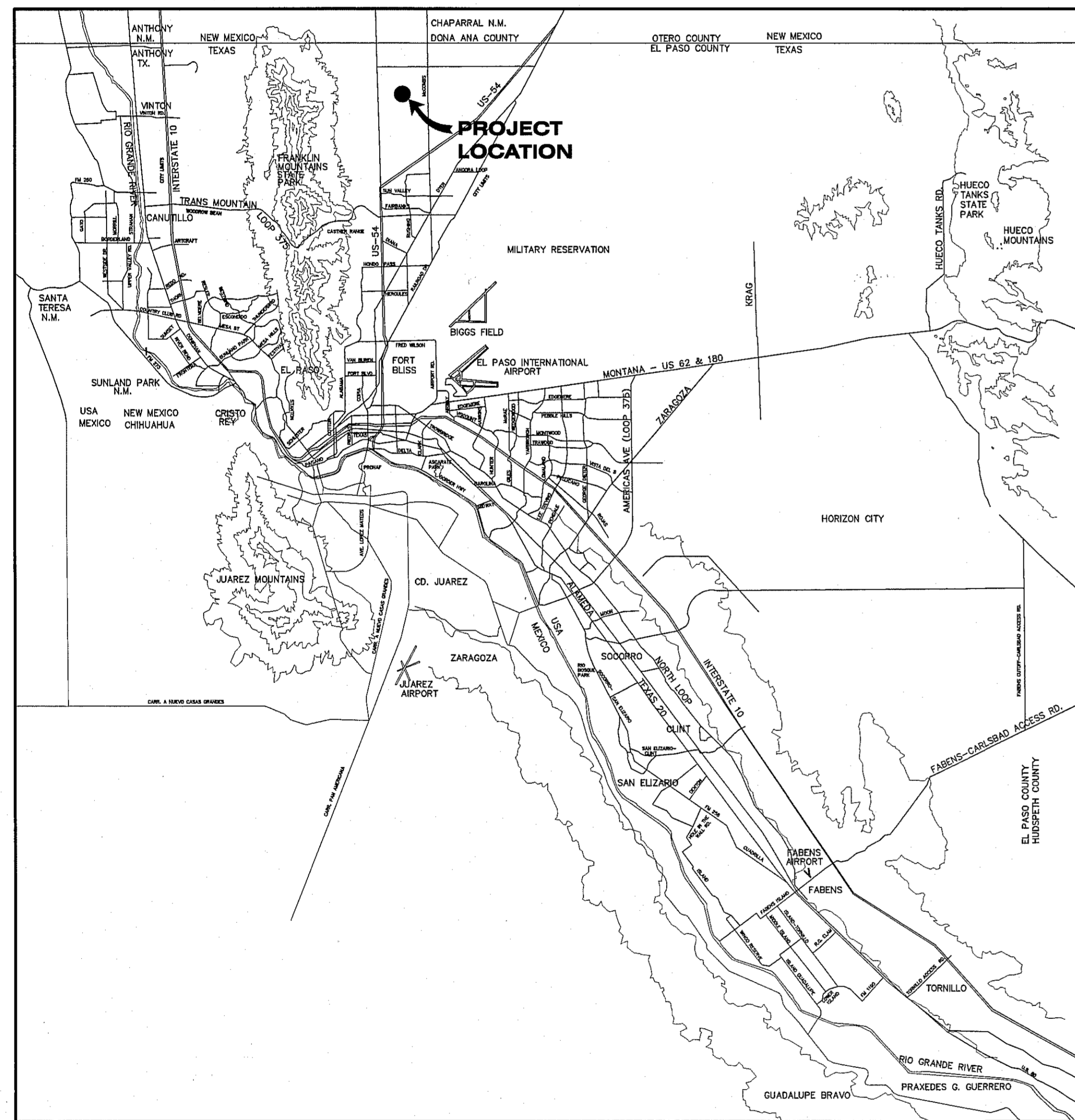


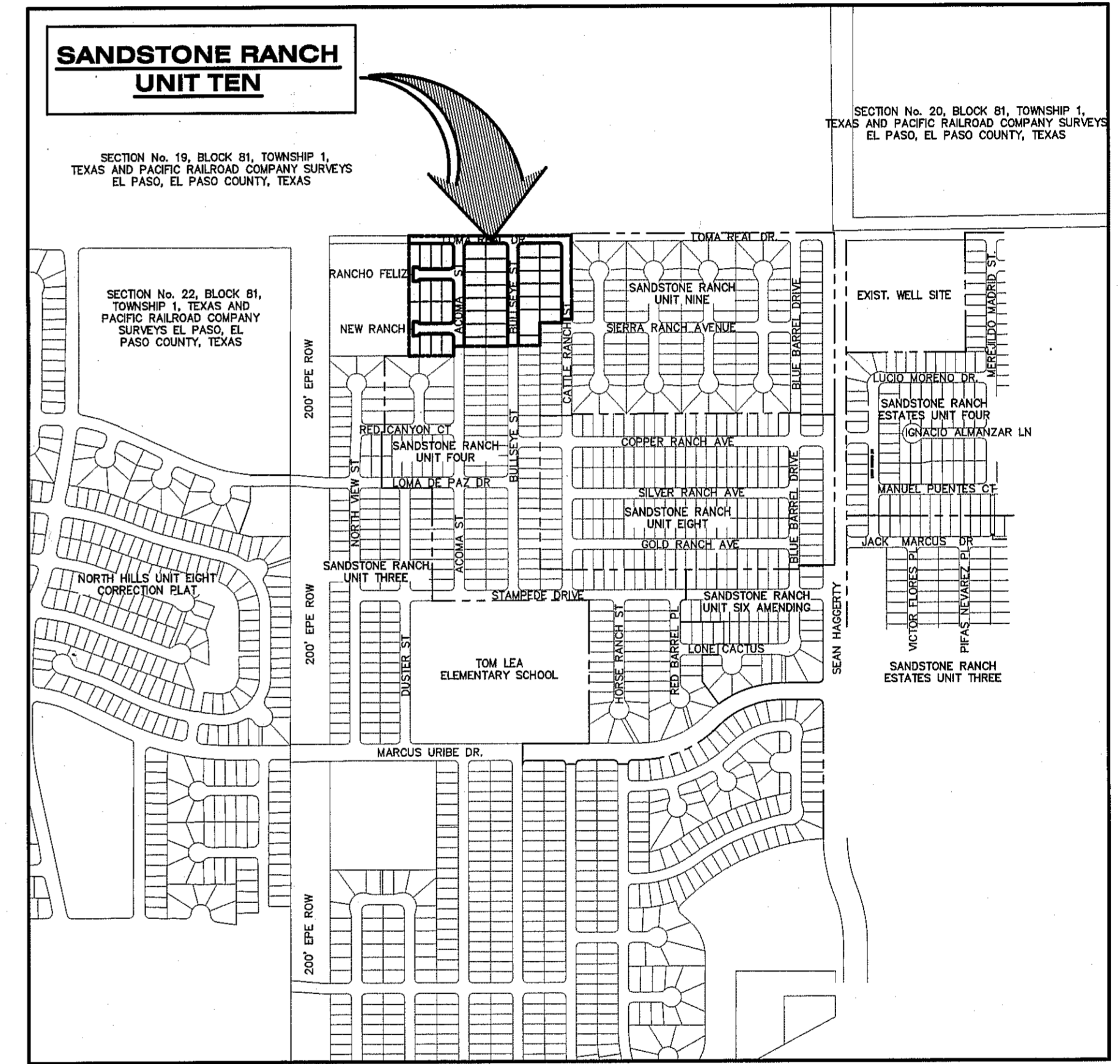
SANDSTONE RANCH UNIT TEN SUBDIVISION IMPROVEMENTS

BEING A PORTION OF SECTION 22, BLOCK 81, TOWNSHIP 1,
TEXAS AND PACIFIC RAILROAD CO. SURVEYS,
CITY OF EL PASO, EL PASO COUNTY, TEXAS.
CONTAINING 10.17 ACRES±



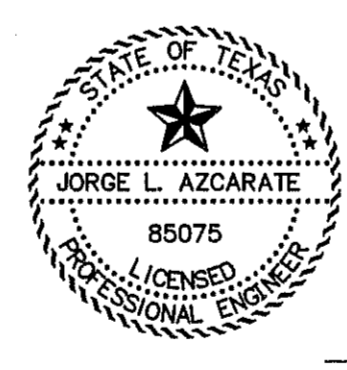
VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C4.1 / C4.2	DRAINAGE PLAN / OFF-SITE DRAINAGE PLAN
C5.1	GRADING SECTIONS
C6.1-C6.5	STREET PLAN & PROFILES
C7.1-C7.3	STANDARD DETAILS
C8.1	ILLUMINATION PLAN
C9.1	WATER INDEX / GENERAL INFORMATION
C9.2	12" WATER LINE PLAN & PROFILE
C10.1-C10.4	WATER DETAILS
C11.1	SANITARY SEWER INDEX / GENERAL INFORMATION
C12.1-C12.3	SANITARY SEWER PLAN & PROFILES
C13.1-C13.3	SANITARY SEWER DETAILS
C14.1-C14.3	STORM WATER POLLUTION PREVENTION PLAN



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'

CITY DEVELOPMENT DEPARTMENT
Reviewed For Conformance For Condition Related To:
 Sidewalks
 Driveways
 Grading Or Drainage
 Retaining Rock Walls
 Wheelchair Ramps
 On Site Parking Of Storm Water
 Contractor Must Call 24 Hours Prior To Construction For Inspections
 By R. C. HERSHAK 1/13/14 Date



JL
12-18-13
JORGE L. AZCARATE, P.E.

ca
GROUP
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
4712 Woodrow Bean, Ste. F El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.caengr.com

PRINCIPAL CONTACTS:

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

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GENERAL NOTES

- 1. THE CONTRACTOR SHALL VISIT AND FAMILIARIZE HIMSELF WITH THE PROJECT SITE PRIOR TO SUBMITTING BIDS.
2. CONTRACTOR SHALL WATER CONSTRUCTION AREA A MINIMUM OF TWICE A DAY TO KEEP DUST TO A MINIMUM...
3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, PROTECT, AND REPLACE ALL UNDERGROUND UTILITY LINES AT NO EXTRA COST TO THE OWNER...
4. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SCHEDULE AND PERFORM HIS WORK SO AS TO ASSURE PROPER PASSAGE OF STORM RUNOFF...
5. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE USER, ALL UTILITIES, AND ALL OTHER AGENCIES WITH JURISDICTION OVER THE PROJECT.
6. ALL EXISTING PAVEMENT, ADJACENT UTILITIES, STRUCTURES, ETC., DISTURBED AS A RESULT OF THE NEW CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. THE OWNER WILL FURNISH HORIZONTAL AND VERTICAL CONTROL REFERENCED POINTS ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES BEFORE PROCEEDING WITH THE WORK.
8. SEE REFERENCED BENCHMARK ON TITLE BLOCK FOR DATUM ELEVATIONS.
9. VIBRATORY ROLLERS WILL NOT BE PERMITTED ON ANY PHASE OF THIS PROJECT, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE.
10. ALL WORK REQUIRED BY THESE PLANS SHALL BE CONDUCTED IN CONFORMANCE WITH CURRENT SAFETY CODES AND STANDARDS WITH JURISDICTION OVER THE PROJECT.
11. THE LOCATION OF THE INLETS SHALL BE AT THE FIELD LOW POINT AND APPROVED BY THE ENGINEER.

LEGEND

- SUBDIVISION BOUNDARY
--- ROW LINE
--- CURB LINE
--- PROPERTY LINE
--- STREET CENTERLINE
--- EASEMENT LINE
--- MATCH LINE
--- STORM SEWER LINE
--- HIGH WATER MARK
--- CURB AND GUTTER DROP INLET
--- STORM SEWER MANHOLE
--- 4000 FINISHED GROUND CONTOUR ELEVATION (INDEX)
--- FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
--- 4000 EXISTING GROUND CONTOUR ELEVATION (INDEX)
--- EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
--- NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
--- NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
--- STANDARD DETAIL/SECTION NUMBER
--- SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
--- 4000.00 FINISHED SPOT ELEVATION
--- FG 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
--- CITY MONUMENT

GRADING SPECIFICATIONS

- 1. CLEARING AND GRUBBING: CLEAR SITE OF TREES, SHRUBS AND OTHER VEGETATION, COMPLETELY REMOVE STUMPS, ROOTS AND OTHER DEBRIS PROTRUDING THROUGH GROUND SURFACE...
2. SATISFACTORY FILL MATERIALS: FILL MATERIALS SHALL BE FREE OF ANY ORGANIC OR DELETERIOUS SUBSTANCE AND SHALL NOT CONTAIN ROCKS OR LUMPS OVER 3 INCHES IN GREATEST DIMENSION...
3. UNSATISFACTORY FILL MATERIAL: ARE DEFINED AS THOSE COMPLYING WITH ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, GC, SM, SP, SM, AND SC.
4. EXCAVATION: IS UNCLASSIFIED AND INCLUDES EXCAVATION TO ELEVATIONS INDICATED, REGARDLESS OF CHARACTER OF MATERIAL AND OBSTRUCTIONS ENCOUNTERED.
5. GROUND SURFACE PREPARATION FOR FILL: REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIAL, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE UPON WHICH THE FILL IS TO BE PLACED...
6. PLACEMENT OF FILL: PLACE BACKFILL AND FILL MATERIALS IN LAYERS NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT...
7. MOISTURE CONTROL: WHERE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE CONDITIONED FOR OPTIMUM MOISTURE BEFORE COMPACTION...
8. QUALITY CONTROL: THE OWNER SHALL PROVIDE A GEOTECHNICAL ENGINEER TO PERFORM FIELD DENSITY TEST OF THE COMPACTION OF EACH LAYER OF FILL. DENSITY TESTS SHALL BE TAKEN IN THE COMPACTED MATERIAL BELOW THE DISTURBED SURFACE.

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
DA DELTA ANGLE
S SLOPE
TEMP TEMPERATURE
V VELOCITY IN FEET PER SECOND
HGL HYDRAULIC GRADE LINE
HWE HIGH WATER ELEVATION

UTILITY LOCATOR SERVICES table with columns for company name and phone number. Includes EL PASO ELECTRIC COMPANY, EL PASO ENERGY CORPORATION, EL PASO WATER UTILITIES, MCI SURVEILLANCE, TIME WARNER COMMUNICATIONS, TEXAS GAS SERVICE, SBC, AT&T, U.S. SPRINT TELECOMM.

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

INDEX OF DRAWINGS

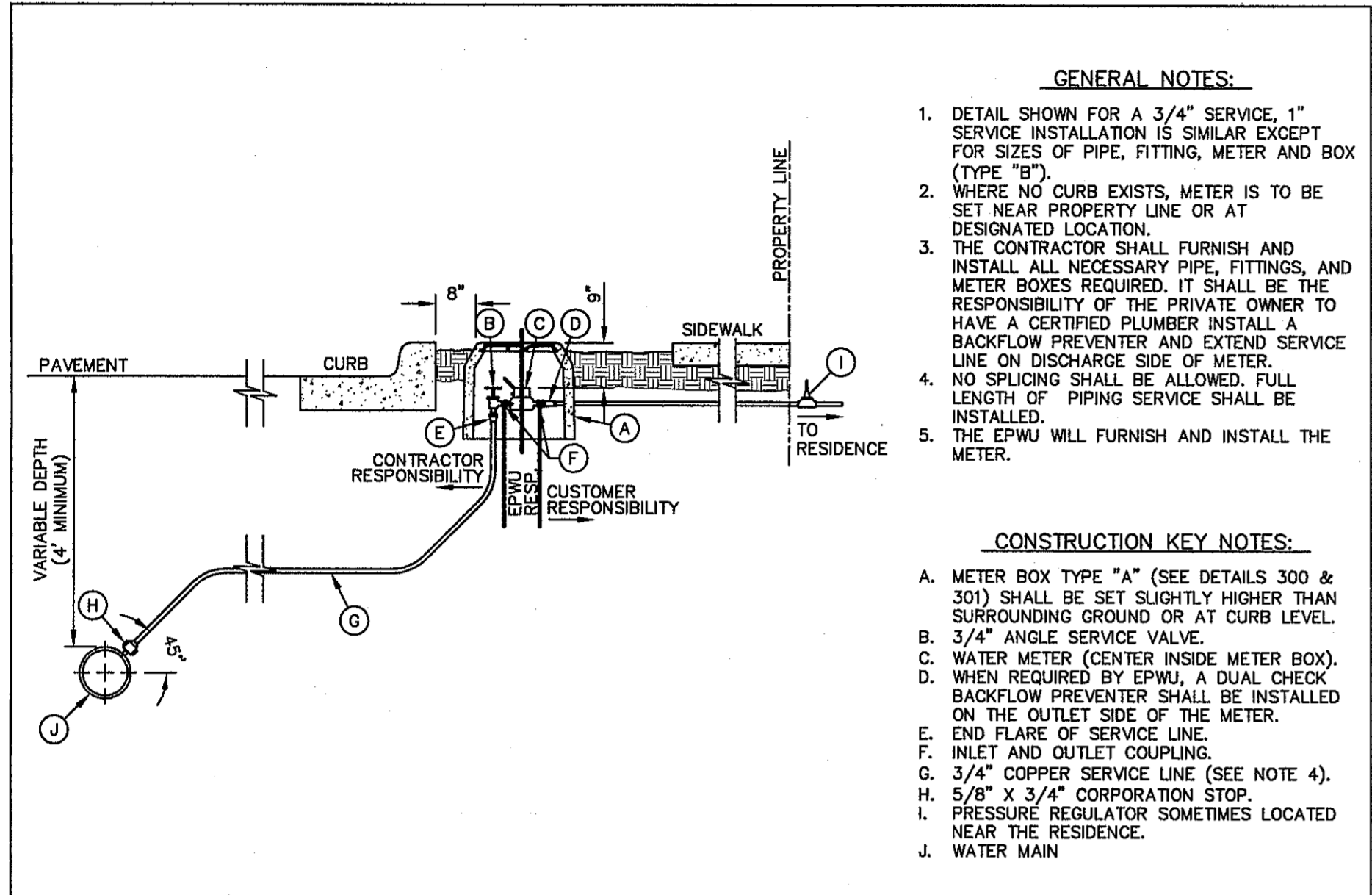
Table with columns DRAWING NAME and SHEET NO. listing various drawings like COVER, GENERAL INFORMATION, PLAT, GRADING PLAN, DRAINAGE PLAN, OFF-SITE DRAINAGE PLAN, GRADING SECTIONS, ACOMA STREET PLAN & PROFILE FROM STA. 0+00.00 TO STA. 5+48.45, BULLSEYE STREET PLAN & PROFILE FROM STA. 0+00.00 TO STA. 5+46.83, CATTLE RANCH STREET PLAN & PROFILE FROM STA. 4+87.29 TO STA. 9+15.56, NEW RANCH COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+20.00, RANCHO FELIZ COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+20.00, LOMA REAL DRIVE PLAN & PROFILE FROM STA. 13+22.32 TO STA. 21+39.67, STANDARD DETAILS (SHEET 1 OF 3), STANDARD DETAILS (SHEET 2 OF 3), STANDARD DETAILS (SHEET 3 OF 3), ILLUMINATION, WATER LINE INDEX, 12" WATER LINE PLAN & PROFILE, WATER DETAILS (SHEET 1 OF 4), WATER DETAILS (SHEET 2 OF 4), WATER DETAILS (SHEET 3 OF 4), WATER DETAILS (SHEET 4 OF 4), SANITARY SEWER INDEX, SANITARY SEWER PLAN & PROFILE: LINE A & B, SANITARY SEWER PLAN & PROFILE: LINE C & D, SANITARY SEWER PLAN & PROFILE: LINE E & F, SANITARY SEWER DETAILS (SHEET 1 OF 3), SANITARY SEWER DETAILS (SHEET 2 OF 3), SANITARY SEWER DETAILS (SHEET 3 OF 3), STORM WATER POLLUTION PREVENTION PLAN: GENERAL NOTES, STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN, STORM WATER POLLUTION PREVENTION PLAN: DETAILS.

Vertical sidebar containing: REFERENCES - BENCHMARKS (FOUND TYPICAL BRASS CAP AT ELEVATION CORNERS 9, 20B, 21, AND 22...), ENGINEER'S SEAL (Professional Engineer Seal for J. M. J. G.), SCALE (Horizontal: N/A, Vertical: N/A, Contour Interval: N/A), DATE: NOVEMBER 2013, DESIGN BY: J.M., DRAWN BY: J.M., CHKD. BY: J.G., APPVD. BY: J.L.A., JOB No. 2000-164-LD, PROJECT TITLE (SANDSTONE RANCH UNIT TEN SUBDIVISION IMPROVEMENTS), SHEET TITLE (GENERAL NOTES), SHEET NO. (C1.1), and REVIEWED stamp from CITY DEVELOPMENT DEPARTMENT.

SPECIAL CONDITIONS

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

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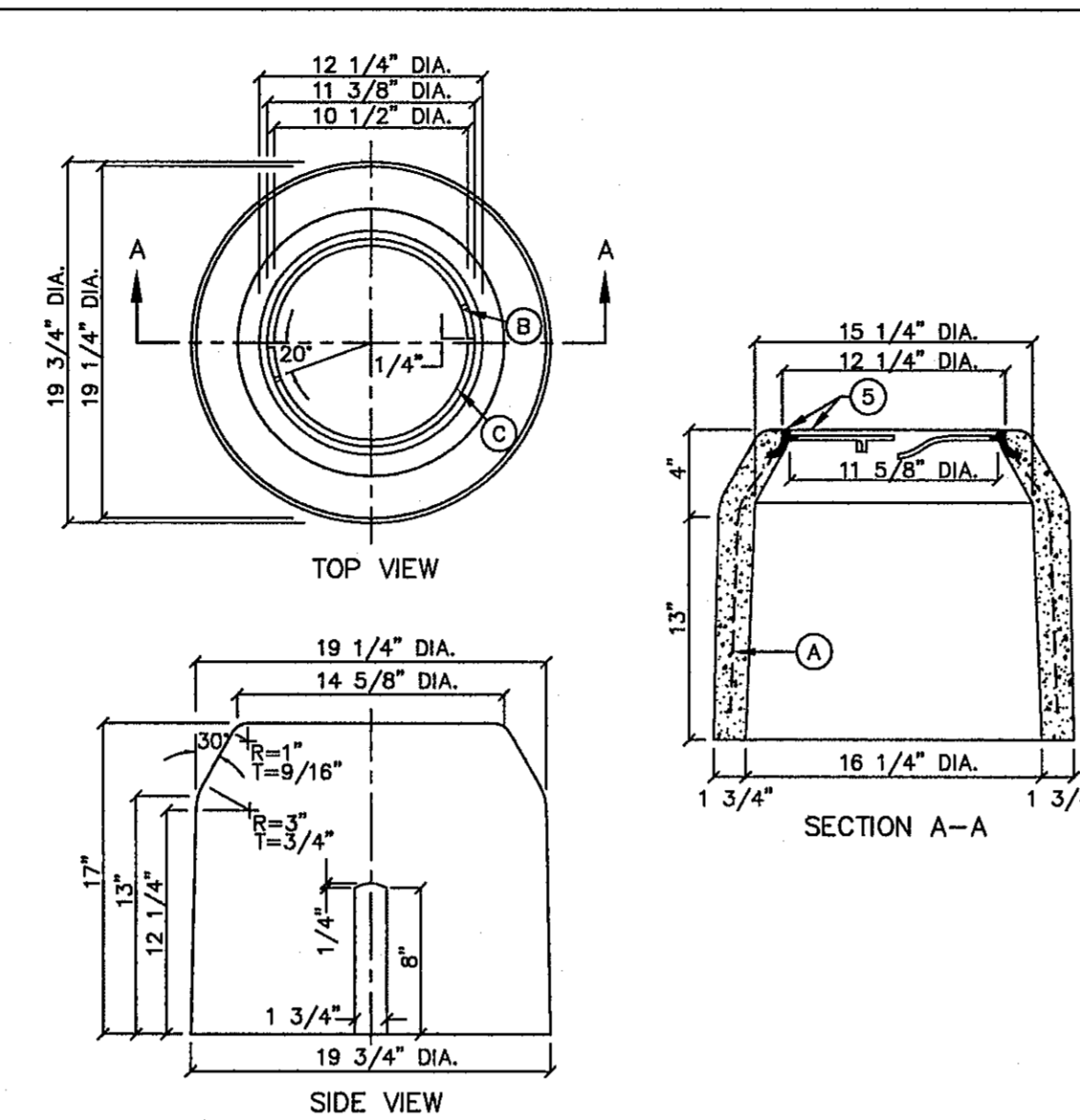
GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL	DATE: 10/20/2000 REV: 5/24/2007	SERVICE LINE 3/4" AND 1" INSTALLATION BY CONTRACTOR	N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 280-4
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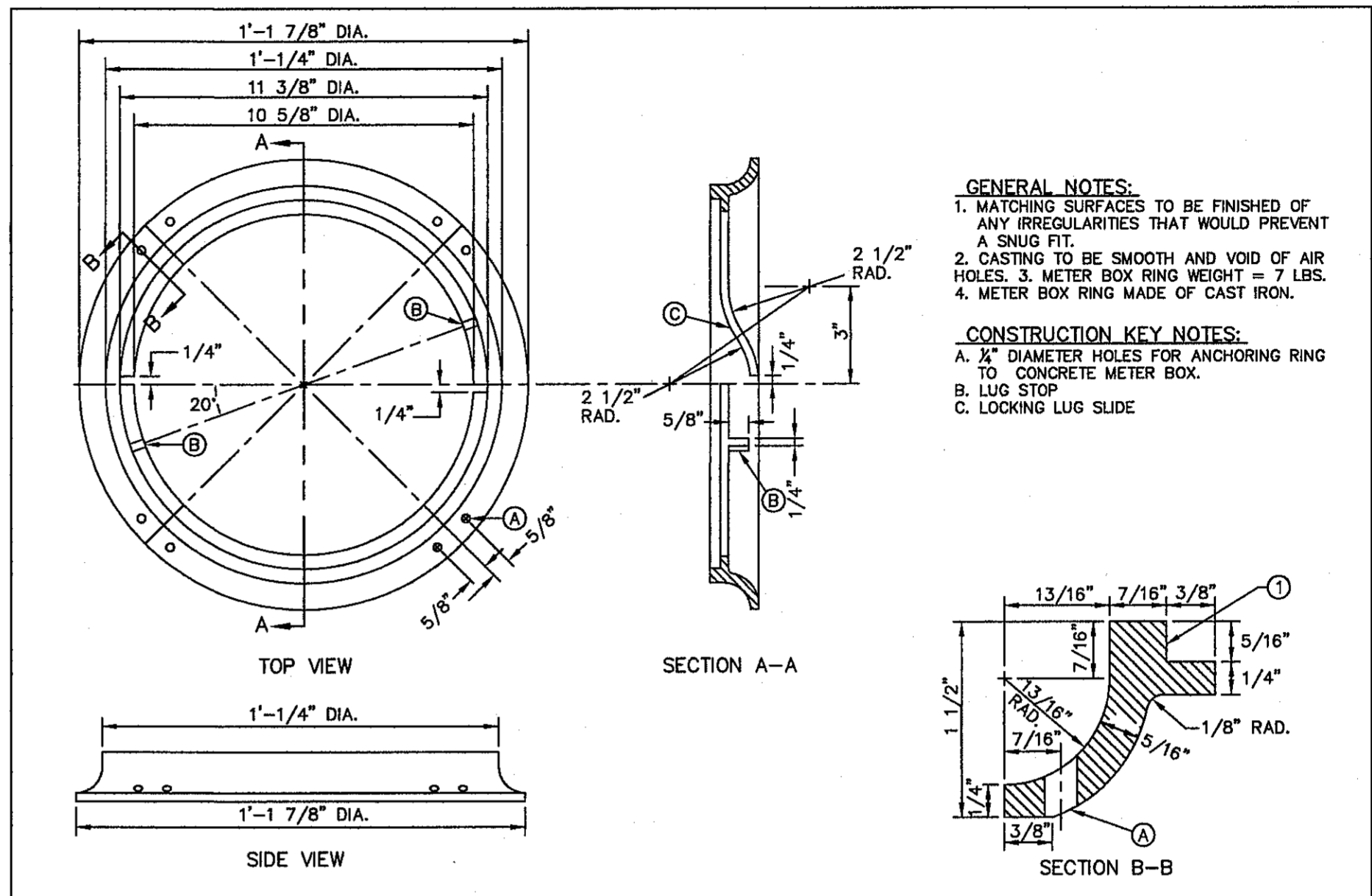
GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

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

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

CONSTRUCTION KEY NOTES:

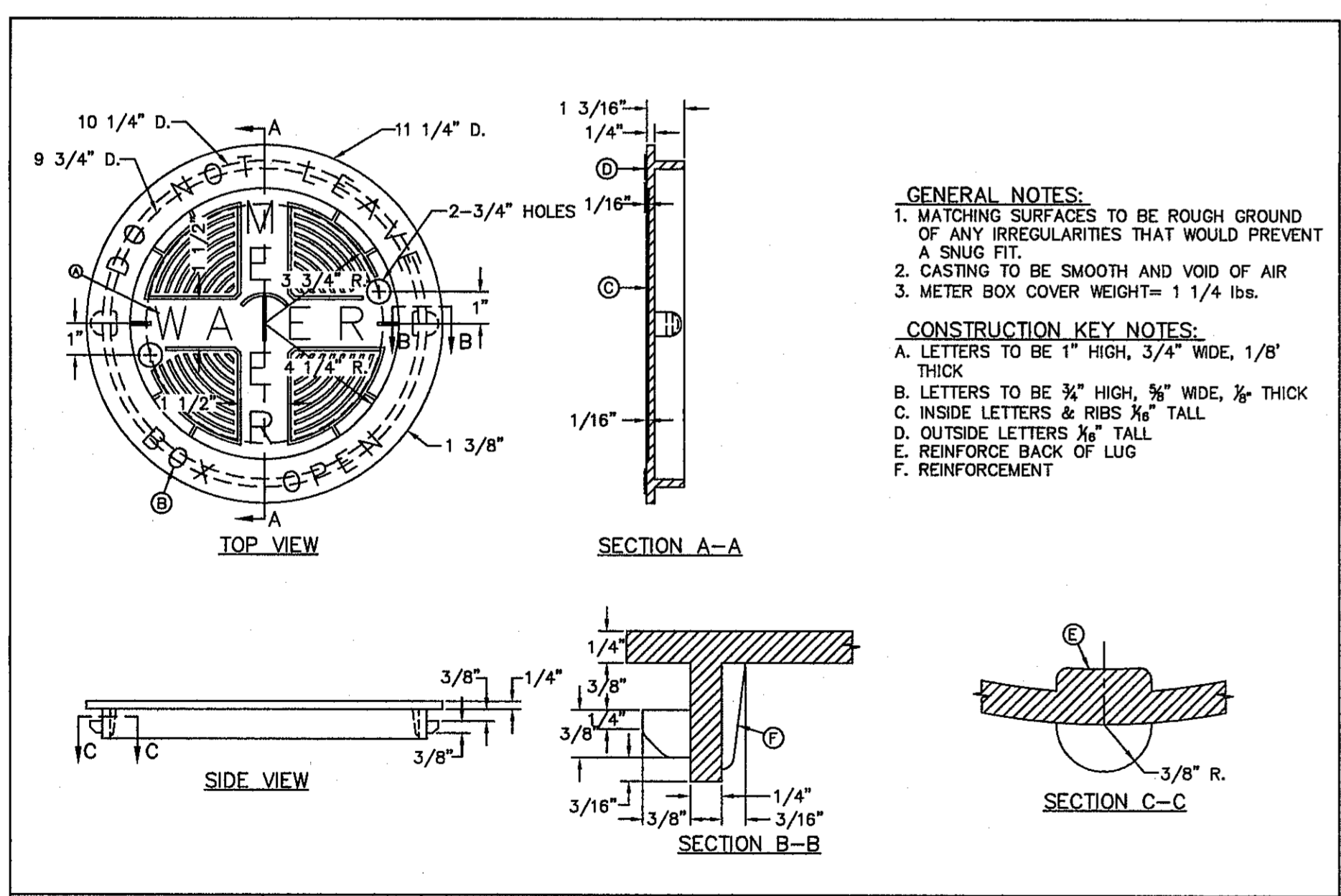
- 2" DIAMETER HOLES FOR ANCHORING RING TO CONCRETE METER BOX.
- LUG STOP.
- LOCKING LUG SLIDE.

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

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

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



GENERAL NOTES:

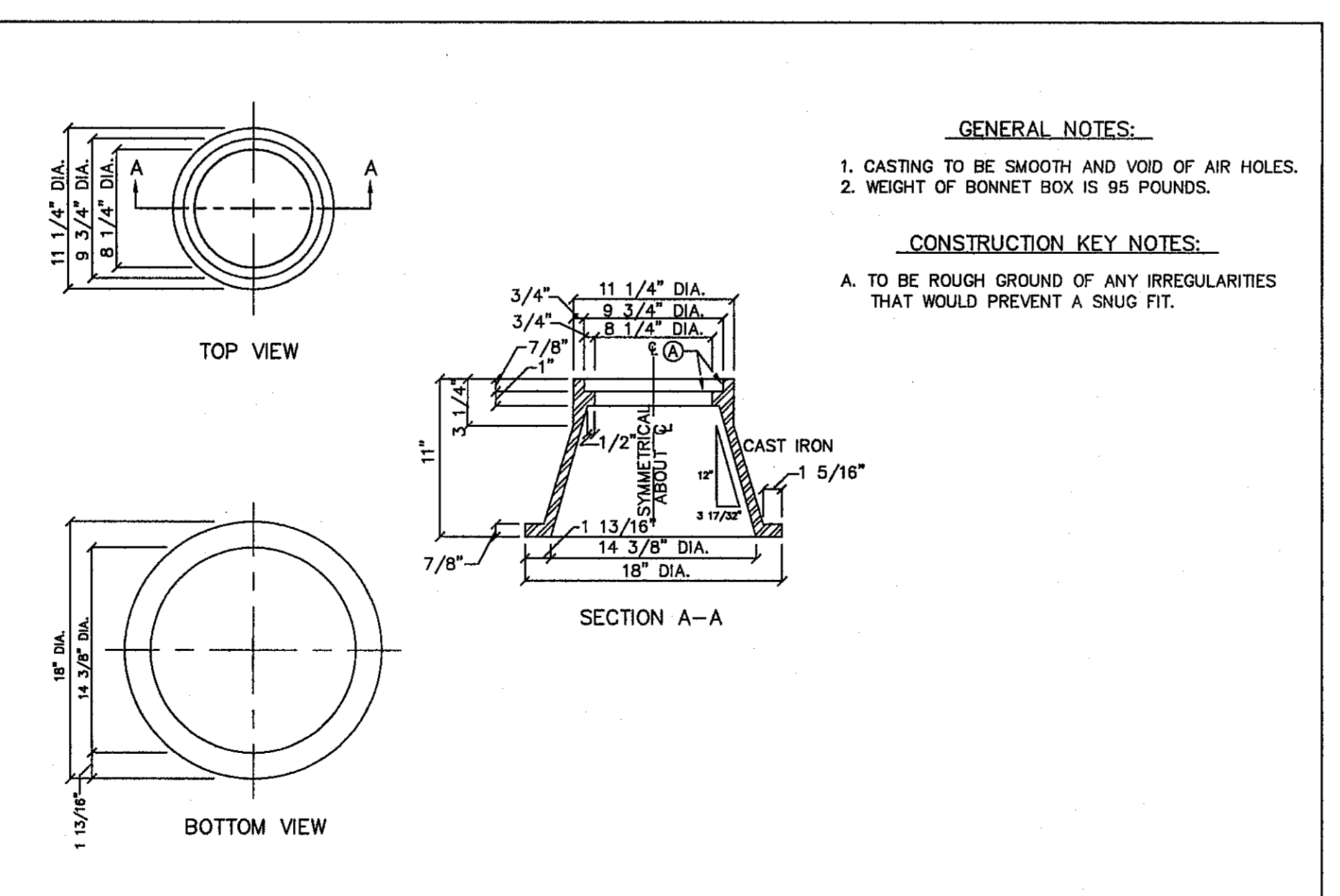
- MATCHING SURFACES TO BE ROUGH GROUND OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
- CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
- METER BOX COVER WEIGHT = 1 1/4 LBS.

CONSTRUCTION KEY NOTES:

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

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



GENERAL NOTES:

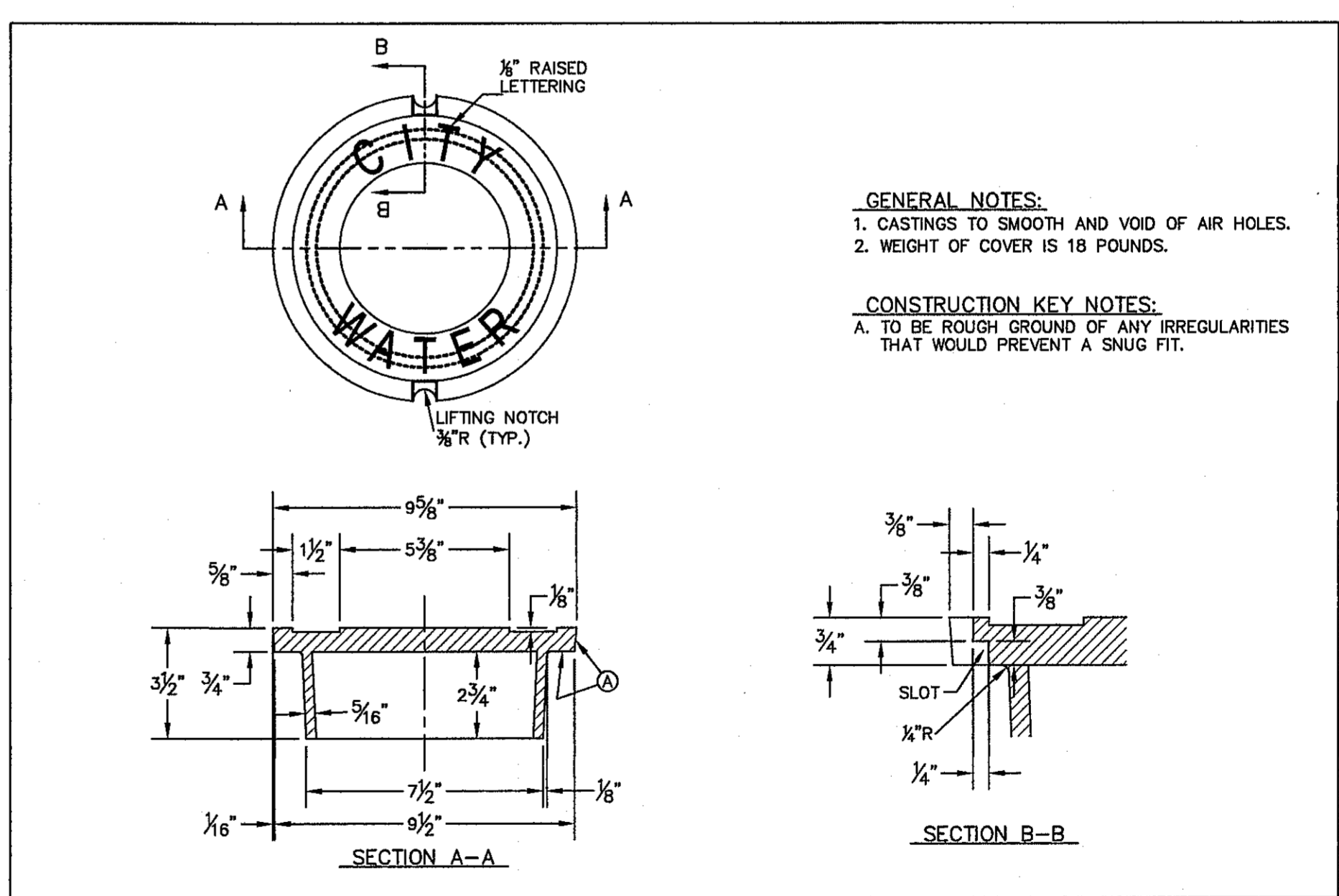
- CASTING TO BE SMOOTH AND VOID OF AIR HOLES.
- WEIGHT OF BONNET BOX IS 95 POUNDS.

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL	FEB. 1994 REV:	BONNET BOX SCALE: N.T.S.	N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 268
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5 BONNET BOX
SCALE: N.T.S.



GENERAL NOTES:

- CASTINGS TO SMOOTH AND VOID OF AIR HOLES.
- WEIGHT OF COVER IS 18 POUNDS.

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL	DATE: 2/16/2008 REV: 12/14/2007	BONNET BOX COVER (FLIP RESISTANT)	N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 269-2
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6 BONNET BOX COVER (FLIP RESISTANT)
SCALE: N.T.S.

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

CSA
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4584
1712 Westchase Dr., Ste. F, EPWU, TX 75224
Office: 972.544.2222 Fax: 972.544.2225 www.csa-engineers.com



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER 2013
DESIGN BY:	J.M.
DRAWN BY:	J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-164-LD

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**WATER
DETAILS**

(SHEET 1 OF 4)

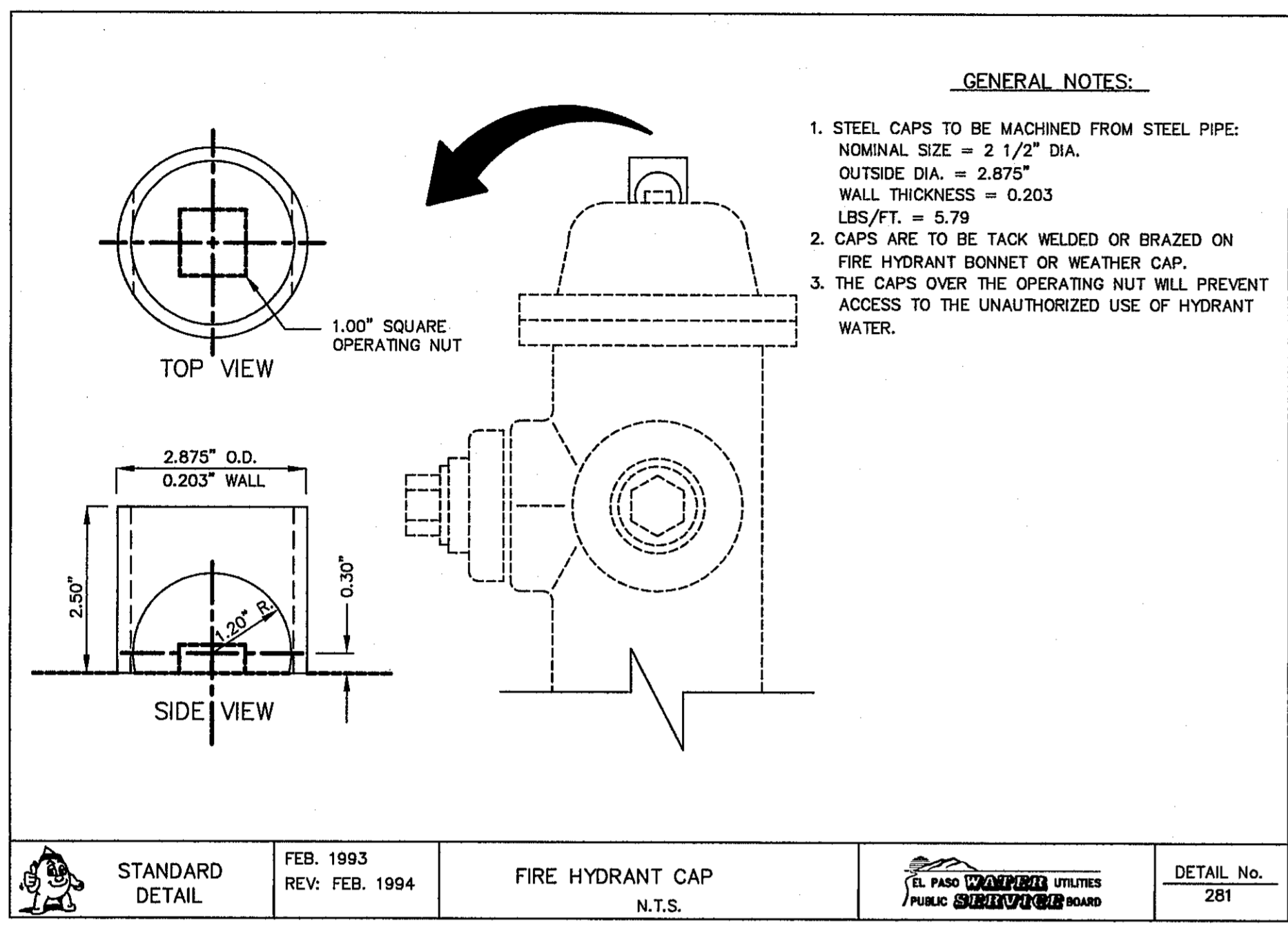
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C10.1



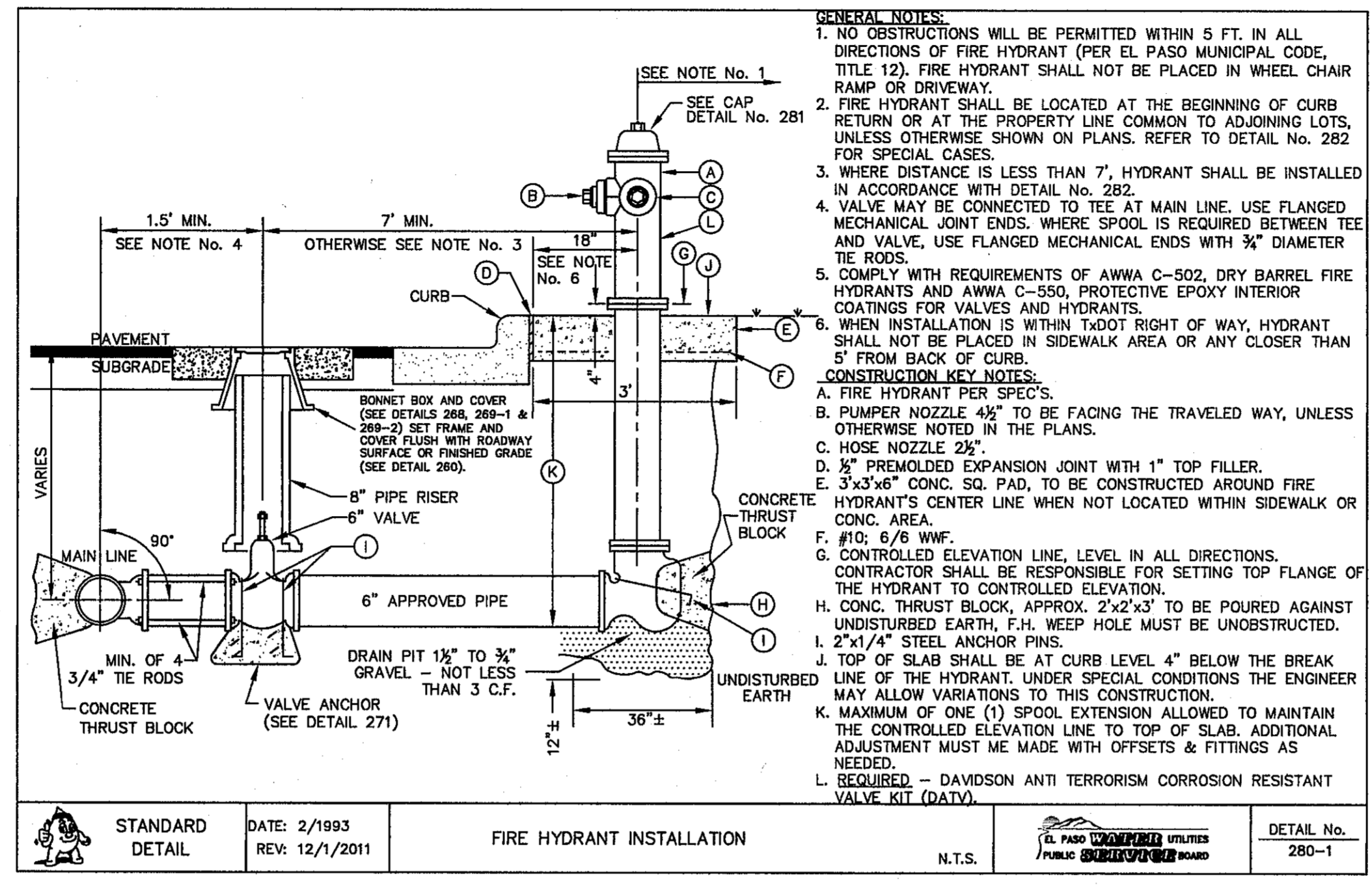
REVIEWED

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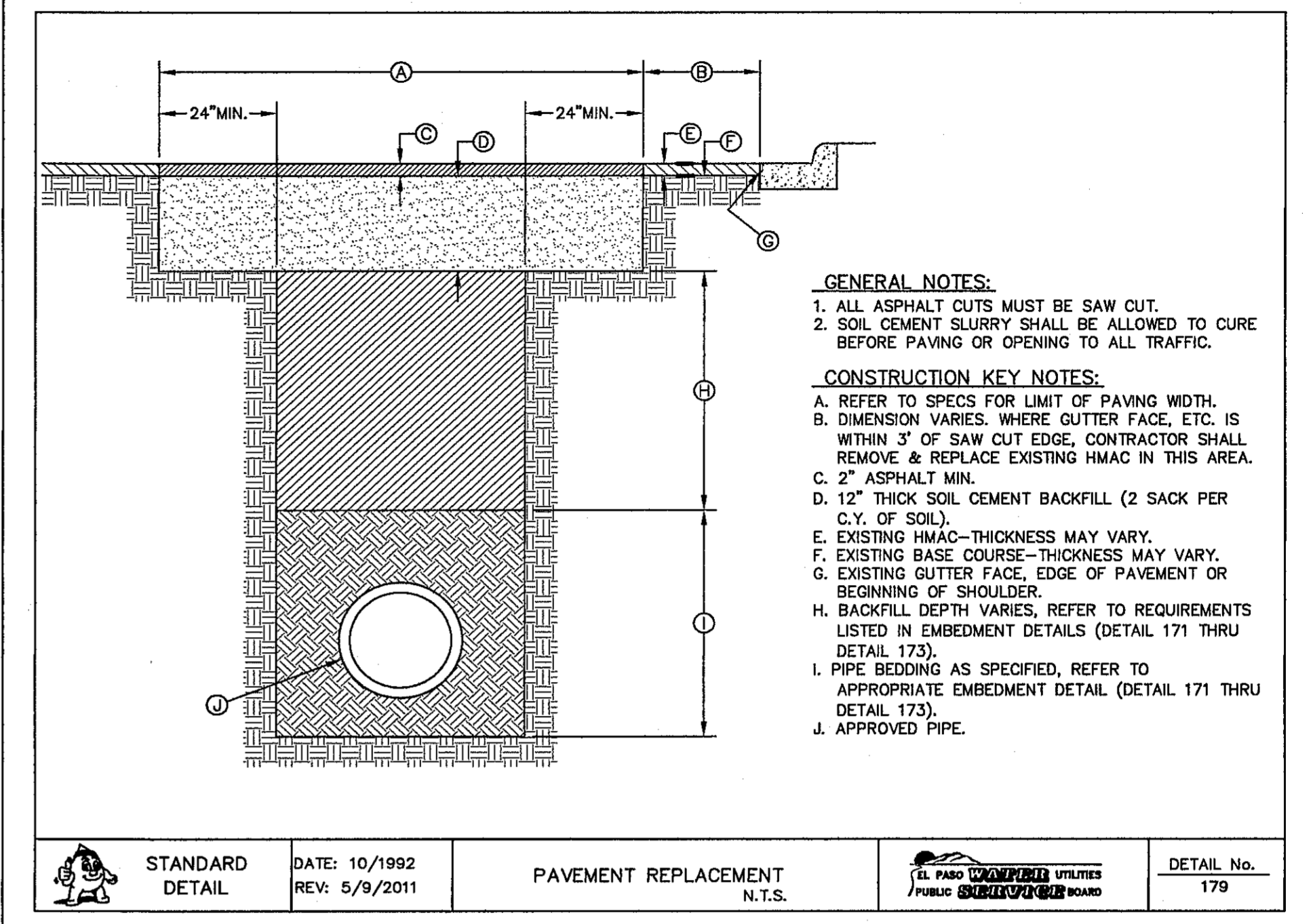
STANDARD DETAIL	FEB. 1993 REV. FEB. 1994	FIRE HYDRANT CAP N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 281
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1 FIRE HYDRANT CAP
SCALE: N.T.S.



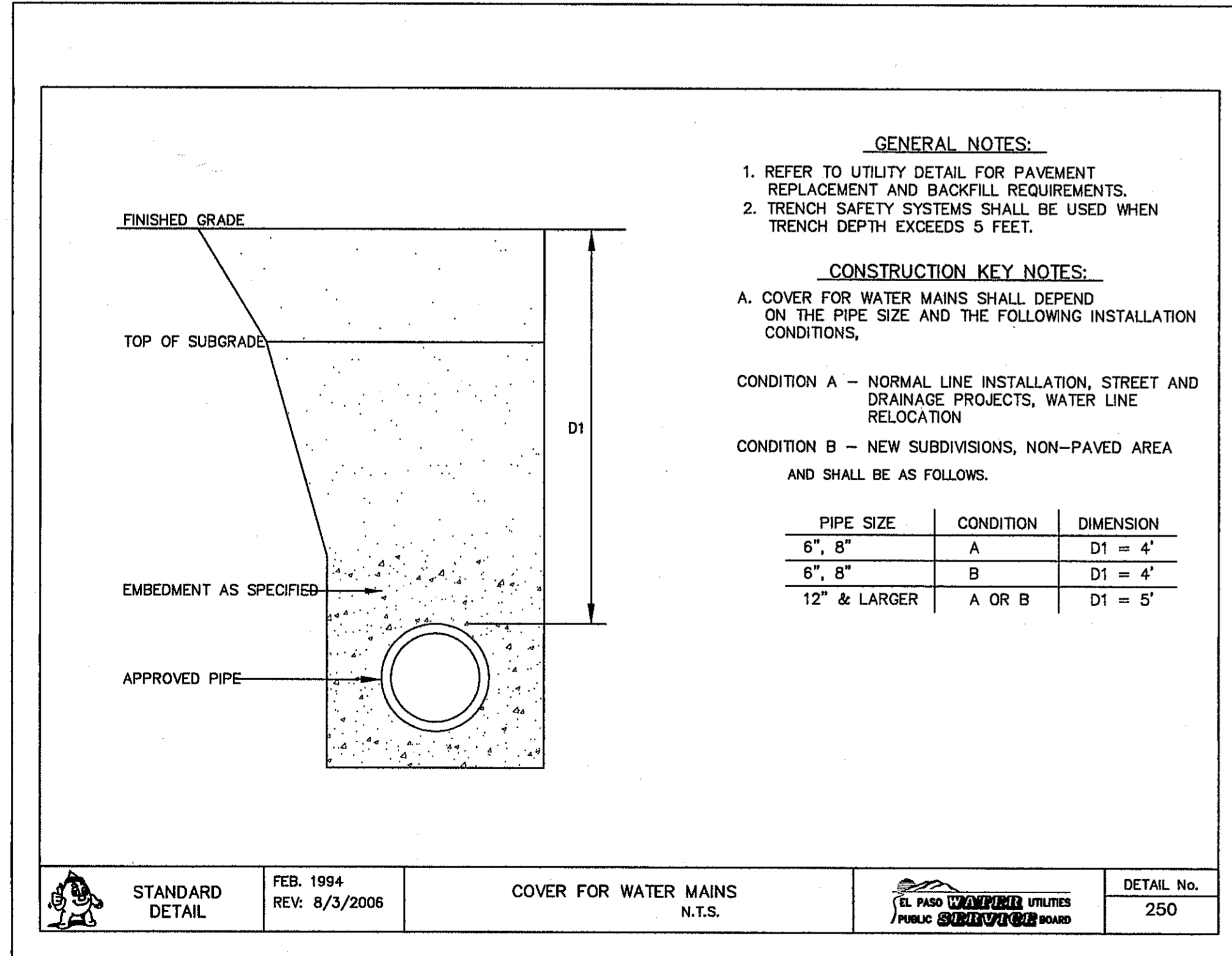
STANDARD DETAIL	DATE: 2/1993 REV: 12/1/2011	FIRE HYDRANT INSTALLATION N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 280-1
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2 STANDARD FIRE HYDRANT INSTALLATION
SCALE: N.T.S.



