	TRAILING INDIANO BUSH	DALEA GREGGII	1 GAL.	26	
	NATIVE BOULDER - EXISTING ON SITE		16'-12" CL FT.	84	
	SANTA ANA BERRADA GRASS SOD			21000 SQ. FT.	
	DESERT TAN 1/2" GRAVEL TYPICAL ALL BEDS				
	NATIVE OR RECLAMATION LANDSCAPE AREA				
	PEA GRAVEL				
	LARGE COBBLE				

IRRIGATION LEGEND

SYM	ITEM	QTY
M	3/4" WATER METER	2
B	3/4" FERRO RIPP 800-100 BACKFLOW PREVENTION W/ HOTBOX ENCLOSURE (SEE ENCLOSURE MUST NOTE ASSE 1046 FOR BACKFLOW)	2
C	HANTER ACC 24 STATION CONTROLLER W/ STAINLESS STEEL PEDestal MOUNT COORDINATE LOCATION WITH OWNER	1
	18" HANTER 18V REMOTE CONTROL VALVE INSTALL ASHAD 1" F. FILTER AFTER THE VALVE ON ALL DRIP ZONES	5
	1" HANTER PCZ DRIP ZONE CONTROL KIT	5
	HANTER POP UP SPRINKLER - 30" RADIUS - RED NOZZLE 1.2 GPH	42
	HANTER PRO SPRAY POP UP ADJL SPRINKLER - 5'-8" RADIUS 1.5 TO 1.6 GPH	53
	MULTI OUTLET EMITTER - 0.8 * 1 GPH EACH	45
	3/4" QUICK COUPLER IN PURPLE VALVE BOX	3
	4" PVC SLEEVES UNDER ALL PAYING	
	1" LATERAL LINE UNLESS OTHERWISE MARKED ON PLAN CLASS 200 PVC	
	2" MAINLINE - CLASS 200 PVC	
	3/4" POLY DRIP LINE	
	DRIP EMITTERS - 2 (1 gph) PER BARB & GROUND COVER @ 13 gph PER TREE	

NOTES

- INSTALL PRESSURE REGULATOR TO SYSTEM IF FROSTING OCCURS DUE TO EXCESSIVE PRESSURE.
- LINE CLAS 200 PVC USE FOR THE 24" VIBRA SHALL BE 1/2" GA. SOLID COPPER WIRE PVC UNLATERED, IL APPROVED UNDERGROUND FIBER WIRE FOR DIRECT BURIAL IN GROUND. COMMON WIRE SHALL BE 1/2" GA. WHITE.
- NO JACKETED MULTI CONDUCTOR TYPE WIRE SHALL BE USED.
- ALL EQUIPMENT SPECIFIED MAY BE SUBSTITUTED WITH AN EQUAL APPROVED BY OWNER OR LANDSCAPE ARCHITECT.
- THIS PLAN IS SOLELY FOR READING. CONTRACTOR SHALL FIELD ADJUST EQUIPMENT LOCATIONS AS NECESSARY. FIELD VERIFY CONTROLLER AND WIRE LOCATIONS WITH LANDSCAPE ARCHITECT.
- ALL EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER SPECIFICATIONS UNLESS DETAILED OTHERWISE ON PLANS.
- ALL UTILITIES ARE TO BE BLUE STAKED PRIOR TO EXCAVATION. CHECK AND FIELD VERIFY ALL SITE CONDITIONS, UTILITIES AND SERVICES PRIOR TO EXCAVATION.
- ALL OPEN EXCAVATIONS OCCURRING FROM THIS WORK SHALL BE BARRICADED AS NECESSARY.
- ALL PIPING UNDER WALKWAYS & COVER SHALL BE ALLEVED, 1" OR LARGER THAN PIPE SIZE ONE FOOT BEYOND EDGE OF CONCRETE.
- PERFORM ALL ASPECTS OF WORK IN COMPLIANCE WITH ALL APPLICABLE SPECIFICATIONS, REQUIREMENTS, CODES AND ORDINANCES OF ALL GOVERNING BODIES HAVING JURISDICTION.
- PLANS ARE SCHEMATIC. CONTRACTOR MAY ADJUST ALL LATERAL LINES TO ECONOMIZE PIPING AS LONG AS GENERAL VALVE ZONING REMAINS AS INTENDED ON DRAWINGS. THEREAFTER, CONTRACTOR SHALL SIZE ALL PIPING PER NURSERY STANDARD FRICTION LOSS CHARACTERISTICS FOR PVC CLASS 200 PLASTIC PIPE. VALVES AND MAINLINE HAVE BEEN SIZED AS PER FLOW AND SHALL NOT BE REDUCED IN SIZE WITHOUT PERMISSION OF THE LANDSCAPE ARCHITECT.
- CONTRACTOR SHALL SIZE 3" EXTRA CONTROL LINES TO THE FARTHEST VALVE BOX IN EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION.
- ALL MAINLINE SHALL BE BURIED AT A MINIMUM OF 18" ALL LATERALS TO BE BURIED MIN. 12" DEPTH.
- IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13081, AUSTIN, TX 78711-3081.

IRRIGATION GENERAL NOTES

GENERAL

- WORK UNDER THIS SECTION CONSISTS OF INSTALLING A COMPLETE UNDERGROUND IRRIGATION SYSTEM AS SHOWN ON THESE PLANS, DETAILS AND SPECIFICATIONS. THE CONTRACTOR FURNISHING ALL WORK SHALL FURNISH ALL LABOR, EQUIPMENT, MATERIALS, INCIDENTAL WORK, AND PERMITS NECESSARY FOR THE COMPLETION OF THE IRRIGATION SYSTEM, EXCEPT FOR THOSE COMPONENTS SPECIFIED TO BE FURNISHED BY OTHERS.
- ALL ROADWAY TRENCHING, PATCHING, AND TRAFFIC CONTROL SHALL BE PERFORMED TO THE CITY OF EL PASO STANDARDS FOR PUBLIC WORK CONSTRUCTION. THE CONTRACTOR SHALL PREPARE FOR THE OWNER AND OTHER REQUIRED ENTITIES HAVING JURISDICTION A TRAFFIC CONTROL PLAN AND A PROJECTED TIME SCHEDULE.
- THE CONTRACTOR SHALL COORDINATE WATER "TAP-IN" LOCATIONS AND CONTROLLER LOCATIONS WITH THE OWNER'S AGENT PRIOR TO INSTALLATION.

- ALL PLANT MATERIALS SHALL BE IRRIGATED WITH AUTOMATIC IRRIGATION SYSTEMS AS PER PLANS, DETAILS AND SPECIFICATIONS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

- WHERE TREES, LIGHT STANDARDS, ETC. ARE AN OBSTRUCTION OF PIPING AND DRIP EMITTERS, THEY SHALL BE ADJUSTED AND/OR RELOCATED AS NECESSARY TO OBTAIN FULL COVERAGE WITHOUT EXCESSIVE OVERFLOW. PLANS ARE DIAGRAMMATIC AND APPROXIMATE DUE TO SCALE OF DRAWINGS. ALL VALVES SHALL BE LOCATED IN PLANTING AREAS OR SODDEN AREAS WHERE SHOWN AND ALL PIPING SHALL BE INSTALLED PRIOR TO LANDSCAPING OR PAVING WORK. NO TEES, ELBS OR OTHER TURNS IN PIPING SHALL BE LOCATED UNDER PAVING. CAP ALL ENDS HAND TIGHT, PRIOR TO BACKFILL.

- COMPLY WITH REQUIREMENTS OF THE INTERNATIONAL PLUMBING CODE AND ANY OTHER GOVERNMENTAL BODIES HAVING JURISDICTION.

- ALL BACKFILL SHALL BE CLEAN MATERIAL FROM EXCAVATION BACKFILL. TRENCH IS TO BE EVEN WITH EXISTING GRADES AFTER COMPACTION.

- TRENCH BACKFILL MATERIAL SHALL BE COMPACTED 85% PROCTOR DENSITY

- COORDINATE PROGRAMS TO AVOID STATION OVERLAP.

- CONTRACTOR TO FLUSH ALL LINES PRIOR TO INSTALLING HEADS AND EMITTERS.

- ALL VALVES TO BE IN APPROVED VALVE BOXES (SEE SPEC AND NOTES). LOCATE VALVE BOXES IN GROUPINGS OF TWO OR THREE AND LOCATE NEAR WALKWAYS WHERE POSSIBLE.

- THE CONTRACTOR SHALL PREPARE AN ASBUILT SET OF PLANS FOR THE OWNER, COMPONENTS AND PRODUCTS

- ALL COMPONENTS INSTALLED AS THE UNDERGROUND IRRIGATION SYSTEM ARE TO BE NEW AND IN GOOD WORKING ORDER AND WITHOUT FLAWS UNLESS OTHERWISE INDICATED ON THE PLANS, DETAILS AND SPECIFICATIONS.

- IF THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS DO NOT THOROUGHLY DESCRIBE THE METHOD OR TECHNIQUES TO BE USED FOR INSTALLATION, THE CONTRACTOR SHALL FOLLOW THE INSTALLATION METHODS RECOMMENDED BY THE MANUFACTURER.

- ALL PLANT MATERIALS INSTALLED SHALL HAVE THE AUTOMATIC IRRIGATION SYSTEM FULLY OPERABLE AT THE TIME OF PLANT INSTALLATION.

CARE AND REPLACEMENT

- THE CONTRACTOR SHALL SUPPLY ALL WARRANTIES OF COMPONENTS OF THE IRRIGATION SYSTEM TO THE OWNER

- THE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN SATISFACTORY WORKING ORDER DURING THE TIME OF CONTRACT WORK.

- IRRIGATION IN TEXAS IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13081, AUSTIN, TX 78711-3081.

PRESSURE LOSS TABLE -Boulders Subdivision

SECTION #	14	Section GPM	37
STATIC PRESSURE	65	PSI	01/08/14
taken across street, 132 PSI also recorded from PSB			

Pipe Losses					
Length of pipe	flow GPM	Size in	Pressure loss 100 ft	Pressure Loss this item	Pressure Loss accumulated
870	18.5	2	0.33	2.87	2.87
6	37	2	0.91	0.05	2.93
6	29.76	2	1.75	0.11	3.03
6	27.9	1.5	1.75	0.11	3.14
12	26	1.5	1.35	0.16	3.30
12	24.2	1.5	1.35	0.16	3.46
12	22.3	1.5	1.16	0.14	3.60
60	20.5	1.25	1.92	1.15	4.75
12	11.16	1	1.98	0.24	4.99
12	9.3	1	1.42	0.17	5.16
12	7.44	1	0.94	0.11	5.27
12	5.6	1	0.55	0.07	5.34
12	3.72	1	0.26	0.03	5.37
12	1.86	1	0.07	0.01	5.38
0	0	0	0	0.00	5.38
Total Pipe Loss					5.38

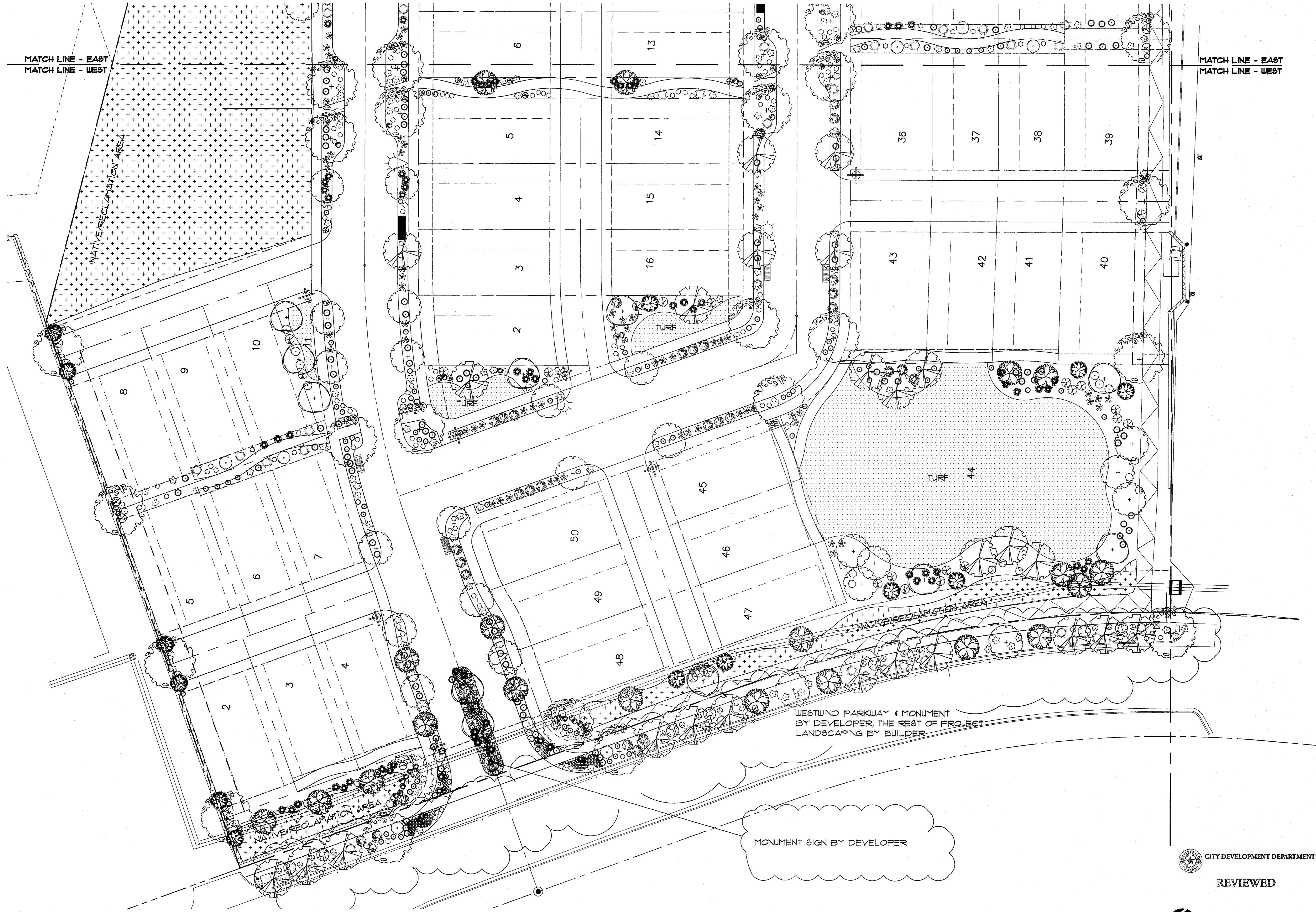
Equipment Losses			
Item	Size	Pressure Loss this item	Pressure Loss Accumulated
2 Backflows	3/4"	1.70	1.70
2 Water MeterS	3/4"	12.50	14.20
		13.00	27.20
Total Equipment Loss			27.20
Total Pressure Loss			32.58
Minimum Head Pressure			30.00
Design Pressure			62.58
Actual Head Pressure			32.42

Notes:

2-1-14
 FILE: L-X-1060-016-2MDJG
 REVISIONS:

 URBAN OASIS
 CHIHUAHUA DESERT LANDSCAPE ARCHITECTURE
 EL PASO, TX 79912
 90 SPRINGFIELD DRIVE
 (915)-408-4453

 DESERT VIEW HOMES
 BOULDER CANYON ESTATES
 WESTWIND DRIVE
 EL PASO, TEXAS 79912
 GENERAL NOTES & LANDSCAPE LEGENDS
 REVIEWED
 CITY DEVELOPMENT DEPARTMENT



2-1-14

FILE: L-X-2000-016-SH1DUG
REVISIONS:

URBAN OASIS
CHIHUAHUA DESERT LANDSCAPE ARCHITECTURE
1011 S. UNIVERSITY DRIVE
(915) 406-6453
urbanoasis.tod@gmail.com

