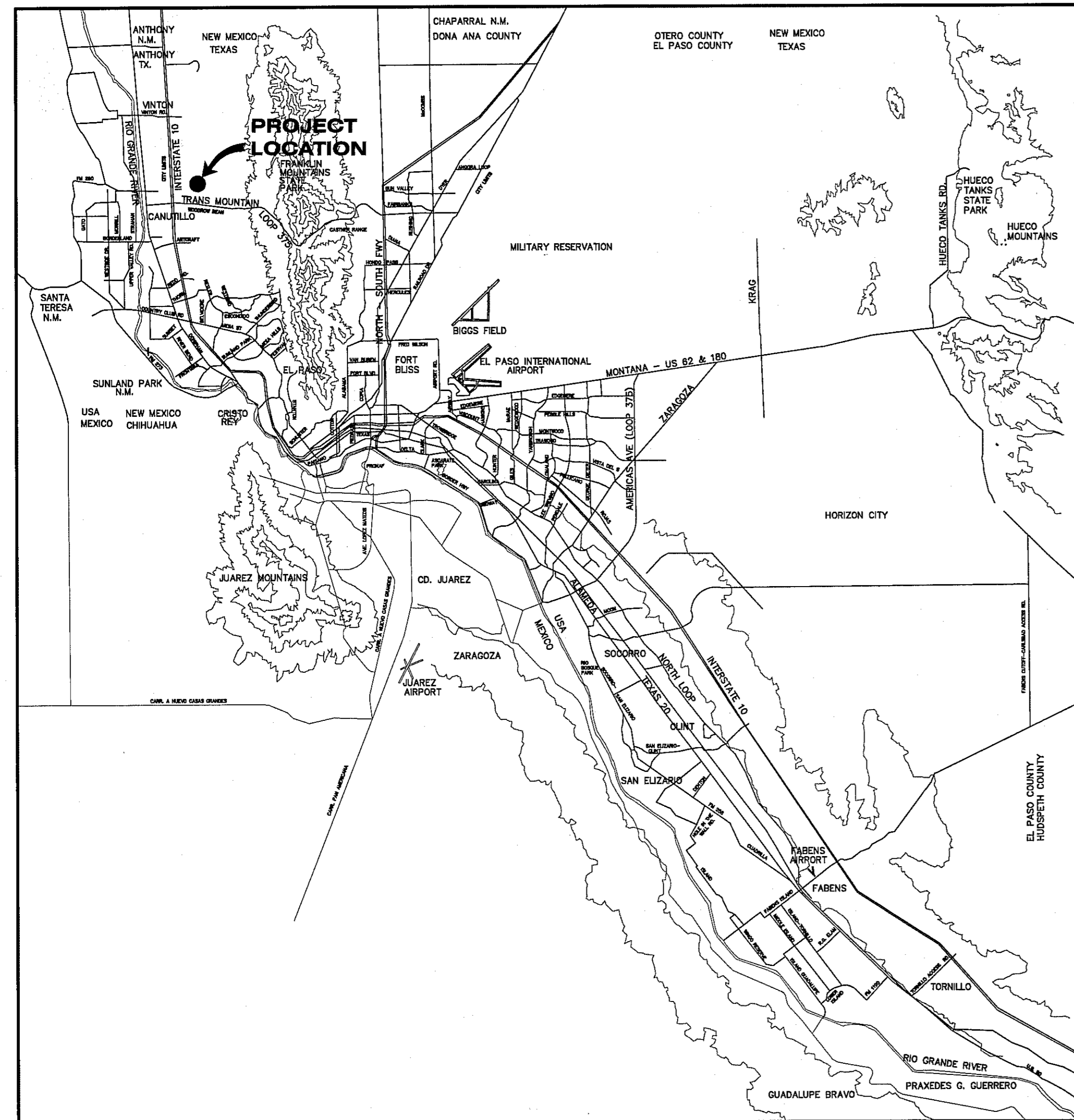


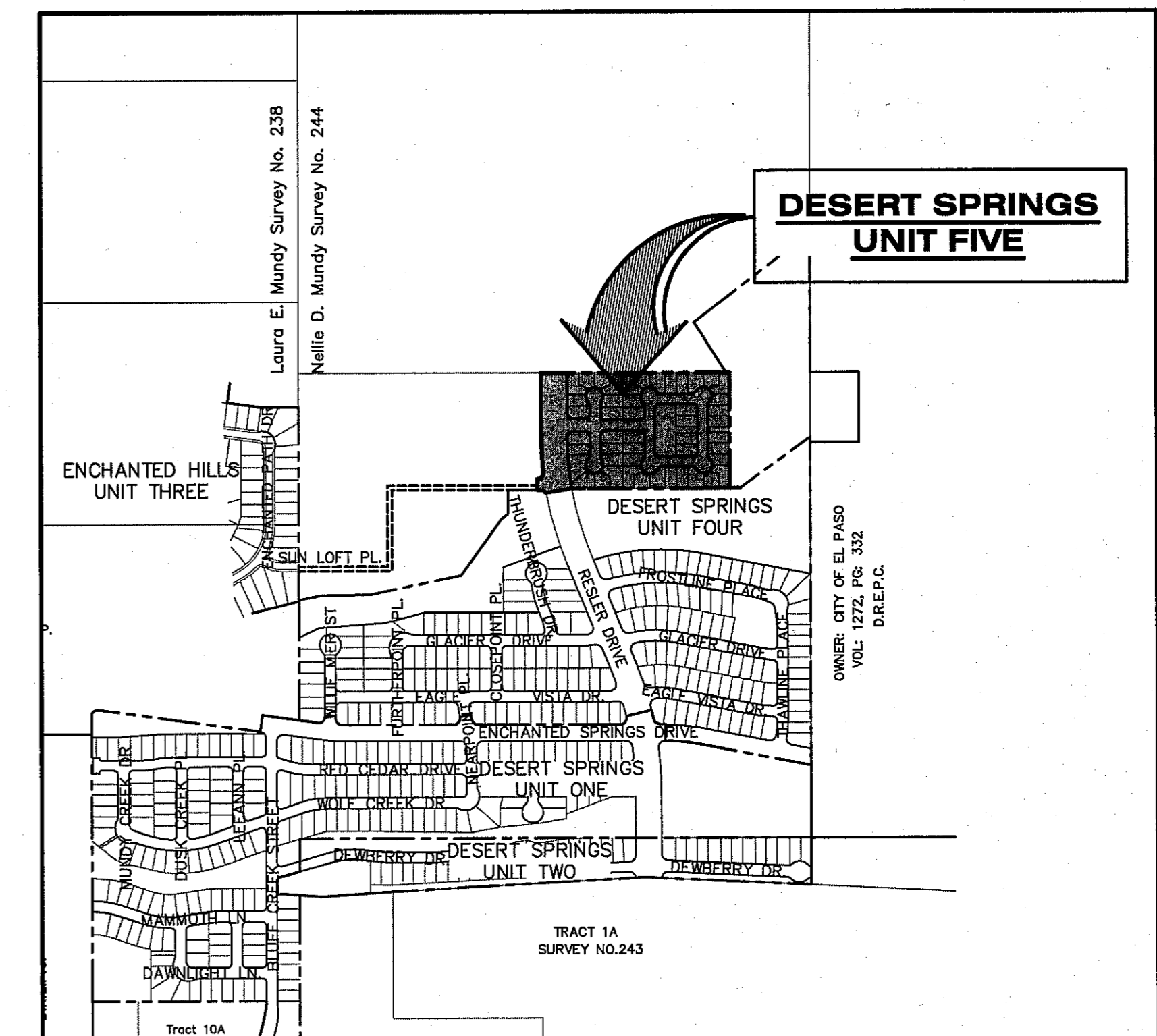
DESERT SPRINGS UNIT FIVE SUBDIVISION IMPROVEMENTS

A PORTION OF NELLIE D. MUNDY SURVEY 244
CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING 10.73± ACRES

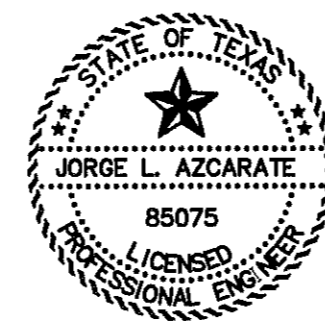


VICINITY MAP
APPROXIMATE SCALE:
1" = 2 MILES

SHEET NUMBER	SHEET TITLE
CVR	COVER SHEET
C1.1	GENERAL INFORMATION
C2.1	FINAL PLAT
C3.1	GRADING PLAN
C4.1	DRAINAGE PLAN
C5.1-C5.3	GRADING SECTIONS
C6.1-C6.5	STREET PLAN & PROFILES
C7.1-C7.2	STORM SEWER PLAN & PROFILES
C8.1-C8.4	STANDARD DETAILS
C9.1-C9.3	DRAINAGE DETAILS
C10.1-C10.3	ILLUMINATION, SIGNAGE AND STRIPING PLANS
C11.1-C11.3	STORM WATER POLLUTION PREVENTION PLAN
C12.1	WATER INDEX / GENERAL INFORMATION
C12.2-C12.5	WATER DETAILS
C13.1-C13.2	SANITARY SEWER INDEX / GENERAL INFORMATION
C13.3-C13.6	SANITARY SEWER PLAN & PROFILES
C13.7-C13.9	SANITARY SEWER DETAILS
L1-L3	RESLER PLANTING PLAN / IRRIGATION PLAN AND DETAILS



LOCATION MAP
APPROXIMATE SCALE: 1" = 600'



JL
7/11/18
JORGE L. AZCARATE, P.E. PROJECT MANAGER



PRINCIPAL CONTACTS:

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

CITY DEVELOPMENT DEPARTMENT

Reviewed For Conformance For Condition Related To:

- Sidewalks
- Grading & Drainage
- Wheelchair Ramps
- On Site Parking Layout
- Detourways
- Retaining Walls
- On Site Parking of Storm Water

Contractor Must Call 24 Hours Prior To Construction for Inspections

Jorge L. Azcarate 7/11/2018

GENERAL NOTES

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

GRADING SPECIFICATIONS

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

ABBREVIATIONS

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

LEGEND

	SUBDIVISION BOUNDARY
	ROW LINE
	CURB LINE
	PROPERTY LINE
	STREET CENTERLINE
	EASEMENT LINE
	MATCH LINE
	STORM SEWER LINE
	HIGH WATER MARK
	CURB AND GUTTER DROP INLET
	STORM SEWER MANHOLE
	FINISHED GROUND CONTOUR ELEVATION (INDEX)
	FINISHED GROUND CONTOUR ELEVATION (INTERMEDIATE)
	EXISTING GROUND CONTOUR ELEVATION (INDEX)
	EXISTING GROUND CONTOUR ELEVATION (INTERMEDIATE)
	NEW RETAINING ROCKWALL (2'-3' IN HEIGHT)
	NEW RETAINING ROCKWALL (3'-9' IN HEIGHT)
	STANDARD DETAIL/SECTION NUMBER
	SHEET NUMBER WHERE STANDARD/SECTION DETAIL IS LOCATED
	FINISHED SPOT ELEVATION
	LOT FINISHED GROUND ELEVATION
	TOP OF CURB ELEVATION
	TOP OF PAVEMENT ELEVATION
	SUBDIVISION LOT AND BLOCK NUMBER
	DRAINAGE FLOW
	HIGH POINT
	LOW POINT
	EXISTING HIGH POINT
	EXISTING LOW POINT
	HEADWALL WITH WINGWALLS
	DRAINAGE AREA
	3:1 SLOPE
	WHEELCHAIR RAMP

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

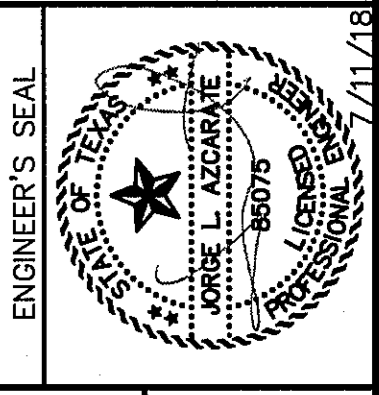
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

INDEX OF DRAWINGS

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ROWAN LANE PLAN & PROFILE FROM STA. 0+00.00 TO STA. 4+42.59	C6.2
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MASON LEE WAY PLAN & PROFILE FROM STA. 1+20.09 TO STA. 3+41.82	C6.5
RORY WAY PLAN & PROFILE FROM STA. 3+41.82 TO STA. 5+50.00	C6.5
RORY WAY PLAN & PROFILE FROM STA. 5+50.00 TO STA. 6+23.17	C6.5
JEAN NOEL WAY PLAN & PROFILE FROM STA. 6+23.17 TO STA. 8+45.98	C6.5
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REFERENCES - BENCHMARKS	REVISIONS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1890" ELEVATION: 3945.81 (NAD 83 DATUM) ELEVATION: 3945.78 (NAD 29 DATUM) TIE TO THE PROJECT BENCHMARK IS N45309.09'W 4008.83' CORNER OF TRACT 11, BELLE LA MUNDY SURVEY, NO. 235	DATE

osa
OFFICE OF THE CITY ENGINEER
TEXAS REGISTERED ENGINEERING FIRM # 654
4712 Woodrow Bess, Ste. F El Paso, TX 79924
915.544.6232 | www.osaengr.com



SCALE	
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JANUARY 2018
DESIGN BY:	C.J.F.Z.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2051-001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

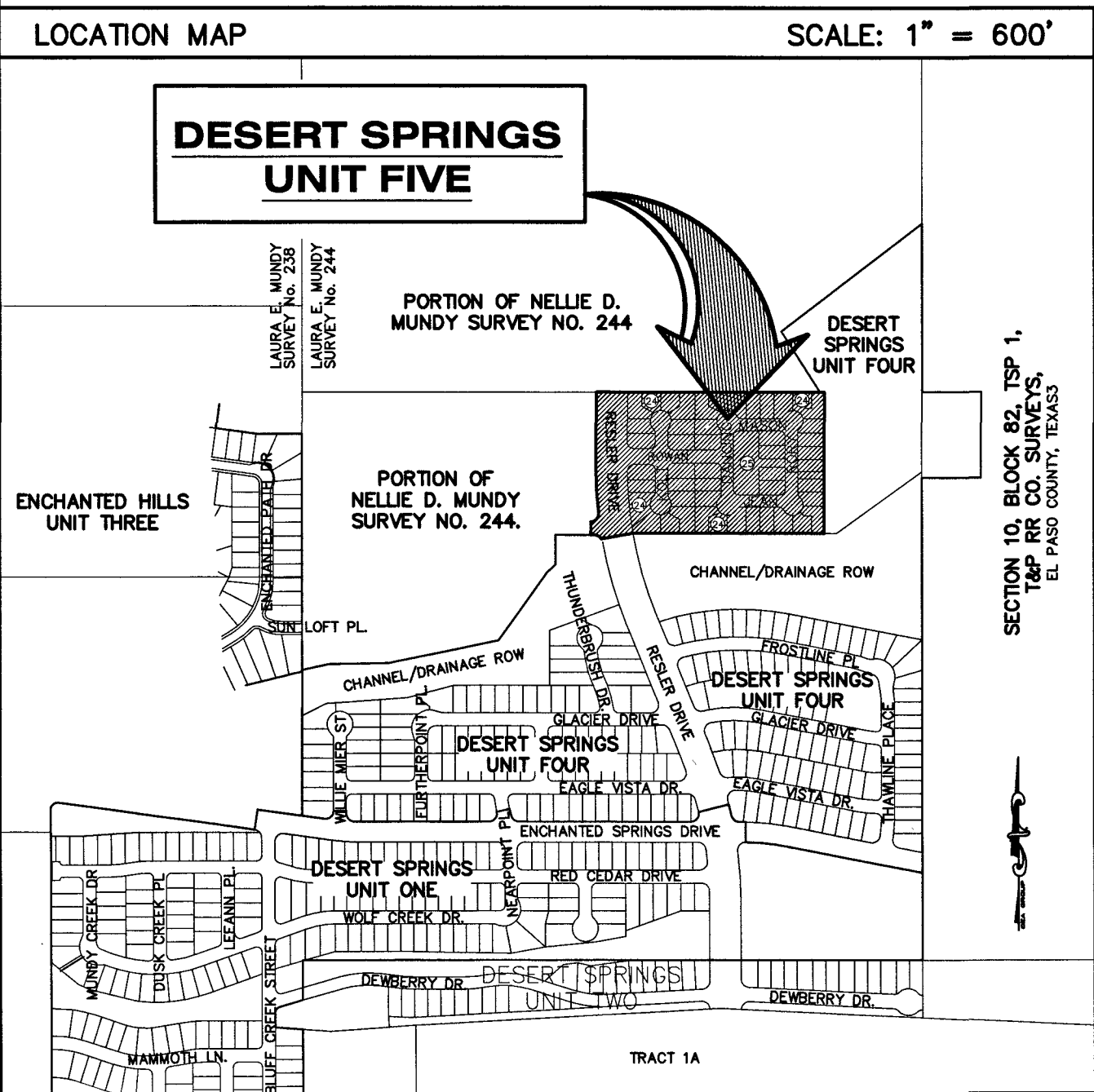
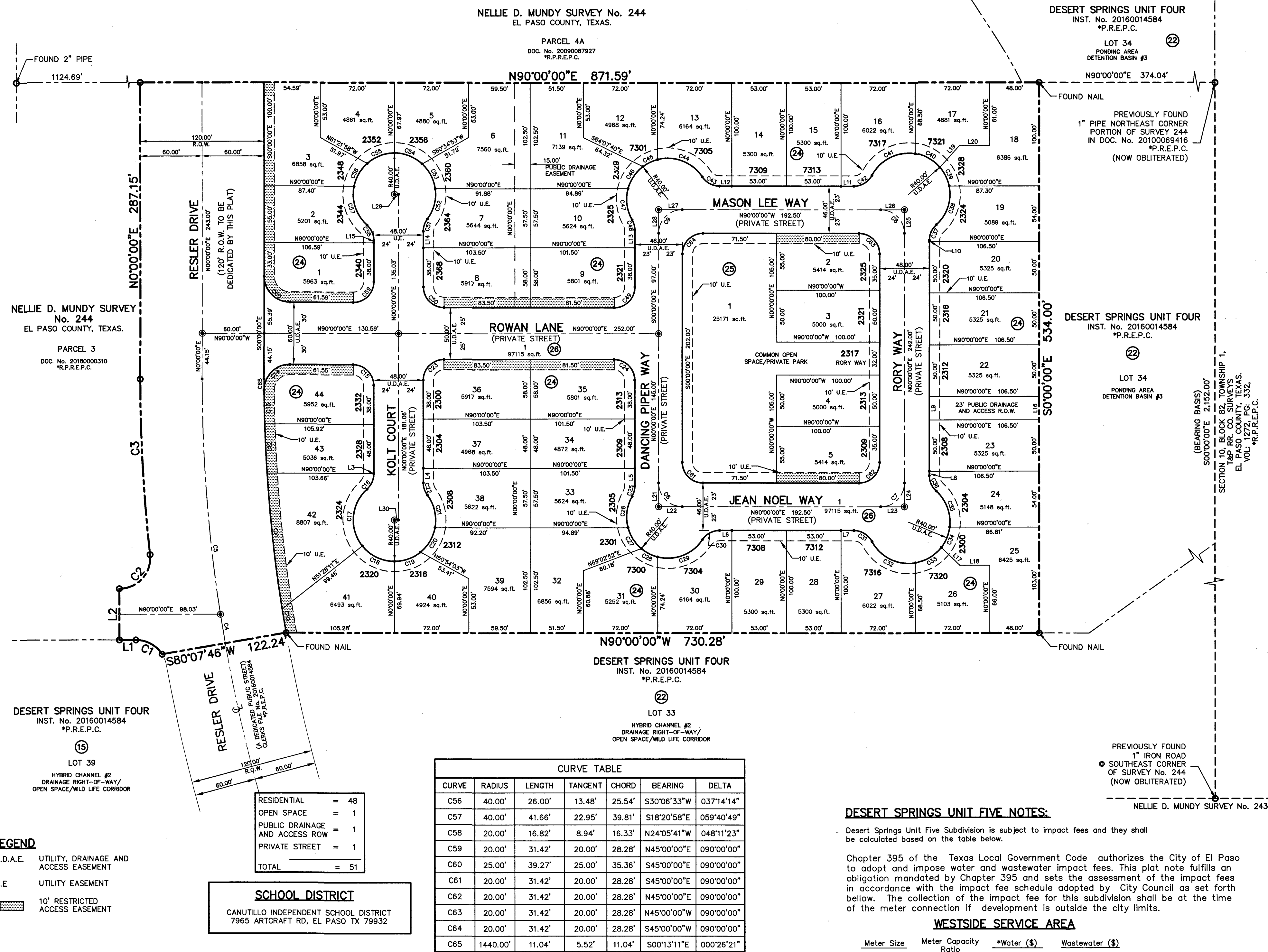
GENERAL INFORMATION

SHEET NO.

C1.1



CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	30.0'	30.19'	16.51'	28.93'	N61°10'03"W	057°39'53"
C2	30.0'	50.41'	33.48'	44.69'	N41°51'41"E	096°16'38"
C3	1560.0'	170.91'	85.54'	170.82'	N03°08'19"W	006°16'38"
C4	1500.0'	28.66'	14.33'	28.66'	S09°19'23"E	001°05'42"
C5	1500.0'	229.75'	115.10'	229.52'	S04°23'16"E	008°46'32"
C6	23.00'	36.13'	23.00'	32.53'	S45°00'00"W	090°00'00"
C7	23.00'	36.13'	23.00'	32.53'	N45°00'00"W	090°00'00"
C8	23.00'	36.13'	23.00'	32.53'	N45°00'00"W	090°00'00"
C9	23.00'	36.13'	23.00'	32.53'	S45°00'00"W	090°00'00"
C10	1440.0'	23.38'	11.69'	23.38'	S09°24'20"E	000°55'49"
C11	1440.0'	132.79'	66.44'	132.74'	S06°17'55"E	005°17'00"
C12	1440.0'	48.06'	24.03'	48.05'	S02°42'03"E	001°54'43"
C13	1440.0'	32.82'	16.41'	32.81'	S01°05'32"E	001°18'20"
C14	25.00'	39.46'	25.19'	35.49'	S44°46'49"W	090°26'21"
C15	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C16	20.00'	16.82'	8.94'	16.33'	N24°05'41"E	048°11'23"
C17	40.00'	60.54'	37.77'	54.93'	S04°49'47"W	086°43'12"
C18	40.00'	35.93'	19.28'	34.74'	S64°15'55"E	051°28'11"
C19	40.00'	27.43'	14.28'	26.89'	N70°21'25"E	039°17'09"
C20	40.00'	27.93'	14.56'	27.36'	N30°42'51"E	039°59'59"
C21	40.00'	33.22'	17.64'	32.27'	N13°04'40"W	047°35'04"
C22	20.00'	12.87'	6.67'	12.65'	S18°26'05"E	036°52'12"
C23	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C24	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C25	20.00'	10.45'	5.35'	10.33'	N14°57'48"E	029°55'35"
C26	40.00'	31.48'	16.61'	30.68'	S07°22'39"W	045°05'52"
C27	40.00'	24.20'	12.48'	23.84'	S32°30'21"E	034°40'08"
C28	40.00'	17.93'	9.12'	17.78'	S62°40'53"E	025°40'56"
C29	40.00'	49.67'	28.61'	46.54'	N68°54'15"E	071°08'48"
C30	20.00'	19.78'	10.78'	18.98'	S61°39'55"W	056°40'09"
C31	20.00'	21.72'	12.07'	20.67'	N58°53'31"W	062°12'58"
C32	40.00'	49.96'	28.83'	46.78'	S63°34'05"E	071°34'05"
C33	40.00'	29.89'	15.68'	29.20'	N59°14'24"E	042°48'58"
C34	40.00'	21.43'	10.98'	21.18'	N22°29'00"E	030°41'49"
C35	40.00'	38.62'	20.97'	37.14'	S20°31'39"E	055°19'29"
C36	20.00'	16.82'	8.94'	16.33'	S24°05'41"E	048°11'23"
C37	20.00'	16.82'	8.94'	16.33'	S24°05'41"E	048°11'23"
C38	40.00'	41.66'	22.95'	39.81'	N18°20'58"E	059°40'49"
C39	40.00'	20.49'	10.47'	20.27'	N26°09'53"W	029°20'53"
C40	40.00'	27.79'	14.48'	27.24'	N60°44'36"W	039°48'34"
C41	40.00'	49.96'	28.83'	46.78'	S63°34'05"E	071°34'05"
C42	20.00'	21.72'	12.07'	20.67'	N58°53'31"E	062°12'58"
C43	20.00'	19.78'	10.78'	18.98'	S61°39'55"E	056°40'09"
C44	40.00'	49.67'	28.61'	46.54'	N68°54'15"E	071°08'48"
C45	40.00'	15.95'	8.08'	15.84'	S64°06'06"W	022°50'30"
C46	40.00'	26.19'	13.58'	25.72'	S33°55'34"W	037°30'34"
C47	40.00'	31.48'	16.61'	30.68'	S07°22'39"E	045°05'52"
C48	20.00'	10.45'	5.35'	10.33'	N14°57'48"E	029°55'35"
C49	20.00'	31.42'	20.00'	28.28'	N45°00'00"W	090°00'00"
C50	20.00'	31.42'	20.00'	28.28'	S45°00'00"W	090°00'00"
C51	20.00'	12.87'	6.67'	12.65'	S18°26'05"E	036°52'12"
C52	40.00'	31.23'	16.46'	30.44'	N14°30'23"E	044°43'38"
C53	40.00'	27.78'	14.48'	27.23'	N27°45'15"W	039°47'37"
C54	40.00'	29.57'	15.49'	28.90'	N68°49'32"W	042°20'56"
C55	40.00'	28.81'	15.06'	28.19'	S69°21'50"W	041°16'19"



- NOTES:**
- THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO DESERT SPRINGS SUBDIVISION UNIT FIVE BY THE EL PASO WATER/PUBLIC SERVICE BOARD IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.343 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON RESLER DRIVE AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION.
 - TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT No. 20190041498 DATE June 4 2019
 - DECLARATION OF COVENANTS AND RESTRICTIONS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT No. 20190041496-497 DATE June 4 2019
 - INTERIOR LOT CORNERS WILL BE SET UP ON COMPLETION OF CONSTRUCTION OF ROADWAYS AND UTILITIES. (BY OTHERS) SET 1/2" REBAR WITH CAP STAMPED "B&A INC" AT ALL EXTERIOR BOUNDARY CORNERS UNLESS OTHERWISE SHOWN.
 - "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
 - THIS SUBDIVISION LIES WITH IN ZONE "B" AND "C" AS DESIGNATED IN PANEL No. 480214 0012C, DATED FEBRUARY 5, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS THAT WAS REVISED BY LOMR 16-06-3207P, DATED OCTOBER 15, 2018. ZONE "B" INDICATES AREA BETWEEN LIMITS OF THE 100-YEAR FLOODS AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE (1) FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD. ZONE "C" AREAS OF MINIMAL FLOODING. (NO SHADING)
 - RESTRICTED ACCESS EASEMENT IS TO RESTRICT VEHICULAR ACCESS TO THOSE RESIDENTIAL LOTS ADJACENT RESLER DRIVE, ROWAN LANE, MASON LEE WAY AND JEAN NOEL WAY SHALL BE FROM OTHER DEDICATED STREETS ONLY. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION. INSTRUMENT No. _____ DATE _____
 - ⊙ DENOTES PROPOSED CITY MONUMENT. (MAY BE SUBJECT TO RELOCATION AT TIME OF CONSTRUCTION. FOR EXACT LOCATION CONTACT THE CITY OF EL PASO).
 - PUBLIC DRAINAGE AND ACCESS: 10FT-OF-WAY. SHALL BE MAINTAINED BY EL PASO WATER UTILITIES.
 - COMMON OPEN SPACE, PARK, SITE, LANDSCAPE BULBS, LANDSCAPE EASEMENTS AND STREETS SHALL BE MAINTAINED BY HOME OWNERS ASSOCIATION (H.O.A.).
 - PUBLIC DRAINAGE EASEMENT: 10 FT ACCESS RIGHT-OF-WAY SHALL BE CONSTRUCTED TO PROVIDE ACCESS FOR THE MAINTENANCE AND INSPECTION OF THE DRAINAGE INFRASTRUCTURE AND ACCESS TO THE EXISTING POND.
 - BUILDING CONSTRUCTION WITH BLOCK 25 SHALL BE FIRE SPRINKLED. THE AREA IF THE CUL-DE-SAC BEYOND SIX HUNDRED (600) FEET DISTANCE SHALL BE FIRE SPRINKLED. LOTS 13-33, BLOCK 24 AND LOTS 2-5.
 - DEED REFERENCE: SPECIAL WARRANTY DEED WITH VENDOR'S LIEN, FILED FOR RECORD IN DOC. No. 20180000310, REAL PROPERTY RECORDS OF EL PASO COUNTY, TEXAS.

DESERT SPRINGS UNIT FIVE NOTES:

Desert Springs Unit Five Subdivision is subject to impact fees and they shall be calculated based on the table below.

Chapter 395 of the Texas Local Government Code authorizes the City of El Paso to adopt and impose water and wastewater impact fees. This plat note fulfills an obligation mandated by Chapter 395 and sets the assessment of the impact fees in accordance with the impact fee schedule adopted by City Council as set forth below. The collection of the impact fee for this subdivision shall be at the time of the meter connection if development is outside the city limits.

WESTSIDE SERVICE AREA

Meter Size	Meter Capacity Ratio	*Water (\$)	Wastewater (\$)
Less Than 1"	1.00	659.00	927.00
1"	1.67	1,101.00	1,548.00
1 1/2"	3.33	2,195.00	3,087.00
2"	5.33	3,514.00	4,941.00
3"	10.00	6,593.00	9,270.00
4"	16.67	10,990.00	15,453.00
6"	33.33	21,973.00	30,897.00
8"	53.33	35,158.00	49,437.00
10"	76.67	50,545.00	71,073.00
12"	143.33	94,490.00	132,867.00

* Fees do not apply to water meter or connections made for standby fire protection service.

LINE TABLE

LINE	BEARING	LENGTH
L1	N90°00'00"W	16.01'
L2	N00°00'00"E	50.00'
L3	N00°00'00"E	0.34'
L4	S00°00'00"E	14.06'
L5	N00°00'00"E	17.10'
L6	N90°00'00"W	11.87'
L7	N90°00'00"W	18.92'
L8	S00°00'00"E	4.31'
L9	S00°00'00"E	23.00'
L10	S00°00'00"E	1.31'
L11	S90°00'00"E	12.42'
L12	N90°00'00"W	11.87'
L13	N00°00'00"E	17.10'
L14	S00°00'00"E	16.03'
L15	N00°00'00"E	2.31'

LINE TABLE

LINE	BEARIN	LENGTH
L16	N00°00'00"W	23.00'
L17	S45°38'42"E	24.94'
L18	N90°00'00"W	29.08'
L19	S42°15'11"W	28.12'
L20	N90°00'00"W	29.33'
L21	N00°00'00"E	23.00'
L22	N90°00'00"W	23.00'
L23	N90°00'00"E	23.00'
L24	N00°00'00"E	23.00'
L25	N00°00'00"E	23.00'
L26	N90°00'00"W	23.00'
L27	N90°00'00"W	23.00'
L28	S00°00'00"E	23.00'
L29	S90°00'00"E	4.00'
L30	N90°00'00"E	4.00'

DESERT SPRINGS UNIT FIVE

A PORTION OF NELLIE D. MUNDY SURVEY No. 244, CITY OF EL PASO, EL PASO COUNTY, TEXAS, CONTAINING 10.73 ACRES ±

DEDICATION

EP DESERT SPRINGS DEVELOPMENT, LLC, the owner of this land, does hereby present this map and access right of way and utility easements as hereon laid down and designated, including easements for overhead of service wires for pole type utilities and the right for installation of service poles alongside lot lines as may be required, easements for buried service wires, conduits and pipes for underground utilities, and the right to ingress and egress for service and construction, and the right to trim interfering trees and shrubs.

Witness my signature this 7th day of May 2019.

Pat Woods
Authorized Representative for
EP Desert Springs Development, LLC.

ACKNOWLEDGEMENT

STATE OF TEXAS
COUNTY OF EL PASO

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

Given under my hand and seal of office this 7th day of MAY 2019.

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

CITY PLANNING COMMISSION

This subdivision is hereby approved as to the platting and as to the condition of the dedication in accordance with Chapter 212 of the Local Government Code of Texas this 18 day of OCTOBER 2019.

[Signature] *[Signature]*
Chairperson Executive Secretary

Approved for filing this 29 day of MAY 2019.

[Signature]
Planning and Inspections Director

FILING

Filed and recorded in the office of the County Clerk of El Paso County, Texas, this 4th day of June 2019, in File No. 20190041495 of the Plat Records.

[Signature] *[Signature]*
FOR RECORDING PURPOSES ONLY By Deputy

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

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

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

5-10-19

BENITO BARRAGAN, R.P.L.S. No. 5615

5/6/2019

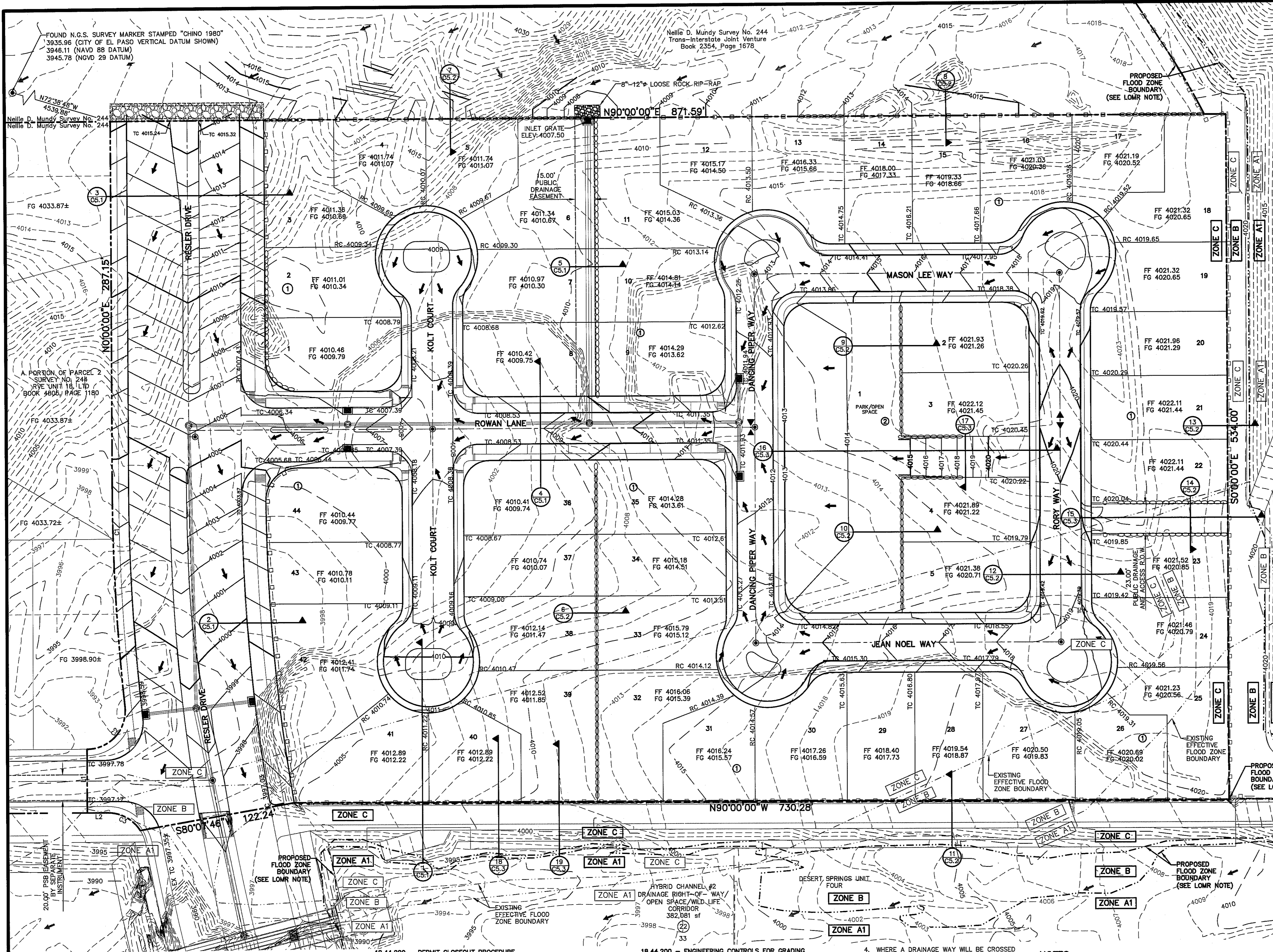
CEA GROUP
TEXAS REGISTERED ENGINEERING FIRM F-4564
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net

Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
TBP/LS FIRM # 10151200
10950 Pellicano Dr. Bldg. F - El Paso TX 79935
Phone (915) 591-5709 Fax (915) 591-5705
CORPORATE: © 2019 BARRAGAN & ASSOCIATES INC. ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

CONTACT: JORGE L. AZCARATE, P.E. CONTACT: BENITO BARRAGAN, R.P.L.S.

GRAPHIC SCALE
60 0 30 60
(IN FEET)
1 inch = 60 ft.

DATE OF PREPARATION: OCTOBER, 2018.



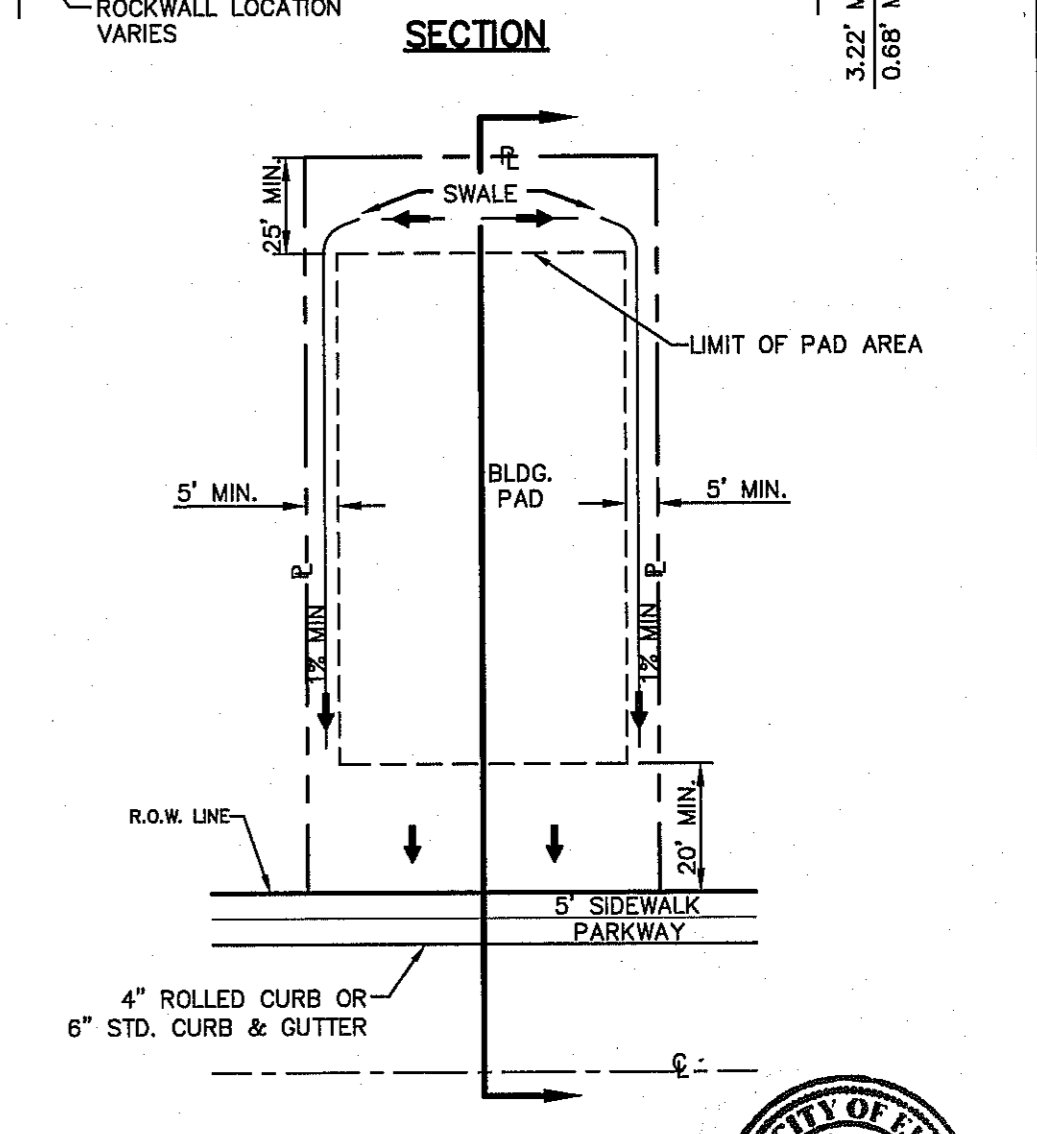
UTILITY LOCATOR SERVICES

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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

LEGEND:

	NEW ROCKWALL
	NEW RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
	2' STEMWALL WITH WROUGHT IRON FENCE
	EXISTING RETAINING ROCKWALL (2'-3" RETAINING HEIGHT)
	EXISTING RETAINING ROCKWALL (3'-9" RETAINING HEIGHT)
	PROPOSED MAJOR CONTOURS
	PROPOSED MINOR CONTOURS
	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
	EXISTING EFFECTIVE FLOOD ZONE BOUNDARY
	PROPOSED EFFECTIVE FLOOD ZONE BOUNDARY
	TC 4075.00 TOP OF CURB ELEVATION
	RC 4075.00 TOP OF ROLLED 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
	DRAINAGE FLOW
	HIGH POINT
	LOW POINT
	FLOOD ZONE AREA INDICATOR
	CROSS SECTION
	PROPOSED TEMPORARY DESILTING BASIN
	BLDG. PAD
	ROCKWALL LOCATION VARIES



18.44.090 - WARRANTY

ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANTY AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICHEVER FIRST OCCURS (THE "WARRANTY" OR "WARRANTY PERIOD"). THE CITY MAY CONDUCT INSPECTIONS OF THE PERMITTED AREA THROUGHOUT THE WARRANTY PERIOD AND REQUIRE MAINTENANCE AND CORRECTION OF THE WORK BY THE PERMIT HOLDER. FAILURE OF THE PERMIT HOLDER TO CORRECT THE WORK SHALL CONSTITUTE A FAILURE TO COMPLY WITH THE PROVISIONS OF THIS CHAPTER.

(Ord. No. 17516, § 1, 3-29-2011)

LINE	BEARING	LENGTH
L1	N00°00'00"E	50.00'
L2	N00°00'00"W	16.01'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	1560.00'	170.91'	85.54'	170.82'	S03°08'19"E	006°16'38"
C2	30.00'	50.41'	33.48'	44.69'	N41°51'41"E	096°16'38"
C3	30.00'	30.19'	16.51'	28.93'	N61°10'03"W	057°39'53"

18.44.220 - PERMIT CLOSEOUT PROCEDURE

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

A. A STATEMENT FROM THE ENGINEER OF RECORD THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY COMPLETED AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS". THE PERMITTEE SHALL CALL THE PERMIT OFFICIAL TO ESTABLISH THE BEGINNING OF THE WARRANTY PERIOD AND TO NOTIFY THE PERMIT OFFICIAL THAT THE GSP HAS BEEN IMPLEMENTED.

B. A COPY OF THE NOTICE OF TERMINATION FILED WITH THE STATE OR DATED CONSTRUCTION SITE NOTICE IF APPLICABLE, IN ACCORDANCE WITH CHAPTER 15, THE CITY WILL ISSUE A LETTER STATING GENERAL CONFORMANCE TO THE PERMIT HAS BEEN MET AND THAT THE WARRANTY PERIOD REQUIREMENTS WILL CONTINUE TO BE IN EFFECT.

(Ord. No. 17516, § 1, 3-29-2011)

LOMR NOTE

A LOMR HAS BEEN APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) WHERE FLOOD PATHS 41 AND 41A HAVE BEEN ANALYZED REFLECTING THE EXISTING IMPROVEMENTS. THE CASE NUMBER IDENTIFYING THIS APPROVAL IS 14-06-0412P. THE ISSUE AND EFFECTIVE DATE OF THIS APPROVAL ARE JULY 17, 2014 AND NOVEMBER 28, 2014 RESPECTIVELY. A LOMR HAS BEEN APPROVED BY FEMA WHERE FLOOD PATH 41A WAS ANALYZED REFLECTING THE PROPOSED IMPROVEMENTS. THE CASE NUMBER FOR THIS APPROVAL IS 16-06-3207P. THE ISSUE AND EFFECTIVE DATE OF THIS APPROVAL ARE MAY 31, 2016 AND OCTOBER 15, 2016 RESPECTIVELY.

18.44.200 - ENGINEERING CONTROLS FOR GRADING CONSTRUCTION ACTIVITY REQUIREMENTS:

- NO ON-SITE PROCESSING OF MATERIAL FOR COMMERCIAL OR RETAIL SALE SHALL BE ALLOWED. ON-SITE PROCESSING OF MATERIALS TO BE USED FOR PREPARATION OR CONSTRUCTION OF IMPROVEMENTS WITHIN THE SITE COVERED BY THE GRADING PERMIT SHALL BE ALLOWED.
- WORK SHALL BE CONDUCTED IN A MANNER THAT PRESERVES AND DOES NOT OBSTRUCT, IMPEDE OR INTERFERE WITH THE FLOW OF STORMWATER IN NATURAL DRAINAGE WAYS. UNIMPROVED CHANNELS OR WATERCOURSES, OR IMPROVED DITCHES, CHANNELS OR CANALS IN SUCH A MANNER AS THE CAUSE FLOODING WHERE IT WOULD NOT OTHERWISE OCCUR.
- CONSTRUCTION EQUIPMENT AND FENCING SHALL BE KEPT OUT OF WATERCOURSES EXCEPT WHEN NECESSARY TO PERFORM WORK ON THE APPROVED PLANS. ADEQUATE BY-PASS MEASURES SHALL BE INSTALLED WHERE TEMPORARY DRAINAGE BLOCKAGES WILL OCCUR. WHERE WORK WITHIN A CHANNEL IS DESIGNATED ON APPROVED PLAN, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION AS SHOWN ON THE PLANS. THE CHANNEL, INCLUDING BED AND BANKS, SHALL ALWAYS BE RESTORED/RESTABILIZED IMMEDIATELY AFTER WORK IN THE CHANNEL IS COMPLETED.
- WHERE A DRAINAGE WAY WILL BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CROSSING SHALL BE CONSTRUCTED AS REQUIRED IN THE APPROVED GRADING PLANS.
- MATERIAL STOCKPILING SHALL NOT BE ALLOWED WHEN GRADING OPERATIONS ARE IDLE FOR MORE THAN SEVEN CONSECUTIVE CALENDAR DAYS. STOCKPILING SHALL BE LIMITED TO TEN FEET HIGH WHEN GRADING OPERATIONS ARE BEING CONDUCTED.
- A TRAFFIC CONTROL PERMIT SHALL BE REQUIRED IF THE GRADING OPERATION WILL IMPACT TRAFFIC.
- ANY USE OF VIBRATORY EQUIPMENT SHALL NOT BE ALLOWED, UNLESS APPROVED IN WRITING BY THE PERMIT OFFICIAL IN ADVANCE OF SUCH USE.
- THE PERMIT OFFICIAL MUST BE NOTIFIED NO LATER THAN 4:00 PM THE DAY IN ADVANCE OF ANY GRADING WORK. ADDITIONAL ACTIVITY REQUIREMENTS/RESTRICTIONS MAY BE SPECIFIED BY THE DESIGN ENGINEER OF RECORD.

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 ROCKWALLS (RETAINING PORTIONS ONLY) IN EXCESS OF 4' HIGH TO BE BUILT BY DEVELOPER.
- DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 (EXCESSIVE PAVING CUTS) OF THE EL PASO MUNICIPAL CODE.
- IMPROVEMENTS SHALL NOT BE PLACED ON SIDEWALK (NDDC'S, SIGNS, POLES, FIRE HYDRANTS, ETC.) REFER TO STANDARD DETAIL SHEETS.
- IMPROVEMENTS SHALL COMPLY WITH T.A.S./A.D.A.
- WHEELCHAIR RAMPS WILL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENTS.

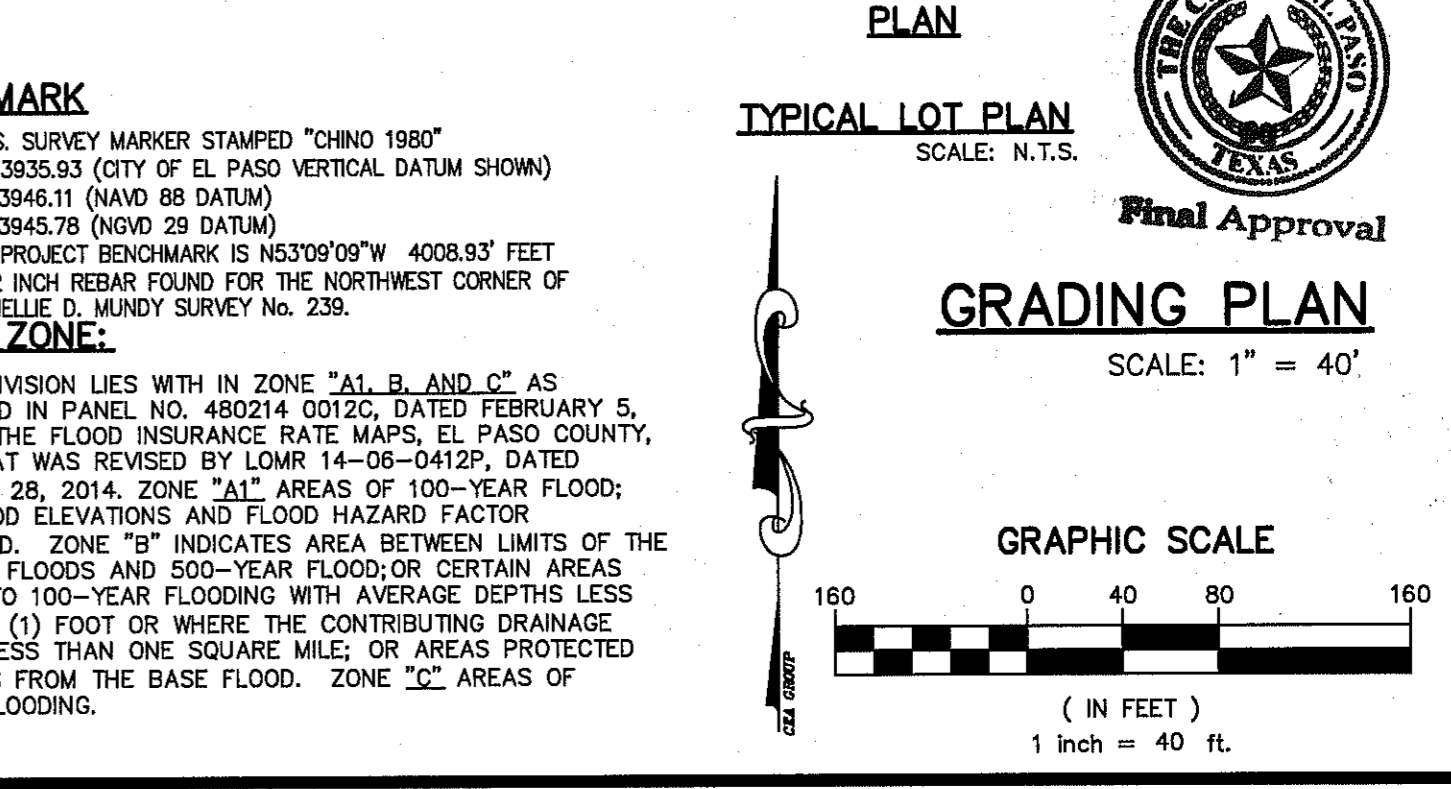
BENCHMARK

FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980" ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN) 3946.11 (NAVD 88 DATUM) 3945.78 (NAVD 29 DATUM)

TIE TO THE PROJECT BENCHMARK IS N53°09'09"W 4008.93' FEET FROM A 1/2 INCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY No. 238.

FLOOD ZONE:

THIS SUBDIVISION LIES WITHIN ZONE "A1, B, AND C" AS DESIGNATED IN PANEL NO. 480214 001ZC, DATED FEBRUARY 8, 1986, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS THAT WAS REVISED BY LOMR 14-06-0412P, DATED NOVEMBER 28, 2014. ZONE "A1" AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTOR DETERMINED. ZONE "B" INDICATES AREA BETWEEN LIMITS OF THE 100-YEAR FLOODS AND 500-YEAR FLOOD; OR CERTAIN AREAS SUBJECT TO 100-YEAR FLOODING WITH AVERAGE DEPTHS LESS THAN ONE (1) FOOT OR WHERE THE CONTRIBUTING DRAINAGE AREA IS LESS THAN ONE SQUARE MILE; OR AREAS PROTECTED BY LEVEES FROM THE BASE FLOOD. ZONE "C" AREAS OF MINIMAL FLOODING.



REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980" ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN) 3946.11 (NAVD 88 DATUM) 3945.78 (NAVD 29 DATUM)

TIE TO THE PROJECT BENCHMARK IS N53°09'09"W 4008.93' FEET FROM A 1/2 INCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY No. 238.

DATE: _____ BY: _____

REVISIONS: _____

DATE: _____ BY: _____

ENGINEER'S SEAL

SCALE: 1" = 40'

Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2051.001

PROJECT TITLE

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

GRADING PLAN

SHEET NO.

C3.1

UTILITY LOCATOR SERVICES

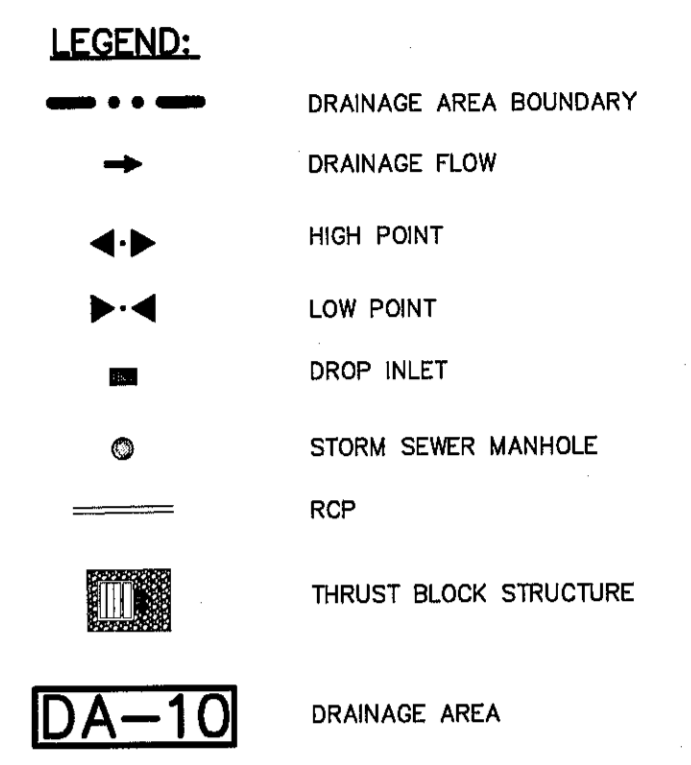
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
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U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS

FOUND N.A.S. SURVEY MARKER STAMPED "CHNO 1887"
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAD 83 DATUM)
SEE TO THE PROJECT BENCHMARK IS NAD83/0979W 4003.93'
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST
CORNER OF TRACT T1, NELLIE D. MUNDY SURVEY NO. 244

DATE	REVISIONS	BY



100 YEAR STORM CALCULATIONS FOR WATERSHED AREAS

DRAINAGE AREA NO. (1)	DRAINAGE AREA (AC) (2)	DESIGN STORM INTENSITY (100) (3)	TIME OF CONCENTRATION (4)	RUNOFF COEFF. (C) (5)	Q100 (CFS) (6)
DA-1	2.777	4.173	19.68	0.60	6.956
DA-2	2.485	4.547	15.60	0.60	6.780
DA-3	1.707	4.447	16.62	0.60	4.556
DA-4	1.923	4.517	15.90	0.60	5.214
DA-5	0.716	5.191	10.00	0.95	3.533
DA-6	0.644	5.191	10.00	0.95	3.178
WS-1	2.632	5.191	10.00	0.69	9.427
WS-2	0.927	5.191	10.00	0.69	3.320

* UNDEVELOPED CONDITIONS ONLY.

REFERENCE: CITY OF EL PASO SUBDIVISION STANDARDS (JUNE 2008)

- (1) WATERSHED AREA IDENTIFICATION
- (2) AREA FROM DRAINAGE PLAN
- (3) RAINFALL INTENSITY, 100 YEAR STORM => PLATE NO. 2-14
- (4) TIME OF CONCENTRATION: TC = T (OVERLAND) + T (GUTTER)
- (5) RUNOFF COEFFICIENT => PLATE NO. 2-10 TABLE A
RESIDENTIAL AREA = 0.60
PAVEMENT AREA = 0.90
PASSIVE OPEN SPACE = 0.69
- (6) $Q_{100} = C \times A \times I_{100}$

DROP INLETS

NO.	EXPECTED FLOW Qexp (CFS)	ADDITIONAL FLOW Qadd (CFS) FROM INLET #	CROWN OVERTOP (CFS)	Q REQUIRED Qactual (CFS)	AVAIL. FLOW CAPACITY Q AVAIL. (CFS)	FLOW BYPASS Qbyp (CFS) TO INLET #	# OF GRATES	TYPE OF INLET	INLET LOCATION
1	6.956	0	0	6.956	8.849	0	3	I	ON GRADE
2	6.977	0	0	6.977	8.753	0	3	I	ON GRADE
3	4.556	0	0	4.556	7.678	0	3	I	ON GRADE
4	5.214	0	0	5.214	8.013	0	3	I	ON GRADE
5	3.533	10.32 (SEE NOTE 1)	0	13.853	13.867	0	4	I	ON GRADE
6	3.178	7.00 (SEE NOTE 2)	0	10.178	12.209	0	4	I	ON GRADE
7	9.427	0	0	9.427	9.660	0	1	OFF STREET	SAG

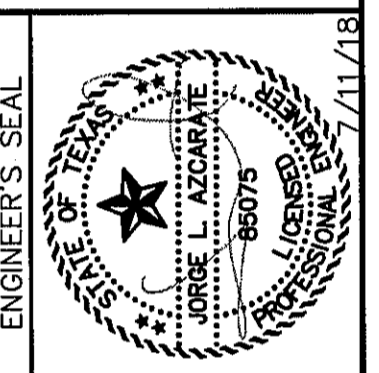
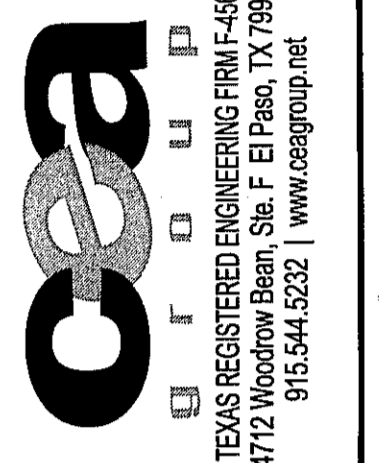
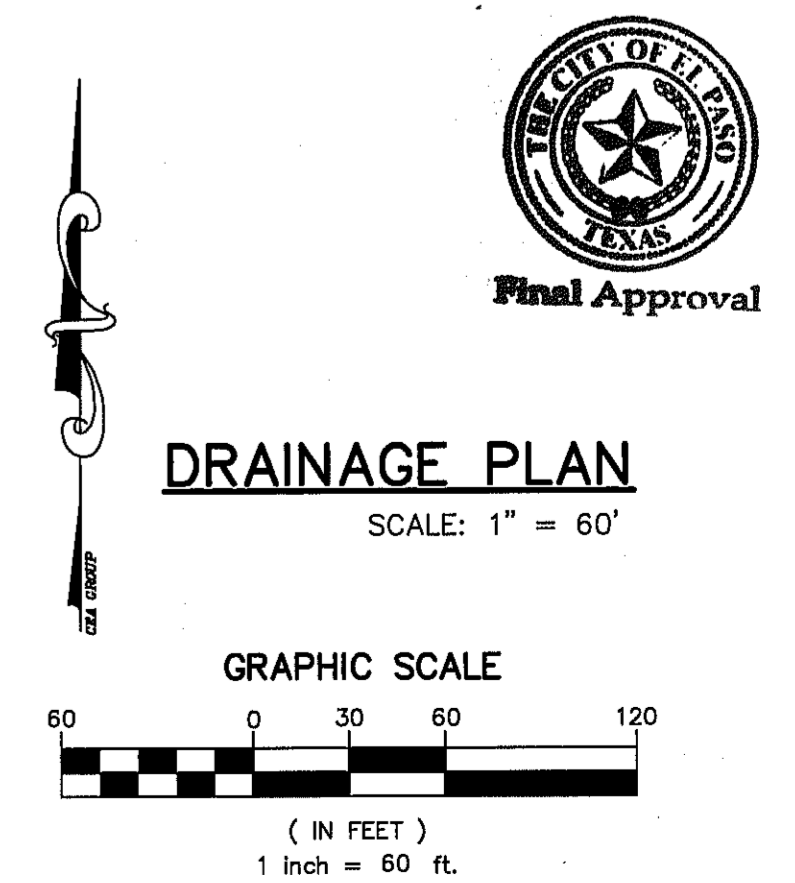
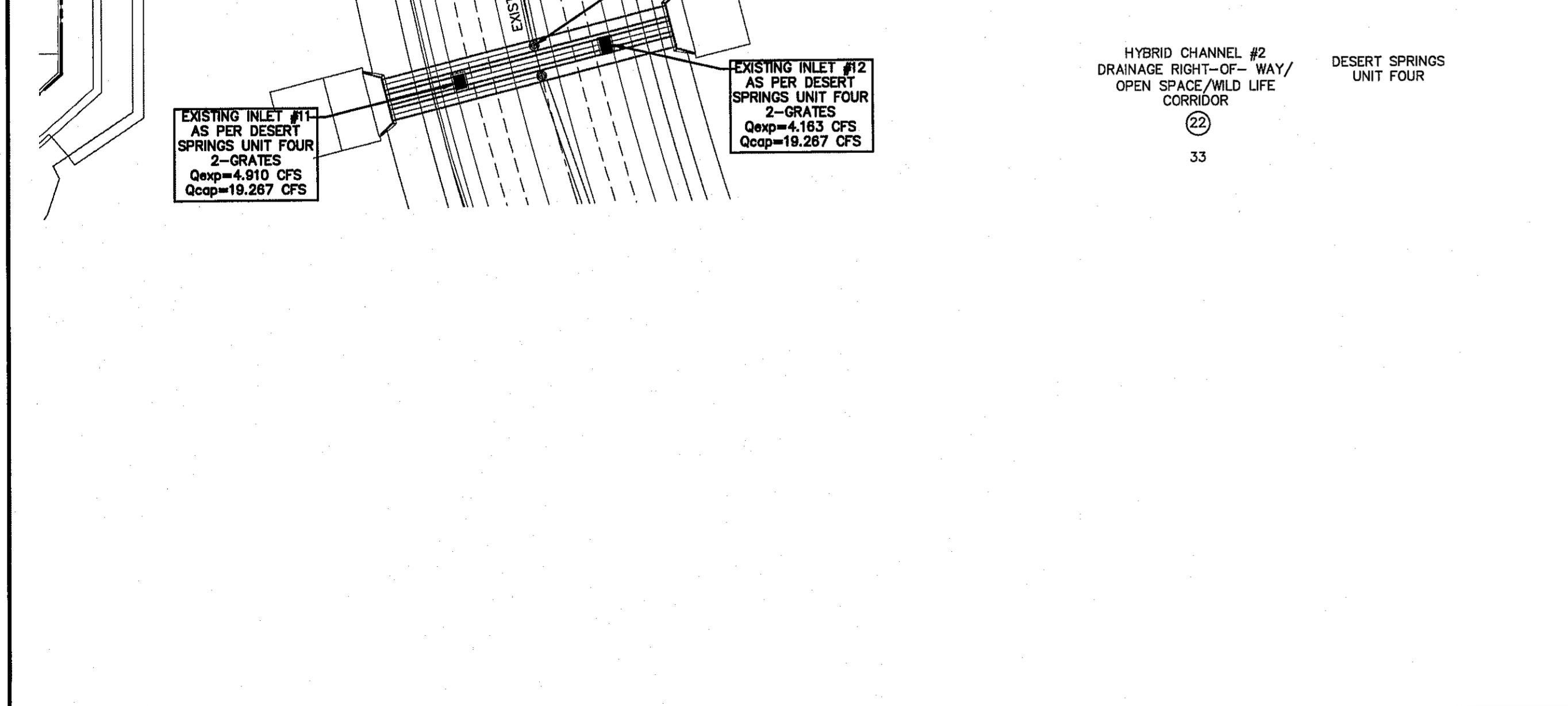
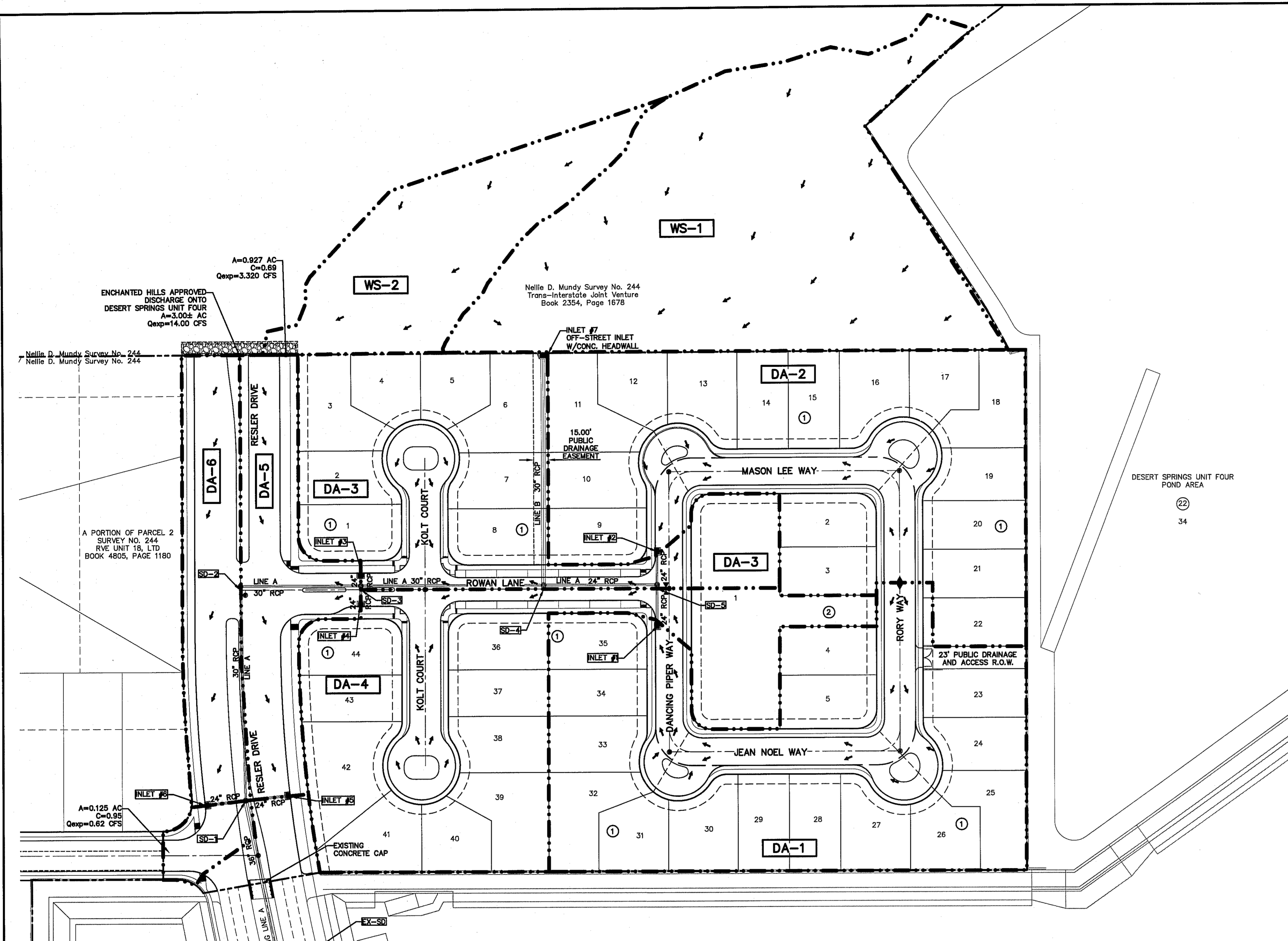
AVAILABLE FLOW CAPACITY SHOWN AT ON-GRADE INLETS REFLECTS CAPACITIES WITH INLET GRATE EFFICIENCIES.

NOTES:

1. AN ADDITIONAL 7.00 CFS FROM ENCHANTED HILL AND 3.320 CFS FROM WS-2 ARE INCLUDED.
2. AN ADDITIONAL 7.00 CFS FROM ENCHANTED HILLS ARE INCLUDED.

STREET CAPACITIES

Inlet #	Width	cross slope	Depth	Area	P	R	n	S	Q	V	Total Q	Q actual	Actual Depth	spread width	Actual Velocity
Inlet #1	14	1.00	0.14	0.98	3.920196	0.2500	0.013	0.015	5.457	5.556	12.773	6.956	0.197	19.725	2.9686
	14	1.00	0.14	1.96	14.28	0.1373	0.013	0.015	7.316	3.725	12.773	6.956	0.197	19.725	2.9686
Inlet #2	14	1.00	0.14	0.98	3.920196	0.2500	0.013	0.0123	4.941	5.031	11.566	6.780	0.203	20.277	2.7381
	14	1.00	0.14	1.96	14.28	0.1373	0.013	0.0123	6.625	3.373	11.566	6.780	0.203	20.277	2.7381
Inlet #3	17	2.00	0.34	2.89	17.3434	0.1666	0.013	0.0144	14.555	4.154	50.965	4.556	0.220	10.997	3.1069
	34	2.00	0.16	5.44	34.32	0.1585	0.013	0.0144	21.855	4.018	50.965	4.556	0.220	10.997	3.1069
Inlet #4	17	2.00	0.34	2.89	17.3434	0.1666	0.013	0.0144	14.555	4.154	50.965	5.214	0.231	11.568	3.2135
	34	2.00	0.16	5.44	34.32	0.1585	0.013	0.0144	21.855	4.018	50.965	5.214	0.231	11.568	3.2135
Inlet #5	40	2.00	0.8	16	40.806	0.3921	0.013	0.0386	66.644	12.031	736.621	13.853	0.277	13.871	5.9381
	32	0.00	0.8	32	41.6	0.7692	0.013	0.0386	603.333	18.854	736.621	13.853	0.277	13.871	5.9381
Inlet #6	32	2.00	0.64	10.24	32.6464	0.3137	0.013	0.0386	66.644	10.368	466.047	10.178	0.247	12.357	5.4977
	32	0.00	0.64	20.48	33.28	0.6154	0.013	0.0386	332.759	16.248	466.047	10.178	0.247	12.357	5.4977



SCALE: 1" = 60'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JANUARY 2018
DRAWN BY: C.J.L.Z.
CHKD. BY: J.A.A.
APP. NO. BY: J.A.A.
JOB NO.: 2051.001

**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

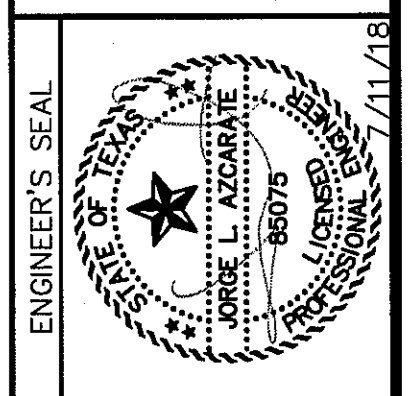
SHEET TITLE
DRAINAGE PLAN
SHEET NO.
C4.1

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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	BY	REVISIONS

REFERENCES - BENCHMARKS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1890"
ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAVD 83 DATUM)
TIE TO THE PROJECT BENCHMARK IS 1435.09'± W, 400.83'
FEET FROM A 1/2" INCH BENCHMARK FOUND FOR THE NORTHWEST
CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY No. 244.
DATE:

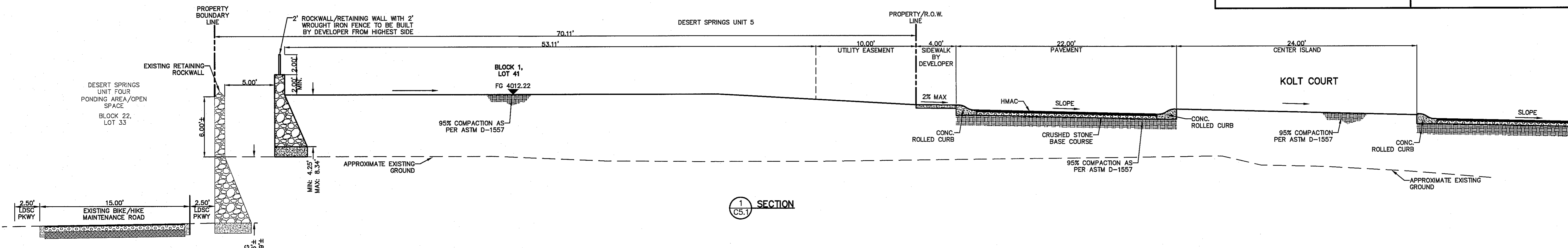


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Horizontal: 1"=5'
Vertical: 1"=5'
Control Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2051.001

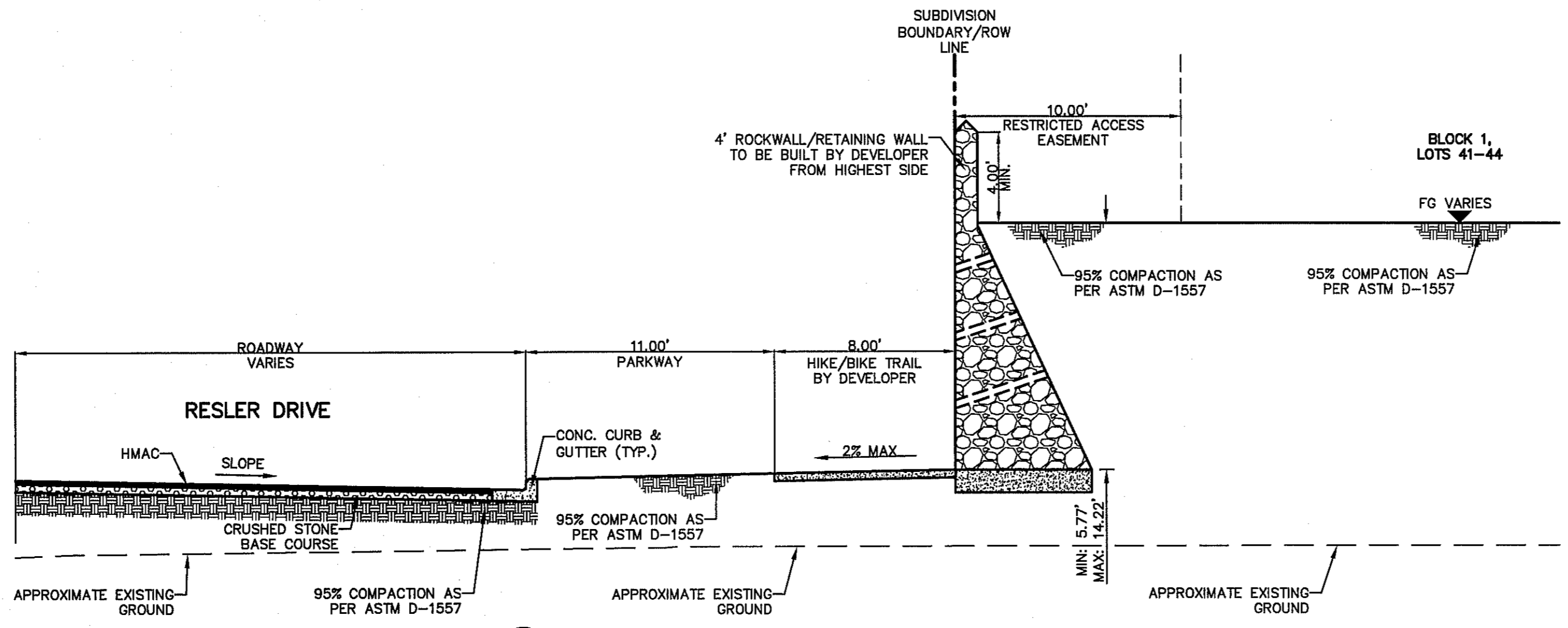
PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
GRADING SECTIONS
(SHEET 1 OF 3)
SHEET NO.