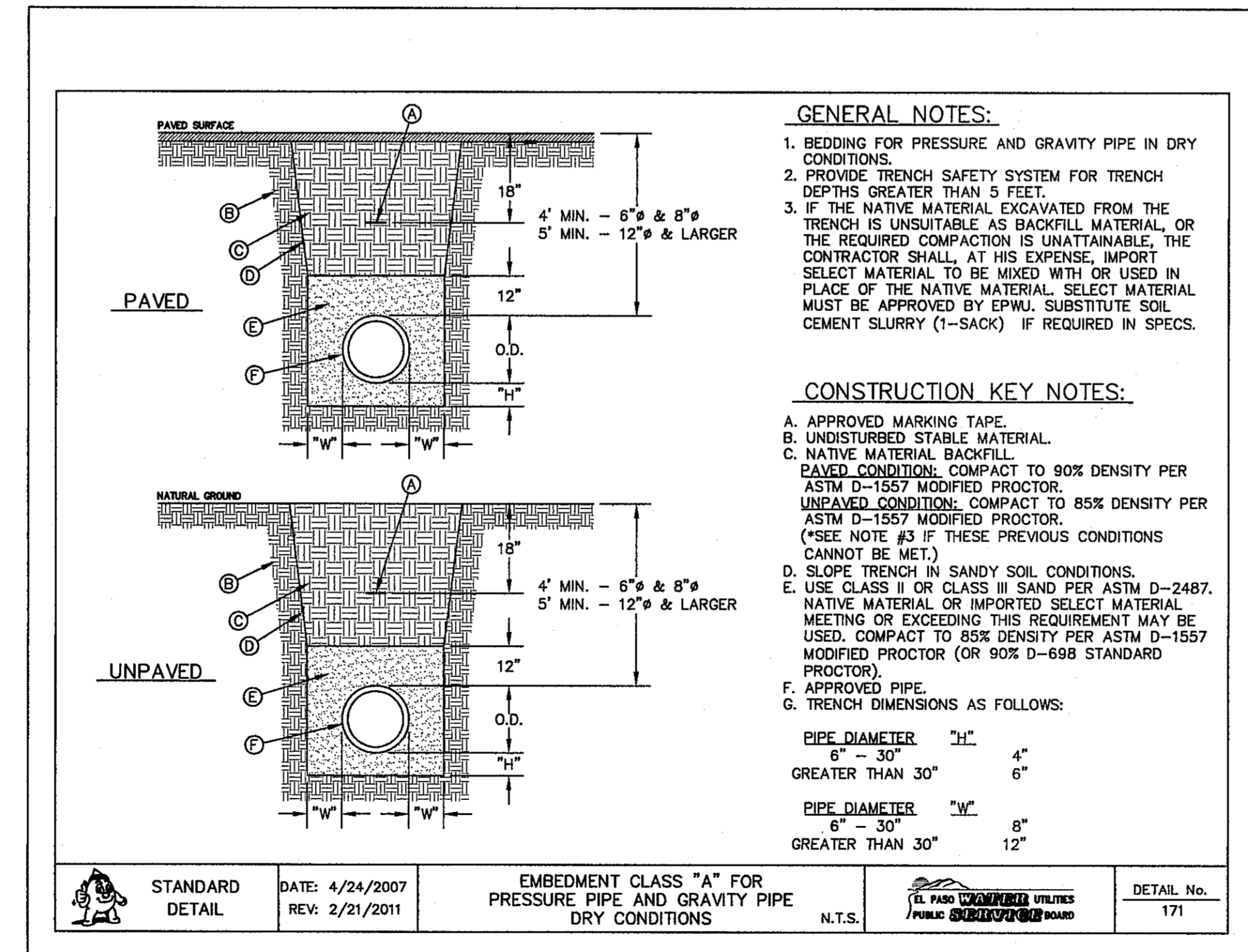
STANDARD DETAIL	DATE: 10/1992 REV: 5/9/2011	PAVEMENT REPAIR DETAIL N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 179
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3 PAVEMENT REPAIR DETAIL
SCALE: N.T.S.



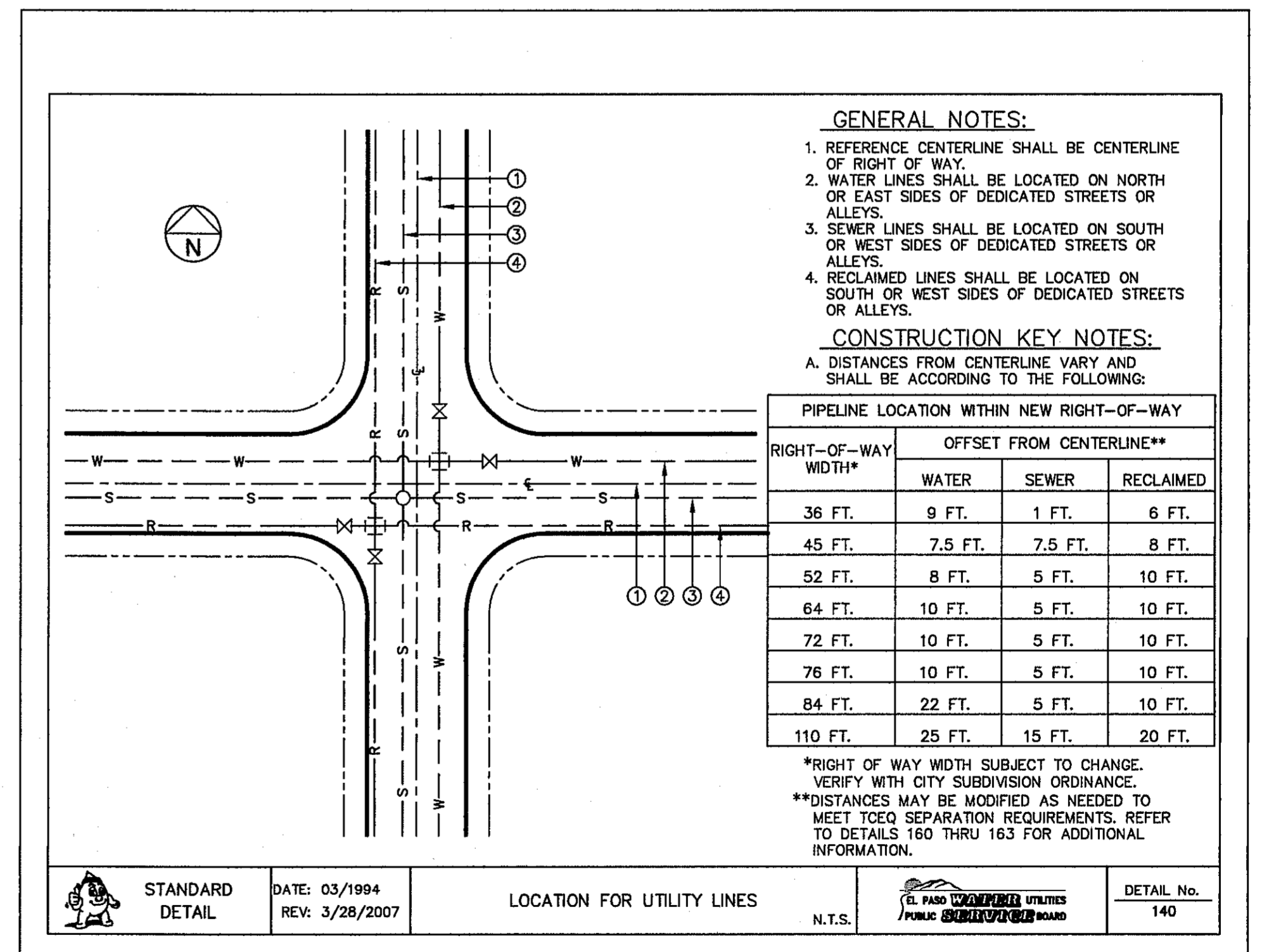
STANDARD DETAIL	FEB. 1994 REV: 8/3/2006	COVER FOR WATER MAINS N.T.S.	EL PASO UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 250
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4 STANDARD COVER FOR WATER MAINS
SCALE: N.T.S.



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 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 UTILITIES PUBLIC UTILITIES BOARD	DETAIL No. 140
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6 STANDARD LOCATION FOR EXTENSIONS DETAIL
SCALE: N.T.S.

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

DATE: _____ BY: _____

REVISIONS

CS&A
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4594
4712 Woodloch Plaza, Ste. E, El Paso, TX 79924
CEN: 754-844-2222 FAX: 754-844-5233 www.csandaa.com

ENGINEER'S SEAL

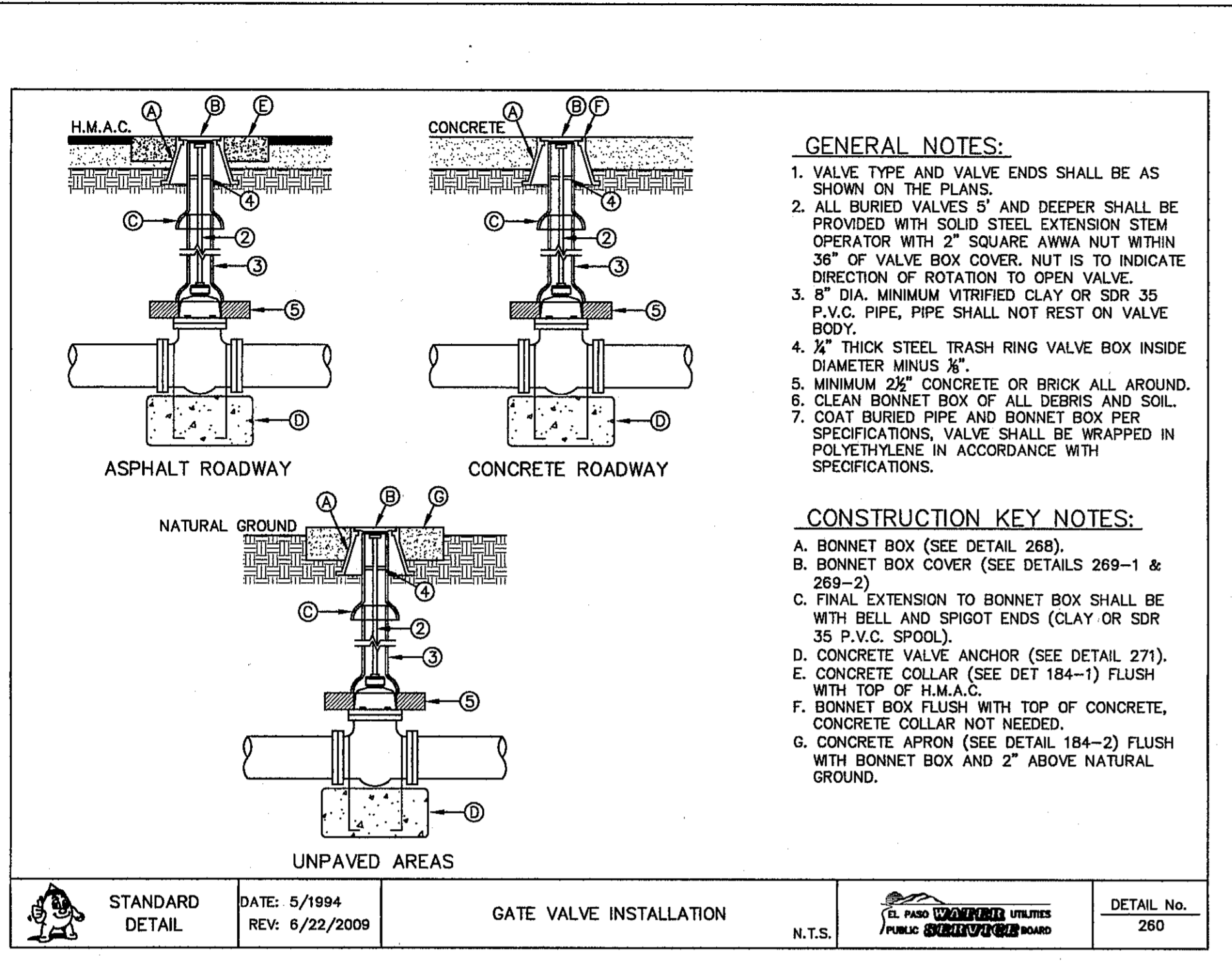
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Vertical: N/A
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2000-164-LD

PROJECT TITLE
SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

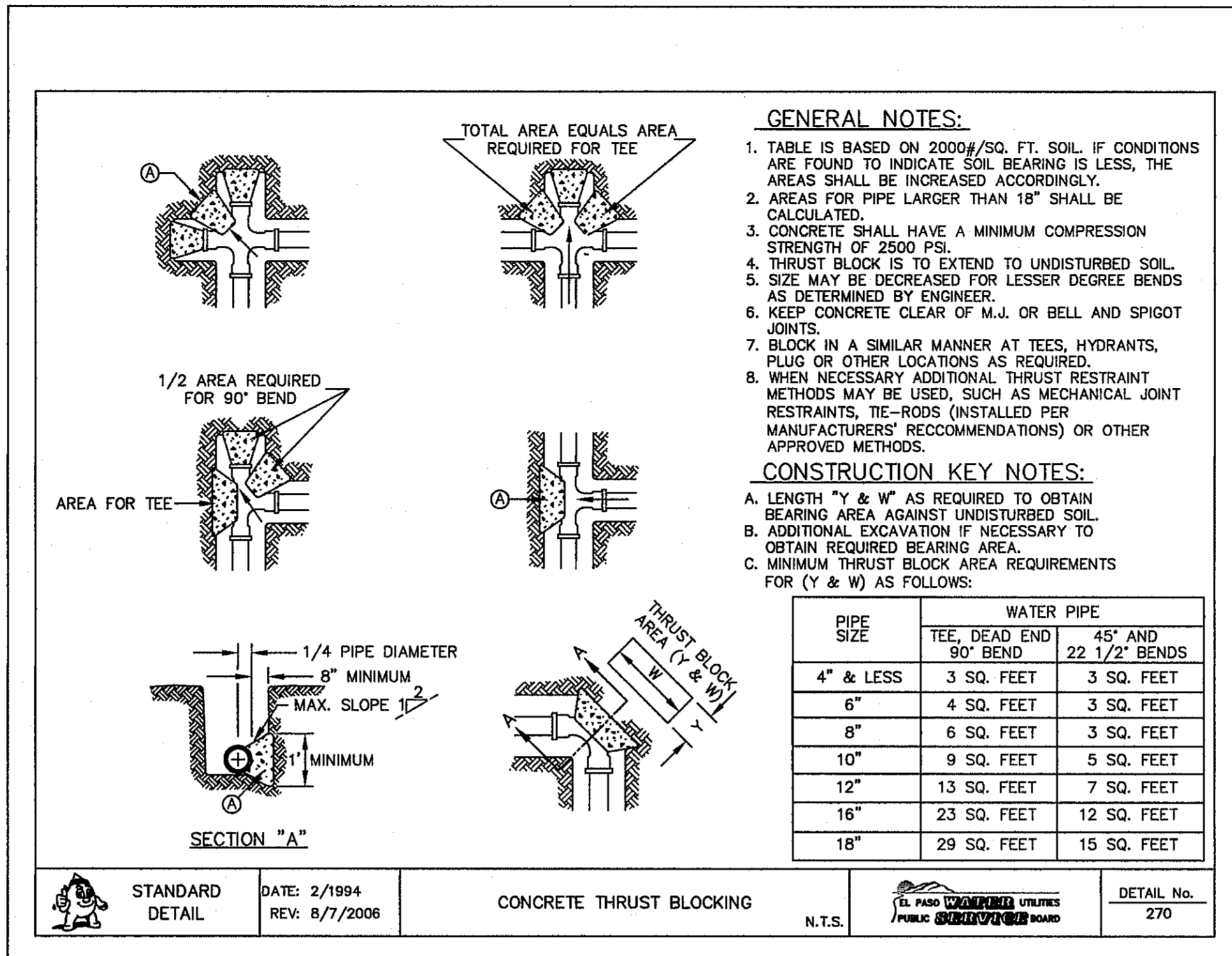
SHEET TITLE
WATER DETAILS
(SHEET 2 OF 4)
SHEET NO.
C10.2

CITY DEVELOPMENT DEPARTMENT
REVIEWED

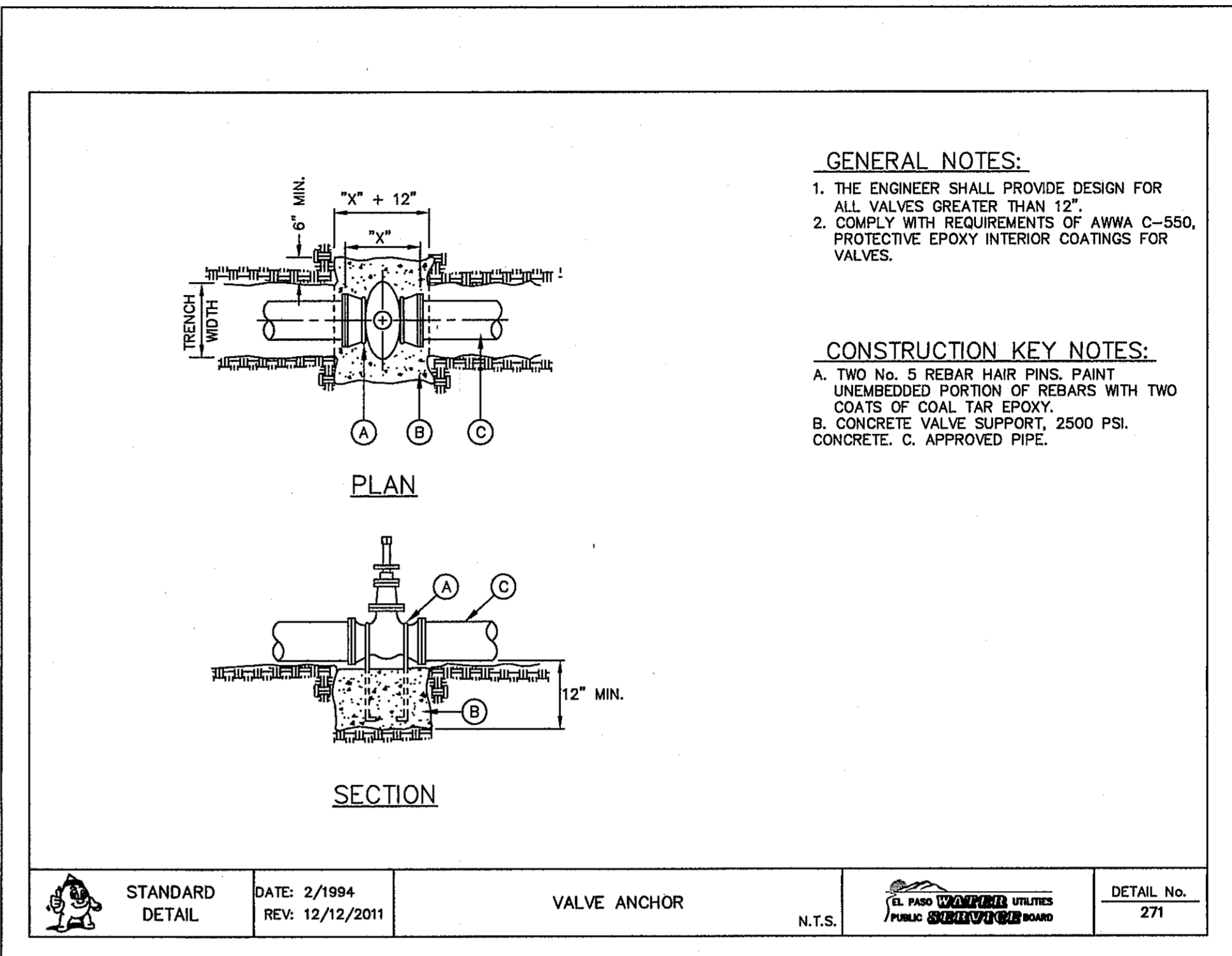
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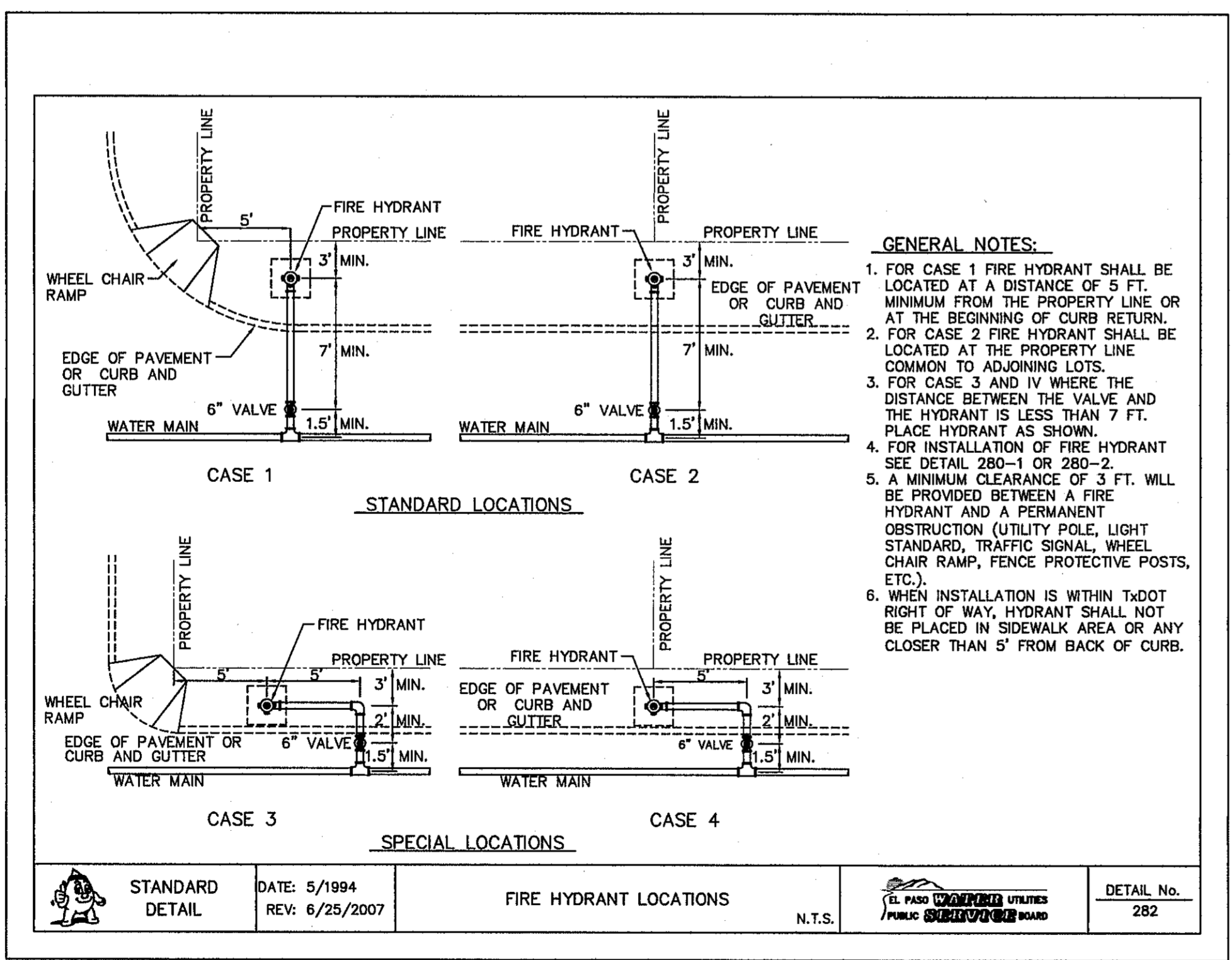
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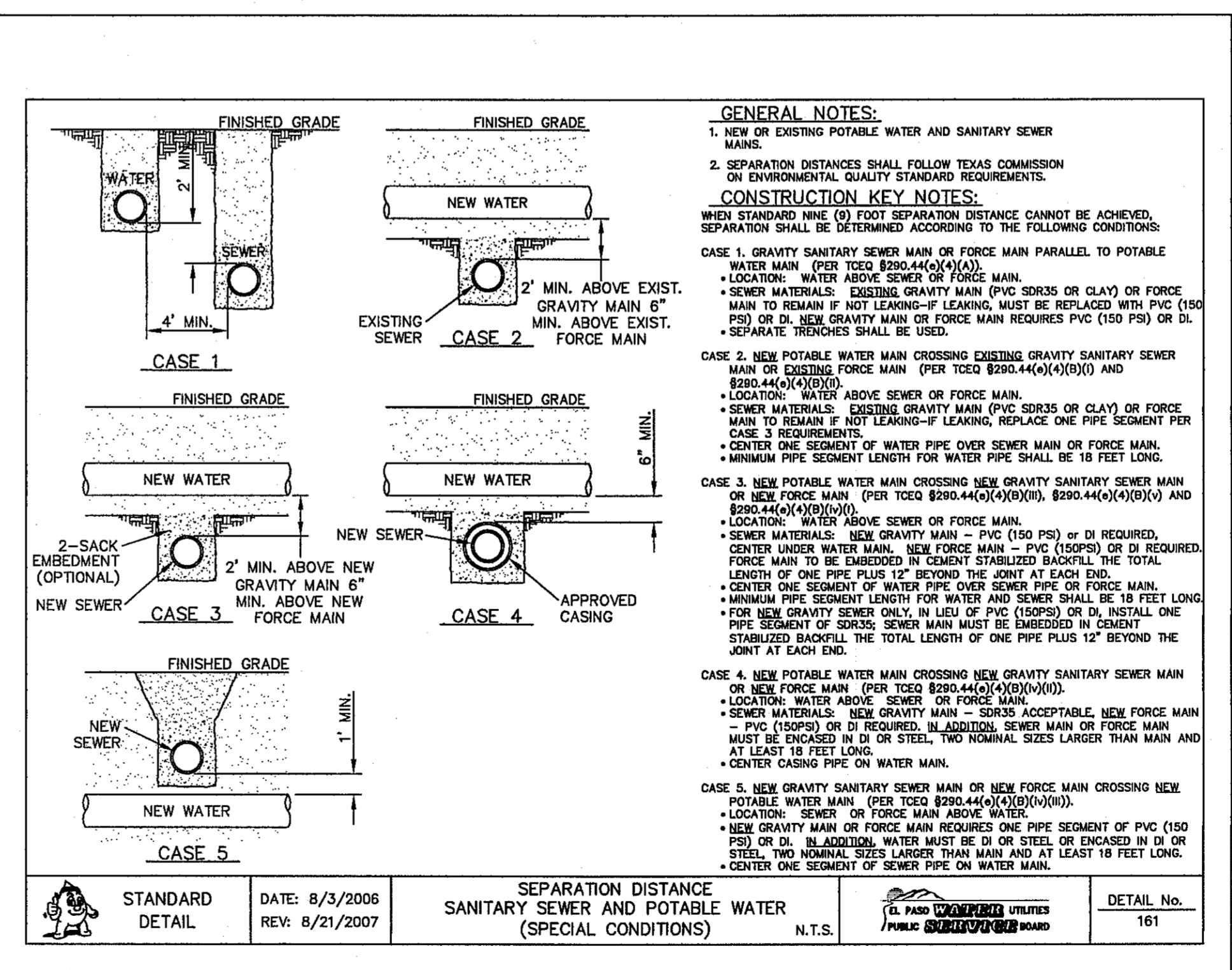
2 THRUST BLOCKING SCALE: N.T.S.



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

FOUND 1x20' BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22. ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 6.462 TO CONVERT TO CITY DATUM).

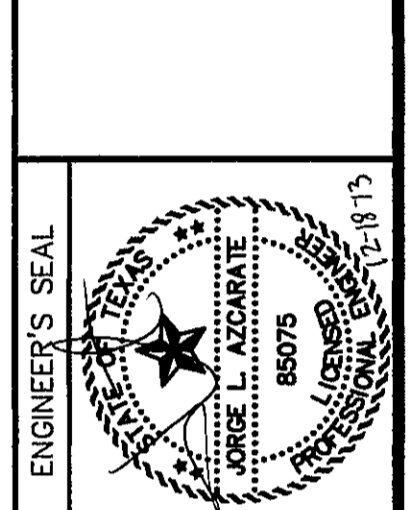
DATE	REVISIONS	BY

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4712 Woodrow Bham, Ste. F El Paso, TX 79924
 Phone: 915.544.8222 Fax: 915.544.8228 www.csandamp.com



SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: NOVEMBER 2013

DESIGN BY: J.M.

DRAWN BY: J.L.A.

CHECKED BY: J.L.A.

APPROVED BY: J.L.A.

JOB No. 2000-164-LD

PROJECT TITLE

SANDSTONE RANCH UNIT TEN

SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

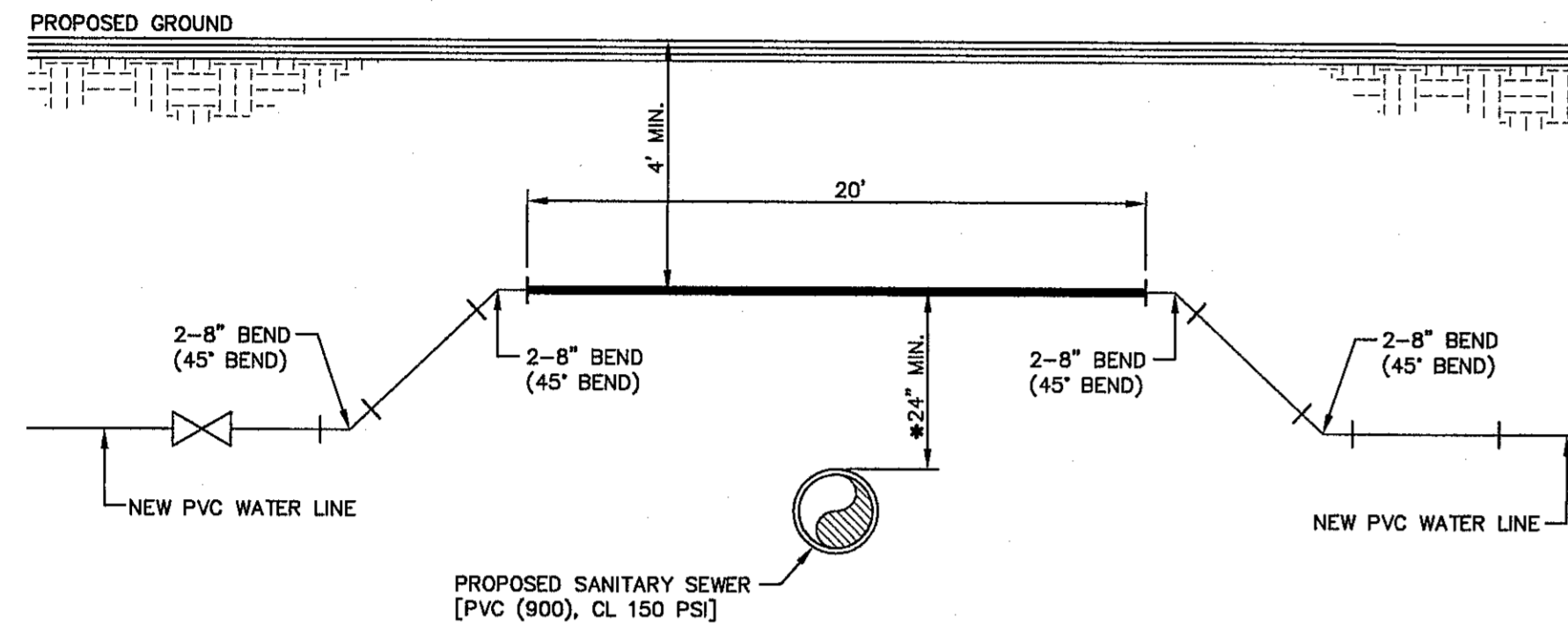
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SHEET NO.

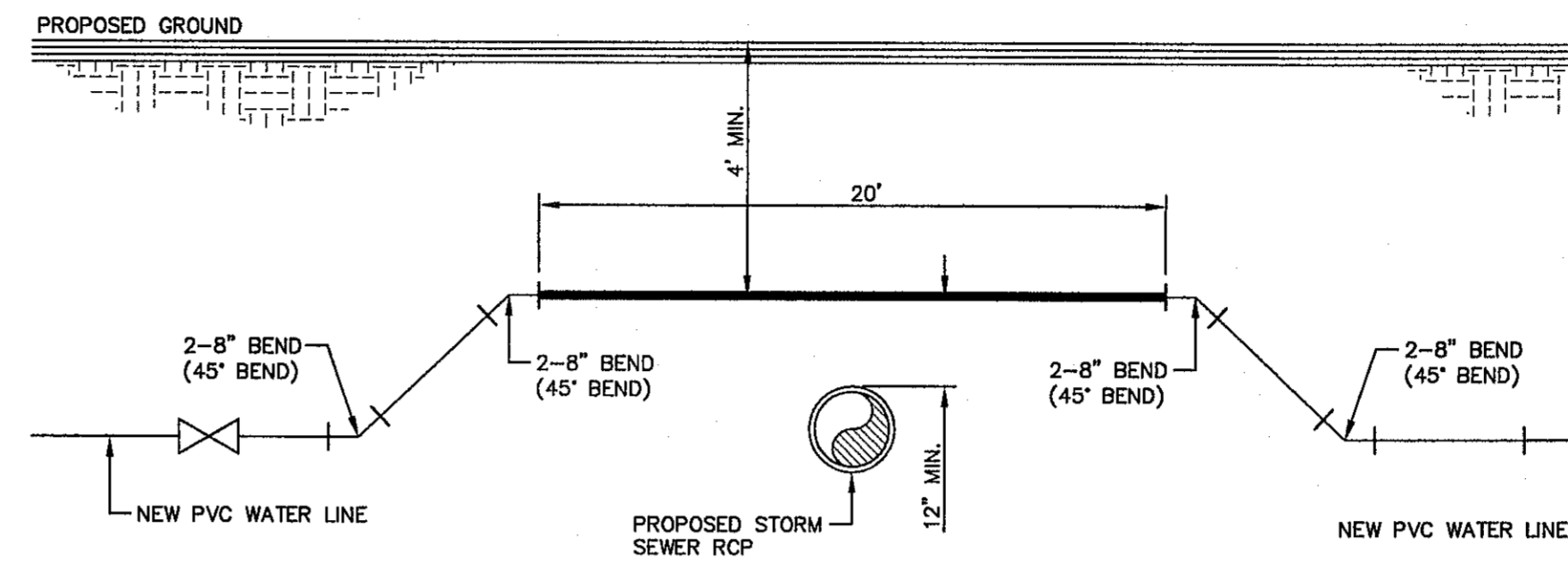


C10.3

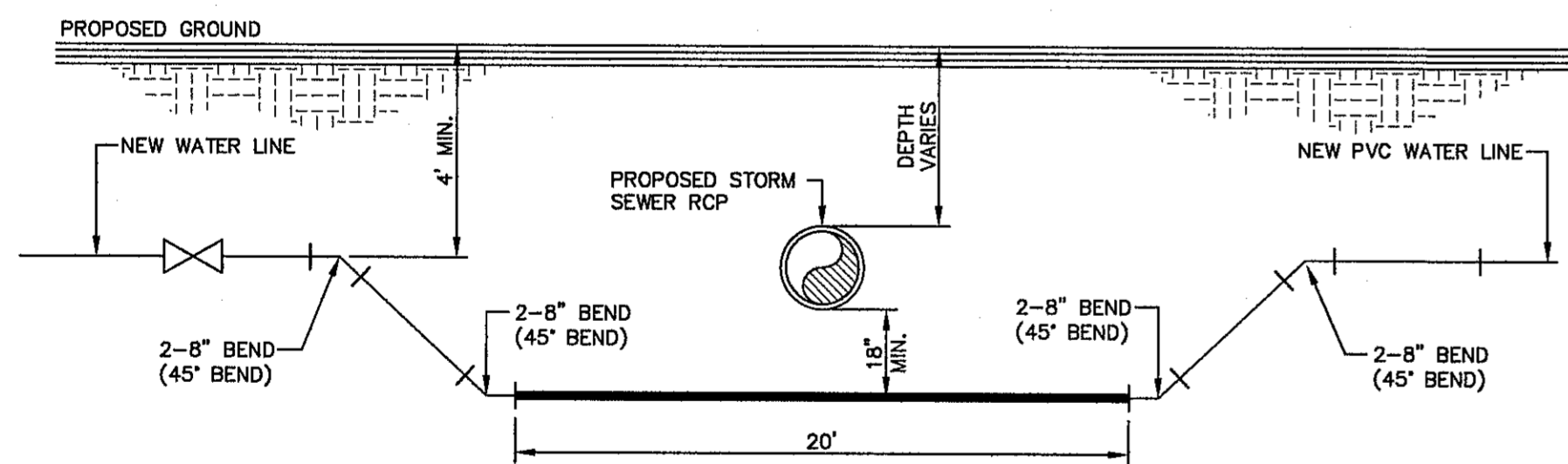
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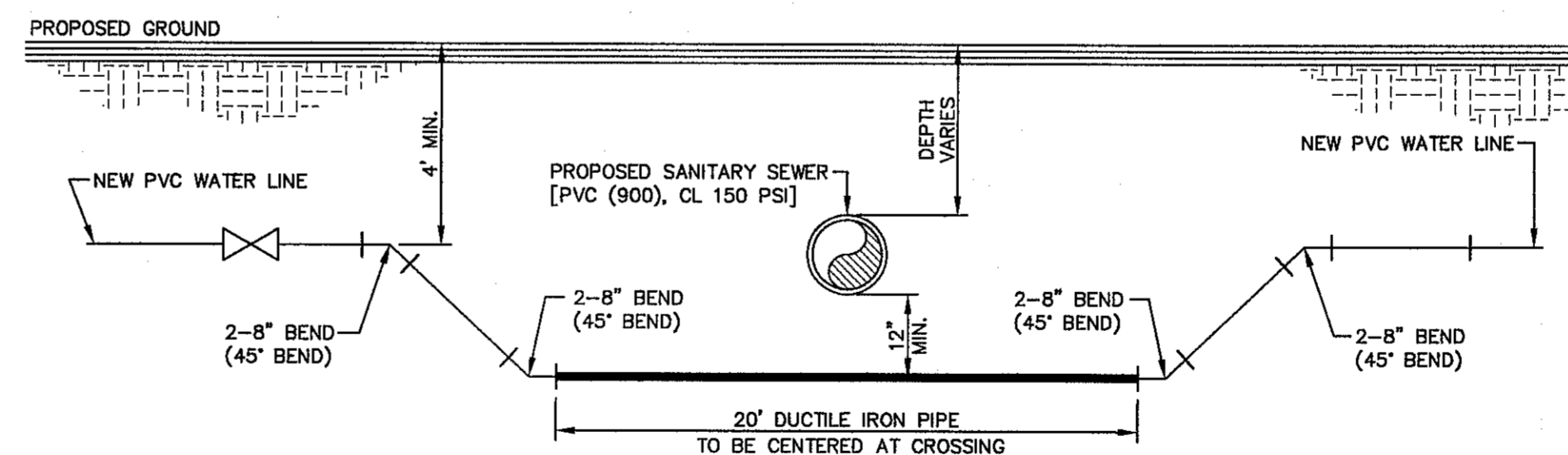
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2 WATER LINE OVER STORM SEWER CROSSING DETAIL
SCALE: N.T.S.



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



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

REFERENCES - BENCHMARKS

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

DATE	REVISIONS	BY

ENGINEER'S SEAL

SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE: NOVEMBER 2013	
DESIGN BY: J.M.	
DRAWN BY: J.M.	
CHKD. BY: J.G.	
APP. VD. BY: J.L.A.	
JOB No. 2000-164-LD	

PROJECT TITLE

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**WATER
DETAILS**

(SHEET 4 OF 4)

SHEET NO.

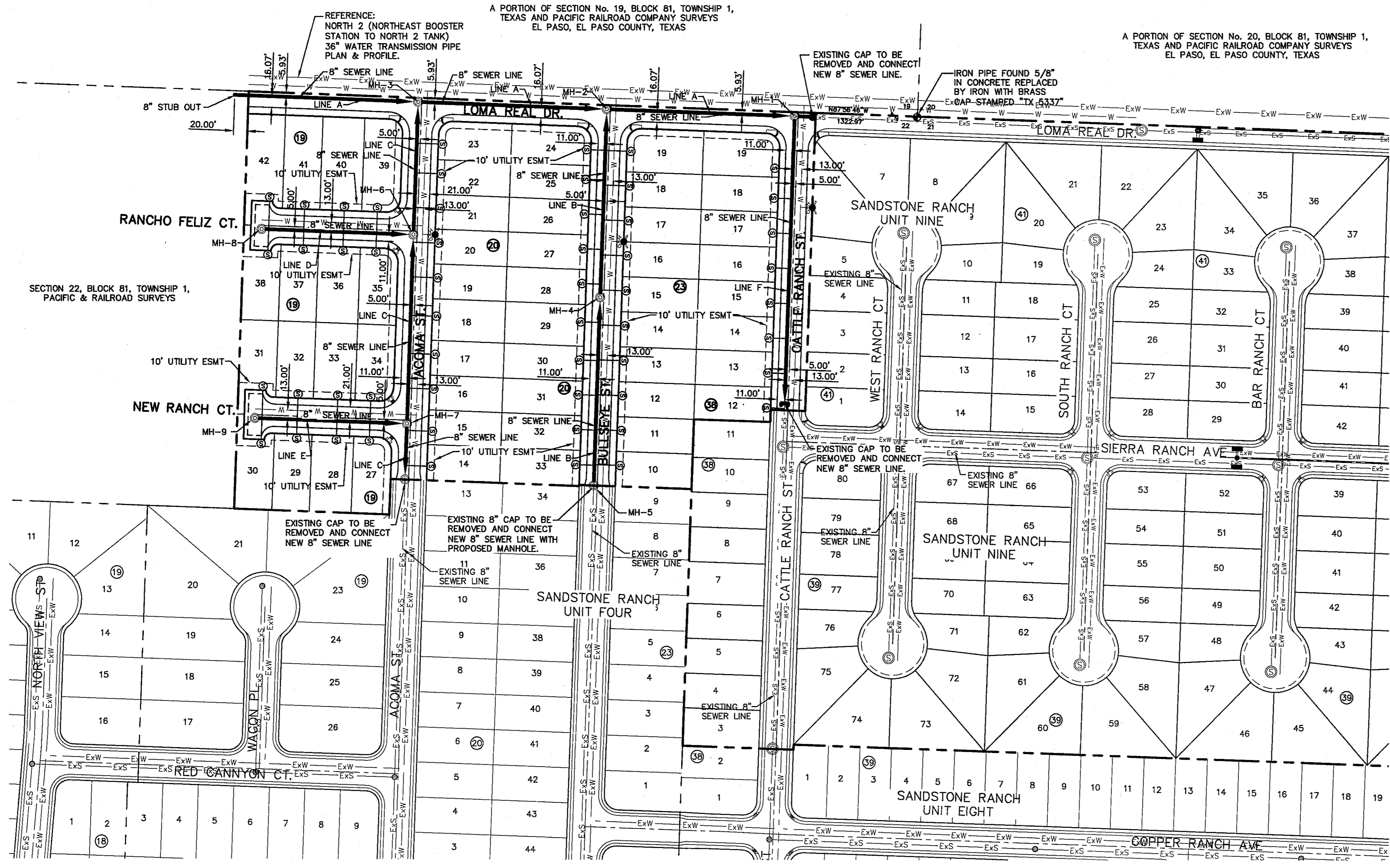
CITY DEVELOPMENT DEPARTMENT

REVIEWED

C10.4

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WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	2,683.63'	LINEAR FEET
2	8" PVC C-900, CL150	100	LINEAR FEET
3	STANDARD WASTEWATER MANHOLE (0'-8" DEEP)	9	EACH
4	4" WASTEWATER SERVICE CONNECTION	54	EACH

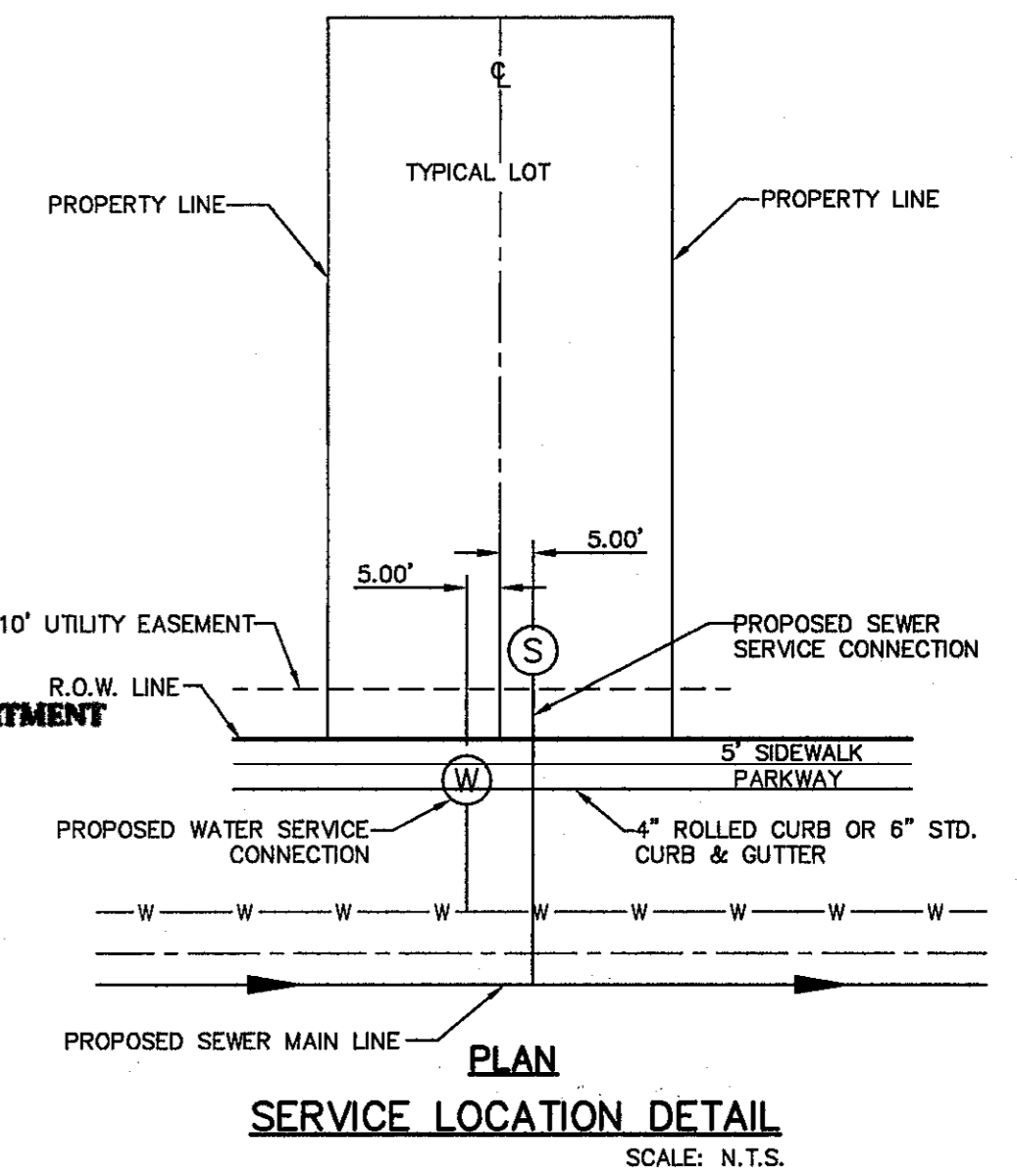
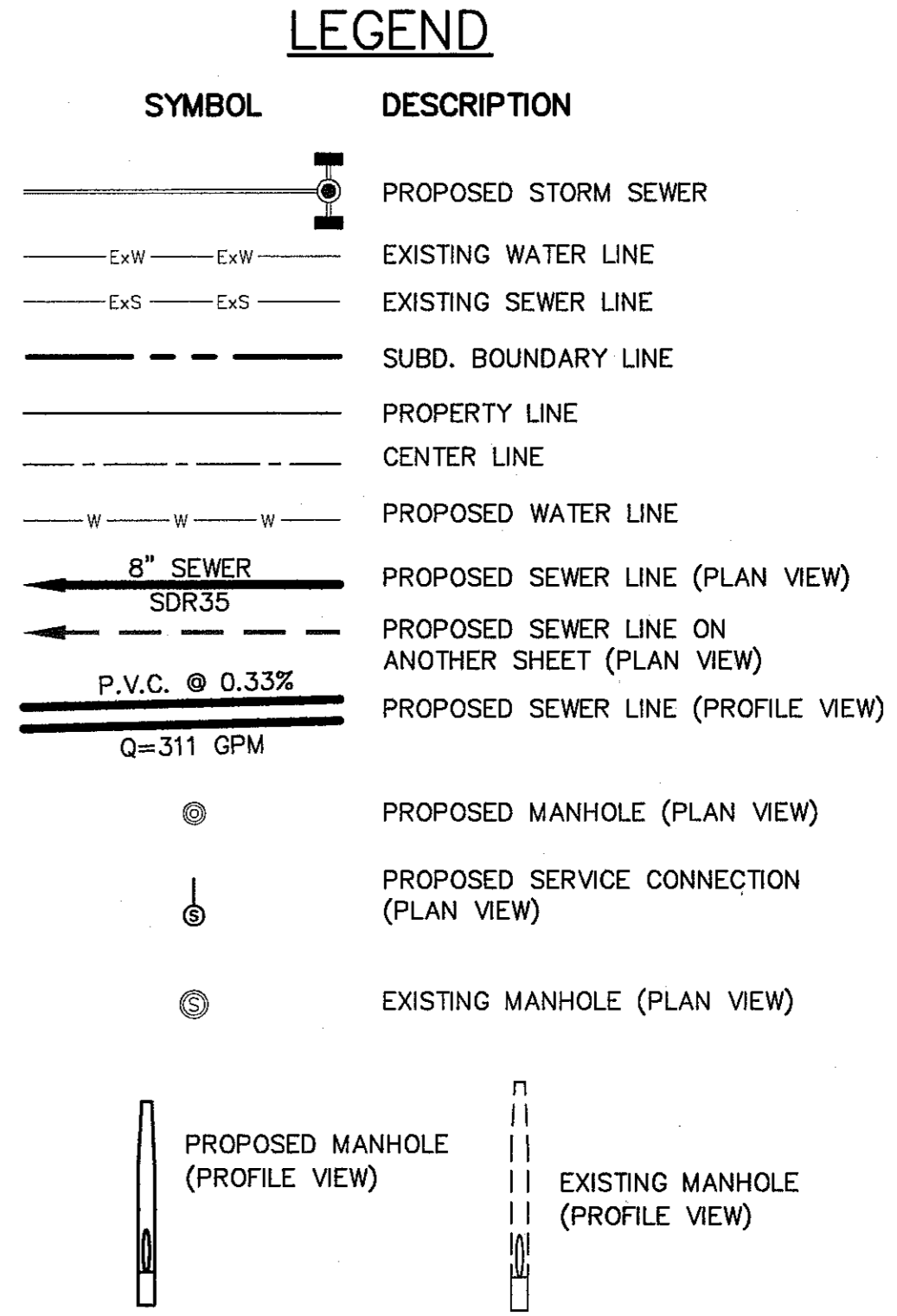
CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

SANITARY SEWER INDEX MAP
SCALE: 1" = 100'

INDEX

SHEET NO.	DESCRIPTION
C11.1	SANDSTONE RANCH UNIT TEN LEGEND INDEX GENERAL INFORMATION
C12.1	LINE A & B
C12.2	LINE C & D
C12.3	LINE E & F
C13.1	SANITARY SEWER DETAILS
C13.2	SANITARY SEWER DETAILS
C13.3	SANITARY SEWER DETAILS

- NOTES:**
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
 - ALL SANITARY SEWER PIPES SHALL BE PVC, SDR 35, (D 3034), UNLESS OTHERWISE SHOWN AS REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.