DESIGN PROFESSIONAL SEAL

DESERT VIEW HOMES

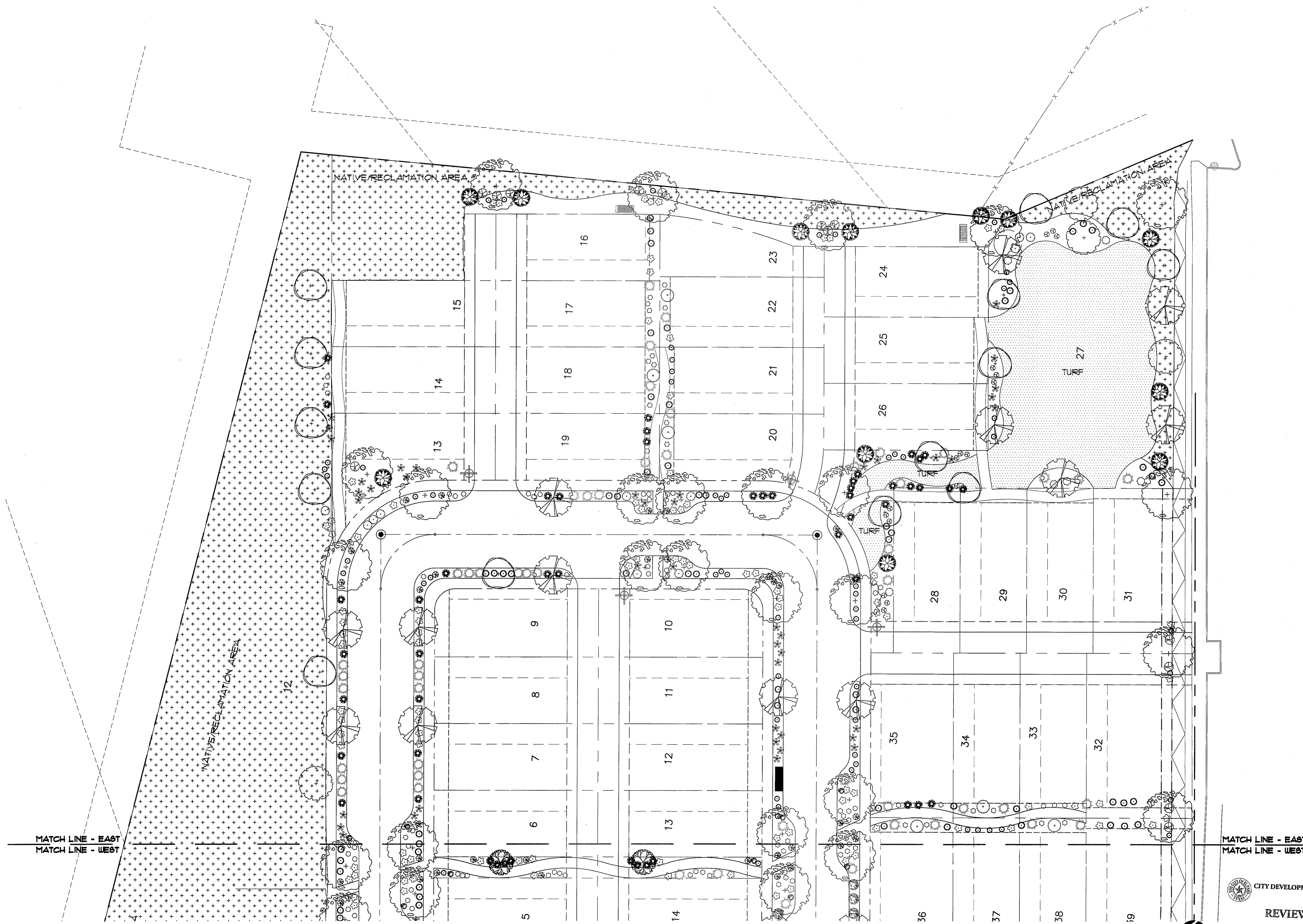
BOULDER CANYON ESTATES
WESTWIND DRIVE
EL PASO, TEXAS 79912

LANDSCAPE PLAN - WEST

Γ-2

CITY DEVELOPMENT DEPARTMENT
REVIEWED





MATCH LINE - EAST
MATCH LINE - WEST

MATCH LINE - EAST
MATCH LINE - WEST

LANDSCAPE PLAN - EAST



SCALE: 1" = 20'-0"

CITY DEVELOPMENT DEPARTMENT

REVIEWED

2-1-14

FILE: L-X-3260-016-BYDUG

REVISIONS:

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DESERT VIEW HOMES

BOULDER CANYON ESTATES
WESTWIND DRIVE
EL PASO, TEXAS 79912

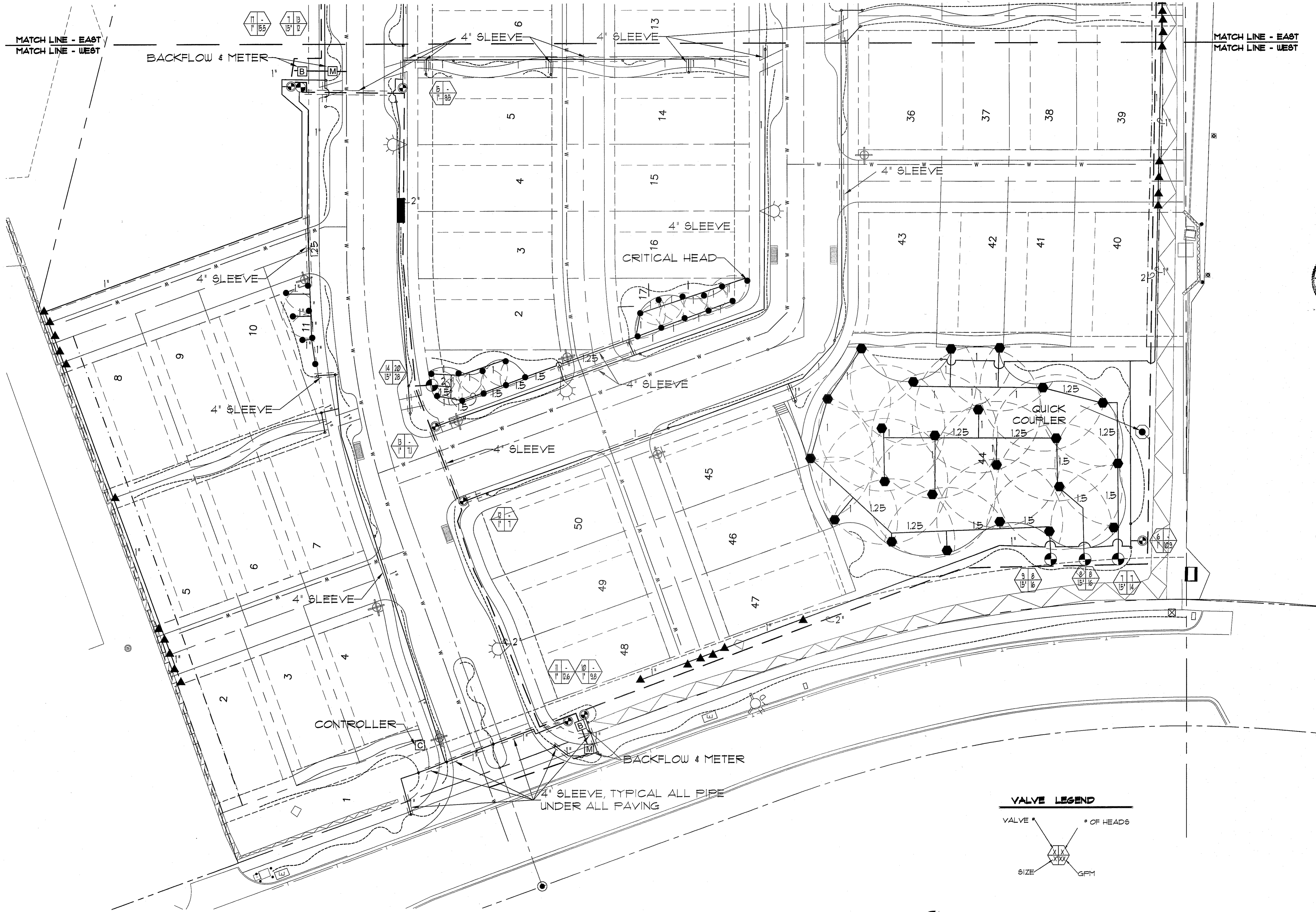
LANDSCAPE PLAN - EAST

L-3

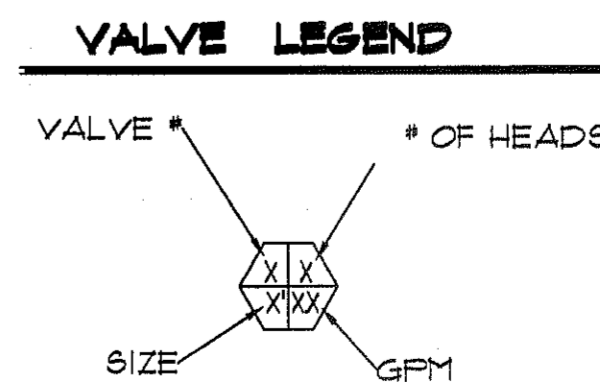
MATCH LINE - EAST
MATCH LINE - WEST

BACKFLOW & METER

MATCH LINE - EAST
MATCH LINE - WEST



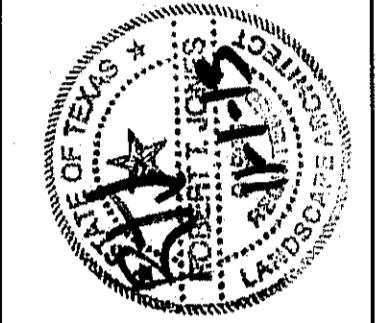
IRRIGATION PLAN - WEST



REVIEWED

2-1-14

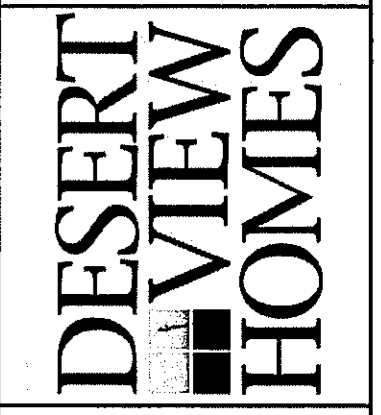
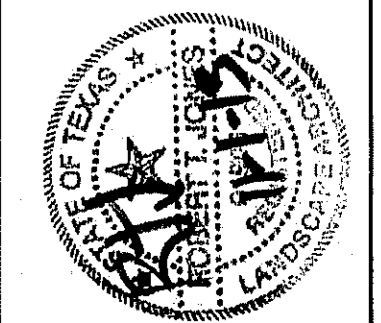
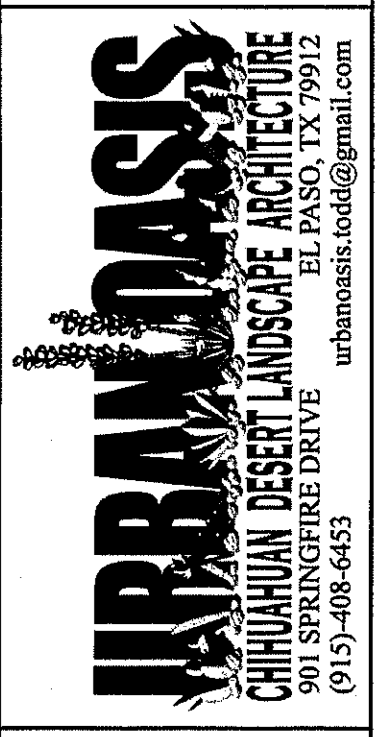
FILE: L-X-2060-016-EMDUG
REVISIONS:



DESERT VIEW HOMES

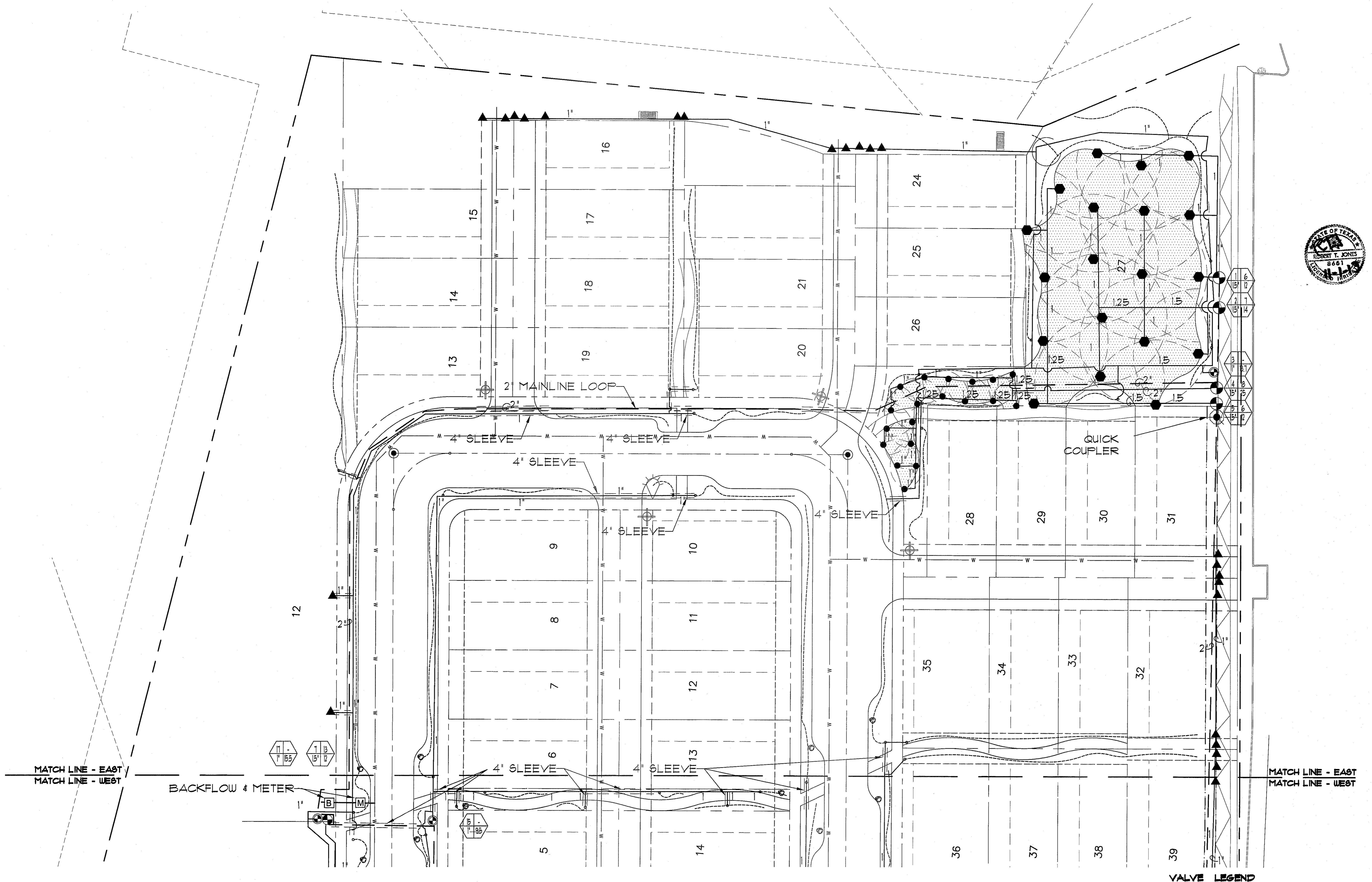
BOULDER CANYON ESTATES
WESTWIND DRIVE
EL PASO, TEXAS 79912

IRRIGATION PLAN - WEST



BOULDER CANYON ESTATES
WESTWIND DRIVE
EL PASO, TEXAS 79912

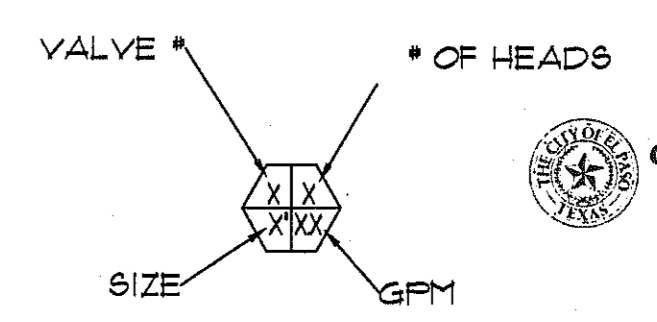
IRRIGATION PLAN - EAST



IRRIGATION PLAN - EAST



VALVE LEGEND



REVIEWED

GENERAL NOTES

- ENCLOSURE MUST NOTE ASSE #060 FOR BACKFLOW DEVICES
- DO NOT INSTALL IN FLOOD PRONE AREAS.
- METALLIC RISER PIPING REQ'D.
- JOINTS TO BE ADEQUATELY RESTRAINED.
- HORIZONTAL INSTALLATION REQ'D, AS SHOWN.

