

ENCHANTED HILLS UNIT TWO

ENCHANTED HILLS UNIT TWO

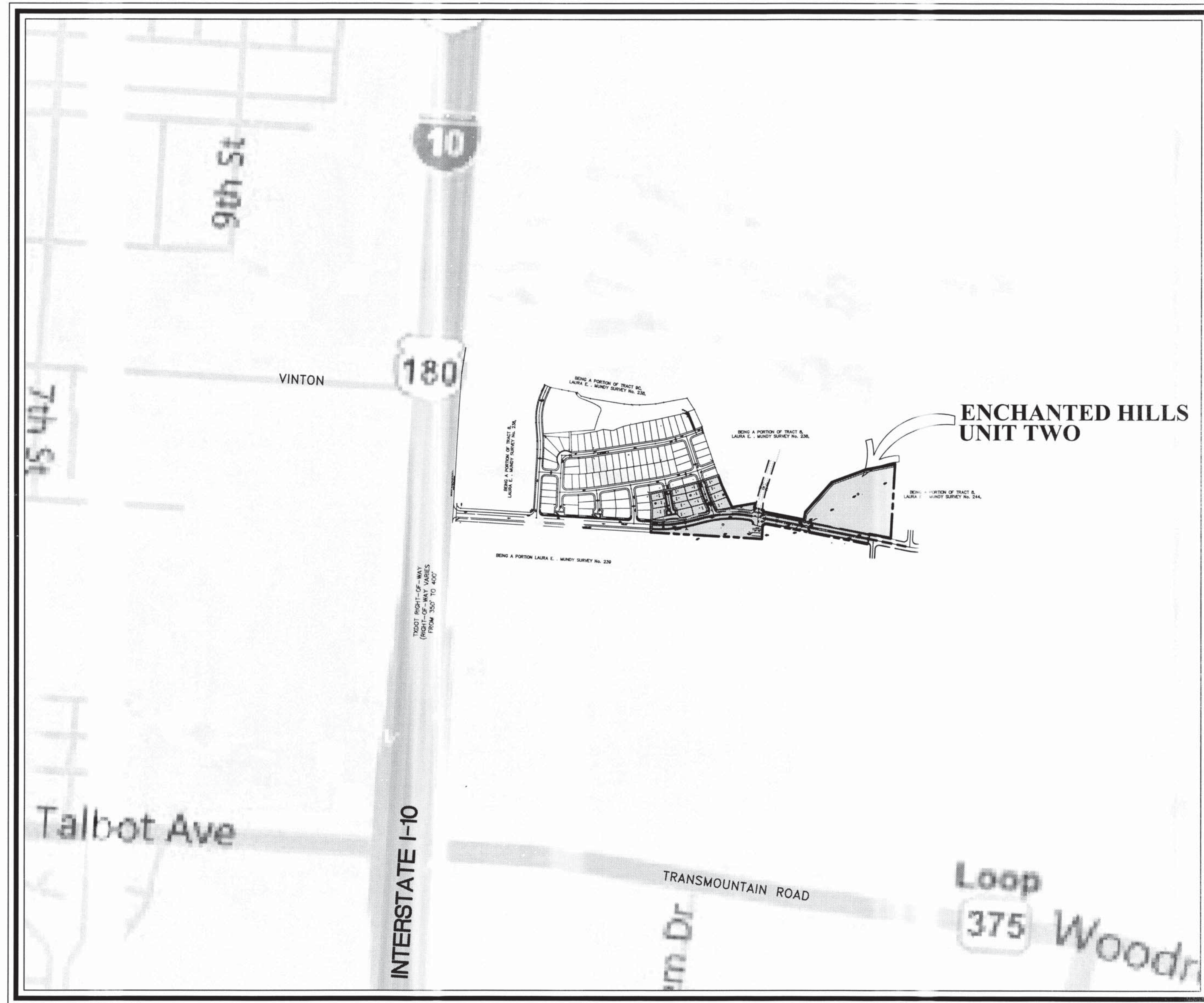
BEING A PORTION OF TRACT 8, LAURA E. MUNDY SURVEY
No. 238, CITY OF EL PASO, EL PASO COUNTY, TEXAS
CONTAINING IN ALL 579,481.63 sq. ft. OR
13.3031 acres OF LAND MORE OR LESS



LOCATION MAP

SCALE 1" = 600'

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**ENGINEERING & CONSTRUCTION
MANAGEMENT DEPARTMENT**
SITE PLAN REVIEW
Reviewed For Conformance For Conditions Related To:

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

Contractors Must Call 24 Hours Prior To Construction for Inspection
BY: *[Signature]* DATE: 12/19/2012

VICINITY MAP

	NAME	ADDRESS	CITY & ZIP	PHTWO	FAX
OWNER:	E.P. TRANSMOUNTAIN RESIDENTIAL L.L.C.	6080 Surety Drive, Suite 300	EL PASO, TEXAS 79902	915-533-1418	915-533-4972
ENGINEER:	BRADLEY ROE, P.E. 31886	601 N. COTTON STREET, SUITE 6	EL PASO, TEXAS 79902	915-533-1418	915-533-4972
SURVEYOR:	BRADLEY ROE, P.R.L.S. 2449	601 N. COTTON STREET, SUITE 6	EL PASO, TEXAS 79902	915-533-1418	915-533-4972

brnpe **Roe Engineering, L.C.**
801 N. Cotton St. Suite No. 6 El Paso, Tx, 79902
(915) 533-1418 FAX: (915) 533-4972
e-mail: roeeng@swbell.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

STREET IMPROVEMENT PACKAGE

[Signature] **BRADLEY ROE, P.E. 31886** *6 Dec 2012*
DATE

[Signature] **BRADLEY ROE, P.E. 31886** *6 Dec 2012*
DATE

ENCHANTED HILLS UNIT TWO COVER SHEET				
DATE PREPARED	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
REVISION NUMBER	SHEET NAME OR NUMBER	DESCRIPTION OF REVISION	DATE OF REVISION	REVISION APPROVED BY

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ENCHANTED HILLS UNIT TWO

BEING A PORTION OF TRACT 8, LAURA E. MUNDY SURVEY No. 238, CITY OF EL PASO, EL PASO COUNTY, TEXAS CONTAINING IN ALL 579,481.32 sq. ft. OR 13.3031 acres OF LAND MORE OR LESS

OWNER'S DEDICATION, CERTIFICATION

STATE OF TEXAS
COUNTY OF EL PASO

I DOUGLAS A. SCHWARTZ, MANAGER OF E.P. TRANSMOUNTAIN RESIDENTIAL, L.L.C., PROPERTY OWNER(S) OF THIS LAND HEREBY PRESENT THIS MAP AND DEDICATE TO THE USE OF THE PUBLIC THE STREET RIGHT-OF-WAYS, PUBLIC DRAINAGE / OPEN SPACE, PUBLIC BIKE/HIKE OPEN SPACE AND RIGHT-OF-WAYS, PUBLIC DRAINAGE EASEMENTS AND UTILITY EASEMENTS AS HEREON LAID DOWN AND DESIGNATED, INCLUDING EASEMENTS FOR OVERHANG OF SERVICE WIRES FOR POLE TYPE UTILITIES, AND 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.

E.P. TRANSMOUNTAIN RESIDENTIAL, L.L.C.

BY: 
DOUGLAS A. SCHWARTZ, MANAGER

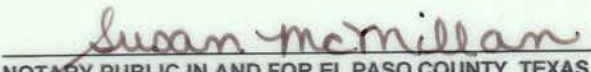
ACKNOWLEDGMENT

STATE OF TEXAS
COUNTY OF EL PASO

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED DOUGLAS A. SCHWARTZ, MANAGER OF E.P. TRANSMOUNTAIN RESIDENTIAL, L.L.C., KNOWN BY ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATIONS THEREIN STATED.


GIVEN UNDER MY HAND AND SEAL THIS 14th DAY OF December, 2012 A.D.



SUSAN McMILLAN
NOTARY PUBLIC
My Commission Expires MARCH 18, 2013


SUSAN McMILLAN
NOTARY PUBLIC IN AND FOR EL PASO COUNTY, TEXAS
MY COMMISSION EXPIRES 3-18-13

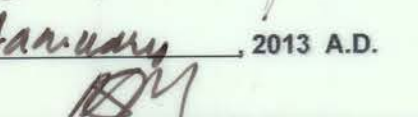
CITY PLAN COMMISSION

THIS SUBDIVISION IS HEREBY APPROVED AS TO THE PLATTING AND AS TO THE CONDITIONS OF THE DEDICATION IN ACCORDANCE WITH CHAPTER 212 OF THE LOCAL GOVERNMENT CODE OF TEXAS THIS 14th DAY OF December, 2012 A.D.

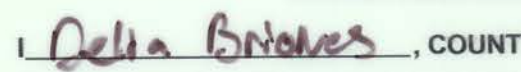

EXECUTIVE SECRETARY


CHAIRPERSON

APPROVED FOR FILING THIS 14th DAY OF January, 2013 A.D.


CITY DEVELOPMENT DIRECTOR

COUNTY CLERK'S RECORDING CERTIFICATE

I,  DELLA BRIONES, COUNTY CLERK OF EL PASO COUNTY, CERTIFY THAT THE PLAT BEARING THIS CERTIFICATE WAS FILED AND RECORDED UNDER THE INSTRUMENT NO. 2012 002 9267 IN THE PLAT RECORDS OF THE EL PASO COUNTY.


COUNTY CLERK: 
DEPUTY: 

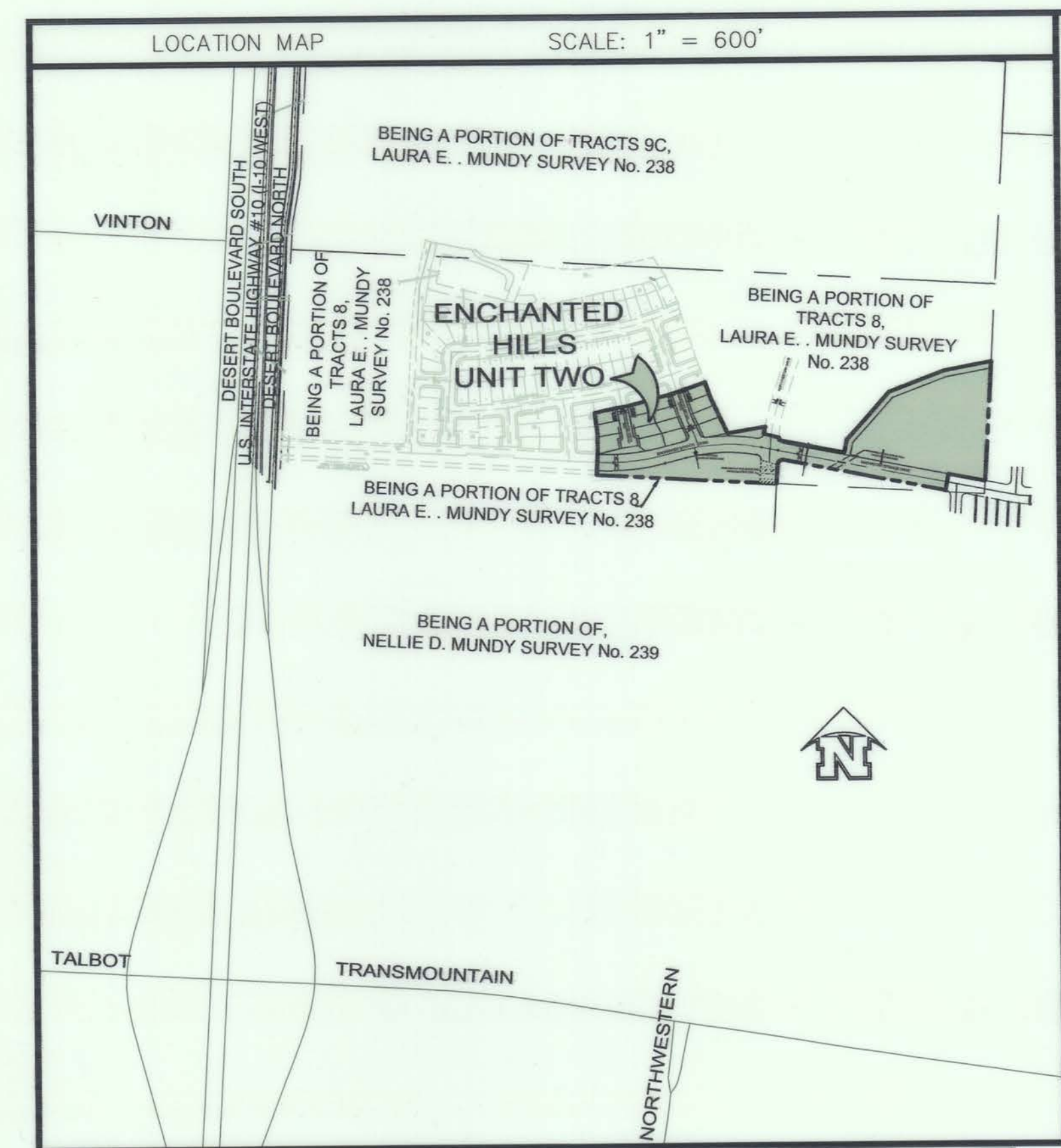
DATE: 5/14/2015

I HEREBY CERTIFY THAT THIS PLAT REPRESENTS A SURVEY MADE ON THE GROUND UNDER MY SUPERVISION AND IS IN COMPLIANCE WITH THE CURRENT TEXAS BOARD OF PROFESSIONAL LAND SURVEYING, PROFESSIONAL AND TECHNICAL STANDARDS, REGISTERED PUBLIC LAND SURVEYOR No. 2449


BRADLEY ROE, R.P.L.S. 2449

PREPARED BY AND UNDER THE SUPERVISION OF BRADLEY ROE, REGISTERED PROFESSIONAL ENGINEER No. 31886


BRADLEY ROE, P.E. 31886
ROE ENGINEERING, L.C.
TEXAS REGISTERED
ENGINEERING FIRM F-2103



- NOTES:
- SUBDIVISION TO BE SERVICED BY THE U.S. POSTAL SERVICE. ANY ALTERNATE AND/OR ADDITIONAL NODBU LOCATION IS TO BE COORDINATED WITH THE GROWTH MANAGEMENT DIVISION OF THE U.S. POSTAL SERVICE.
 - SIDEWALKS FOR ALL STREETS WITHIN AND ABUTTING THIS SUBDIVISION WILL BE PROVIDED BY BUILDER AND DEVELOPER (SEE STREET IMPROVEMENT PLANS).
 - TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORDS SECTION, INSTRUMENT NO. 2012 002 9267, DATE 1-14-2013.
 - RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORDS SECTION, INSTRUMENT NO. 2012 002 9267, DATE 1-14-2013.
 - THE ABOVE REFERENCED PROPERTY IS WITHIN ZONES "A1", "A2" and "C" EXPLANATION ZONES "A1" AND "A2" AREAS OF 100-YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS DETERMINED. NONE OF THE RESIDENTIAL LOTS ARE WITHIN ZONE "A1" OR "A2". EXPLANATION ZONE "C" AREA OF MINIMAL FLOODING AND ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANELS NO. 480214 0011 C AND 480214 0012C, DATED FEBRUARY 5, 1986.
 - VEHICULAR ACCESS TO LOT 7, BLOCK 7, ABUTTING ENCHANTED SPRINGS DRIVE SHALL BE FROM ENCHANTED CREEK WAY. VEHICULAR ACCESS TO LOT 8, BLOCK 7, AND LOT 9, BLOCK 8 ABUTTING ENCHANTED SPRINGS DRIVE SHALL BE FROM ENCHANTED BROOK DRIVE. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN EL PASO COUNTY CLERKS OFFICE, INSTRUMENT NO. _____, DATE _____.
 - THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO ENCHANTED HILLS UNIT TWO BY THE EL PASO 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 DESERT SPRINGS DRIVE. AND WILL BE CONSTRUCTED TO SERVE THIS SUBDIVISION WITHIN TWO (2) YEARS OF DATE OF THE FILING OF THIS PLAT.
 - THIS SUBDIVISION LIES WITHIN CANUTILLO INDEPENDENT SCHOOL DISTRICT.

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	992.93	34.49'	17.25'	34.49'	S 10°25'59" W	1°59'24"
C2	25.00	12.61'	6.44'	12.48'	S 12°01'31" E	28°54'09"
C3	25.00	42.65'	28.64'	37.67'	S 52°12'31" W	97°45'23"
C4	3723.53	50.10'	25.05'	50.10'	N 11°53'30" W	0°46'15"
C5	3723.53	169.45'	84.74'	169.44'	N 10°12'09" W	2°36'27"
C6	472.10	89.73'	45.00'	89.59'	S 23°52'49" E	10°53'24"
C7	260.54	82.81'	41.76'	82.46'	N 20°13'11" W	18°12'40"
C8	995.64	308.93'	154.69'	305.72'	N 84°28'54" E	17°39'46"
C9	800.00	68.57'	34.31'	68.55'	S 78°07'21" W	4°54'40"
C10	800.00	286.21'	144.65'	284.69'	N 89°02'21" W	20°29'54"
C11	773.05	52.00'	26.01'	51.99'	S 05°15'27" W	3°51'15"
C12	3697.53	58.12'	29.06'	58.12'	S 11°04'34" E	0°34'02"
C13	3697.53	58.21'	29.10'	58.21'	S 10°10'29" E	0°34'02"
C14	3697.53	25.00'	12.50'	25.00'	S 09°31'49" E	0°23'15"
C15	10.00	15.83'	10.13'	14.23'	S 36°01'15" W	90°42'53"
C16	957.64	221.27'	111.13'	220.78'	S 86°42'38" W	1°31'49"
C17	3749.53	50.00'	25.00'	50.00'	N 11°06'15" W	0°45'51"
C18	3749.53	55.00'	27.50'	55.00'	N 10°18'08" W	0°50'26"
C19	3749.53	36.57'	18.28'	36.57'	N 09°36'08" W	0°33'32"
C20	10.00	15.99'	9.89'	14.06'	N 53°58'20" W	89°12'56"
C21	957.64	73.95'	36.99'	73.93'	S 77°52'45" W	4°25'27"
C22	838.00	17.47'	8.73'	17.47'	S 76°15'51" W	1°11'39"
C23	20.00	36.17'	25.42'	31.44'	S 25°03'24" W	103°36'33"
C24	234.54	10.55'	5.28'	10.55'	S 28°02'12" E	2°34'39"
C25	498.10	29.11'	14.56'	29.10'	S 27°39'04" E	3°20'54"
C26	498.10	55.03'	27.54'	55.00'	S 22°48'44" E	6°19'47"
C27	498.10	10.53'	5.27'	10.53'	S 19°02'29" E	1°12'42"
C28	446.10	18.09'	9.05'	18.09'	N 19°35'50" W	2°19'25"
C29	446.10	56.37'	28.22'	56.33'	N 24°22'43" W	7°14'22"
C30	446.10	10.33'	5.17'	10.33'	N 28°39'43" W	1°19'37"
C31	286.54	38.50'	19.28'	38.48'	N 25°28'32" W	7°41'58"
C32	20.00	26.24'	15.40'	24.40'	N 59°12'54" W	75°10'42"
C33	992.93	34.49'	17.25'	34.48'	S 10°25'59" W	1°59'24"
C34	25.00	39.43'	25.16'	35.47'	S 54°37'11" W	90°21'48"
C35	838.00	242.87'	122.29'	242.02'	N 88°30'05" W	16°36'19"
C36	1033.64	318.64'	160.60'	317.38'	N 84°29'54" E	17°39'46"
C37	762.00	329.73'	167.49'	327.16'	N 88°03'49" E	24°47'35"
C38	25.00	36.16'	22.07'	33.09'	S 38°06'17" E	82°52'13"
C39	25.00	23.18'	12.50'	22.36'	S 52°21'50" E	53°07'48"

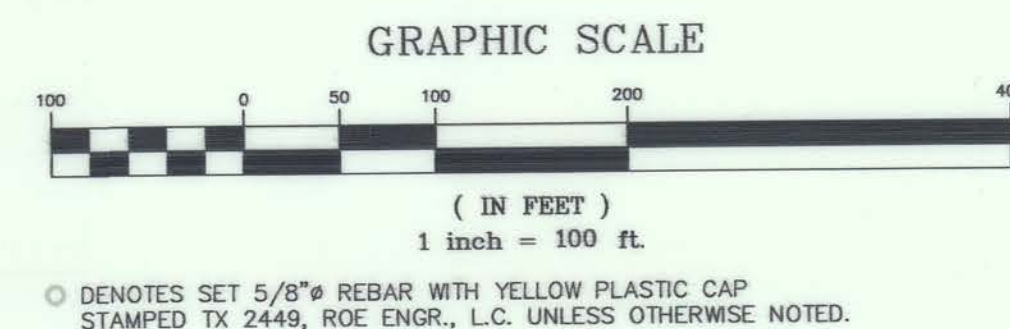
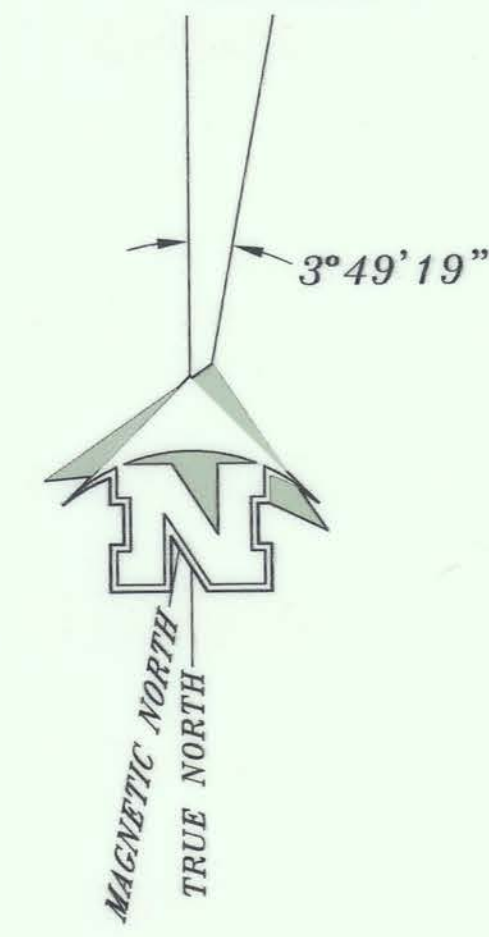
This property is subject to impact fees. Impact fees shall be calculated based on the table below:

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 prior to the time a building permit is issued if development is within the city limits or at the time of the meter connection if development is outside the city limits.

WESTSIDE SERVICE AREA			
METER SIZE	METER CAPACITY	WATER	WASTEWATER
LESS THAN 1 INCH	1.00	\$659.00	\$927.00
1 INCH	1.67	\$1,101.00	\$1,548.00
1 1/2 INCH	3.33	\$2,196.00	\$3,087.00
2 INCH	5.33	\$3,514.00	\$4,941.00
3 INCH	10.00	\$6,593.00	\$9,270.00
4 INCH	16.67	\$10,890.00	\$15,453.00
6 INCH	33.33	\$21,873.00	\$30,897.00
8 INCH	53.33	\$35,168.00	\$49,437.00
10 INCH	76.67	\$50,545.00	\$71,107.00
12 INCH	143.33	\$94,490.00	\$132,867.00

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

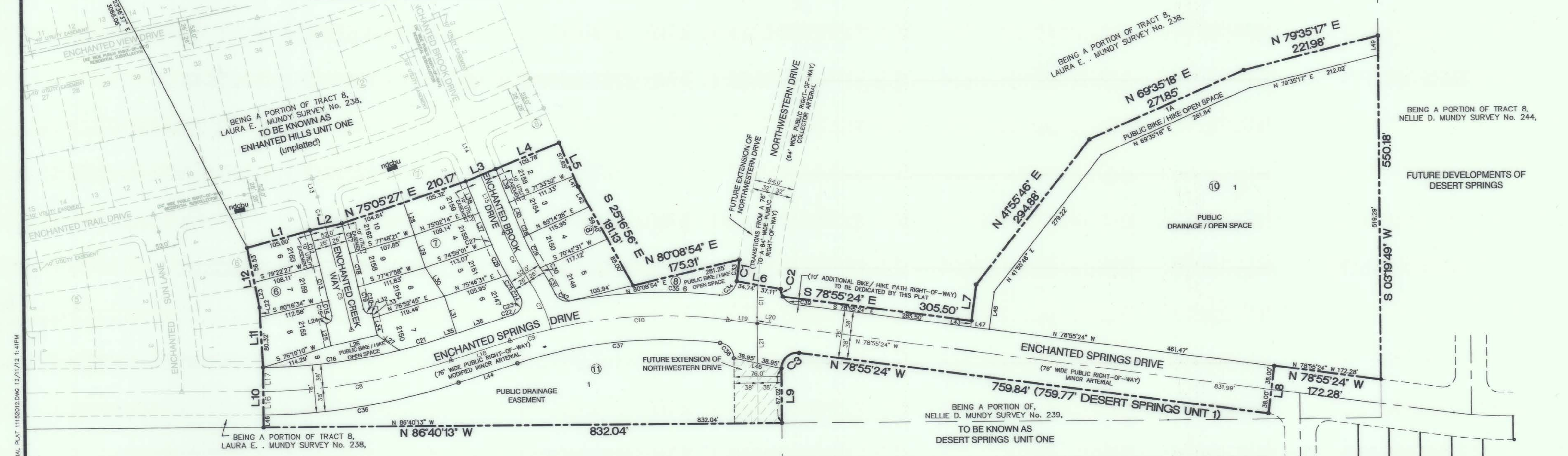
LINE TABLE					
LINE	BEARING	LENGTH	LINE BEARING		
L1	N 78°28'25" E	105.00'	L25	S 08°37'18" E	36.00'
L2	N 81°23'09" E	52.07'	L26	N 81°22'42" E	76.00'
L3	N 71°20'29" E	52.00'	L27	S 52°46'51" E	43.06'
L4	N 71°33'52" E	109.78'	L28	N 142°7'16" W	55.00'
L5	S 19°58'46" E	76.61'	L29	N 142°7'16" W	55.00'
L6	S 75°45'02" E	71.67'	L30	N 30°24'22" W	55.00'
L7	N 11°04'36" E	58.69'	L31	N 14°09'31" W	62.88'
L8	S 11°04'36" W	76.00'	L32	S 81°22'42" W	2.28'
L9	S 03°19'49" W	87.02'	L33	N 08°37'18" W	7.02'
L10	N 03°19'47" E	96.00'	L34	N 08°37'18" W	28.98'
L11	N 00°23'02" E	99.88'	L35	S 75°40'01" W	21.50'
L12	N 07°55'12" W	97.74'	L36	S 75°40'01" W	77.83'
L13	N 12°16'33" W	31.82'	L37	S 18°26'08" E	44.47'
L14	S 18°26'08" E	82.65'	L38	S 18°26'08" E	55.00'
L15	S 18°26'08" E	100.00'	L39	N 18°26'08" W	57.63'
L16	N 03°19'47" E	38.00'	L40	N 18°26'08" W	42.03'
L17	N 03°19'47" E	38.00'	L41	S 19°58'46" E	18.95'
L18	N 75°40'01" E	89.43'	L42	S 25°18'56" E	36.73'
L19	N 75°40'01" W	47.08'	L43	N 11°04'36" E	10.00'
L20	S 03°19'49" W	9.95'	L44	N 75°40'01" E	99.43'
L21	S 03°19'49" W	63.60'	L45	S 73°59'31" E	77.90'
L22	N 00°23'02" E	15.56'	L46	N 03°19'47" E	20.00'
L23	N 07°55'12" W	41.21'	L47	N 78°55'24" W	30.00'
L24	S 81°22'42" W	1.71'	L48	N 11°04'36" E	60.41'
			L49	S 03°19'49" W	30.88'



⊙ DENOTES SET 5/8" REBAR WITH YELLOW PLASTIC CAP STAMPED TX 2449, ROE ENGR., L.C. UNLESS OTHERWISE NOTED.

AREA TABLE		
BLOCK, LOT	SQUARE FOOTAGE	ACRES
BLOCK 6, LOT 6	5,108.25	0.1402
BLOCK 6, LOT 7	6,285.34	0.1443
BLOCK 6, LOT 8	8,423.15	0.1934
BLOCK 6, LOT 9	4,422.29	0.1015
BLOCK 7, LOT 3	5,892.13	0.1353
BLOCK 7, LOT 4	6,102.15	0.1401
BLOCK 7, LOT 5	5,850.97	0.1343
BLOCK 7, LOT 6	6,982.06	0.1603
BLOCK 7, LOT 7	7,206.03	0.1654
BLOCK 7, LOT 8	6,380.44	0.1465
BLOCK 7, LOT 9	6,033.49	0.1385
BLOCK 7, LOT 10	5,576.03	0.1280
BLOCK 8, LOT 2	6,371.88	0.1463
BLOCK 8, LOT 3	6,545.26	0.1503
BLOCK 8, LOT 4	6,752.20	0.1550
BLOCK 8, LOT 5	8,639.03	0.1983
BLOCK 8, LOT 6	5,882.59	0.1350
BLOCK 10, LOT 1	219,954.52	5.0494
BLOCK 10, LOT 1A	25,063.59	0.5754
BLOCK 11, LOT 1	70,208.58	1.6118

BEARING BASIS IS THE TEXAS STATE PLANE COORDINATES SYSTEM CENTRAL (4203) NGS MARKER "CHINO"
"NAD 83" 3195233.850002" (N)
"NAD 83" 1063435.516867" (E)
GRID NORTHING 10717710.8610
GRID EASTING 396774.9500
"NAVD 88" 3948.11



W.D. 0115009-1A (UNIT TWO)
PREPARATION DATE: APRIL 7, 2011
REVISED DATE: NOVEMBER 13, 2012 - CITY COMMENTS

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- LEGEND
- ▲ PROPOSED CITY MONUMENT
 - ◆ EXISTING CITY MONUMENT
 - nobu PROPOSED NODBU

Roe Engineering, L.C.
EL PASO, TEXAS

ENCHANTED HILLS UNIT TWO



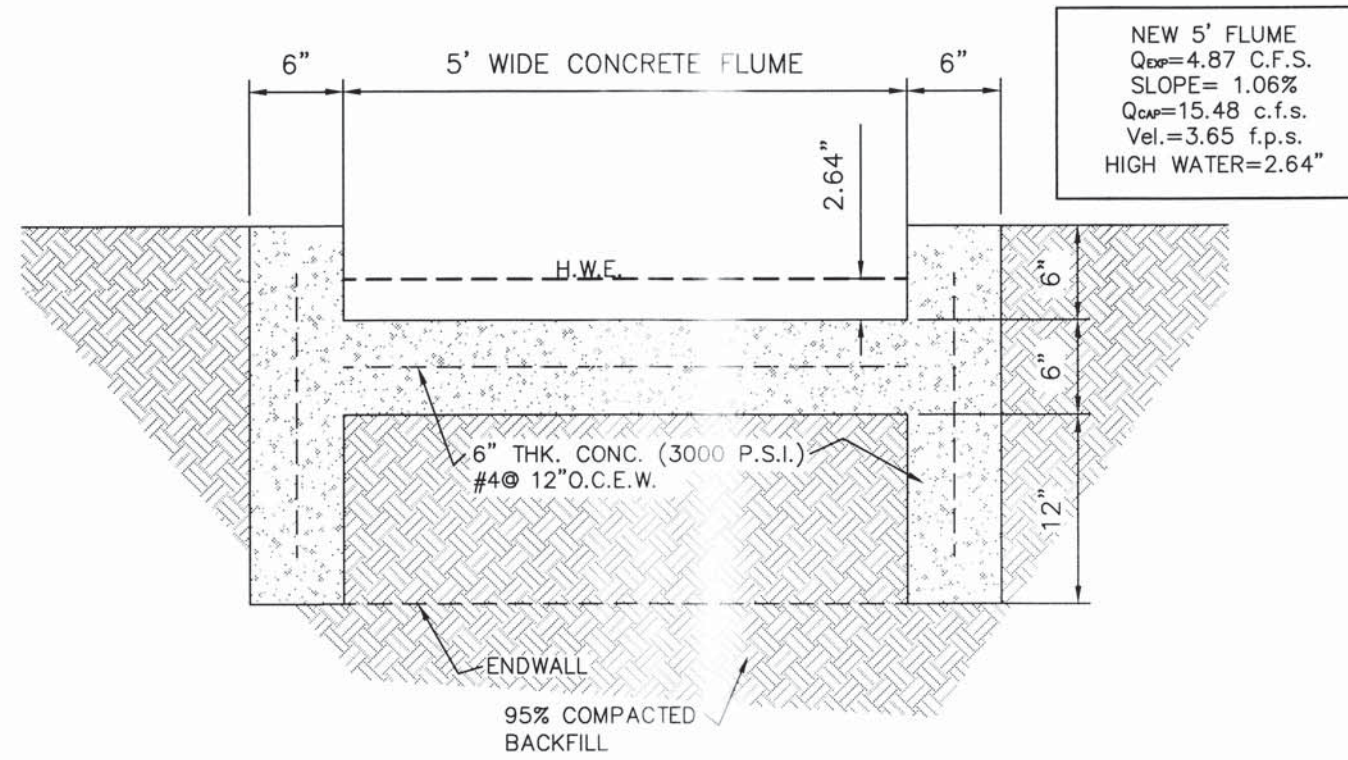
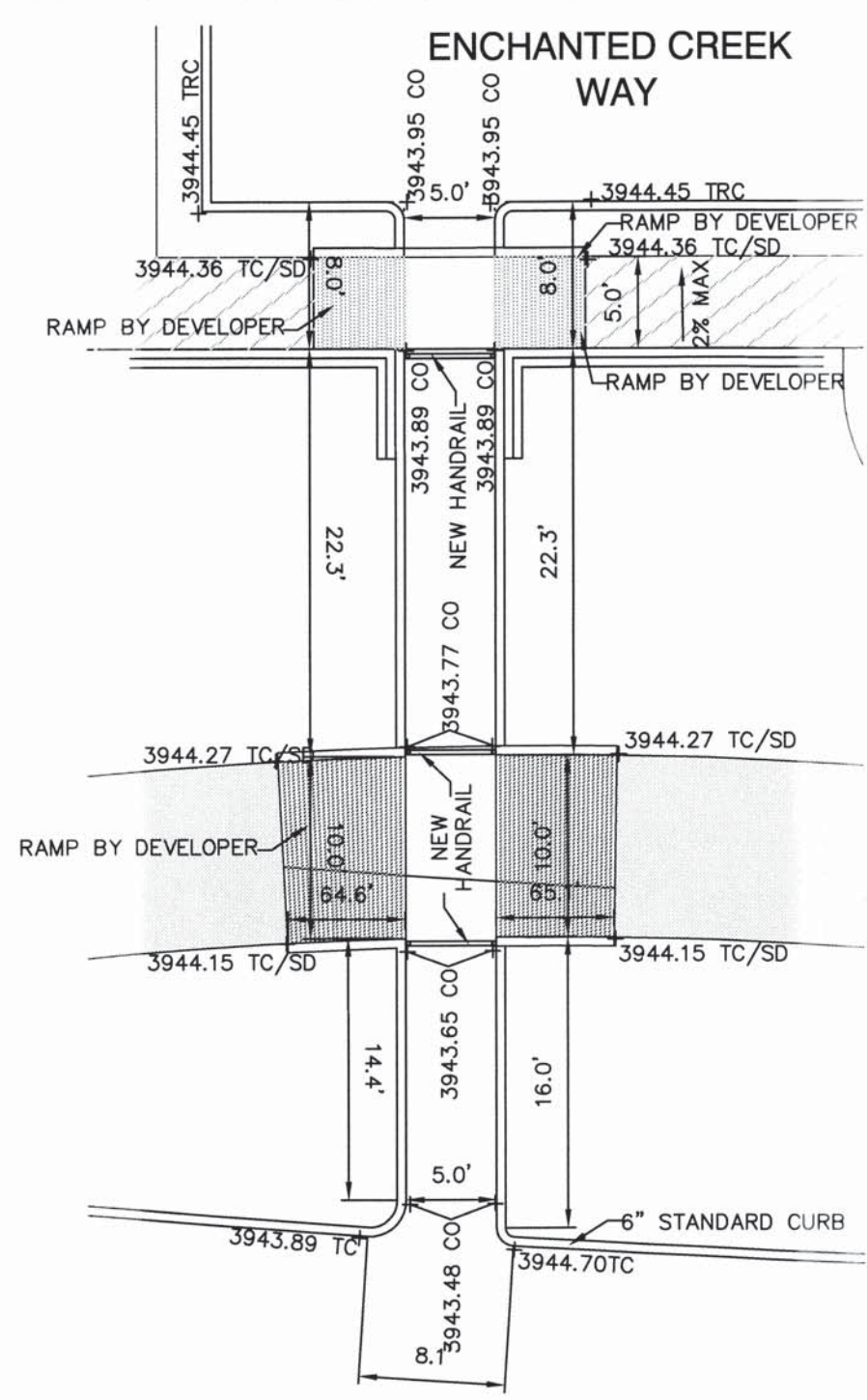
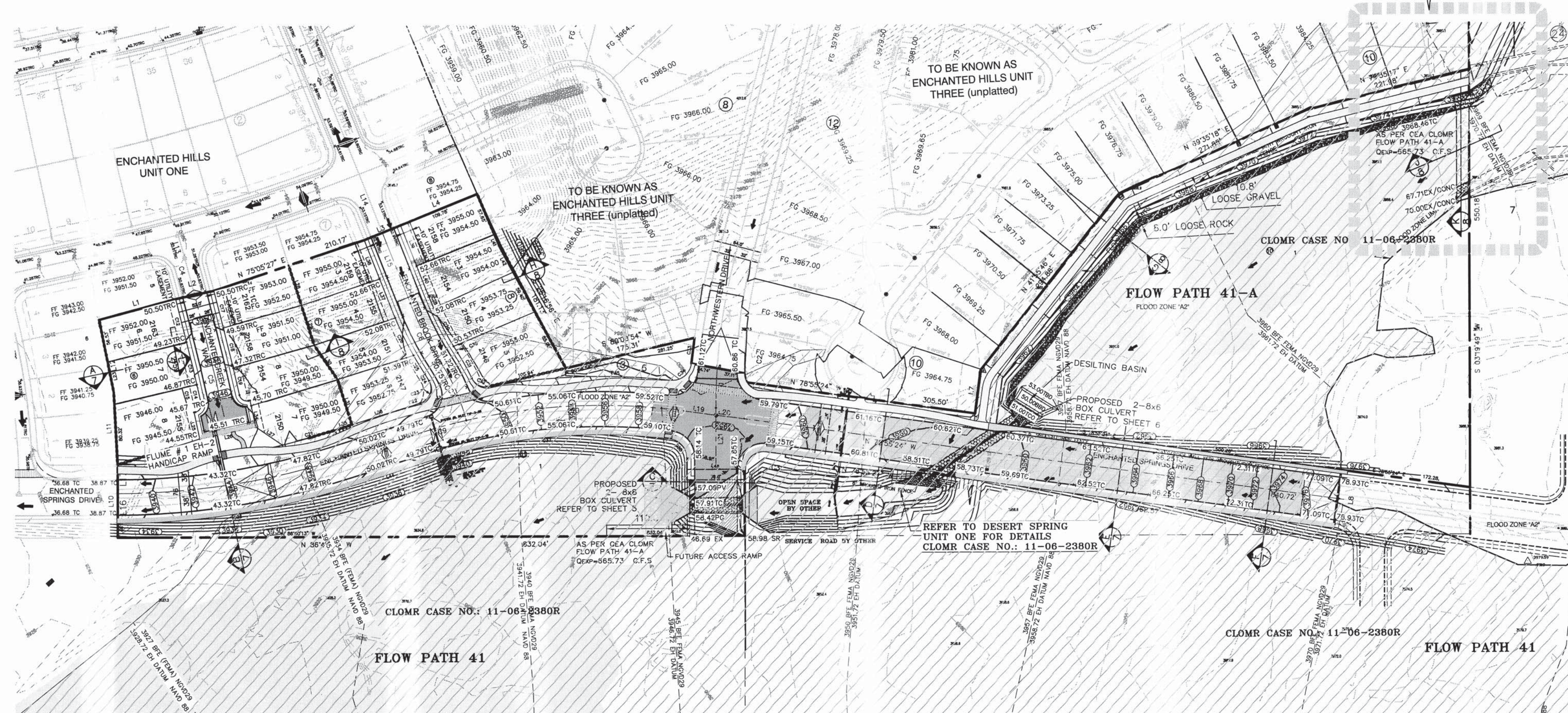
SCALE: 1" = 100'

REFER TO SHEET 9 FOR DETAIL

GENERAL GRADING NOTES

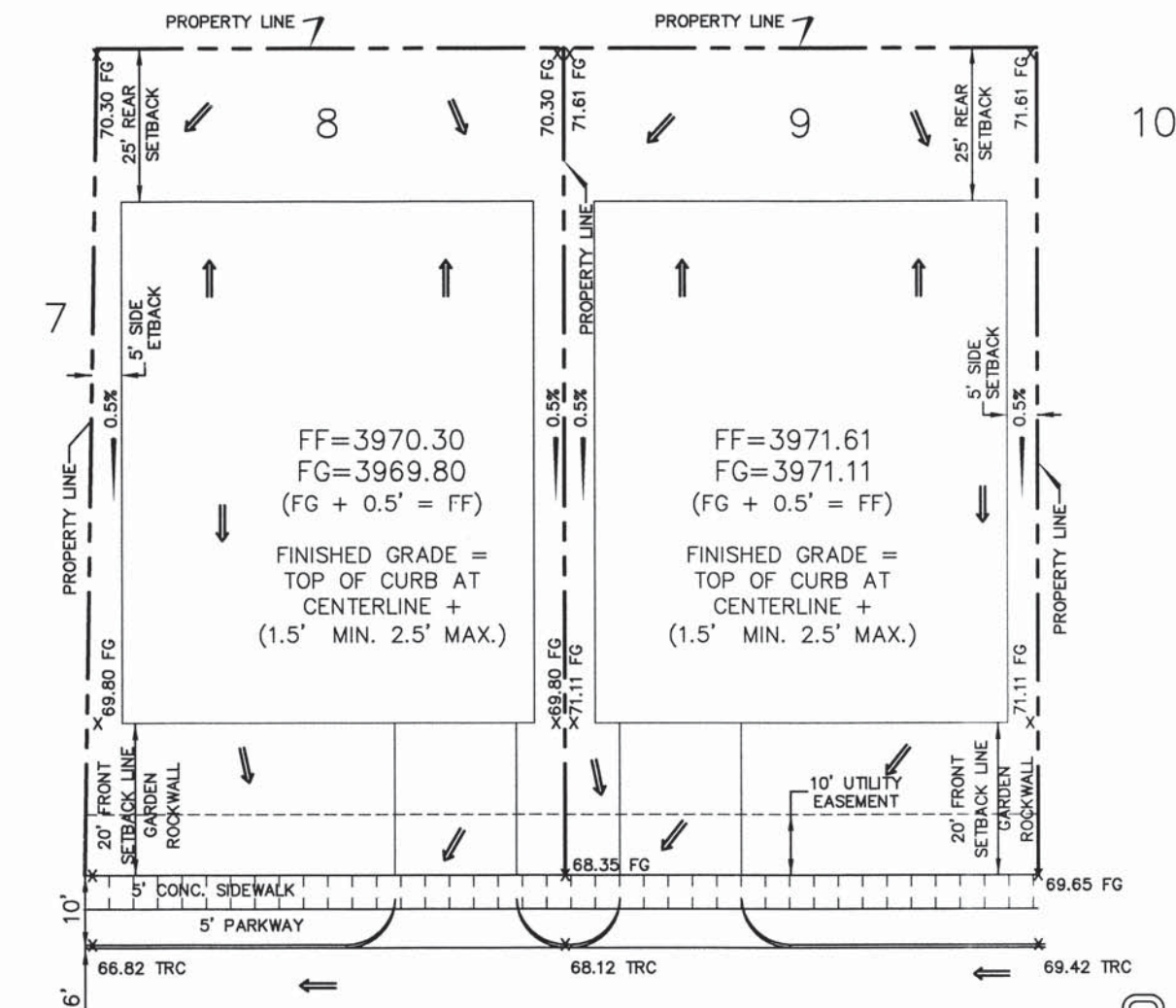
- THIS GRADING PLAN SHALL BE COORDINATED WITH OTHER APPLICABLE CONSTRUCTION DRAWINGS FOR DIMENSIONS AND LAYOUT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING IMPROVEMENTS IN THE PROJECT AREA AND ITS VICINITY. CONTRACTOR SHALL CONTACT UTILITY LOCATOR SERVICE FOR FILED LOCATION OF ALL UTILITIES PRIOR TO COMMENCING WORK. ANY DAMAGES RESULTING FROM CONTRACTOR'S CONSTRUCTION WORK SHALL BE RESTRICTED TO ITS ORIGINAL CONDITION BY CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES IN THE PROJECT AREA. CONTRACTOR SHALL CONTACT UTILITY LOCATOR SERVICE FOR FILED LOCATION OF ALL UTILITIES PRIOR TO COMMENCING WORK. ANY DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER BY CONTRACTOR.
- FILL MATERIALS FOR SITE GRADING AND BACKFILL MATERIALS MAY CONSIST OF ON-SITE AND/OR IMPORTED MATERIALS IN COMPLIANCE WITH THE FOLLOWING SPECIFICATIONS.
- FILL MATERIALS FOR SITE GRADING AND BACKFILL MATERIALS SHALL BE FREE OF ANY ORGANIC OR DELETERIOUS SUBSTANCE AND SHALL NOT CONTAIN ROCKS OR LUMPS OVER 4 INCHES IN GREATEST DIMENSION.
- FILL MATERIALS SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM D-2487. SOILS WILL BE CONSIDERED SATISFACTORY FOR FILL MATERIAL WHEN CLASSIFIED AS FOLLOWS: GW, GP, GC, GM, GC-GM, GP-GC, SW, SP, SC, SM, SC-SM, SP-SM, SP-SC. SOILS WILL BE CONSIDERED UNSATISFACTORY FOR FILL MATERIAL WHEN CLASSIFIED AS FOLLOWS: FT, OL, OH, ML, CL, CH OR WHERE THE PLASTICITY INDEX EXCEEDS 12. (SEE SOILS REPORT FOR CLASSIFICATION)
- THE SURFACE ON WHICH FILL MATERIAL IS TO BE PLACED SHALL BE SCARIFIED TO A DEPTH OF 6 INCHES, WATERED TO ADD THE AMOUNT OF MOISTURE REQUIRED FOR OPTIMUM COMPACTION, AND THEN COMPACTED TO THE REQUIRED DENSITY. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 6 INCHES IN DEPTH AND THEN COMPACTED. MOISTURE CONTENT OF FILL MATERIALS SHALL BE UNIFORM AND WITHIN PLUS OR MINUS TWO PERCENT OF OPTIMUM VALUE AS DETERMINED BY ASTM D-1557.
- EACH LIFT OF FILL SHALL BE COMPACTED TO 95 PERCENT (85 PERCENT ON SLOPE ONLY) OF MAXIMUM DENSITY. MAXIMUM DENSITY SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D-1557 FIELD DENSITY SHALL BE DETERMINED IN ACCORDANCE WITH ASTM D-1556 OR D-2922.
- CONTRACTOR SHALL CO-ORDINATE WITH ALL UTILITY COMPANIES PRIOR TO ANY EXCAVATION AND/OR POSSIBLE RELOCATION OF UTILITIES ENCOUNTERED.
- CONTRACTOR SHALL EXCAVATE AND WATER DOWN GRADING AREA DAILY (MINIMUM), SO AS TO LIMIT THE DISTRIBUTION OF DUST FROM THE WORK SITE IN COMPLIANCE WITH THE CITY APPROVED GRADING ORDINANCE.
- DEVELOPER SHALL COMPLY WITH SECTION 13.08.170 EXCESSIVE PAVING CUTS.
- RETAINING ROCK WALL 4' AND HIGHER SHALL BE CONSTRUCTED BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENT.
- DEVELOPER IS RESPONSIBLE TO MAINTAIN ALL SLOPE OUTSIDE SUBDIVISION LIMITS.
- AFTER THE PERMITEE COMPLETES THE GRADING UNDER THE PERMIT, THE PERMIT SHALL BE CLOSED. AS PART OF THE CLOSURE PROCEDURE, THE APPLICANT MUST SUBMIT THE FOLLOWING TO THE CITY:
 - A - A STATEMENT FROM THE ENGINEER OF RECORDS THAT STATES, "THE GRADING OPERATION HAS BEEN SUBSTANTIALLY AND GENERALLY CONFORMS TO THE APPROVED SET OF PLANS". THE PERMITEE 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 THE WARRANTY PERIOD REQUIREMENT WILL CONTINUE TO BE IN EFFECT.

WARRANTY: ANY PERSON ISSUED A PERMIT SHALL AGREE WARRANT AND MAINTAIN THE AREA DESCRIBED IN THE PERMIT FOR A PERIOD OF TWO YEARS AFTER THE PERMIT IS CLOSED BY THE CITY PURSUANT TO SECTION 18.44.220, OR UNTIL A BUILDING PERMIT IS ISSUED FOR THE PURPOSE OF MAINTAINING A STABILIZED SITE IN ACCORDANCE WITH THE APPROVED GSP, WHICH FIRST OCCURS. THE "WARRANTY PERIOD" OR "WARRANTY PERIOD" 1) 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.



ENCHANTED CREEK
FLUME DETAIL
SCALE: 1" = 1'

- ### UTILITY COMPANIES
- TEXAS GAS SERVICE (NATURAL GAS) 4700 POLLARD STREET EL PASO, TEXAS 79920 EMERGENCY 562-2003
 - AT&T (TELEPHONE) 11200 PELICANO DRIVE EL PASO, TEXAS 79935 628-5127
 - EL PASO PUBLIC SERVICE BOARD (WATER SERVICE) 1154 WILSON BOULEVARD EL PASO, TEXAS 79925 MR. ALFONSO ORTEGA 584-5527
 - TIME WARNER COMMUNICATIONS (CABLE) 700 AIRPORT ROAD EL PASO, TEXAS 79906 775-7414
 - EL PASO ELECTRIC COMPANY (ELECTRIC) 501 WEST SAN ANTONIO STREET EL PASO, TEXAS 79901 MR. PAT KOEHL 543-2917



TYPICAL LOT GRADING DETAIL
SCALE: 1" = 30'

- ### LEGEND
- ▲ PROPOSED DRAINAGE HIGH-POINT
 - ▼ PROPOSED DRAINAGE LOW-POINT
 - ⊙ DENOTES EXISTING CITY MONUMENT
 - ⊙ DENOTES EXISTING SANITARY SEWER MANHOLE
 - ⊕ PROPOSED RETAINING WALL
 - FG=4037.68 PROPOSED FINISHED GRADE ELEVATION
 - FF=4038.35 PROPOSED FINISHED FLOOR ELEVATION
 - ▨ EXISTING FLOOD AREA (FLOWPATH 41/41-A)
 - △ PROPOSED CITY MONUMENT
 - ➔ PROPOSED DRAINAGE FLOWS
 - ➔ EXISTING DRAINAGE FLOWS
 - SS DENOTES EXISTING SANITARY SEWER LINE
 - 35.32 TC PROPOSED TOP OF CURB ELEVATION
 - 4040 EXISTING COUNTOURS
 - 4035 PROPOSED COUNTOURS
 - ▭ PROPOSED WARP SECTION AREA

WARNING!! BEFORE YOU DIG
TEXAS LAW REQUIRES TWO (2) WORKING DAYS NOTICE PRIOR TO ANY EXCAVATION
CALL TEXAS EXCAVATION SAFETY SYSTEM ANYWHERE IN TEXAS 1-800-344-8377
TEXAS EXCAVATION SAFETY SYSTEM DIG CONFIRMATION NUMBER () TO BE UPDATED EVERY 10 DAYS



ENGINEERING & CONSTRUCTION
MANAGEMENT DEPARTMENT

REVIEWED

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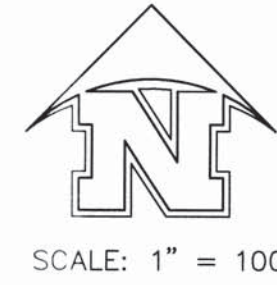
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	TDS MONUMENT "CHRD 1880" (PID: 020444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3946.11 NAVD 88	HOR: 1" = 100' VER: 1" = 100' FILE NAME: EN-2-C-03.04.G.D.PLAN.DWG W.O. = 011509-1 A EH-2
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
			N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	ROE ENGINEERING, L.C. TEXAS REGISTERED ENGINEERING FIRM E-20153

GRADING PLAN
**ENCHANTED HILLS
UNIT TWO**
GRADING PLAN

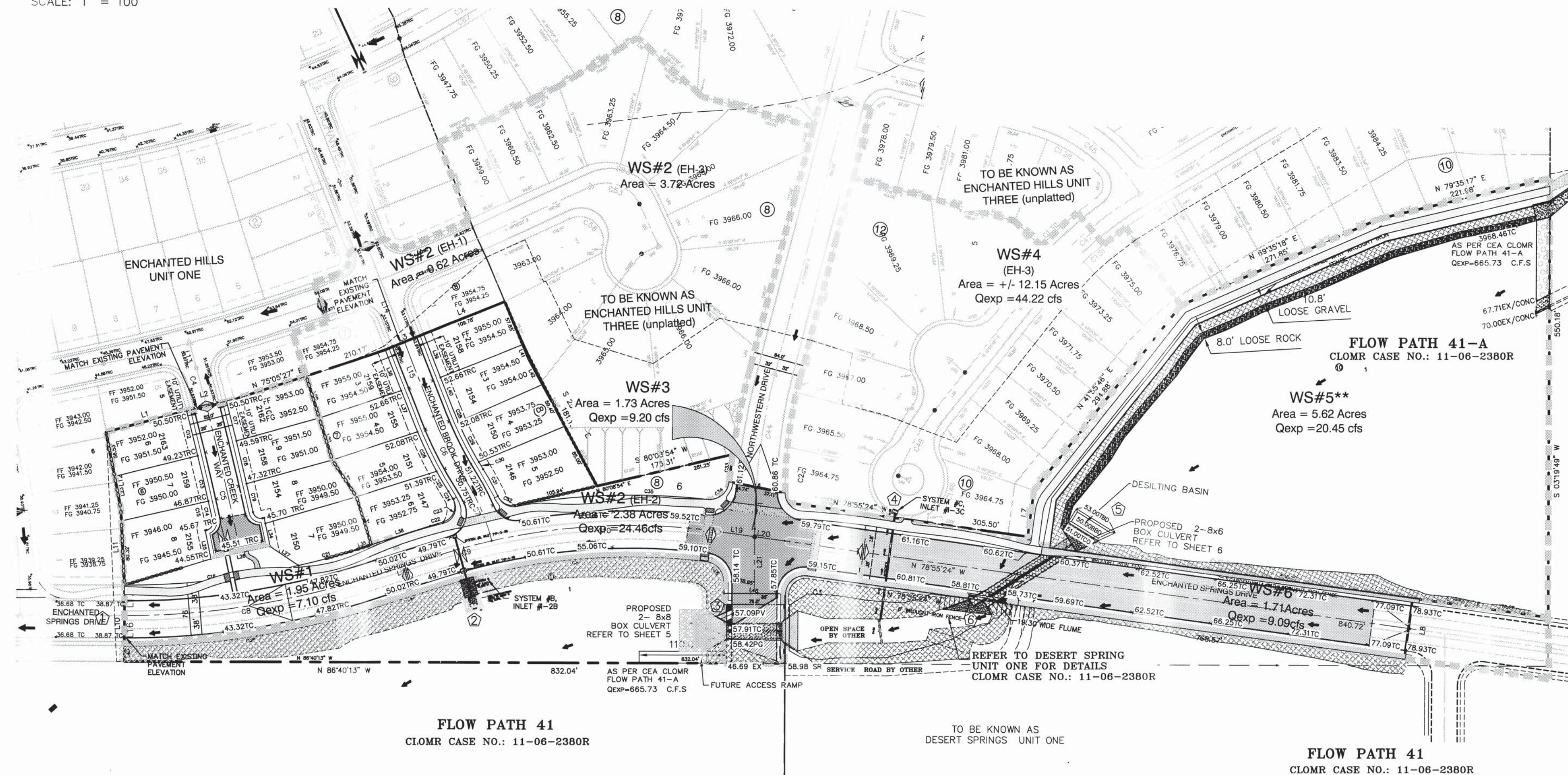
GRADING PLAN
**ENCHANTED HILLS
UNIT TWO**
GRADING PLAN

ENGINEERING & CONSTRUCTION
MANAGEMENT DEPARTMENT
bnp
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx, 79902
(915) 533-1418 FAX: (915) 533-4972
E-MAIL: roeeng@bnp.com
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SHEET 3 OF 21

ENCHANTED HILLS UNIT TWO



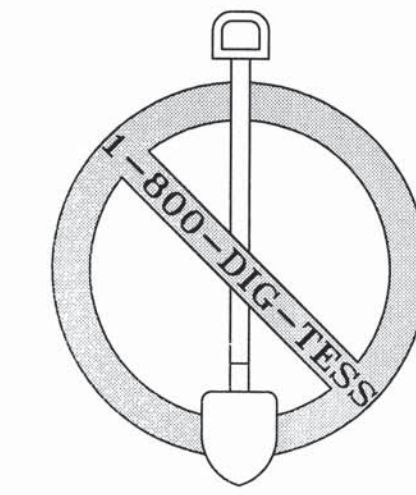
SCALE: 1" = 100'



LEGEND

	PROPOSED DRAINAGE HIGH-POINT		PROPOSED CITY MONUMENT
	PROPOSED DRAINAGE LOW-POINT		PROPOSED DRAINAGE FLOWS
	DENOTES EXISTING CITY MONUMENT		EXISTING DRAINAGE FLOWS
	DENOTES EXISTING SANITARY SEWER MANHOLE		DENOTES EXISTING SANITARY SEWER LINE
	PROPOSED RETAINING WALL		PROPOSED TOP OF CURB ELEVATION
	PROPOSED FINISHED GRADE ELEVATION		EXISTING CONTOURS
	PROPOSED FINISHED FLOOR ELEVATION		PROPOSED CONTOURS
	EXISTING FLOOD AREA		PROPOSED WARP SECTION AREA
	PROPOSED SLOPE AREA		

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TEXAS EXCAVATION SAFETY SYSTEM DIG CONFIRMATION NUMBER (#- - - - -) TO BE UPDATED EVERY 10 DAYS



UTILITY COMPANIES

TEXAS GAS SERVICE (NATURAL GAS) 4700 POLLARD STREET EL PASO, TEXAS 79930 828-5127
AT&T (TELEPHONE) 11200 PELLICANO DRIVE EL PASO, TEXAS 79935 828-5127
EL PASO PUBLIC SERVICE BOARD (WATER, SEWER) 154 HARRIS BULLEWARD EL PASO, TEXAS 79925 MR. ALFONSO ORTIZ 594-5527
THE WARNER COMMUNICATIONS (CABLE) 7010 AIRPORT ROAD EL PASO, TEXAS 79966 775-7414
EL PASO ELECTRIC COMPANY (ELECTRIC) 501 WEST SAN ANTONIO STREET EL PASO, TEXAS 79901 MR. PAT KEITH, 543-2917



ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

DRAINAGE COMPUTATIONS
COMPUTATIONS BASED ON RATIONAL FORMULA $Q = C.I.A.$ - 100 YEAR STORM FREQUENCY

WATERSHED AREA No.	TYPE	Inlet	Tc MIN.	C COEFFICIENT	A AREA	I 100 INCHES/HOUR	Q 100 year CU. FT. PER SECOND	CONCENTRATION POINT
1	DRAIN TO EH-1	1	10	0.65	1.95	5.60	7.10	(1)
2	FLOW PATH 41-A	1	10	0.65	6.72*	5.60	24.46	(2)
3	FLOW PATH 41-A	1	10	0.95	1.73	5.60	9.20	(3)
4	FLOW PATH 41-A	1	10	0.65	12.15	5.60	44.22	(4)
5	FLOW PATH 41-A	1	10	0.65	5.62	5.60	20.45	(5)
6	FLOW PATH 41-A	1	10	0.95	1.71	5.60	9.09	(6)

* WATERSHED #2 = 6.72 = 0.62(EH-1) + 2.38(EH-2) + 3.72(EH-3)
** WATERSHED #5 = AS PER CEA CLOMR FLOW PATH 41-A QEXP=665.73 C.F.S. 665.73

DROP INLET TABLE

SYSTEM #	INLET #	PROFILE STA.	STREET NAME	TOP OF CURB ELEVATION (ft.)	INVERT ELEVATION (ft.)	DEPTH (ft.)	PIPE SIZE R.C.P.	No. OF GRATES	DROP INLET Qexp.	Qexp. Proposed (total)	Qexp. Proposed + Future (total)
SYSTEM #A	10' FLUME	STA: 0+95.24	NORTHWESTERN DRIVE	3957.59 TC	3957.09 FT	-	-	-	47.77 c.f.s.	9.20 c.f.s.	-
SYSTEM #B	INLET 1B TYP-4	STA: 19+91.17	ENCHANTED SPRING DRIVE	3949.77 TC	3949.27 FT RM	4.12	18" CLASS III	2	21.86 c.f.s.	16.92 c.f.s.	-
SYSTEM #C	INLET 1C TYP-3	STA: 19+91.17	ENCHANTED SPRING DRIVE	3948.24 TC	3948.27 FT RM	3.27	18" CLASS III	2	21.86 c.f.s.	7.54 c.f.s.	-
SYSTEM #D	INLET 1D TYP-3C	EH-3	ENCHANTED PATH DRIVE	3961.13 TC	3960.63 FT RM	3.63	24" CLASS III	5	54.85 c.f.s.	44.22 c.f.s.	-
SYSTEM #E	19.30' FLUME	STA: 28+84.86	ENCHANTED SPRING DRIVE	3962.22 TC	3961.72 FT RM	-	-	-	76.76 c.f.s.	9.09 c.f.s.	+/-17.20 c.f.s. (C.F.A. DEVELOPMENT)