- GENERAL NOTES**
- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN 10' AWAY FROM EXISTING WATER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44)
 - THE INTENT OF THE OWNER IS TO HAVE THE SANITARY SEWER PIPELINES INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 48" OF COVER BELOW PROPOSED GROUND AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. CONSIDERING UTILITIES AND OTHER CONDITIONS, VARIANCE FROM GRADE PROFILE IS NOT RECOMMENDED IF OTHER EXISTING UTILITIES OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE SEWER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE HIS WORK WITH ALL UTILITY COMPANIES, EL PASO WATER UTILITIES AND CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITH THE PROJECT AREAS.
 - TRENCH SAFETY REQUIREMENTS SHALL COMPLY WITH CURRENT OSHA REGULATIONS.
 - AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH MANHOLE, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
 - THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION. A COPY OF ALL FIELD SOIL DENSITY TESTS WITHIN THEIR RESPECTIVE R.O.W. SHALL BE FORWARDED TO THE DEVELOPER'S ENGINEER AND THE DEVELOPER BY THE CONTRACTOR.
 - EXISTING STREETS, DRIVEWAYS AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION.
 - ALL WATER AND SEWER UTILITY WORK, INCLUDING TIE-INS SHALL BE CLOSELY COORDINATED WITH EL PASO WATER UTILITIES FIELD ENGINEERING AT LEAST 48 HOURS PRIOR TO COMMENCING ANY UTILITY WORK.
 - TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
 - CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL 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 DERAIGSCH
- FIBER OPTICS:**
MCI TELECOMMUNICATIONS CORP.
4045 DONIPHAN PARK CIRCLE
EL PASO, TX. 79922
(915) 542-2770 EXT. 201
MR. DANIEL HERNANDEZ
- WATER & SEWER:**
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530
MR. FELIPE LOPEZ, JR., P.E.
- ELECTRIC:**
EL PASO ELECTRIC CO.
501 W. SAN ANTONIO ST.
EL PASO, TX. 79902
(915) 543-2076
MR. FRANK VIGEL (DISTRIBUTION)
- EL PASO STREETS**
CITY OF EL PASO
DEPARTMENT OF TRANSPORTATION
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750
MR. TED MARQUEZ
- CABLE TELEVISION:**
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123
- TELEPHONE:**
SBC
11200 PELICANO
EL PASO, TX. 79935
(915) 595-5151
MR. TIM BROWN
- FIBER OPTICS:**
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
(800) 852-3786
MS. DARLENE NORIS
- RESIDENTIAL GAS LINE:**
TEXAS GAS SERVICE
4700 POLLARD ST.
EL PASO, TX. 79930
(915) 680-7218
MR. TONY FIERRO

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

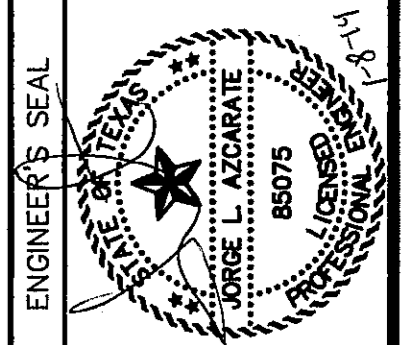
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REFERENCES - BENCHMARKS

FOUND TYPICAL BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22. ELEVATION: 4035.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM).

DATE	REVISIONS	BY	AC
05/31/2013	REVISED QUANTITIES		

CEA GROUP
engineers • architects • planners
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Office: 915.544.5232 Fax: 915.544.5233 www.ceagroup.com



SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.G.
APPRD. BY: J.L.G.
JOB NO.: 2000-164-1D

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
SANITARY SEWER INDEX
SHEET NO.
C11.1

UTILITY LOCATOR SERVICES

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

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

FOR FIELD LOCATING EXISTING UTILITIES

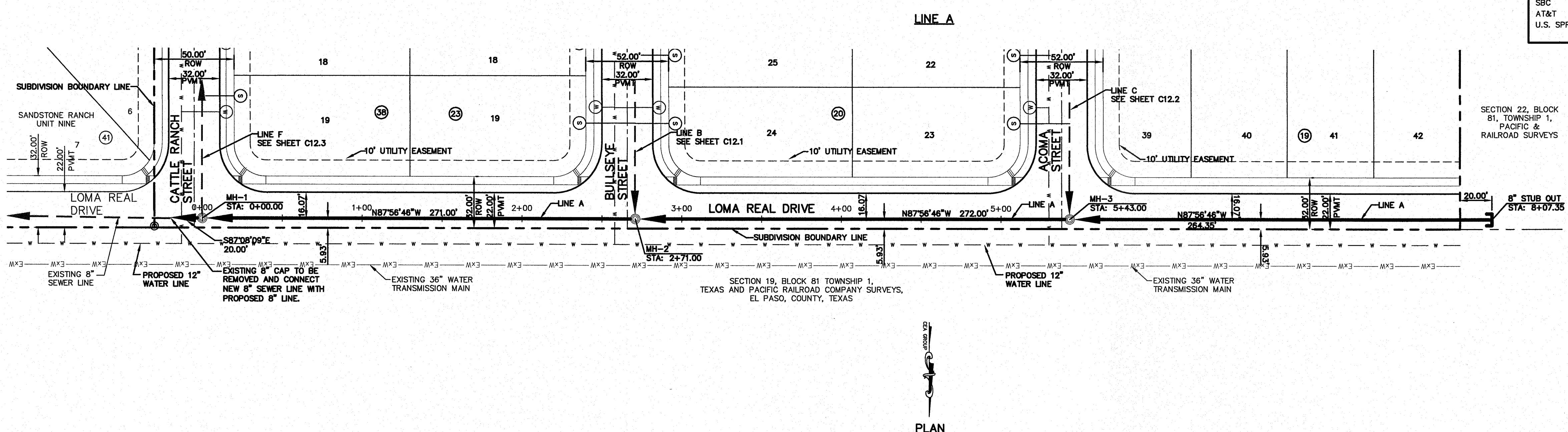
REFERENCES - BENCHMARKS

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DATE: 3/19/14

BY: J.M.

REVISIONS: REVISED SANITARY SEWER AS PER STREET GRADE REVISIONS



LEGEND:

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

20" C-900, CLASS 150 SEGMENT SHALL BE CENTERED ABOVE ALL WATER CROSSINGS, ON SEWER WHERE APPLICABLE

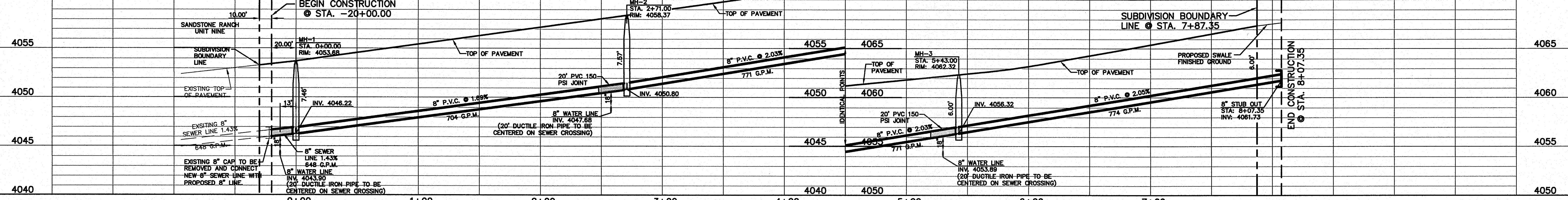
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4712 Woodrow Dean, Ste. F El Paso, TX 79924

Office: 915.544.6222 Fax: 915.544.6203 www.csandamp.com



ENGINEER'S SEAL

SCALE: 1"=40'

Horizontal: 1"=5'

Vertical: N/A

Contour Interval: N/A

DATE: MARCH 2014

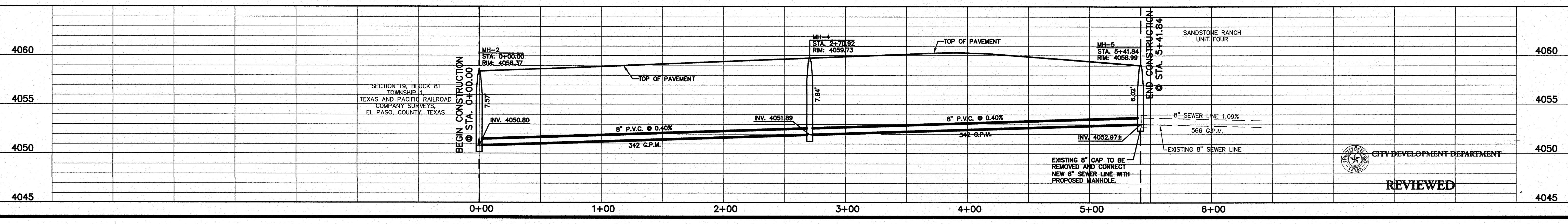
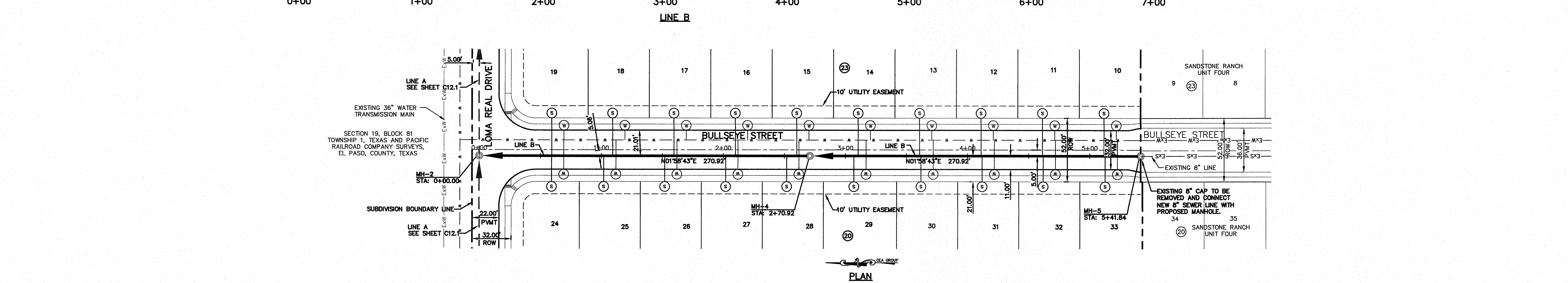
DESIGN BY: J.M.

DRAWN BY: J.M.

CHKD. BY: J.G.

APPROV. BY: J.L.A.

JOB No. 2000-164-LD



PROJECT TITLE

SANDSTONE RANCH UNIT TEN

SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE A & B

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C12.1R

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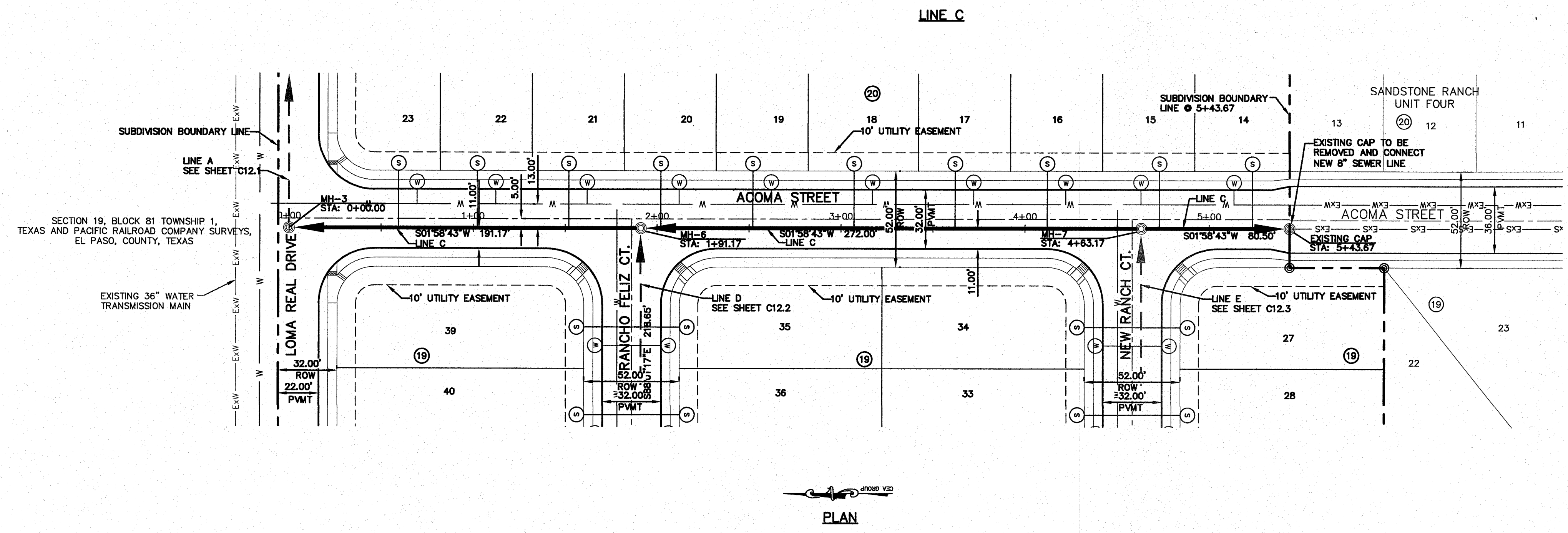
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200
SBC	(800) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	REVISIONS	BY	J.M.
FOUND TxDOT BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22. (ELEVATION: 4033.22 (NGVD DATUM) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM).)	DATE	3/19/14	PER REVISED STREET GRADES



LEGEND:

- PROPOSED WATER LINE
- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED SEWER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE
- PROPOSED SEWER MANHOLE
- 20' C-900, CLASS 150 SEGMENT SHALL BE CENTERED ABOVE ALL WATER CROSSINGS, ON SEWER WHERE APPLICABLE

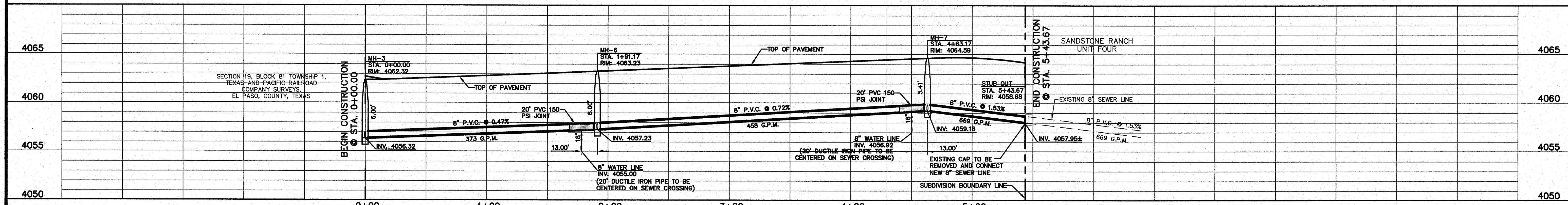
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Office: 915.544.8222 Fax: 915.544.8233 www.csandamp.com



ENGINEER'S SEAL

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Horizontal: 1"=50'

Vertical: N/A

Contour Interval: N/A

DATE: MARCH 2014

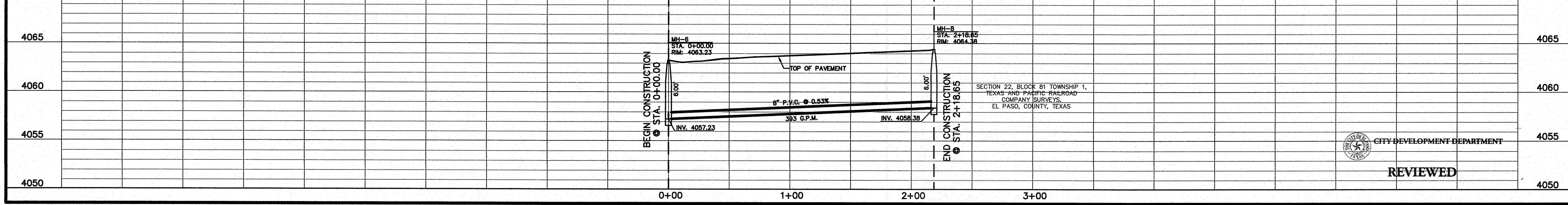
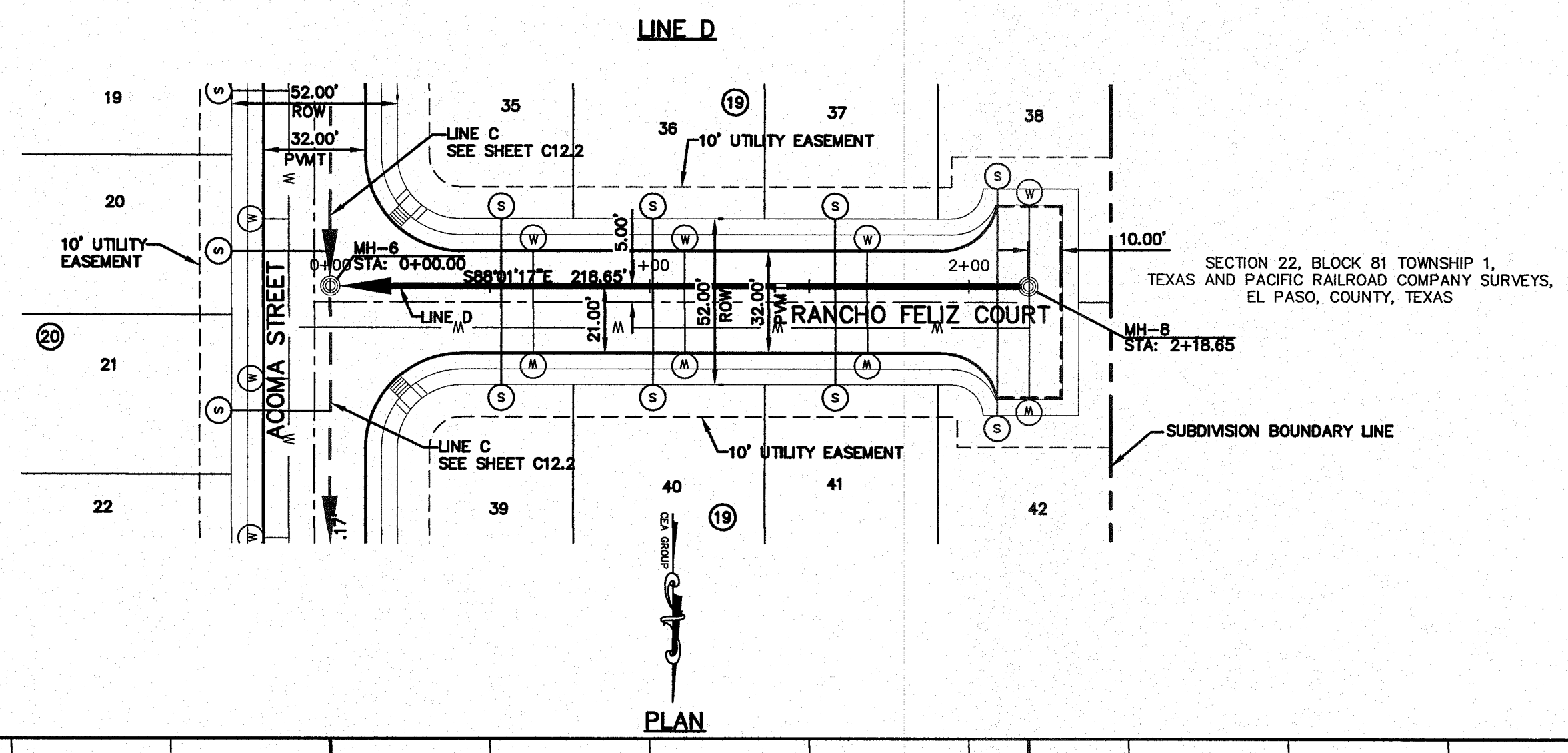
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DRAWN BY: J.M.

CHKD. BY: J.G.

APPVD. BY: J.L.A.

JOB No. 2000-164-LD



PROJECT TITLE

SANDSTONE RANCH UNIT TEN

SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE C & D

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C12.2R

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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

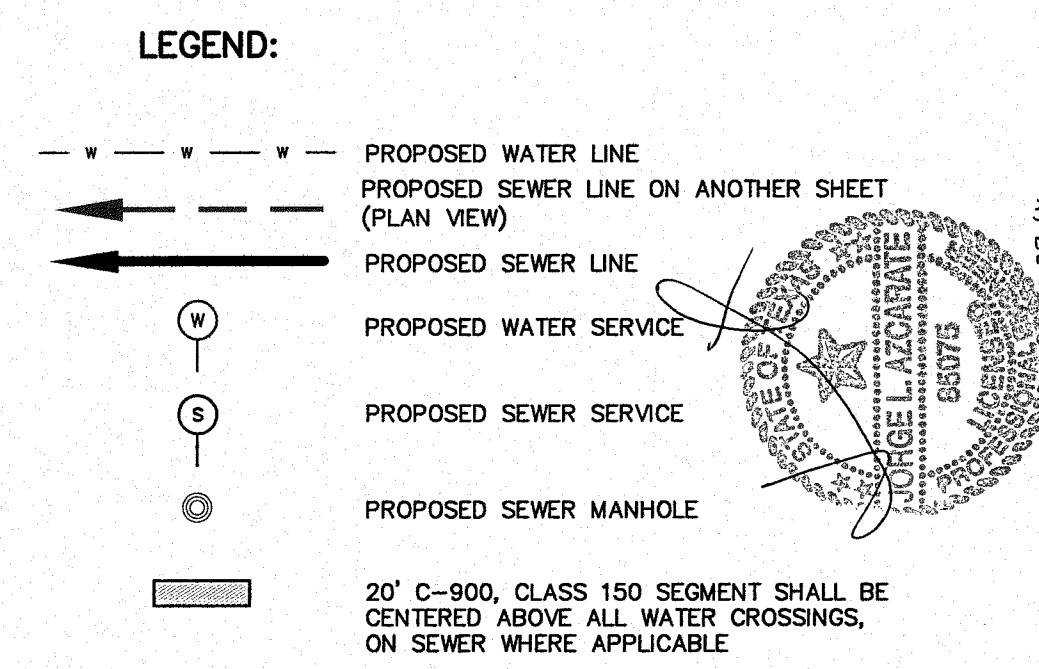
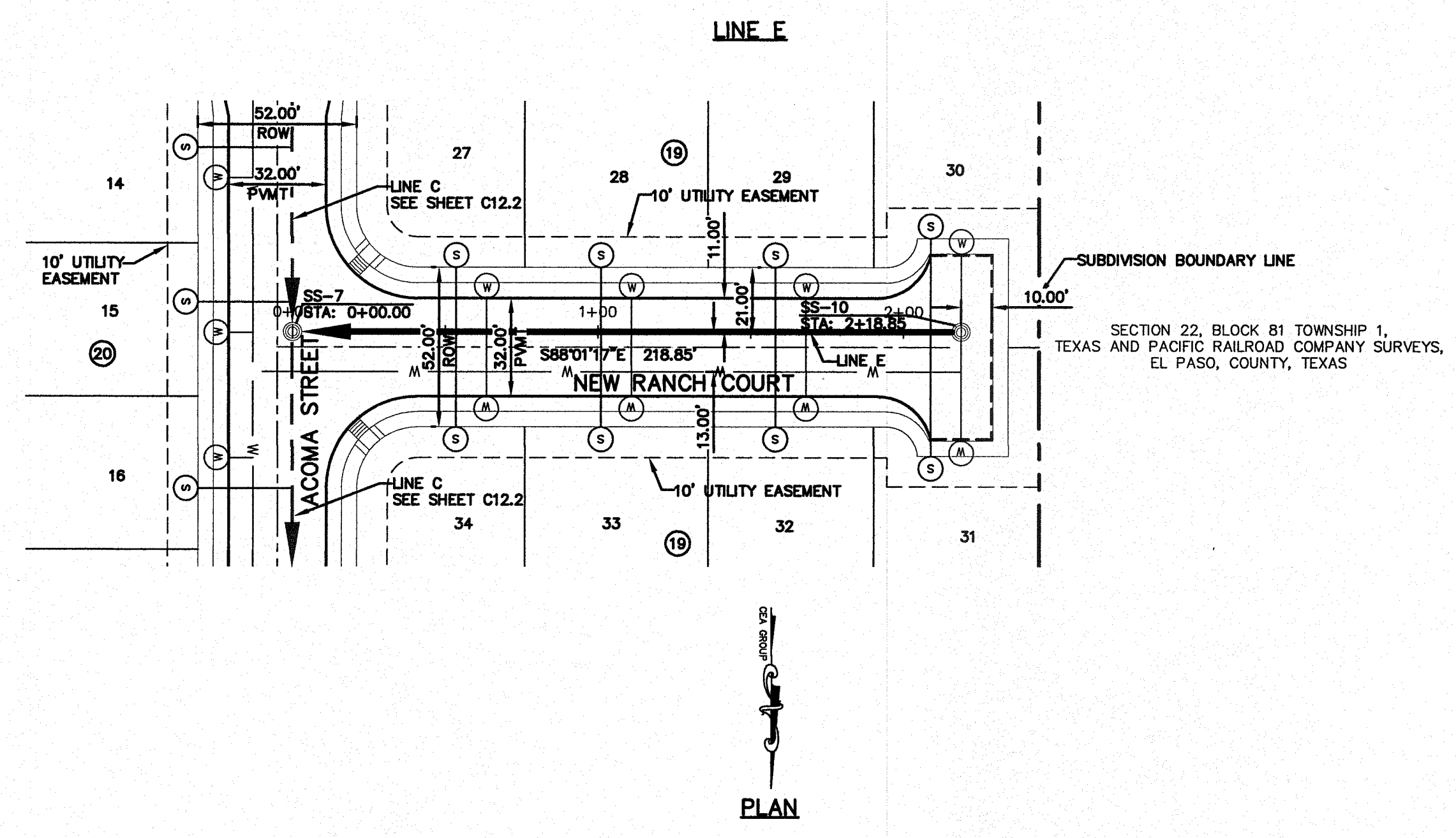
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

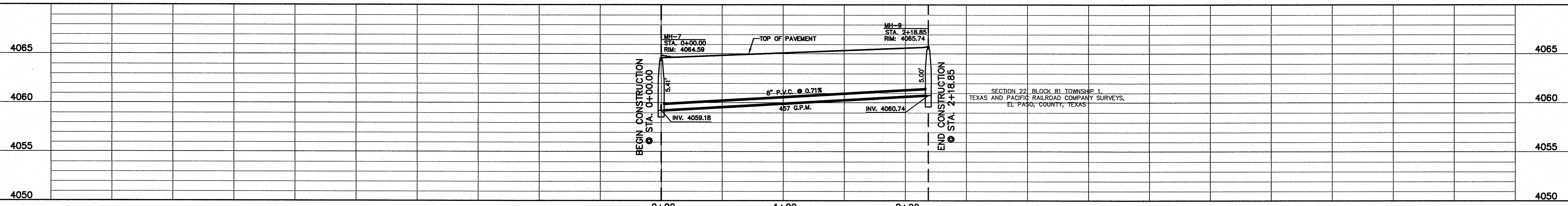
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DATE: 3/19/14
REVISIONS: PER REVISED STREET GRADES
BY: J.M.

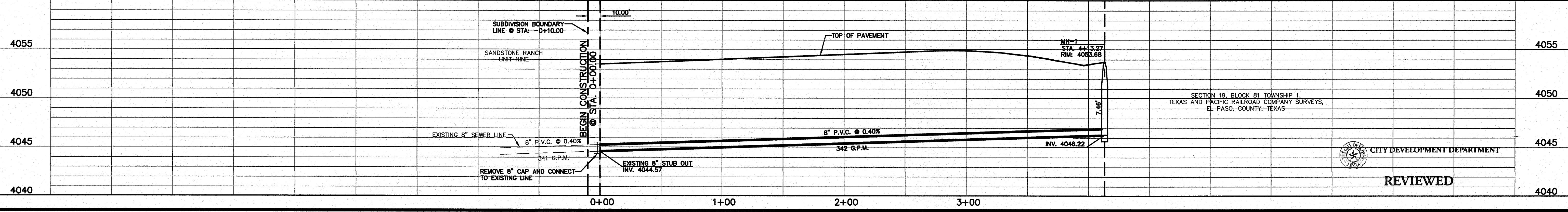
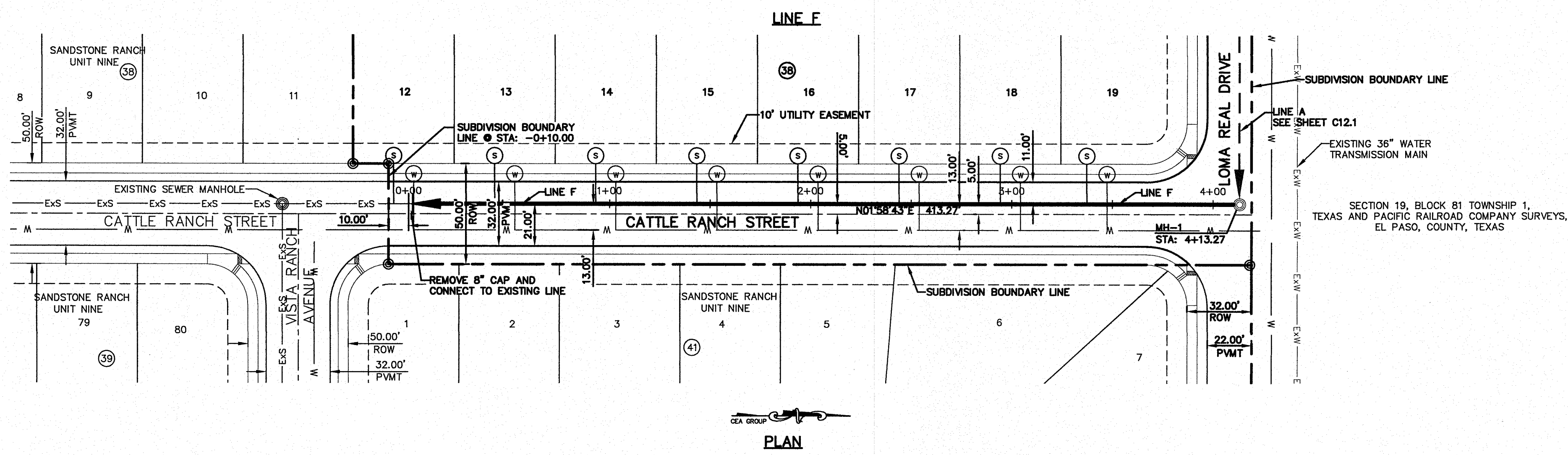


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4712 Woodrow Bham, Ste. F El Paso, TX 79924
Office: 915.445.5222 Fax: 915.445.5233 www.ceagroup.net



ENGINEER'S SEAL
SCALE: Horizontal: 1"=40'
Vertical: 1"=5'
Contour Interval: 3/4'
DATE: MARCH 2014
DESIGN BY: J.M.
CHECK BY: J.C.
APPROV. BY: J.M.
JOB No.: 2000-164-LD



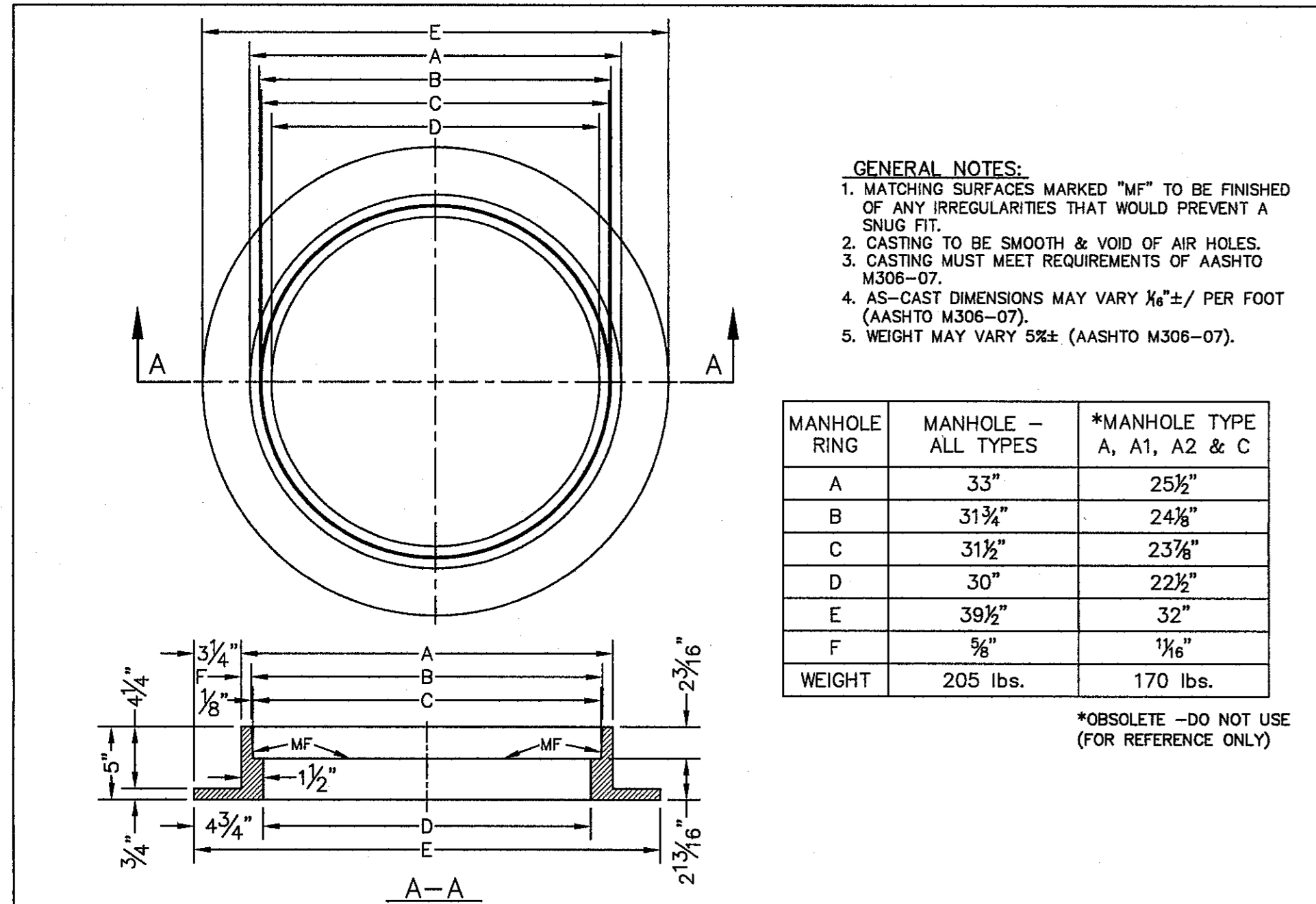
PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
SANITARY SEWER
PLAN & PROFILE
LINE E & F

SHEET NO.
C12.3R

CITY DEVELOPMENT DEPARTMENT
REVIEWED

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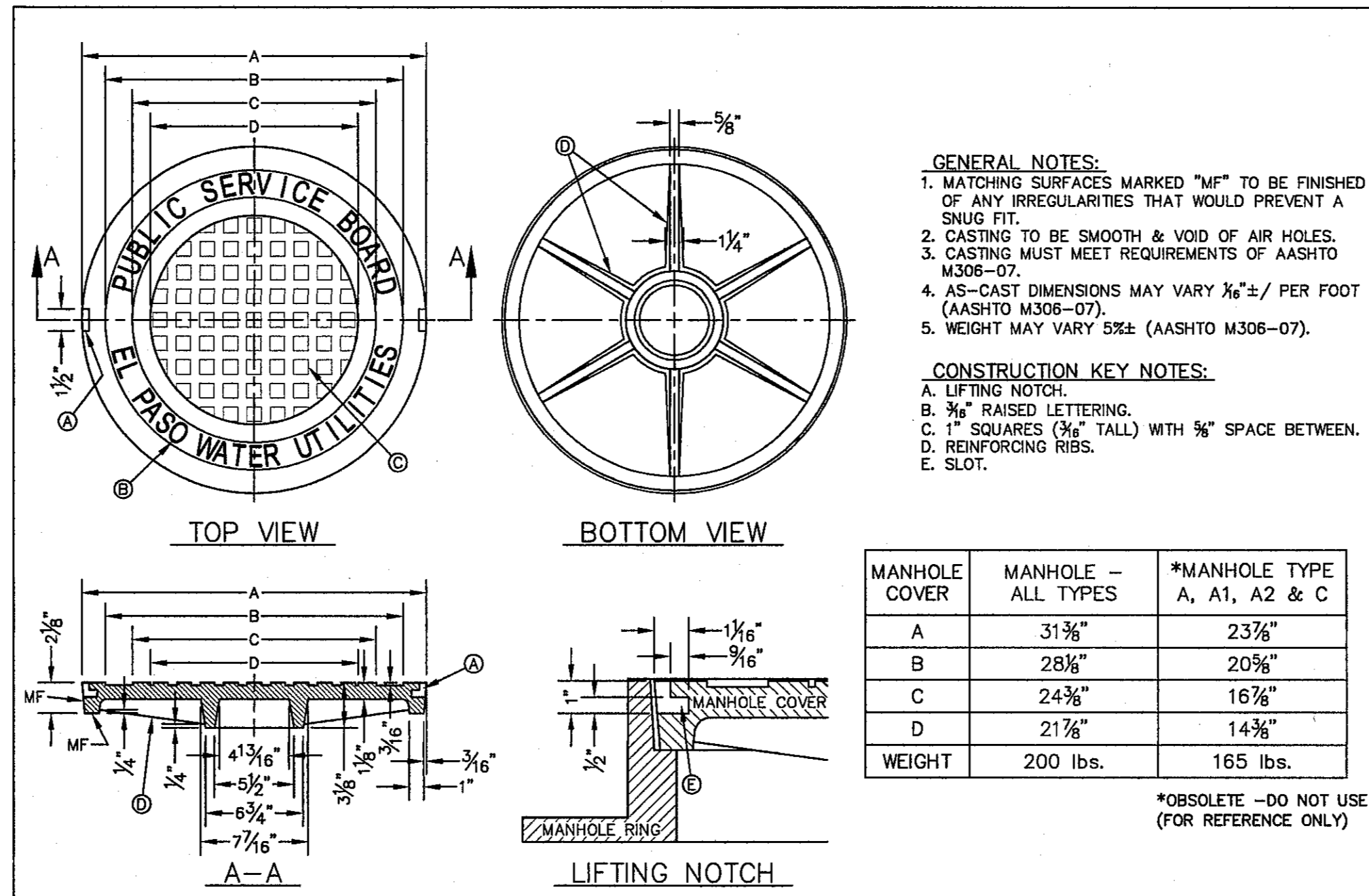
- GENERAL NOTES:**
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M306-07.
 4. AS-CAST DIMENSIONS MAY VARY 1/8" ± / PER FOOT (AASHTO M306-07).
 5. WEIGHT MAY VARY 5% ± (AASHTO M306-07).

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

*OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)

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

1 STANDARD MANHOLE RING N.T.S.



- GENERAL NOTES:**
1. MATCHING SURFACES MARKED "MF" TO BE FINISHED OF ANY IRREGULARITIES THAT WOULD PREVENT A SNUG FIT.
 2. CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 3. CASTING MUST MEET REQUIREMENTS OF AASHTO M308-07.
 4. AS-CAST DIMENSIONS MAY VARY 1/8" ± / PER FOOT (AASHTO M308-07).
 5. WEIGHT MAY VARY 5% ± (AASHTO M308-07).

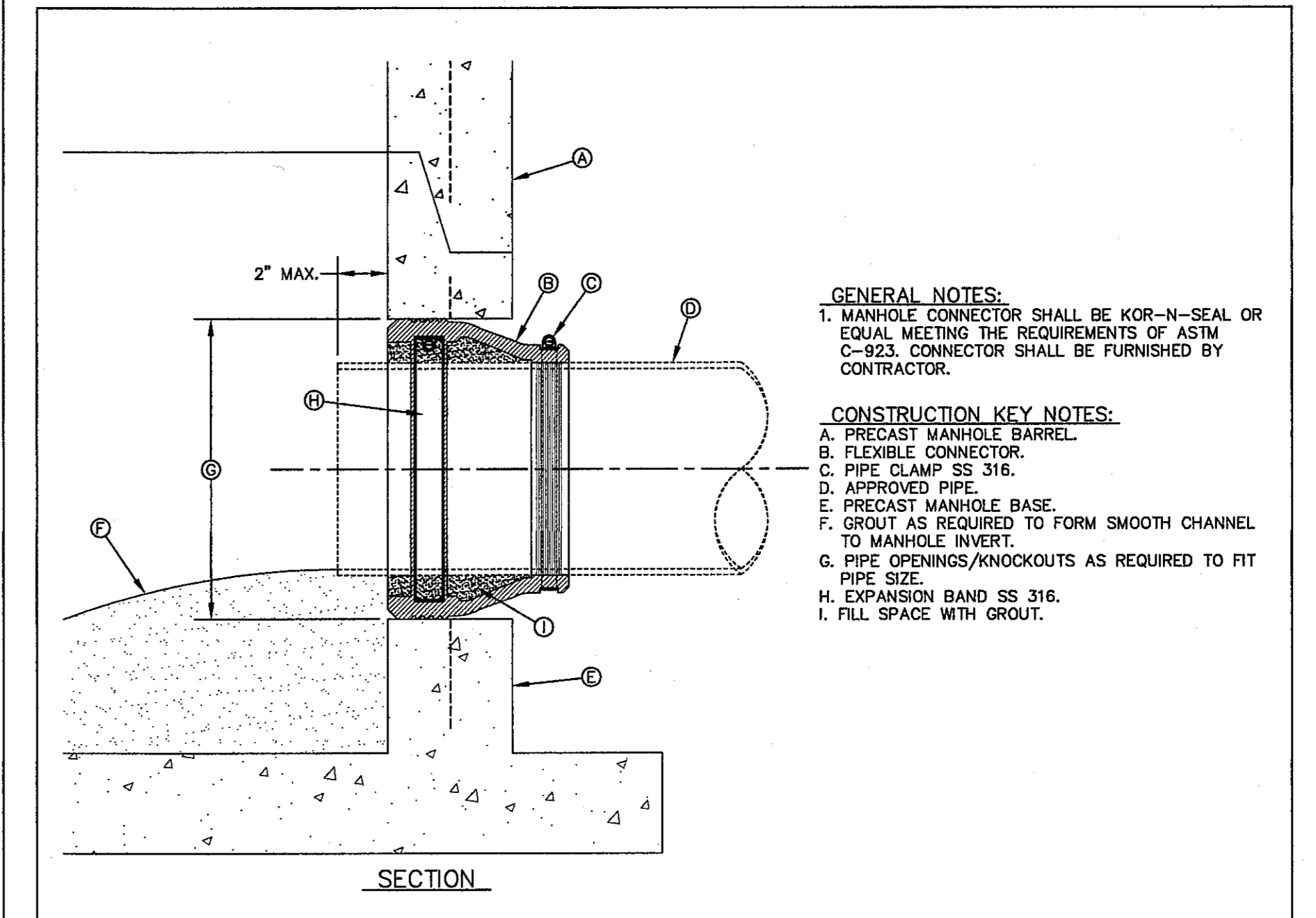
- CONSTRUCTION KEY NOTES:**
- A. LIFTING NOTCH.
 - B. 3/8" RAISED LETTERING.
 - C. 1" SQUARES (3/8" TALL) WITH 1/2" SPACE BETWEEN.
 - D. REINFORCING RIBS.
 - E. SLOT.

MANHOLE COVER	MANHOLE - ALL TYPES	*MANHOLE TYPE A, A1, A2 & C
A	31 3/4"	23 7/8"
B	28"	20"
C	24 3/8"	16 7/8"
D	21 7/8"	14 3/8"
WEIGHT	200 lbs.	165 lbs.

*OBSOLETE - DO NOT USE (FOR REFERENCE ONLY)

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

2 STANDARD COVER DETAIL N.T.S.

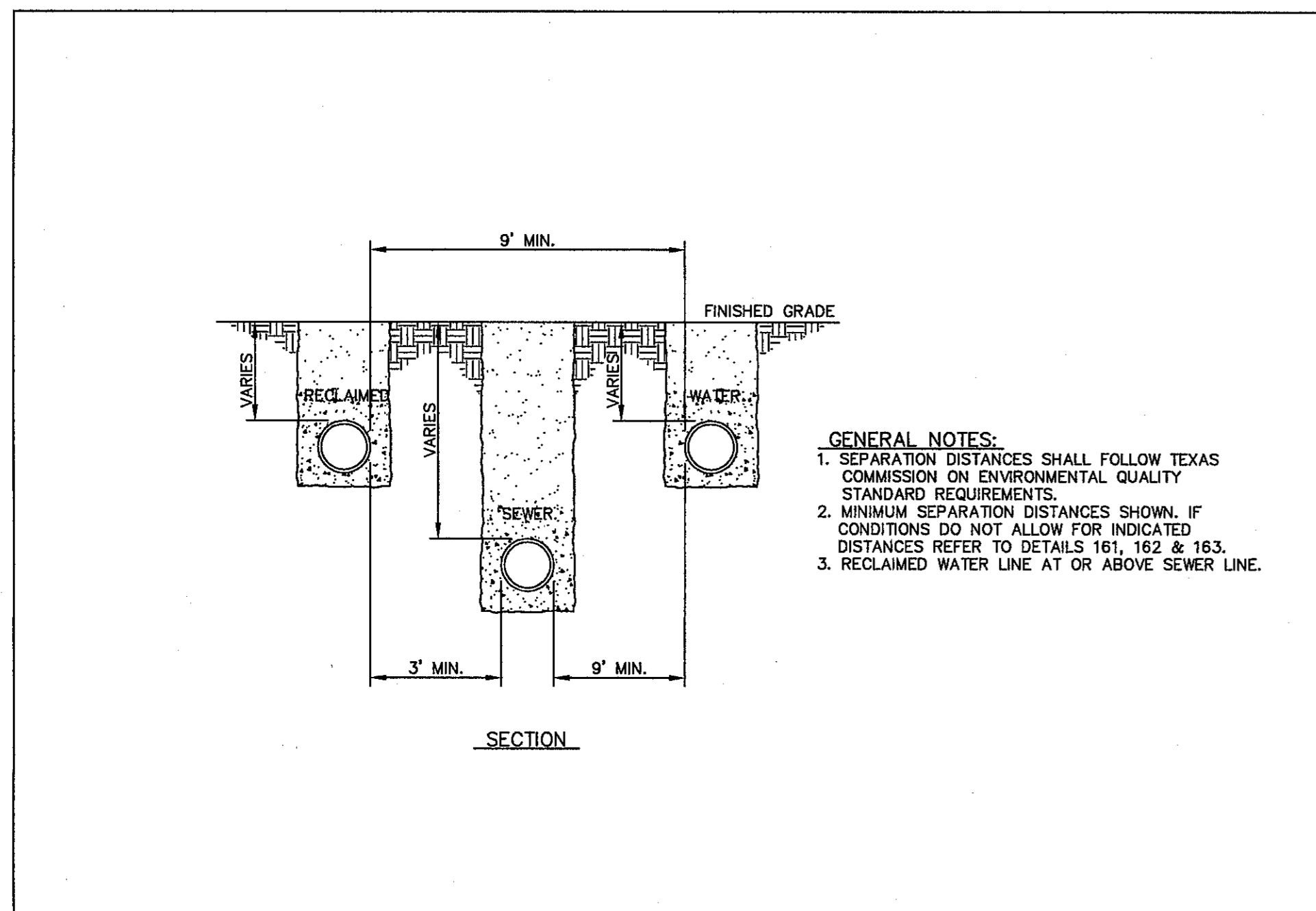


- GENERAL NOTES:**
1. MANHOLE CONNECTOR SHALL BE KOR-N-SEAL OR EQUAL MEETING THE REQUIREMENTS OF ASTM C-923. CONNECTOR SHALL BE FURNISHED BY CONTRACTOR.

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

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

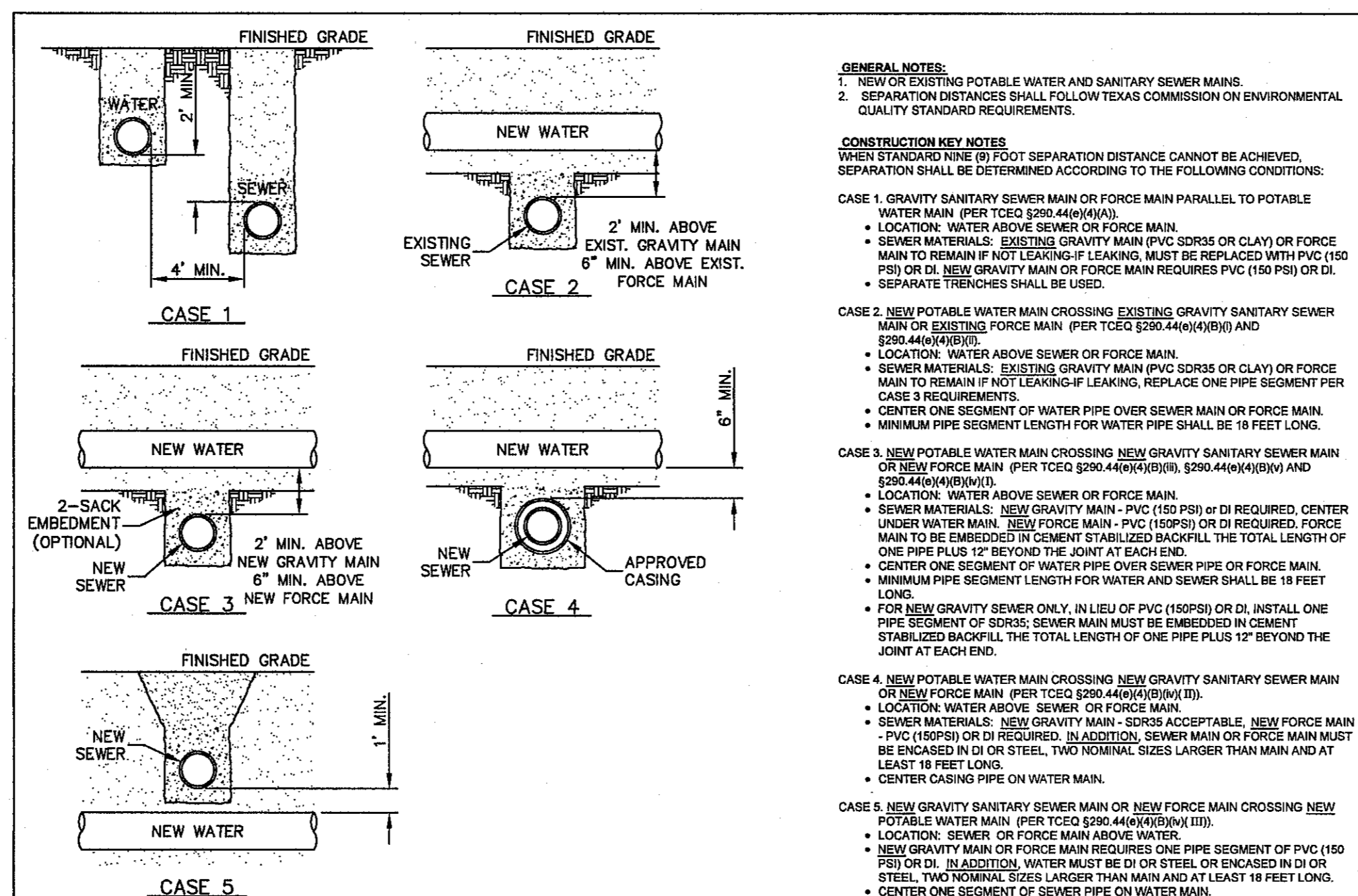
3 PIPE CONNECTION TO MANHOLE N.T.S.



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

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

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

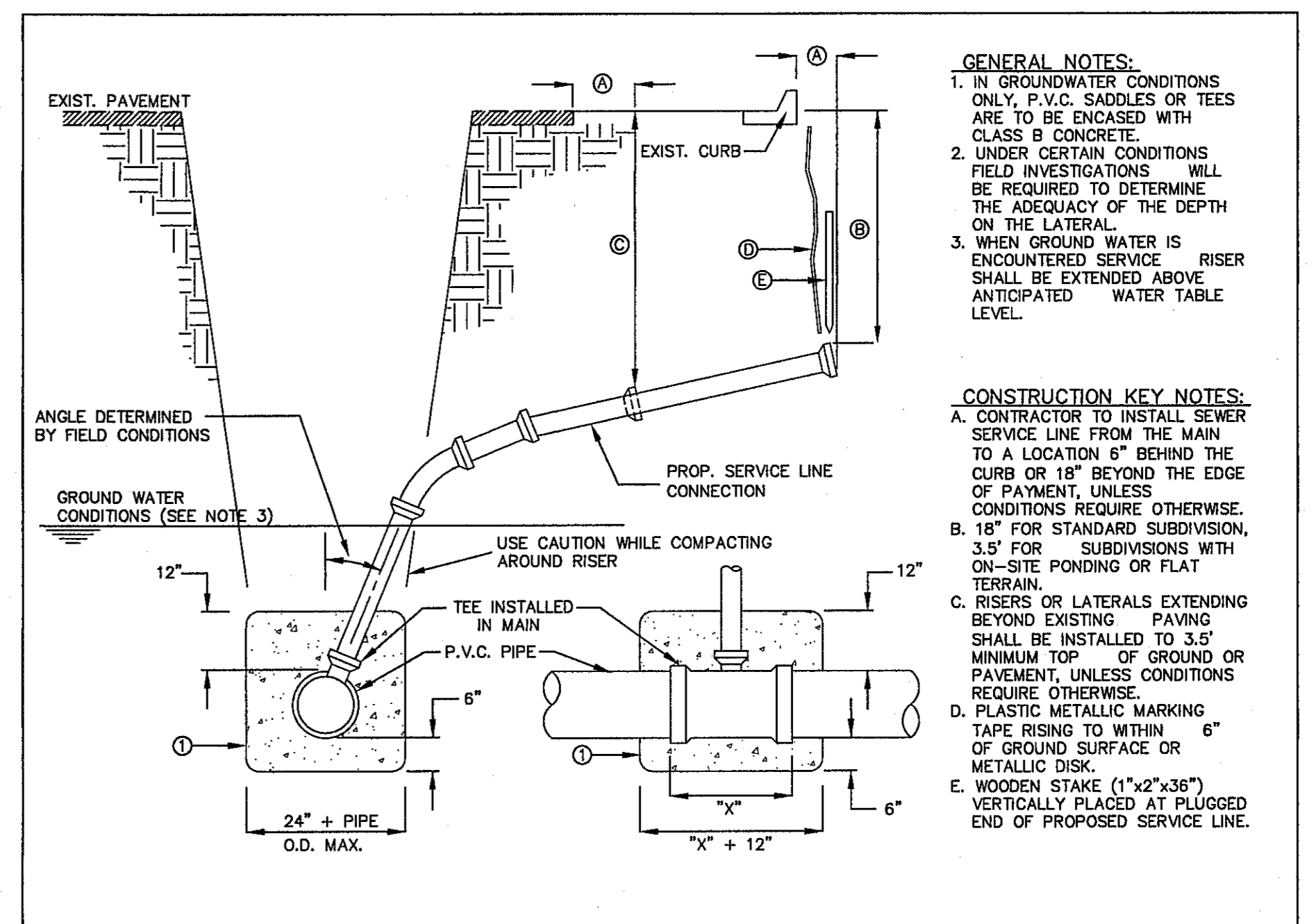


- GENERAL NOTES:**
1. NEW OR EXISTING POTABLE WATER AND SANITARY SEWER MAINS.
 2. SEPARATION DISTANCES SHALL FOLLOW TEXAS COMMISSION ON ENVIRONMENTAL QUALITY STANDARD REQUIREMENTS.