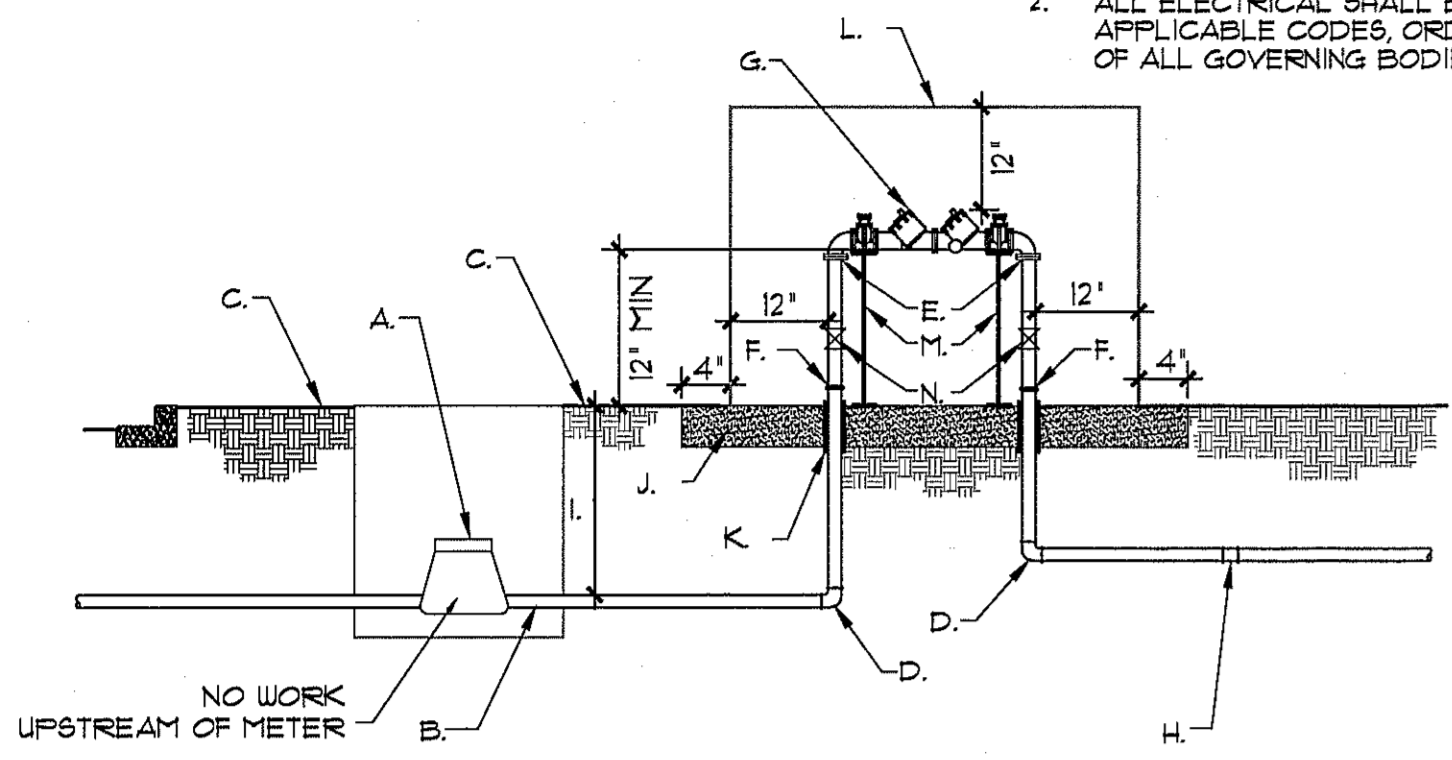
ELECTRICAL NOTES:

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COORDINATING, AND INSTALLING ALL ELECTRICAL AND ELECTRICAL SUPPLIES NECESSARY FOR THE INSTALLATION AND OPERATION OF THE IRRIGATION SYSTEM SPECIFIED.

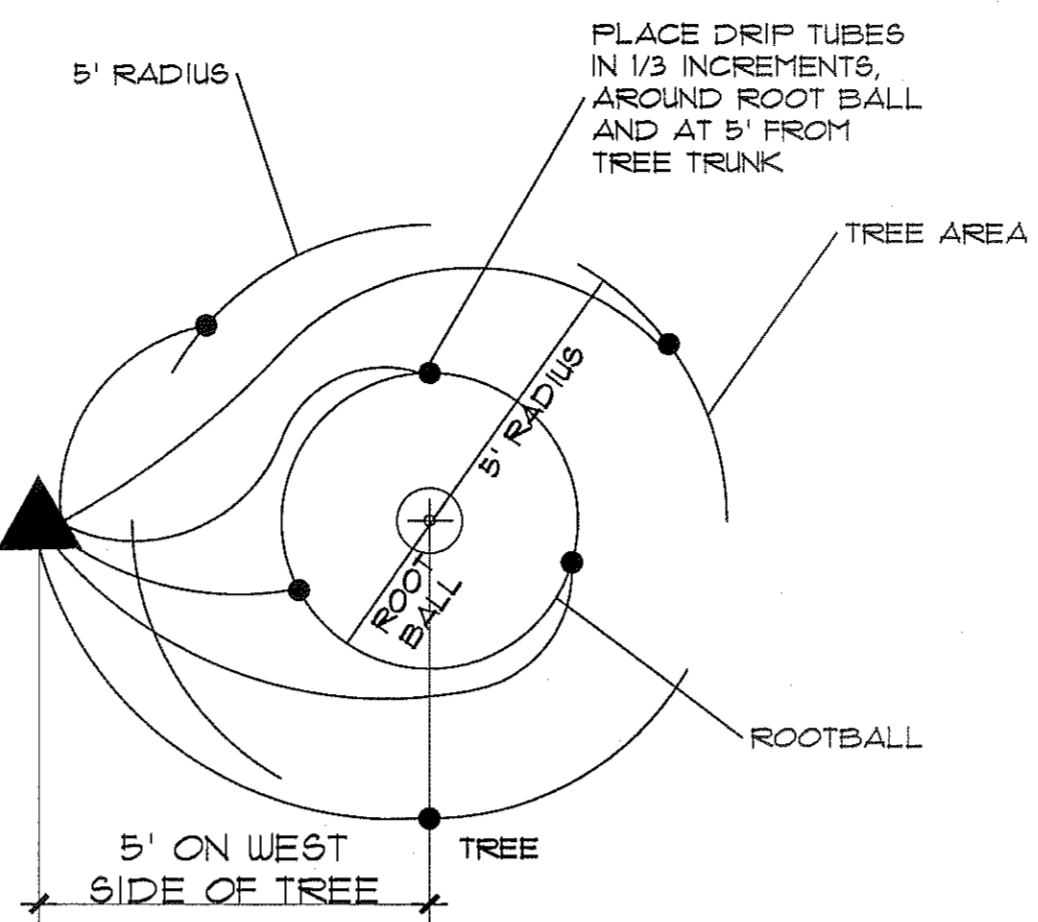
2. ALL ELECTRICAL SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES, ORDINANCES AND REQUIREMENTS OF ALL GOVERNING BODIES HAVING JURISDICTION.

CONSTRUCTION NOTES

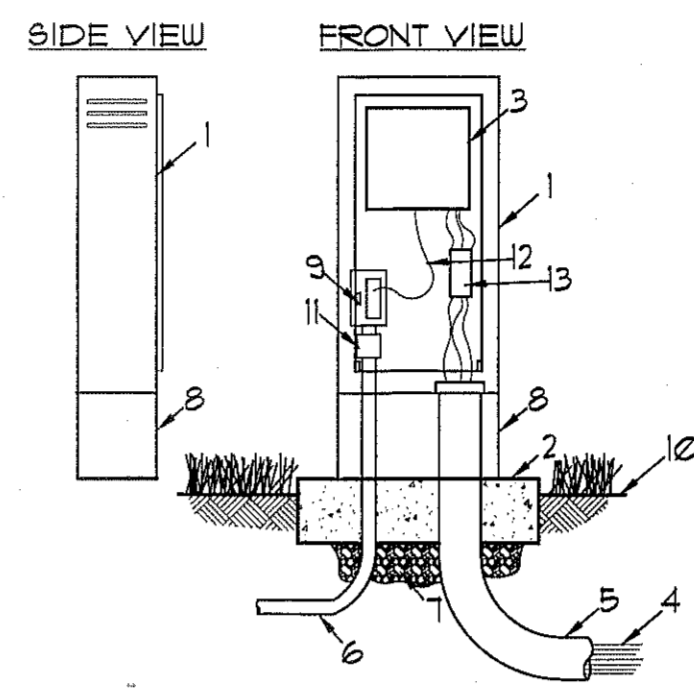
- EXISTING METER
- SERVICE LINE, NO OUTLETS ALLOWED, COPPER
- FINISH GRADE
- COPPER ELL
- COPPER NIPPLE
- BRASS UNION, 4" ABOVE GRADE, MIN. BACKFLOW PREVENTION DEVICE (SEE PLAN) HEIGHT 12" MIN, MAX 30"
- TRANSITION FROM COPPER TO PVC 1' BEYOND SLAB
- 28" MINIMUM DEPTH
- 3000 PSI CONCRETE PAD, 4" DEPTH, EXTEND 4' BEYOND EDGE OF ENCLOSURE.
- PIPE SHALL BE SLEEVED THROUGH CONCRETE PAD WITH SCH 40 PVC BACKFLOW ENCLOSURE (SEE PLAN) MUST MEET R VALUE OF 25, & PROVIDE MINIMUM CLEARANCES
- STEEL PIPE SUPPORTS
- BRASS BALL VALVE



1 IRRIGATION BACKFLOW PREVENTER & ENCLOSURE
L-6 NOT TO SCALE



2 DRIP EMITTER PATTERN
L-6 NOT TO SCALE

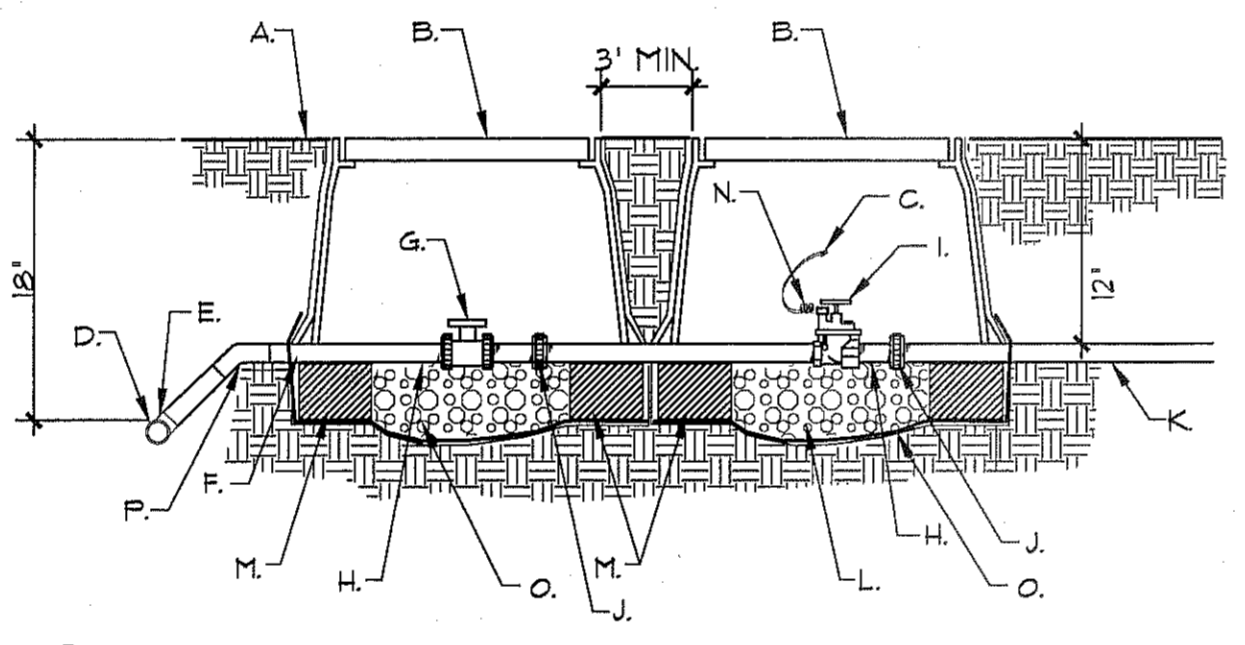


3 CONTROLLER ASSEMBLY & ENCLOSURE
L-6 NOT TO SCALE

- WEATHERPROOF CONTROLLER ENCLOSURE: MODEL 8B-24 85
- CONCRETE PAD: 6" MINIMUM THICKNESS, EXTEND 6" BEYOND OUTSIDE DIMENSIONS OF ENCLOSURE W/ 1/2% SLOPE FOR DRAINAGE
- AUTOMATIC CONTROLLER
- DIRECT BURIAL WIRES TO CONTROL VALVES, LABEL ALL WIRES COMING INTO ENCLOSURE WITH WEATHER PROOF TAG.
- PVC LONG SWEEP ELL - USE ONE SWEEP ELL PER CONTROLLER
- 1-INCH PVC SCH 40 CONDUIT, W/ 120 VOLT SERVICE FITTINGS AND SWEEP ELL TO POWER SUPPLY.
- 6" DEPTH COMPACTED BASECOURSE ON COMPACTED SUBGRADE
- METAL PEDESTAL FOR CONTROLLER ENCLOSURE MODEL FED-24 85
- CONTROLLER SUB-ASSEMBLY, INCLUDES GFI OUTLET AND SWITCH, TERMINAL STRIPS W/ PLACARDS, COILED POWER CORD, MODEL GSA FOR ESP-SAT
- FINISH GRADE
- SURGE PROTECTOR - SET INSIDE ELECT. BOX WITH COVER
- PROVIDE PIGTAIL - PLUG CONNECTOR
- QUICK DISCONNECT - LABEL WIRES WITH WEATHERPROOF TAGS

GENERAL NOTES:

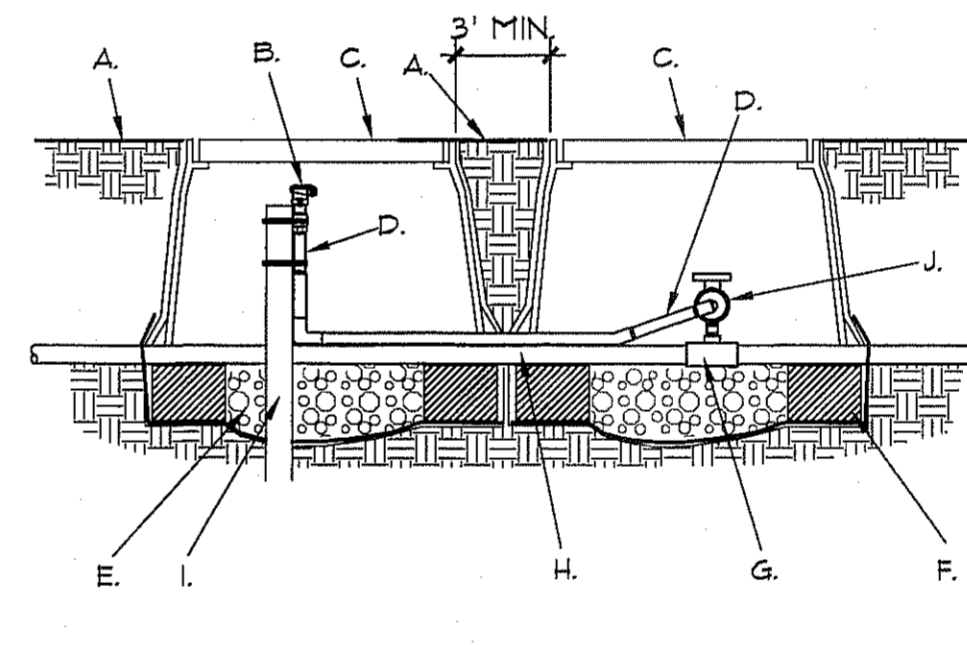
- INSTALL AND 8" X 8" X 16" SOLID CMU BLOCK AT EACH CORNER OF THE VALVE BOX
- WASH ROCK SHALL BE INSTALLED FLUSH WITH BOTTOM OF PIPE AND VALVE
- IF BALL BOX AND CONTROL VALVE DO NOT FIT IN VALVE BOX AND ALLOW FOR PROPER OPERATION, PLACE BALL VALVE IN SEPARATE CARSON 1419 VALVE BOX AS PER VALVE BOX INSTALLATION SPECIFICATIONS OF THIS DETAIL.