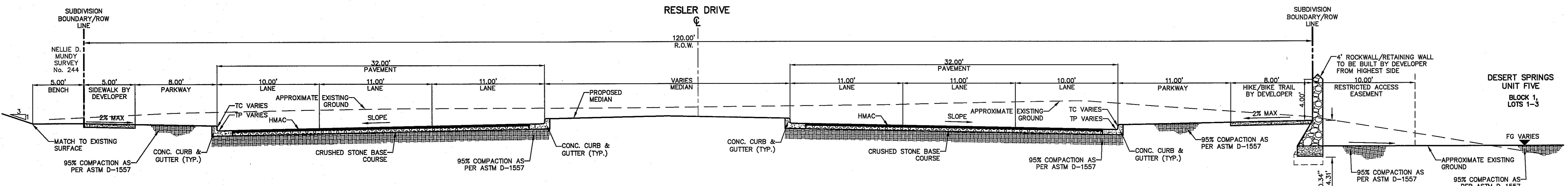
C5.1



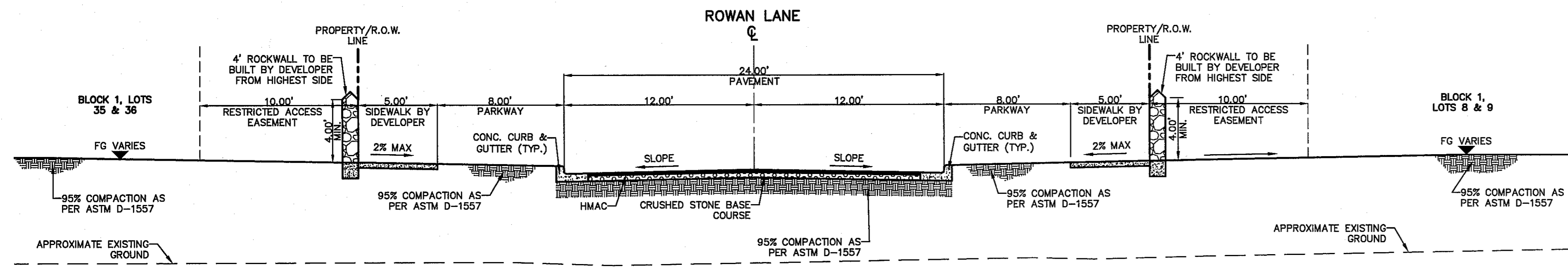
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C5.1



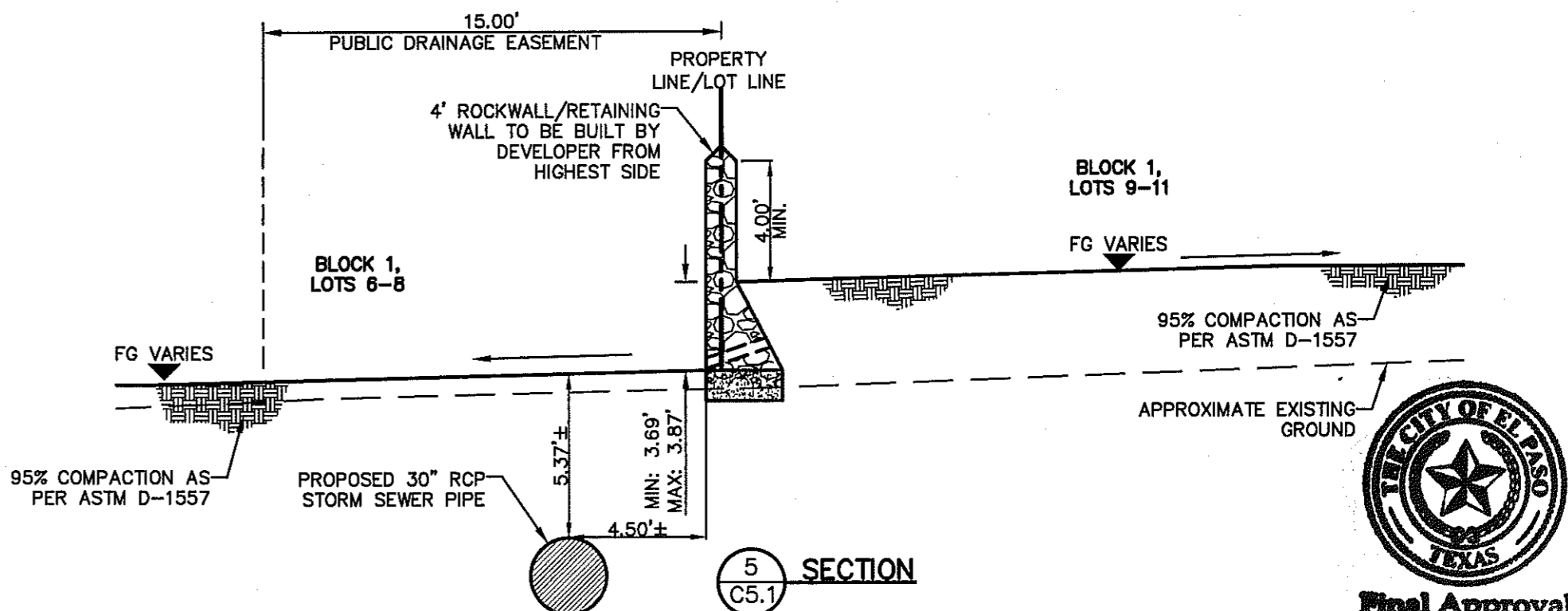
2 SECTION
C5.1



3 SECTION
C5.1



4 SECTION
C5.1



5 SECTION
C5.1

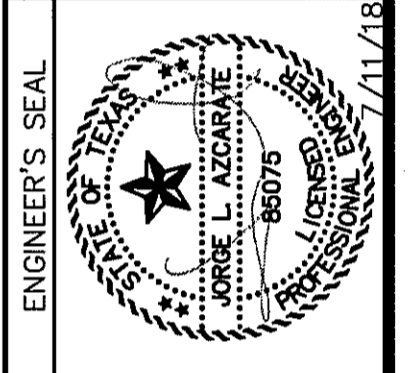
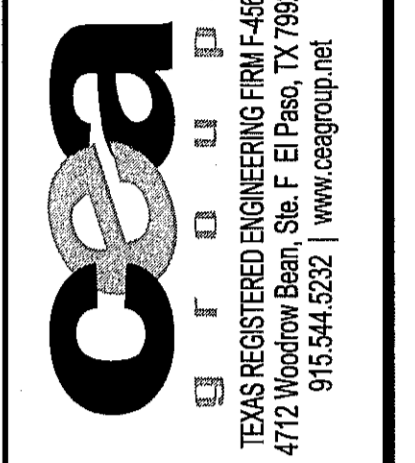


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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MOI SURVEILLANCE	(800) MOI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	BY
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980"	
ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)	
3945.78 (NAD 83 DATUM)	
3945.78 (NAD 83 DATUM)	
FEET TO THE PROJECT BENCHMARK IS N43°09'09"W 4008.93'	
FEET FROM A 1/2" INCH BENCHMARK FOUND FOR THE NORTHWEST	
CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY, NO. 244	
DATE	REVISIONS

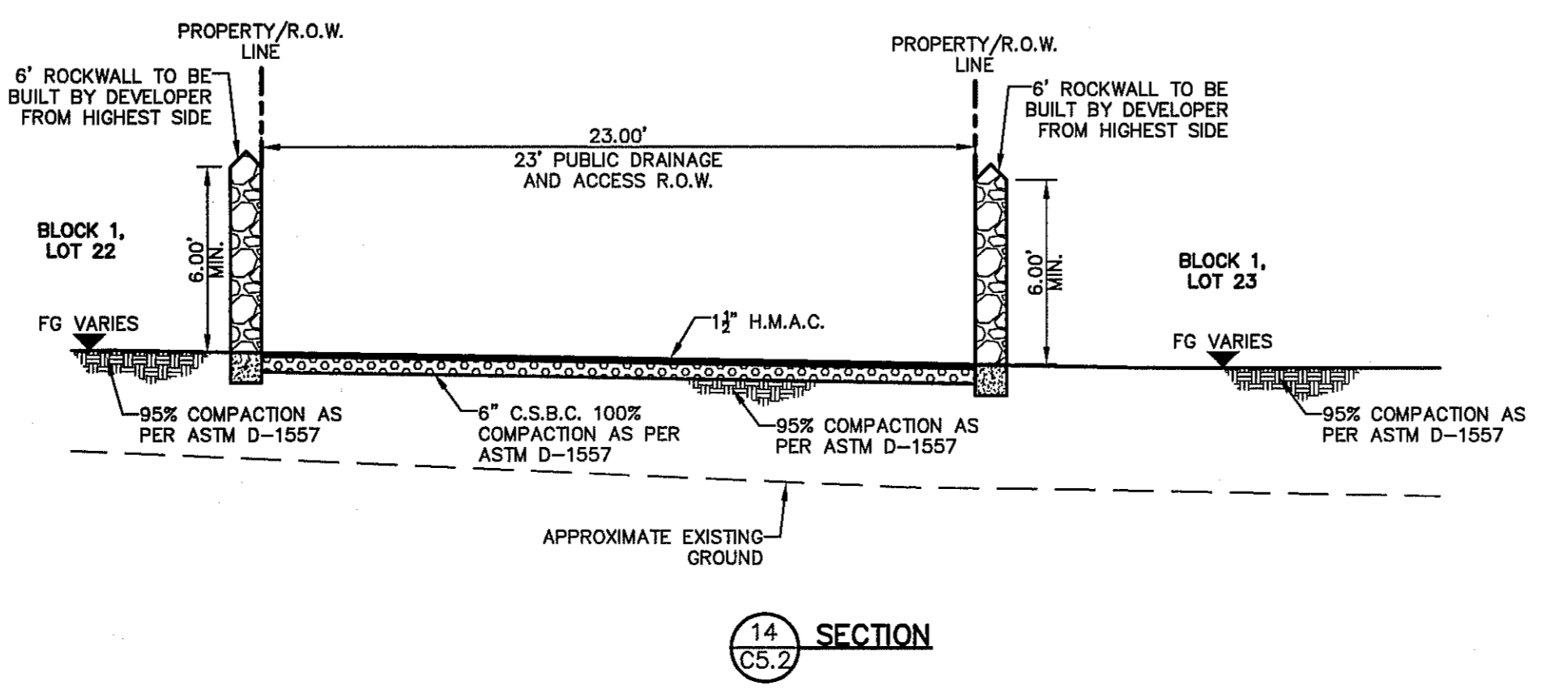
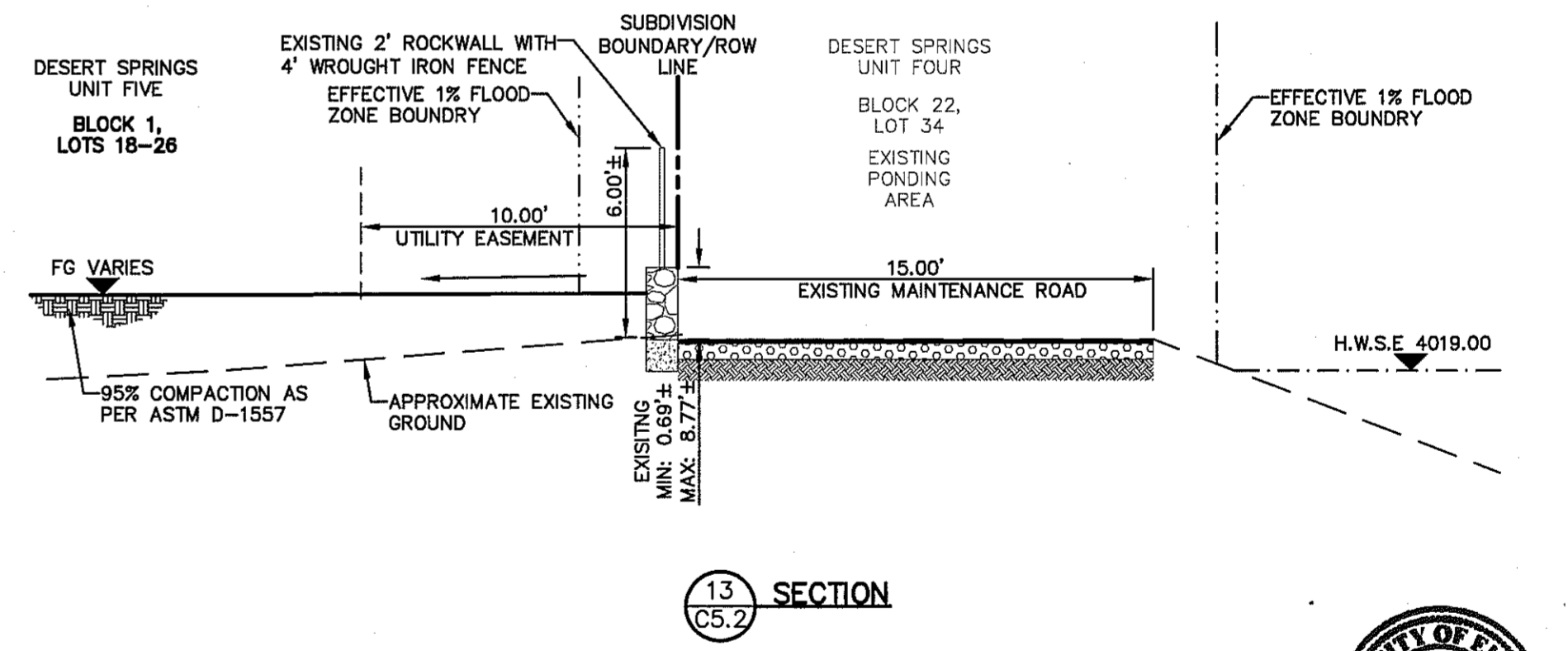
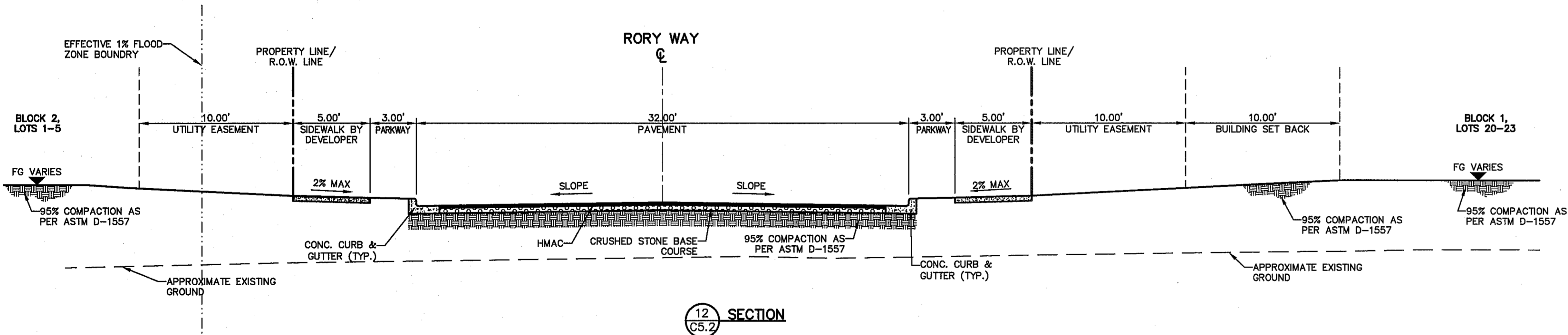
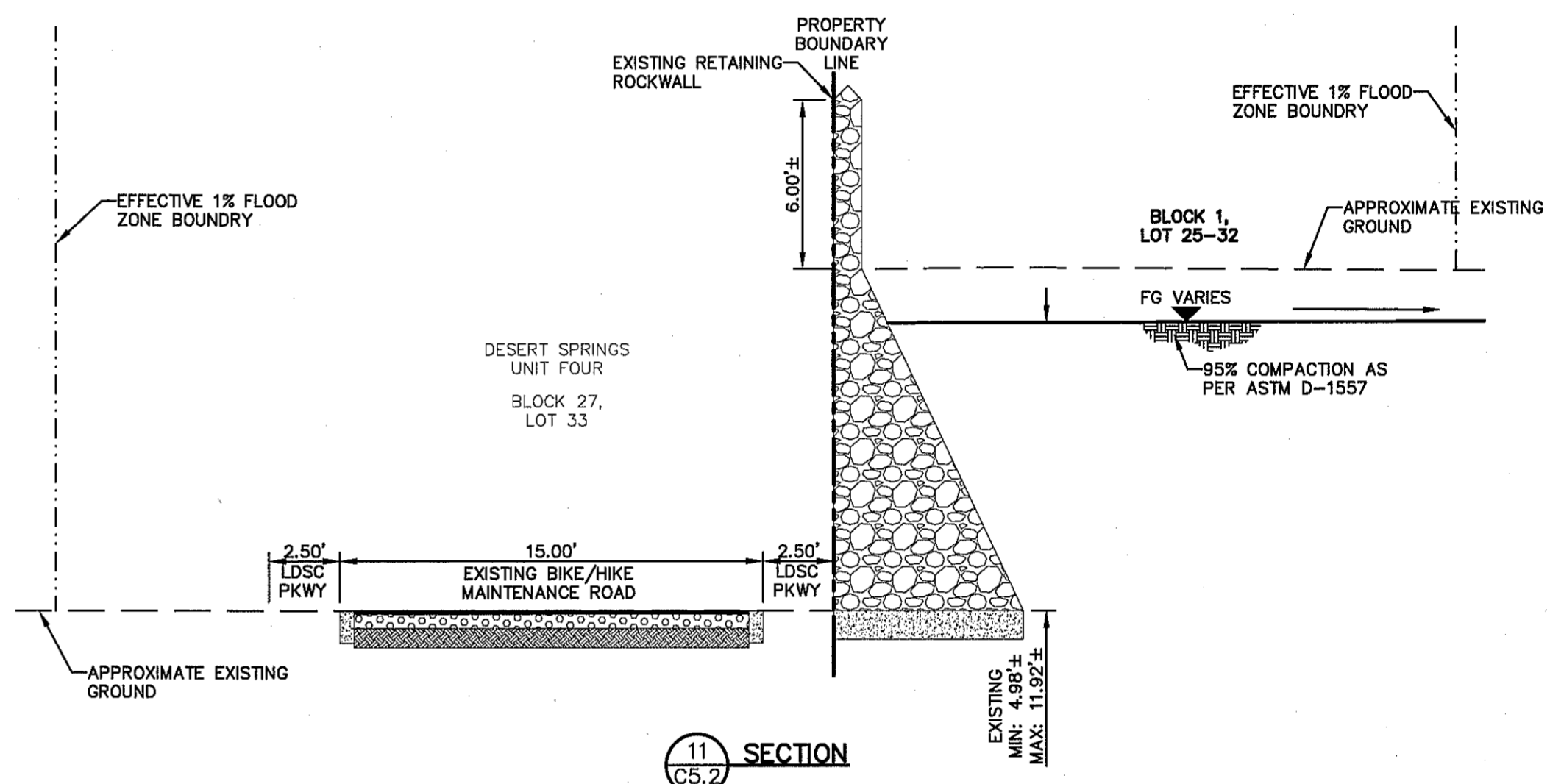
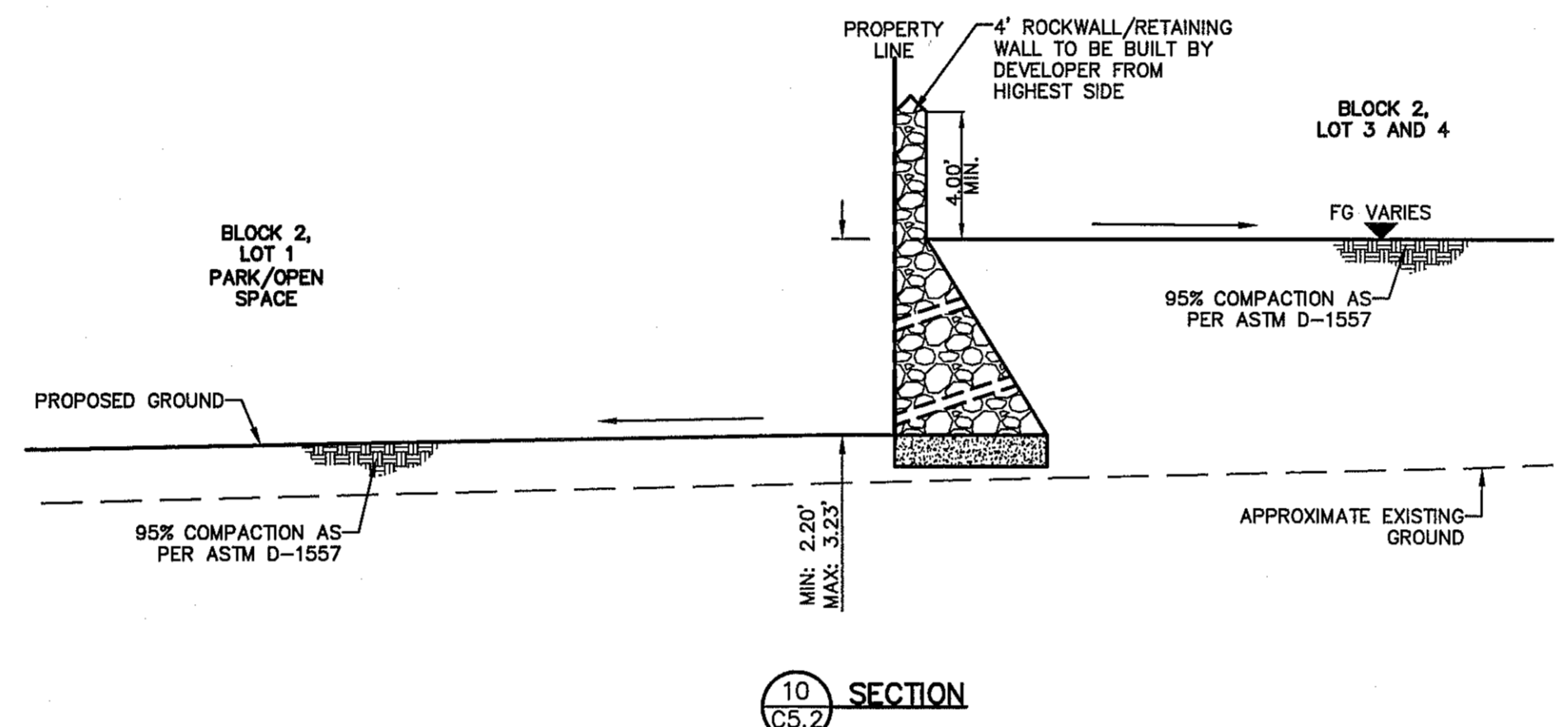
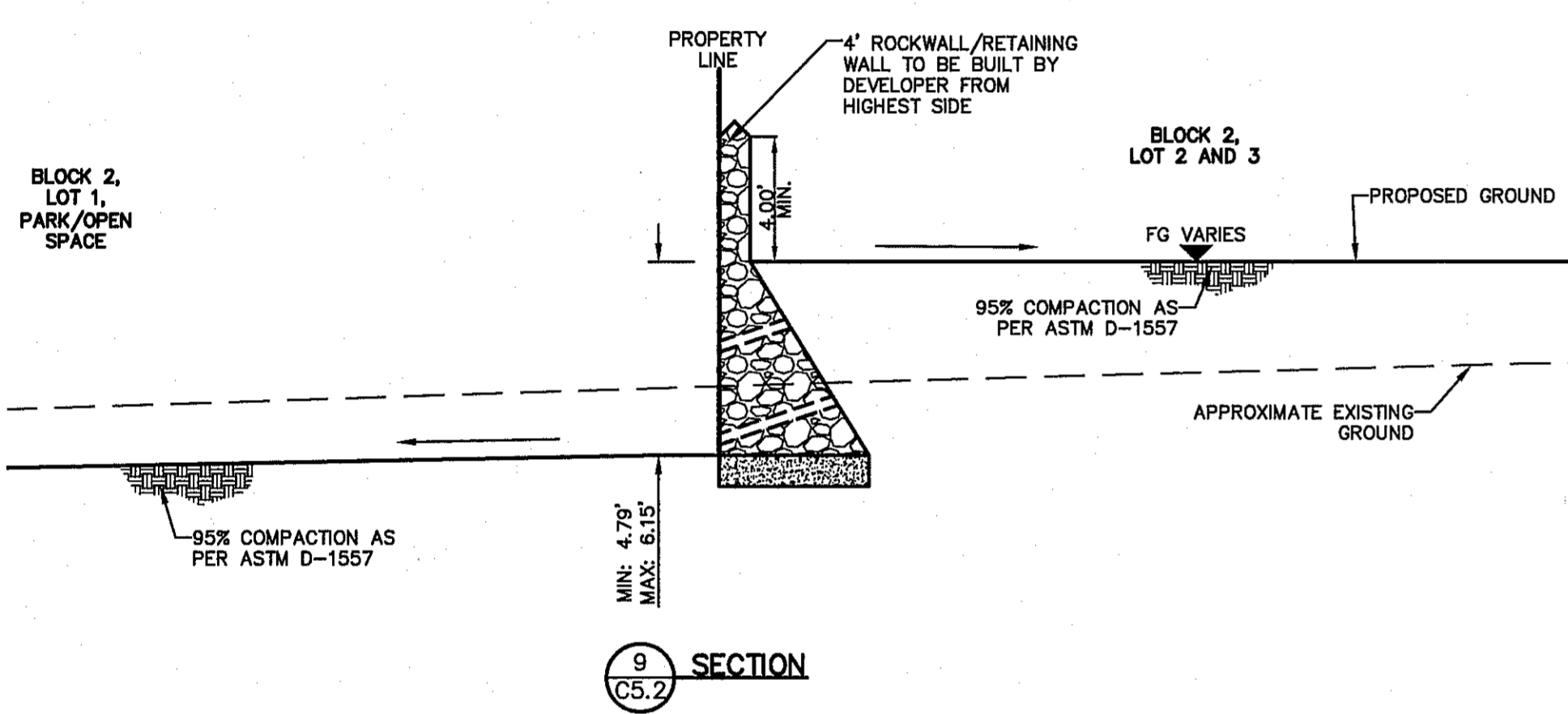
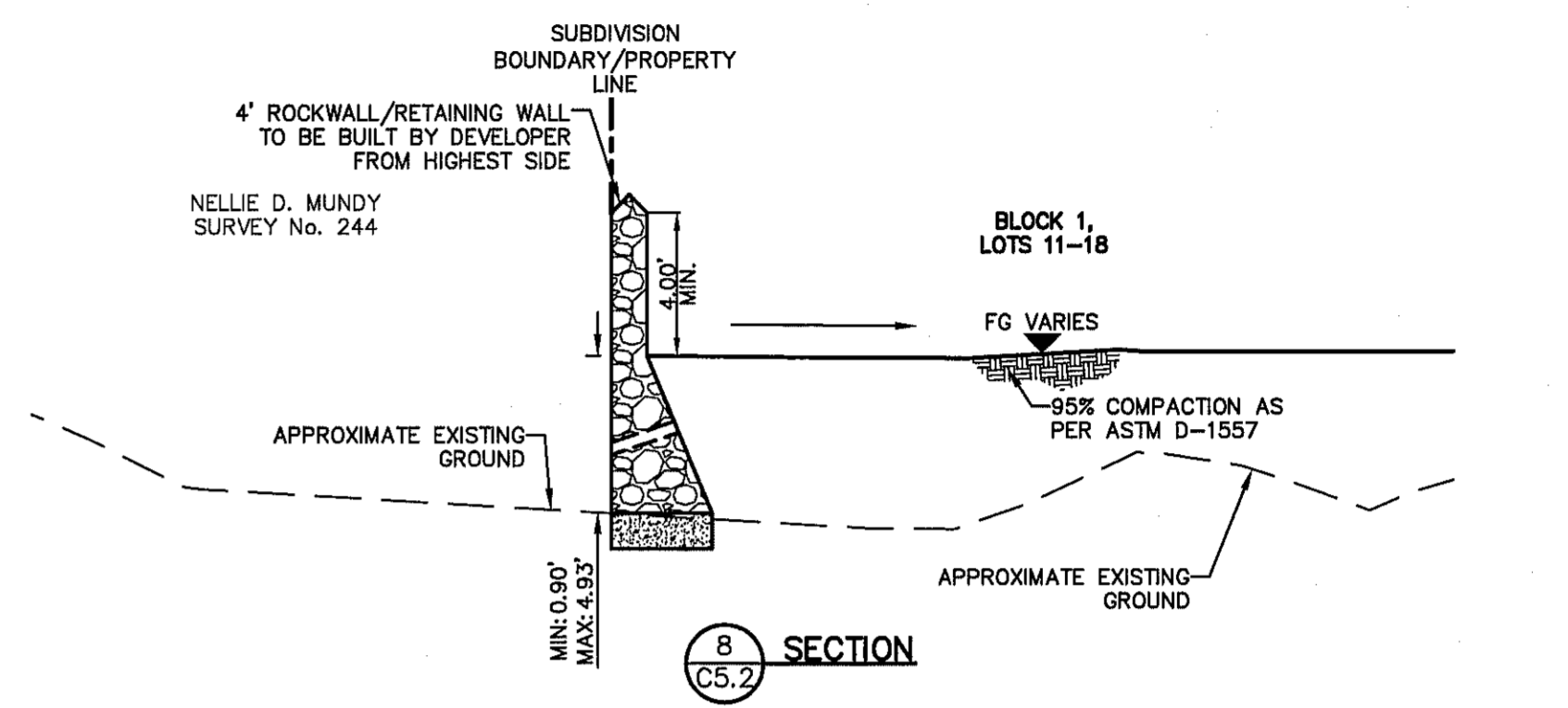
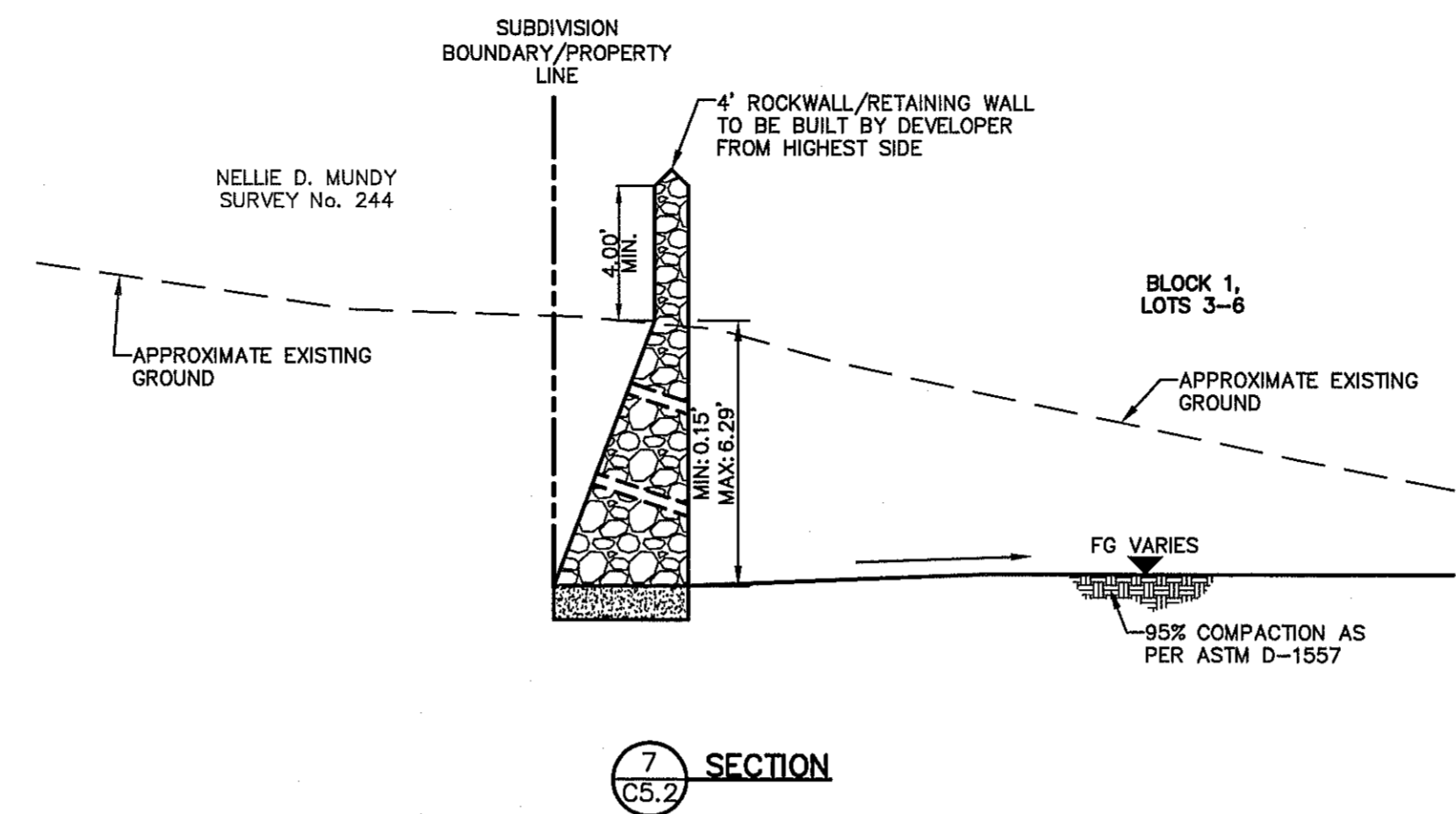
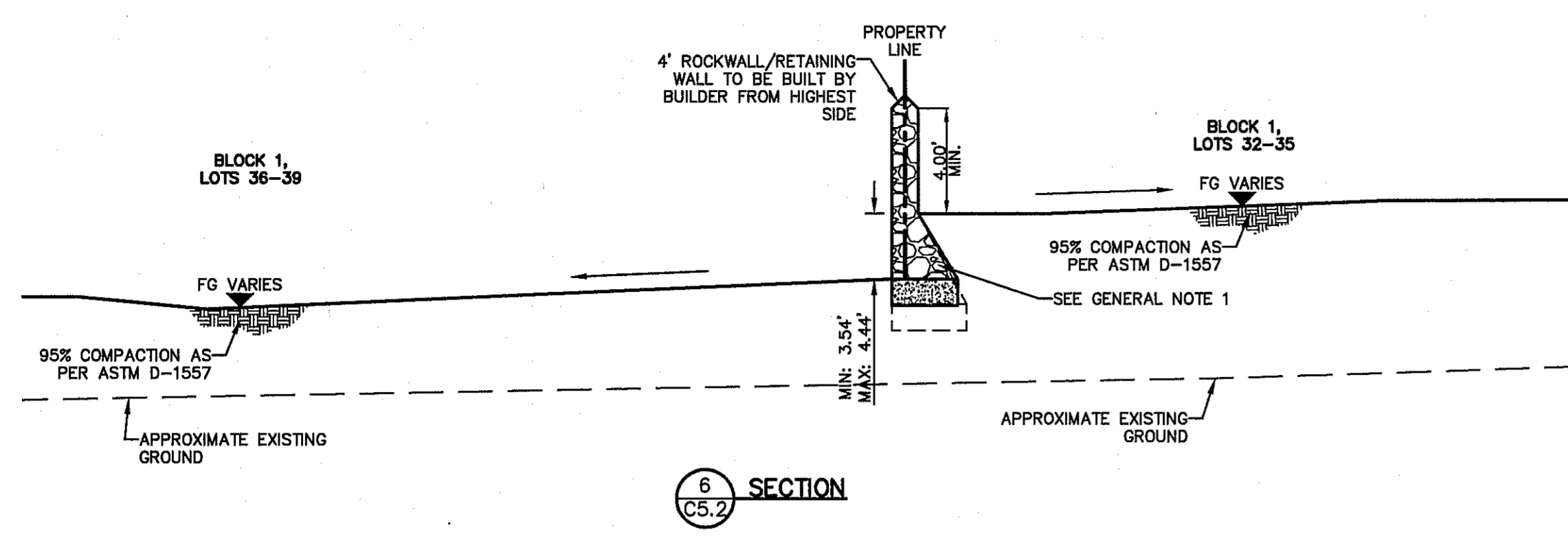


SCALE: 1"=5'
Vertical Interval: 1/4"
Horizontal Interval: 1/4"
DATE: JANUARY 2018
DESIGN BY: C.J./F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB NO.: 2051.001

PROJECT TITLE
DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
GRADING SECTIONS
(SHEET 2 OF 3)
SHEET NO.

C5.2



GENERAL NOTE:
1. WHENEVER THE RETAINING WALL HEIGHT OF A ROCKWALL/RETAINING WALL EXCEEDS FOUR (4) FEET OR MORE, THE DEVELOPER SHALL BUILD THE RETAINING WALL PORTION OF THE WALL (INCLUDING NECESSARY REINFORCED CONCRETE FOOTING) TO HIGHEST FINISHED GROUND. THE BUILDER SHALL FINISH THE REMAINING OF THE STEM WALL. IF THE RETAINING HEIGHT DOES NOT EXCEED THE FOUR (4) FEET, THEN THE DEVELOPER MUST BUILD A TEMPORARY SLOPE AT 3(H):1(V)



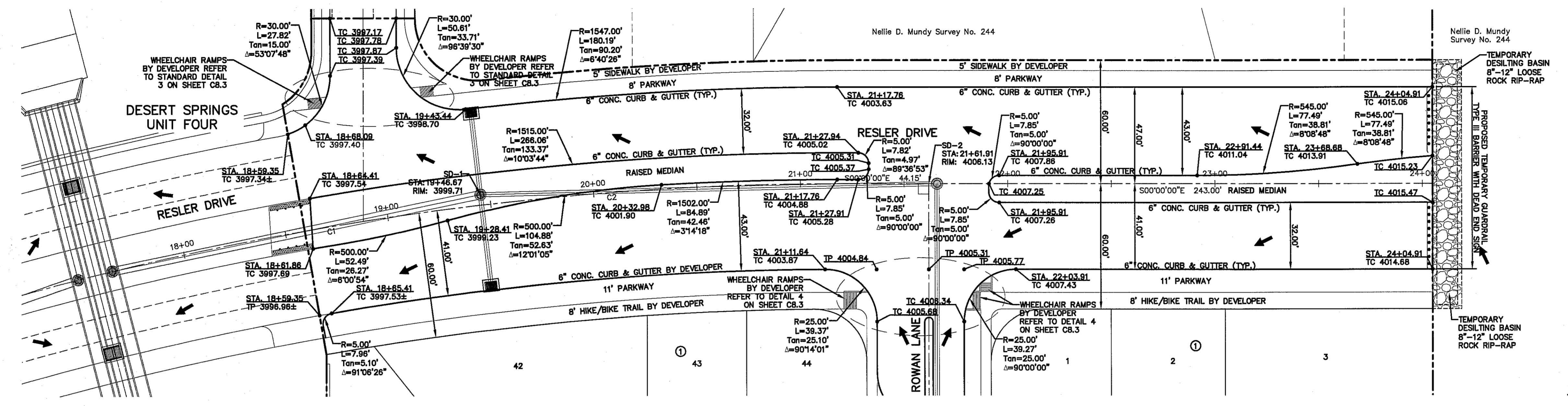
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CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	1500.00'	28.66'	14.33'	28.66'	S09°19'23"E	001°05'42"
C2	1500.00'	229.75'	115.10'	229.52'	S04°23'16"E	008°46'32"

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

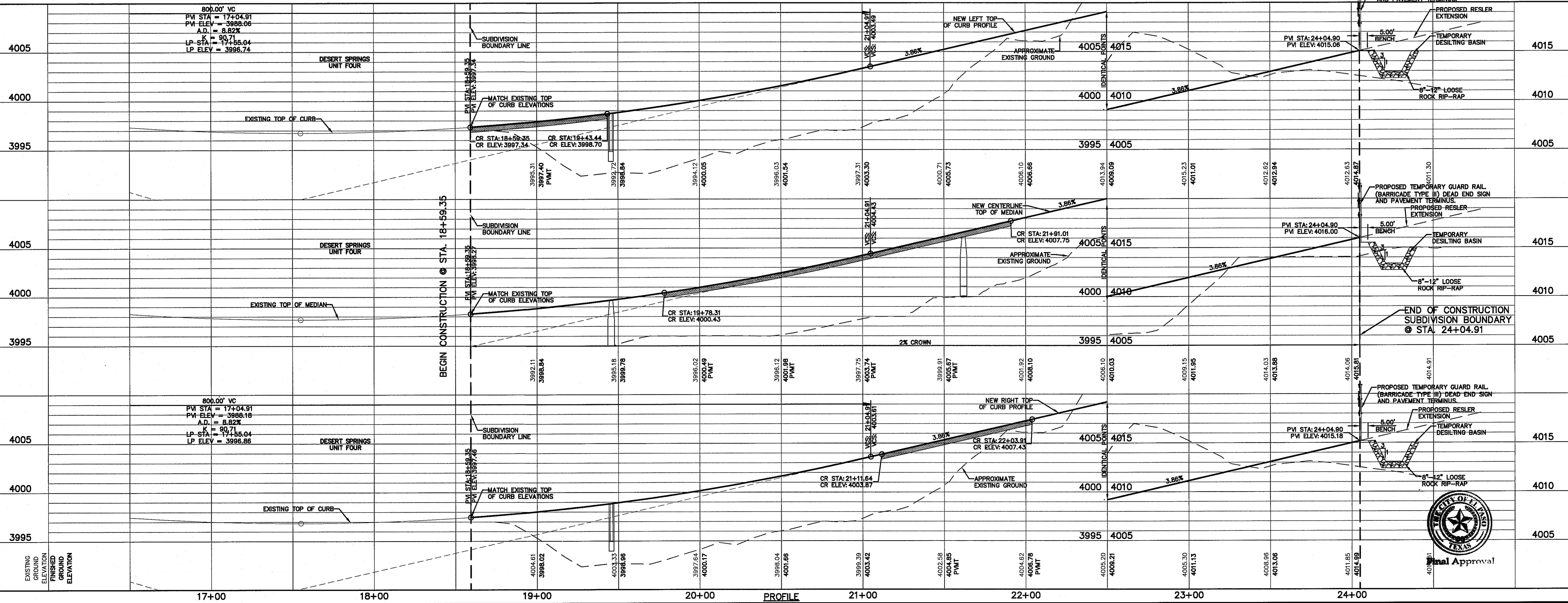
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY



PLAN

LEGEND
PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



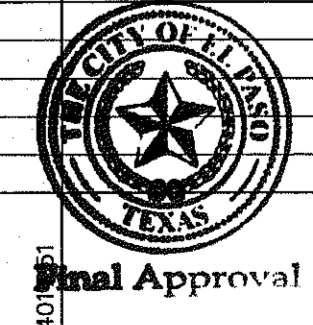
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Vertical: 1" = 5'
Control Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J.F./Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**RESLER DRIVE
FROM STA. 18+59.35
TO STA 24+04.91**

SHEET NO.

C6.1



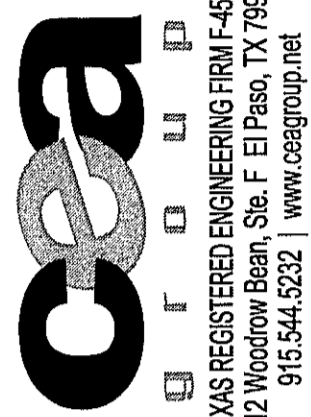
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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200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

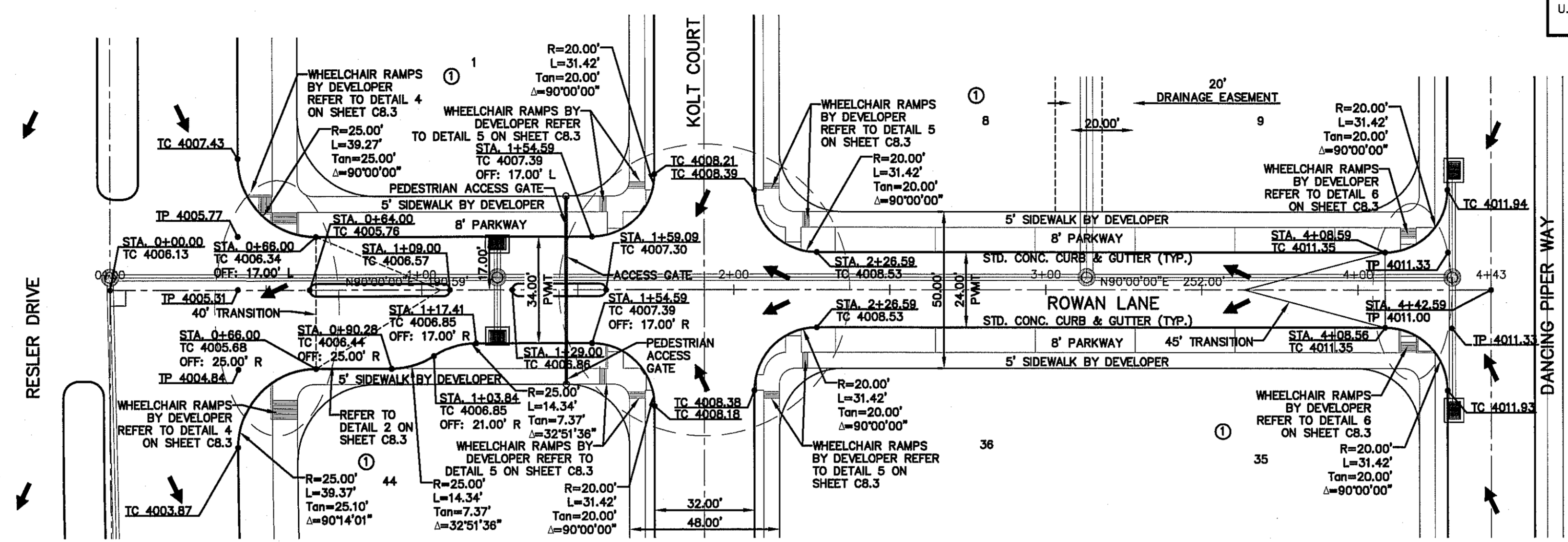
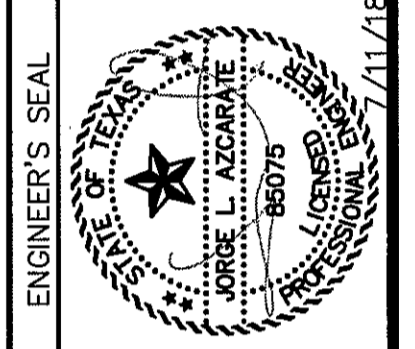
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
 FOUND N.G.S. SURVEY MARKER STAMPEL "CHINO 1890"
 ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
 ELEVATION: 3946.11 (NAD 83 DATUM)
 THE TO THE PROJECT BENCHMARK IS NAD83/9097 W 4008.93 FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. MURPHY SURVEY NO. 239.



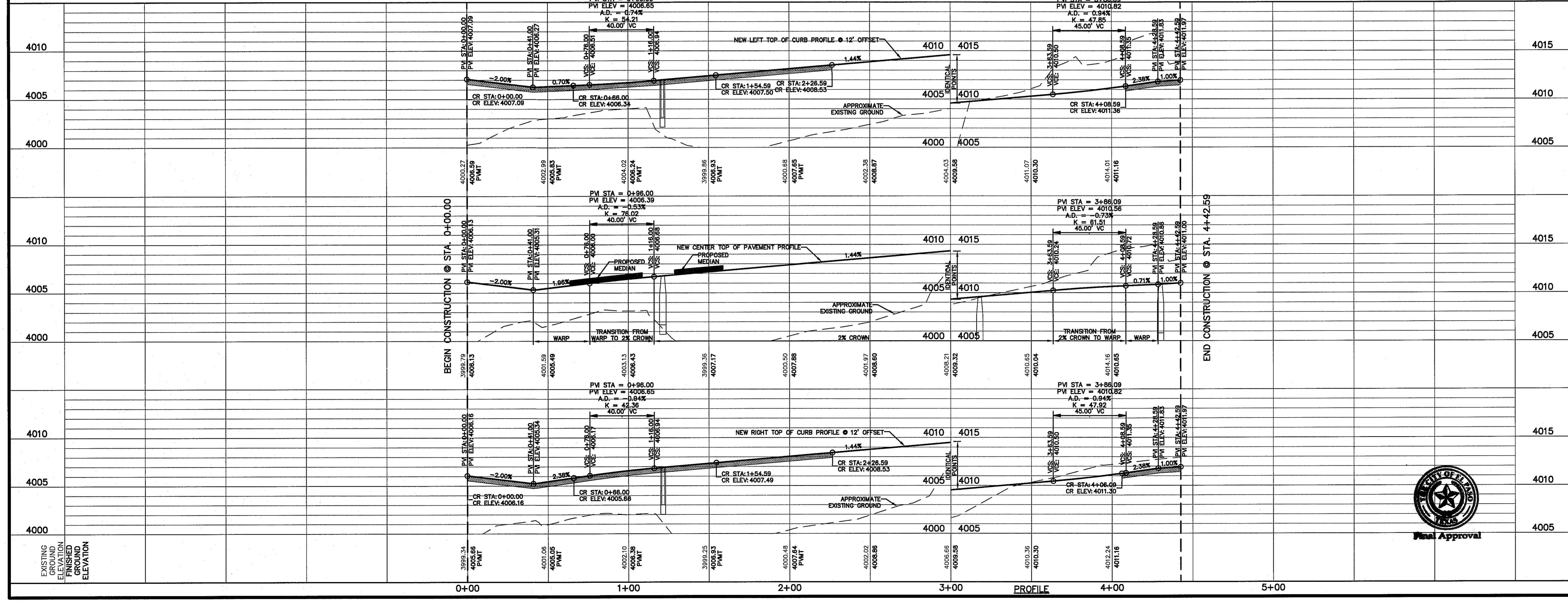
TEXAS REGISTERED ENGINEERING FIRM #4564
 4772 Woodrow Bean, Ste. F El Paso, TX 79924
 915.544.5232 | www.caegroup.net



PLAN

LEGEND

PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATION.



SCALE
 Horizontal: 1"=30'
 Vertical: 1"=5'
 Contour Interval: N/A
 DATE: JANUARY 2018
 DESIGN BY: C.J.F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No.: 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

ROWAN LANE
 FROM STA. 0+00.00
 TO STA. 4+42.59

SHEET NO.

C6.2



Final Approval

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

**WARNING I
BEFORE YOU DIG**
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES - BENCHMARKS
 FOUND N.G.S. SURVEY MARKER STAMPED "CHNO 1980"
 ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
 3946.11 (NAVD 83 DATUM)
 TIE TO THE PROJECT BENCHMARK IS N43°09'09"W 4008.93'
 FEET FROM A 1/2" INCH BEARING FOUND FOR THE NORTHWEST
 CORNER OF TRACT 11, BELLE D. WARDY SURVEY NO. 238

C&A ENGINEERING GROUP, INC.
 TEXAS REGISTERED ENGINEERING FIRM F-464
 4712 Woodrow Bean, Ste. F El Paso, TX 79904
 915.544.6232 | www.cagroup.net

ENGINEER'S SEAL

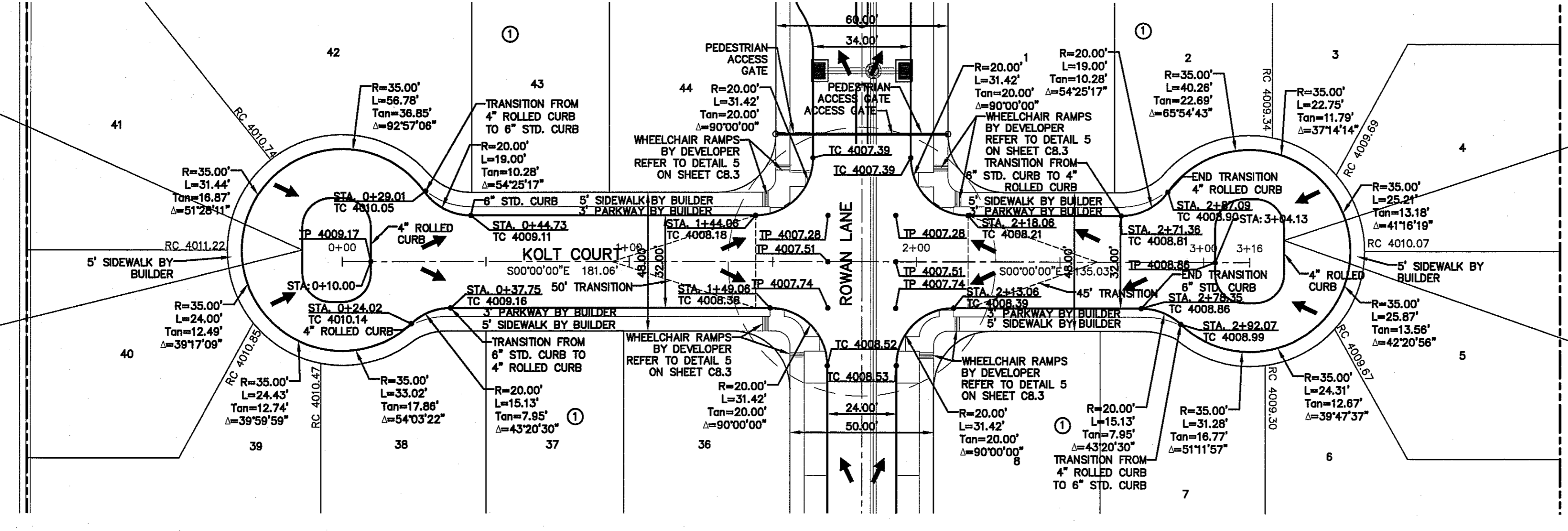
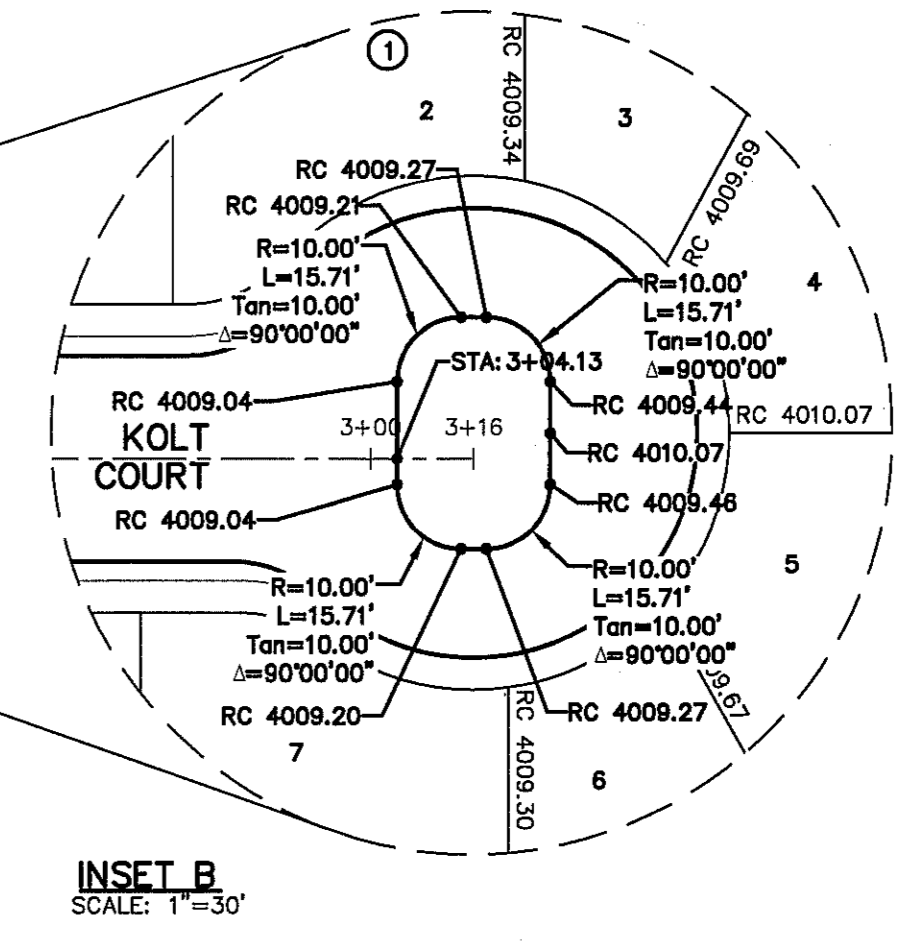
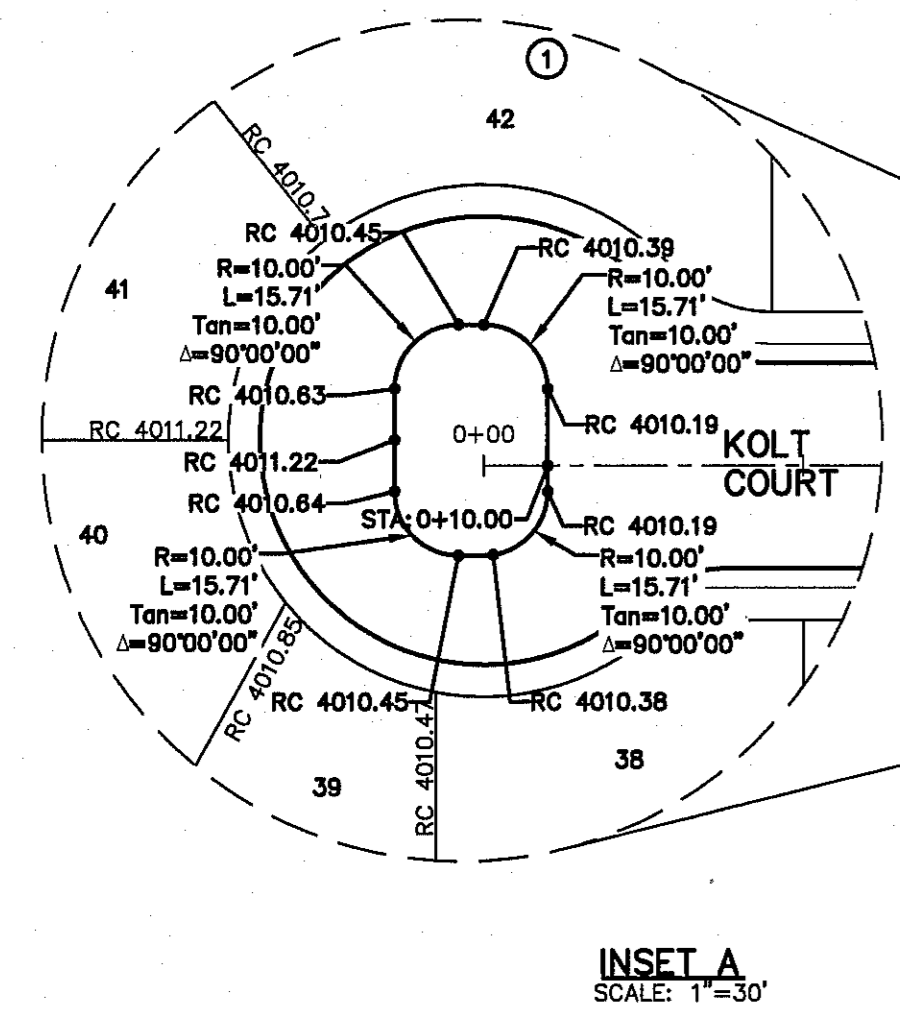
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Vertical: 1"=5'	4000
Contour Interval: 1/4'	4010
DATE: JANUARY 2018	4005
DESIGN BY: C.J.F.Z.	4000
DRAWN BY: A.C.	4010
CHKD. BY: J.L.A.	4005
APPD. BY: J.L.A.	4000
JOB NO.: 2051.001	4010

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**KOLT COURT
 FROM STA. 0+00.00
 TO STA. 3+16.10**

SHEET NO.
4000

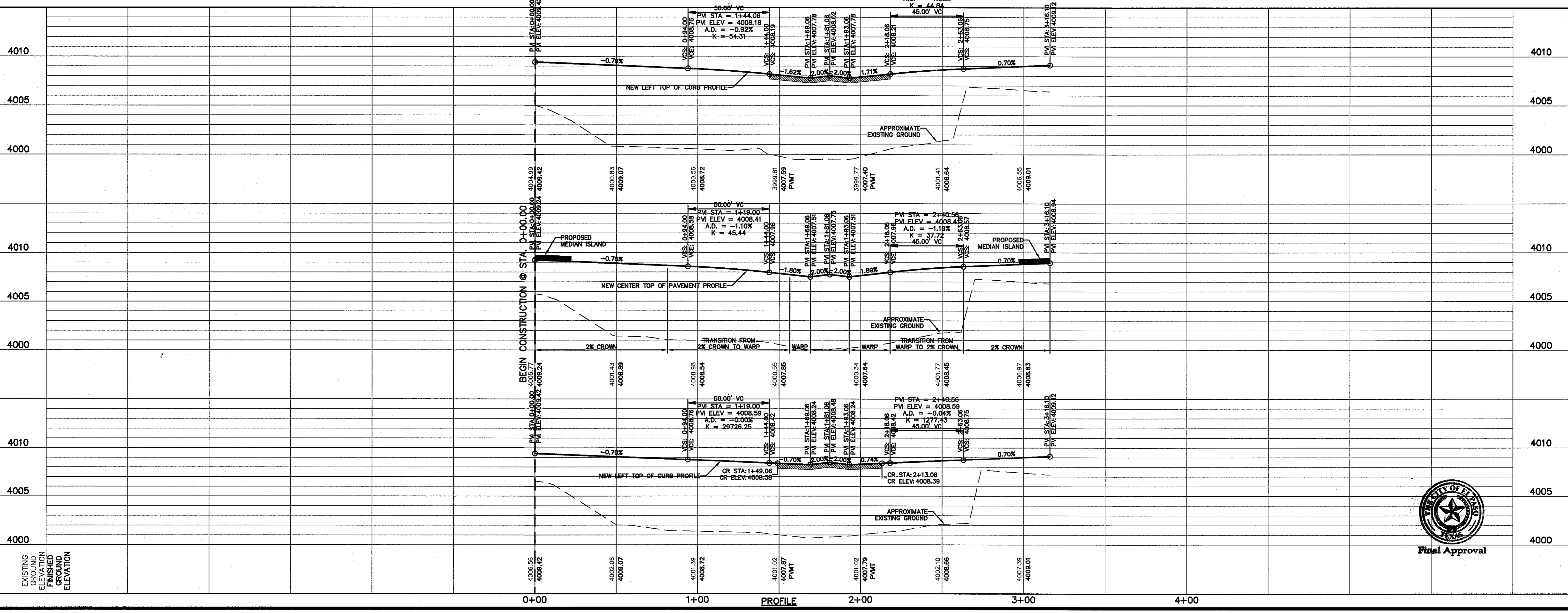
C6.3



PLAN

LEGEND

PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.

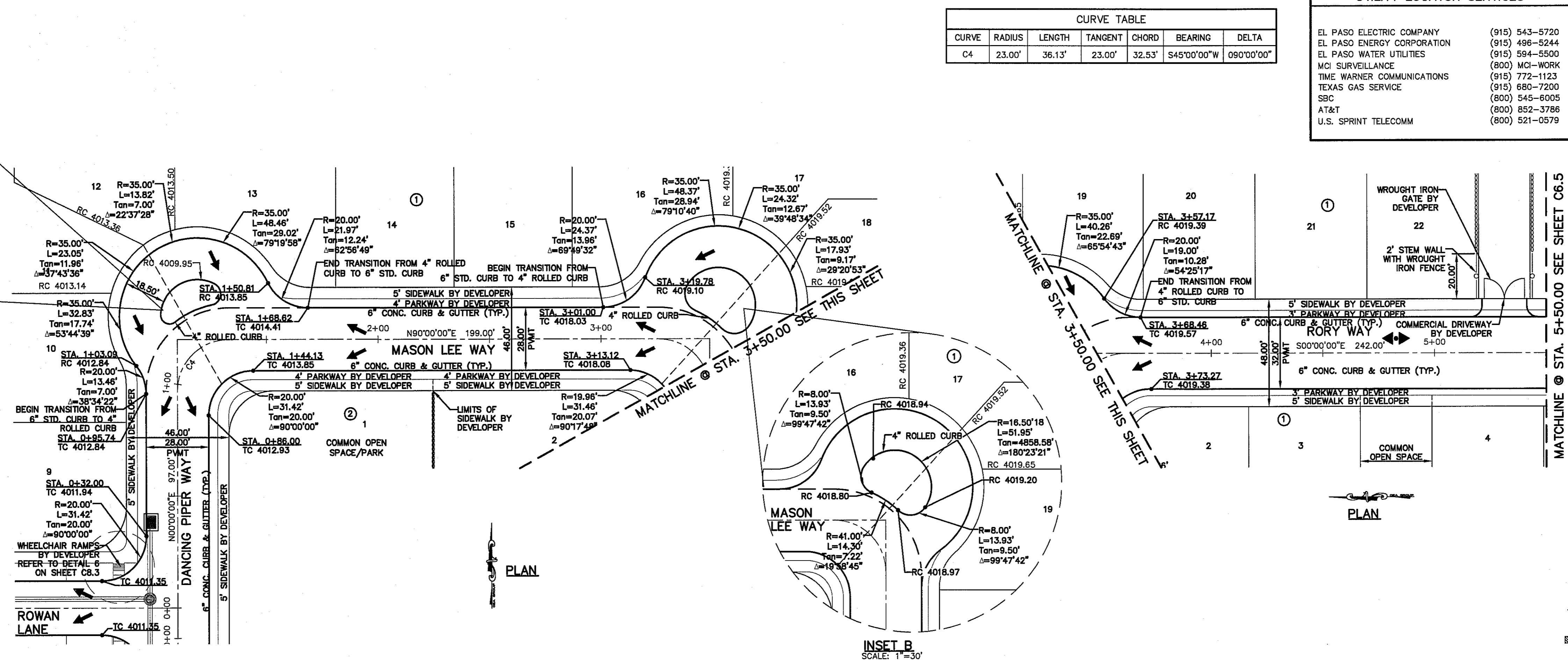
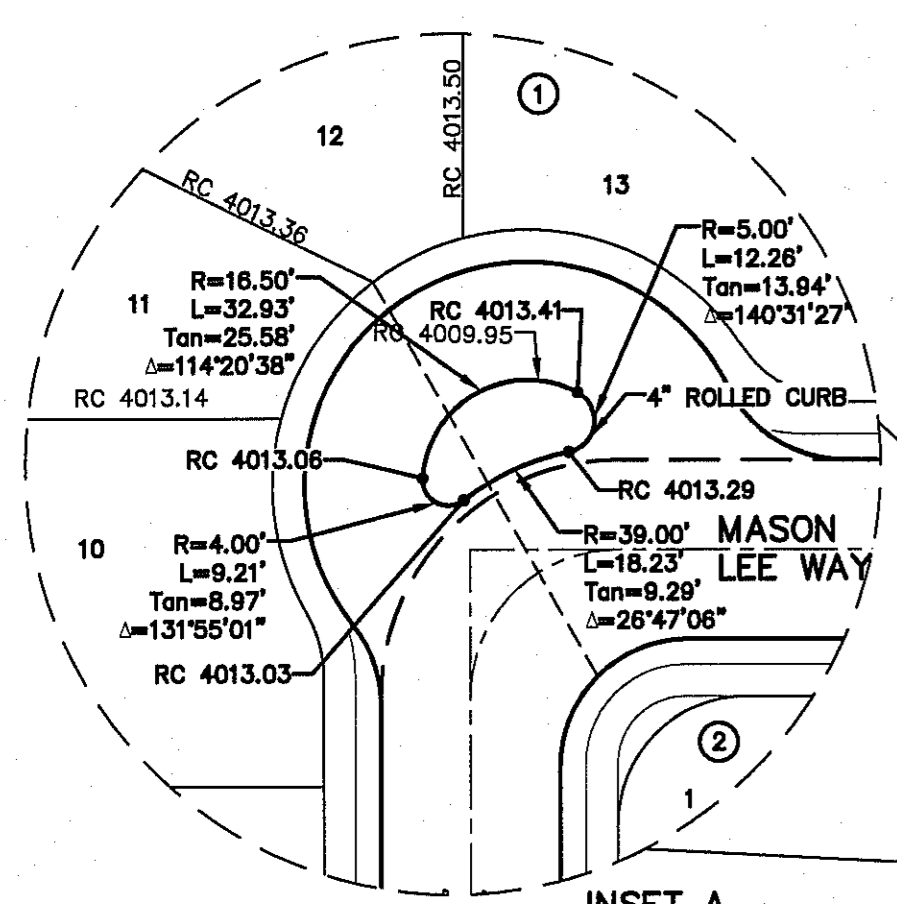


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Final Approval

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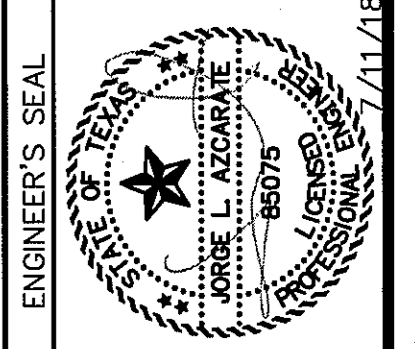
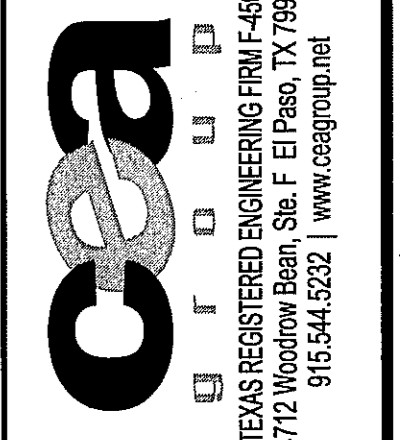


CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C4	23.00'	36.13'	23.00'	32.53'	S45°00'00"W	090°00'00"

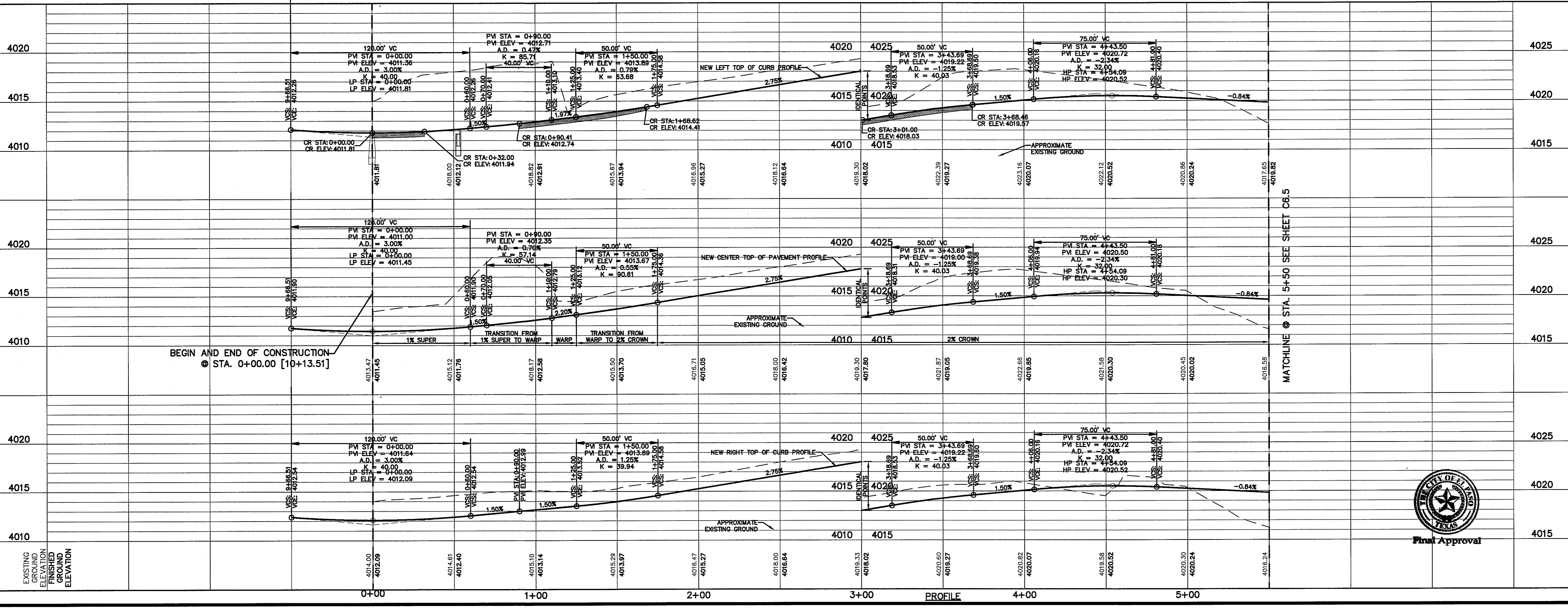
UTILITY LOCATOR SERVICES		
EL PASO ELECTRIC COMPANY	(915) 543-5720	
EL PASO ENERGY CORPORATION	(915) 496-5344	
EL PASO WATER UTILITIES	(915) 594-5500	
MCI SURVEILLANCE	(800) MCI-WORK	
TIME WARNER COMMUNICATIONS	(915) 772-1123	
TEXAS GAS SERVICE	(915) 680-7200	
SBC	(800) 545-6005	
AT&T	(800) 852-3786	
U.S. SPRINT TELECOMM	(800) 521-0579	

WARNING I BEFORE YOU DIG CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	DATE	BY
FOUND N.G.S. SURVEY MARKER STAMPED "ORND 1880"		
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOW)		
3945.78 (NSAD 28 DATUM)		
3945.78 (NSAD 28 DATUM)		
NOTE: TO THE PROJECT BENCHMARK IS N55°09'09"W 4008.83'		
FEET FROM A 1/2" INCH BENCH MARK FOUND FOR THE NORTHWEST		
CORNER OF TRACT 11, WELLS CO. WARD 10, BARRIET NO. 2381		

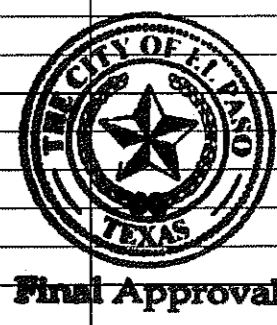


LEGEND
PVI ELEVATIONS ARE SHOWN AT TOP OF CURB. REFER TO PLAN VIEW FOR TOP OF PAVEMENT ELEVATIONS.



SCALE	PROJECT TITLE
Horizontal: 1"=30'	DESERT SPRINGS UNIT FIVE SUBDIVISION IMPROVEMENTS
Vertical: 1"=5'	
Contour Interval: N/A	

DATE	BY	APP'D.	JOB No.
DATE: JANUARY 2018	DESIGN BY: C.J.F.Z.	CHKD. BY: J.L.A.	2051.001
	DRAWN BY: A.C.	APP'D. BY: J.L.A.	



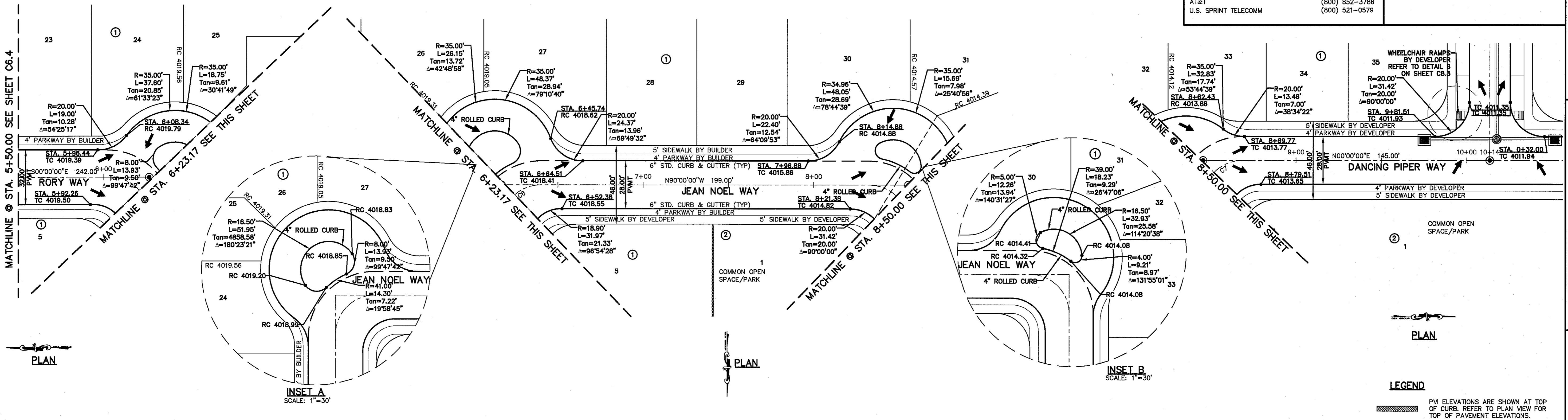
SHEET TITLE
DANCING PIPER WAY FROM STA. 0+00.00 TO STA. 1+20.09
MASON LEE WAY FROM STA. 1+20.09 TO STA. 3+41.82
RORY WAY FROM STA. 3+41.82 TO STA. 5+00.00
SHEET NO.
C6.4

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C6	23.00'	36.13'	23.00'	32.53'	N45°00'00"E	090°00'00"
C7	23.00'	36.13'	23.00'	32.53'	S45°00'00"E	090°00'00"

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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

REFERENCES - BENCHMARKS	REVISIONS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980" ELEVATION: 3946.91 (NAD 83 DATUM) FILE TO THE PROJECT BENCHMARK IS NAD83 4008.33' CORNER OF TRACT 11, NELLIE D. MURPHY SURVEY, N.W. 23B	DATE
	BY



osca

OSCA ENGINEERING, INC.
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5222 | www.oscagroup.net

ENGINEER'S SEAL

SCALE: 1"=30'

Vertical: 1"=5'

Horizontal: 1"=50'

Contour Interval: 1/4"

DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.

JOB NO. 2051.001



PROJECT TITLE

**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

RORY WAY
FROM STA. 5+50.00
TO STA. 6+23.17

JEAN NOEL WAY
FROM STA. 6+45.98
TO STA. 8+45.98

DANCING PIPER WAY
FROM STA. 8+45.98
TO STA. 10+13.51

SHEET NO.

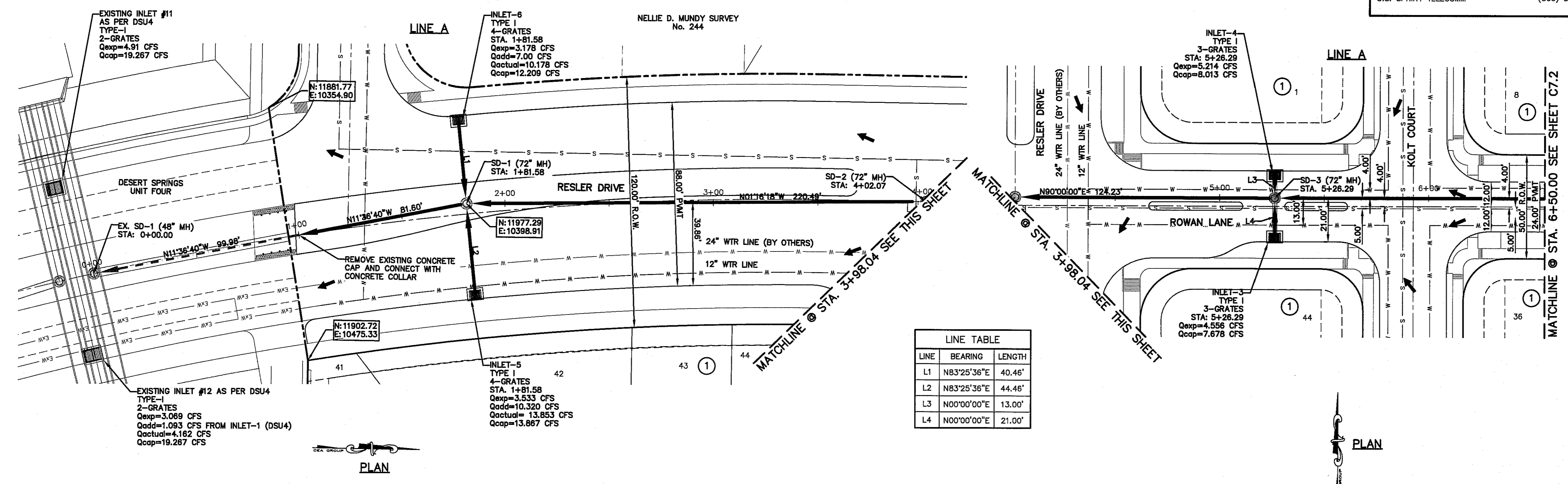
C6.5

Final Approval

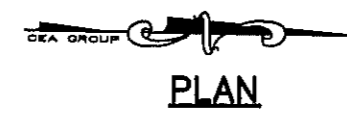
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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 880-7200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

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FOR FIELD LOCATING EXISTING UTILITIES



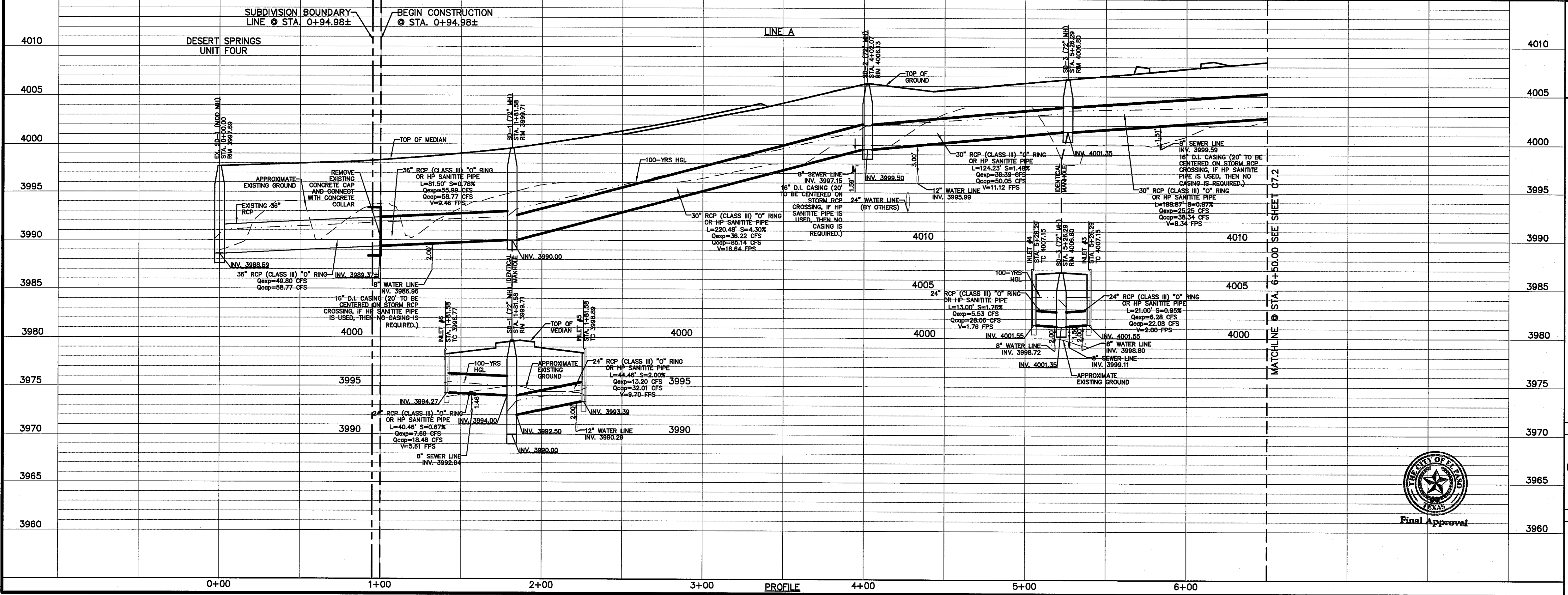
LINE TABLE		
LINE	BEARING	LENGTH
L1	N83°25'36"E	40.46'
L2	N83°25'36"E	44.46'
L3	N00°00'00"E	13.00'
L4	N00°00'00"E	21.00'



REFERENCES - BENCHMARKS	
FOUND N.G.S. SURVEY MARKER STAMPED "CHNO 1980"	
ELEVATION: 3943.11 (NAVD 83 DATUM)	
3945.72 (NGVD 29 DATUM)	
TIE TO THE PROJECT BENCHMARK IS N53°09'00"W, 4008.33'	
TO THE CORNER OF TRACT 11, NELLE D. MUNDY SURVEY, N.W. 20S, E. 10E	
DATE	REVISIONS
BY	

ENGINEER'S SEAL

TEXAS REGISTERED ENGINEERING FIRM-4984
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5222 | www.cesgroup.net



SCALE	
Horizontal: 1"=30'	
Vertical: 1"=5'	
Contour Interval: 1/4"	
DATE: JANUARY 2018	
DESIGN BY: C.J.F.Z.	
DRAWN BY: A.C.	
CHKD. BY: J.L.A.	
APPVD. BY: J.L.A.	
JOB NO. 2051.001	

PROJECT TITLE

**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

LINE "A" FROM STA. 0+00.00 TO STA. 6+50.00

SHEET NO.