Line No.	Line ID	Drainage Area (ac)	Flow Coef. (C)	Flow Rate (cfs)	Capacity (cfs)	Line Length (ft)	Invert Elev. (ft)	Depth (ft)	Vel. (ft/s)	HGL (ft)	HGL (ft)	HGL (ft)	HGL (ft)	EGL (ft)	EGL (ft)	Energy Loss (ft)	Noting	Ending						
1	Syst C D181	0.00	0.00	0.00	44.20	102.90	30	6.30	134.549	3949.03	3957.50	2.50	2.22"	9.31	3954.00	3959.72	3955.35	3961.15	1.479	10714740.05	360970.91			
2	Syst B D181	1.56	0.95	5.59	24.68	9.00	54.40	18	26.84	34.094	3936.00	3945.15	1.49	1.49"	13.98	3937.49	3946.64	3938.40	3940.12	3940.53	3949.68	1.750	10714703.26	360424.98
3	Syst B D182	3.09	0.95	5.61	16.46	16.46	14.77	18	1.98	43.000	3945.15	3946.00	1.50	1.50"	9.31	3946.05	3947.71	-	-	3940.00	3949.06	1.056	10714745.24	360415.85

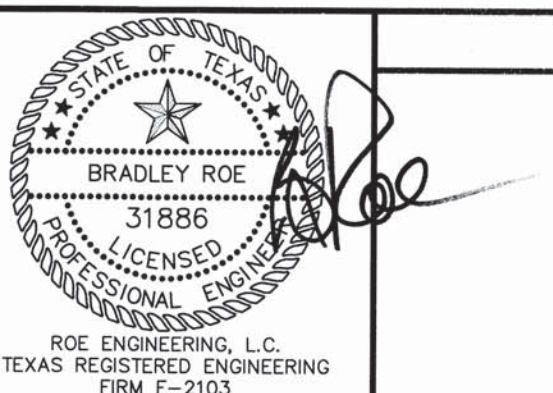
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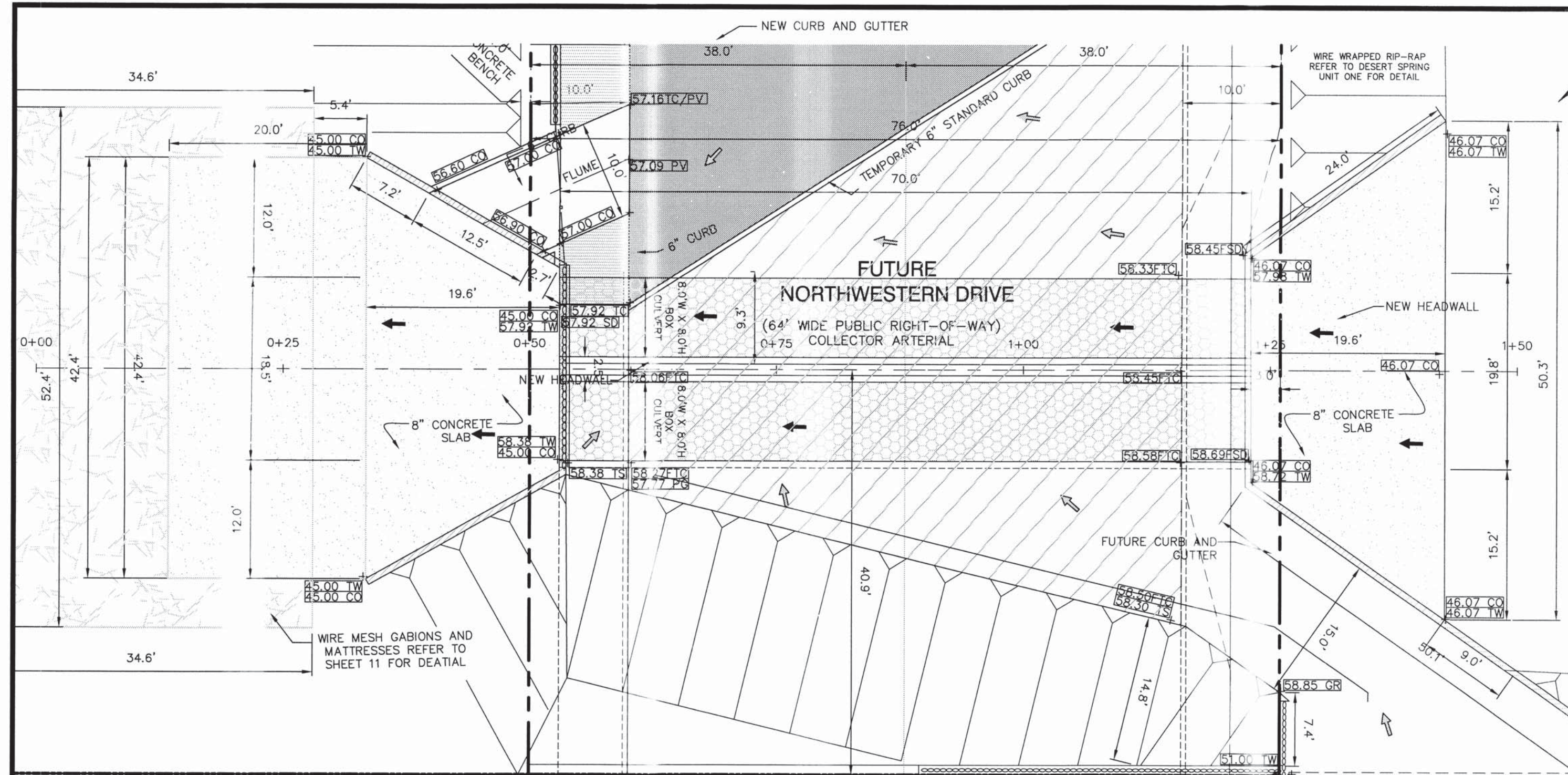
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	NPS MONUMENT "GRIND 1880" (P.C. 26244) LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANS-MOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	HOR: 1" = 100' VER: 1" = 100'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHES DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE ELEVATION: 3957.71	W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
			N.A.V.88 DATUM -10.18 = CITY OF EL PASO DATUM	

DRAINAGE PLAN
ENCHANTED HILLS UNIT TWO
DRAINAGE PLAN

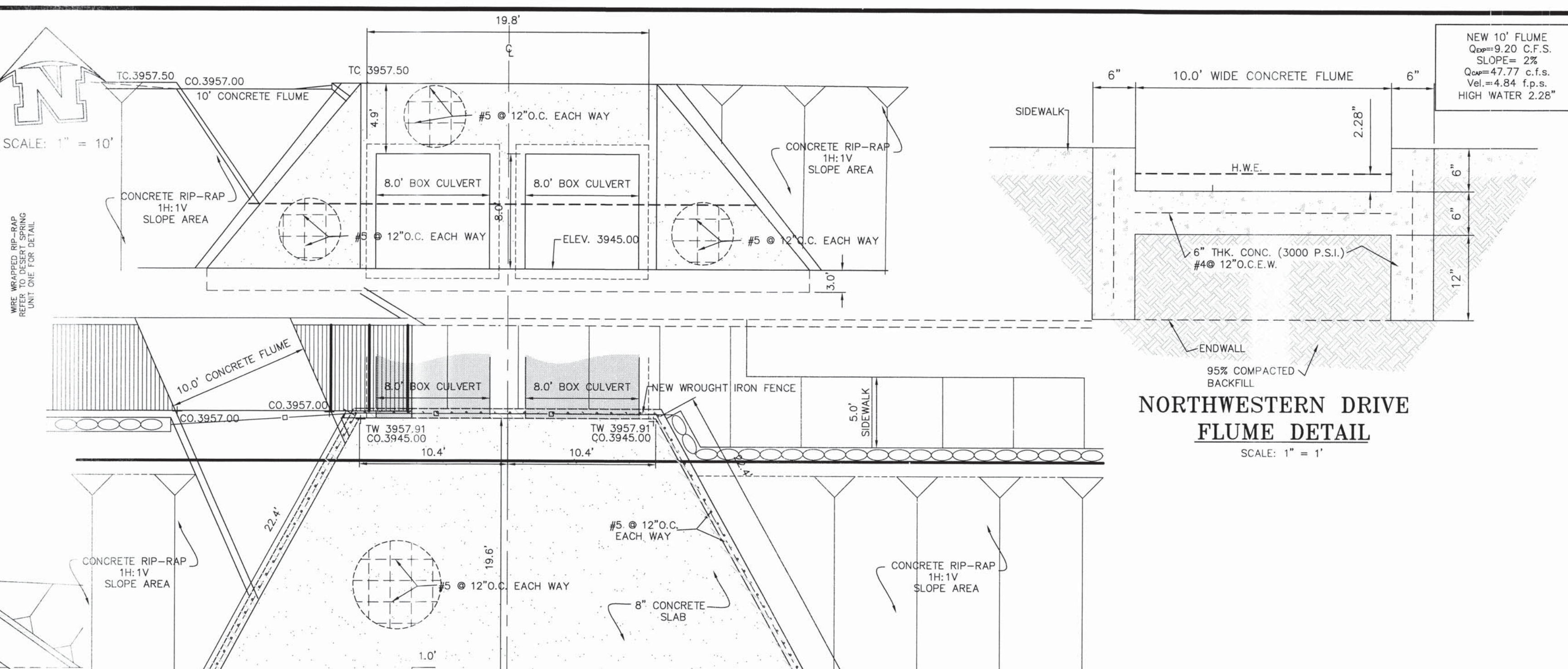


DRAINAGE PLAN
ENCHANTED HILLS UNIT TWO
DRAINAGE PLAN

Roe Engineering, L.C.
601 N. Cotton St. Suite No. 8 El Paso, TX, 79902
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e-mail: roeeng@swbell.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 4 OF 21



NORTHWESTERN BOX CULVERT PLAN VIEW
SCALE 1" = 6'



NORTHWESTERN OUTFLOW STRUCTURE
SCALE 1" = 6'

NORTHWESTERN DRIVE FLUME DETAIL
SCALE 1" = 1'

GENERAL NOTES:
Designed according to current AASHTO Standard and Interim Specifications.
Reinforcing steel shall be placed with the center of the outside layer of bars 3" from the surface of the concrete.
All reinforcing steel shall be Grade 60.
All concrete shall be Class "C" and shall have a minimum compressive strength of 3000 psi.
No bridge rails of any type may be mounted directly to these culvert headwalls.
Contractor shall provide bars as needed to support Rebar on inside face of wall.

Rinker Concrete Pipe Division

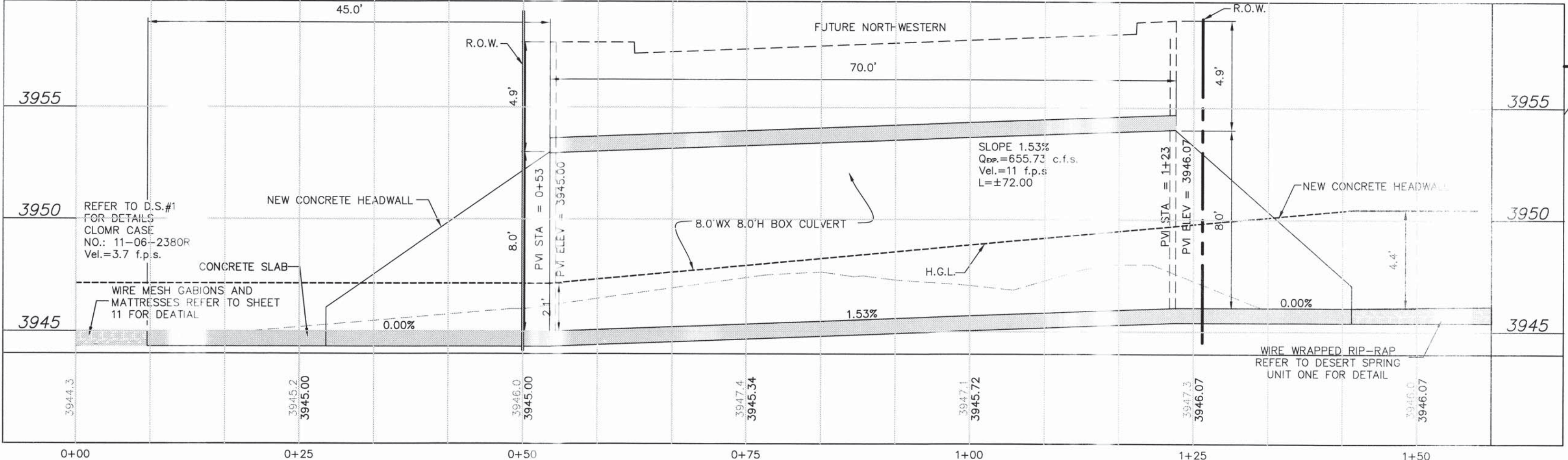
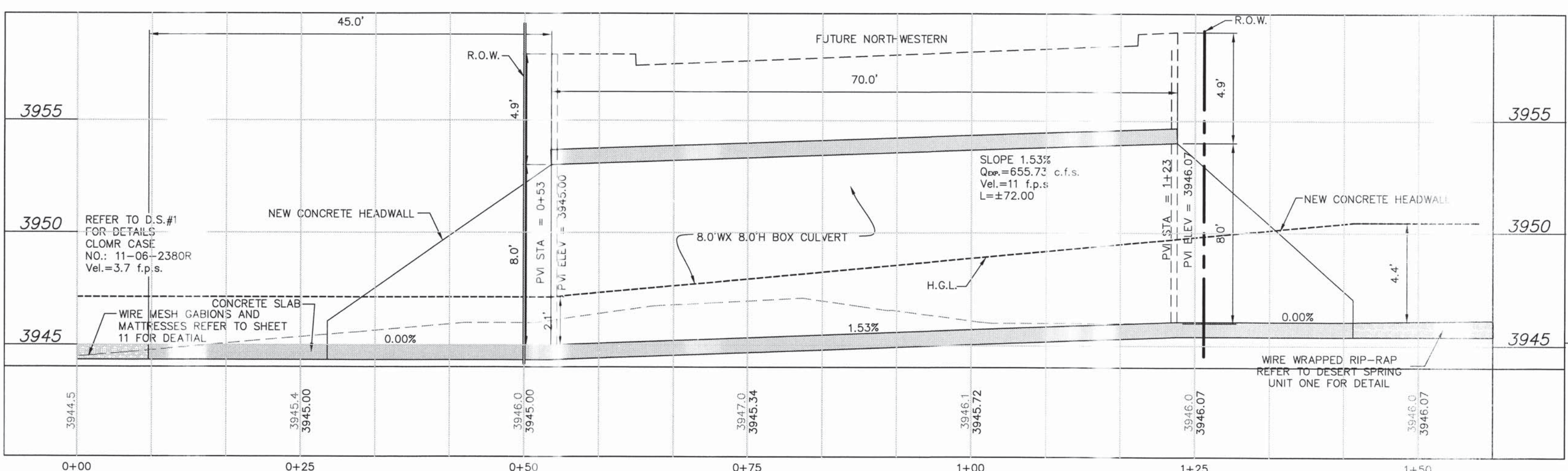
Reinforced Concrete Box Culvert

Section thru Box Culvert

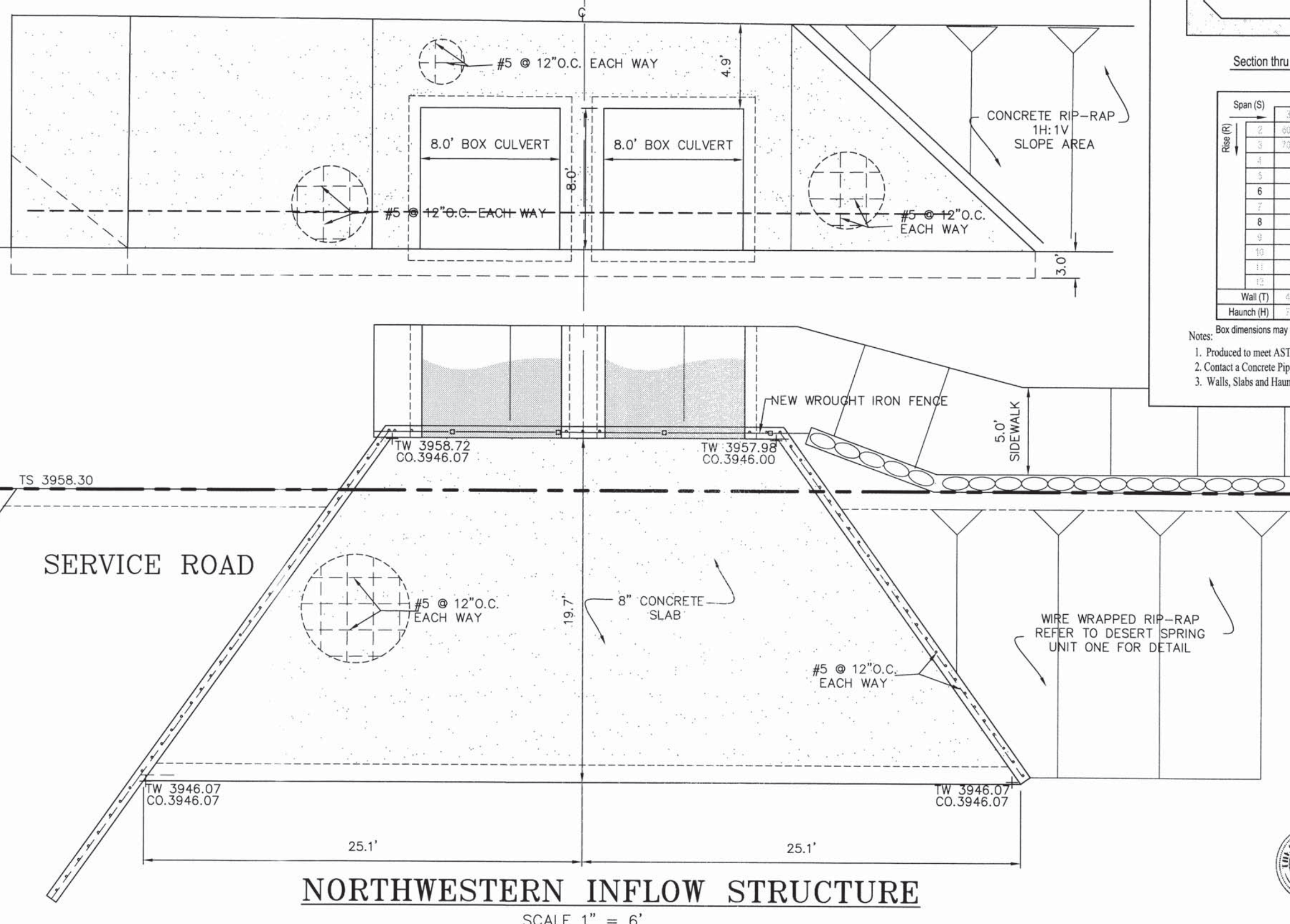
Section thru Box Joint

Span (S)	Standard Box Culvert Weights (lbs.) per Foot
4	1000
6	1500
8	2000
10	2500
12	3000
14	3500
16	4000
18	4500
20	5000
22	5500
24	6000
26	6500
28	7000
30	7500
32	8000
34	8500
36	9000
38	9500
40	10000

Notes:
1. Produced to meet ASTM Specifications.
2. Contact a Concrete Pipe Division representative for details not listed on this sheet.
3. Walls, Slabs and Haunches are designed to meet ASTM / AASHTO standards and project specifications. Rinker 013



NORTHWESTERN BOX CULVERT PROFILE
SCALE 1" = 6'



NORTHWESTERN INFLOW STRUCTURE
SCALE 1" = 6'

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LEGEND

44.51 TC PROPOSED TOP OF CURB ELEVATION	← PROPOSED DRAINAGE FLOW	EXISTING GRADE	PROPOSED TOP OF CURB GRADE
44.34 TRC PROPOSED TOP OF ROLL-OVER CURB ELEVATION	— SUBDIVISION BOUNDARY LINE	3940.4	3939.33
44.01 PV PROPOSED PAVEMENT ELEVATION	△ PROPOSED COUNTY MONUMENT	10+00	STATION NUMBER
	— STREET CENTERLINE		
	2% SLOPE		
	— STREET CROSS SLOPE		

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	RES MONUMENT (CRIND 1980) TRIP (20044)	
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1983 LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSCORPUS ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	
			SECONDARY BENCHMARK	
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHES DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE. ELEVATION 3957.21	
			N.A.M.D.88 DATUM -10.18 = CITY OF EL PASO DATUM	

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BRADLEY ROE
31886
REGISTERED PROFESSIONAL ENGINEER
ROE ENGINEERING, L.C.
TEXAS REGISTERED ENGINEERING FIRM #2103

PLAN AND PROFILE

ENCHANTED HILLS UNIT TWO

FLOW PATH 41-A CROSSING NORTHWESTERN

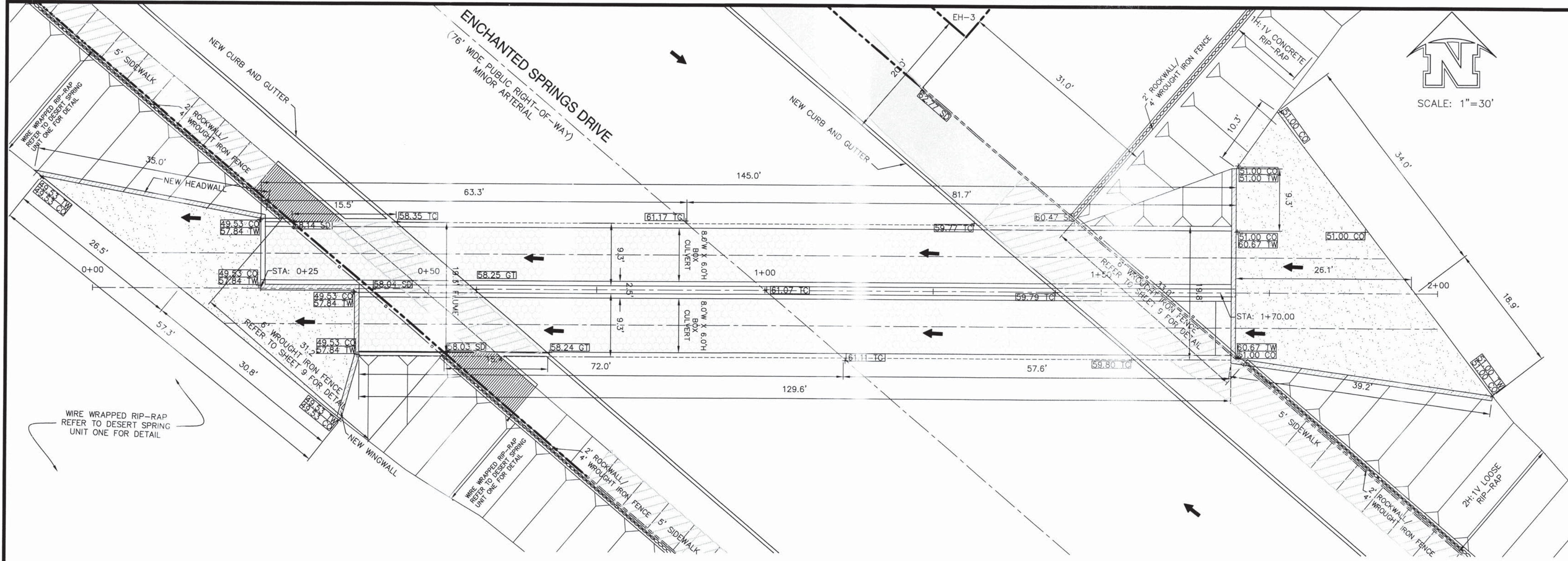
ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

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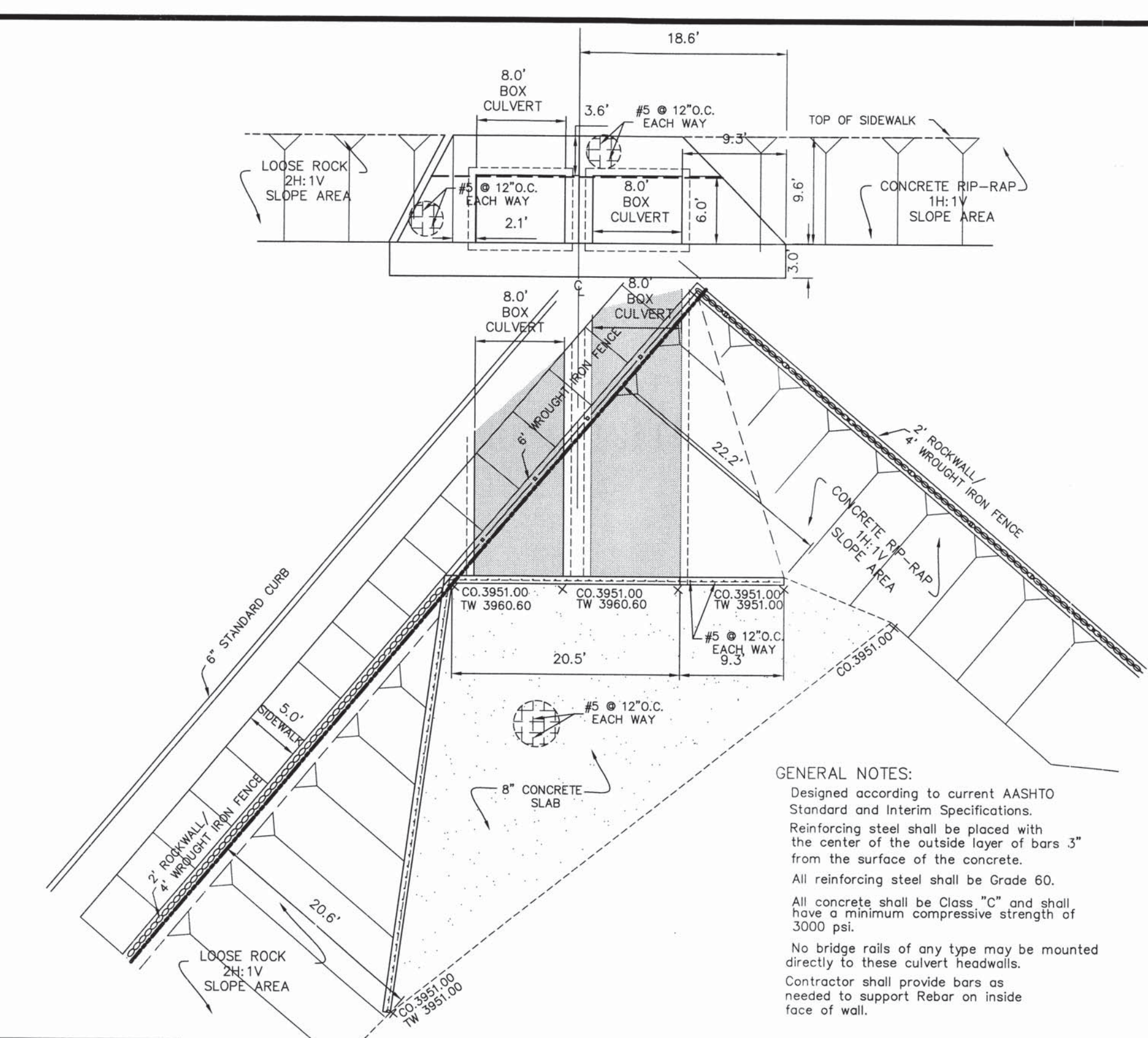
Roe Engineering, L.C.
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e-mail: roeeng@bellsouth.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 5 OF 21

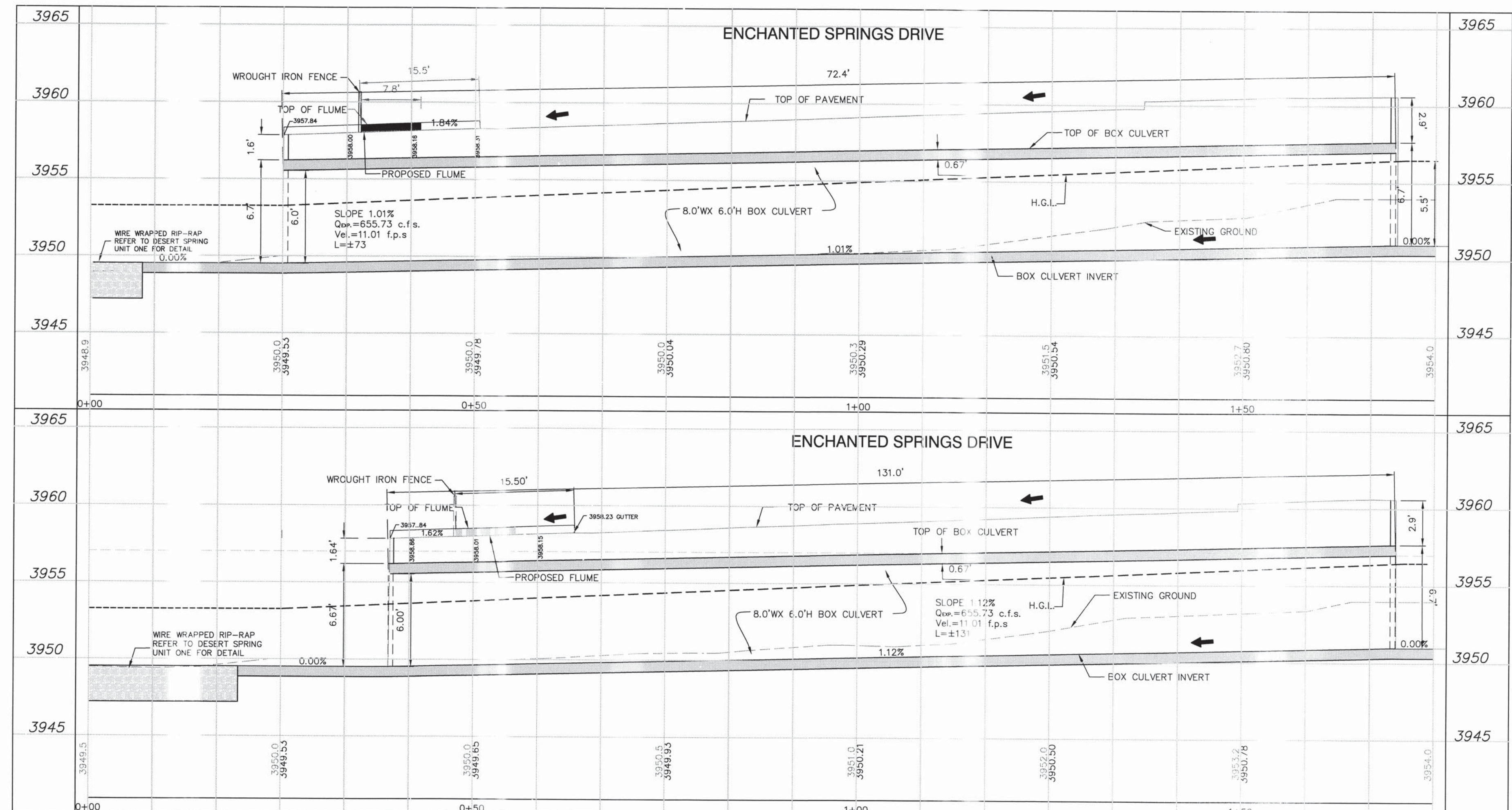


ENCHANTED SPRING BOX CULVERT PLAN VIEW
SCALE 1" = 10'



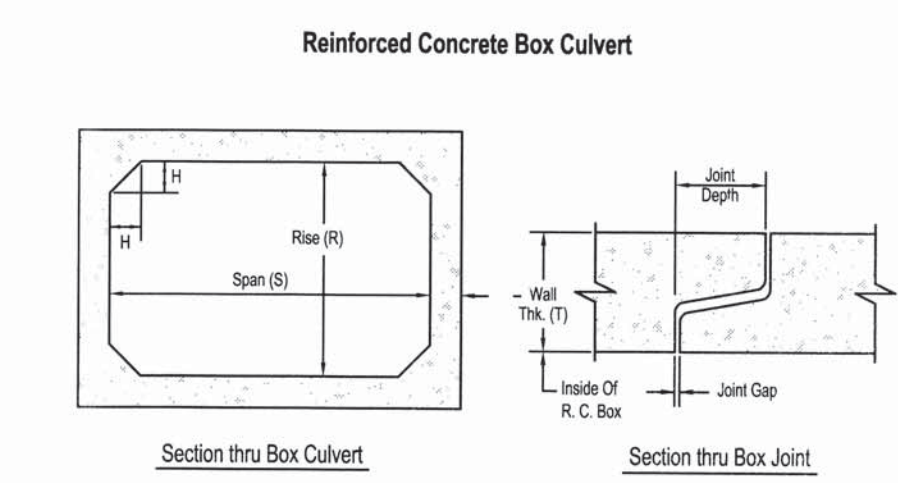
ENCHANTED SPRING INFLOW STRUCTURE
SCALE 1" = 10'

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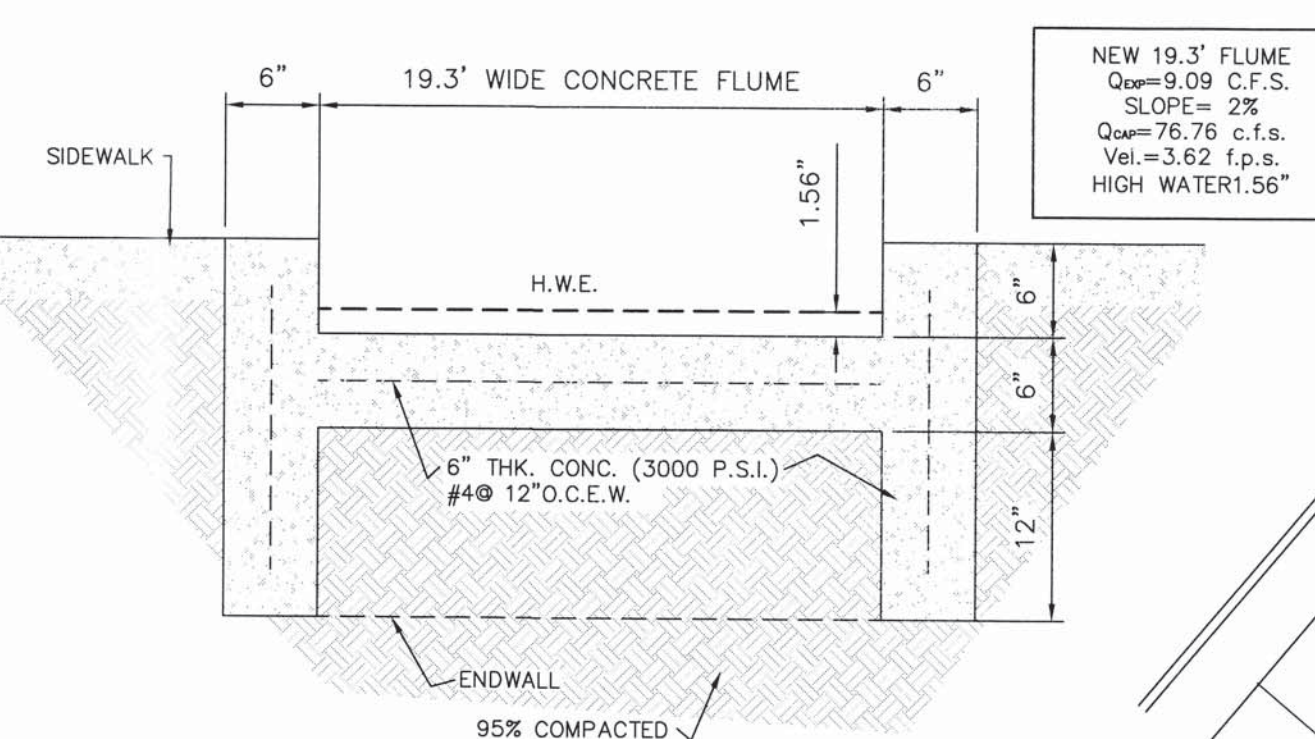
ENCHANTED SPRING BOX CULVERT PROFILE
SCALE 1" = 10'

Rinker Concrete Pipe Division

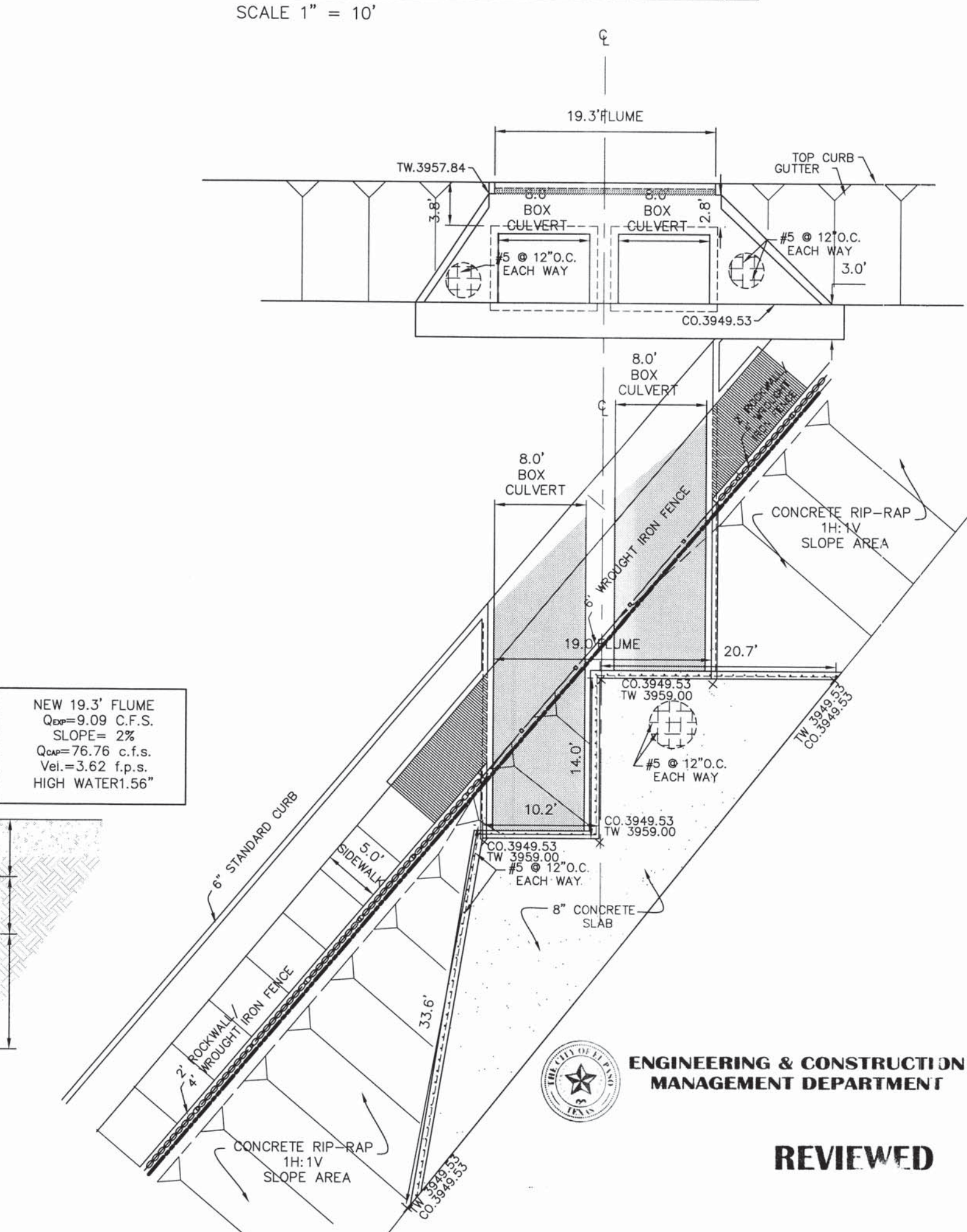


Span (S)	Standard Box Culvert Weights (lbs. per Foot)
2	600 800 1000 1200 1400 1600 1800 2000 2200 2400
3	700 900 1100 1300 1500 1700 1900 2100 2300 2500
4	800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800
5	900 1100 1300 1500 1700 1900 2100 2300 2500 2700 2900 3100
6	1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600
7	1100 1300 1500 1700 1900 2100 2300 2500 2700 2900 3100 3300 3500 3700 3900
8	1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000
9	1300 1500 1700 1900 2100 2300 2500 2700 2900 3100 3300 3500 3700 3900 4100
10	1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200
11	1500 1700 1900 2100 2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300
12	1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400

- Box dimensions may vary depending upon equipment availability.
- Produced to meet ASTM Specifications.
 - Contact a Concrete Pipe Division representative for details not listed on this sheet.
 - Walls, Slabs and Manholes are designed to meet ASTM / AASHTO standards and project specifications. Revise 013



ENCHANTED SPRING FLUME DETAIL
SCALE 1" = 1'



ENCHANTED SPRING OUTFLOW STRUCTURE
SCALE 1" = 10'

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

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FLOOD NOTE:
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ENCHANTED SPRING BOX CULVERT PROFILE
SCALE 1" = 10'

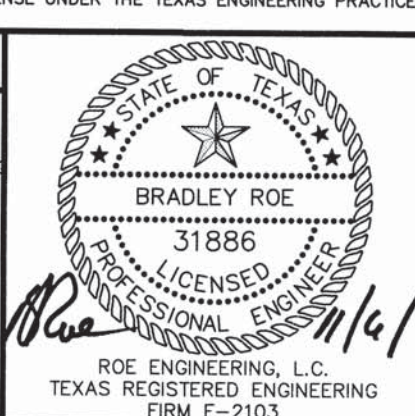
LEGEND

44.51 TC PROPOSED TOP OF CURB ELEVATION	← PROPOSED DRAINAGE FLOW	EXISTING GRADE	PROPOSED TOP OF CURB GRADE
44.34 TRC PROPOSED TOP OF ROLL-OVER CURB ELEVATION	— SUBDIVISION BOUNDARY LINE	△ PROPOSED COUNTY MONUMENT	
44.01 PV PROPOSED PAVEMENT ELEVATION	— STREET CENTERLINE	— STREET CROSS SLOPE	

STATION NUMBER: 10+00

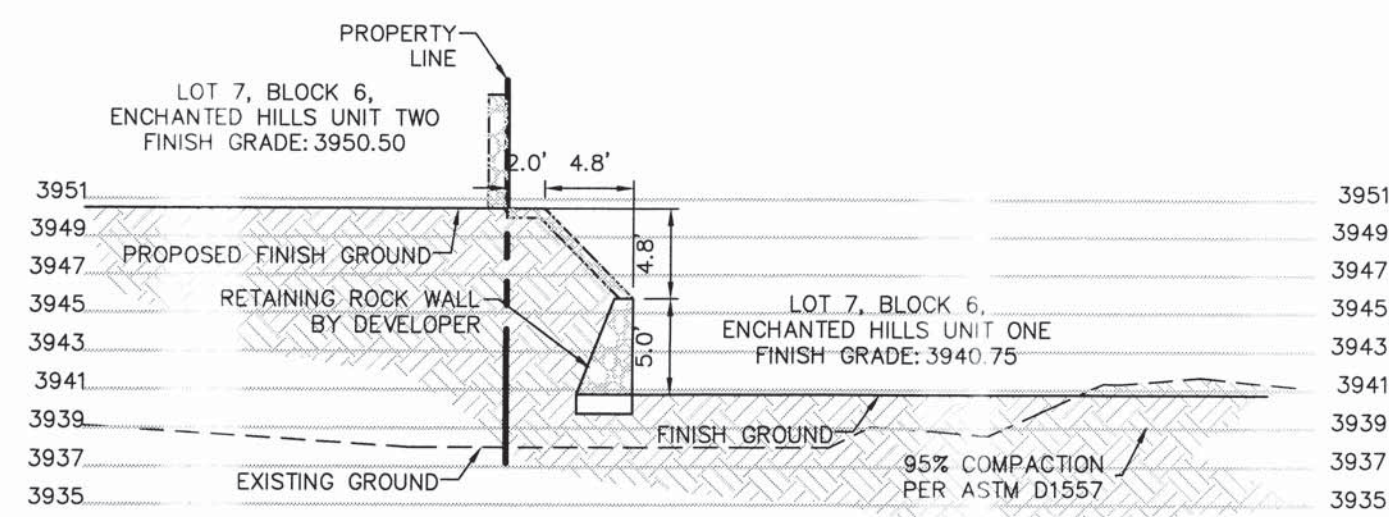
DATE	REVISIONS	BY	PRIMARY BENCHMARK
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	205 W. MOUNTAIN VIEW (SPNO 1980) (PROP. 020444)
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMONTANA ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88
			SECONDARY BENCHMARK
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHES DRIVE IN FRONT OF LOT 11, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3957.21
			N.A. V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM

SCALE	HOR.	VER.
1" = 10'	FILE NAME: EH-2 C-05 6 CULVERT 41-A.DWG	DATE: MARCH, 2011
	W.O. 011509-1 A EH-2	DESIGN BY: HP/L.A.J.
		DRAWN BY: L.A.J.
		CHKD. BY: H.P.
		APPD. BY: BR

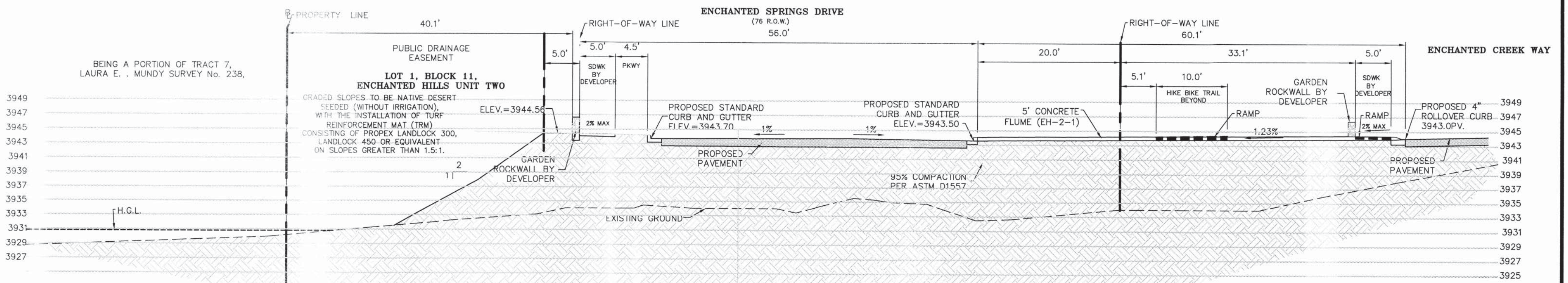


PLAN AND PROFILE
ENCHANTED HILLS UNIT TWO
FLOW PATH 41-A CROSSING ENCHANTED SPRINGS

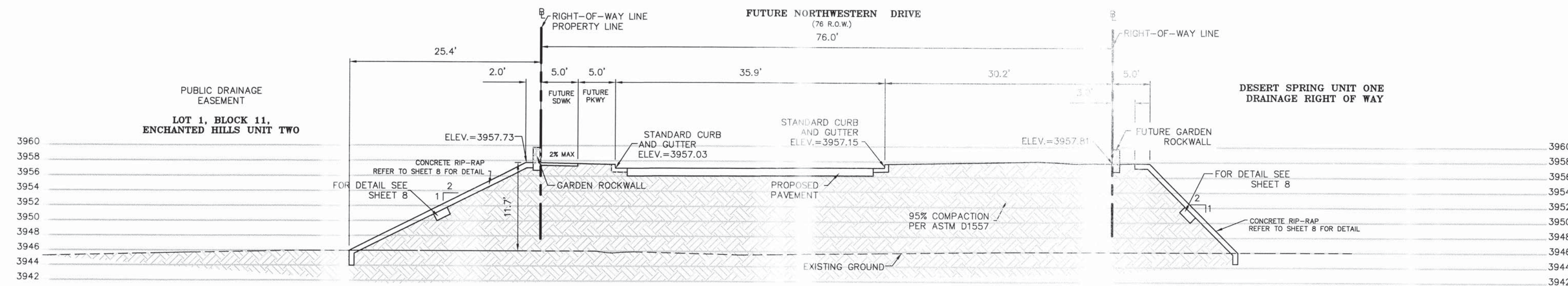
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 8 El Paso, Tx. 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@roebell.net
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SHEET 6 OF 21



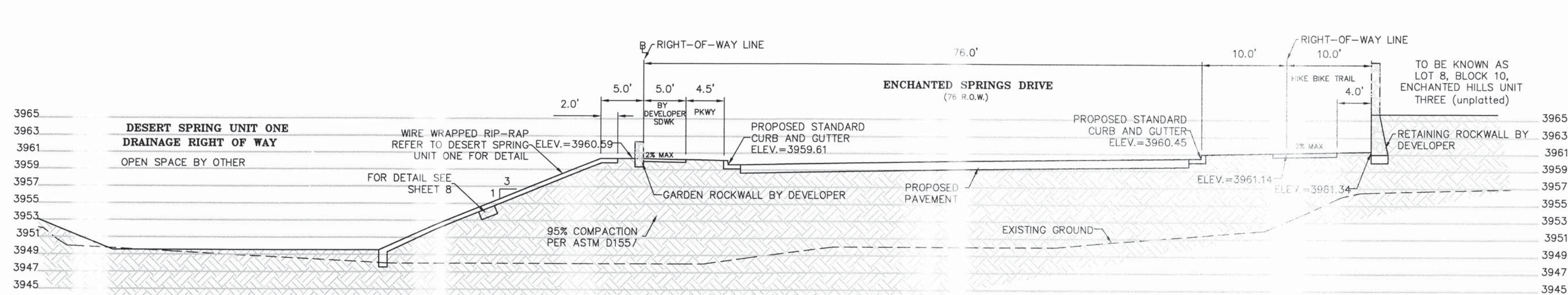
SECTION A-A
SCALE: 1" = 10'



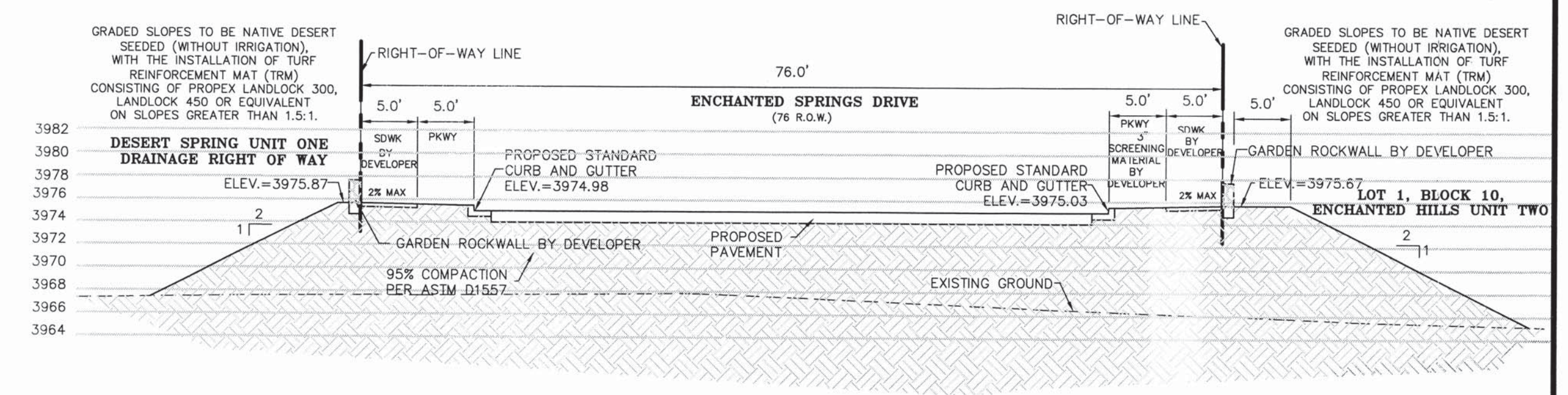
SECTION B-B
SCALE: 1" = 10'



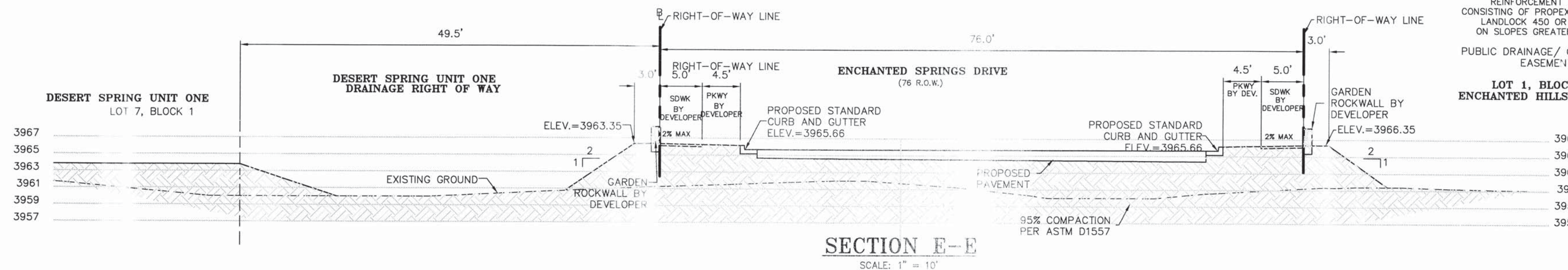
SECTION C-C
SCALE: 1" = 10'



SECTION D-D
SCALE: 1" = 10'



SECTION F-F
SCALE: 1" = 10'



SECTION E-E
SCALE: 1" = 10'

GRADED SLOPES TO BE NATIVE DESERT SEEDED (WITHOUT IRRIGATION), WITH THE INSTALLATION OF TURF REINFORCEMENT MAT (TRM) CONSISTING OF PROPEX LANDLOCK 300, LANDLOCK 450 OR EQUIVALENT ON SLOPES GREATER THAN 1.5:1.
PUBLIC DRAINAGE / OPEN SPACE EASEMENT
LOT 1, BLOCK 10, ENCHANTED HILLS UNIT TWO