- CONSTRUCTION KEY NOTES:**
- WHEN STANDARD (9) FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, SEPARATION SHALL BE DETERMINED ACCORDING TO THE FOLLOWING CONDITIONS:
- CASE 1. GRAVITY SANITARY SEWER MAIN OR FORCE MAIN PARALLEL TO POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(A)).
 - LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN - PVC (SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, MUST BE REPLACED WITH PVC (150 PSI) OR DI. NEW GRAVITY MAIN OR FORCE MAIN REQUIRES PVC (150 PSI) OR DI.
 - SEPARATE TRENCHES SHALL BE USED.
 - CASE 2. NEW POTABLE WATER MAIN CROSSING EXISTING GRAVITY SANITARY SEWER MAIN OR EXISTING FORCE MAIN (PER TCEQ §290.44(a)(4)(B)) AND §290.44(a)(4)(C)).
 - LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: EXISTING GRAVITY MAIN - PVC (SDR35 OR CLAY) OR FORCE MAIN TO REMAIN IF NOT LEAKING-IF LEAKING, REPLACE ONE PIPE SEGMENT PER CASE 3 REQUIREMENTS.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER MAIN OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER PIPE SHALL BE 18 FEET LONG.
 - CASE 3. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(I), §290.44(a)(4)(B)(II) AND §290.44(a)(4)(B)(III)).
 - LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: NEW GRAVITY MAIN - PVC (150 PSI) OR DI REQUIRED, CENTER UNDER WATER MAIN. NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED, FORCE MAIN TO BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 - CENTER ONE SEGMENT OF WATER PIPE OVER SEWER PIPE OR FORCE MAIN.
 - MINIMUM PIPE SEGMENT LENGTH FOR WATER AND SEWER SHALL BE 18 FEET LONG.
 - FOR NEW GRAVITY SEWER ONLY, IN LIEU OF PVC (150 PSI) OR DI, INSTALL ONE PIPE SEGMENT OF SDR35; SEWER MAIN MUST BE EMBEDDED IN CEMENT STABILIZED BACKFILL THE TOTAL LENGTH OF ONE PIPE PLUS 12" BEYOND THE JOINT AT EACH END.
 - CASE 4. NEW POTABLE WATER MAIN CROSSING NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN (PER TCEQ §290.44(a)(4)(B)(I), §290.44(a)(4)(B)(II), §290.44(a)(4)(B)(III)).
 - LOCATION: WATER ABOVE SEWER OR FORCE MAIN.
 - SEWER MATERIALS: NEW GRAVITY MAIN - SDR35 ACCEPTABLE, NEW FORCE MAIN - PVC (150 PSI) OR DI REQUIRED. IN ADDITION, SEWER MAIN OR FORCE MAIN MUST BE ENCASED IN DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER CASING PIPE ON WATER MAIN.
 - CASE 5. NEW GRAVITY SANITARY SEWER MAIN OR NEW FORCE MAIN CROSSING NEW POTABLE WATER MAIN (PER TCEQ §290.44(a)(4)(B)(I), §290.44(a)(4)(B)(II), §290.44(a)(4)(B)(III)).
 - LOCATION: SEWER OR FORCE MAIN ABOVE WATER.
 - NEW GRAVITY MAIN OR FORCE MAIN REQUIRES ONE PIPE SEGMENT OF PVC (150 PSI) OR DI. IN ADDITION, WATER MUST BE DI OR STEEL, TWO NOMINAL SIZES LARGER THAN MAIN AND AT LEAST 18 FEET LONG.
 - CENTER ONE SEGMENT OF SEWER PIPE ON WATER MAIN.

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

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



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

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

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

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

REFERENCES - BENCHMARKS
FOUND FOOT BRASS CAP AT SECTION CORNERS ON 21 AND 22. ELEVATION: 4033.23 (AVG) DATUM (SUBTRACT 6.462 TO CONVERT TO CITY DATUM).

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SCALE
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.C.
APPROV. BY: J.L.C.
JOB No. 2000-164-LD

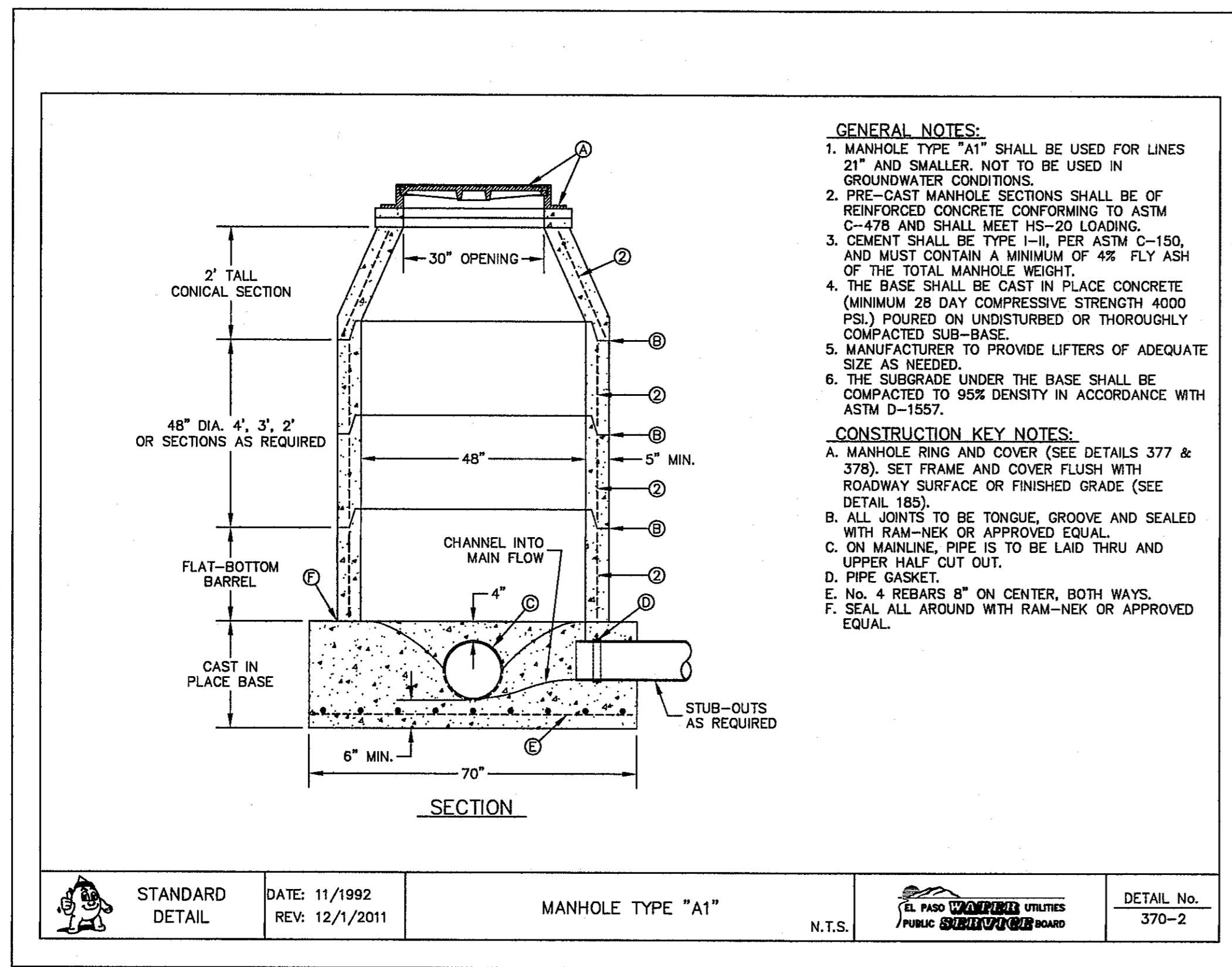
PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

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

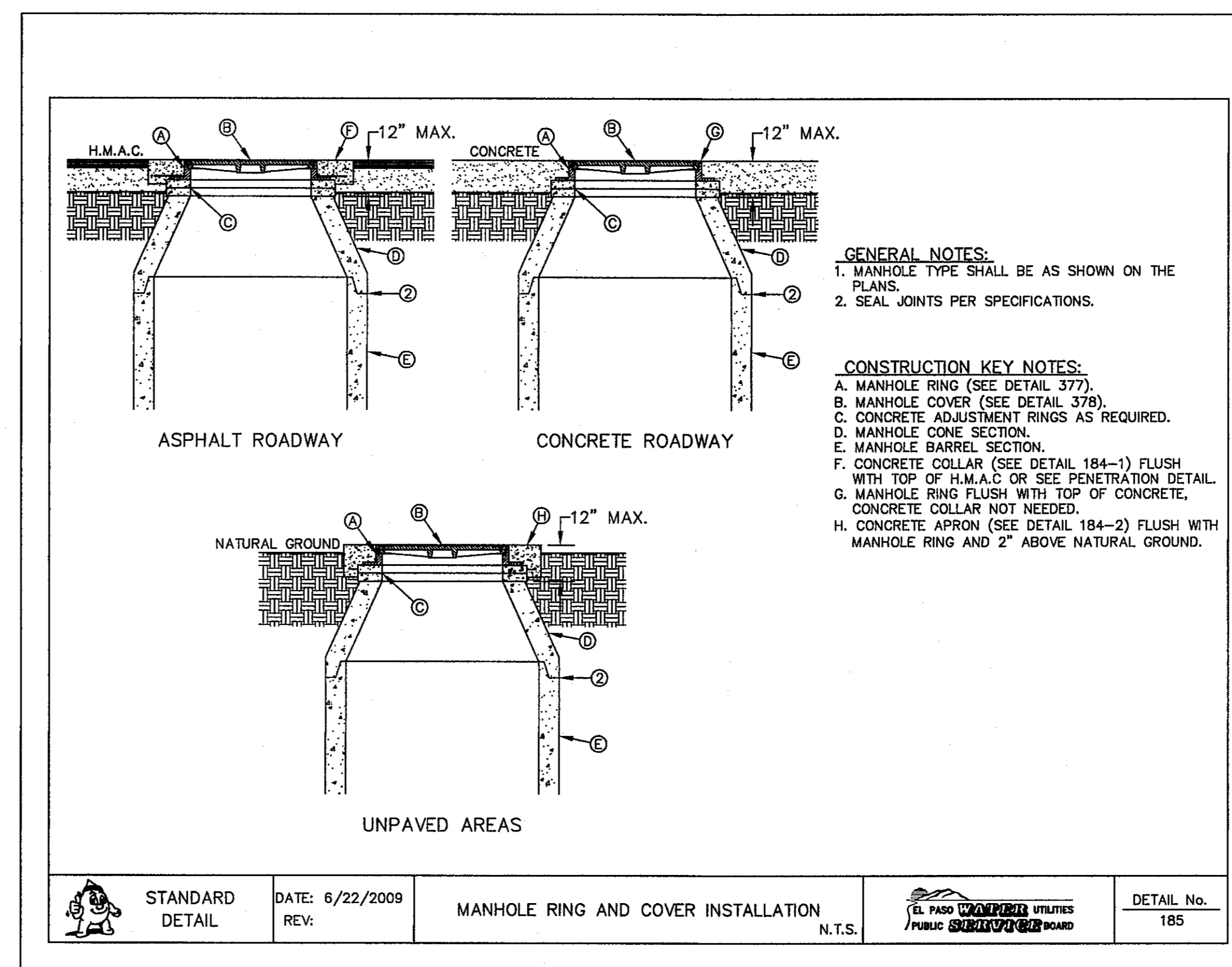
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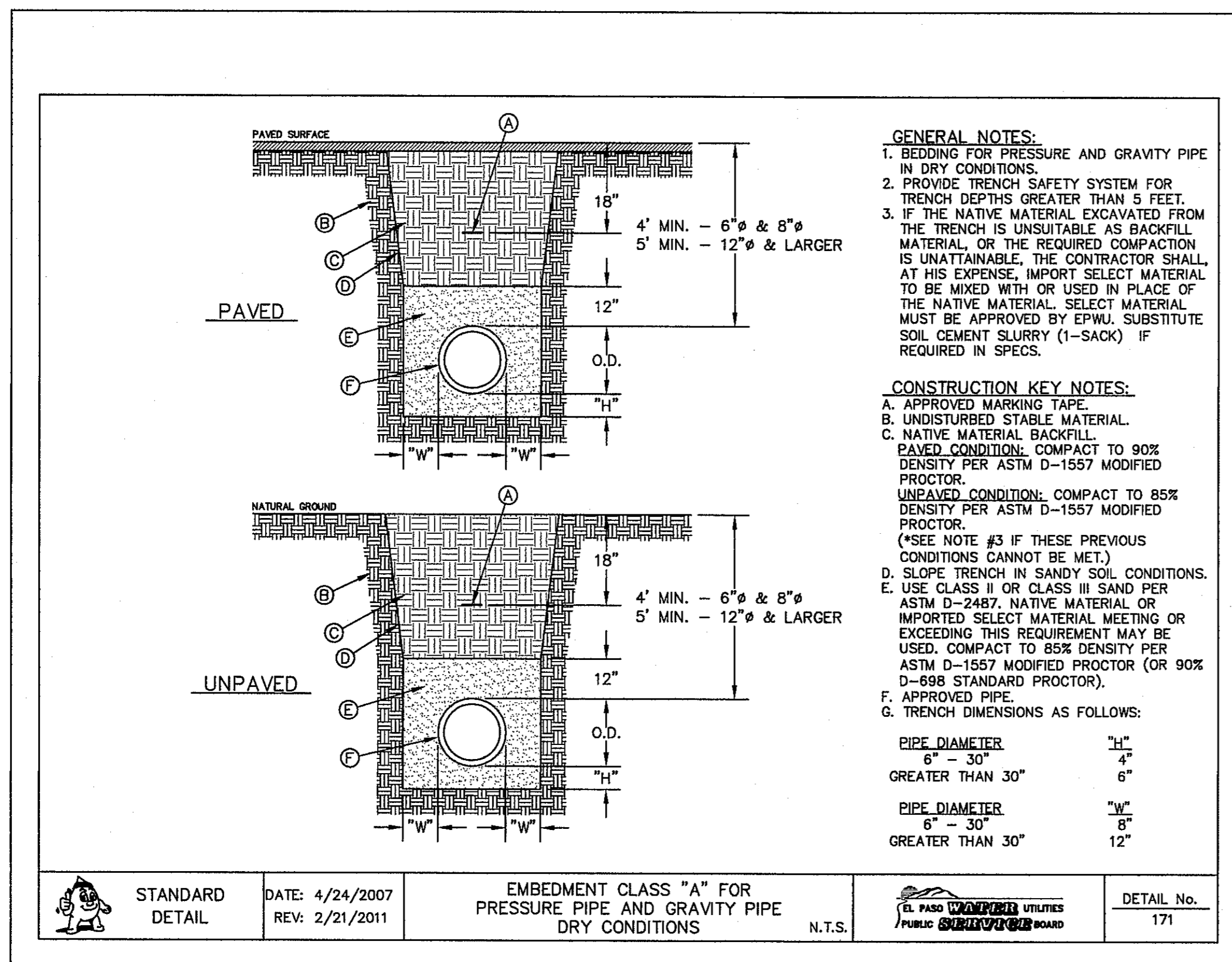
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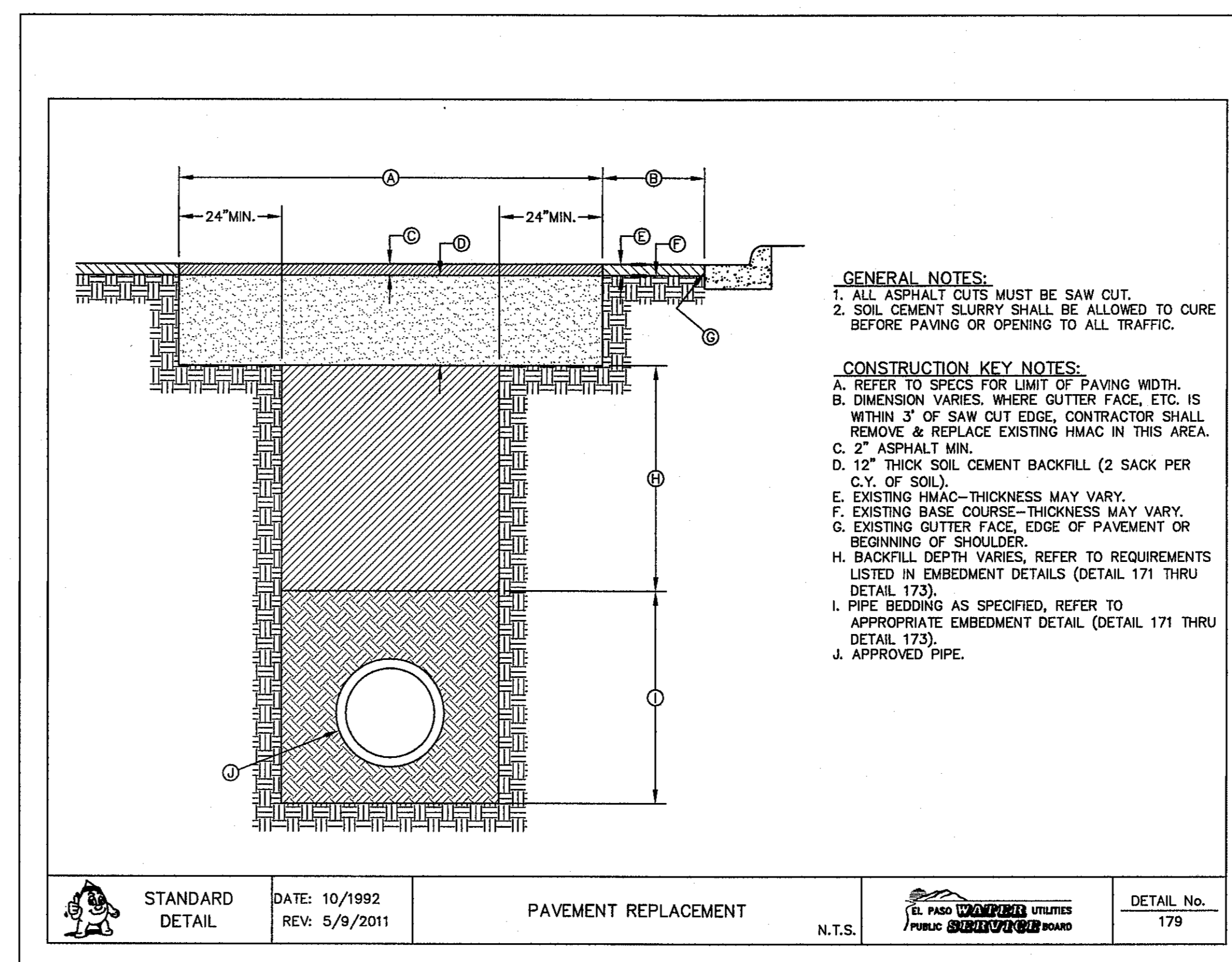
1 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.



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



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



4 PAVEMENT REPAIR DETAIL N.T.S.

REFERENCES - BENCHMARKS

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

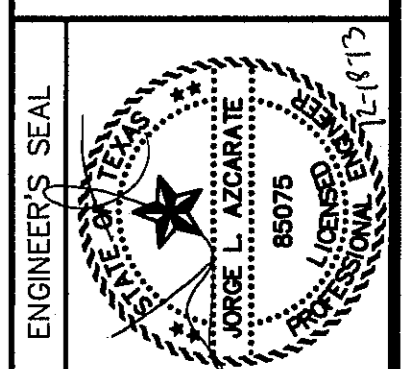
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SCALE: N/A

Horizontal: N/A

Vertical: N/A

Contour Interval: N/A

DATE: NOVEMBER 2013

DESIGN BY: J.M.

DRAWN BY: J.M.

CHKD. BY: J.L.A.

APPRO. BY: J.L.A.

JOB No. 2000-164-LD

PROJECT TITLE

SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SEWER DETAILS

(SHEET 2 OF 3)

SHEET NO.

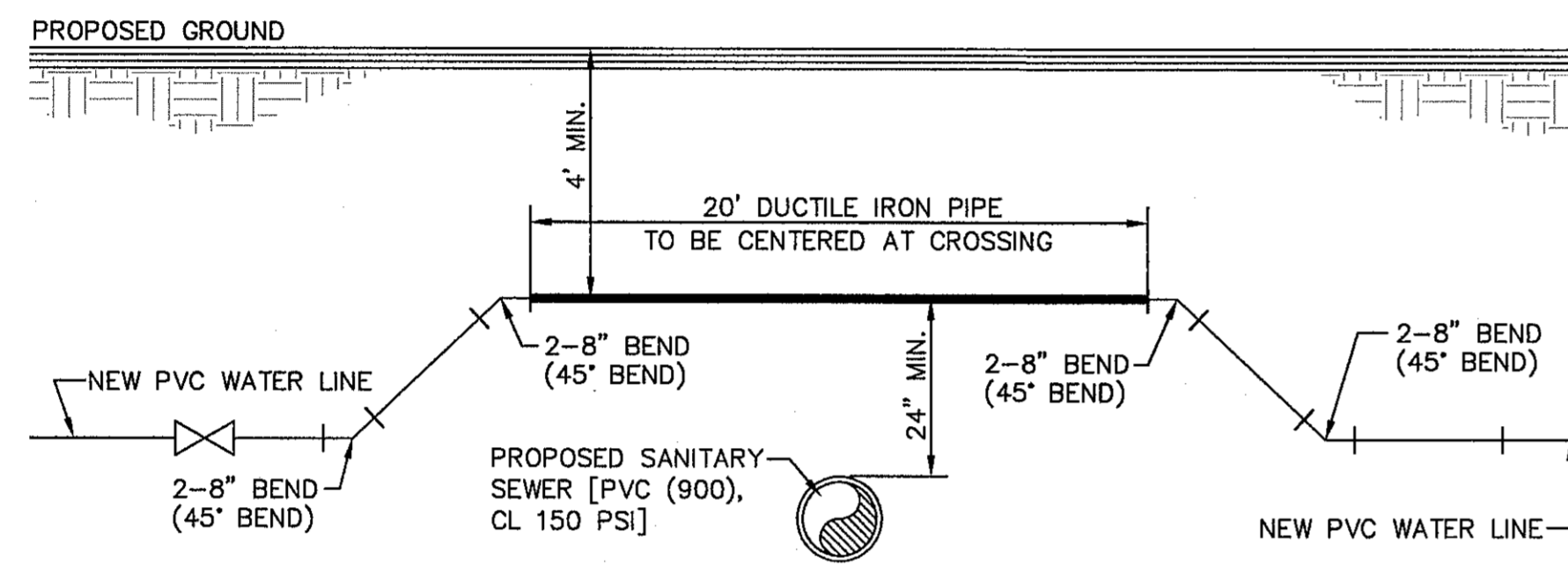
CITY DEVELOPMENT DEPARTMENT

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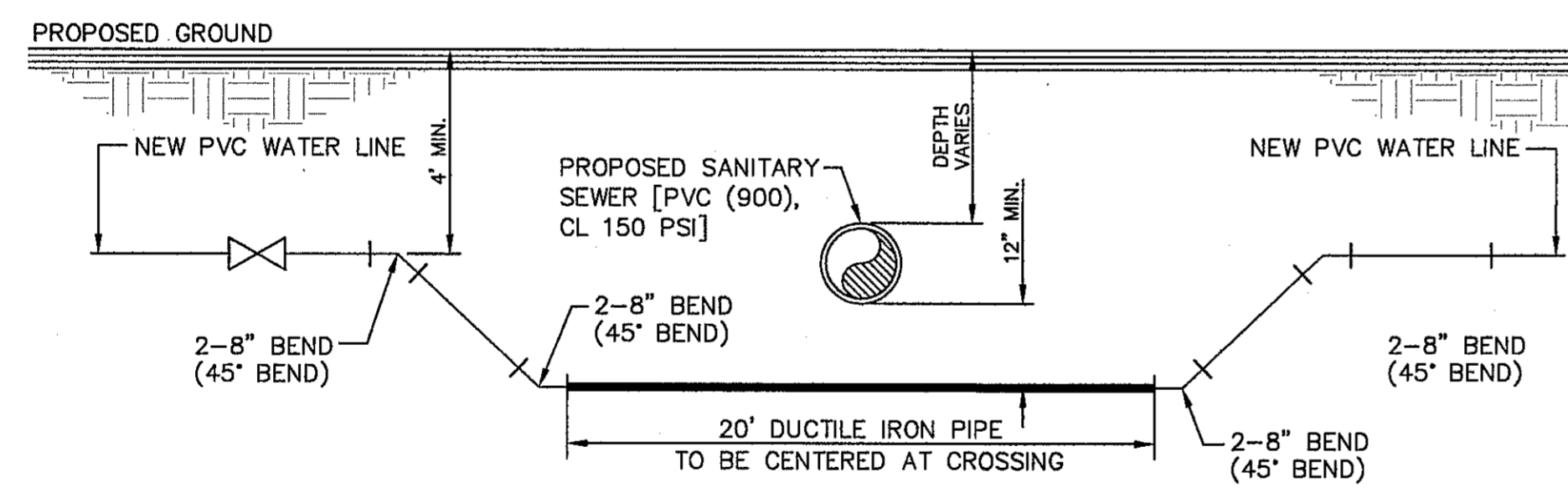
C13.2

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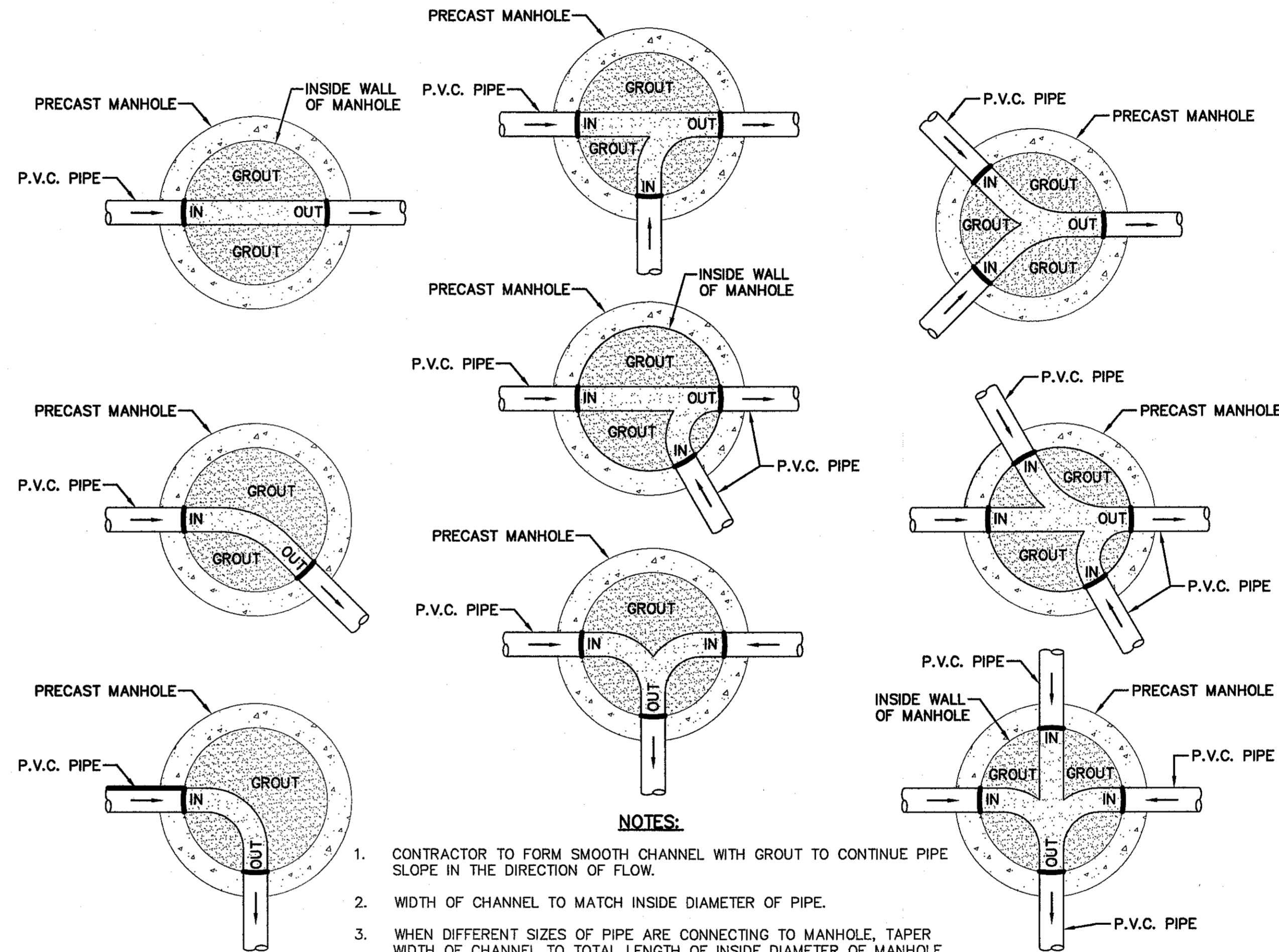
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1 SANITARY SEWER CROSSING UNDER WATER LINE DETAIL
N.T.S.



2 SANITARY SEWER CROSSING OVER WATER LINE DETAIL
N.T.S.



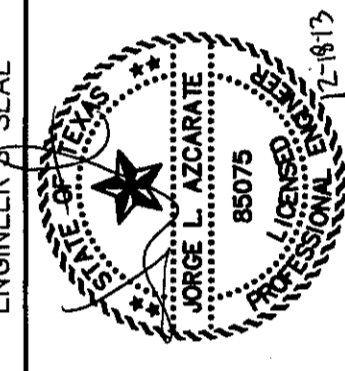
- NOTES:**
1. CONTRACTOR TO FORM SMOOTH CHANNEL WITH GROUT TO CONTINUE PIPE SLOPE IN THE DIRECTION OF FLOW.
 2. WIDTH OF CHANNEL TO MATCH INSIDE DIAMETER OF PIPE.
 3. WHEN DIFFERENT SIZES OF PIPE ARE CONNECTING TO MANHOLE, TAPER WIDTH OF CHANNEL TO TOTAL LENGTH OF INSIDE DIAMETER OF MANHOLE.
 4. GROUT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

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

REFERENCES - BENCHMARKS

FOUND FOOT BRASS CAP AT SECTION CORNERS 20, 21 AND 22.	DATE	BY
ELEVATION: 4033.23 (AVG. DATUM)		
(SUBTRACT 8.462 TO CONVERT TO CITY DATUM).		

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SCALE:	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER 2013
DESIGN BY:	J.M.
DRAWN BY:	J.M.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-164-LD

PROJECT TITLE

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SEWER
DETAILS**

(SHEET 3 OF 3)

SHEET NO.

CITY DEVELOPMENT DEPARTMENT

REVIEWED

C13.3

SITE DESCRIPTION

PROJECT NAME AND LIMITS: SANDSTONE RANCH UNIT TEN
THE PROJECT IS BORDERED BY SANDSTONE RANCH UNIT FOUR SUBDIVISION TO THE SOUTH,
SANDSTONE RANCH UNIT NINE TO THE EAST. A PORTION OF SECTION 22, BLOCK 81, TO THE
WEST & SECTION 19, BLOCK 81 TO THE NORTH.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY
10.15± ACRES, AND WILL CONTAIN 54 RESIDENTIAL LOTS. PROJECT IMPROVEMENTS
SHALL CONSIST OF STREET AND LOT GRADING.

EXISTING CONDITIONS: THE SITE IS CLEAR OF SITE IMPROVEMENTS AND IS COVERED WITH ITS
NATURAL SURROUNDINGS. EXISTING RUNOFF GENERAL FLOWS IN A EASTERLY DIRECTION.

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

TOTAL PROJECT AREA: 10.17± ac.

TOTAL AREA TO BE DISTURBED: 10.17± ac.

WEIGHTED RUNOFF COEFFICIENT
(AFTER CONSTRUCTION): 0.615

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

NAME OF RECEIVING WATERS: STORM RUNOFF FROM THE NEW SUBDIVISION WILL BE CONVEYED THROUGH A
NEW STORM SEWER INFRASTRUCTURE AND ULTIMATELY BE DISCHARGED INTO AN OFF-SITE
DRAINAGE CHANNEL.

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 OR EARTHERN BERMS
- 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 EARTHERN BERM, AND STABILIZED CONSTRUCTION ENTRANCE) ;
2. PERFORM CLEARING AND GRUBBING;
3. COMPLETE STREET, LOT AND POND GRADING;
4. 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 & C4.2, FOR ADDITIONAL INFORMATION ON WATERSHED AREAS AND RUNOFF QUANTITIES (Q).
6. THE FOLLOWING HAVE BEEN IDENTIFIED AS POTENTIAL CONTAMINATION SOURCES: CLEARED AND GRADED AREAS; CONSTRUCTION SITE ENTRANCE AND ASPHALT PARKING AREA CONSTRUCTION; ASPHALT LOADING/UNLOADING AREAS; CONCRETE LOADING/UNLOADING AREAS; AND, ALL UNDISTURBED AREAS.
7. THE FOLLOWING IS A LIST OF POTENTIAL CONSTRUCTION SITE STORM WATER POLLUTANTS: ASPHALT; CONCRETE; GLUE/ADHESIVE; PAINTS; CURING COMPOUNDS; WASTEWATER FROM CONSTRUCTION EQUIPMENT WASHING; HYDRAULIC OIL/FLUIDS; GASOLINE; DIESEL FUEL; KEROSENE; ANTIFREEZE/COOLANT; AND EROSION.

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

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

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

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

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TEXAS REGISTERED ENGINEERING FIRM #4584
4712 Woodrow Beaun, Ste. F El Paso, TX 79924
Office: 915.544.6322 Fax: 915.544.6323 www.csa.com



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	NOVEMBER 2013
DESIGN BY:	J.M.
DRAWN BY:	J.M.
CHECKED BY:	J.M.
NO. BY:	N/A
JOB NO.	2000-16-1-LD

PROJECT TITLE
SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STORM WATER
POLLUTION
PREVENTION PLAN:
NOTES
(SHEET 1 OF 3)
SHEET NO.



C14.1

S:\2000\2000-1641D-Sandstone Ranch Unit Ten\DWG\Construction Drawings\Improvement Plans\2000-1641D-C14.2-SWP Site.dwg, SWPP Site, 12/18/2013 3:08:14 PM

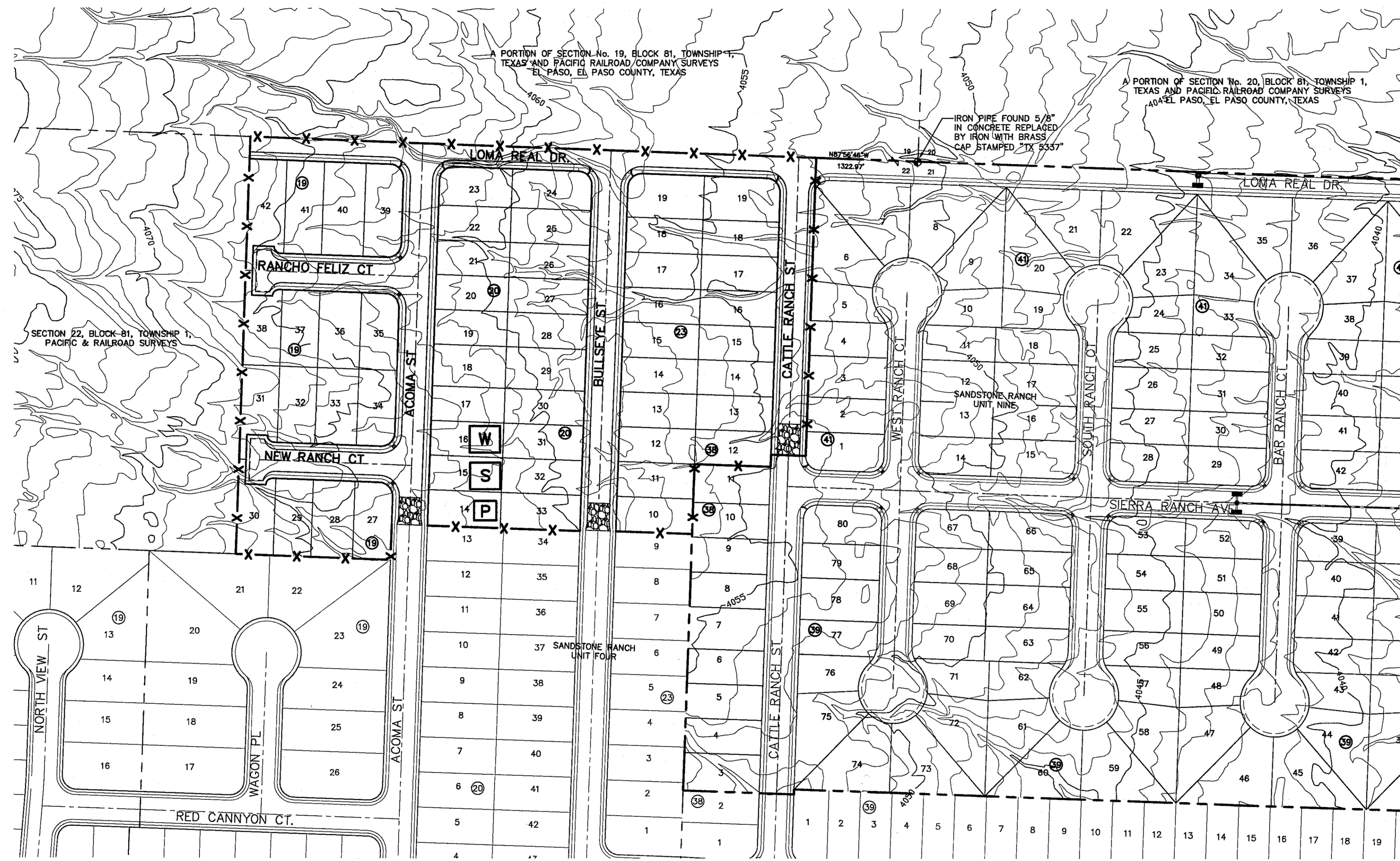
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 690-7200
SBC	(800) 545-8005
AT&T	(800) 852-3786
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FOR FIELD LOCATING EXISTING UTILITIES

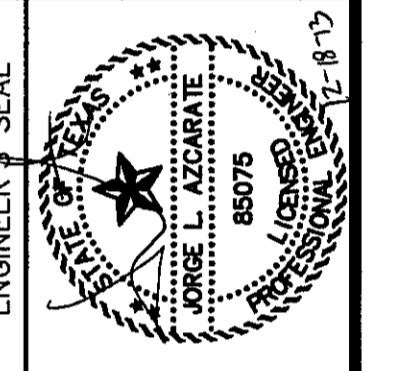
DATE	REVISIONS	BY



LEGEND:

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

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Office: 915.544.5232 Fax: 915.544.5233 www.osaengineers.com



SCALE	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	NOVEMBER 2013
DESIGN BY:	J.M.
DRAWN BY:	J.M.
CHKD. BY:	J.C.
APPROV. BY:	J.L.A.
JOB No.	2000-164-LD

PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

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

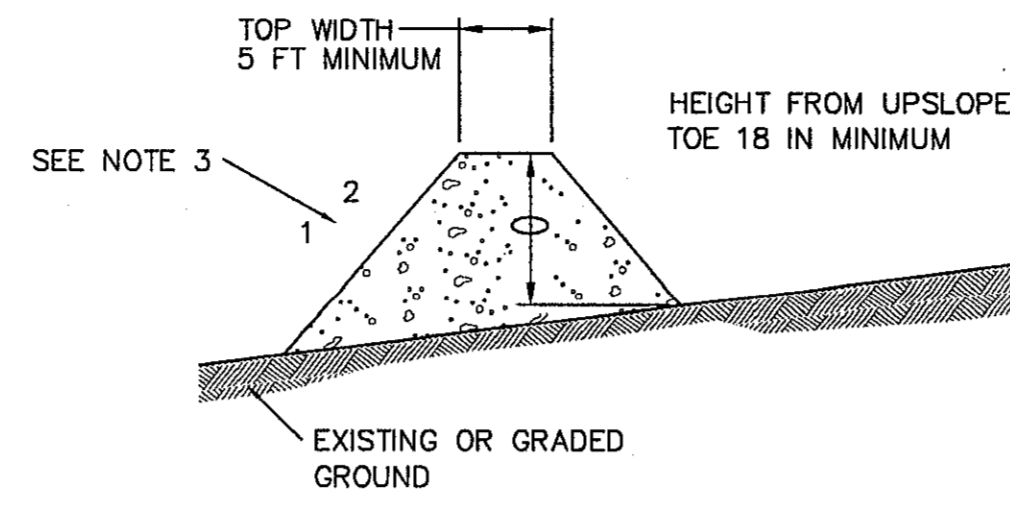
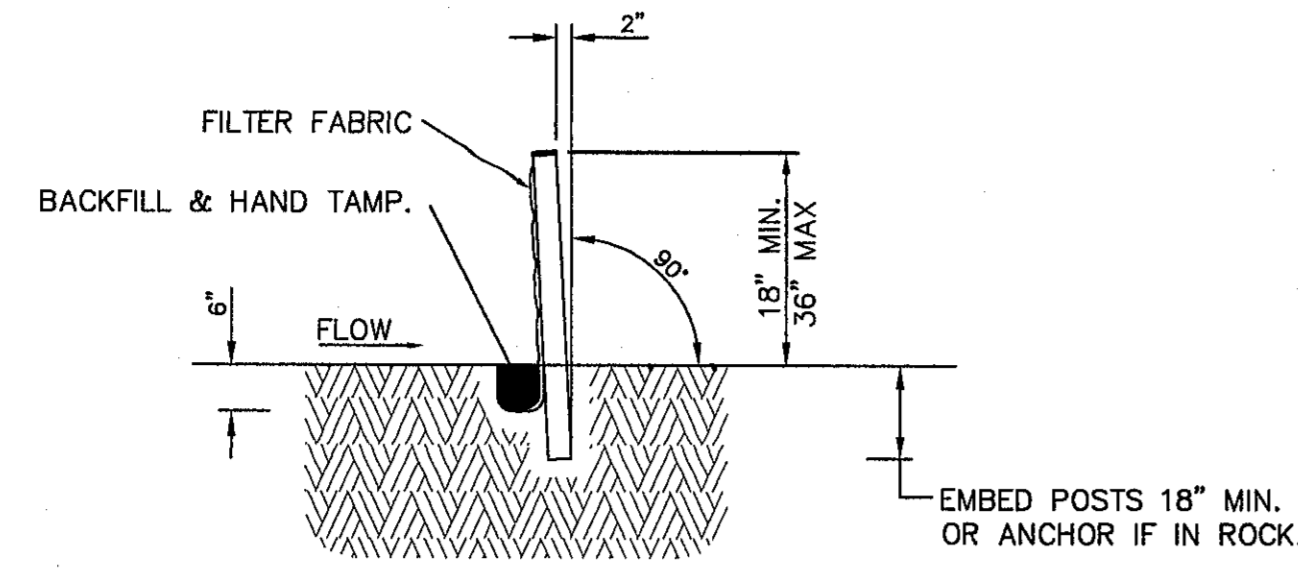
C14.2

CITY DEVELOPMENT DEPARTMENT
REVIEWED



SITE PLAN
SCALE: 1" = 100'

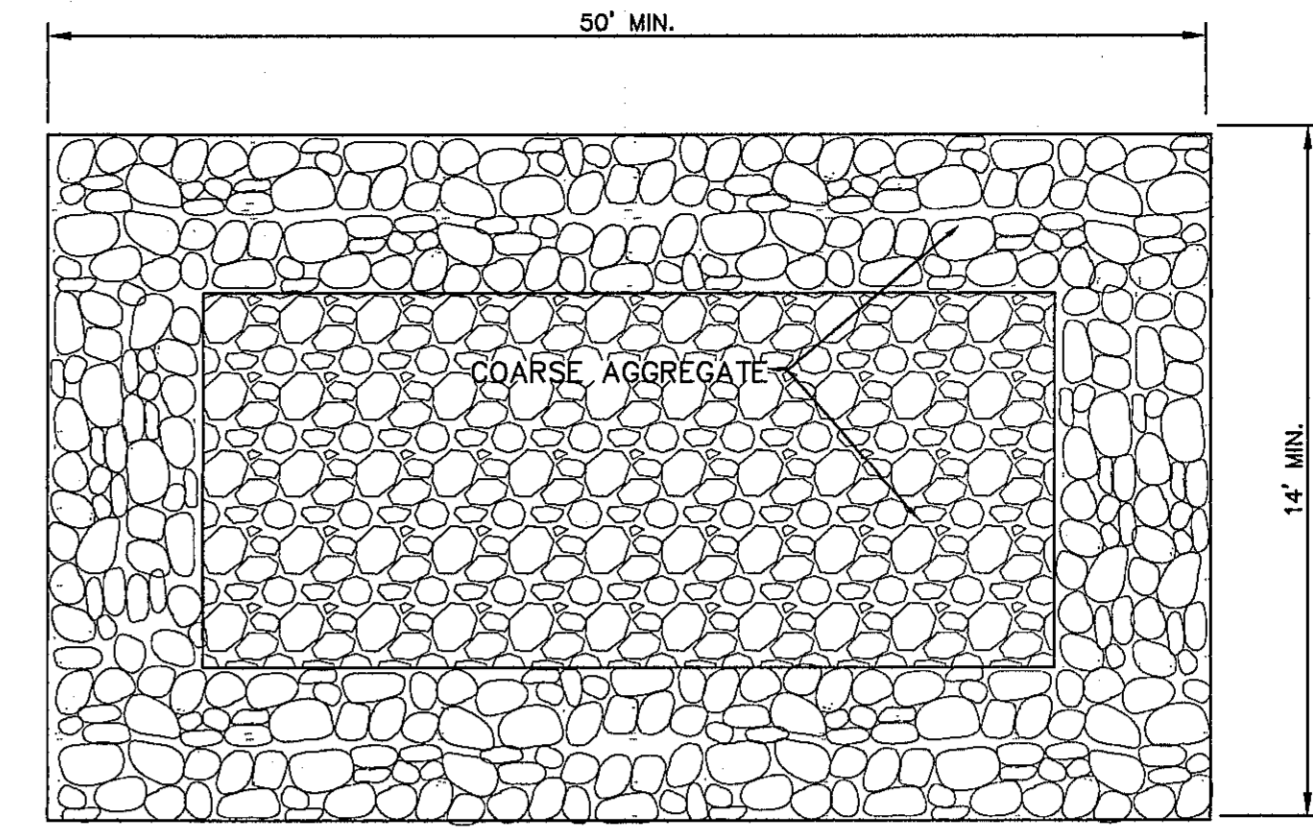
4" MIN. STEEL OR WOOD POSTS SPACED AT 6' TO 8' O.C.
 SOFTWOOD POSTS SHALL BE 3" MIN. DIA. OR NOMINAL 2"x4".
 HARDWOOD POSTS SHALL HAVE A MIN. CROSS SECTION OF 1.5" X 1.5".



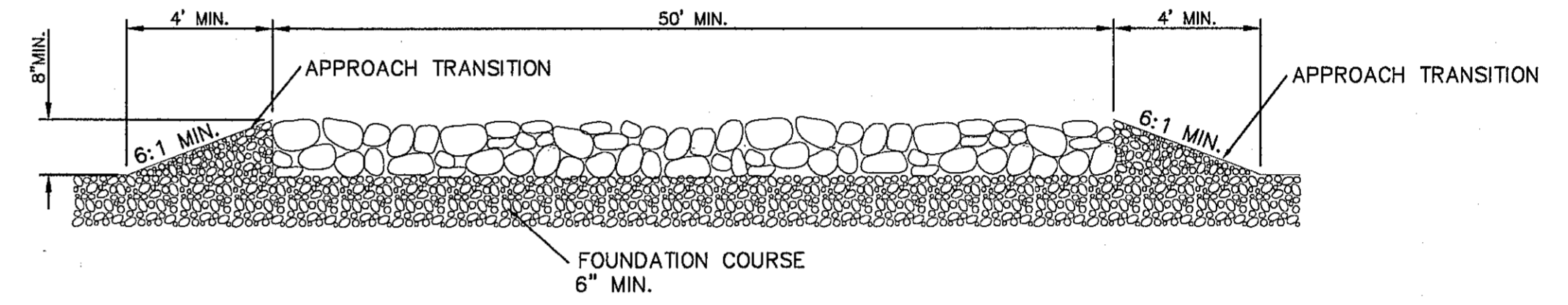
GENERAL NOTES:

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

TYPICAL BERM CONFIGURATION



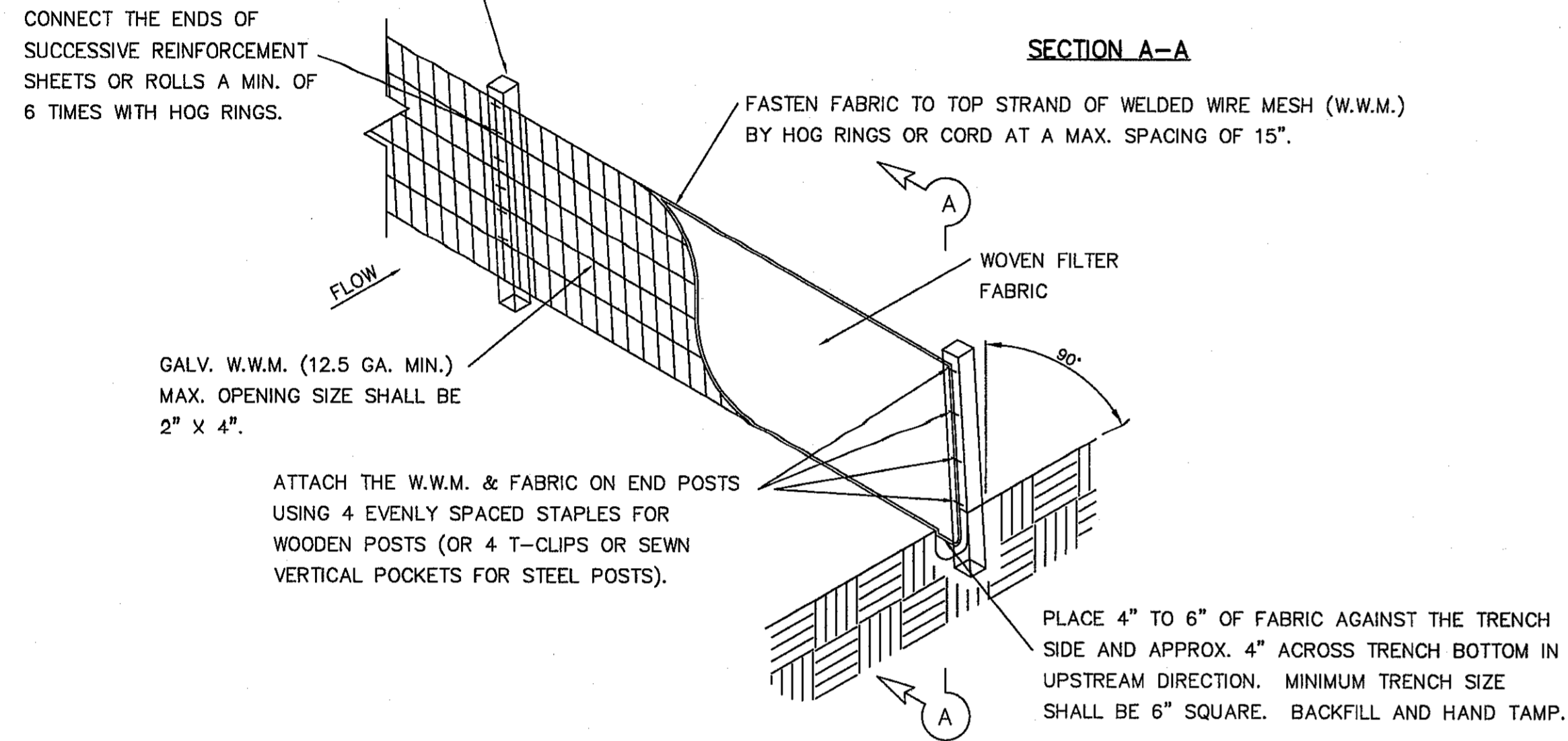
PLAN



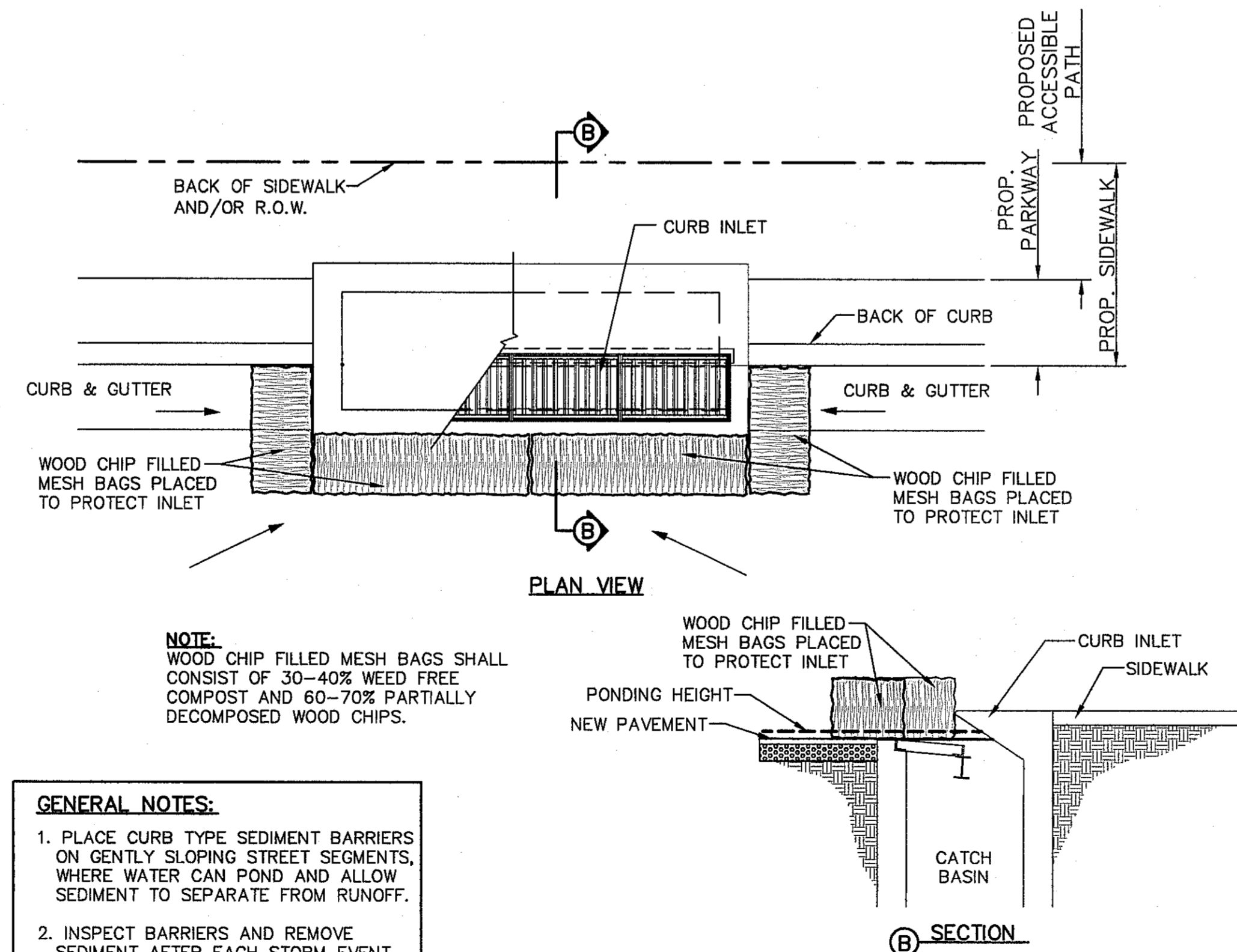
PROFILE

GENERAL NOTES

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



TEMPORARY SEDIMENT CONTROL FENCE



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

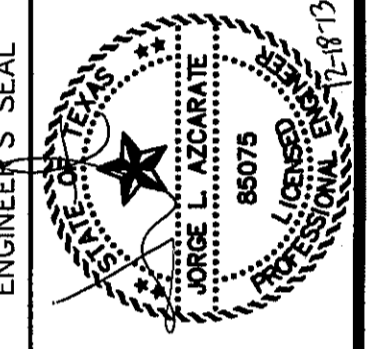
- GENERAL NOTES:**
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
 2. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

TEMPORARY INLET PROTECTION

REFERENCES - BENCHMARKS

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

DATE	REVISIONS	BY



SCALE: AS SHOWN

Horizontal: AS SHOWN

Vertical: Contour Interval: N/A

DATE: NOVEMBER 2013

DESIGN BY: J.M.