C7.1

Final Approval

S:\2051\2051-001-Desert Springs Unit 5\DWGSA-Construction Drawings\Improvement Plans\2051001_C7_0_STRM_P&P.dwg, 7/11/2018 10:01:29 AM

S:\205\2051-001-Desert Springs Unit 5\Drawings\Improvement Plans\2051001_C70_STRM_P&P.dwg, 7/11/2018 10:01:57 AM

LEGEND:

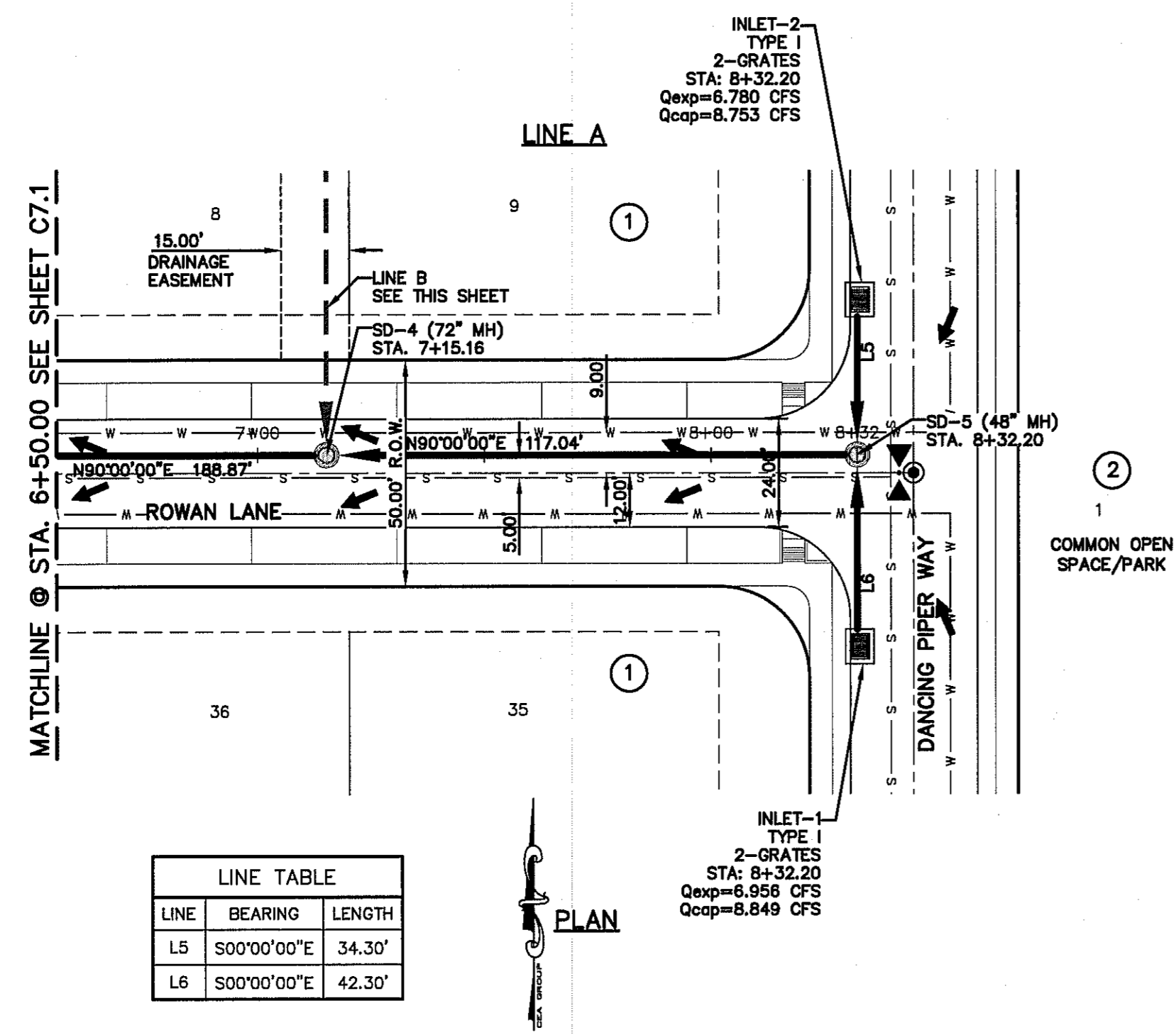
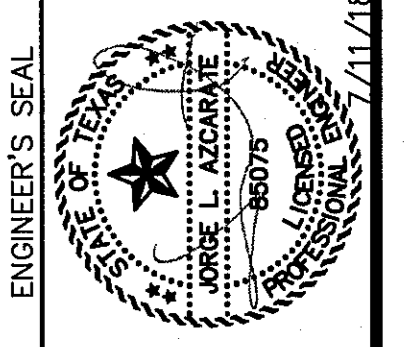
- STORM SEWER LINE
- PROPOSED STORM SEWER LINE ON OTHER STREETS
- EXISTING STORM SEWER LINE
- DROP INLET
- STORM DRAIN MANHOLE
- S—S— SANITARY SEWER LINE
- W—W— WATER LINE

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

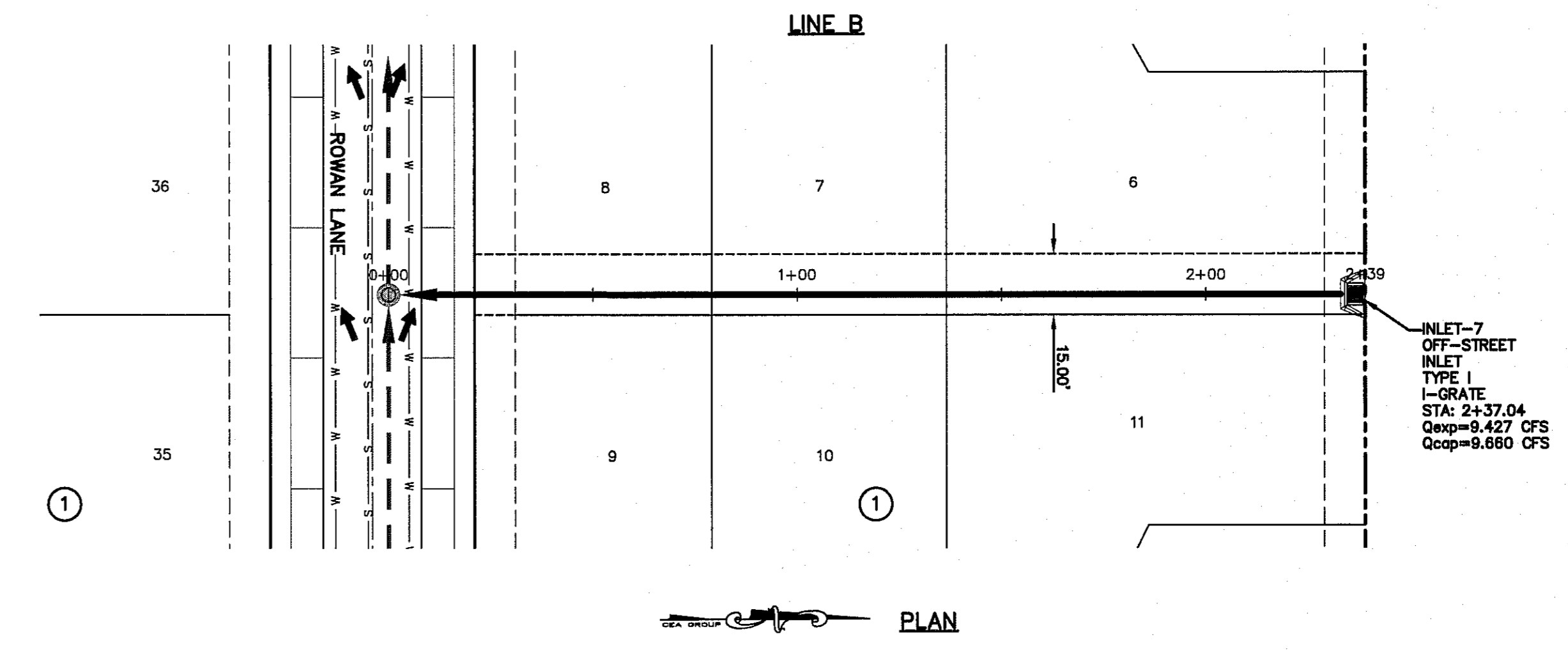
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

osca
O S C A
TEXAS REGISTERED ENGINEERING FIRM #494
4712 Woodrow Bldg., Ste. F El Paso, TX 79924
915.544.5232 | www.oscainc.com



LINE	BEARING	LENGTH
L5	S00°00'00"E	34.30'
L6	S00°00'00"E	42.30'



PLAN



MATCHLINE @ STA. 6+50.00 SEE SHEET C7.1

MATCHLINE @ STA. 2+39.00±

SCALE	PROJECT TITLE
Horizontal: 1"=30' Vertical: 1"=5'	DESERT SPRINGS UNIT FIVE SUBDIVISION IMPROVEMENTS

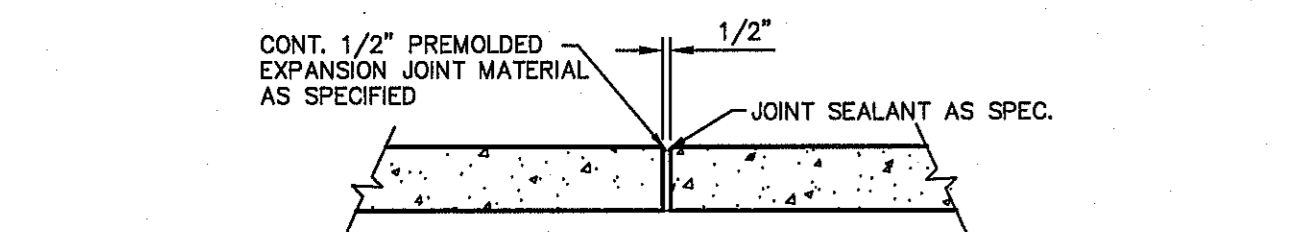
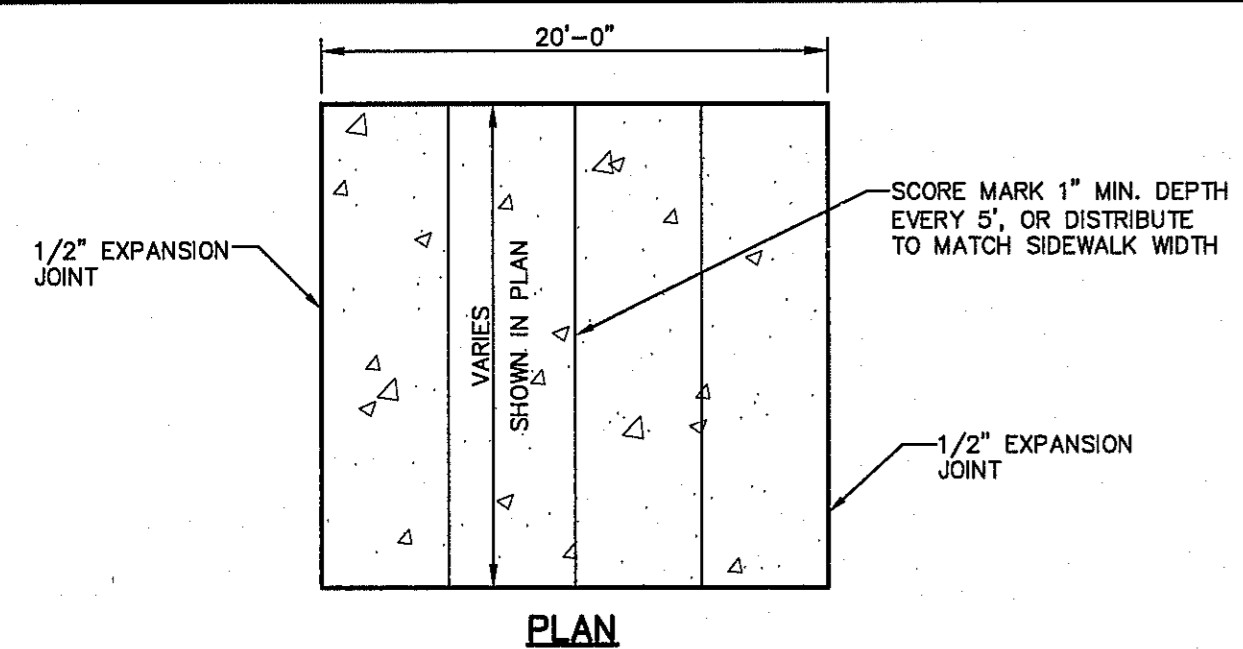
DATE	DESIGN BY	DRAWN BY	CHKD. BY	APPVD. BY	JOB NO.
JANUARY 2018	C.J.F.Z.	A.C.	J.L.A.	J.L.A.	2051.001

SHEET TITLE
LINE "A" FROM STA. 6+50.00 TO STA. 8+32.20
LINE "B" FROM STA. 0+00.00 TO STA. 2+40.00
SHEET NO.



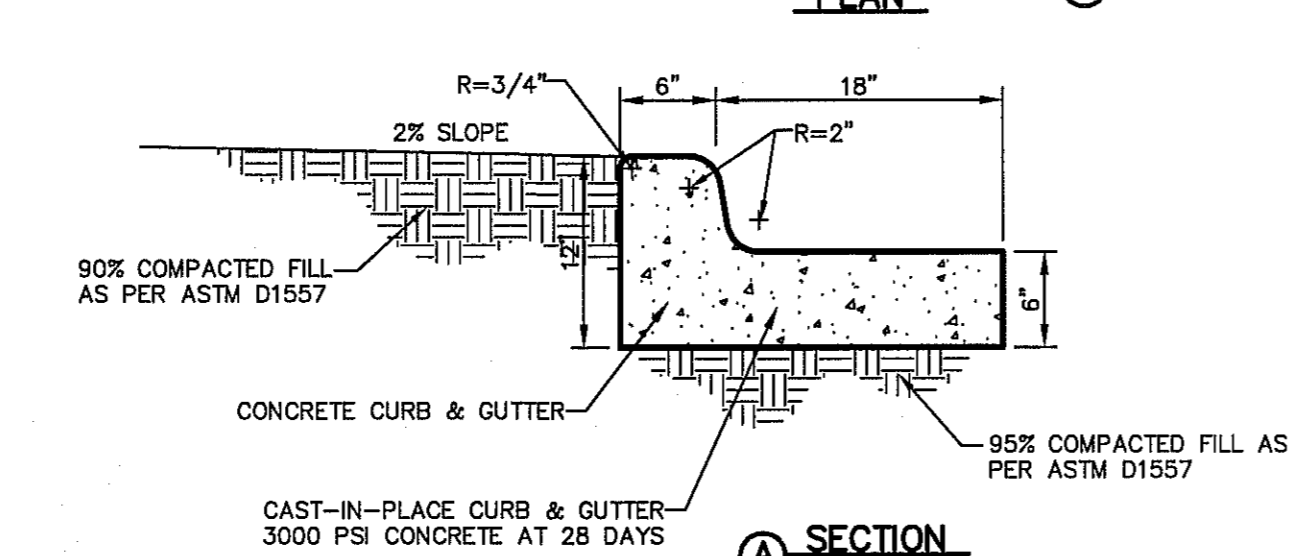
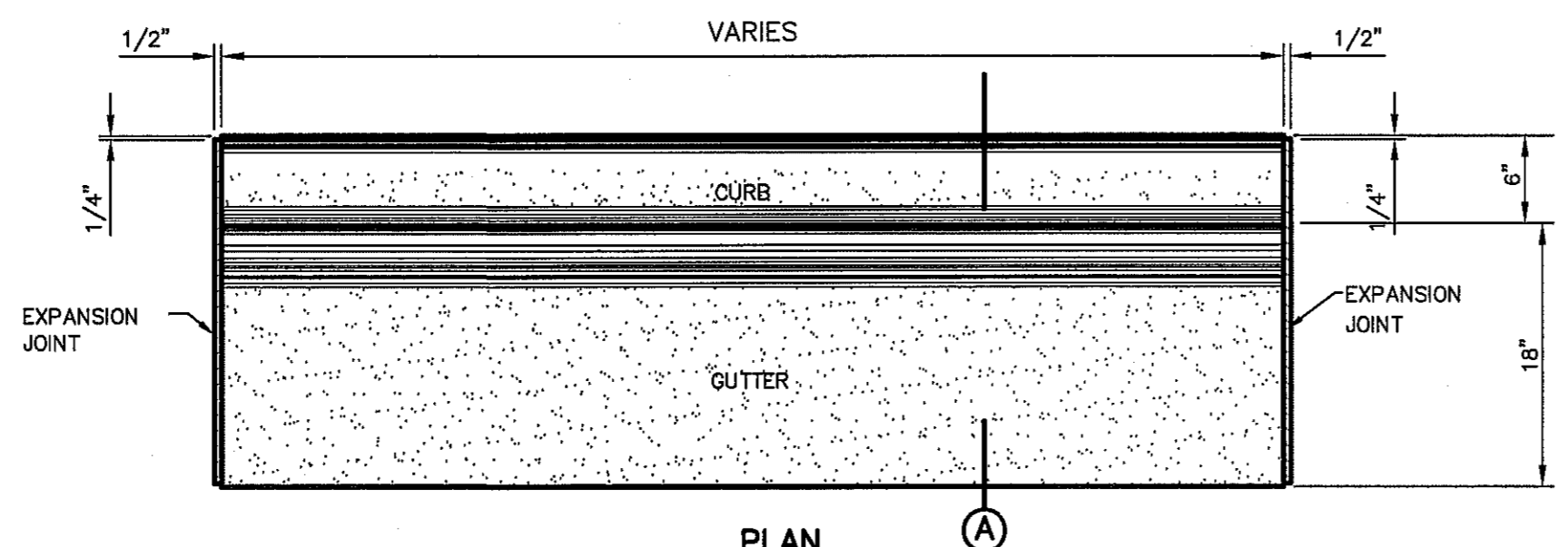
C7.2

S:\2051\2051-001-Desert Springs Unit 5\DWG\Construction Drawings\Improvement Plans\C8.0_DTL_S_DRAWING.dwg, 7/11/2018 10:02:20 AM



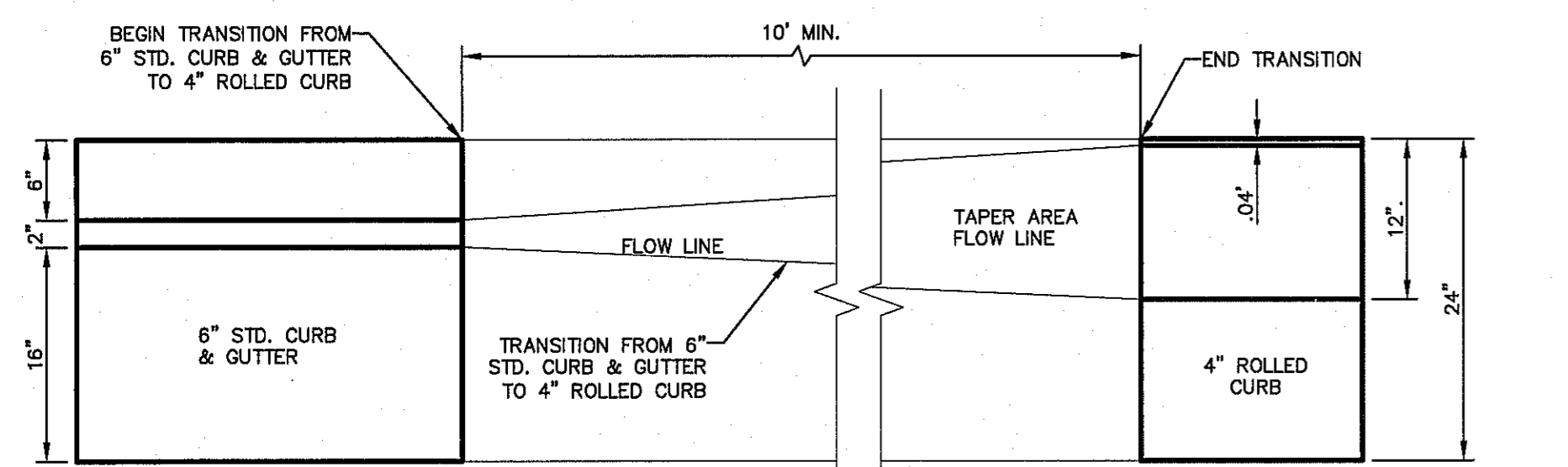
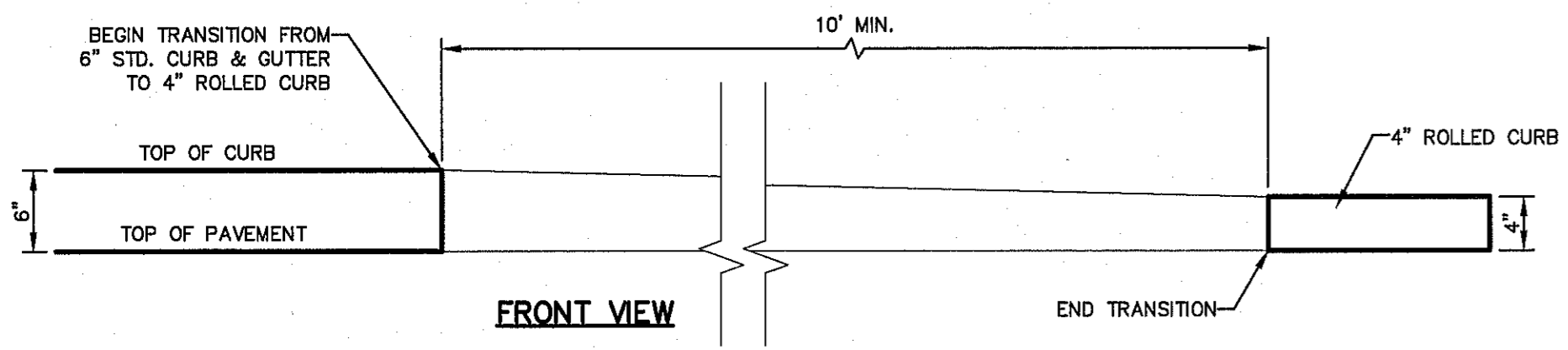
- NOTES:**
- EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED JOINT FILLER (AASHTO M-33).
 - EXPANSION JOINTS SHALL BE SPACED AT 20'-0" MAX.
 - WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS, EXPANSION JOINTS FILLER SHALL BE PLACED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
- SIDEWALK NOTES:**
- CONCRETE SIDEWALK SHALL BE 3,000 P.S.I.
 - DUMMY JOINTS REQUIRED AT 5' O.C.
 - EXPANSION JOINTS SHALL BE AT 20' O.C. MAXIMUM, USE 1/2" PREFORMED BITUMINOUS EXPANSION JOINTS (AASHTO M-33)
 - EXPANSION JOINT FILLER SHALL BE PLACED WHEREVER SIDEWALK ABUTS ROCK OR MASONRY STRUCTURES SUCH AS CURBS OR BUILDINGS.
 - SUBGRADE TO BE COMPACTED TO 95% AS PER ASTM D1557.
 - REINFORCEMENT (6#6-10/10 W.W.F.) SHALL BE PLACED WHEREVER SIDEWALK ABUTS A PEDESTRIAN WALKWAY AND/OR PARK.

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



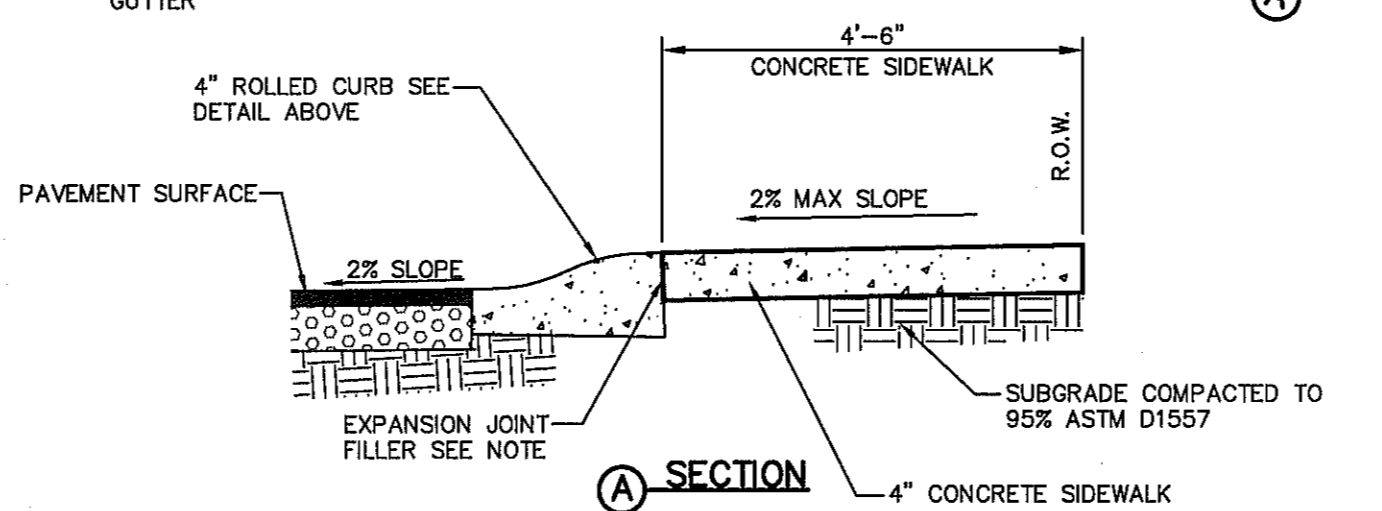
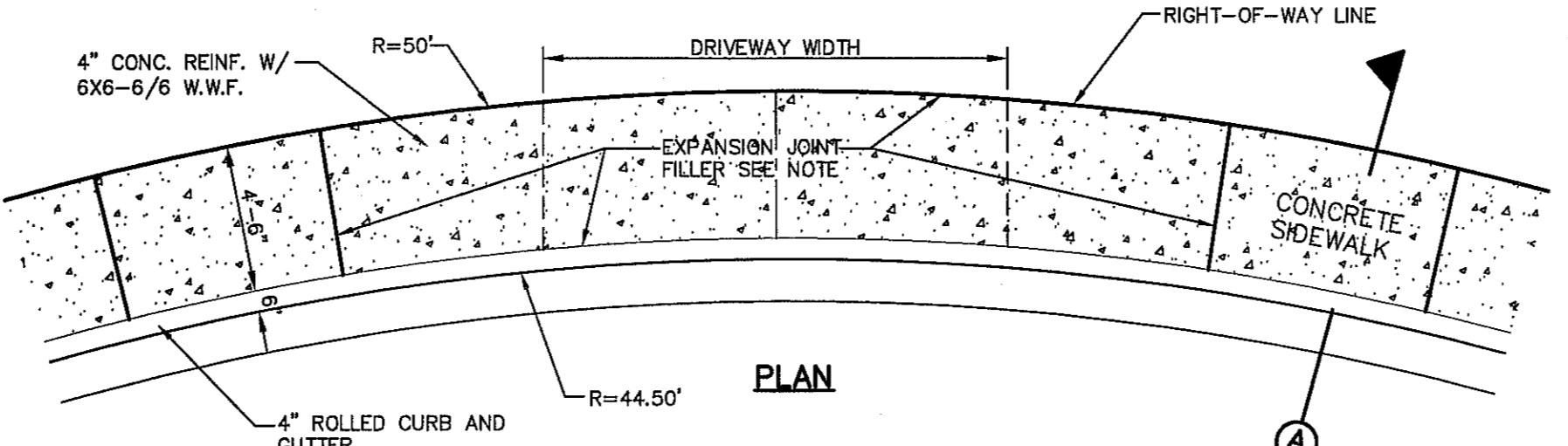
- NOTES:**
- CONCRETE CURB, GUTTER AND RETURNS SHALL BE 3,000 P.S.I. MIN.
 - DUMMY JOINT REQUIRED AT 10' O.C. FOR CURB & GUTTER, AND 5' O.C. FOR SIDEWALK
 - 1/2" PREFORMED BITUMINOUS EXPANSION JOINT (AASHTO M-33) IS REQUIRED FOR ALL CURB RETURNS. TRIM BITUMINOUS MATERIAL 1/4" LESS THAN NEAT CURB AND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

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



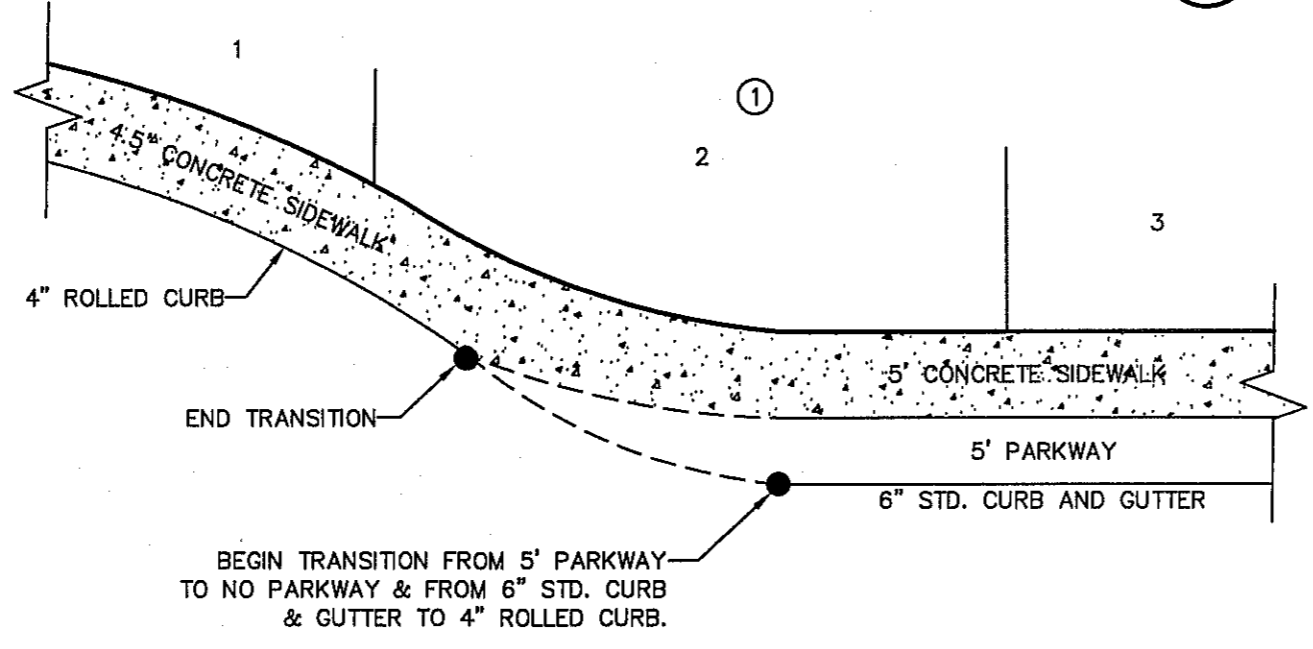
- NOTE:** SIDEWALK SHALL MAINTAIN TOP OF CURB ELEVATIONS.

6 CURB TRANSITION DETAIL
SCALE: N.T.S.

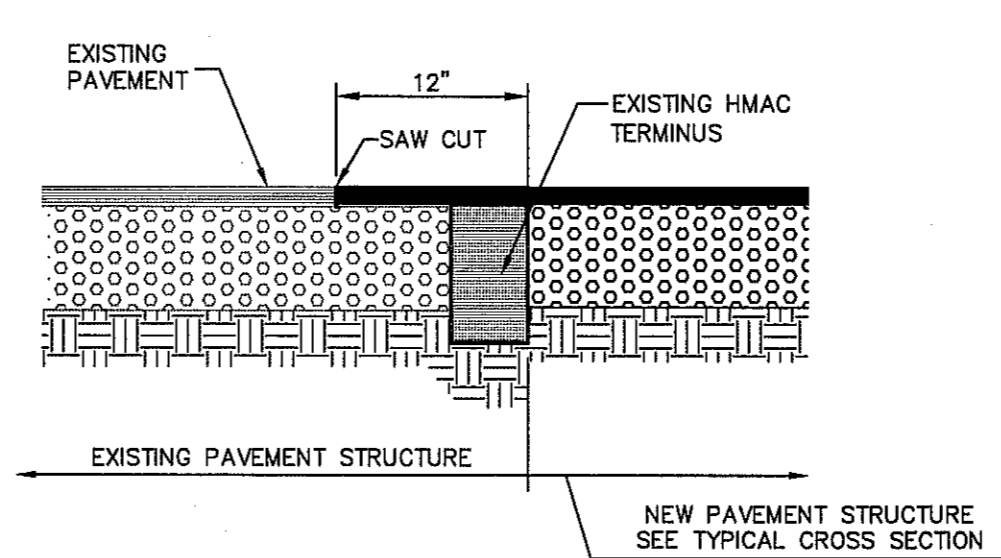


- NOTE:** EXPANSION MATERIAL SHALL BE 1/2" PREFORMED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.

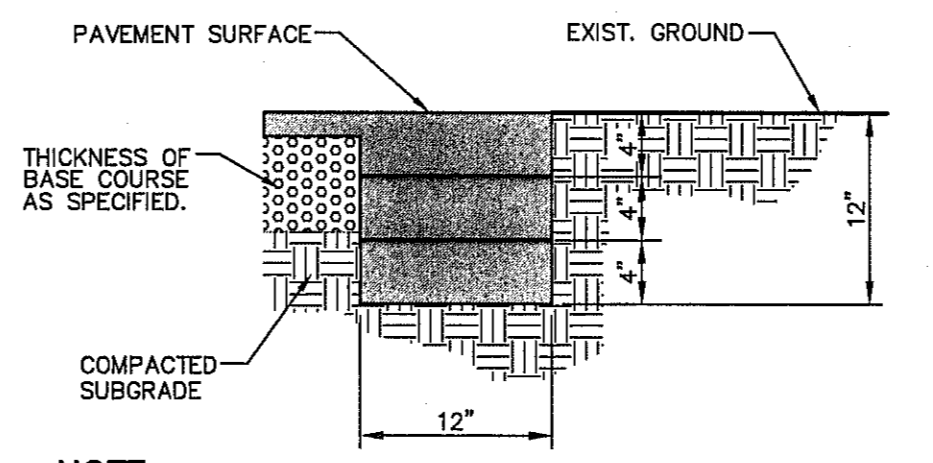
7 HEEL/CUL-DE-SAC DRIVEWAY DETAIL
SCALE: N.T.S.



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

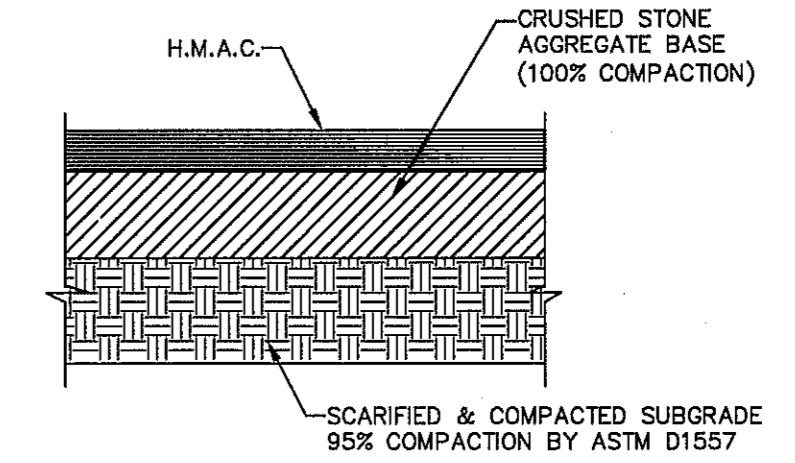


3 TYPICAL PAVEMENT JOINT SECTION
SCALE: N.T.S.



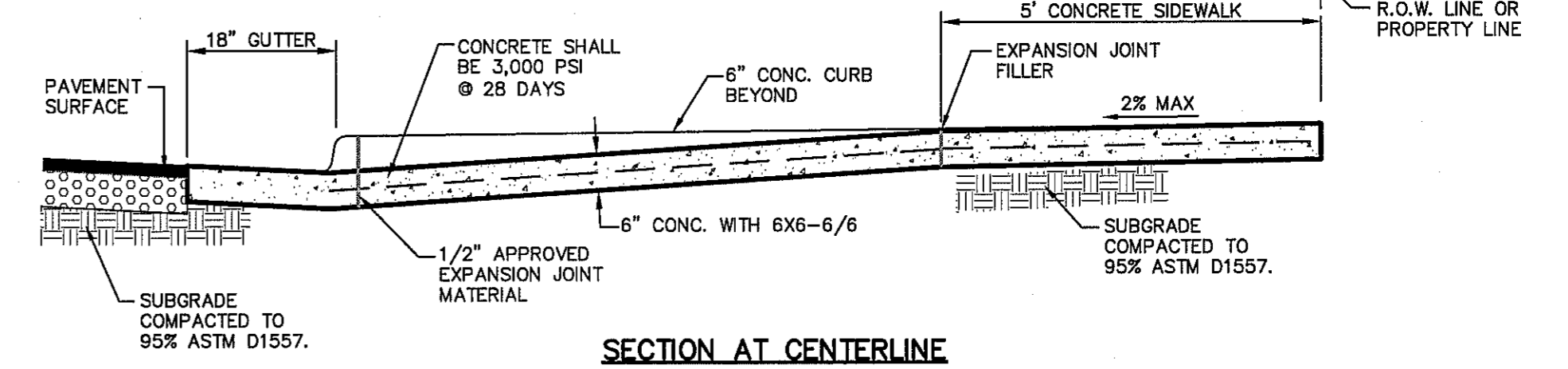
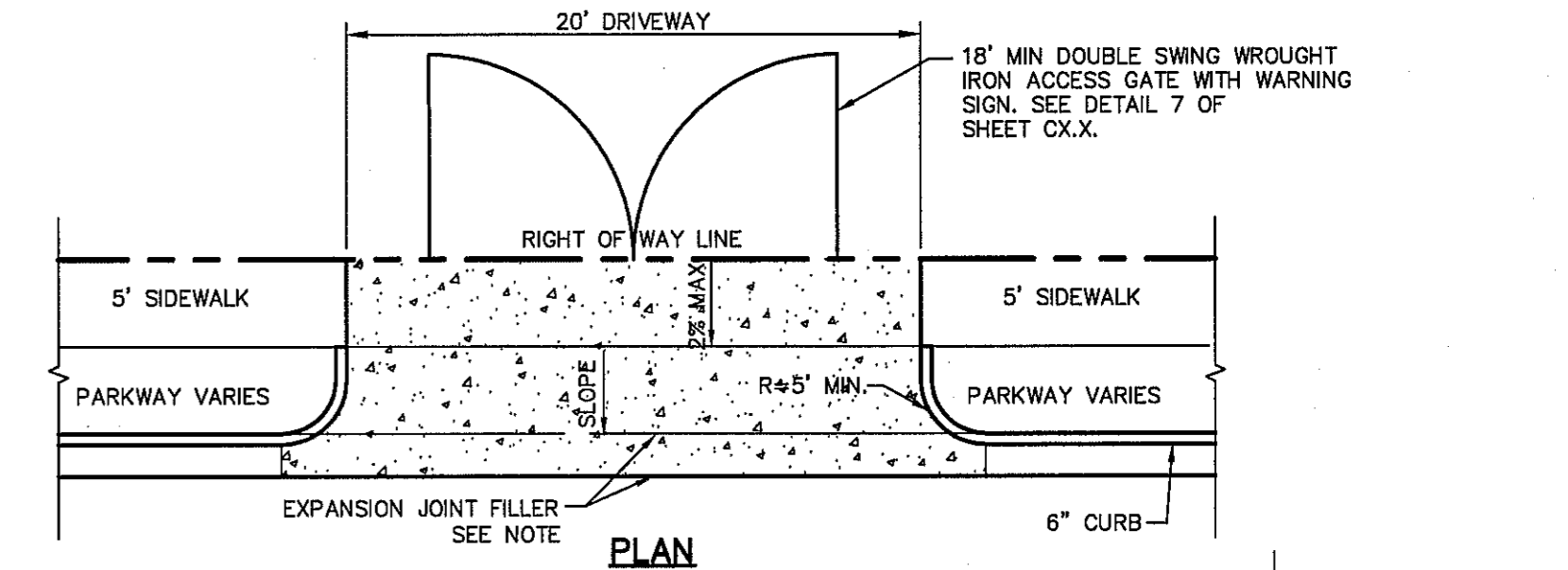
- NOTE:** TERMINUS MUST BE CONSTRUCTED IN 4" LIFTS. FINAL LIFT MUST BE PLACED WITH FINAL PAVEMENT COURSE.

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



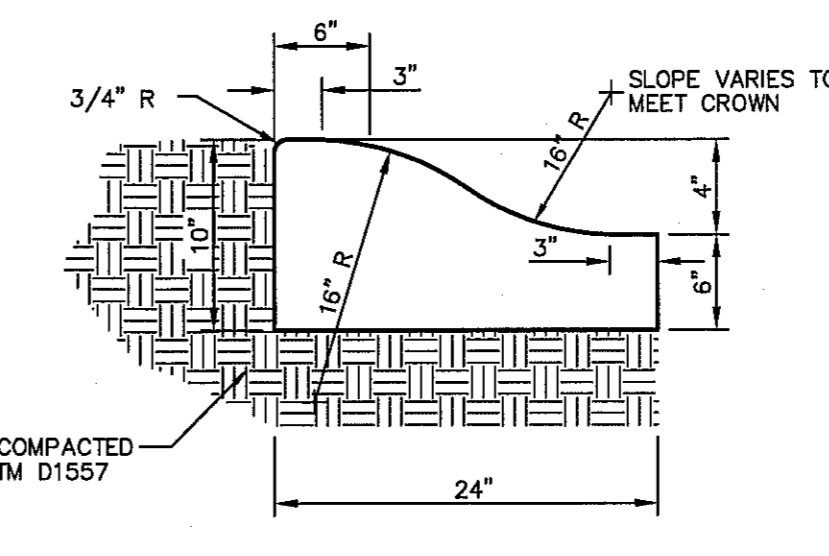
- PAVEMENT SECTION NOTES:**
- SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DENSITY AS PER ASTM D-1557.
 - MINIMUM PAVEMENT DESIGN DETAILS ARE SHOWN, ACTUAL PAVEMENT DESIGN WILL BE DETERMINED BY CBR.
 - STREET IMPROVEMENTS (FLEXIBLE PAVEMENT DESIGN STRUCTURE) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS: CBR EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT. THE CBR RESULTS WILL DICTATE THE REQUIRED THICKNESS OF THE PAVEMENT STRUCTURE BASED ON CITY OF EL PASO DESIGN STANDARDS. THE DEVELOPER SHALL PLACE THE HIGHER VALUE OF PAVEMENT STRUCTURE BASED ON THE CBR RESULTS OR THE MINIMUM PAVEMENT THICKNESS AS SHOWN ON THE CITY OF EL PASO DESIGN STANDARDS.

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



- NOTES:**
- DRIVEWAY SLOPES MUST BE TEN (10%) PERCENT MAXIMUM SLOPE FROM GUTTER FOR THE FIRST TWELVE (12) FEET, FOURTEEN (14%) PERCENT MAXIMUM THEREAFTER.

8 COMMERCIAL DRIVEWAY DETAIL
SCALE: N.T.S.



10 4" CONCRETE ROLLED CURB DETAIL
SCALE: 1"=1'-0"

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

REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1880"	ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAD 88 DATUM)	
TO THE PROJECT BENCHMARK IS N43709'09"W 4008.93'	
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST	
CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY NO. 238	
DATE	REVISIONS
	BY

DESIGNER'S SEAL

CITY OF EL PASO

REGISTERED PROFESSIONAL ENGINEER

80075

TEXAS REGISTERED ENGINEERING FIRM F-464

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

915.544.5232 | www.cegroup.net

DESERT SPRINGS UNIT FIVE

SUBDIVISION IMPROVEMENTS

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JANUARY 2018
DESIGN BY:	C.J.F./Z.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APP'D. BY:	J.L.A.
JOB No.:	2051.001

PROJECT TITLE

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

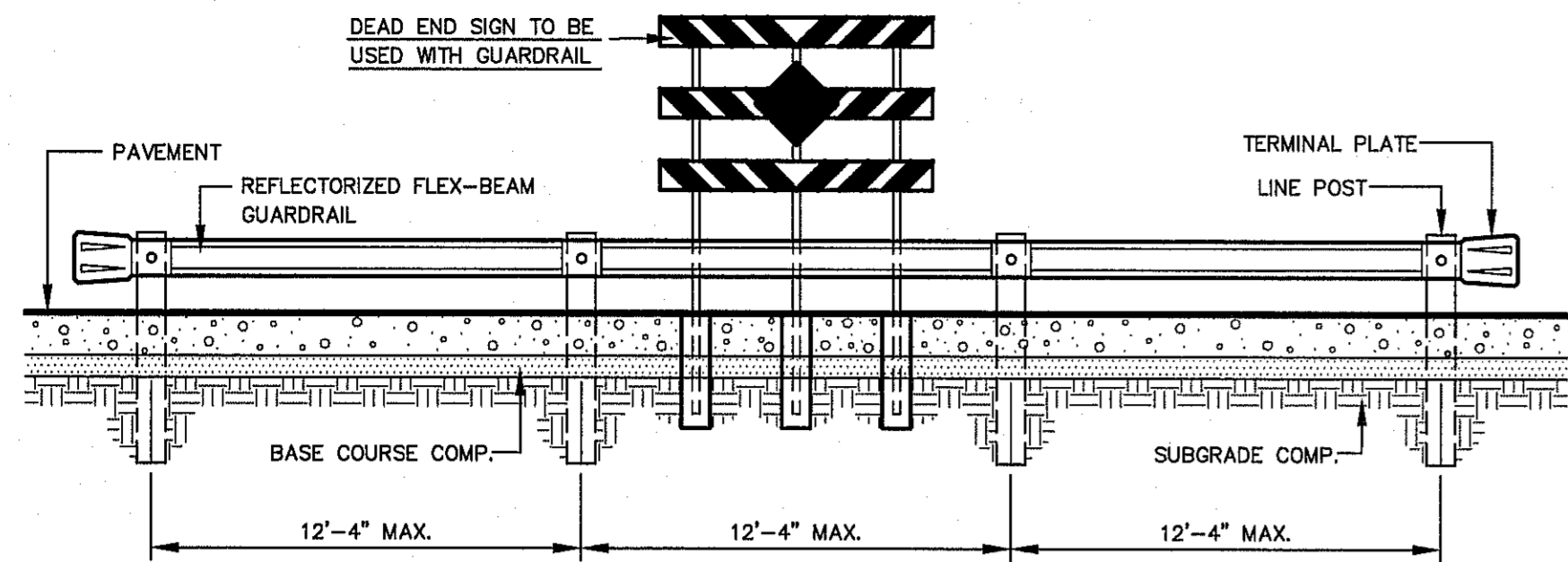
SHEET TITLE

STANDARD
DETAILS

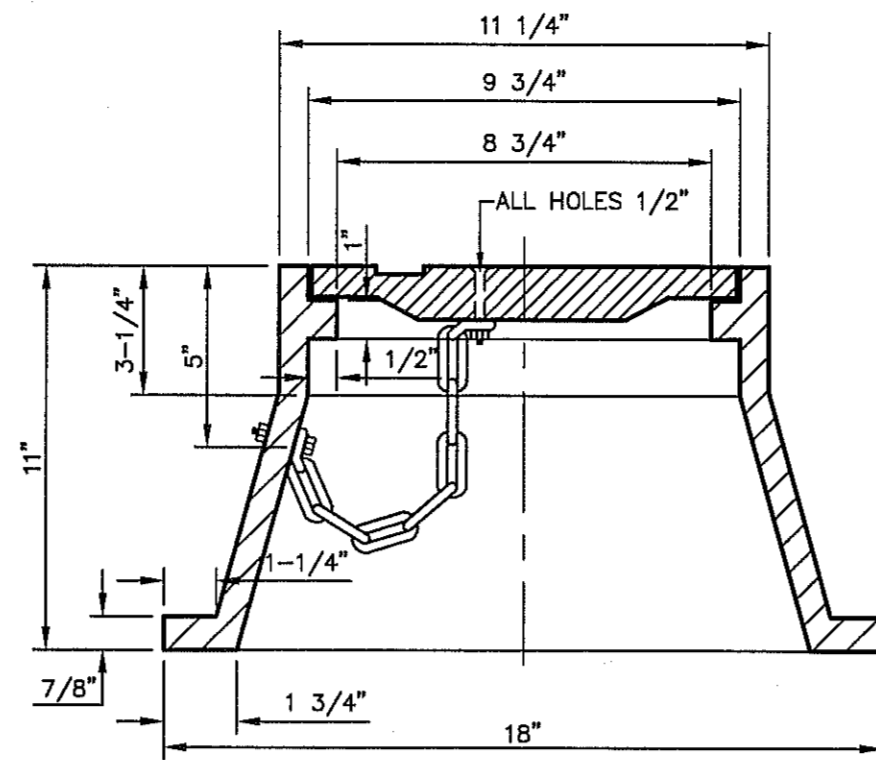
(SHEET 1 OF 4)
SHEET NO.

C8.1

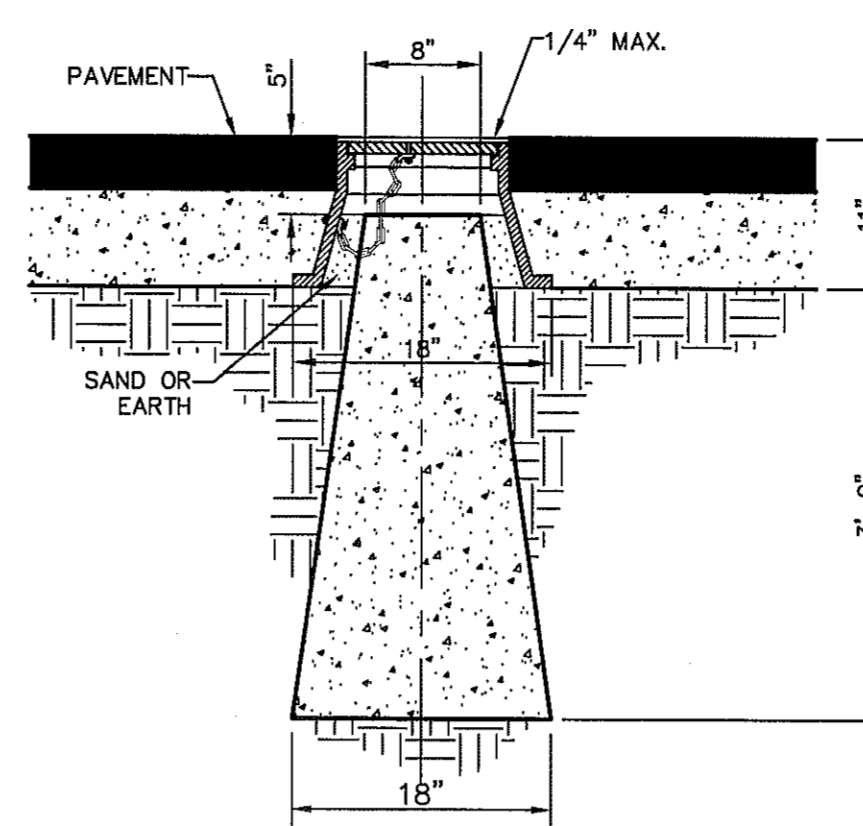




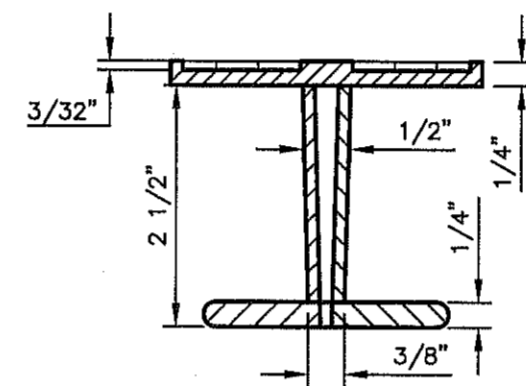
ELEVATION
SCALE: 1"=5'



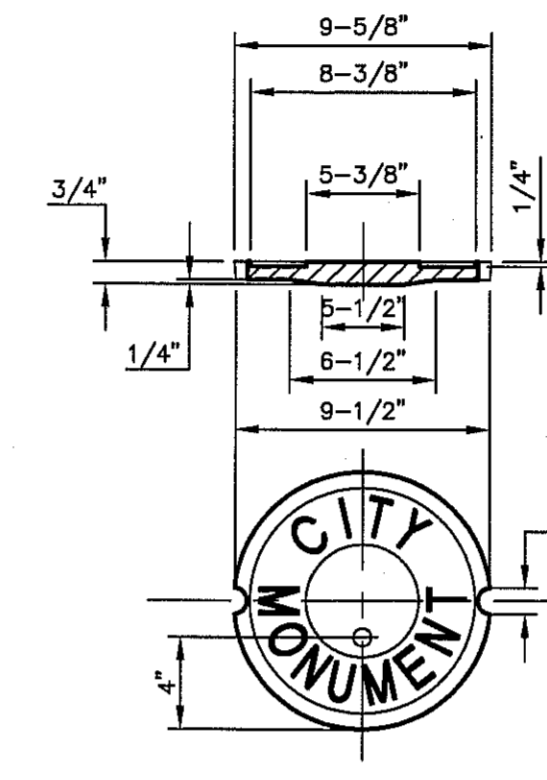
FRAME SECTION



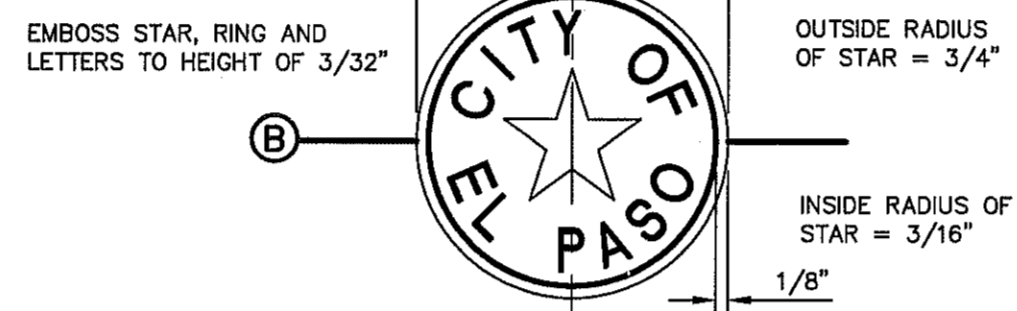
NO FORMS REQUIRED.
CONCRETE TO BE
POURED IN PLACE
3000 P.S.I. CONC.



B SECTION

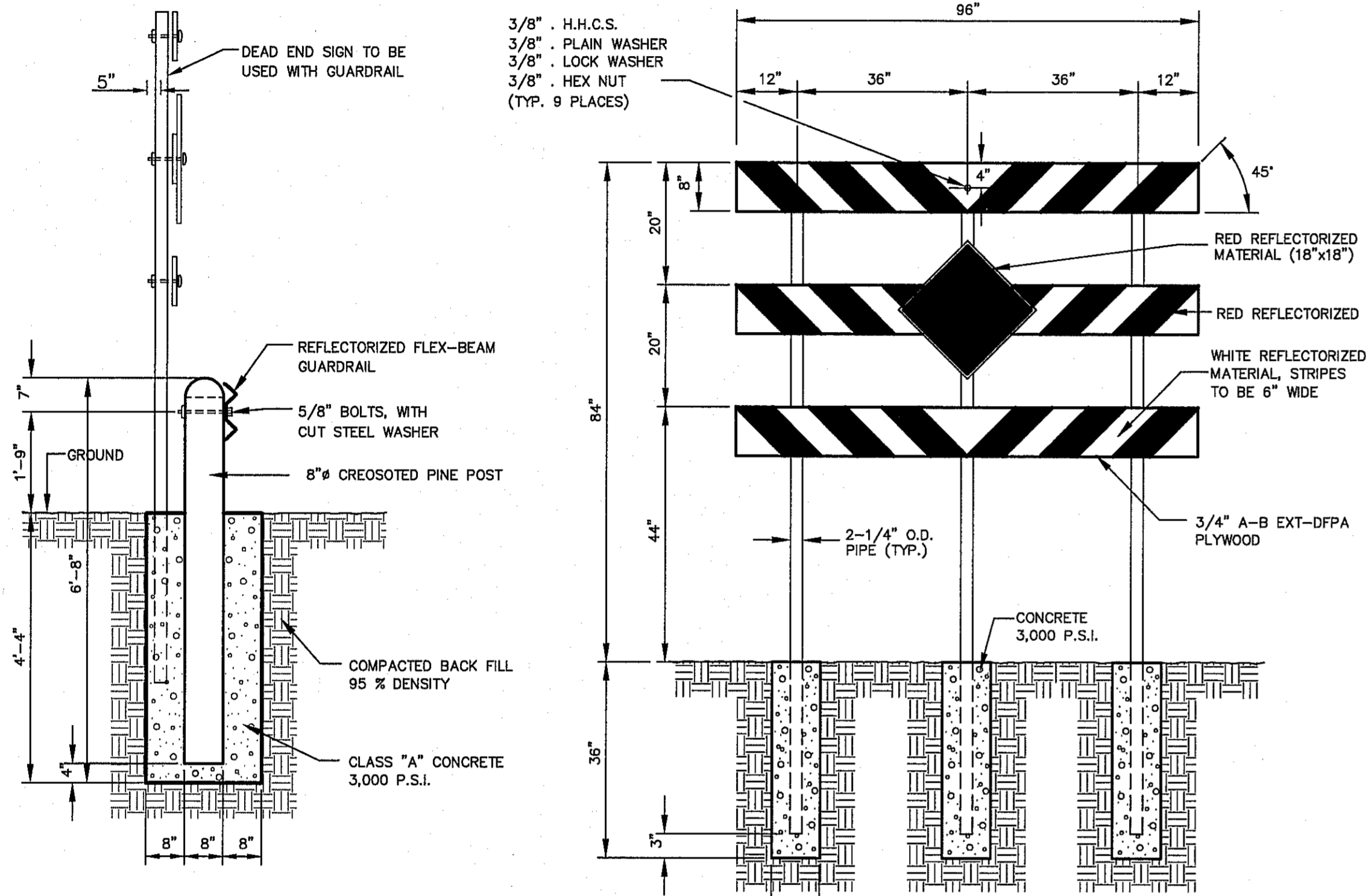


COVER



BRONZE MONUMENT CAP

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



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

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

ROCK WALLS

MATERIALS: STONE FOR ROCK WALLS SHALL CONSIST OF QUARRIED LIMESTONE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. FIELD STONE OR SALVAGED STONE FROM ROCK WALLS SHALL BE USED ONLY WHERE DIRECTED BY THE ENGINEER. THE STONE SHALL BE DENSE, RESISTANT TO THE ACTION OF AIR AND WATER, CLEAN OF OLD MORTAR AND SUITABLE IN ALL RESPECTS FOR THE PURPOSE INTENDED.

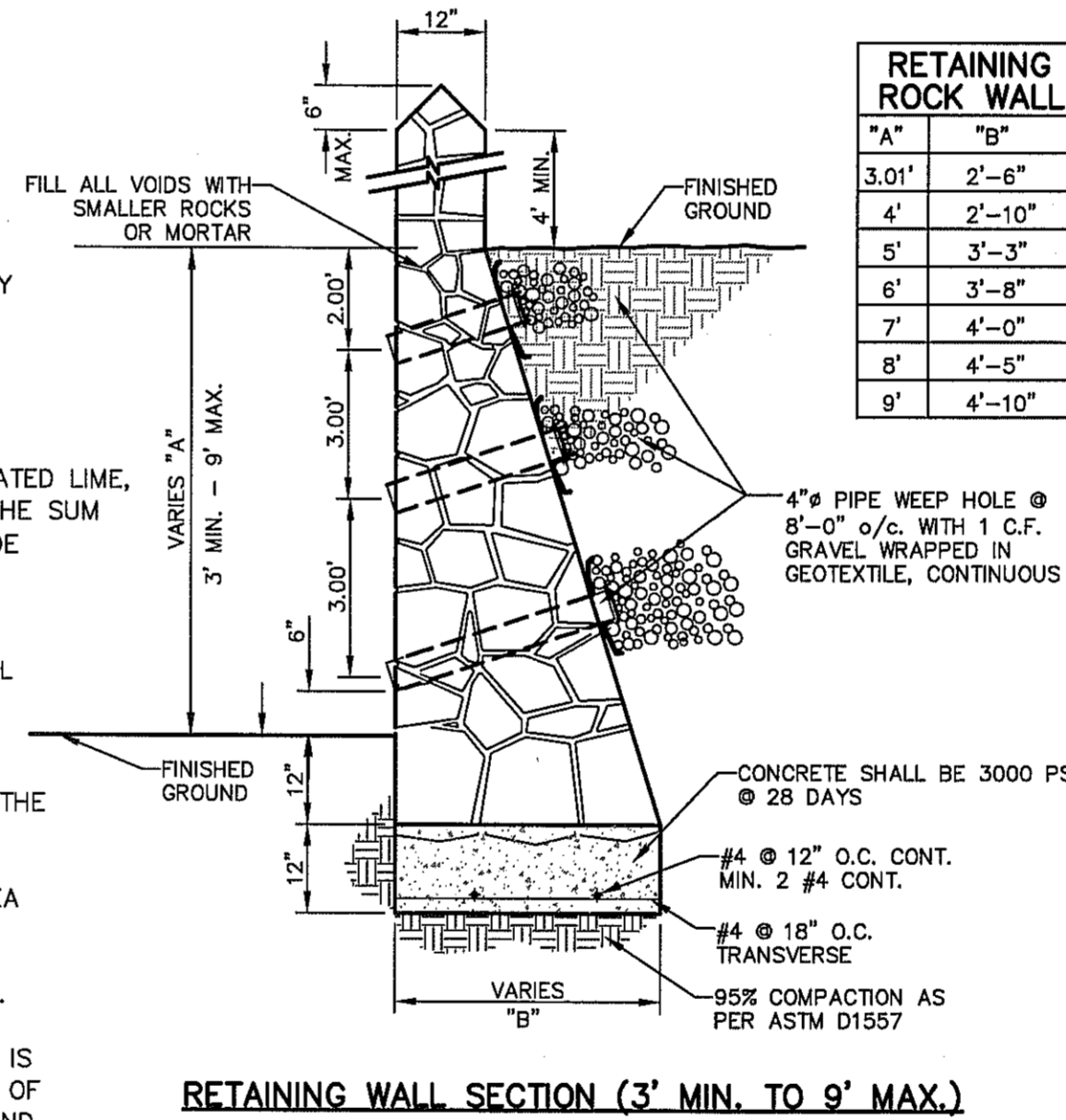
MORTAR FOR THE ROCK WALLS SHALL CONSIST BY VOLUMES OF ONE (1) PART PORTLAND CEMENT, ONE-QUARTER TO ONE-HALF (1/4 TO 1/2) PART HYDRATED LIME, AND THREE (3) PARTS CLEAN, HARD, DURABLE SAND (2 1/4 TO 3 TIMES THE SUM OF THE VOLUMES OF CEMENT AND LIME COMBINED. SEE CITY BUILDING CODE PP. 14-3 AND 14-4). MORTAR SHALL BE TYPE S, ASTM SPECIFICATION C270-73. COMPRESSIVE STRENGTH = 1800 P.S.I. (28 DAYS). CONCRETE FOR THE FOUNDATION SHALL BE CLASS "A" (3000 P.S.I.). REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60. IF ROCK WALL IS FREQUENTLY EXPOSED TO WATER, LIME SHALL NOT BE USED AND THE PORTIONS SHALL BE ONE PART PORTLAND CEMENT AND THREE PARTS SAND.

CONSTRUCTION METHODS: PRIOR TO PLACING THE CONCRETE FOUNDATION, THE EXCAVATION FOR THE ROCK WALLS SHALL BE MADE TO THE PROPER SECTION, AND, IF CONSIDERED NECESSARY BY THE ENGINEER, THE BOTTOM OF EXCAVATION SHALL BE HAND-TAMPED AND SPRINKLED. THE EXCAVATED AREA FOR ROCK WALLS SHALL BE MOIST WHEN THE CONCRETE IS PLACED. REINFORCING STEEL SHALL BE PLACED CONTINUOUSLY AS SHOWN ON THE PLANS AND PROPERLY SUPPORTED THROUGHOUT THE PLACEMENT OF CONCRETE. THE SURFACE OF THE CONCRETE SHALL NOT BE TROWELED. THE CONCRETE SHALL BE CURED A MINIMUM OF 24 HOURS BEFORE ANY STONE OR MORTAR IS PLACED ON THE FOUNDATION. THE CONCRETE SHALL BE CURED A MINIMUM OF 48 HOURS BEFORE MORE THAN 300 POUNDS PER SQUARE FOOT OF STONE AND MORTAR IS PLACED ON THE FOUNDATION. CONTRACTOR SHALL EMBED THE FIRST FOUR INCHES OF THE FIRST LAYER INTO THE FRESH CONCRETE OF THE FOOTING.

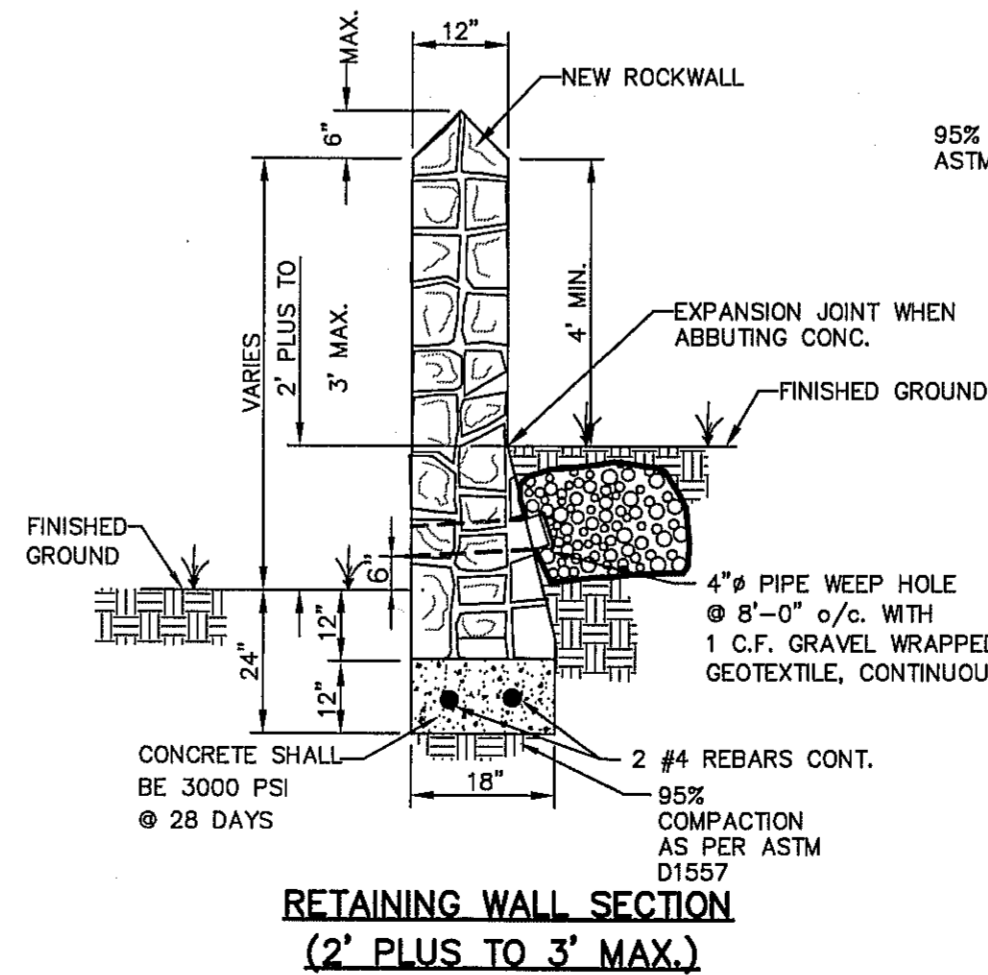
STONE SHALL BE SELECTED AS TO SIZE AND SHAPE IN ORDER TO SECURE FAIRLY LARGE, FLAT-SURFACED STONE WHICH MAY BE ERECTED WITH TRUE AND EVEN SURFACE FACES AND A MINIMUM OF EXPOSED MORTAR. ALL STONES SHALL BE THOROUGHLY CLEANED, WETTED, HAND-PLACED AND EMBEDDED IN MORTAR SO THAT NO STONES SHALL TOUCH EACH OTHER OR THE CONCRETE FOUNDATION BUT SHALL BE FIRMLY BOUND TOGETHER WITH MORTAR. THE FINISHED SURFACE SHALL PRESENT A NEAT, CLEAN, WORKMANLIKE AND TRUE-TO-LINE APPEARANCE. THE INTERIOR OF THE ROCK WALL SHALL BE COMPLETELY FILLED WITH SPALLS AND PIECES OF THE SPECIFIED STONE, COMPLETELY EMBEDDED AND SURROUNDED BY MORTAR WITH NO VOIDS.

THE ERECTION OF THE ROCK WALL SHALL NOT BE MORE THAN THREE FEET IN HEIGHT FOR EVERY 24-HOUR PERIOD TO ALLOW FOR THE LOWER PORTIONS TO BECOME SUFFICIENTLY SET. ALL STONES SHALL BE THOROUGHLY WET BEFORE BEING PLACED IN FRESH MORTAR. THE LAST LAYER OF ROCK PRIOR TO BREAK OF CONSTRUCTION PHASE SHALL NOT HAVE ANY MORTAR ON TOP. FRESH MORTAR MUST BE USED FOR CONTINUATION OF WORK FOLLOWING ERECTION BREAK.

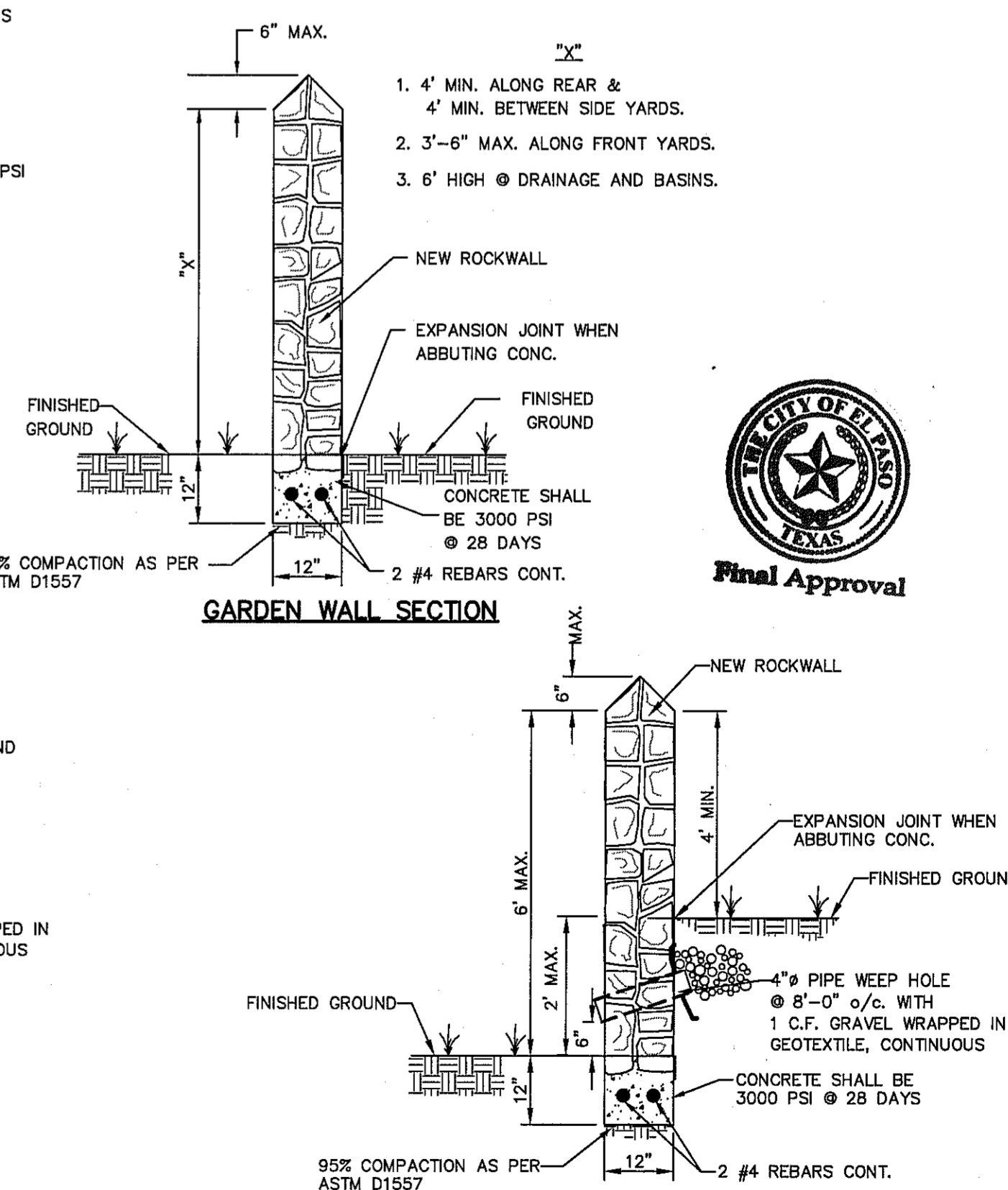
WEEP HOLES SHALL BE PLACED ON THE ROCK WALL AS SHOWN ON THE PLANS. THE WEEP HOLES SHALL BE NOT MORE THAN TEN FEET APART ON-CENTER. THE WEEP HOLES SHALL CONSIST OF FOUR-INCH VITRIFIED CLAY PIPE, OR OTHER PIPE AS APPROVED BY THE ENGINEER, NEATLY CUT TO THE EXPOSED SURFACE OF THE ROCK WALL. NO LESS THAN ONE CUBIC FOOT OF ONE-INCH TO 3/4-INCH OF GRADED GRAVEL SHALL BE PLACED AT THE INLET OF EACH WEEP HOLE AS SHOWN ON THE PLANS.



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



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



GARDEN WALL SECTION (2' MAX.)

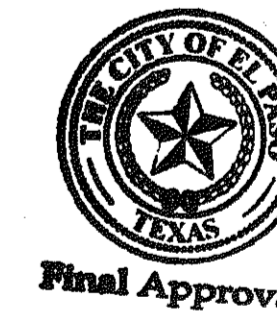
PROPOSED MONUMENT LOCATIONS

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

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).
- ALL THE RETAINING WALLS OVER 4' IN DEPTH SHALL BE BUILT BY DEVELOPER, REMAINING ROCKWALLS TO BE BUILT BY BUILDER.

NOTE: BUILDER SHALL SUBMIT ROCKWALL AND RETAINING ROCKWALL COMPUTATIONS TO THE COUNTY OF EL PASO FOR APPROVAL, IF IN EXCESS OF THOSE SHOWN.

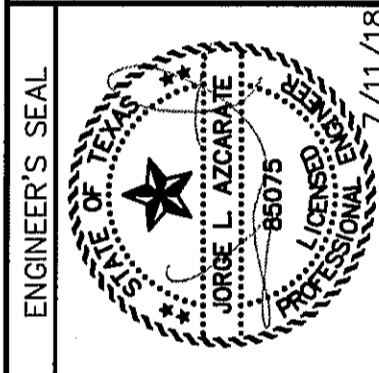
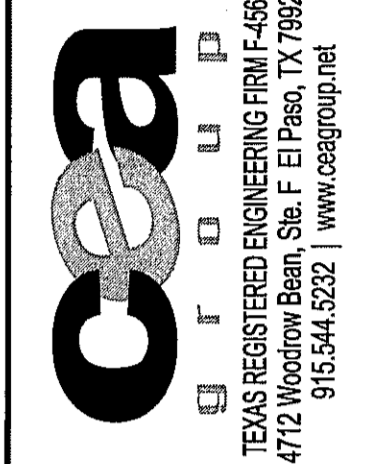


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REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CHNO 1880"
ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAD 88 DATUM)
TIE TO THE PROJECT BENCHMARK IS N257097097W 4008.93 FEET FROM A 1/2 INCH BEARER FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NETTIE D. MOONEY SURVEY, No. 239

DATE	REVISIONS	BY

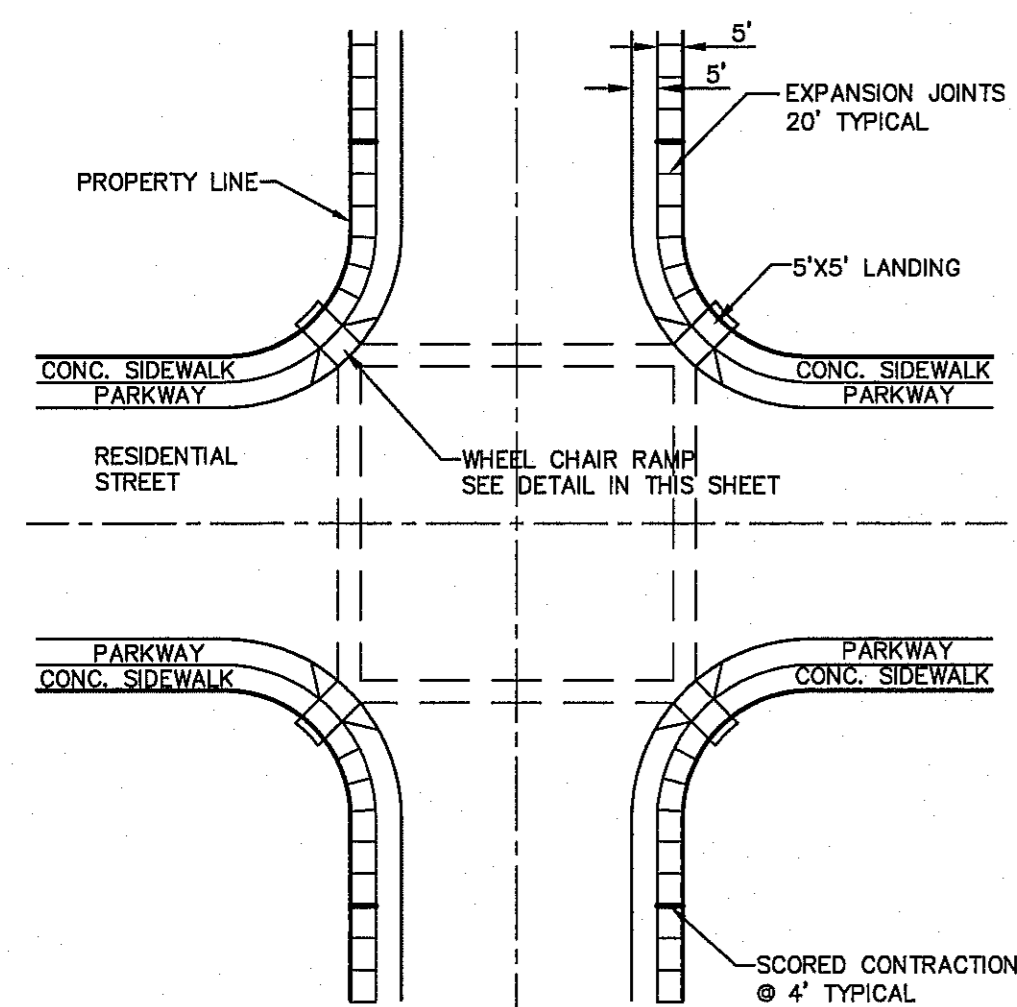


SCALE:	N/A
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JANUARY 2018
DESIGN BY:	C.J./F.Z.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPD. BY:	J.L.A.
JOB No.	2051.001

PROJECT TITLE
DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
STANDARD
DETAILS
(SHEET 2 OF 4)
SHEET NO.

C8.2



NOTES:

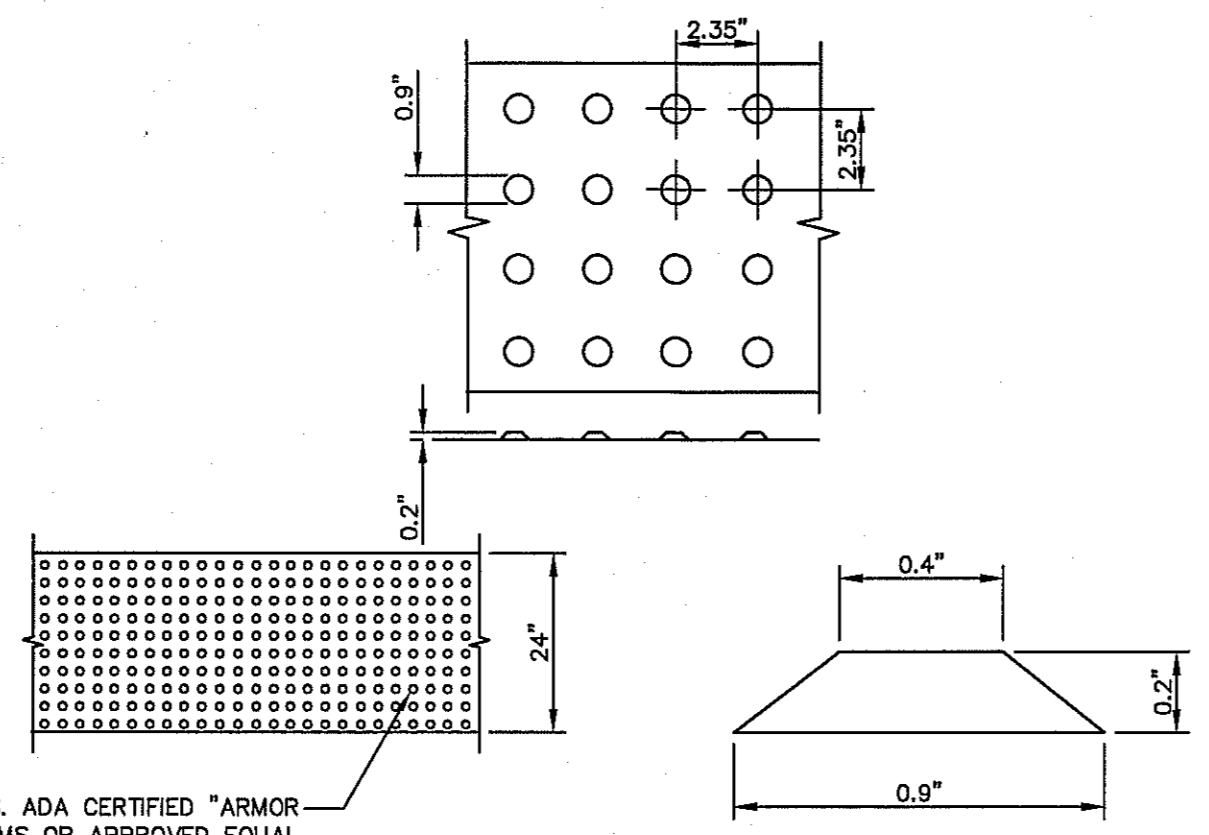
1. RAMP MAY BE PLACED AS SUGGESTED, HOWEVER EXISTING LIGHT POLES, FIREHYDRANTS, DROP INLETS, ETC., MAY AFFECT PLACEMENT.
2. THE CONCRETE SURFACE SHALL HAVE A ROUGH, NONSKID TYPE FINISH.
3. CONSTRUCTION METHODS SHALL CONFORM WITH THE CITY OF EL PASO SPECIFICATIONS.
4. ALL PARKING AND PAVEMENT MARKINGS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

1
C8.3 WHEELCHAIR RAMP STREET PLAN
SCALE: N.T.S.

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

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

CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR, UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. ADA CERTIFIED "ARMOR-TILE" (REQUIRED). CONCRETE POURED TRUNCATED DOMES NOT ALLOWED. NO PAINTING OF SURFACE SHALL BE PERMITTED.



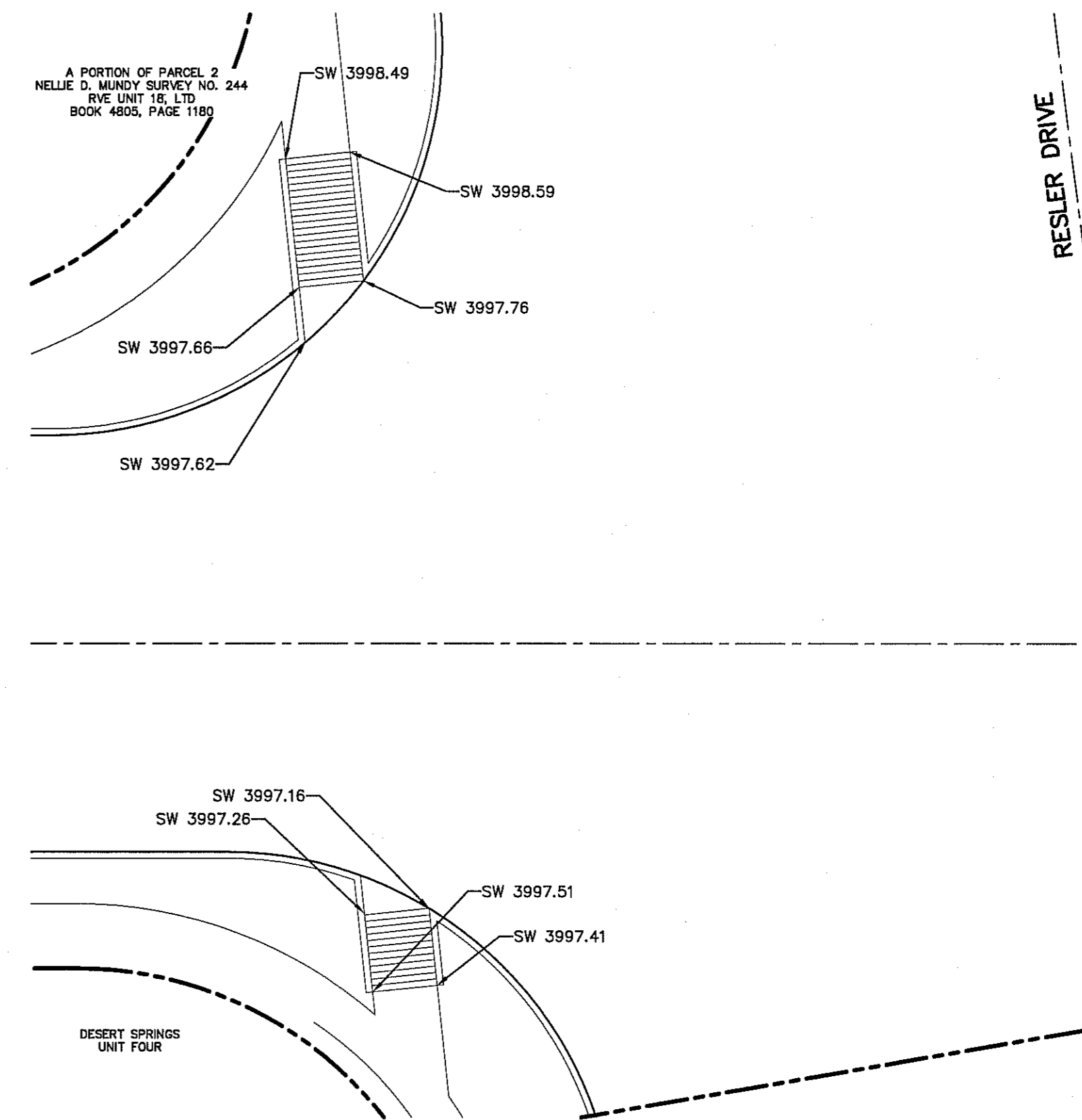
2
C8.3 TRUNCATED DOME SIZE AND SPACING
SCALE: N.T.S.