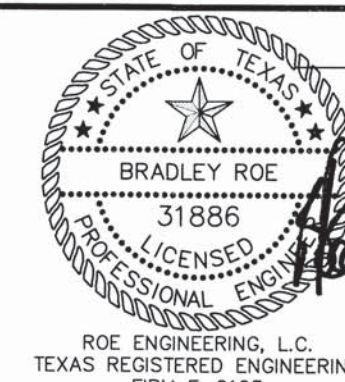
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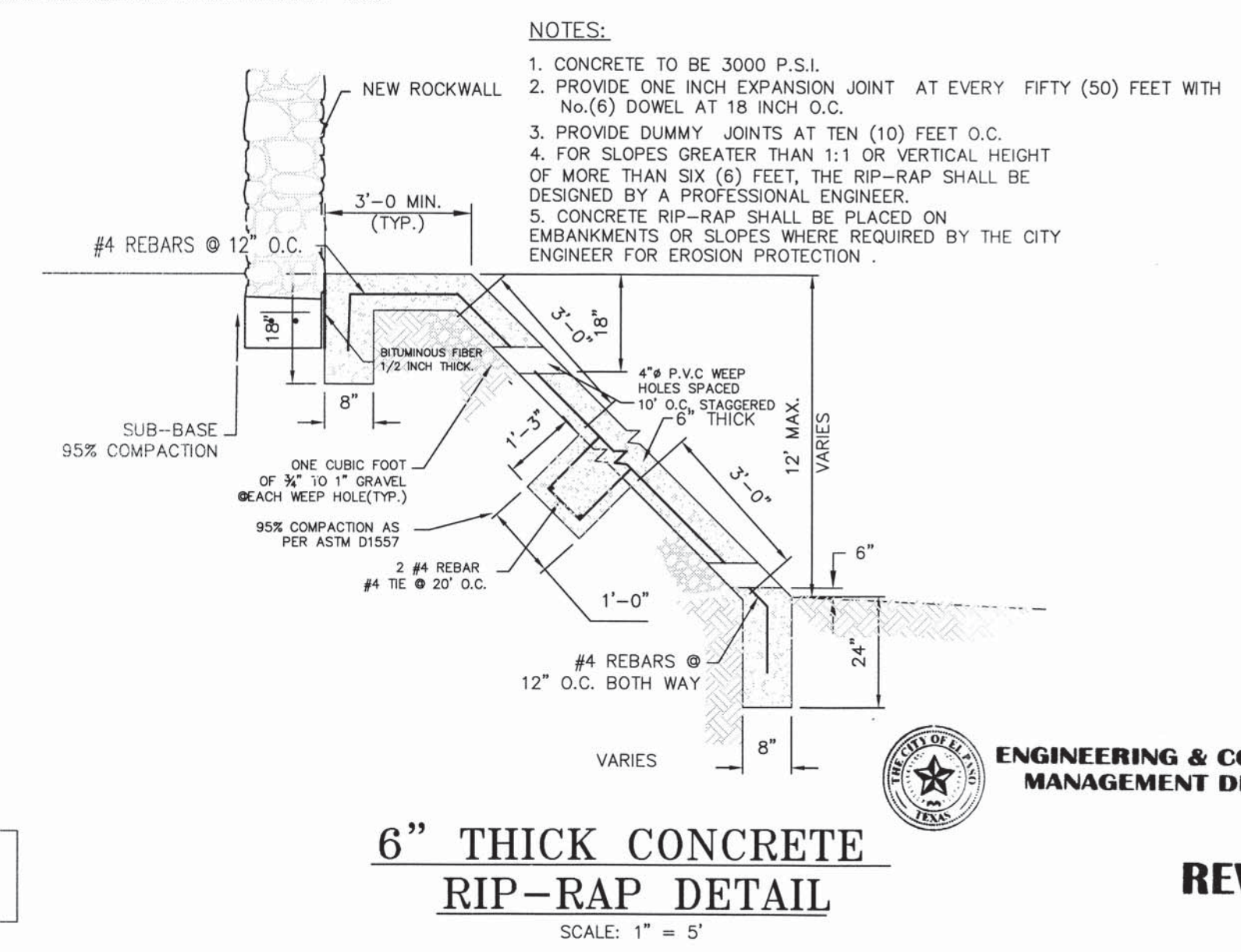
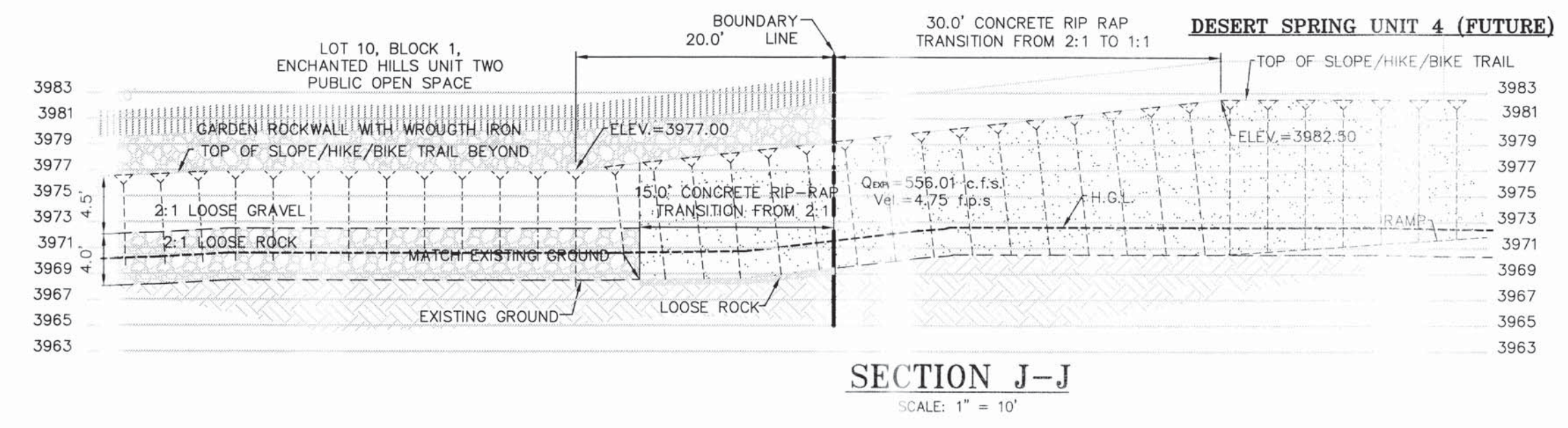
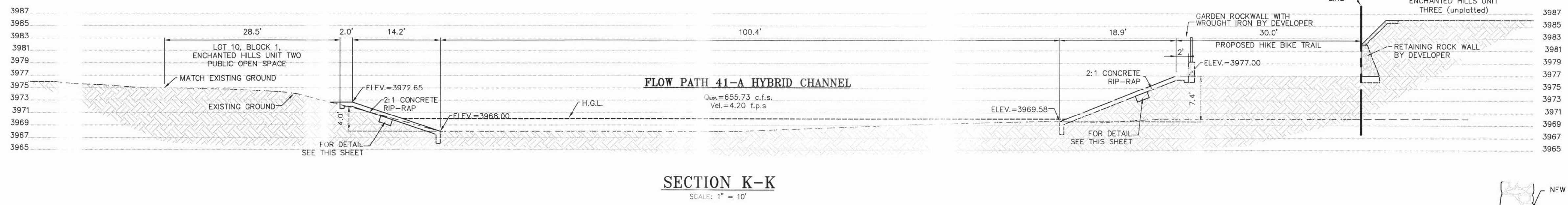
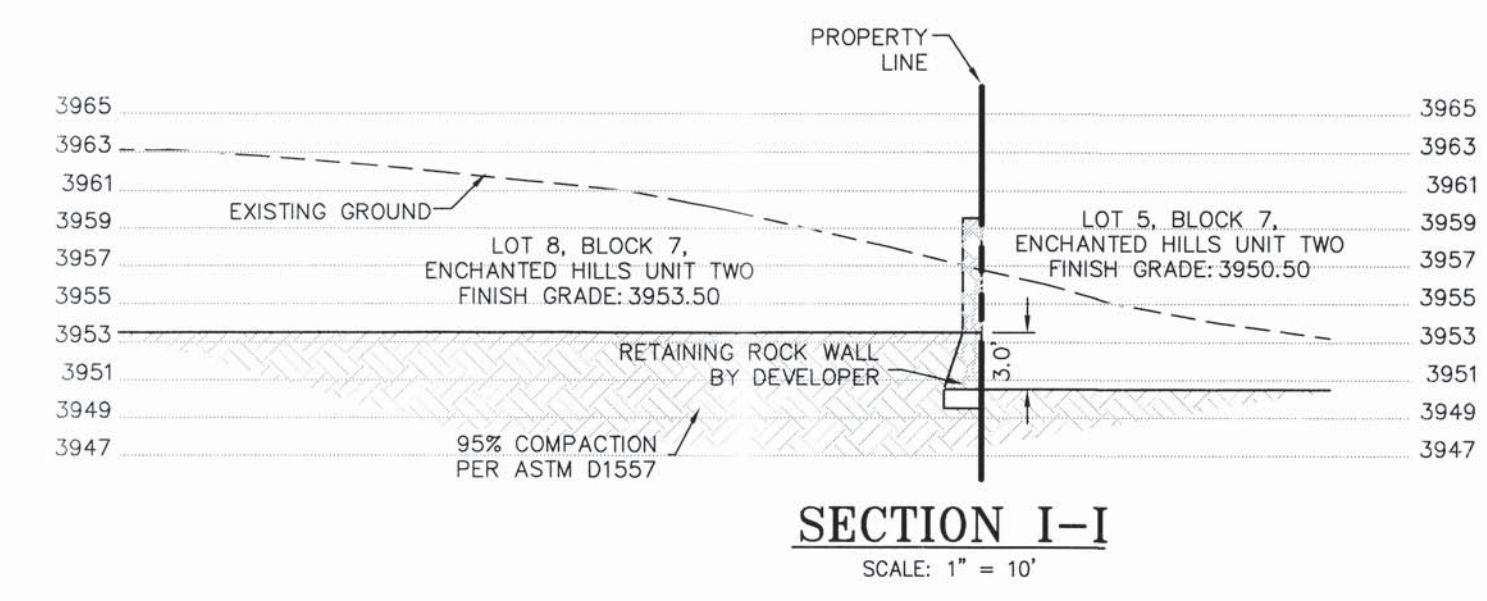
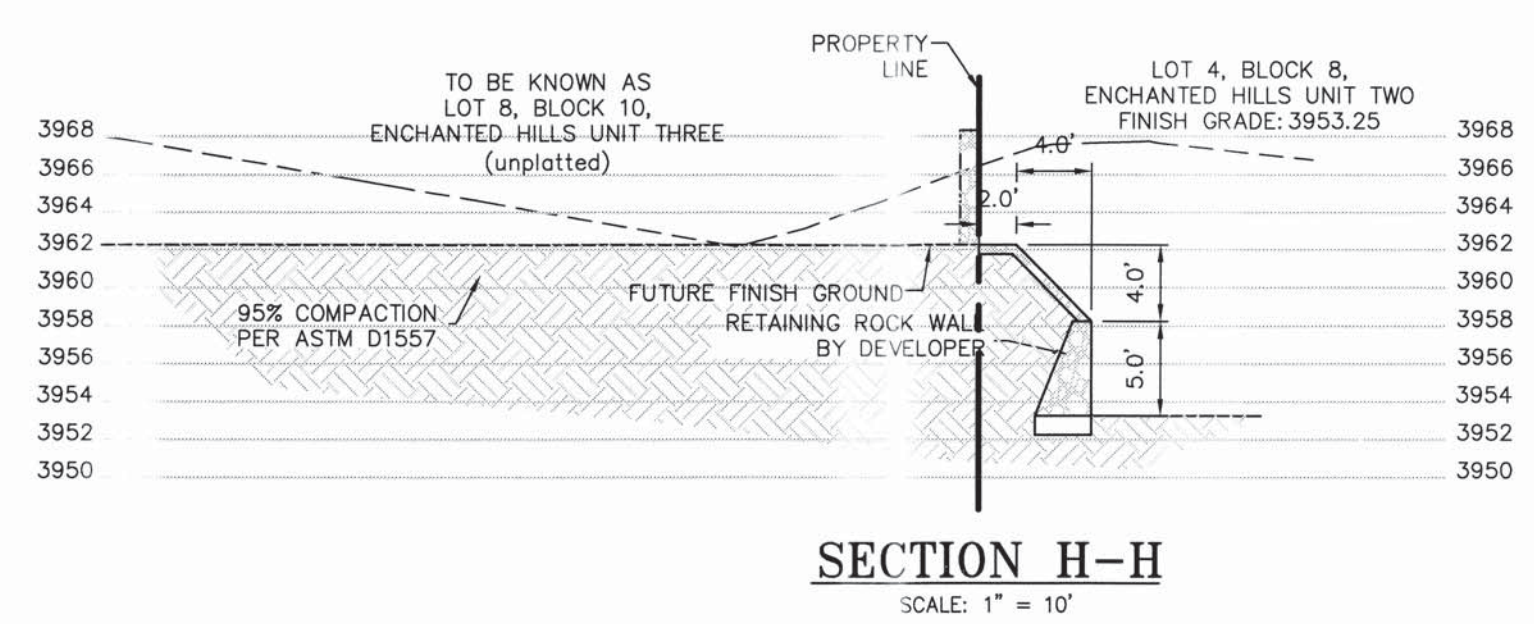
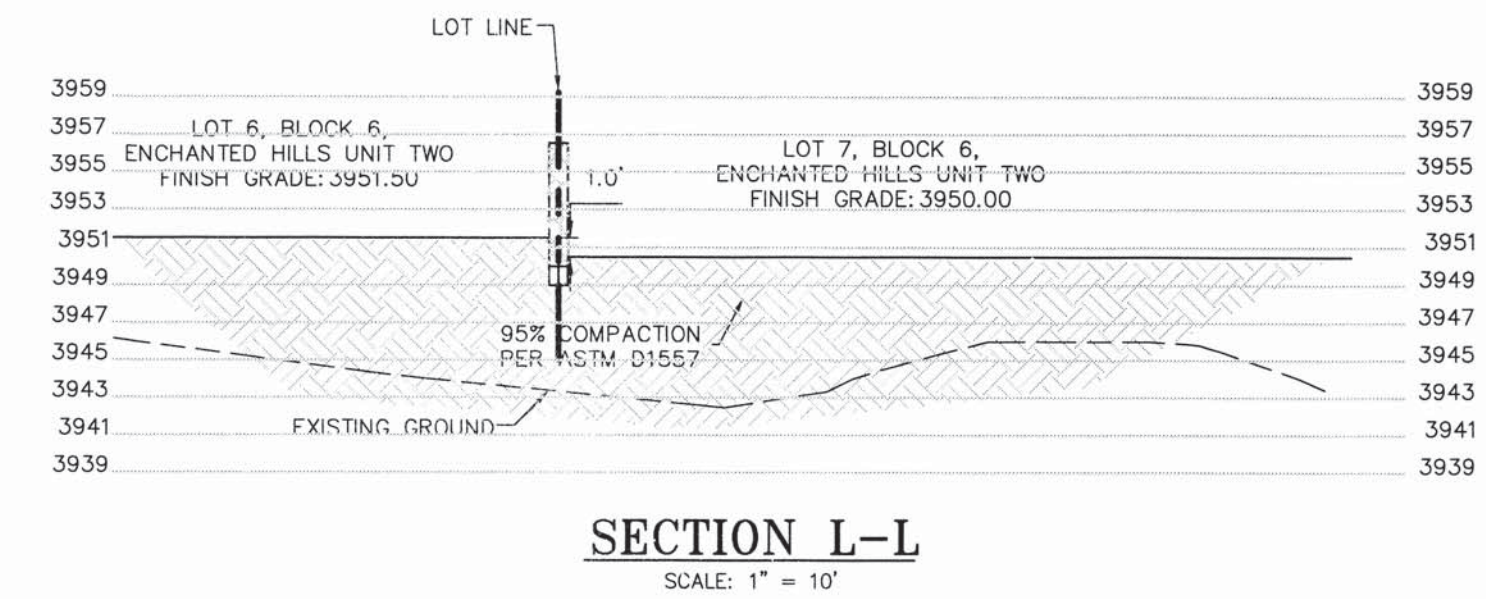
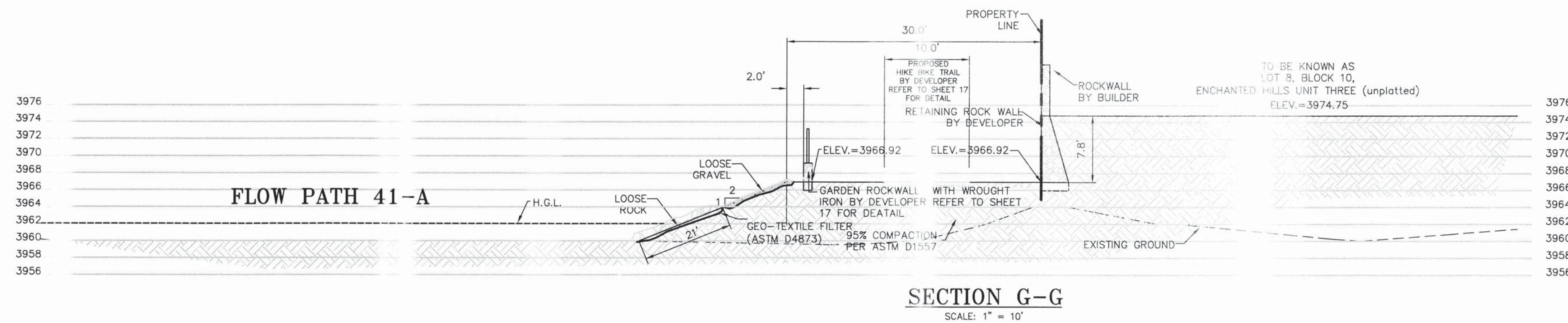
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	PRIMARY BENCHMARK 1985 NATIONAL GEODETIC SURVEY 1981 LOCATED APPROX. 1.55 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	HOR: 1"=10' VER: 1"=10' FILE NAME: EH-2 C-07.B CROSS SECT.DWG W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	SECONDARY BENCHMARK EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE ELEVATION: 3857.21 N.A.V.D.88 DATUM -10.18 = CITY OF EL PASO DATUM	

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SECTIONS
ENCHANTED HILLS UNIT TWO
SECTIONS

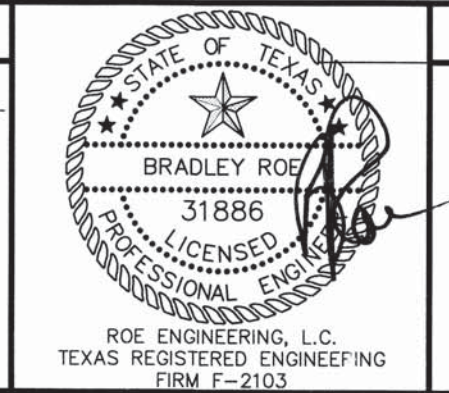
Engineering & Construction Management Department
bnp
Roe Engineering, L.C.
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(915) 538-1418 - FAX: (915) 538-4972
e-mail: roeng@bnp.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 7 OF 21



- NOTES:
1. CONCRETE TO BE 3000 P.S.I.
 2. PROVIDE ONE INCH EXPANSION JOINT AT EVERY FIFTY (50) FEET WITH No.(6) DOWEL AT 18 INCH O.C.
 3. PROVIDE DUMMY JOINTS AT TEN (10) FEET O.C.
 4. FOR SLOPES GREATER THAN 1:1 OR VERTICAL HEIGHT OF MORE THAN SIX (6) FEET, THE RIP-RAP SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.
 5. CONCRETE RIP-RAP SHALL BE PLACED ON EMBANKMENTS OR SLOPES WHERE REQUIRED BY THE CITY ENGINEER FOR EROSION PROTECTION.

NOTES:
RETAINING ROCKWALL HIGHER THAN 3' SHALL BE BUILT BY DEVELOPER.

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SECTIONS
ENCHANTED HILLS UNIT TWO

SECTIONS

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

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(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@rbell.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

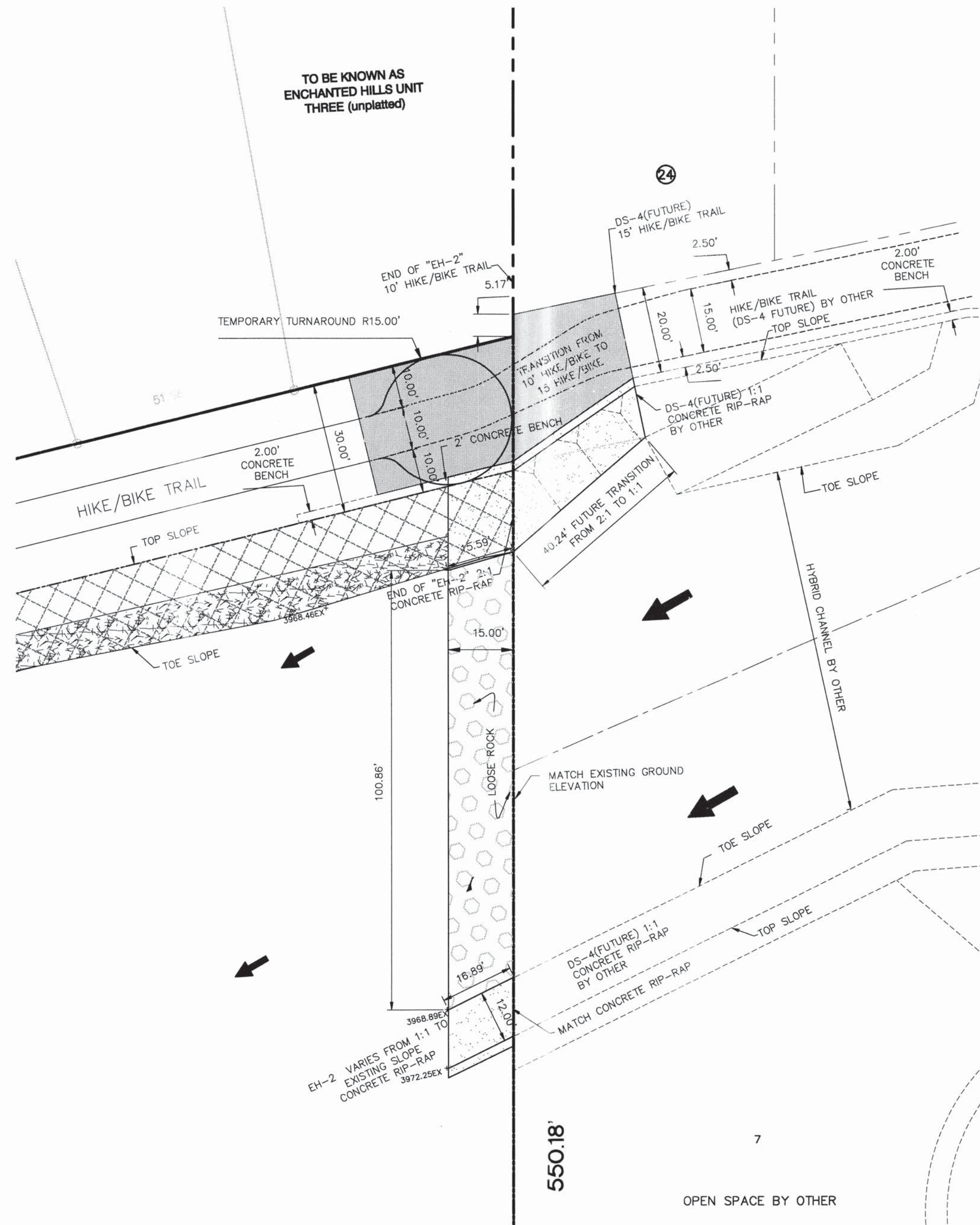
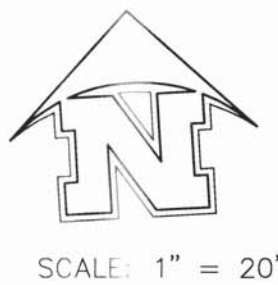
SHEET **8** OF **21**

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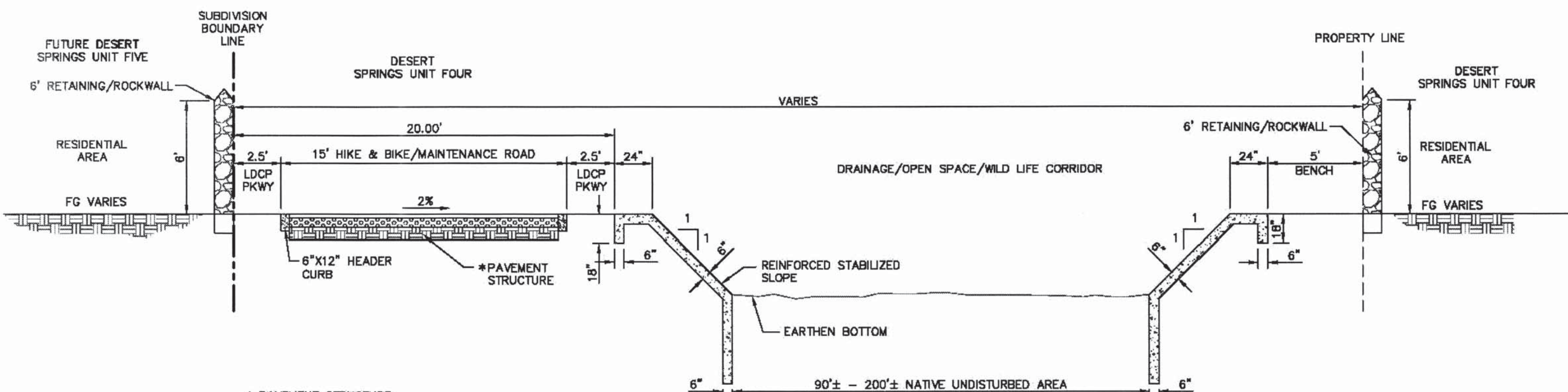
FLOOD NOTE:
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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	THIS MONUMENT "ORNO 1880" (P.S. 262444) LOCATED AS PER NATIONAL GEODETIC SURVEY 1988; LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (FRANKMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	HOR: 1"=10' VER: 1"=10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	FILE NAME: 011509-1 A EH-2 W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
			N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	

TO BE KNOWN AS
ENCHANTED HILLS UNIT
THREE (unplatted)



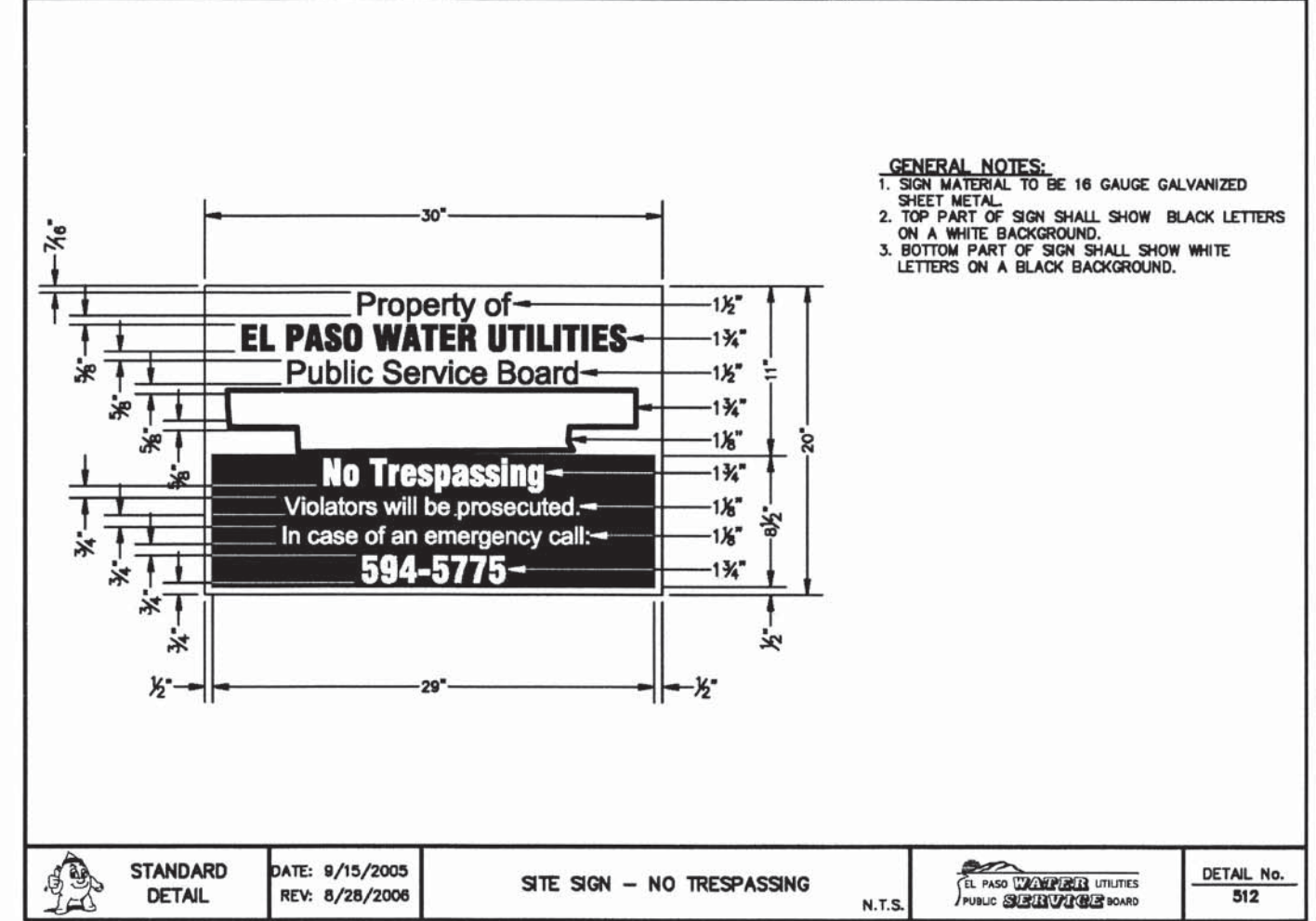
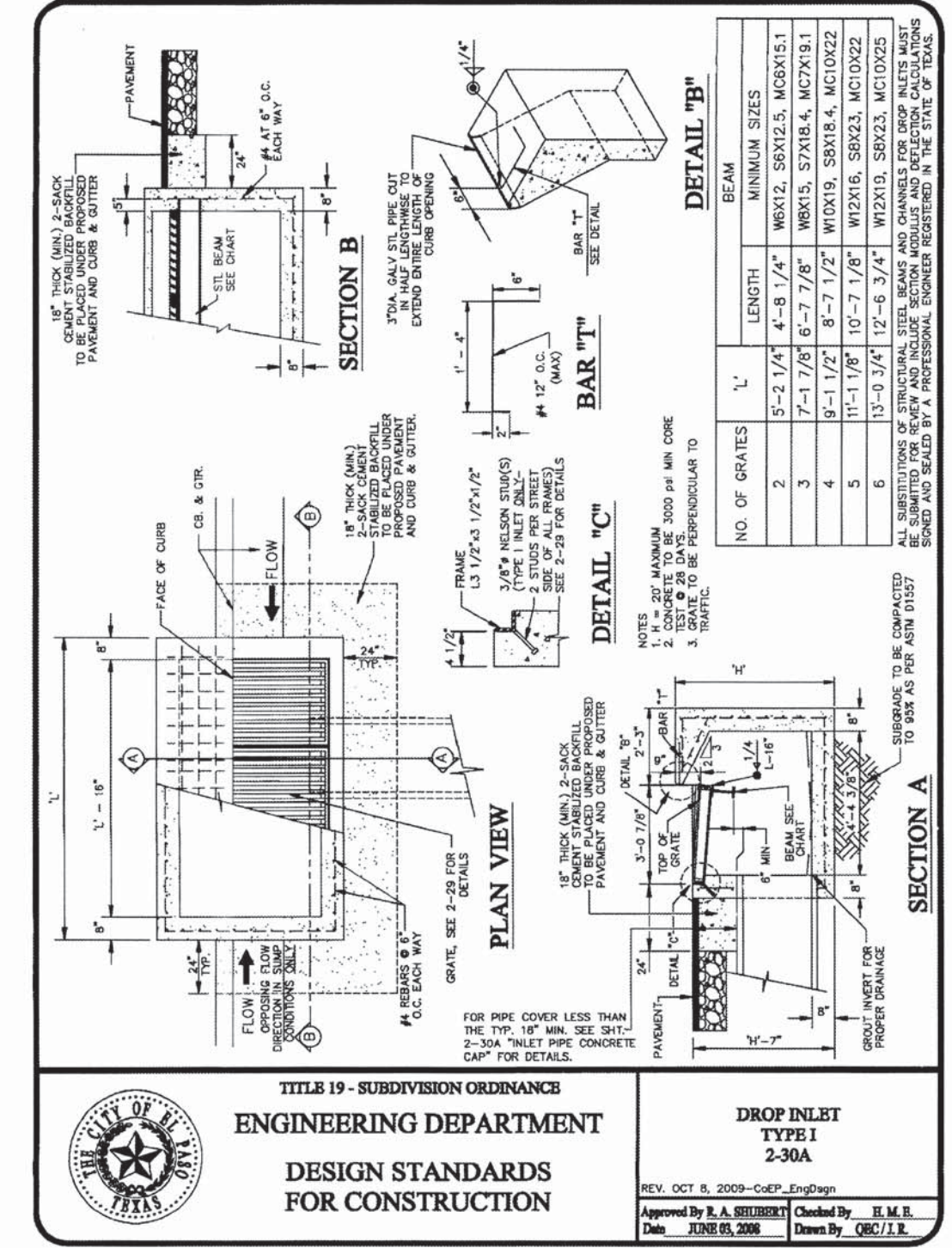
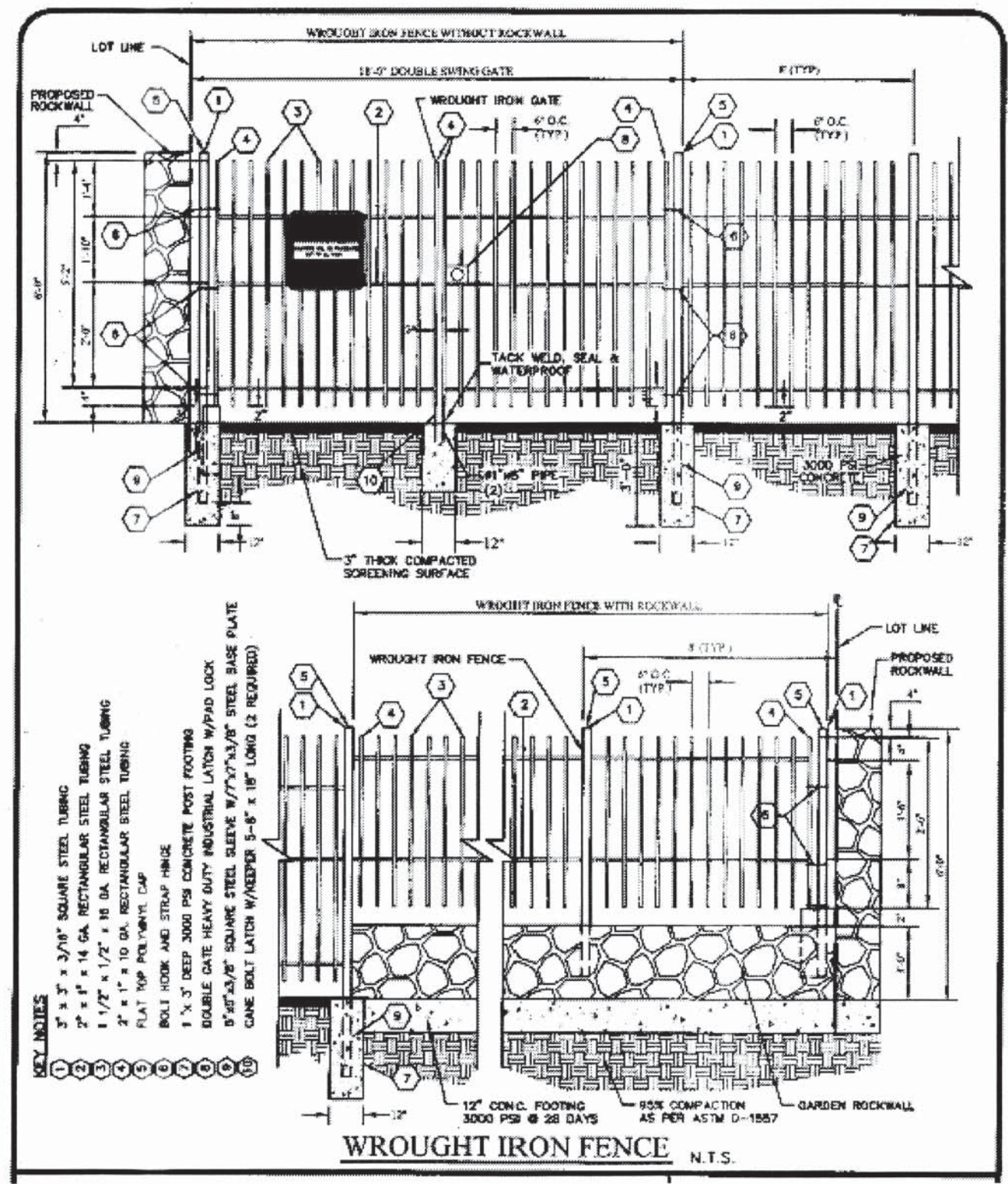
TRANSITION OF EH-2 H/B OPEN SPACE
TO DS-4(FUTURE) HYBRID CHANNEL PLAN VIEW DETAILS
HOZ. SCALE: 1" = 20'



* PAVEMENT STRUCTURE:
1 1/2" H/MAC TYPE D SEAL COATED (2 COATS)
6" CSBC 100% COMPACTED AS PER ASTM D-1557
8" SCARIFIED SUBGRADE 95% COMPACTED AS PER ASTM D-1557

HYBRID CHANNEL
SCALE: 1" = 5'-0"

DS-4(FUTURE) HYBRID CHANNEL BY OTHER



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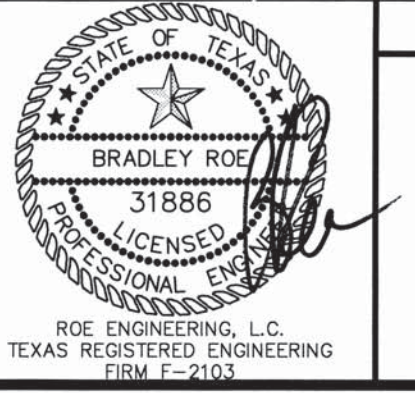
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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	1855 MONUMENT (FORM 1855) TOP CORNER	HOR: 1"=30' VER: 1"=10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE MID GRADE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANS-MOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3146.51 NAVD 88	W.O. 011509-1 A EH-2
			SECONDARY BENCHMARK	DATE: MARCH, 2011
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOJOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DESIGN BY: HP/L.A.J.
			N.A.V.D.88 DATUM -10.18 = CITY OF EL PASO DATUM	DRAWN BY: L.A.J.
				CHKD BY: H.P.
				APPD BY: BR

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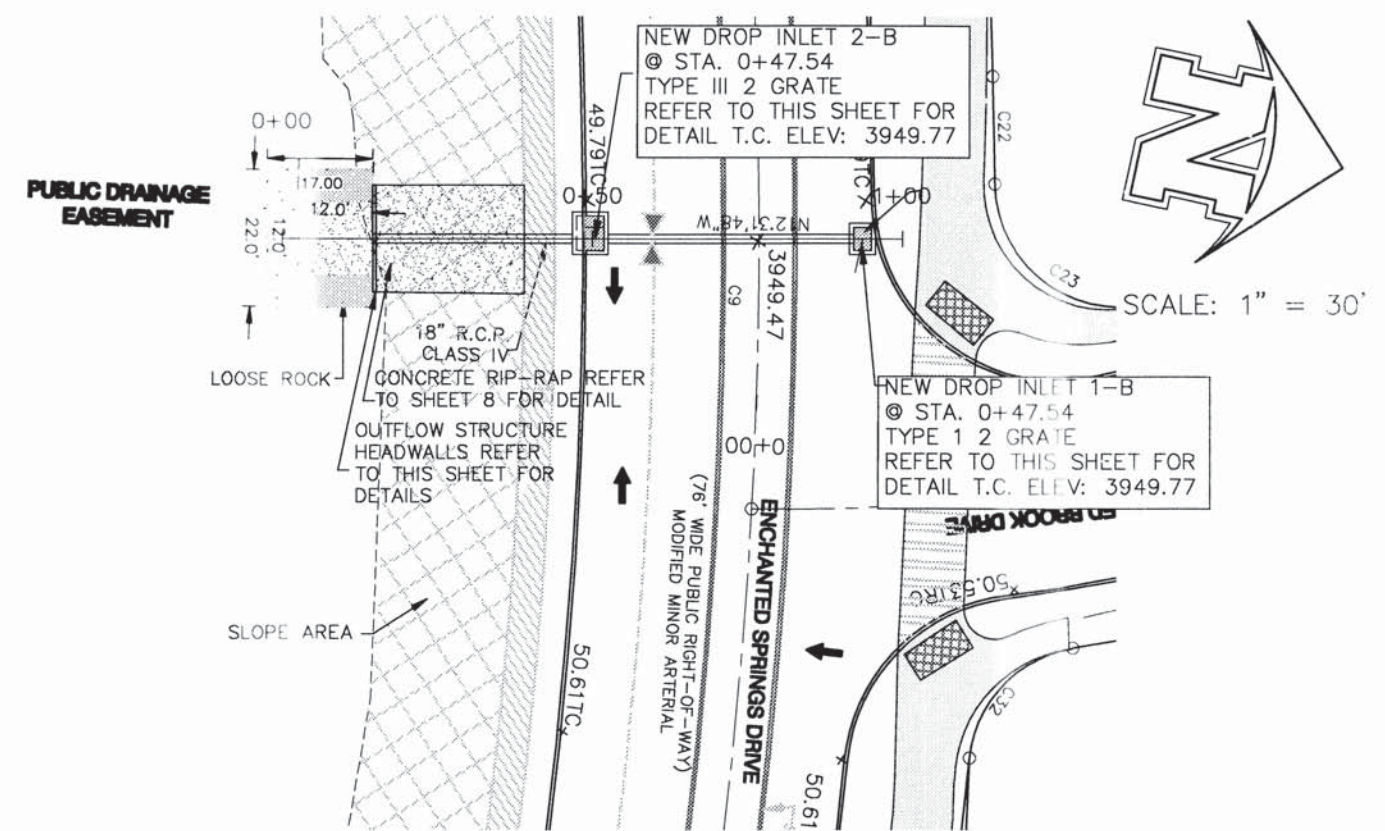
ROE ENGINEERING, L.C.
TEXAS REGISTERED ENGINEERING
EIN: 26424



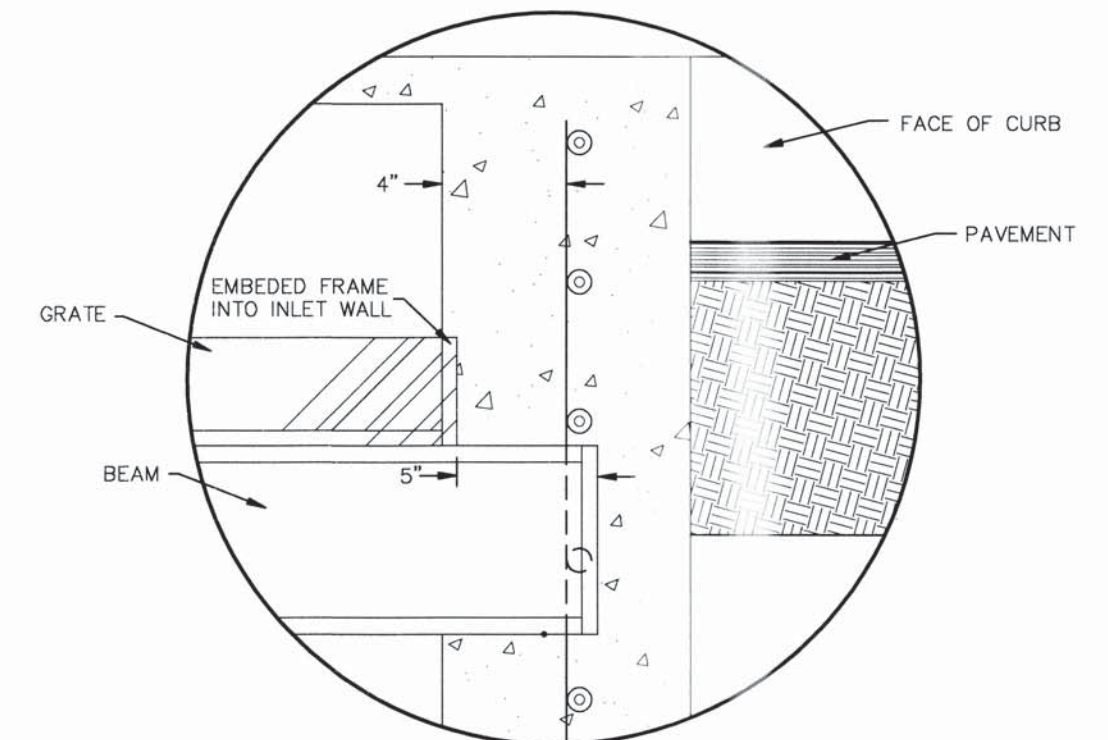
STORM PLAN AND PROFILE
**ENCHANTED HILLS
UNIT TWO**
**TRANSITION OF HYBRID CHANNEL
TO EH-2 OPEN SPACE DETAIL**

bnp Roe Engineering, L.C.
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(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeing@bnp.com

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET **9** OF **21**



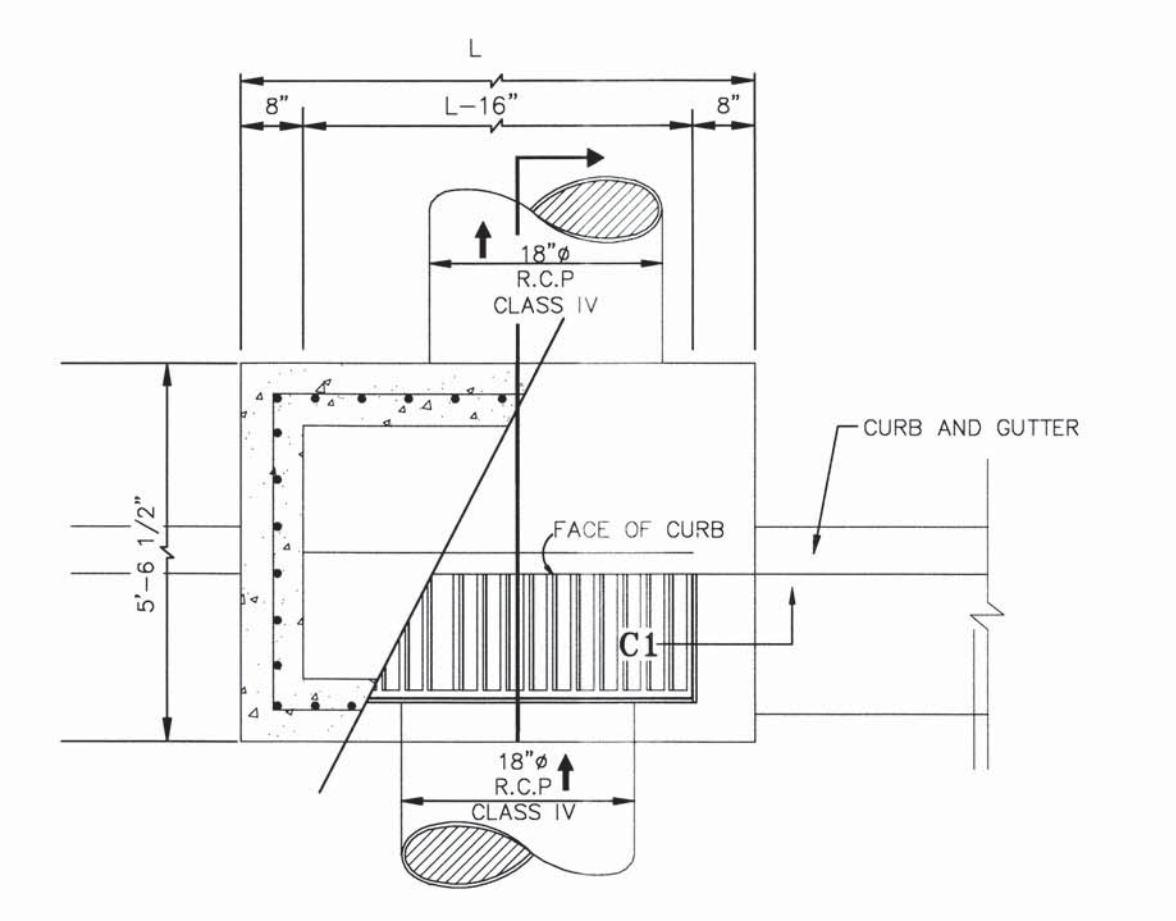
DRAINAGE SYSTEM "B" PLAN VIEW
HOZ. SCALE: 1" = 30'



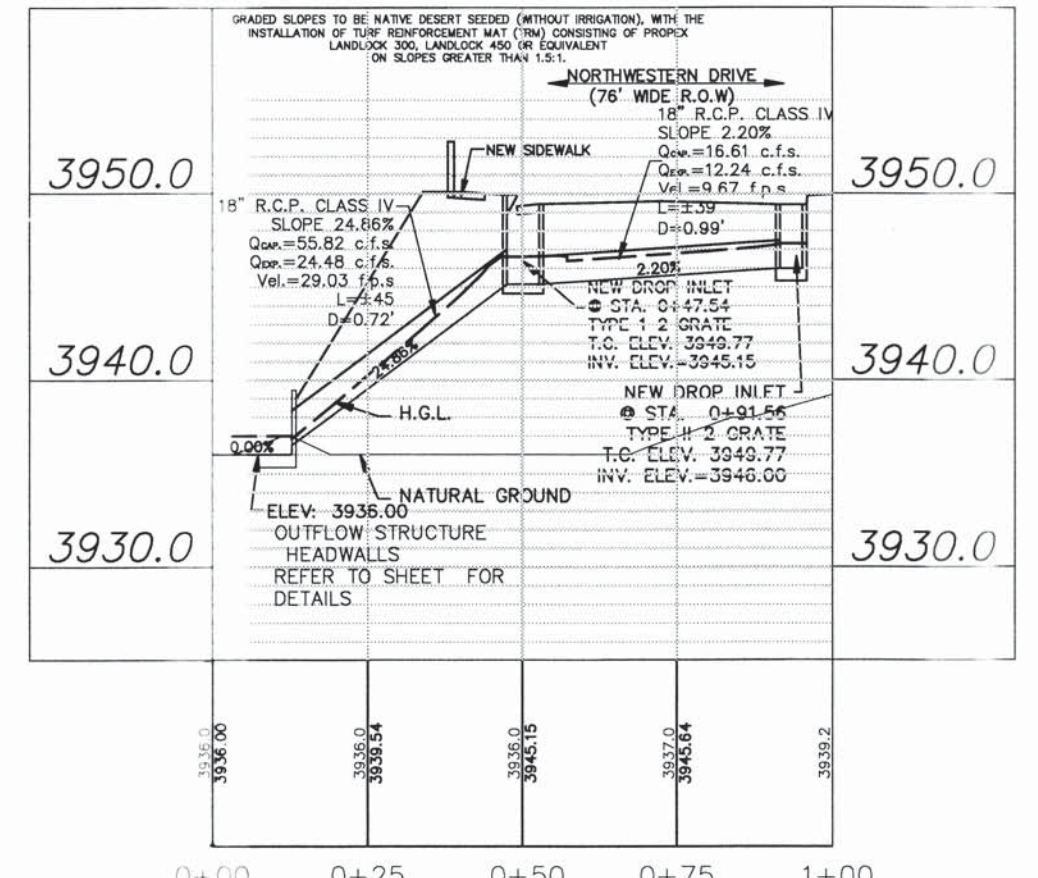
SECTION C1-C1 THIS SHEET

DROP INLET NOTES

1. WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
3. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY AND HANDLING.
4. GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SUMP.
5. WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRATES OF STEEL ON THE SAME GRADE WILL NOT BE PERMITTED.
6. GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
7. ALL WELDS SHALL BE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE A.W.S. STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
8. CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF ASTM M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY NOR BRITTLE.
10. ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
11. ALL CONCRETE TO BE 3000 P.S.I. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
12. MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
13. EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND TO BE PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
14. STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH T.H.D. ITEM 446 "PAINT AND PAINTING".
15. SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
16. GRATE WILL BE DERESSED 1" BELOW PROPOSED OR EXISTING GRADE.
17. ALL REINFORCING BARS TO BE # 4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
18. INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
19. LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
20. 2 - 1/2" DIA. X 4" LONG CONC. ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
21. THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.
22. EXCAVATION WHICH WILL EXCEED FIVE (5) FEET IN DEPTH SHALL PROVIDE FOR TRENCH SAFETY AS PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES.



PLAN VIEW DROP INLET #1-B (TYPE 1)
SCALE: N.T.S. (2 GRATE)



DRAINAGE SYSTEM "B" PROFILE
HOZ. SCALE: 1" = 30'
VER. SCALE: 1" = 10'

DROP INLET #2-B DRAINAGE CALCULATIONS TYPE THREE

GRATING
 $Q_{CAP} = 0.7 \times \text{AREA} \times (2 \times 32.2 \times H)^{1/2}$
 $Q_{CAP} = 0.7 \times 3.86 \times (2 \times 32.2 \times 0.42)^{1/2}$
 $Q_{CAP} = 14.00 \text{ cfs} \times 0.67 \text{ (CLOGGING FACTOR)}$
 $Q_{CAP} = 9.33 \text{ cfs}$

OF GRATES NEEDED FOR DROP INLET #2-B
 $Q_{EXP} = 24.48 \text{ cfs}$
 $Q_{CAP} = 9.33 \text{ cfs}$
OF GRATES = 12.24 / 9.33 = 1.31
 USE 2 GRATES

DROP INLET #1-B DRAINAGE CALCULATIONS TYPE ONE

GRATING
 $Q_{CAP} = 0.7 \times \text{AREA} \times (2 \times 32.2 \times H)^{1/2}$
 $Q_{CAP} = 0.7 \times 3.86 \times (2 \times 32.2 \times 0.42)^{1/2}$
 $Q_{CAP} = 14.00 \text{ cfs} \times 0.67 \text{ (CLOGGING FACTOR)}$
 $Q_{CAP} = 9.33 \text{ cfs}$

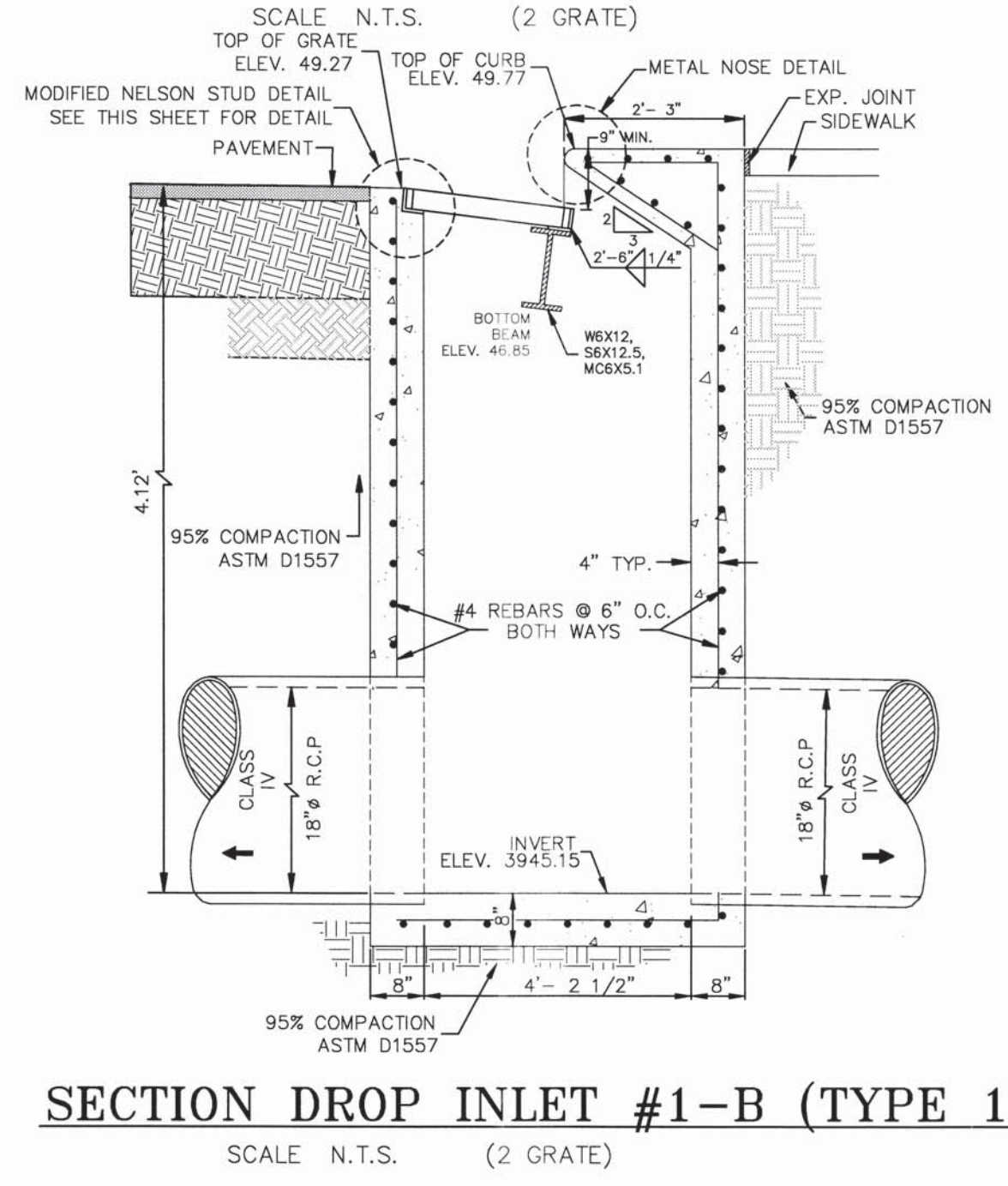
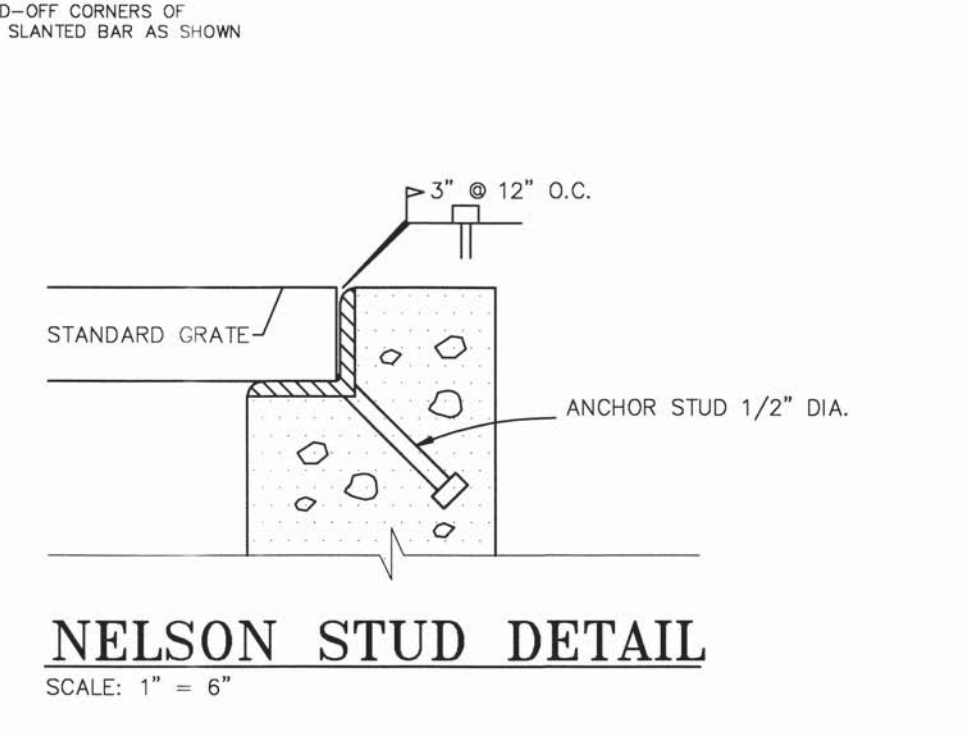
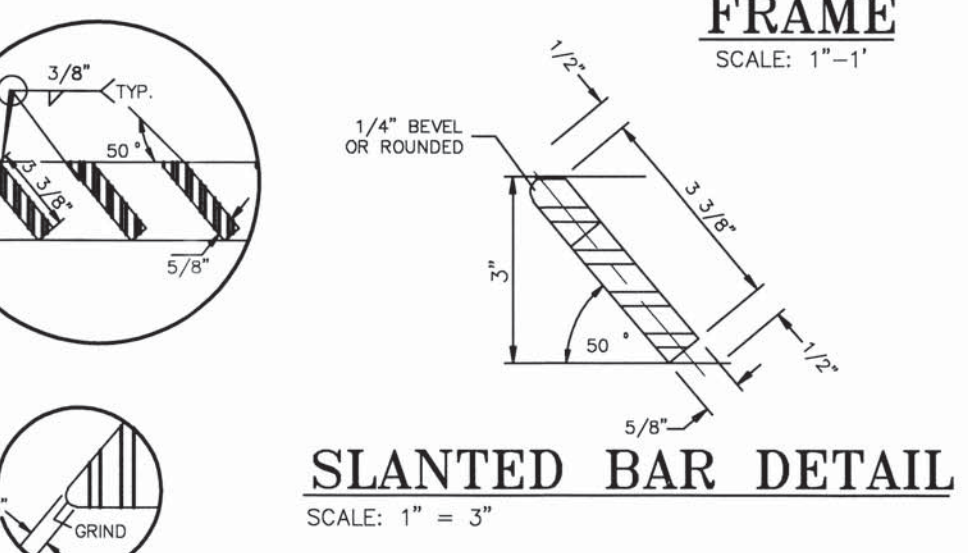
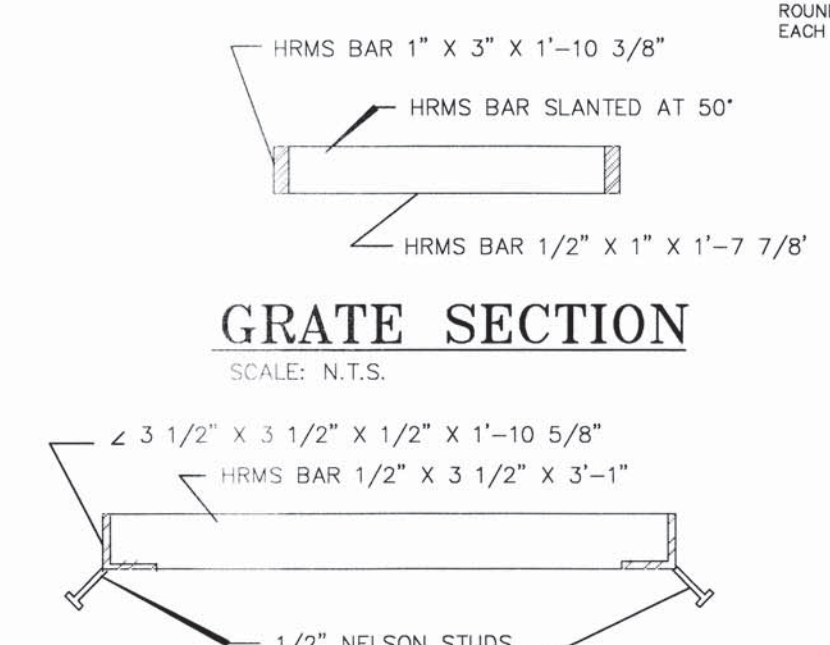
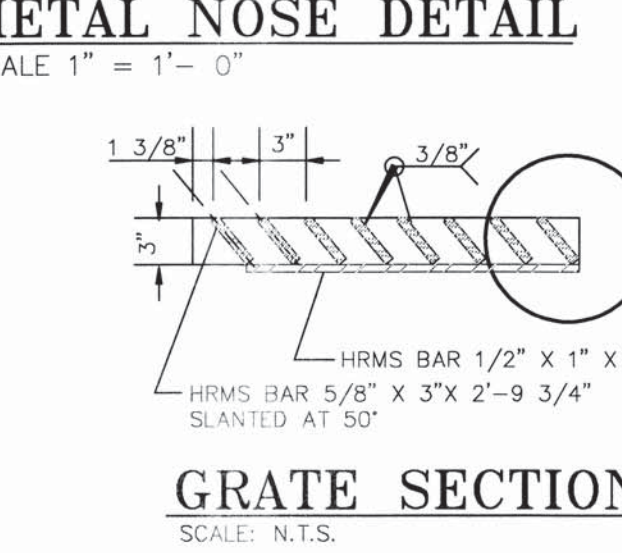
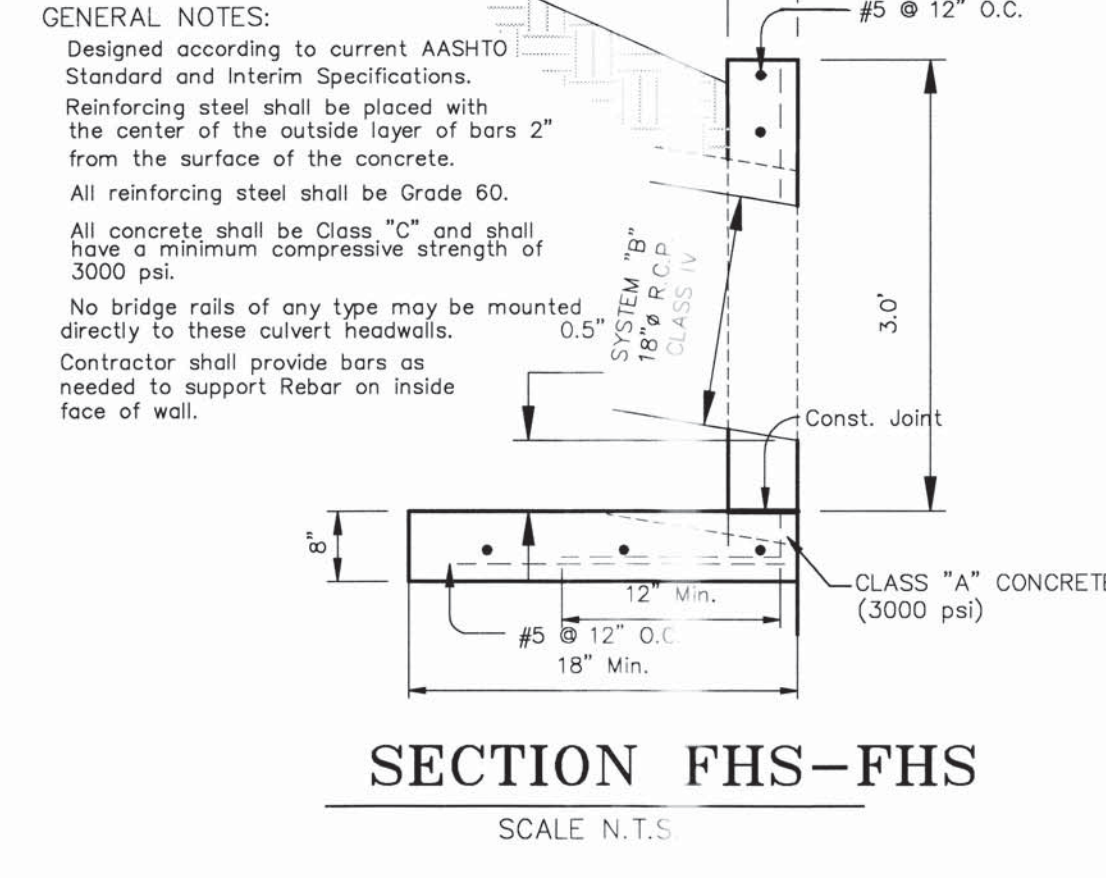
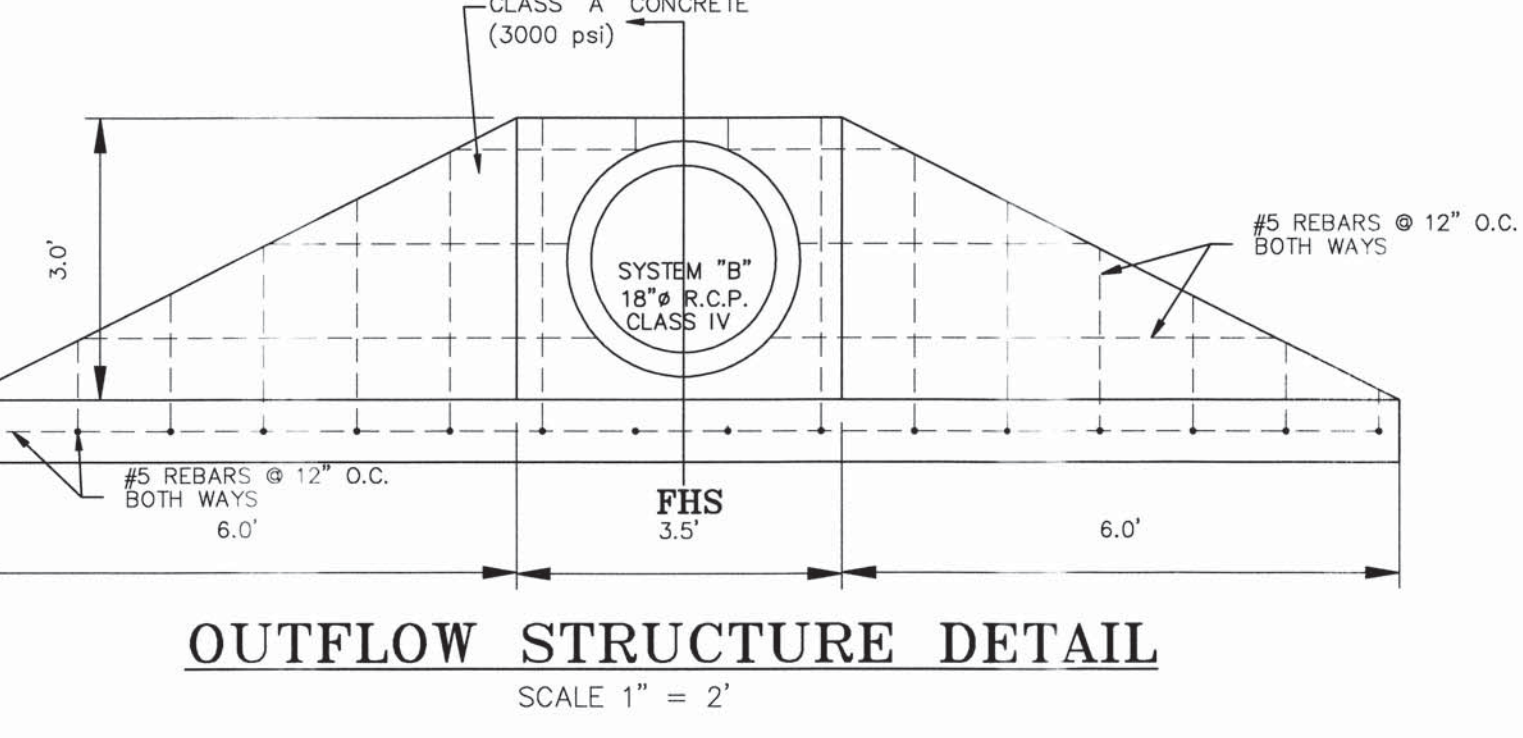
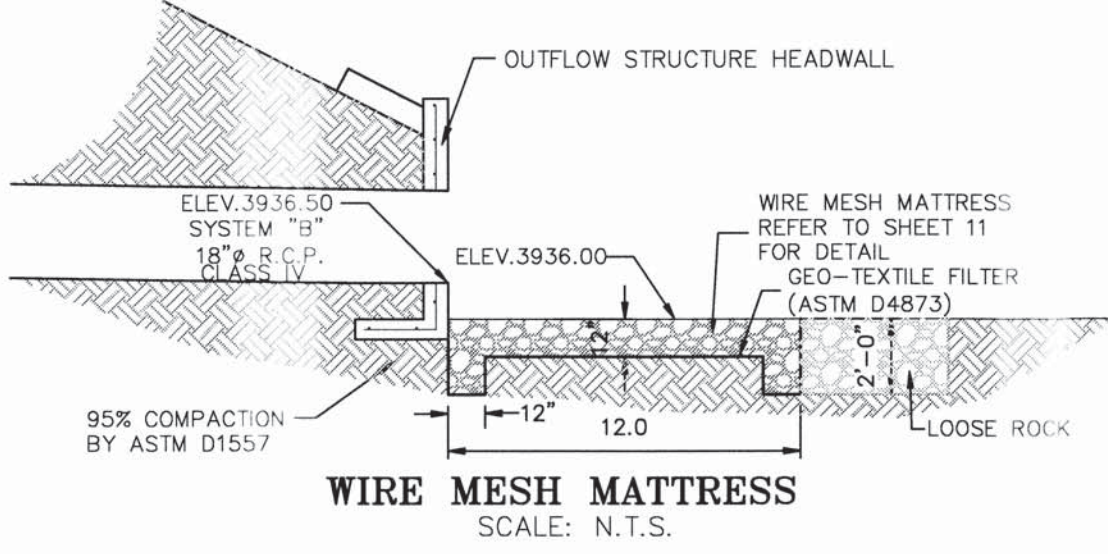
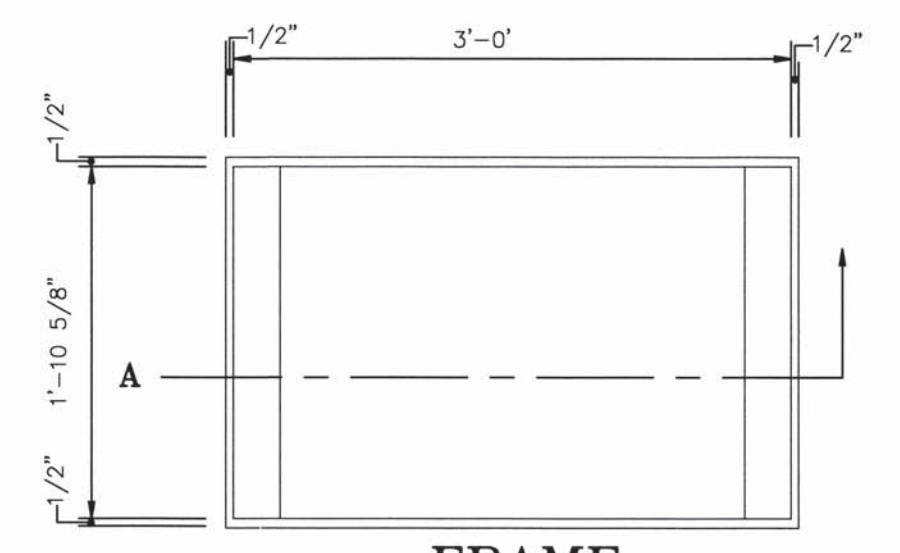
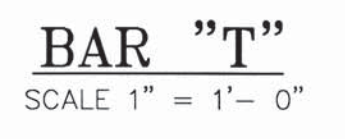
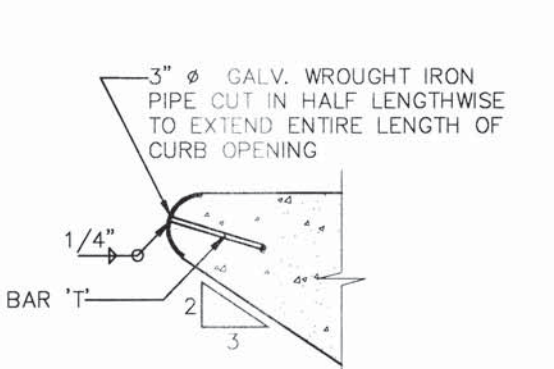
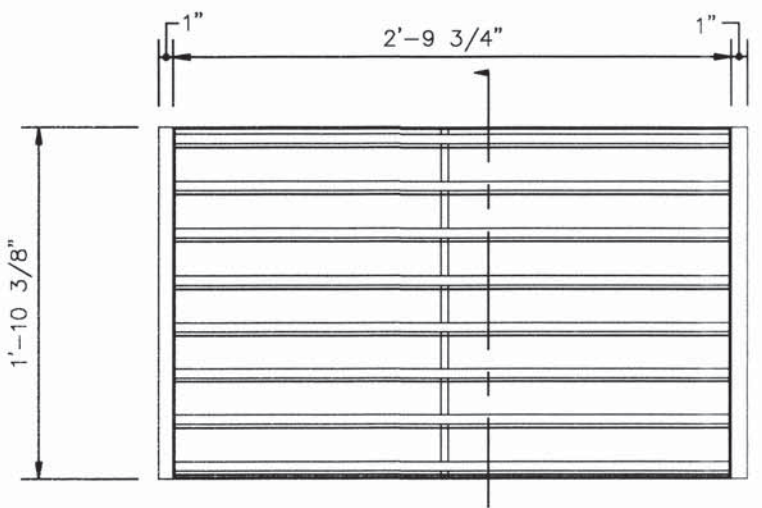
WEIR - CURB OPENING
 $Q_{CAP} = 3.087 \times L \times H^{3/2}$
 $Q_{CAP} = 3.087 \times 1.93 \times 0.42^{3/2}$
 $Q_{CAP} = 1.6 \text{ cfs}$