DRAWN BY: J.M.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. 2000-164-LD

SANDSTONE RANCH UNIT TEN SUBDIVISION IMPROVEMENTS

SHEET TITLE

STORM WATER POLLUTION PREVENTION PLAN: DETAILS

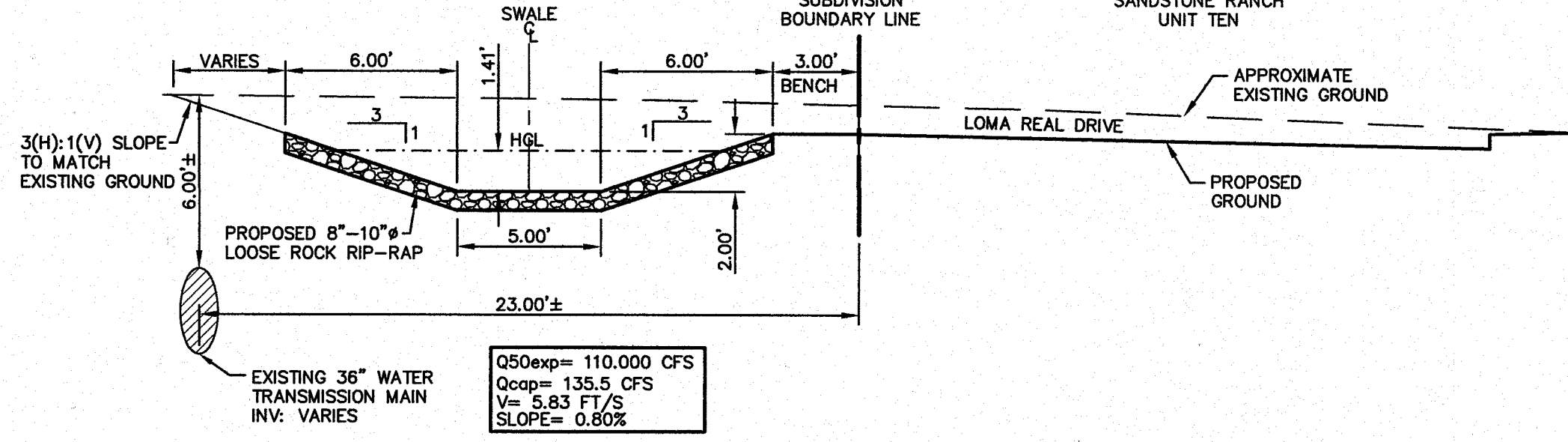
(SHEET 3 OF 3)

SHEET NO.

C14.3

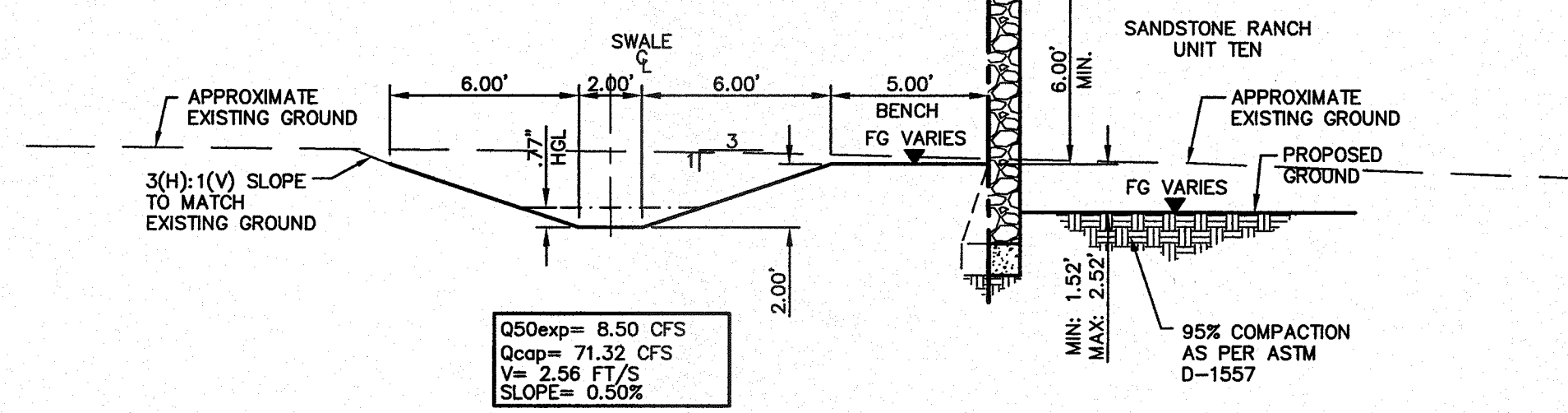
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A PORTION OF SECTION No. 19, BLOCK 81, TOWNSHIP 1,
TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS
EL PASO, EL PASO COUNTY, TEXAS



PROPOSED SWALE 1
SCALE: 1" = 5'

A PORTION OF SECTION No. 19, BLOCK 81, TOWNSHIP 1,
TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS
EL PASO, EL PASO COUNTY, TEXAS



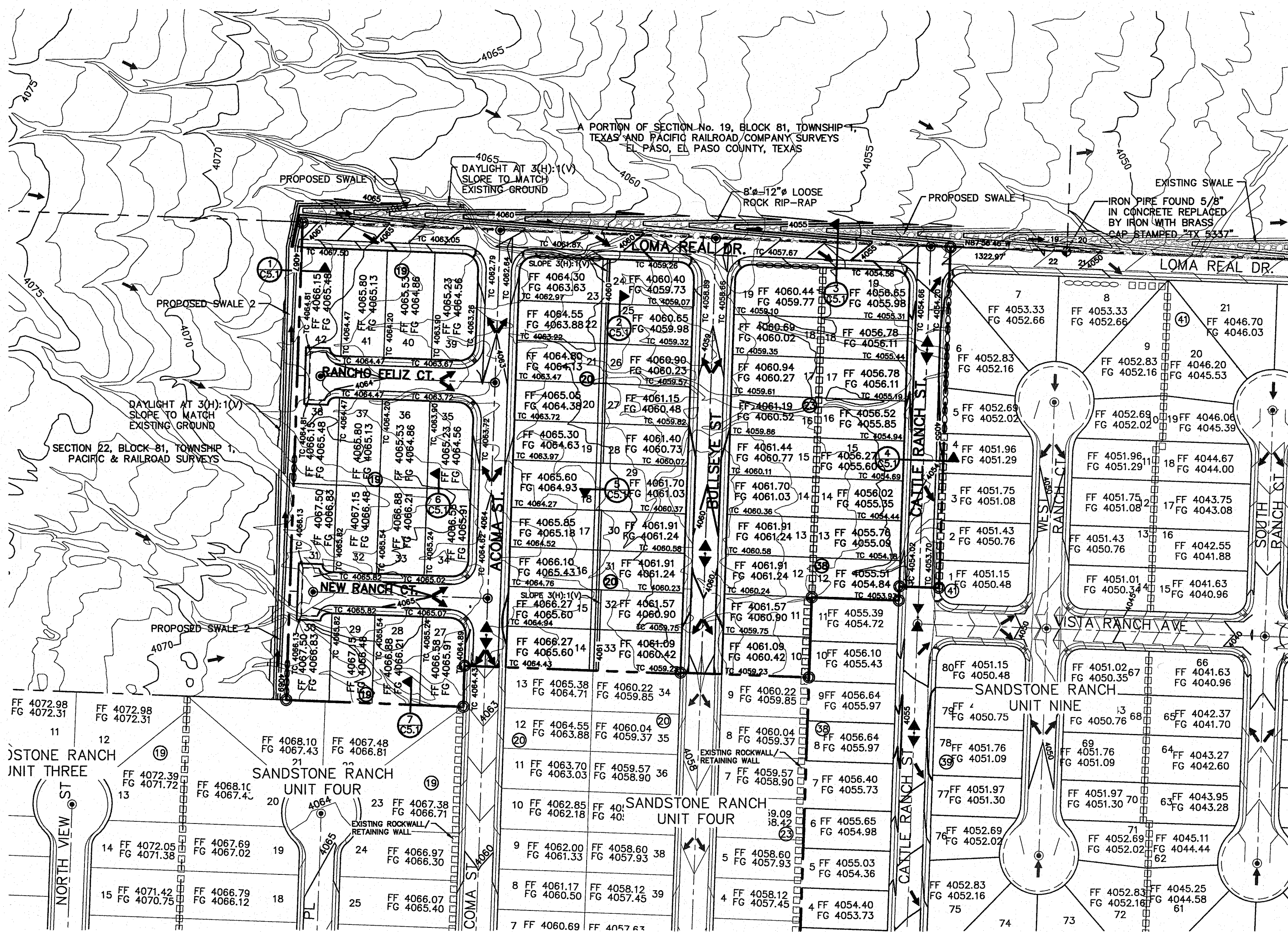
PROPOSED SWALE 2
SCALE: 1" = 5'

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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U.S. SPRINT TELECOMM	(800) 521-0579

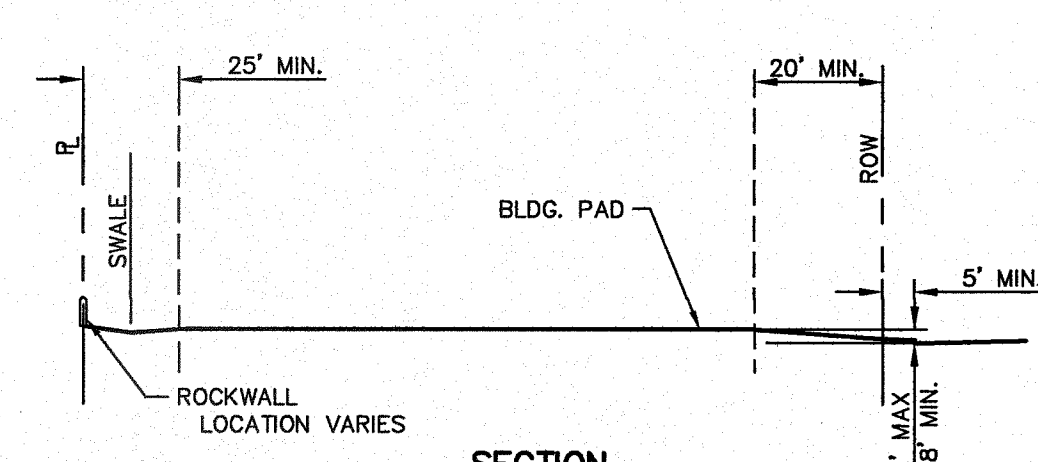
**WARNING !
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1-800-344-8377

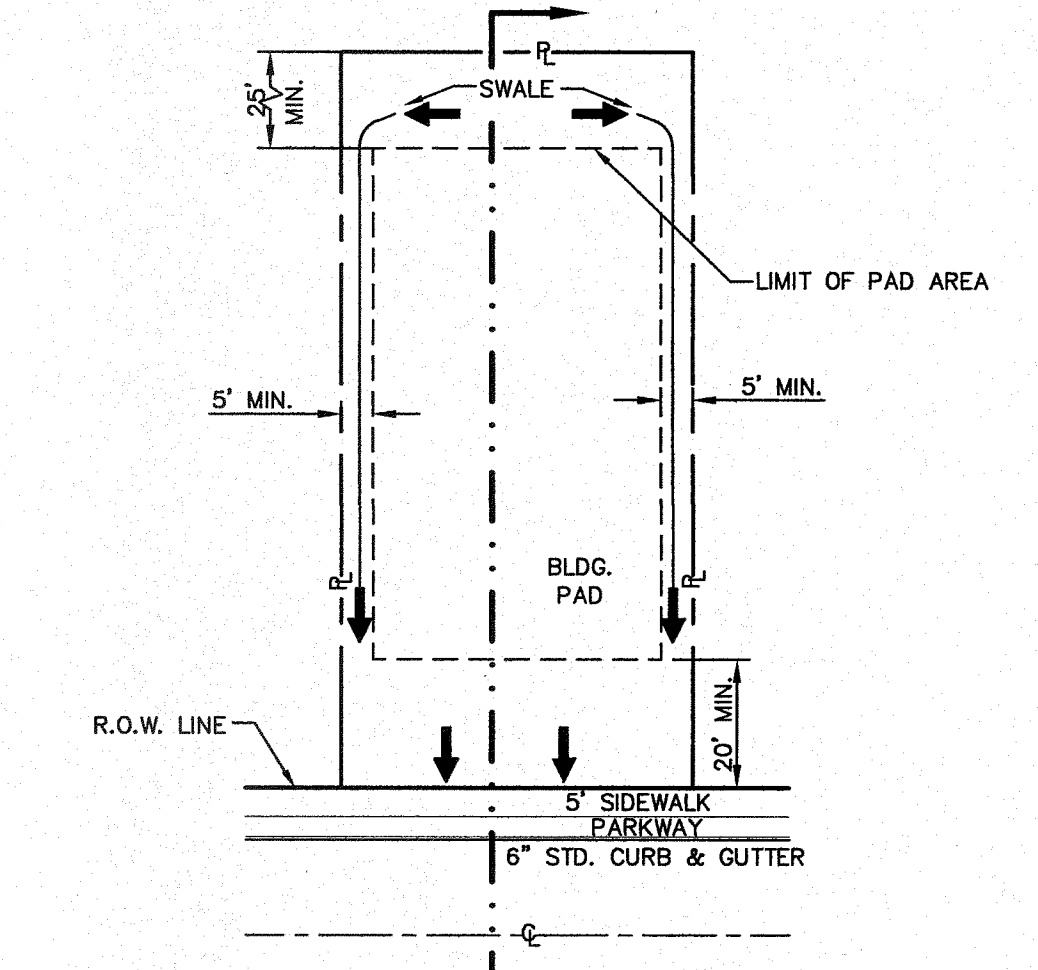
FOR FIELD LOCATING EXISTING UTILITIES



GRADING PLAN
SCALE: 1" = 100'



- NOTES:**
- DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (EL PASO MUNICIPAL CODE) (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH BUILDING SERVICES)



TYPICAL LOT PLAN
SCALE: 1" = 30'

NOTES:

- RETAINING WALLS SHALL BE CONSTRUCTED FOR VERTICAL GRADES GREATER THAN 2- FEET.
- SLOPED AREAS SHALL BE MAINTAINED BY THE PROPERTY OWNERS.
- ALL RETAINING WALLS NOT SPECIFIED TO BE CONSTRUCTED BY DEVELOPER SHALL BE BUILT BY BUILDER.
- RETAINING WALL DESIGN REQUIRED AT THE TIME OF BUILDING PERMIT.
- DEVELOPER SHALL COMPLY WITH SECTION 13.08.070 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
- IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDBC)'S, SIGNS, POLES, FIRE HYDRANTS, ETC.)
- IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A. STANDARDS.
- WHEELCHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.
- ALL RETAINING ROCKWALLS (RETAINING PORTIONS ONLY) IN EXCESS OF 4' IN HEIGHT SHALL BE BUILT BY DEVELOPER. REMAINING ROCKWALL SECTIONS TO BE BUILT BY BUILDER.

BENCHMARK

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

FLOOD ZONE:

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

LEGEND:

- NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
- NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
- EXISTING RETAINING ROCKWALL (2'-3' IN HEIGHT)
- EXISTING RETAINING ROCKWALL (3'-9' IN HEIGHT)
- EXISTING MINOR CONTOUR (CITY DATUM)
- EXISTING MAJOR CONTOUR (CITY DATUM)
- PROPOSED MINOR CONTOUR (CITY DATUM)
- PROPOSED MAJOR CONTOUR (CITY DATUM)
- TC 4075.00 TOP OF CURB ELEVATION
- FG 4075.00 FINISH GROUND ELEVATION
- FF 4075.00 FINISH FLOOR ELEVATION
- FG 4075.00 EXISTING FINISH GROUND ELEVATION
- FF 4075.00 EXISTING FINISH FLOOR ELEVATION
- RAINAGE FLOW
- HIGH POINT
- LOW POINT
- CITY MONUMENT

CITY DEVELOPMENT DEPARTMENT

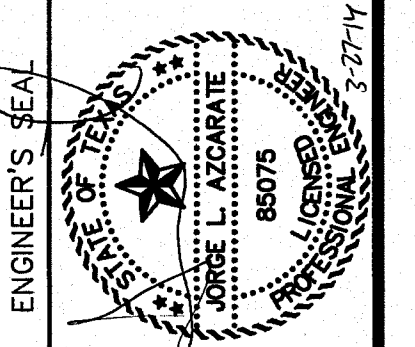
Reviewed For Conformance For Condition Related To:

- Sidewalks
- Drainage
- Retaining Rock Walls
- On Site Parking Layout

Contractor Must Call 24 Hours Prior To Construction For Inspections
R. Carstark 4/16/17

DATE	REVISIONS	BY
3/19/14	REVISED ST. GRADES ON LOMA	J.M.
	REAL FROM STATION 9+08.87	

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



SCALE: 1" = 100'
Horizontal: N/A
Vertical: Interval: N/A
DATE: MARCH 2014
DRAWN BY: J.M.
CHKD. BY: J.M.
APPD. BY: J.L.A.
JOB No. 2000-164-LD

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

GRADING PLAN

SHEET NO.

C3.1R

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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TEXAS GAS SERVICE	(915) 680-7200
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FOR FIELD LOCATING EXISTING UTILITIES

WATERSHED AREAS					
DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (ISO) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (6)
DA-1	13.574	3.144	29.550	0.541	23,088
DA-2	0.182	4.305	17.300	0.695	0.544
DA-3	1.011	3.717	22.500	0.693	2,604
DA-4	0.961	4.034	19.500	0.627	2,428

EXISTING WATERSHED AREAS					
DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (ISO) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (6)
WS-1	201.58	1.664	72.260	0.330	110,000
WS-4	0.360	4.739	14.340	0.330	0.562
WS-5	2.196	4.858	13.620	0.330	3,520
WS-6	2.961	4.517	15.780	0.330	4,413

NOTE: WATERSHED Q'S REFLECT UNDEVELOPED CONDITIONS

DROP INLETS (SANDSTONE RANCH UNIT NINE)							
NO.	REQ. FLOW Q (CFS)	ADDITIONAL FLOW Q FROM INLET (CFS)	Q(CFS) OVERTOP AT CROWN	Q EXP. (CFS)	AVAIL. FLOW CAPACITY Q (CFS)	Q(CFS) BYPASS TO INLET	# OF GRATES
1	23,088	0	0	23,088	19,526	#2 (3,562 CFS)	4
2	3,506	#1 (3,562 CFS)	0	7,068	9,049	0	3
7	15,597	0	0	15,597	17,213	0	4

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

NOTES:

- Q₅₀ IS BASED ON DEVELOPED RUNOFF (50-YR)
- REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)
- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, HYDROLOGY - LOCATED IN THE WESTSIDE REGION
- (4) TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER)
- (5) RATIONAL METHOD DEVELOPED CONDITIONS RUNOFF COEFFICIENT, PLATE No. 2-10 TABLE A

COEFFICIENT

BASIN AREA SPACE = 0.33
RESIDENTIAL AREA SPACE = 0.60
PAVEMENT AREA SPACE = 0.90

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

C = RATIONAL COEFFICIENT
A = COMPUTED CONTRIBUTING WATERSHED AREA, acres
I = RAINFALL INTENSITY, inch per hour

BENCHMARK:

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

FLOOD ZONE:

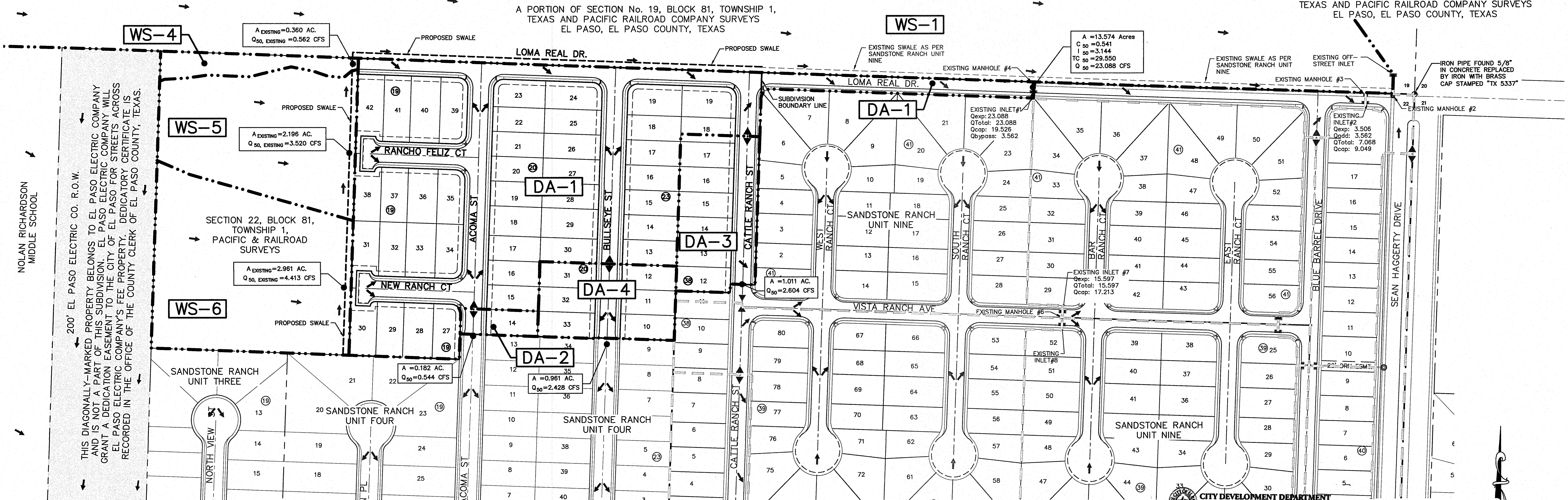
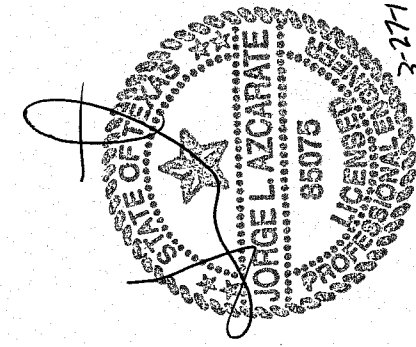
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NOTE:

STORM RUNOFF FROM SANDSTONE RANCH UNIT TEN WILL BE DISCHARGED TO EXISTING STORM SEWER INFRASTRUCTURE LOCATED IN SANDSTONE RANCH UNIT NINE AND SANDSTONE RANCH UNIT FOUR. REFERENCE SANDSTONE RANCH UNIT NINE & SANDSTONE RANCH UNIT FOUR FOR ADDITIONAL DRAINAGE INFORMATION.

LEGEND:

- DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY (BASED ON SANDSTONE RANCH UNIT NINE)
- PROPOSED DRAINAGE SWALE
- PROPOSED CURB & GUTTER
- PROPOSED ROLLED CURB
- DRAINAGE FLOW
- EXISTING FLOW
- HIGH POINT
- LOW POINT
- EXISTING DROP INLET
- EXISTING STORM DRAIN MANHOLE
- EXISTING RCP
- PROPOSED WATERSHED
- EXISTING DRAINAGE AREA



REVIEWED

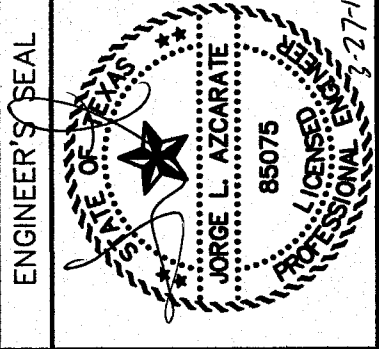
DRAINAGE PLAN

SCALE: 1" = 100'

DATE	REVISIONS	BY
3/19/14 <td>REVISED ST. GRADES ON LOMA REAL FROM STATION 9+08.87 <td>J.M. </td></td>	REVISED ST. GRADES ON LOMA REAL FROM STATION 9+08.87 <td>J.M. </td>	J.M.

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

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Office: 915.544.5232 Fax: 915.544.5233 www.oscainc.com



SCALE: 1" = 100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: MARCH 2014
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.G.
APPV. BY: J.L.A.
JOB No. 2000-164-LD

PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
DRAINAGE PLAN
(SHEET 1 OF 2)
SHEET NO.

C4.1R

UTILITY LOCATOR SERVICES

EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
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1-800-344-8377

FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

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

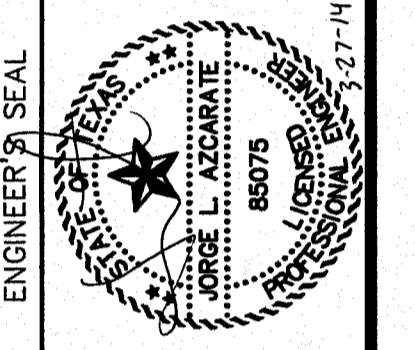
DATE	REVISIONS	BY
3/19/14	REVISED ST. GRADES ON LOMA REAL FROM STATION 9+08.87	J.M.

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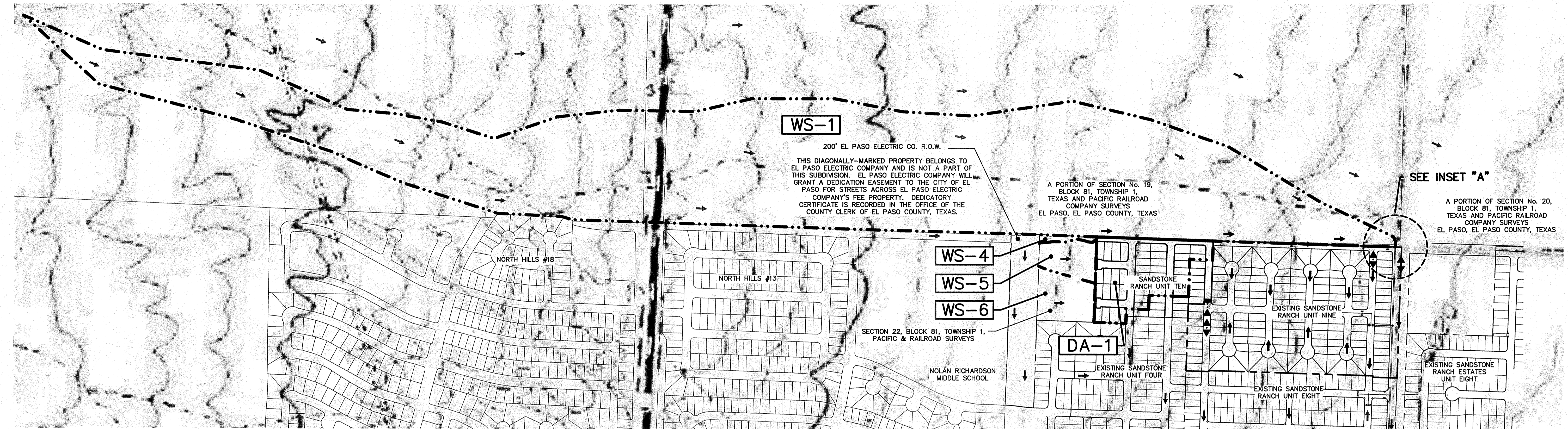


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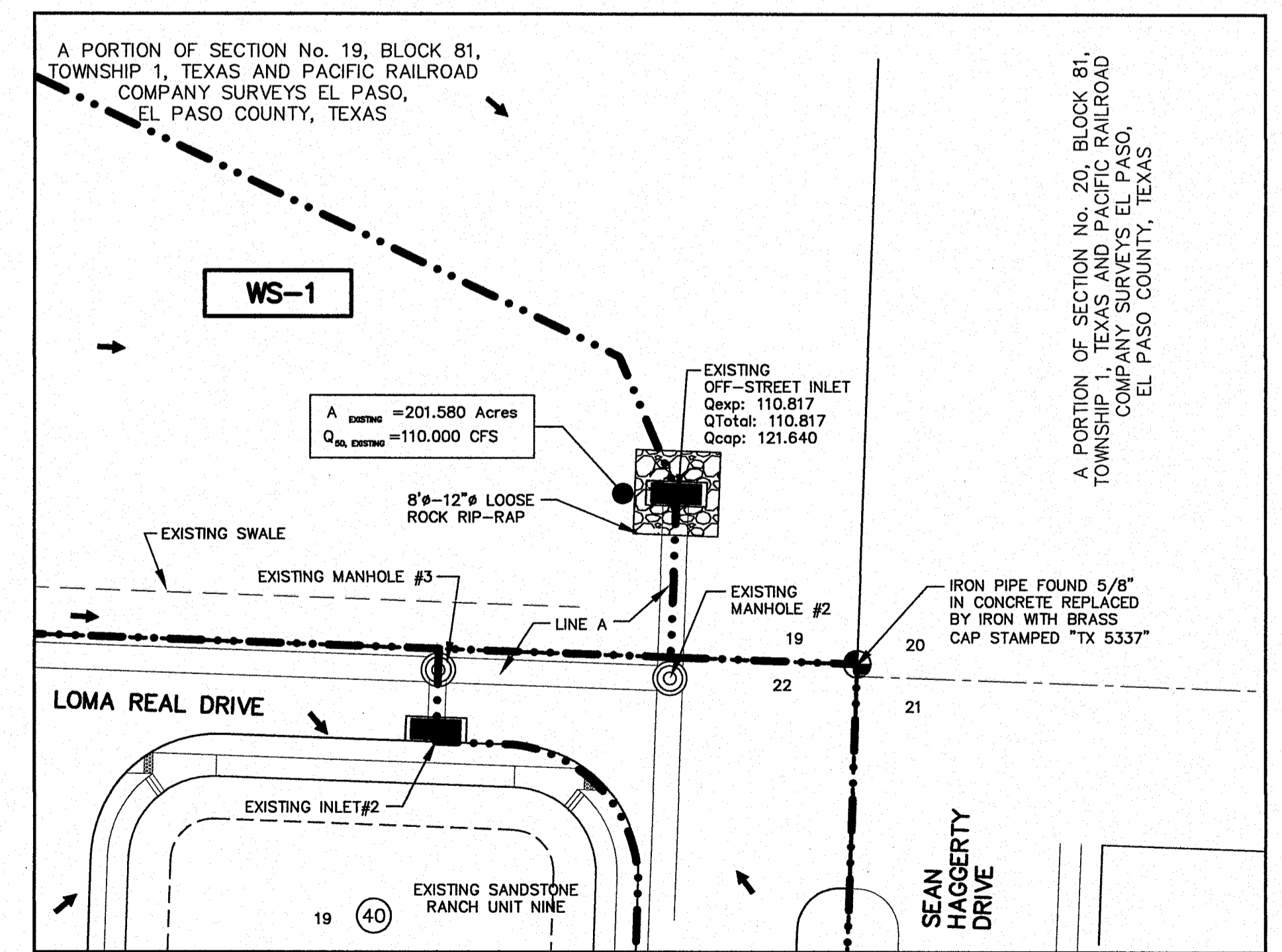
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Vertical: N/A
Contour Interval: N/A

DATE: MARCH 2014
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.A.
APP'D. BY: J.L.A.

JOB No. 2000-164-LD



FOR REFERENCE ONLY (SANDSTONE RANCH UNIT NINE)



EXISTING WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (ISO) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (6)
WS-1	201.58	1.664	72.260	0.330	110,000
WS-4	0.360	4.739	14.340	0.330	0.562
WS-5	2.196	4.858	13.620	0.330	3,520
WS-6	2.961	4.517	15.780	0.330	4,413

NOTE: WATERSHED Q'S REFLECT UNDEVELOPED CONDITIONS

WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (ISO) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q50 (CFS) (6)
DA-1	13.574	3.144	29.550	0.541	23,088

OFF-SITE DRAINAGE PLAN
SCALE: 1" = 350'

NOTES:

- * Q₅₀ IS BASED ON DEVELOPED RUNOFF (50-yr)
- REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (3-11-97)
- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, HYDROLOGY - LOCATED IN THE WESTSIDE REGION
- 50-YR STORM
b = 12.000
d = 90.000
e = 0.9000
- (4) TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER)
- (5) RATIONAL METHOD DEVELOPED CONDITIONS
RUNOFF COEFFICIENT, PLATE No. 2-10 TABLE A

LEGEND:

- DRAINAGE AREA BOUNDARY
- DRAINAGE FLOW
- ▲ HIGH POINT
- ▼ LOW POINT
- DROP INLET
- STORM DRAIN MANHOLE

COEFFICIENT

- BASIN AREA SPACE = 0.33
- RESIDENTIAL AREA SPACE = 0.60
- PAVEMENT AREA SPACE = 0.90

(6) Q₅₀ = C X A X I₅₀ 50-yr

C = RATIONAL COEFFICIENT
A = COMPUTED CONTRIBUTING WATERSHED AREA, acres
I = RAINFALL INTENSITY, inch per hour

FOR REFERENCE ONLY (SANDSTONE RANCH UNIT NINE)

DROP INLET						
NO.	REQ. FLOW Q REQ. (CFS)	ADDITIONAL FLOW Q FROM INLET (CFS)	Q(CFS) OVERTOP AT CROWN	Q EXP. (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	Q(CFS) BYPASS TO INLET
OFF-STREET	110.817	0	0	110.817	121.640	0
2	3.506	I#1 (3,562 CFS)	0	7.068	9.049	0

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

INSET "A"
SCALE: 1" = 40'

PROJECT TITLE

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**OFF-SITE
DRAINAGE PLAN**

(SHEET 2 OF 2)

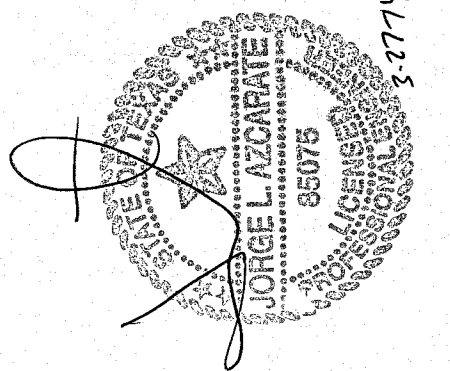
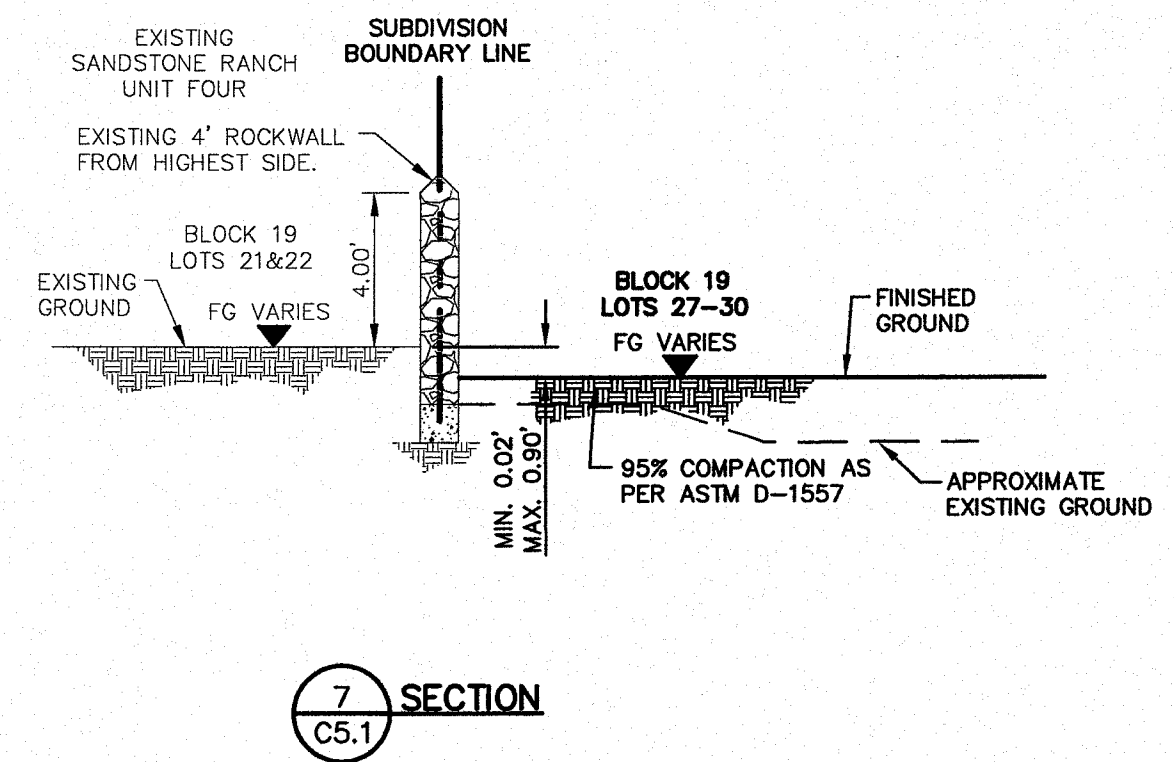
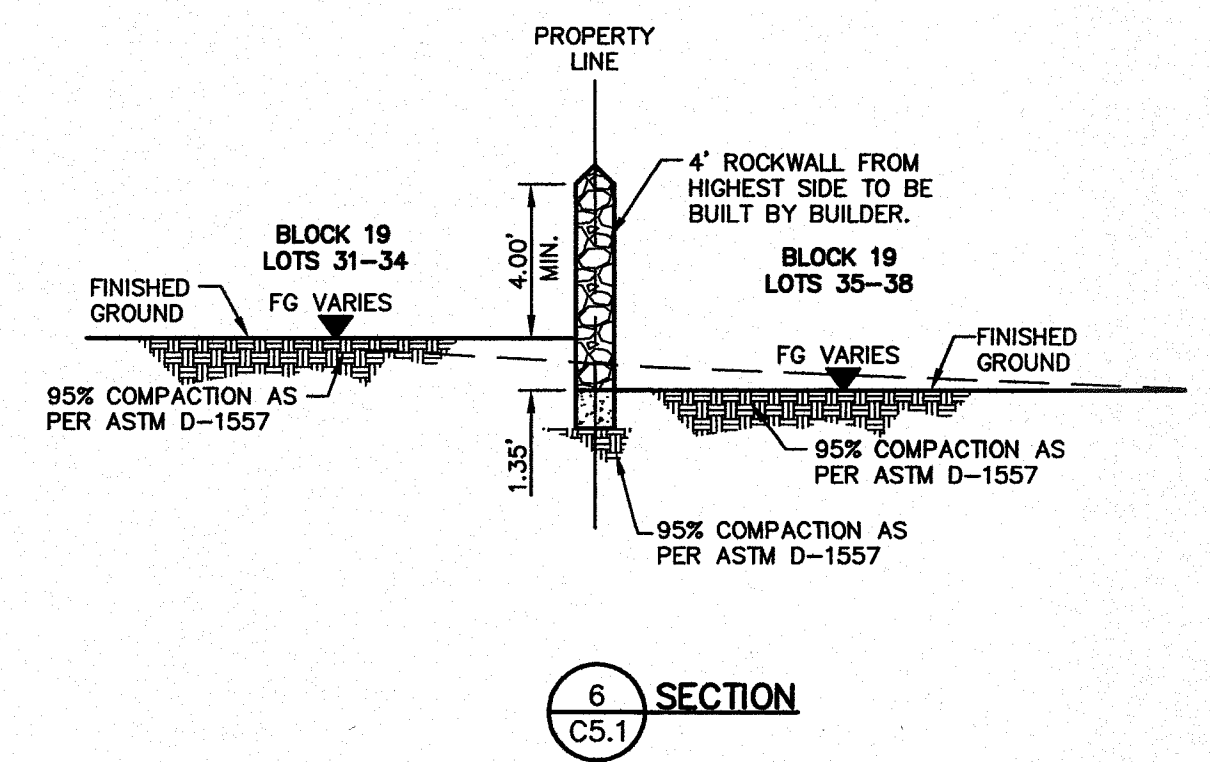
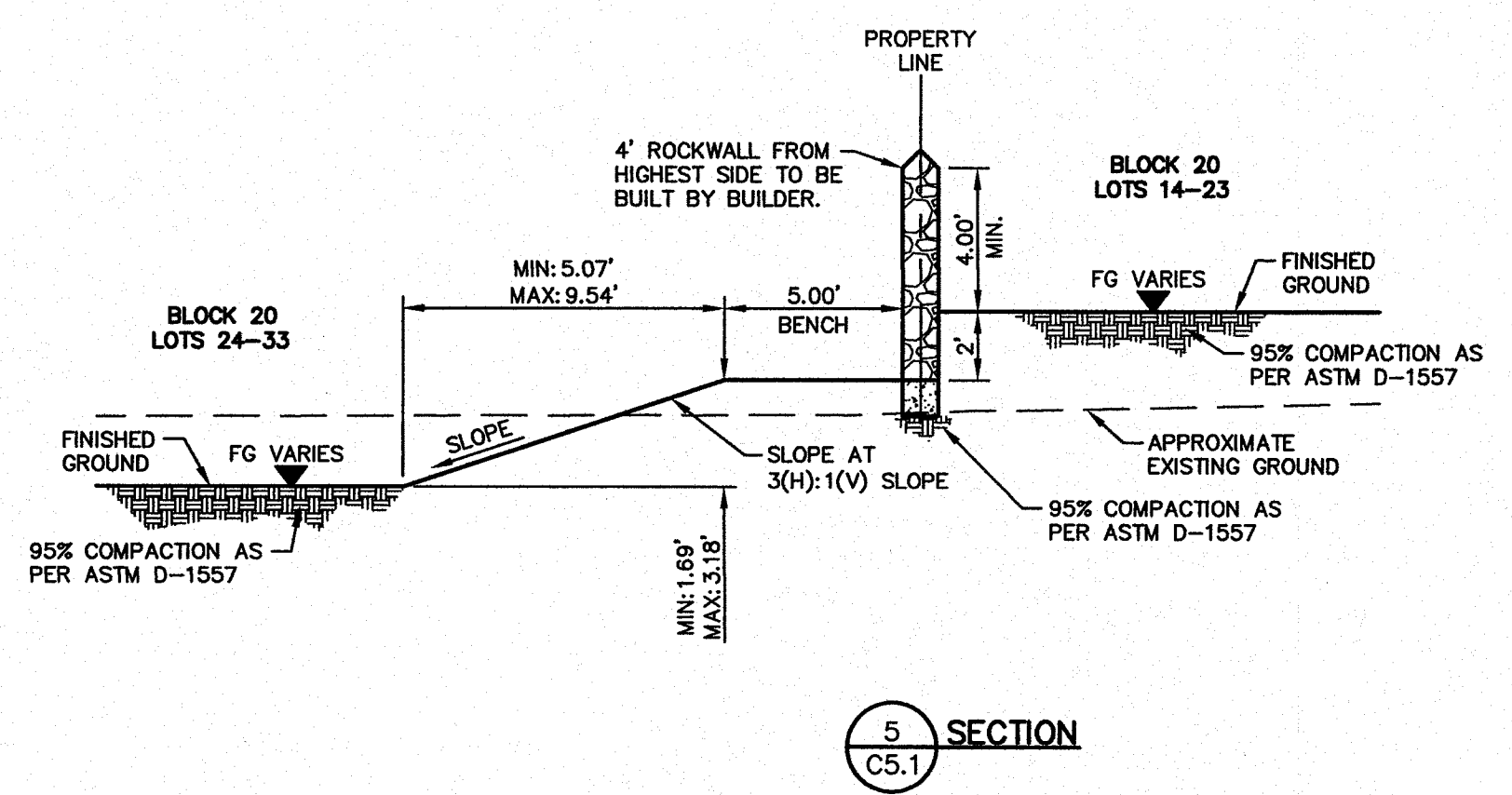
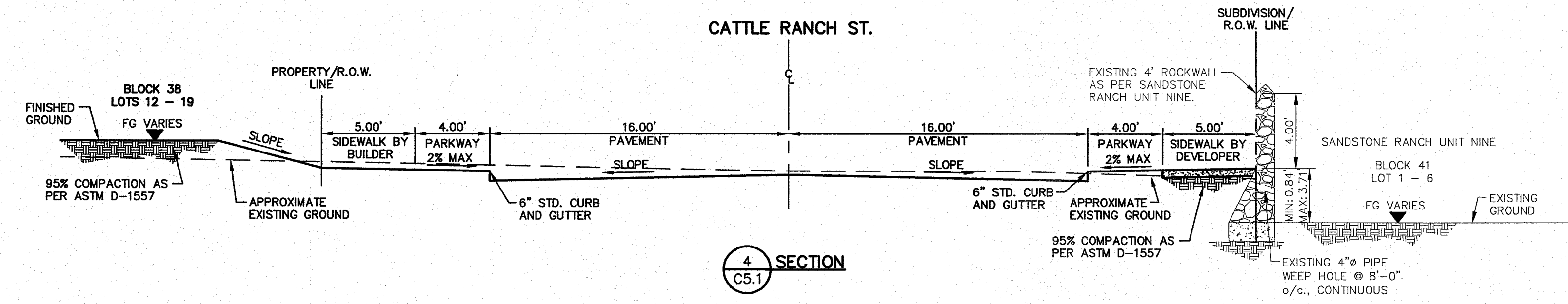
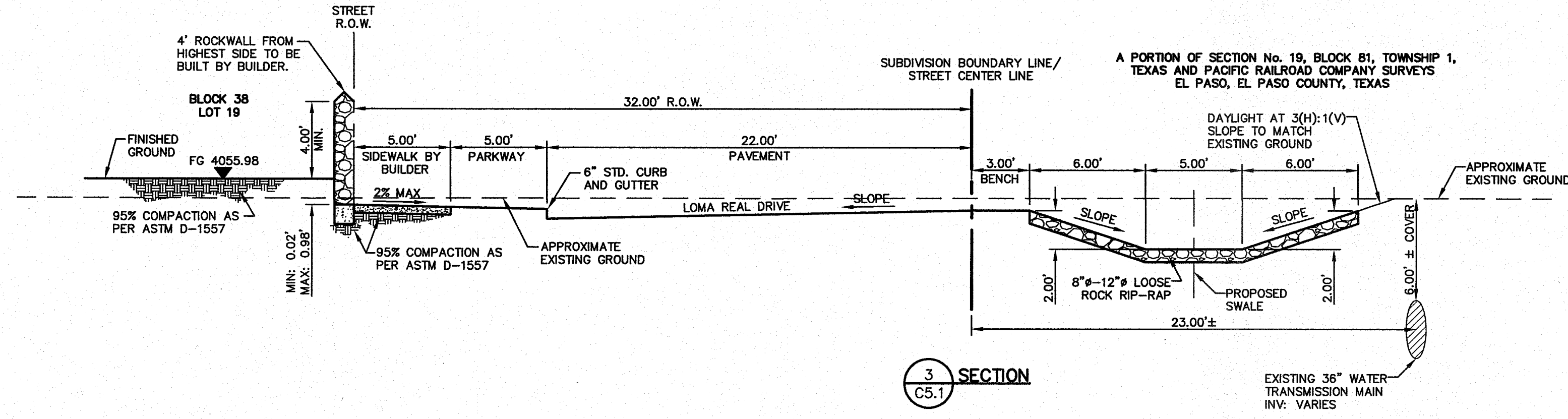
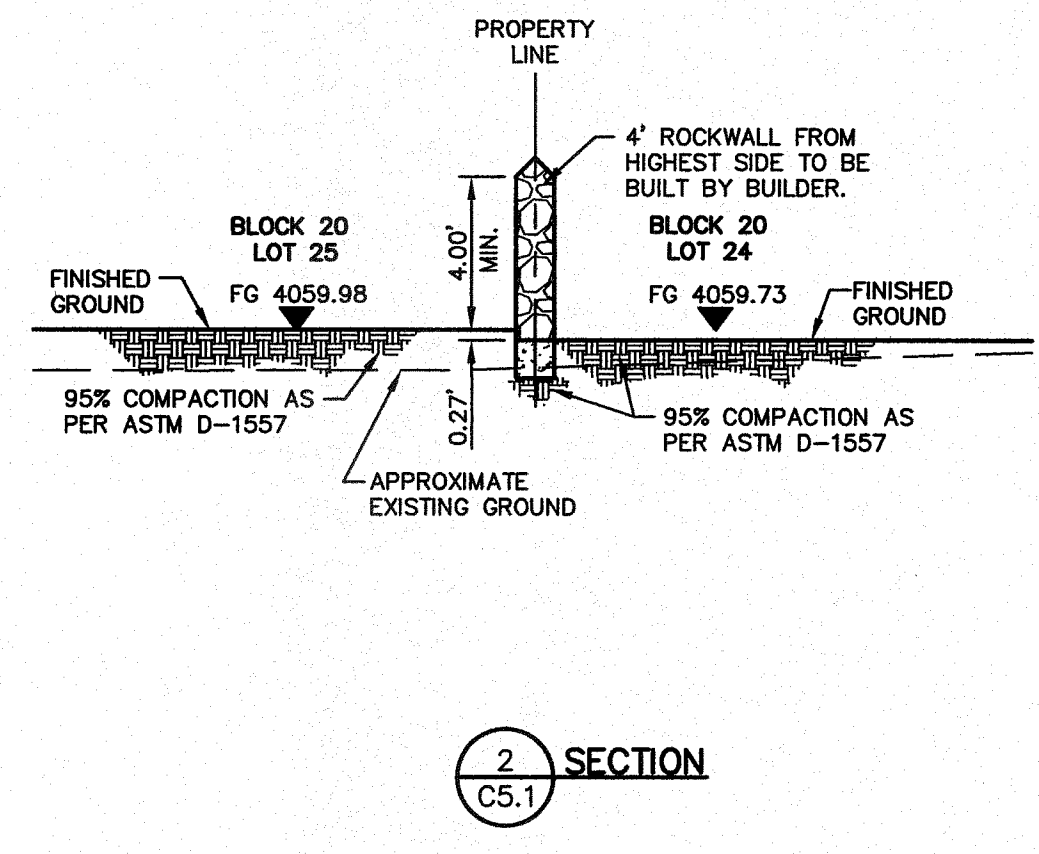
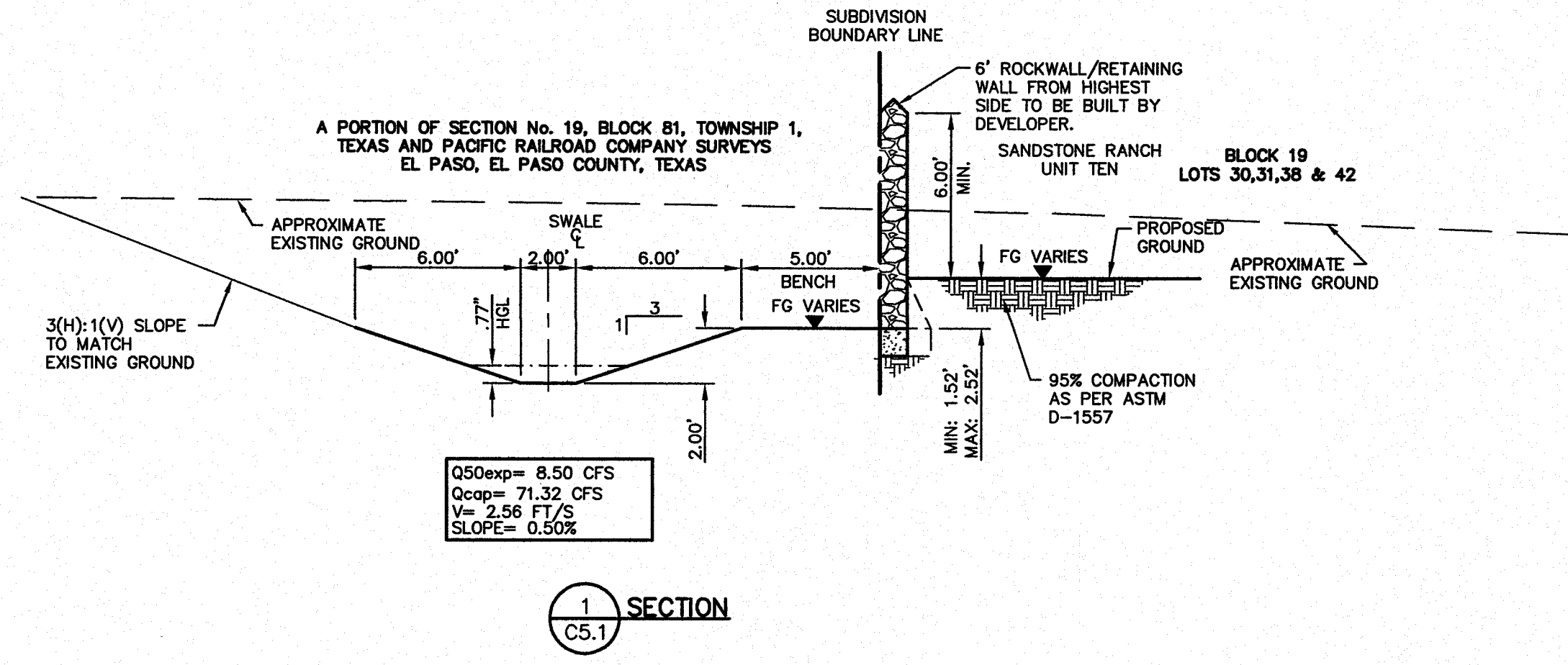
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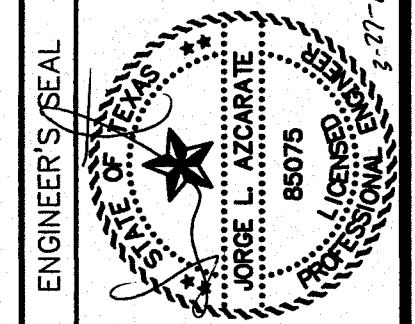
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EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
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REFERENCES - BENCHMARKS	REVISIONS	BY	DATE
FOUND TPOOT BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22. (ELEVATION: 4033.22 (NVD DATUM) (SUBTRACT 6.462 TO CONVERT TO CITY DATUM).		J.M.	
	REVISED ST. GRADES ON LOMA	J.M.	3/19/14
	REAL FROM STATION 9+08.87		

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SCALE	1"=5'
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	MARCH 2014
DESIGN BY	J.M.
DRAWN BY	J.G.
CHKD. BY	J.L.A.
APPD. BY	J.L.A.
JOB No.	2000-164-LD

SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
SHEET NO.