5 IRRIGATION CONTROL VALVE
L-6 NOT TO SCALE

CONSTRUCTION NOTES:

- FINISH GRADE
- CARSON BRAND W/ BOLT DOWN COVER & ONE 8" EXTENSION MATCH COVER TO ADJACENT SURFACING
- DRI-SPLICE (PRE-FILLED)
- IRRIGATION MAINLINE/LATERAL MAINLINE
- IRRIGATION MAINLINE SERVICE TEE OR ELL
- SCHEDULE 80 PVC NIPPLE
- WATTS BRASS BALL VALVE, MATCH IRRIGATION CONTROL VALVE SIZE.
- SCHEDULE 80 PVC CLOSE NIPPLE
- ELECTRIC VALVE (SEE PLAN)
- SPEARS SCHEDULE 80 PVC UNION OR APPROVED EQUAL
- LATERAL LINE
- 1 CUBIC FOOT 1" DIAMETER WASHED ROCK (FEA GRAVEL)
- 8" X 8" X 16" SOLID CMU BLOCK
- 24" WIRE EXPANSION COIL
- WEED CLOTH
- 48" FITTING

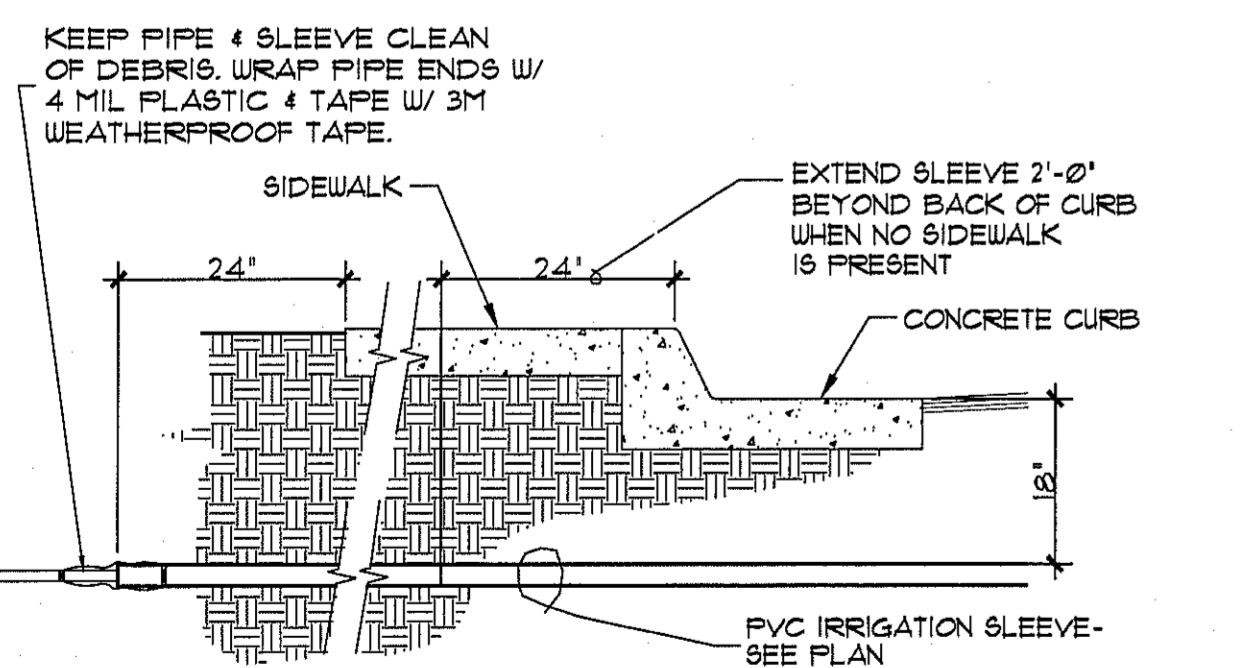
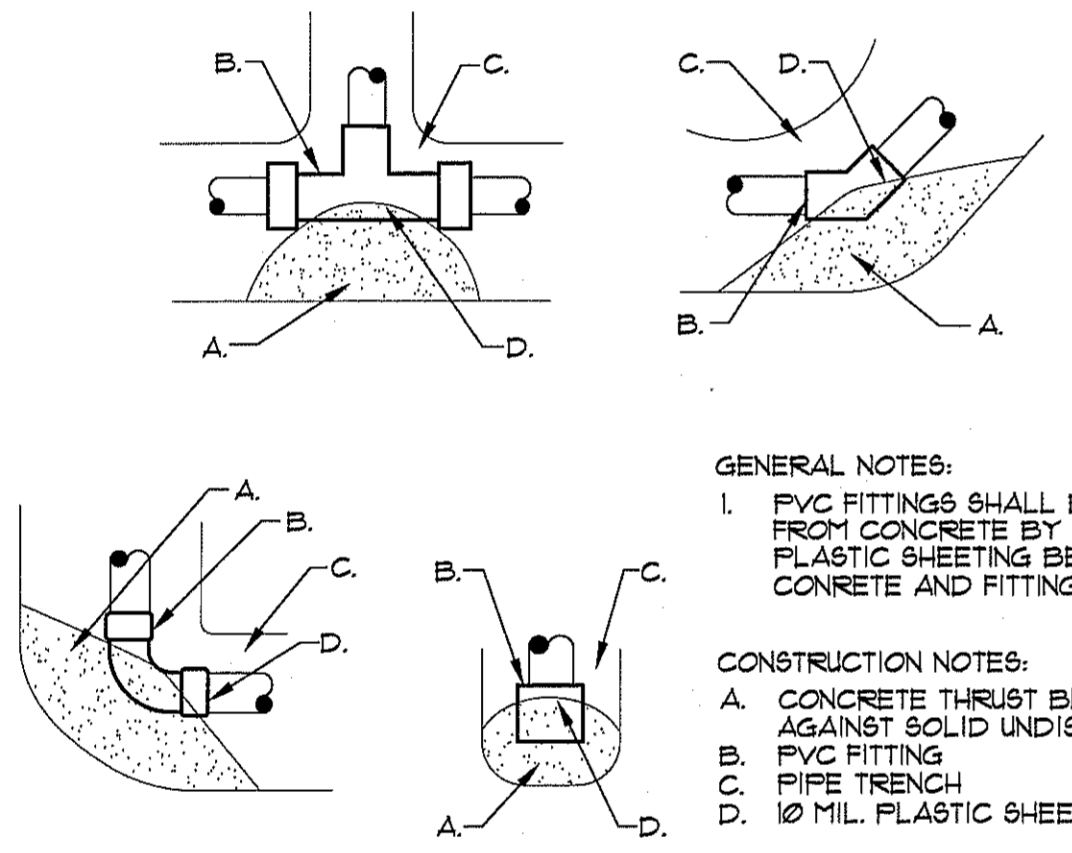


6 QUICK COUPLER
L-6 NOT TO SCALE

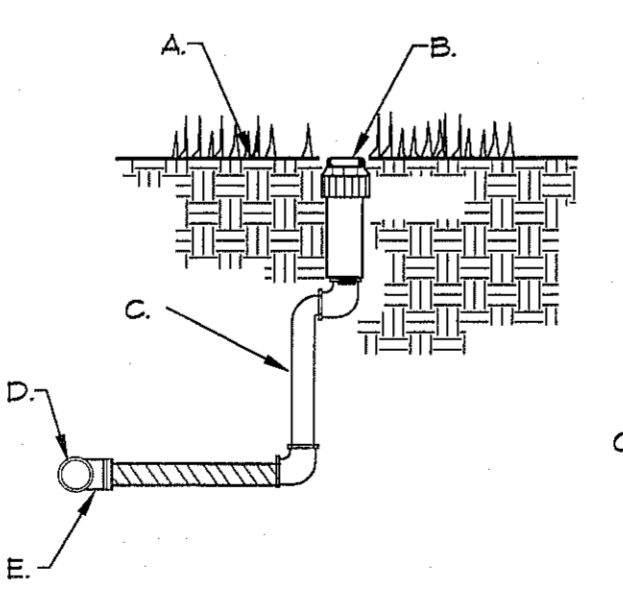
- FINISH GRADE
- QUICK-COUPLING VALVE: BUCKNER DOUBLE LUG
- CARSON BRAND W/ BOLT DOWN COVER & ONE 8" EXTENSION MATCH COVER TO ADJACENT SURFACING
- SNAP LOK WITH MALE
- BRASS STABILIZER ELBOW
- 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 8" X 8" X 16" SOLID CMU BLOCK
- PVC SCH 40 TEE OR ELL
- PVC MAINLINE PIPE
- 2" DIA GALVANIZED PIPE W/ 3" DEPTH STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM
- WATTS BRASS BALL VALVE, MATCH IRRIGATION CONTROL VALVE SIZE.

4 IRRIGATION THRUST BLOCKS
L-6 NOT TO SCALE

- GENERAL NOTES:**
- PVC FITTINGS SHALL BE PROTECTED FROM CONCRETE BY PLACING 10 MIL PLASTIC SHEETING BETWEEN CONCRETE AND FITTING
- CONSTRUCTION NOTES:**
- CONCRETE THRUST BLOCK PLACED AGAINST SOLID UNDISTURBED SOIL
 - PVC FITTING
 - PIPE TRENCH
 - 10 MIL. PLASTIC SHEETING



7 IRRIGATION SLEEVE UNDER PAVING AND SIDEWALKS
L-6 NOT TO SCALE



8 SPRINKLER HEAD
L-6 NOT TO SCALE

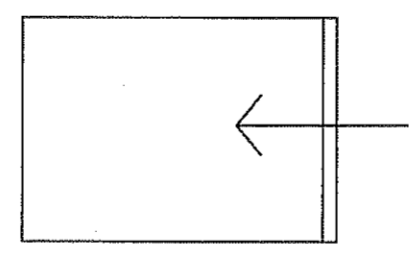
GENERAL NOTES:

- THIS DETAIL SHALL BE USED FOR POP-UP SHRUB SPRAY, POP-UP LAWN SPRAY, GEAR DRIVEN AND ROTARY SPRINKLER HEADS
- LATERAL LINE TESTING SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF THE FLEX PIPE ASSEMBLY. LATERAL TESTING SHALL BE ACCOMPLISHED BY INSTALLING A PLUG IN THE OUTLET OF LATERAL LINE TEES AND ELLS
- TOP OF SPRINKLER HEAD SHALL BE SET FLUSH WITH FINISH GRADE

CONSTRUCTION NOTES:

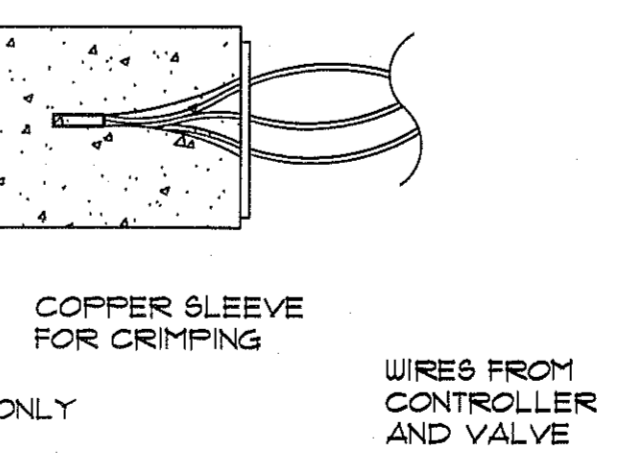
- FINISH GRADE
- SPRINKLER HEAD (SEE PLAN)
- LASCO PRE-ASSEMBLED SWING JOINT FITTING
- LATERAL PIPE
- SCH 40 PVC 6 X 6 X T TEE OR 6 X T ELL

DRI-SPLICE CONNECTOR (PRE-FILLED) WATERPROOF SEALANT



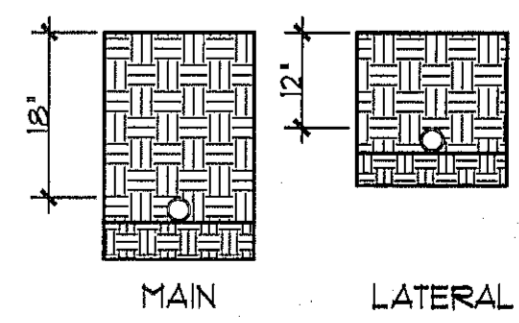
NOTE: THREE STEP OPERATION DRI-SPLICE CONNECTORS ONLY

9 WIRE CONNECTORS
L-6 NOT TO SCALE



COPPER SLEEVE FOR CRIMPING
WIRES FROM CONTROLLER AND VALVE

NOTE: VALVE WIRE TO BE 5' AWAY FROM MAINLINE ON NORTH AND/OR WEST SIDE



10 LINE BURIAL DEPTHS
L-6 NOT TO SCALE

LEGEND

- SUBDIVISION BOUNDARY LINE
- STREET RIGHT OF WAY
- TOP OF CURB
- SIDEWALK
- PROPERTY LINE
- STREET CENTERLINE
- 30' PRIVATE ALLEY ACCESS/UTILITY EASEMENT
- 5'-10' PEDESTRIAN ACCESS EASEMENT (P.A.E.)
- 5' DRAINAGE EASEMENT
- ① LOT AND BLOCK NUMBER
- DRAINAGE FLOW
- NEW 4' HIGH ROCKWALL/RETAINING WALL

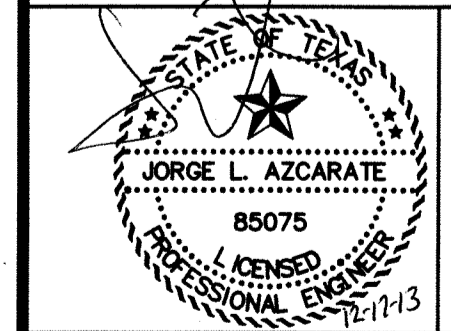
NOTES:

1. LANDSCAPING SHALL BE PROVIDED IN ACCORDANCE WITH CITY OF EL PASO CODE, IN PARTICULAR CHAPTER 18.46.210.



DETAILED SITE DEVELOPMENT PLAN

BOULDER CANYON SUBDIVISION
 BEING ALL OF BOULDER CANYON SUBDIVISION, AN ADDITION TO THE CITY OF EL PASO, EL PASO COUNTY, TEXAS CONTAINING 7.21± ACRES



Contour Interval: N/A DATE: 12-12-2013 JOB No. 2060-025

DESIGN BY: J.I.A. DRAWN BY: J.I.A. CHKD. BY: J.I.A. APPVD. BY: J.I.A.

SCALE: Horizontal: 1"=40' Vertical: N/A SHEET 1 OF 2

NOTE:
 1. THIS SUBDIVISION LIES WITH IN ZONES "C" AS DESIGNATED IN PANEL NO. 480214 0022E, DATED JANUARY 3, 1997, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS OF MINIMAL FLOODING. (NO SHADING)

RESIDENTIAL TOTAL LOTS	= 60
COMMON OPEN SPACE	= 8
STREET PARKING	= 50

P-R II YARD STANDARD SETBACKS
 FRONT SIDE YARD ABUTTING STREET REAR
 5-10 FEET
 0-5 FEET
 5 FEET
 1-5 FEET

OWNER
 DEVP LAND, LLC
 7910 GATEWAY EAST, SUITE 102
 EL PASO, TEXAS 79915
 VOICE (915) 591-6319
 FAX (915) 591-5451
 CONTACT: MR. ART ELIASON

PORTION OF LOT 40, BLOCK 100
 OWNER: WEST BUSINESS SERVICES, LP
 INST NO. 20010072640

PORTION OF LOT 40, BLOCK 100
 OWNER: BELVIDERE CENTER REALTY, LP
 VOL. 2761 PG. 1285

20' WIDE PRIVATE DRAINAGE EASEMENT AS PER MOUNT CHAPARRAL SUBDIVISION (VOL. 69, PG. 67)

LOT 19, BLOCK 2, OWNER: SAW-IN SCOTT INST NO. 20040069223

LOT 20, BLOCK 2, OWNER: SAW-IN SCOTT INST NO. 2010006348

LOT 22, BLOCK 2, OWNER: EGAN MICHAEL VOL. 3896 PG. 0525

CHAPARRAL PARK UNIT 22 REPLAT "A" (VOLUME 55, PAGE 30)

LOT 21, BLOCK 2, OWNER: THOMAS W. STEPHENS AND ESTHER STEPHENS VOL. 3765 PG. 0871

WESTWIND PARK (CLERKS FILE NO. 20120012735)

MOUNT CHAPARRAL SUBDIVISION (VOLUME 69, PAGE 67)

LINE TABLE		
LINE	BEARING	LENGTH
L1	S65°21'23"W	5.08'
L2	S24°38'37"E	38.57'
L3	S24°38'37"E	32.00'
L4	S24°38'37"E	36.00'
L5	S65°21'23"W	35.37'
L6	N24°38'37"W	42.57'
L7	S24°38'37"E	42.57'
L8	S24°38'37"E	32.00'
L9	N24°38'37"W	32.00'
L10	S24°38'37"E	36.25'
L11	S65°21'23"W	20.35'
L12	N24°38'37"W	32.00'
L13	S24°38'37"E	42.57'
L14	S24°38'37"E	42.57'
L15	S24°38'37"E	32.00'
L16	S24°38'37"E	32.00'
L17	S24°38'37"E	33.00'
L18	N24°38'37"W	33.00'
L19	S24°38'37"E	22.98'
L20	N24°38'37"W	3.25'
L21	N65°00'25"W	15.36'
L22	S73°08'37"W	8.64'
L23	S85°14'45"W	32.00'
L24	N04°45'15"W	29.00'
L25	S85°14'45"W	32.00'
L26	S85°14'45"W	32.00'
L27	S85°14'45"W	32.00'
L28	S85°14'45"W	32.00'
L29	S85°14'45"W	32.00'
L30	S85°14'45"W	32.00'
L31	S85°14'45"W	32.00'
L32	S85°14'45"W	32.00'
L33	S85°14'45"W	32.00'
L34	S85°14'45"W	32.00'
L35	S85°14'45"W	32.00'
L36	S85°14'45"W	32.00'
L37	S85°14'45"W	32.00'
L38	N85°14'45"E	34.00'
L39	S85°14'45"W	32.00'
L40	N04°45'15"W	15.00'