OF GRATES NEEDED FOR DROP INLET #1-B
 $Q_{EXP} = 24.48 \text{ cfs}$
 $Q_{CAP} = 9.33 + 1.60 = 10.93 \text{ cfs}$
OF GRATES = 12.24 / 10.93 = 1.11
 USE 2 GRATES

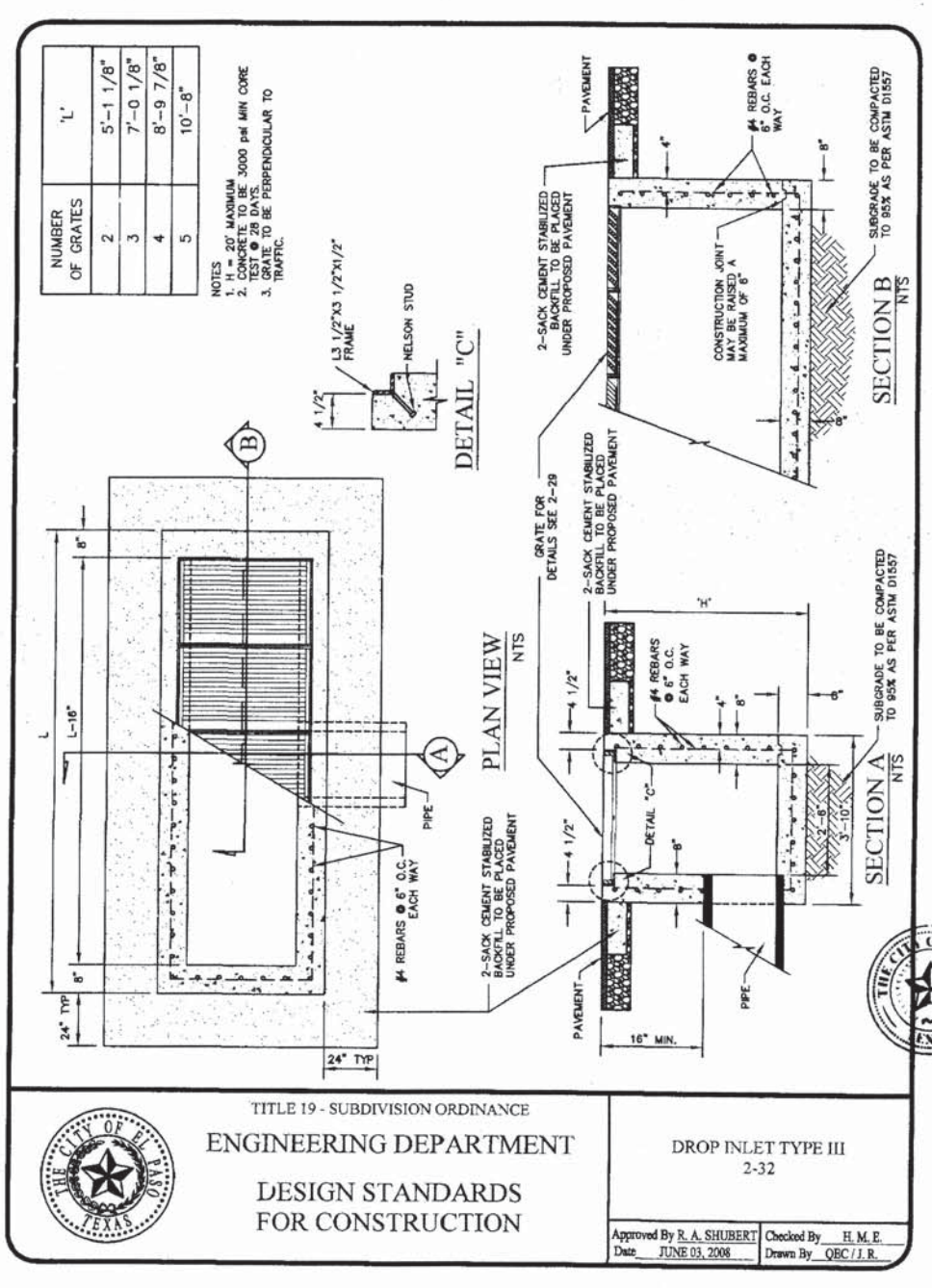
DROP INLET TYP. 1-B @ ENCHANTED SPRING STA. 19+91.17

DROP INLET	REQUIRED FLOW CAPACITY Q REQ. (CFS)	AVAILABLE FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS	TYPE OF INLET	NUMBER OF GRATES
1-B	12.24	21.86	0	0	I	2
2-B	12.24	18.66	0	0	III	2
TOTAL	24.48	40.53				

NO. OF GRATES	L'	BEAMS	
		LENGTH	MINIMUM SIZES
2	5'-2 1/4"	4'-8 1/4"	W6X12, S6X12.5, MC6X15.1



SECTION DROP INLET #1-B (TYPE 1)
SCALE: N.T.S. (2 GRATE)



ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

TITLE 19 - SUBDIVISION ORDINANCE
ENGINEERING DEPARTMENT
DESIGN STANDARDS FOR CONSTRUCTION

APPROVED BY: S.A. DEBERRY
DATE: JUNE 10, 2008

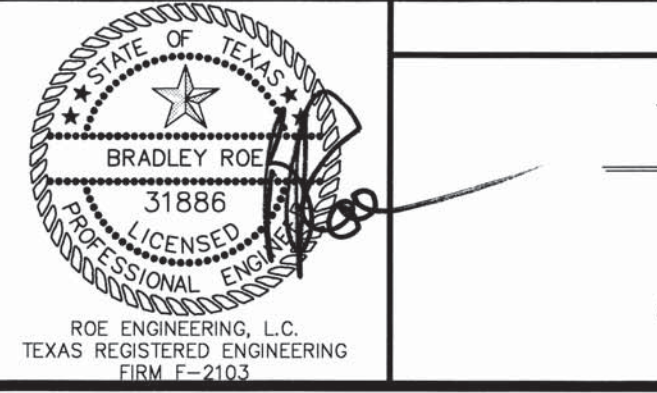
DRAWN BY: S.M.E.
CHECKED BY: C.R.C./J.R.

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FLOOD NOTE:
THE ABOVE REFERENCED PROPERTY IS WITHIN ZONE "A" AND ZONE "X" (EXPLANATION: ZONE "A" NO BASE FLOOD ELEVATIONS DETERMINED; EXPLANATION: ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER THE UNINCORPORATED AREAS COMMUNITY PANEL NO. 480212.0025 B, DATED SEPTEMBER 4, 1991.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	NOT DETERMINED (BEST TRIP RECORD)	HOR: 1" = 30' VER: 1" = 10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ALONG THE CENTERLINE OF LOS MOCHES DRIVE 1.25 MILES EAST OF THE INTERSECTION OF LOS MOCHES DRIVE AND THE EAST SIDE OF INTERSTATE 10. ELEVATION 3848.11 NAVD 83	FILE NAME: EN-2-C-09.10.11.S.PP2.DWG W.O. 011509-1 A EH-2
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHES DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUELLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUELLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD BY: H.P. APPD BY: BR
			N.A. V.D. DATUM -1018 = CITY OF EL PASO DATUM	ROE ENGINEERING, L.C. TEXAS REGISTERED ENGINEERING FORM E-2003

ENCHANTED HILLS UNIT TWO SYSTEM B PLAN AND PROFILE ENCHANTED SPRINGS DR. STA 20+17.38



ENCHANTED HILLS UNIT TWO SYSTEM B PLAN AND PROFILE ENCHANTED SPRINGS DR. STA 20+17.38

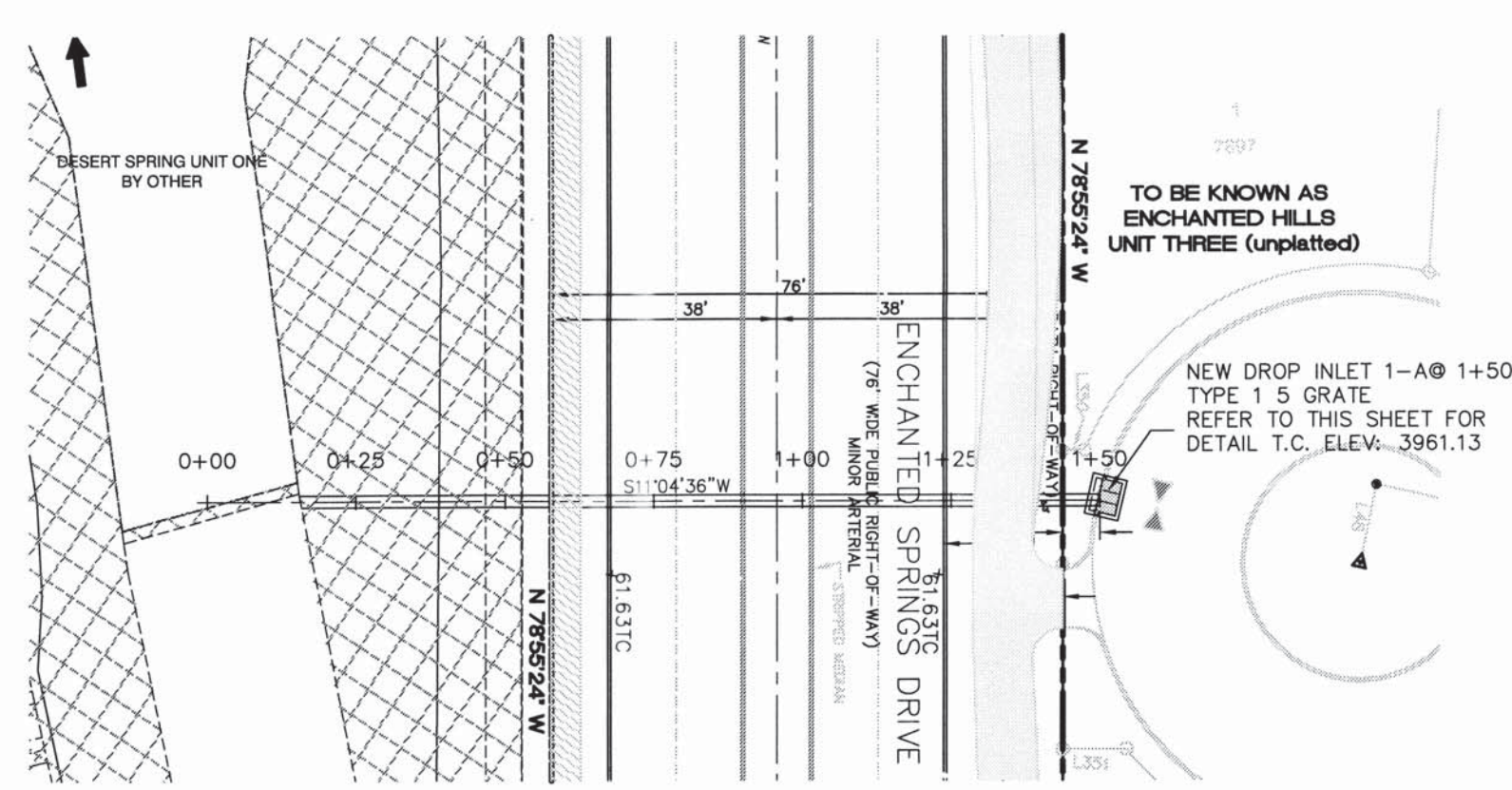
ROE ENGINEERING, L.C.
801 N. Cotton St. Suite No. 8 El Paso, TX, 79902
(915) 533-1418 - FAX: (915) 533-4072
e-mail: roeeng@roewall.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 10 OF 21

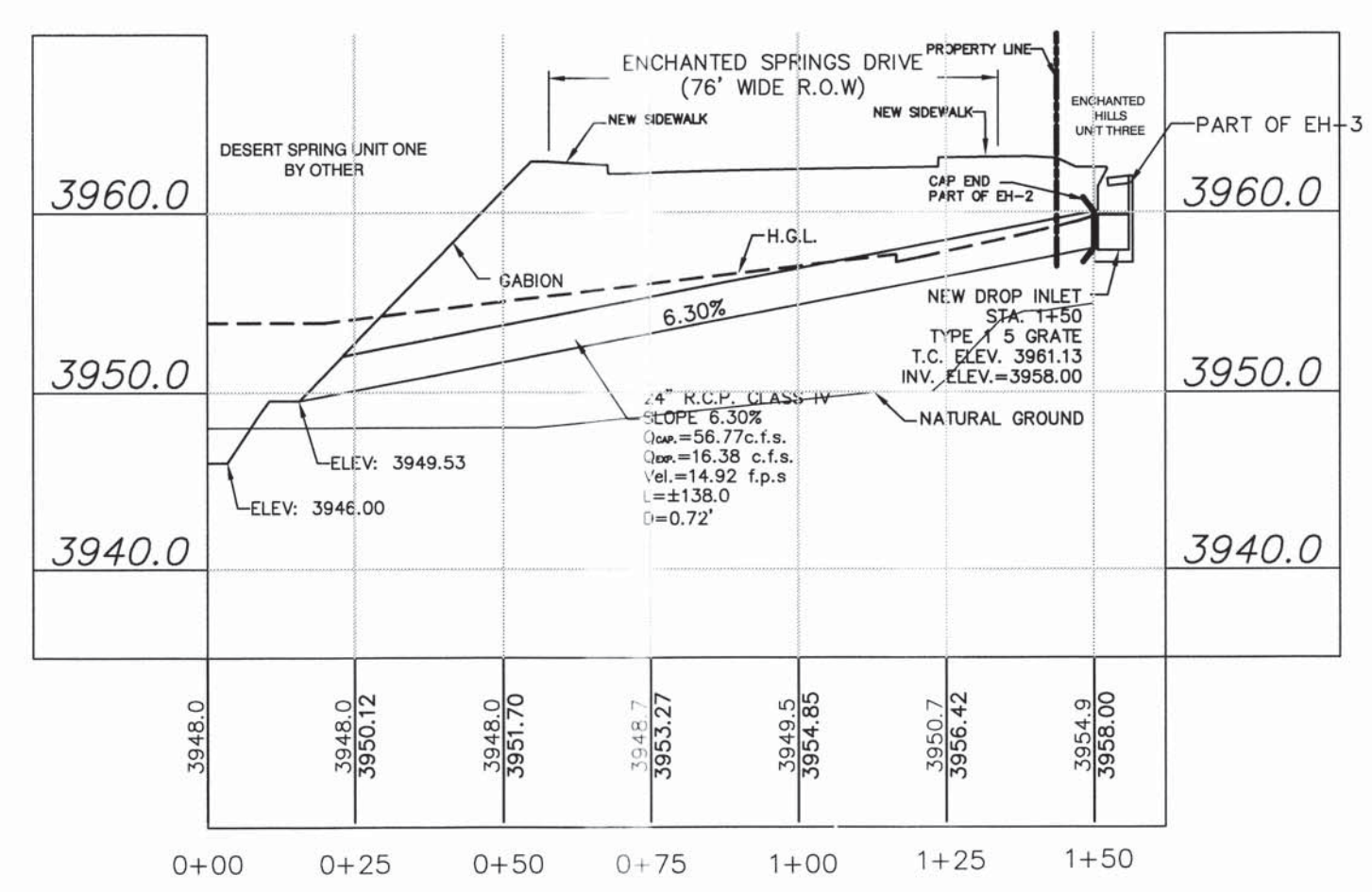


SCALE: 1" = 30'



DRAINAGE SYSTEM "C" PLAN VIEW

HOZ. SCALE: 1" = 30'



DRAINAGE SYSTEM "C" PROFILE

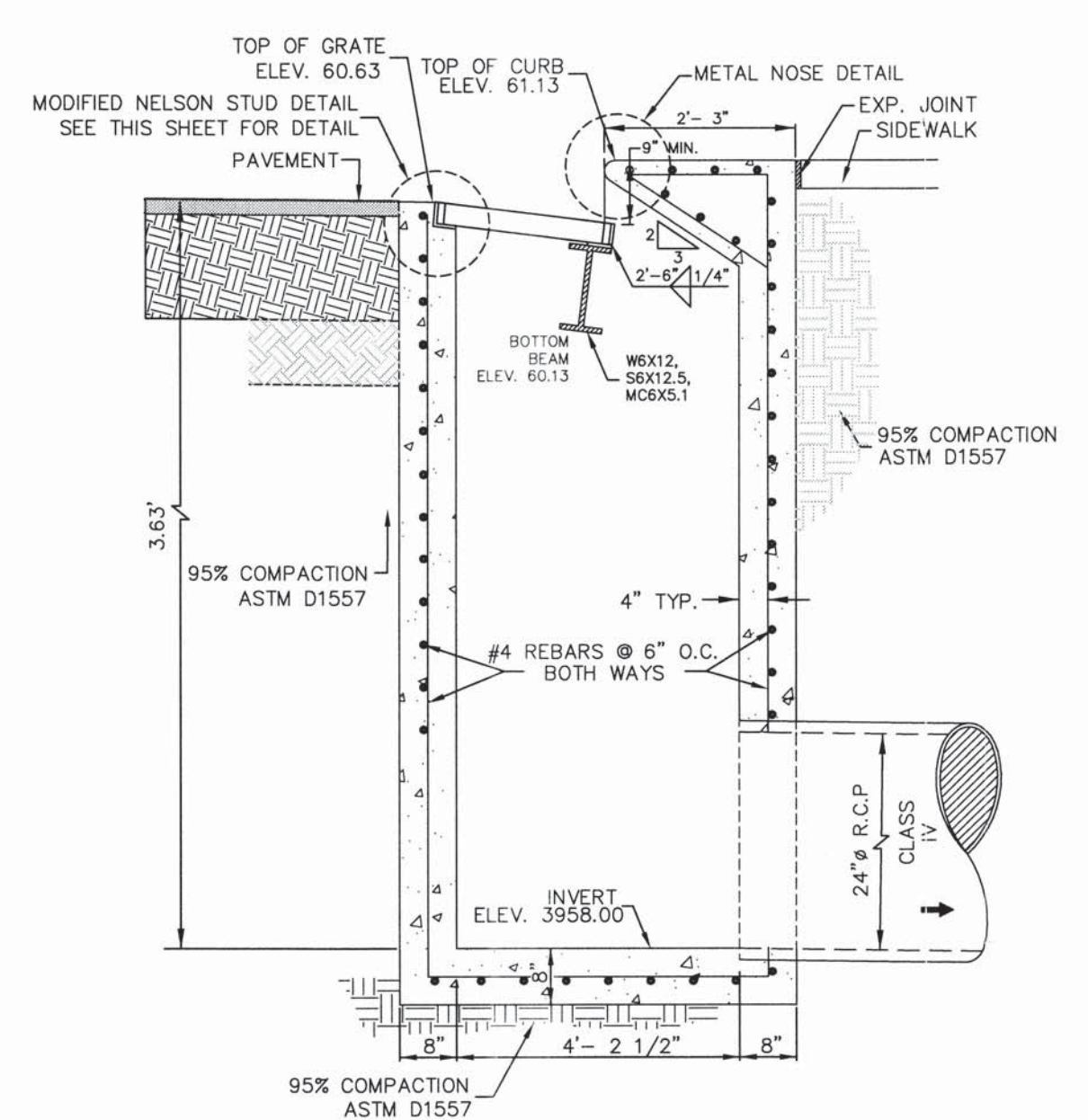
HOZ. SCALE: 1" = 30'
VER. SCALE: 1" = 10'

DROP INLET NOTES

- WELDED STEEL OR CAST GRATES AS DETAILLED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
- SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY AND HANDLING.
- GRATES SHALL BE INSTALLED IN FRAME WITH FLOW ARROW POINTING DOWNSTREAM OR TOWARD THE LOW POINT IN A SLUMP.
- WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING GRATES OF STEEL ON THE SAME GRATE WILL NOT BE PERMITTED.
- GRATES MADE OF M-183 STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111 SPECIFICATIONS OR SHALL BE PAINTED WITH INORGANIC ZINC PAINTS, MEETING THE REQUIREMENTS OF CURRENT STANDARD SPECIFICATIONS.
- ALL WELDS SHALL BE A MINIMUM OF 1/4" FILLET AND SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE A.W.S. STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
- CAST GRATES SHALL BE CAST STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-103, GRADE 65-35 OR OF DUCTILE IRON CONFORMING TO THE REQUIREMENTS OF ASTM A-536, SPECIAL GRADE 60-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
- FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOHMHOLE, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT, RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY NOR BRITTLE.
- ALL CASTINGS SHALL BE MANUFACTURED TRUE TO PATTERN. COMPONENT PARTS SHALL FIT TOGETHER IN A SATISFACTORY MANNER.
- ALL CONCRETE TO BE 3000 P.S.I. CHAMFER ALL EXPOSED EDGES 3/4". ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS.
- MINIMUM CONCRETE COVER SHALL BE 1 1/2" FOR STEEL REINFORCING.
- EXPANSION MATERIAL TO BE 1/2" BITUMINOUS FIBER AND TO BE PLACED WHERE PROPOSED CONCRETE COMES IN CONTACT WITH ANY EXISTING OR PROPOSED CONCRETE OR MASONRY STRUCTURE.
- STRUCTURAL STEEL SHALL BE SHOP PAINTED IN ACCORDANCE WITH T.H.O. ITEM 446 "PAINT AND PAINTING".
- SURFACE OF ALL EXPOSED CONCRETE SHALL CONFORM IN SLOPE AND GRADE TO EXISTING OR PROPOSED CURB AND WALK ADJACENT TO INLETS.
- GRATE WILL BE DERESSED 1" BELOW PROPOSED OR EXISTING GRADE.
- ALL REINFORCING BARS TO BE # 4 BARS AT 6" O.C. GRADE 60. BEND BARS AROUND PIPE OPENINGS.
- INLETS TO BE DESIGNATED IN PLANS BY NUMBER OF GRATES REQUIRED.
- LOCATION OF SEWER PIPES SHOWN ELSEWHERE IN PLANS.
- 2 - 1/2" DIA. X 4" LONG CONC. ANCHOR STUDS REQUIRED FOR EACH SIDE OF FRAME, WHERE RESTING ON CONCRETE, USE NELSON STUDS OR EQUAL.
- THE GRATES OF ALL INLETS WITHIN THE STREET PAVEMENT MUST BE CONSTRUCTED WITH THE GRATE BARS PERPENDICULAR TO THE CURB.
- EXCAVATION WHICH WILL EXCEED FIVE (5) FEET IN DEPTH SHALL PROVIDE FOR TRENCH SAFETY AS PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) GUIDELINES.

PLAN VIEW DROP INLET #1 (TYPE 1)

SCALE N.T.S. (5 GRATE) PART OF ENCHANTED HILLS UNIT 3



SECTION DROP INLET #1 (TYPE 1)

SCALE N.T.S. (5 GRATE) PART OF ENCHANTED HILLS UNIT 3

DROP INLET	REQUIRED FLOW CAPACITY Q REQ. (CFS)	AVAILABLE FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW EXCESS	TYPE OF INLET	NUMBER OF GRATES
1-C	44.20	54.65	0	0	1	5

NO. OF GRATES	L'	LENGTH	BEAMS
5	11'-1 1/8"	10'-7 1/8"	W12X16, SBX23, MC10X22

GRATING	
Q _{cap} = 0.7 x AREA x (2 x 32.2 x h) ^{3/2}	
Q _{cap} = 0.7 x 3.86 x (2 x 32.2 x 0.42) ^{3/2}	
Q _{cap} = 14.00 cfs x 0.67 (CLOGGING FACTOR)	
Q _{cap} = 9.33 cfs	
WEIR - CURB OPENING	
Q _{cap} = 3.087 x L x H ^{3/2}	
Q _{cap} = 3.087 x 1.93 x 0.42 ^{3/2}	
Q _{cap} = 1.6 cfs	
# OF GRATES NEEDED FOR DROP INLET #1	
Q _{req} = 44.20 cfs	
Q _{cap} = 9.33 + 1.60 = 10.93 cfs	
# OF GRATES = 44.20/10.93 = 4.04	
USE 5 GRATES	

64. WIRE MESH GABIONS AND MATTRESSES

- SCOPE**
The work shall consist of furnishing, assembling and installing rock filled wire mesh gabion baskets and mattresses.
- TYPES**
Gabions shall consist of rectangular or square wire mesh formed containers filled with rock. Gabions shall conform to the following:
 - Welded wire mesh with a uniform square or rectangular pattern and a resistance weld at each intersection. The welded wire connections shall conform to the requirements of ASTM A185, including wire smaller than W1.2 (0.124 in.), except that the welded connections shall have minimum average shear strength of 70% and minimum shear strength of 60% of the minimum ultimate tensile strength of the wire. The wire mesh shall be galvanized before forming into mesh.
 - ASTM 974 as manufactured by Modular Gabion Systems, Houston, TX or approved equal. Approval must be in writing by the specifying engineer a minimum of one week prior to bid.
- MATERIALS**
Gabions shall be fabricated, assembled and installed in accordance with the nominal wire sizes and dimensions found in Tables 1 and 2, using the following materials.
Wire for fabrication and assembly shall be hot-dipped galvanized. The wire shall have a minimum tensile strength of 60,000 psi. Galvanized steel wire shall conform to ASTM A 641, Class 3, and Soft Temper.

Lacing Wire	Mesh Size	Wire Diameter	PVC Coating	Total Diameter	Galvanized Coating or SF
Welded Mesh	1 - 1/2 X 3	0.086	0.02	0.128	0.70
Spiral Binder		0.105	0.02	0.145	0.80

NOTE: The wire sizes and PVC coating thickness shown are nominal sizes. The wire sizes include the galvanizing coating thickness.

When Polyvinyl Chloride (PVC) coated wire is specified, the galvanized wire shall be coated by fusion bonded PVC material. The wire coating shall be colored black, gray, green or silver, and the initial properties of the PVC coating shall meet the following requirements:

- Specific Gravity:** In the range of 1.30 to 1.40, ASTM D 792.
- Abrasion Resistance:** The percentage of weight loss shall be less than 12%, when tested according to ASTM D 1242, Method B at 200 cycles, CSI-A Abrader Tape, 80 Grit.
- Brittleness Temperature:** Not higher than 15°F, ASTM D 746
- Tensile Strength:** Fusion Bonded Coating (not less than 2275 psi at 100 percent strain, ASTM D 538).
- Modulus of Elasticity:** Fusion Bonded Coating (not less than 1980 psi at 100 percent strain, ASTM D 538).
- Ultraviolet Light Exposure:** A test period of not less than 3,000 hours, using apparatus type E at 63 C, ASTM G 23.
- Salt Spray Test:** A test period of not less than 3,000 hours, ASTM B 117.

After the exposure to ultraviolet light and the salt spray test as specified above, the PVC coating shall not show cracks, blisters, splits, nor noticeable change of coloring (surface chalk). In addition, the specific gravity shall not change more than six (6) percent, resistance to abrasion shall not change more than ten (10) percent, and tensile strength shall not change more than 25 percent from their initial values.

The wire sizes shown in Tables 1 and 2 are the size of the wire after galvanizing and before coating with PVC.

Spiral binders are the standard fastener for welded-mesh gabion baskets and mattresses, and shall be formed from wire meeting the same quality and coating thickness requirements as specified for the gabion baskets and mattresses.

Standard fasteners must provide a minimum strength of 1,400 lbs. per lineal foot for gabion baskets and 800 lbs. per lineal foot for gabion mattresses. When used to interconnect gabion baskets or mattresses with PVC coating, spiral fasteners shall be PVC coated. All fasteners shall meet all of the closing requirements of the gabion manufacturer.

Rock shall conform to the quality requirements as follows and at least 85 percent of the rock particles, by weight, shall be within the predominant rock size range. Recycled concrete may be used in lieu of the specified aggregate at the engineer's discretion.

Mattress Height	Rock Size Inches	Dimension Inches	Dimension Inches
12, 18, or 36 Inch Basket	4 to 8	4	8
6, 9, or 12 Inch Mattress	3 to 5	3	5

Interconnect each layer of gabions to the underlying layer of gabions along the front, back, and sides. Stagger the vertical joints between the gabions of adjacent rows and layers by at least one-half of a cell length.

6. ERECTION/OPERATION
After site set-up, wire gabion units are set to line and grade and common sides properly connected, they shall be placed in straight-line tension to gain a uniform alignment. Staking of the gabions may be done to maintain the established proper alignment prior to placement of rock. No temporary stakes shall be placed through geotextile material. Pre-formed stiffeners of connecting lacing wire shall be attached during the filling operation to preserve the strength and shape of the structure.

Internal connecting cross-tie wires shall be placed in each unrestrained gabion cell greater than 18 inches in height, including gabion cells left temporarily unrestrained. Two internal connecting wires shall be placed concurrently with rock placement, at each 12-inch interval of depth.

In welded mesh gabions these cross-ties or stiffeners will be placed across the corners of the gabions (at 12 inches from the corners) providing diagonal bracing. Lacing wire or preformed wire stiffeners may be used.

The gabions shall be carefully filled with rock, either by machine or hand methods, ensuring alignment, avoiding bulges, and providing a compact mass that minimizes voids. At no point in the filling process may rock be mechanically placed from a height of over 30' from machine to fill area. Machine placement will require supplementing with handwork to ensure the desired results. The cells in any row shall be filled in stages so that the depth of rock placed in any one cell does not exceed the depth of rock in any adjoining cell by more than 12 inches. Along the exposed faces, the outer layer of stone shall be carefully placed and arranged by hand to ensure a neat, compact placement with a uniform appearance.

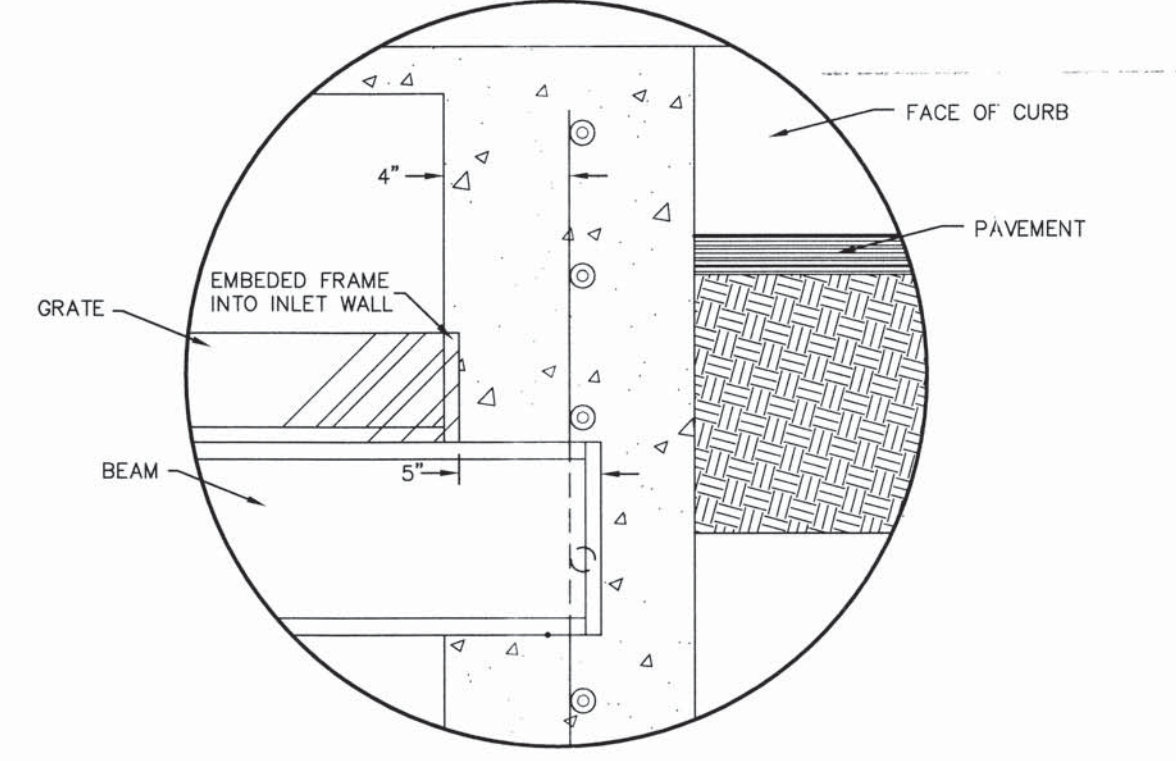
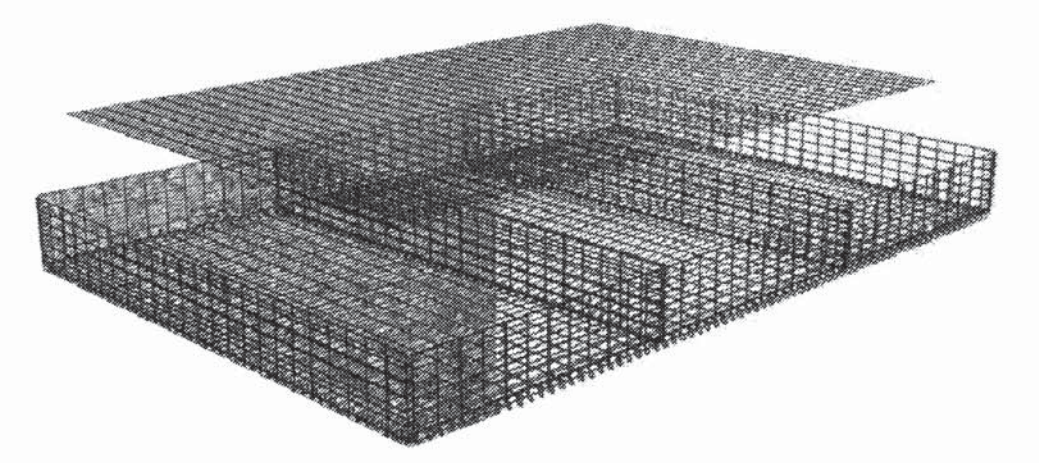
The top layer of rock shall be uniformly leveled to the top edges of the gabions. Lids shall be placed over the rock filling using only approved lid closing tools as necessary. The use of crowbars or other single point leverage bars for lid closing is prohibited due to the potential for damage to the baskets.

The gabion lid shall then be secured to the sides, ends, and diaphragms with spiral binders or lacing wire wrapped with alternating single and double half-hitches in the mesh openings.

Any damage to the wire or coatings during assembly, placement and filling shall be repaired promptly in accordance with the manufacturer's recommendations or the units shall be replaced with undamaged gabion baskets.

7. MEASUREMENT AND PAYMENT
Method 1: For items of work for which specific unit prices are established in the contract, the volume of rock will be measured within the root lines of the gabion structure and computed to the nearest cubic yard. Payment for gabions will be made at the contract unit price, and include the labor, equipment and all other items necessary and incidental to completion of the work.
Method 2: For items of work, for which specific unit prices are established in the contract, the volume of the gabions will be measured within the root lines of the gabion structure and computed to the nearest cubic yard.

8. GALVANIZED
1.5 x 3 in. (7.5 x 7.5 cm) Mesh Opening
0.087 in. - US Gauge 13.5 (2.2 mm) Mesh Wire diameter
0.087 in. - US Gauge 13.5 (2.2 mm) Lacing Wire diameter
0.106 in. - US Gauge 12 (2.7 mm) Spiral Binder diameter
ASTM A-90 Zinc Coating



SECTION C1-C1 THIS SHEET

SCALE N.T.S. (5 GRATE) PART OF ENCHANTED HILLS UNIT 3

Type of Wire	Mesh Size Inches	Wire Diameter Inches	PVC Coating Inches	Total Diameter Inches	Galvanized Coating or SF
Lacing Wire		0.086	0.02	0.128	0.70
Welded Mesh	3 x 3	0.118	0.02	0.158	0.80
Spiral Binder	3 x 3	0.106	0.02	0.145	0.80

Type of Wire	Mesh Size Inches	Wire Diameter Inches	PVC Coating Inches	Total Diameter Inches	Galvanized Coating or SF
Lacing Wire		0.086	0.02	0.128	0.70
Welded Mesh	3 x 3	0.118	0.02	0.158	0.80
Spiral Binder	3 x 3	0.106	0.02	0.145	0.80

NOTE: The wire sizes and PVC coating thickness shown are nominal sizes. The wire sizes include the galvanizing coating thickness.

When Polyvinyl Chloride (PVC) coated wire is specified, the galvanized wire shall be coated by fusion bonded PVC material. The wire coating shall be colored black, gray, green or silver, and the initial properties of the PVC coating shall meet the following requirements:

- Specific Gravity:** In the range of 1.30 to 1.40, ASTM D 792.
- Abrasion Resistance:** The percentage of weight loss shall be less than 12%, when tested according to ASTM D 1242, Method B at 200 cycles, CSI-A Abrader Tape, 80 Grit.
- Brittleness Temperature:** Not higher than 15°F, ASTM D 746
- Tensile Strength:** Fusion Bonded Coating (not less than 2275 psi at 100 percent strain, ASTM D 538).
- Modulus of Elasticity:** Fusion Bonded Coating (not less than 1980 psi at 100 percent strain, ASTM D 538).
- Ultraviolet Light Exposure:** A test period of not less than 3,000 hours, using apparatus type E at 63 C, ASTM G 23.
- Salt Spray Test:** A test period of not less than 3,000 hours, ASTM B 117.

After the exposure to ultraviolet light and the salt spray test as specified above, the PVC coating shall not show cracks, blisters, splits, nor noticeable change of coloring (surface chalk). In addition, the specific gravity shall not change more than six (6) percent, resistance to abrasion shall not change more than ten (10) percent, and tensile strength shall not change more than 25 percent from their initial values.

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Spiral binders are the standard fastener for welded-mesh gabion baskets and mattresses, and shall be formed from wire meeting the same quality and coating thickness requirements as specified for the gabion baskets and mattresses.

Standard fasteners must provide a minimum strength of 1,400 lbs. per lineal foot for gabion baskets and 800 lbs. per lineal foot for gabion mattresses. When used to interconnect gabion baskets or mattresses with PVC coating, spiral fasteners shall be PVC coated. All fasteners shall meet all of the closing requirements of the gabion manufacturer.

Rock shall conform to the quality requirements as follows and at least 85 percent of the rock particles, by weight, shall be within the predominant rock size range. Recycled concrete may be used in lieu of the specified aggregate at the engineer's discretion.

8. GALVANIZED
1.5 x 3 in. (7.5 x 7.5 cm) Mesh Opening
0.087 in. - US Gauge 13.5 (2.2 mm) Mesh Wire diameter
0.087 in. - US Gauge 13.5 (2.2 mm) Lacing Wire diameter
0.106 in. - US Gauge 12 (2.7 mm) Spiral Binder diameter
ASTM A-90 Zinc Coating

9. FLOOD NOTE:
THE ABOVE REFERENCED PROPERTY IS WITHIN ZONE "A" AND ZONE "X" (EXPLANATION: ZONE "A" NO BASE FLOOD ELEVATIONS DETERMINED; EXPLANATION: ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER THE UNINCORPORATED AREAS COMMUNITY PANEL NO. 480212 0025 B. DATED SEPTEMBER 4, 1991.

10. GALVANIZED
1.5 x 3 in. (7.5 x 7.5 cm) Mesh Opening
0.087 in. - US Gauge 13.5 (2.2 mm) Mesh Wire diameter
0.087 in. - US Gauge 13.5 (2.2 mm) Lacing Wire diameter
0.106 in. - US Gauge 12 (2.7 mm) Spiral Binder diameter
ASTM A-90 Zinc Coating

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

BRADLEY ROE, P.E. 31886

ROE ENGINEERING, L.C. TEXAS REGISTERED ENGINEERING FIRM E-2013

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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	WGS MONUMENT "CROSS 1880" (PG. 020444)	HOR: 1"=30' VER: 1"=10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMONTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	FILE NAME: 01-2-C-09-10-11-S-PP2.DWG W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD BY: H.P. APPD BY: BR

SECONDARY BENCHMARK
EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOJOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21
N.A.V.D. DATUM -10.18 = CITY OF EL PASO DATUM

SCALE
HOR: 1"=30' VER: 1"=10'
FILE NAME: 01-2-C-09-10-11-S-PP2.DWG
W.O. 011509-1 A EH-2
DATE: MARCH, 2011
DESIGN BY: HP/L.A.J.
DRAWN BY: L.A.J.
CHKD BY: H.P.
APPD BY: BR

ENCHANTED HILLS UNIT TWO

SYSTEM C

PLAN AND PROFILE

ENCHANTED SPRINGS DR.

STA 25+39.06

ENCHANTED HILLS UNIT TWO

SYSTEM C

PLAN AND PROFILE

ENCHANTED SPRINGS DR.

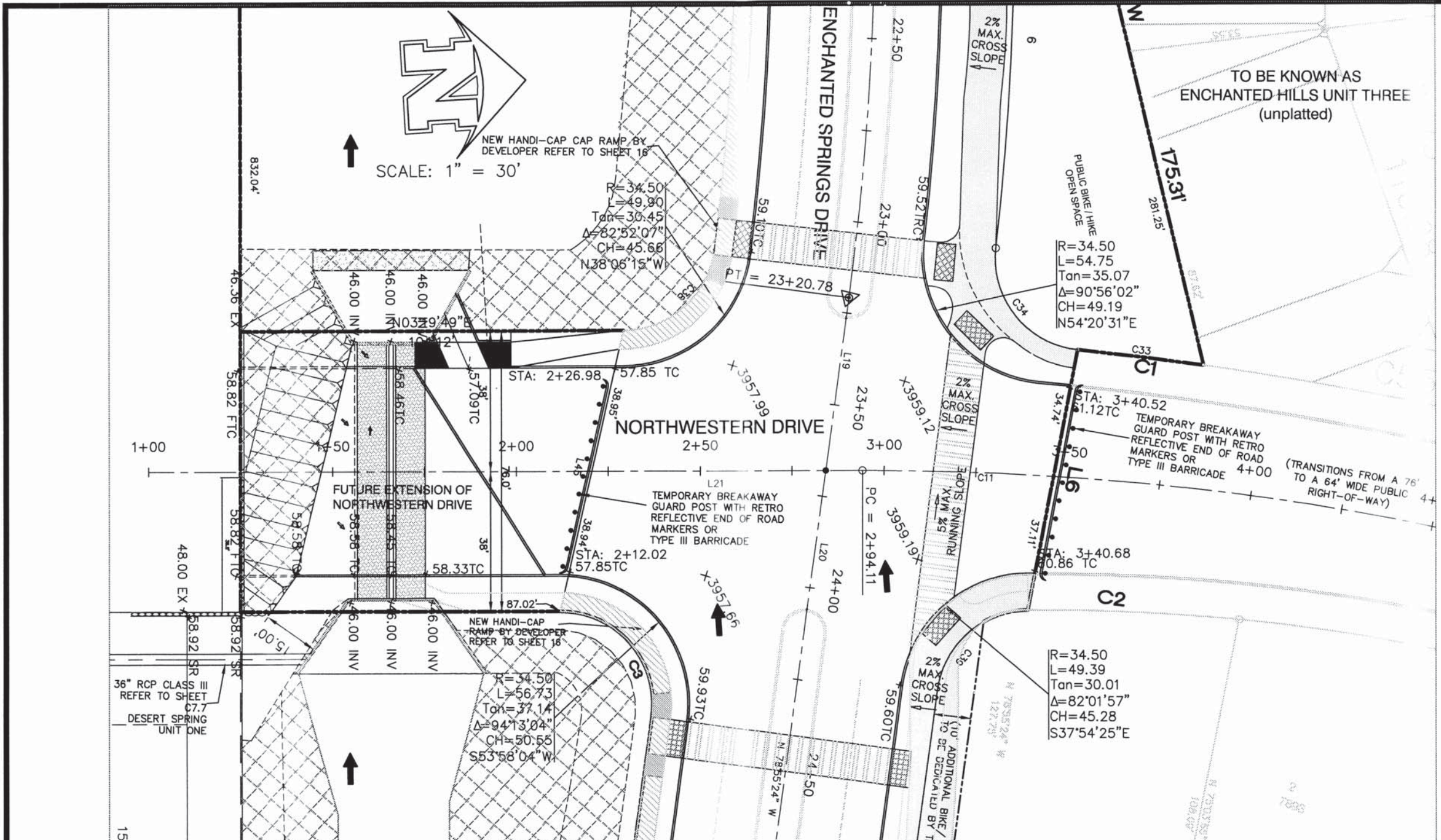
STA 25+39.06

ROE ENGINEERING, L.C. TEXAS REGISTERED ENGINEERING FIRM E-2013

601 N. Cotton St. Suite No. 6 El Paso, TX 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@bwdl.net

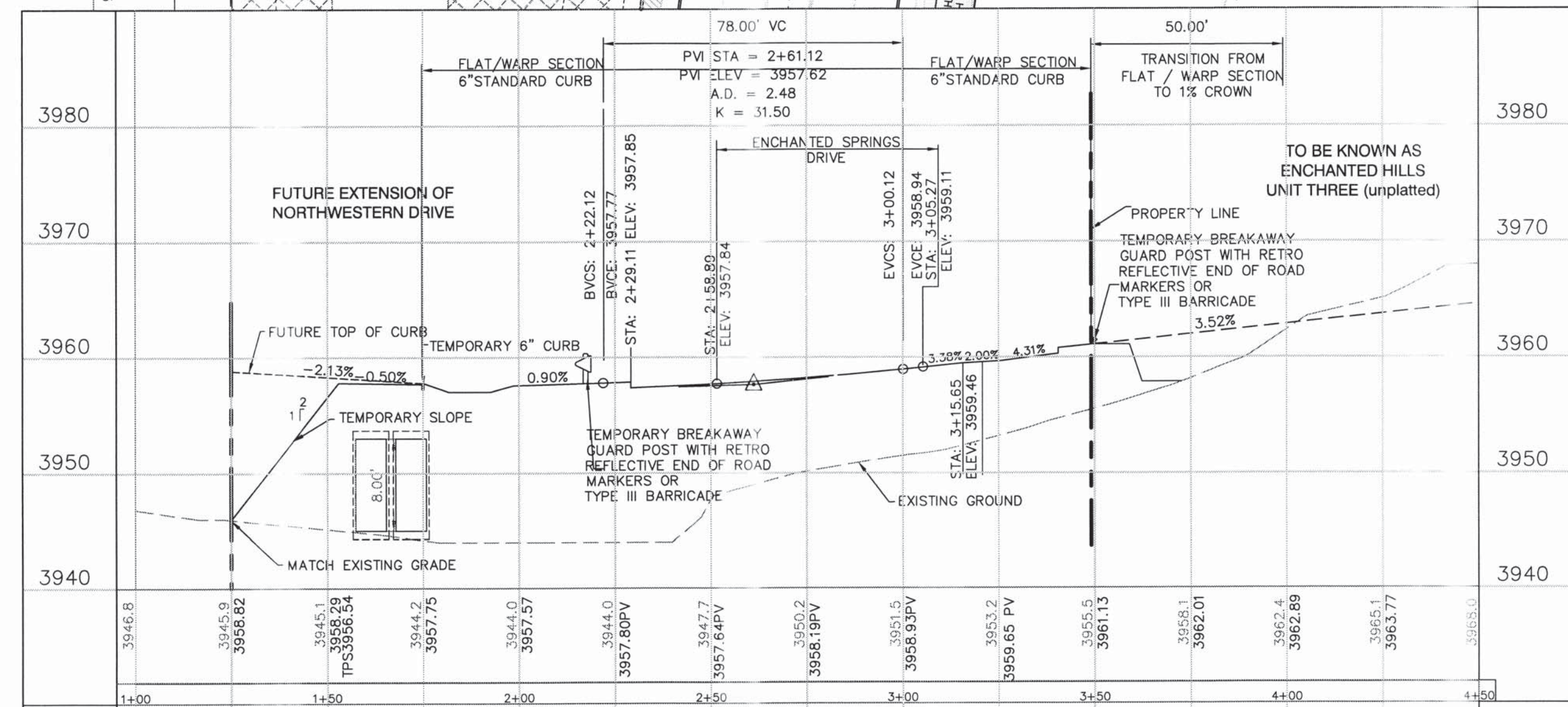
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 11 OF 21

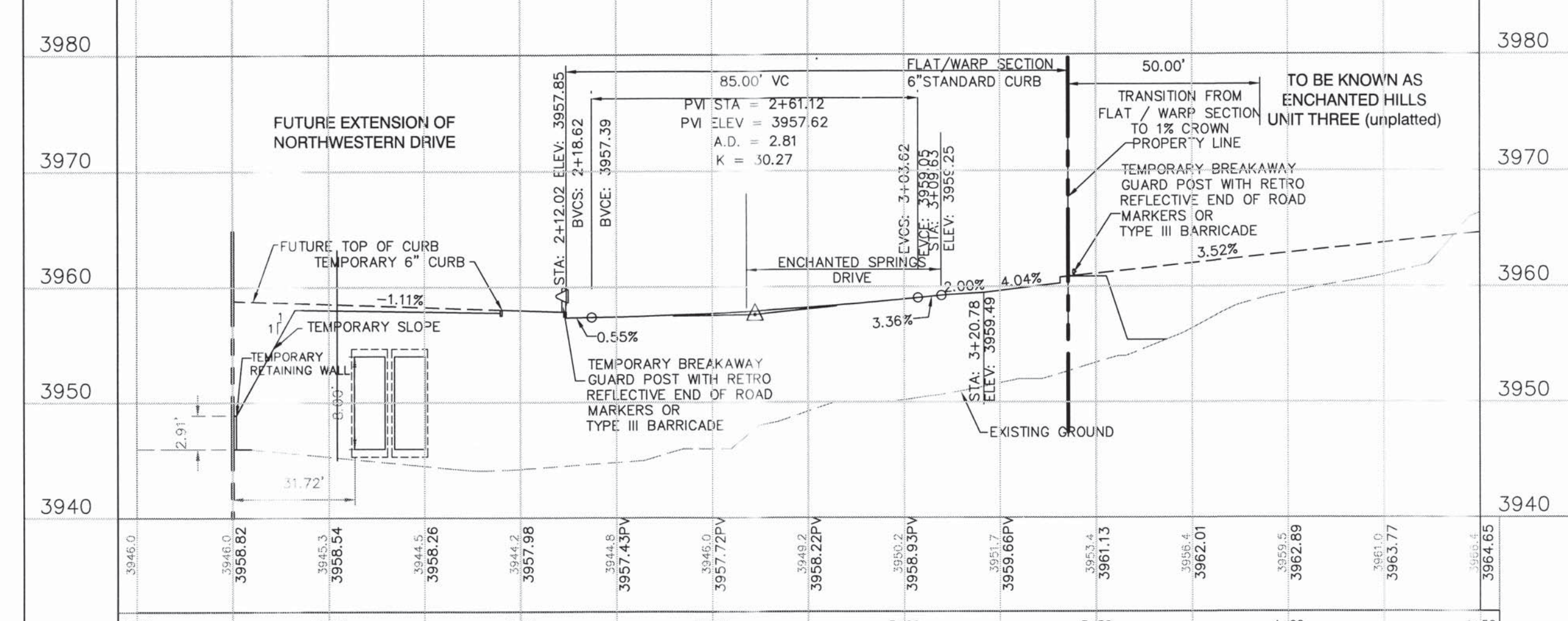


NOTE
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS SHEET 18 OF 21.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS SHEET 17 OF 21.