CITY DEVELOPMENT DEPARTMENT
 REVIEWED

C5.1R

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TIME WARNER COMMUNICATIONS	(915) 772-1123
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SBC	(800) 545-6005
A&T	(800) 852-3786
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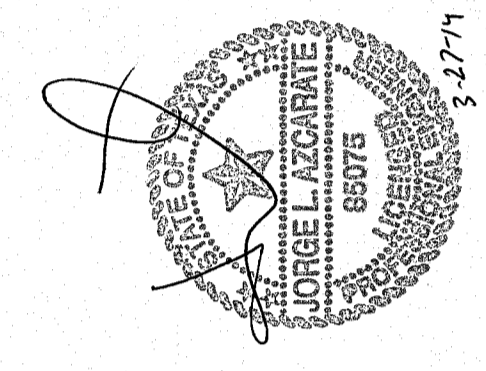
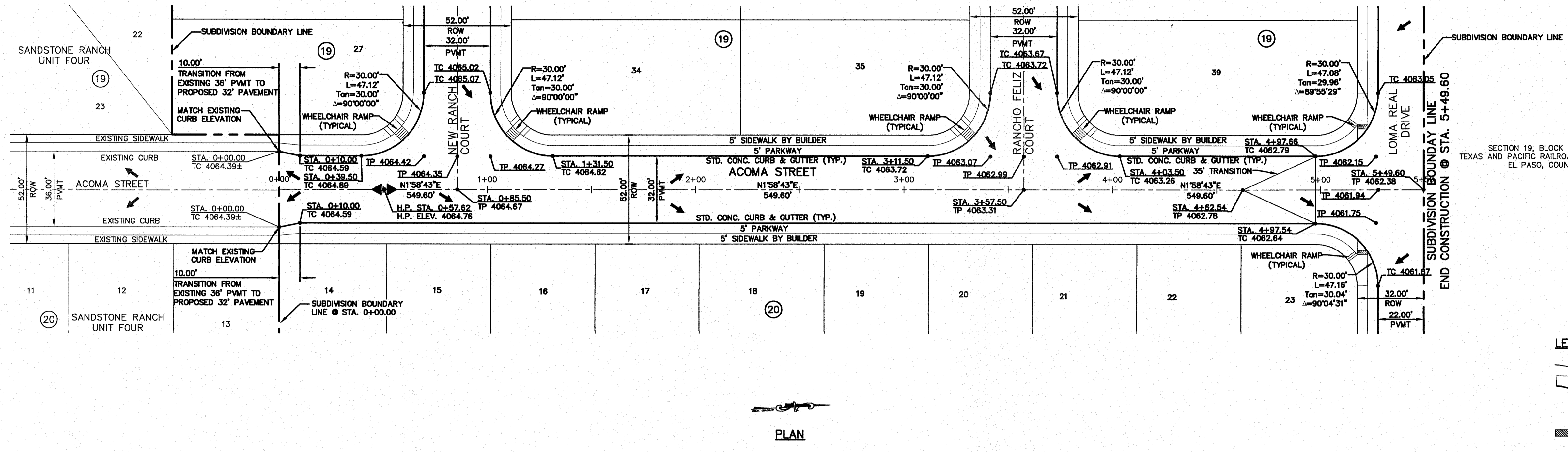
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FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

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

BY	J.M.
REVISIONS	
DATE	3/19/14
REVISED ST. GRADES ON	ACOMA STREET

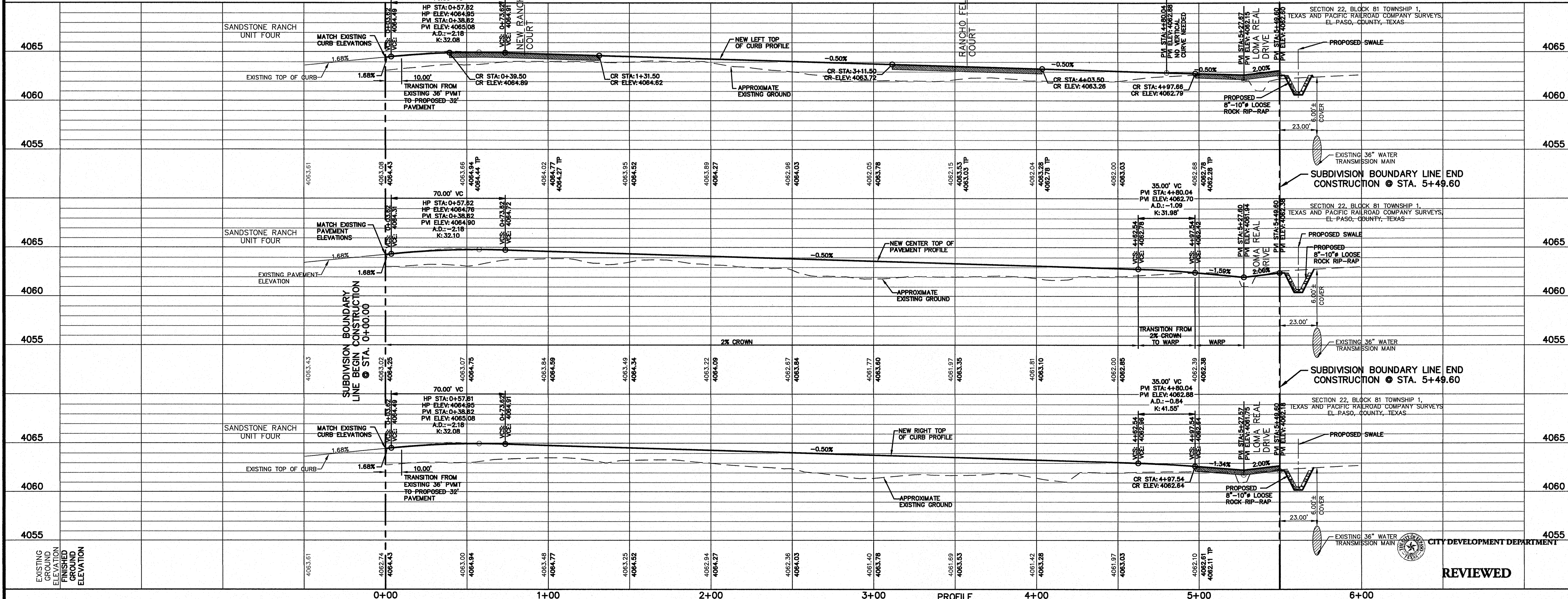


LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

PLAN



SCALE: 1"=30'

Horizontal: 1"=50'

Vertical: Contour Interval: N/A

DATE: MARCH 2014

DESIGN BY: J.M.

DRAWN BY: J.M.

CHECKED BY: J.C.

APPROVED BY: J.M.

JOB NO.: 2000-164-D

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

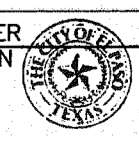
SHEET TITLE

ACOMA STREET
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 5+49.60

SHEET NO.

C6.1R

REVIEWED



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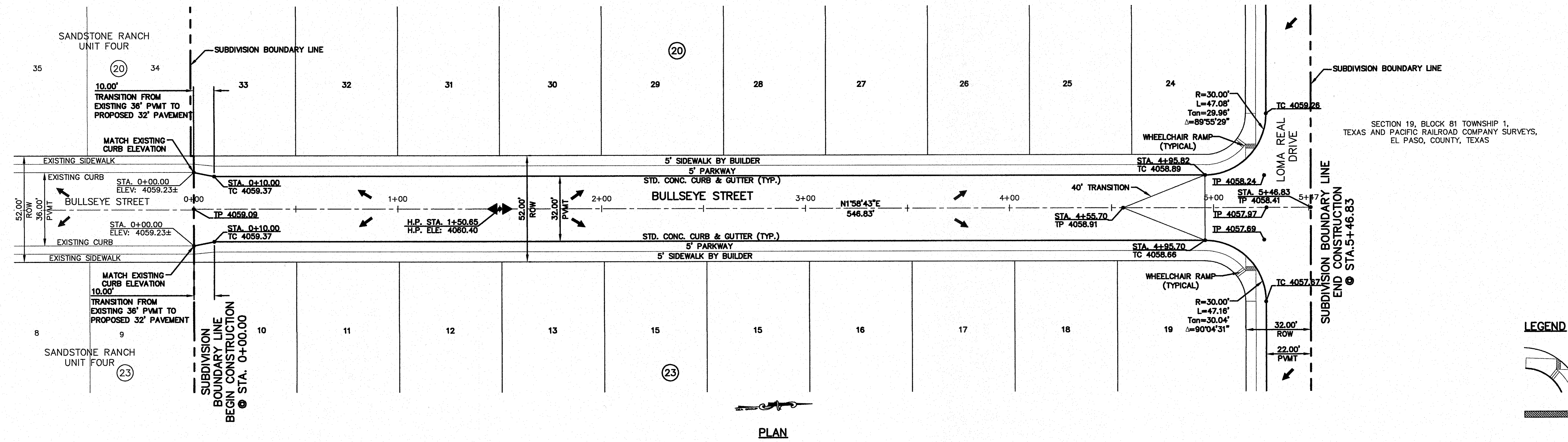
UTILITY LOCATOR SERVICES

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EL PASO WATER UTILITIES	(915) 594-5500
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TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
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REFERENCES - BENCHMARKS

FOUND TYPED BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22.	BY: J.M.
ELEVATION: 4035.22 (NGVD DATUM)	REVISIONS
(SUBTRACT 6.462 TO CONVERT TO CITY DATUM).	DATE
	3/19/14
	REVISED ST. GRADES ON BULLSEYE STREET



LEGEND

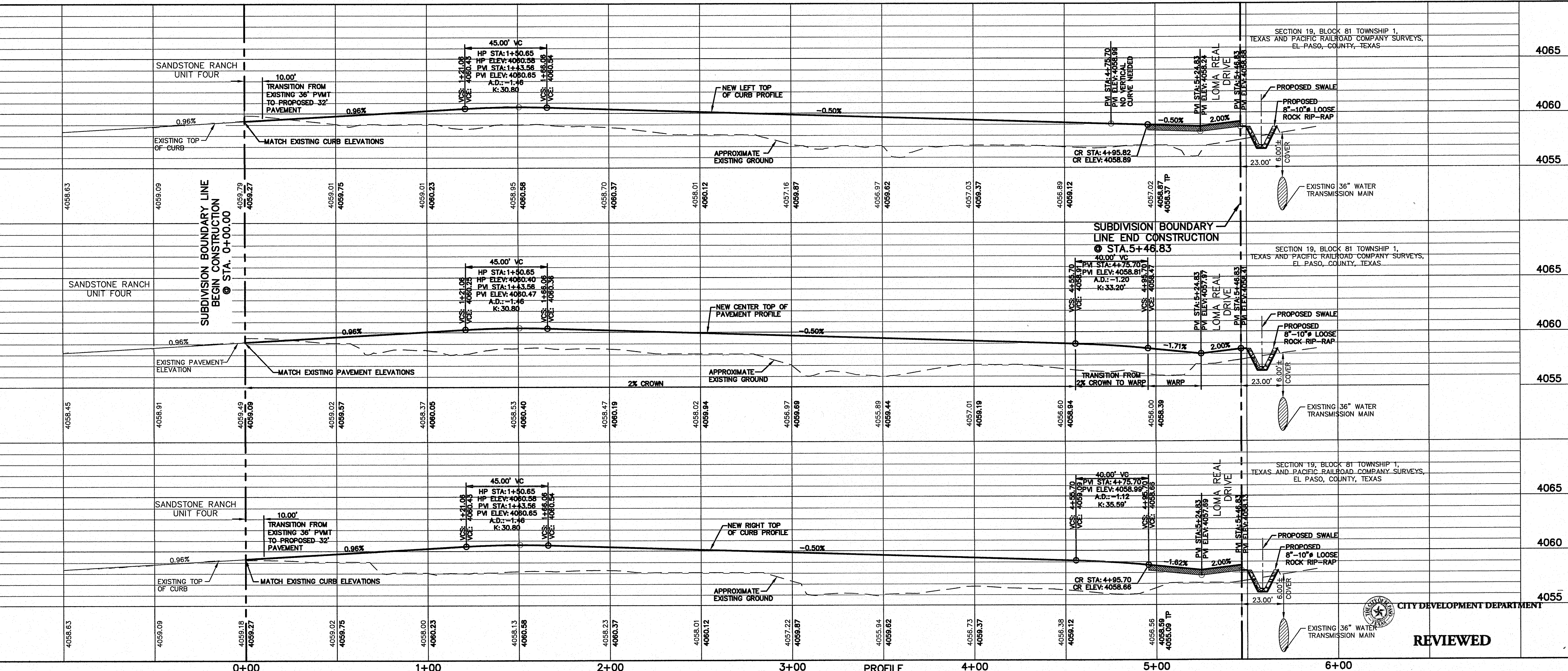
WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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

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SCALE: 1"=30'
Horizontal: 1"=50'
Vertical: 1"=5'

Contour Interval: N/A

DATE: MARCH 2014
DESIGN BY: J.M.
DRAWN BY: J.M.
APP'D. BY: J.M.
JOB No.: 2000-164-LD

PROJECT TITLE

**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**BULLSEYE STREET
PLAN & PROFILE
FROM STA. 0+00.00
TO STA. 5+46.83**

SHEET NO.

C6.2R

REVIEWED

CITY DEVELOPMENT DEPARTMENT

UTILITY LOCATOR SERVICES	
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EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 660-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
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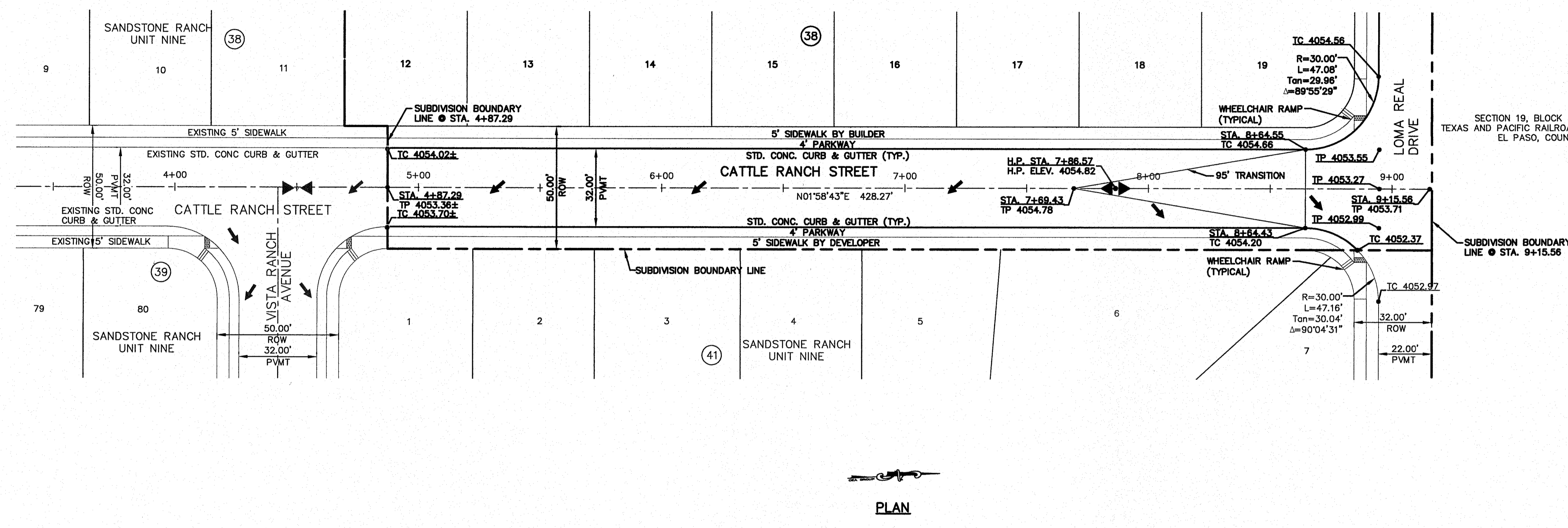
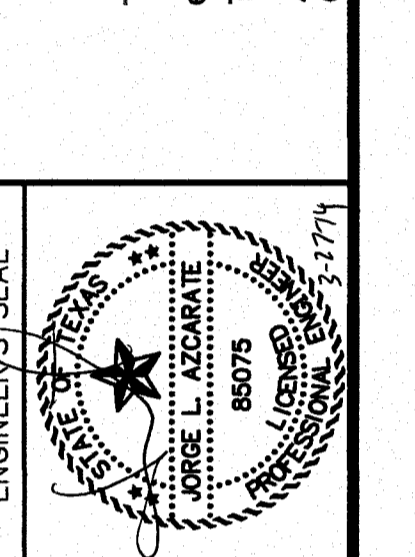
WARNING I BEFORE YOU DIG

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FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	DATE	REVISIONS	BY
FOUND TYPICAL BRASS CAP AT SECTION CORNERS 20, 21 AND 22. ELEVATION: 4033.29 (NGVD DATUM) (SUBTRACT 8.482 TO CONVERT TO CITY DATUM).	3/19/14	REVISED ST. GRADES ON	J.M.

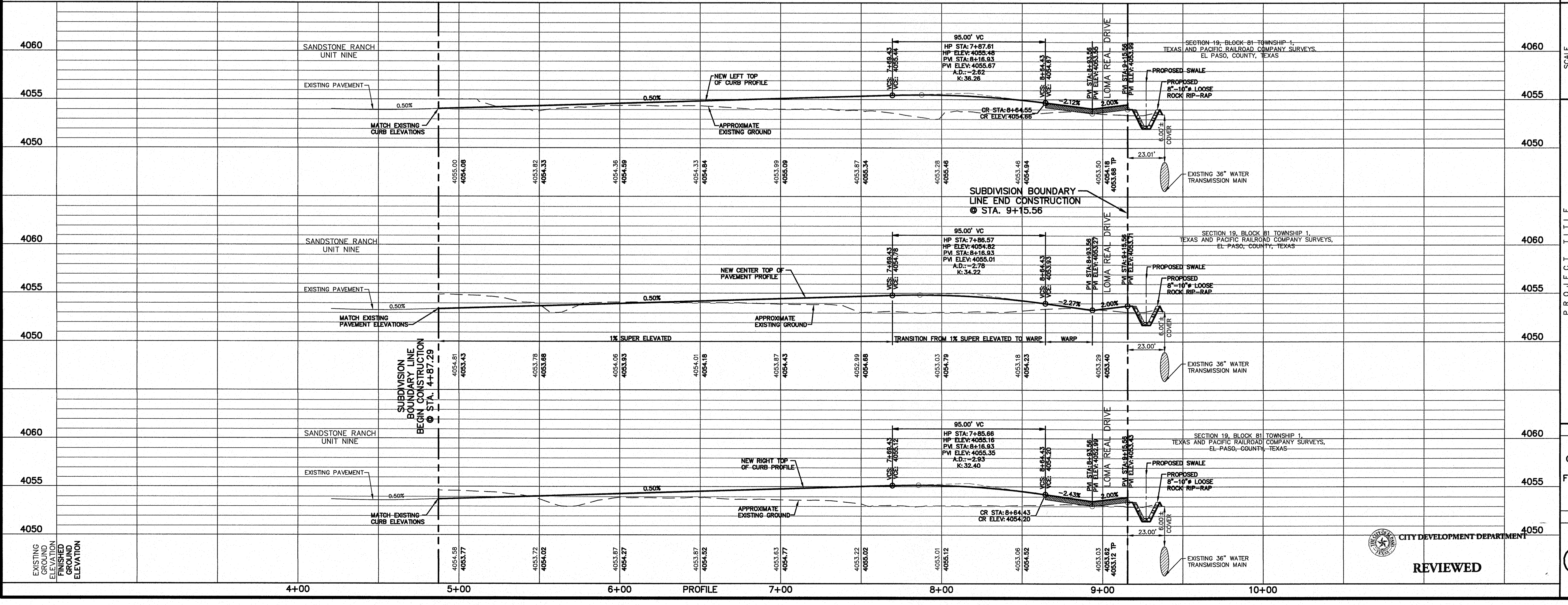
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LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



PROJECT TITLE

**SANDSTONE RANCH UNIT TEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**CATTLE RANCH ST.
 PLAN & PROFILE
 FROM STA. 4+87.29
 TO STA. 9+15.56**

SHEET NO.

C6.3R

REVIEWED

CITY DEVELOPMENT DEPARTMENT

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 MCI SURVEILLANCE (800) MCI-WORK
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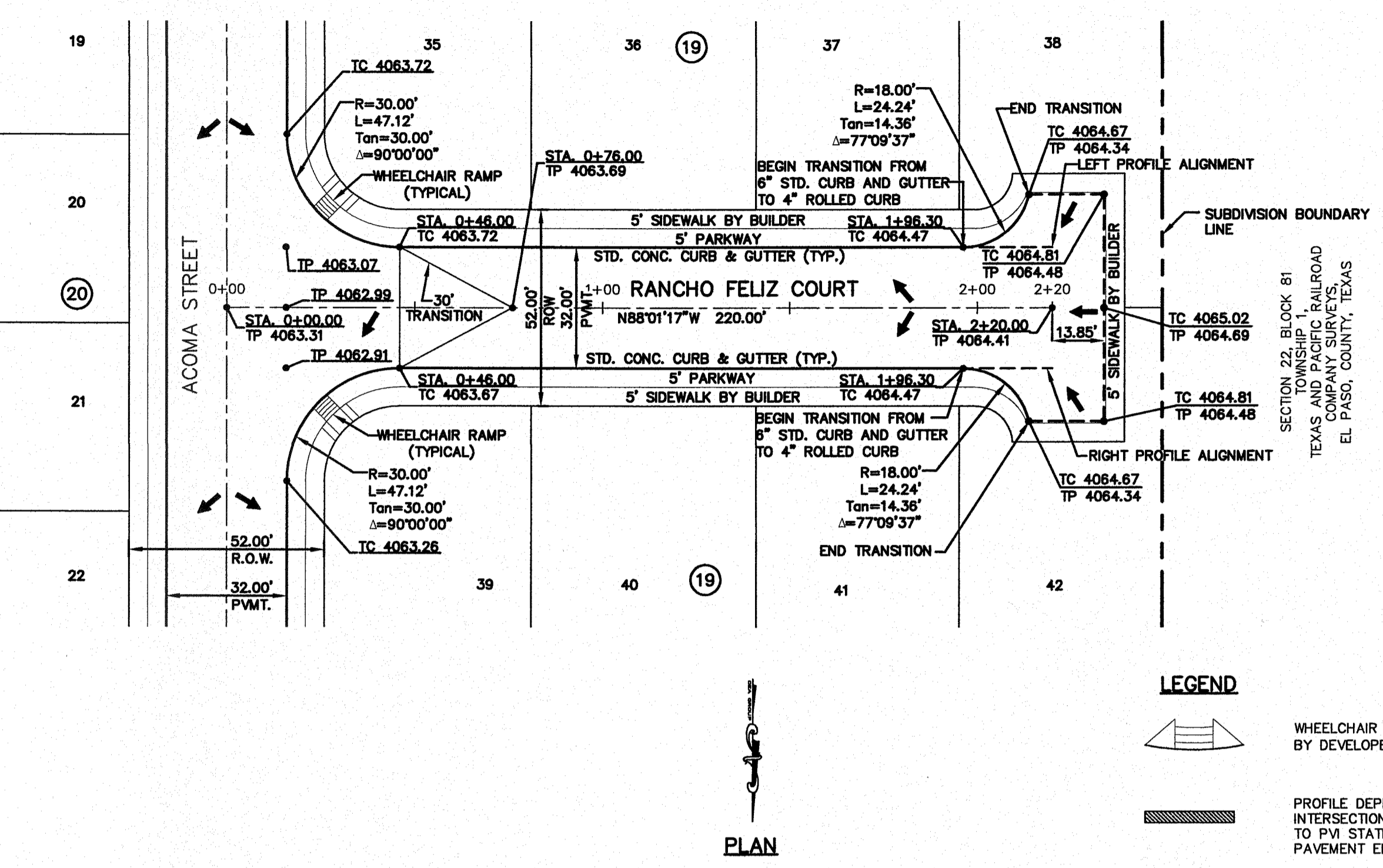
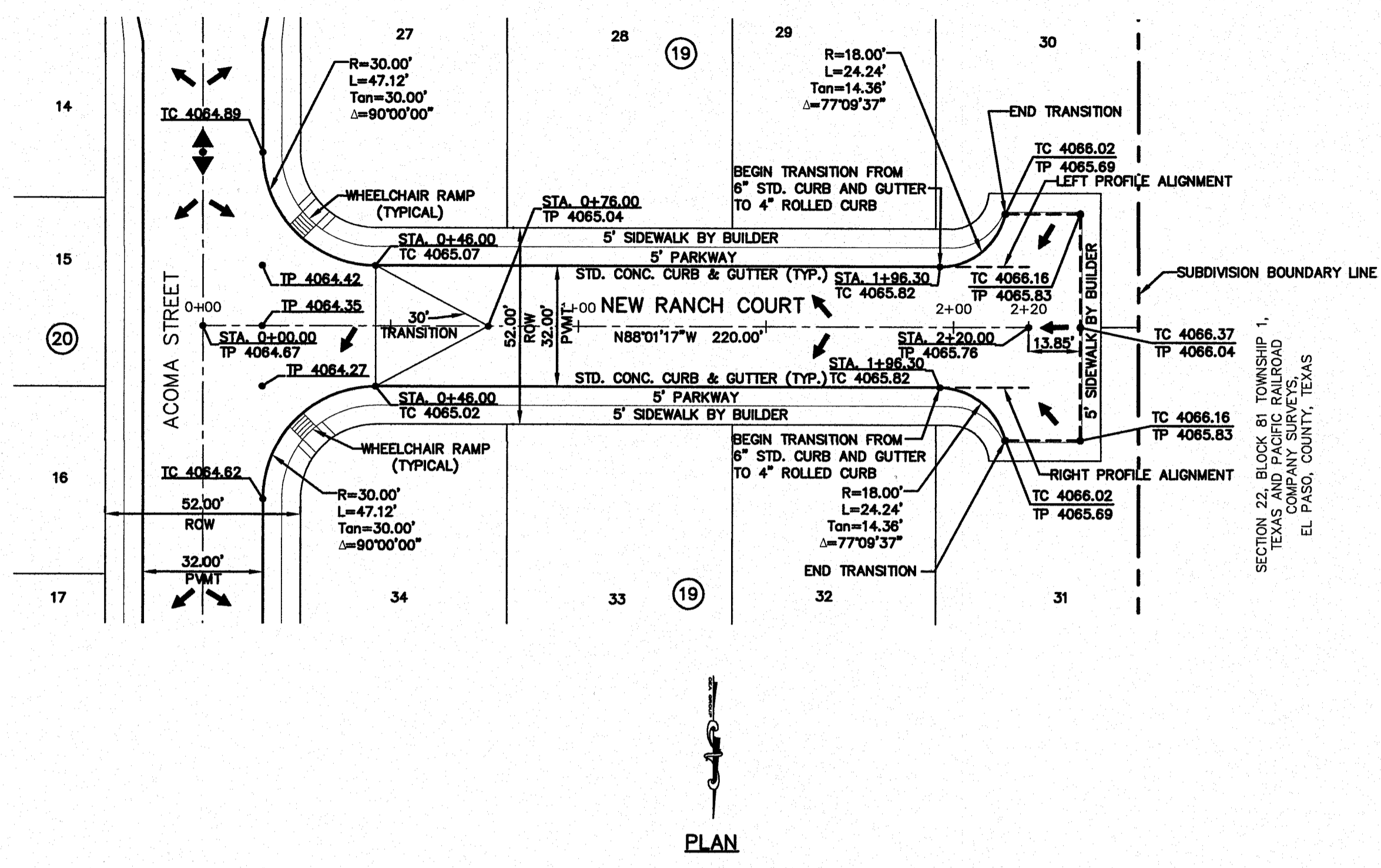
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FOUND FOOT BRASS CAP AT CORNER 19 AND 22. ELEVATION 4063.22 (NGVD DATUM). (SUBTRACT 6.462 TO CONVERT TO CITY DATUM).	REVISIONS	BY	J.M.
DATE	REVISED	ST. GRADES ON NEW	3/19/14 RANCHO AND RANCHO FELIZ

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ENGINEER'S SEAL

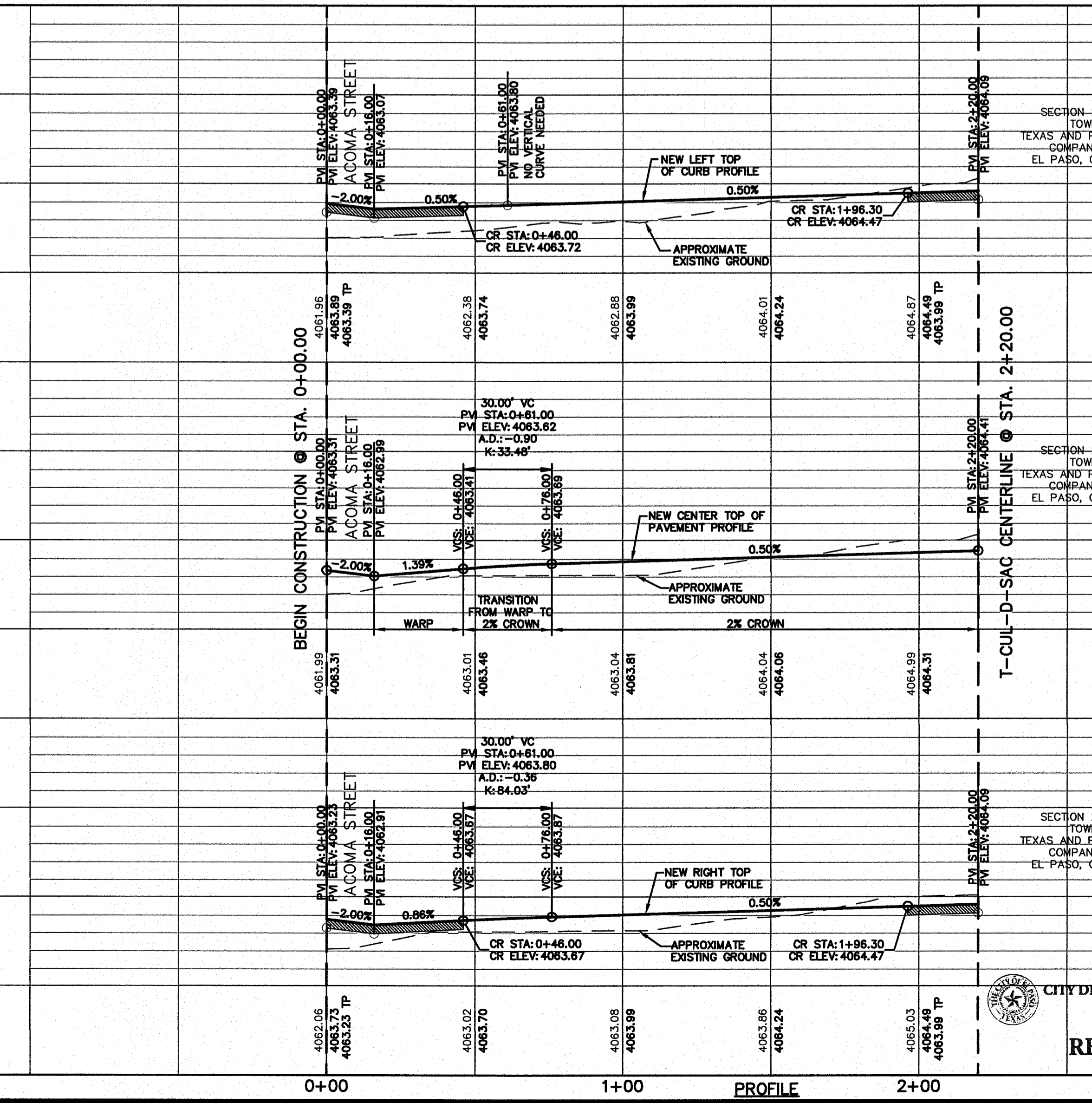
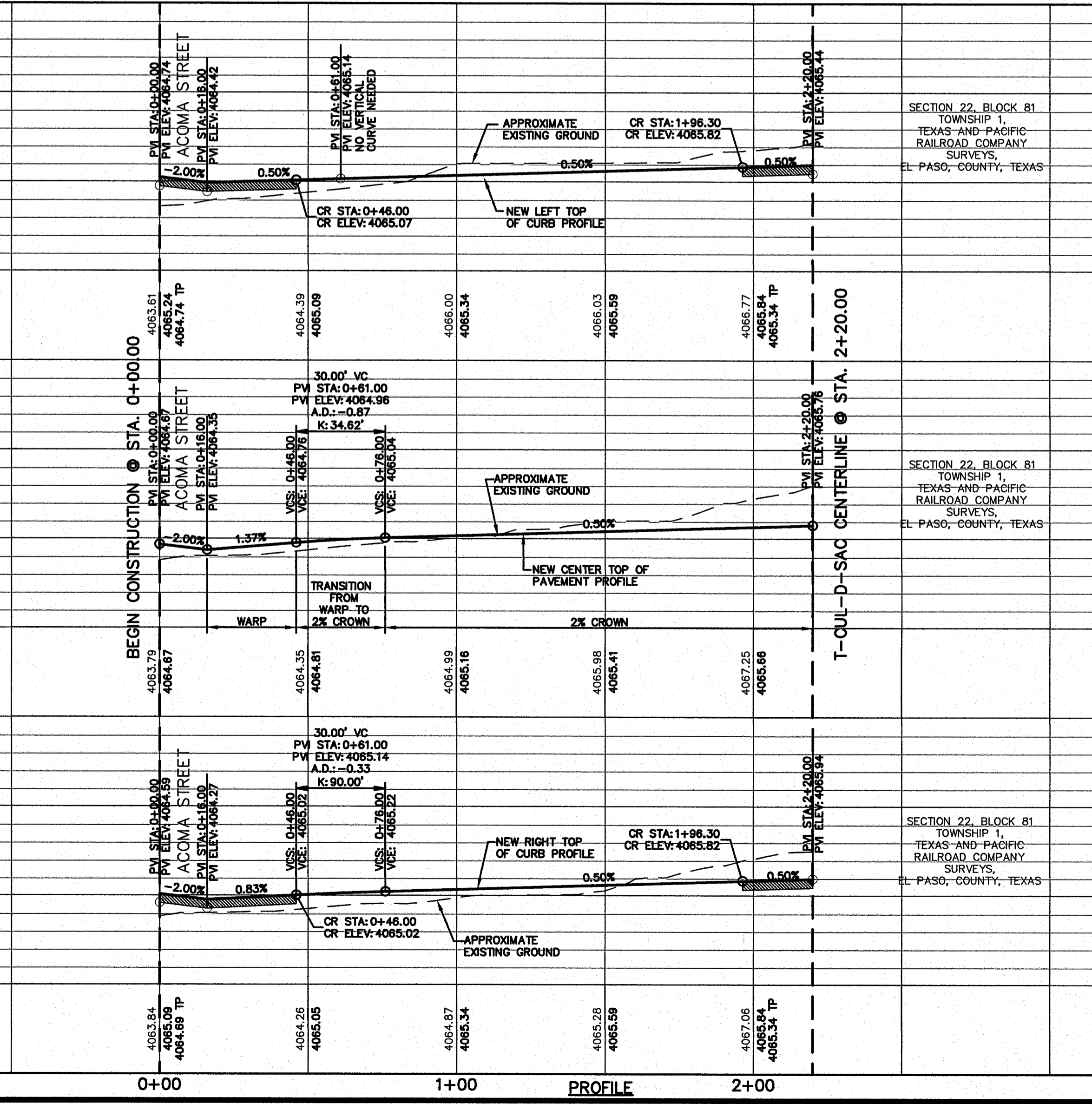
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 Contour Interval: N/A
 DATE: MARCH 2014
 DESIGN BY: J.M.
 DRAWN BY: J.M.
 CHKD. BY: J.C.
 APPVD. BY: J.L.A.
 JOB NO. 2000-164-1D



LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



PROJECT TITLE

SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

NEW RANCH COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+20.00

RANCHO FELIZ COURT PLAN & PROFILE FROM STA. 0+00.00 TO STA. 2+20.00

SHEET NO.

C6.4R

CITY DEVELOPMENT DEPARTMENT
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EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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TEXAS GAS SERVICE	(915) 680-7200
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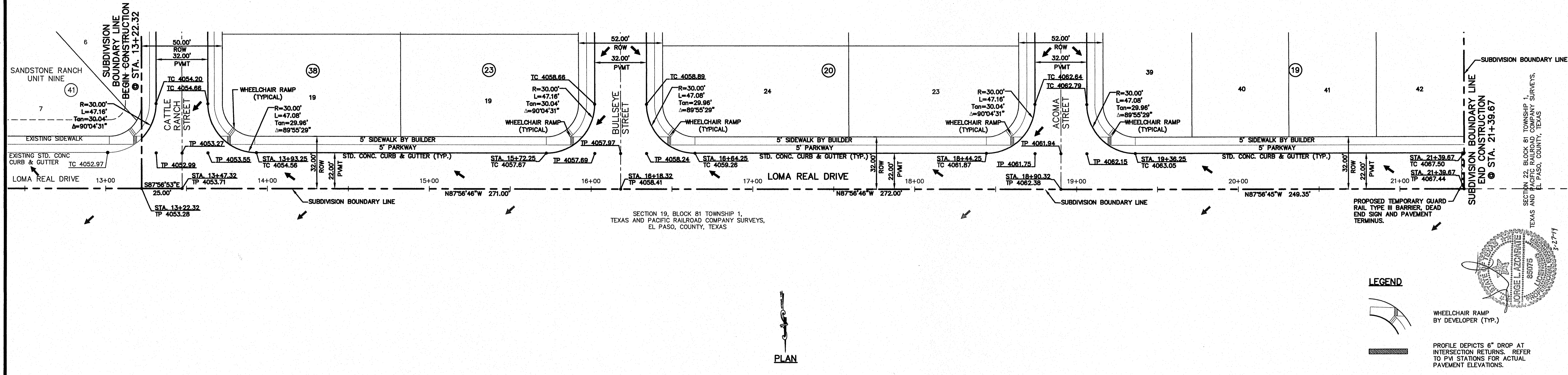
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FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

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

BY	J.M.
REVISIONS	DATE
REVISED ST. GRADES ON LOMA	3/19/14
REAL FROM STATION 9+08.87	

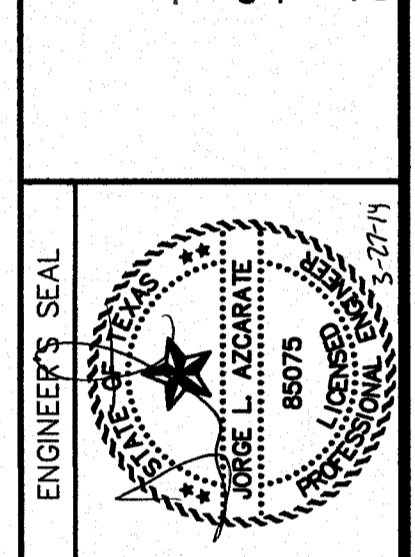


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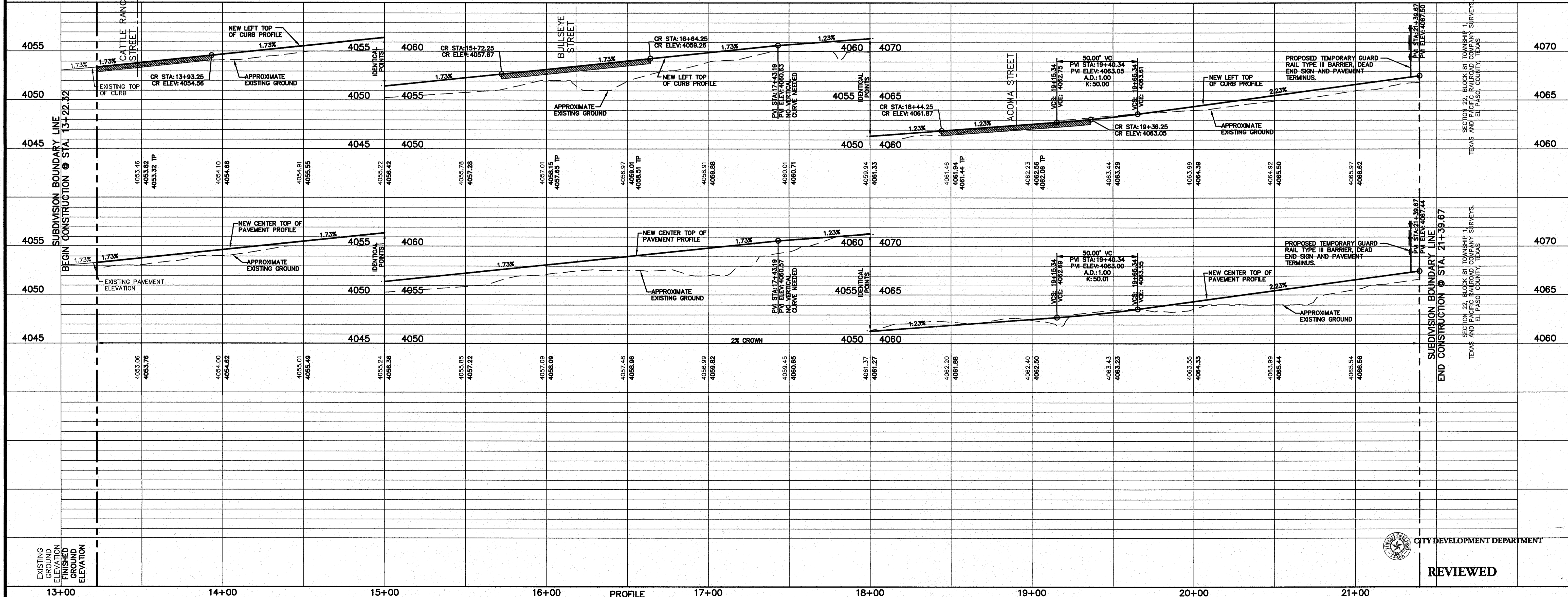
4712 Woodrow Dean, Ste. F El Paso, TX 79924
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LEGEND

WHEELCHAIR RAMP BY DEVELOPER (TYP.)

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



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

Contour Interval: N/A

DATE: MARCH 2014
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.G.
APPD. BY: J.L.A.
JOB No. 2000-164-LD

PROJECT TITLE

SANDSTONE RANCH UNIT TEN

SUBDIVISION IMPROVEMENTS

SHEET TITLE

LOMA REAL DR. PLAN & PROFILE FROM STA. 13+22.32 TO STA. 21+39.67

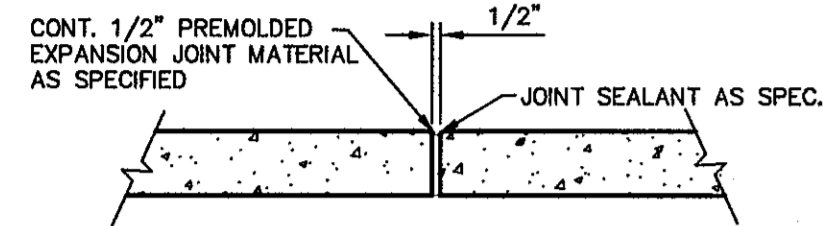
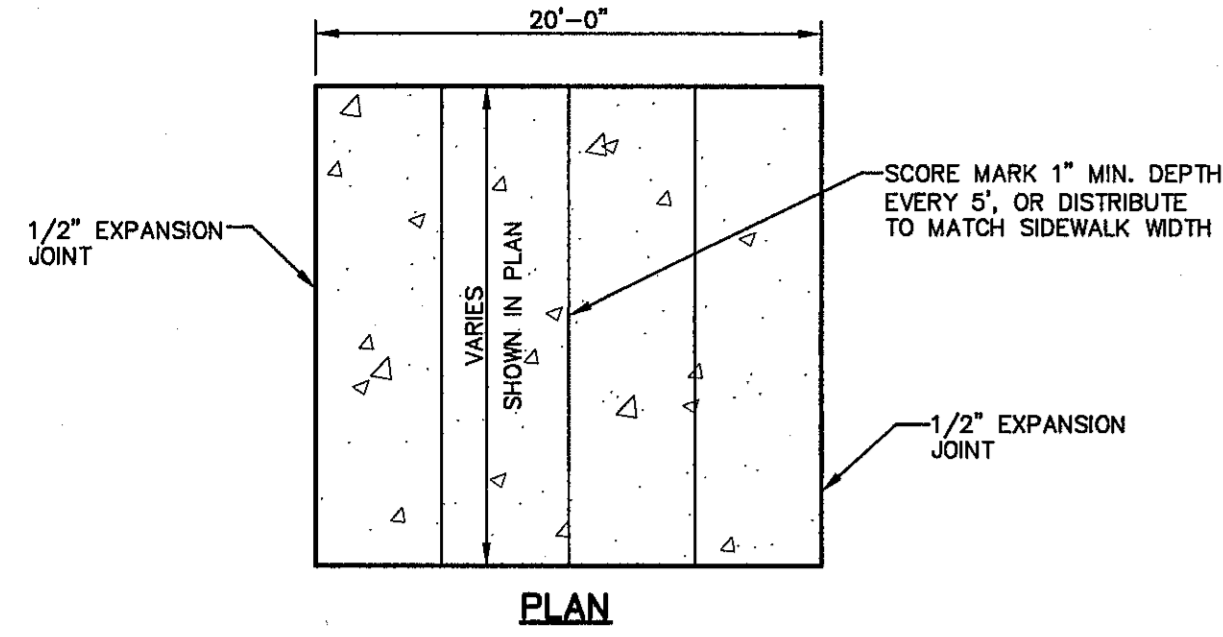
SHEET NO.

C6.5R

CITY DEVELOPMENT DEPARTMENT

REVIEWED

S:\2000\2000-164LD-Sandstone Ranch Unit Ten\DWG\Construction Drawings\Improvement Plans\2000-164-LD-C6.5R Loma Real Drive P&P.dwg, Loma Real P&P, 3/27/2014 9:10:57 AM



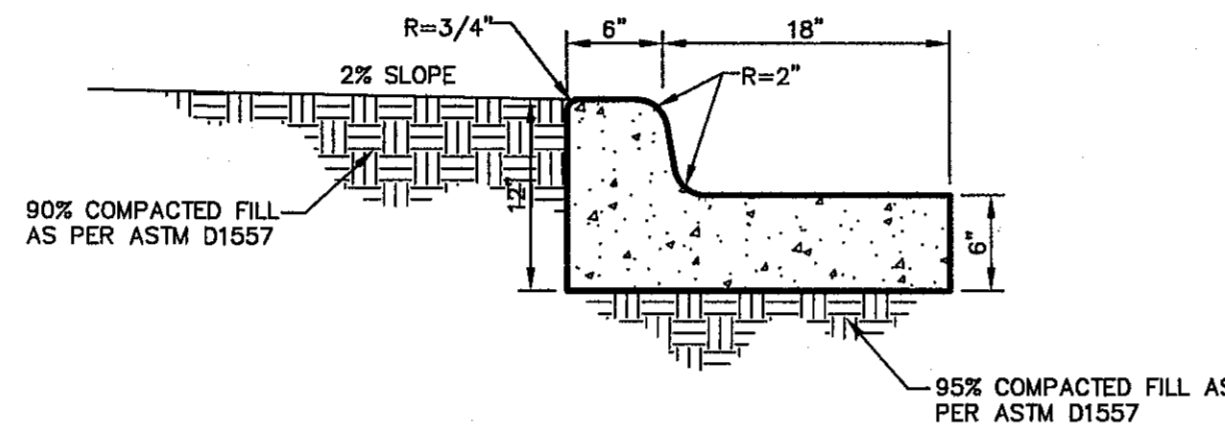
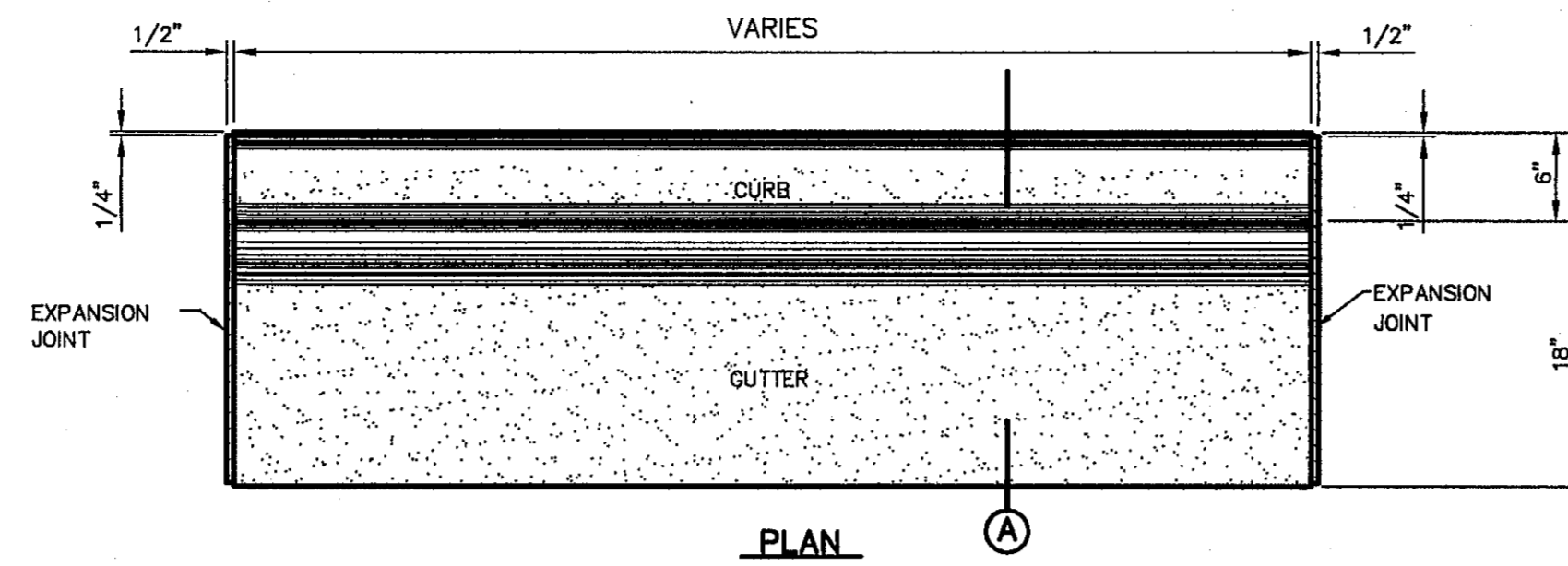
- NOTES:**
1. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33)
 2. EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
 3. WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD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

EXPANSION JOINT SECTION
SCALE: N.T.S.

SIDEWALK NOTES:

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

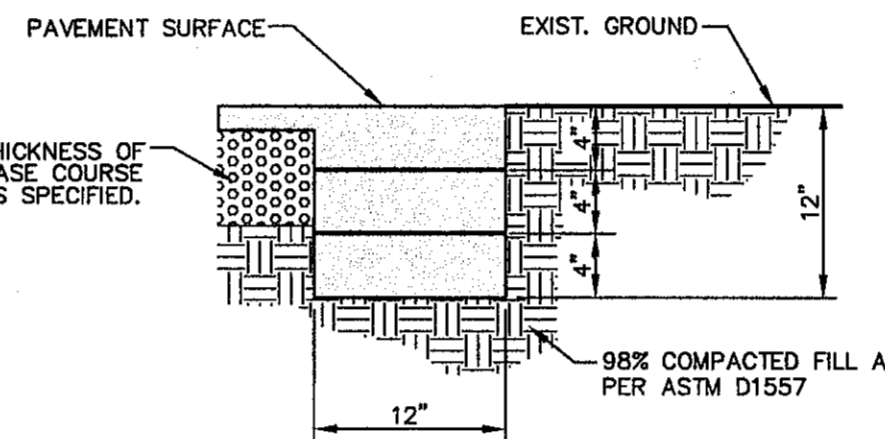
1 SECTION-SIDEWALK/SLAB
SCALE: N.T.S.