LINE TABLE		
LINE	BEARING	LENGTH
L41	S85°14'45"W	14.84'
L42	S85°14'45"W	34.00'
L43	S85°14'45"W	32.00'
L44	S85°14'45"W	10.73'
L45	N85°14'45"E	10.73'
L46	N85°14'45"E	14.84'
L47	N85°14'45"E	32.00'
L48	N85°14'45"E	34.00'
L49	S04°45'15"E	10.76'
L50	S85°14'45"W	30.16'
L51	N04°45'15"W	32.00'
L52	S04°45'15"E	32.00'
L53	S04°45'15"E	32.00'
L54	S04°45'15"E	47.56'
L55	S04°45'15"E	39.74'
L56	S04°45'15"E	32.00'
L57	S04°45'15"E	32.00'
L58	S04°45'15"E	50.59'
L59	N04°45'15"W	50.59'
L60	N04°45'15"W	32.00'
L61	N04°45'15"W	32.00'
L62	N04°45'15"W	39.84'
L63	N04°45'15"W	39.84'
L64	S86°57'35"W	19.10'
L65	N04°45'15"W	39.36'
L66	N04°45'15"W	32.00'
L67	S86°57'35"W	18.64'
L68	N04°45'15"W	32.01'
L69	N04°45'15"W	32.00'
L70	S86°57'35"W	18.19'
L71	N04°45'15"W	32.01'
L72	N04°45'15"W	50.59'
L73	N04°45'15"W	51.15'
L74	N04°45'15"W	51.15'
L75	N04°45'15"W	32.01'
L76	N04°45'15"W	32.01'
L77	N04°45'15"W	39.36'
L78	N65°21'23"E	1.19'
L79	N65°21'23"E	32.00'
L80	N65°21'23"E	32.00'

LINE TABLE		
LINE	BEARING	LENGTH
L81	N65°21'23"E	32.00'
L82	N65°21'23"E	32.00'
L83	N65°21'23"E	32.00'
L84	N65°21'23"E	32.00'
L85	N65°21'23"E	32.00'
L86	N65°21'23"E	7.18'
L87	N65°21'23"E	13.10'
L88	S85°14'45"W	32.51'
L89	N85°14'45"E	32.00'
L90	N85°14'45"E	32.00'
L91	N85°14'45"E	32.00'
L92	N85°14'45"E	32.00'
L93	N85°14'45"E	32.00'
L94	N85°14'45"E	17.64'
L95	N85°14'45"E	17.64'
L96	N85°14'45"E	32.00'
L97	N85°14'45"E	32.00'
L98	N85°14'45"E	32.00'
L99	N85°14'45"E	32.00'
L100	N85°14'45"E	32.00'
L101	S85°14'45"W	32.51'
L102	S85°14'45"W	2.50'

CURVE TABLE							
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA	
C1	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"	
C2	20.00'	31.42'	20.00'	28.28'	N69°38'37"W	090°00'00"	
C3	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"	
C4	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"	
C5	407.00'	58.85'	29.48'	58.80'	S69°29'56"W	008°17'06"	
C6	407.00'	81.56'	40.92'	81.43'	S79°22'57"W	011°28'56"	
C7	242.36'	65.97'	33.19'	65.77'	N08°34'26"E	015°35'48"	
C8	52.00'	20.03'	10.14'	19.91'	N83°43'08"W	022°04'14"	
C9	52.00'	61.65'	35.03'	58.10'	N38°43'08"W	067°55'46"	
C10	75.88'	27.97'	14.15'	27.81'	N85°41'18"W	021°07'20"	
C11	52.00'	25.64'	13.09'	25.39'	N09°22'26"E	028°15'22"	
C12	75.88'	21.54'	10.84'	21.46'	S83°15'32"E	016°15'47"	
C13	75.88'	6.43'	3.22'	6.43'	N86°10'48"E	004°51'33"	
C14	52.00'	56.04'	31.09'	53.36'	S54°22'26"W	061°44'38"	
C15	607.73'	210.13'	106.13'	209.09'	N14°44'17"W	019°48'39"	
C16	20.00'	31.42'	20.00'	28.28'	N20°21'23"E	090°00'00"	
C17	52.00'	39.17'	20.57'	38.25'	S46°46'39"E	043°09'41"	
C18	52.00'	0.57'	0.28'	0.57'	S24°52'59"E	000°37'39"	
C19	72.00'	17.01'	8.54'	16.97'	N88°35'18"E	013°32'10"	
C20	72.00'	8.10'	4.06'	8.10'	N55°02'39"E	006°26'53"	
C21	72.00'	8.91'	4.46'	8.90'	N61°48'44"E	007°05'18"	
C22	10.00'	15.72'	10.01'	14.15'	S69°36'23"E	090°04'28"	
C23	10.00'	17.29'	11.72'	15.21'	N24°57'31"E	099°03'21"	
C24	355.00'	18.22'	9.11'	18.21'	N75°57'24"E	002°56'24"	
C25	355.00'	34.08'	17.05'	34.07'	N80°10'37"E	005°30'02"	
C26	355.00'	14.37'	7.18'	14.37'	N84°05'12"E	002°19'07"	
C27	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"	
C28	276.00'	14.37'	7.19'	14.37'	N83°45'16"E	002°58'58"	
C29	276.00'	34.18'	17.11'	34.16'	N78°42'56"E	007°05'42"	
C30	276.00'	2.41'	1.21'	2.41'	N74°55'04"E	000°30'01"	
C31	276.00'	36.59'	18.32'	36.56'	N78°27'55"E	007°35'44"	
C32	276.00'	14.37'	7.19'	14.37'	N83°45'16"E	002°58'58"	
C33	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"	
C34	10.00'	12.25'	7.03'	11.50'	N59°39'42"W	070°11'05"	
C35	381.00'	18.80'	9.40'	18.80'	N66°46'13"E	002°49'40"	
C36	381.00'	113.46'	57.15'	113.04'	N76°42'54"E	017°03'42"	
C37	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	090°00'00"	
C38	26.00'	28.02'	15.54'	26.68'	S54°22'26"W	061°44'38"	
C39	26.00'	31.85'	18.27'	29.89'	S59°39'42"E	070°11'05"	
C40	26.00'	12.82'	6.54'	12.69'	N09°22'26"E	028°15'22"	

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
BLOCK 1	1	2487 sq.ft.
BLOCK 1	2	3047 sq.ft.
BLOCK 1	3	2528 sq.ft.
BLOCK 1	4	2615 sq.ft.
BLOCK 1	5	3363 sq.ft.
BLOCK 1	6	2528 sq.ft.
BLOCK 1	7	2611 sq.ft.
BLOCK 1	8	3363 sq.ft.
BLOCK 1	9	2528 sq.ft.
BLOCK 1	10	2607 sq.ft.
BLOCK 1	11	925 sq.ft.
BLOCK 1	12	38478 sq.ft.
BLOCK 1	13	3011 sq.ft.
BLOCK 1	14	2528 sq.ft.
BLOCK 1	15	2528 sq.ft.
BLOCK 1	16	2528 sq.ft.
BLOCK 1	17	2528 sq.ft.
BLOCK 1	18	2528 sq.ft.
BLOCK 1	19	2528 sq.ft.
BLOCK 1	20	2528 sq.ft.
BLOCK 1	21	2568 sq.ft.
BLOCK 1	22	2528 sq.ft.
BLOCK 1	23	2686 sq.ft.
BLOCK 1	24	1756 sq.ft.
BLOCK 1	25	2686 sq.ft.
BLOCK 1	26	2528 sq.ft.
BLOCK 1	27	2528 sq.ft.
BLOCK 1	28	17116 sq.ft.
BLOCK 1	29	2528 sq.ft.
BLOCK 1	30	2528 sq.ft.
BLOCK 1	31	2528 sq.ft.
BLOCK 1	32	3753 sq.ft.
BLOCK 1	33	3997 sq.ft.
BLOCK 1	34	2528 sq.ft.
BLOCK 1	35	2528 sq.ft.

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
BLOCK 1	36	3143 sq.ft.
BLOCK 1	37	3146 sq.ft.
BLOCK 1	38	2528 sq.ft.
BLOCK 1	39	2528 sq.ft.
BLOCK 1	40	4001 sq.ft.
BLOCK 1	41	4138 sq.ft.
BLOCK 1	42	2529 sq.ft.
BLOCK 1	43	2529 sq.ft.
BLOCK 1	44	3057 sq.ft.
BLOCK 1	45	24849 sq.ft.
BLOCK 1	46	2531 sq.ft.
BLOCK 1	47	2530 sq.ft.
BLOCK 1	48	2529 sq.ft.
BLOCK 1	49	2528 sq.ft.
BLOCK 1	50	2561 sq.ft.
BLOCK 1	51	2633 sq.ft.
Block 2	1	1247 sq.ft.
Block 2	2	2696 sq.ft.
Block 2	3	2528 sq.ft.
Block 2	4	2528 sq.ft.
Block 2	5	2528 sq.ft.
Block 2	6	2528 sq.ft.
Block 2	7	2528 sq.ft.
Block 2	8	2528 sq.ft.
Block 2	9	2547 sq.ft.
Block 2	10	2547 sq.ft.
Block 2	11	2528 sq.ft.
Block 2	12	2528 sq.ft.
Block 2	13	2528 sq.ft.
Block 2	14	2528 sq.ft.
Block 2	15	2528 sq.ft.
Block 2	16	2526 sq.ft.
Block 2	17	1787 sq.ft.

P-R II YARD SETBACKS					
BLOCK	LOT	FRONT	SIDE	ABUTTING STREET	REAR
1	1	N/A	N/A	N/A	N/A
1	2	5.00'	10.00'	0.00'	15.00'
1	3	7.00'	0.00'	0.00'	15.00'
1	4	7.00'	0.00'	5.00'	15.00'
1	5	5.00'	10.00'	0.00'	15.00'
1	6	7.00'	0.00'	0.00'	15.00'
1	7	7.00'	0.00'	5.00'	15.00'
1	8	5.00'	10.00'	0.00'	15.00'
1	9	7.00'	0.00'	0.00'	15.00'
1	10	7.00'	0.00'	0.00'	15.00'
1	11	N/A	N/A	N/A	N/A
1	12	N/A	N/A	N/A	N/A
1	13	7.00'	0.00'	5.00'	15.00'
1	14	7.00'	0.00'	0.00'	15.00'
1	15	7.00'	0.00'	0.00'	15.00'
1	16	5.00'	0.00'	0.00'	15.00'
1	17	5.00'	0.00'	0.00'	15.00'
1	18	7.00'	0.00'	0.00'	15.00'
1	19	7.00'	0.00'	0.00'	15.00'
1	20	7.00'	0.00'	5.00'	15.00'
1	21	7.00'	0.00'	5.00'	15.00'
1	22	7.00'	0.00'	0.00'	15.00'
1	23	5.00'	0.00'	0.00'	15.00'
1	24	N/A	N/A	N/A	N/A
1	25	5.00'	0.00'	0.00'	15.00'
1	26	7.00'	0.00'	0.00'	15.00'
1	27	7.00'	0.00'	0.00'	15.00'
1	28	N/A	N/A	N/A	N/A
1	29	7.00'	0.00'	0.00'	15.00'
1	30	7.00'	0.00'	0.00'	15.00'
1	31	7.00'	0.00'	0.00'	15.00'
1	32	5.00'	5.00'	0.00'	15.00'
1	33	5.00'	5.00'	0.00'	15.00'
1	34	7.00'	0.00'	0.00'	15.00'
1	35	7.00'	0.00'	0.00'	15.00'
1	36	7.00'	0.00'	5.00'	15.00'
1	37	7.00'	0.00'	5.00'	15.00'
1	38	7.00'	0.00'	0.00'	15.00'
1	39	7.00'	0.00'	0.00'	15.00'
1	40	5.00'	5.00'	0.00'	15.00'
1	41	5.00'	5.00'	0.00'	15.00'
1	42	7.00'	0.00'	0.00'	15.00'
1	43	7.00'	0.00'	0.00'	15.00'
1	44	7.00'	0.00'	5.00'	15.00'
1	45	N/A	N/A	N/A	N/A
1	46	7.00'	0.00'	5.00'	15.00'
1	47	7.00'	0.00'	0.00'	15.00'
1	48	5.00'	0.00'	0.00'	15.00'
1	49	7.00'	0.00'	0.00'	15.00'
1	50	7.00'	0.00'	0.00'	15.00'
1					

BOULDER CANYON REPLAT "A" SUBDIVISION

BEING A REPLAT OF ALL BOULDER CANYON SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 7.21 ACRES±
SHEET 1 OF 2

DEDICATION

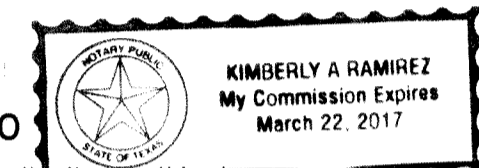
DVEP, LAND, LLC, the owners of this land, do hereby present this map and dedicate their respective portions of property to the use of the public, the streets, drainage easements, utility easements, and easements as hereon laid down and designated, including easements for overhead service wires for pole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

Witness my signature this 14 day of July, 2014.

Randy O'Leary
Randy O'Leary, President

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO



Before me, the undersigned authority, personally appeared Randy O. Leary, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same as the act and deed for the purpose and consideration herein expressed.

Given under my hand and seal of office this 14 day of July, 2014.

Kimberly A. Ramirez
Notary Public and for El Paso County

3-22-17
My Commission Expires

CITY PLANNING COMMISSION

This subdivision is hereby approved as to the plotting and as to the condition of the dedication in accordance with Chapter 212 of the Local

Government Code of Texas this 17th day of July, 2014.

Jeffrey Cling
Chairperson

CEG
Executive Secretary

Approved for filing this 21st day of July, 2014.

MM
City Development Director

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 28th day of July, 2014, in File No. 20140048028 of the Plat Records.