SIDEWALK BY DEVELOPER
 SIDEWALK BY BUILDER



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

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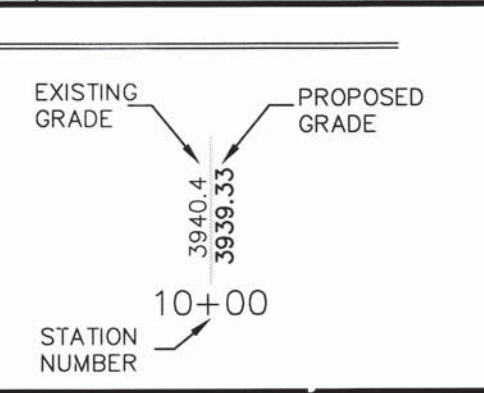
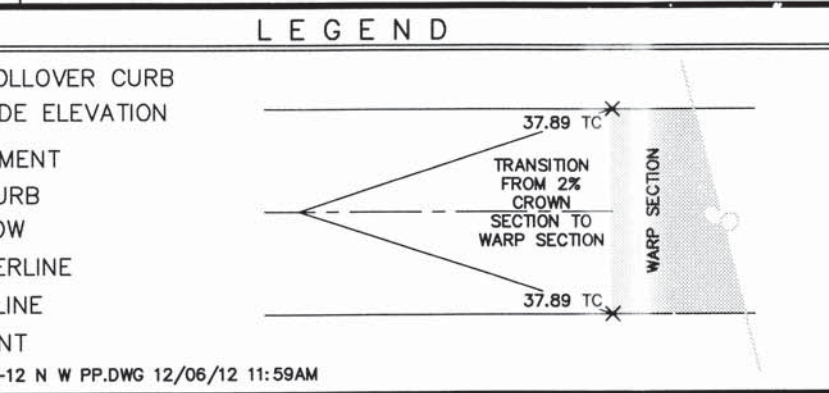
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ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

- LEGEND**
- × 44.51 TRC PROPOSED TOP OF 4" ROLL-OVER CURB
 - × 44.27 FG PROPOSED FINISHED GRADE ELEVATION
 - × 45.00 PV PROPOSED TOP OF PAVEMENT
 - × 44.51 TC PROPOSED TOP OF 6" CURB
 - PROPOSED DRAINAGE FLOW
 - PROPOSED STREET CENTERLINE
 - SUBDIVISION BOUNDARY LINE
 - PROPOSED CITY MONUMENT

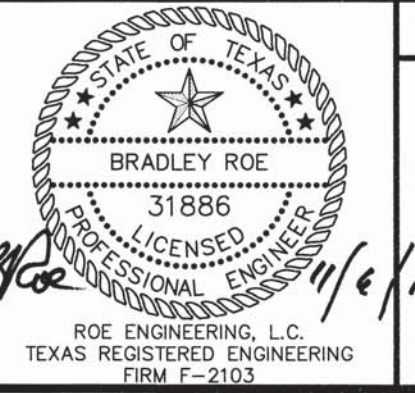


DATE	REVISIONS	BY
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.

PRIMARY BENCHMARK
 1985 MONUMENT (SRNO 1880) (PSP: 020444)
 LOCATION AS PER NATIONAL GEODETIC SURVEY 1983:
 LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMONTAINE ROAD), AND ON THE EAST SIDE OF INTERSTATE 10.
 ELEVATION 3946.11 NAVD 83

SECONDARY BENCHMARK
 EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE.
 ELEVATION: 3857.21
 N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM

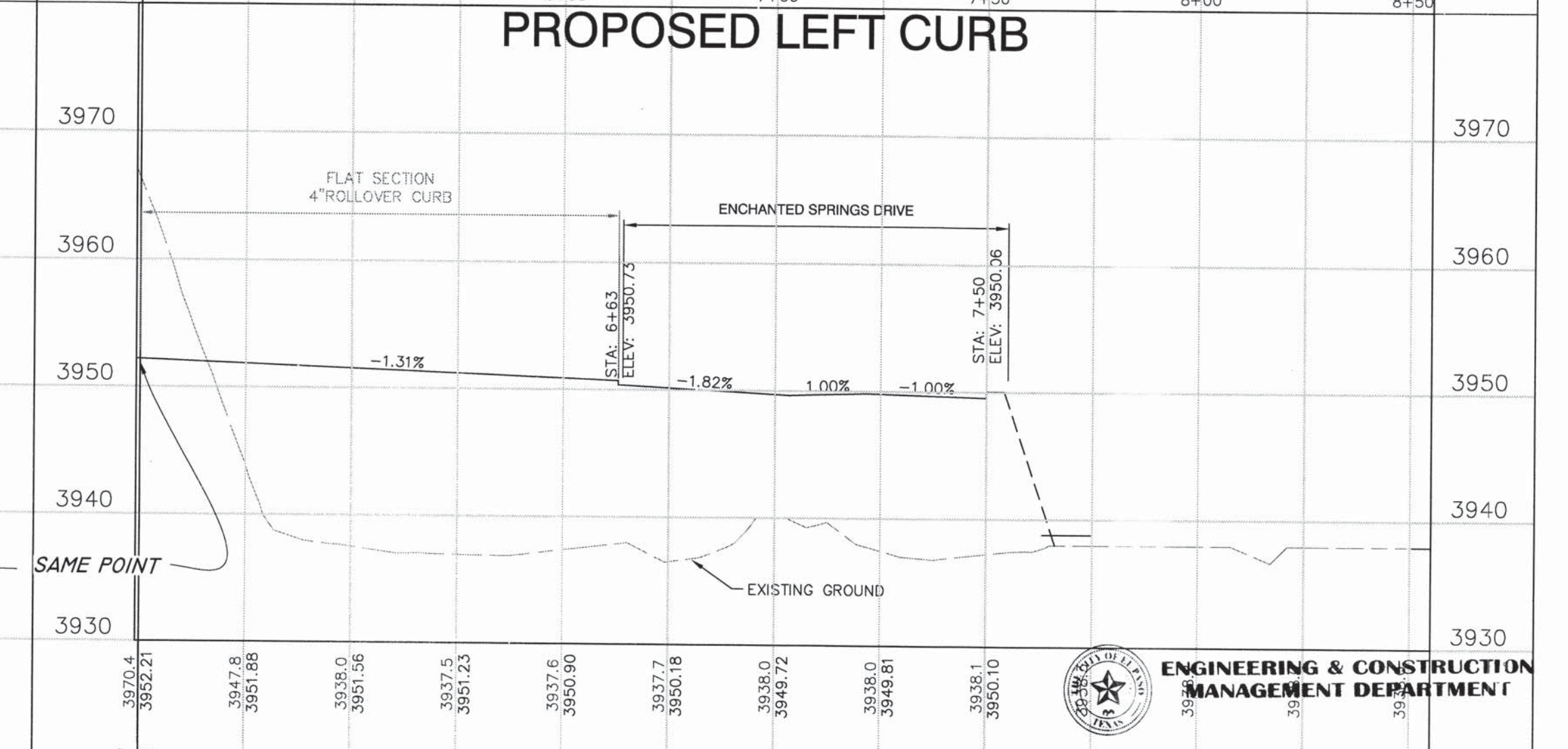
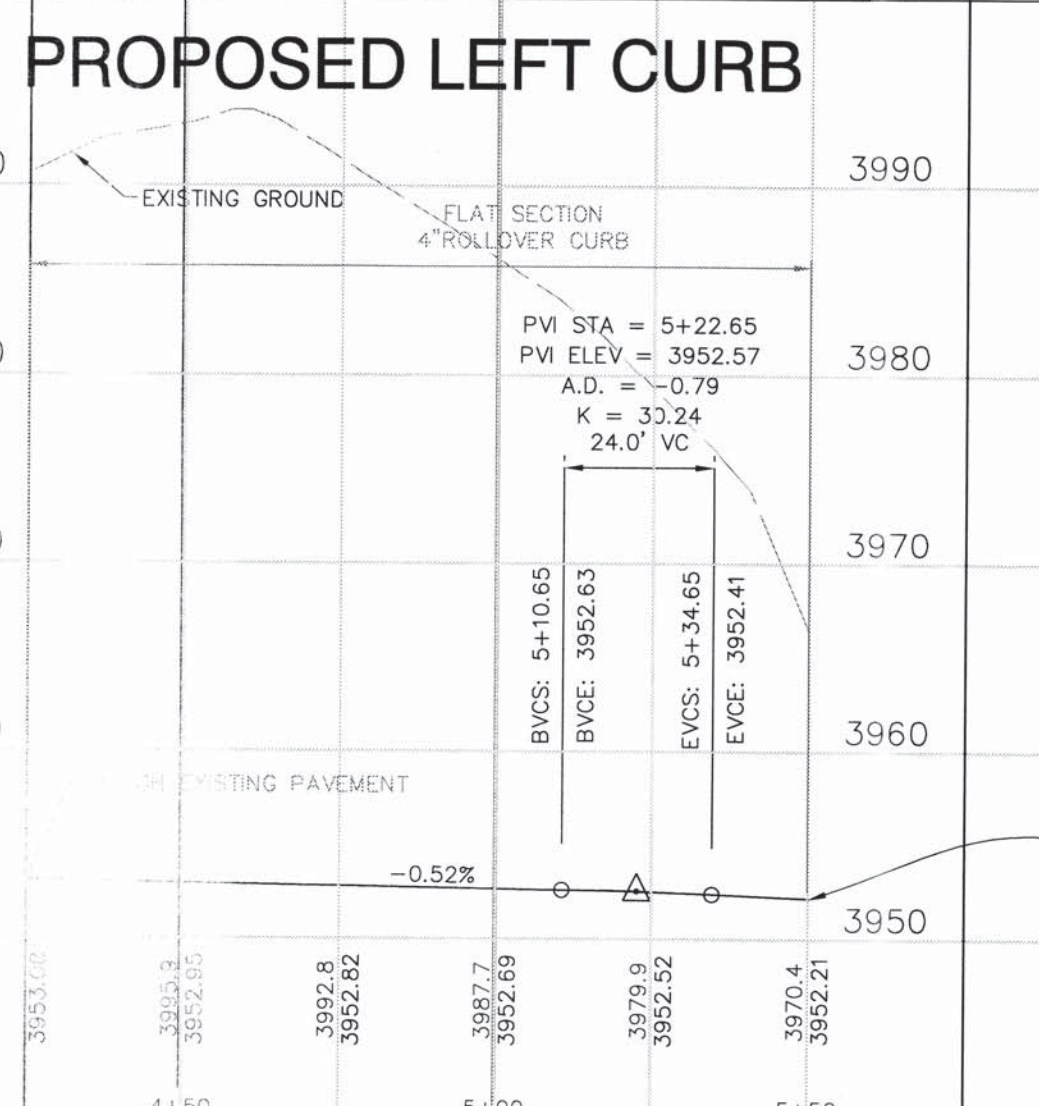
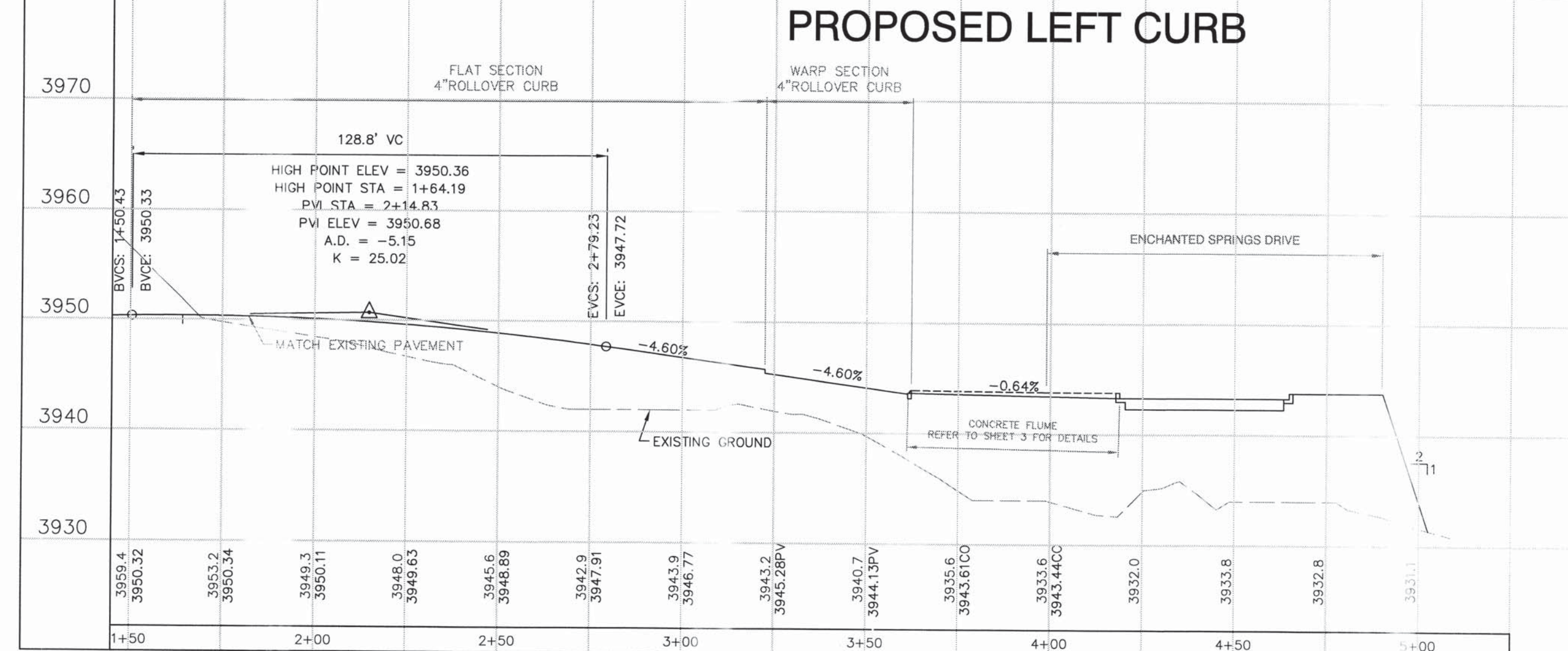
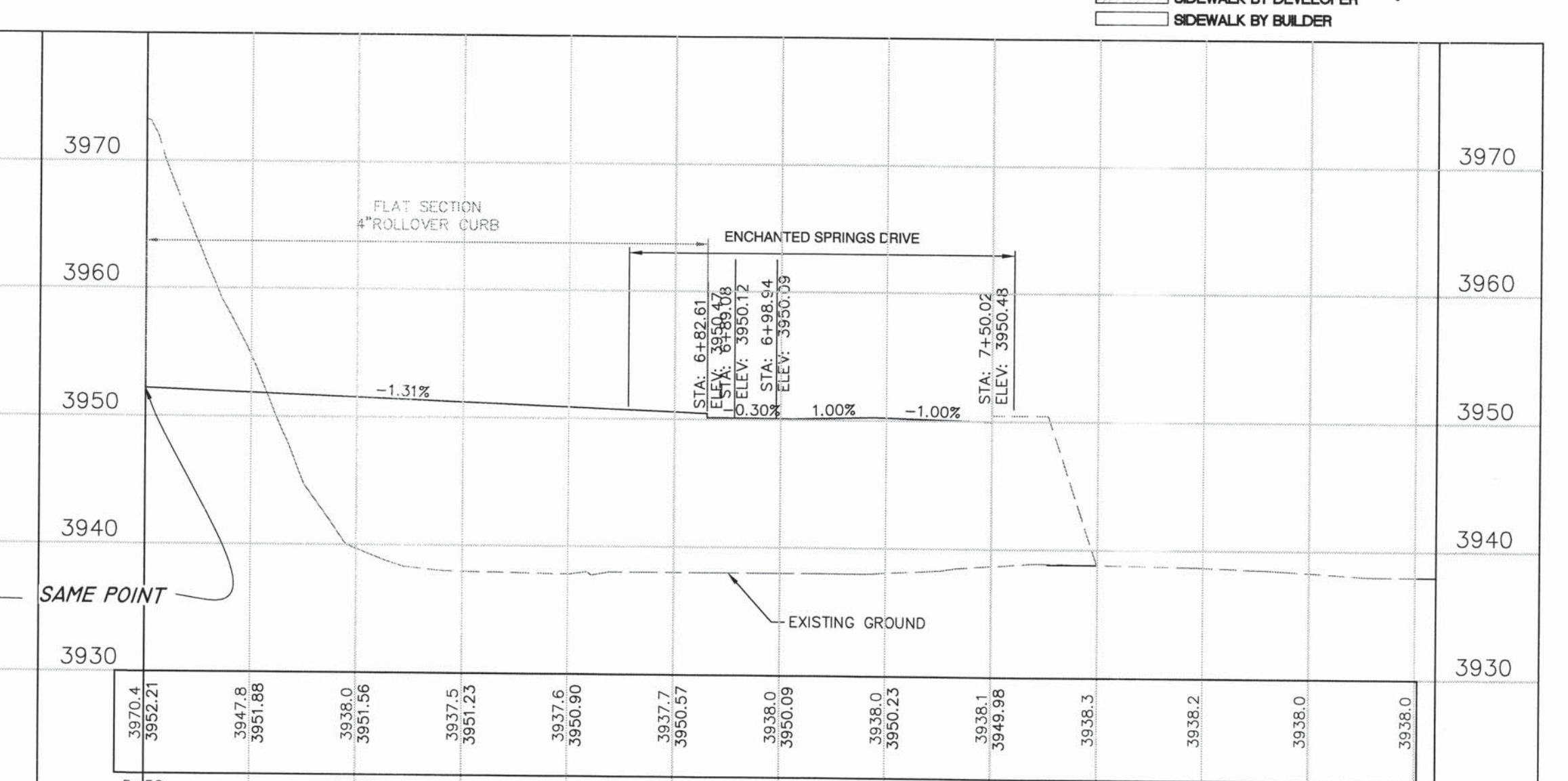
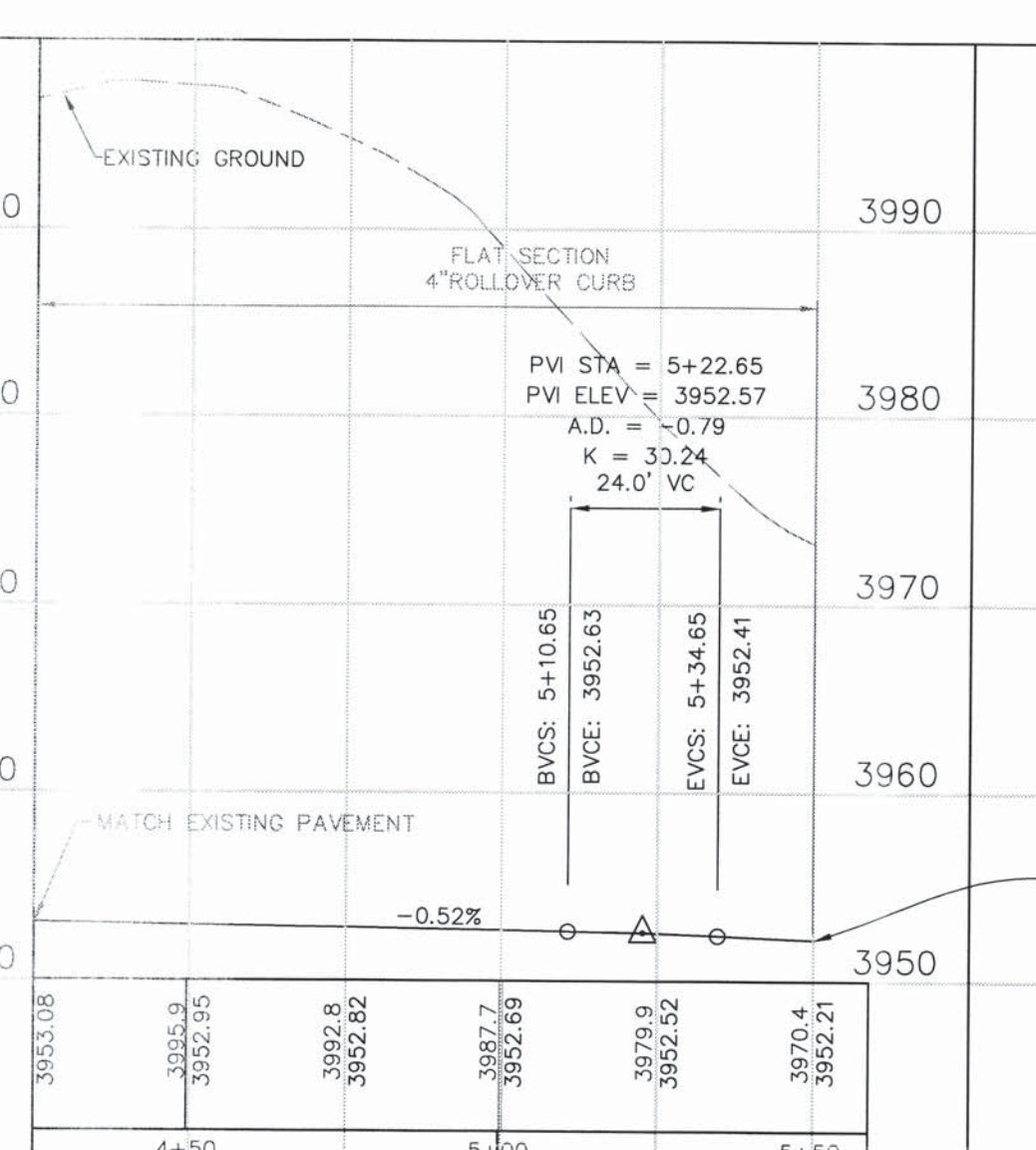
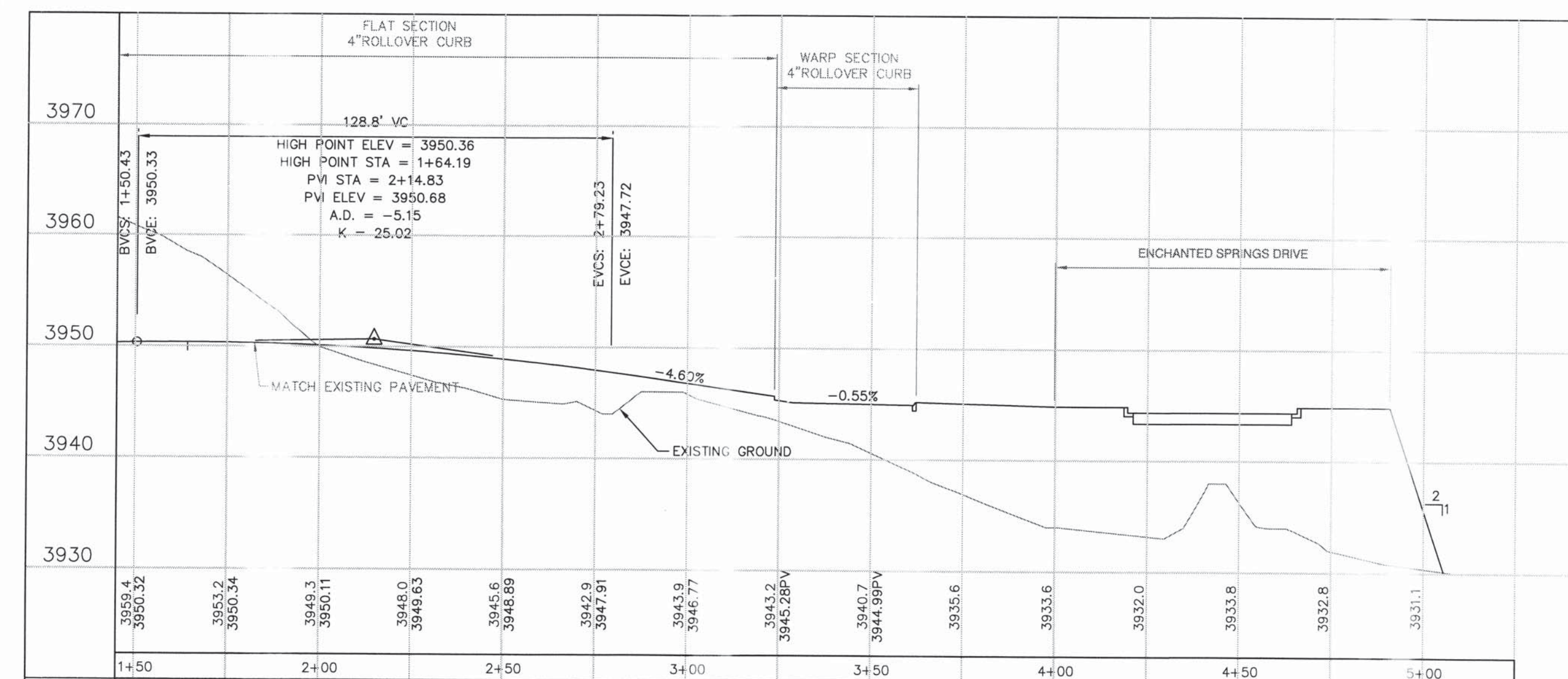
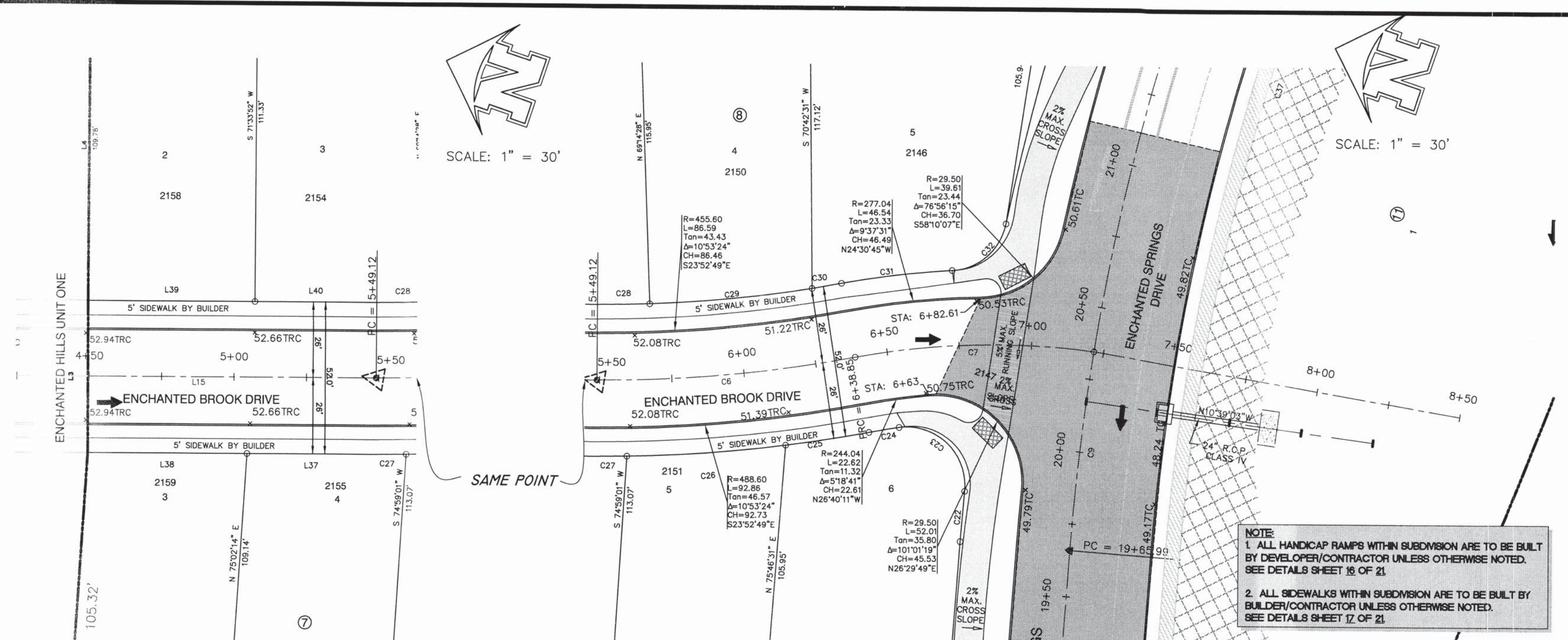
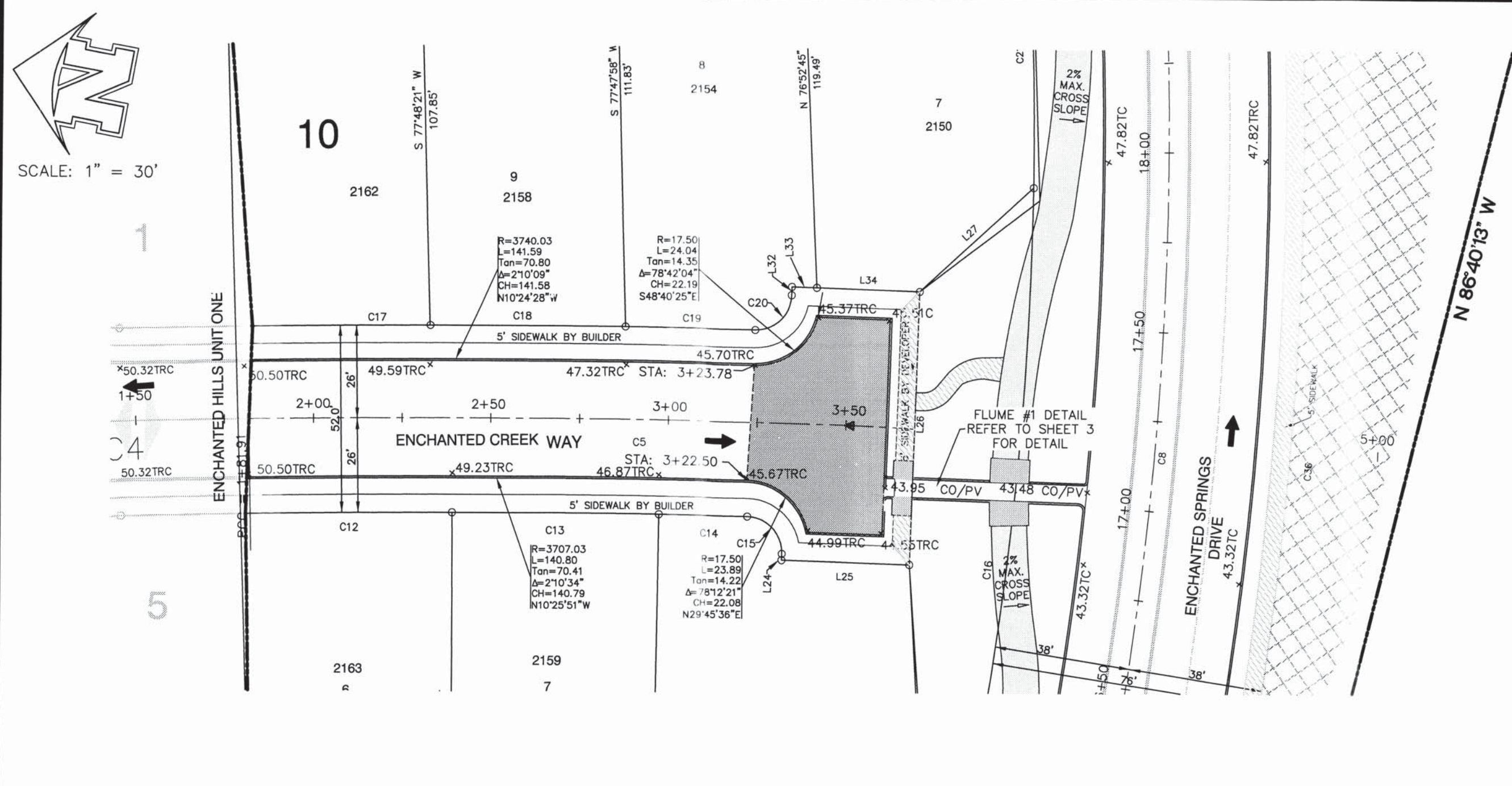
SCALE
 HOR: 1"=30' VER: 1"=10'
 FILE NAME: 01-2-C-12-N-W-02.DWG
 W.O. 011509-1 A EH-2
 DATE: MARCH, 2011
 DESIGN BY: HP/L.A.J.
 DRAWN BY: L.A.J.
 CHKD. BY: H.P.
 APPD. BY: BR



PLAN AND PROFILE
ENCHANTED HILLS UNIT TWO
NORTHWESTERN DRIVE STATION 1+00 TO 3+50.00

bnpRoe Engineering, L.C.
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 e-mail: roeeng@bnp.com

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 12 OF 21

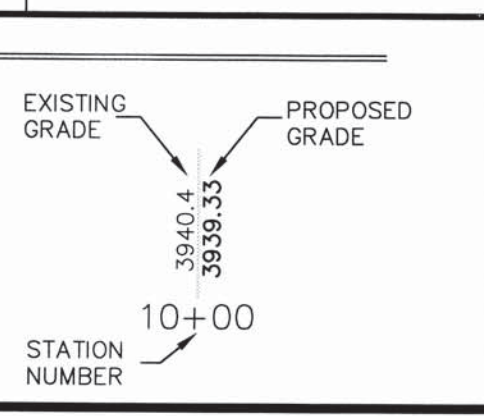
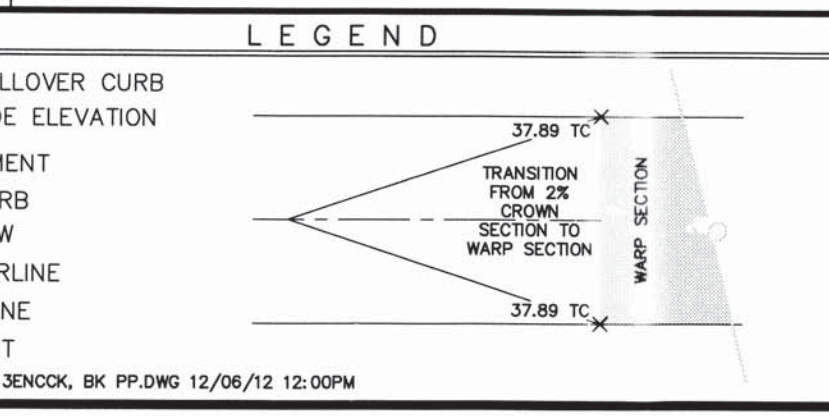


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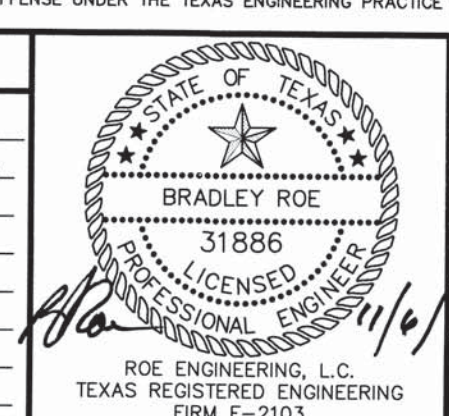
LEGEND

- x 44.51 TRC PROPOSED TOP OF 4" ROLLOVER CURB
- x 44.27 FG PROPOSED FINISHED GRADE ELEVATION
- x 45.00 PV PROPOSED TOP OF PAVEMENT
- x 44.51 TC PROPOSED TOP OF 6" CURB
- ← PROPOSED DRAINAGE FLOW
- PROPOSED STREET CENTERLINE
- - - SUBDIVISION BOUNDARY LINE
- PROPOSED CITY MONUMENT



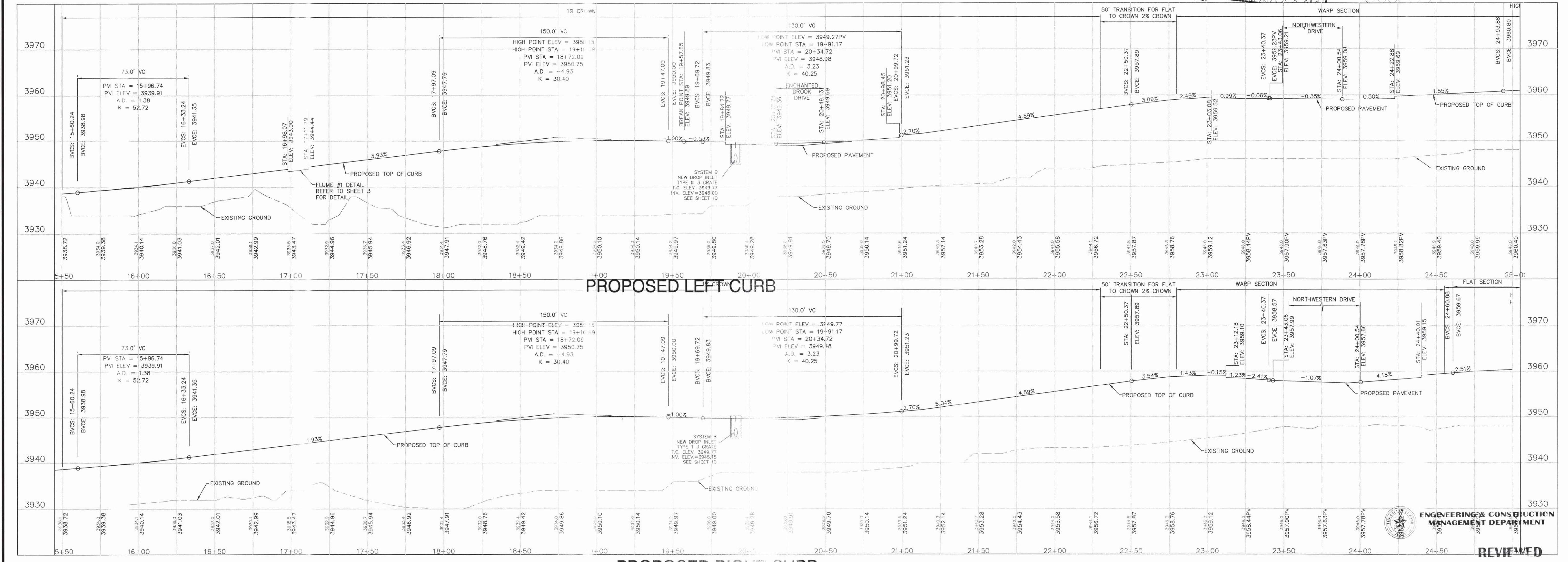
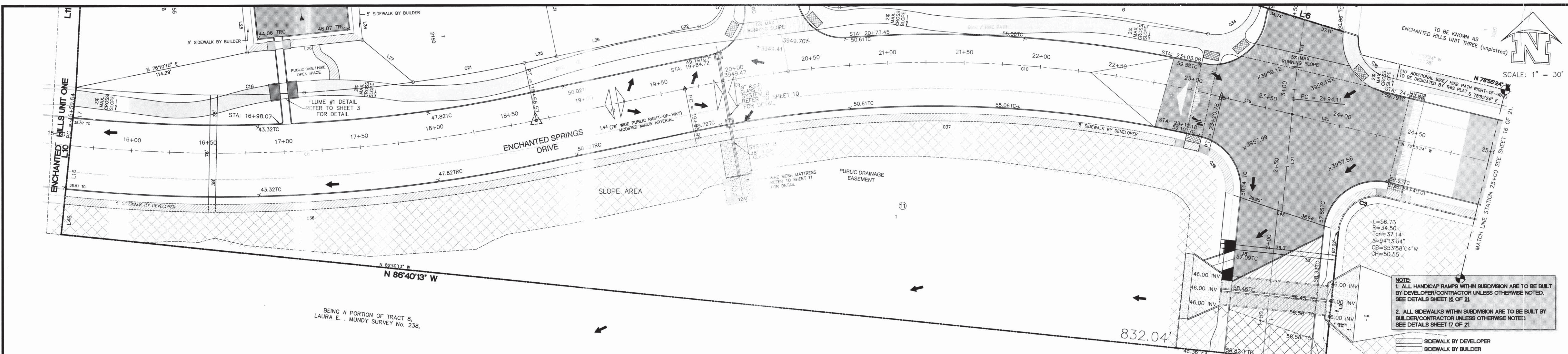
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	N2S MONUMENT (GRIND 1980) (PSP: 02044)	HOR: 1"=30' VER: 1"=10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1989: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	FILE NAME: EH-2 C-13ENCRCK_BK_PP.DWG W.O. 011509-1 A EH-2
			SECONDARY BENCHMARK	DATE: MARCH, 2011
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3957.21	DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
			N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	ROE ENGINEERING, L.C. TEXAS REGISTERED ENGINEERING FIRM F-2103

PLAN AND PROFILE
ENCHANTED HILLS UNIT TWO
 ENCHANTED CREEK WAY
 STATION 1+82.82 TO 3+19.38
 ENCHANTED BROOK WAY
 STATION 4+50 TO 7+50.0



ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT
REVIEWED

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 e-mail: roeeng@roewall.net
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 SHEET 13 OF 21



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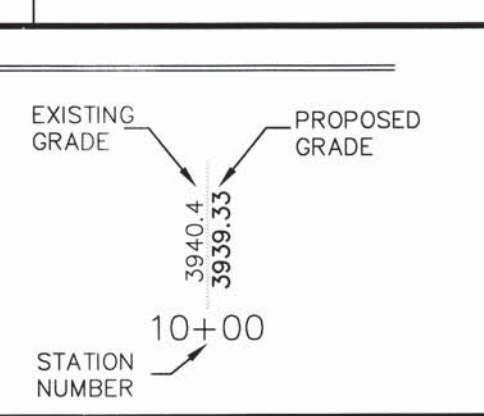
LEGEND

- × 44.51 TRC PROPOSED TOP OF 4" ROLL-OVER CURB
- × 44.27 FG PROPOSED FINISHED GRADE ELEVATION
- × 45.00 PV PROPOSED TOP OF PAVEMENT
- × 44.51 TC PROPOSED TOP OF 6" CURB
- ← PROPOSED DRAINAGE FLOW
- PROPOSED STREET CENTERLINE
- SUBDIVISION BOUNDARY LINE
- PROPOSED CITY MONUMENT

WARP SECTION
 37.89 TO
 37.89 TO

EXISTING GRADE
 PROPOSED GRADE

STATION NUMBER
 10+00



DATE	REVISIONS	BY
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.

PRIMARY BENCHMARK	SCALE
EXISTING MONUMENT "CHINA 1880" (PUB. 020444) POSITION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (TRANSMONTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3948.11 NAVD 88	HOR: 1"=30' VER: 1"=10' FILE NAME: 011509-1-A-EH-2 W.O. 011509-1-A-EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
SECONDARY BENCHMARK	SCALE
EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOORES DRIVE IN FRONT OF LOT 13, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANUTILLO HEIGHTS UNIT ONE ELEVATION: 3857.21	N.A. & 88 DATUM -10.18 = CITY OF EL PASO DATUM

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BRADLEY ROE
 31886
 LICENSED PROFESSIONAL ENGINEER
 ROE ENGINEERING, L.C.
 TEXAS REGISTERED ENGINEERING FIRM - 2103

PLAN AND PROFILE

ENCHANTED HILLS UNIT TWO

ENCHANTED SPRINGS DRIVE
 STATION PC = 15+59.64 TO 25+00.00

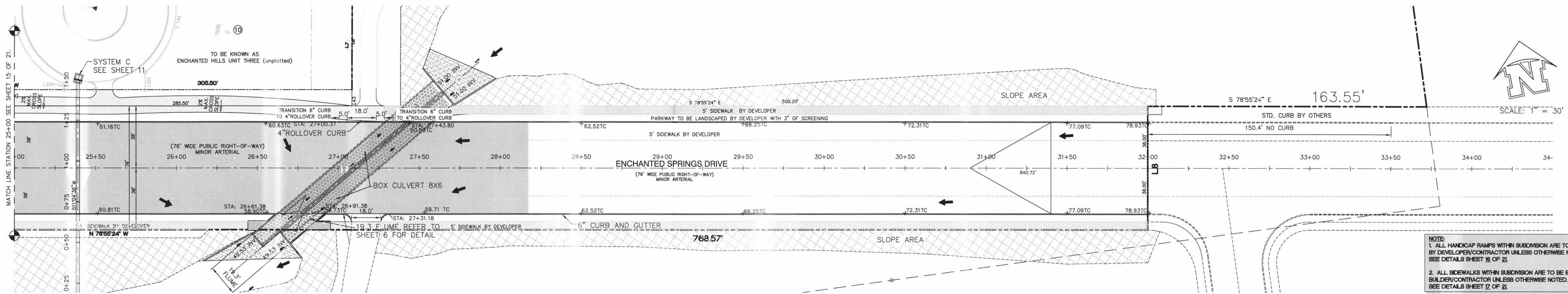
ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

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 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@bwell.net

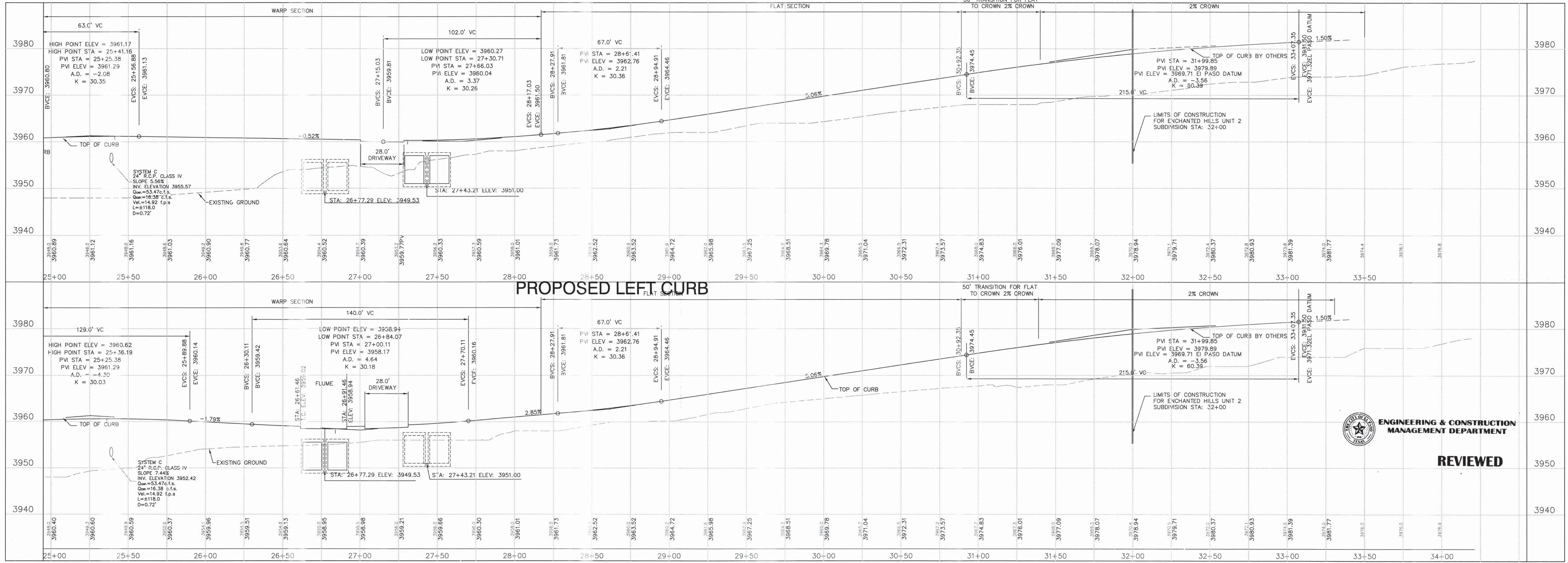
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 14 OF 21



NOTE:
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS SHEET 18 OF 21.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS SHEET 17 OF 21.

SIDEWALK BY DEVELOPER
 SIDEWALK BY BUILDER



PROPOSED LEFT CURB

PROPOSED RIGHT CURB



ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

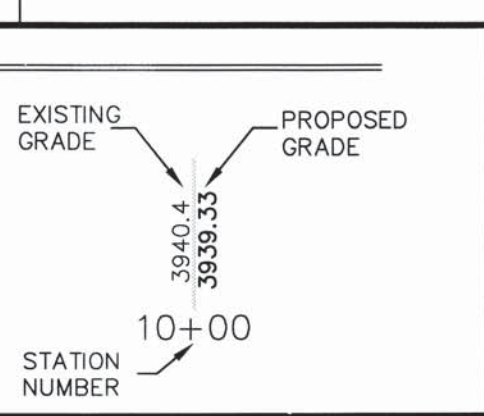
REVIEWED

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LEGEND

x 44.51 TRC	PROPOSED TOP OF 4" ROLLOVER CURB
x 44.27 FG	PROPOSED FINISHED GRADE ELEVATION
x 45.00 PV	PROPOSED TOP OF PAVEMENT
x 44.51 TC	PROPOSED TOP OF 6" CURB
←	PROPOSED DRAINAGE FLOW
---	PROPOSED STREET CENTERLINE
---	SUBDIVISION BOUNDARY LINE
○	PROPOSED CITY MONUMENT



DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	RIS MONUMENT "CORN 1980" (PROP. 02044)	HOR: 1"=30' VER: 1"=10'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1988: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (TRANS-MOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	FILE NAME: EH-2 C-1415K680ENC SPRP2.DWG W.O. 011509-1 A EH-2
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOJOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3957.21	DATE: MARCH, 2011
			N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	DESIGN BY: HP/L.A.J.
				DRAWN BY: L.A.J.
				CHKD. BY: H.P.
				APPD. BY: BR



PLAN AND PROFILE
ENCHANTED HILLS UNIT TWO
ENCHANTED SPRING DRIVE
STATION 25+00.00 TO 32+00.00

brp Roe Engineering, L.C.
 601 N. Cotton St. Suite No. 8 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@brell.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 15 OF 21

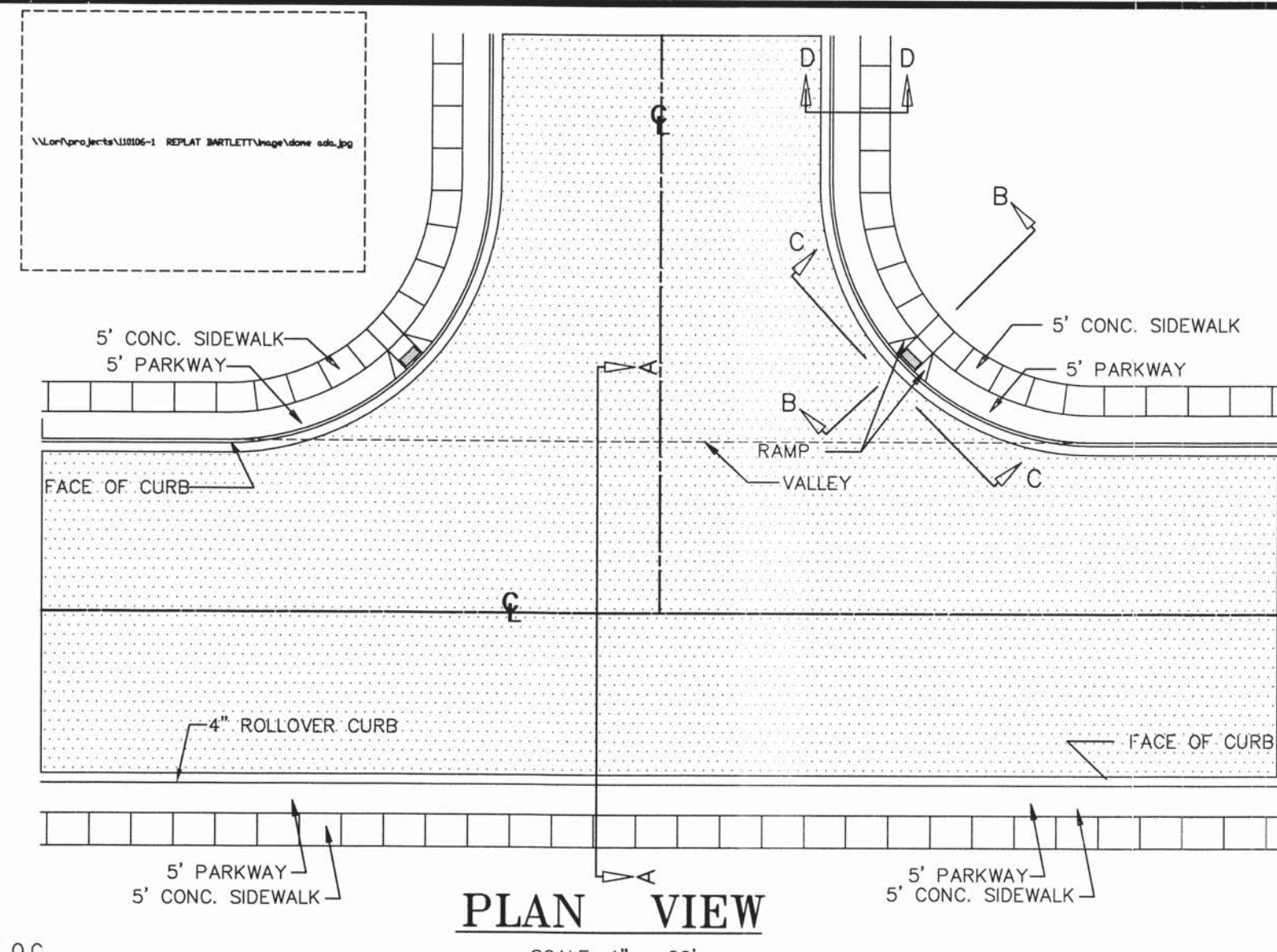
City of El Paso Dome Size and Spacing

CITY OF EL PASO
DOME SIZE AND SPACING

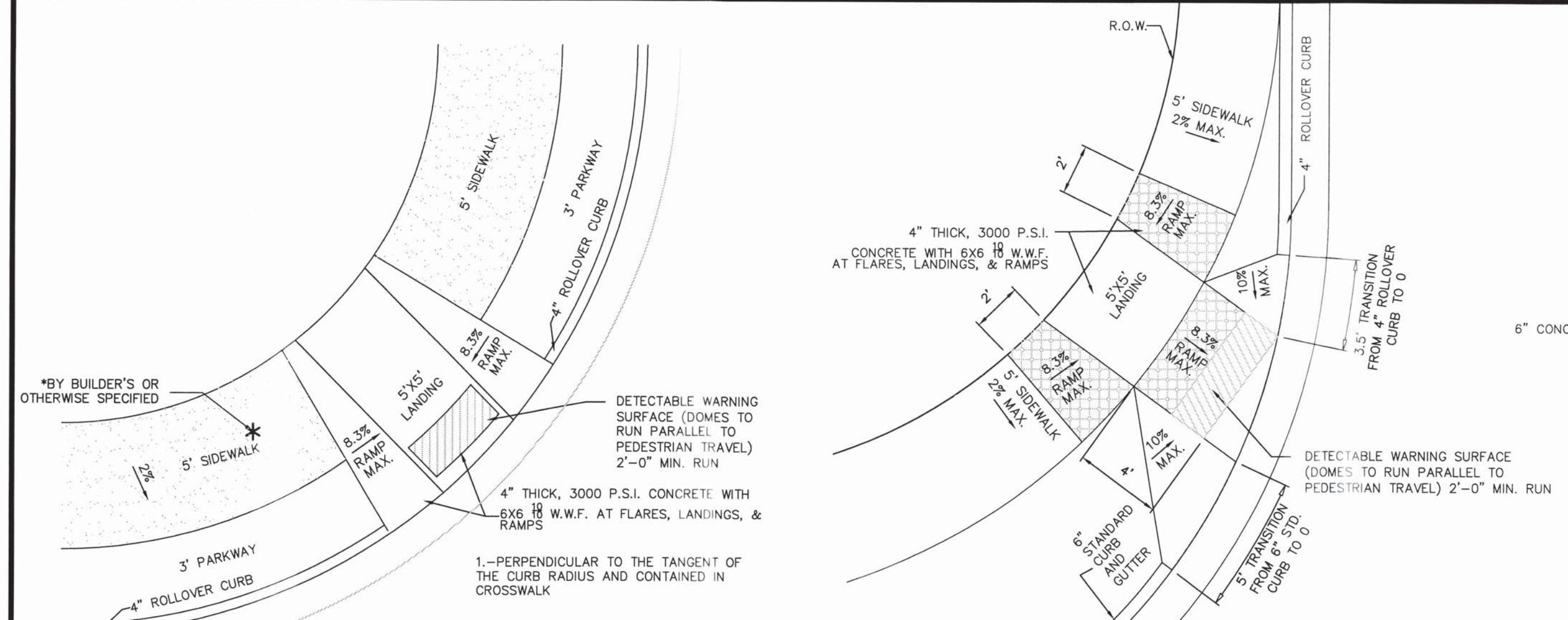
1. DOME SIZE AND SPACING. TRUNCATED DOMES SHALL HAVE A DIAMETER OF NOMINAL 0.9 INCHES (23 MM) AT THE BOTTOM, A DIAMETER OF 0.4 INCH (10 MM) AT THE TOP, A HEIGHT OF NOMINAL 0.2 INCHES (5.08 MM) AND CENTER TO CENTER SPACING OF NOMINAL 2.35 INCHES (60 MM) MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT.
2. 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.
3. CONTRAST. THERE SHALL BE A MINIMUM OF 70 PERCENT CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE, OR THE DETECTABLE WARNING SHALL BE "RED BRICK" COLOR UNLESS OTHERWISE DIRECTED BY THE OWNER. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE. CONTRAST SHALL BE PROVIDED BY PLACING AND MIXING TINT IN THE PLASTIC CONCRETE USED FOR THE DETECTABLE WARNING SURFACE. NO PAINTING OF THE SURFACE SHALL BE PERMITTED.

NOTES FOR SIDEWALKS

1. CONCRETE TO BE 3000 P.S.I. MINIMUM.
2. DUMMY JOINT REQUIRED AT 10' O.C. FOR HEADERS AND 5' O.C. FOR SIDEWALKS.
3. EXPANSION MATERIAL REQUIRED AT CURB RETURNS WITH 1/2" PREMOULDED ASPHALT IMPREGNATED MATERIAL OR EQUAL.
4. EXPANSION JOINTS REQUIRED AT 50' O.C. WHEN FORMING FOR HEADERS.
5. EXPANSION JOINTS REQUIRED FOR SIDEWALK AT 20' O.C.



PLAN VIEW
SCALE: 1" = 20'



HANDICAP RAMPS

HIKE/BIKE HANDICAP RAMPS

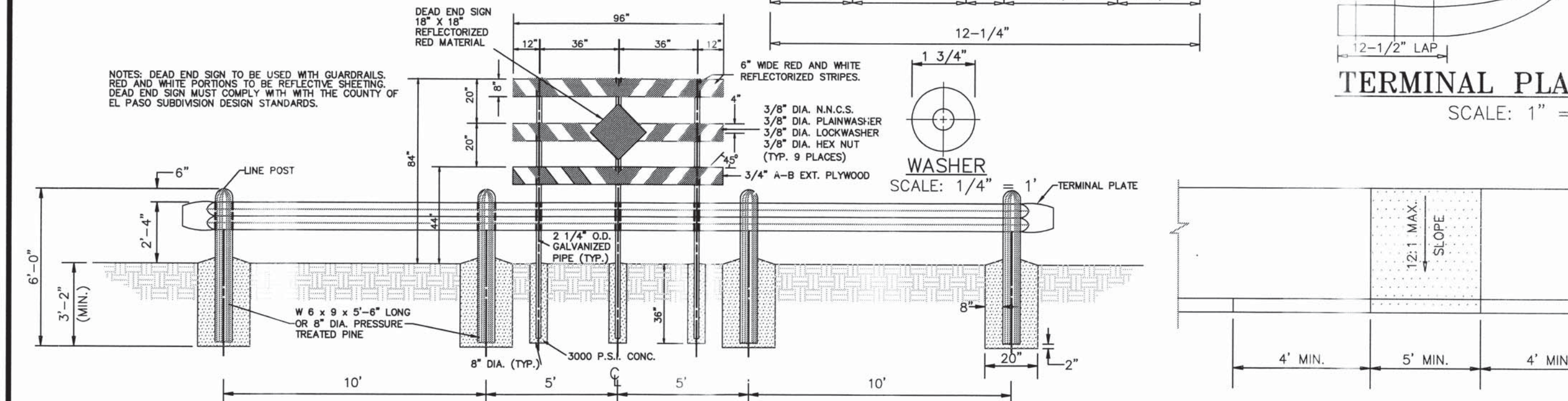
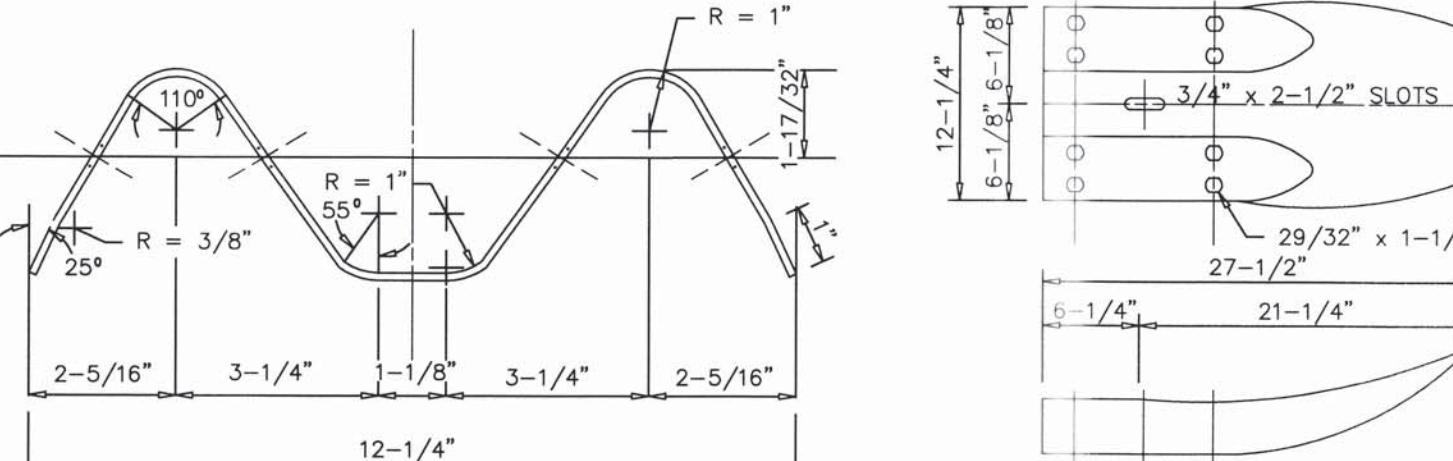
Pedestrian Facilities General Notes

1. All slopes are maximum allowable. The least possible slope that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
2. Landings shall be 5' x 5' minimum with a maximum 2% slope in any direction.
3. Maneuvering space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
4. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
5. Curb ramps with returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planting or other non-walking surface or because the side approach is substantially obstructed. Otherwise, provide flared sides.
6. 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) and 16 TAC 68.102.
7. Separate curb ramp and landings from adjacent sidewalk and any other elements with precast with bituminous exp. joint or board joint of 3/4" unless otherwise directed by the Engineer.
8. Provide a smooth transition where the curb ramps connect to the street.
9. Flare slope shall not exceed 10% measured along curb line.