LEGEND

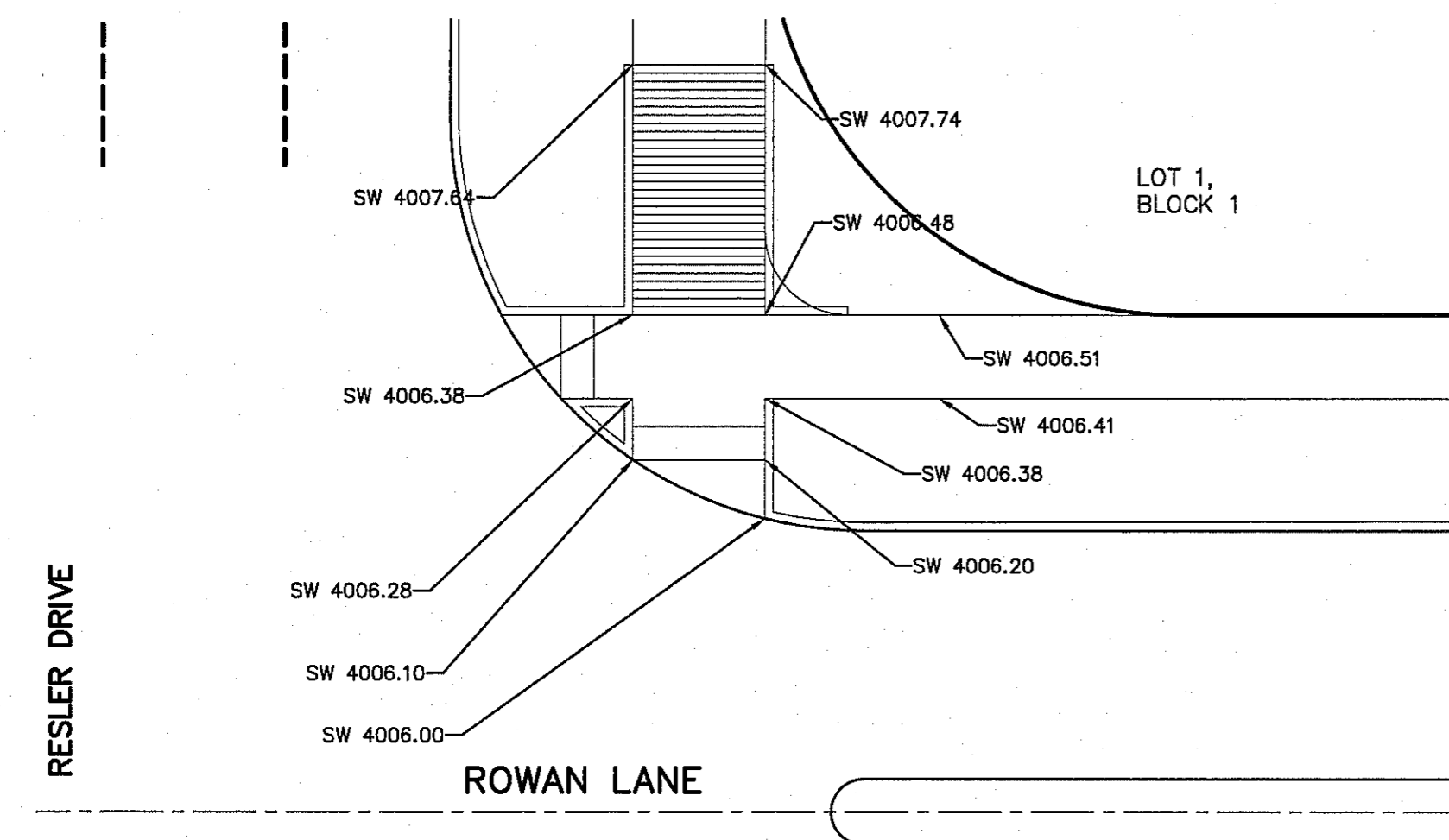
DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A NOMINAL DIAMETER OF 0.9 IN, A NOMINAL HEIGHT OF 0.2 IN AND A CENTER TO CENTER NOMINAL SPACING OF 2.35 IN, AND SHALL NOT BE STAGGERED. THE SURFACE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING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

NOTES:

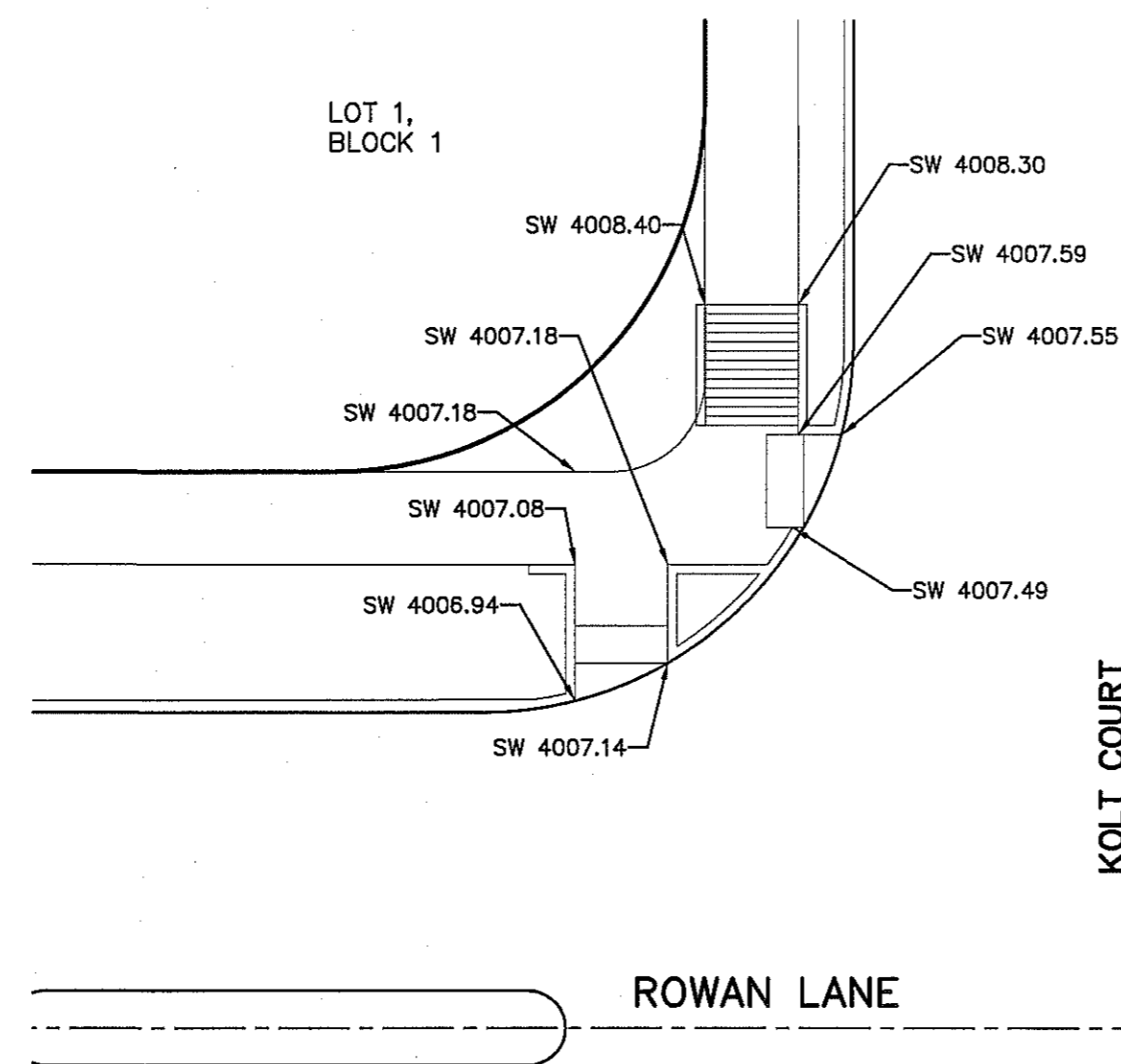
1. ALL SLOPES ARE MAXIMUM ALLOWABLE. THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
2. THE MINIMUM SIDEWALK WIDTH IS 5'. WHERE A 5' SIDEWALK CAN NOT BE PROVIDED DUE TO SITE CONSTRAINTS, A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



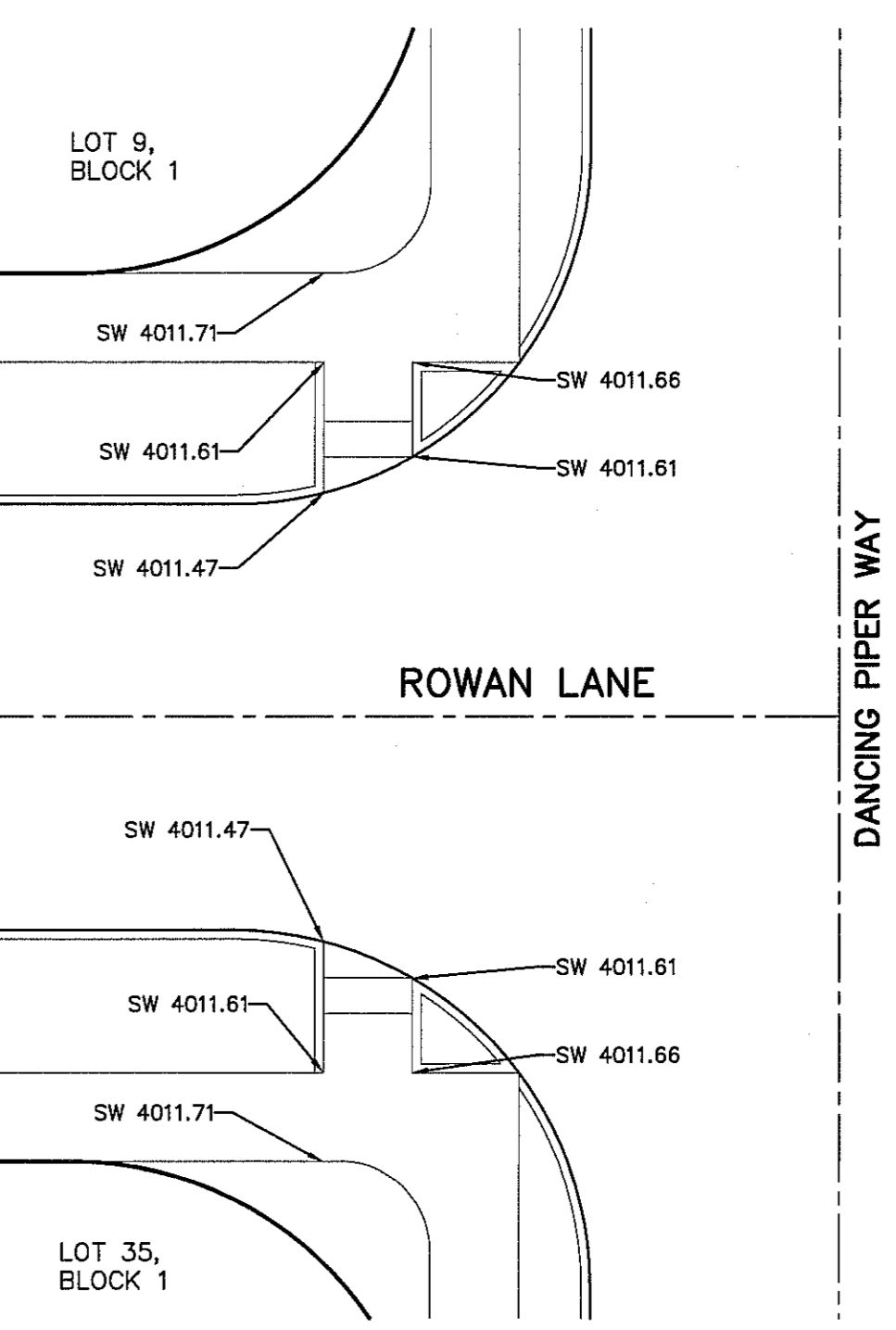
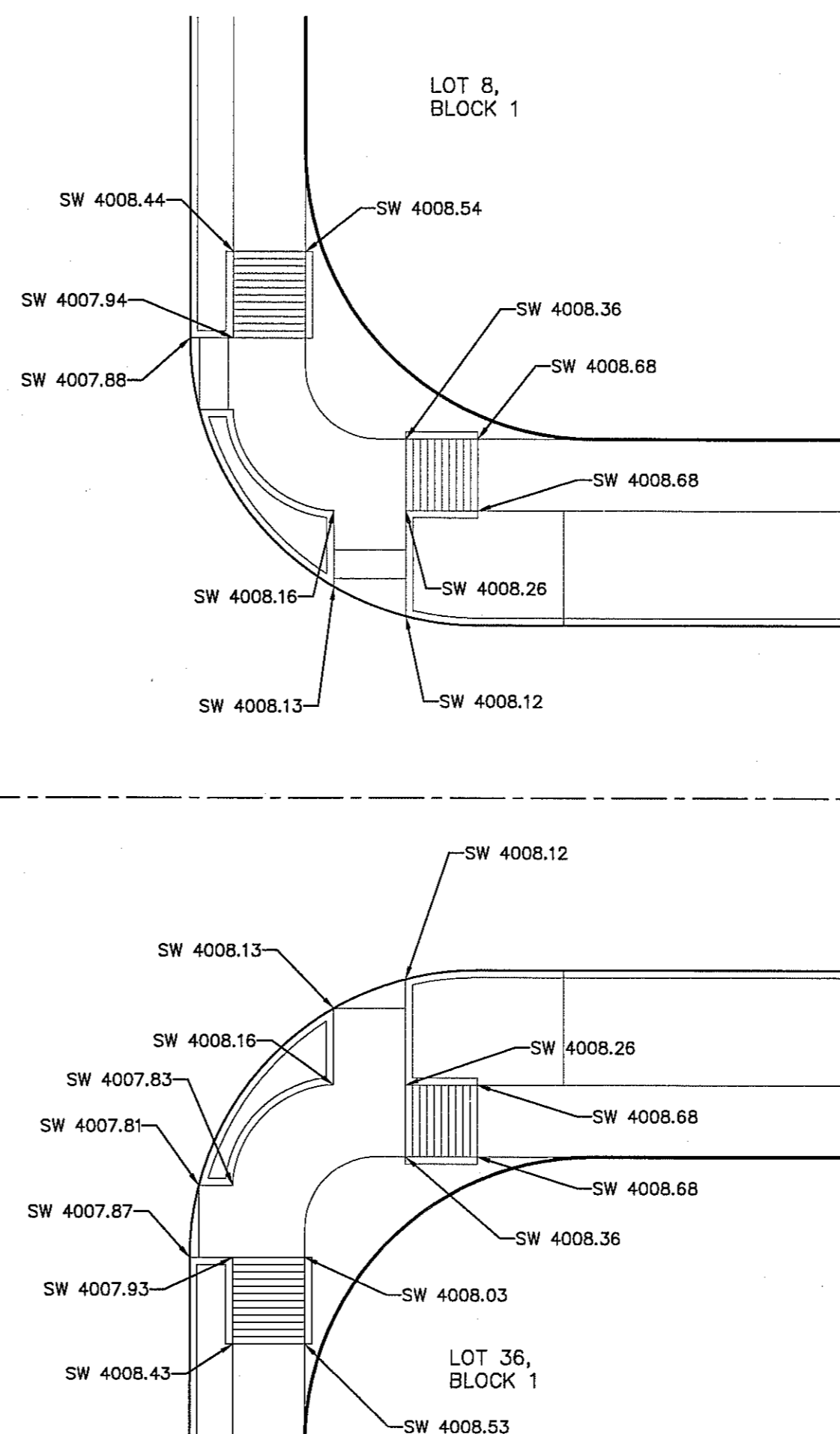
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C8.3 TYPICAL DIRECTIONAL RAMP INTERSECTION OF RESLER DR. & FUTURE STREET
SCALE: 1"=10'



4
C8.3 DIRECTIONAL RAMP @ INTERSECTION OF ROWAN LN. AND RESLER DR.
SCALE: 1"=10'



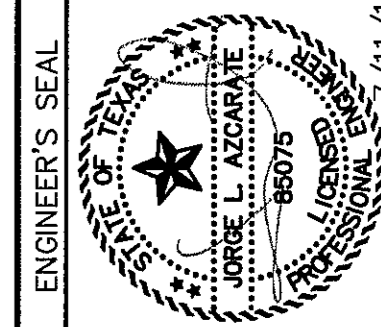
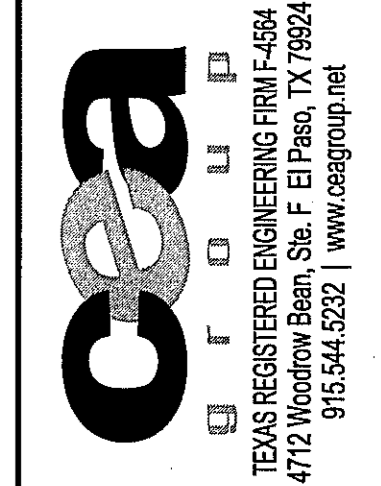
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C8.3 DIRECTIONAL RAMP @ INTERSECTION OF ROWAN LN. & KOLT CT.
SCALE: 1"=10'



6
C8.3 DIRECTIONAL RAMP @ INTERSECTION OF ROWAN LN. & DANCING PIPER WAY
SCALE: 1"=10'

REFERENCES - BENCHMARKS

BOUND N.T.S.	3946.11	(CITY OF EL PASO VERTICAL DATUM SHOWN)
ELEVATION	3946.11	(NAVD 88 DATUM)
FILE TO THE	3946.78	(NAVD 88 DATUM)
FEET FROM A	1/2	INCH BEARING FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLE D. MUNDY SURVEY NO. 238.
DATE		REVISIONS
		BY



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JANUARY 2018
DESIGN BY	C.J. (E.Z.)
CHECK BY	A.C.
APPROV. BY	J.L.A.
JOB NO.	2051.001

PROJECT TITLE

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

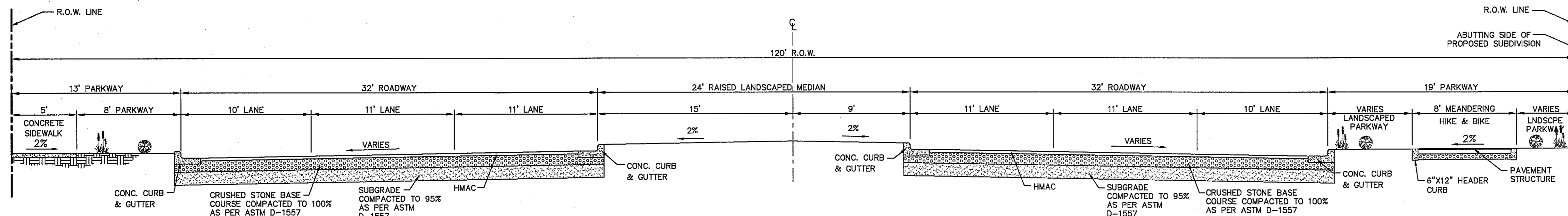
STANDARD DETAILS

(SHEET 3 OF 4)

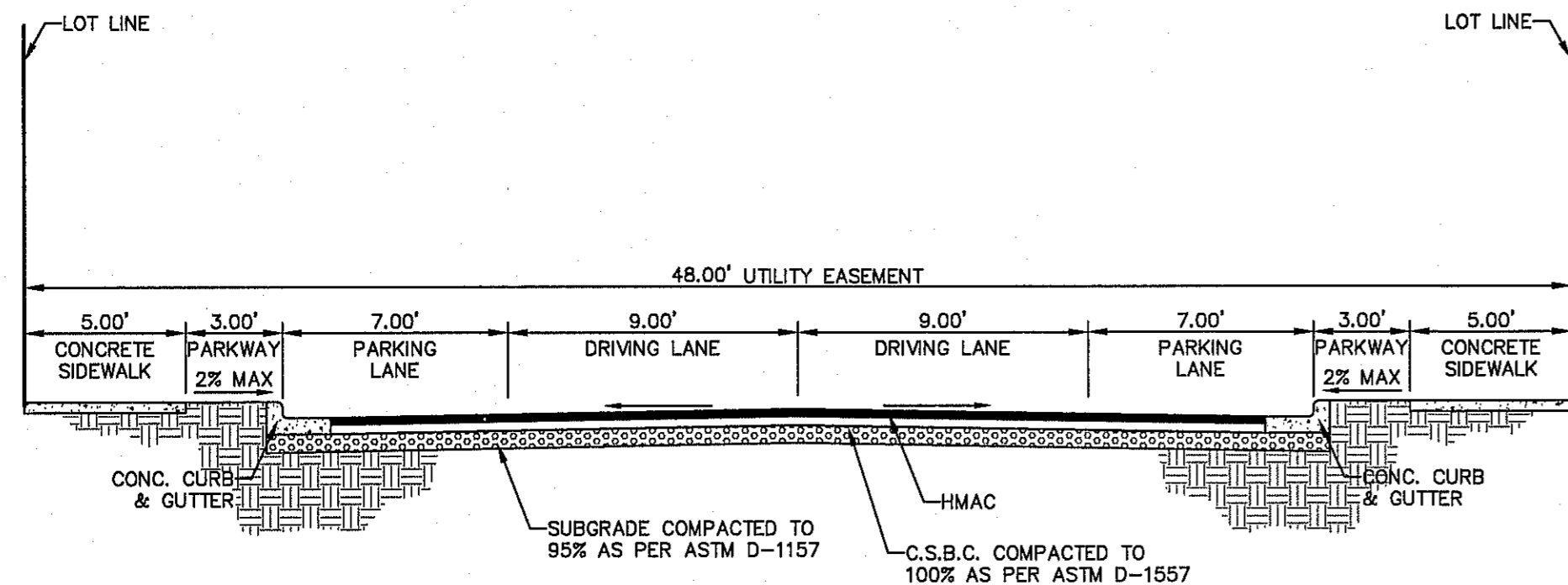
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C8.3

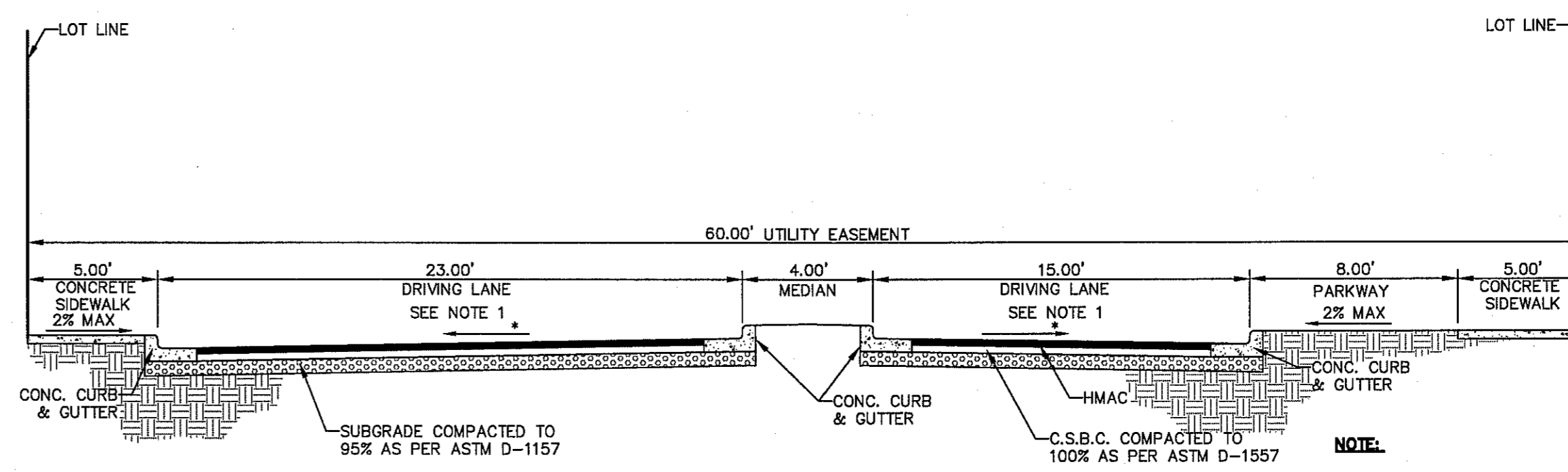
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1
C8.4
TYPICAL 120' ROW STREET SECTION DETAIL (RESLER DRIVE)
SCALE: N.T.S.

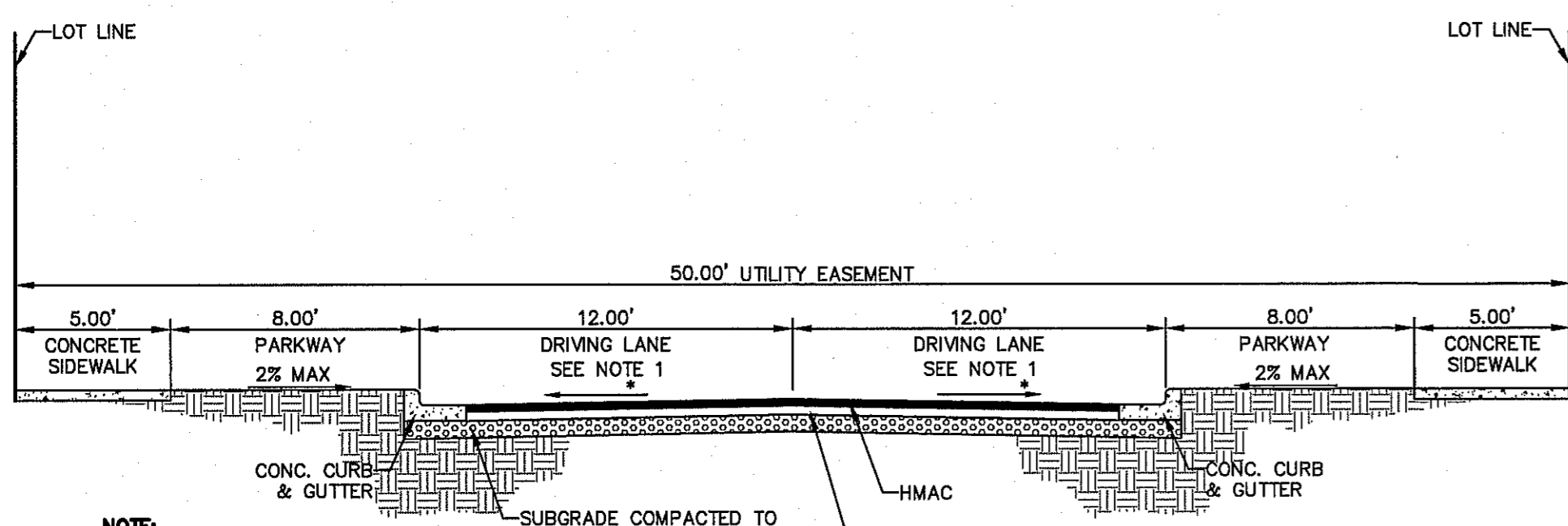


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C8.4
TYPICAL 48' PRIVATE STREET SECTION DETAIL
SCALE: N.T.S.



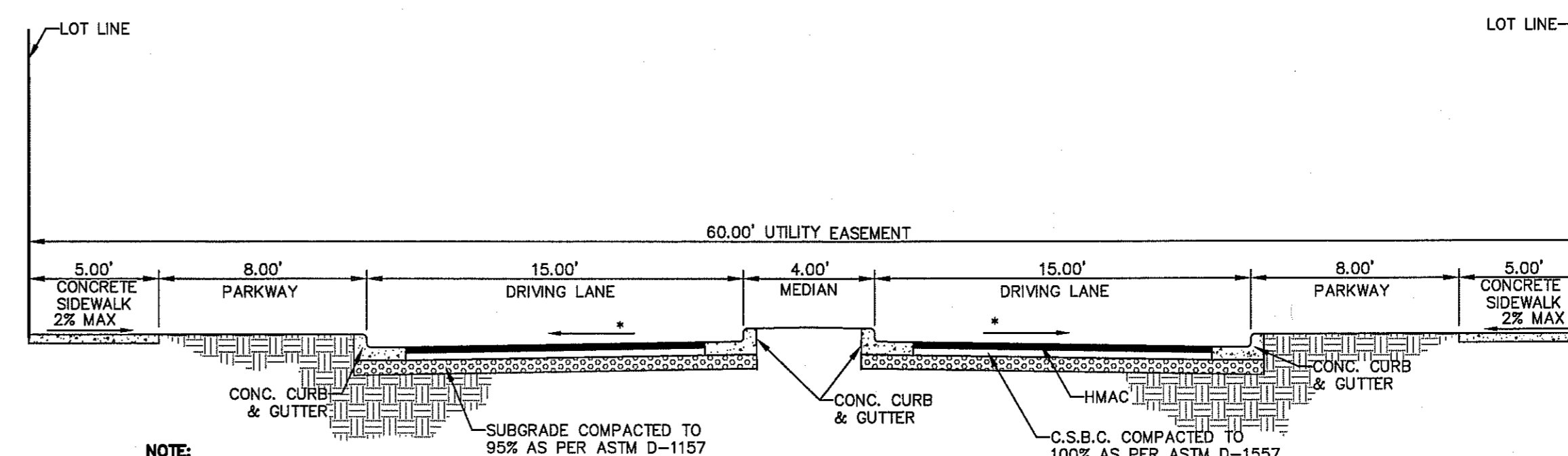
3
C8.4
TYPICAL 60' PRIVATE STREET SECTION DETAIL
SCALE: N.T.S.

NOTE:
1. NO PARKING SHALL BE ALLOWED ON EITHER SIDE OF ROADWAY.



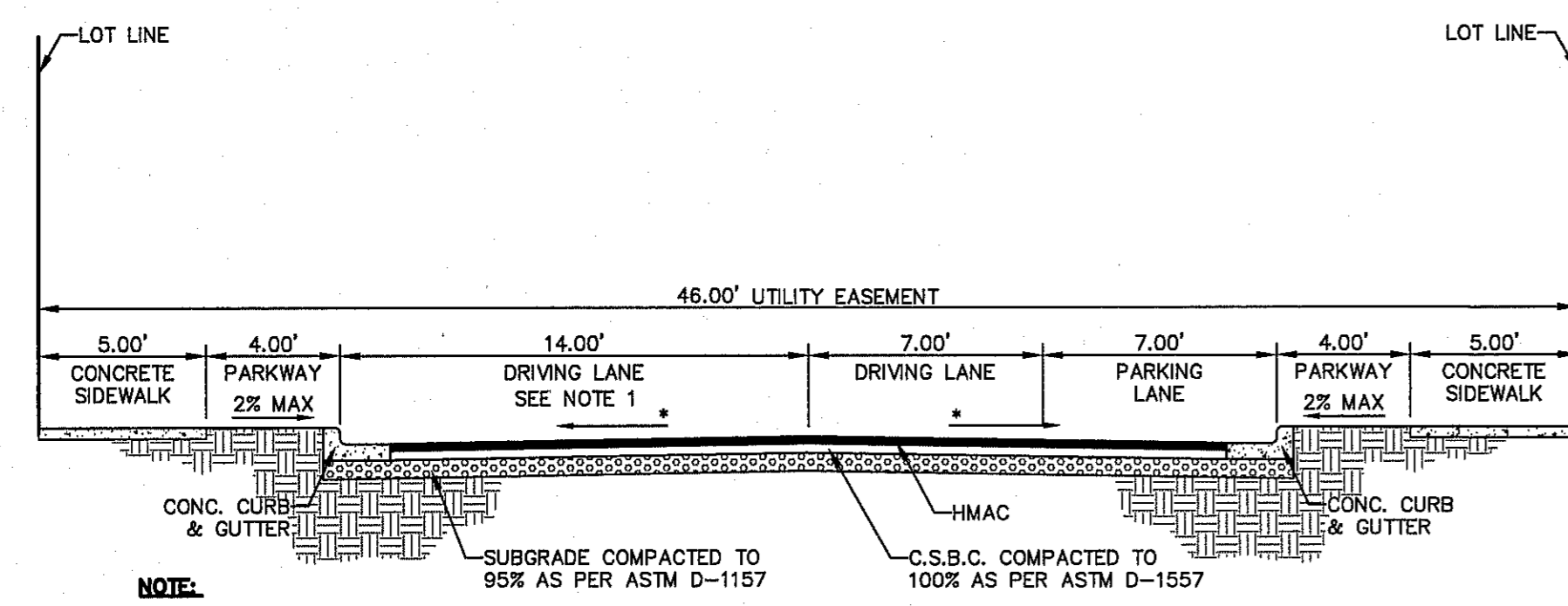
4
C8.4
TYPICAL 50' PRIVATE STREET SECTION DETAIL
SCALE: N.T.S.

NOTE:
1. NO PARKING SHALL BE ALLOWED ON EITHER SIDE OF ROADWAY.



5
C8.4
TYPICAL 60' PRIVATE STREET SECTION DETAIL
SCALE: N.T.S.

NOTE:
1. NO PARKING SHALL BE ALLOWED ON EITHER SIDE OF ROADWAY.



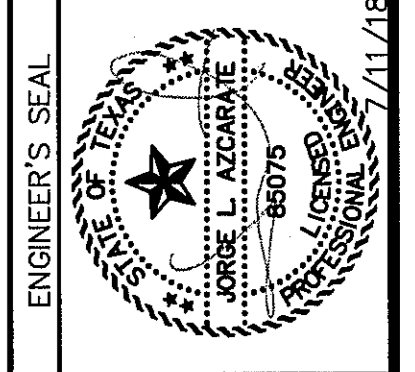
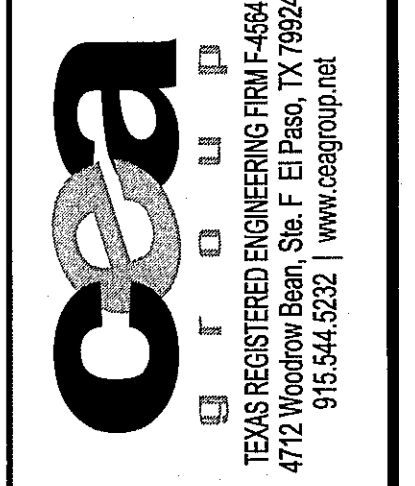
6
C8.4
TYPICAL 46' PRIVATE STREET SECTION DETAIL
SCALE: N.T.S.

NOTE:
1. NO PARKING SHALL BE ALLOWED ON ONE SIDE OF ROADWAY.

GENERAL NOTE:

- (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS.
- SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.
- STREET IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT CITY OF EL PASO PAVING CONSTRUCTION DETAILS AND STANDARD SPECIFICATIONS. CBR @ EVERY 500' RESULTS TO BE SUBMITTED TO THE CITY OF EL PASO FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF PAVEMENT.
- STREET AND MAINTENANCE SHALL COMPLY WITH THE CURRENT MUTCD MANUAL AND CITY OF EL PASO STREET AND MAINTENANCE SPECIFICATIONS AND REGULATIONS.
- PROPOSED MEANDERING HIKE/BIKE TRAIL ON RESLER DRIVE SHALL MATCH EXISTING HIKE/BIKE TRAIL LOCATED SOUTH OF TRANSMOUNTAIN DRIVE ON EXISTING RESLER DRIVE.
- ON LANDSCAPED PARKWAYS AND LANDSCAPED MEDIANS, REFER TO LANDSCAPED PLANS FOR ADDITIONAL INFORMATION ON LANDSCAPING DESIGN & IRRIGATION DESIGN.

REFERENCES - BENCHMARKS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980"
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAVD 88 DATUM)
TIE TO THE PROJECT BENCHMARK IS N52°09'09"W 408.93'
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST
CORNER OF TRACT 11, BELUE D. WINDY SURVEY No. 239.
DATE: _____ BY: _____
REVISIONS: _____



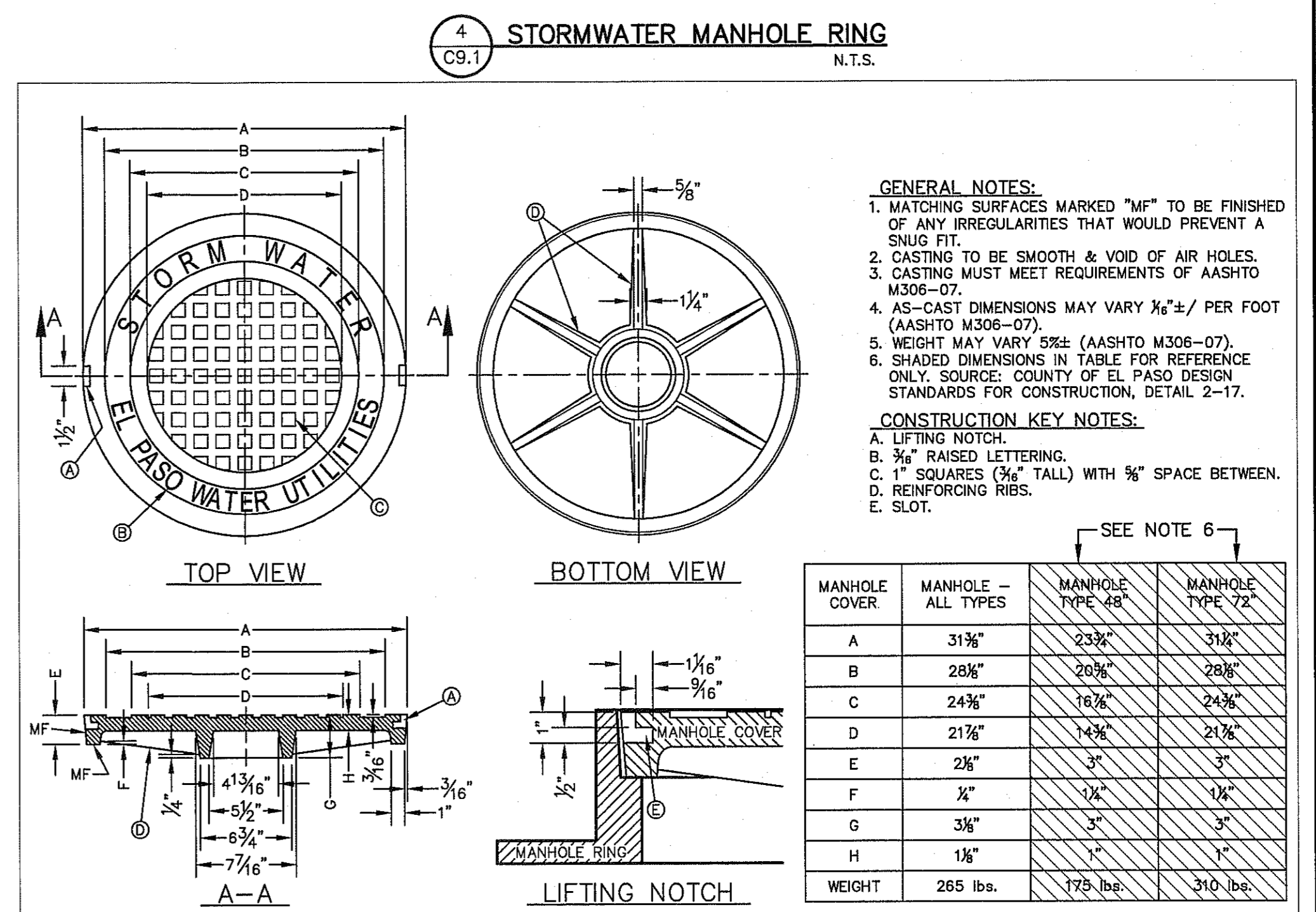
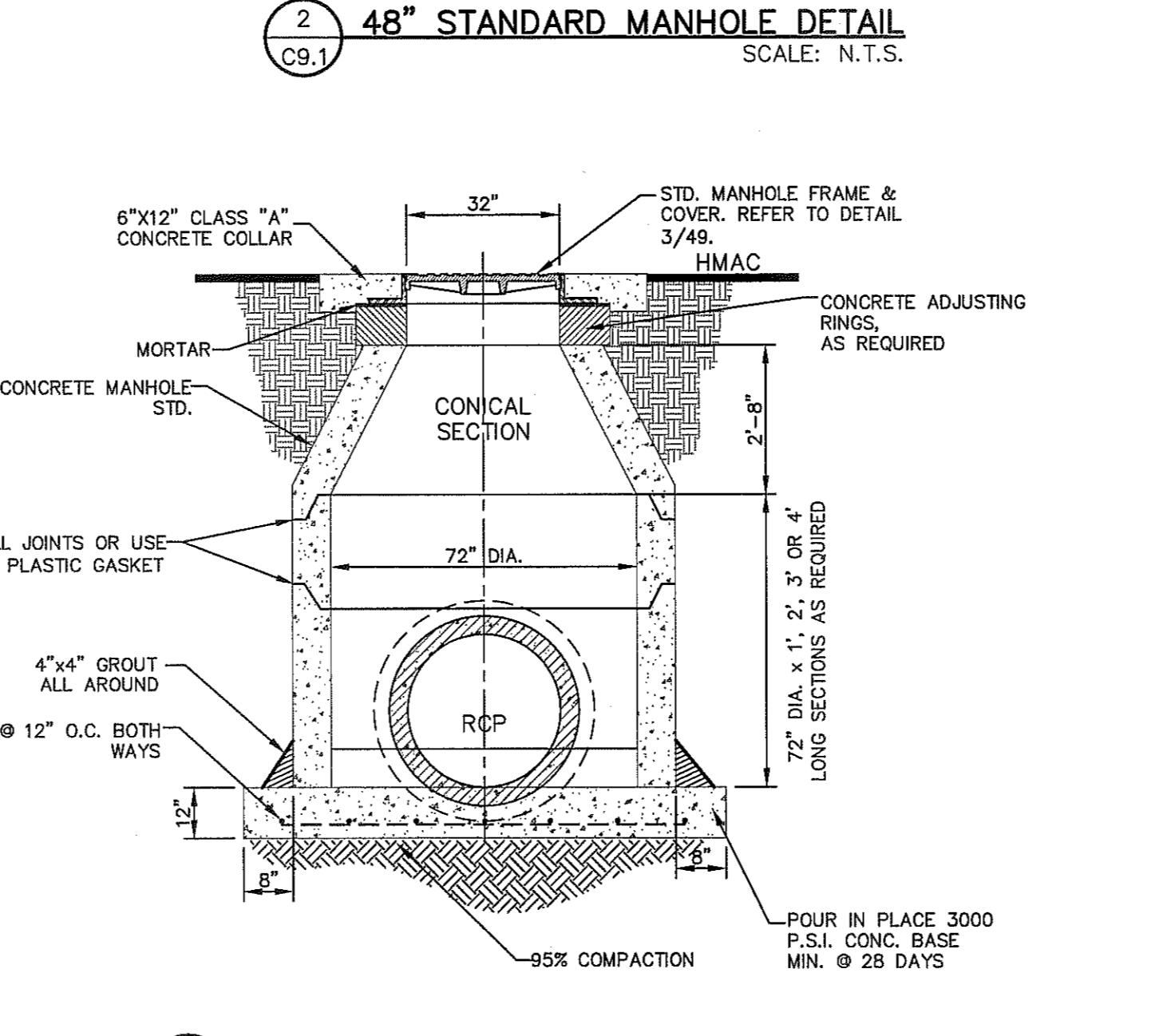
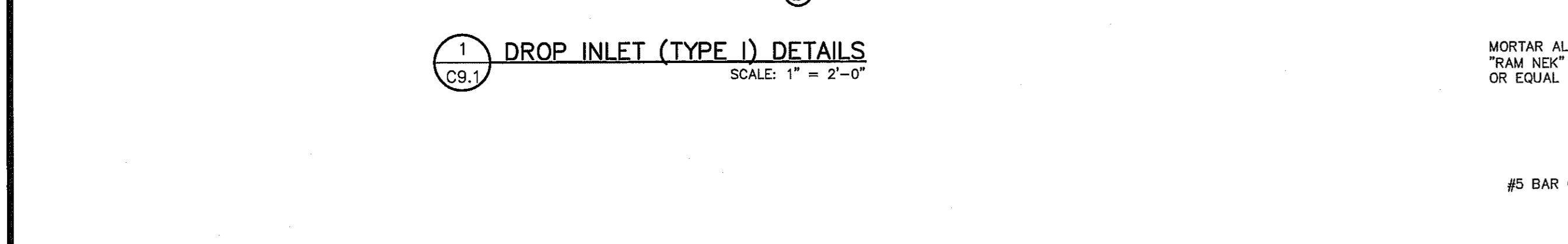
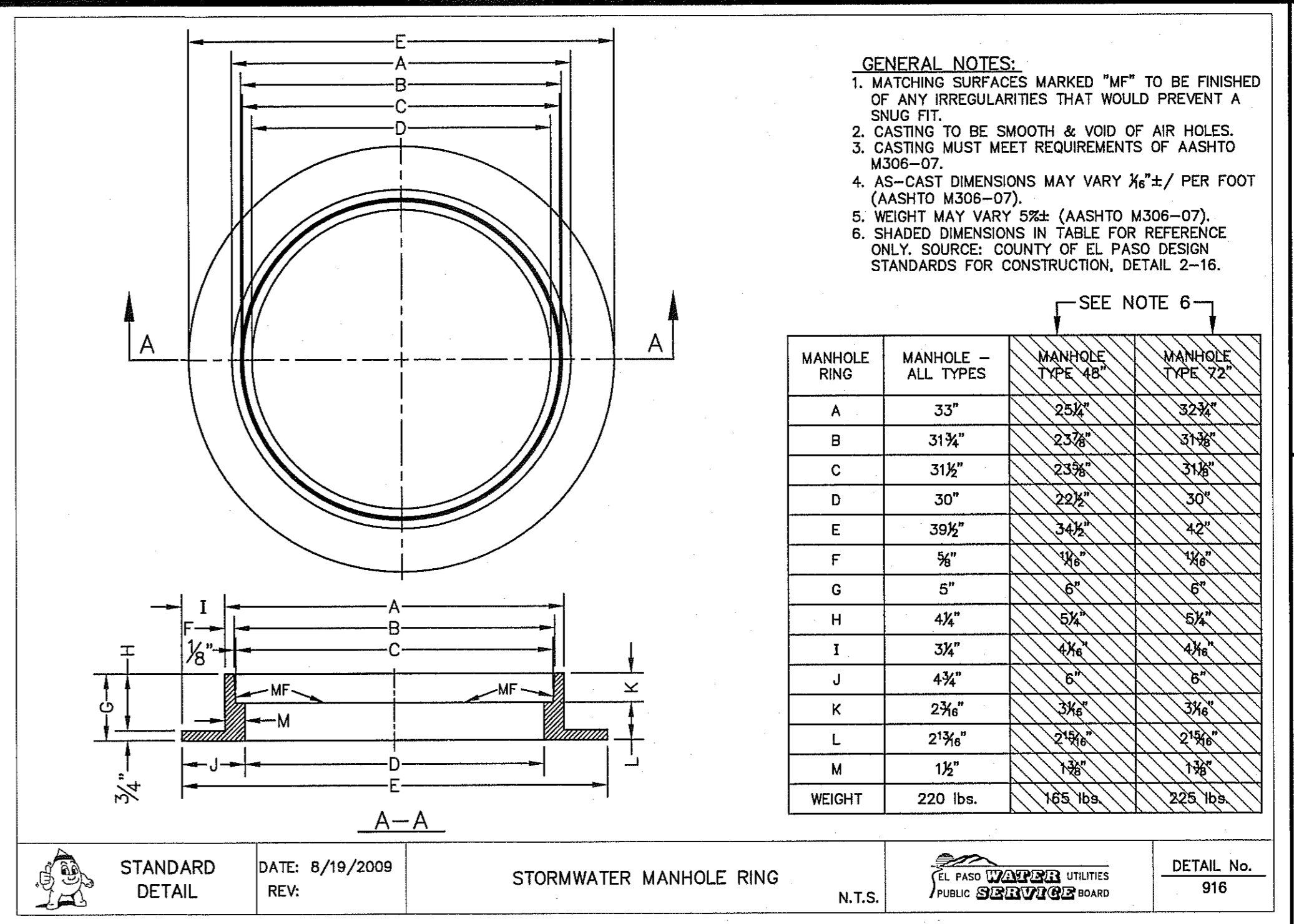
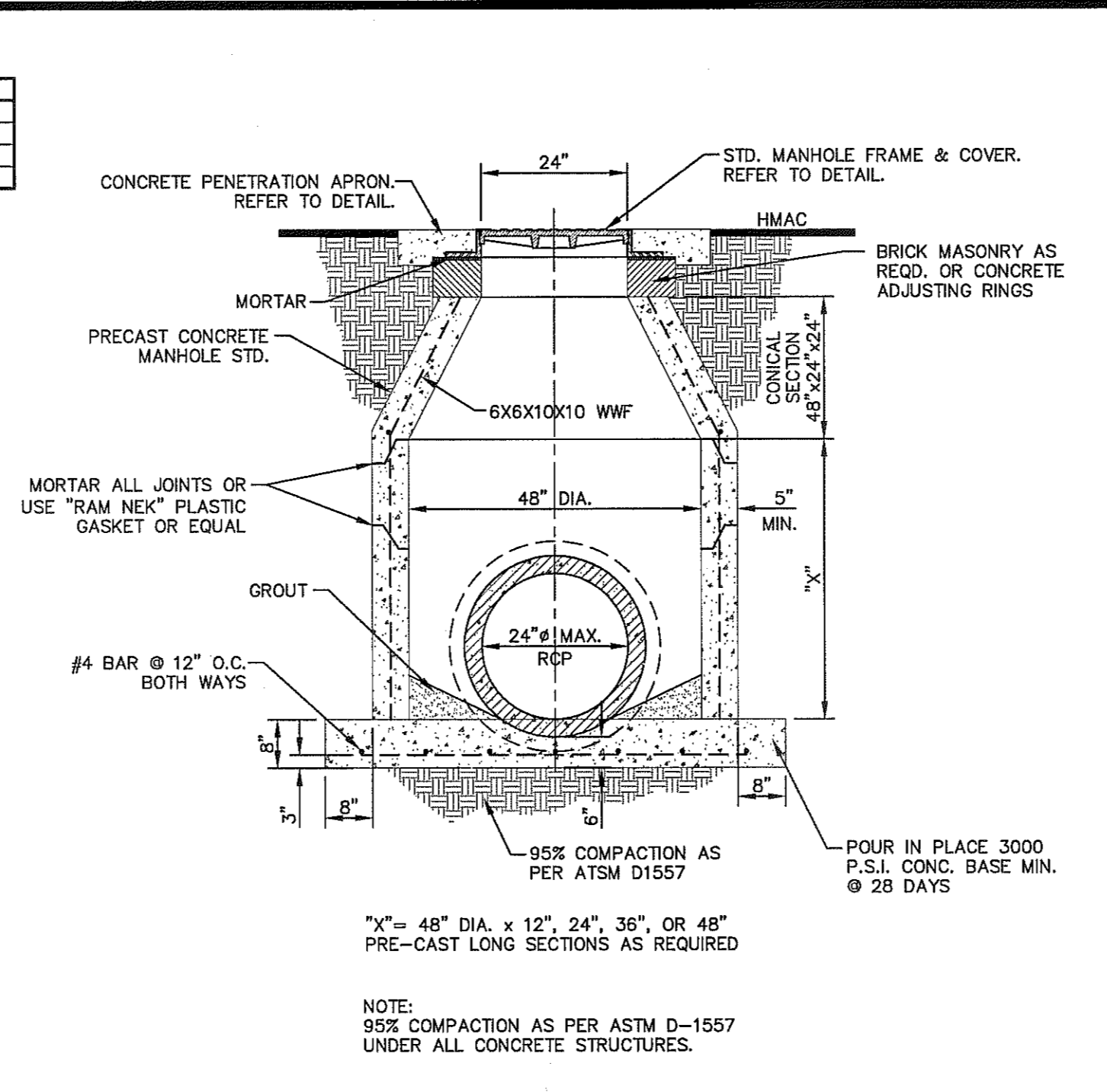
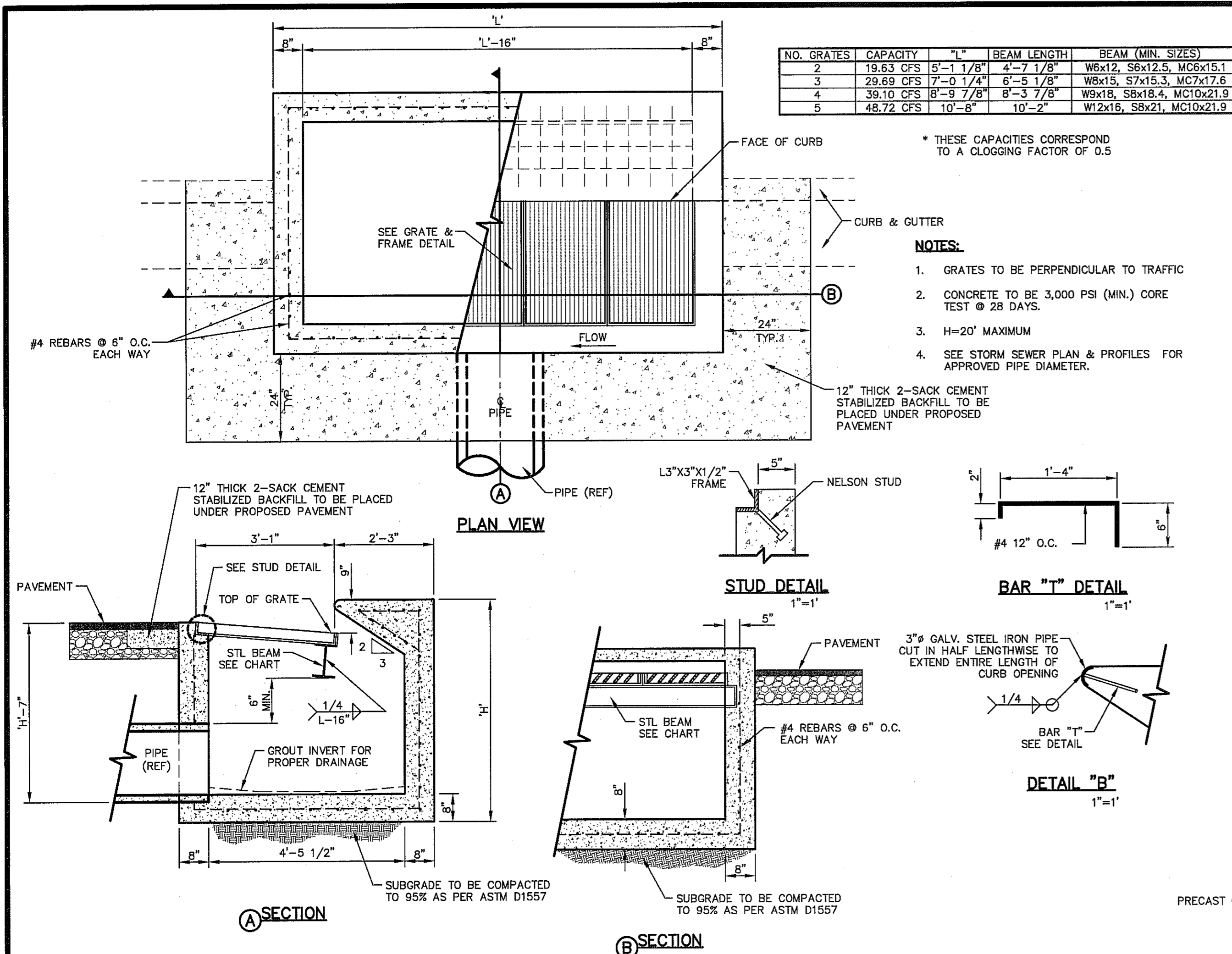
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Vertical: _____
Vertical Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

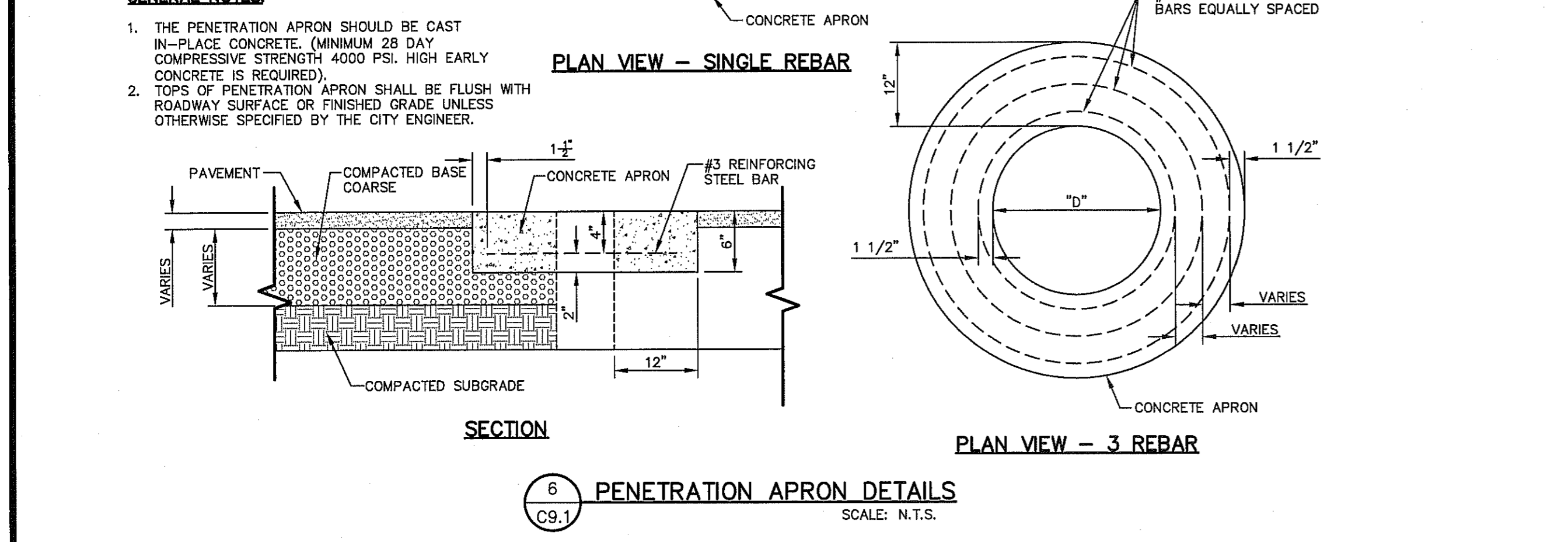
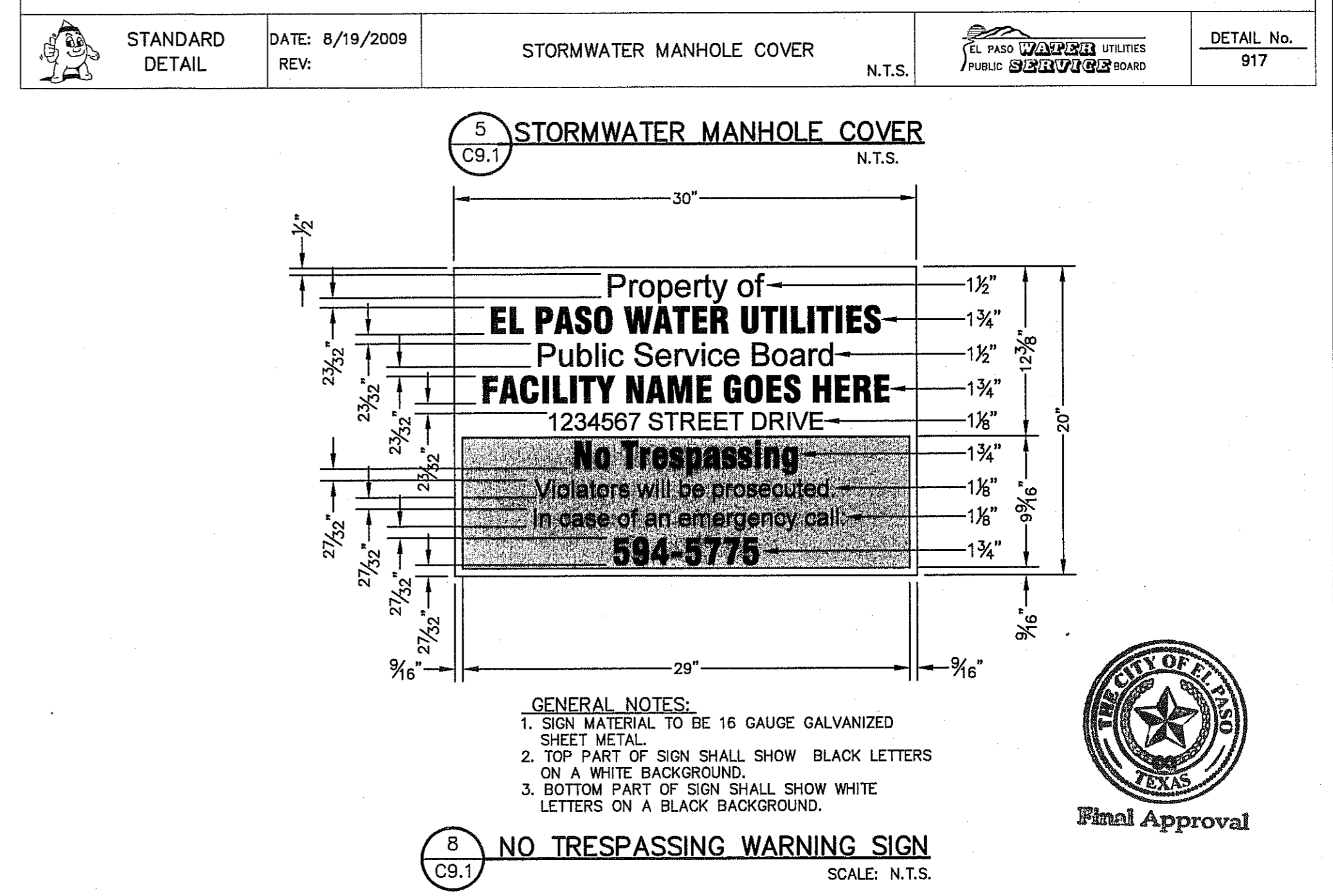
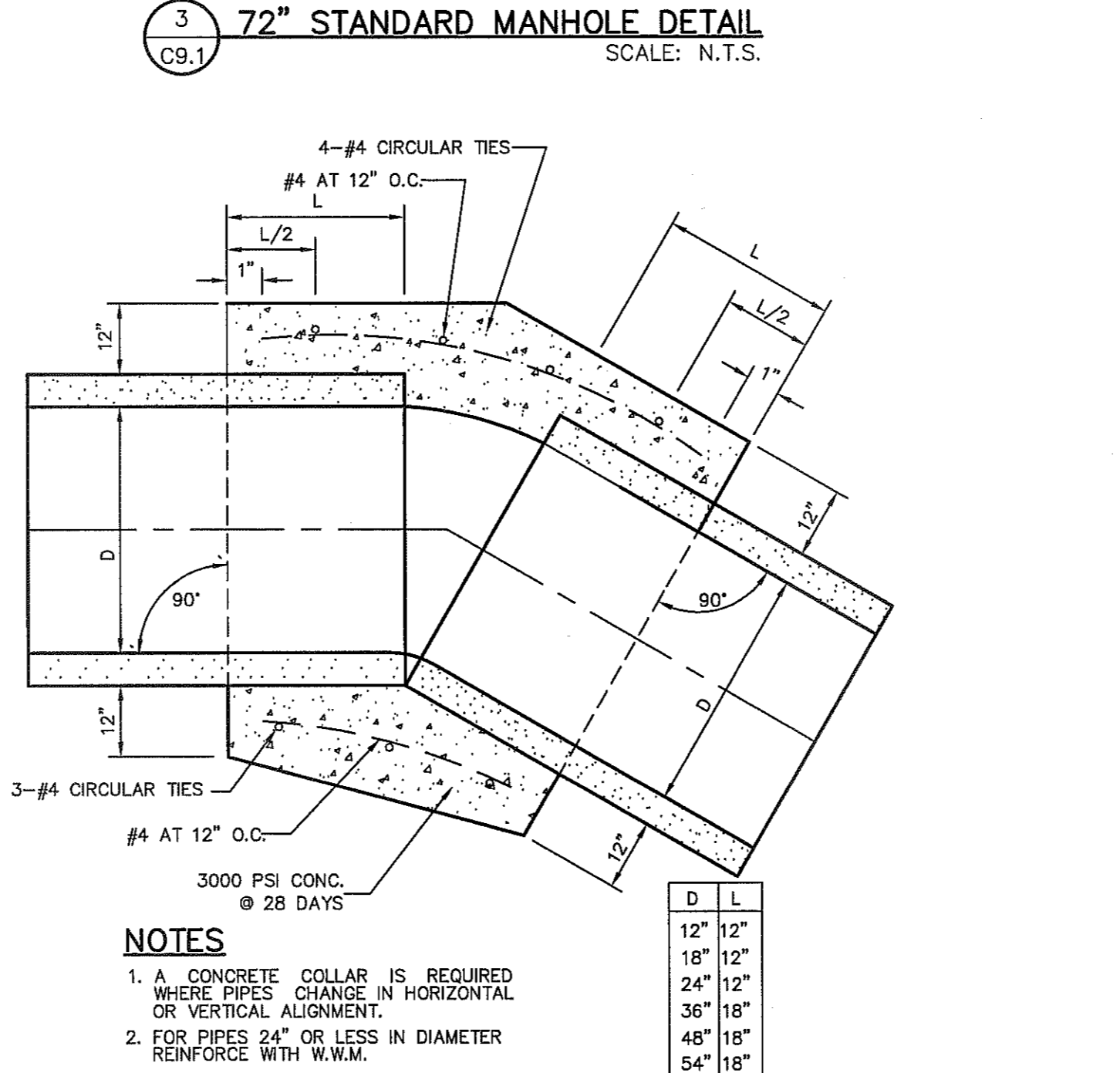
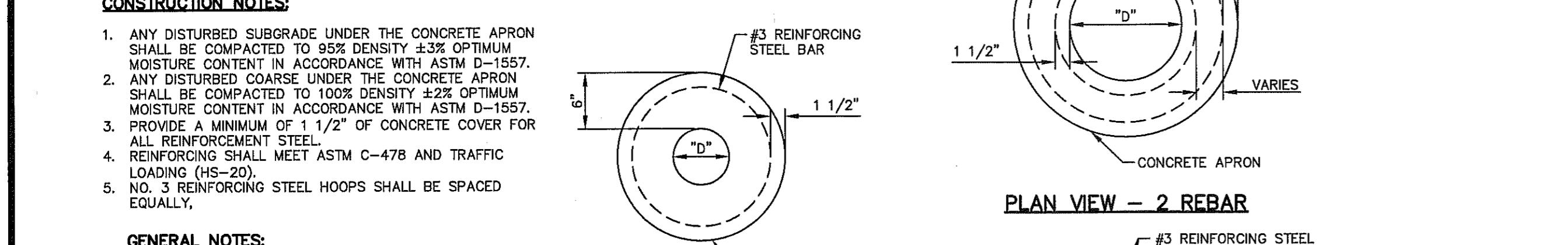
SHEET TITLE
**STANDARD
DETAILS**
(SHEET 4 OF 4)
SHEET NO.



C8.4



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



DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS

PROJECT TITLE

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

C9.1

SA 2051\2051-001-Desert Springs Unit 5\DWG5\Construction Drawings\Improvement Plans\2051001_C9.0_DTL5_DRNG.dwg 7/11/2018 10:09:02 AM

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

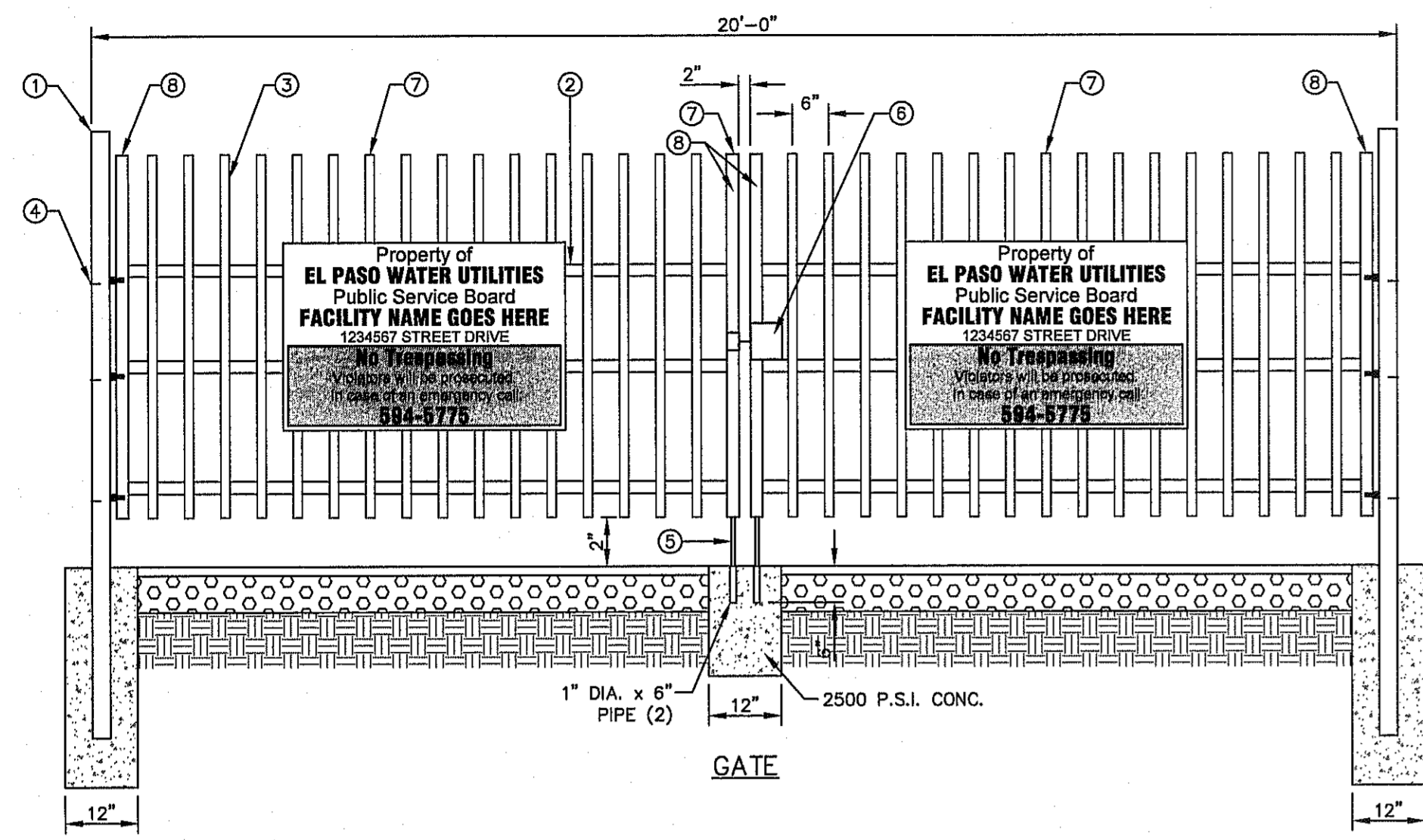
DATE: JANUARY 2018
 DESIGN BY: C.J.F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB NO.: 2051.001

REFERENCES - BENCHMARKS
 FOUND N.G.S. SURVEY MARKER "CHNO 1890"
 ELEVATION: 3945.83 (NAD 83 DATUM)
 3945.78 (NAD 29 DATUM)
 TIE TO THE PROJECT BENCHMARK IS INS0909'W -4008.93'
 CORNER OF TRAIL 11, BELLE W. WINDY SURVEY NO. 238

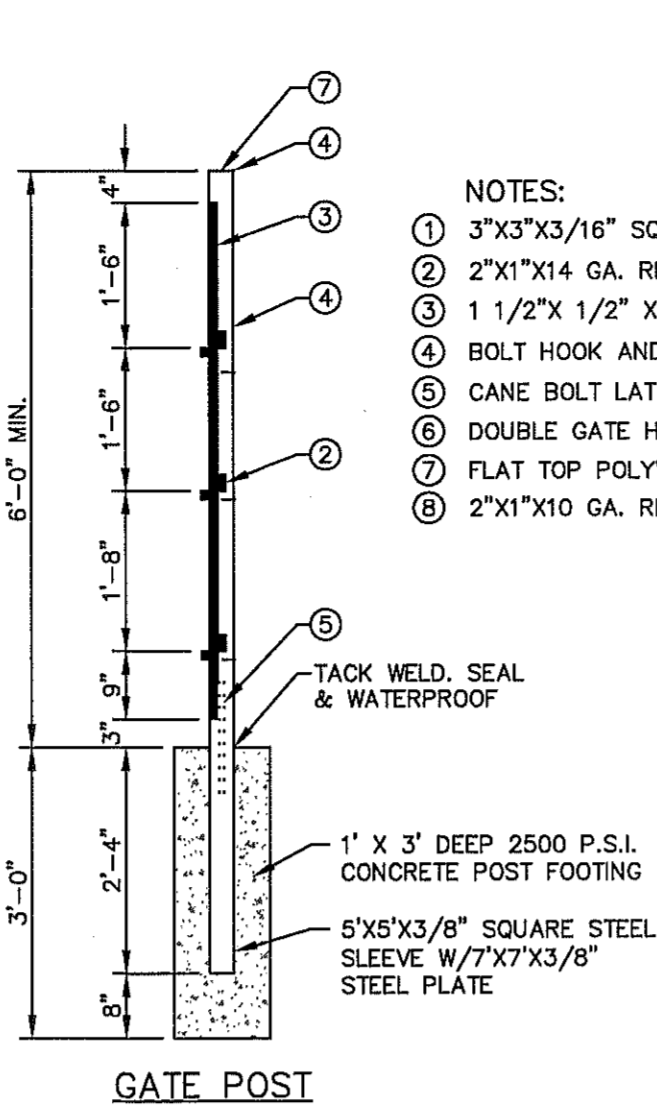
REVISIONS
 DATE BY

EL PASO WATER UTILITIES
 PUBLIC SERVICE BOARD

CITY OF EL PASO TEXAS
 Final Approval

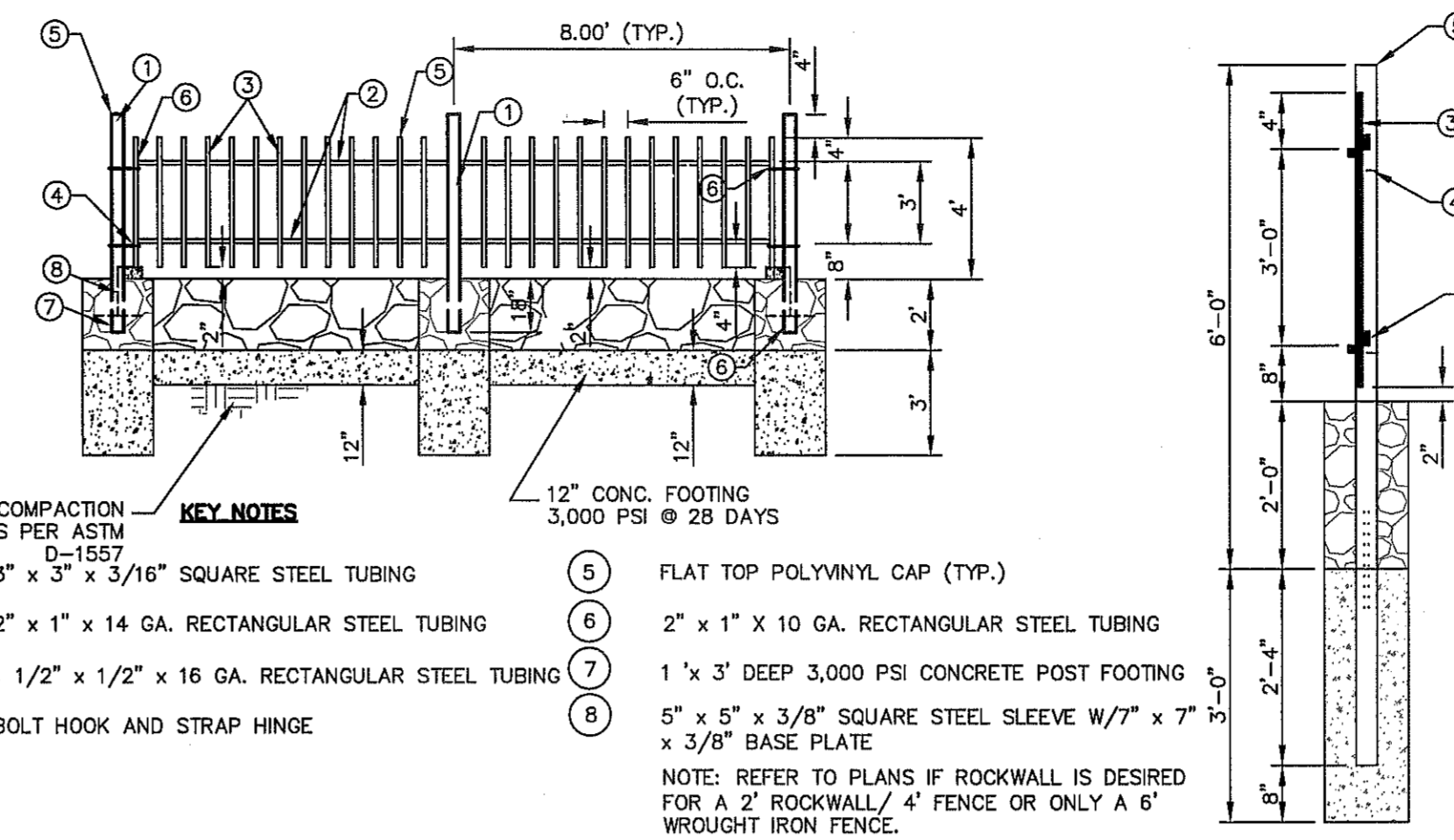


1 WROUGHT IRON GATE
C9.2 SCALE: N.T.S.

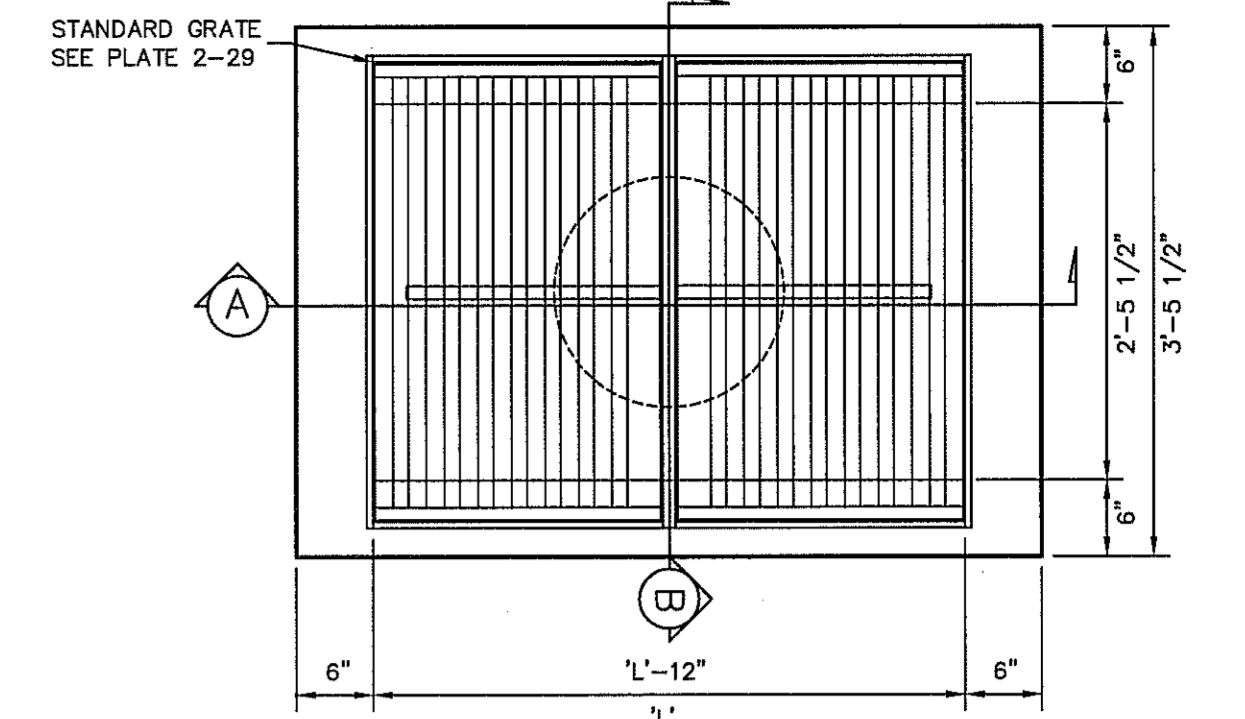


GATE POST

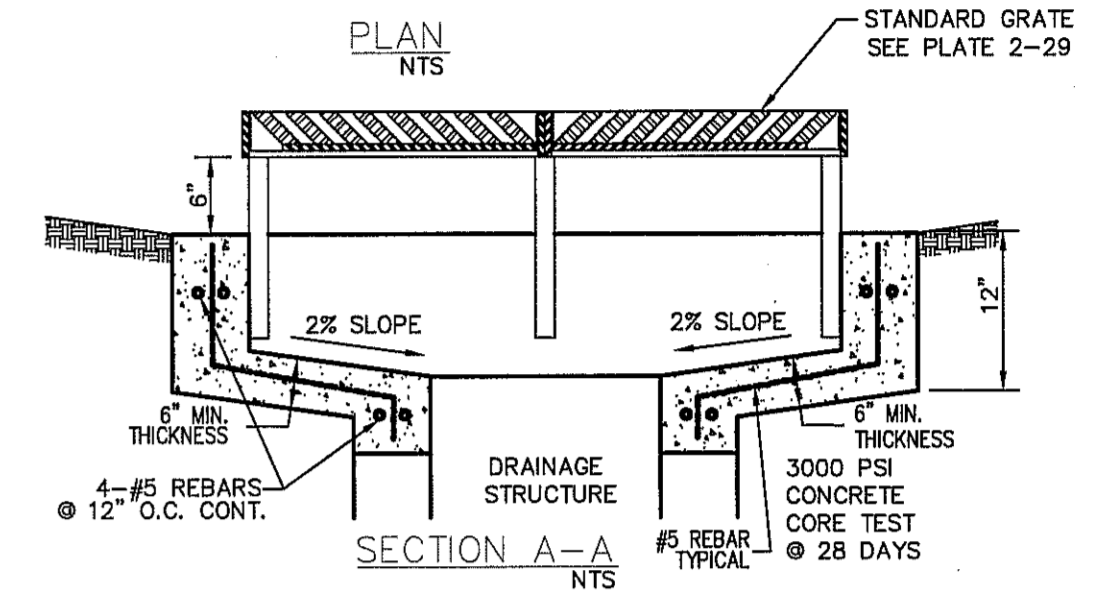
- NOTES:
- 3" X 3" X 3/16" SQUARE STEEL TUBING
 - 2" X 1" X 14 GA. RECTANGULAR STEEL TUBING
 - 1 1/2" X 1/2" X 16 GA. RECTANGULAR STEEL TUBING
 - BOLT HOOK AND STRAP HINGE
 - CANE BOLT LATCH W/KEEPER 5-8" X 18" LONG (2 REQUIRED)
 - DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
 - FLAT TOP POLYVINYL CAP
 - 2" X 1" X 10 GA. RECT. STL. TUBING



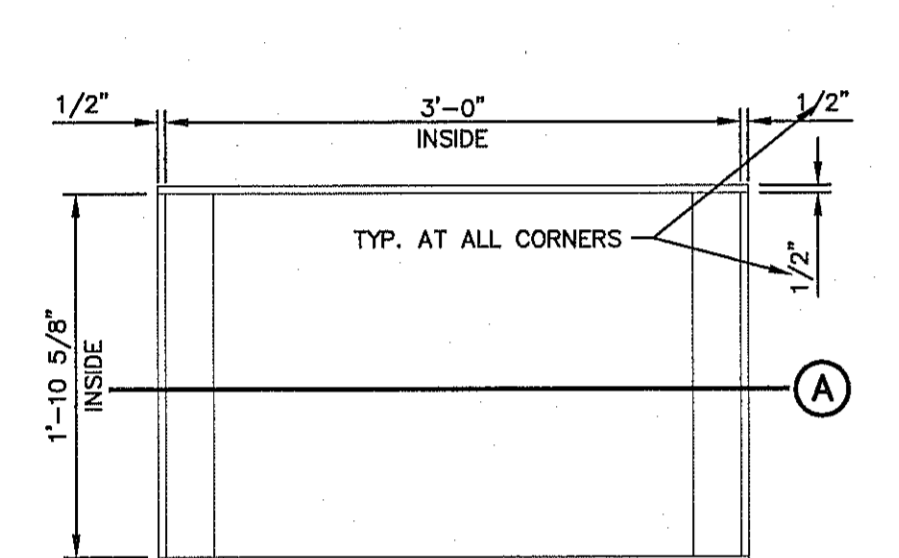
2 TYPICAL ROCKWALL W/ WROUGHT IRON FENCE DETAILS
C9.2 SCALE: N.T.S.