Doris Brines
County Clerk

Charis Omega
by Deputy

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

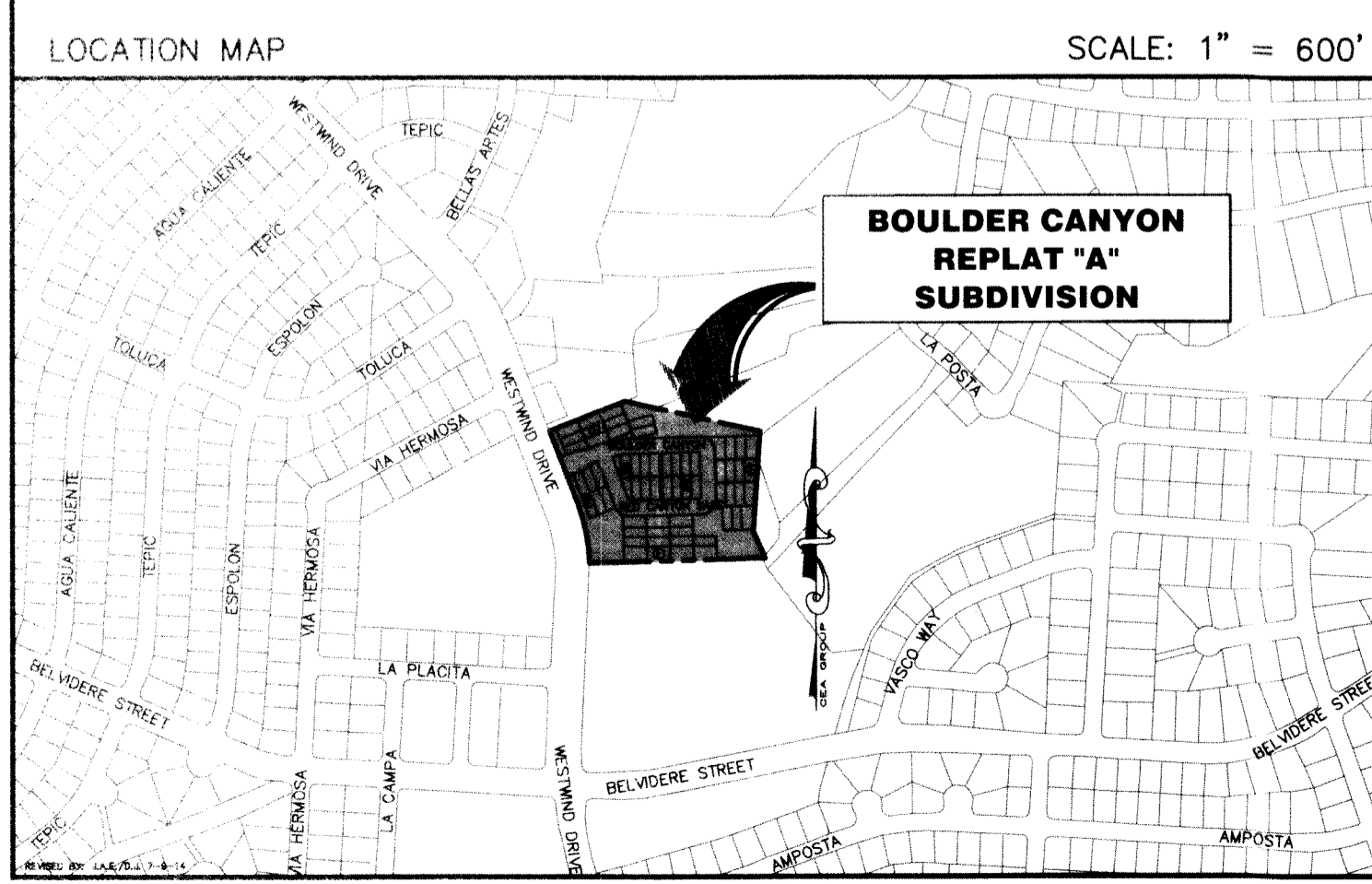
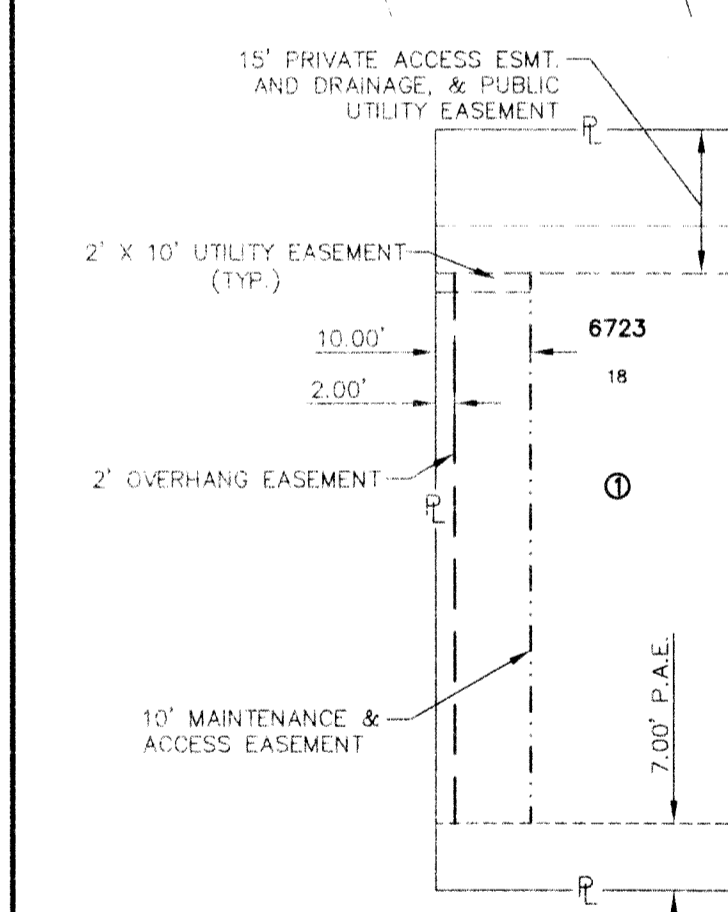
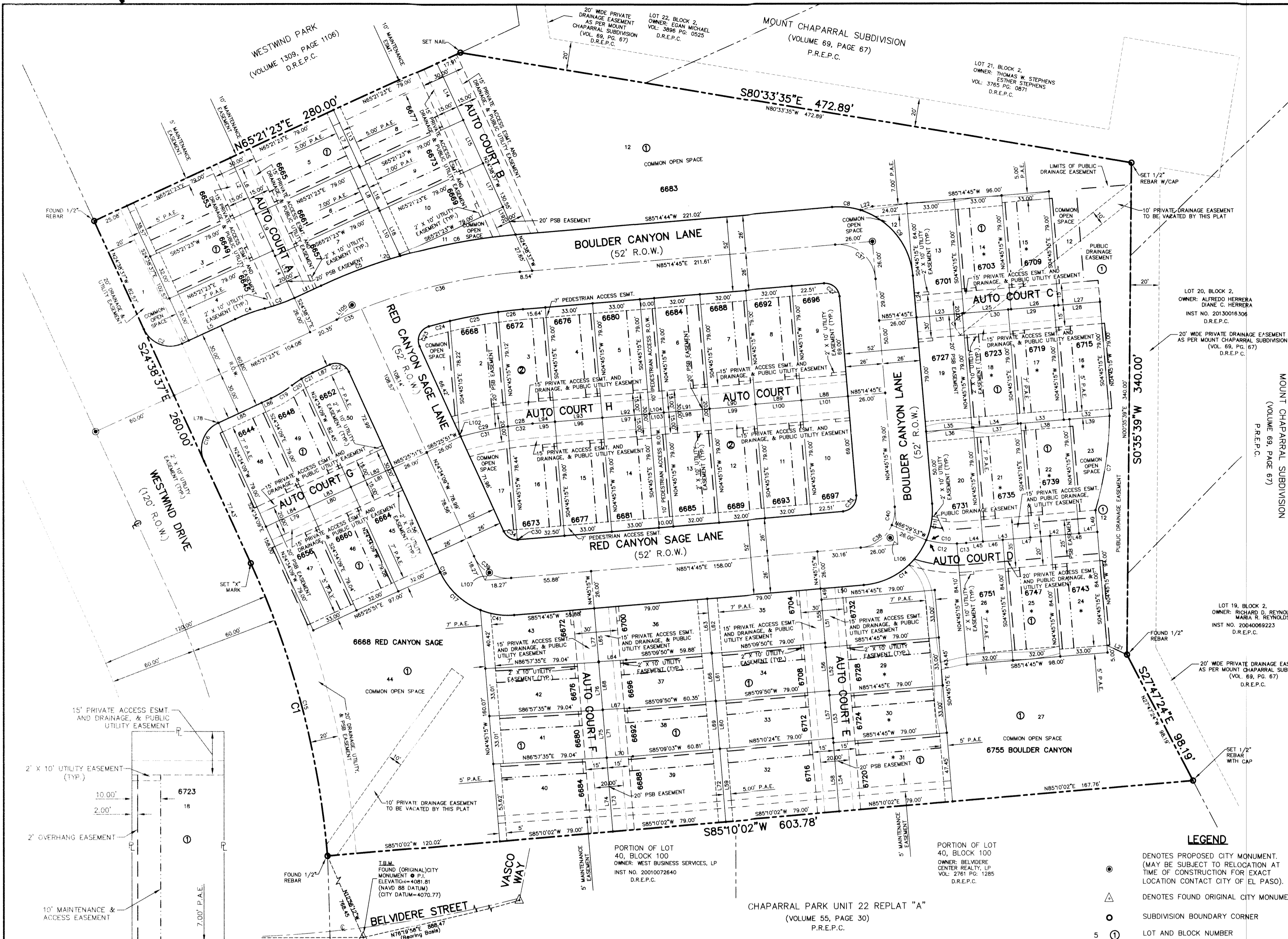
This plat represents a survey made on the ground by me or under my supervision and complies with the current Texas Board of Professional Land Surveying Professional and Technical Standards.

Jorge L. Azcarate
Jorge L. Azcarate, P.E.
Licensed Professional Engineer
Texas License No. 85075

Benito Barragan
Benito Barragan, R.P.L.S.
No. 3615

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

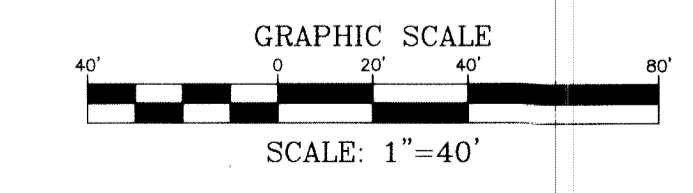
SURVEYOR
Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
10950 Pellicano Dr. Bldg. F - El Paso TX 79935
Phone: (915) 591-5709 Fax: (915) 591-5706
CONTACT: BENITO BARRAGAN, R.P.L.S.
DATE OF PREPARATION: JUNE 20, 2014



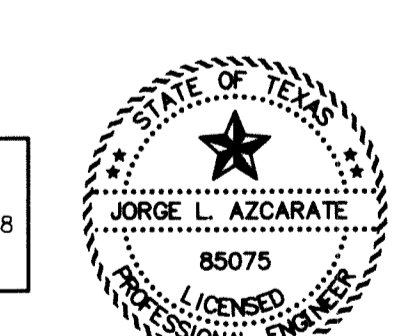
- NOTES:**
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO BOULDER CANYON REPLAT A SUBDIVISION BY THE EL PASO WATER UTILITIES/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON WESTWIND DRIVE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
 - TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT No. 20140048029-54 DATE 7/28/14
 - RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT No. 20140048055 DATE 7/28/14
 - MAINTENANCE AND ACCESS EASEMENT SHALL PROVIDE LEGAL USE TO THE ADJACENT LOT OWNER TO MAINTAIN ITS RESIDENTIAL STRUCTURE.
 - INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.
 - SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
 - "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
 - THIS SUBDIVISION LIES WITH IN ZONE "C" AS DESIGNATED IN PANEL NO. 480214 0022E, DATED JANUARY 3, 1997, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "C" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.
 - COMMON OPEN SPACES AND PEDESTRIAN ACCESS R.O.W. SHALL BE MAINTAINED BY THE SUBDIVISION'S HOME OWNERS ASSOCIATION, (H.O.A.).
 - BOULDER CANYON LANE AND RED CANYON SAGE LANE ARE PUBLIC STREET RIGHT-OF-WAYS AND SHALL BE MAINTAINED BY THE CITY OF EL PASO.
 - DEVELOPED FLOWS WILL DISCHARGE TO EXISTING STORM SEWER SYSTEM.
 - * LOTS 14-18, 21, 22, 24-26 AND 30 & 31 BLOCK 1 SHALL BE FIRE SPRINKLERED.
 - BEARING AND DISTANCES SHOWN ARE BASED ON CHAPARRAL PARK UNIT 22 REPLAT "A" FILED IN VOLUME 55, PAGE 30.
 - PLAT REFERENCE: BOULDER CANYON SUBDIVISION.
 - REPLAT DUE TO LOT CONFIGURATION.
 - P.A.E. DENOTES PEDESTRIAN ACCESS EASEMENT.
 - TRASH PICK-UP SHALL BE OFF OF THE PUBLIC STREETS. ALL TRASH CONTAINERS SHALL BE PLACED ALONG THE PUBLICLY DEDICATED STREETS - BOULDER CANYON AND RED CANYON SAGE LANE.

BENCHMARK:
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

SCHOOL DISTRICT:
EL PASO INDEPENDENT SCHOOL DISTRICT
6531 BOEING DRIVE
EL PASO, TEXAS 79925



- LEGEND**
- DENOTES PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION FOR EXACT LOCATION CONTACT CITY OF EL PASO).
 - ▲ DENOTES FOUND ORIGINAL CITY MONUMENT
 - SUBDIVISION BOUNDARY CORNER
 - 5 ○ LOT AND BLOCK NUMBER
 - D.R.E.P.C. DEED RECORDS OF EL PASO COUNTY, TEXAS
 - P.R.E.P.C. PLAT RECORDS OF EL PASO COUNTY, TEXAS
 - 2' OVERHANG EASEMENT (SEE TYPICAL LOT DETAIL)
 - 10' MAINTENANCE & ACCESS EASEMENT (SEE TYPICAL LOT DETAIL)



BOULDER CANYON REPLAT "A" SUBDIVISION

BEING A REPLAT OF ALL BOULDER CANYON SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 7.21 ACRES±
SHEET 2 OF 2

LINE TABLE			LINE TABLE			LINE TABLE		
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	S65°21'23"W	5.08'	L41	S85°14'45"W	12.84'	L81	N65°21'23"E	32.00'
L2	S24°38'37"E	38.57'	L42	S85°14'45"W	34.00'	L82	N65°21'23"E	32.00'
L3	S24°38'37"E	32.00'	L43	S85°14'45"W	33.00'	L83	N65°21'23"E	32.00'
L4	S24°38'37"E	36.00'	L44	S85°14'45"W	11.73'	L84	N65°21'23"E	33.00'
L5	S65°21'23"W	35.37'	L45	N85°14'45"E	11.73'	L85	N65°21'23"E	33.00'
L6	N24°38'37"W	42.57'	L46	N85°14'45"E	13.84'	L86	N65°21'23"E	7.18'
L7	S24°38'37"E	42.57'	L47	N85°14'45"E	33.00'	L87	N65°21'23"E	13.10'
L8	S24°38'37"E	32.00'	L48	N85°14'45"E	33.00'	L88	S85°14'45"W	32.51'
L9	N24°38'37"W	32.00'	L49	S04°45'15"E	7.76'	L89	N85°14'45"E	32.00'
L10	S24°38'37"E	36.25'	L50	S85°14'45"W	30.16'	L90	N85°14'45"E	32.00'
L11	S65°21'23"W	20.35'	L51	N04°45'15"W	33.00'	L91	N85°14'45"E	32.00'
L12	N24°38'37"W	32.00'	L52	S04°45'15"E	33.00'	L92	N85°14'45"E	33.00'
L13	S24°38'37"E	43.57'	L53	S04°45'15"E	33.00'	L93	N85°14'45"E	33.00'
L14	S24°38'37"E	43.57'	L54	S04°45'15"E	47.56'	L94	N85°14'45"E	15.64'
L15	S24°38'37"E	33.00'	L55	S04°45'15"E	37.74'	L95	N85°14'45"E	15.64'
L16	S24°38'37"E	33.00'	L56	S04°45'15"E	33.00'	L96	N85°14'45"E	33.00'
L17	S24°38'37"E	33.00'	L57	S04°45'15"E	33.00'	L97	N85°14'45"E	33.00'
L18	N24°38'37"W	33.00'	L58	S04°45'15"E	50.59'	L98	N85°14'45"E	32.00'
L19	S24°38'37"E	20.98'	L59	N04°45'15"W	50.59'	L99	N85°14'45"E	32.00'
L20	N24°38'37"W	1.25'	L60	N04°45'15"W	32.99'	L100	N85°14'45"E	32.00'
L21	N65°00'25"W	15.36'	L61	N04°45'15"W	33.00'	L101	S85°14'45"W	32.51'
L22	S73°08'37"W	8.64'	L62	N04°45'15"W	37.85'	L102	S24°34'09"E	1.85'
L23	S85°14'45"W	33.00'	L63	S04°45'11"E	37.35'	L103	N85°14'45"E	10.00'
L24	N04°45'15"W	29.00'	L64	S86°57'32"W	19.13'	L104	N85°14'45"E	10.00'
L25	S85°14'45"W	33.00'	L65	N04°45'15"W	36.86'	L105	N46°35'52"E	14.76'
L26	S85°14'45"W	33.00'	L66	S04°45'15"E	33.25'	L106	S49°45'15"E	7.07'
L27	S85°14'45"W	29.00'	L67	S86°57'35"W	18.66'	L107	S30°20'18"W	6.11'
L28	N85°14'45"E	32.00'	L68	N04°45'15"W	33.26'			
L29	N85°14'45"E	32.00'	L69	S04°45'15"E	33.24'			
L30	N85°14'45"E	32.00'	L70	S86°57'35"W	18.19'			
L31	N85°14'45"E	32.00'	L71	S04°45'15"E	33.26'			
L32	N85°14'45"E	32.00'	L72	N04°45'15"W	50.59'			
L33	S85°14'45"W	32.00'	L73	N04°45'15"W	51.15'			
L34	N85°14'45"E	32.00'	L74	N04°45'15"W	51.15'			
L35	N85°14'45"E	32.00'	L75	N04°45'15"W	33.01'			
L36	S85°14'45"W	33.00'	L76	N04°45'15"W	33.01'			
L37	S85°14'45"W	33.00'	L77	N04°45'15"W	37.36'			
L38	N85°14'45"E	34.00'	L78	N65°21'23"E	0.19'			
L39	S85°14'45"W	28.00'	L79	N65°21'23"E	33.00'			
L40	N04°45'15"W	15.00'	L80	N65°21'23"E	32.00'			