A SECTION

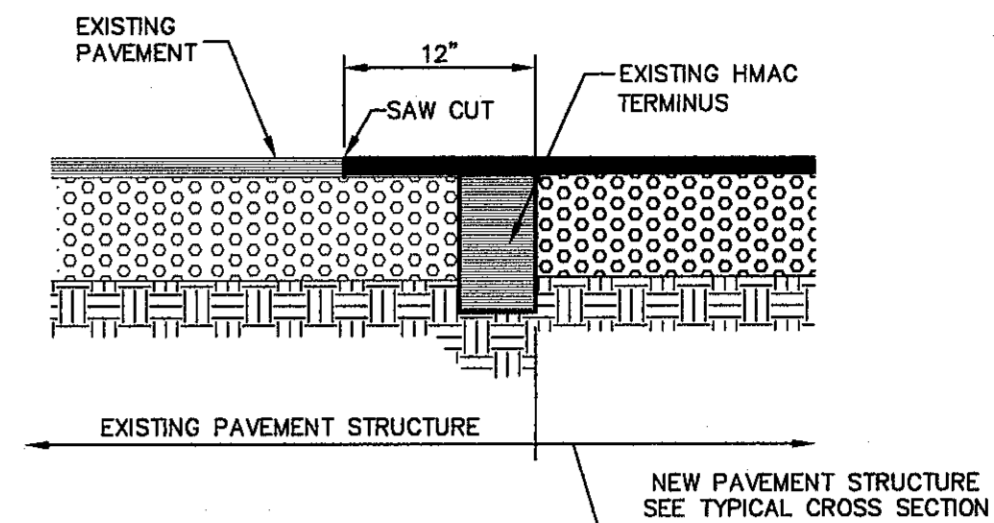
- NOTES:**
1. CONCRETE SHALL BE 3,000 P.S.I. MIN.
 2. DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK
 3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS AND AT 20' ON CENTER FOR SIDEWALKS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL
 4. EXPANSION JOINTS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

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

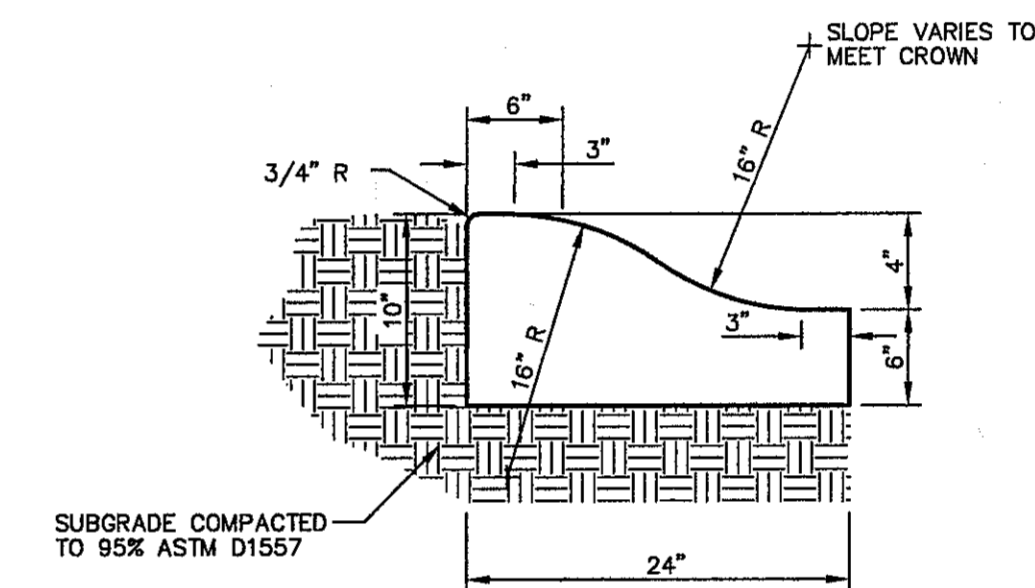


- NOTE:**
- TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL PAVEMENT COURSE. COMPACTION REQUIREMENTS SHALL BE 98% MINIMUM AS PER ASTM D1557 OR AS RECOMMENDED BY THE PROJECT GEOTECHNICAL ENGINEER

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

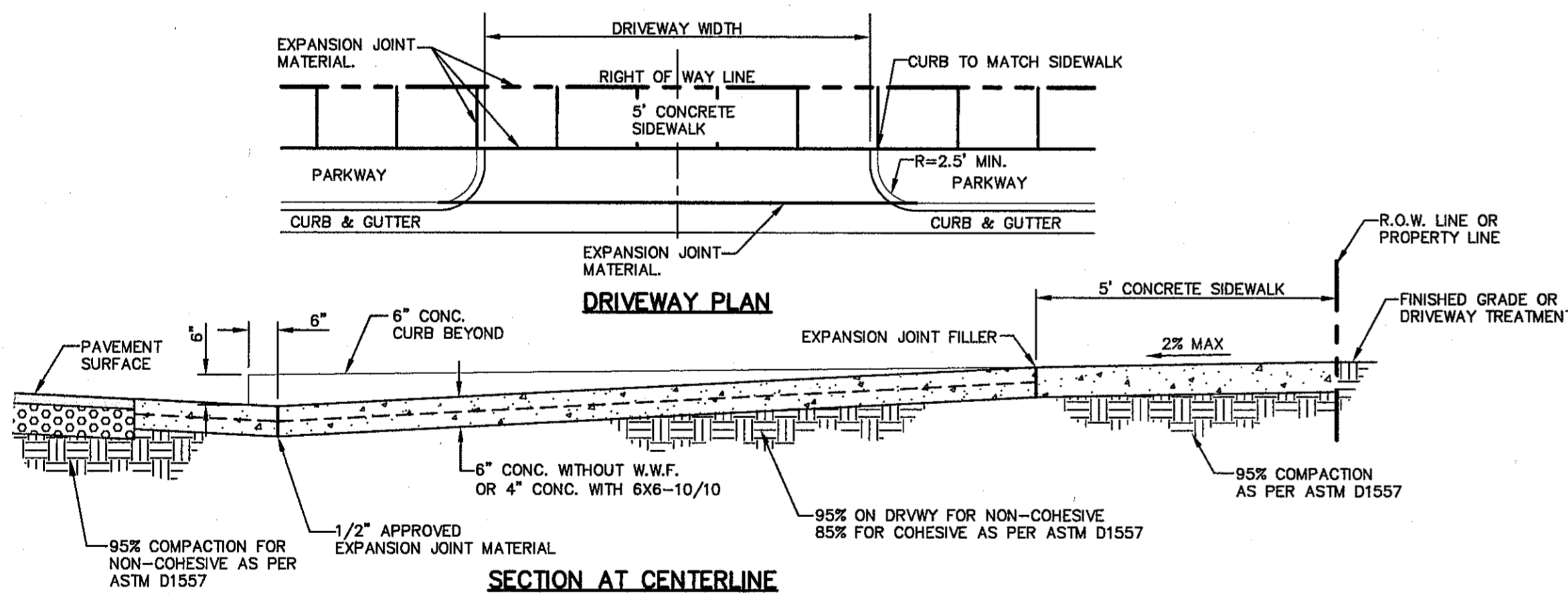


4 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



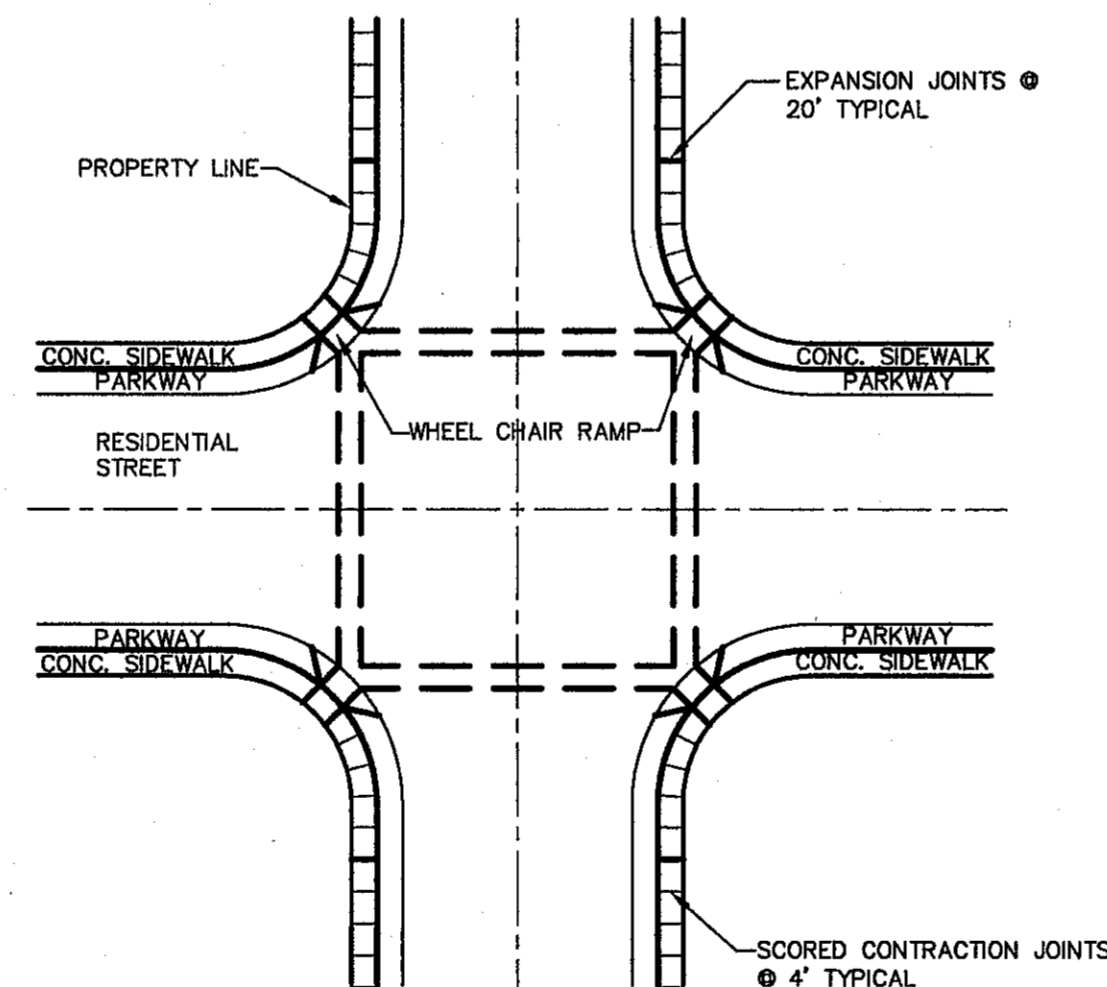
1. CONCRETE TO BE 3000 PSI MIN.
2. DUMMY JOINTS REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALK
3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
4. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
5. EXPANSION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

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



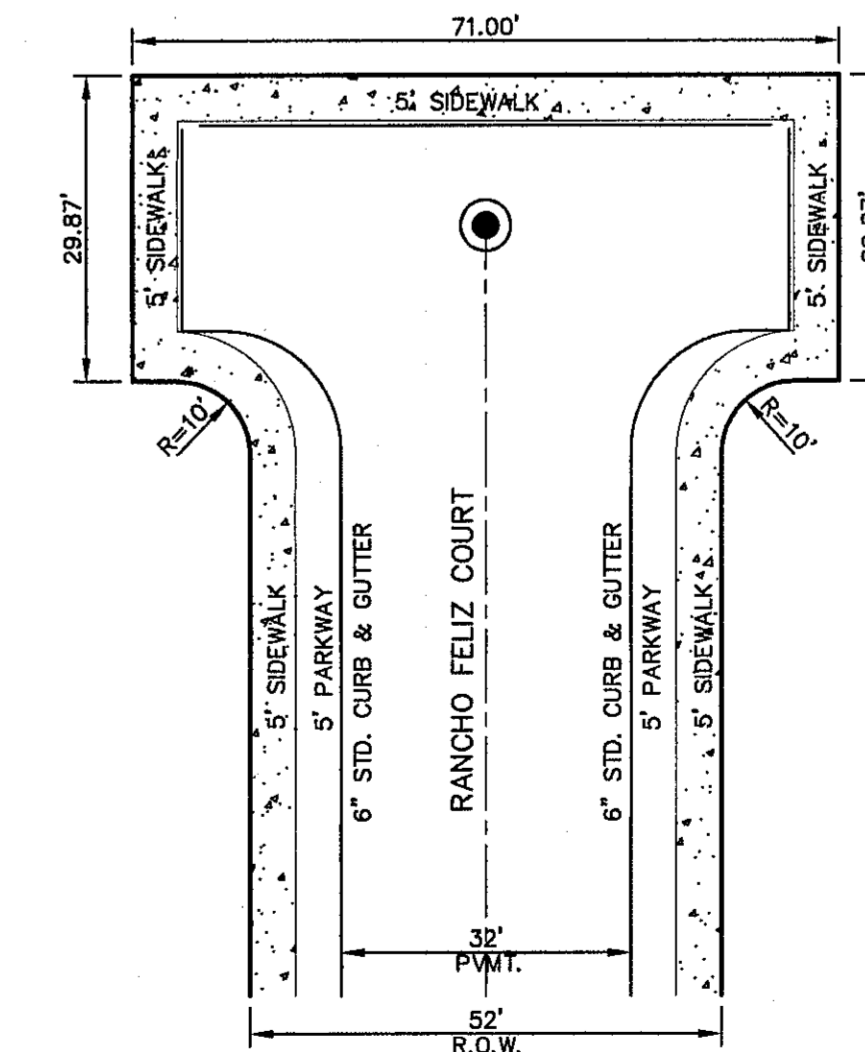
- NOTES:**
1. DRIVEWAY SLOPES MUST BE 10% MAX. FROM GUTTER FOR FIRST 12 FEET AND 14% MAX. THEREAFTER (DRIVEWAY SHALL BE LOCATED @ HIGH SIDE OF LOT UNLESS OTHERWISE COORDINATED WITH CITY OF EL PASO)
 2. RESIDENTIAL
6" CONCRETE WITHOUT W.W.F.
4" CONCRETE WITH 6X6-10/10

5 TYPICAL DRIVEWAY DETAIL
SCALE: N.T.S.



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

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



8 8" T" CUL-D-SAC W/SIDEWALK DETAIL
SCALE: N.T.S.

REFERENCES - BENCHMARKS

FOUND FOOT BRASS CAP AT CORNER 15 AND 22. ELEVATION 4033.22 (NGVD DATUM) (SUBTRACT 8.62 TO CONVERT TO CITY DATUM).

DATE	REVISIONS	BY

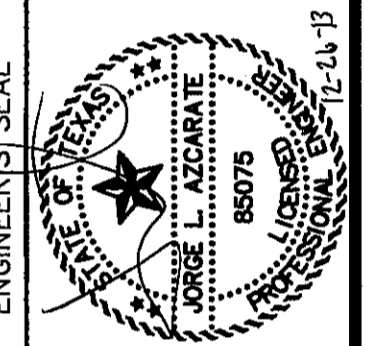
osa

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4710 Woodloch Plaza, Ste. F El Paso, TX 79904

Office: 915.544.8232 Fax: 915.544.8233 www.osaeng.com



SCALE AS SHOWN

Horizontal:	AS SHOWN
Vertical:	AS SHOWN
Contour Interval:	N/A
DATE:	NOVEMBER 2013
DESIGN BY:	J.M.
DRAWN BY:	J.M.
CHKD. BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.	2000-164-LD

PROJECT TITLE

SANDSTONE RANCH UNIT TEN

SUBDIVISION IMPROVEMENTS

SHEET TITLE

STANDARD DETAILS

(SHEET 1 OF 3)

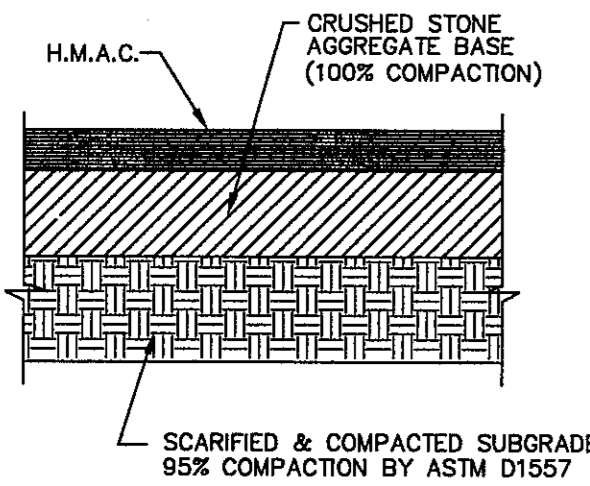
SHEET NO.

C7.1

CITY DEVELOPMENT DEPARTMENT

REVIEWED

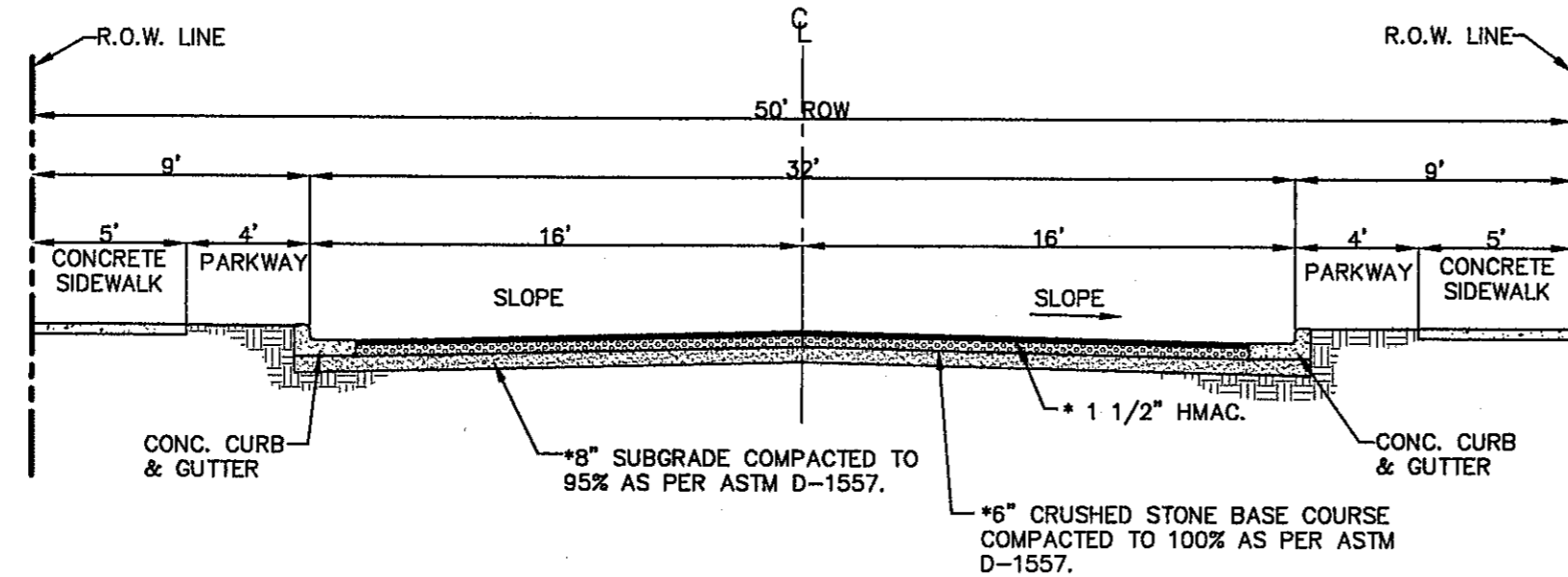
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PAVEMENT SECTION NOTES:

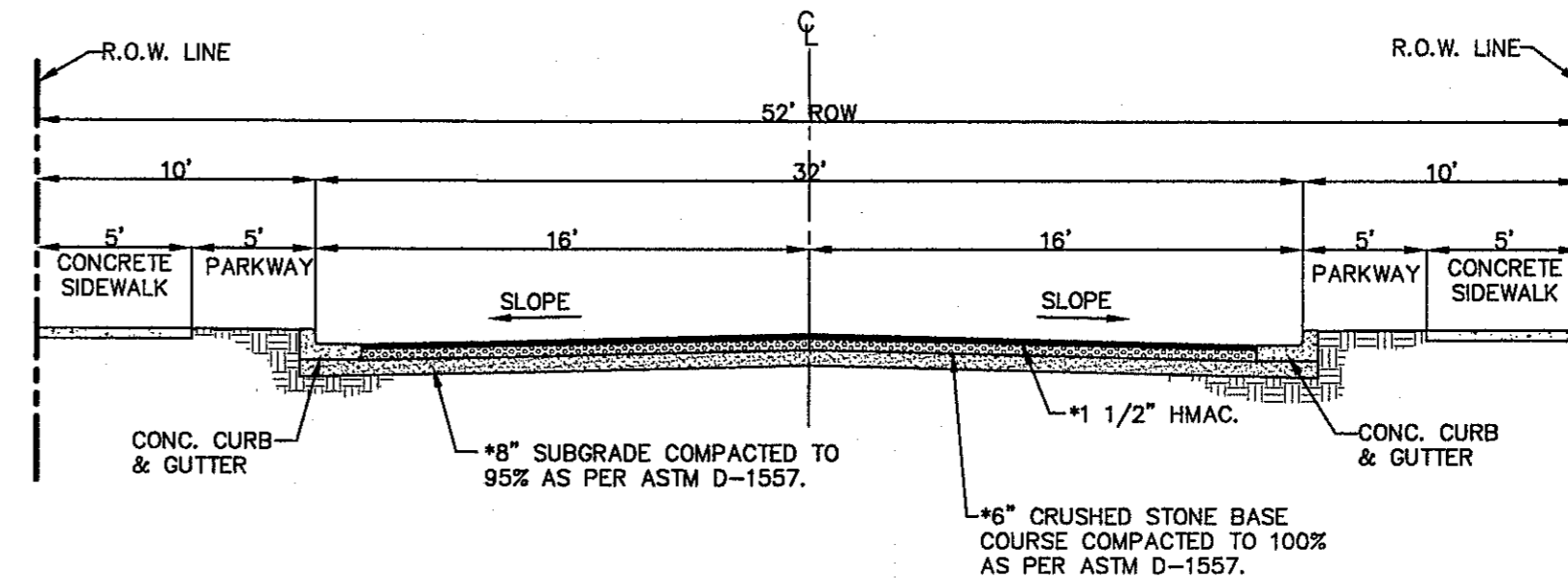
- SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
- MINIMUM PAVEMENT DESIGN DETAILS ARE SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.
- STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION 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 CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOW ON THE CITY OF EL PASO DESIGN STANDARDS.

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



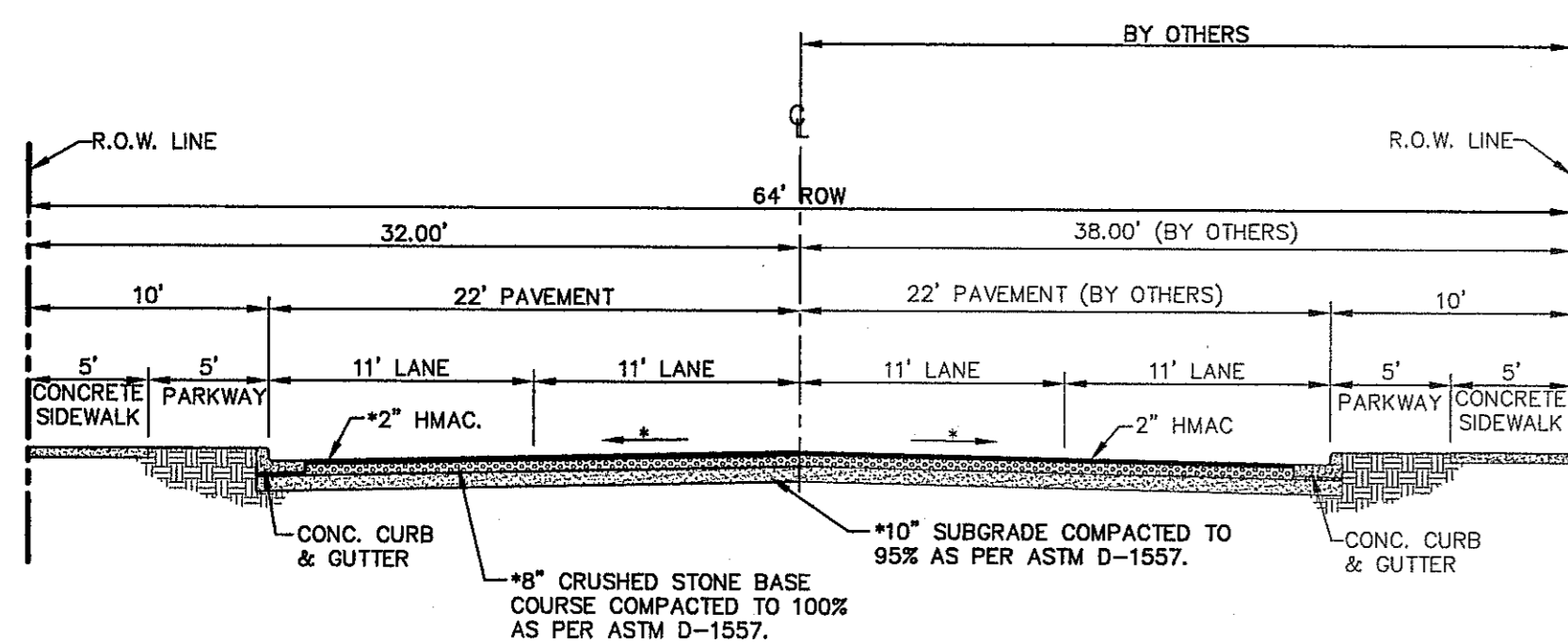
***NOTE:**
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS (MINIMUM VALUES SHOWN): CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR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

2 TYPICAL 50' ROW (RESIDENTIAL SUB-COLLECTOR) STREET SECTIONS DETAIL
SCALE: N.T.S.



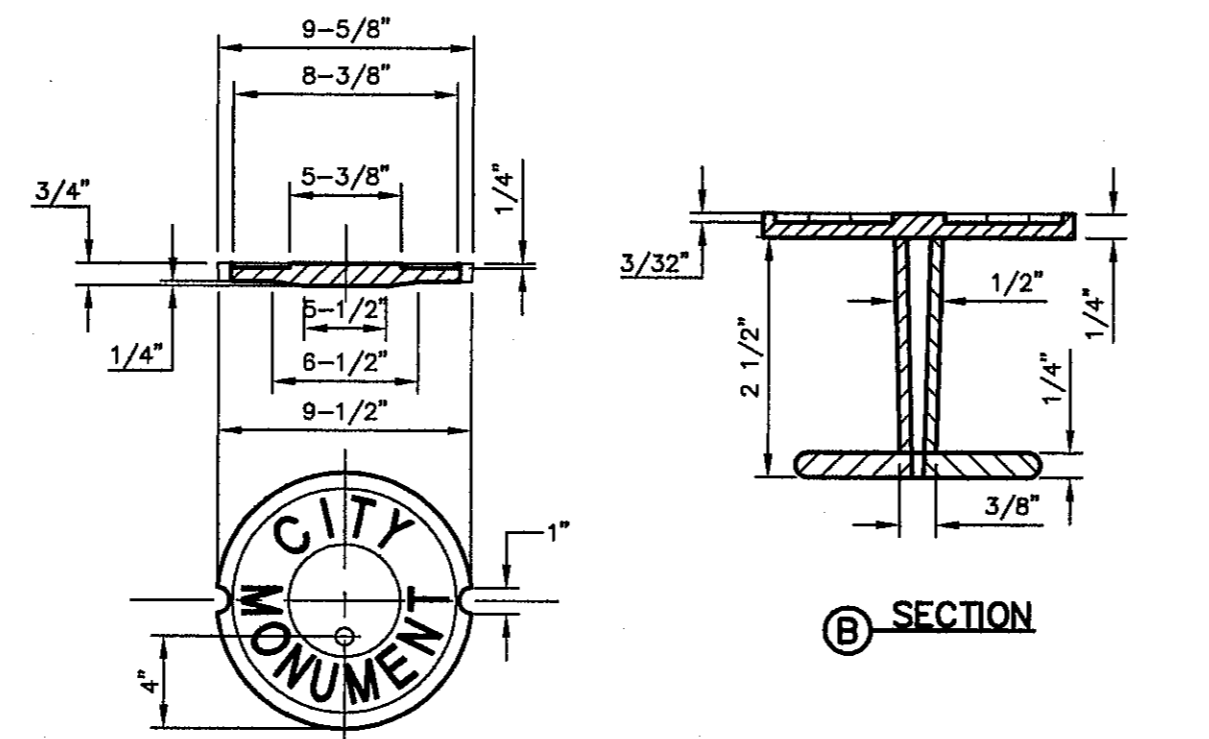
***NOTE:**
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS (MINIMUM VALUES SHOWN): CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR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

3 TYPICAL 52' ROW (RESIDENTIAL SUB-COLLECTOR) STREET SECTIONS DETAIL
SCALE: N.T.S.

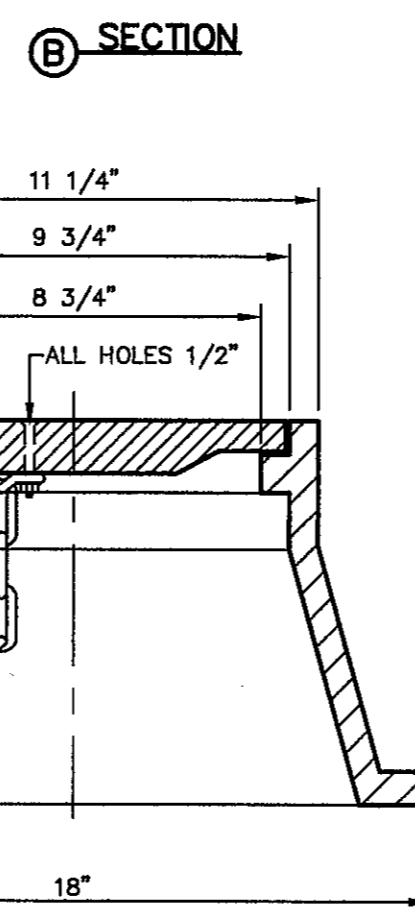


***NOTE:**
STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS (MINIMUM VALUES SHOWN): CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR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

4 TYPICAL 64' ROW (COLLECTOR ARTERIAL) STREET SECTION DETAIL
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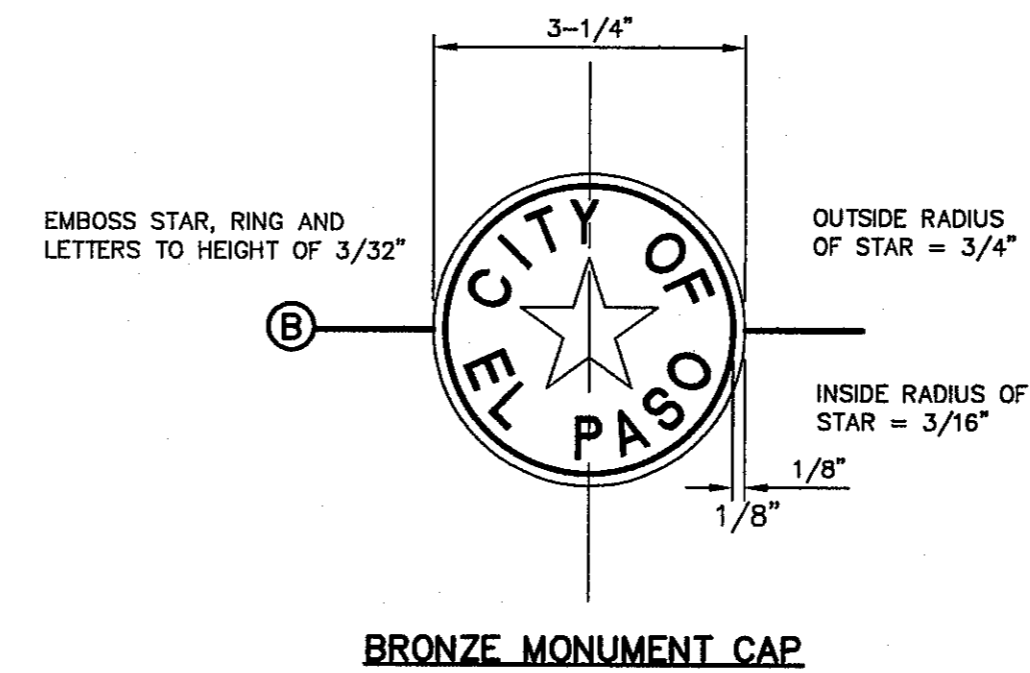


COVER

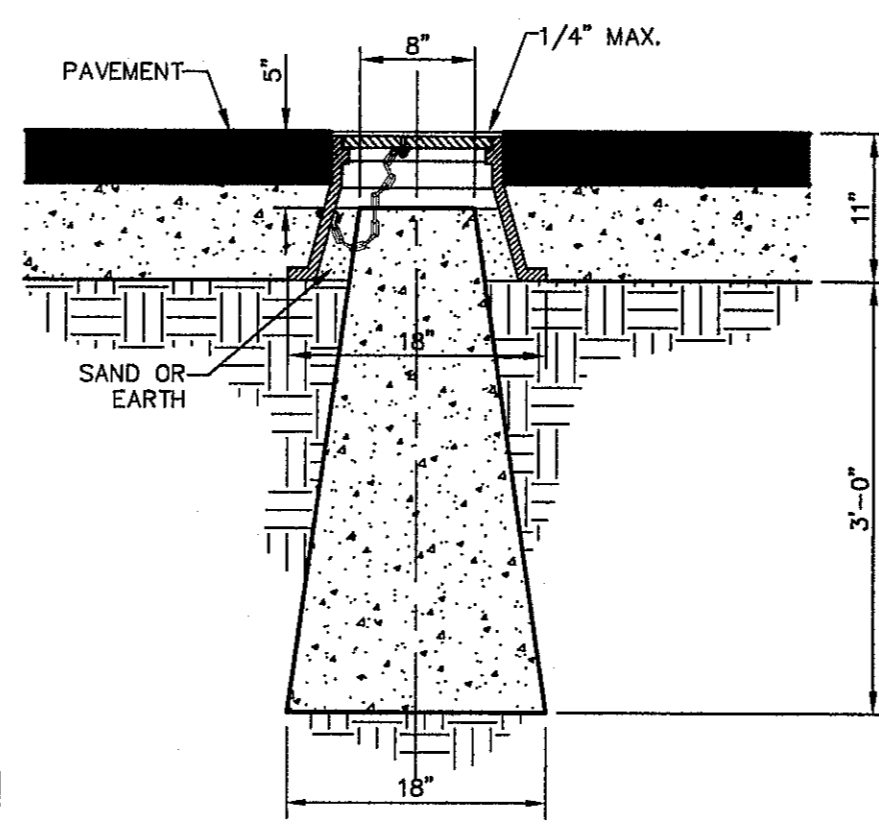


FRAME SECTION

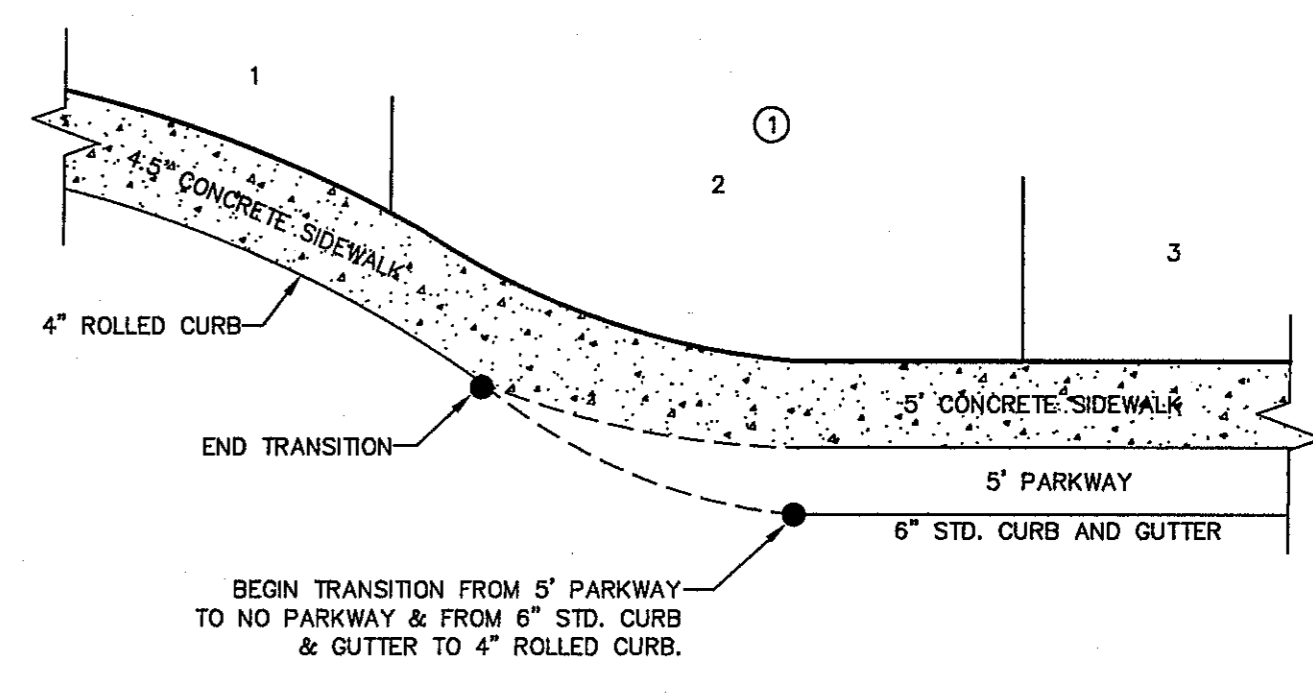
5 CITY SURVEY MONUMENT DETAILS
SCALE: N.T.S.



BRONZE MONUMENT CAP



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

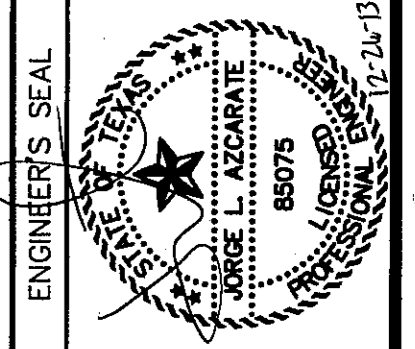


6 TYPICAL HEEL/CUL-DE-SAC SIDEWALK TRANSITION
SCALE: N.T.S.

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

DATE	REVISIONS	BY

CEA
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4712 Woodrow Brien, Ste. F, El Paso, TX 79904
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SCALE:	AS SHOWN
Horizontal:	AS SHOWN
Vertical:	AS SHOWN
Contour Interval:	N/A
DATE:	NOVEMBER, 2013
DESIGN BY:	J.M.
DRAWN BY:	J.G.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.	2000-164-LD

SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

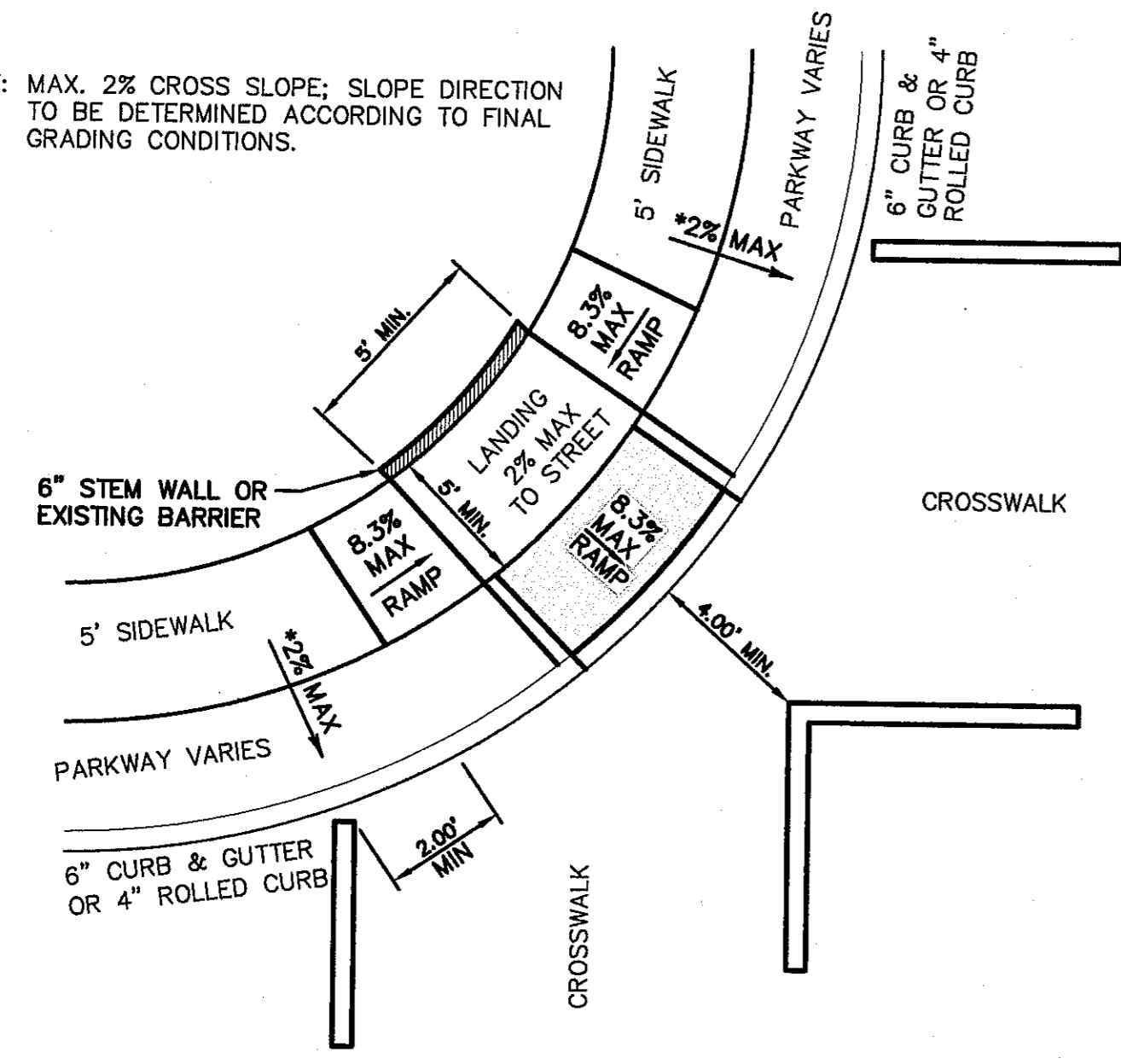
SHEET TITLE
STANDARD DETAILS
(SHEET 2 OF 3)
SHEET NO.

C7.2

CITY DEVELOPMENT DEPARTMENT
REVIEWED

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* NOTE: MAX. 2% CROSS SLOPE; SLOPE DIRECTION TO BE DETERMINED ACCORDING TO FINAL GRADING CONDITIONS.



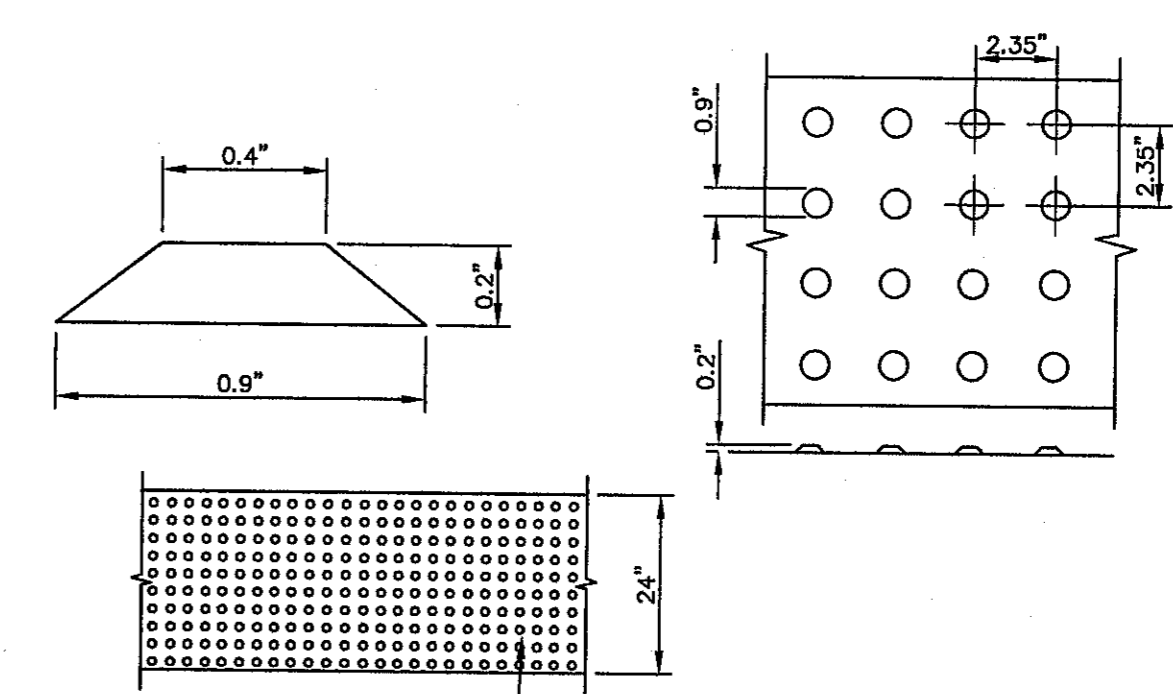
1 DIAGONAL COMBINATION CURB RAMP (TYPE III)
SCALE: N.T.S.

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 RAMP SHALL BE A MINIMUM OF 4'x4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL VEHICULAR TRAVEL PATH.
- CURB RAMP 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, RAMP SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED BY THE ENGINEER.
- ACCESSIBLE ROUTES WITH A RUNNING SLOPE GREATER THAN FIVE (5%) PERCENT IS A RAMP AND SHALL COMPLY WITH TDLR 4.8 - RAMP. 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.



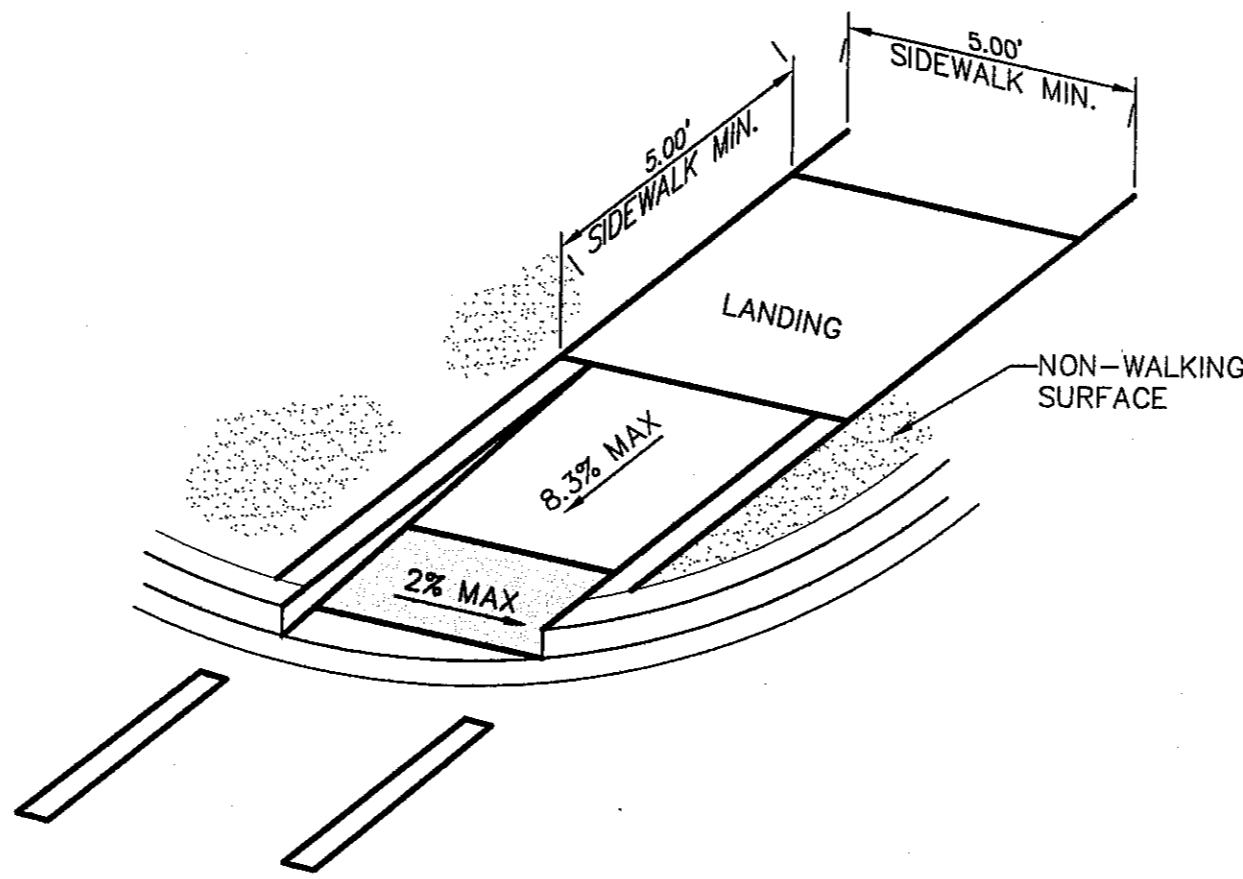
TRUNCATED DOMETILES, ADA CERTIFIED "ARMOR-TILE" TACTILE SYSTEMS OR APPROVED EQUAL

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.

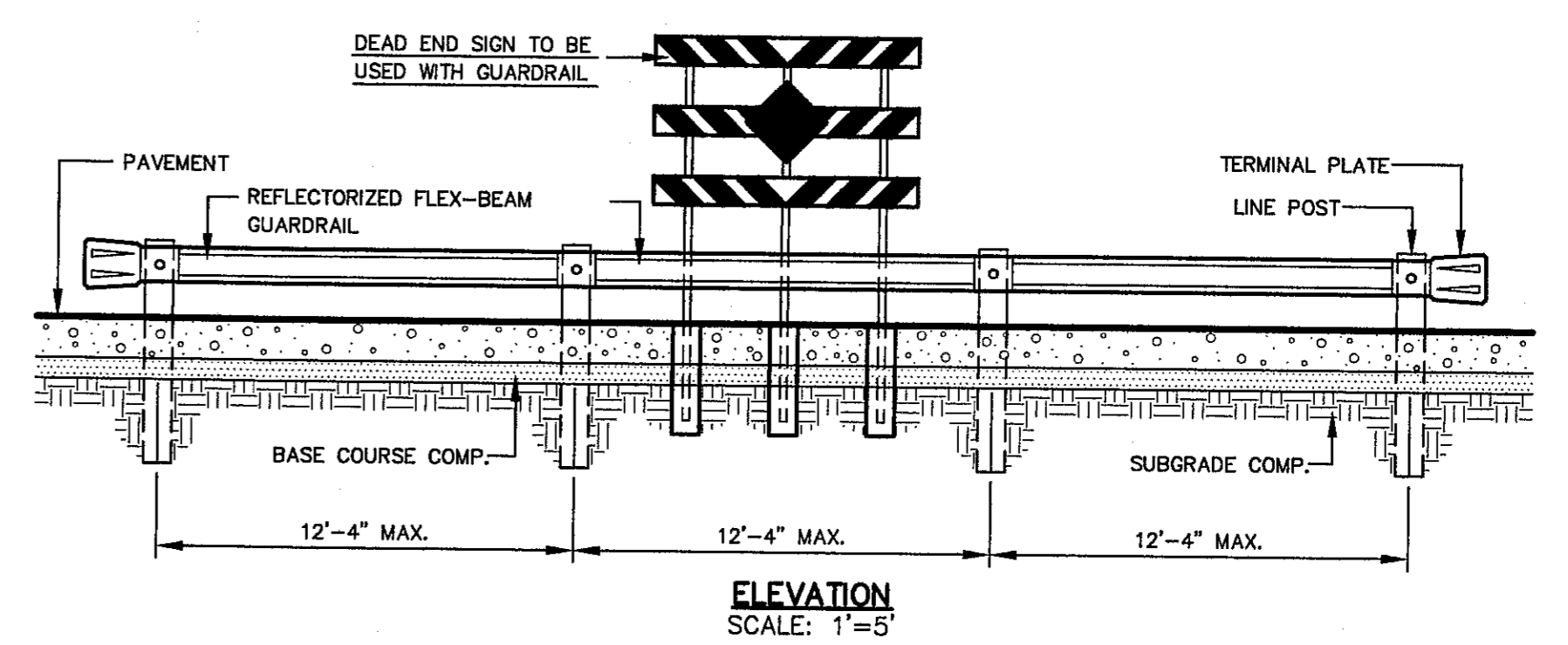
DOME ALIGNMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING SURFACES SHALL EXTEND 24 INCHES (610 mm) MINIMUM IN THE DIRECTION OF TRAVEL AND THE FULL WIDTH OF THE CURB RAMP, LANDING, OR BLENDED TRANSITION.

CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE. THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. CONTRAST SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF SURFACE SHALL BE PERMITTED.

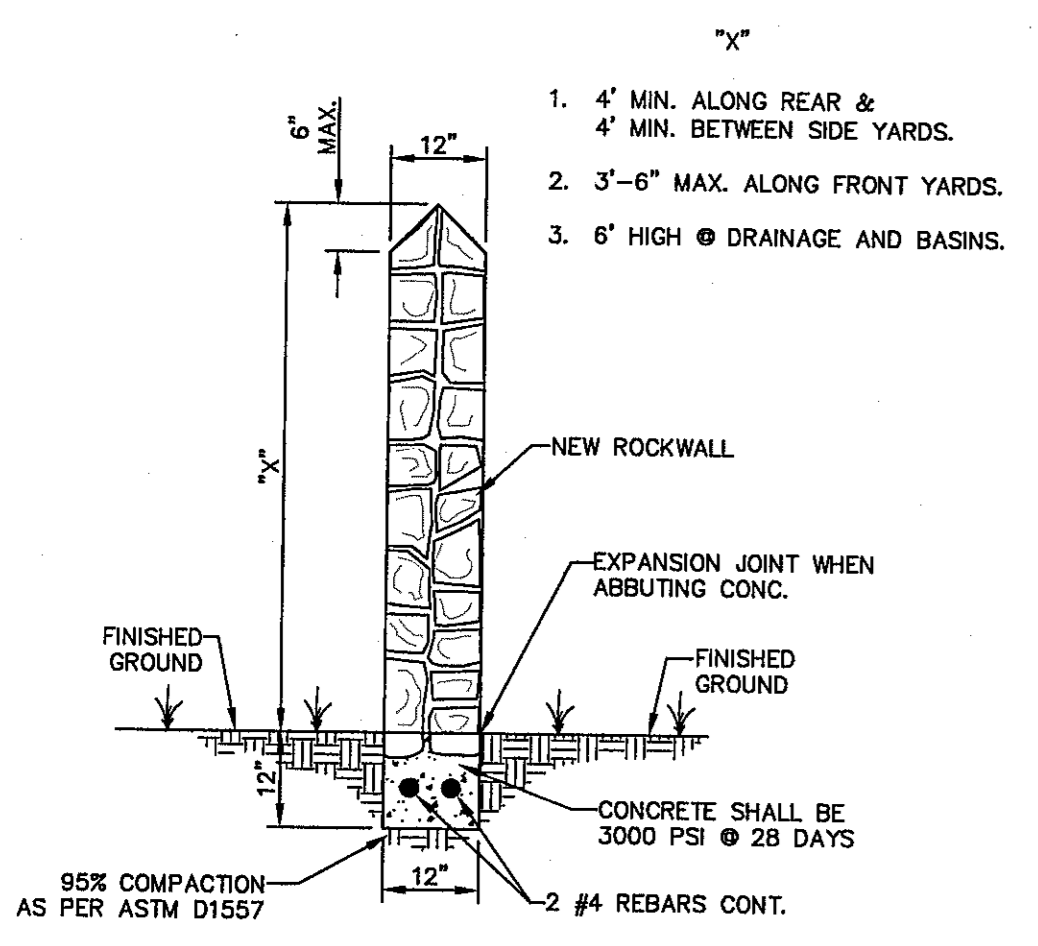
3 TRUNCATED DOME SIZE AND SPACING
SCALE: N.T.S.