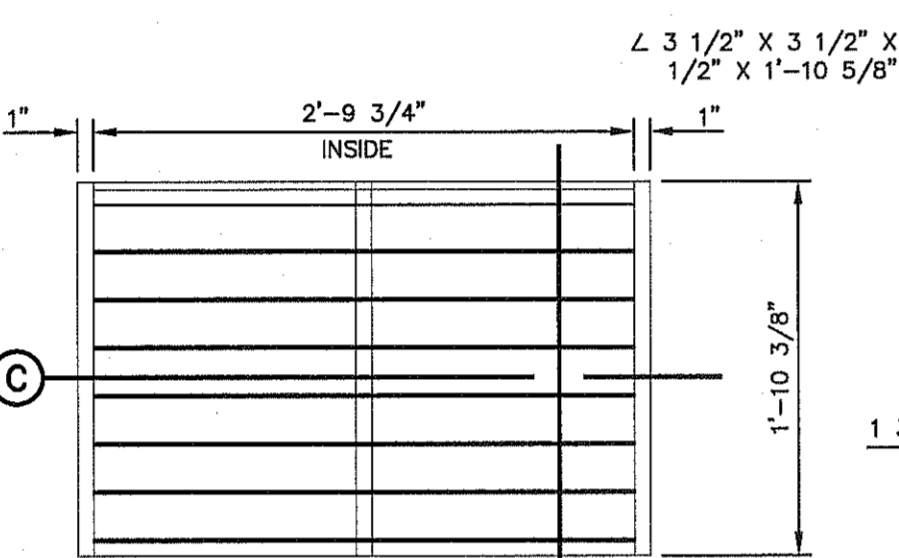
STANDARD GATE
SEE PLATE 2-29



SECTION A-A
N.T.S.

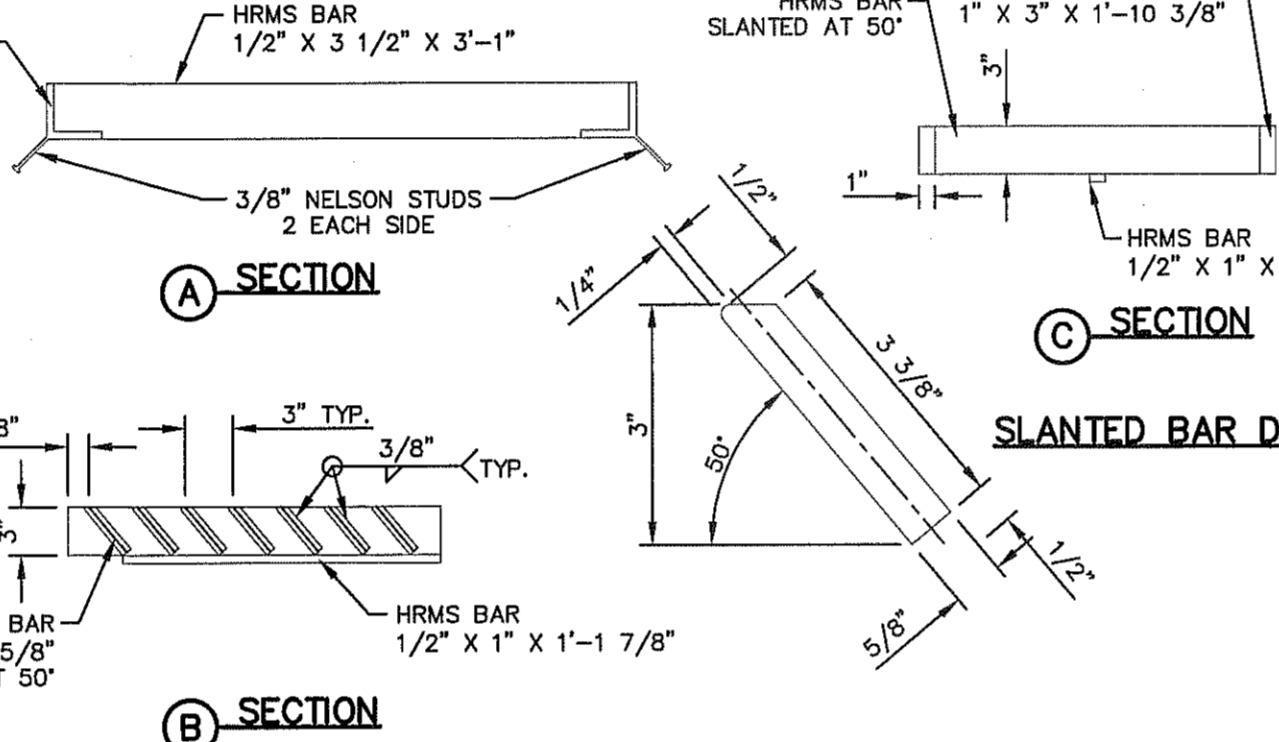


PLAN - FRAME

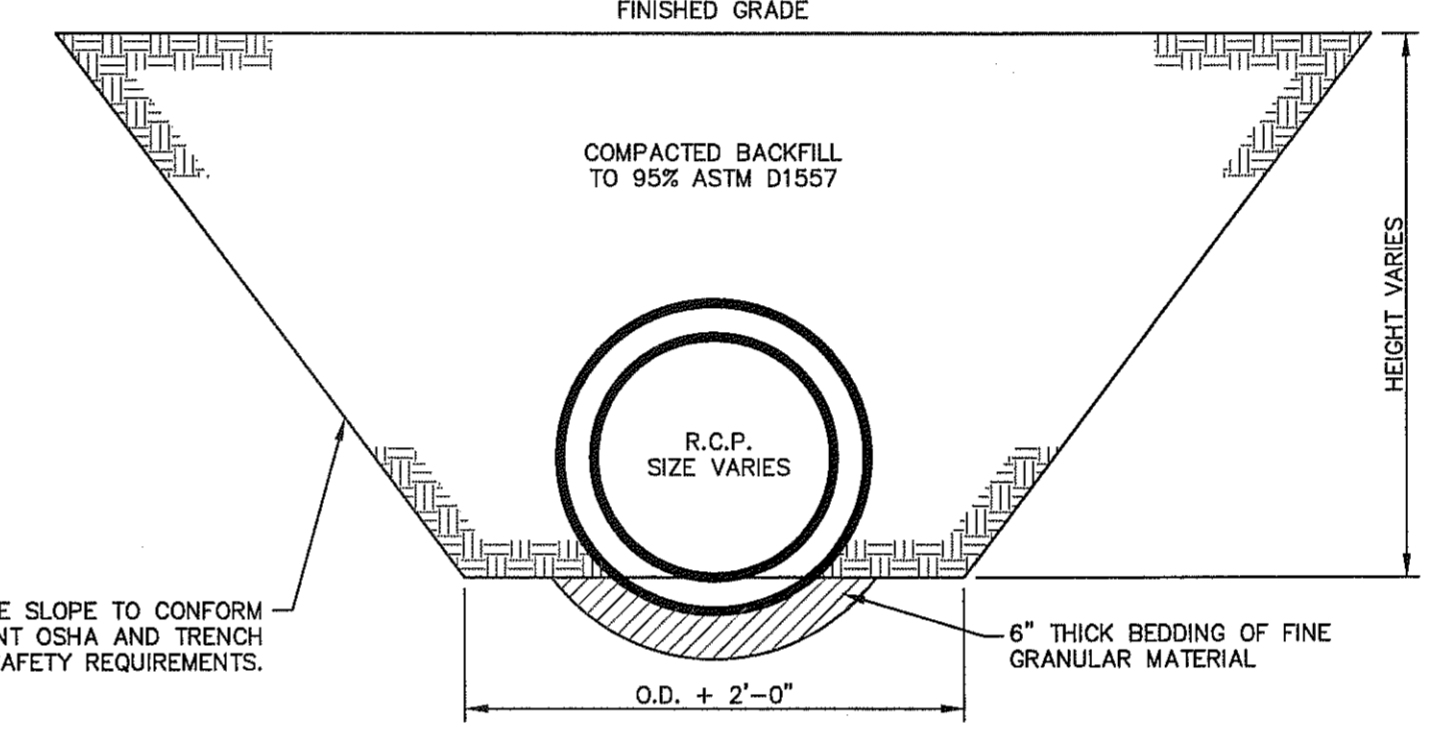


PLAN - GRATE

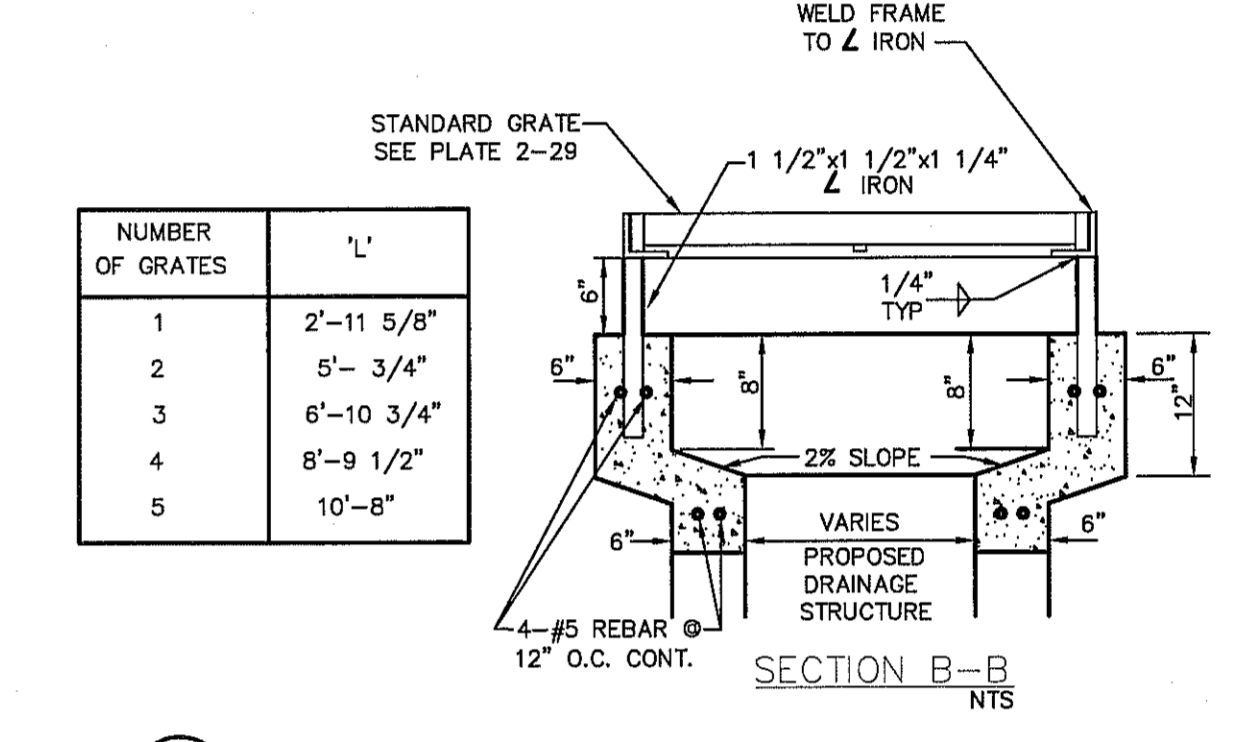
3 GRATE AND FRAME DETAILS
C9.2 SCALE: 1" = 1'-0"



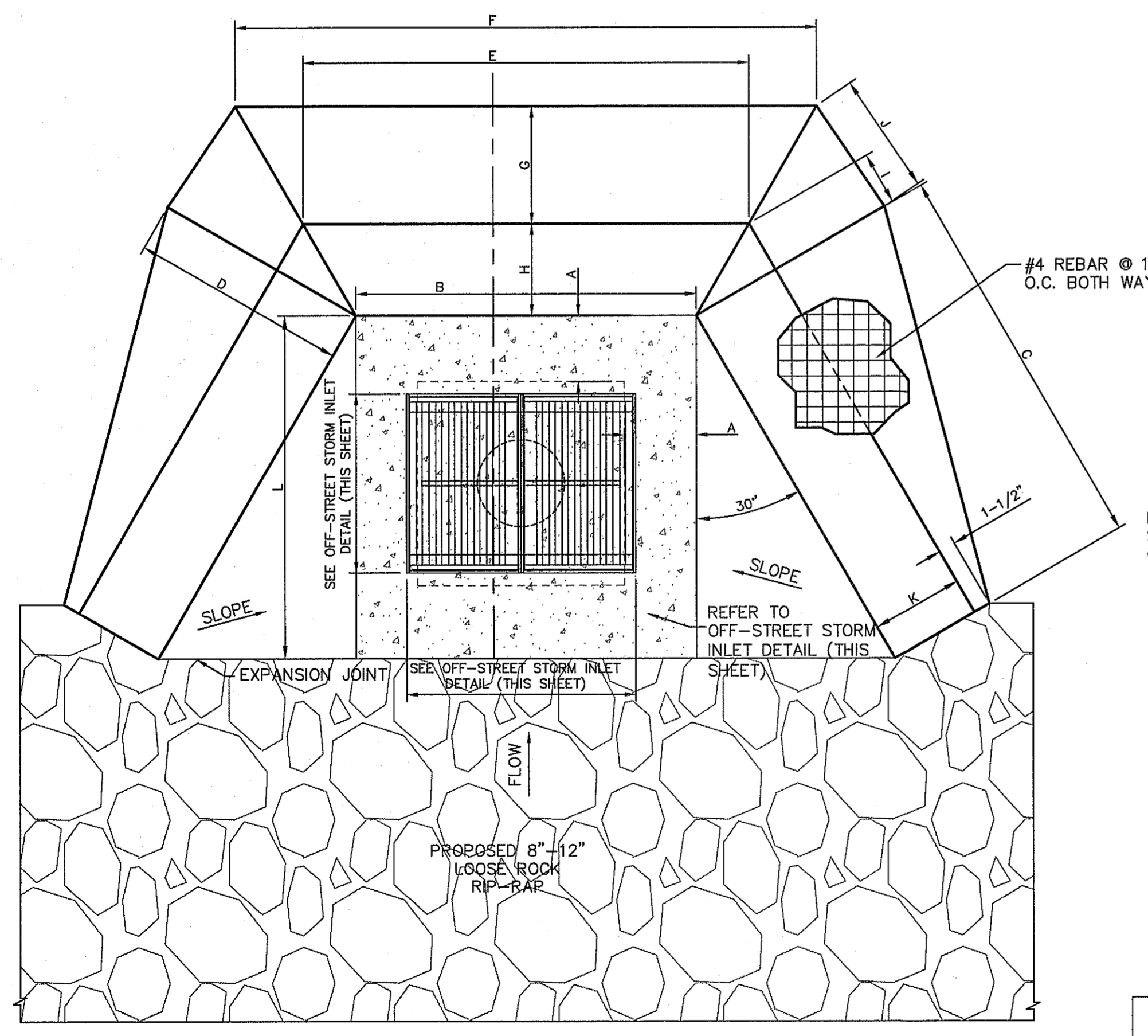
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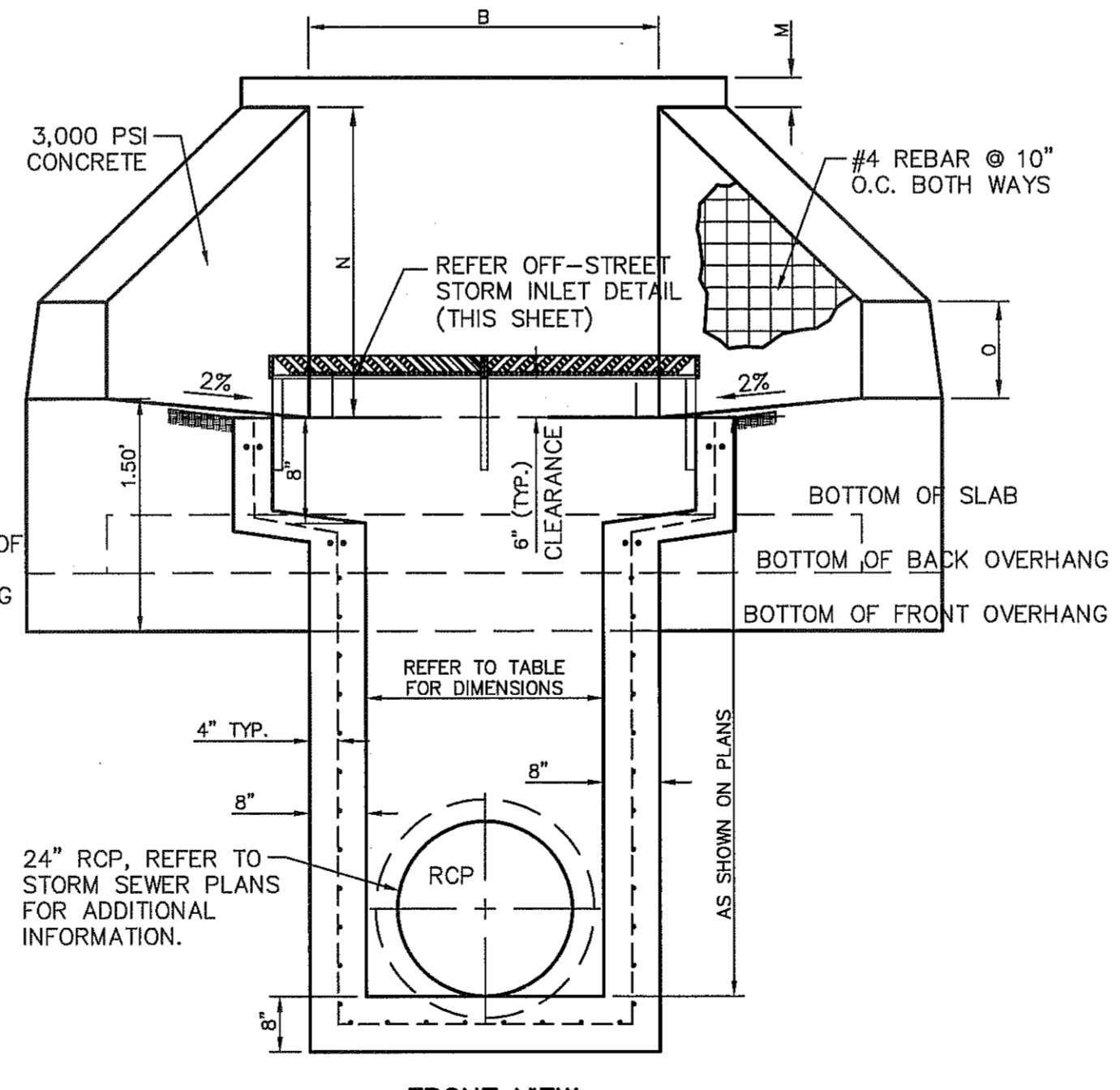
4 STORM SEWER BEDDING DETAIL
C9.2 SCALE: 1/2" = 1'-0"



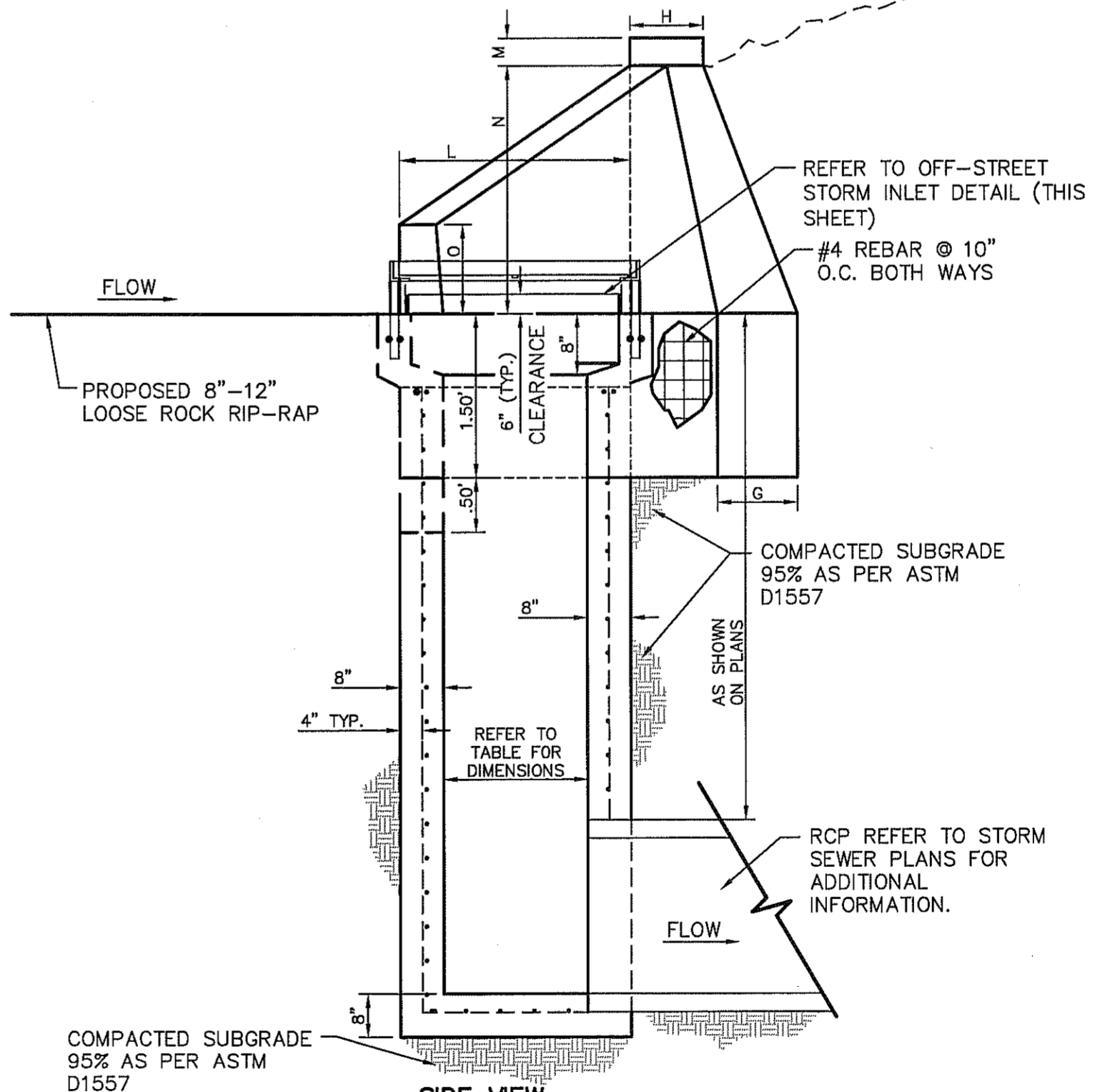
5 OFF-STREET STROM INLET DETAIL
C9.2 SCALE: N.T.S.



6 INLET CONCRETE HEADWALL WITH WING WALL I
C9.2 SCALE: N.T.S.



FRONT VIEW
SCALE: N.T.S.



SIDE VIEW
SCALE: N.T.S.

INLET CONCRETE HEADWALL I.D.	SIZE OF REINFORCED BOX CULVERT	A	*B	C	D	E	F	G	H	I	J	K	*L	M	N	O
1	48" X 36"	8"	64"	60"	19"	73 1/4"	86"	11"	8"	4 1/2"	11"	8"	52"	3"	36"	24"

*NOTE: APPROXIMATE DISTANCE SHOWN. ACTUAL DISTANCE WILL VARY ACCORDING TO PIPE WALL THICKNESS.

- CONCRETE HEADWALL NOTES:
- CASTING TO BE SMOOTH & VOID OF AIR HOLES.
 - CONCRETE TO BE 3,000 PSI MIN. @ TWENTY-EIGHT (28) DAYS.
 - EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOLDED ASPHALT IMPREGNATED EXPANSION MATERIAL OR EQUAL.
 - ALL REINFORCING BARS SHALL HAVE A MINIMUM OF THREE (3") INCHES OF COVER WHEN ABUTTING EARTHEN MATERIAL.
 - NINETY-FIVE (95%) PERCENT COMPACTION AS PER ASTM D-1557 UNDER ALL CONCRETE STRUCTURES.
 - REINFORCED STEEL SHALL BE DEFORMED AND HAVE A MINIMUM OF GRADE 40.

REFERENCES - BENCHMARKS
FOUND U.S. SURVEY MARKER STAMPED "CHINO 1880"
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAD 83 DATUM)
TIE TO THE PROJECT BENCHMARK IS NS309097W 4008.93
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST
CORNER OF TRACT 11, BELIEVE D. WARD SURVEY NO. 239.
DATE: _____ BY: _____
REVISIONS: _____

ca
TEXAS REGISTERED ENGINEERING FIRM #464
4772 Woodrow Babin, Ste. F, El Paso, TX 79924
915.544.5232 | www.caagroup.net

ENGINEER'S SEAL
STATE OF TEXAS
CIVIL ENGINEER
NO. 86075
J.L.A.
2051.001

SCALE: N/A
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J./E.Z.
DRAWN BY: J.L.A.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
DRAINAGE DETAILS

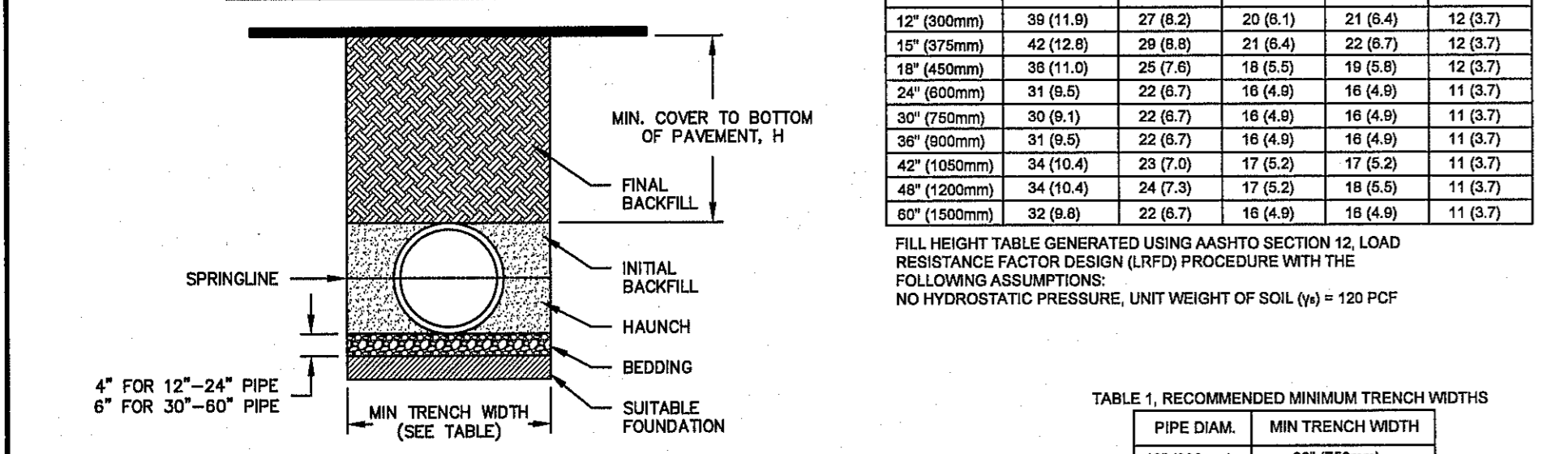
(SHEET 2 OF 3)
SHEET NO.

C9.2

Final Approval
CITY OF EL PASO
TEXAS

S:\2051\2051-001-Desert Springs Unit 5\DWG\Construction Drawings\Improvement Plans\2051001_C9.0_DTL.DWG.dwg, 7/11/2018 10:09:12 AM

PP TRENCH INSTALLATION DETAIL FOR STORM APPLICATIONS



CLASS I CLASS II CLASS III

PIPE DIA. (IN)	CLASS I	CLASS II	CLASS III
12" (300mm)	27 (6.9)	20 (5.1)	21 (5.4)
15" (375mm)	29 (7.4)	21 (5.4)	22 (5.7)
18" (450mm)	31 (7.9)	22 (5.7)	23 (5.9)
24" (600mm)	33 (8.4)	23 (5.9)	24 (6.1)
30" (750mm)	35 (8.9)	24 (6.1)	25 (6.4)
36" (900mm)	37 (9.4)	25 (6.4)	26 (6.7)
42" (1050mm)	39 (9.9)	26 (6.7)	27 (7.0)
48" (1200mm)	41 (10.4)	27 (7.0)	28 (7.3)
60" (1500mm)	45 (11.4)	29 (7.4)	30 (7.6)

TABLE 1. RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIA. (IN)	MIN TRENCH WIDTH (IN)
12" (300mm)	30" (750mm)
15" (375mm)	34" (860mm)
18" (450mm)	39" (990mm)
24" (600mm)	48" (1200mm)
30" (750mm)	58" (1420mm)
36" (900mm)	64" (1620mm)
42" (1050mm)	72" (1800mm)
48" (1200mm)	80" (2030mm)
60" (1500mm)	98" (2440mm)

TABLE 2. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

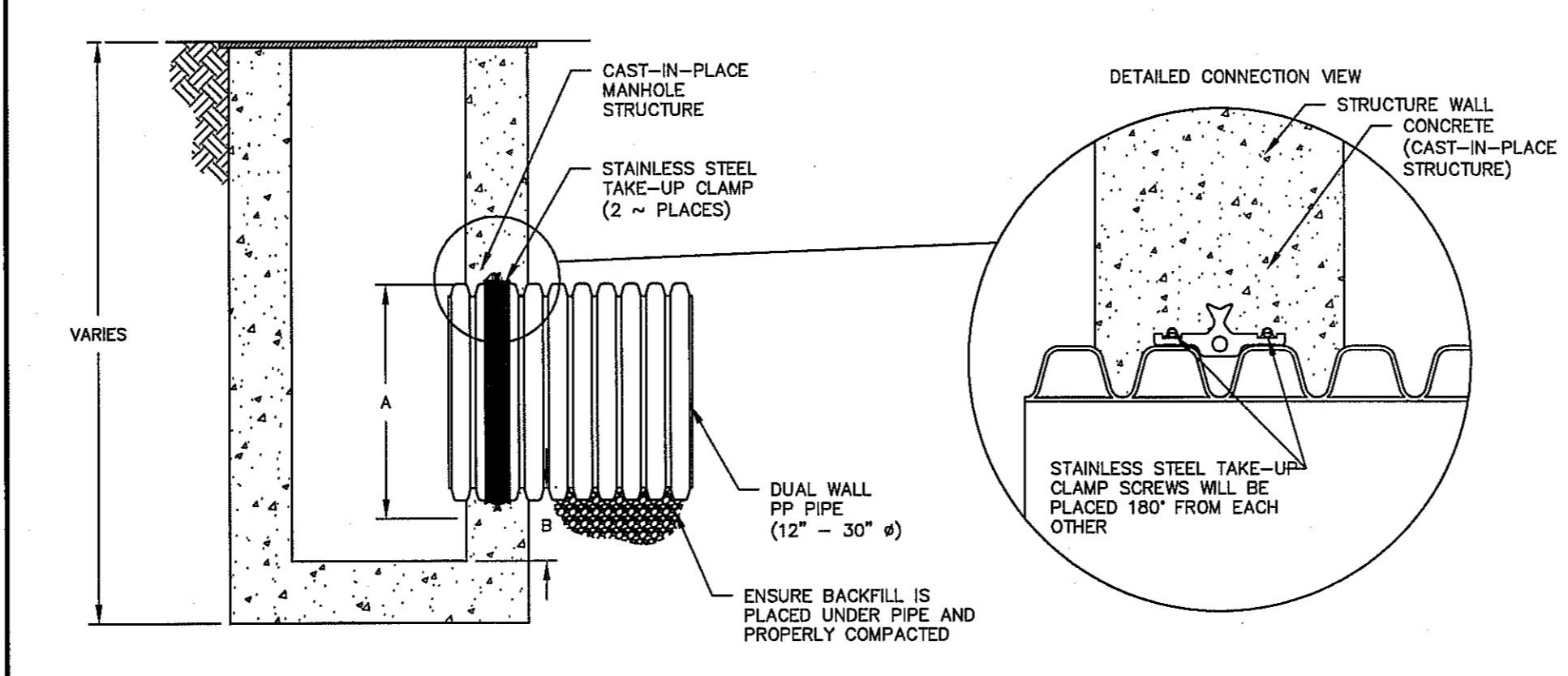
PIPE DIA. (IN)	12" (300mm)	48" (1200mm)
12" - 48" (300mm - 1200mm)	12" (300mm)	48" (1200mm)
60" (1500mm)	24" (600mm)	60" (1500mm)

NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS," LATEST EDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2221.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIALS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE 80% OF MAXIMUM DENSITY PER ASTM D-1557 OR AS SHOWN ON THE PLANS. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE, 6" (150mm) FOR 30"-48" (750mm-1200mm) DIAMETER PIPE, THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II, OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION, FOR TRAFFIC APPLICATIONS. CLASS I, II, OR III MATERIAL SHALL BE COMPACTED TO A DENSITY OF NOT LESS THAN 95% PER THE CITY STANDARDS FOR BOTH COHESIVE AND COHESION LESS SOILS.
- MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF PAVEMENT OR TO TOP OF RIGID PAVEMENT.

#1 - POLYPROPYLENE PIPE DETAIL FOR STORM SEWER APPLICATIONS (INSTALLATION DETAIL)
SCALE: N.T.S.

12"-30" PP WATERSTOP GROUDED MANHOLE CONNECTION (DUAL WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE # (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)
12	14.5	19.50	3.7
15	17.6	23.00	4.0
18	21.2	26.50	4.2
24	27.8	33.25	4.5
30	35.1	40.50	5.2
36	41.1	47.00	5.5
42	47.7	53.00	5.7
48	53.6	59.00	5.7
60	66.3	72.00	6.4

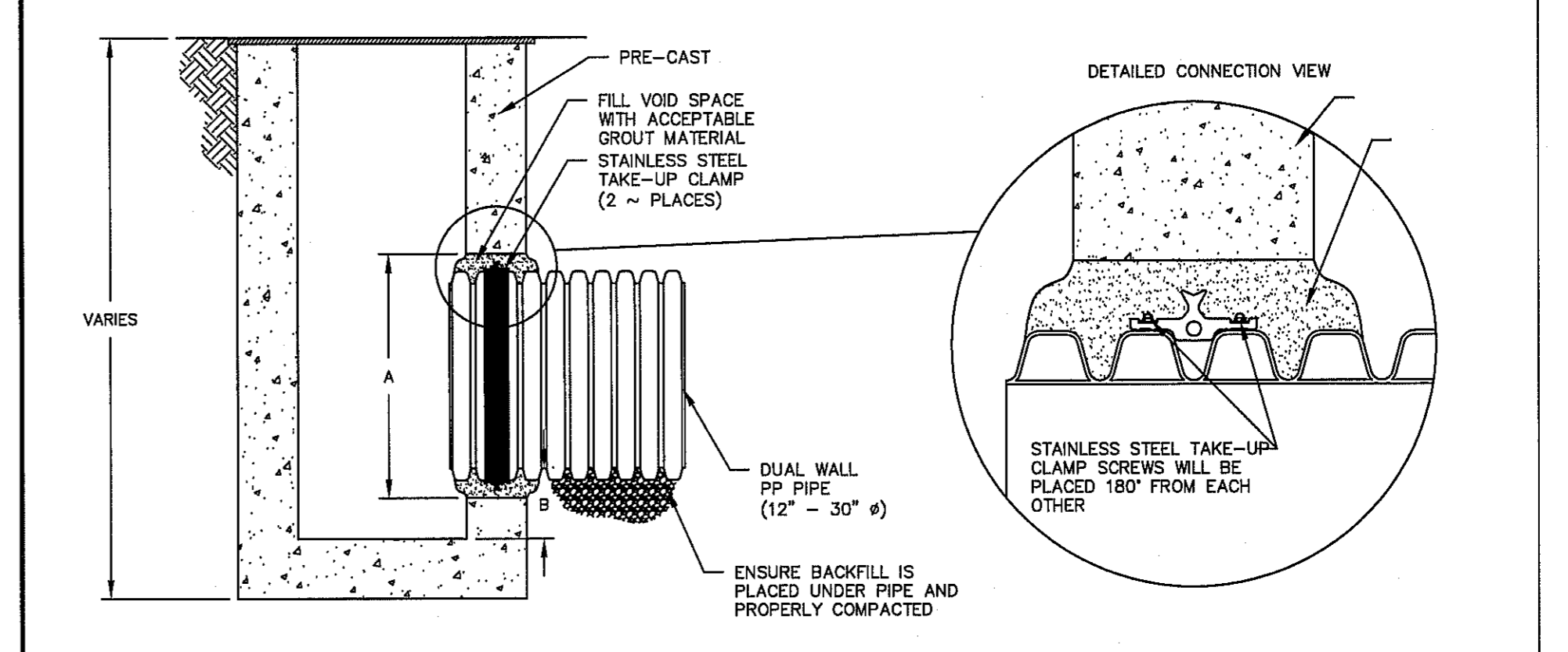
NOTES:

PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN INSTALLATION GUIDE 1.05: WATERSTOP INSTALLATION

#4 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)
SCALE: N.T.S.

12"-30" PP WATERSTOP GROUDED MANHOLE CONNECTION (DUAL WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE # (IN)	"B" MIN. DISTANCE PIPE INVERT TO STRUCTURE INVERT (IN)
12	14.5	19.50	3.7
15	17.6	23.00	4.0
18	21.2	26.50	4.2
24	27.8	33.25	4.5
30	35.1	40.50	5.2
36	41.1	47.00	5.5
42	47.7	53.00	5.7
48	53.6	59.00	5.7
60	66.3	72.00	6.4

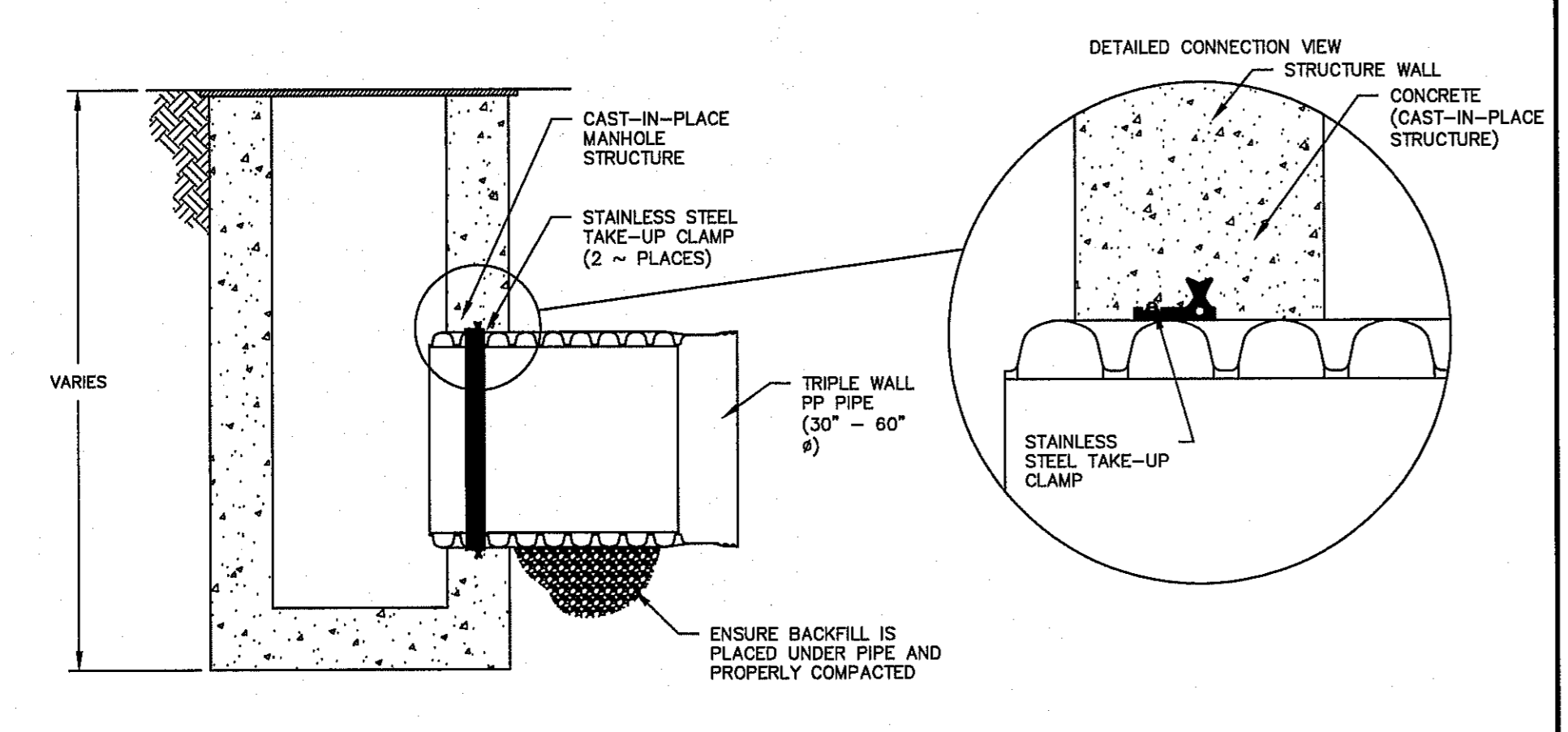
NOTES:

PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

INSTALLATION RECOMMENDATIONS ARE ALSO SPECIFIED IN INSTALLATION GUIDE 1.05: WATERSTOP INSTALLATION

#2 - WATERSTOP 12"-30" DUAL WALL POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)
SCALE: N.T.S.

30"-60" PP WATERSTOP GROUDED MANHOLE CONNECTION (TRIPLE WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE # (IN)
30	35.4	41.5
36	41.1	46.0
42	47.2	52.5
48	53.8	60.0
60	66.5	72.5

NOTES:

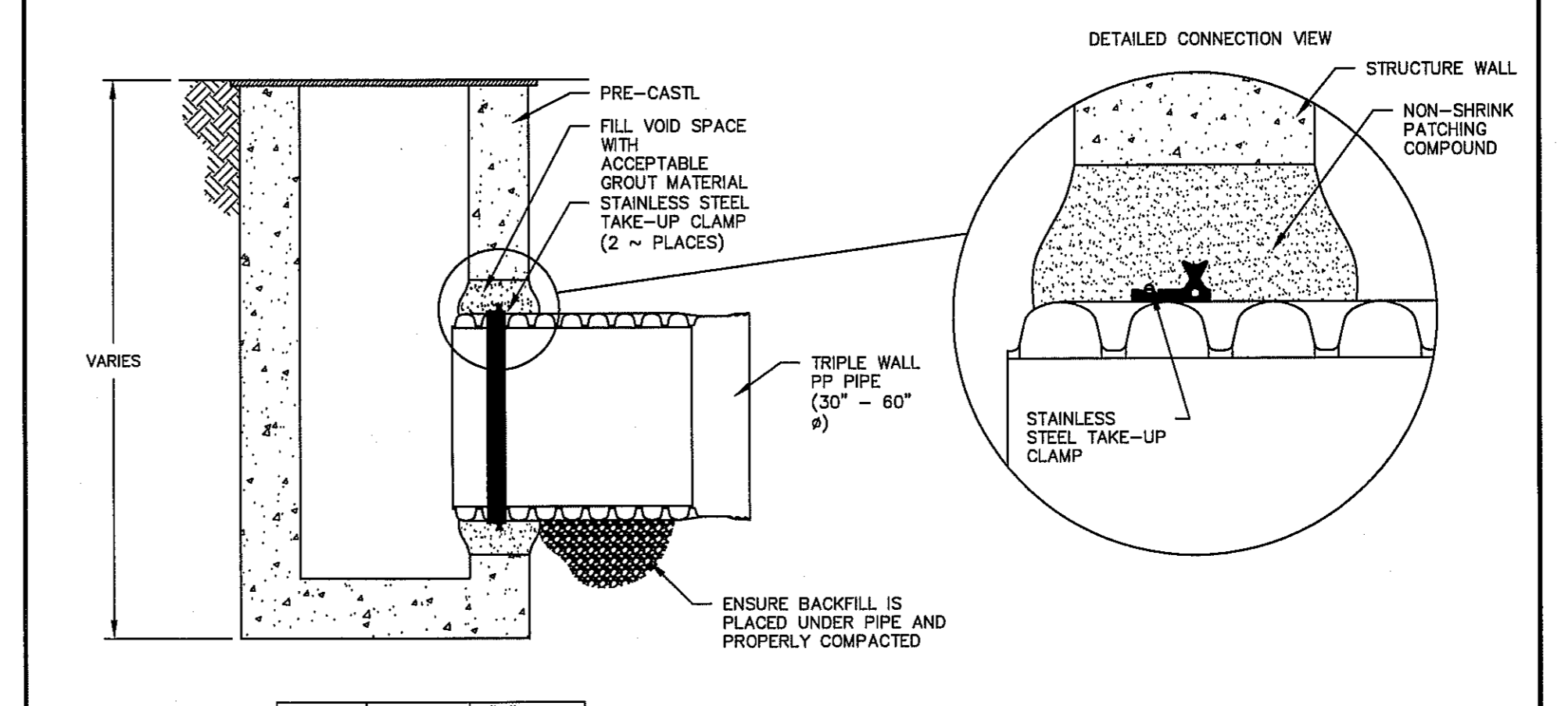
PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

#3 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR CAST-IN-PLACE STRUCTURES)
SCALE: N.T.S.

NOTES:

- TESTING METHODOLOGY SHALL COMPLY WITH ASTM F-1417-11A. STANDARD PRACTICE FOR INSTALLATION ACCEPTANCE OF PLASTIC NON-PRESSURE SEWER LINES USING LOW-PRESSURE AIR.
 - LOW PRESSURE AIR TESTING PRACTICE DETECTS DAMAGED PIPING OR IMPROPER JOINTING BY MEASURING THE RATE AT WHICH AIR UNDER PRESSURE ESCAPES FROM AN ISOLATED SECTION OF PIPE.
 - THE PRESSURE DROP FOR SIZE AND LENGTH OF PIPE SHALL COMPLY WITH TABLE 1 OF ASTM F-1417.
 - APPARATUS PLUGS SHALL BE MECHANICAL OR PRE-UMATIC, AIR COMPRESSED SHALL BE FROM A CALIBRATED OIL-FREE AIR SOURCE AND IN CONFORMANCE TO THE REQUIREMENTS OF THIS ASTM SECTION.
 - PREPARATION OF LINE: CLEAN THE SECTION OF SEWER.
 - PROCEDURE FOR LOW-PRESSURE TEST SHALL CONFIRM TO SECTION 8 OF ASTM F-1417.
 - TEST TIME CALCULATIONS.
- MANUFACTURED REPRESENTATION OF HP PIPE SHALL BE PRESENT AT INSTALLATION OF PIPE TO PROVIDE VISUAL OBSERVATION OF CONTRACTOR INSTALLATION PRACTICES AND TO PROVIDE INSTALLATION TRAINING TO COUNTY EMPLOYEES.

30"-60" PP WATERSTOP GROUDED MANHOLE CONNECTION (TRIPLE WALL)



PIPE SIZE (IN)	PIPE OD (IN)	"A" MIN. HOLE # (IN)
30	35.4	41.5
36	41.1	46.0
42	47.2	52.5
48	53.8	60.0
60	66.5	72.5

NOTES:

PERFORMANCE HIGHLY DEPENDENT ON INSTALLATION. CONTRACTOR MUST ENSURE MANHOLE GASKET IS UNIFORMLY SEATED AROUND STRUCTURE ADAPTER. EXTRA PRECAUTIONS MUST BE TAKEN TO PREVENT DIFFERENTIAL SETTLEMENT BETWEEN THE PIPE AND MANHOLE.

#5 - WATERSTOP TRIPLE WALL 30"-60" POLYPROPYLENE STORM DETAIL (WATERSTOP GROUDED CONNECTION DETAIL FOR PRECAST STRUCTURES)
SCALE: N.T.S.

REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CINO 0880" ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN) 3946.11 (NAD 83 DATUM)

TO THE PROJECT BENCHMARK IS N5309.09' W, 4008.93' FEET FROM A 1/2" NCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. MURPHY SURVEY No. 239.

DATE: _____ REVISIONS: _____ BY: _____

DESERT SPRINGS UNIT FIVE SUBDIVISION IMPROVEMENTS

SHEET TITLE

DRAINAGE DETAILS (SHEET 3 OF 3)

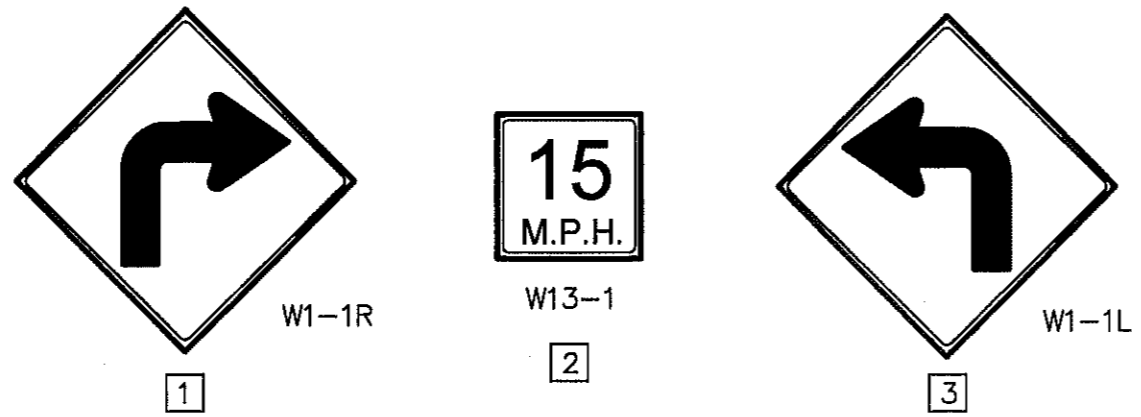
SHEET NO.

C9.3

Final Approval

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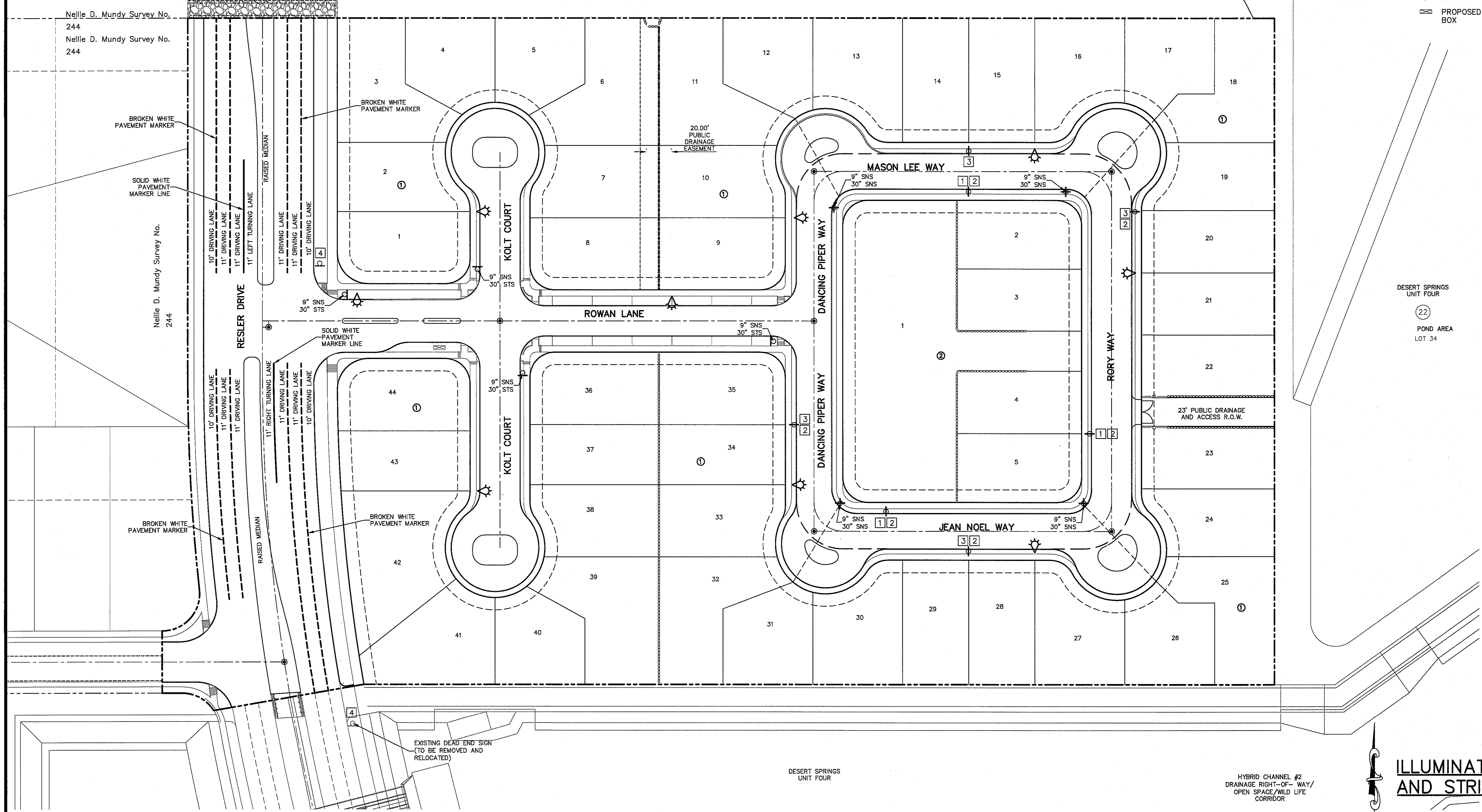
SIGNS DETAIL
SCALE: N.T.S.

9 RESIDENTIAL STREET LIGHTS

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

Nellie D. Mundy Survey No. 244
Trans-Interstate Joint Venture
Book 2354, Page 1678

- LEGEND**
- ☼ PROPOSED RESIDENTIAL STREET LIGHT
 - Ⓜ PROPOSED 9" STREET NAMES AND 30" STOP SIGN
 - Ⓜ PROPOSED 9" STREET NAME SIGN (TWO SIGNS)
 - Ⓜ TRAFFIC SIGN
 - ☐ PROPOSED N.D.B.C.U. MAIL BOX



DESERT SPRINGS UNIT FOUR
22
POND AREA LOT 34

HYBRID CHANNEL #2
DRAINAGE RIGHT-OF-WAY/
OPEN SPACE/WILD LIFE CORRIDOR



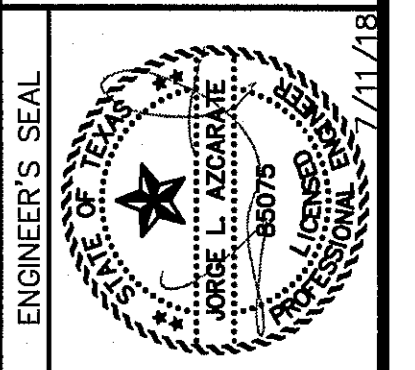
ILLUMINATION, SIGNAGE AND STRIPING PLAN

SCALE: 1" = 40'

REFERENCES - BENCHMARKS

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ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWING)	
3945.78 (NOD 29 DATUM)	
TIE TO THE PROJECT BENCHMARK IS N65709.09°W 4008.83'	
FROM A 1/2" INCH REPER. FOUND IN THE NORTHWEST CORNER OF TRACT 15, SURVEY NO. 2354	
DATE:	REVISIONS:
BY:	

CS&G
C S & G
TEXAS REGISTERED ENGINEERING FIRM #494
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.csandg.com



SCALE

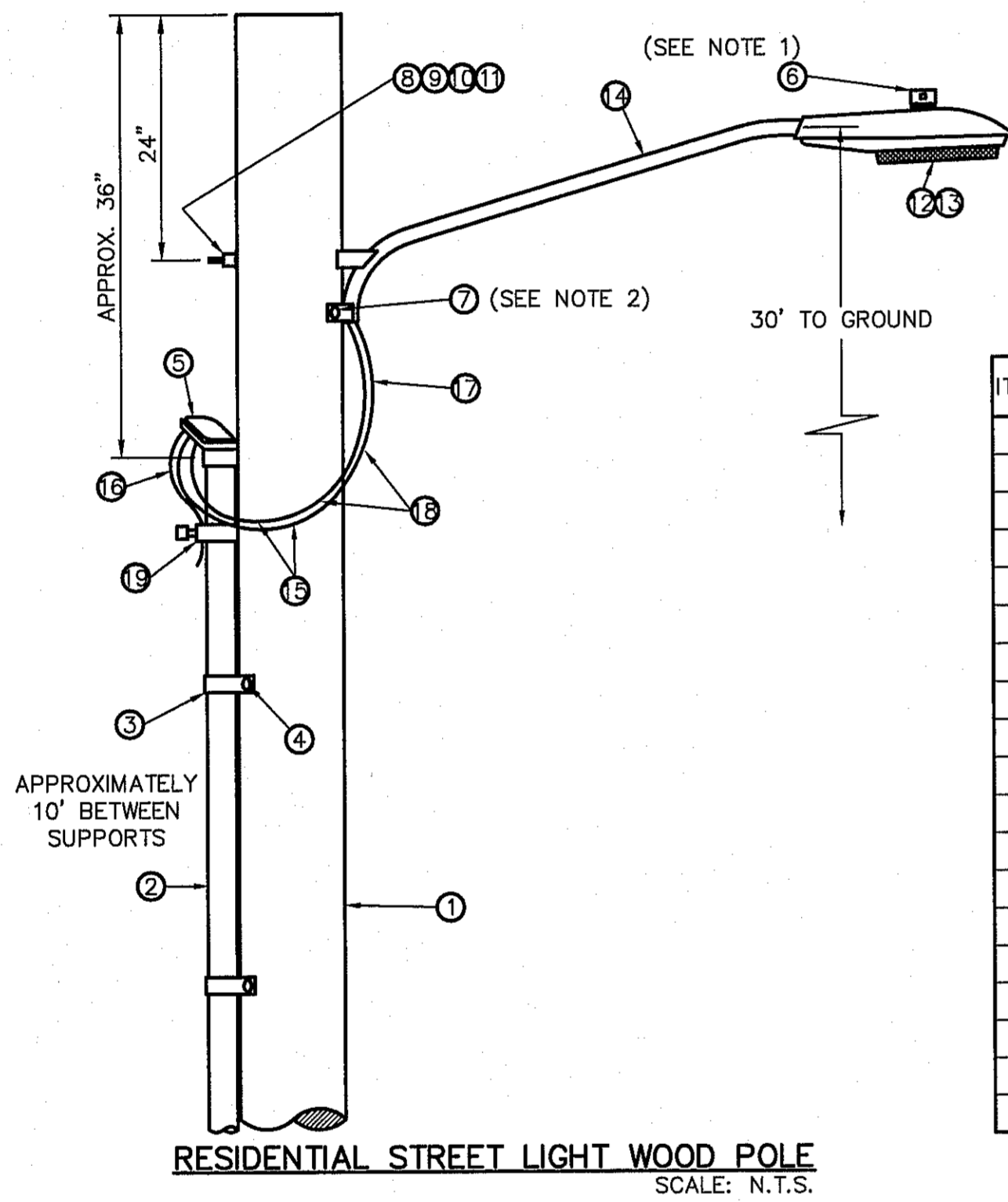
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Vertical: 1" = 40'

Contour Interval: 1' / 4'
DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2051.001

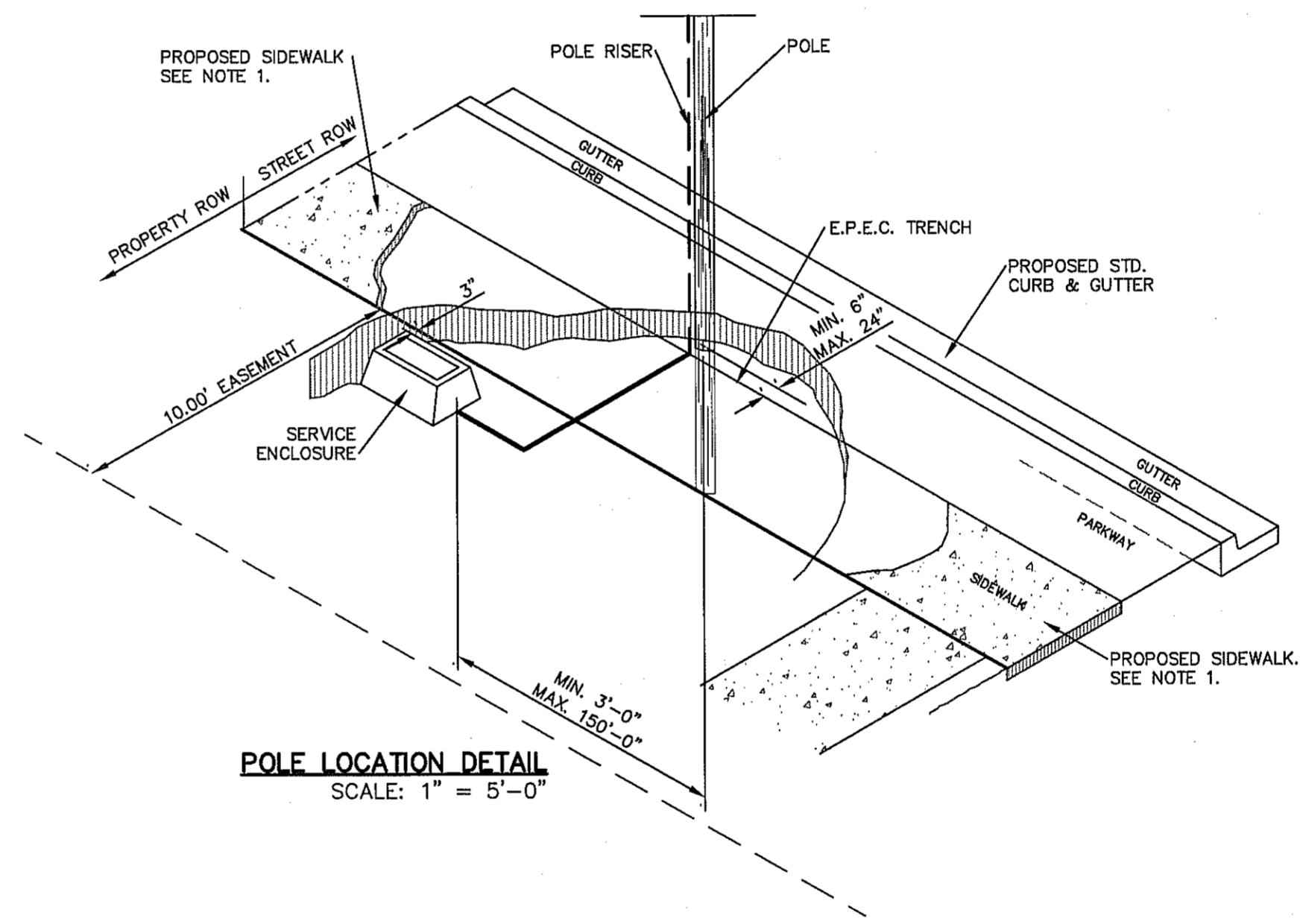
PROJECT TITLE
DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
ILLUMINATION, SIGNAGE AND STRIPING PLAN
(SHEET 1 OF 3)
SHEET NO.

C10.1



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

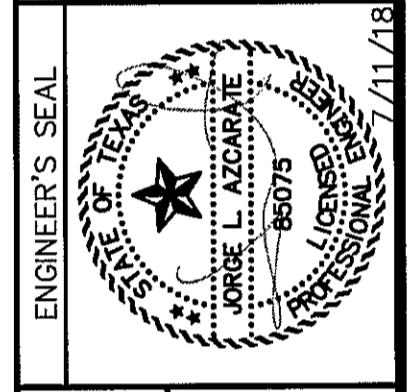


REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "GRID 1880"	
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)	
3946.11 (NAD 88 DATUM)	
TIE TO THE PROJECT BENCHMARK IS N5370957W, 4008.93	
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST	
CORNER OF TRACT 11, NELLE D. MUNDY SURVEY No. 238	
DATE	REVISIONS
	BY

o a

REGISTERED ENGINEERING FIRM F-4564
 4712 Woodrow Bean, Ste. F, El Paso, TX 79904
 915.544.5232 | www.oaegroup.net



SCALE

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JANUARY 2018
DESIGN BY:	C.J. / E.Z.
DRAWN BY:	A.C.
CHECKED BY:	J.L.A.
APPROVED BY:	J.L.A.
JOB No.:	20031.001

PROJECT TITLE

**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**ILLUMINATION,
 SIGNAGE AND
 STRIPING PLAN**

(SHEET 2 OF 3)

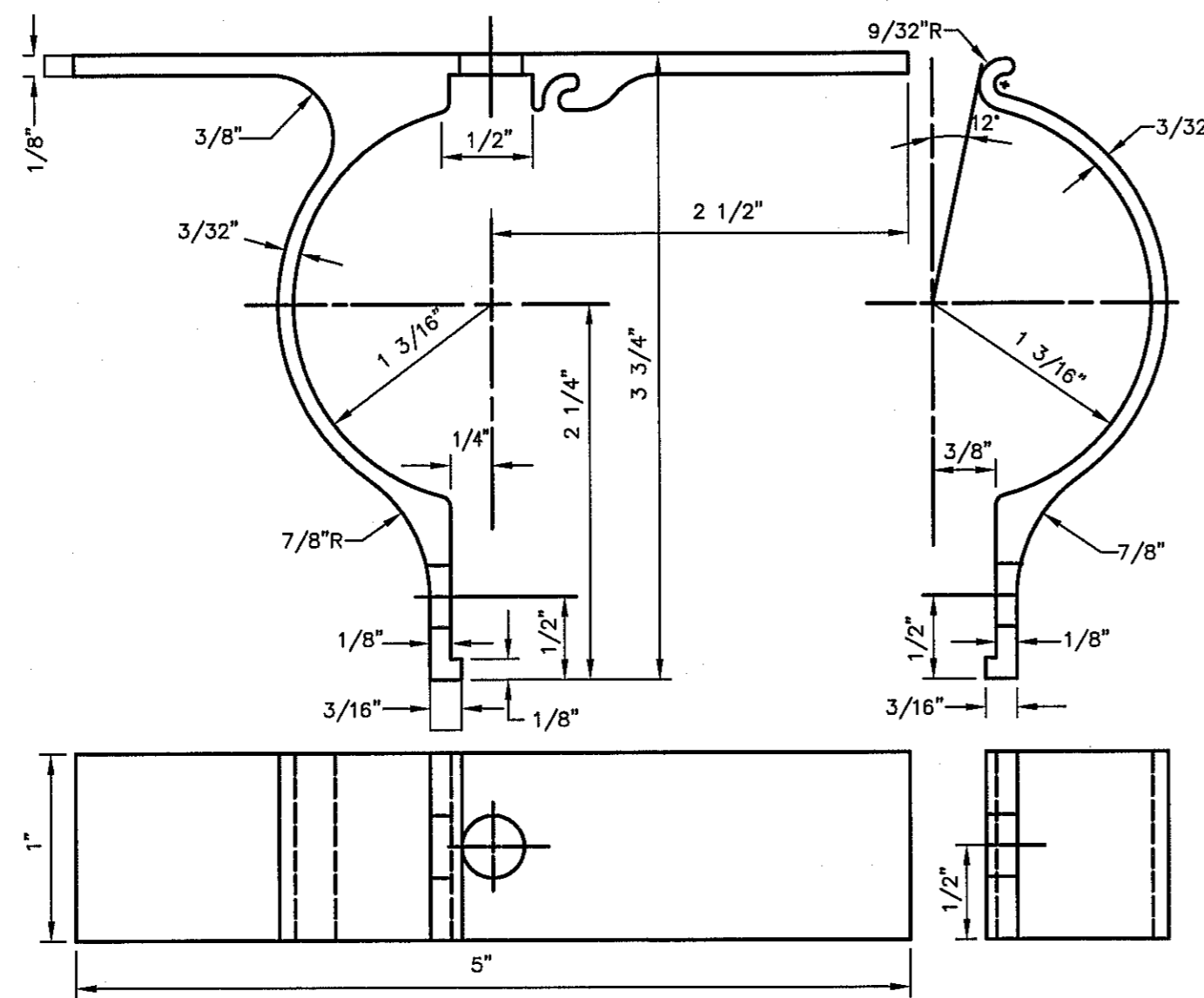
SHEET NO.



C10.2

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

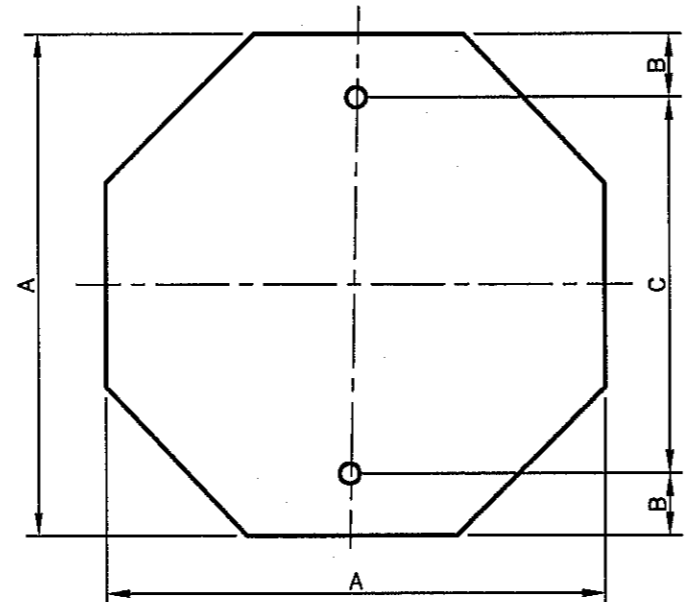
- COLOR OF SIGNS:** THE FINISHED SIGN MUST HAVE A REFLECTORIZED BLUE BACKGROUND. THE BLUE MUST CONFORM WITH THE BUREAU OF PUBLIC ROADS HIGHWAY BLUE. THE LEGEND MUST BE REFLECTORIZED SILVER WHITE (BLUE REVERSE SCREENED BACKGROUND WITH SILVER COPY).
- LETTER DESIGN:** THE LETTERING OF ALL LEGENDS MUST BE MIXED CASE LETTERS IN ACCORDANCE WITH "STANDARD ALPHABETS FOR HIGHWAY SIGNS" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- LETTER SPACING:** THE CONTROL FOR THE SPACING VALUES IN TRAFFIC LAYOUT IS THE DISTANCE RECOGNIZED AS AESTHETIC SPACING BETWEEN TWO STRAIGHT LETTERS (HN). A SPACING CONTROL OF TWO TIMES THE WIDTH OF THE STROKE OF THE LETTER SERIES TO BE USED MUST BE THE AESTHETIC CONTROL (100%). TWO AND ONE-HALF TIMES (2-1/2) THIS CONTROL MUST BE USED AS THE AESTHETIC WORD SPACE BETWEEN ELEMENTS IN THE PRIMARY LEGEND.
- LAYOUT:** THE MAXIMUM NUMBER OF LETTERS TO BE ACCOMMODATED ON A GIVEN LENGTH STREET NAME FACE MUST BE DETERMINED BY THE WIDEST LETTER SERIES POSSIBLE FOR THAT LEGEND AND THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS.
- THE SPACING CONTROL (100%) FOR THE SERIES USED MUST BE EXPANDED OR CONDENSED UP TO 25% IN 5% INCREMENTS FOR THE END MARGIN WITH MINIMUM OF 1".**
- THE WORD SPACE MUST BE EXPANDED UP TO 25% IN 5% INCREMENTS BUT NOT CONDENSED.**
- SPACE BETWEEN PRIMARY AND BLOCK NUMBER AREA MUST BE 1/2 THE AESTHETIC WORD SPACE USED IN THE PRIMARY LEGEND.**
- SIZE OF LEGEND:** FOR 9" STREET NAME SIGNS, THE PRIMARY LEGEND, OR STREET NAME MUST HAVE 6" INITIAL UPPER-CASE LETTERS AND 4.5" LOWER CASE LETTERS ON ALL OTHER STREETS. LETTERING TO INDICATE THE TYPE OF STREET MAY BE IN SMALLER LETTERING COMPOSED OF INITIAL UPPER-CASE LETTERS 3" IN HEIGHT AND LOWERCASE LETTERS 2.25" IN HEIGHT.
- POSITION OF LEGEND:** EACH SIGN FACE WILL CONSIST OF THE STREET NAME, SUFFIX, AND BLOCK NUMBER. THE SUFFIX WILL BE LOCATED IN THE UPPER RIGHT CORNER AND THE BLOCK NUMBER IN THE LOWER RIGHT CORNER OF THE SIGN FACE AND THE STREET NAME CENTERED IN THE REMAINING SPACE.
- SIGN FABRICATION:** THE SIGN FACE MUST BE FABRICATED BY REVERSE SCREENING GREEN TRANSPARENT COLOR OVER SILVER REFLECTIVE SHEETING. TRANSPARENT PROCESS COLORS MUST BE AS RECOMMENDED BY THE SHEETING MANUFACTURER. CUT-OUT OR APPLIED LEGENDS ARE NOT PERMITTED. SIGN FACES MUST BE COMPRISED OF ONE PIECE OR PANEL OF REFLECTIVE SHEETING.
- TYPE OF SHEETING:** ENGINEER GRADE REFLECTIVE SHEETING MUST BE USED IN THE FABRICATION OF THE STREET NAME SIGN FACES.



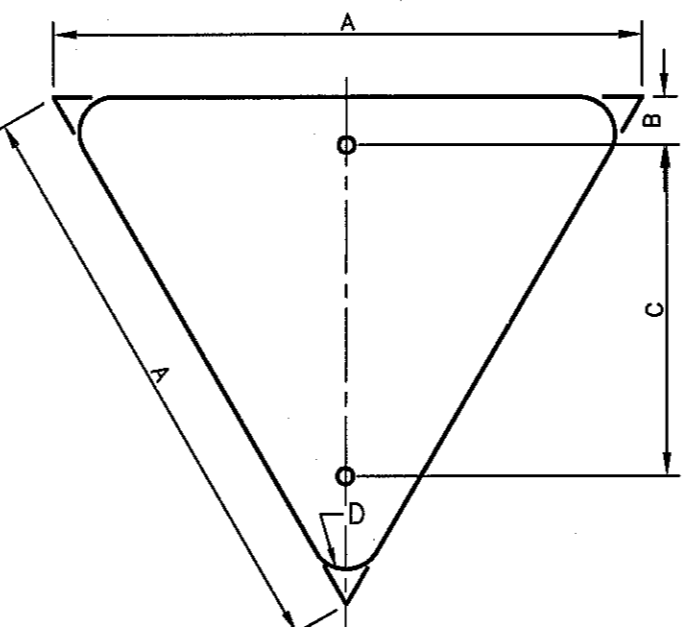
NOTES:

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

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

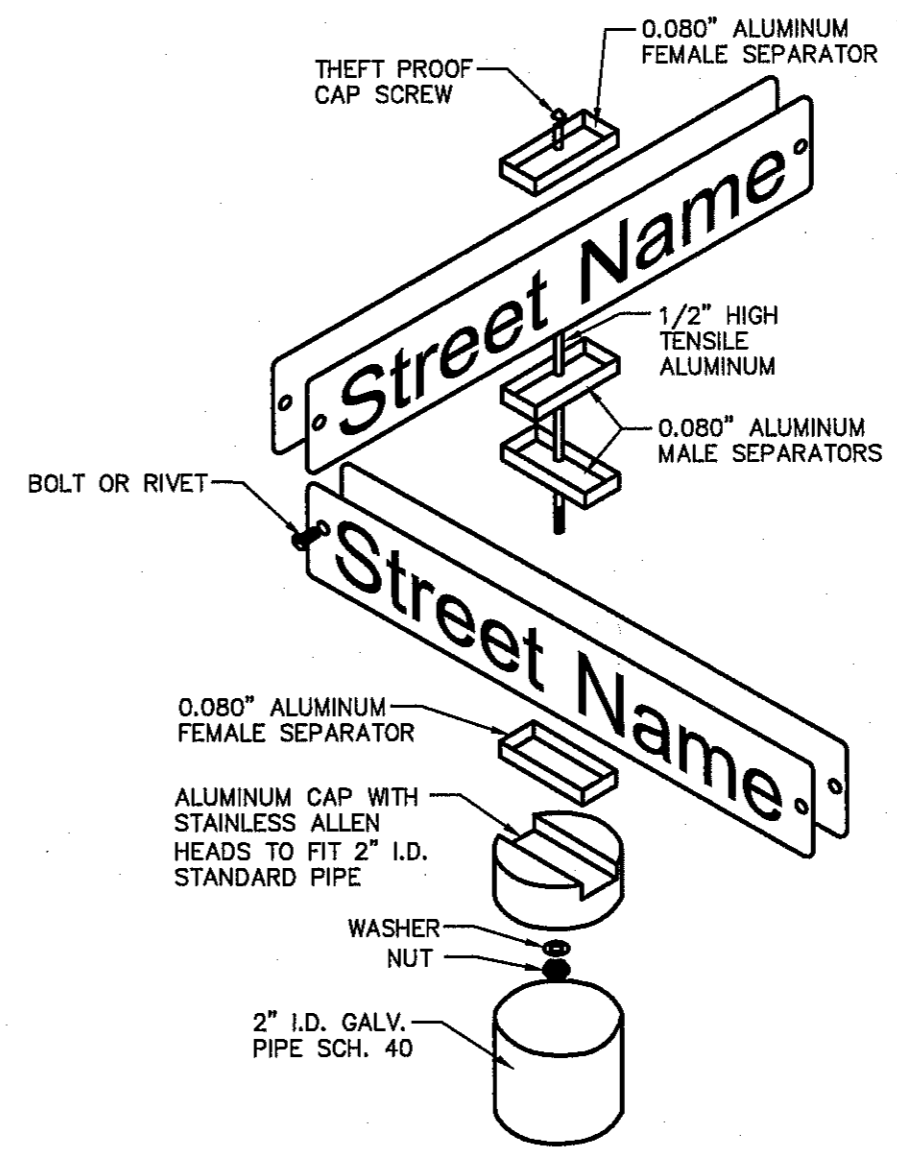


OCTAGON
N.T.S.

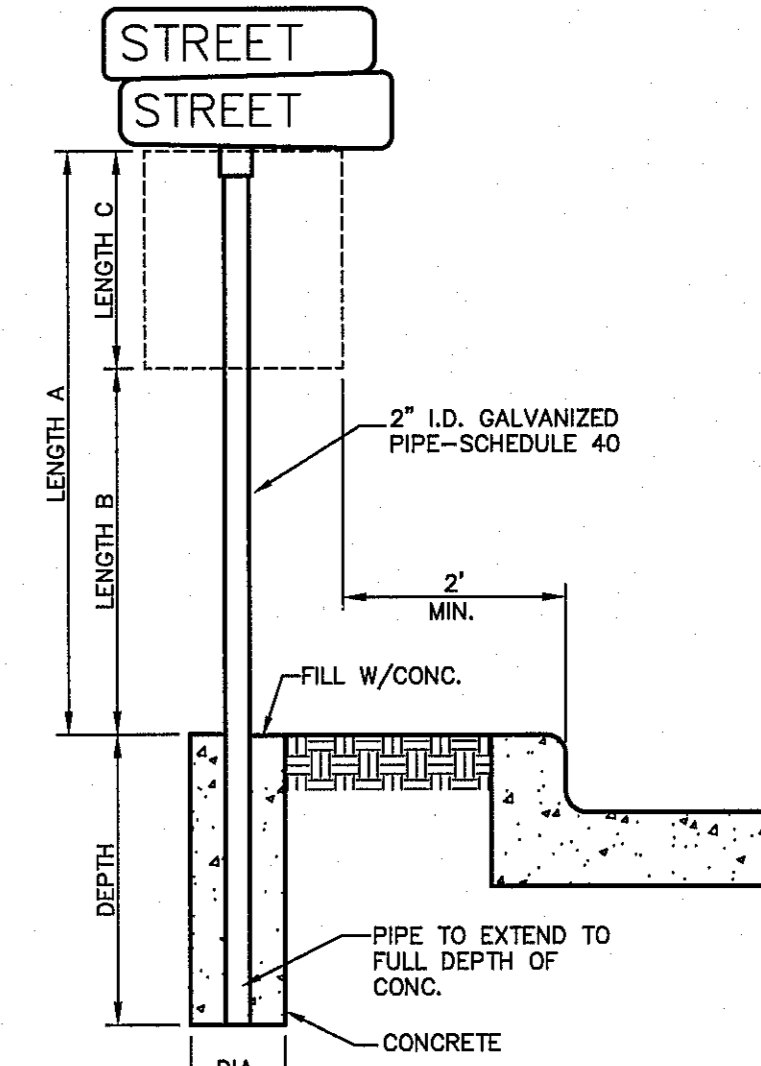


EQUILATERAL TRIANGLE
N.T.S.