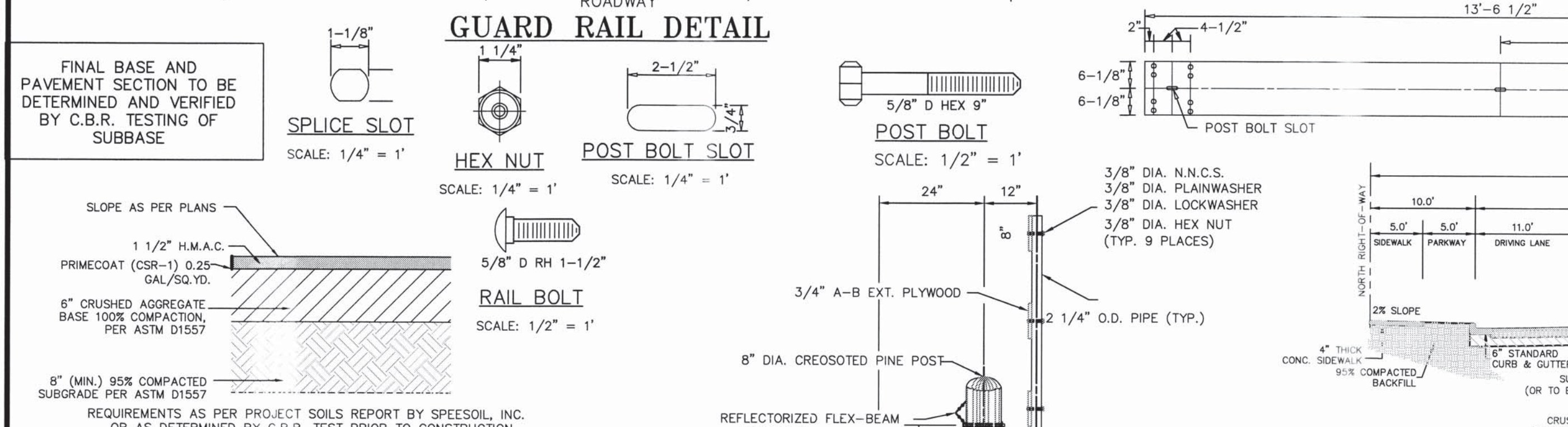
DIAGONAL COMBINATION CURB RAMP

GENERAL NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE DRAWINGS AND SITE CONDITIONS BEFORE COMMENCING WORK.
2. ANY DISCREPANCIES FOUND AMONG THE DIFFERENT DISCIPLINE DRAWINGS SHALL BE REPORTED TO ENGINEER FOR PROPER ADJUSTMENT PRIOR TO PROCEEDING WITH WORK.
3. DETAILS ON THIS DRAWING ARE TYPICAL AND APPLY TO SIMILAR PROJECT CONDITIONS REGARDLESS OF WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED.

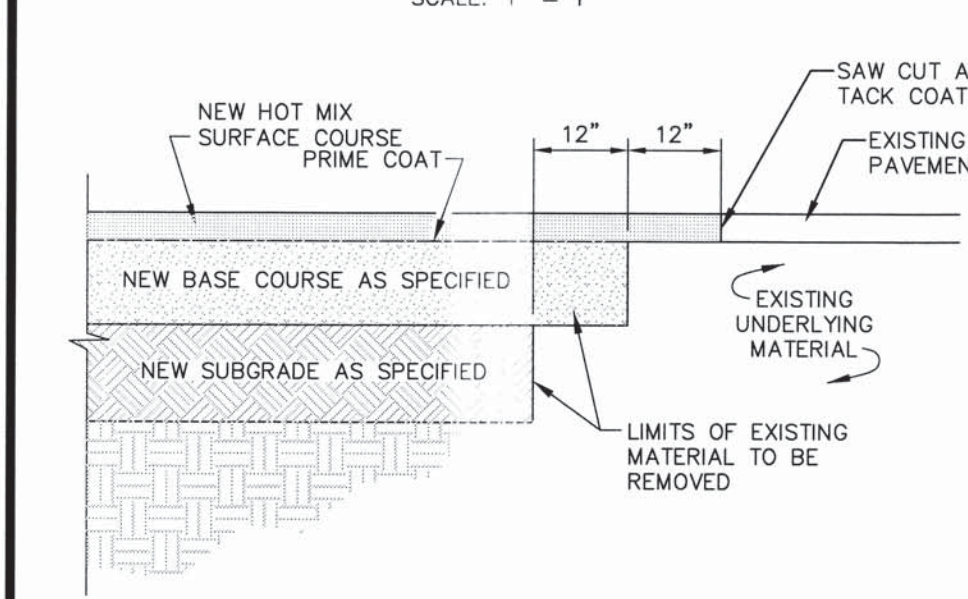


TERMINAL PLATE
SCALE: 1" = 1'

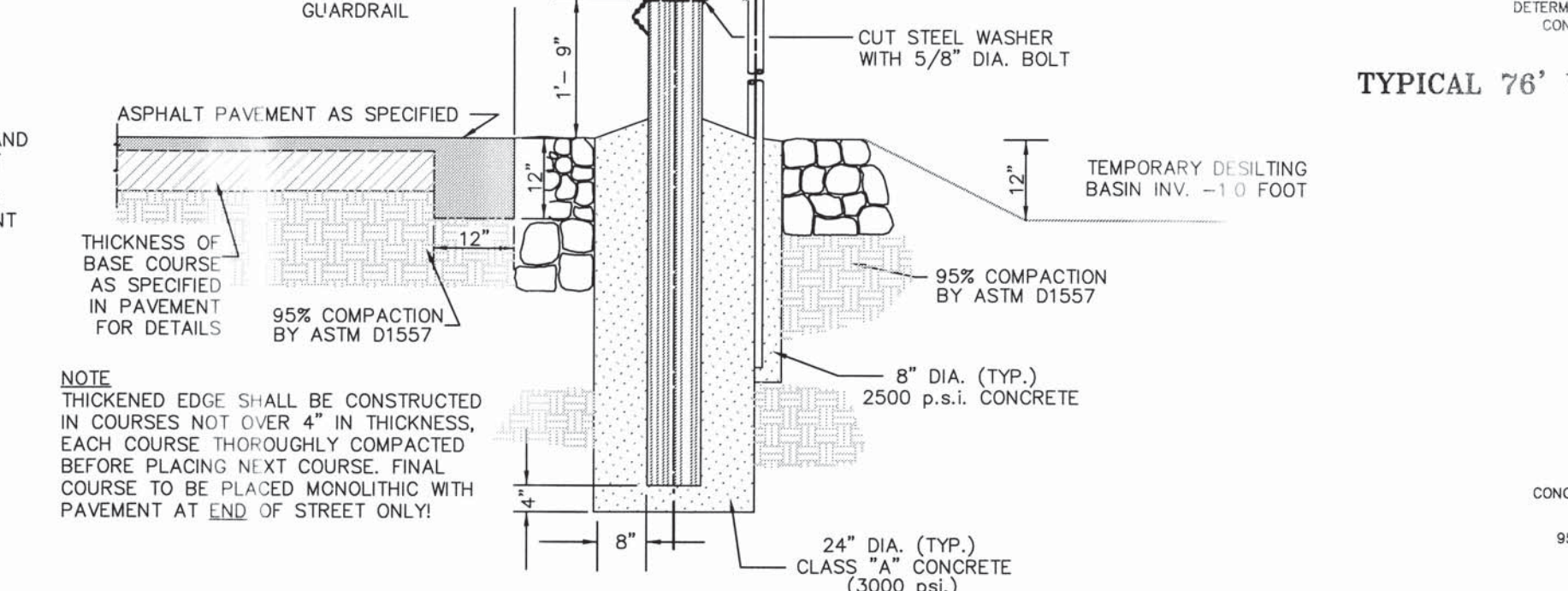


GUARD RAIL DETAIL

TYPICAL PAVEMENT SECTION



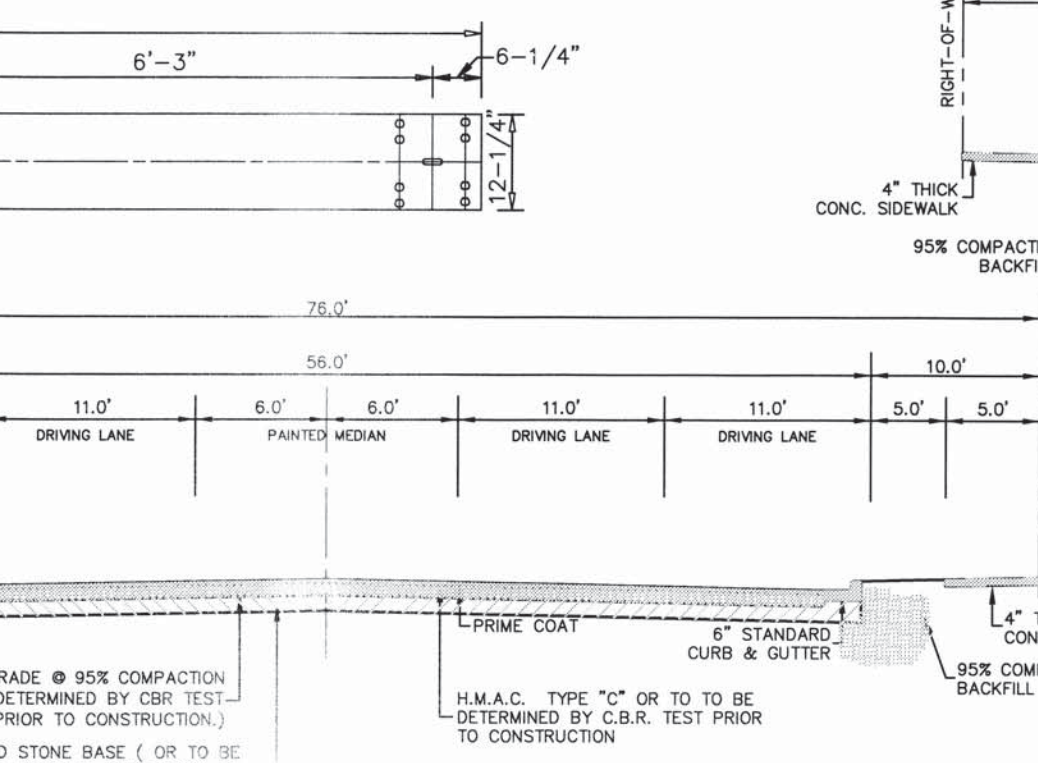
TYPICAL PAVEMENT SECTION
SCALE: 1" = 1'



TERMINUS OF STREET
SCALE: 1" = 2'

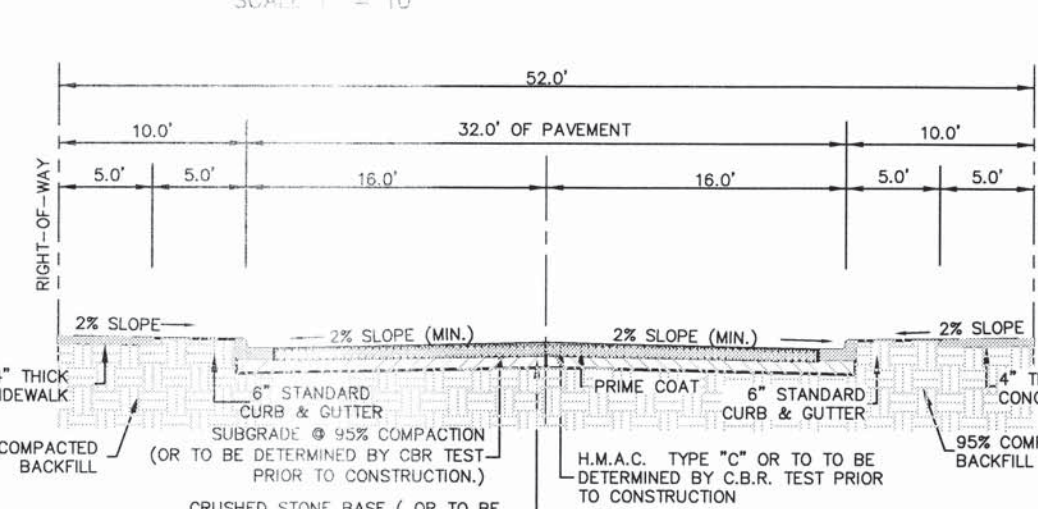
SECTION C - C

SECTION C - C
SCALE: 1" = 4'



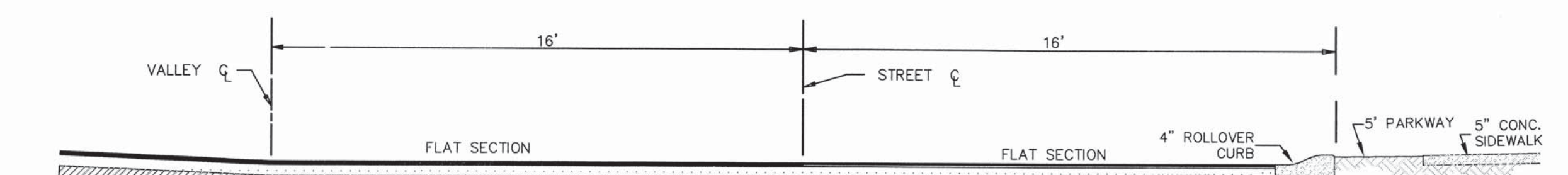
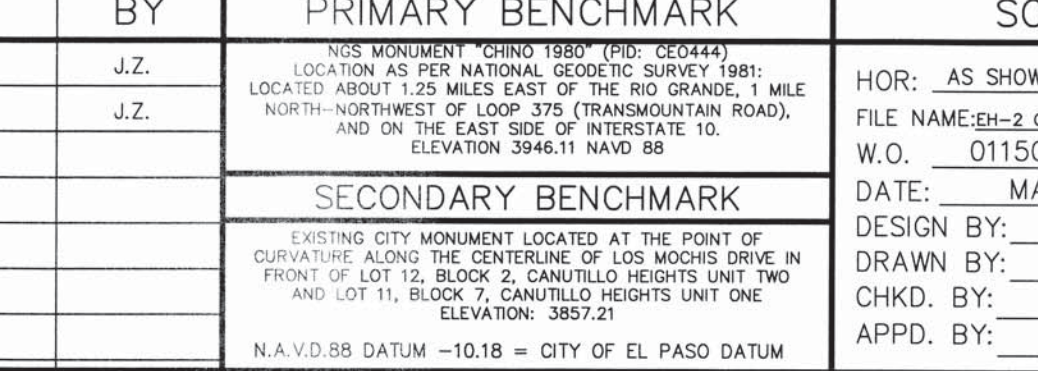
TYPICAL 76' WIDE STREET SECTION WITHOUT BIKE / HIKE PATH EAST OF NORTHWESTERN DRIVE

TYPICAL 76' WIDE STREET SECTION WITHOUT BIKE / HIKE PATH EAST OF NORTHWESTERN DRIVE
SCALE: 1" = 10'

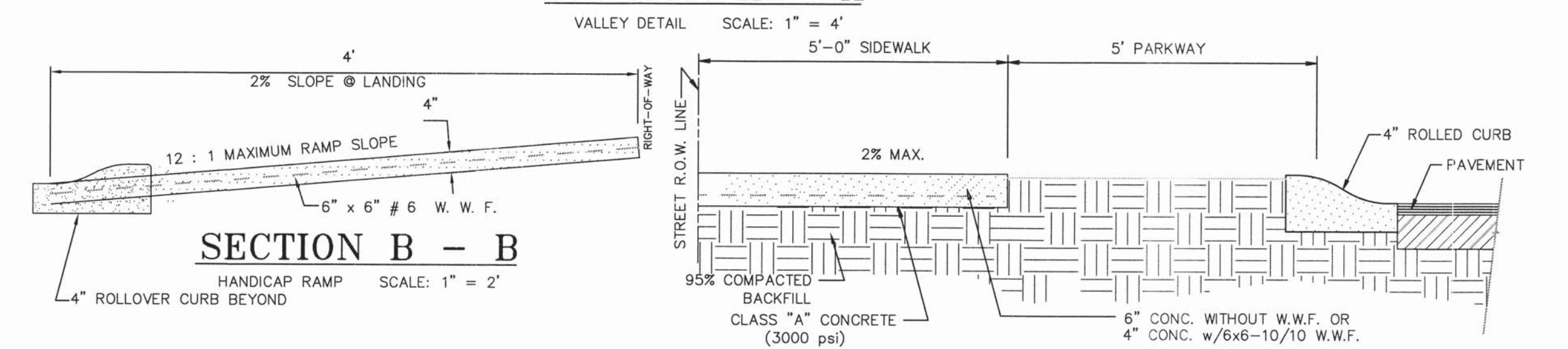


TYPICAL 52' WIDE STREET SECTION

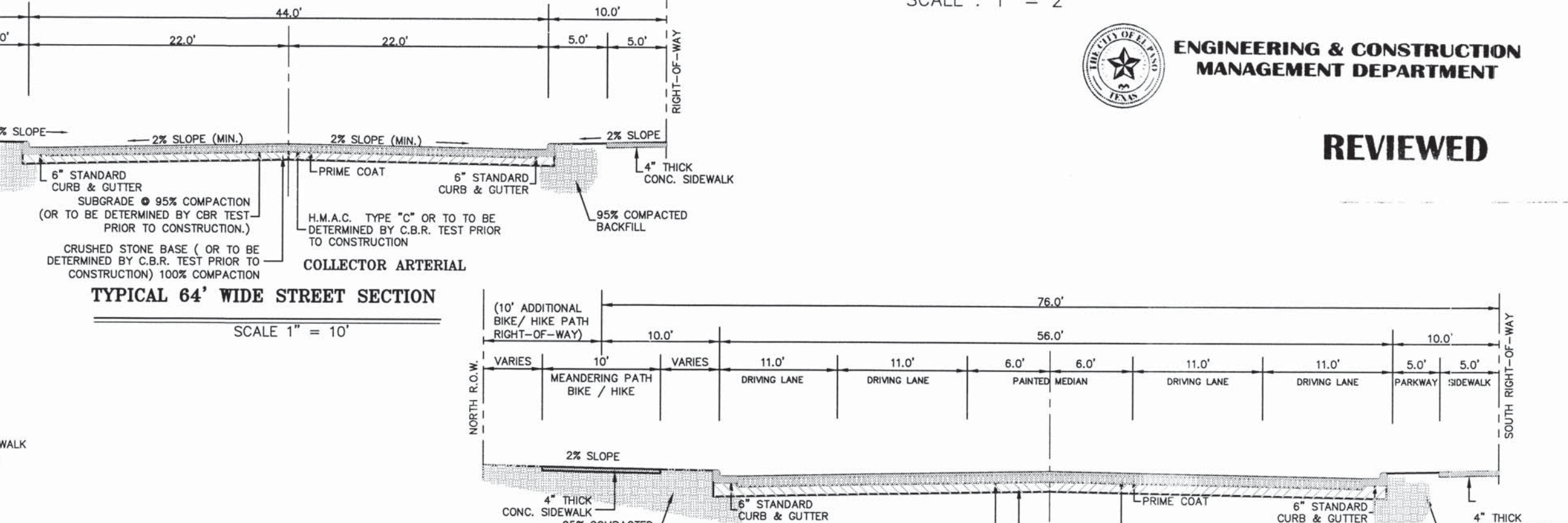
TYPICAL 52' WIDE STREET SECTION
SCALE: 1" = 10'



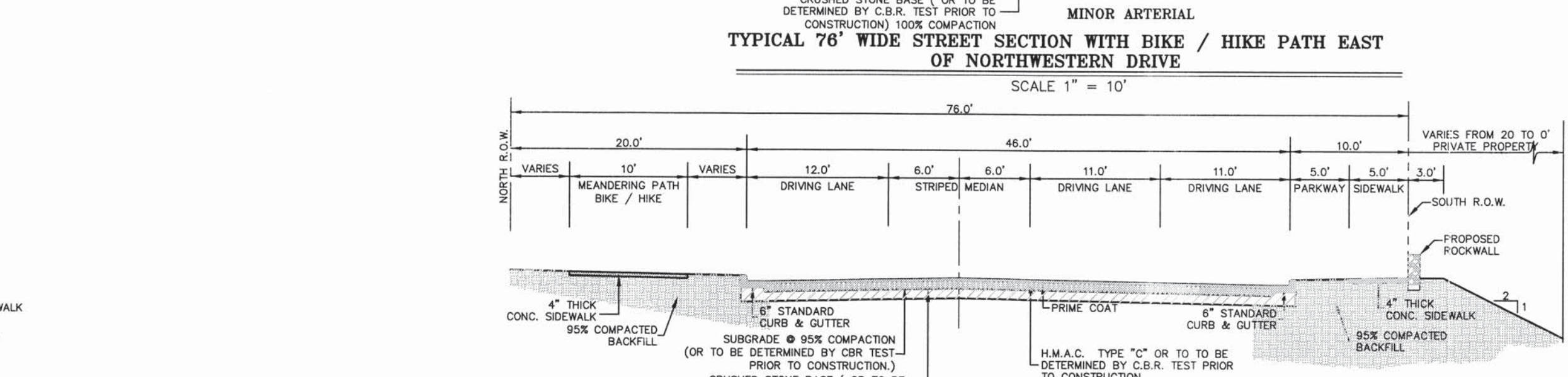
SECTION A - A
SCALE: 1" = 4'



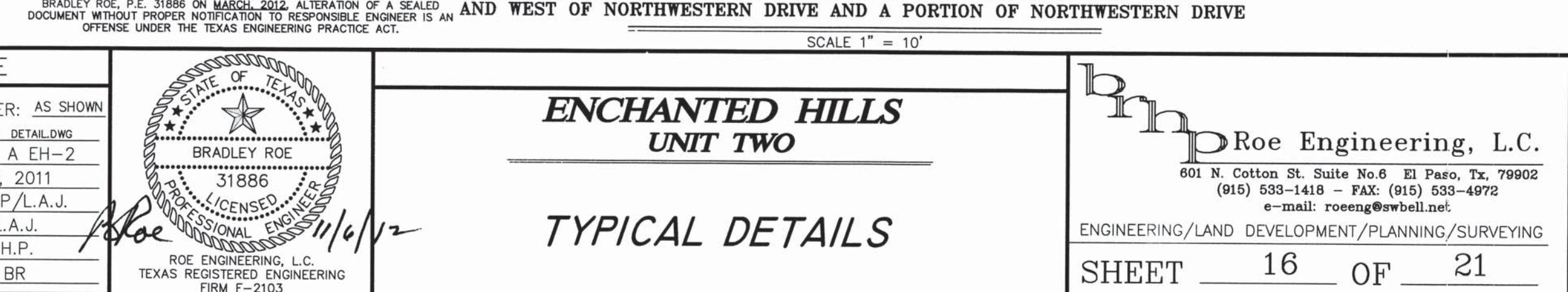
SECTION B - B
SCALE: 1" = 2'



TYPICAL 64' WIDE STREET SECTION
SCALE: 1" = 10'



TYPICAL 76' WIDE STREET SECTION WITH BIKE / HIKE PATH EAST OF NORTHWESTERN DRIVE
SCALE: 1" = 10'



TYPICAL 76' WIDE STREET SECTION BETWEEN ENCHANTED PASS DRIVE AND WEST OF NORTHWESTERN DRIVE
SCALE: 1" = 10'



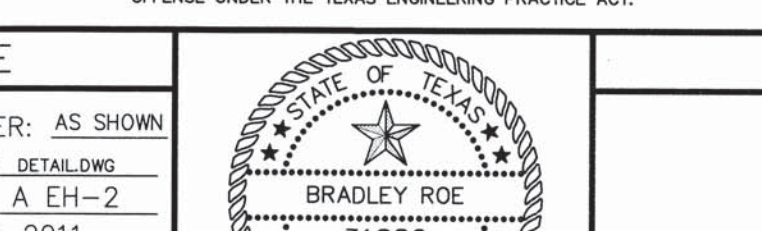
REVIEWED

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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	ROE MONUMENT (ORIN 1980) (P.C. 02044)	HOR: AS SHOWN VER: AS SHOWN
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANS-DUSTAN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10 ELEVATION 3946.11 NAVD 88	FILE NAME: EH-2-C-16-17 DETAIL.DWG W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR

FLOOD NOTE:
THE ABOVE REFERENCED PROPERTY IS WITHIN ZONE "A" AND ZONE "X" (EXPLANATION: ZONE "A" NO BASE FLOOD ELEVATIONS DETERMINED; EXPLANATION: ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER THE UNINCORPORATED AREAS COMMUNITY PANEL NO. 48022.0025 B. DATED SEPTEMBER 4, 1991.

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ENCHANTED HILLS
UNIT TWO

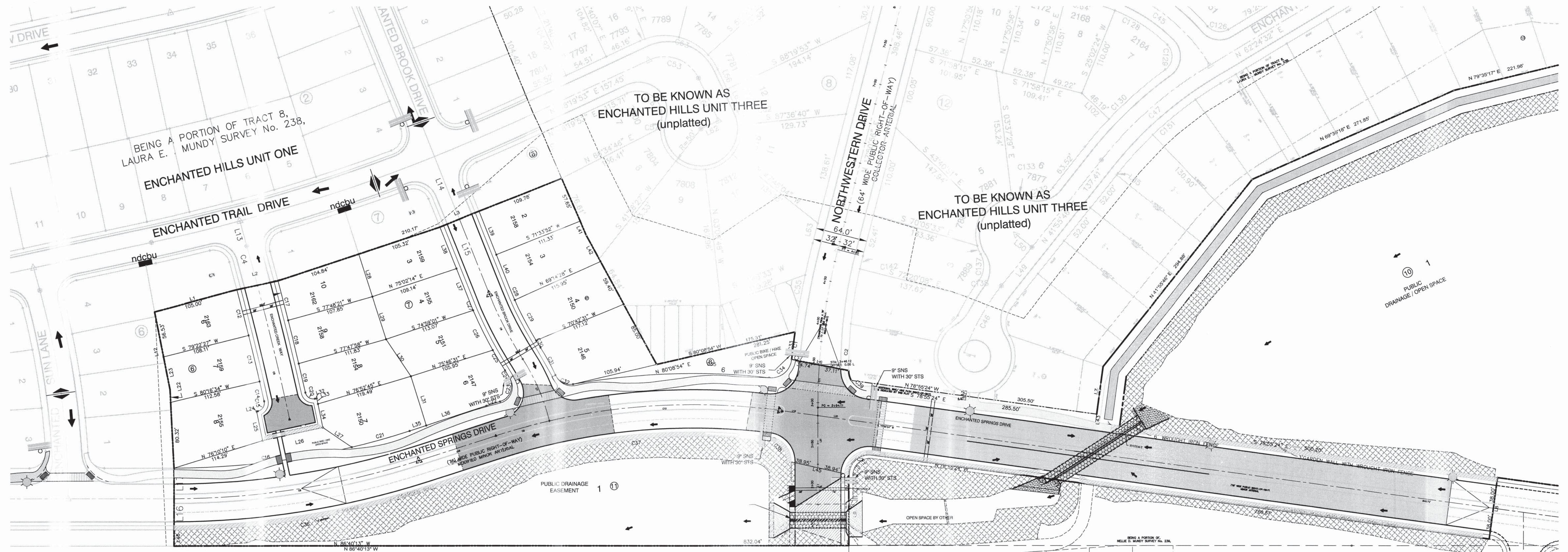
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
(915) 633-1418 - FAX: (915) 633-4972
e-mail: roeeng@bells.net



ENCHANTED HILL UNIT TWO

- DENOTES LOCATION OF PROPOSED LIGHT POLE
6 POLES TOTAL
- DENOTES LOCATION OF NDCBU (4' X 6'-3 SITES TOTAL)
- DENOTES LOCATION OF PROPOSED 9" SNS WITH 30" STS

SCALE: 1" = 60'



ENGINEERING & CONSTRUCTION
MANAGEMENT DEPARTMENT

REVIEWED

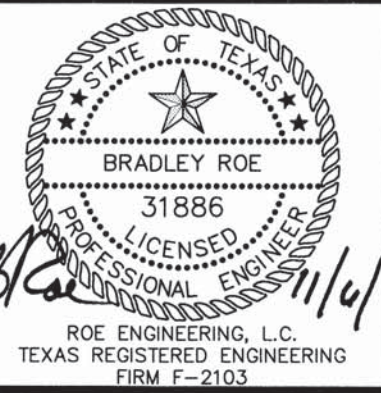
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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	105 WOODMONT "CHINA 1980" (TDC 020444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (FRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3546.11 NAVD 88	HOR: 1"=60' VER: 1"=60' FILE NAME: 02-2 C-18.19 ILLUM.DWG W.O. 011509-1 A EH-2
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	SECONDARY BENCHMARK EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21 N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	105 WOODMONT "CHINA 1980" (TDC 020444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (FRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3546.11 NAVD 88	HOR: 1"=60' VER: 1"=60' FILE NAME: 02-2 C-18.19 ILLUM.DWG W.O. 011509-1 A EH-2
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	SECONDARY BENCHMARK EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21 N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR

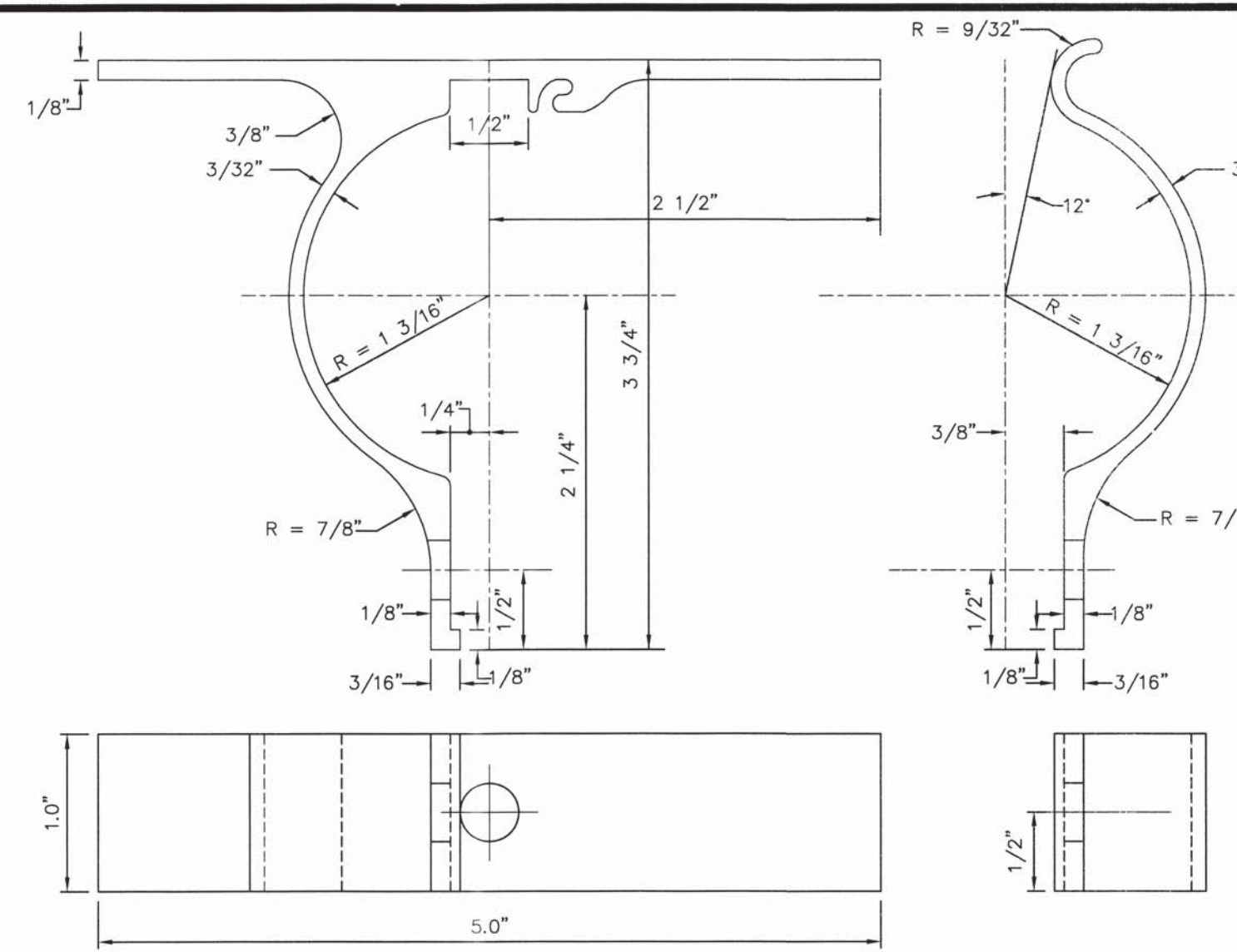
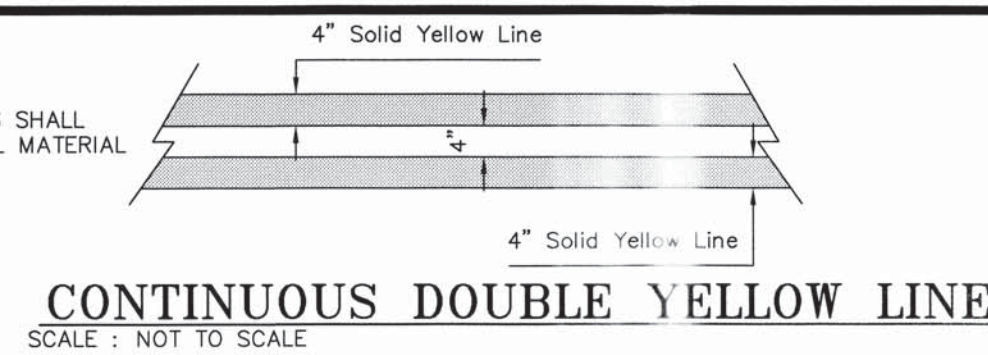


ILLUMINATION PLAN
**ENCHANTED HILLS
UNIT TWO**
ILLUMINATION PLAN

RoE Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@bell.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 18 OF 21

- Specifications for ReflectORIZED Street Name Signs
- Color of Sign:** The finished sign must have a reflectORIZED green background. The green must conform with the Bureau of Public Roads Highway Green. The legend must be reflectORIZED silver white (green reverse screened background with silver copy).
 - Letter Design:** The lettering of all legends must be upper case letters in accordance with "standard alphabets for highway sign" 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 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 1/4 the aesthetic work space used in the primary legend.
 - Suffix letter size for all lengths must be 2" Capitals, "C" series except that series "A" or "B" where suffix abbreviations exceeds two letters, may be used.
 - Size of Legend:** For 9" street name signs, the primary legend, or street name must have capital letters six inches (6") high and all secondary legends, including the suffix, block numbers, must have upper case letters two and one-half inches (2-1/2") high.
 - Suffix letter size for all length must be 2-1/2" capitals, C series, except that series A and B where suffix abbreviation exceeds two letters, may be used.
 - Position of Legend:** Each sign face will consist of the street name, suffix and two zeros of the block number. The additional numbers of the block number will be applied by the city of El Paso. The suffix will be located in the upper right corner and the block number in the lower right corner of the sign face and the street name centered in the remaining space.
 - Sign Fabrication:** The sign face must be fabricated by reverse screening green transparent color over silver reflective sheeting. Transparent process colors must be as recommended by the sheeting manufacturer. Cut-out or applied legends are not permitted. Sign face must be comprised of one piece or panel of reflective sheeting.
 - Type of sheeting:** High intensity reflective sheeting must be used in the fabrication of the street name sign faces.

GENERAL NOTES:
ALL PAVEMENT MARKING MATERIALS SHALL MEET THE REQUIRED DEPARTMENTAL MATERIAL SPECIFICATIONS



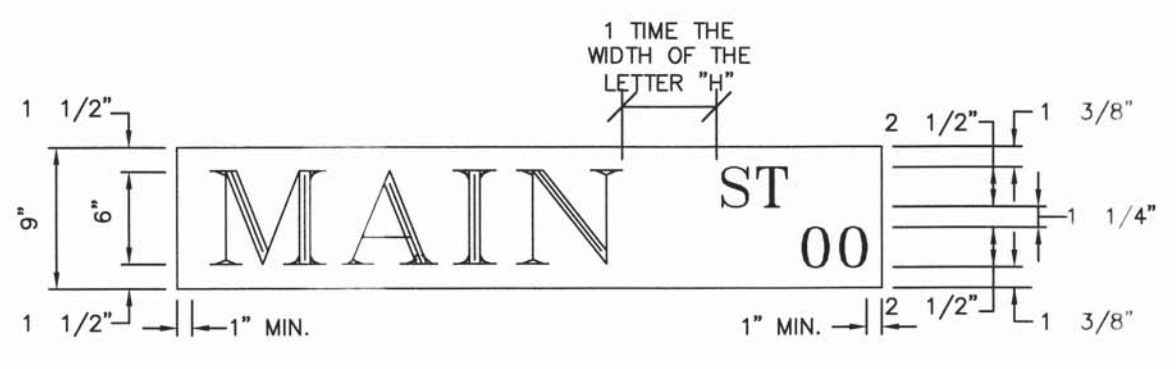
- NOTES:
- FILL HOLES 3/8" PUNCH
 - FILLETS AND ROUNDS 1/16" = R
 - FURNISH THE FOLLOWING HARDWARE FOR EACH BRACKET:
1 - 5/16" X 3/4" BOLTS
1 - 5/16" X 1 1/4" BOLT
2 - 5/16" NUTS & LOCK WASHERS
2 - 5/16" X FLAT WASHERS
 - THE BRACKET IS TO BE MADE FROM HIGH STRENGTH ALUMINUM ALLOY. THE BRACKET IS TO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

ALUMINUM SIGN CLAMP BRACKET FOR TRAFFIC CONTROL SIGNS
SCALE: 1" = 1"

ITEM No.	DIRECT EMBEDDED SL STANDARD	STOCK / DSU No.	QTY.	C/U CODE	MACRO CODE
1	PHOTO CELL, 240 V - SEE NOTE 1	21-225	1		
2	HPS LAMP, 100W	21-085	1	LCOBRAHD	
3	LUMINAIRE, 100W H.P.S	21-335	1		
4	D.E. STANDARD, 34" 6" WITH 4' MAST ARM	09-310	1	L34STLUG	
5	FUSE 10A	21-240	2	LFUSE10A	
6	FUSEHOLDER - 30A	21-247	2	LFUSEHLD	
7	COPPER CABLE, #12, 19 SOLID, 600V, BLUE	13-702	70'	LC#12CU	
8	5/8" X 10" CU BONDED GROUND ROD	08-626	1	LGRNDROD	LSTLDEUG
9	5/8" GROUND ROD CLAMP	07-461	1		
10	#4 BARE COPPER-CLAD	12-106	6'	L4ACW	
11	TRANSFORMER GROUND CLAMP	04-100	1	LGRNDCCN	
12	1" PVC FLEX CONDUIT FITTING	21-214	1	LFLXFIT1	
13	1" PVC FLEX CONDUIT	21-527	6'	LPVCFX1	
14	1" PVC 45 DEGREE ELBOW	17-298	1	L4L451	
15	1" PVC COUPLING	17-296	1	LCPLG1	
16	1" PVC CONDUIT	17-299	AS REQ	LPVC1	
17	COPPER CABLE, #12, 19 SOLID, 600V, BLUE	13-702	AS REQ	LC#12CU	
18	POLE, 35 FT.-CLASS IV	009-035	AS REQ	L34STLUG	

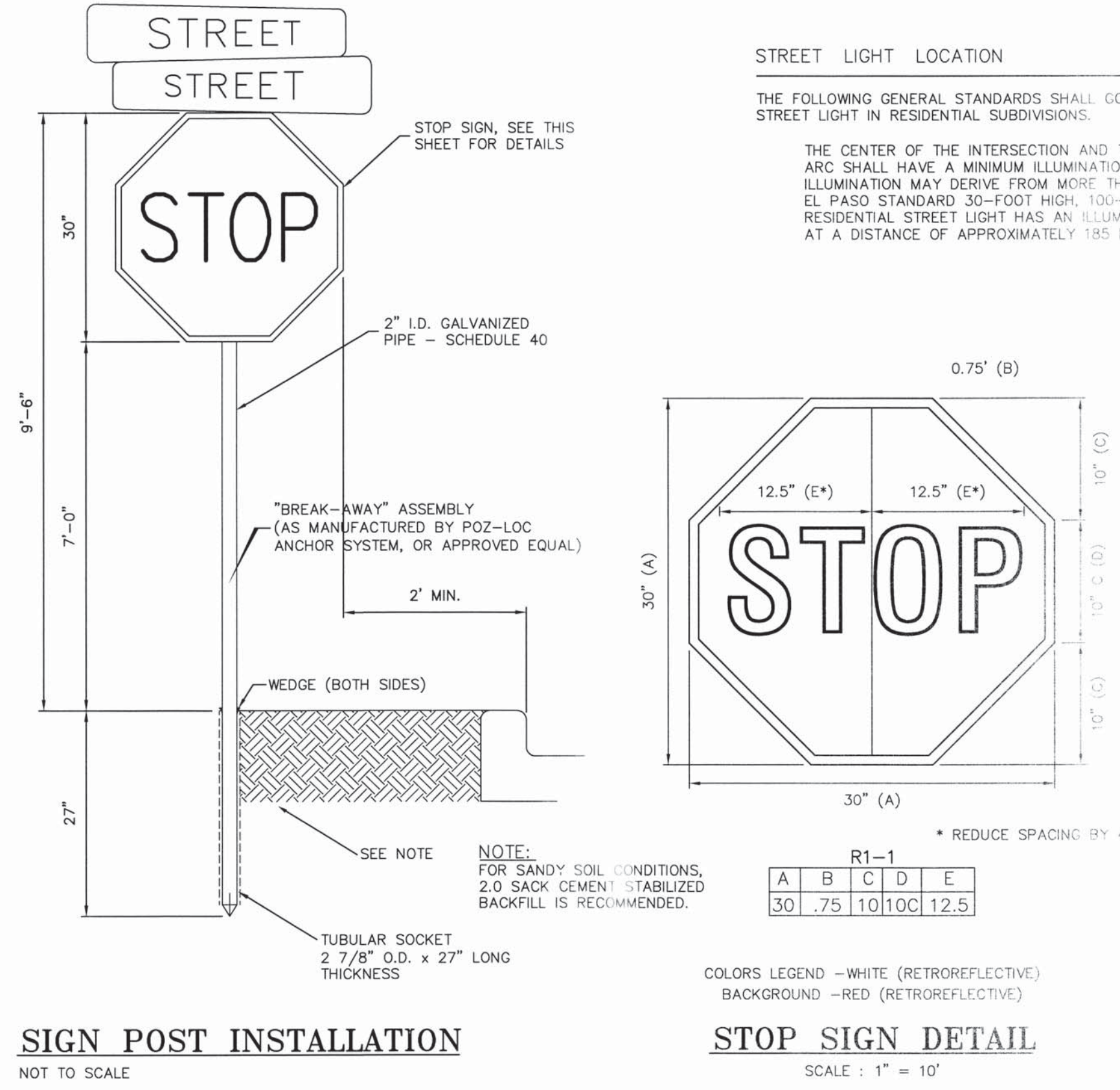
- NOTES:
- MOUNT SO THAT PHOTO CELL IS FACING NORTH.
 - INSTALLATION MUST COMPLY WITH LOCAL CODE REQUIREMENTS.
 - FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.
 - ON STREET WHERE SIDEWALK IS ADJACENT TO CURB, STREET LIGHT POLE SHALL BE INSTALLED IN THE SIDEWALK NEXT TO PROPERTY LINE. 36 INCHES REQUIRED FROM BACK OF CURVE TO COMPLY WITH AMERICAN DISABILITY'S ACT AND LOCAL CODES.
 - A GROUND ROD MUST BE USED.
 - LOCK WASHER MUST BE INCLUDED ON ALL ANCHOR BOLTS.
 - FOR ANY CLARIFICATION, EXCEPTIONS OR QUESTIONS REGARDING THIS STANDARD, CALL THE EL PASO ELECTRIC COMPANY DISTRIBUTION DESIGN DEPARTMENT.
 - CONCRETE FOUNDATION DIMENSIONS ARE AS FOLLOWS:
DIAMETER: (X)
DEPTH: (Y)
NORMAL SOIL: 24" X 72"
ROCKY SOIL: 24" X 60"
 - CONCRETE FOR FOUNDATION SHALL BE 3000 PSI. 3/4" ROCK AGGREGATE AND HAVE 5" SLUMP.
 - 4 - ANCHOR BOLTS WITH 4" HOOKS, THREAD END GALVANIZED 1" DIA. X 36" LONG, EACH BOLT FURNISHED WITH 2 HEX NUTS AND 2 FLAT WASHERS ARE SUPPLIED WITH THE STEEL POLE.
 - ON STREET WHERE SIDEWALK IS ADJACENT TO CURB, STREET LIGHT POLE SHALL BE INSTALLED IN THE SIDEWALK NEXT TO PROPERTY LINE. 36 INCHES REQUIRED FROM BACK OF CURB TO COMPLY WITH AMERICAN DISABILITY'S ACT AND LOCAL CODES.

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

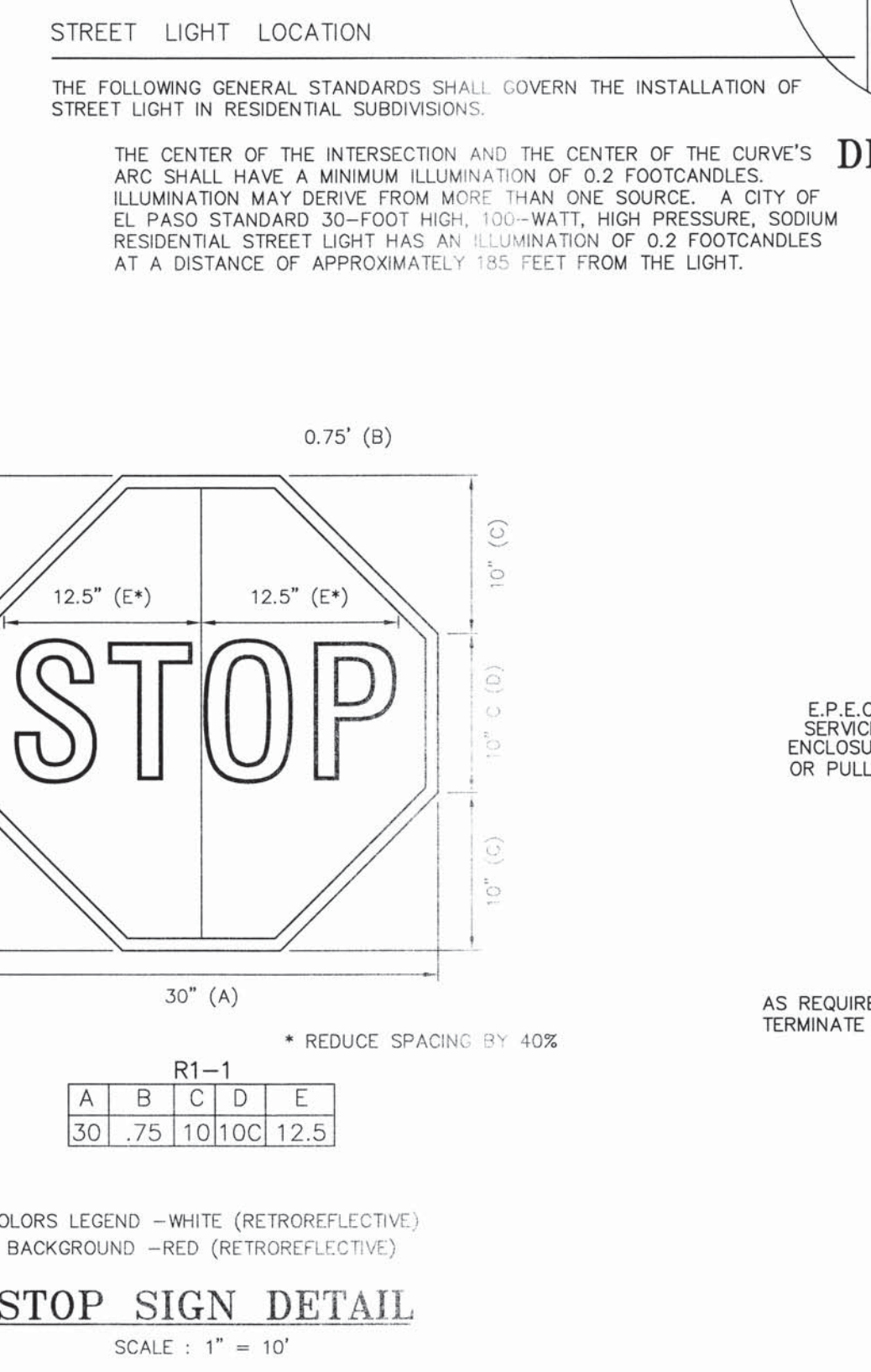


LAYOUT FOR 9" STREET NAME SIGN
SCALE: 1" = 1"

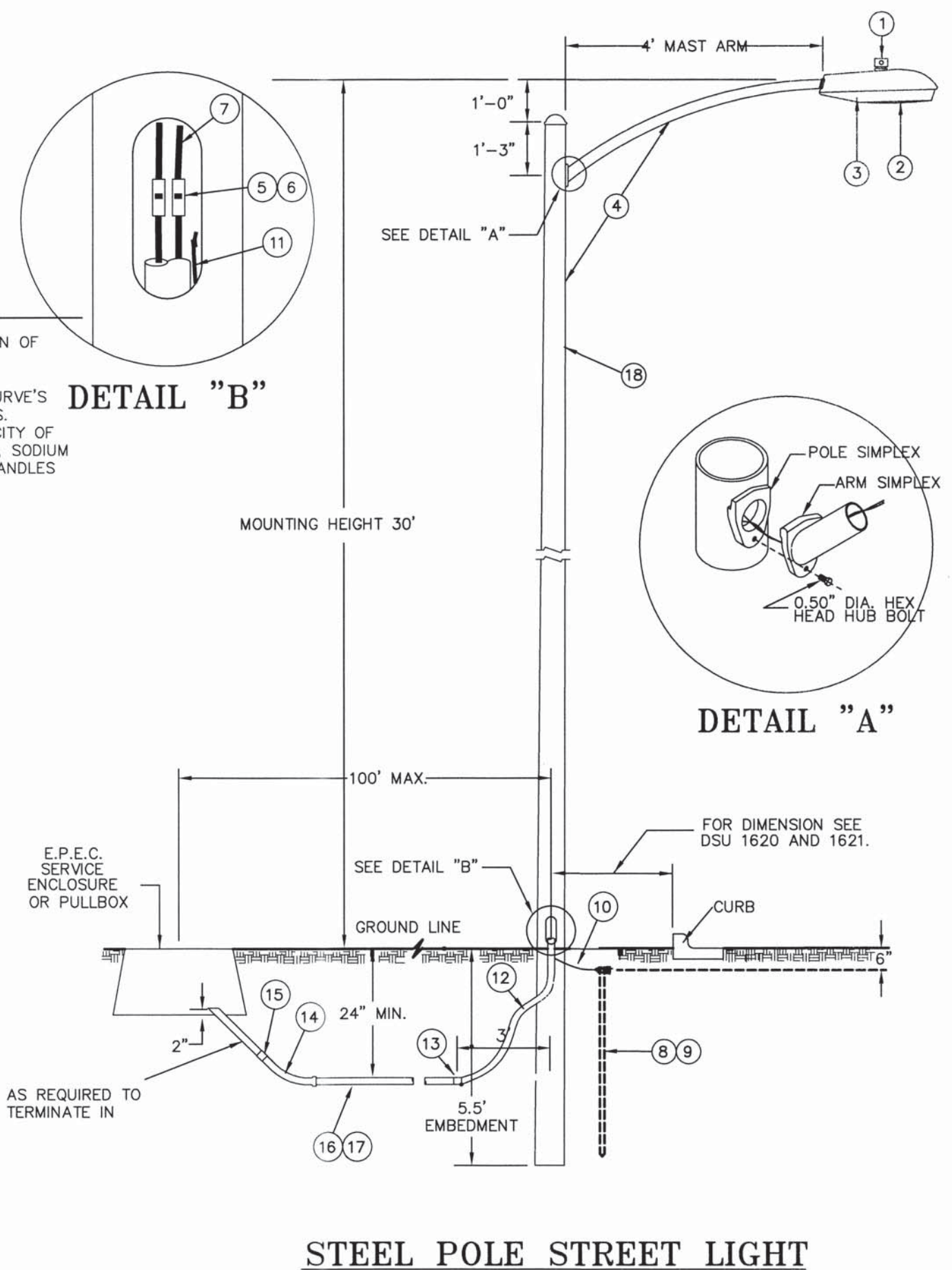
- Specifications for Aluminum Sign Blanks
- These specifications describe details and minimum requirements for Aluminum Sign Blanks, to which reflective sheeting will be applied.
- All materials shall be new and unweathered and shall be of domestic origin, milled, rolled and finished in domestic mills.
 - Sign blanks shall be .080 gauge anodized-treated aluminum, 5052-H38 alloy, free of burrs, corrosion, white rust and dirt, suitable for application of reflective sheeting without further preparation.
 - Edges of blanks shall be cut true and square, corner radii, hole diameters and hole locations shall be as described in the aluminum sign blank bid D.H.T. standard.
 - All sign blanks will be treated as follows:
 - Degreasing**
 - Vapor Degreasing - By total immersion of sign blank in a saturated vapor of trichloroethylene or perchlorethylene. Trademark printing shall be removed with lacquer thinner before degreasing.
 - Alkaline Degreasing - By total immersion of sign blank in a tank containing alkaline solutions, controlled and titrated to the solution manufacturer's specification for time, temperature and concentration. Immersion time shall depend upon the amount of soil present, gauge of the metal and solution strength, rinse thoroughly with running water.
 - Etching**
 - Acid Etch - Etch well in 6 - 8 % phosphoric solution at 100 degrees Fahrenheit of proprietary acid etching solution. Rinse thoroughly with running water.
 - Alkaline Etch - Etch well the pre-cleaned aluminum surface in an alkaline etching material that is controlled by titration. Use time, temperature, and concentration specified by solution manufacturer. Rinse thoroughly. Remove smut with an acidic chromium compound-type solution as specified by the solution manufacturer and then rinse thoroughly.
 - Chromate conversion coating**
Coat the aluminum blanks according to the chromate conversion coating manufacturer's instructions. The coating shall conform to ASTM - B448067, class 2, and shall range in color from silvery iridescent to pale yellow. The coating weight shall be 10 to 35 MG per square foot with a median of 25 MG per square foot as the optimum coating weight.



SIGN POST INSTALLATION
NOT TO SCALE



STOP SIGN DETAIL
SCALE: 1" = 10"

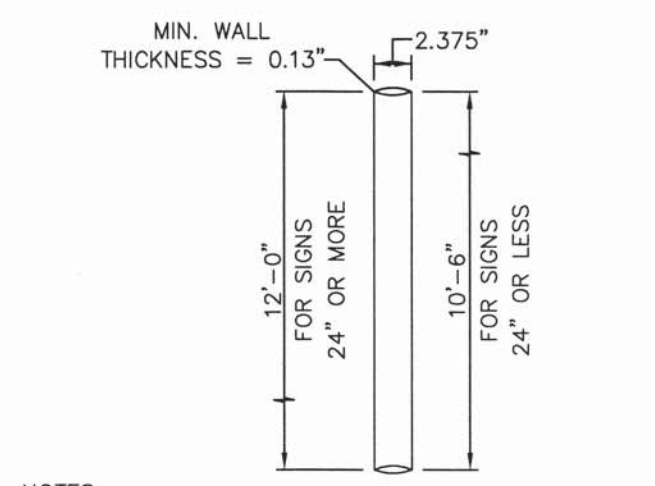


STEEL POLE STREET LIGHT

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EXHIBIT "B"



- NOTES:
- WELD ALONG ITS LENGTH TO FORM VIRTUALLY SEAMLESS.
 - POST SHALL BE HOT DIPPED ZINC GALVANIZED UNIFORMLY ON THE OUTSIDE WITH NOMINAL ZINC WEIGHT OF 1.0 OUNCE PER SQUARE FOOT.
 - THE ZINC COATING IS TO BE OVER-COATED WITH A CHROMITE CONVERSION AND ACRYLIC COATING TO PROVIDE RESISTANCE TO RUSTING AND CORROSION.
 - THE INSIDE OF THE POST SHALL BE COATED WITH AN ORGANIC MATERIAL FOR PROTECTION AGAINST RUST.
 - BOTH ENDS ARE TO BE SQUARELY CUT WITHOUT FLARE.
 - POST SHALL BE FREE OF WARPS, CORROSION, OR OTHER DEFECTS.
 - RING WELDS OR SPLICES WILL NOT BE ACCEPTABLE.
 - BENDING STRENGTH AS SPECIFIED BY AASHTO FOR SCHEDULE 40 PIPE.
 - POST SHALL BE BUNDLED WITH METAL STRAPS AND SHALL NOT EXCEED 37 POST PER BUNDLE.

SIGN POSTS SPECIFICATIONS
SCALE: 1" = 1"

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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	NIS MONUMENT "CHINO 1980" (PRE-060444)	1/8"=1'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION AS PER NATIONAL GEODESIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMONTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.51 NAVD 88	1/8"=1'
			SECONDARY BENCHMARK	
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	
			N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM	

TRAFFIC SIGNAGE DETAILS
ENCHANTED HILLS UNIT TWO
TRAFFIC SIGNAGE DETAILS

ROE ENGINEERING, L.C.
31886
BRADLEY ROE
MARCH 2011
HP/L.A.J.
L.A.J.
H.P.
BR

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT
REVIEWED
Roe Engineering, L.C.
601 N. Cotton St. Suite No.6 El Paso, Tx, 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@well.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 19 OF 21

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

Project Title
ENCHANTED HILLS UNIT TWO

Operator with Control Over Construction Plans and Specifications
 (Company Name and Address)
 Robert F. Foster, Inc.
 6080 Surety Drive Suite 300
 Operator's Representative
 Javier Navarro
 Phone No. 915-494-4066

Prepared by: Roe Engineering, L.C. Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signatory Name and Title Signature
 BRADLEY ROE, R.P.L.S., P.E. S/ BRADLEY ROE

Operator with Day-to-Day Operational Control Over Activities to Ensure Compliance with SWPPP

Company Name and Address
 Robert F. Foster, Inc. 6080 Surety Drive Suite 300
 Operator's Representative
 Javier Navarro
 Phone No. 915-494-4066

Revisions to SWPPP

Revision No.	Date	Description of Changes	Signature

Sequence of Major Construction Activities. Provide a description of the intended sequence of major activities that will disturb soils. Describe the general timing or sequence for implementation (and removal) of BMPs that will be used to minimize pollution in runoff.

Activity/BMP	Estimated Start	Estimated Completion

Existing Topography and Drainage Features. Describe the existing topography, drainage patterns, and natural drainage features including channels, creeks, watercourses, etc. Provide name (if available) of creeks, streams, etc. and protection measures such as buffers.

- Previously graded land with fill material and no vegetation.
- Topography is generally level across the site.
- Substratum consisting of sandy, graded sand, with various amounts of silt.

Revision _____ Date _____ Page _____ of _____

Soil Types	Erosion Factor (K)	Unified Classification	Site Coverage (%)

Existing (Pre-construction) Ground Cover. Describe existing vegetation on the drawing. Such features as tree clusters, grassy areas, and unique or sensitive vegetation should be shown.

Revision	Date	Page	of

Type of Grass/Vegetation/Trees	Approximate Density (%)	Site Coverage (%)

Critical Areas. Describe the location, size, and characteristics of any wetlands, streams, or lakes that are adjacent or in close proximity to the site, and/or will receive discharges from disturbed areas of the project. Also delineate areas with high erosion potential including steep slopes. Critical areas are shown in drawing.

Description of Potential Pollutants. Describe potential pollutants, including construction and waste materials, chemicals, paints, solvents, etc. expected to be stored on-site. At a Minimum, Any Products in the Following Categories Shall Be Considered Hazardous: Paints, Acids For Cleaning Masonry Surfaces, Cleaning Solvents, Asphalt Products, Chemical Additives For Soil 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 Department And THRC.

Revision _____ Date _____ Page _____ of _____

Existing Storm Sewer System. Describe any existing onsite storm sewer systems including location of inlets and outfalls, pipe sizes, etc.

Permanent (Post-Construction) Storm Water Management Controls. Provide a description of measures that will be installed to control pollutants (sediment, oil, grease, fertilizer, pesticides, etc.) in storm water discharges that will occur after construction is complete and the developed property is placed in service. Installation of Concrete Curb, And Gutters Storm Drains, Retention Ponds.

Revision _____ Date _____ Page _____ of _____

Copy of NOI(s) or Site Notice(s) and TPDES General Permit TXR150000 attached?

Name of Receiving Water(s)

Name of Municipal Separate Storm Sewer System (MS4) Receiving Discharge (if applicable)

Total Area of Property _____ Acres

Total Area of Site to be Disturbed _____ Acres

Total Area of Off-site Material Storage & Borrow/Fill Sites N/A Acres

Description of Project/Construction Activity

GENERAL CONTRACTOR CERTIFICATION

I Certify Under Penalty Of Law That I Understand The Terms And Conditions Of The National Pollutant Discharge Elimination System (NPDES) General Permit That Authorizes Storm Water Discharges Associated With Construction Activity From The Construction Site Identified As Part Of This Certification.