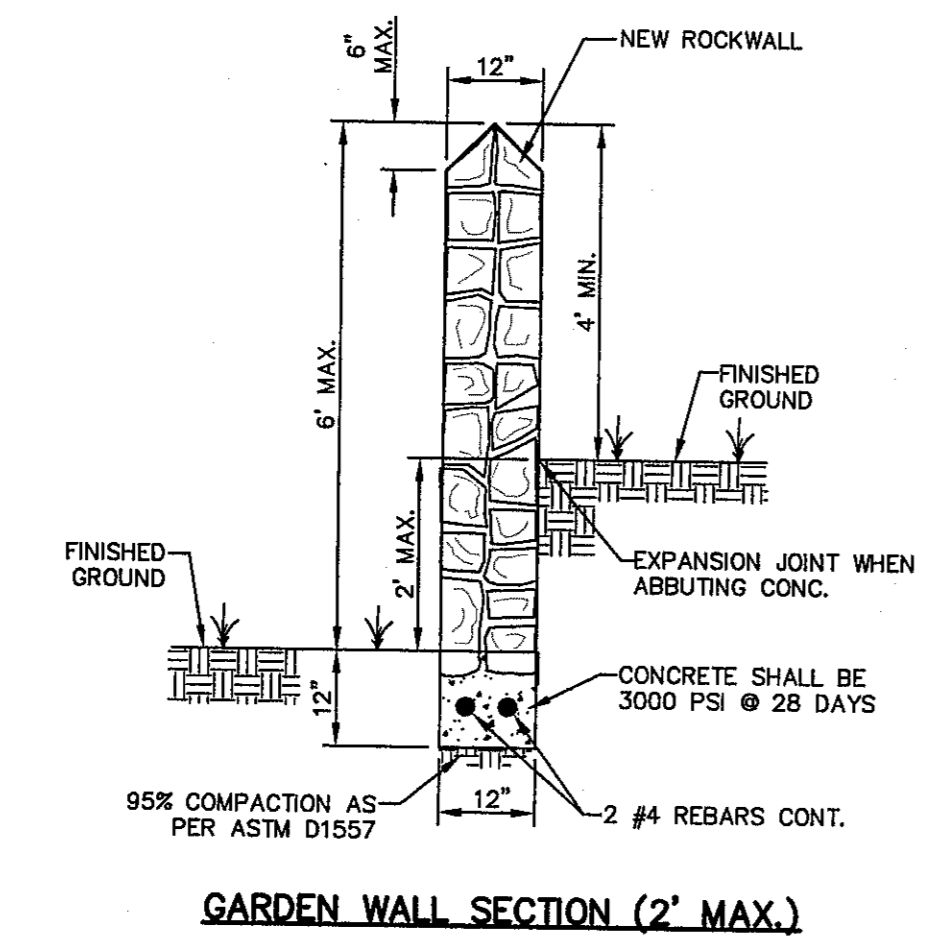
2 DIRECTIONAL RAMP WITHIN RADIUS (TYPE IV)
SCALE: N.T.S.



ELEVATION
SCALE: 1" = 5'



GARDEN WALL SECTION

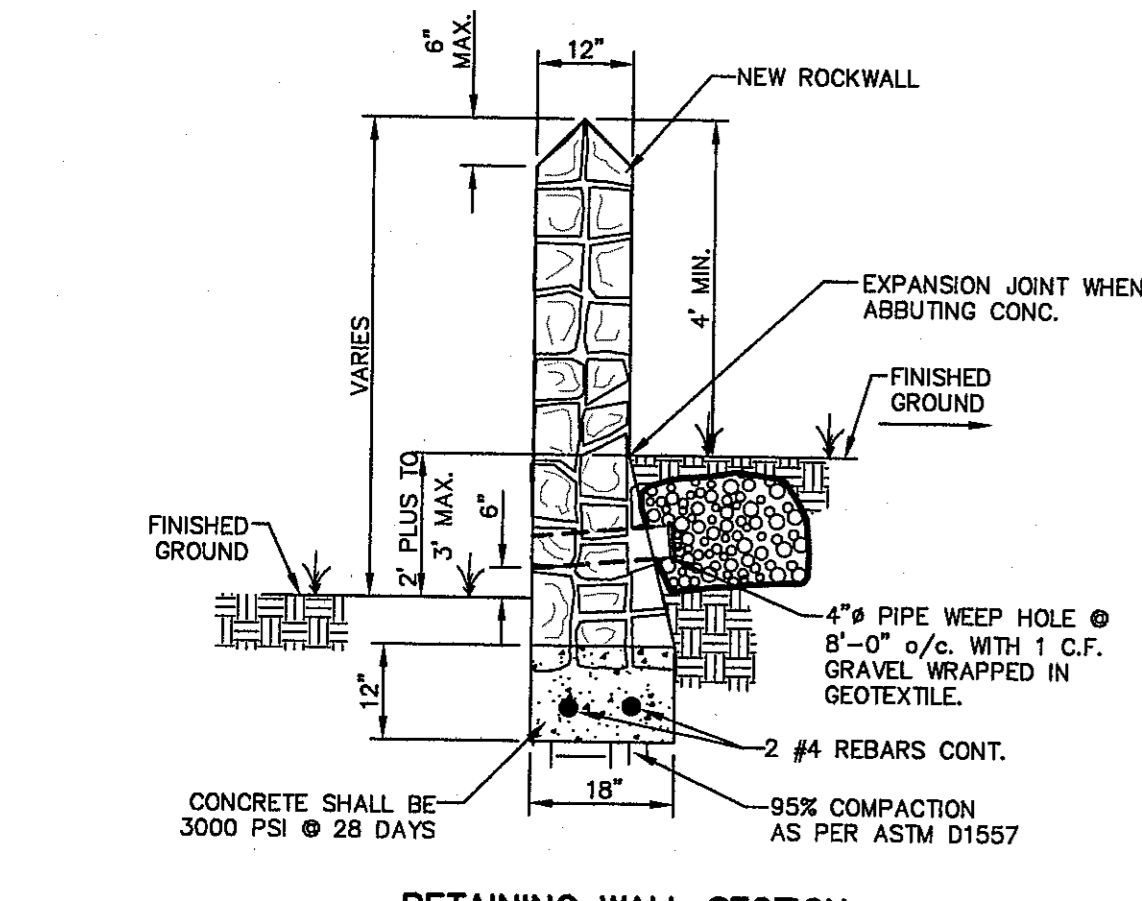


GARDEN WALL SECTION (2' MAX.)

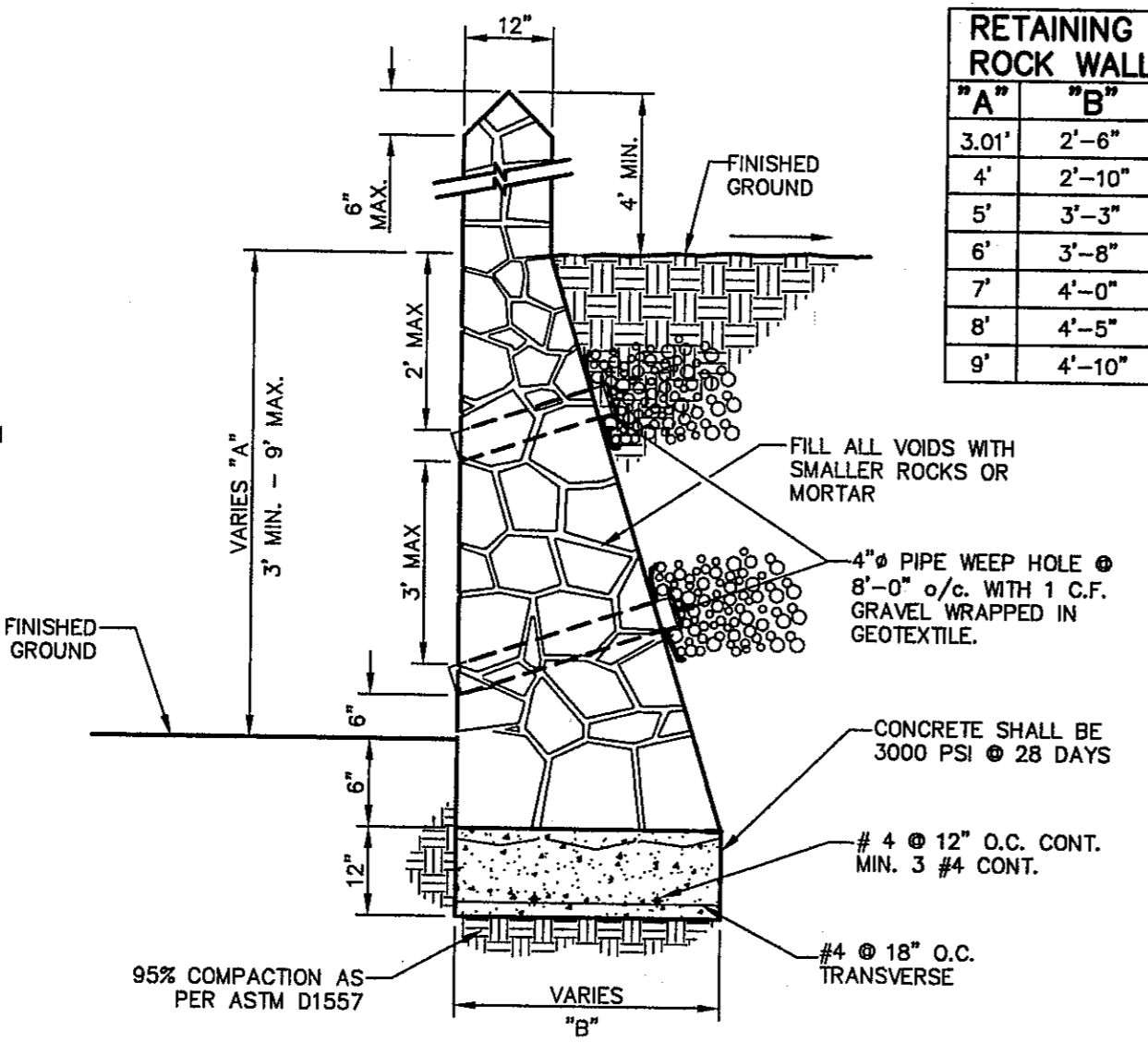
HEIGHT	MIN. WIDTH	MAX. WIDTH
3.01'	2'-6"	2'-10"
4'	2'-10"	3'-3"
5'	3'-3"	3'-8"
6'	3'-8"	4'-0"
7'	4'-0"	4'-5"
8'	4'-5"	4'-10"
9'	4'-10"	

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.

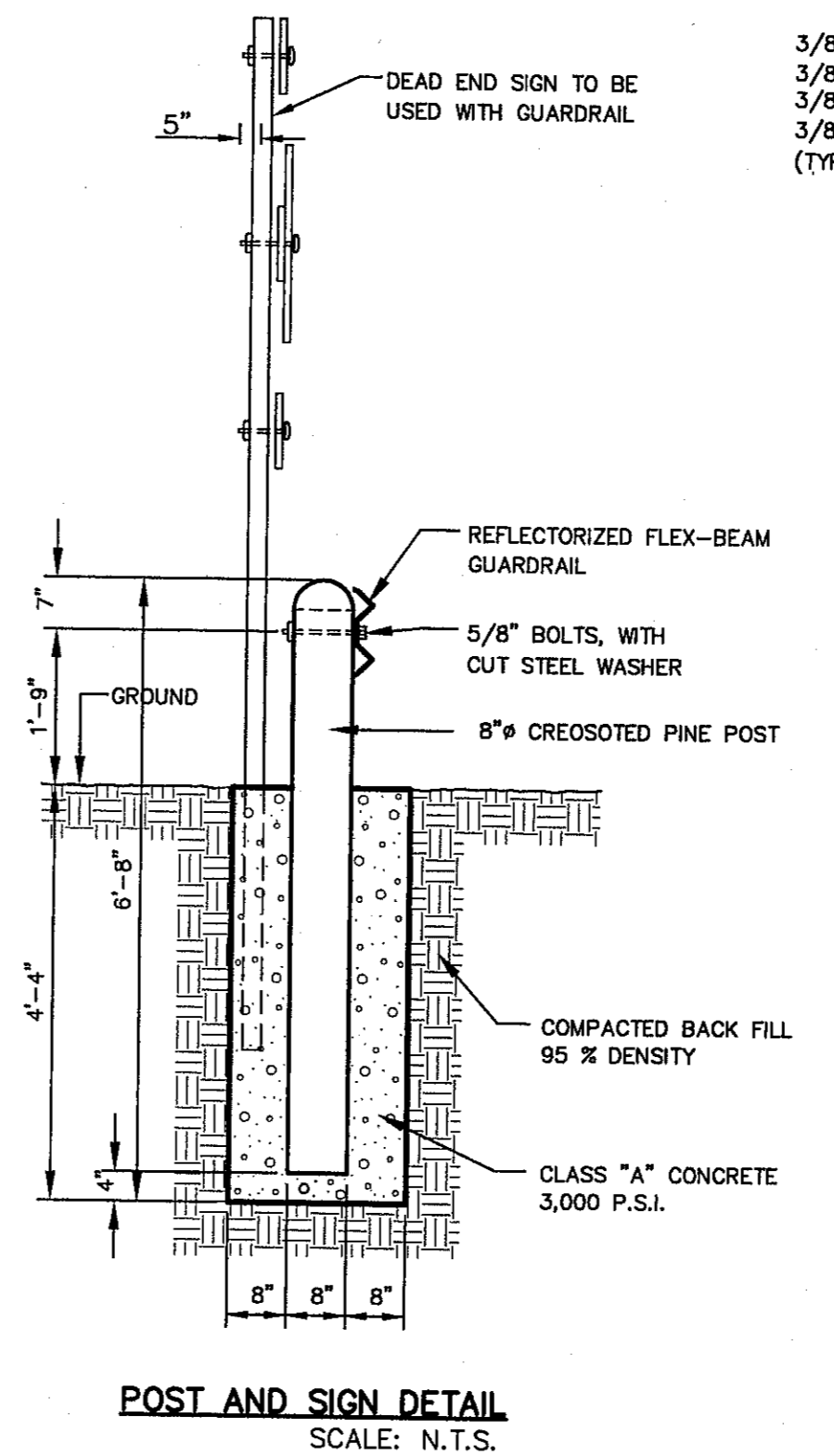


RETAINING WALL SECTION (2' PLUS TO 3' MAX.)

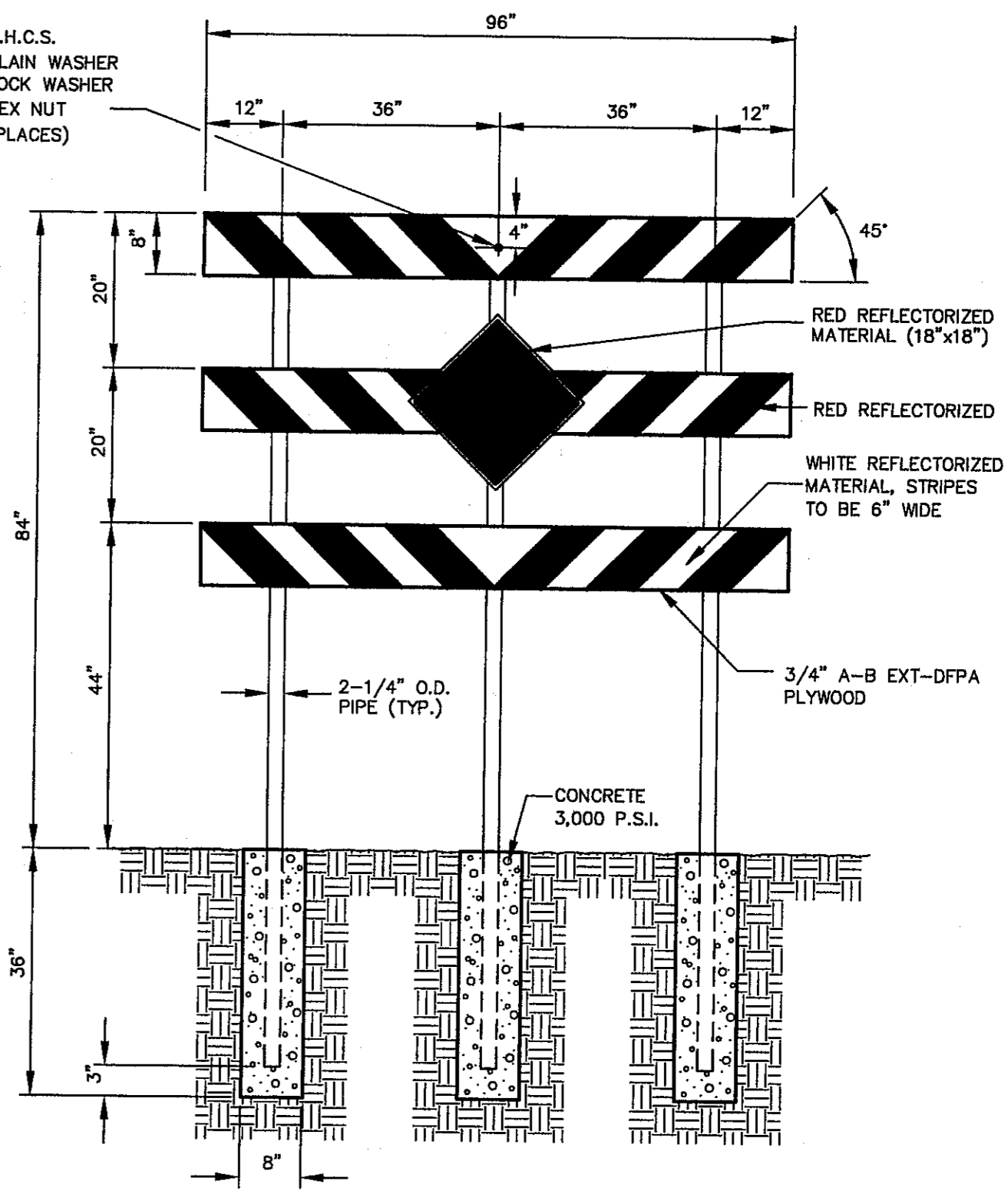


RETAINING WALL SECTION (3' MIN. TO 9' MAX.)

4 TYPICAL ROCKWALL DETAILS
SCALE: 1" = 2'-0"



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



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

4 GUARD RAIL/SIGN ASSEMBLY AT DEAD END STREET DETAIL
SCALE: AS SHOWN

CITY DEVELOPMENT DEPARTMENT

 REVIEWED

REFERENCES - BENCHMARKS
 FOUND TPOOT BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22 (ELEVATION: 4033.22 (NVDG DATUM) (SUBTRACT 6.462 TO CONVERT TO CITY DATUM).
 DATE: _____ REVISIONS: _____ BY: _____

CS&E
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 4712 Woodrow Branch, Ste. F, El Paso, TX 79904
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ENGINEER'S SEAL

SCALE: AS SHOWN
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: NOVEMBER 2013
 DESIGN BY: J.M.
 DRAWN BY: J.G.
 CHKD. BY: J.L.A.
 APPROV. BY: J.L.A.
 JOB No. 2000-164-LD

PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**STANDARD
 DETAILS**

(SHEET 3 OF 3)
 SHEET NO.
C7.3

S:\2000\2000-164D-Subdivision Improvements Drawings\Improvement Plans\2000-164-LD-C7.3-Standard Details.dwg, Standard Details 3, 12/26/2013 2:54:52 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
SPC	(800) 545-6005
AT&T	(800) 852-3785
U.S. SPRINT TELECOMM	(800) 521-0579

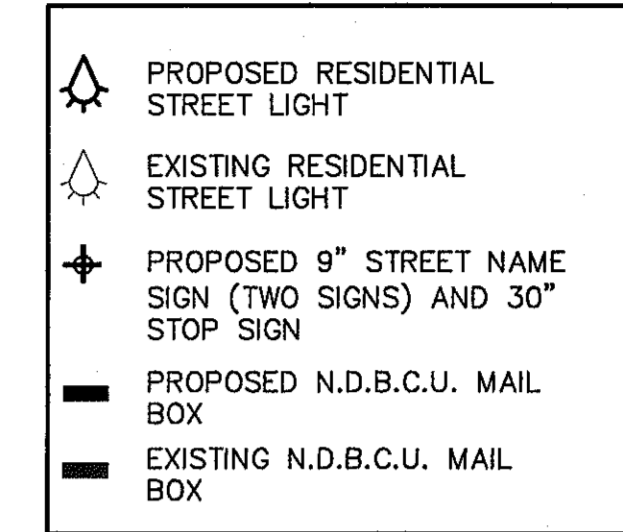
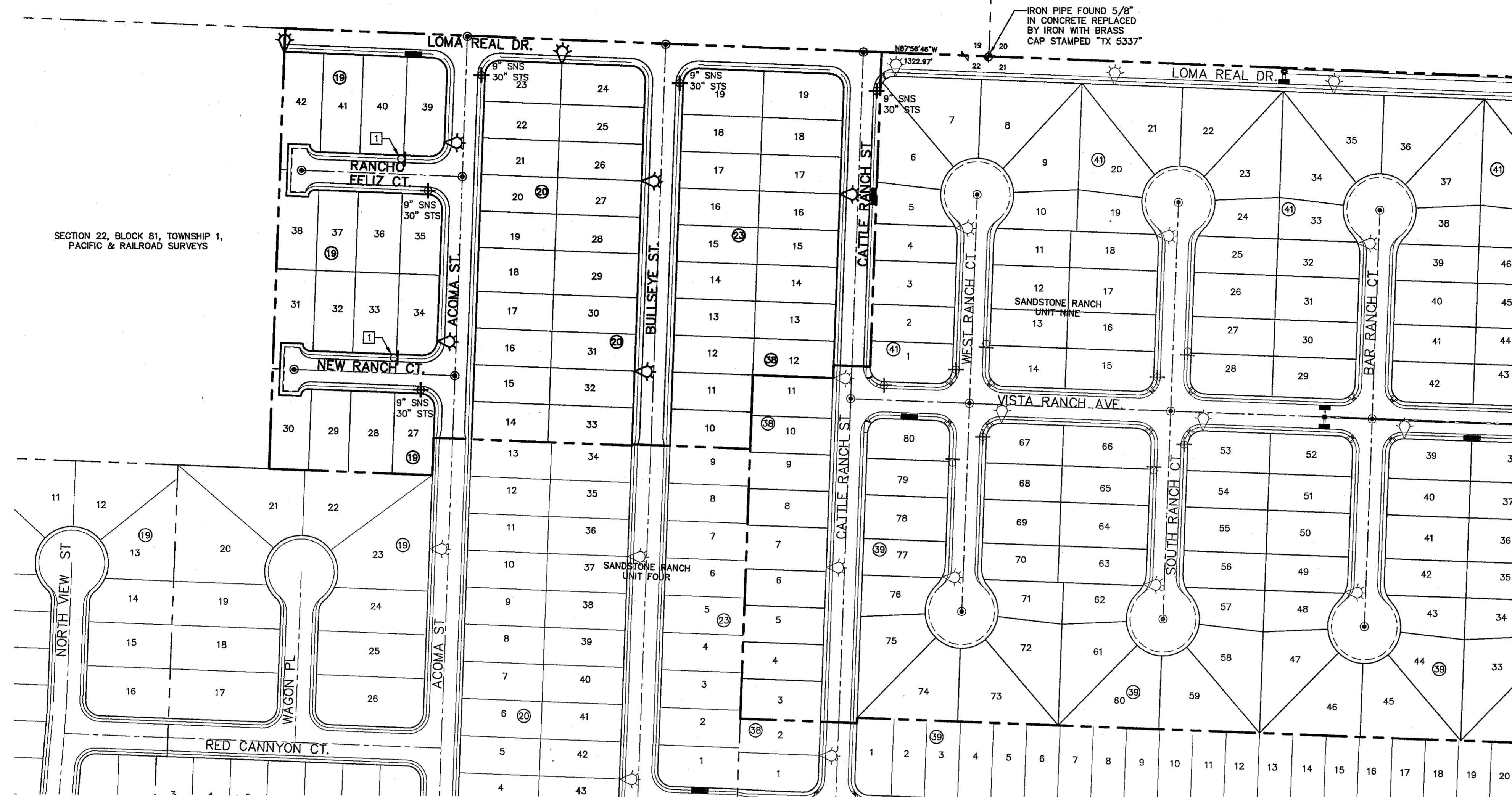
WARNING!
BEFORE YOU DIG

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

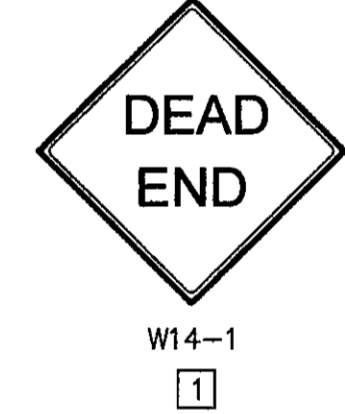
FOR FIELD LOCATING EXISTING UTILITIES

A PORTION OF SECTION No. 19, BLOCK 81, TOWNSHIP 1,
TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS
EL PASO, EL PASO COUNTY, TEXAS

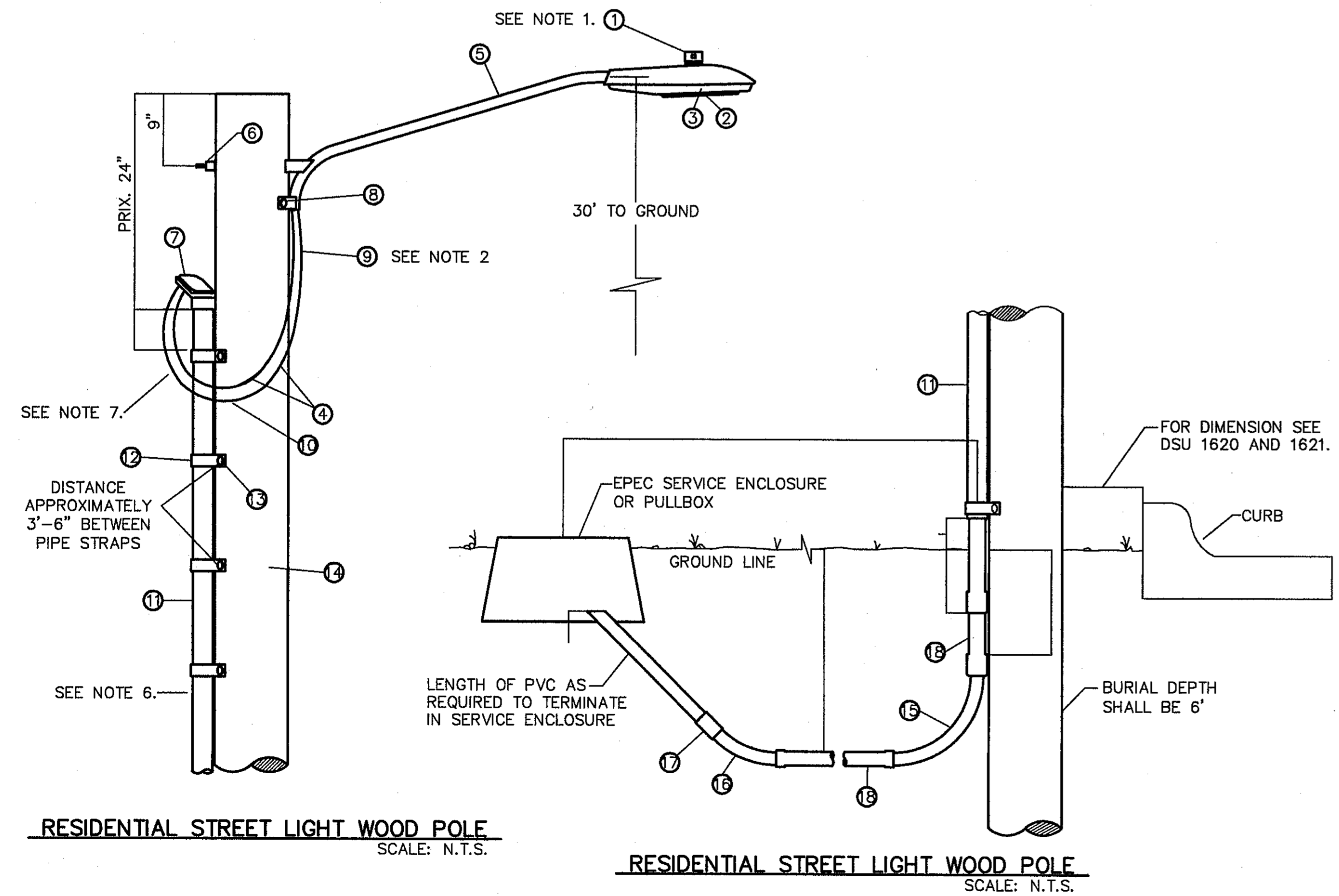
A PORTION OF SECTION No. 20, BLOCK 81, TOWNSHIP 1,
TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS
EL PASO, EL PASO COUNTY, TEXAS



- NOTES**
- TRAFFIC STREET SIGNS MUST BE OF HIGH INTENSITY REFLECTIVE SHEETING.
 - TEXT SIZES, FONTS, COLORS, ETC. MUST BE AS PER MUTCD STANDARDS & REQUIREMENTS
 - SIGNS & STRIPING SHOULD COMPLY WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - ANY STRIPING, SIGNS, ETC WITHIN TxDOT ROW SHALL COMPLY W/TxDOT STANDARDS & REQUIREMENTS
 - POSTS MUST BE BREAK-AWAY TYPE AS SHOWN ON THIS SHEET



SIGNS DETAIL
SCALE: N.T.S.



ITEM No.	DESCRIPTION	STOCK No.	QTY.	C/U CODE	MACRO CODE
1	PHOTOCELL, 240V-SEE NOTE 1	21-225	1		
2	HPS LAMP, 100W	21-085	1	LCBRAHD	
3	LUMINAIRE, 100W H. P. S.	21-335	1		
4	SLEEVES, #12-10	05-140	2	LSLV1210	
5	MAST ARM, 6' x 1-1/4"	21-200	1	LBRKT1*6	
6	MACHINE BOLT, 5/8" x 12"	02-470	1		
	SQUARE GALV. WASHER, 2-1/4" x 2-1/4"	02-760	1	LMB5/812	
	COIL-SPRING WASHER, 5/8"	02-786	1		
	LOCKNUT, 5/8"	02-705	1		
7	SERVICE ENTERANCE CAP FOR 1" PVC CONDUIT	17-281	1	LSVCCAP1	LCOBRAUG
8	LAG BOLT, 3/8" x 3"	02-343	2	LLAG38*3	
9	CABLE #10, 2 CONDUCTOR, 600 V, UF	13-600	8'	L2C#10S	
10	COPPER CABLE, #12, SOLID, 600 V, BLUE	13-702	60'	LC#12CU	
11	SCHEDULE 80 1" PVC CONDUIT	17-280	30'	LSCH801	
12	PIPE STRAP FOR 1" PVC CONDUIT, 2-HOLE	17-283	9	LPVCSTRP	
13	NAIL, STAINLESS STEEL SCREW 2.5 IN.	14-427	.25#	LNAL14*2	
14	POLE, 35 FT.-CLASS IV	09-035	1	L354UG	
15	1" PVC 90 DEGREE ELBOW	17-297	1	LEL901	
16	1" PVC 45 DEGREE ELBOW	17-298	1	LEL451	
17	1" PVC COUPLING	17-296	1	LCPLG1	
18	1" PVC CONDUIT	17-299	AS REQ	LPVC1	

- KEYED NOTES:**
- NOTE 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 CURB, STREET LIGHT POLE SHALL BE INSTALLED IN THE SIDEWALK NEXT TO PROPERTY LINE. THIRTY-SIX (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.

CITY DEVELOPMENT DEPARTMENT
REVIEWED

ILLUMINATION PLAN
SCALE: 1" = 100'

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

DATE: _____ BY: _____
REVISIONS: _____

ceea
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F, El Paso, TX 79924
Phone: 915.834.8222 Fax: 915.834.2258 www.ceea.com

SCALE: 1"=100'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: NOVEMBER 2013
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2000-164-LD

PROJECT TITLE
**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
ILLUMINATION PLAN

SHEET NO.
C8.1

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

INDEX

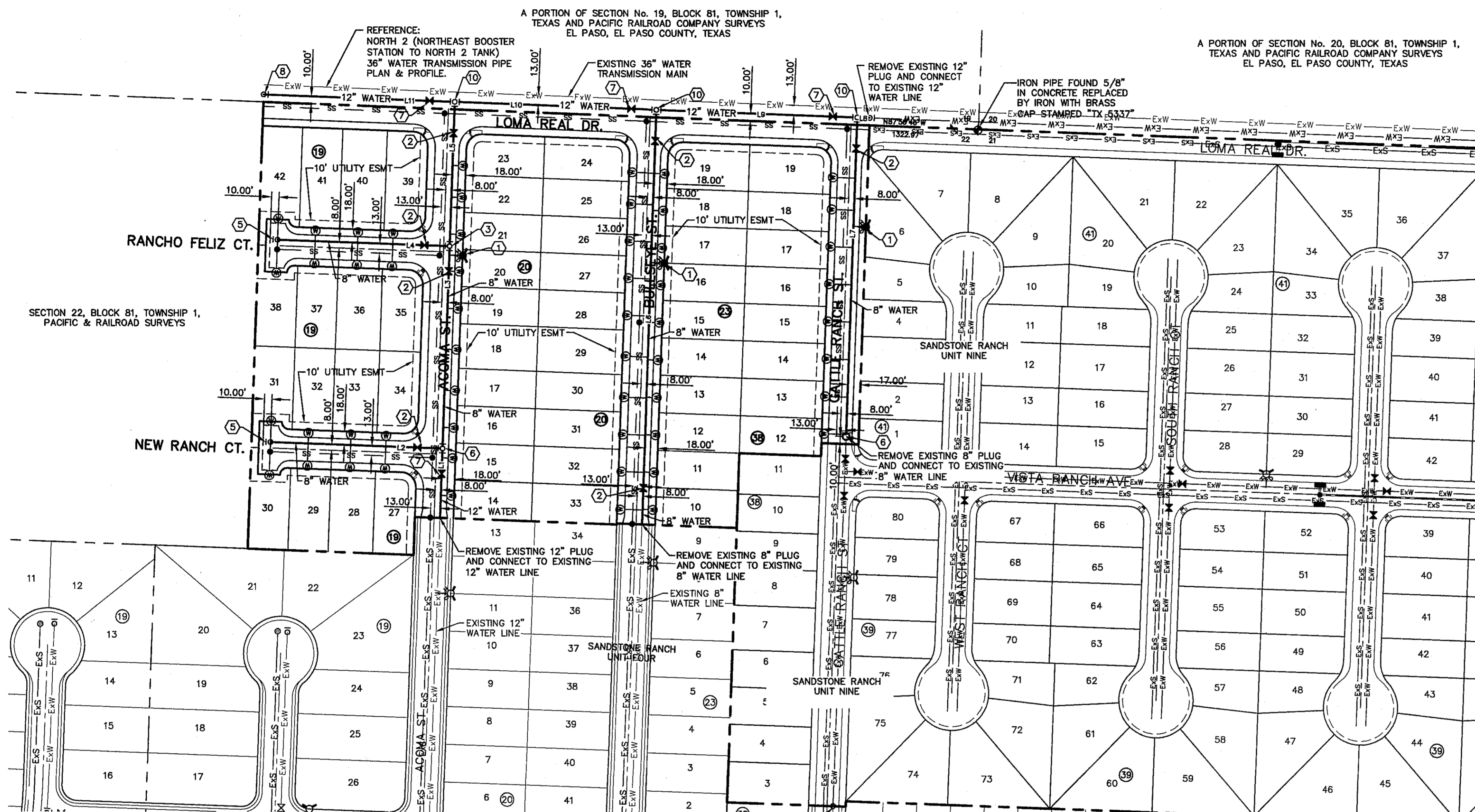
SHEET NO.	DESCRIPTION
C11.1	SANDSTONE RANCH UNIT TEN WATER MAIN PIPE LAYOUT
C12.1	WATER DETAILS
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS

NOTES:

- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL WATER LINES SHALL BE PVC C-900, CLASS 305.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATION AT STREET INTERSECTIONS.
- THE SUBJECT PROPERTY IS LOCATED WITHIN AN INTERMEDIATE PRESSURE ZONE. THE LOT/HOME BUYER SHALL ACQUIRE OWNERSHIP OF THE WATER PRESSURE REGULATING DEVICE TO BE LOCATED AT THE DISCHARGE SIDE OF THE WATER METER ON THEIR PROPERTY AND SHALL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE WATER PRESSURE REGULATING DEVICE.

LEGEND

SYMBOL	DESCRIPTION
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	CENTER LINE
8" WTR.	PROPOSED 8" C-900 P.V.C. PIPE CL. 305
12" WTR.	PROPOSED 12" C-900 P.V.C. PIPE CL. 305
SS	PROPOSED SEWER LINE (PLAN VIEW)
ExW	EXISTING WATER LINE
ExS	EXISTING SEWER LINE
⊕	PROPOSED STORM SEWER
⊕	PROPOSED SERVICE CONNECTION (PLAN VIEW)
⊕	PROPOSED FIRE HYDRANT, KENNEDY OR MUELLER MODEL
⊕	EXISTING FIRE HYDRANT
⊕	PROPOSED GATE VALVE
⊕	EXISTING GATE VALVE
⊕	PROPOSED WATER LINE PLUG
⊕	EXISTING PLUG
⊕	PROPOSED POINT OF TANGENCY



LINE TABLE

LINE	BEARING	LENGTH
L1	N01°58'43"E	93.50'
L2	N88°01'17"W	231.85'
L3	N01°58'43"E	272.00'
L4	N88°01'17"W	231.85'
L5	N01°58'43"E	194.09'
L6	N01°58'43"E	557.75'
L7	N01°58'43"E	429.19'
L8	N87°56'46"W	17.00'
L9	N87°56'46"W	271.00'
L10	N87°56'46"W	272.00'
L11	N87°56'46"W	257.35'

WATER QUANTITIES

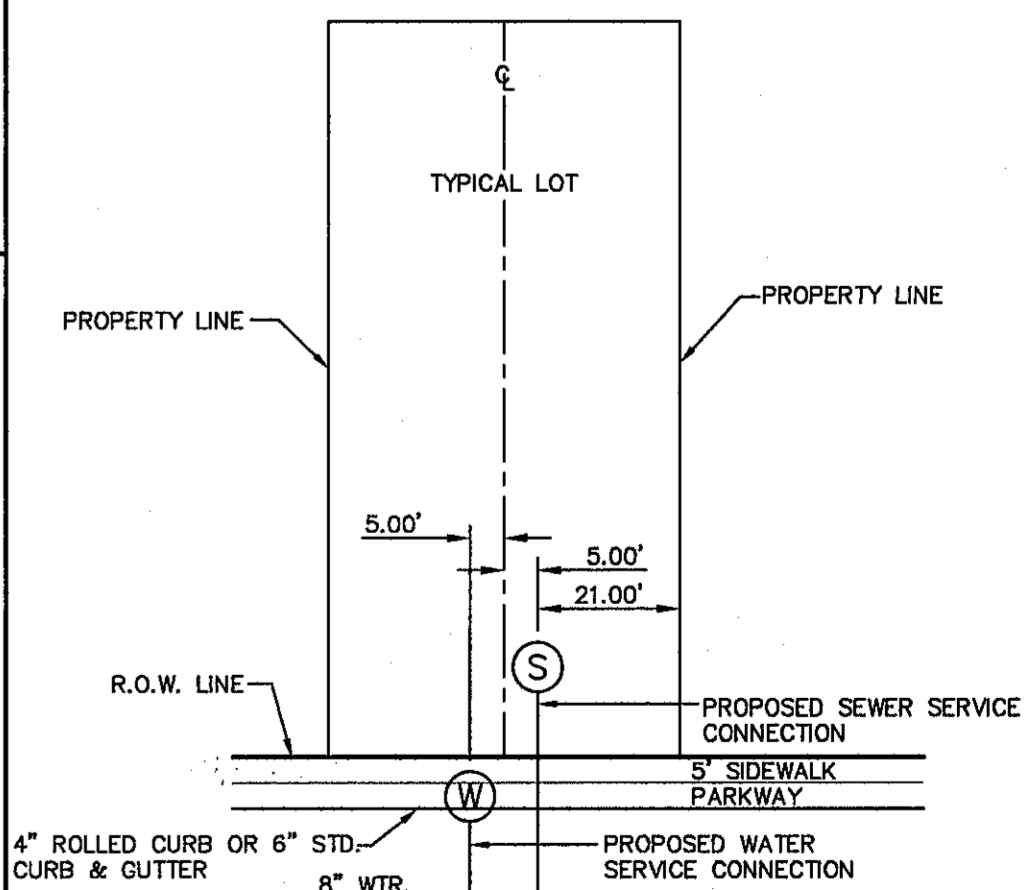
DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	1,916.73'	LF
8" GATE VALVE	7	EA
8" PLUG	5	EA
FIRE HYDRANT	3	EA
12" PVC WATER LINE	910.84	LF
12" GATE VALVE	4	EA
12" PLUG	1	EA

WATER KEYED NOTES

①	FIRE HYDRANT
②	8" GATE VALVE
③	8" TEE
④	8" CROSS
⑤	8" PLUG
⑥	8" x 8" x 12" TEE
⑦	12" GATE VALVE
⑧	12" PLUG
⑨	12" BEND
⑩	12" x 12" x 8" TEE

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

WATER INDEX MAP
 SCALE: 1" = 100'



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.
- THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST 60" FROM INVERT OF PIPELINE TO PROPOSED ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, ELEVATIONS AT ALL LOCATIONS. THE PIPELINES SHALL HAVE NO DIPS, SAGS OR HUMPS OR OTHER IRREGULARITIES IN VERTICAL ALIGNMENT. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO INSTALLING THE WATER PIPELINE SO THAT AN ACCEPTABLE PROFILE CAN BE ESTABLISHED PRIOR TO INSTALLATION OF THE PIPELINE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN IN THE PLANS, AND COORDINATE WORK WITH ALL UTILITY COMPANIES. EL PASO WATER UTILITIES AND CITY OF EL PASO PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL BE ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS.
- TRENCH SAFETY REQUIREMENTS SHALL BE AS REQUIRED BY OSHA.
- AS-BUILT STATIONING, OFFSET FROM R.O.W. AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH VALVE, FIRE HYDRANT, ELBOW, SERVICE CONNECTION AND/OR STUB-OUT, WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT.
- THE EL PASO WATER UTILITIES AND CITY OF EL PASO MUST BE NOTIFIED 48 HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION.
- EXISTING STREETS, DRIVEWAYS, PARKING LOTS, MAILBOXES, SIGNS, CHAIN-LINK FENCES, AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION AT NO COST TO OWNER.
- TRAFFIC CONTROL SHALL BE IN PLACE PRIOR TO INITIATING WORK.
- ALL TIE-INS SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST 48 HOURS PRIOR TO ACTUAL CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATER SYSTEM.
- ALL NEW VALVES SHALL BE ALIGNED PERPENDICULAR TO PROPERTY LINES.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFORM EPWU-PSB SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.
- FIRE HYDRANTS SHALL BE INSTALLED IN THE PARKWAY AREA.
- THE WATER METERS FOR THE PROPOSED WATER SERVICE CONNECTIONS SHALL BE INSTALLED ON THE PARKWAYS. SYMBOLS ARE ONLY SHOWN FOR DEPICTION PURPOSES ONLY.

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

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

FIBER OPTICS:
 U.S. SPRINT
 181 N. BOONE ST.
 EL PASO, TX. 79905
 (915) 534-7910

FIBER OPTICS:
 MCI TELECOMMUNICATIONS CORP.
 4045 DONIPHAN PARK CIRCLE
 EL PASO, TX. 79922
 (915) 542-2770 EXT. 201

WATER & SEWER:
 PASEO DEL ESTE MUD #1
 12429 ROJAS DRIVE, STE. A2
 EL PASO, TX. 79928
 (915) 543-2078
 MR. FRANK VEGEL (DISTRIBUTION)

ELECTRIC:
 EL PASO ELECTRIC CO.
 501 W. SAN ANTONIO ST.
 EL PASO, TX. 79902
 (915) 568-1065
 MR. FRANK VEGEL (DISTRIBUTION)

EL PASO STREETS
 CITY OF EL PASO
 DEPARTMENT OF TRANSPORTATION
 7069 SAN PAULO DRIVE
 EL PASO, TX. 79907
 (915) 621-6750
 MR. TED MARQUEZ

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

TELEPHONE:
 SBC
 11200 PELLICANO
 EL PASO, TX. 79935
 (915) 593-9151

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

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

CITY DEVELOPMENT DEPARTMENT

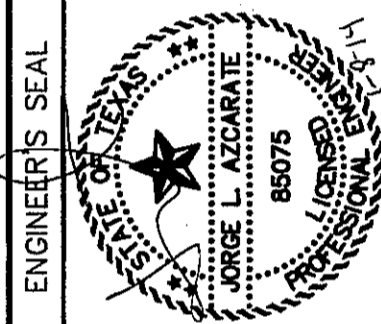
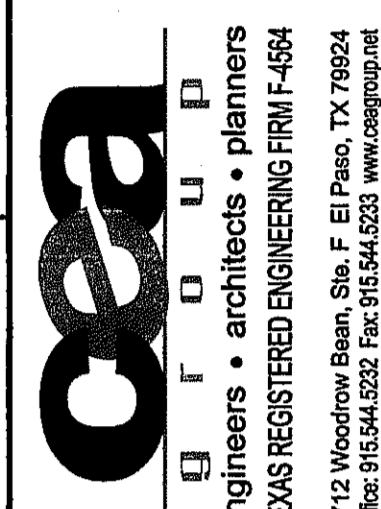
REVIEWED

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

REFERENCES - BENCHMARKS

FOUND TROOT BRASS CAP AT SECTION CORNERS 19, 20, 21, AND 22. ELEVATION 4033.22 (NGSD/PA UN) (SUBTRACT 8.462 TO CONVERT TO CITY DATUM).

DATE	REVISIONS	BY	AC
05/31/2013	REVISED QUANTITIES		



SCALE: 1" = 100'
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: NOVEMBER 2013
 DESIGN BY: J.M.
 DRAWN BY: J.M.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO. 2000-164-LD

SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER INDEX

SHEET NO.

C9.1

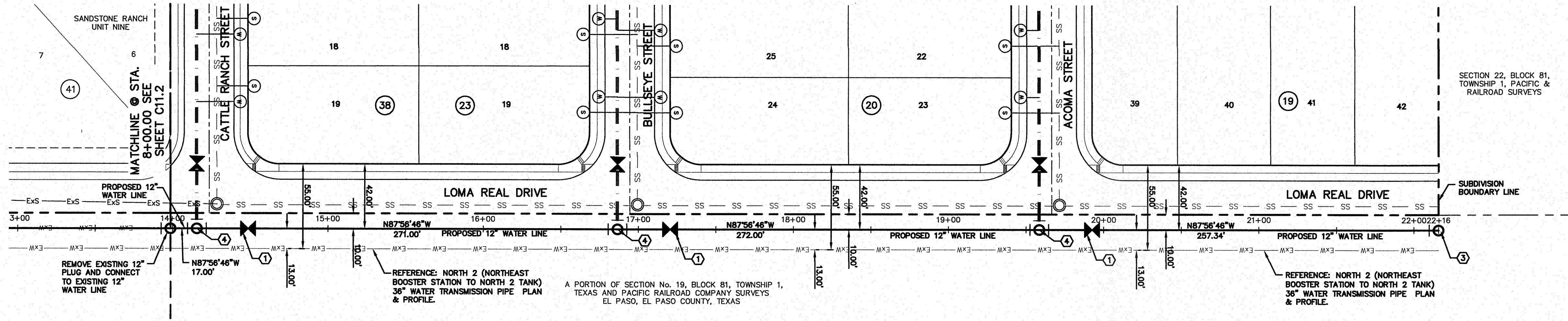
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WATER KEYED NOTES	
①	12" Ø GATE VALVE
②	12" BEND
③	12" PLUG
④	12" X 12" X 8" TEE

UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
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EL PASO WATER UTILITIES	(915) 594-5500
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TIME WARNER COMMUNICATIONS	(915) 772-1123
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SBC	(800) 545-8005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

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1-800-344-8377
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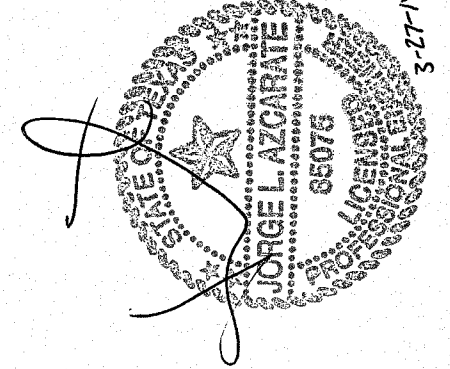
LEGEND	
SYMBOL	DESCRIPTION
—	STREET R.O.W. LINE
—	PROPERTY LINE
- - -	SUBDIVISION BOUNDARY
— ExW — ExW —	EXISTING WATER LINES
— WATER LINE —	PROPOSED 12" C-900 CLASS 305 P.V.C. PIPE
— WATER LINE —	PROPOSED 8" P.V.C. PIPE
— SS —	PROPOSED SANITARY SEWER
⊙	PROPOSED SEWER SERVICE CONNECTION
⊙	PROPOSED WATER SERVICE CONNECTION
⊗	PROPOSED GATE VALVE
⊙ ⊙	BEND(S)
⊙ ⊙ ⊙	TEE
⊙	PLUG



REFERENCE: NORTH 2 (NORTHEAST BOOSTER STATION TO NORTH 2 TANK) 36" WATER TRANSMISSION PIPE PLAN & PROFILE.

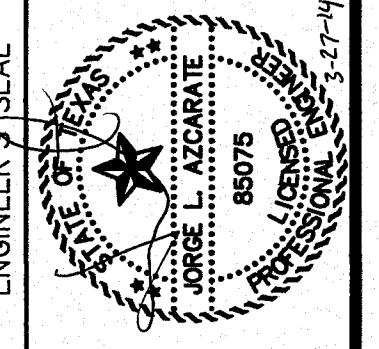
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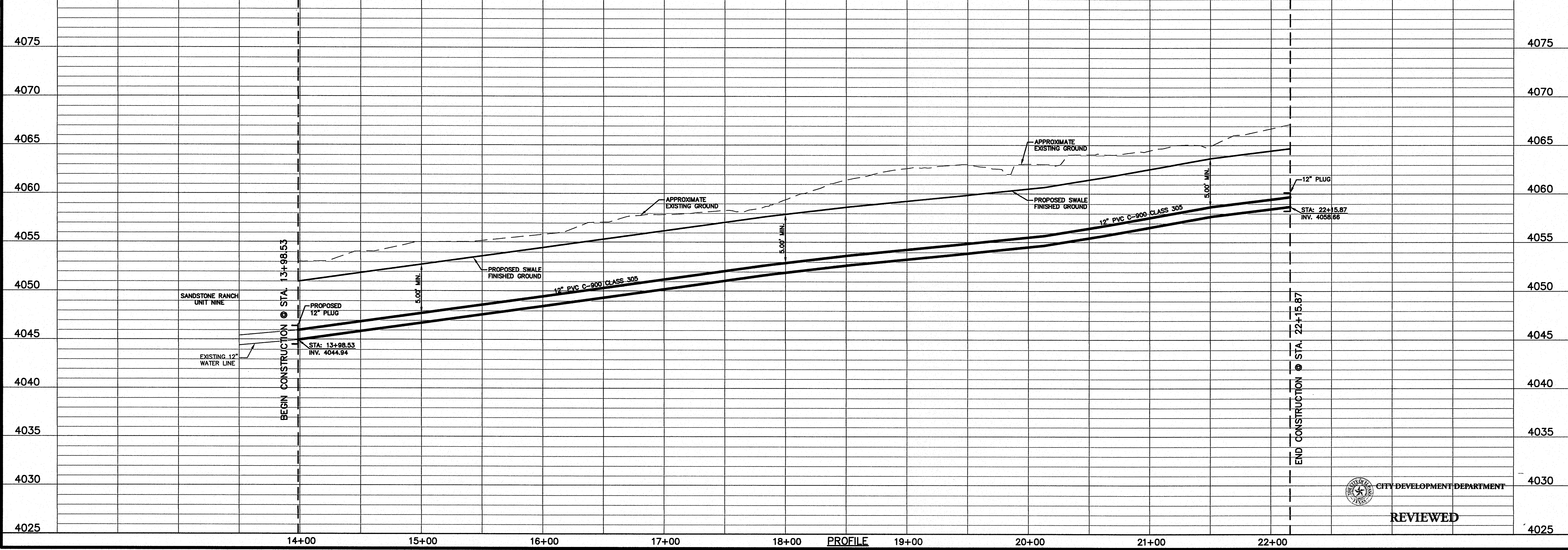


DATE	REVISIONS	BY
3/19/14	REVISED ST. GRADES ON LOMA REAL FROM STATION 9+08.87	J.M.

osa
engineers • architects • planners
TEXAS REGISTERED ENGINEERING FIRM F-4694
4712 Woodloch Ranch, Suite F, El Paso, TX 79924
PHONE: 915.544.5222 FAX: 915.544.5225 www.osaeng.com



SCALE
Horizontal: 1"=40'
Vertical: 1"=5'
Contour Interval: N/A
DATE: MARCH 2014
DESIGN BY: J.M.
DRAWN BY: J.M.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2000-164-LD



**SANDSTONE RANCH UNIT TEN
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
12" WATER LINE
PLAN & PROFILE
FROM STA. 13+98.53
TO STA. 22+15.87

SHEET NO.
C9.2R

CITY DEVELOPMENT DEPARTMENT
REVIEWED