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



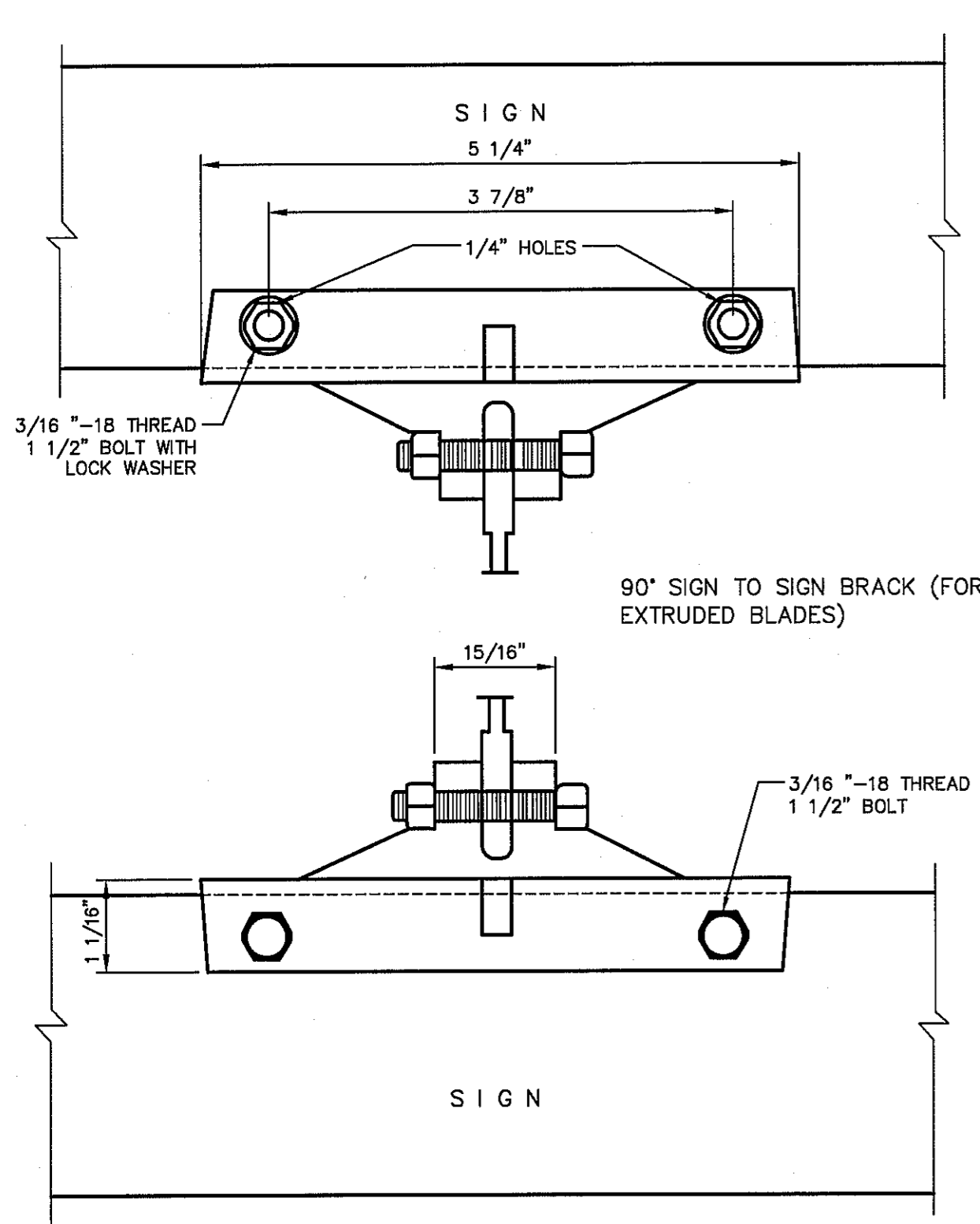
3 9" STREET NAME ASSEMBLY
SCALE: N.T.S.



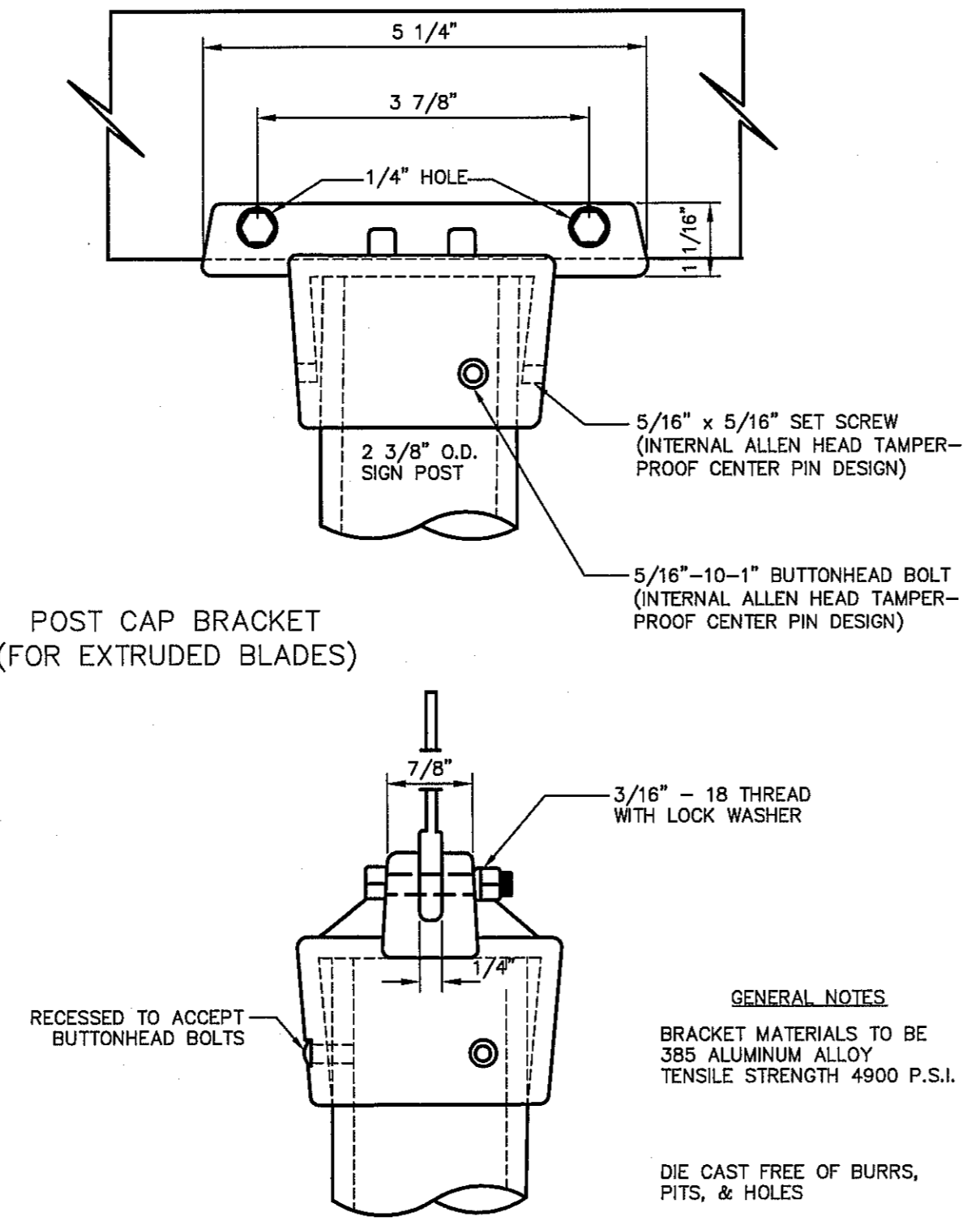
SIGN POST INSTALLATION

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

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



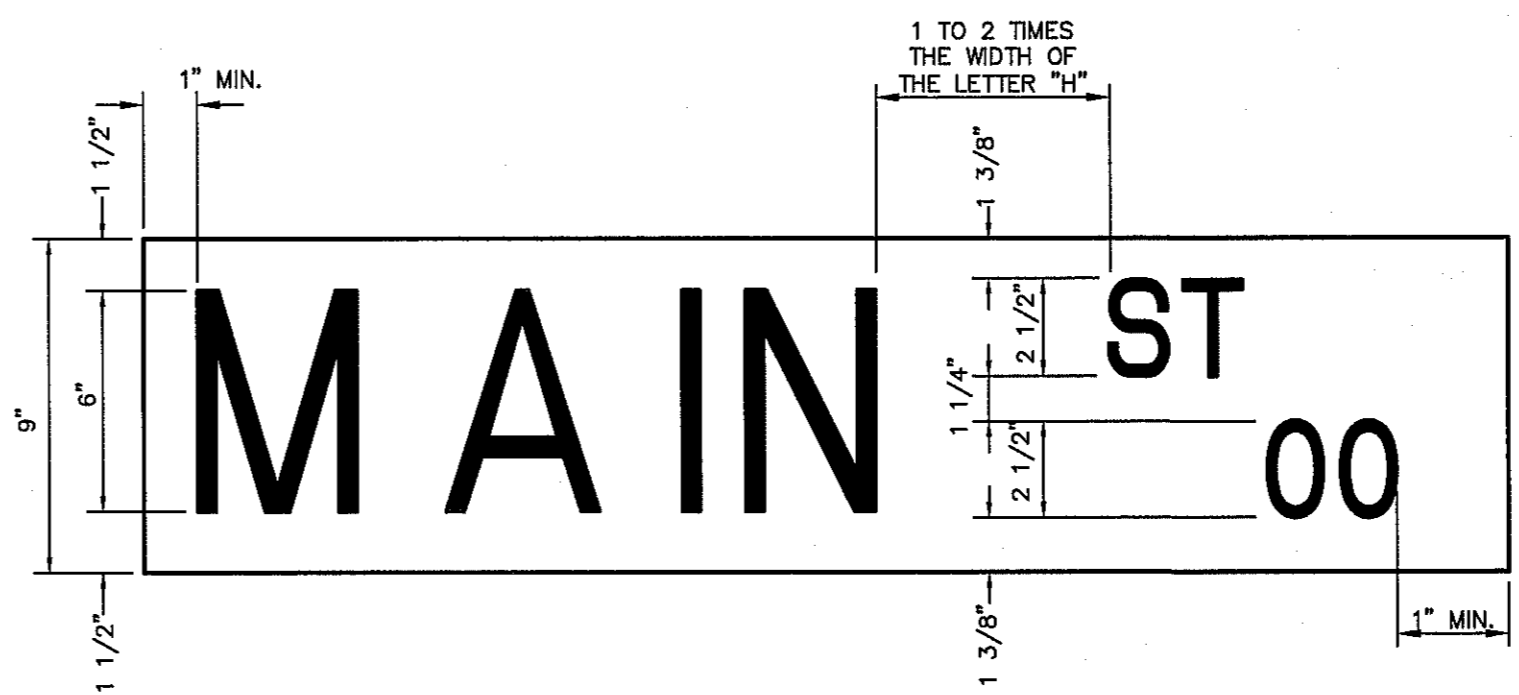
9" SIGN TO SIGN BRACK (FOR EXTRUDED BLADES)



POST CAP BRACKET (FOR EXTRUDED BLADES)

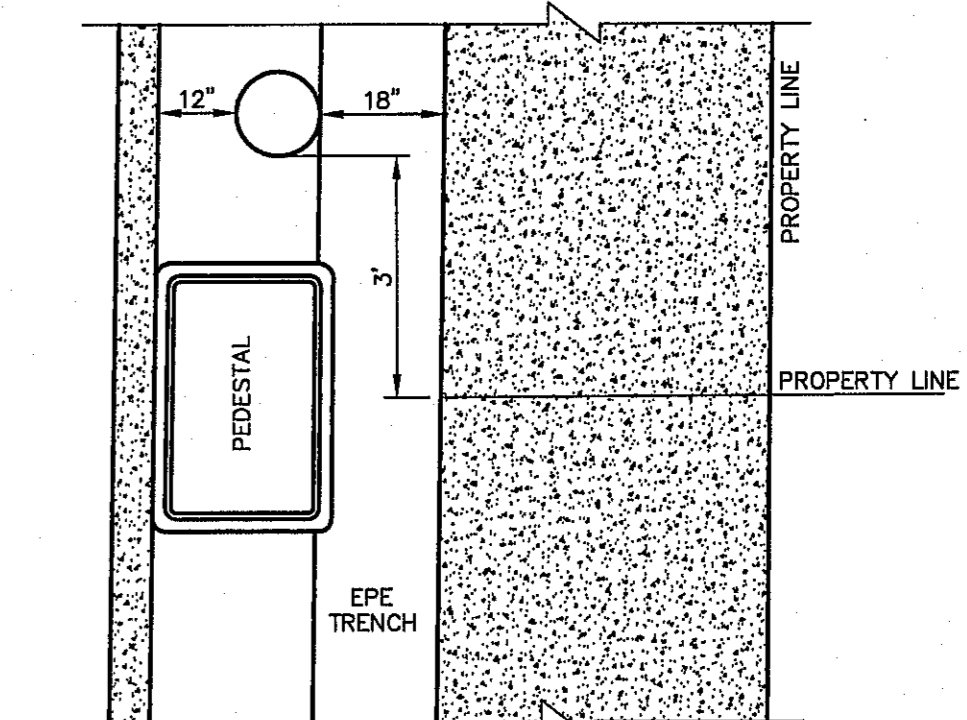
GENERAL NOTES
BRACKET MATERIALS TO BE 385 ALUMINUM ALLOY TENSILE STRENGTH 4900 P.S.I.
DIE CAST FREE OF BURRS, PITS, & HOLES

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

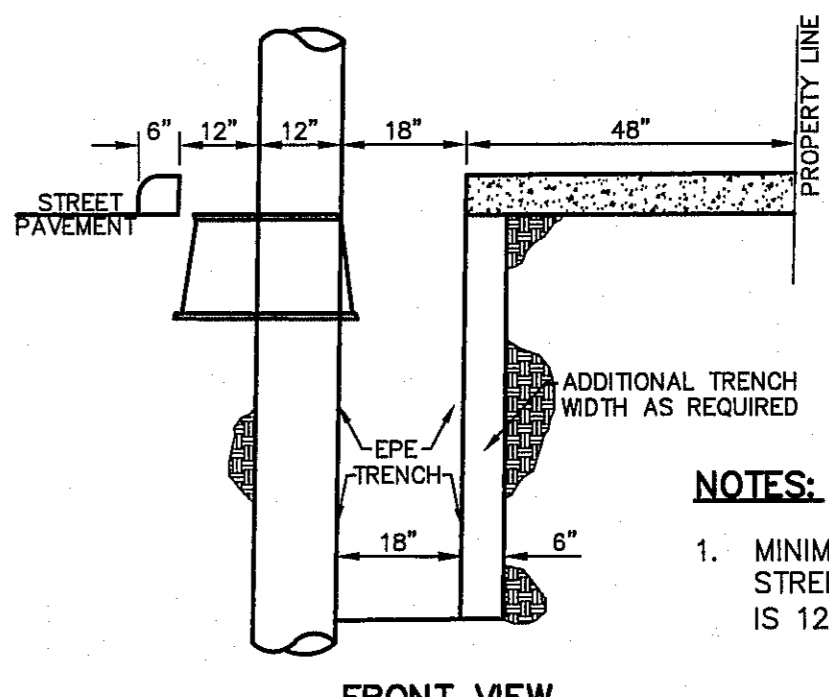


SIGN CLASS	SIGN LENGTH	PRIMARY LETTERS SIZE & SERIES	SUFFIX & BLOCK NUMBER SIZE & SERIES
9"	36"	6" C,D SERIES	3" C SERIES
ARTERIAL STREETS	42"	6" C,D SERIES	3 1/2" C SERIES
	48"	6" A,B,C,D SERIES	3 1/2" C SERIES

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



AERIAL VIEW



FRONT VIEW

NOTES:
1. MINIMUM LOCAL RESIDENTIAL STREET LIGHT POLE DISTANCE IS 12" BEHIND BACK OF CURB.

7 TYPICAL EL PASO ELECTRIC TRENCH LOCATION ON LOCAL RESIDENTIAL STREET
EL PASO ELECTRIC CO. DISTRIBUTION STANDARD

REFERENCES - BENCHMARKS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1880"
ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3945.78 (ROAD 29 DATUM)
3945.78 (ROAD 29 DATUM)
SEE TO THE PROJECT BENCHMARK IS N570909'W 4008.83'
FEET FROM A 1/2" INCH REBAR FOUND IN THE NORTHWEST
CORNER OF TRACT 11, REBER DIVISION

DATE	REVISIONS	BY

CS&P
CITY OF EL PASO
TEXAS REGISTERED ENGINEERING FIRM F-464
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5222 | www.csandp.com

ENGINEER'S SEAL
JOSUE L. ALVARADO
REGISTERED PROFESSIONAL ENGINEER
NO. 10076
EXPIRES 12/31/18

SCALE:
Horizontal: N/A
Vertical: N/A

DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No.: 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**ILLUMINATION,
SIGNAGE AND
STRIPING PLAN**

(SHEET 3 OF 3)
SHEET NO.



C10.3

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SITE DESCRIPTION

PROJECT NAME AND LIMITS: DESERT SPRINGS UNIT FIVE, THE PROJECT IS BOUNDED BY NELLIE D. MUNDY SURVEY NO. 244 TO THE NORTH AND WEST, HYBRID CHANNEL #2 DRAINAGE RIGHT OF WAY/ OPEN SPACE/WILD LIFE CORRIDOR AND DESERT SPRINGS UNIT 4 TO THE EAST AND SOUTH.

PROJECT DESCRIPTION: THE SITE FOR THE NEW SUBDIVISION WILL ENCOMPASS APPROXIMATELY 11.14± ACRES

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

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

TOTAL PROJECT AREA: 10.73±

TOTAL AREA TO BE DISTURBED: 10.73±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.65

EXISTING CONDITION OF SOIL AND VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER: THE PROJECT SITE IS LOCATED IN THE VICINITY OF THE DELNORTE-CANUTO ASSOCIATION. THE SOIL IS NEARLY LEVEL TO STEEP SOILS THAT ARE SHALLOW OR VERY SHALLOW OVER CALICHE OR THAT ARE DEEP AND GRAVELLY THROUGHOUT; MAINLY ON AND NEAR FOOT SLOPES OF THE FRANKLIN MOUNTAINS. THERE IS AN EXISTING APPROXIMATE 30% VEGETATIVE COVER IN THIS AREA.

NAME OF RECEIVING WATERS: DESERT SPRINGS UNIT 5 SUBDIVISION WILL DISCHARGE INTO EXISTING HYBRID CHANNEL #2 LOCATED SOUTH OF THE SUBDIVISION AND PART OF DESSERT SPRINGS UNIT FOUR.

EROSION AND SEDIMENT CONTROL

SOIL STABILIZATION PRACTICES

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

OTHER: _____

STRUCTURAL PRACTICES:

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

OTHER: _____

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

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

SWPPP GENERAL NOTES:

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

BEST MANAGEMENT PRACTICES CONTROLS

I. WASTE MATERIALS:

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

II. HAZARDOUS WASTE:

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

III. SANITARY WASTE:

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

IV. SPILL PREVENTION:

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

V. GOOD HOUSEKEEPING:

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

VI. HAZARDOUS PRODUCTS:

PRACTICES USED TO REDUCE RISKS:

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

VII. PETROLEUM PRODUCTS:

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

VIII. SPILL CONTROL PRACTICES:

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

IX. MAINTENANCE AND INSPECTION PROCEDURES:

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

X. REMARKS:

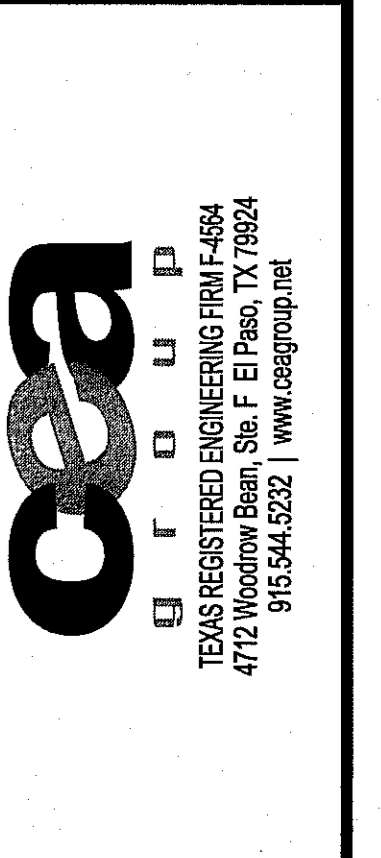
DISPOSAL AREAS, STOCKPILES, AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATERBODY OR STREAMBED. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL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

XI. OFFSITE VEHICLE TRACKING:

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

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

REFERENCES - BENCHMARKS	FOUND N.C.S. SURVEY MARKER STAMPED "CHINO 1980"
ELEVATION:	3945.83 (CITY OF EL PASO VERTICAL DATUM SHOWING)
DATE:	3/11/2018
BY:	J.L.A.
REVISIONS	



ENGINEER'S SEAL	SCALE
Horizontal: N/A	Vertical: N/A
Contour Interval: N/A	DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.	DRAWN BY: A.C.
CHKD. BY: J.L.A.	APP'D. BY: J.L.A.
JOB No. 2051.001	

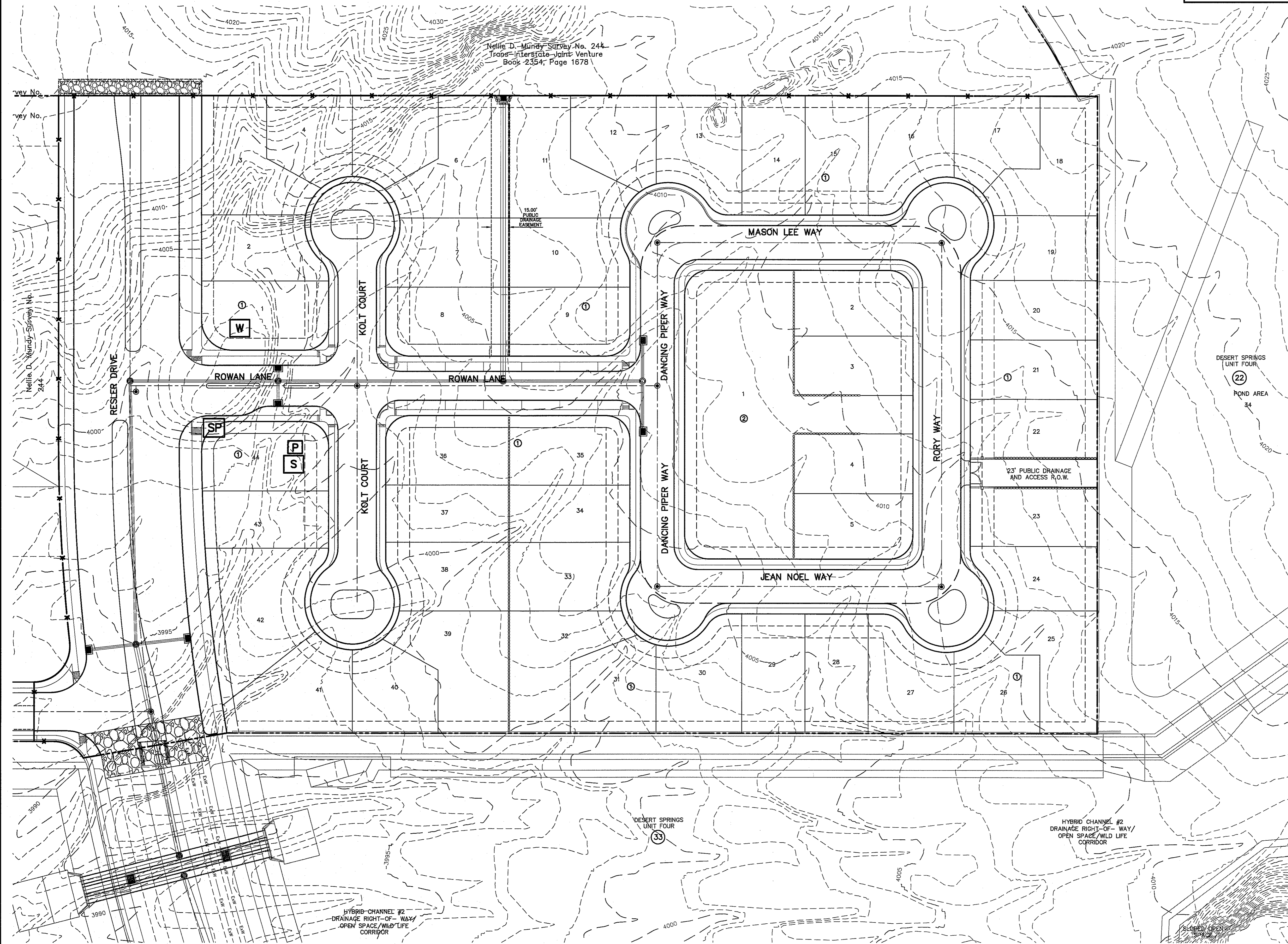
PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

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

SHEET NO.
C11.1



S:\2021\2021-001-Desert Springs Unit 5\DWG53-Construction Drawings\Improvement Plans\2051001_C11.2_SWPPP_SITE.dwg, 7/11/2018 10:15:06 AM



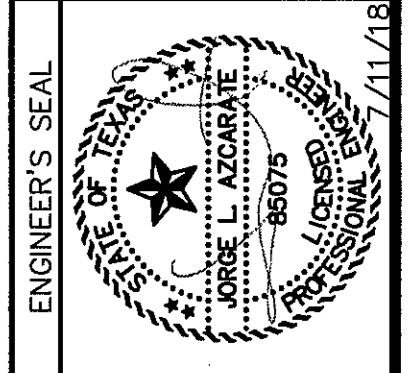
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 486-5244
EL PASO WATER UTILITIES	(915) 594-5500
MC SURVEILLANCE	(800) MC-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

- SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING AREA
- PORTABLE TOILETS
- WASH OUT
- NOTICE OF INTENT SIGN (N.O.I.)

DATE	REVISIONS	BY

ce
 TEXAS REGISTERED ENGINEERING FIRM F-454
 4712 Woodrow Bean, Ste. F El Paso, TX 79904
 915.544.6232 | www.cegroup.net



SCALE: 1" = 40'
Horizontal: N/A
Vertical: N/A
Contour Interval: N/A
DATE: JANUARY 2018
DESIGN BY: C.J./F.Z.
DRAWN BY: A.C.
CHECKED BY: J.L.A.
APPROVED BY: J.L.A.
JOB No.: 2051.001

PROJECT TITLE
DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

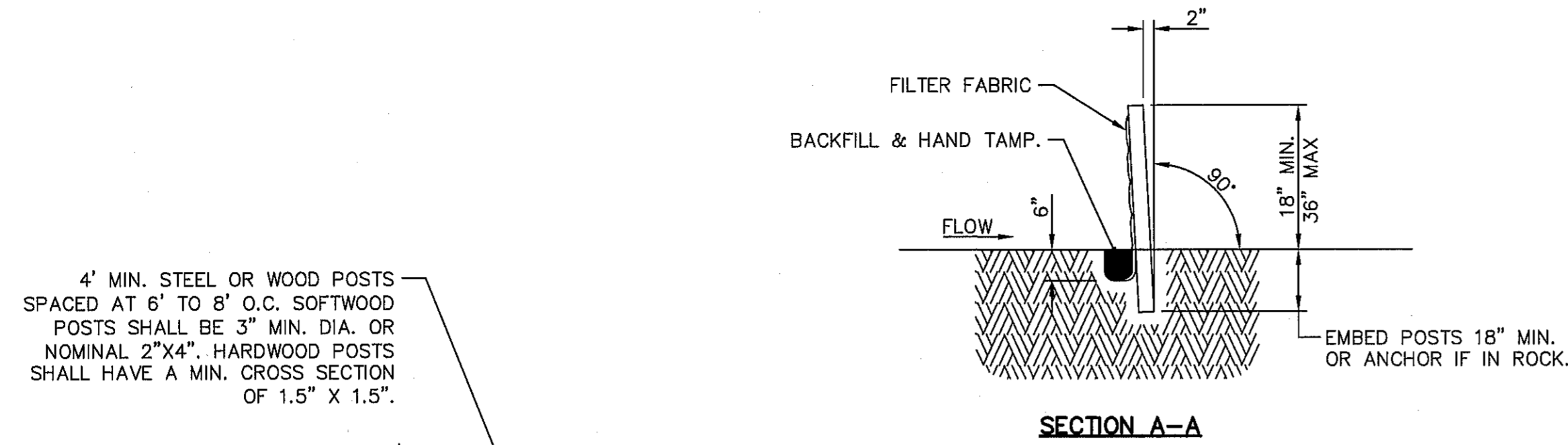
SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: SITE PLAN

SHEET NO.

C11.2



SITE PLAN
 SCALE: 1" = 40'



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

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

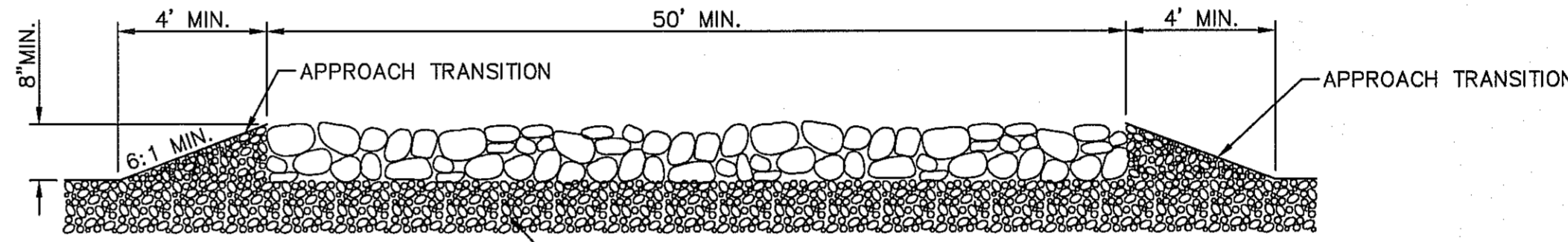
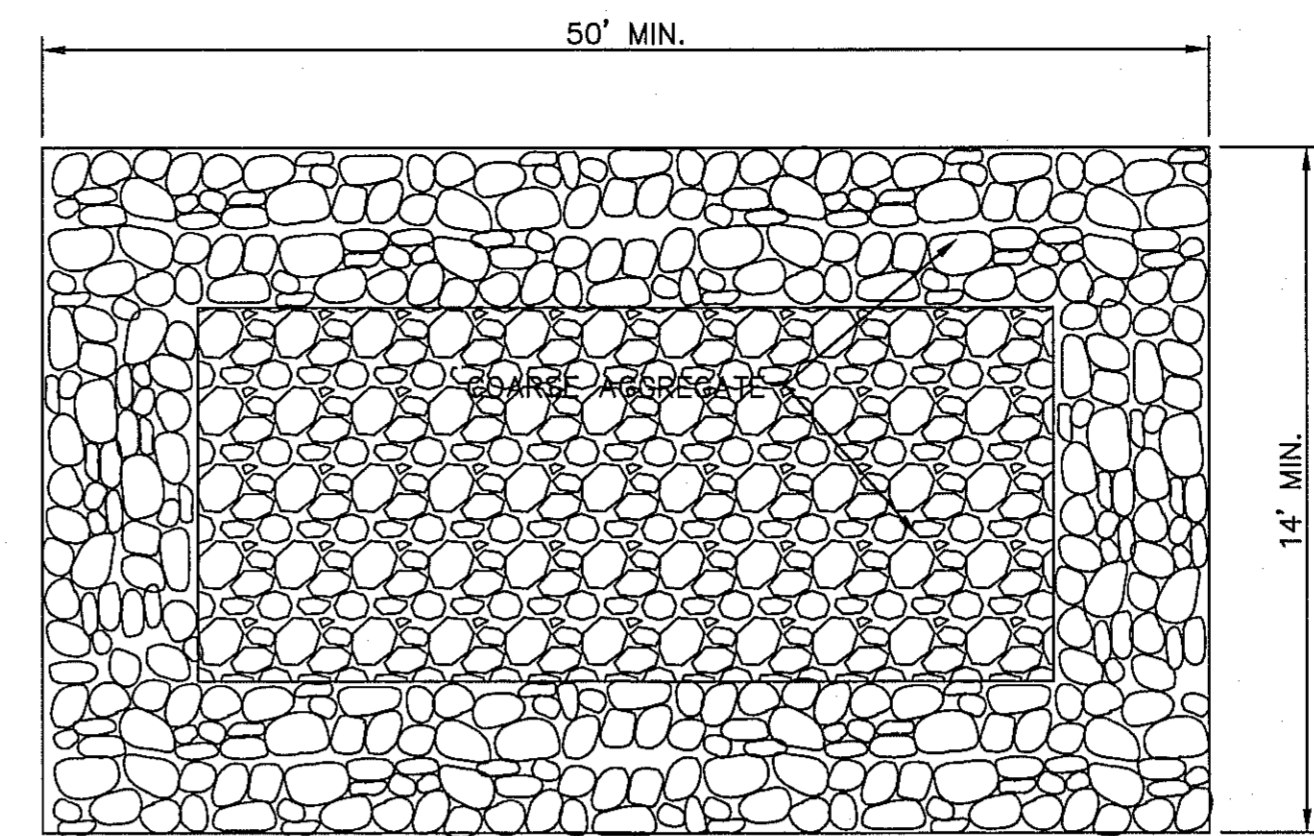
FASTEN FABRIC TO TOP STRAND OF WELDED WIRE MESH (W.W.M.) BY HOG RINGS OR CORD AT A MAX. SPACING OF 15".

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

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

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

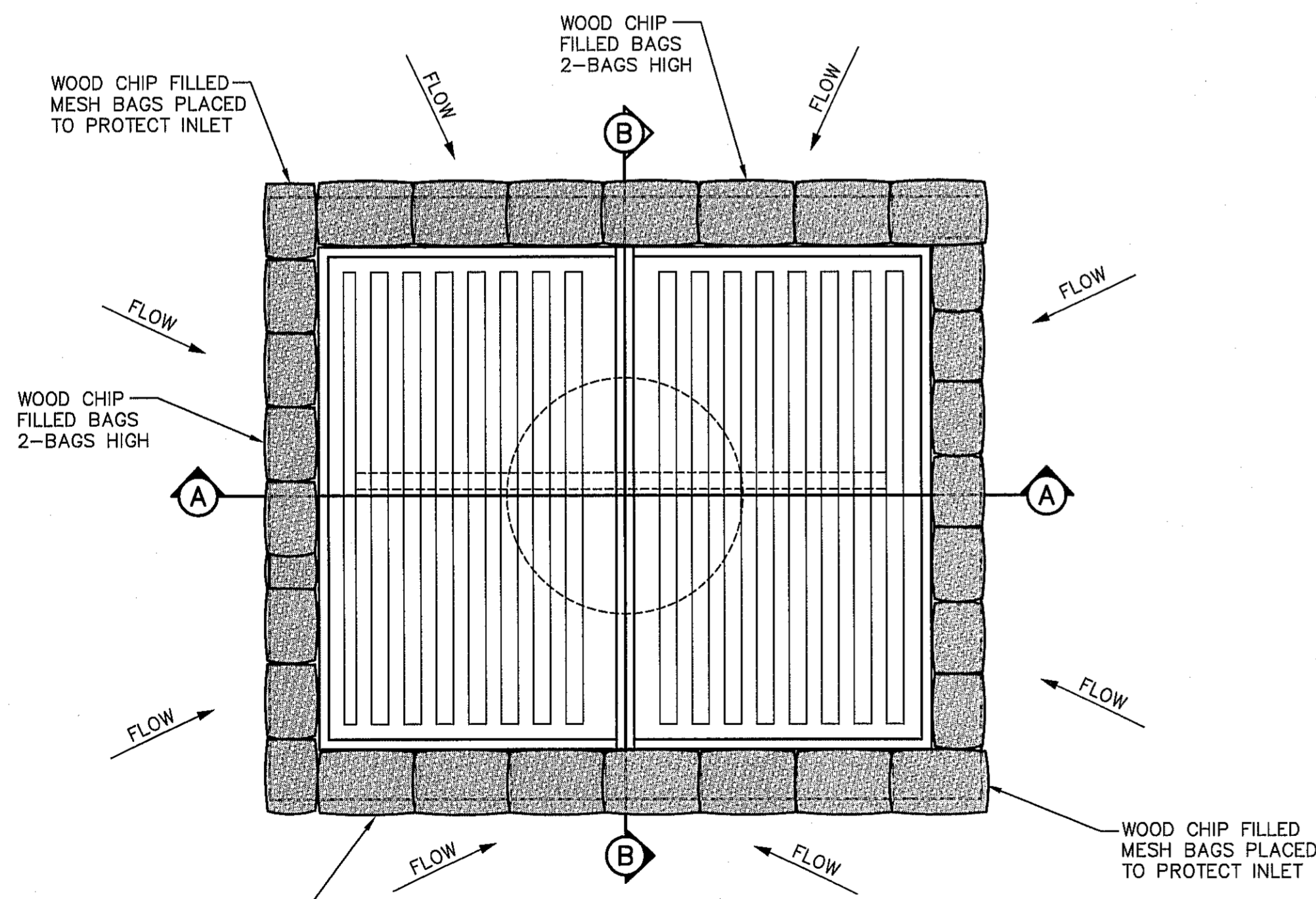
TEMPORARY SEDIMENT CONTROL FENCE



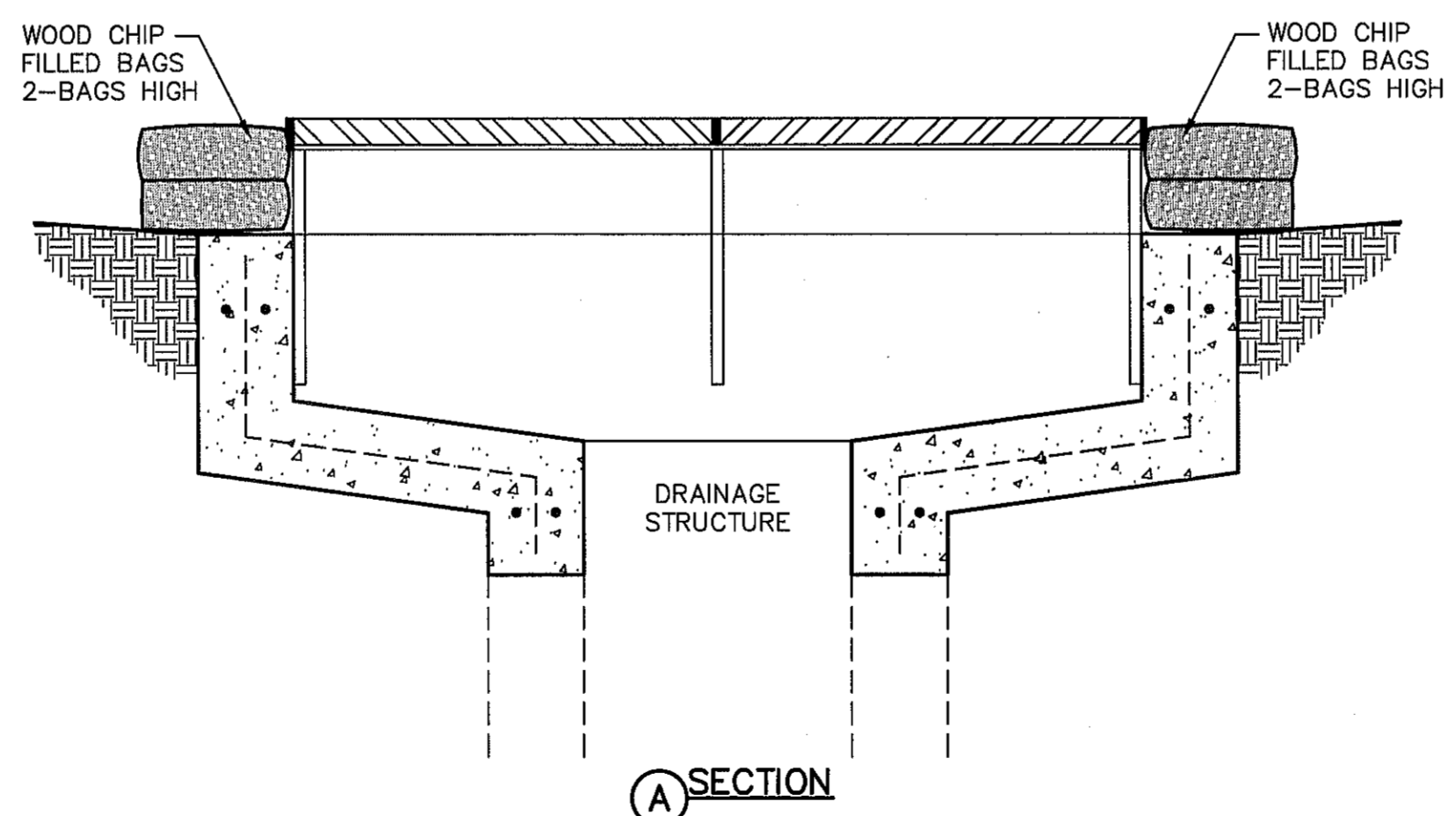
GENERAL NOTES

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

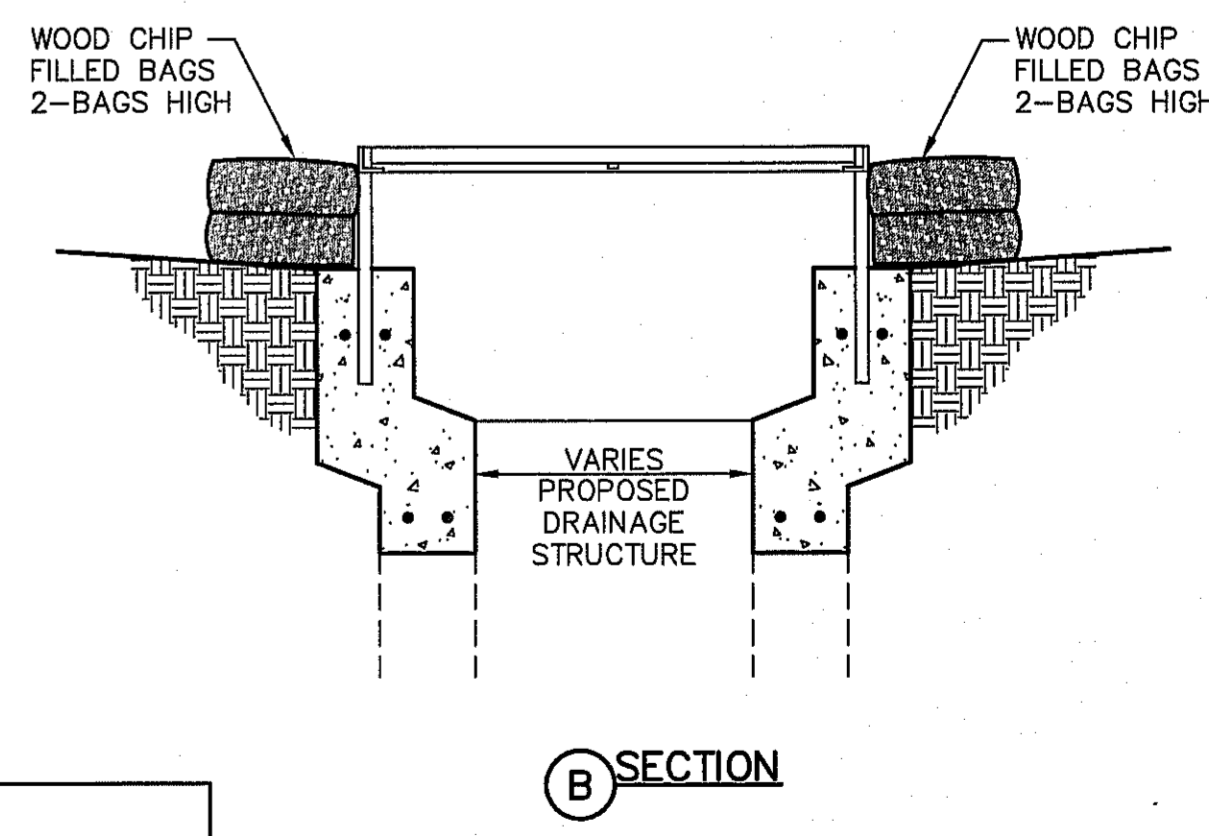
CONSTRUCTION EXIT (TYPE 1)



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



TEMPORARY INLET PROTECTION



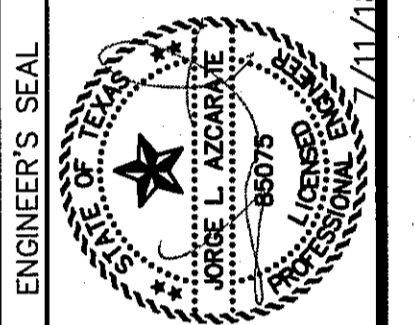
GENERAL NOTES:
 1. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.



REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1880"	
ELEVATION: 3945.78 (NAD 83)	
TIE TO THE PROJECT BENCHMARK IS NAD 83 DATUM	
ENGINEER: TRACY W. BELLEF, M.S., P.E., M.A.S.T.	
DATE:	
BY:	
REVISIONS:	

OSA
 ENGINEERING GROUP, INC.
 TEXAS REGISTERED ENGINEERING FIRM F-484
 4712 Woodrow Bean, Ste. F, El Paso, TX 79924
 915.544.6332 | www.osagroup.net



SCALE:

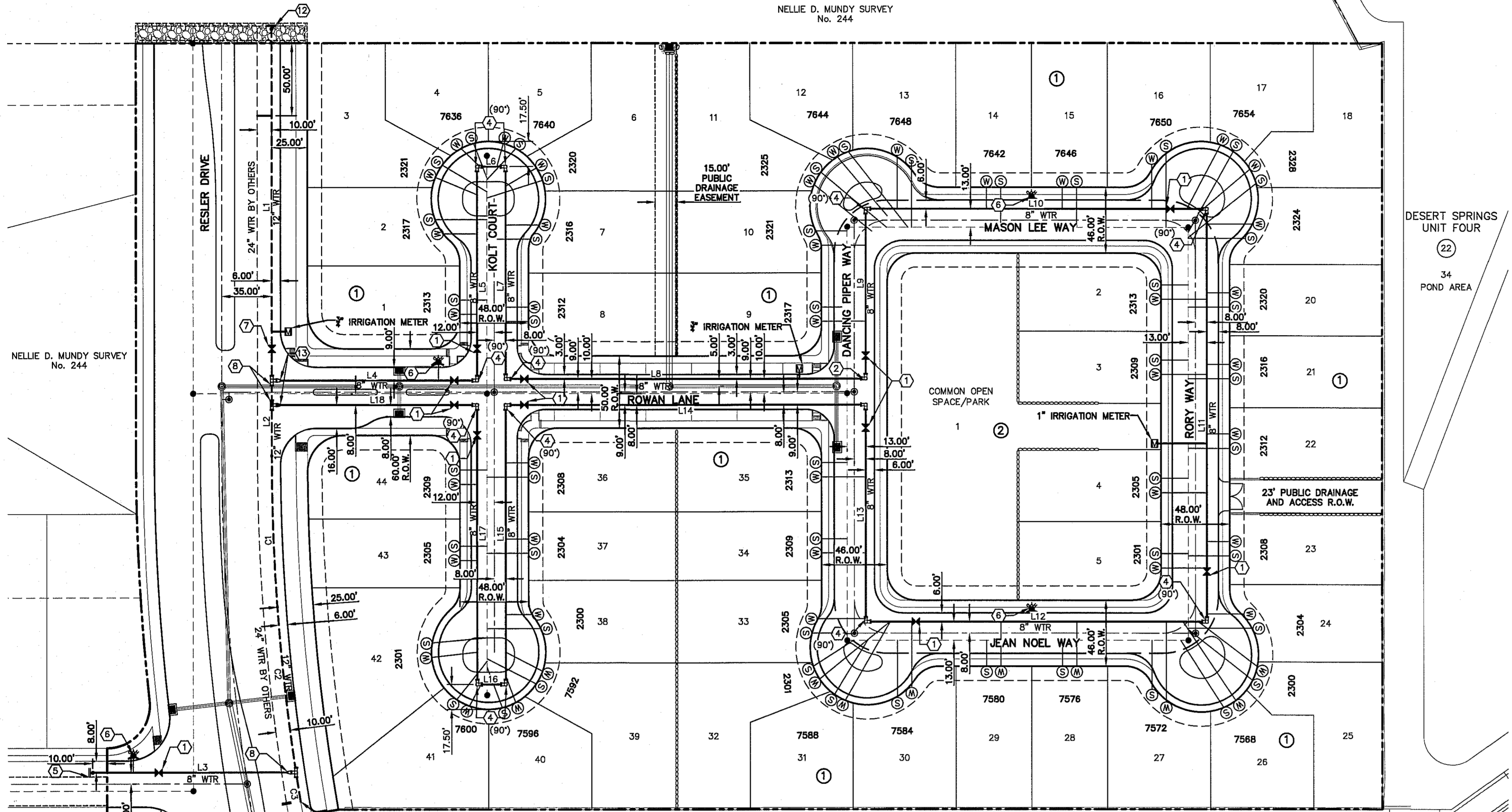
Horizontal:	N/A
Vertical:	N/A
Contour Interval:	N/A
DATE:	JANUARY 2018
DESIGN BY:	C.J.F.Z.
DRAWN BY:	A.C.
CHKD. BY:	J.L.A.
APPVD. BY:	J.L.A.
JOB No.:	2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
STORM WATER POLLUTION PREVENTION PLAN: DETAILS
SHEET NO.

C11.3

NELLIE D. MUNDY SURVEY
No. 244



DESERT SPRINGS
UNIT FOUR
33
HYBRID CHANNEL #2
DRAINAGE RIGHT-OF-WAY/
OPEN SPACE/WILD LIFE
CORRIDOR

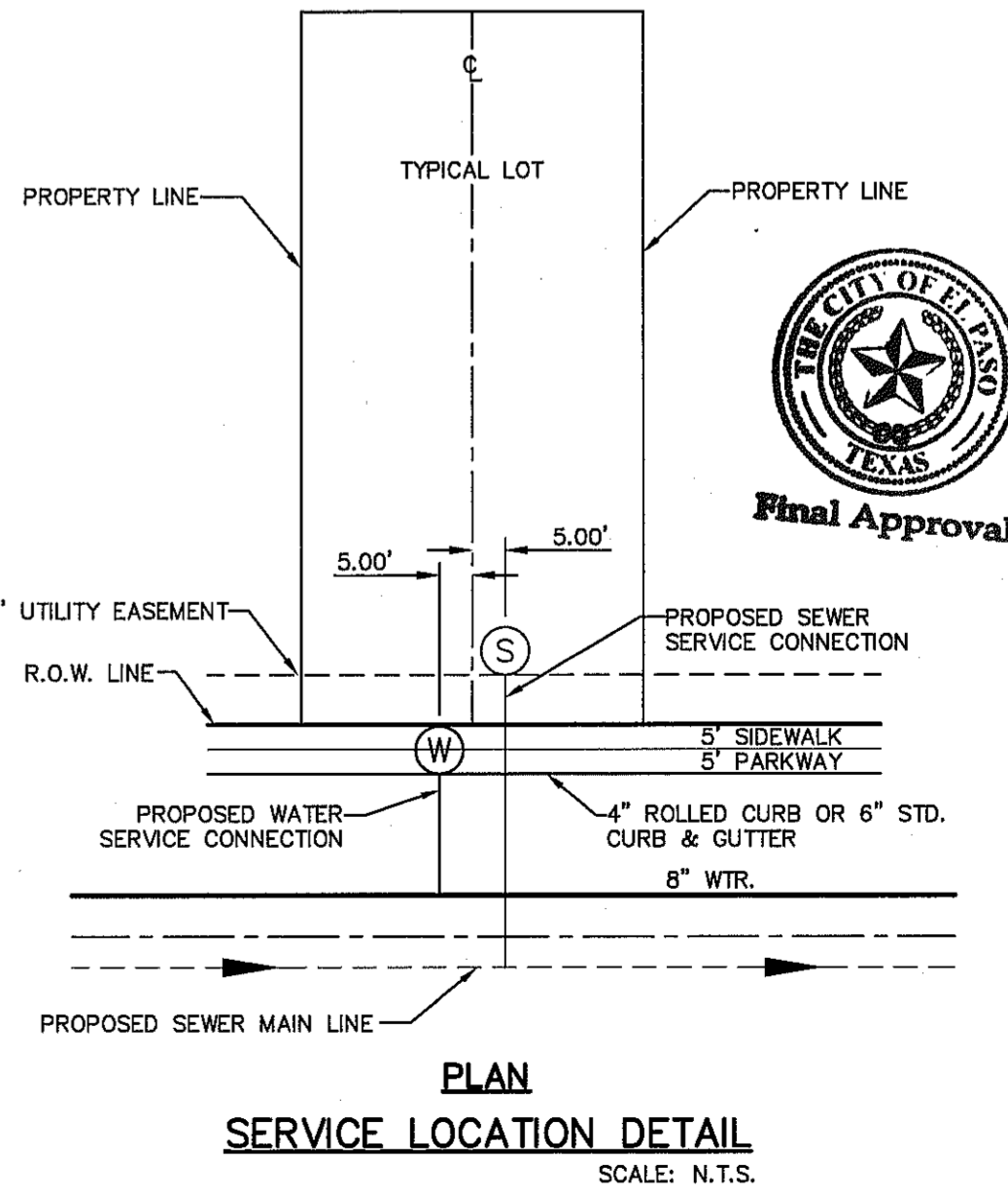
DESERT SPRINGS
UNIT FOUR
33
HYBRID CHANNEL #2
DRAINAGE RIGHT-OF-WAY/
OPEN SPACE/WILD LIFE
CORRIDOR

WATER KEYED NOTES		
①	8" GATE VALVE	
②	8" TEE	
③	8" CROSS	
④	8" BEND	
⑤	8" PLUG	
⑥	FIRE HYDRANT	
⑦	12" GATE VALVE	
⑧	12" X 8" TEE	
⑨	12" X 12" CROSS	
⑩	12" X 12" TEE	
⑪	12" 90° BEND	
⑫	12" PLUG	
⑬	12" X 8" REDUCER	

WATER QUANTITIES		
DESCRIPTION	QUANTITY	UNIT
8" PVC WATER LINE	2080	LF
8" GATE VALVE	11	EA
FIRE HYDRANT	4	EA
12" PVC WATER LINE	540	LF
12" GATE VALVE	1	EA
12" PLUG	1	EA

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

WATER INDEX MAP
SCALE: 1" = 50'



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

LINE TABLE		
L1	S00°00'00"E	245.00'
L2	S00°00'00"E	52.15'
L3	N90°00'00"E	142.21'
L4	N90°00'00"E	143.59'
L5	N00°00'00"E	149.53'
L6	N90°00'00"E	20.00'
L7	S00°00'00"E	148.53'
L8	N90°00'00"E	252.00'
L9	S00°00'00"E	119.00'
L10	N90°00'00"E	238.50'
L11	S00°00'00"E	288.00'
L12	N90°00'00"E	238.50'
L13	S00°00'00"E	151.00'
L14	N90°00'00"W	252.00'
L15	S00°00'00"E	194.56'
L16	N90°00'00"W	20.00'
L17	N00°00'00"E	194.56'
L18	N90°00'00"W	143.59'

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	1465.00'	105.42'	52.73'	105.40'	S02°03'41"E	004°07'23"
C2	1465.00'	116.27'	58.17'	116.24'	S06°23'48"E	004°32'50"
C3	1465.00'	20.69'	10.34'	20.69'	N09°04'30"W	000°48'33"

GENERAL NOTES

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED WATER MAINS SHALL BE INSTALLED NO LESS THAN TEN (10') FEET AWAY FROM EXISTING SEWER LINE. SEPARATIONS DISTANCES SHALL FOLLOW TCEQ STANDARD REQUIREMENTS (§290.44).
- THE INTENT OF THE OWNER IS TO HAVE THE WATER MAINS INSTALLED TO SUCH A DEPTH THAT THEY WILL HAVE AT LEAST SIXTY (60") INCHES 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.
- 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 FORTY-EIGHT (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 TRAFFIC SHALL BE CLOSELY COORDINATED WITH THE EL PASO WATER UTILITIES AT LEAST FORTY-EIGHT (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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX 79961
(915) 594-5530

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

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

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

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

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

EL PASO STREETS:
CITY OF EL PASO
DEPARTMENT OF STREET & MAINTENANCE DEPARTMENT
7969 SAN PAULO DRIVE
EL PASO, TX 79907
(915) 621-6750

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

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

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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

INDEX

SHEET NO.	DESCRIPTION
C12.1	DESERT SPRINGS UNIT 5 WATER MAIN PIPE LAYOUT
C12.2	WATER DETAILS
C12.3	WATER DETAILS
C12.4	WATER DETAILS
C12.5	WATER DETAILS

NOTES:

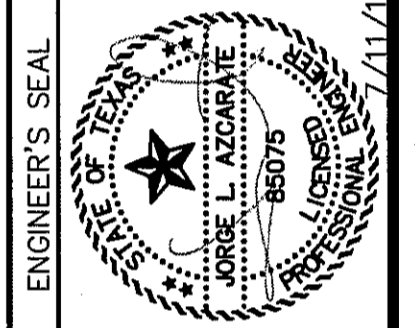
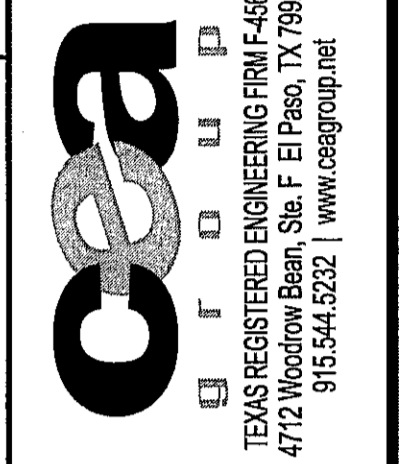
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL WATER LINES SHALL BE PVC C-900, CLASS 150.
- REFERENCE WATER DETAILS FOR TYPICAL VALVE AND WATER LOCATIONS AT STREET INTERSECTIONS.
- REFERENCE WATER DETAILS FOR WATER LINE CROSSING STORM SEWER.

LEGEND

SYMBOL	DESCRIPTION
8" WTR.	PROPOSED 8" C-900, CLASS 150 P.V.C. PIPE
12" WTR.	PROPOSED 12" C-900 P.V.C. PIPE, UNLESS OTHERWISE SPECIFIED
24" WTR.	PROPOSED 24" WATER MAIN BY OTHERS
---	SUBDIVISION BOUNDARY LINE
---	PROPERTY LINE
---	STREET CENTER LINE
8" SWR	PROPOSED SEWER LINE (PLAN VIEW)
16"	PROPOSED STORM SEWER
+	PROPOSED WATER CROSS CONNECTION
+	PROPOSED WATER TEE CONNECTION
+	PROPOSED WATER BEND CONNECTION
+	PROPOSED SERVICE CONNECTION (PLAN VIEW)
+	PROPOSED FIRE HYDRANT, KENNEDY OR MULLER MODEL
+	PROPOSED 8" PLUG
+	PROPOSED GATE VALVE
+	PROPOSED 3/4" IRRIGATION METER
+	POINT OF TANGENCY
+	REDUCER
+	EXISTING GATE VALVE
+	EXISTING FIRE HYDRANT
+	EXISTING PLUG
---	EXISTING SEWER LINE
---	EXISTING WATER LINE

REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER	STAMPED "CHINA 1880"	ELEVATION	3946.11 (WAD 88 DATUM)	3946.11 (WAD 88 DATUM)	TO THE PROJECT BENCHMARK IS 4008.93 FEET FROM A 1/2" INCH BEARING FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY No. 238	DATE	BY



SCALE: 1" = 50'

Horizontal:	N/A
Vertical:	N/A
Contour Interval:	2.0'
DATE:	JANUARY 2018
DESIGN BY:	C.J.F.Z.
DRAWN BY:	A.C.
CHECK BY:	J.L.A.
APP'D BY:	J.L.A.
JOB No.:	2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
WATER INDEX

SHEET NO.
C12.1

GENERAL NOTES:

- REFERENCE CENTERLINE SHALL BE CENTERLINE OF RIGHT OF WAY.
- WATER LINES SHALL BE LOCATED ON NORTH OR EAST SIDES OF DEDICATED STREETS OR ALLEYS.
- SEWER LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.
- RECLAIMED LINES SHALL BE LOCATED ON SOUTH OR WEST SIDES OF DEDICATED STREETS OR ALLEYS.

CONSTRUCTION KEY NOTES:

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

PIPELINE LOCATION WITHIN NEW RIGHT-OF-WAY				
RIGHT-OF-WAY WIDTH*	OFFSET FROM CENTERLINE**			
	WATER	SEWER	RECLAIMED	
36 FT.	9 FT.	1 FT.	6 FT.	
44 FT.	8 FT.	3 FT.	8 FT.	
52 FT.	8 FT.	5 FT.	10 FT.	
64 FT.	10 FT.	5 FT.	10 FT.	
72 FT.	10 FT.	5 FT.	10 FT.	
76 FT.	10 FT.	5 FT.	10 FT.	
84 FT.	20 FT.	5 FT.	10 FT.	
110 FT.	25 FT.	15 FT.	20 FT.	

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

STANDARD DETAIL DATE: 03/1994 REV: 3/28/2007 LOCATION FOR UTILITY LINES N.T.S. el PASO WATER DETAIL No. 140

1 LOCATION FOR UTILITY LINES SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

PIPE DIAMETER	"H"
6" - 30"	4"
GREATER THAN 30"	6"
PIPE DIAMETER	"W"
6" - 30"	8"
GREATER THAN 30"	12"

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

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

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL DATE: 10/1992 REV: 5/9/2011 PAVEMENT REPLACEMENT N.T.S. el PASO WATER DETAIL No. 179

3 PAVEMENT REPLACEMENT SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

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

CONDITION B - NEW SUBDIVISIONS, NON-PAVED AREA AND SHALL BE AS FOLLOWS.

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

STANDARD DETAIL FEB. 1994 REV: 8/3/2006 COVER FOR WATER MAINS N.T.S. el PASO WATER DETAIL No. 250

4 COVER FOR WATER MAINS SCALE: N.T.S.

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

STANDARD DETAIL DATE: 5/1994 REV: 6/22/2009 GATE VALVE INSTALLATION N.T.S. el PASO WATER DETAIL No. 260

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

GENERAL NOTES:

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

CONSTRUCTION KEY NOTES:

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

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

STANDARD DETAIL DATE: 2/1994 REV: 8/7/2006 CONCRETE THRUST BLOCKING N.T.S. el PASO WATER DETAIL No. 270

6 CONCRETE THRUST BLOCKING SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1880"
ELEVATION: 3933.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAVD 88 DATUM)
TIE TO THE PROJECT BENCHMARK IS N43509.09°W 408.93'
CORNER OF TRACT 11, NELLIE D. JUNDY SURVEY NO. 238.

REVISIONS

DATE

BY

ENGINEER'S SEAL

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

DATE: JANUARY 2018

DESIGN BY: C.J./E.Z.

DRAWN BY: A.C.

CHKD. BY: J.L.A.

APPVD. BY: J.L.A.

JOB No. - 2051.001

PROJECT TITLE

DESERT SPRINGS UNIT FIVE SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

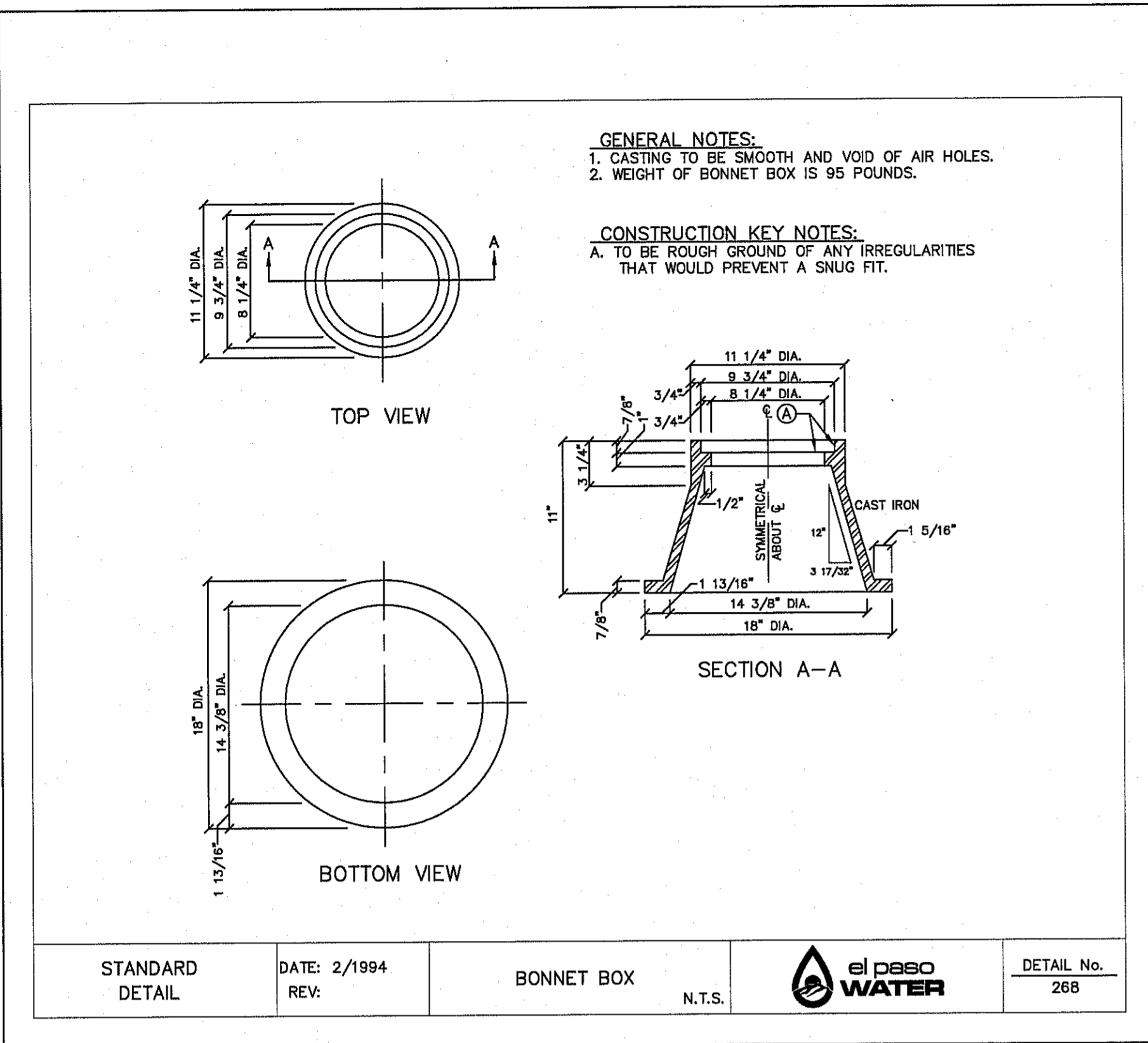
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SHEET NO.

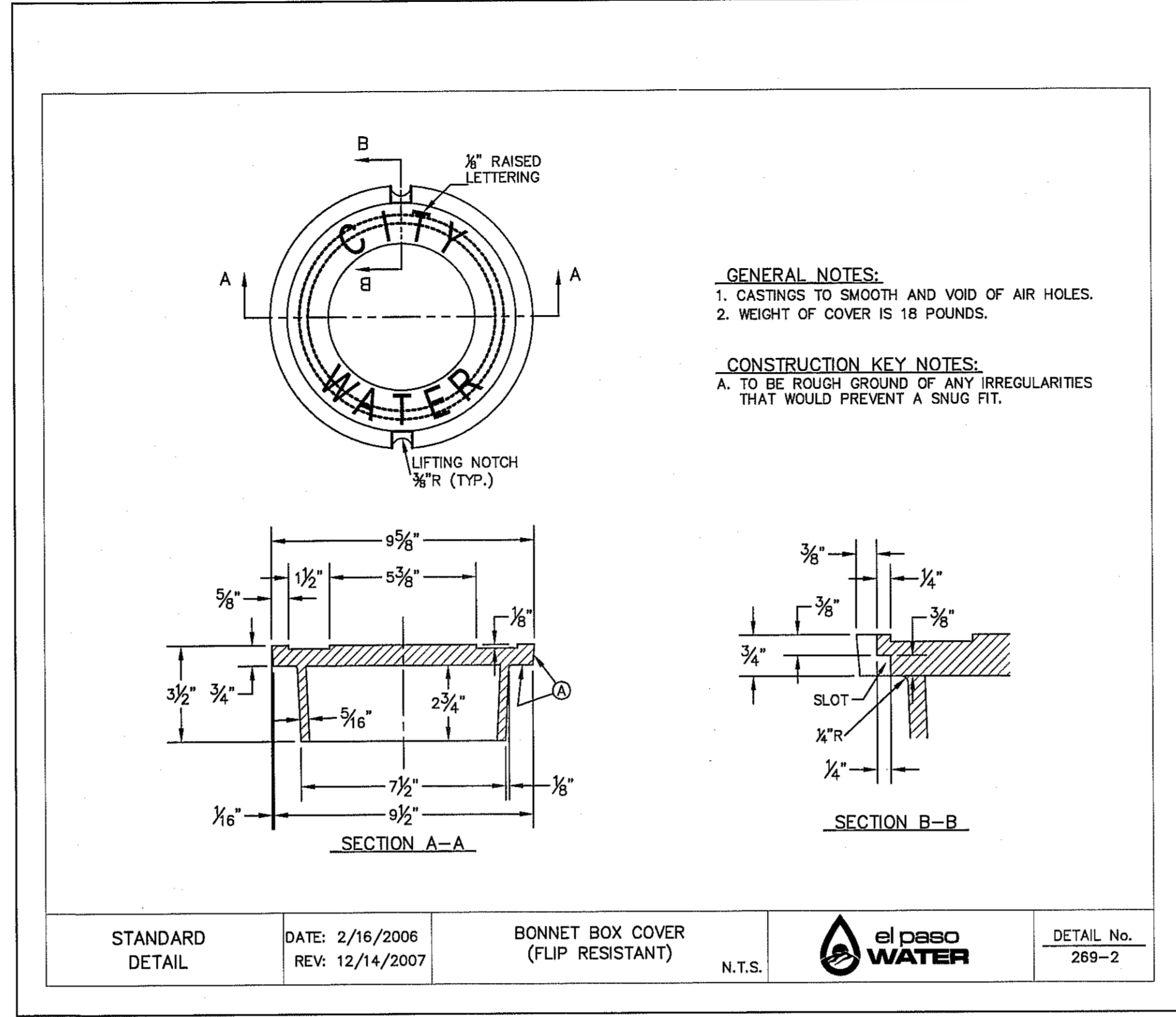
C12.2

Final Approval

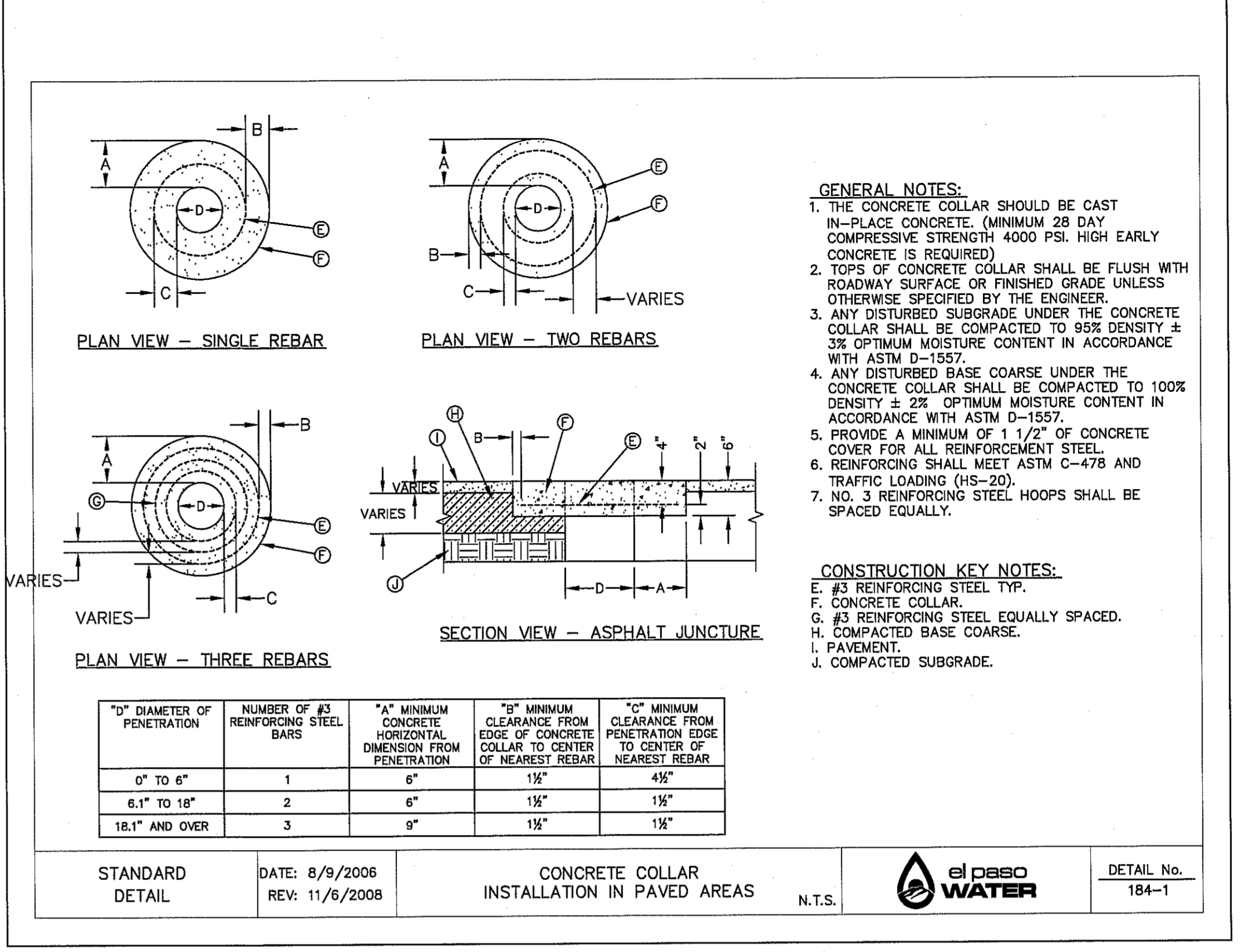
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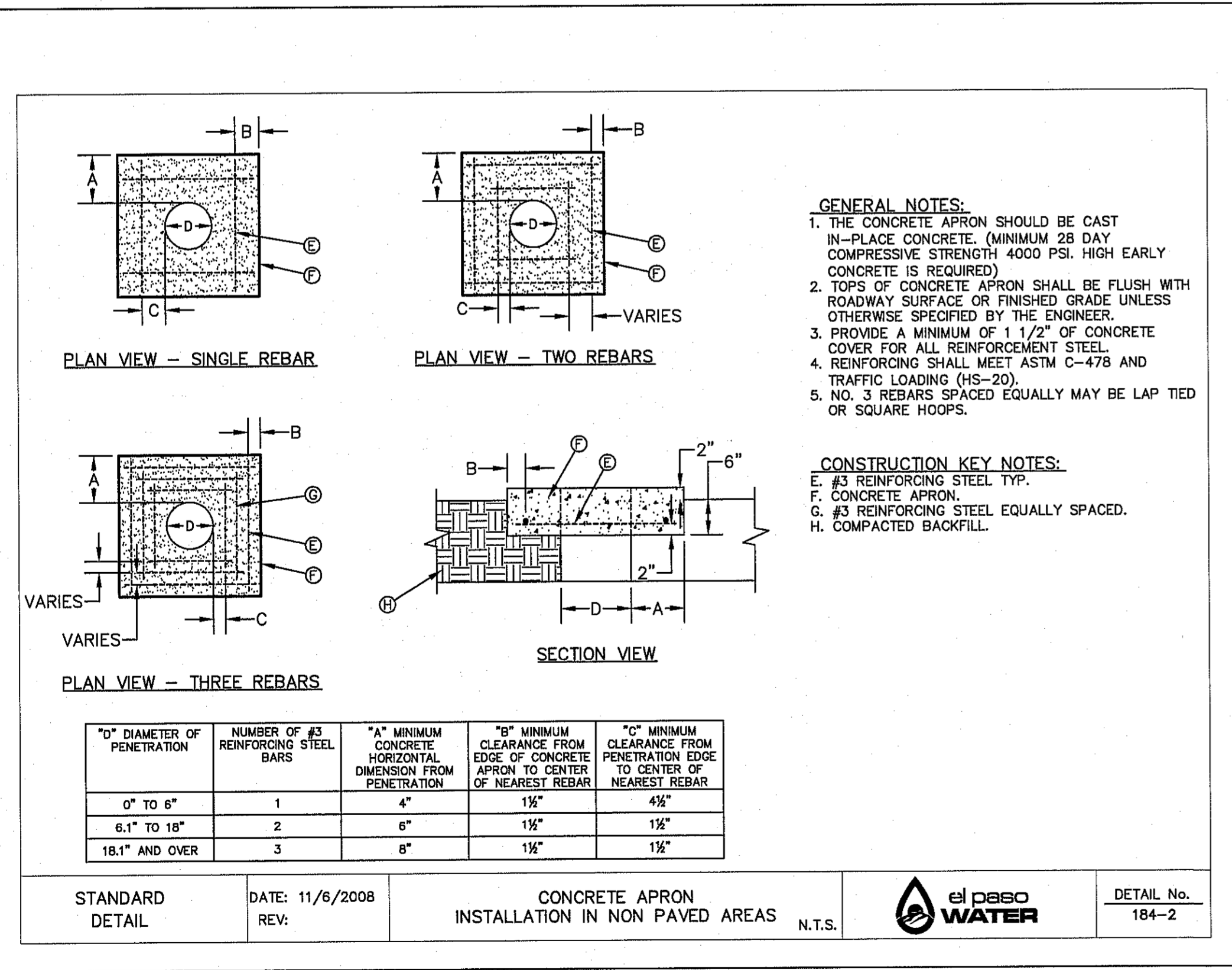
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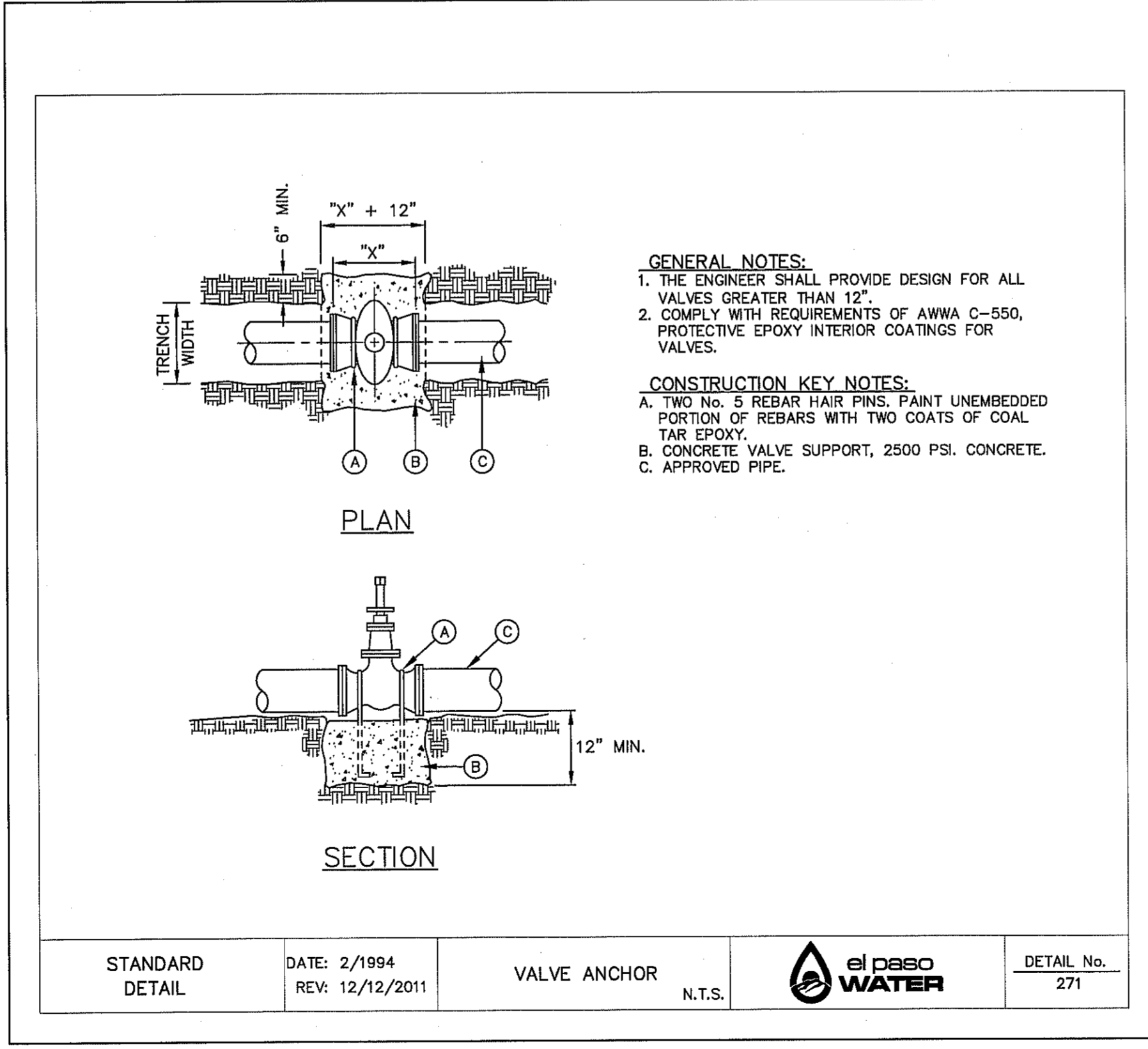
2 BONNET BOX COVER SCALE: N.T.S.