Signed: _____ Company: Robert F. Foster, Inc.
 Name: Robert F. Foster Address: 6080 Surety Drive Suite 300
 Title: President Telephone: 915-494-4066
 Date: _____

TEN ELEMENTS OF A CONSTRUCTION SWPPP

For each of the following Ten Elements, describe the measures used to address the element. Include the type and location of BMPs used to satisfy the required element and the general timing or sequence for implementation if an element is not applicable to a project, provide a written justification for why it is not necessary.

- Limit Soil Disturbance**
 Provide a description of the areas including natural drainage features, trees and other vegetation, and appropriate buffers that are to be preserved within the construction area and the measures to be implemented to ensure protection.
- PREVENT SOIL EROSION**
 Describe the temporary and permanent stabilization practices for disturbed areas of the site, including a schedule of when the practices will be implemented.
- PROTECT SLOPES**
 Describe practices used to protect slopes and divert flows away from exposed soils or disturbed areas.
- MINIMIZE SEDIMENT LOSS FROM SITE**
 Describe the practices to lessen the off-site transport of sediment and to reduce generation of dust. Sediment basins are required, where feasible, for common drainage locations that serve an area with ten or more acres disturbed at one time. 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 Tarps
 Access Driveways Shall Be Removed Immediately Stabilized Construction Entrance
 Control Flow Rates and Stabilize Channels/Outfalls. Provide a description of velocity dissipation devices used at discharge locations and channel stabilization measures to provide non-erosive flows.
- ESTABLISH CONSTRUCTION ACCESS.** Provide a description of measures to minimize the off-site tracking of sediment by vehicles.

Revision _____ Date _____ Page _____ of _____

7. Protect Drain Inlets. Provide a description of inlet protection measures to prevent sediment from entering the storm drain system.

Revision _____ Date _____ Page _____ of _____

8. Control Dewatering. Provide a description of controls to prevent the off-site transport of suspended sediments and other pollutants in discharges from dewatering operations.

Revision _____ Date _____ Page _____ of _____

9. Control Waste and Pollutants. Provide a description of controls to reduce pollutants and spill prevention and response procedures associated with construction and waste materials. Also provide a description of controls and measures that will be implemented to minimize pollutants in any discharges associated with industrial activity other than construction (i.e., dedicated asphalt or concrete plants) covered by the Construction General Permit.
 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 Trash Dumpster Shall Comply With Ordinance 18.52.010 (Enclosure & 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.

Revision _____ Date _____ Page _____ of _____

10. Construction Phasing and Project Management. Provide a description of considerations given to project phasing in order to reduce the amount of soil exposed at one time.

Revision _____ Date _____ Page _____ of _____

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

- Install Temporary Erosion And Sediment Controls (e.g. Silt Fence And/ Or Earthen Berm, And Stabilized Construction Entrance), From _____ To _____
- Perform Roadway Clearing And Grubbing; From _____ To _____
- Excavation For Utilities; From _____ To _____
- Complete Lot Grading; From _____ To _____
- Final Final Grading Plan
- Construction Of Site Improvements; _____ To _____
- After Stabilization Of 70% Of Site Is Complete, Remove Temporary Controls In # 1 Above And Submit Notice Of Termination Form To City Engineering And E.P.A.

- Motor Oil
- Diesel
- Gasoline

- 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 (Temporary)
 - Hay Bales
 - Rock Berms
 - Diversion, Interceptor, Or Perimeter Dikes
 - Diversion, Interceptor, Or Perimeter Swales
 - Diversion Dike And Swale Combinations
 - Pipe Slope Drains
 - Concrete Flumes
 - Rock Bedding At Construction Exit (Temporary)
 - Timber Matting At Construction Exit
 - Channel Liners
 - Sediment Traps
 - Sediment Basins
 - Storm Inlet Sediment Trap
 - Stone Outlet Structures
 - Curb And Gutters (Permanent)
 - Storm Drains (Permanent)
 - Velocity Control Devices
 - Vegetated Swales & Natural Depressions
- Other: _____

Revision _____ Date _____ Page _____ of _____

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Revision _____ Date _____ Page _____ of _____

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Revision _____ Date _____ Page _____ of _____

10. Construction Phasing and Project Management. Provide a description of considerations given to project phasing in order to reduce the amount of soil exposed at one time.

Revision _____ Date _____ Page _____ of _____

- NON-STORMWATER DISCHARGES ALLOWED**
- A discharge authorized by, and in full compliance with, an NPDES permit (other than the NPDES permit for discharges from the MS4);
 - A discharge resulting from firefighting;
 - Agricultural stormwater runoff;
 - A discharge from water line flushing, but not including a discharge from water line disinfection by superchlorination or other means unless it contains no harmful quantity of chlorine or any other chemical used in line disinfection;
 - A discharge from lawn watering, landscape irrigation, or other irrigation water;
 - A discharge from a diverted stream flow or natural spring;
 - A discharge from uncontaminated pumped groundwater or rising groundwater;
 - Uncontaminated groundwater infiltration (as defined as 40 CFR Section 35.2005 (20)) to the MS4;

SUB - CONTRACTOR CERTIFICATION

I Certify Under Penalty Of Law That I Will Coordinate, Either Through The General Contractor, Owner, Or Directly With The Contractor(s) And/Or Subcontractor(s) Identified In The Pollution Prevention Plan Having Responsibility For Implementing Storm Water Control Measures To Minimize Any Impact My Actions May Have On The Effectiveness Of These Storm Water Control Measures.

Signed: _____ Name: _____
 Title: _____ Company: _____
 Address: _____ Telephone: _____
 Date: _____

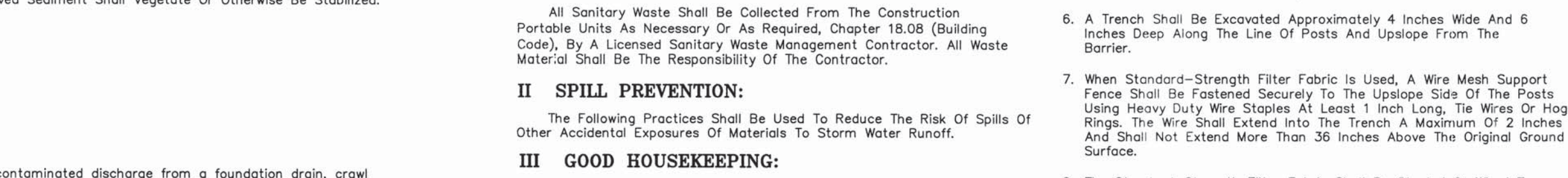
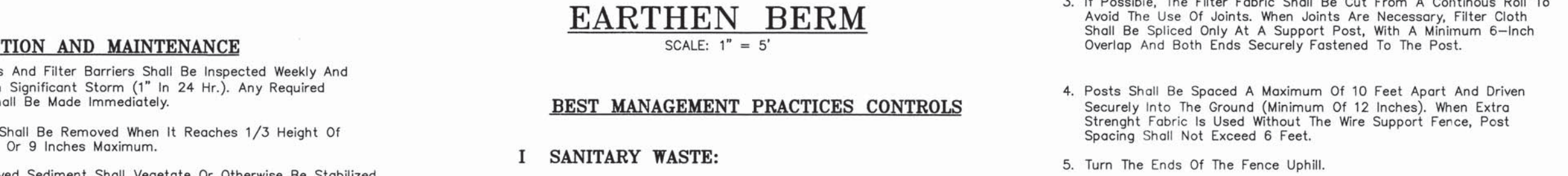
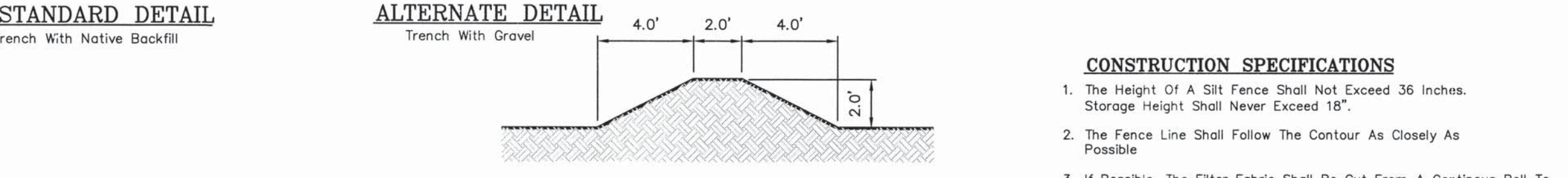
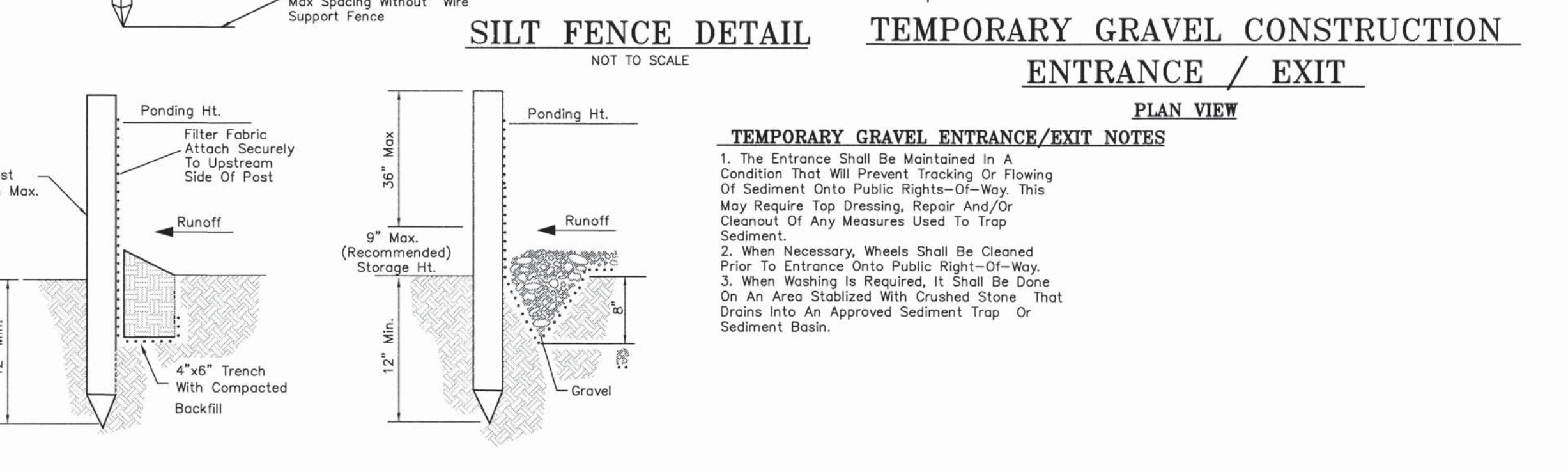
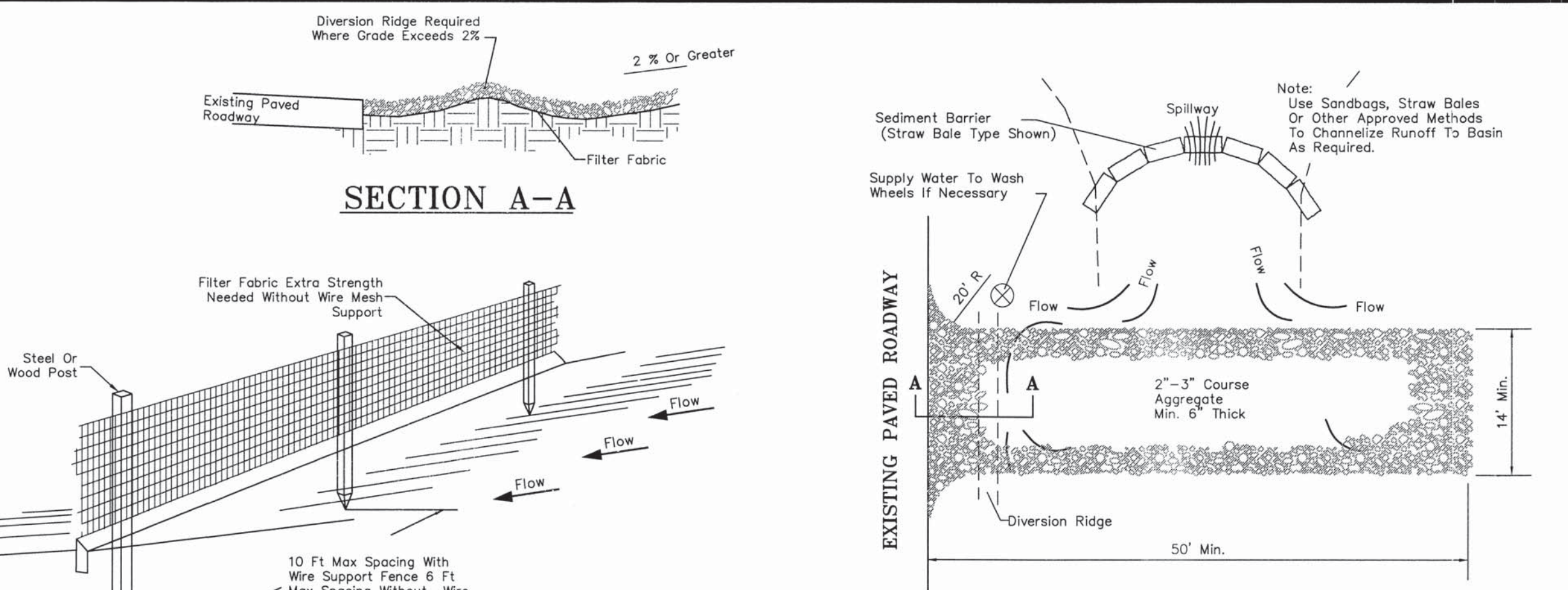
No off-site Material Storage Areas will be used.

OWNER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner: (Signed) _____ Date _____
 E.P. Transmountain Residential, L.L.C.

 Thomas A. Schwartz, Manager
 Owner: (Name) _____
 Phone Number: 915-592-0290



- TEMPORARY GRAVEL ENTRANCE/EXIT PLAN VIEW**
- TEMPORARY GRAVEL ENTRANCE/EXIT NOTES**
- The Entrance Shall Be Maintained In A Condition That Will Prevent Tracking Or Flowing Of Sediment Onto Public Rights-Of-Way. This May Require Top Dressing, Repair And/Or Cleanup Of Any Measures Used To Trap Sediment.
 - When Necessary, Wheels Shall Be Cleaned Prior To Entrance Onto Public Right-Of-Way.
 - When Washing Is Required, It Shall Be Done On An Area Stabilized With Crushed Stone That Drains Into An Approved Sediment Trap Or Sediment Basin.
- CONSTRUCTION SPECIFICATIONS**
- The Height Of A Silt Fence Shall Not Exceed 36 Inches. Storage Height Shall Never Exceed 18".
 - The Fence Line Shall Follow The Contour As Closely As Possible
 - If Possible, The Filter Fabric Shall Be Cut From A Continuous Roll To Avoid The Use Of Joints. When Joints Are Necessary, Filter Cloth Shall Be Spliced Only At A Support Post, With A Minimum 6-inch Overlap And Both Ends Securely Fastened To The Post.
 - Posts Shall Be Spaced A Maximum Of 10 Feet Apart And Driven Securely Into The Ground (Minimum Of 12 Inches), When Extra Strength Fabric Is Used Without The Wire Support Fence, Post Spacing Shall Not Exceed 6 Feet.
 - Turn The Ends Of The Fence Uphill.
 - A Trench Shall Be Excavated Approximately 4 Inches Wide And 6 Inches Deep Along The Line Of Posts And Upslope From The Barrier.
 - The Standard-Strength Filter Fabric Shall Be Stapled Or Wired To The Fence, And 6 Inches Of The Fabric Shall Extend Into The Trench. The Fabric Shall Not Extend More Than 36 Inches Above The Original Ground Surface. Filter Fabric Shall Not Be Stapled To Existing Trees.
 - The Standard-Strength Filter Fabric Shall Be Stapled Or Wired To The Fence, And 6 Inches Of The Fabric Shall Extend Into The Trench. The Fabric Shall Not Extend More Than 36 Inches Above The Original Ground Surface. Filter Fabric Shall Not Be Stapled To Existing Trees.
 - When Extra-Strength Filter And Closer Post Spacing Are Used, The Wire Mesh Support Fence May Be Eliminated. In Such A Case, The Filter Fabric Is Stapled Or Wired Directly To The Posts.
 - The Trench Shall Be Backfilled And The Soil Compacted Over The Toe Of The Filter Fabric.
 - Silt Fences Placed At The Toe Of A Slope Shall Be Set At Least 5 Feet From The Toe In Order To Increase Ponding Volume.
 - Silt Fences Shall Be Removed When They Have Served Their Useful Purpose, But Not Before The Upslope Area Has Been Permanently Stabilized, And Any Sediment Stored Behind The Silt Fence Has Been Removed.
- VII 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 A Report Summarizing The Scope Of Inspection Shall Be Done & Retained Along With The SDDPC.
- VIII 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 Sedimentation. Erosion Control Measures Shall Not Be Removed Until The Final Stabilization Is Complete.

- I 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.
- II SPILL PREVENTION:**
- The Following Practices Shall Be Used To Reduce The Risk Of Spills Of Other Accidental Exposures Of Materials To Storm Water Runoff.
- III GOOD HOUSEKEEPING:**
- Store Only Enough Products Required To Do The Job
 - Neatly Store Materials On-Site In An Orderly Manner
 - Keep Products In Their Original Container
 - Do Not Mix Substances With One Another, Unless Otherwise Recommended By The Manufacturer
 - Use Entire Contents Of A Product Before Disposing The Container
 - Follow Manufacturer's Recommendations For Proper Use And Disposal
- IV HAZARDOUS PRODUCTS:**
- Practices Used To Reduce Risks:
- Keep Products In Their Original Container If At All Possible
 - Retain Original Labels, Product Information And Material Safety Data Sheets (MSDS)
 - Dispose Surplus Product In Accordance With Manufacturer's Or Local & State Recommended Methods
- V 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.
- VI SPILL CONTROL PRACTICES:**
- Manufacturer's Recommended Methods For Spill Cleanup Shall Be Clearly Posted And Site Personnel Shall Be Made Aware Of The Procedures:
 - Materials And Equipment Necessary For Spill Cleanup Shall Be Kept In The Material Storage Area On-Site:
 - All Spills Shall Be Cleaned Up Immediately After Discovery
 - Spill Area Shall Be Well Ventilated And Appropriate Clothing Will Be Worn:
 - Any Spill Shall Be Reported To The Appropriate Governmental Agency

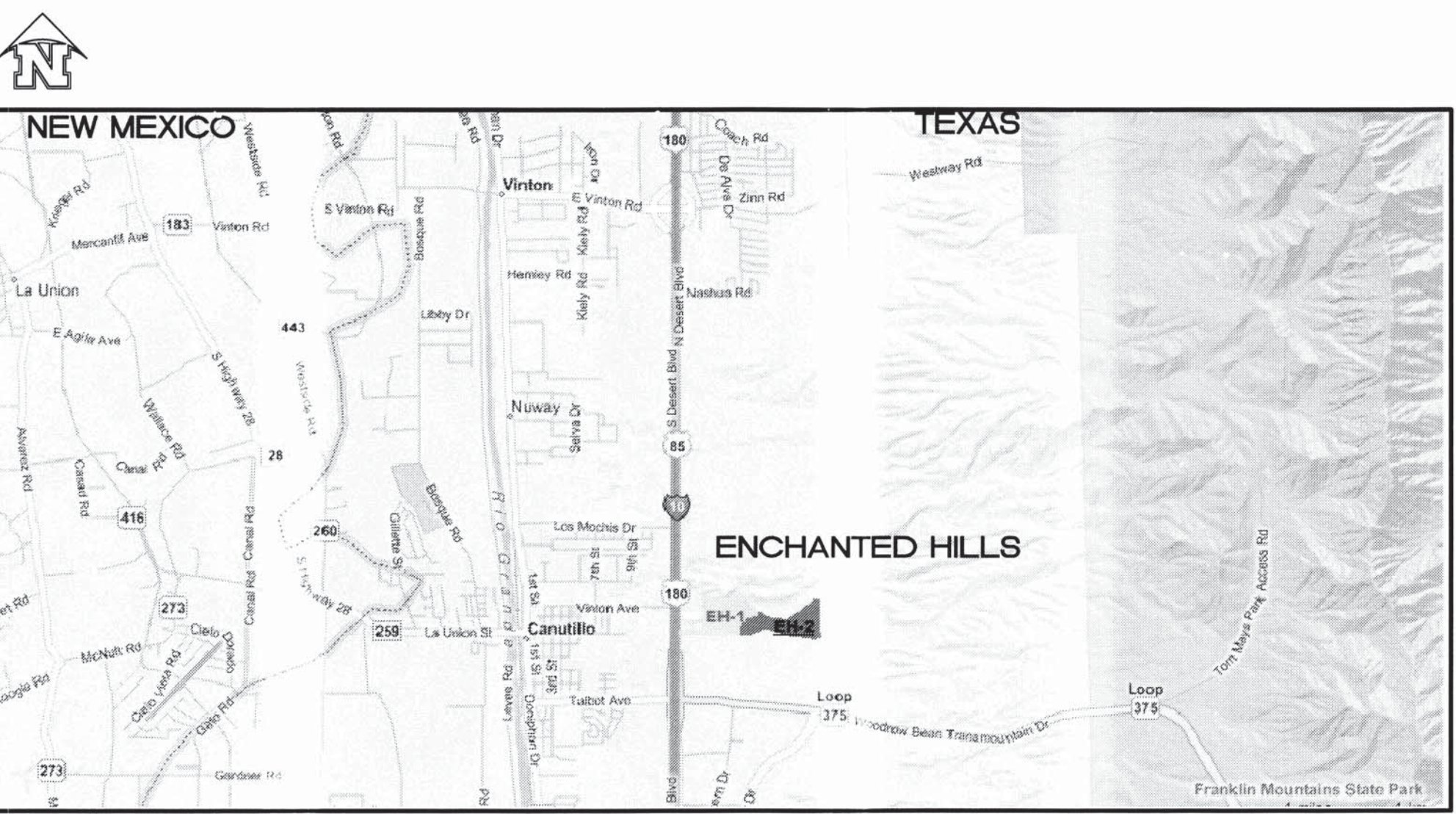
NOTES:

There Are No Listed Endangered Or Threatened Species Or Designated Critical Habitat In The Project Area.

There Is No Historical Impact Within The Project Limits.

A Copy Of The TPDES General Permit TXR150000 (Permit Language) Shall Be Read, Understood, And Maintained On Site By The Operator.

No Asphalt/Bitum plant



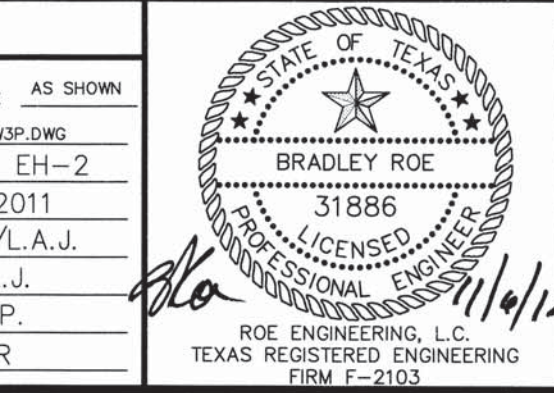
LOCATION MAP

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FLOOD NOTE:

THE ABOVE REFERENCED PROPERTY IS WITHIN ZONE "A" AND ZONE "X" (EXPLANATION: ZONE "A" NO BASE FLOOD ELEVATIONS DETERMINED; EXPLANATION: ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER THE UNINCORPORATED AREAS COMMUNITY PANEL NO. 480212 0025 5, DATED SEPTEMBER 4, 1991.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	2015 BENCHMARK "ENR15180" (TOP CORNER)	HOR: AS SHOWN VER: AS SHOWN
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	LOCATION: ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3946.11 NAVD 88	FILE NAME: ENR-2-C-2012 SWPP-DWG W.O. 011509-1 A EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR
			SECONDARY BENCHMARK EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOOP 375 IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21 N.A.V.D. DATUM -1018 = CITY OF EL PASO DATUM	



EROSION AND DUST CONTROL PLAN

ENCHANTED HILLS UNIT TWO

ROE ENGINEERING, L.C.
 601 N. Cotton St. Suite No.6 El Paso, TX 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@bellsouth.net

EROSION AND DUST CONTROL PLAN

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

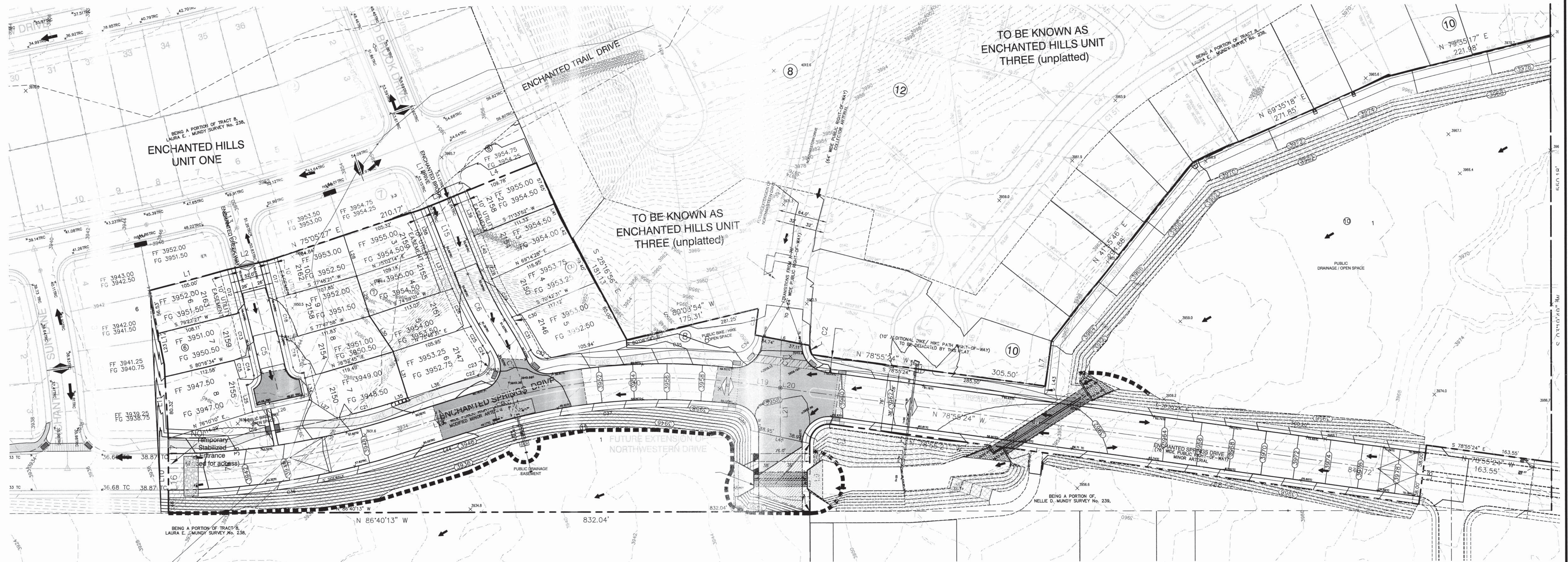
SHEET 20 OF 21



SCALE: 1" = 60'

ENCHANTED HILLS

UNIT TWO



LEGEND	
	Proposed Stabilized Entrance / Exit
	Silt Fencing
	NOI Location of NOI to posted.

ENGINEERING & CONSTRUCTION MANAGEMENT DEPARTMENT

REVIEWED

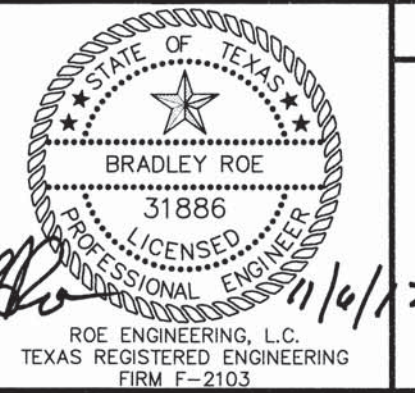
THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON MARCH 2012 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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FLOOD NOTE:
 THE ABOVE REFERENCED PROPERTY IS WITHIN ZONE "A" AND ZONE "X" (EXPLANATION: ZONE "A" - NO BASE FLOOD ELEVATIONS DETERMINED; EXPLANATION: ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 500 YEAR FLOODPLAIN), ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER THE UNINCORPORATED AREAS COMMUNITY PANEL NO. 480212 0025 B. DATED SEPTEMBER 4, 1991.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
11/02/2012	CITY OF EL PASO COMMENTS	J.Z.	BRADLEY ROE (31886) (P.E. 000443)	HOR: 1"=300' VER: 1"=300'
11/27/2012	CITY OF EL PASO COMMENTS	J.Z.	FROM U.S. FOR NATIONAL GEODETIC SURVEY 1981: 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTHWEST OF LOOP 375 (TRANS-MOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.11 NAVD 88	FILE NAME: EH-2-C-2012-SWSP.DWG W.O. 011509-1-A-EH-2 DATE: MARCH, 2011 DESIGN BY: HP/L.A.J. DRAWN BY: L.A.J. CHKD. BY: H.P. APPD. BY: BR

SECONDARY BENCHMARK
 EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 13, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21
 N.A.V.D. 88 DATUM -10.18 = CITY OF EL PASO DATUM



EROSION AND DUST CONTROL PLAN
ENCHANTED HILLS UNIT TWO
EROSION CONTROL PLAN

Roe Engineering, L.C.
 601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@bell.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET **21** OF **21**



LANDSCAPE PLAN

OPEN SPACE

MATCH LINE SHEET 2

PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
		16	FAN TEX ASH	FRAXINUS VELLUTINA	2"	10'		TREE	DECIDUOUS
		13	RAYWOOD ASH	FRAXINUS OXYCARPA	2"	10'		TREE	DECIDUOUS
		90	RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
		66	RED AUTUMN SAGE	SALVIA GREGGII	5 GAL.			SHRUB	EVERGREEN
		78	SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
		84	INDIAN HAWTHORN	RAPHELOLEPIS INDICA	5 GAL.			SHRUB	EVERGREEN

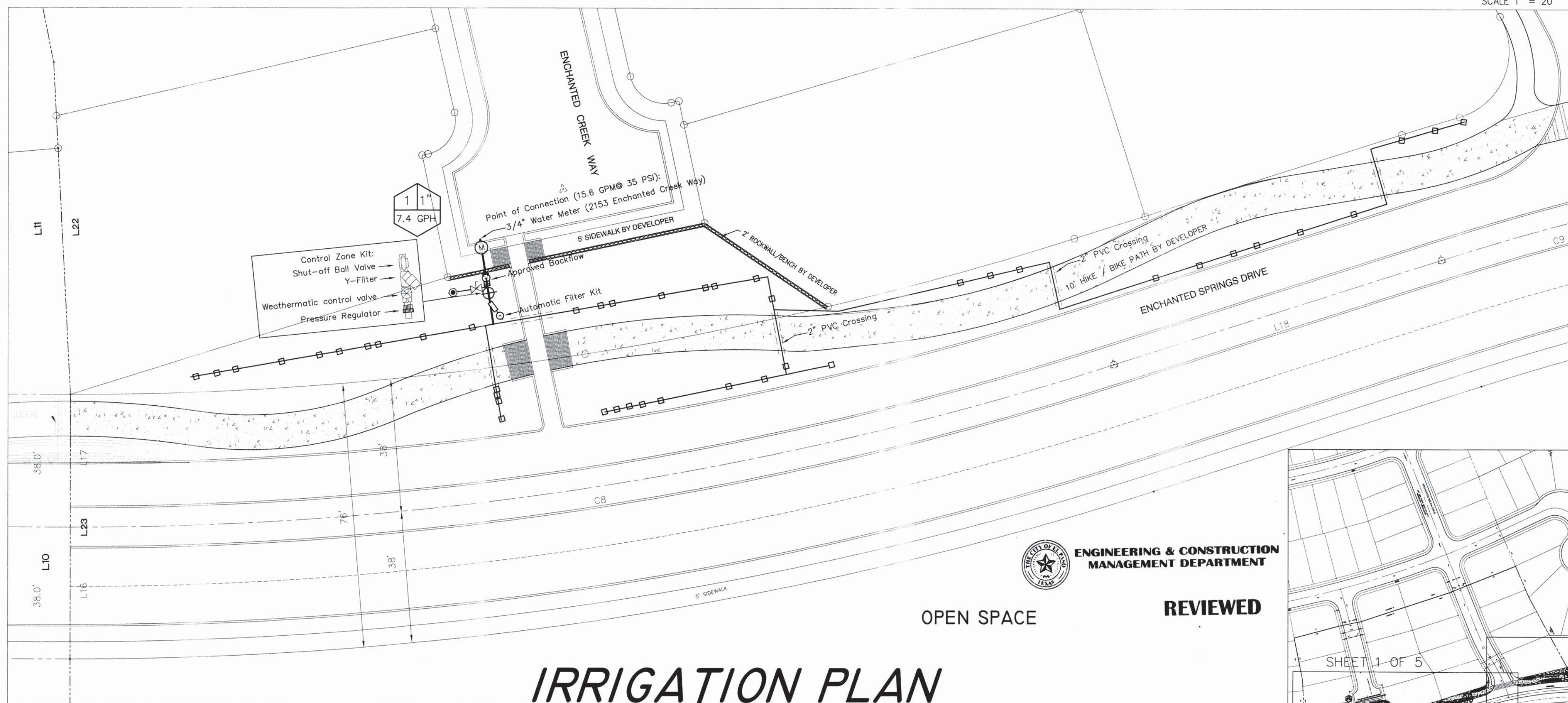
GROUND COVERS					
			Concrete path		
	3/8"		CANYON RED ROCK W/DEWITT-PRO 5 WEED BARRIER OR EQUAL	4" Depth	ROCK GROUND COVER
		28	(28) 3' Landscape boulders	3'	GROUND COVER
		4	Trash receptacle (Location to be coordinated with Parks Dept.)		
		6	Park Benches (Location to be coordinated with Parks Dept.)		

TREES, SHRUBS AND GROUND COVERS

- Provide plant materials record drawings
- The contractor shall coordinate the construction activities with Parks department.
- Identify field changes of trees, plants and shrubs on final asbuilt drawing.
- A complete list of plants, including sizes, quantity, and other requirements to be shown on drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- The irrigation system will be installed prior to planting. Locate and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operation, at Contractor's expense.
- Warranty plant material to remain alive and be in healthy, vigorous condition for a period of 1 year after acceptance.
- Warranty shall not include damage or loss of trees, plants, or ground covers caused by fires, floods, freezing, rains, lightning storms, or winds over 75 miles per hour, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the Owner.
- Trees & shrub planting wells are to be backfilled with topsoil.

IRRIGATION NOTES:

- Irrigation system layout is diagrammatic. Exact locations of piping, sprinkler heads, valves, and components shall be established by Contractor in the field at time of installation.
- Minor adjustments in system layout will be permitted to clear existing fixed obstructions. Final system layout shall be acceptable to Parks & Recreation Department.
- Backflow prevent devices shall be reduced pressure device manufactured by FEBCO or equivalent. Remote control valves shall be manufactured by Rain Bird for 1.25" or smaller.
- Valve boxes shall be model 1419 heavy duty, with flat lid and secured by tamper proof bolt as manufactured by Carson. Valve box and lids must be sized accordingly.
- All pipe assembly fittings must be schedule 40 PVC pipe fittings.
- Copper tubing for feed from the water meter shall be used on all installations from meter post BFP.



IRRIGATION PLAN

OPEN SPACE

REVIEWED



NOTE: IRRIGATION IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13087, AUSTIN, TEXAS 78711-3087, (512) 239-6719



MATCH LINE SHEET 2

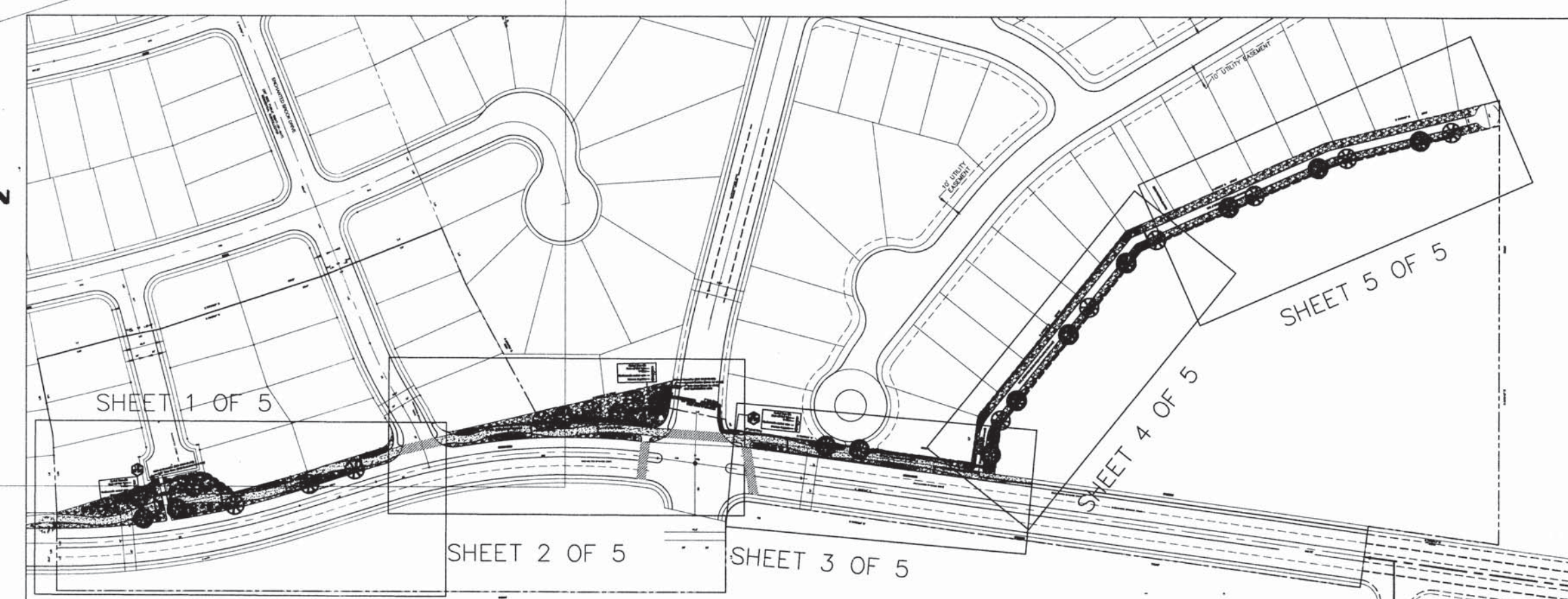
IRRIGATION LEGEND	
	FEBCO 825Y; REDUCED PRESSURE ZONE ASSEMBLY
	WEATHERMATIC VALVE W/PRESSURE REGULATOR AND "Y" FILTER
	SIZE OF WATER METER GPM'S AND FLOW RATE AS NOTED
	MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
	RAINBIRD UNIK CONTROL MODULE
	1" PRESSURE MAIN PIPE, C=150 SCHEDULE 40 PVC PIPE
	1" DISTRIBUTION LATERALS; C=150 200 PSI PR SDR 21 PVC PIPE
	QUICK COUPLER VALVE & ISOLATION VALVE
	ELECTRIC SERVICE

PARKS DEPARTMENT

REVIEWED BY *Anthony [Signature]*

Location map - NTS

12/17/12



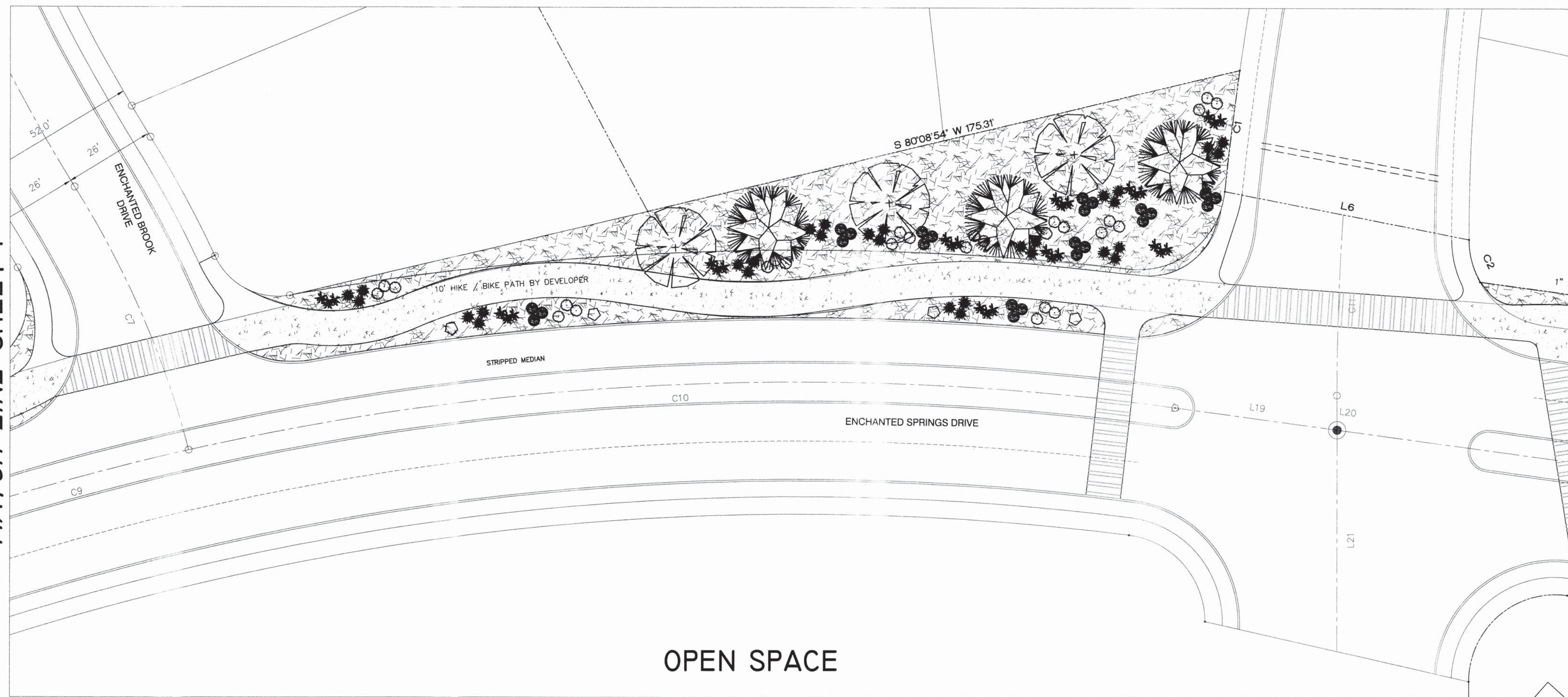
**ENCHANTED HILLS UNIT 2
HIKE AND BIKE TRAIL
EL PASO, TEXAS**



LANDSCAPE IRRIGATION
 Drawn by: RM
 Checked by: RM
 PROJECT: EH2LI20120806.DWG
 PHASE: PRELIM-FINAL

Sheet no.
 LI-1
 Sheet no. 1 of 6

MATCH LINE SHEET 1



LANDSCAPE PLAN

MATCH LINE SHEET 3

PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
		16	FAN TEX ASH	FRAXINUS VELUTINA	2"	10'		TREE	DECIDUOUS
		13	RAYWOOD ASH	FRAXINUS OXYCARPA	2"	10'		TREE	DECIDUOUS
		90	RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
		66	RED AUTUMN SAGE	SALVIA GREGGII	5 GAL.			SHRUB	EVERGREEN
		78	SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
		84	INDIAN HAWTHORN	RAPIHEDOLEPIS INDICA	5 GAL.			SHRUB	EVERGREEN

GROUND COVERS					
	Concrete path				
	CANYON RED ROCK W/DEWITT-PRO 5 WEED BARRIER OR EQUAL	3/8"	4" Depth	ROCK	GROUND COVER
	(28) 3' Landscape boulders			3'	GROUND COVER
	Trash receptacle (Location to be coordinated with Parks Dept.)				
	Park Benches (Location to be coordinated with Parks Dept.)				

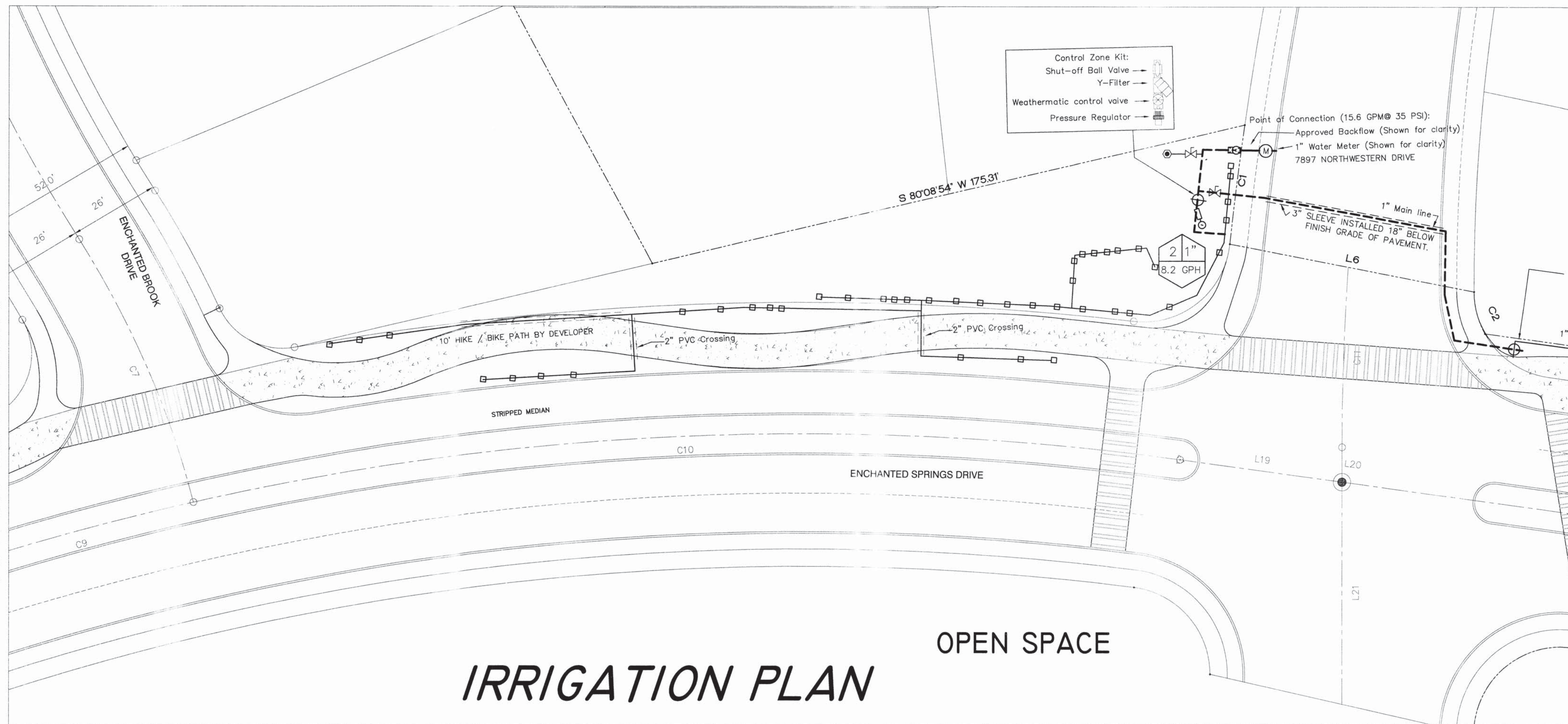
TREES, SHRUBS AND GROUND COVERS

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- Warranty shall not include damage or loss of trees, plants, or ground covers caused by fires, floods, freezing, rains, lightning storms, or winds over 75 miles per hour, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the Owner.
- Trees & shrub planting wells are to be backfilled with topsoil.

IRRIGATION NOTES:

- Irrigation system layout is diagrammatic. Exact locations of piping, sprinkler heads, valves, and components shall be established by Contractor in the field at time of installation.
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- All pipe assembly fittings must be schedule 40 PVC pipe fittings.
- Copper tubing for feed from the water meter shall be used on all installations from meter past BFP.

MATCH LINE SHEET 1



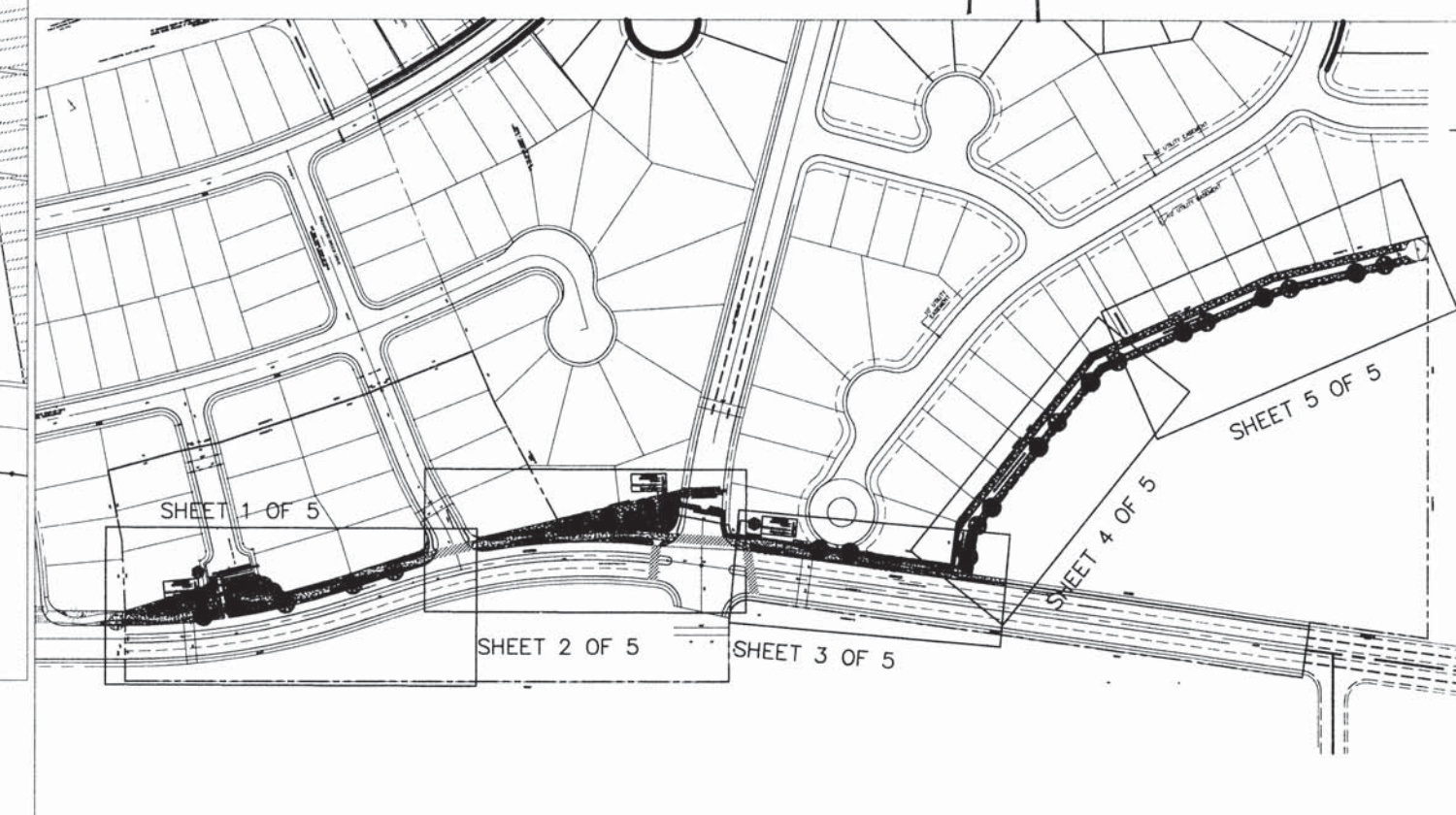
IRRIGATION PLAN

MATCH LINE SHEET 3

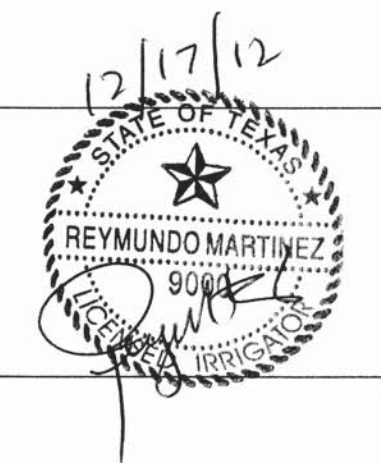
IRRIGATION LEGEND	
	FEBCO 825Y; REDUCED ZONE PRESSURE ASSEMBLY
	WEATHERMATIC VALVE W/PRESSURE REGULATOR AND "Y" FILTER
	SIZE OF WATER METER GPM'S AND FLOW RATE AS NOTED
	MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
	RAINBIRD UNIK CONTROL MODULE
	1" PRESSURE MAIN PIPE, C=150 SCHEDULE 40 PVC PIPE
	1" DISTRIBUTION LATERALS; C=150 200 PSI PR SDR 21 PVC PIPE
	QUICK COUPLER VALVE & ISOLATION VALVE
	ELECTRIC SERVICE

PARKS DEPARTMENT

REVIEWED BY *Anthony...*
12/17/12



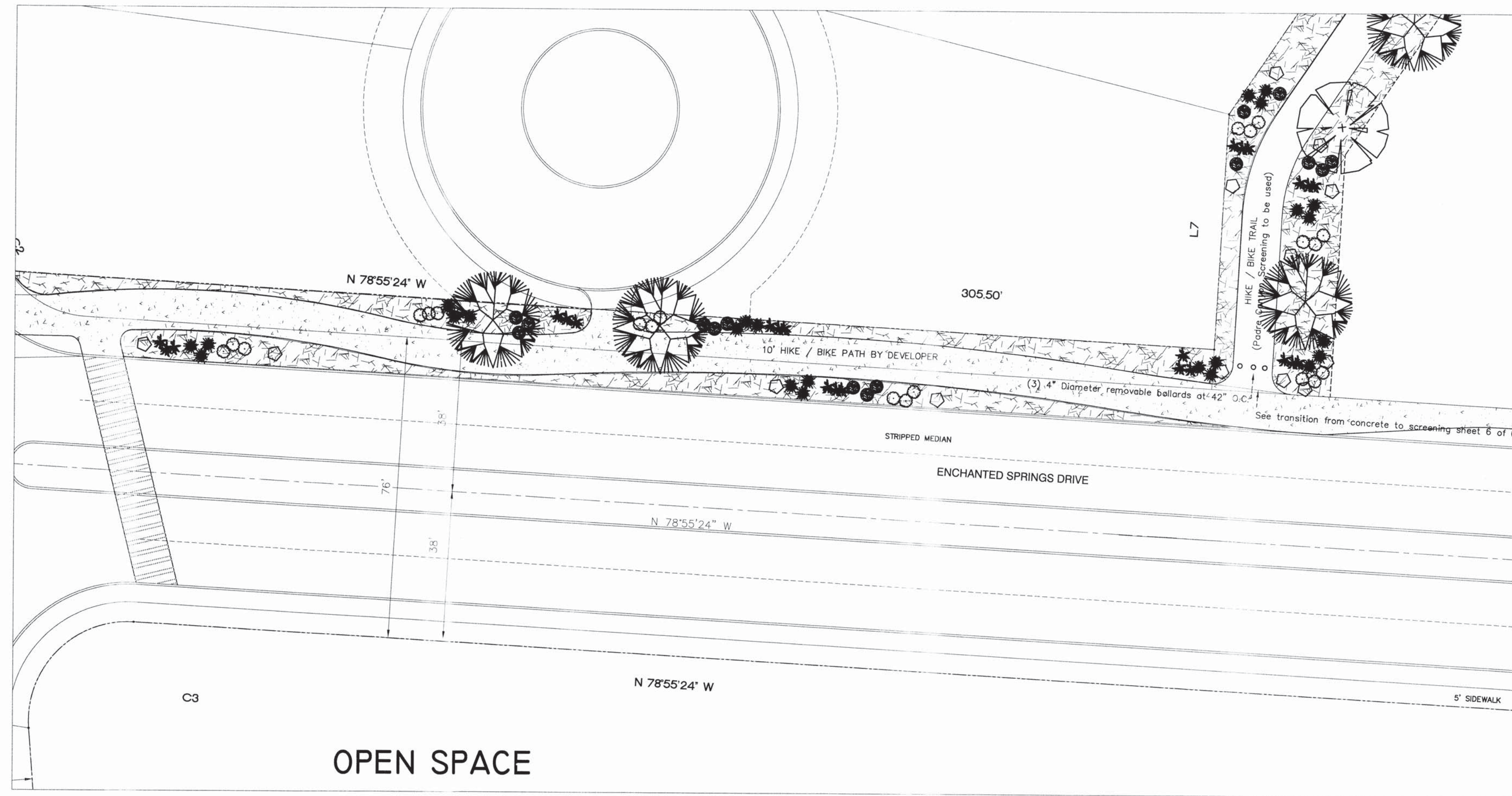
ENCHANTED HILLS UNIT 2 HIKE AND BIKE TRAIL EL PASO, TEXAS



LANDSCAPE IRRIGATION
 Drawn by: RM
 Checked by: RM
 PROJECT: EH2LI20120806.DWG
 PHASE: PRELIM-FINAL

Sheet no.
 LI-2
 Sheet no. 2 of 6

MATCH LINE SHEET 2



OPEN SPACE

LANDSCAPE PLAN

MATCH LINE SHEET 4



PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
		16	FAN TEX ASH	FRAXINUS VELUTINA	2"	10'		TREE	DECIDUOUS
		13	RAYWOOD ASH	FRAXINUS OXYCARPA	2"	10'		TREE	DECIDUOUS
		90	RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
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		78	SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
		84	INDIAN HAWTHORN	RAPHELOPIS INDICA	5 GAL.			SHRUB	EVERGREEN
GROUND COVERS									
			Concrete path						
		3/8"	CANYON RED ROCK W/DWMTT-PRO 5 WEED BARRIER OR EQUAL		4"	Depth		ROCK	GROUND COVER
		28	(28) 3' Landscape boulders			3'			GROUND COVER
		4	Trash receptacle (Location to be coordinated with Parks Dept.)						
		6	Park Benches (Location to be coordinated with Parks Dept.)						

TREES, SHRUBS AND GROUND COVERS

1. Provide plant materials record drawings.
2. The contractor shall coordinate the construction activities with Parks department.
3. Identify field changes of trees, plants and shrubs on final submittal drawing.
4. A complete list of plants, including sizes, quantity, and other requirements to be shown on drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
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8. Trees & shrub planting wells are to be backfilled with topsoil.

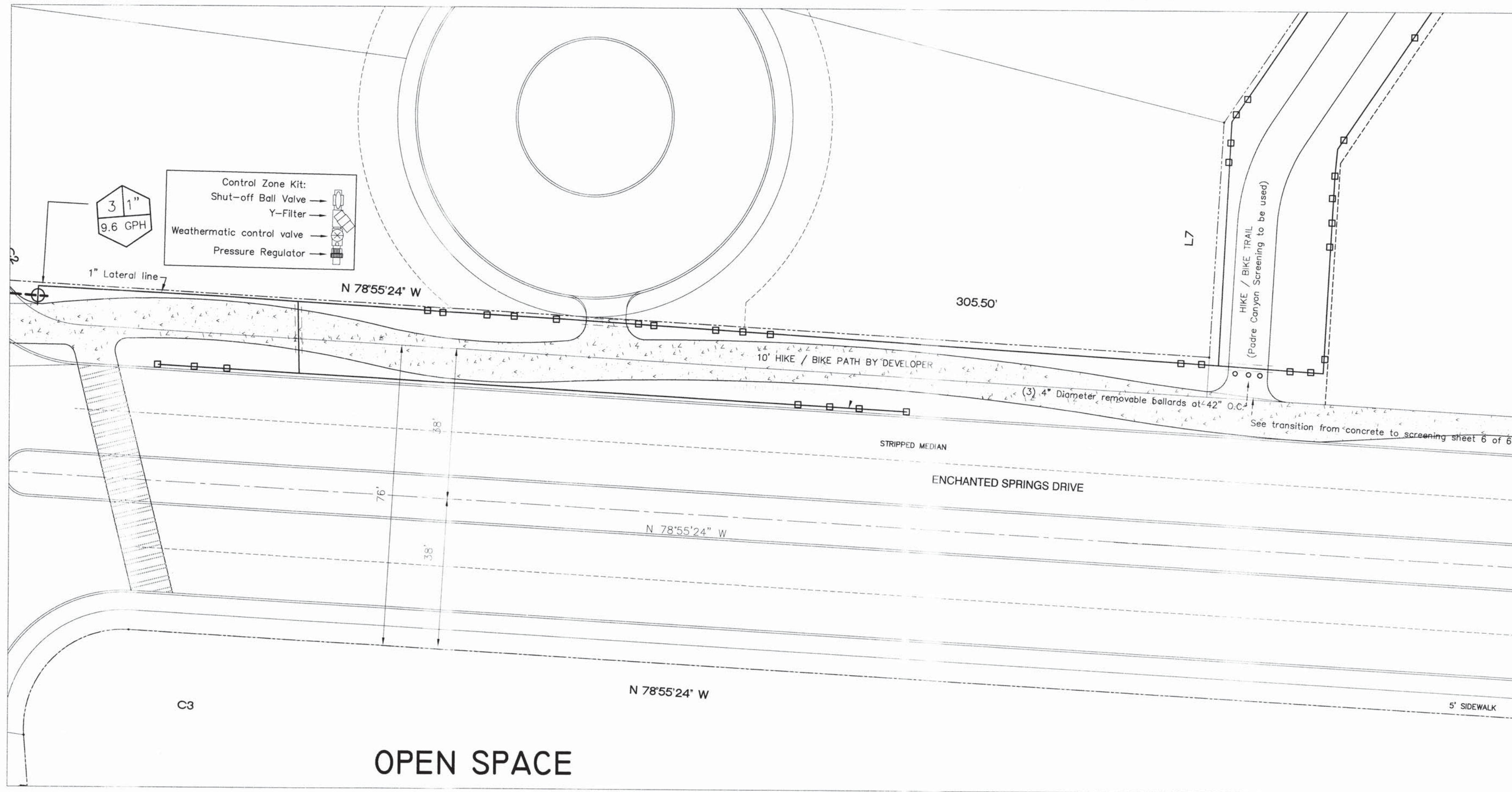
IRRIGATION NOTES:

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6. Copper tubing for feed from the water meter shall be used on all installations from meter past BFP.