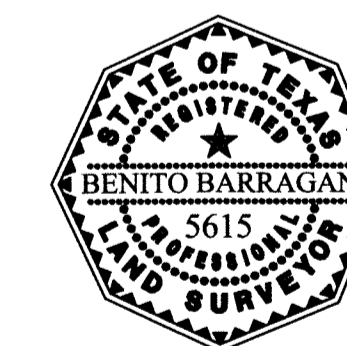
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C2	20.00'	31.42'	20.00'	28.28'	N69°38'37"W	090°00'00"
C3	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C4	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C5	407.00'	58.85'	29.48'	58.80'	S69°29'56"W	008°17'06"
C6	407.00'	81.56'	40.92'	81.43'	S79°22'57"W	011°28'56"
C7	242.36'	65.97'	33.19'	65.77'	N08°34'26"E	015°35'48"
C8	52.00'	20.03'	10.14'	19.91'	N83°43'08"W	022°04'14"
C9	52.00'	61.65'	35.03'	58.10'	N38°43'08"W	067°55'46"
C10	75.88'	27.97'	14.15'	27.81'	N85°41'18"W	021°07'20"
C11	52.00'	25.64'	13.09'	25.39'	N09°22'26"E	028°15'22"
C12	75.88'	21.54'	10.84'	21.46'	S83°15'32"E	016°15'47"
C13	75.88'	6.43'	3.22'	6.43'	N86°10'48"E	004°51'33"
C14	52.00'	56.04'	31.09'	53.36'	S54°22'26"W	061°44'38"
C15	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C16	20.00'	31.42'	20.00'	28.28'	N20°21'23"E	090°00'00"
C17	52.00'	39.17'	20.57'	38.25'	S46°46'39"E	043°09'41"
C18	52.00'	0.57'	0.28'	0.57'	N24°52'59"W	000°37'39"
C19	72.00'	17.01'	8.54'	16.97'	N58°35'18"E	013°32'10"
C20	72.00'	8.10'	4.06'	8.10'	N55°02'39"E	006°26'53"
C21	72.00'	8.91'	4.46'	8.90'	N61°48'44"E	007°05'18"
C22	10.00'	15.72'	10.01'	14.15'	S69°36'23"E	090°04'28"
C23	10.00'	17.29'	11.72'	15.21'	N24°57'31"E	099°03'21"
C24	355.00'	15.19'	7.59'	15.19'	N75°42'44"E	002°27'04"
C25	355.00'	34.11'	17.07'	34.09'	N79°41'25"E	005°30'17"
C26	355.00'	17.37'	8.69'	17.37'	N83°50'39"E	002°48'12"
C27	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"
C28	276.00'	17.37'	8.69'	17.37'	N83°26'33"E	003°36'24"
C29	276.00'	33.58'	16.81'	33.56'	N78°09'12"E	006°58'18"
C30	10.00'	0.50'	0.25'	0.50'	N86°40'00"E	002°50'30"
C31	276.00'	33.58'	16.81'	33.56'	N78°09'12"E	006°58'18"
C32	276.00'	17.37'	8.69'	17.37'	N83°26'33"E	003°36'24"
C33	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C34	10.00'	11.75'	6.66'	11.09'	N58°14'27"W	067°19'56"
C35	381.00'	18.80'	9.40'	18.80'	N66°46'13"E	002°49'40"
C36	381.00'	113.46'	57.15'	113.04'	N76°42'54"E	017°03'42"
C37	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	090°00'00"
C38	26.00'	28.02'	15.54'	26.68'	S54°22'26"W	061°44'38"
C39	26.00'	31.85'	18.27'	29.89'	S59°39'42"E	070°11'05"
C40	26.00'	12.82'	6.54'	12.69'	N09°22'26"E	028°15'22"
C41	52.00'	23.96'	12.19'	23.74'	N81°33'22"W	026°23'45"

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
1	1	2487 sq.ft.
1	2	3047 sq.ft.
1	3	2528 sq.ft.
1	4	2615 sq.ft.
1	5	3363 sq.ft.
1	6	2528 sq.ft.
1	7	2611 sq.ft.
1	8	3442 sq.ft.
1	9	2607 sq.ft.
1	10	2607 sq.ft.
1	11	767 sq.ft.
1	12	41253 sq.ft.
1	13	2607 sq.ft.
1	14	2607 sq.ft.
1	15	2607 sq.ft.
1	16	2528 sq.ft.
1	17	2528 sq.ft.
1	18	2528 sq.ft.
1	19	2528 sq.ft.
1	20	2647 sq.ft.
1	21	2607 sq.ft.
1	22	2686 sq.ft.
1	23	1598 sq.ft.
1	24	2772 sq.ft.
1	25	2772 sq.ft.

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
1	26	2688 sq.ft.
1	27	16389 sq.ft.
1	28	2607 sq.ft.
1	29	2607 sq.ft.
1	30	2607 sq.ft.
1	31	3753 sq.ft.
1	32	3997 sq.ft.
1	33	2606 sq.ft.
1	34	2607 sq.ft.
1	35	2986 sq.ft.
1	36	2949 sq.ft.
1	37	2627 sq.ft.
1	38	2627 sq.ft.
1	39	4001 sq.ft.
1	40	4138 sq.ft.
1	41	2608 sq.ft.
1	42	2608 sq.ft.
1	43	2899 sq.ft.
1	44	24691 sq.ft.
1	45	2531 sq.ft.
1	46	2530 sq.ft.
1	47	2608 sq.ft.
1	48	2607 sq.ft.
1	49	2561 sq.ft.
1	50	2633 sq.ft.

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
2	1	1008 sq.ft.
2	2	2698 sq.ft.
2	3	2608 sq.ft.
2	4	2607 sq.ft.
2	5	2607 sq.ft.
2	6	2528 sq.ft.
2	7	2528 sq.ft.
2	8	2528 sq.ft.
2	9	2547 sq.ft.
2	10	2547 sq.ft.
2	11	2528 sq.ft.
2	12	2528 sq.ft.
2	13	2528 sq.ft.
2	14	2607 sq.ft.
2	15	2607 sq.ft.
2	16	2604 sq.ft.
2	17	1552 sq.ft.

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 6/30/2014
Benito Barragan TX, R.P.L.S. No. 5615

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.

DATE OF PREPARATION: JUNE 20, 2014

BOULDER CANYON REPLAT "B" SUBDIVISION

BEING A REPLAT OF ALL
BOULDER CANYON REPLAT "A" SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 7.21 ACRES±

SHEET 1 OF 2
DEDICATION

WE, THE OWNERS OF THIS LAND, DO HEREBY PRESENT THIS MAP AND DEDICATE THEIR RESPECTIVE PORTIONS OF PROPERTY TO THE USE OF THE PUBLIC, THE STREETS, DRAINAGE EASEMENTS, UTILITY EASEMENTS, AND PSB EASEMENTS AS HEREON LAID DOWN AND DESIGNATED, INCLUDING EASEMENTS FOR OVERHANG OF SERVICE WIRES FOR POLE TYPE UTILITIES AND THE RIGHT FOR INSTALLATION OF SERVICE POLES ALONGSIDE LOT LINES AS MAY BE REQUIRED, EASEMENTS FOR BURIED SERVICE WIRES, CONDUITS AND PIPES FOR UNDERGROUND UTILITIES, AND THE RIGHT TO INGRESS AND EGRESS FOR SERVICE AND CONSTRUCTION, AND THE RIGHT TO TRIM INTERFERING TREES AND SHRUBS.

Witness my signature this _____ day of _____, 2014.

Patrick Woods, Authorized Representative

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

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

Given under my hand and seal of office this 16th day of December, 2014.

Notary Public in and for El Paso County

My Commission Expires _____

CITY PLANNING COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 18 day of December, 2014.

Chiefperson

Executive Secretary

Approved for filing this 29 day of December, 2014.

City Development Director

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 15 day of January, 2014, in File No. 20150003028 of the Plat Records.

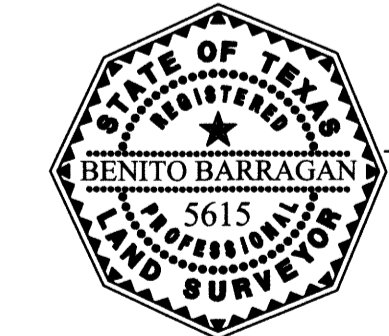
County Clerk

by Deputy

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

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

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



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

ENGINEER

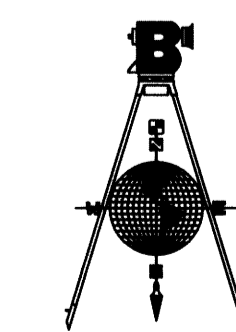


CEA GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564

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

CONTACT: JORGE L. AZCARATE, P.E.

SURVEYOR

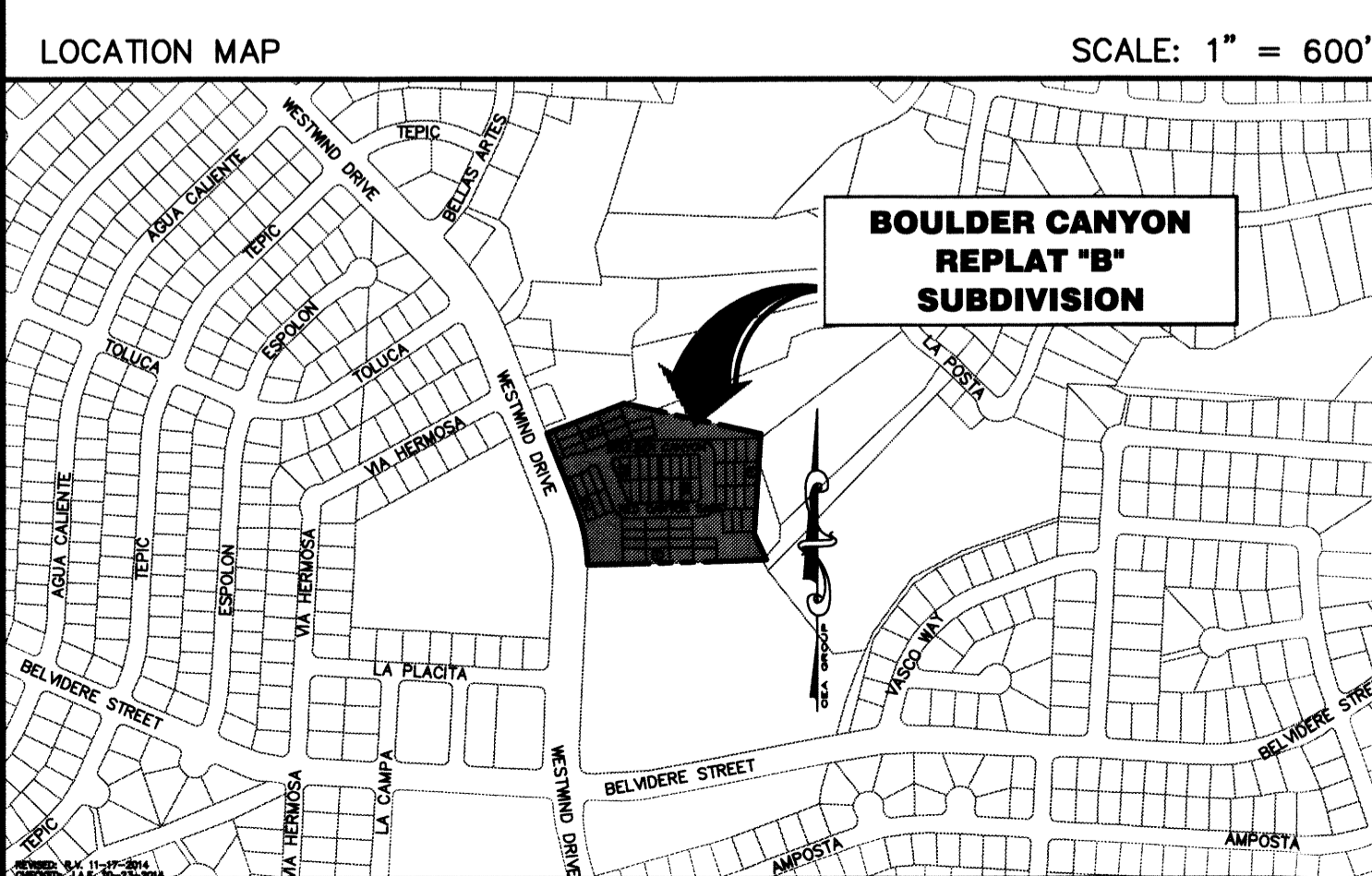
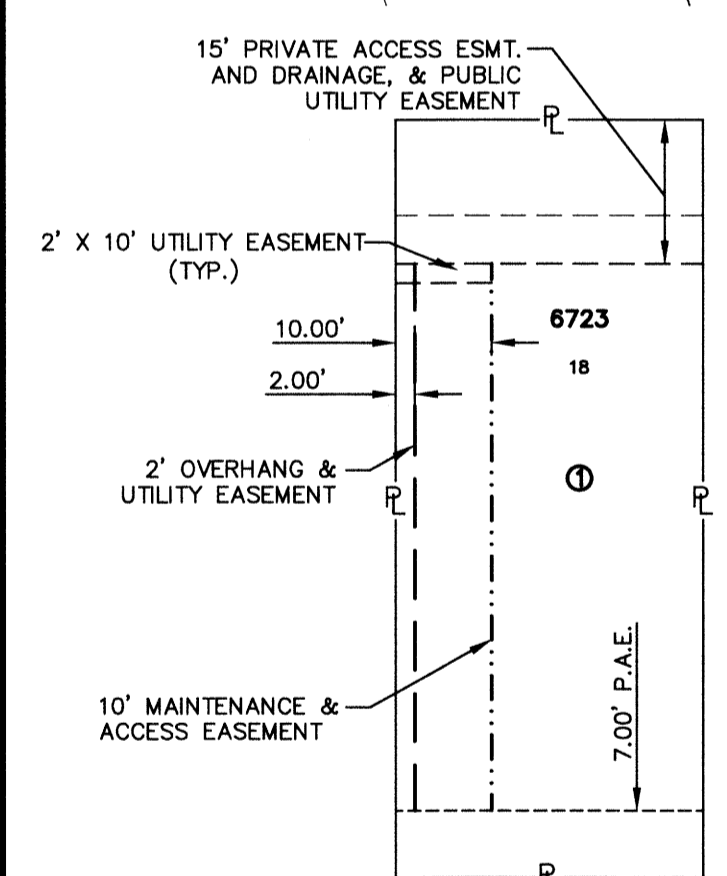
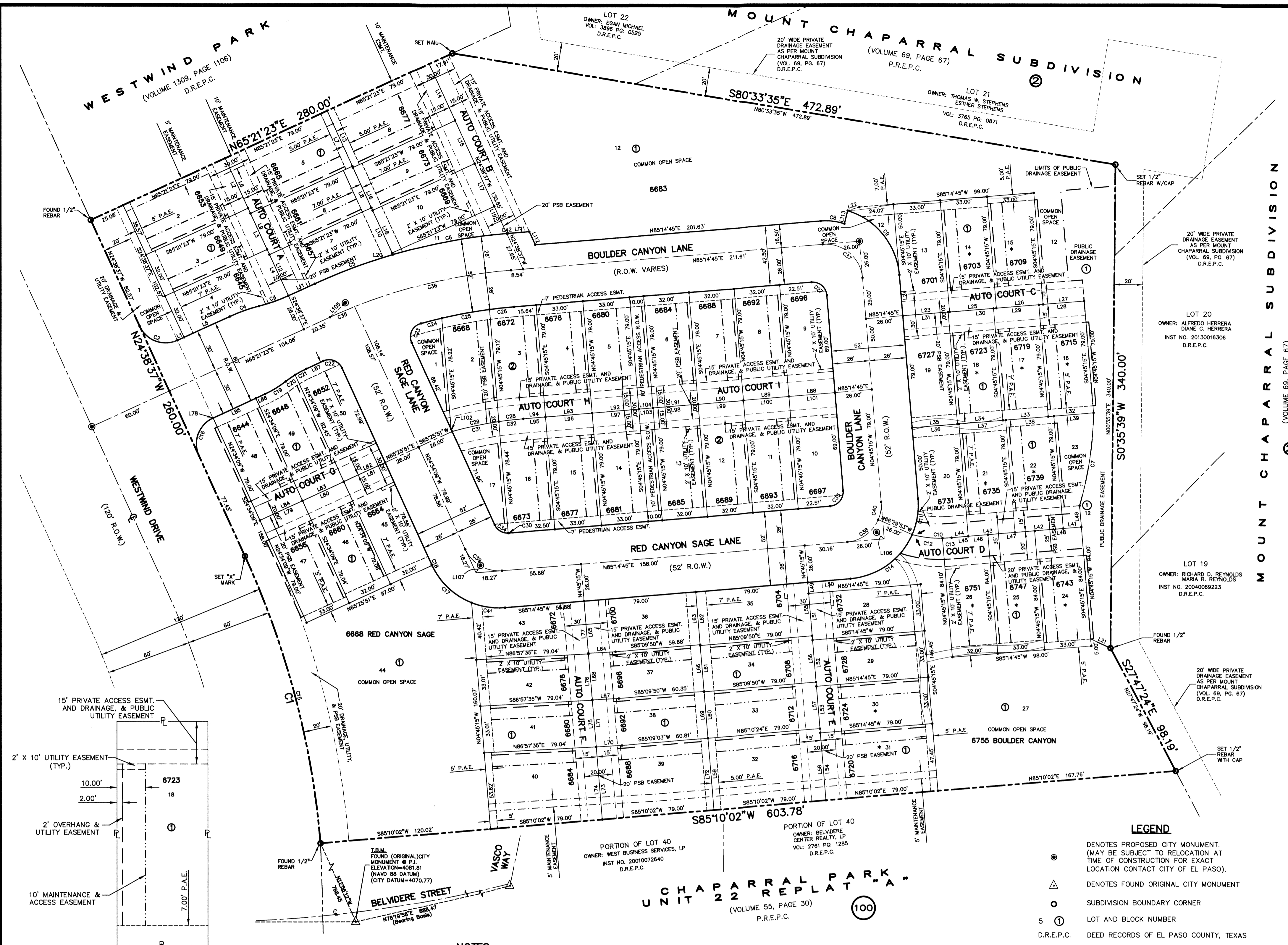


Barragan & Associates Inc.