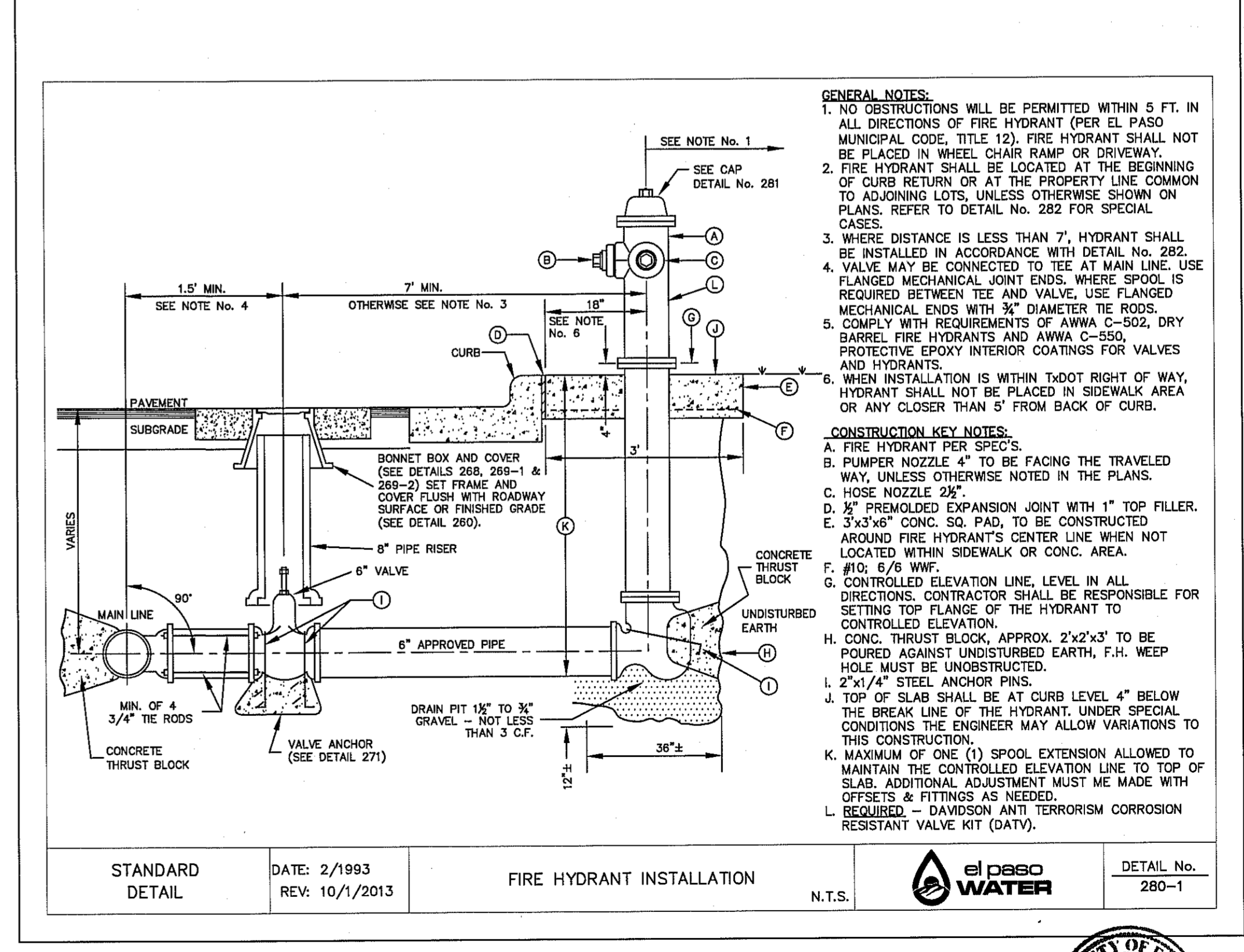
3 CONCRETE COLLAR INSTALLATION IN PAVED AREAS SCALE: N.T.S.



4 CONCRETE COLLAR INSTALLATION IN NON PAVED AREAS SCALE: N.T.S.



5 VALVE ANCHOR SCALE: N.T.S.



6 FIRE HYDRANT INSTALLATION SCALE: N.T.S.

REFERENCES - BENCHMARKS
 FOUND A.C.S. SURVEY MARKER STAMED "CHNO 0887"
 ELEVATION: 3935.93 (CITY OF EL PASO VERTICAL DATUM SHOWN)
 3946.11 (NAD 88 DATUM)
 TO THE PROJECT BENCHMARK IS "NS030907W_400893"
 FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NEUFIE D. MUNDY SURVEY NO. 239.

REVISIONS
 DATE BY

DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS

PROJECT TITLE

SHEET TITLE

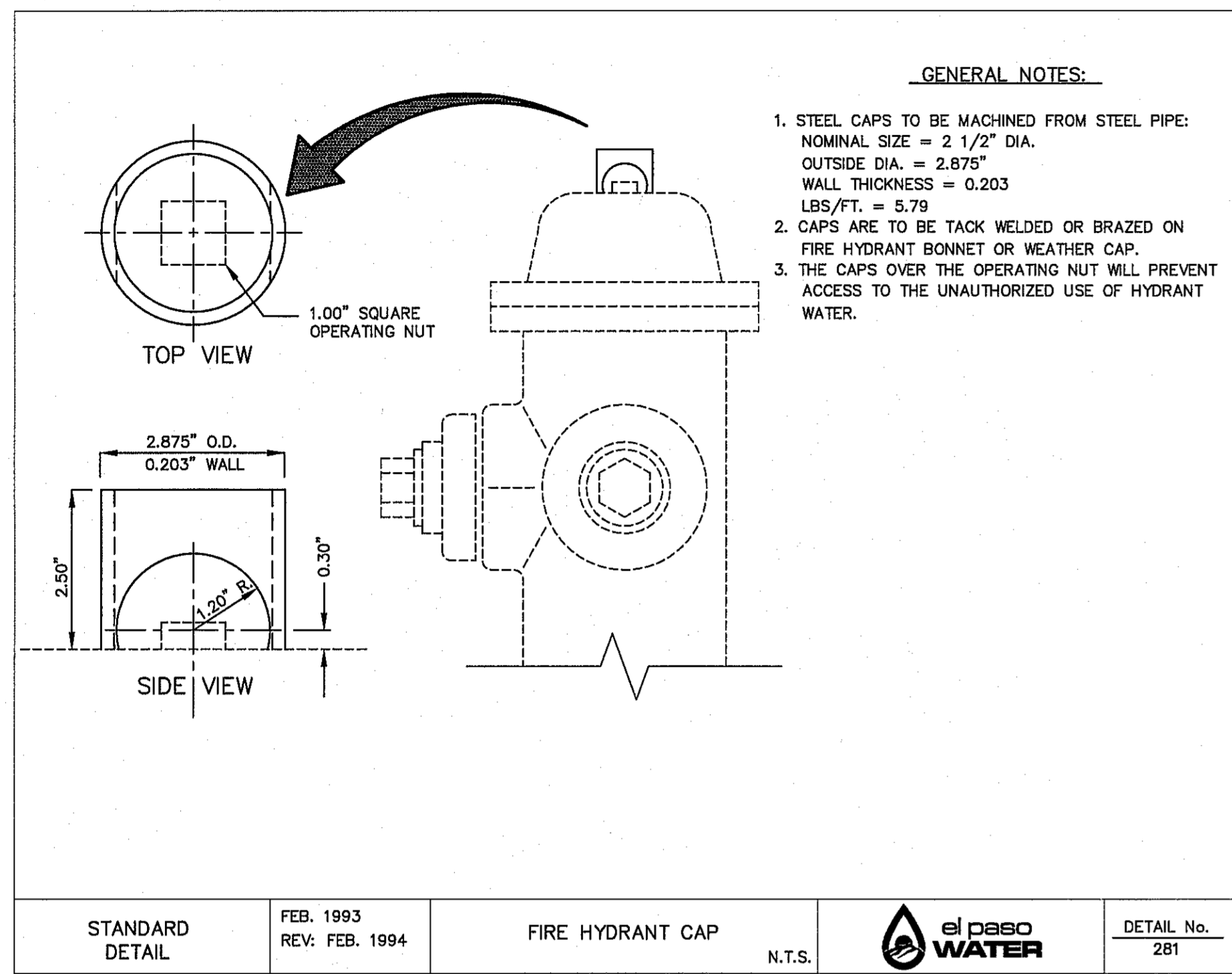
WATER DETAILS

(SHEET 2 OF 4)
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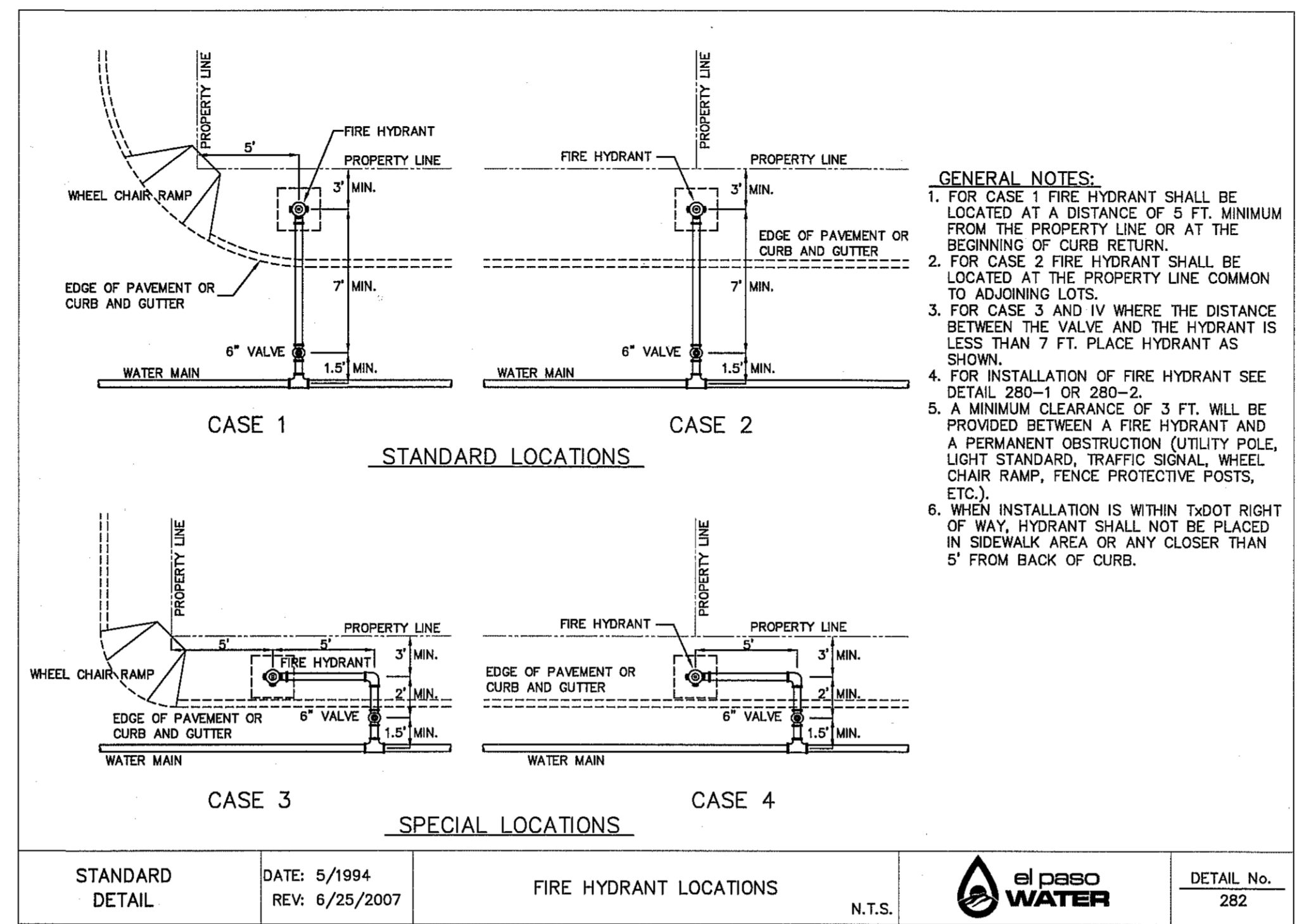
C12.3

Final Approval

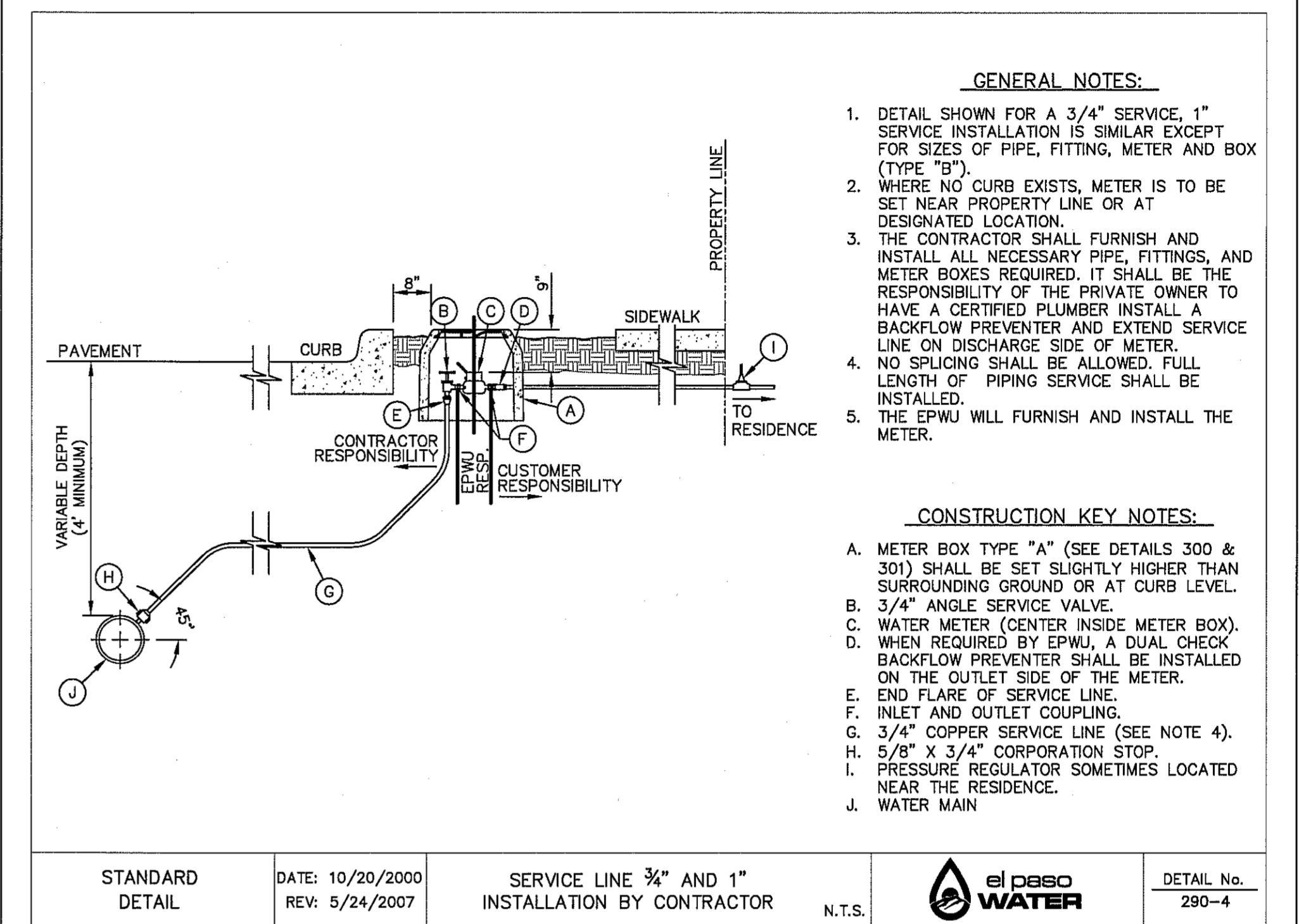
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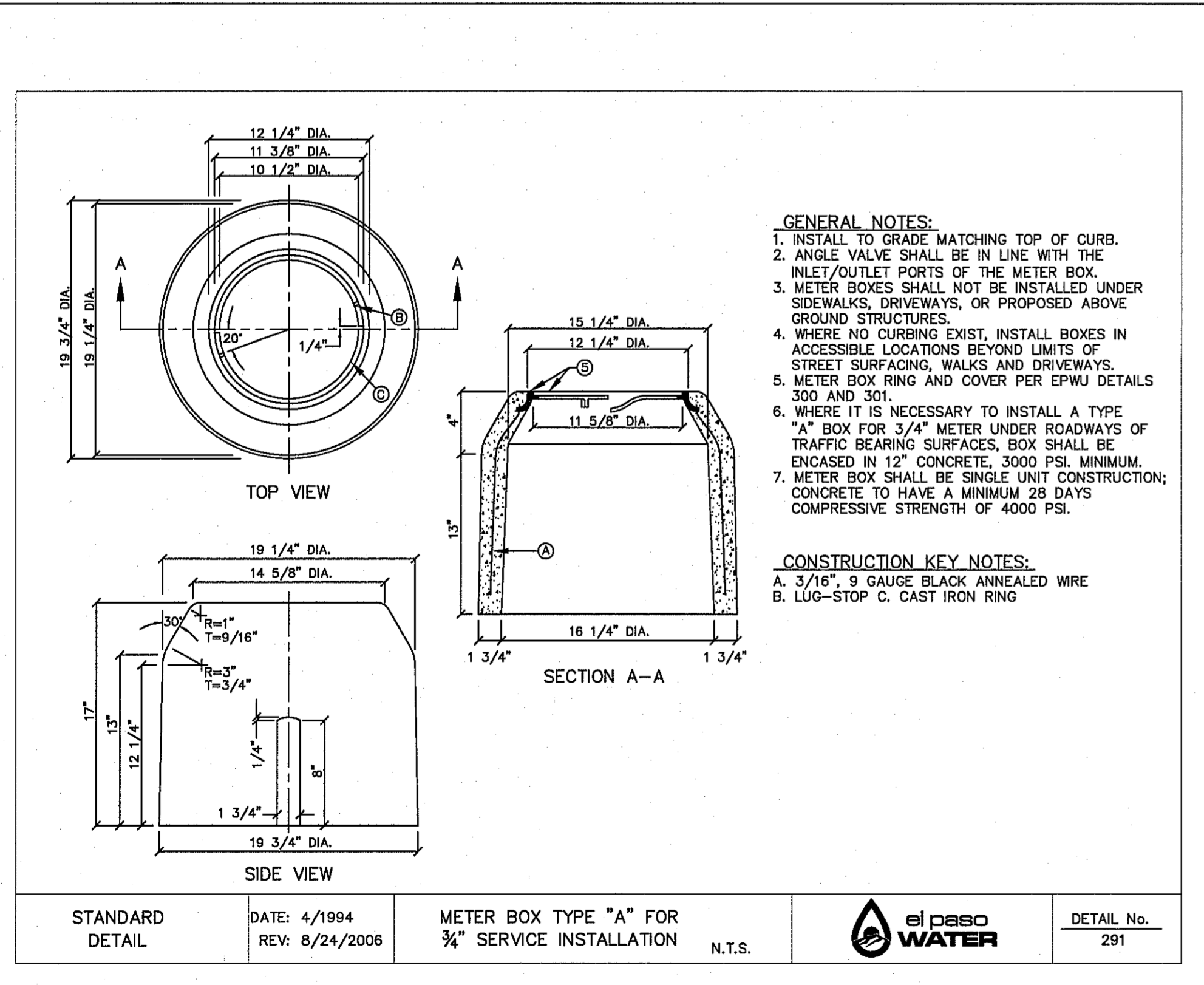
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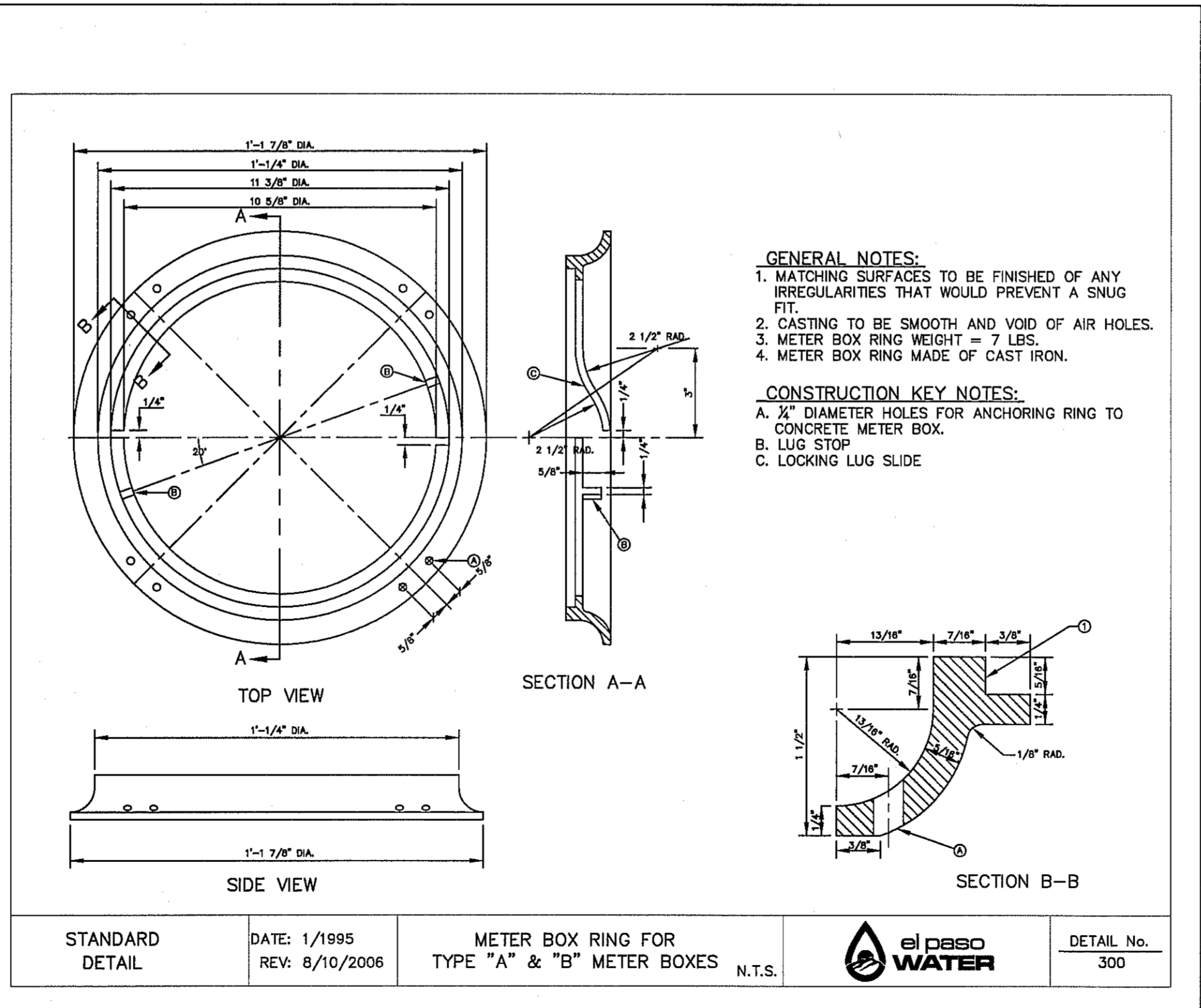
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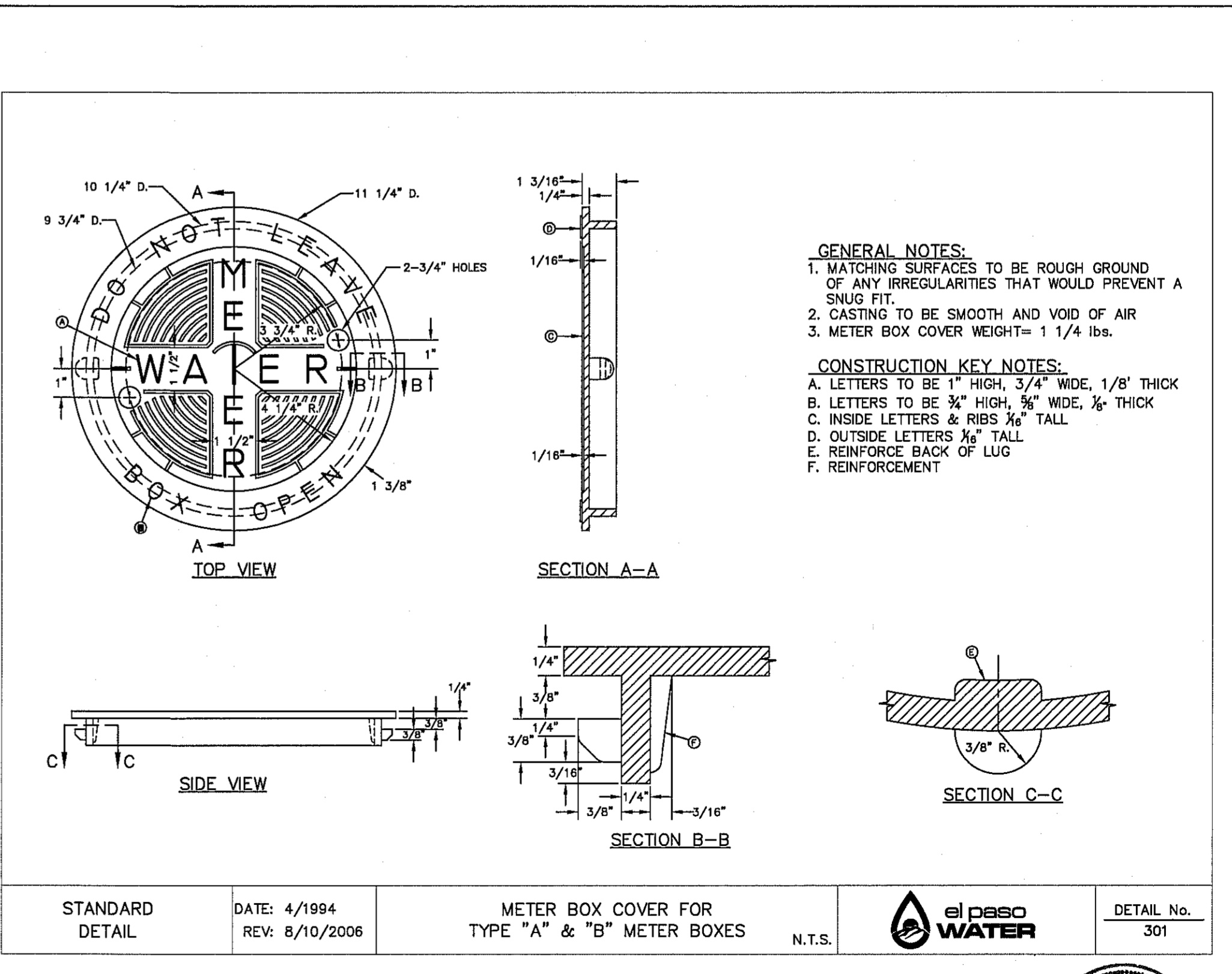
3 SERVICE LINE 3/4" AND 1" INSTALLATION
SCALE: N.T.S.



4 METER BOX TYPE "A" FOR 3/4" SERVICE INSTALLATION
SCALE: N.T.S.



5 METER BOX RING FOR TYPE "A" & "B" METER BOXES
SCALE: N.T.S.



6 METER BOX COVER FOR TYPE "A" & "B" METER BOXES
SCALE: N.T.S.

REFERENCES - BENCHMARKS
FOUND N.C.S. SURVEY MARKER STATED "ROUND 1880"
ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
3946.11 (NAVD 88 DATUM)
TIE TO THE PROJECT BENCHMARK IS N45°09'00"W 408.93'
FEET FROM A 1/2" INCH REBAR FOUND FOR THE NORTHWEST CORNER OF TRACT 11, NELLIE D. WINDY SURVEY No. 239.
DATE: _____ BY: _____
REVISIONS

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

PROJECT TITLE

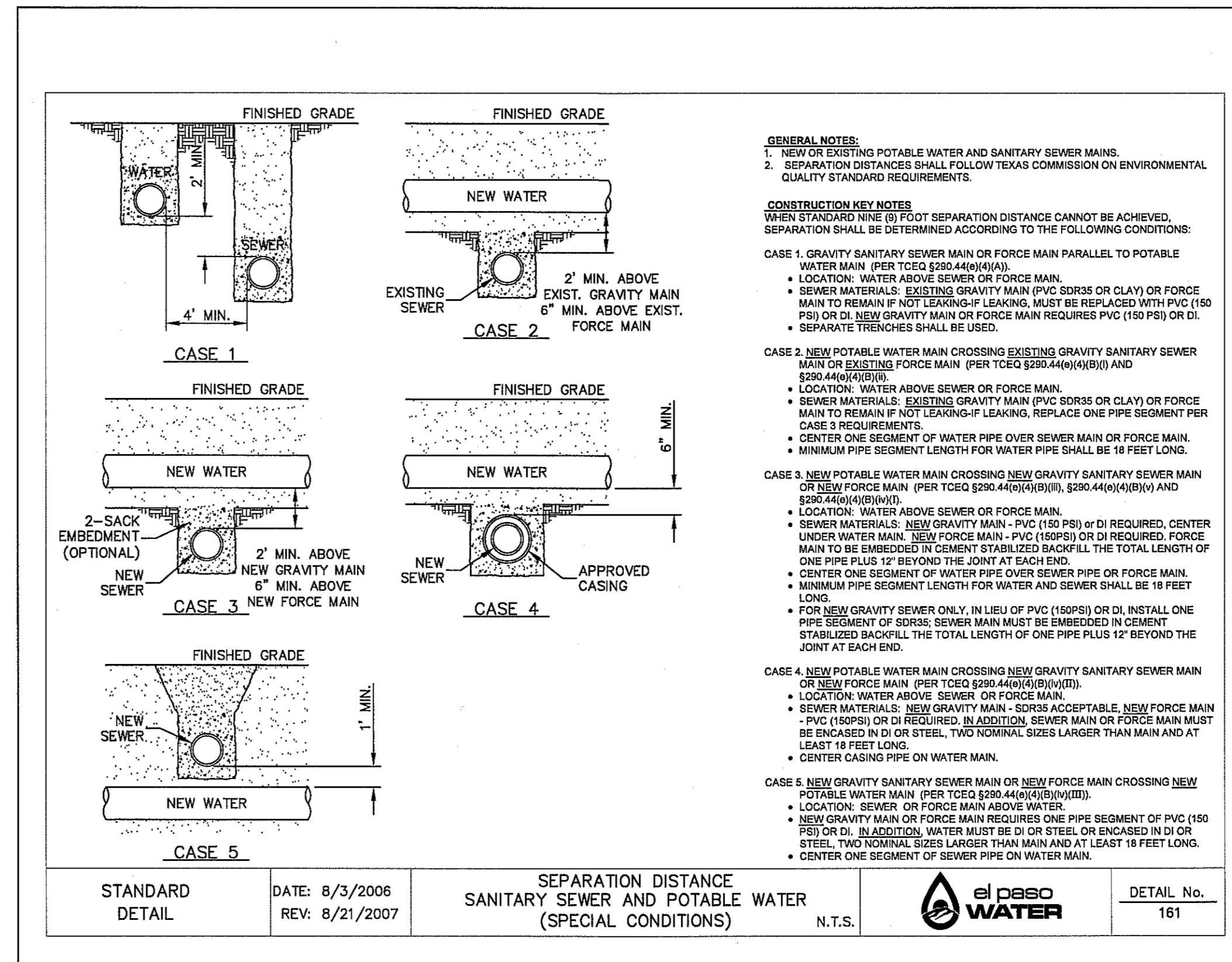
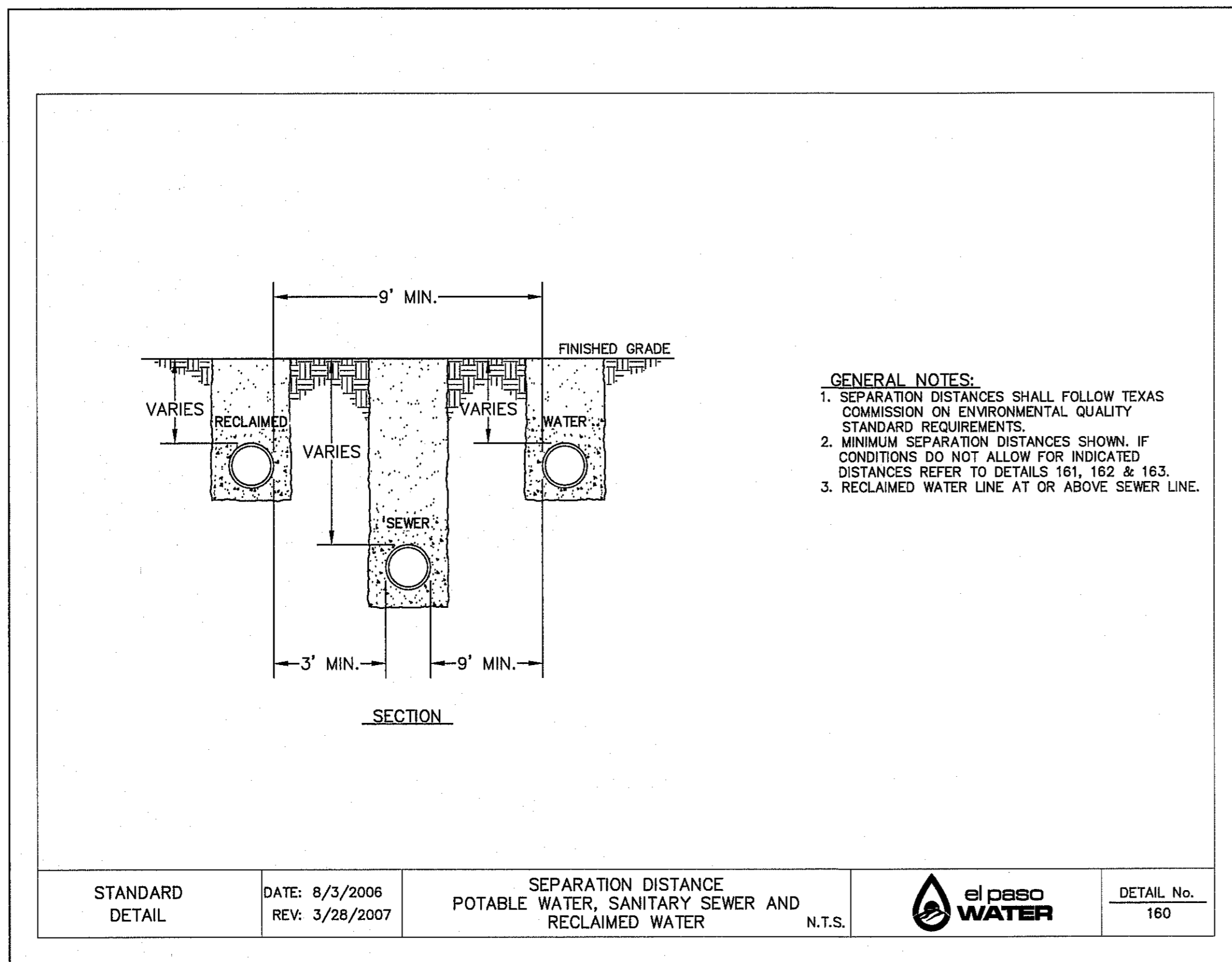
WATER DETAILS

(SHEET 3 OF 4)
SHEET NO.

C12.4

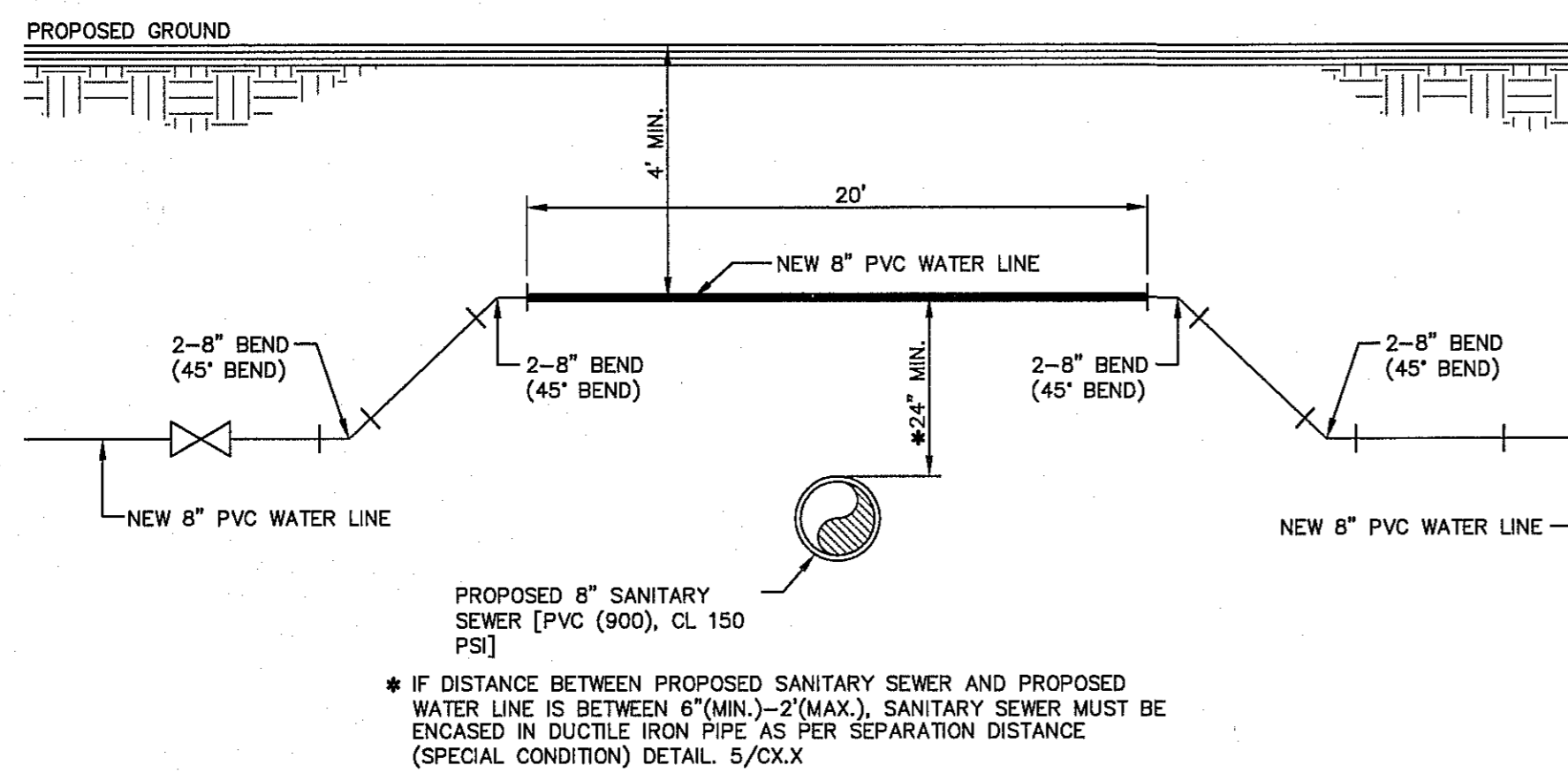
Final Approval

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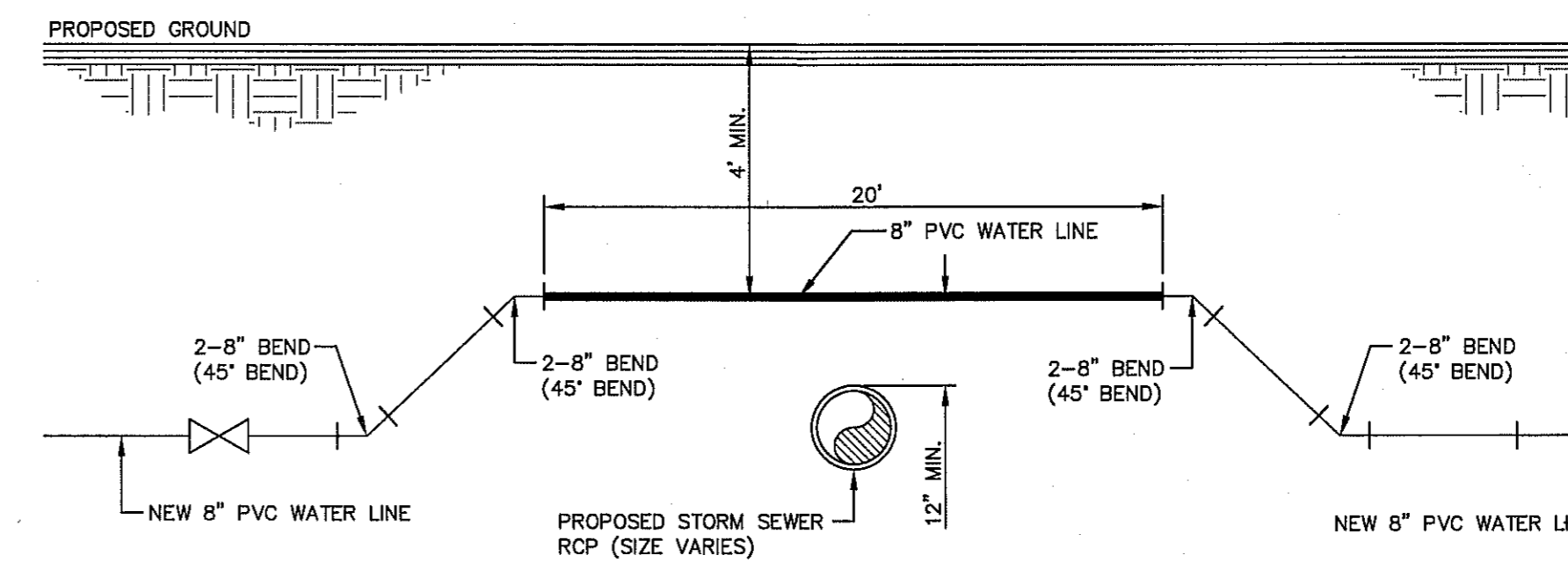


1 SEPARATION DISTANCE POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER
 SCALE: N.T.S.

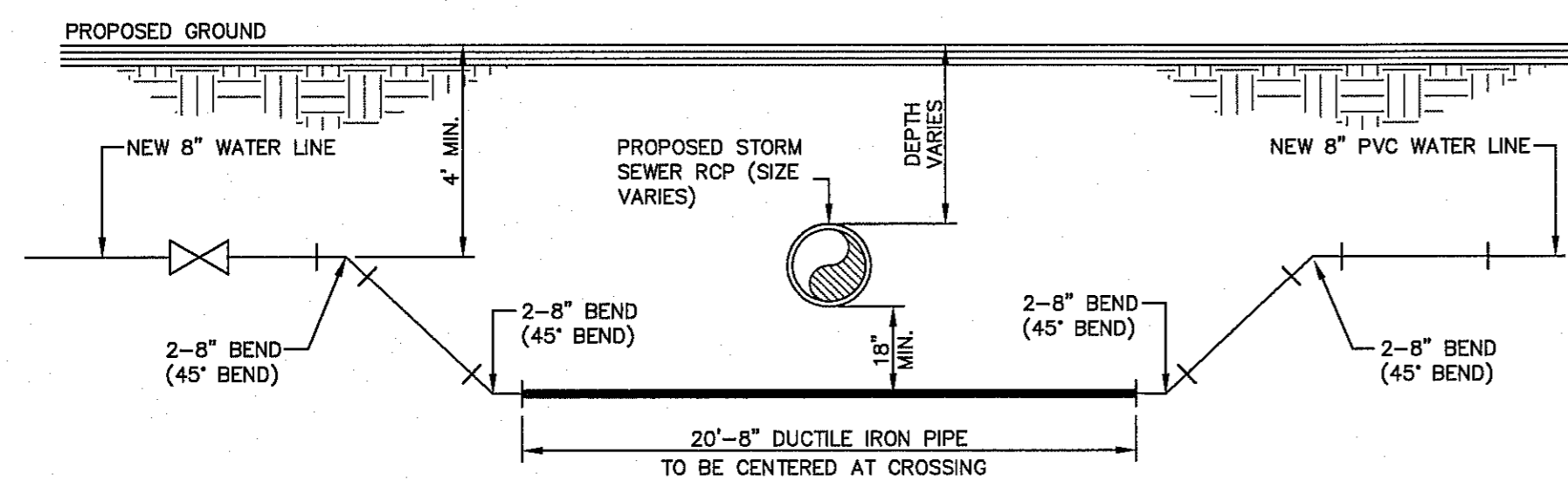
2 SEPARATION DISTANCE SANITARY SEWER AND POTABLE WATER (SPECIAL CONDITIONS)
 SCALE: N.T.S.



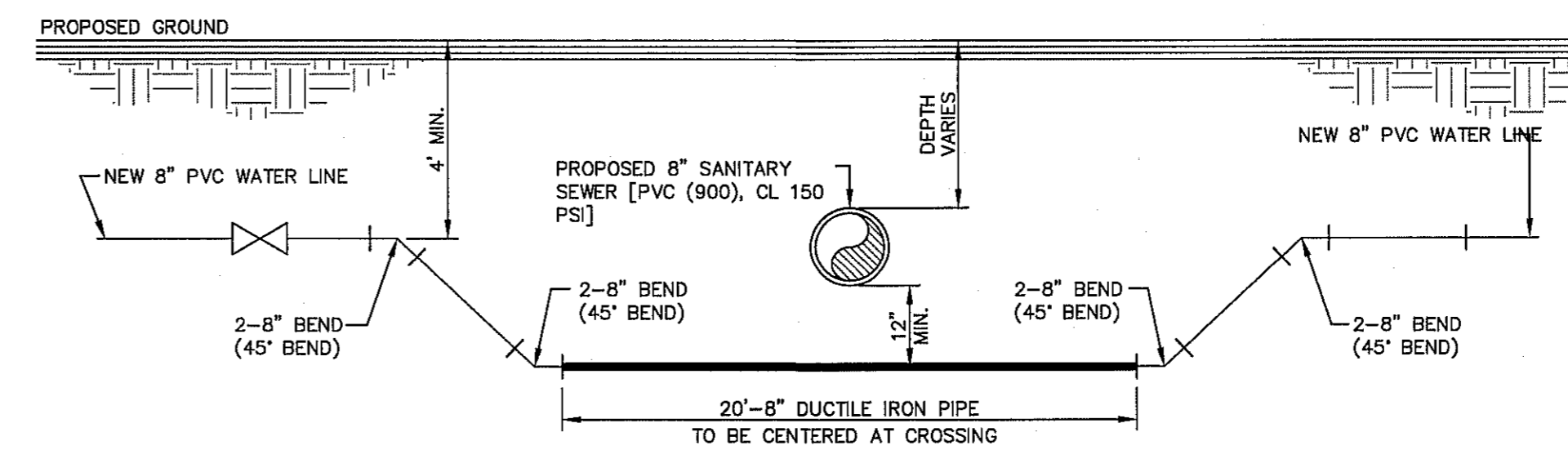
3 WATER LINE OVER SANITARY SEWER CROSSING DETAIL
 SCALE: N.T.S.



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



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



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

REFERENCES - BENCHMARKS
 FOUND N.G.S. SURVEY MARKER STAMPED "CHNO 1890"
 ELEVATION: 3935.83 (CITY OF EL PASO VERTICAL DATUM SHOWN)
 3946.11 (NAD 83 DATUM)
 TIE TO THE PROJECT BENCHMARK IS INST90909'W 4008.83'
 FEET FROM A 1/2" INCH BEARING FOUND FOR THE NORTHWEST
 CORNER OF TRACT 11, NELLIE D. WINDY SURVEY NO. 239.
 DATE: _____ BY: _____
 REVISIONS: _____

el PASO WATER

TEXAS REGISTERED ENGINEERING FIRM F-464
 4172 Woodrow Bean, Ste. F El Paso, TX 79924
 915.544.5232 | www.eapgroup.net

ENGINEER'S SEAL

SCALE: N/A
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JANUARY 2018
 DESIGN BY: C.J./F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No.: 2051.001

PROJECT TITLE

DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS

SHEET TITLE

WATER DETAILS

(SHEET 4 OF 4)
 SHEET NO.

C12.5

Final Approval

S:\2051\2051-001-Desert Springs Unit 5\DWG\Construction Drawings\Improvement Plans\2051001_C12.2-C12.5_DTL5_WATR.dwg, 7/11/2018 10:18:10 AM

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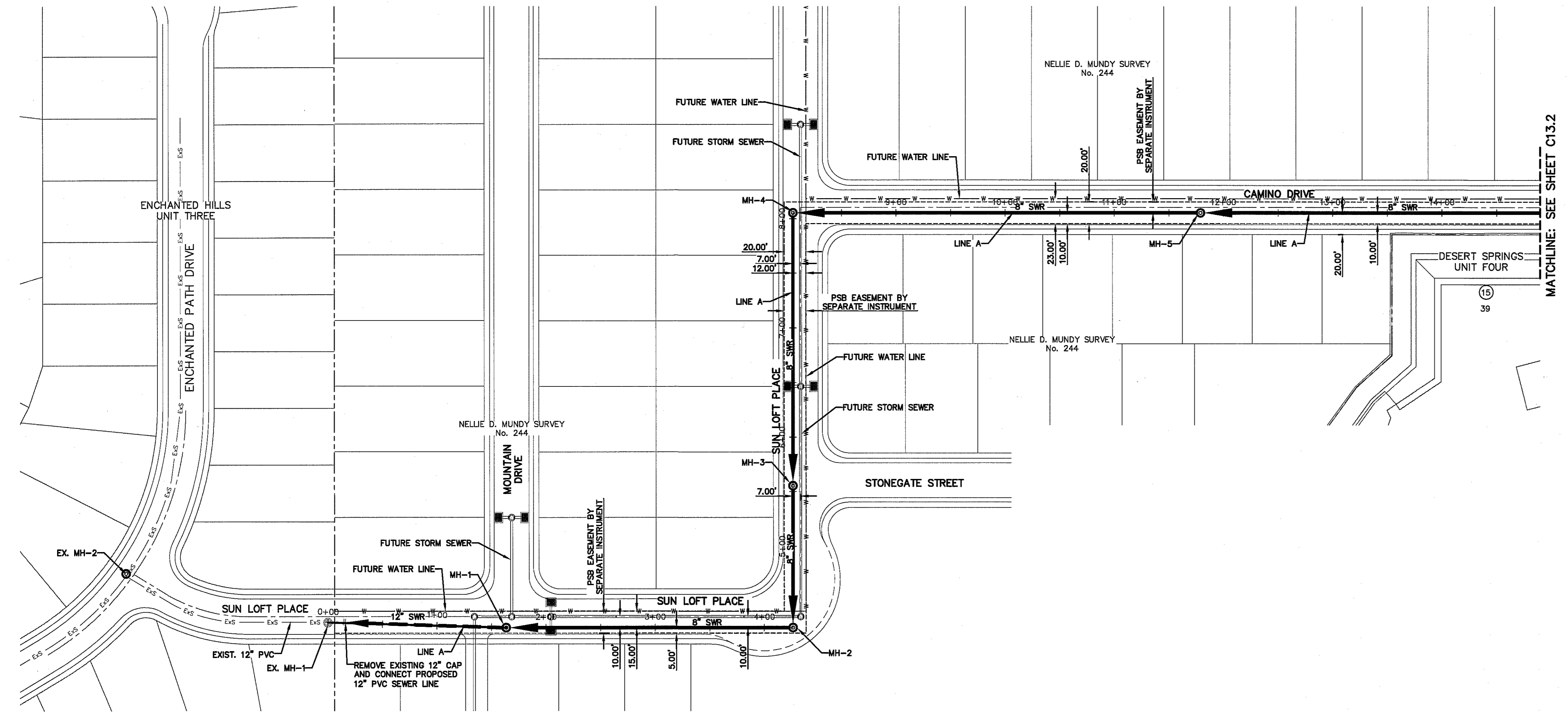
SHEET NO.	DESCRIPTION
C13.1-C13.2	DESERT SPRINGS UNIT 5 LEGEND INDEX / GENERAL INFORMATION
C13.3	LINE A
C13.4	LINE A & B
C13.5	LINE C & D
C13.6	LINE E
C13.7	SANITARY SEWER DETAILS
C13.8	SANITARY SEWER DETAILS
C13.9	SANITARY SEWER DETAILS

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 EPWJ/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
- REFERENCE SANITARY SEWER DETAILS FOR SEWER CROSSINGS AT STORM SEWER.

LEGEND

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



WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	2900	LINEAR FEET
2	8" PVC C-900, CL150	120	LINEAR FEET
3	12" PVC SDR35 GRAVITY LINE	160	LINEAR FEET
4	STANDARD WASTEWATER MANHOLE (0'-8" DEEP)	10	EACH
5	STANDARD WASTEWATER MANHOLE (8'-12" DEEP)	6	EACH
6	DROP CONNECTION MANHOLE (8'-12" DEEP)	2	EACH
7	4" WASTEWATER SERVICE CONNECTION	48	EACH

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

SANITARY SEWER INDEX MAP
SCALE: 1" = 60'

GENERAL NOTES

- UNLESS OTHERWISE SHOWN ON THE DRAWINGS, THE PROPOSED SEWER MAINS AND SEWER MANHOLES SHALL BE INSTALLED NO LESS THAN TEN (10') FEET 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 FORTY-EIGHT (48") INCHES 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 FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING ANY WORK IN AREAS WITHIN THEIR JURISDICTION. A COPY OF ALL FIELD SOIL DENSITY TESTS WITHIN THEIR RESPECTIVE R.O.W. SHALL BE FORWARDED TO THE DEVELOPER'S ENGINEER AND THE DEVELOPER BY THE CONTRACTOR.
- EXISTING STREETS, DRIVEWAYS AND ALL OTHER MISCELLANEOUS STRUCTURES DAMAGE OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER THAN ORIGINAL CONDITION.
- CONSTRUCTION OF THE PUBLIC WATER AND SEWER SYSTEM INCLUDING MATERIALS AND TESTING SHALL CONFIRM TO EPWJ-PSB STANDARD SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, SEWER MAINS AND RELATED APPURTENANCES.

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

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

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

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

WATER & SEWER:
EL PASO WATER UTILITIES
1154 HAWKINS BOULEVARD
EL PASO, TX. 79961
(915) 594-5530

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 STREET & MAINTENANCE DEPARTMENT
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750

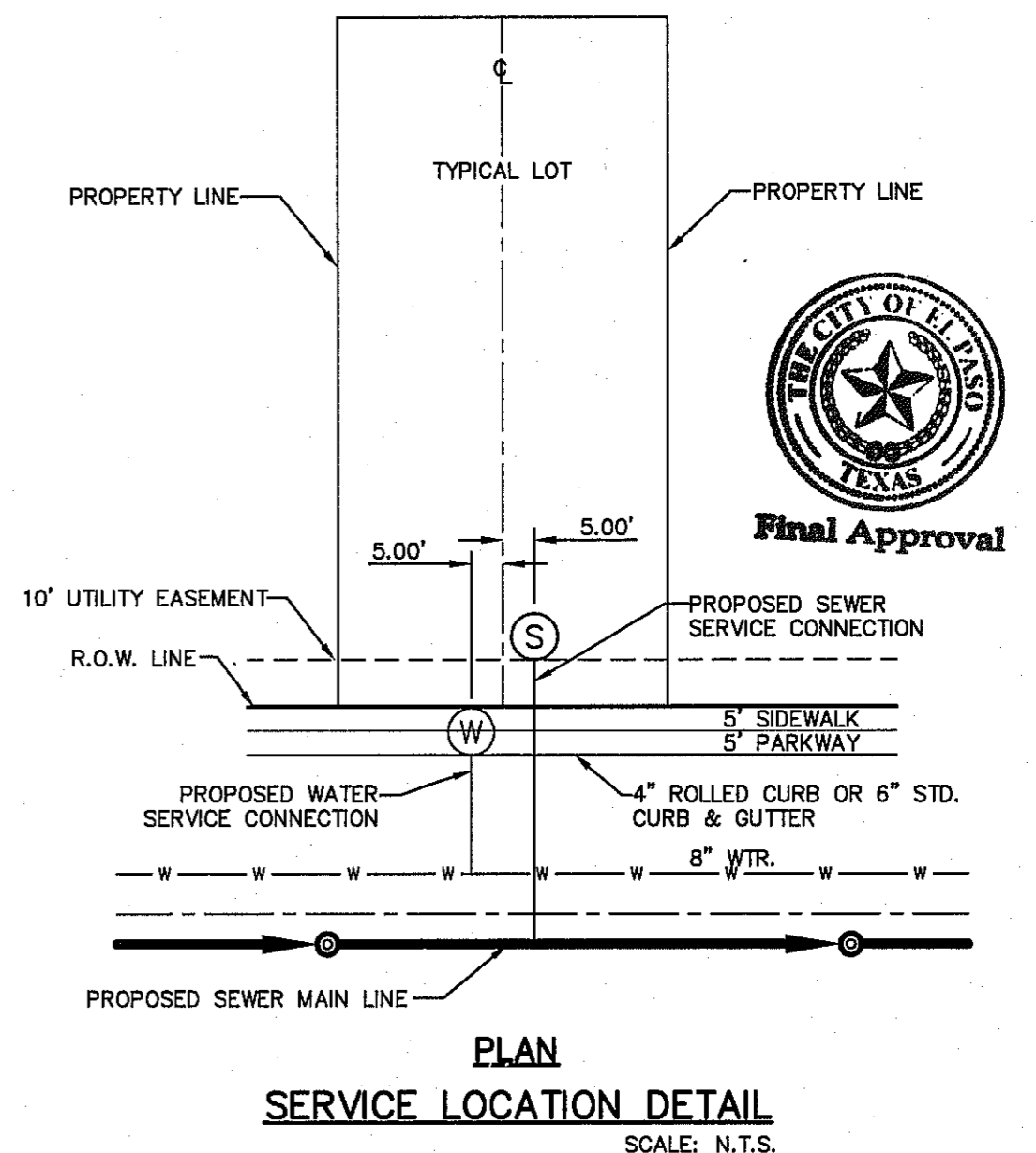
CABLE TELEVISION:
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123

TELEPHONE:
SBC
11200 PELICANO
EL PASO, TX. 79935
(915) 595-9151

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

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

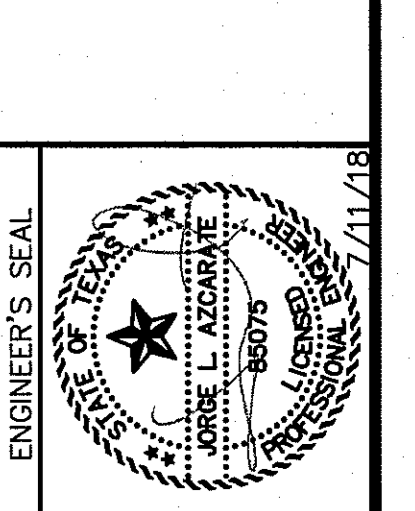
WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES.



REFERENCES - BENCHMARKS

FOUND N.C.S. SURVEY MARKER STAMPED "CHINO 1980" ELEVATION: 3946.11 (NAVD 88 DATUM)
TIE TO THE PROJECT BENCHMARK IS 145709.09' W 4008.83' N
CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY, No. 244
DATE: _____ BY: _____

osa
TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.osagroup.net



SCALE: 1" = 60'

Horizontal: 1" = 60'
Vertical: N/A
Contour Interval: N/A

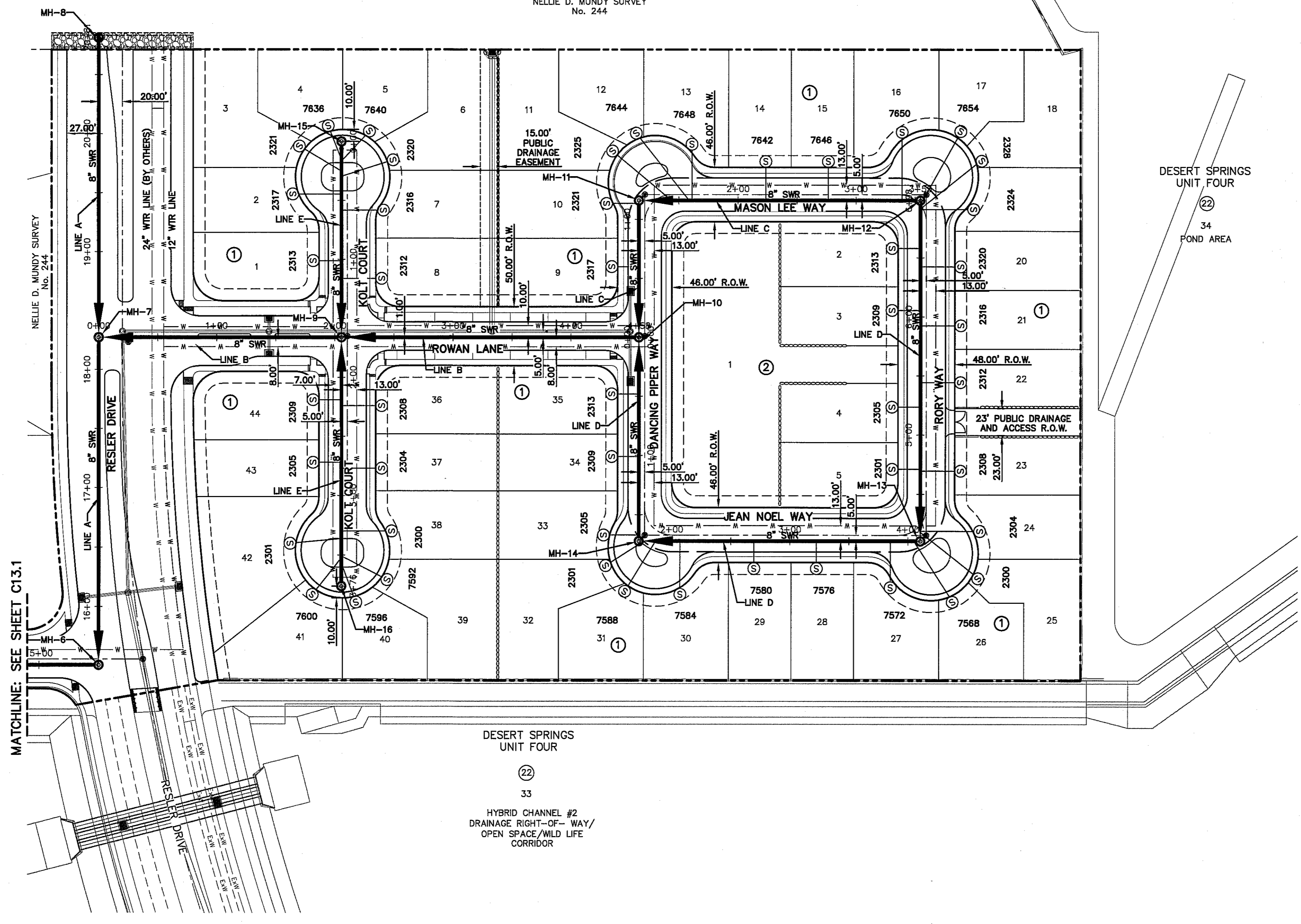
DATE: JANUARY 2018
DESIGN BY: C.J.F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB No.: 2051.001

PROJECT TITLE
DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER INDEX
(SHEET 1 OF 2)
SHEET NO.

C13.1

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WASTEWATER QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
1	8" PVC SDR35 GRAVITY LINE	2900	LINEAR FEET
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3	12" PVC SDR35 GRAVITY LINE	160	LINEAR FEET
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CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.

SANITARY SEWER INDEX MAP
SCALE: 1" = 60'

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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

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

WATER & SEWER:
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ELECTRIC:
EL PASO ELECTRIC CO.
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EL PASO, TX. 79902
(915) 543-2076
MR. FRANK WIGEL (DISTRIBUTION)

EL PASO STREETS
CITY OF EL PASO
DEPARTMENT OF STREET & MAINTENANCE DEPARTMENT
7969 SAN PAULO DRIVE
EL PASO, TX. 79907
(915) 621-6750

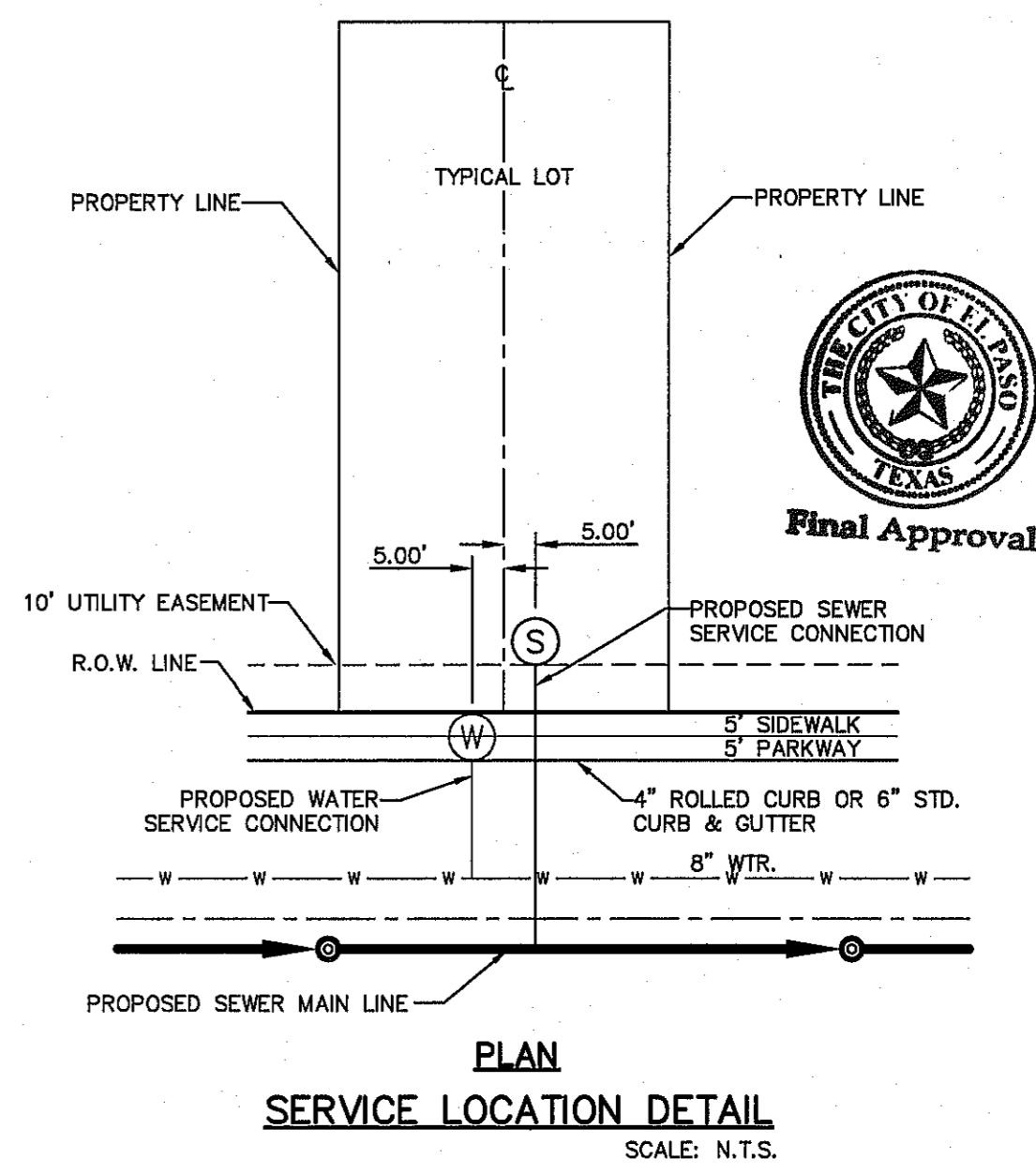
CABLE TELEVISION:
TIME WARNER COMMUNICATIONS
7010 AIRPORT ROAD
EL PASO, TX. 79906
(915) 772-1123

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

FIBER OPTICS:
AT&T
P.O. BOX 1650
EL PASO, TX. 79949
(800) 892-3786

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

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES



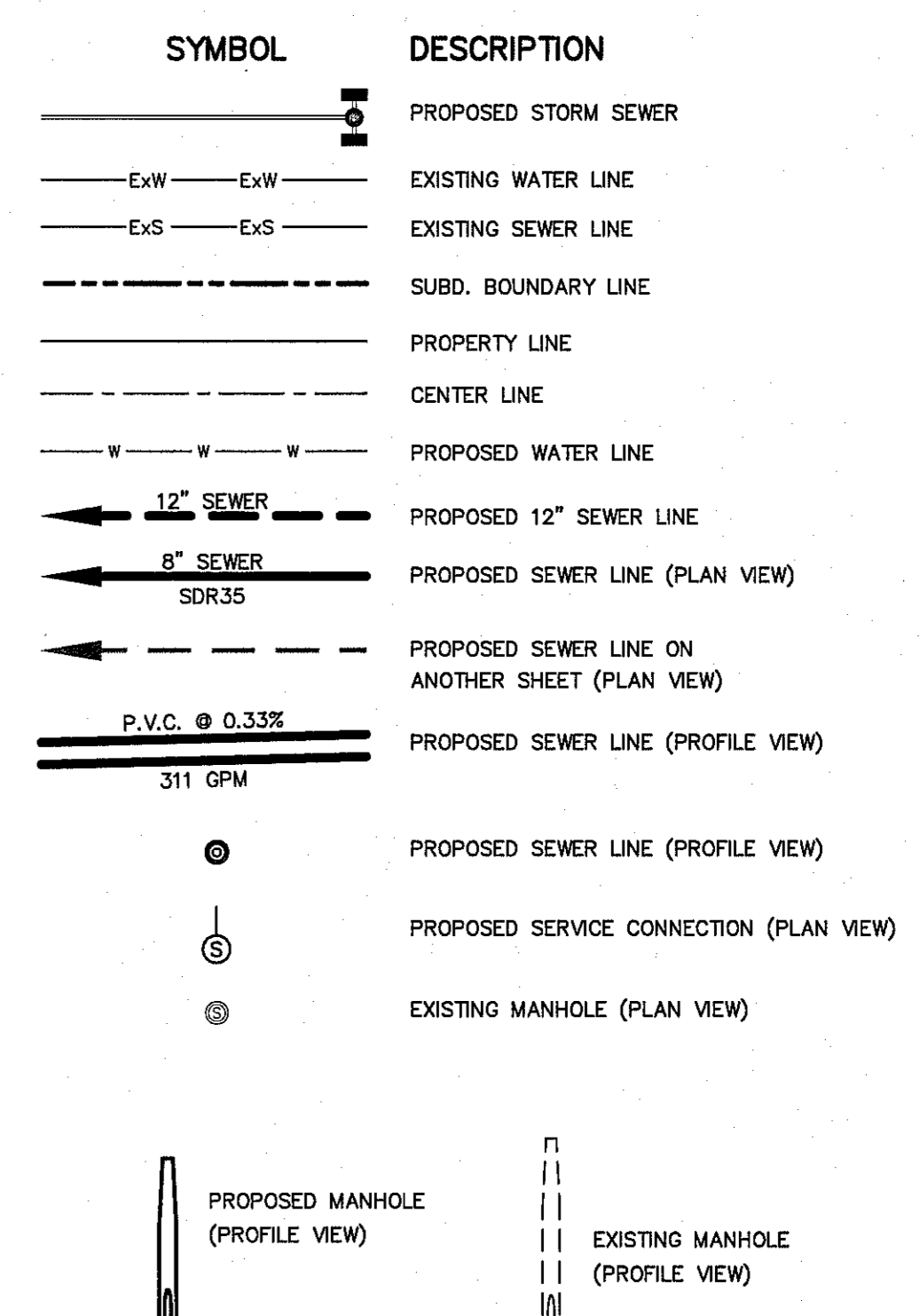
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SHEET NO.	DESCRIPTION
C13.1-C13.2	DESERT SPRINGS UNIT 5 LEGEND INDEX / GENERAL INFORMATION
C13.3	LINE A
C13.4	LINE A & B
C13.5	LINE C & D
C13.6	LINE E
C13.7	SANITARY SEWER DETAILS
C13.8	SANITARY SEWER DETAILS
C13.9	SANITARY SEWER DETAILS

NOTES:

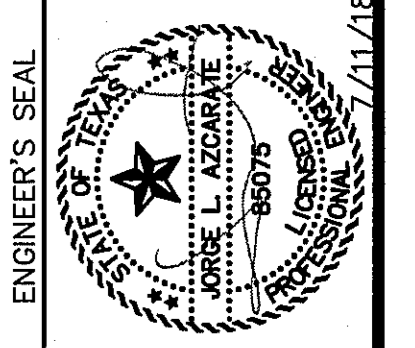
- ALL LOTS SHALL BE PROVIDED WITH ONE SERVICE CONNECTION TO BE INSTALLED AT THE LOCATION AS SHOWN ON THE SERVICE LOCATION DETAIL.
- ALL SANITARY SEWER PIPES SHALL BE PVC, SDR 35, (D 3034), UNLESS OTHERWISE SHOWN, AS REQUIRED BY THE EPWU/PSB RULES AND REGULATIONS AND DESIGN STANDARDS.
- REFERENCE SANITARY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

LEGEND



REFERENCES - BENCHMARKS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1987"
ELEVATION: 3945.83 (NO. 06 23 DATA)
ELEVATION: 3945.78 (NO. 06 23 DATA)
TIE TO THE PROJECT BENCHMARK IS N 153°09'09" W 4088.93'
CORNER OF TRACT N. NELLIE D. MUNDY SURVEY, NO. 244
BY: J.L.A.
DATE: 2015.01.01

CEA GROUP
TEXAS REGISTERED ENGINEERING FIRM #4894
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.ceagroup.net



SCALE: 1" = 60'
Horizontal: 1" = 60'
Vertical: 1" = 60'
Contour Interval: 1' / A
DATE: JANUARY 2018
DESIGN BY: C.J./F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB NO.: 2015.001

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE
SANITARY SEWER INDEX
(SHEET 2 OF 2)
SHEET NO.