IRRIGATION LEGEND	
	FEBCO 825Y; REDUCED ZONE PRESSURE ASSEMBLY
	WEATHERMATIC VALVE W/PRESSURE REGULATOR AND "Y" FILTER
	SIZE OF WATER METER GPM'S AND FLOW RATE AS NOTED
	MULTI PORT EMITTER MANIFOLD--RAINBIRD XERI-BIRD--XBD--80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
	RAINBIRD UNIK CONTROL MODULE
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	QUICK COUPLER VALVE & ISOLATION VALVE
	ELECTRIC SERVICE

PARKS DEPARTMENT
 REVIEWED BY *Anthony...*
 12.17.12

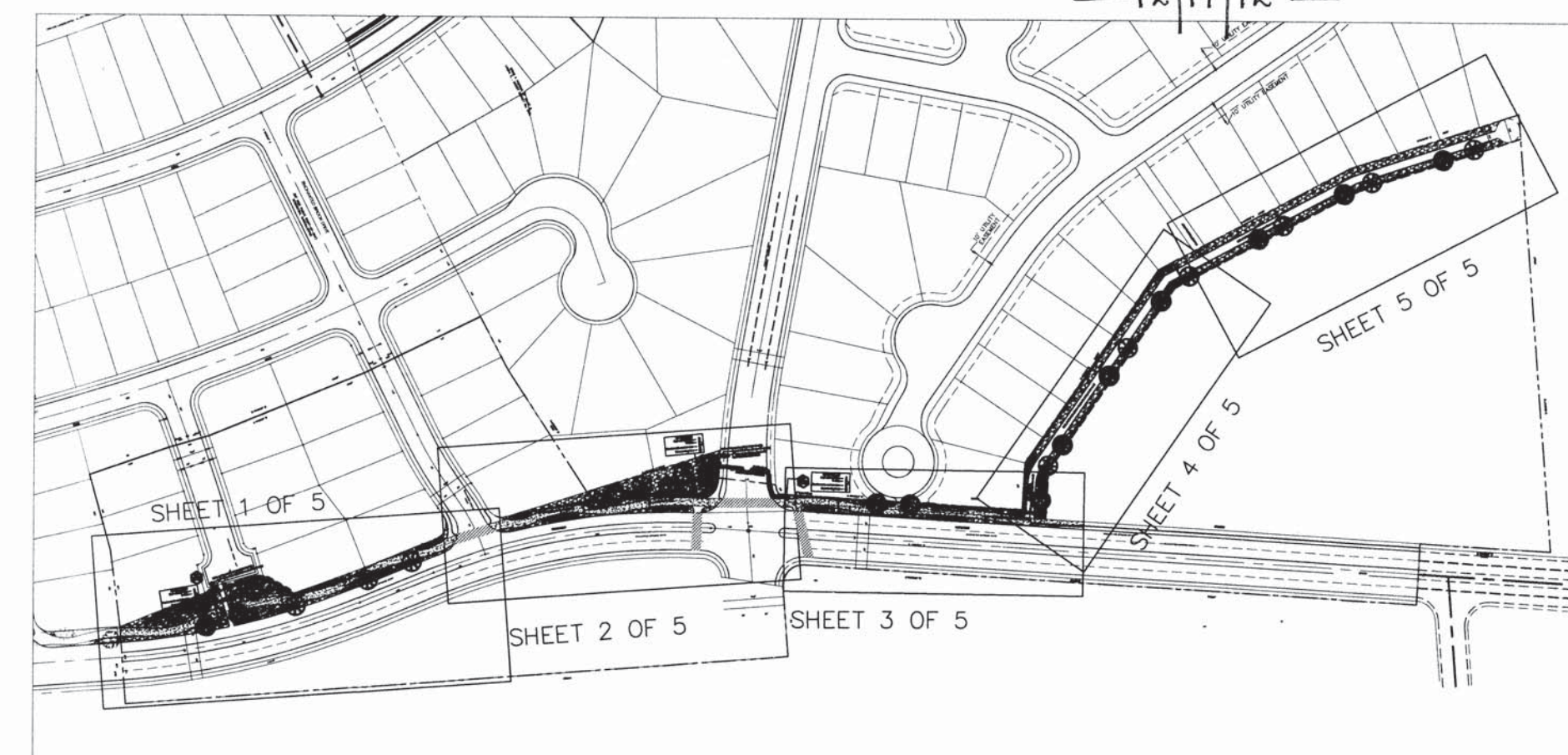
MATCH LINE SHEET 2



OPEN SPACE

IRRIGATION PLAN

MATCH LINE SHEET 4



NOTE: IRRIGATION IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13087, AUSTIN, TEXAS 78711-3087, (512) 239-6719

COMPLY W/REDS 120912

COMPLY W/REDS 121212

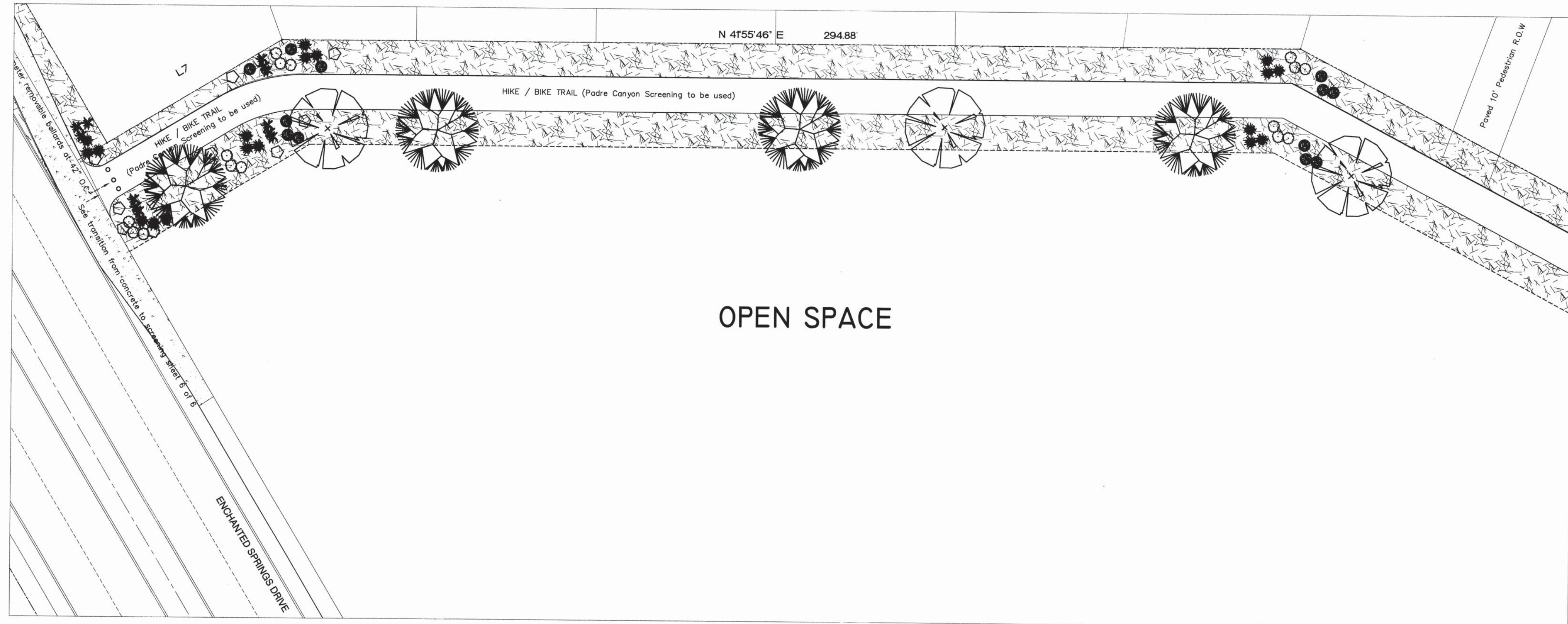
ENCHANTED HILLS UNIT 2
 HIKE AND BIKE TRAIL
 EL PASO, TEXAS



LANDSCAPE IRRIGATION
 Drawn by: RM
 Checked by: RM
 PROJECT: EH2L120120806.DWG
 PHASE: PRELIM-FINAL

Sheet no. 1-3
 Sheet no. 3 of 6

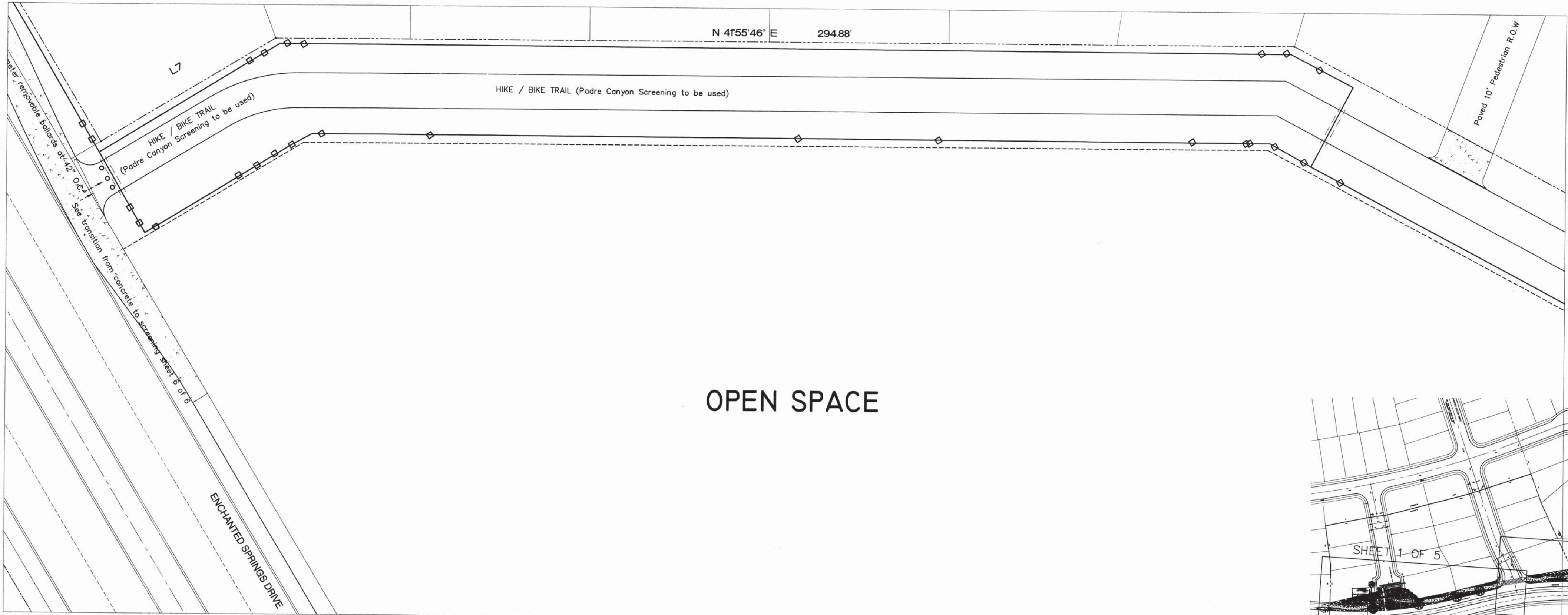
MATCH LINE SHEET 3



LANDSCAPE PLAN

MATCH LINE SHEET 5

MATCH LINE SHEET 3



IRRIGATION PLAN

MATCH LINE SHEET 5

PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
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GROUND COVERS									
			Concrete path						
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		28	(28) 3' Landscape boulders		3'				GROUND COVER
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		6	Park Benches (Location to be coordinated with Parks Dept.)						

TREES, SHRUBS AND GROUND COVERS

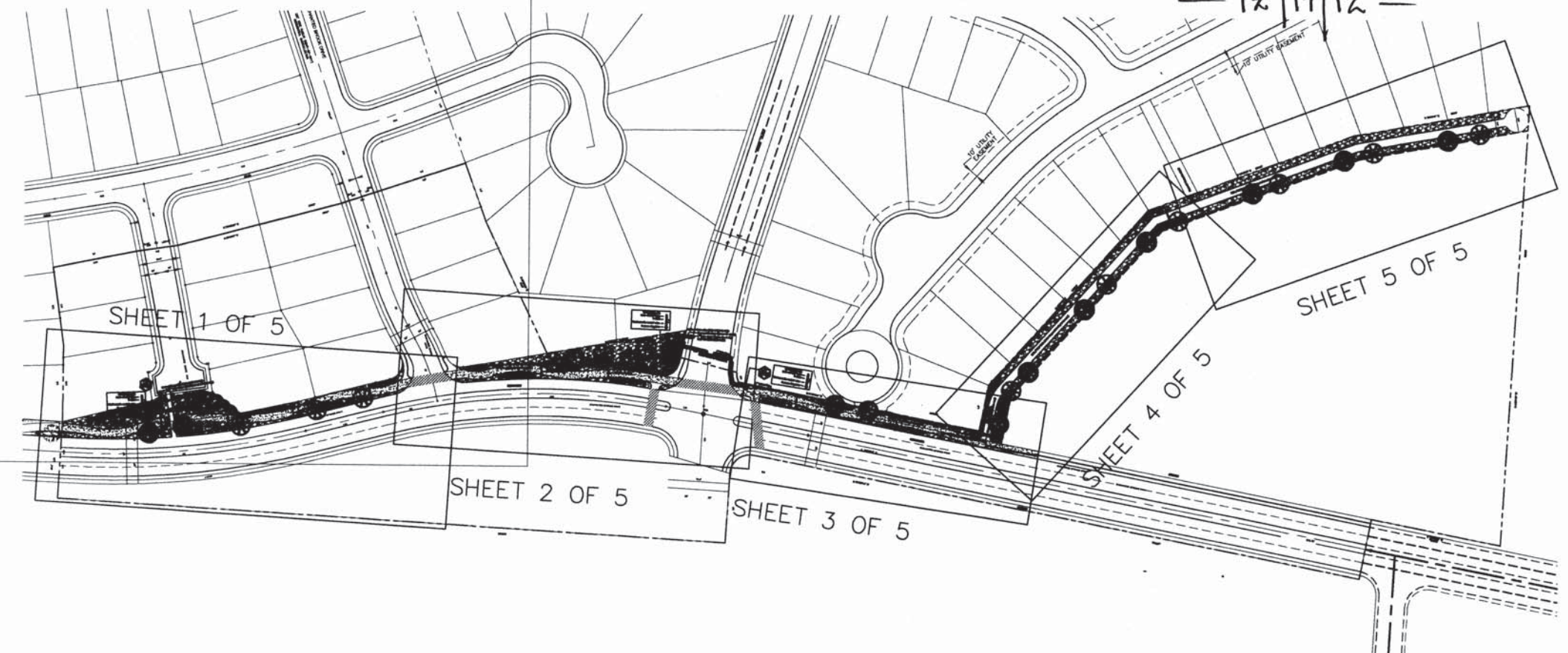
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	WEATHERMATIC VALVE W/PRESSURE REGULATOR AND "Y" FILTER
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	QUICK COUPLER VALVE & ISOLATION VALVE
	ELECTRIC SERVICE

PARKS DEPARTMENT
 REVIEWED BY *[Signature]*
 12 17 12



NOTE: IRRIGATION IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13087, AUSTIN, TEXAS 78711-3087, (512) 239-6719

COMPLY W/REDS 120912

COMPLY W/REDS 121212

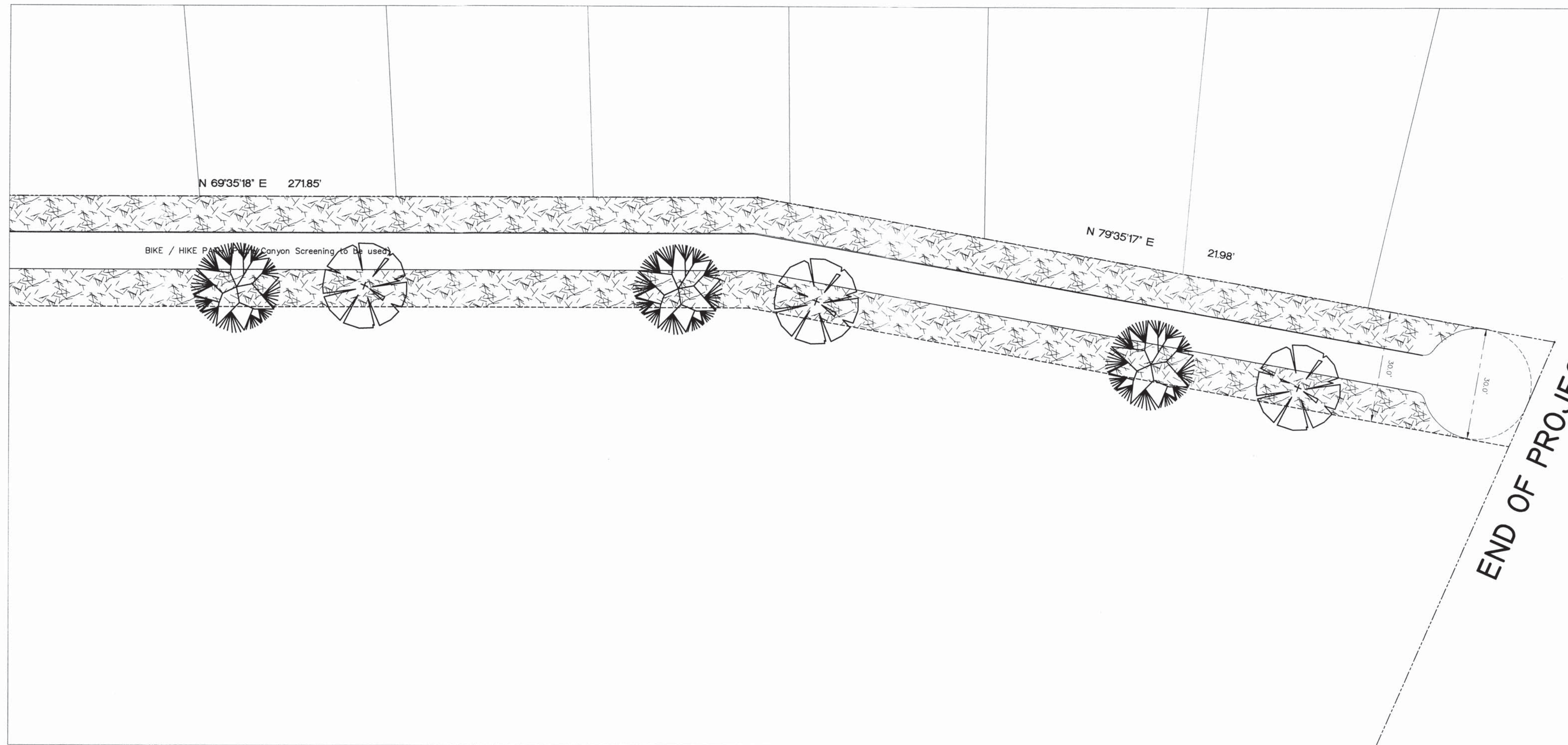
ENCHANTED HILLS UNIT 2
 HIKE AND BIKE TRAIL
 EL PASO, TEXAS



LANDSCAPE IRRIGATION
 Drawn by: RM
 Checked by: RM
 PROJECT: EH2L120120806.DWG
 PHASE: PRELIM-FINAL

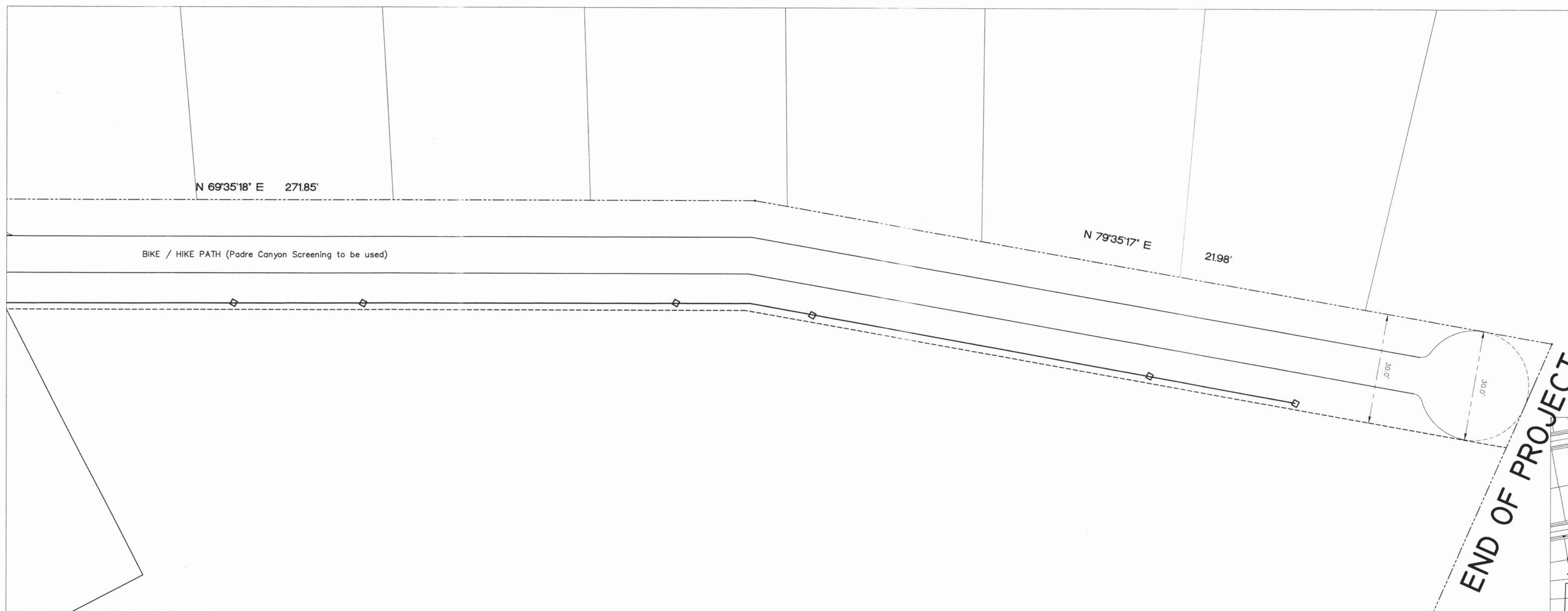
Sheet no. 4 of 6

MATCH LINE SHEET 4



LANDSCAPE PLAN

MATCH LINE SHEET 3



IRRIGATION PLAN

PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
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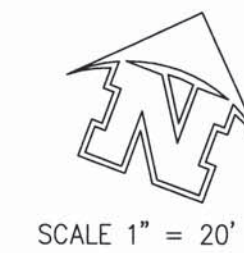
GROUND COVERS									
			Concrete path						
	3/8"		CANYON RED ROCK W/DEWITT-PRO 5 WEED BARRIER OR EQUAL		4" Depth			ROCK	GROUND COVER
		28	(28) 3" Landscape boulders		3"				GROUND COVER
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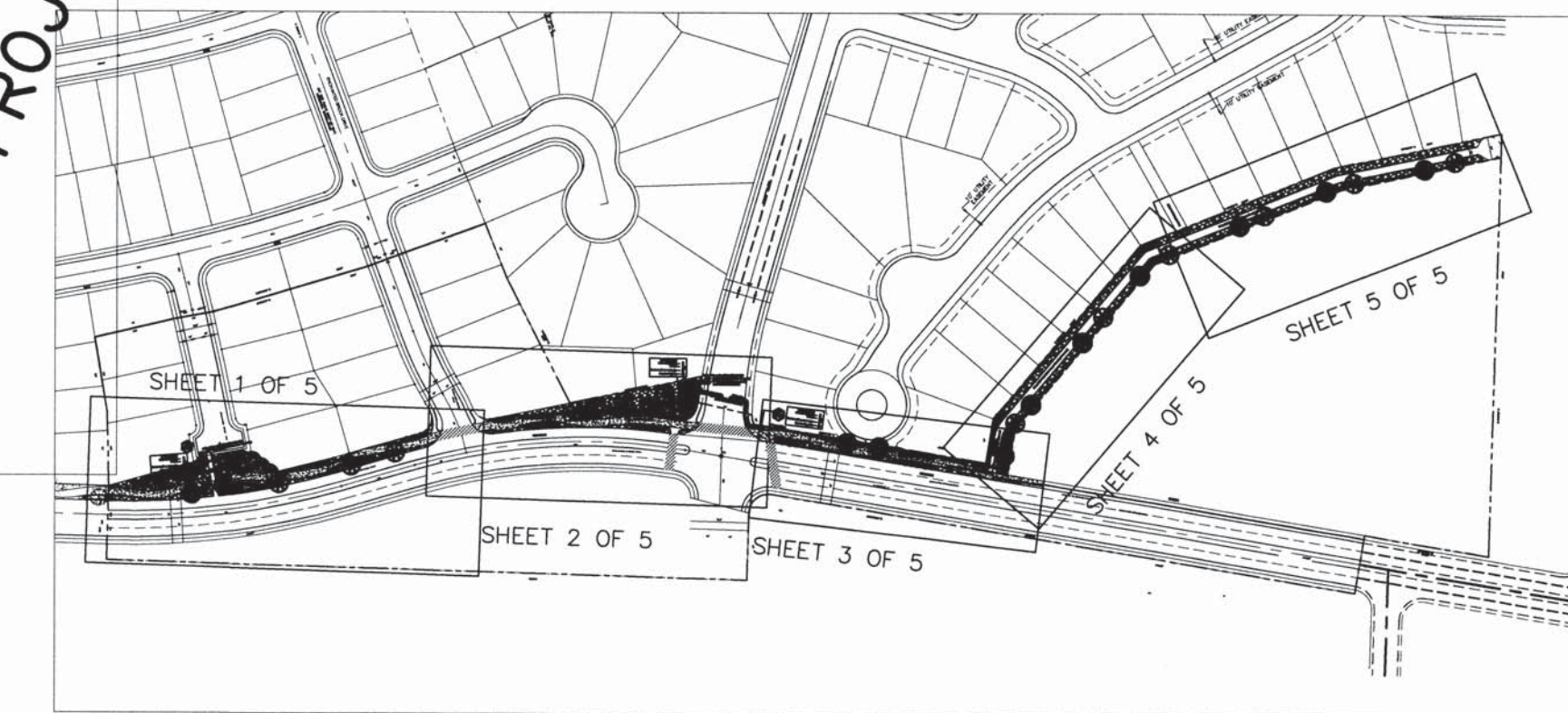
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SCALE 1" = 20'

IRRIGATION LEGEND	
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	WEATHERMATIC VALVE W/PRESSURE REGULATOR AND "Y" FILTER
	SIZE OF WATER METER GPM'S AND FLOW RATE AS NOTED
	MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
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	1" DISTRIBUTION LATERALS; C=150 200 PSI PR SDR 21 PVC PIPE
	QUICK COUPLER VALVE & ISOLATION VALVE
	ELECTRIC SERVICE

PARKS DEPARTMENT
 REVIEWED BY *Antonio...*
 - 12/17/12 -

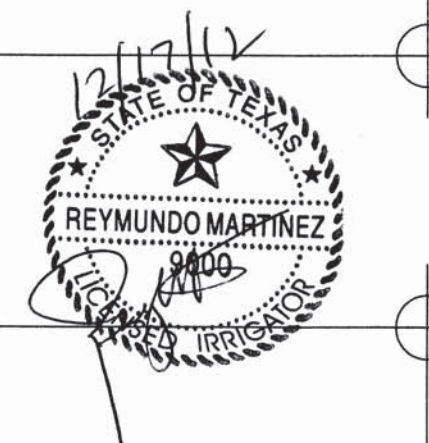


NOTE: IRRIGATION IS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, P.O. BOX 13087, AUSTIN, TEXAS 78711-3087, (512) 239-6719

COMPLY W/REDS 120912

COMPLY W/REDS 121212

ENCHANTED HILLS UNIT 2
 HIKE AND BIKE TRAIL
 EL PASO, TEXAS



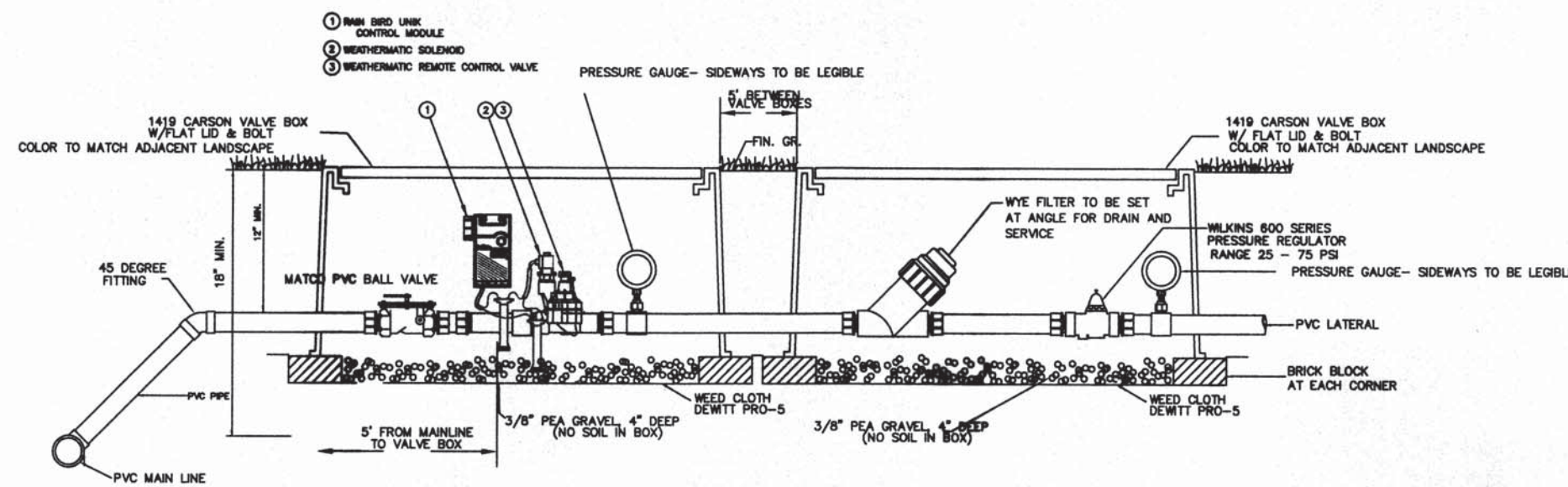
LANDSCAPE IRRIGATION
 Drawn by: RM
 Checked by: RM
 PROJECT: EH2LI20120806.DWG
 PHASE: PRELIM-FINAL

Sheet no.
 LI-5
 Sheet no. 5 of 6

COMPLY W/REDS 120912

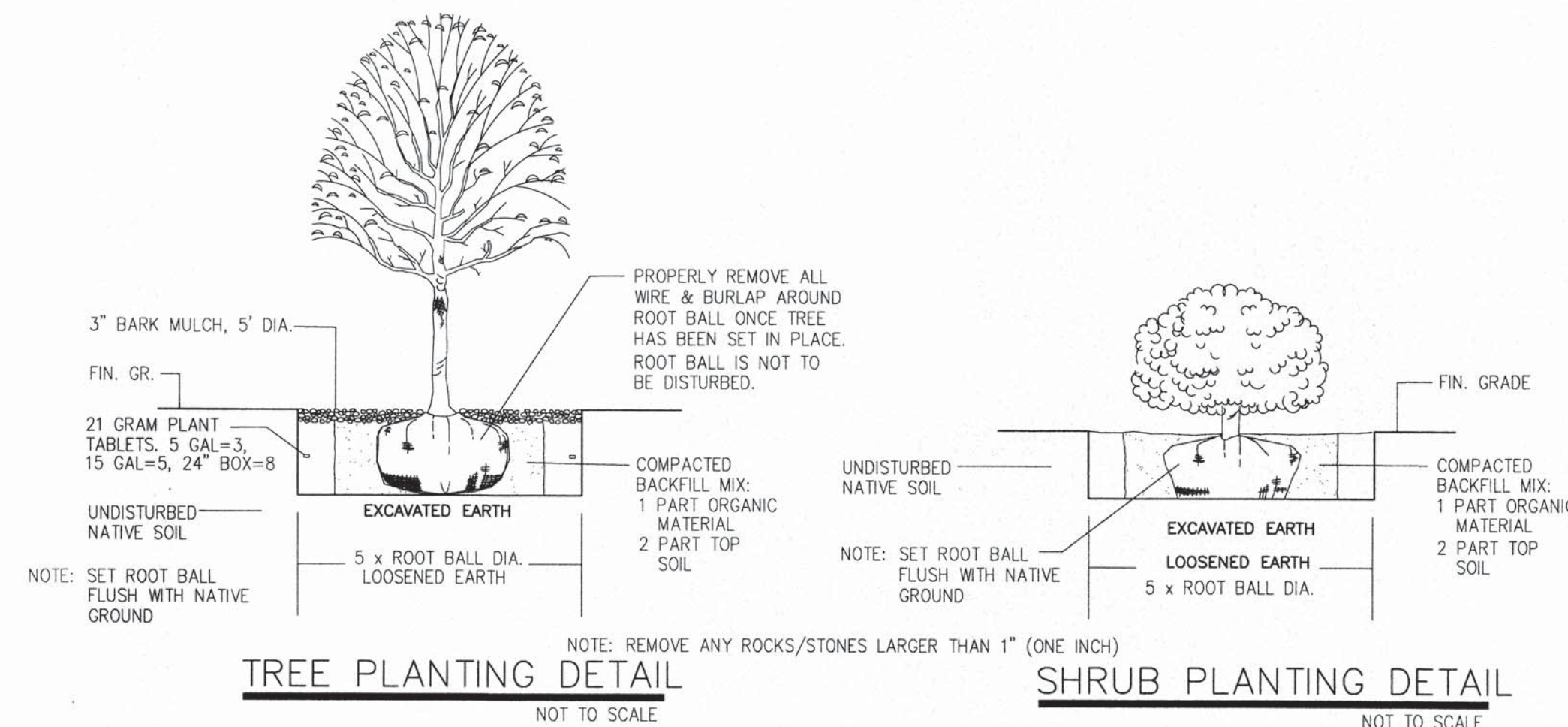
COMPLY W/REDS 121212

ENCHANTED HILLS UNIT 2
HIKE AND BIKE TRAIL
EL PASO, TEXAS



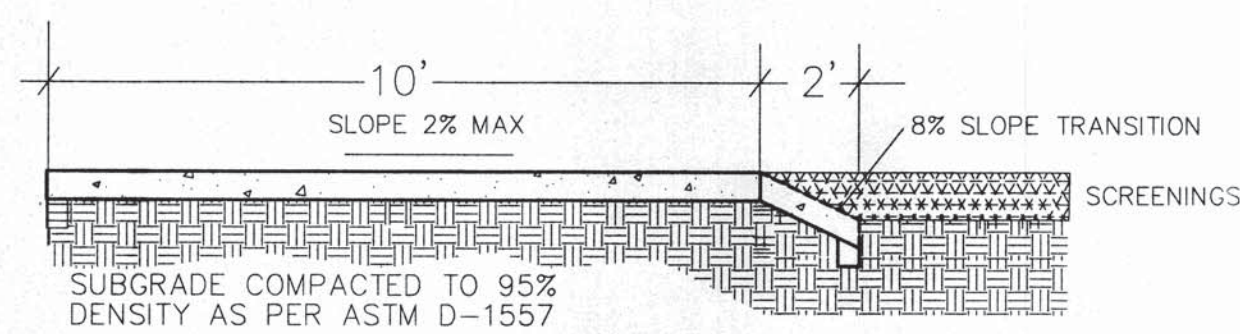
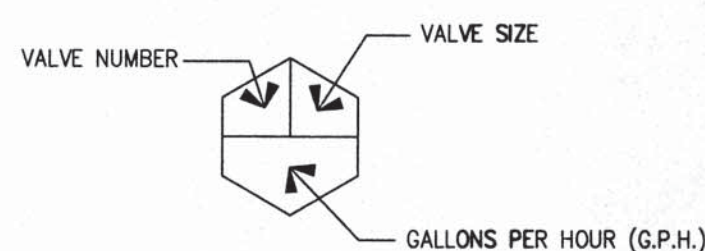
ALL WEED CLOTH AROUND VALVE AND EMITTER BOXES SHOULD BE TAPED AND SEALED AROUND PENETRATIONS TO PREVENT SOILS FROM ERODING INTO BOXES.

ELECTRIC CONTROL VALVE W/ FILTER & PRESSURE REGULATOR DETAIL
NOT TO SCALE



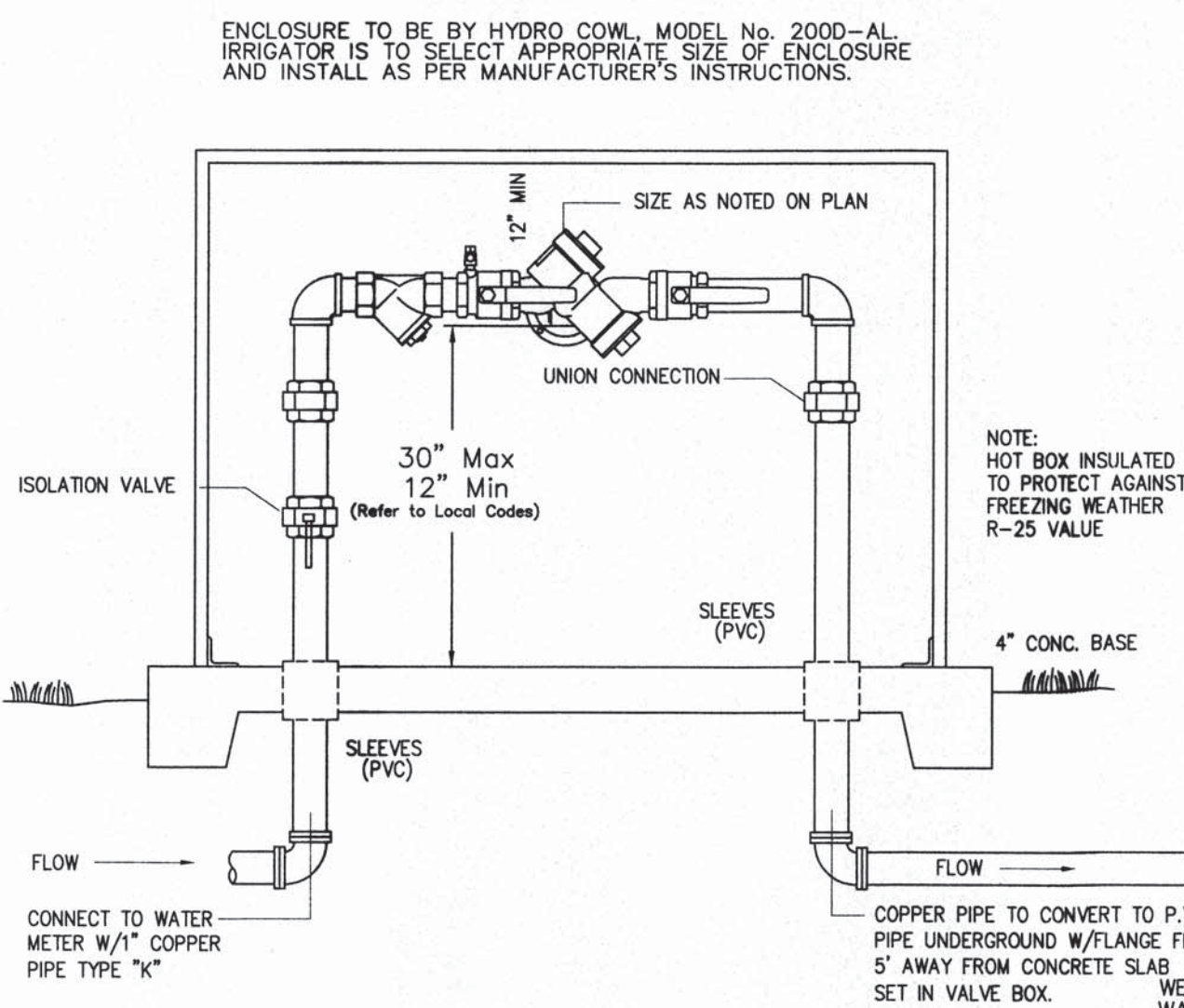
TREE PLANTING DETAIL
NOT TO SCALE

SHRUB PLANTING DETAIL
NOT TO SCALE

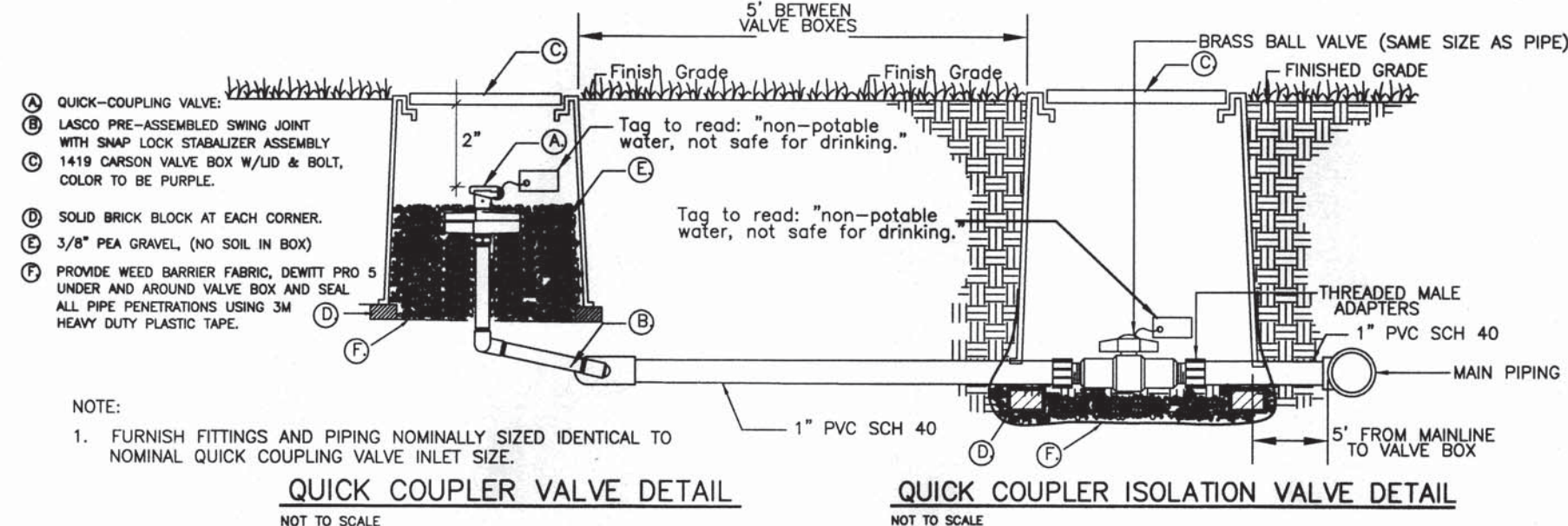


TRANSITION CONCRETE RAMP/PATH INTO SCREENINGS DETAIL
SCALE: NTS

PARKS DEPARTMENT
REVIEWED BY *Anthony Celli*
- 12/17/12 -

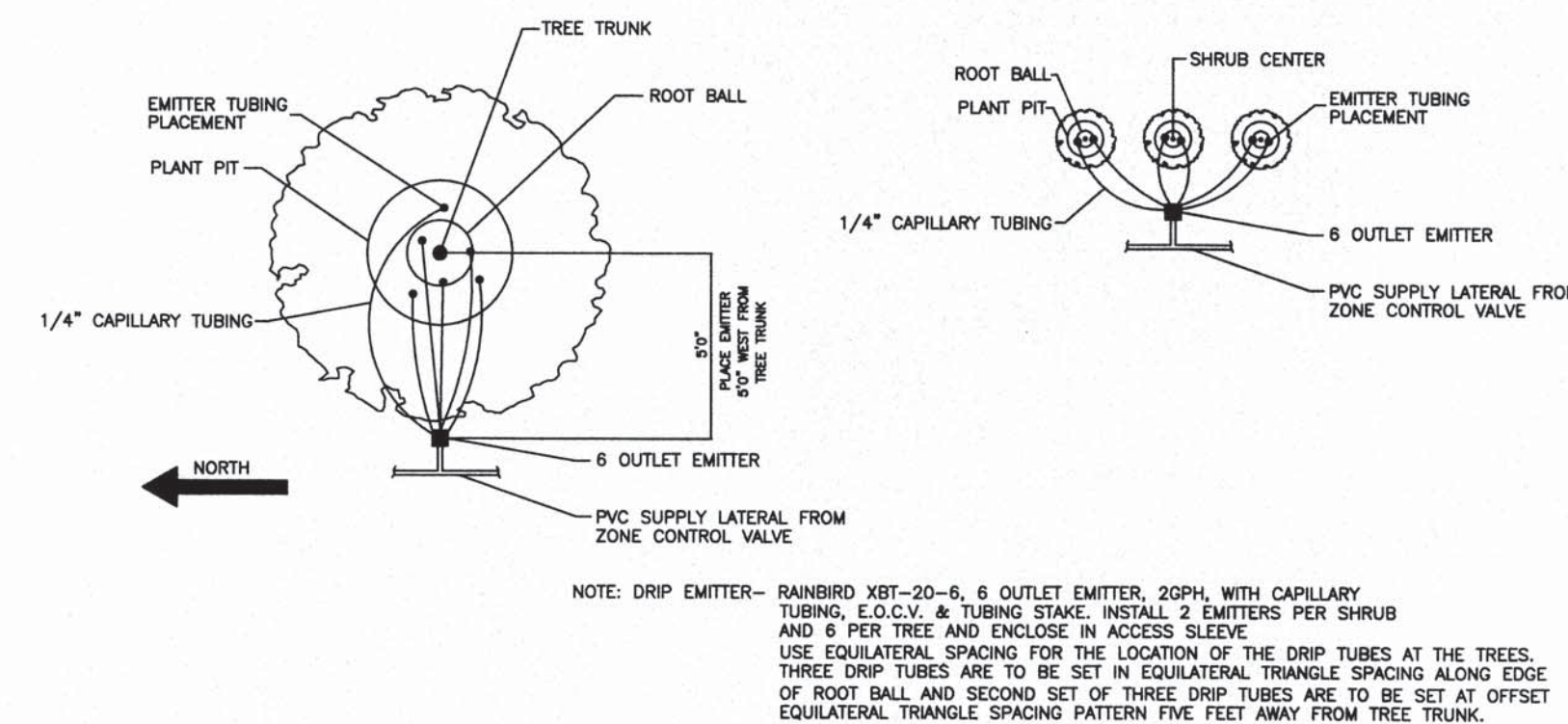


FEBCO MODEL 825Y
Reduced Pressure Assembly
Outdoor Freeze Protection Installation

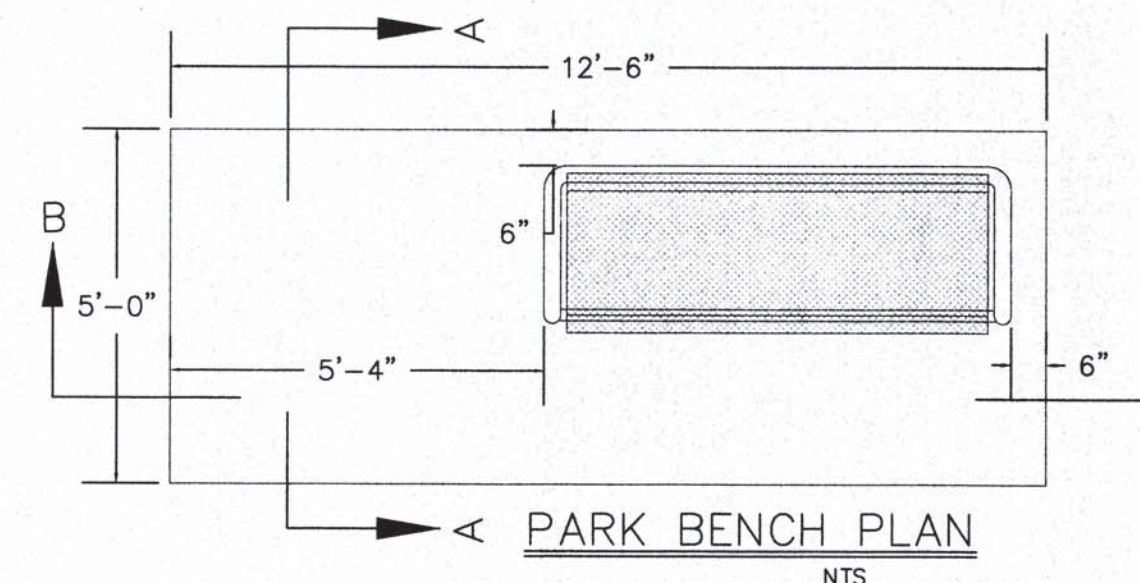


QUICK COUPLER VALVE DETAIL
NOT TO SCALE

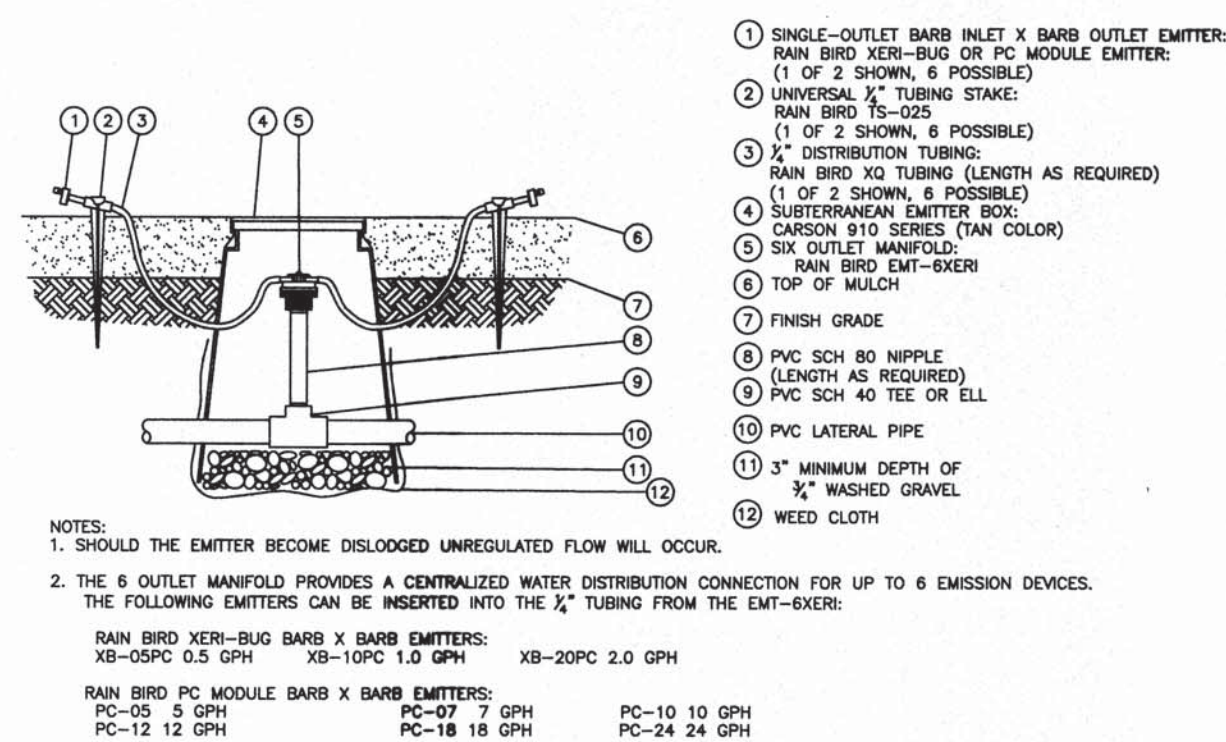
QUICK COUPLER ISOLATION VALVE DETAIL
NOT TO SCALE



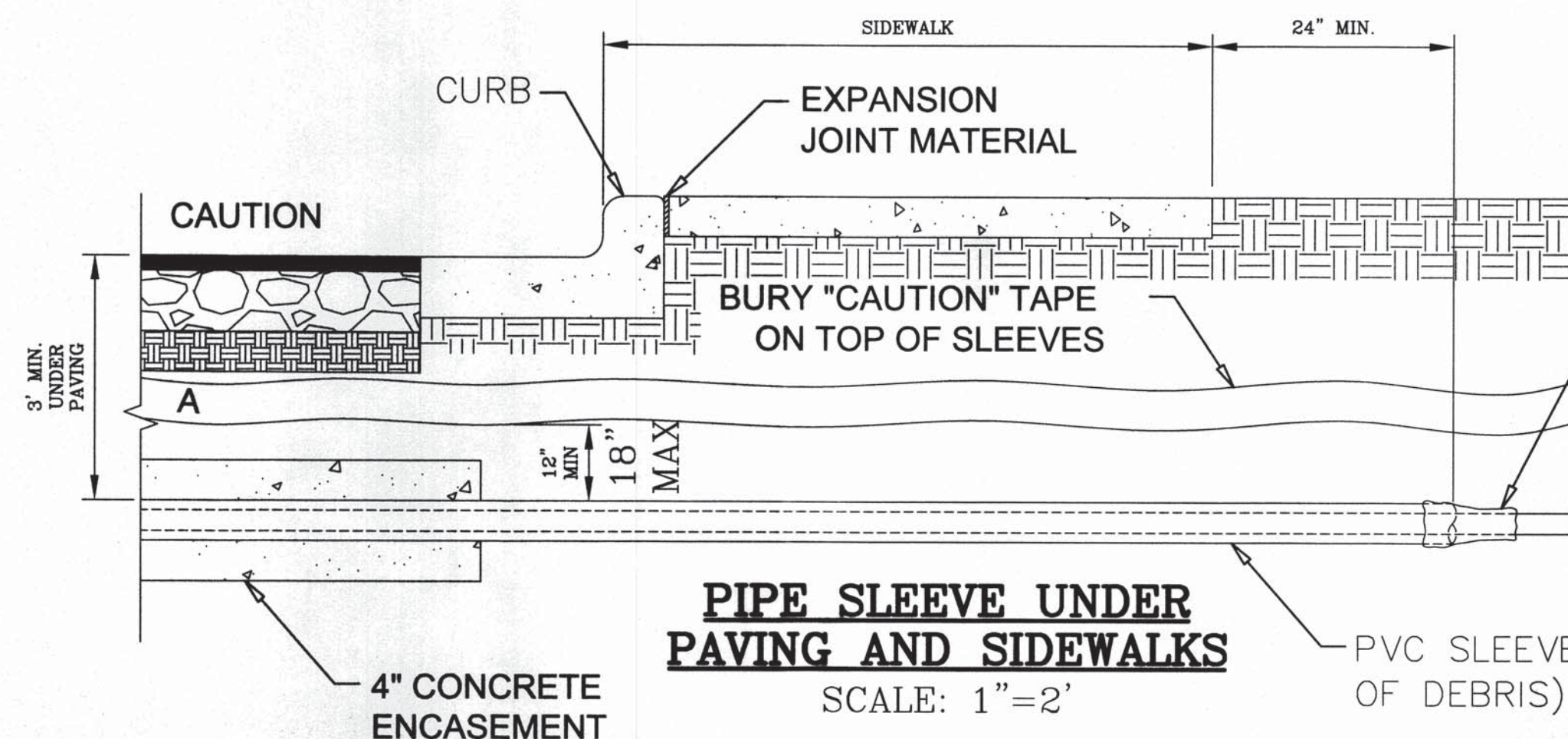
EMITTER OUTLET PLACEMENT DETAIL
NOT TO SCALE



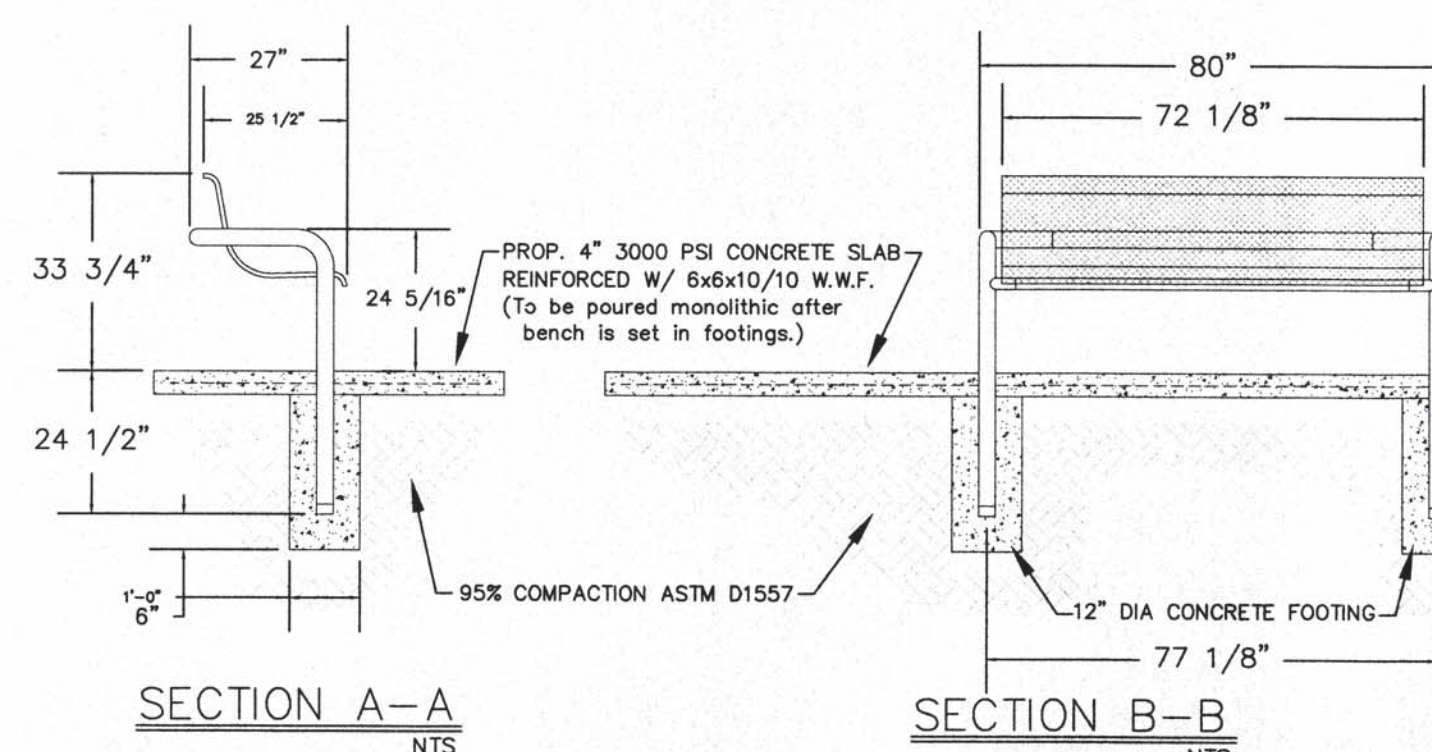
PARK BENCH PLAN
NTS



- NOTES:
1. SHOULD THE EMITTER BECOME DISLOOSED UNREGULATED FLOW WILL OCCUR.
2. THE 6 OUTLET MANIFOLD PROVIDES A CENTRALIZED WATER DISTRIBUTION CONNECTION FOR UP TO 6 EMISSION DEVICES. THE FOLLOWING EMITTERS CAN BE INSERTED INTO THE X\"/>
- | | |
|---|-----------------|
| RAIN BIRD XERI-BUG BARB X BARB EMITTERS: | XB-20PC 2.0 GPH |
| XB-05PC 0.5 GPH | XB-10PC 1.5 GPH |
| RAIN BIRD PC MODULE BARB X BARB EMITTERS: | PC-07 7 GPH |
| PC-05 5 GPH | PC-10 10 GPH |
| PC-12 12 GPH | PC-18 18 GPH |
| PC-24 24 GPH | |



PIPE SLEEVE UNDER PAVING AND SIDEWALKS
SCALE: 1\"/>



SECTION A-A
NTS

SECTION B-B
NTS

LANDSCAPE IRRIGATION
Drawn by: RM
Checked by: RM
PROJECT: EH2LI20120806.DWG
PHASE: PRELIM-FINAL

Sheet no.
LI-6
Sheet no. 6 of 6