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.

DATE OF PREPARATION: OCTOBER 8, 2014



NOTES:

- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO BOULDER CANYON REPLAT B SUBDIVISION 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 WESTWIND DRIVE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
- TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.
INSTRUMENT No. 20150003029-84 DATE 1/15/15
- RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION.
INSTRUMENT No. 20150003055 DATE 1/15/15
- MAINTENANCE AND ACCESS EASEMENT SHALL PROVIDE LEGAL USE TO THE ABUTTING LOT OWNER TO MAINTAIN ITS RESIDENTIAL STRUCTURE.
- INTERIOR LOT CORNERS WILL BE SET UPON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES.
- SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
- "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
- THIS SUBDIVISION LIES WITHIN ZONE "CC" AS DESIGNATED IN PANEL NO. 480214 0022E, DATED JANUARY 3, 1997, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "CC" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.
- COMMON OPEN SPACES AND PEDESTRIAN ACCESS R.O.W. SHALL BE MAINTAINED BY THE SUBDIVISION'S HOME OWNERS ASSOCIATION, (H.O.A.).
- BOULDER CANYON LANE AND RED CANYON SAGE LANE ARE PUBLIC STREET RIGHT-OF-WAYS AND SHALL BE MAINTAINED BY THE CITY OF EL PASO.
- DEVELOPED FLOWS WILL DISCHARGE TO EXISTING STORM SEWER SYSTEM.
- * LOTS 14-18, 21, 22, 24-26 AND 30 & 31 BLOCK 1 SHALL BE FIRE SPRINKLERED.
- BEARING AND DISTANCES SHOWN ARE BASED ON DATUM NAD 83 AS FILED IN VOLUME 55, PAGE 30.
- PLAT REFERENCE: BOULDER CANYON REPLAT A SUBDIVISION.
- REPLAT DUE TO REDUCTION OF R.O.W. WIDTH OF BOULDER CANYON LANE FROM AUTO COURT B TO BOULDER CANYON LANE HEEL.
- P.A.E. DENOTES PEDESTRIAN ACCESS EASEMENT.
- TRASH PICK-UP SHALL BE OFF OF THE PUBLIC STREETS. ALL TRASH CONTAINERS SHALL BE PLACED ALONG THE PUBLICLY DEDICATED STREETS - BOULDER CANYON AND RED CANYON SAGE LANE.

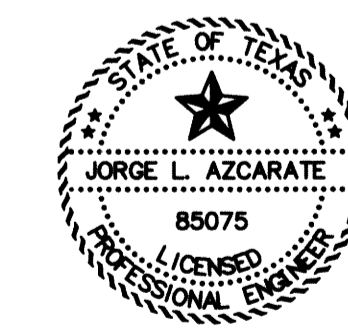
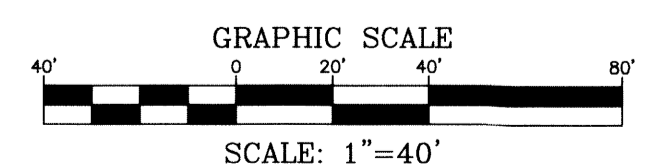
LEGEND

- DENOTES PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION FOR EXACT LOCATION CONTACT CITY OF EL PASO).
- ▲ DENOTES FOUND ORIGINAL CITY MONUMENT
- SUBDIVISION BOUNDARY CORNER
- 5 ○ LOT AND BLOCK NUMBER
- D.R.E.P.C. DEED RECORDS OF EL PASO COUNTY, TEXAS
- P.R.E.P.C. PLAT RECORDS OF EL PASO COUNTY, TEXAS
- 2' OVERHANG & UTILITY EASEMENT (SEE TYPICAL LOT DETAIL)
- 10' MAINTENANCE & ACCESS EASEMENT (SEE TYPICAL LOT DETAIL)

BENCHMARK:
BENCHMARK IS CITY MONUMENT AT P.I. LOCATED ON WESTWIND DR. NAVD 88 DATUM ELEVATION = 4081.81 (CITY DATUM = 4070.77)

SCHOOL DISTRICT
EL PASO INDEPENDENT SCHOOL DISTRICT
6531 BOEING DRIVE
EL PASO, TEXAS 79925

REPLAT REASON
REDUCTION OF R.O.W. WIDTH OF BOULDER CANYON LANE FROM AUTO COURT B TO BOULDER CANYON LANE HEEL DUE TO TOPOGRAPHIC CONSTRAINTS



BOULDER CANYON REPLAT "B" SUBDIVISION

BEING A REPLAT OF ALL
BOULDER CANYON REPLAT "A" SUBDIVISION,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 7.21 ACRES±

SHEET 2 OF 2

LINE TABLE			LINE TABLE			LINE TABLE		
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	S85°21'23"W	5.08'	L41	S85°14'45"W	12.84'	L81	N65°21'23"E	32.00'
L2	S24°38'37"E	38.57'	L42	S85°14'45"W	34.00'	L82	N65°21'23"E	32.00'
L3	S24°38'37"E	32.00'	L43	S85°14'45"W	33.00'	L83	N65°21'23"E	32.00'
L4	S24°38'37"E	36.00'	L44	S85°14'45"W	11.73'	L84	N65°21'23"E	33.00'
L5	S65°21'23"W	35.37'	L45	N85°14'45"E	11.73'	L85	N65°21'23"E	33.00'
L6	N24°38'37"W	42.57'	L46	N85°14'45"E	13.84'	L86	N65°21'23"E	7.18'
L7	S24°38'37"E	42.57'	L47	N85°14'45"E	33.00'	L87	N65°21'23"E	13.10'
L8	S24°38'37"E	32.00'	L48	N85°14'45"E	33.00'	L88	S85°14'45"W	32.51'
L9	N24°38'37"W	32.00'	L49	S04°45'15"E	7.76'	L89	N85°14'45"E	32.00'
L10	S24°38'37"E	36.25'	L50	S85°14'45"W	30.16'	L90	N85°14'45"E	32.00'
L11	S65°21'23"W	20.35'	L51	N04°45'15"W	33.00'	L91	N85°14'45"E	32.00'
L12	N24°38'37"W	32.00'	L52	S04°45'15"E	33.00'	L92	N85°14'45"E	33.00'
L13	S24°38'37"E	43.57'	L53	S04°45'15"E	33.00'	L93	N85°14'45"E	33.00'
L14	S24°38'37"E	43.57'	L54	S04°45'15"E	47.56'	L94	N85°14'45"E	15.64'
L15	S24°38'37"E	33.00'	L55	S04°45'15"E	37.74'	L95	N85°14'45"E	15.64'
L16	S24°38'37"E	33.00'	L56	S04°45'15"E	33.00'	L96	N85°14'45"E	33.00'
L17	S24°38'37"E	33.00'	L57	S04°45'15"E	33.00'	L97	N85°14'45"E	33.00'
L18	N24°38'37"W	33.00'	L58	S04°45'15"E	50.59'	L98	N85°14'45"E	32.00'
L19	S24°38'37"E	20.98'	L59	N04°45'15"W	50.59'	L99	N85°14'45"E	32.00'
L20	N24°38'37"W	1.25'	L60	N04°45'15"W	32.99'	L100	N85°14'45"E	32.00'
L21	N65°00'25"W	15.36'	L61	N04°45'15"W	33.00'	L101	S85°14'45"W	32.51'
L22	S73°08'37"W	8.64'	L62	N04°45'15"W	37.85'	L102	S24°34'09"E	1.85'
L23	S85°14'45"W	33.00'	L63	S04°45'11"E	37.35'	L103	N85°14'45"E	10.00'
L24	N04°45'15"W	29.00'	L64	S86°57'32"W	19.13'	L104	N85°14'45"E	10.00'
L25	S85°14'45"W	33.00'	L65	N04°45'15"W	36.86'	L105	N46°35'52"E	14.76'
L26	S85°14'45"W	33.00'	L66	S04°45'15"E	33.25'	L106	S49°45'15"E	7.07'
L27	S85°14'45"W	29.00'	L67	S86°57'35"W	18.66'	L107	S30°20'18"W	6.11'
L28	N85°14'45"E	32.00'	L68	N04°45'15"W	33.26'	L111	S85°14'45"W	15.08'
L29	N85°14'45"E	32.00'	L69	S04°45'15"E	33.24'	L112	S24°38'37"E	10.10'
L30	N85°14'45"E	32.00'	L70	S86°57'35"W	18.19'	L113	S13°51'24"W	9.52'
L31	N85°14'45"E	32.00'	L71	S04°45'15"E	33.26'			
L32	N85°14'45"E	32.00'	L72	N04°45'15"W	50.59'			
L33	S85°14'45"W	32.00'	L73	N04°45'15"W	51.15'			
L34	N85°14'45"E	32.00'	L74	N04°45'15"W	51.15'			
L35	N85°14'45"E	32.00'	L75	N04°45'15"W	33.01'			
L36	S85°14'45"W	33.00'	L76	N04°45'15"W	33.01'			
L37	S85°14'45"W	33.00'	L77	N04°45'15"W	37.36'			
L38	N85°14'45"E	34.00'	L78	N65°21'23"E	0.19'			
L39	S85°14'45"W	28.00'	L79	N65°21'23"E	33.00'			
L40	N04°45'15"W	15.00'	L80	N65°21'23"E	32.00'			

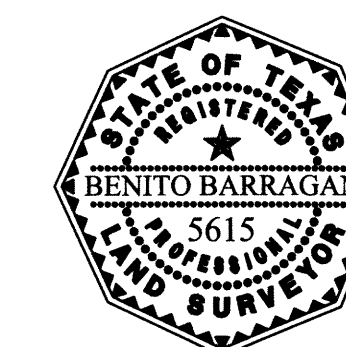
CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C2	20.00'	31.42'	20.00'	28.28'	N69°38'37"W	090°00'00"
C3	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C4	120.00'	21.94'	11.00'	21.91'	S70°35'39"W	010°28'31"
C5	407.00'	58.85'	29.48'	58.80'	S69°29'56"W	008°17'06"
C6	407.00'	81.56'	40.92'	81.43'	S79°22'57"W	011°28'56"
C7	242.36'	65.97'	33.19'	65.77'	N08°34'26"E	015°35'48"
C8	42.50'	16.95'	8.59'	16.83'	N83°19'54"W	022°50'42"
C9	52.00'	61.65'	35.03'	58.10'	N38°43'08"W	067°55'46"
C10	75.88'	27.97'	14.15'	27.81'	N85°41'18"W	021°07'20"
C11	52.00'	25.64'	13.09'	25.39'	N09°22'26"E	028°15'22"
C12	75.88'	21.54'	10.84'	21.46'	S83°15'32"E	016°15'47"
C13	75.88'	6.43'	3.22'	6.43'	N86°10'48"E	004°51'33"
C14	52.00'	56.04'	31.09'	53.36'	S54°22'26"W	061°44'38"
C15	607.73'	210.13'	106.13'	209.09'	N14°44'18"W	019°48'39"
C16	20.00'	31.42'	20.00'	28.28'	N20°21'23"E	090°00'00"
C17	52.00'	39.17'	20.57'	38.25'	S46°46'39"E	043°09'41"
C18	52.00'	0.57'	0.28'	0.57'	N24°52'59"W	000°37'39"
C19	72.00'	17.01'	8.54'	16.97'	N58°35'18"E	013°32'10"
C20	72.00'	8.10'	4.06'	8.10'	N55°02'39"E	006°26'53"
C21	72.00'	8.91'	4.46'	8.90'	N61°48'44"E	007°05'18"
C22	10.00'	15.72'	10.01'	14.15'	S69°36'23"E	090°04'28"
C23	10.00'	17.29'	11.72'	15.21'	N24°57'31"E	099°03'21"
C24	355.00'	15.19'	7.59'	15.19'	N75°42'44"E	002°27'04"
C25	355.00'	34.11'	17.07'	34.09'	N79°41'25"E	005°30'17"
C26	355.00'	17.37'	8.69'	17.37'	N83°50'39"E	002°48'12"
C27	10.00'	15.71'	10.00'	14.14'	S49°45'15"E	090°00'00"
C28	276.00'	17.37'	8.69'	17.37'	N83°26'33"E	003°36'24"
C29	276.00'	33.58'	16.81'	33.56'	N78°09'12"E	006°58'18"
C30	10.00'	0.50'	0.25'	0.50'	N86°40'00"E	002°50'30"
C31	276.00'	33.58'	16.81'	33.56'	N78°09'12"E	006°58'18"
C32	276.00'	17.37'	8.69'	17.37'	N83°26'33"E	003°36'24"
C33	10.00'	15.71'	10.00'	14.14'	S40°14'45"W	090°00'00"
C34	10.00'	11.75'	6.66'	11.09'	S58°14'27"E	067°20'35"
C35	381.00'	18.80'	9.40'	18.80'	N66°46'13"E	002°49'40"
C36	381.00'	113.46'	57.15'	113.04'	N76°42'54"E	017°03'42"
C37	26.00'	40.84'	26.00'	36.77'	N49°45'15"W	090°00'00"
C38	26.00'	28.02'	15.54'	26.68'	S54°22'26"W	061°44'38"
C39	26.00'	31.85'	18.27'	29.89'	S59°39'42"E	070°11'05"
C40	26.00'	12.82'	6.54'	12.69'	N09°22'26"E	028°15'22"
C41	52.00'	23.96'	12.19'	23.74'	N81°33'22"W	026°23'45"
C42	407.00'	0.87'	0.43'	0.87'	N85°11'05"E	000°07'20"

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
1	1	2487 sq.ft.
1	2	3047 sq.ft.
1	3	2528 sq.ft.
1	4	2615 sq.ft.
1	5	3363 sq.ft.
1	6	2528 sq.ft.
1	7	2611 sq.ft.
1	8	3442 sq.ft.
1	9	2607 sq.ft.
1	10	2607 sq.ft.
1	11	767 sq.ft.
1	12	43360 sq.ft.
1	13	2607 sq.ft.
1	14	2607 sq.ft.
1	15	2607 sq.ft.
1	16	2528 sq.ft.
1	17	2528 sq.ft.
1	18	2528 sq.ft.
1	19	2528 sq.ft.
1	20	2647 sq.ft.
1	21	2607 sq.ft.
1	22	2686 sq.ft.
1	23	1598 sq.ft.
1	24	2772 sq.ft.
1	25	2772 sq.ft.

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
1	26	2688 sq.ft.
1	27	16389 sq.ft.
1	28	2607 sq.ft.
1	29	2607 sq.ft.
1	30	2607 sq.ft.
1	31	3753 sq.ft.
1	32	3997 sq.ft.
1	33	2606 sq.ft.
1	34	2607 sq.ft.
1	35	2986 sq.ft.
1	36	2949 sq.ft.
1	37	2627 sq.ft.
1	38	2627 sq.ft.
1	39	4001 sq.ft.
1	40	4138 sq.ft.
1	41	2608 sq.ft.
1	42	2608 sq.ft.
1	43	2899 sq.ft.
1	44	24691 sq.ft.
1	45	2531 sq.ft.
1	46	2530 sq.ft.
1	47	2608 sq.ft.
1	48	2607 sq.ft.
1	49	2561 sq.ft.
1	50	2633 sq.ft.

LOT AREAS		
BLOCK NO.	LOT NO.	AREA
2	1	1008 sq.ft.
2	2	2698 sq.ft.
2	3	2608 sq.ft.
2	4	2607 sq.ft.
2	5	2607 sq.ft.
2	6	2528 sq.ft.
2	7	2528 sq.ft.
2	8	2528 sq.ft.
2	9	2547 sq.ft.
2	10	2547 sq.ft.
2	11	2528 sq.ft.
2	12	2528 sq.ft.
2	13	2528 sq.ft.
2	14	2607 sq.ft.
2	15	2607 sq.ft.
2	16	2604 sq.ft.
2	17	1552 sq.ft.

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 12/10/2014
Benito Barragan TX, R.P.L.S. No. 5615

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.

DATE OF PREPARATION: OCTOBER 8, 2014