C13.2

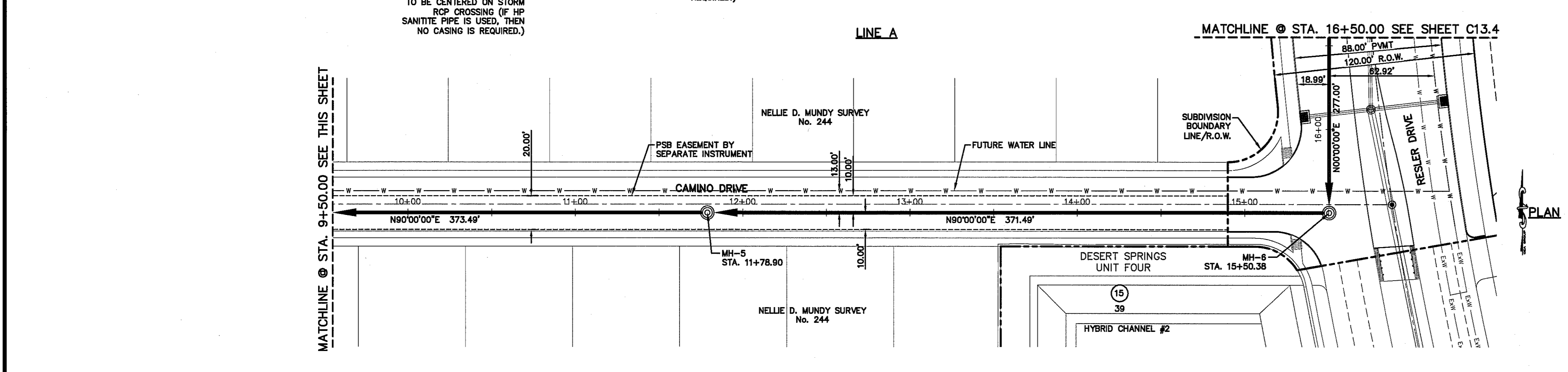
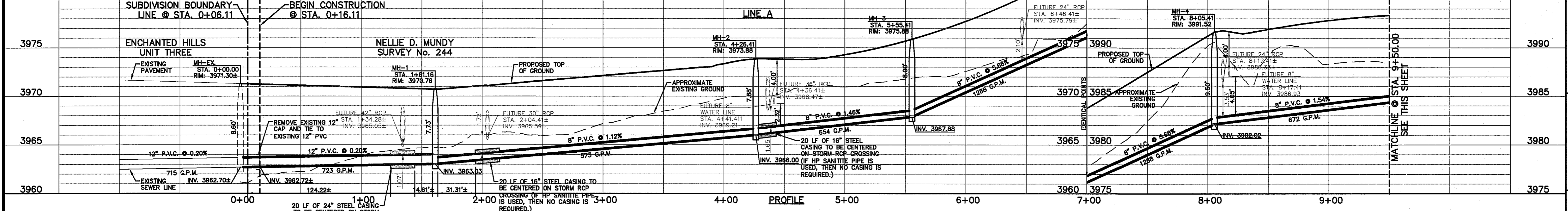
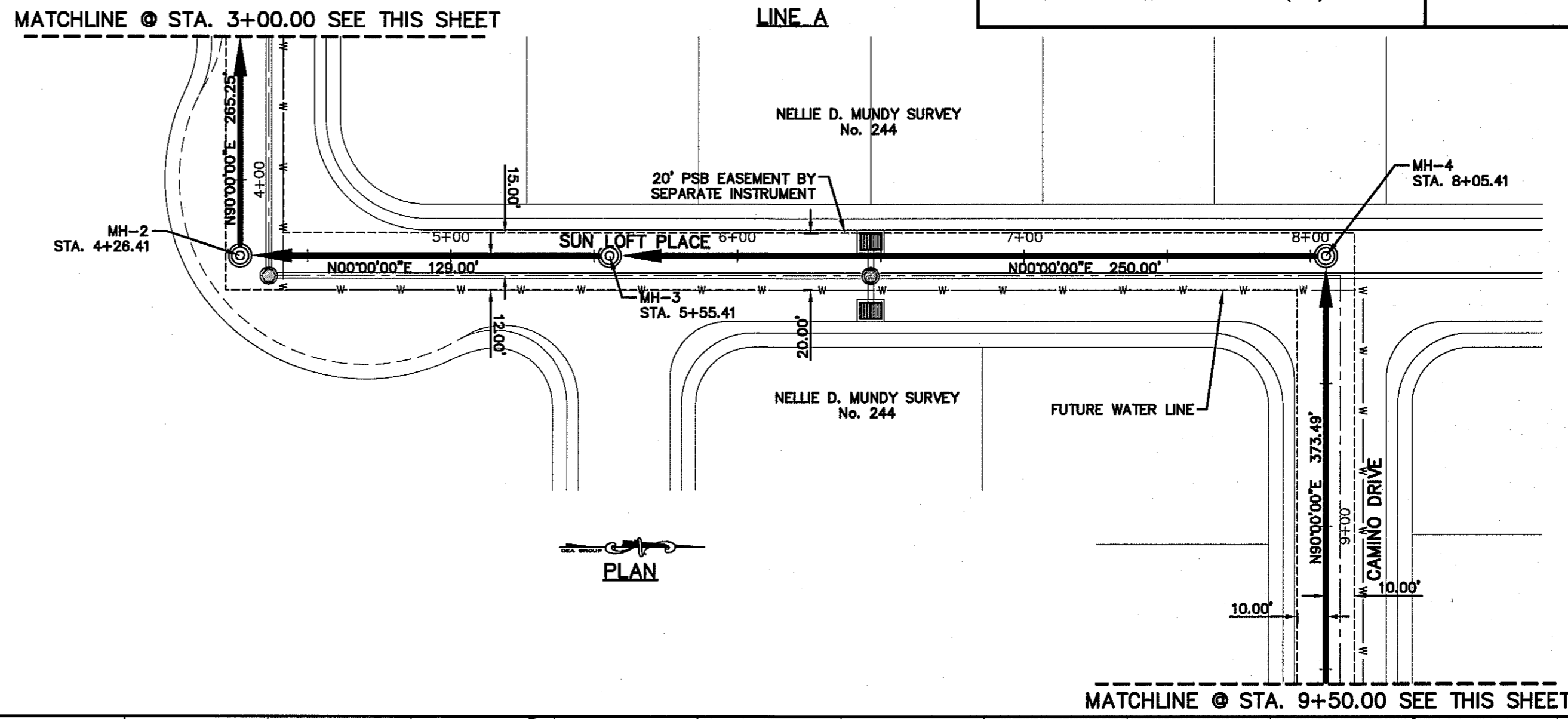
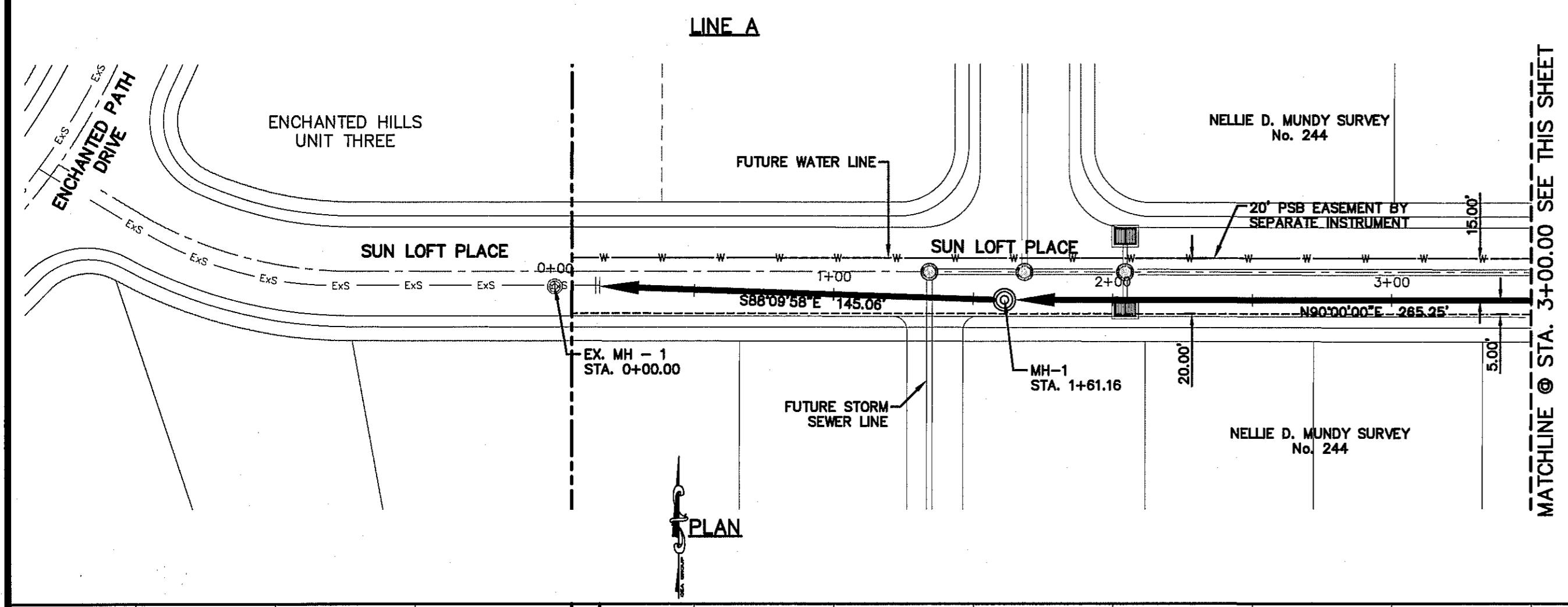
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

**WARNING I
BEFORE YOU DIG
CALL 811**
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

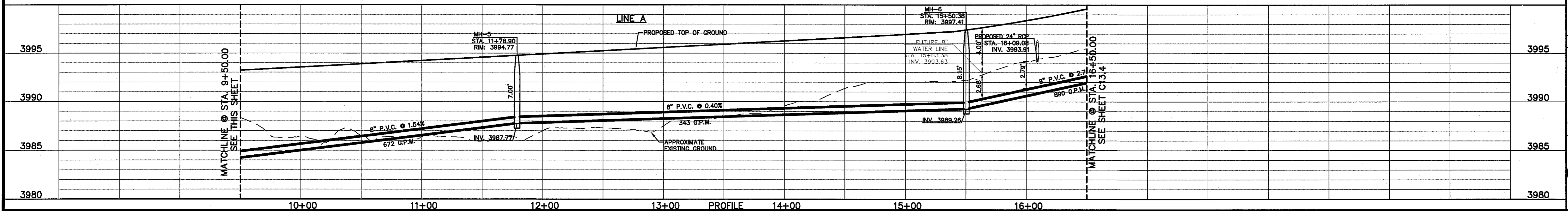
REFERENCES - BENCHMARKS
 FOUND N.C.S. SURVEY MARKER STAMPED "CHINO 1907"
 ELEVATION: 3948.11 (NAD 83 DATUM)
 FILE TO THE PROJECT BENCHMARK IS NAD83 4088.93
 CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY, NO. 244
 CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY, NO. 244

osa
 TEXAS REGISTERED ENGINEERING FIRM #484
 4712 Woodrow Bean, Ste. F El Paso, TX 79904
 915.544.6232 | www.osagroup.net



LEGEND:

- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED SEWER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE
- PROPOSED SEWER MANHOLE
- ▨ C-900 PIPE CLASS 150 PIPE



ENGINEER'S SEAL
 SCALE: 1"=40'
 Horizontal: 1"=50'
 Vertical: 1"=5'
 Contour Interval: 1/4'
 DATE: JANUARY 2018
 DESIGN BY: C.J./F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No. 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

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

SHEET NO.
C13.3

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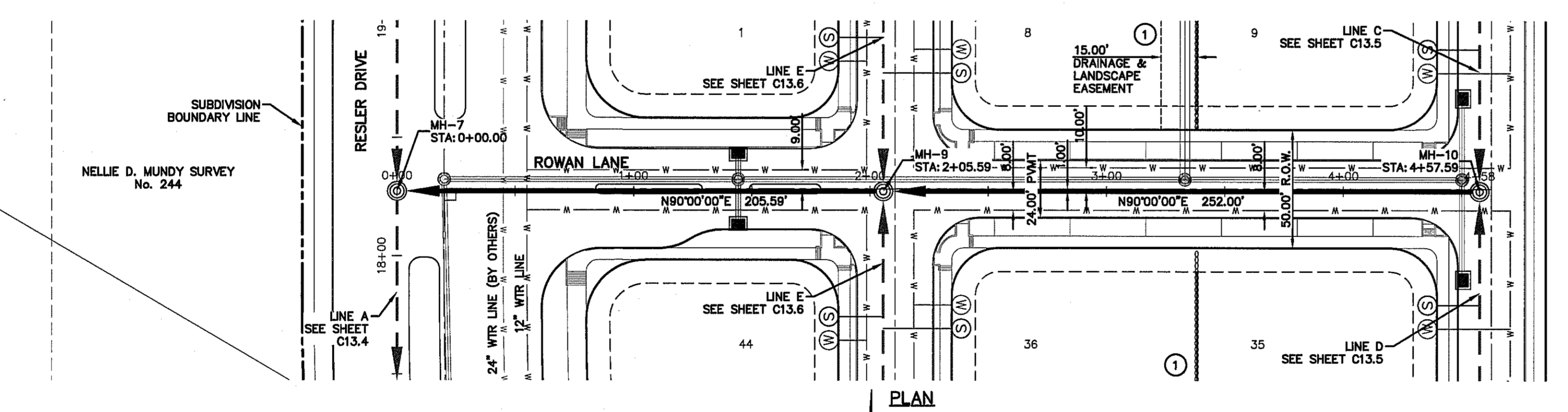
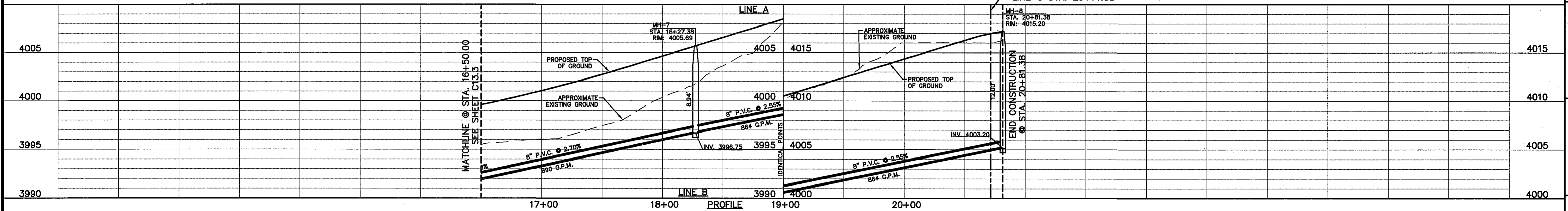
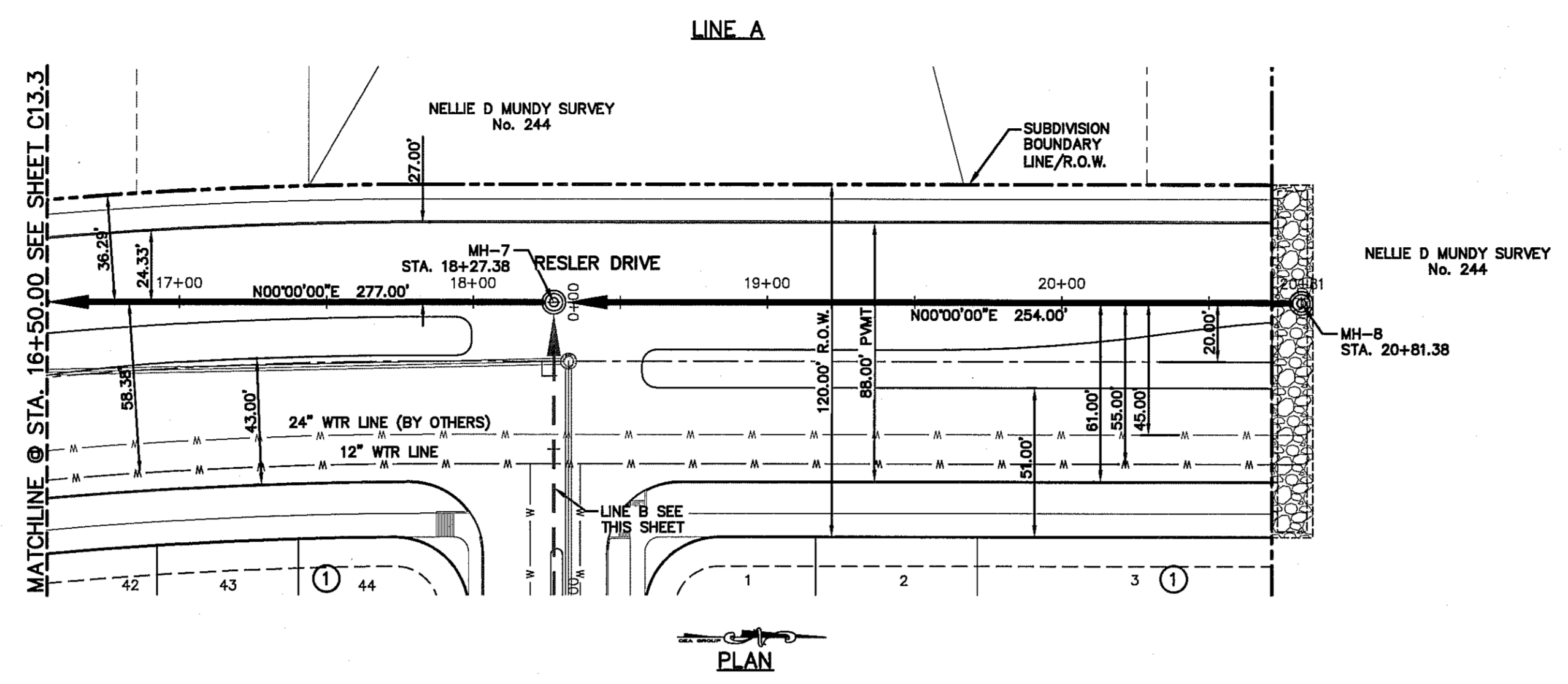
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING!
BEFORE YOU DIG
CALL 811
FOR FIELD LOCATING EXISTING UTILITIES

DATE	REVISIONS	BY

REFERENCES — BENCHMARKS
 FOUND N.G.S. SURVEY MARKER STAMPED "CHNO 1980"
 ELEVATION: 3946.71 (NAD 83 DATUM)
 TIE TO THE PROJECT BENCHMARK IS NAD83 20+00.93'
 CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY, No. 238

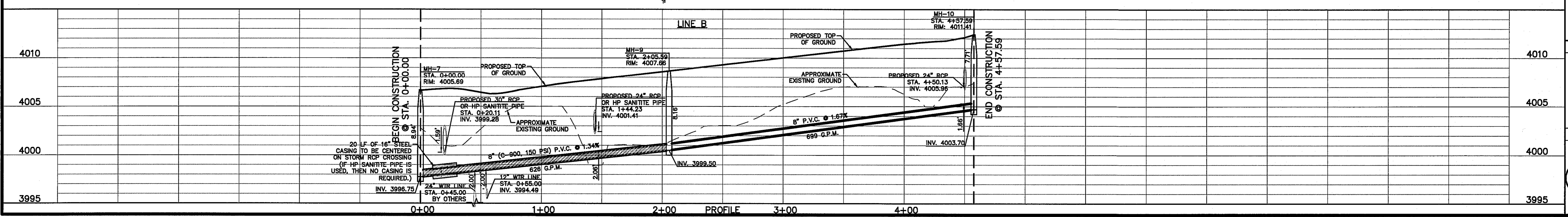
osa
 TEXAS REGISTERED ENGINEERING FIRM #484
 4712 Woodrow Began, Ste. F El Paso, TX 79924
 915.544.6262 | www.osagroup.net



LEGEND:

- PROPOSED STORM SEWER LINE
- PROPOSED WATER LINE
- PROPOSED SEWER LINE ON ANOTHER SHEET (PLAN VIEW)
- PROPOSED SEWER LINE
- PROPOSED WATER SERVICE
- PROPOSED SEWER SERVICE
- PROPOSED SEWER MANHOLE
- C-900 PIPE CLASS 150 PIPE

Final Approval



ENGINEER'S SEAL

SCALE: 1"=40'
 Horizontal: 1"=50'
 Vertical: 1"=5'

DATE: JANUARY 2018
 DESIGN BY: C.J.F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPD. BY: J.L.A.
 JOB No. 2051.001

PROJECT TITLE

**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE

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

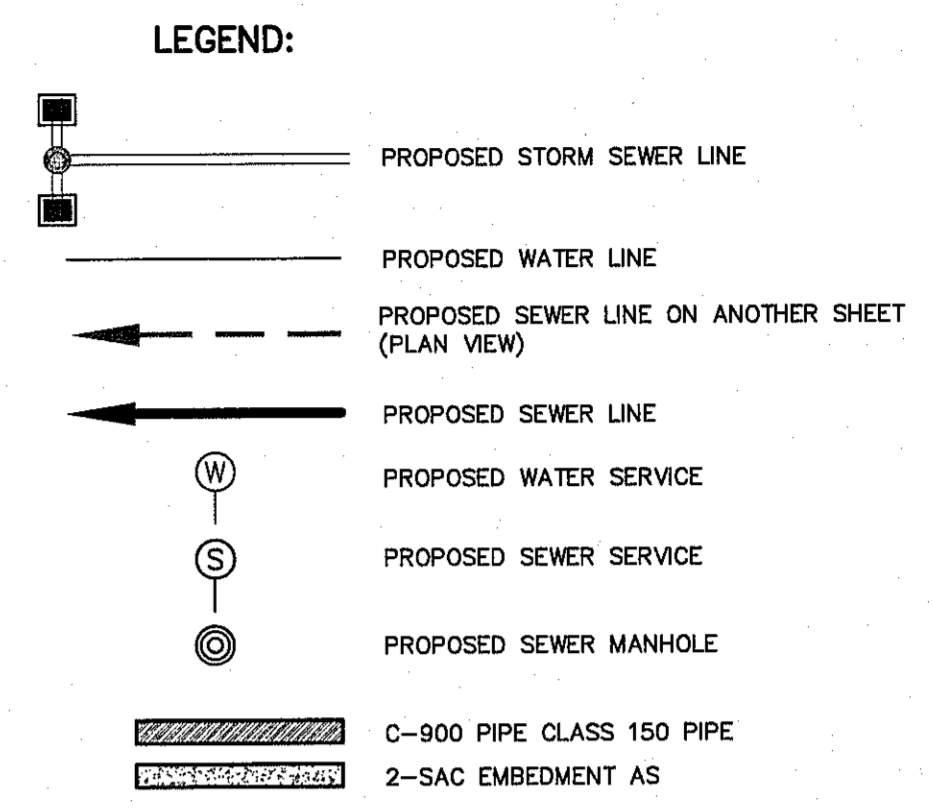
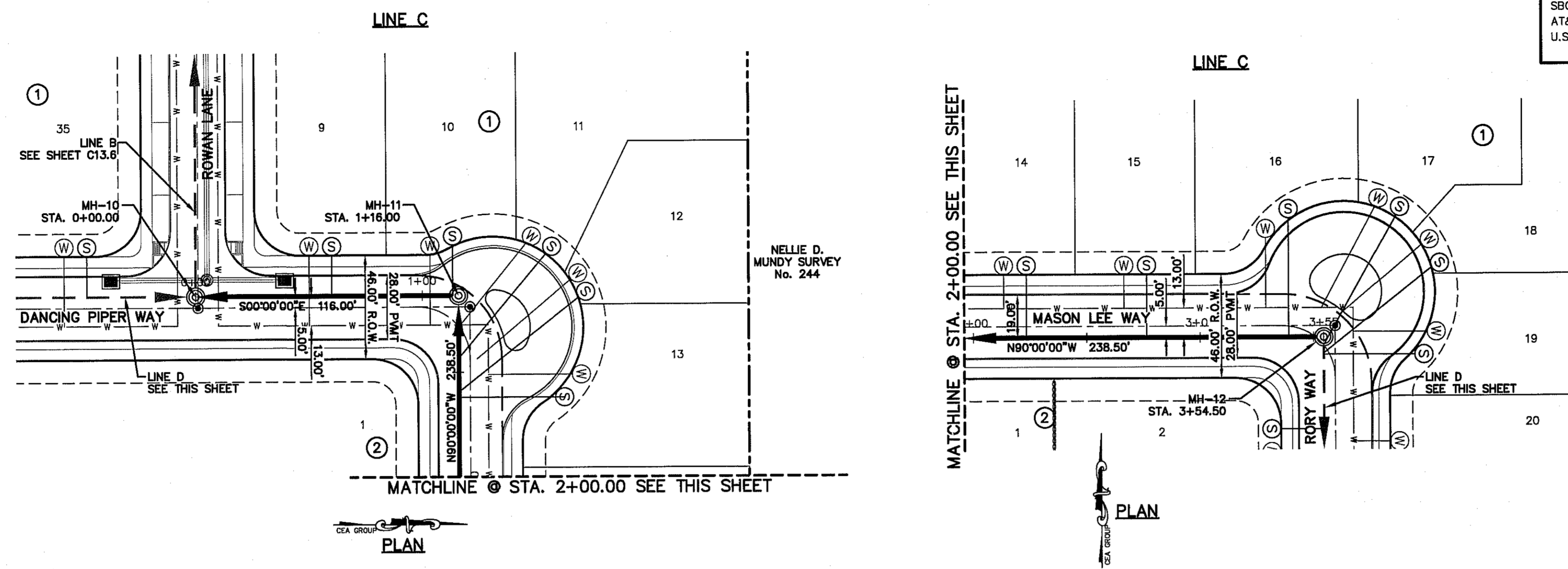
SHEET NO.

C13.4

S:\2051\2051-001-Desert Springs Unit 5\DWGSS\Construction Drawings\Improvement Plans\2051001-C13.3-13.4-Line A & B.dwg, 7/11/2018 10:19:52 AM

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

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FOR FIELD LOCATING EXISTING UTILITIES



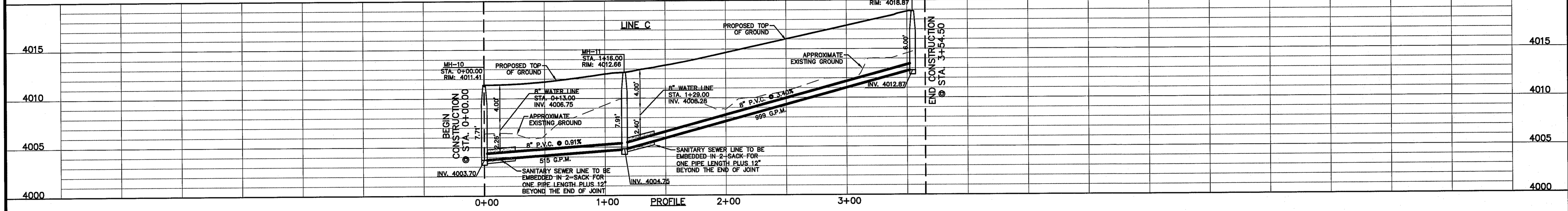
REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "G810 1992" ELEVATION: 3945.31 (NAVD 88 DATUM) VERTICAL DATUM SHOWN TO THE PROJECT BENCHMARK IS NS292070"W 4008.95' CORNER OF TRACT T.11E R.1E D. MUNDY SURVEY No. 238

DATE	REVISIONS	BY

osa

TEXAS REGISTERED ENGINEERING FIRM #464
4712 Woodrow Bean St. Ft. Worth, TX 76104
915.544.5232 | www.osagroup.net



ENGINEER'S SEAL

SCALE: 1"=40'

Horizontal: 1"=50'

Vertical: 1"=5'

Contour Interval: N/A

DATE: JANUARY 2018

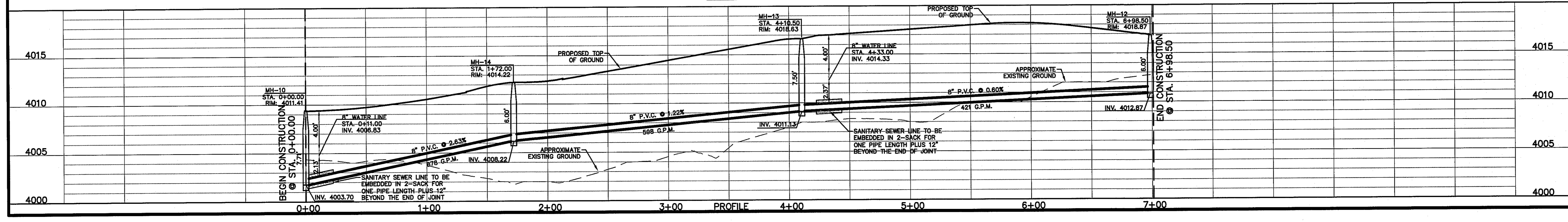
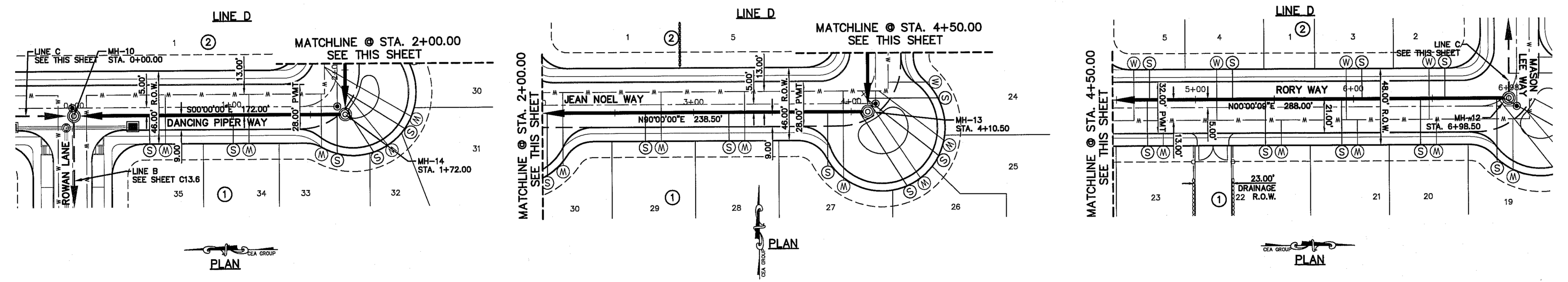
DESIGN BY: C.J.F.Z.

DRAWN BY: A.C.

CHKD. BY: J.L.A.

APP'D. BY: J.L.A.

JOB No.: 20151.001



PROJECT TITLE

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SHEET TITLE

SANITARY SEWER PLAN & PROFILE LINE C & D

SHEET NO.

C13.5

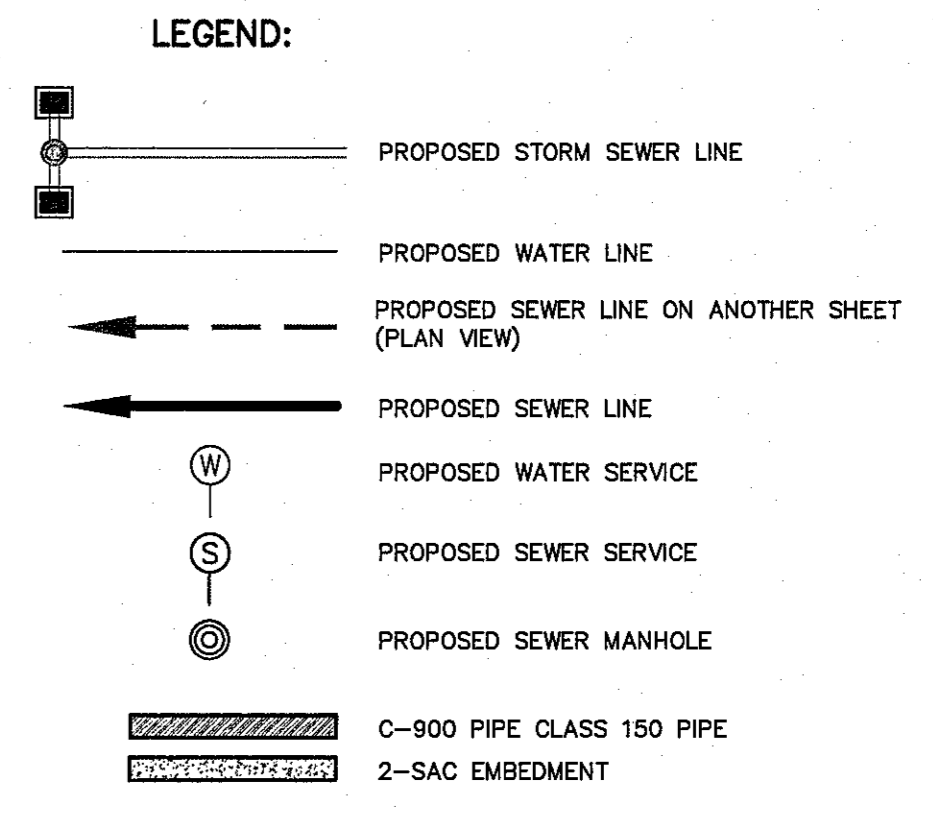
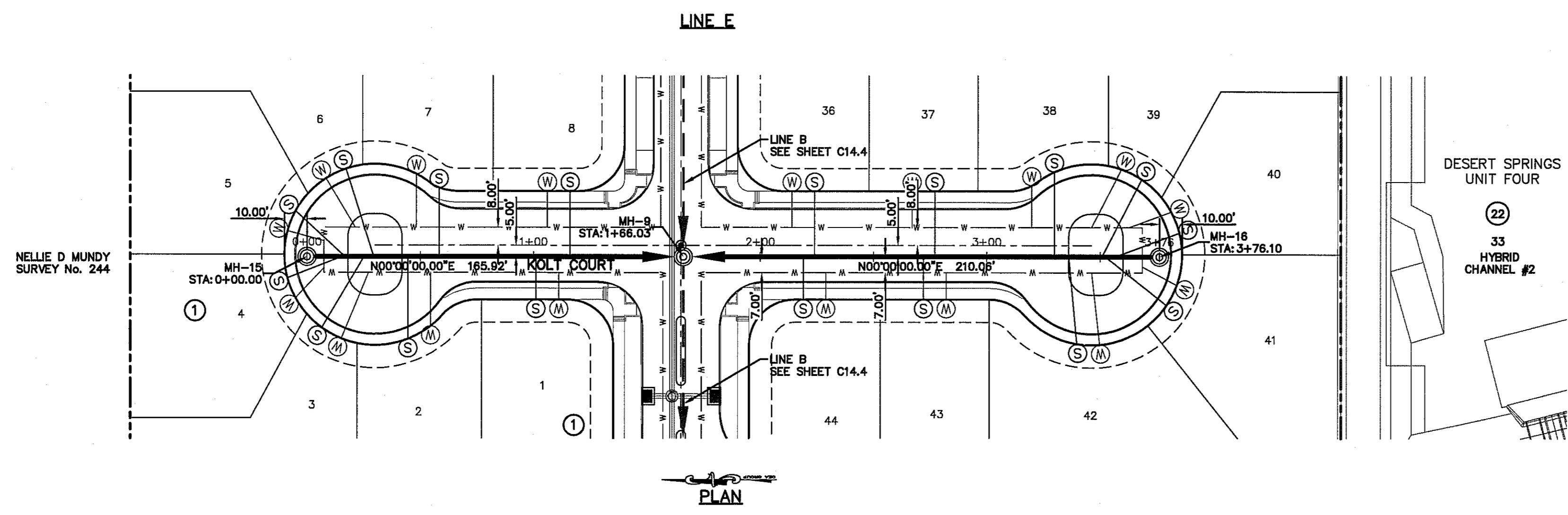
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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200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

WARNING!
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DATE	BY	REVISIONS



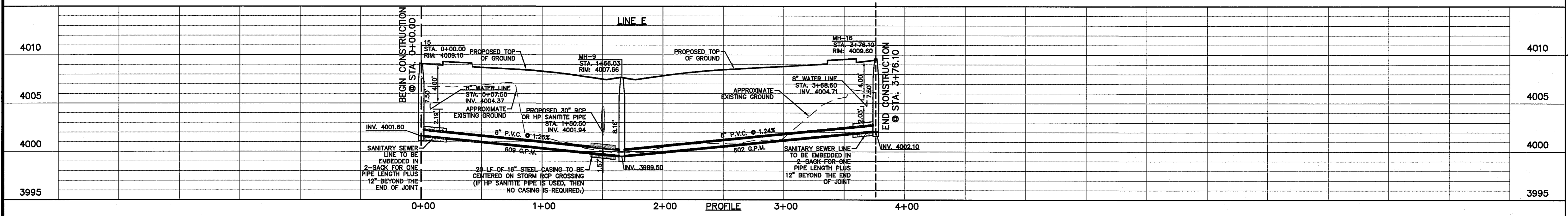
REFERENCES - BENCHMARKS

FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1980" ELEVATION: 3946.11 (NAVD 88 DATUM) 3945.78 (NGVD 29 DATUM) FILE TO THE PROJECT BENCHMARK IS N5209.07'W 4088.93' S CORNER OF TRACT 11, NELLIE D. MUNDY SURVEY NO. 244

ENGINEER'S SEAL

OS&A

TEXAS REGISTERED ENGINEERING FIRM #484
4712 Woodrow Bean, Ste. F El Paso, TX 79924
915.544.5232 | www.osaengr.com



SCALE

Horizontal: 1"=40'
Vertical: 1"=5'

Contour Interval: N/A

DATE: JANUARY 2018
DESIGN BY: C.J./F.Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPVD. BY: J.L.A.
JOB No. 2081.001

PROJECT TITLE

**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE

**SANITARY SEWER
PLAN & PROFILE
LINE E**

SHEET NO.

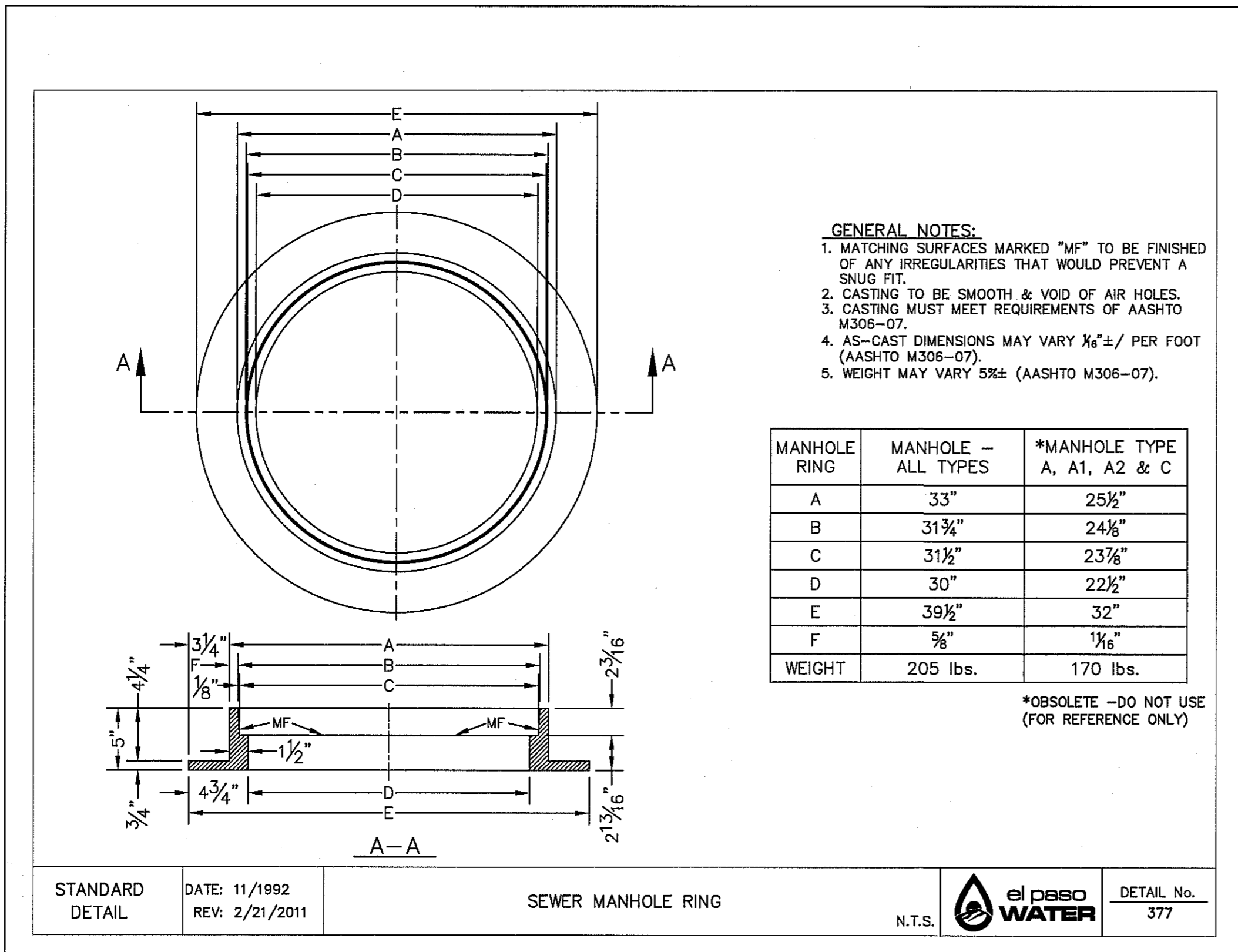
C13.6



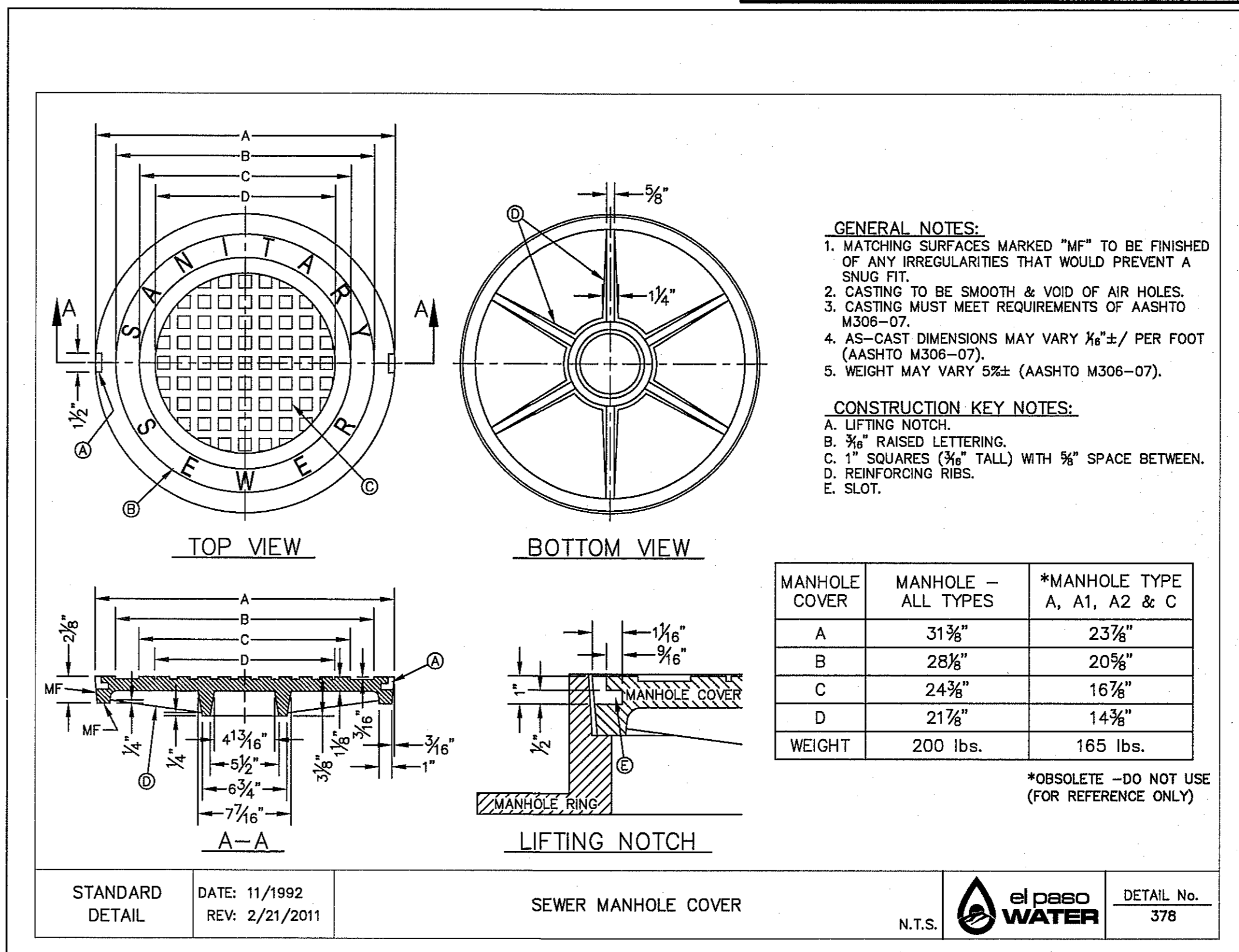
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT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

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

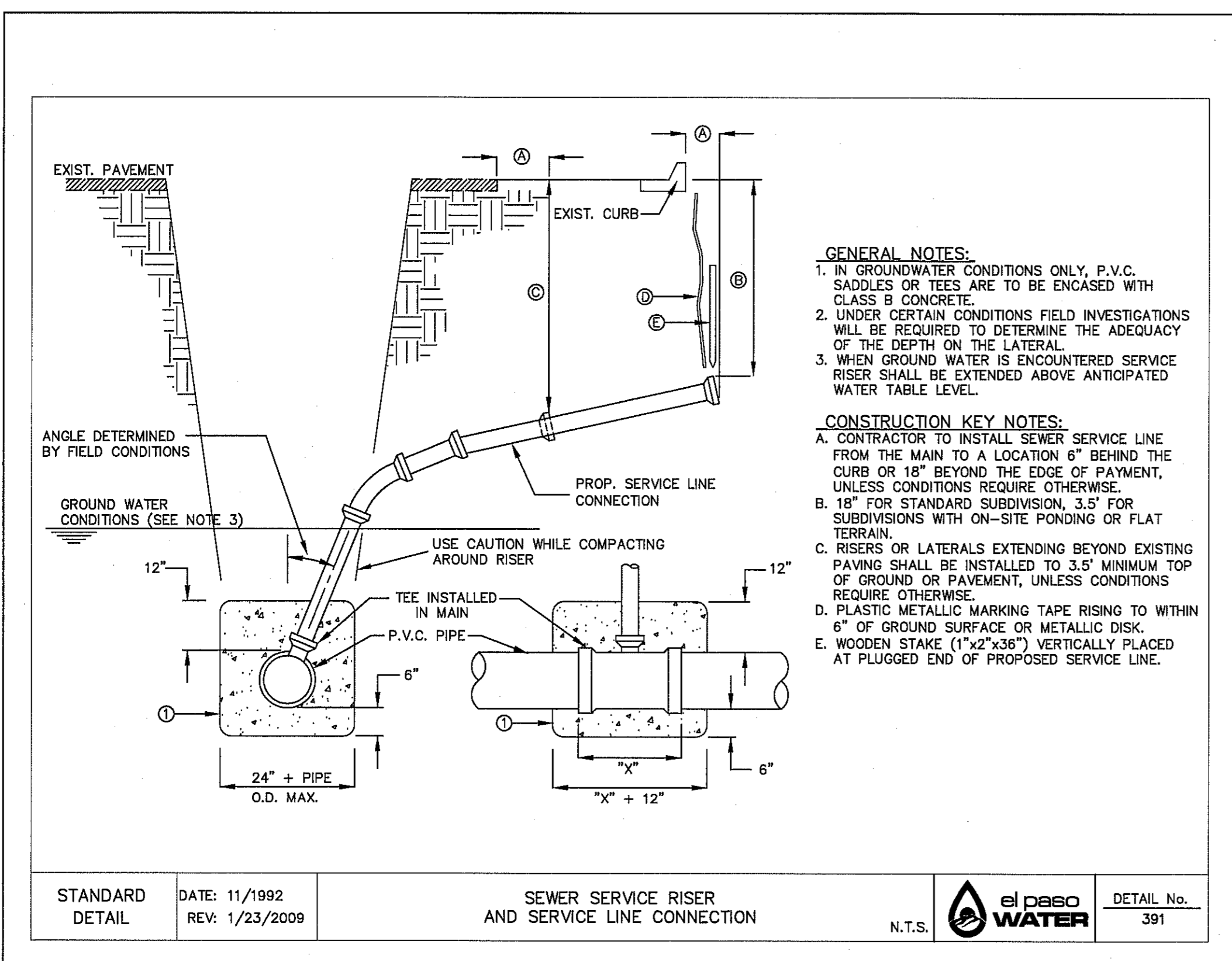
DATE	REVISIONS	BY



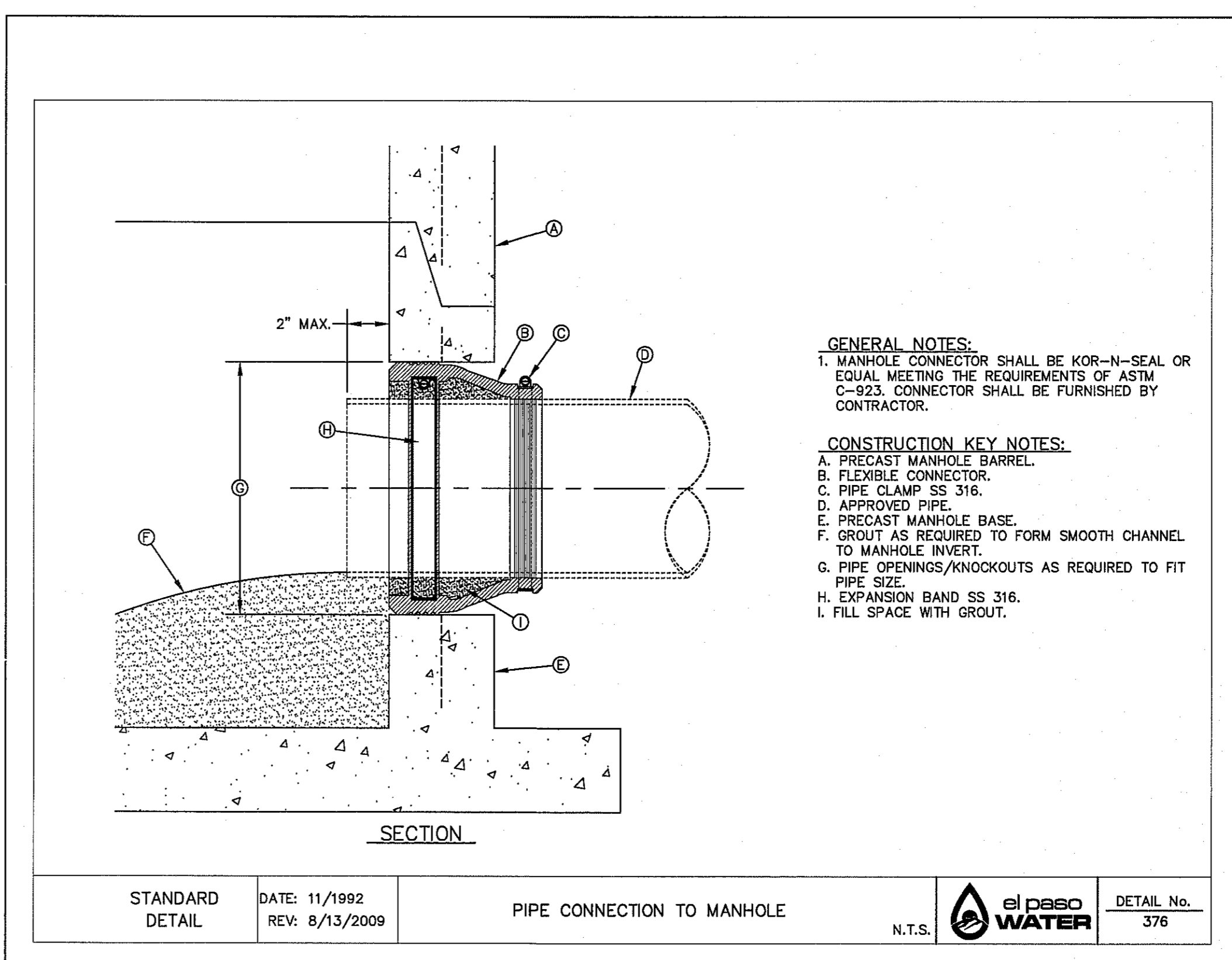
1 STANDARD MANHOLE RING
SCALE: N.T.S.



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



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



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

REFERENCES - BENCHMARKS
 FOUND N.C.S. SURVEY MARKER STAMPED "CHIOD 1980"
 ELEVATION: 3963.33 (CITY OF EL PASO VERTICAL DATUM SHOWN)
 ELEVATION: 3963.78 (NOD 29 DATUM)
 TIE TO THE PROJECT BENCHMARK IS N65°09'09" W, 4008.33'
 CORNER OF TRACT 10, BLOCK 1, MANLY SUBDIVISION, 253'
 DATE:

osca
 O S C A
 TEXAS REGISTERED ENGINEERING FIRM #4684
 4712 Woodrow Bear, Ste. F, El Paso, TX 79924
 916.544.5232 | www.oscagroup.net

ENGINEER'S SEAL
 SCALE: N/A
 Horizontal: N/A
 Vertical: N/A
 Contour Interval: N/A
 DATE: JANUARY 2018
 DESIGN BY: C.J.F.Z.
 DRAWN BY: A.C.
 CHKD. BY: J.L.A.
 APPVD. BY: J.L.A.
 JOB No. 2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
 SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
 DETAILS**

(SHEET 1 OF 3)
 SHEET NO.

C13.7

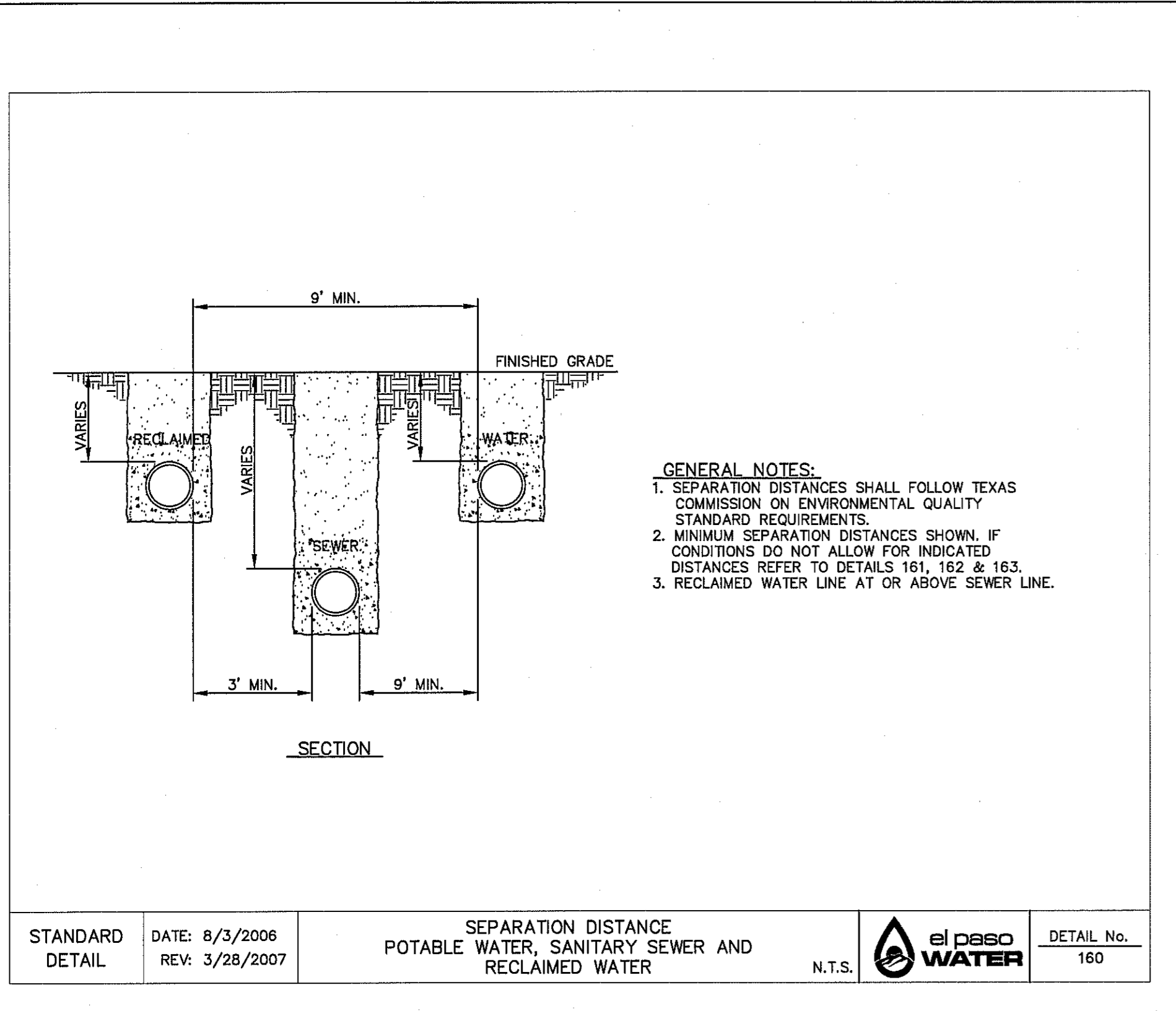


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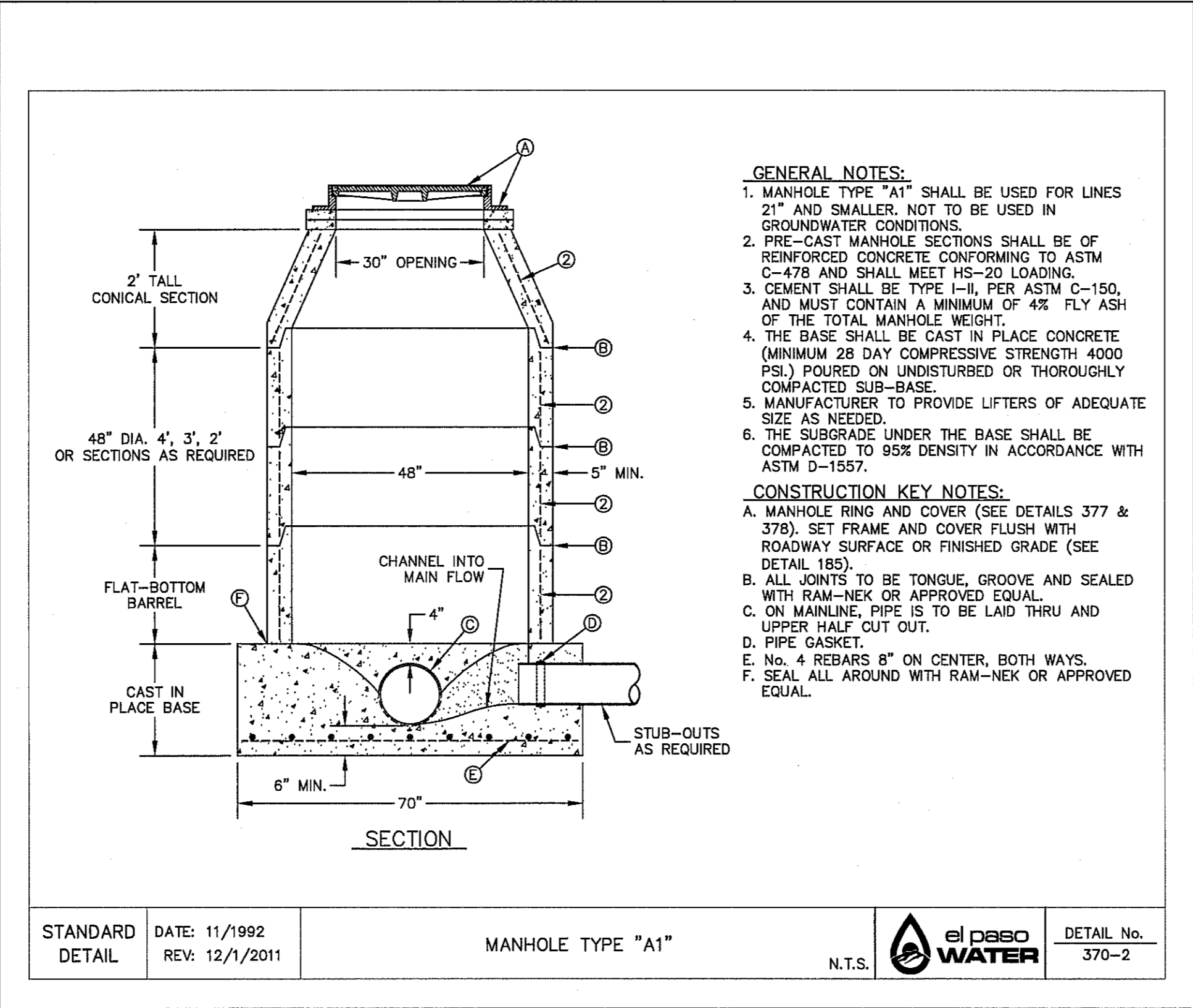
UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 496-5244
EL PASO WATER UTILITIES	(915) 594-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
A&T	(800) 852-3786
U.S. SPRINT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

WARNING!
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FOR FIELD LOCATING EXISTING UTILITIES

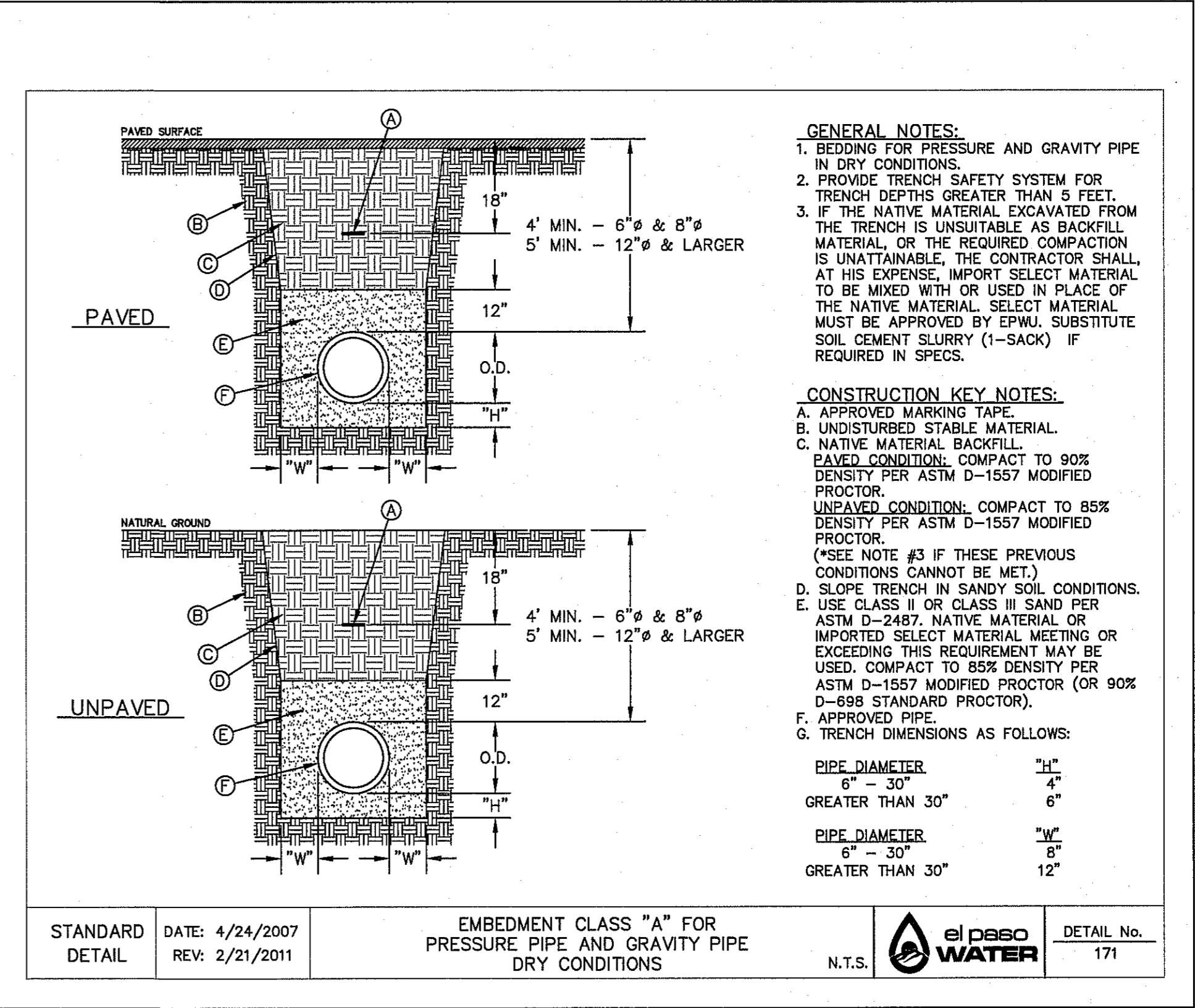
REFERENCES - BENCHMARKS	REVISIONS
FOUND N.G.S. SURVEY MARKER STAMPED "CHINO 1987" ELEVATION: 3946.11 (NAD 83 DATUM) TO THE PROJECT BENCHMARK IS 4008.83' CORNER OF TRACT 11, BELLE O. MANNY SURVEY, NO. 238	DATE



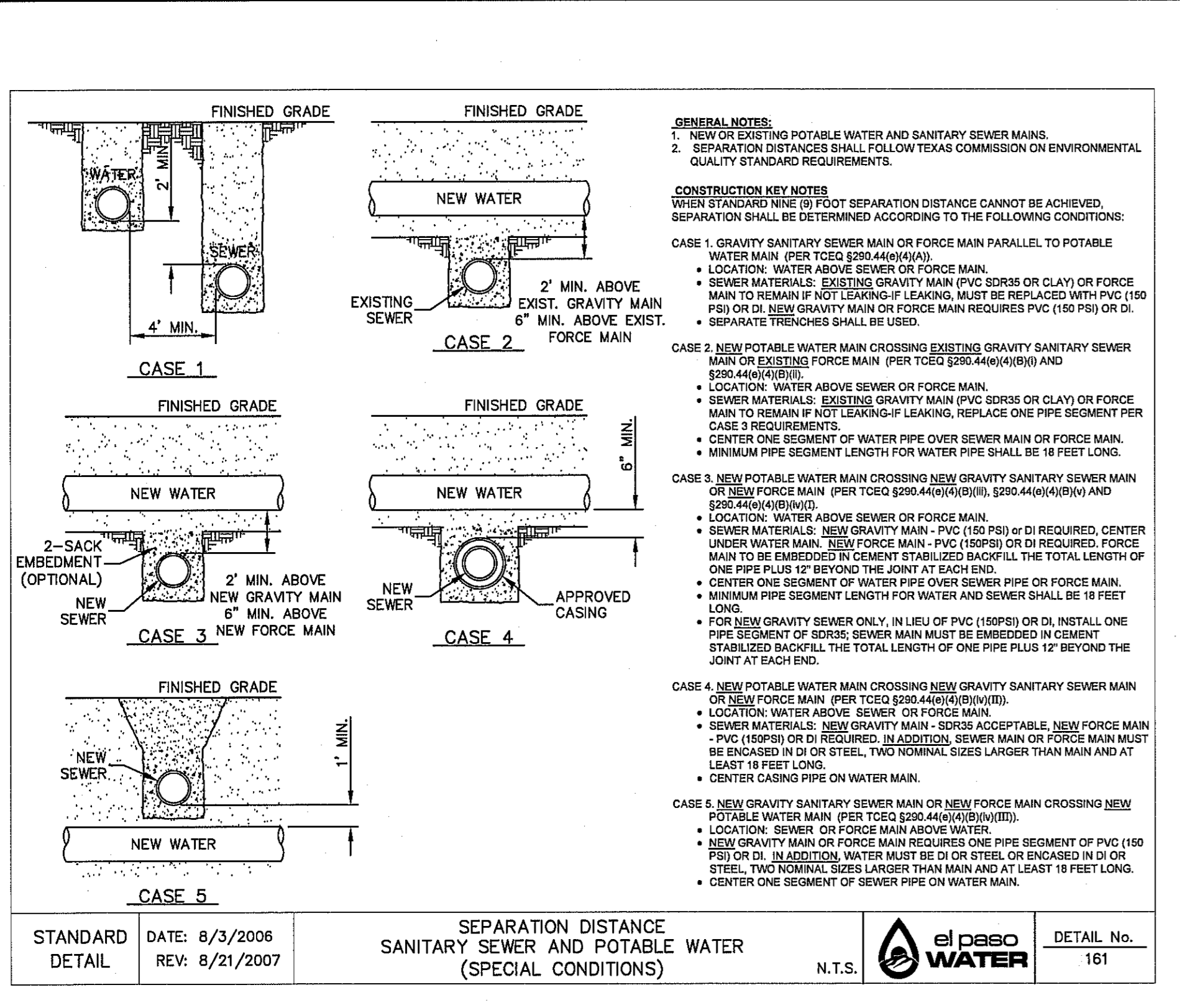
1 SEPARATION DISTANCE-POTABLE WATER, SANITARY SEWER AND RECLAIMED WATER SCALE: N.T.S.



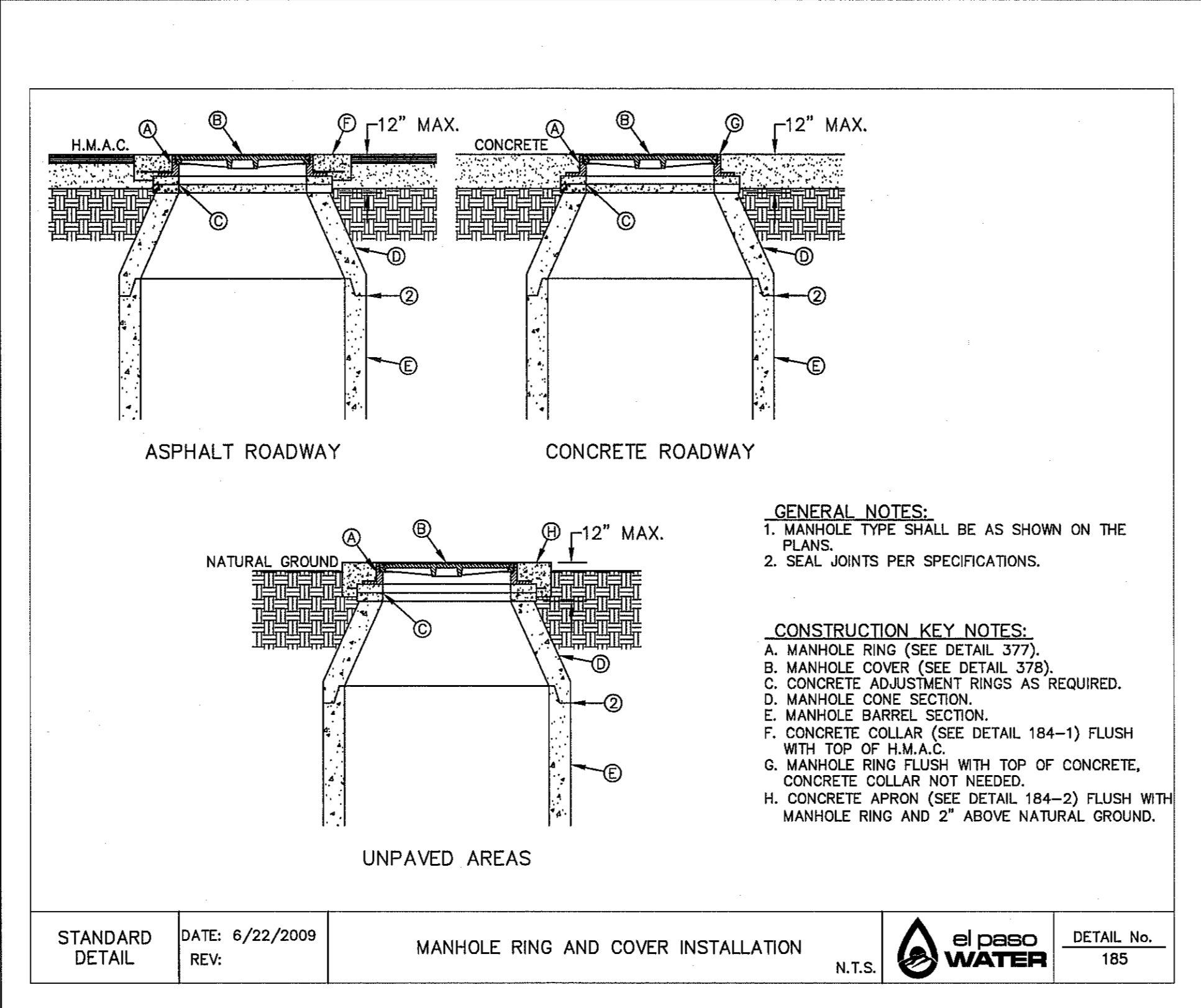
2 STANDARD MANHOLE TYPE "A1" SCALE: N.T.S.



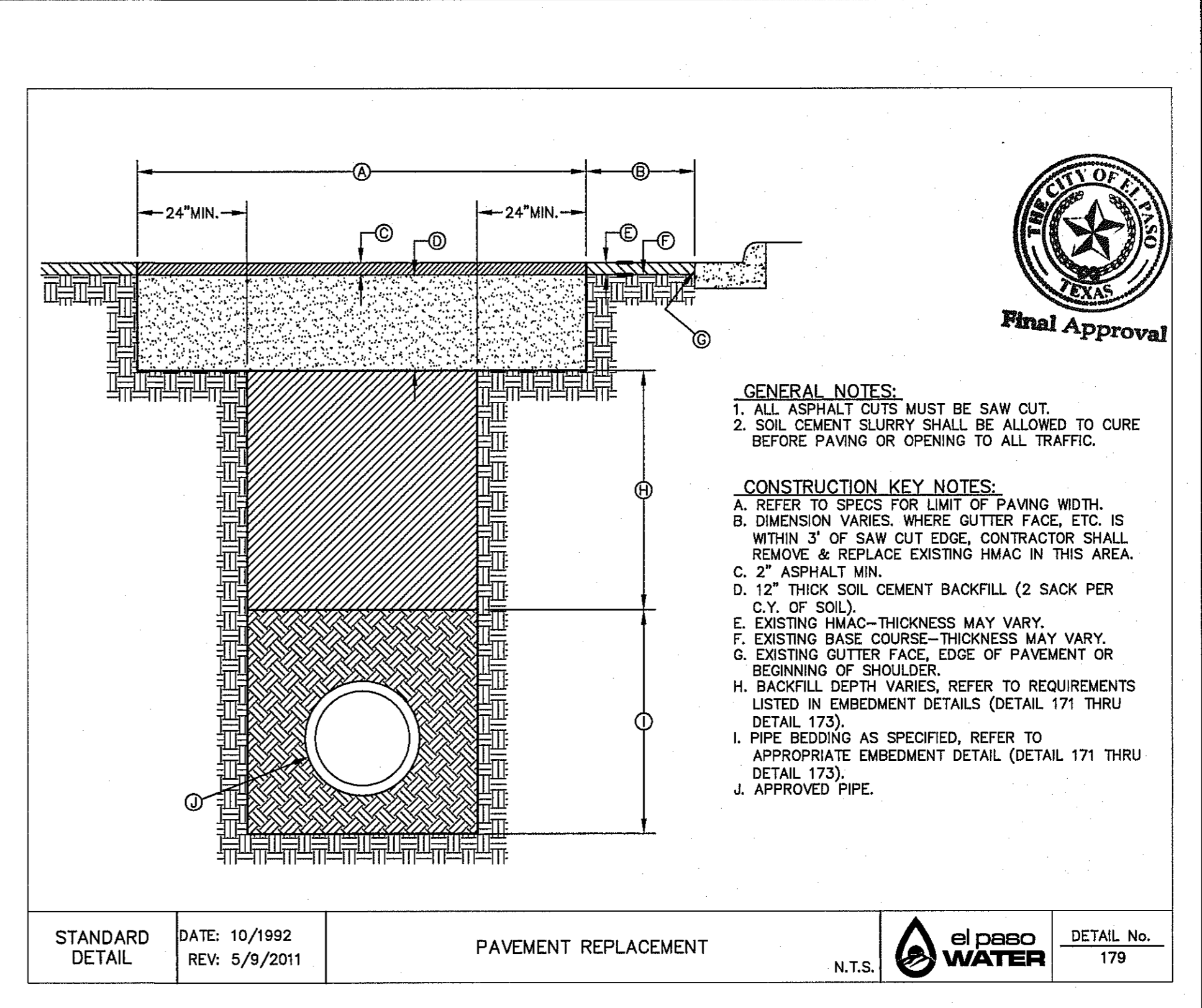
3 BEDDING CLASS "A" FOR P.V.C. PRESSURE PIPE SCALE: N.T.S.



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



5 STANDARD MANHOLE RING AND COVER INSTALLATION DETAIL SCALE: N.T.S.



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

DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS

SCALE: N.T.S.

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

DATE: JANUARY 2018
DESIGN BY: C.J.F./Z.
DRAWN BY: A.C.
CHKD. BY: J.L.A.
APPD. BY: J.L.A.
JOB NO.: 2051.001

ENGINEER'S SEAL

TEXAS REGISTERED ENGINEERING FIRM #1684
4717 Woodrow Began, Ste. F El Paso, TX 79904
915.544.5232 | www.osagroup.net

PROJECT TITLE

SHEET TITLE

SANITARY SEWER DETAILS

(SHEET 2 OF 3)

SHEET NO.

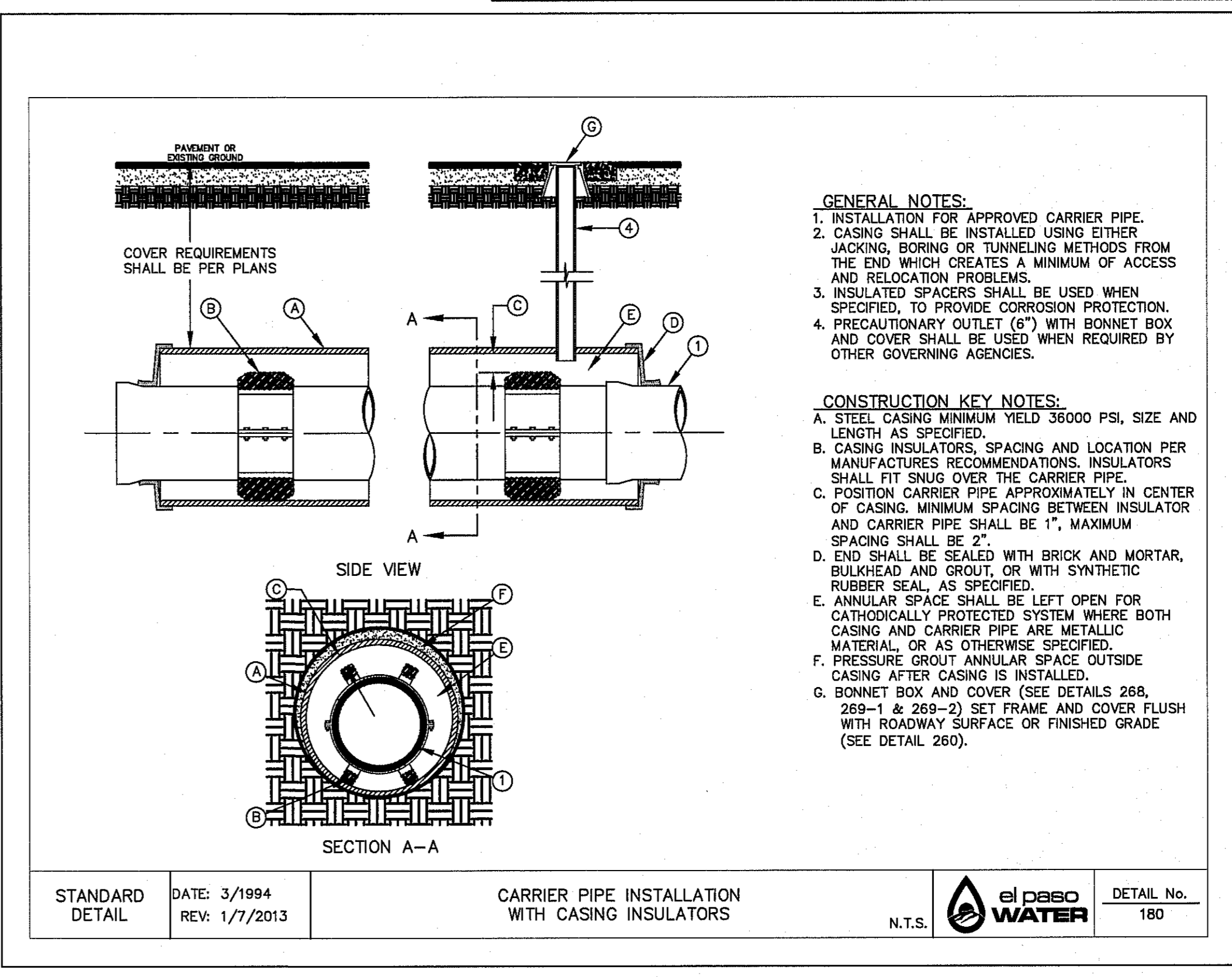
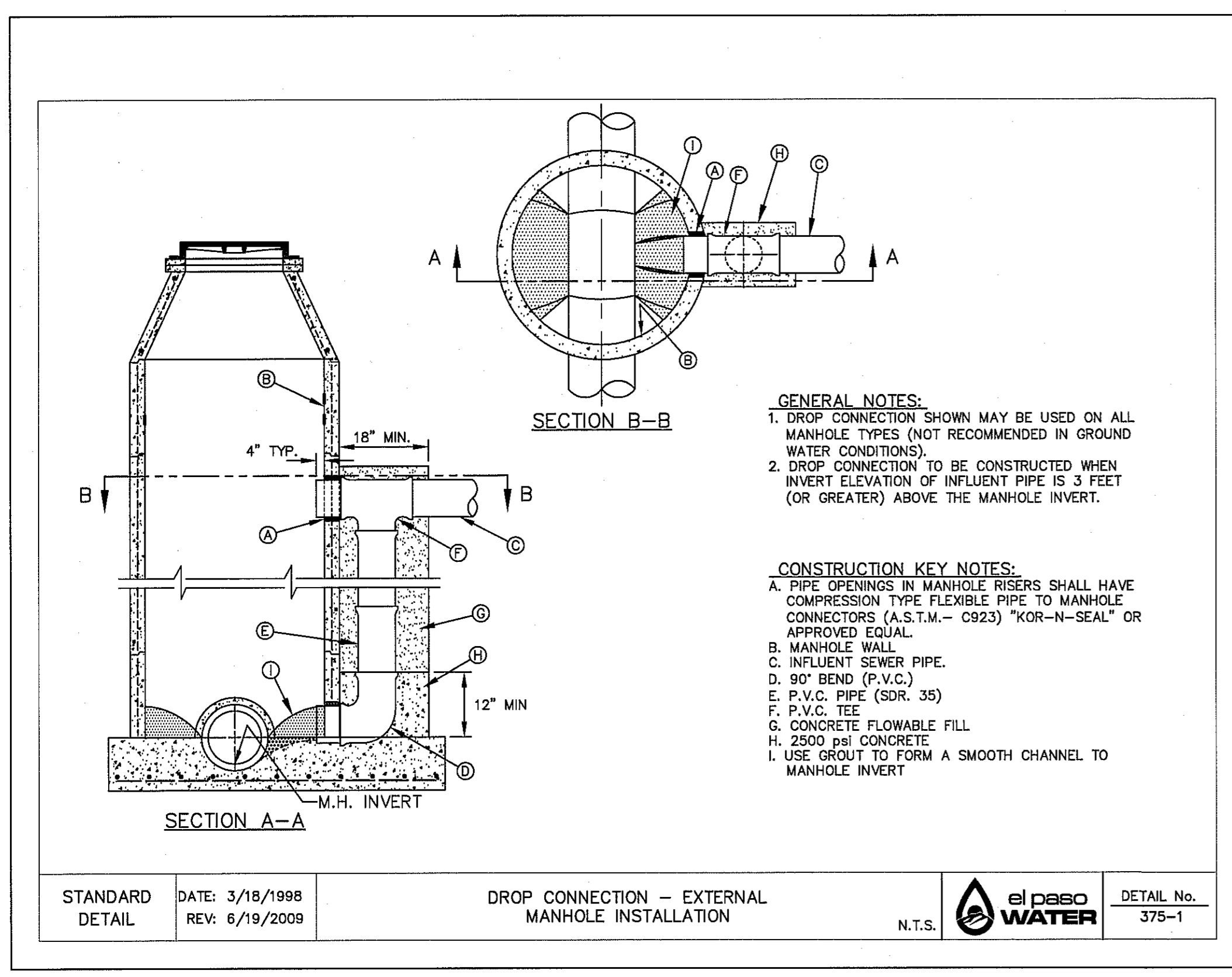
C13.8

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UTILITY LOCATOR SERVICES	
EL PASO ELECTRIC COMPANY	(915) 543-5720
EL PASO ENERGY CORPORATION	(915) 498-5244
EL PASO WATER UTILITIES	(915) 584-5500
MCI SURVEILLANCE	(800) MCI-WORK
TIME WARNER COMMUNICATIONS	(915) 772-1123
TEXAS GAS SERVICE	(915) 680-7200
SBC	(800) 545-6005
AT&T	(800) 852-3786
U.S. SPRINT TELECOMM	(800) 521-0579

WARNING!
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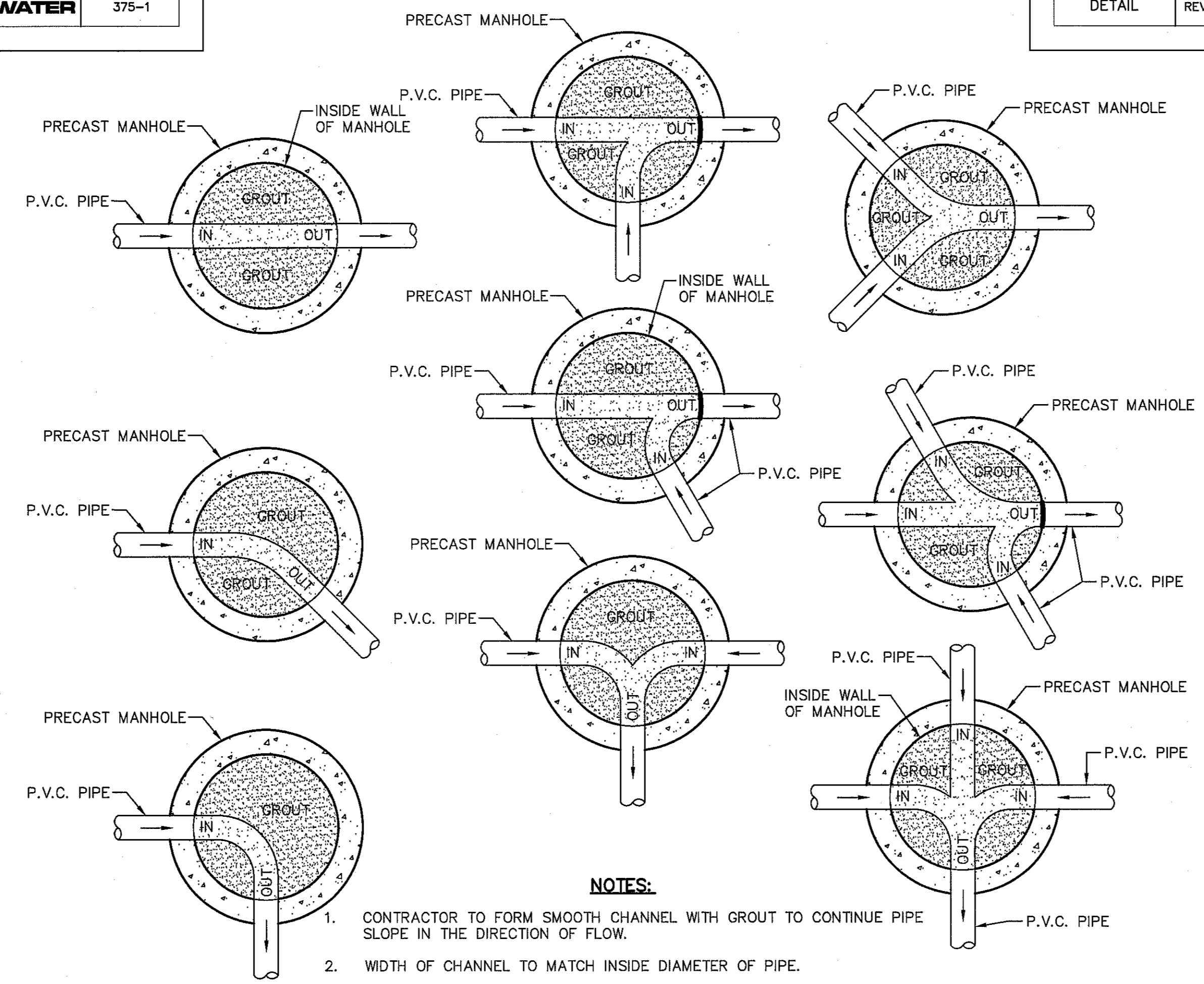
DATE	REVISIONS	BY



- GENERAL NOTES:**
- INSTALLATION FOR APPROVED CARRIER PIPE.
 - CASING SHALL BE INSTALLED USING EITHER JACKING, BORING OR TUNNELING METHODS FROM THE END WHICH CREATES A MINIMUM OF ACCESS AND RELOCATION PROBLEMS.
 - INSULATED SPACERS SHALL BE USED WHEN SPECIFIED, TO PROVIDE CORROSION PROTECTION.
 - PRECAUTIONARY OUTLET (6") WITH BONNET BOX AND COVER SHALL BE USED WHEN REQUIRED BY OTHER GOVERNING AGENCIES.
- CONSTRUCTION KEY NOTES:**
- STEEL CASING MINIMUM YIELD 36000 PSI, SIZE AND LENGTH AS SPECIFIED.
 - CASING INSULATORS, SPACING AND LOCATION PER MANUFACTURER'S RECOMMENDATIONS. INSULATORS SHALL FIT SNUG OVER THE CARRIER PIPE.
 - POSITION CARRIER PIPE APPROXIMATELY IN CENTER OF CASING. MINIMUM SPACING BETWEEN INSULATOR AND CARRIER PIPE SHALL BE 1", MAXIMUM SPACING SHALL BE 2".
 - END SHALL BE SEALED WITH BRICK AND MORTAR, BULKHEAD AND GROUT, OR WITH SYNTHETIC RUBBER SEAL, AS SPECIFIED.
 - ANNULAR SPACE SHALL BE LEFT OPEN FOR CATHODICALLY PROTECTED SYSTEM WHERE BOTH CASING AND CARRIER PIPE ARE METALLIC MATERIAL, OR AS OTHERWISE SPECIFIED.
 - PRESSURE GROUT ANNULAR SPACE OUTSIDE CASING AFTER CASING IS INSTALLED.
 - BONNET BOX AND COVER (SEE DETAILS 268, 269-1 & 269-2) SET FRAME AND COVER FLUSH WITH ROADWAY SURFACE OR FINISHED GRADE (SEE DETAIL 260).

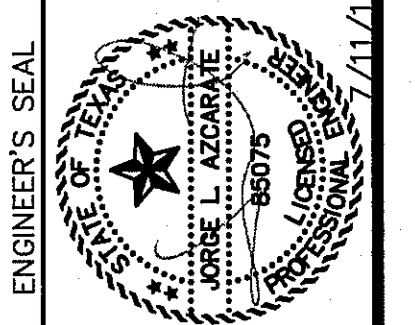
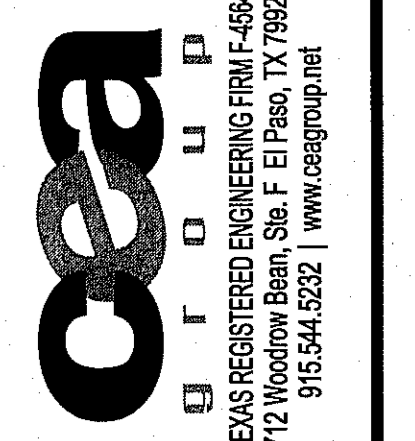
1 DROP CONNECTION MANHOLE
SCALE: N.T.S.

2 STEEL CASING PIPE
SCALE: N.T.S.



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

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



SCALE	N/A
Horizontal	N/A
Vertical	N/A
Contour Interval	N/A
DATE	JANUARY 2018
DESIGN BY	C.J.F.Z.
DRAWN BY	A.C.
CHKD. BY	J.L.A.
APPVD. BY	J.L.A.
JOB No.	2051.001

PROJECT TITLE
**DESERT SPRINGS UNIT FIVE
SUBDIVISION IMPROVEMENTS**

SHEET TITLE
**SANITARY SEWER
DETAILS**
(SHEET 3 OF 3)
SHEET NO.



C13.9

S:\2051\2051-001-Desert Springs Unit 5\DWG5\Construction Drawings\Improvement Plans\2051001_C13.7-C13.9_DTL5_S5NR.dwg, 7/11/2018 10:19:01 AM