

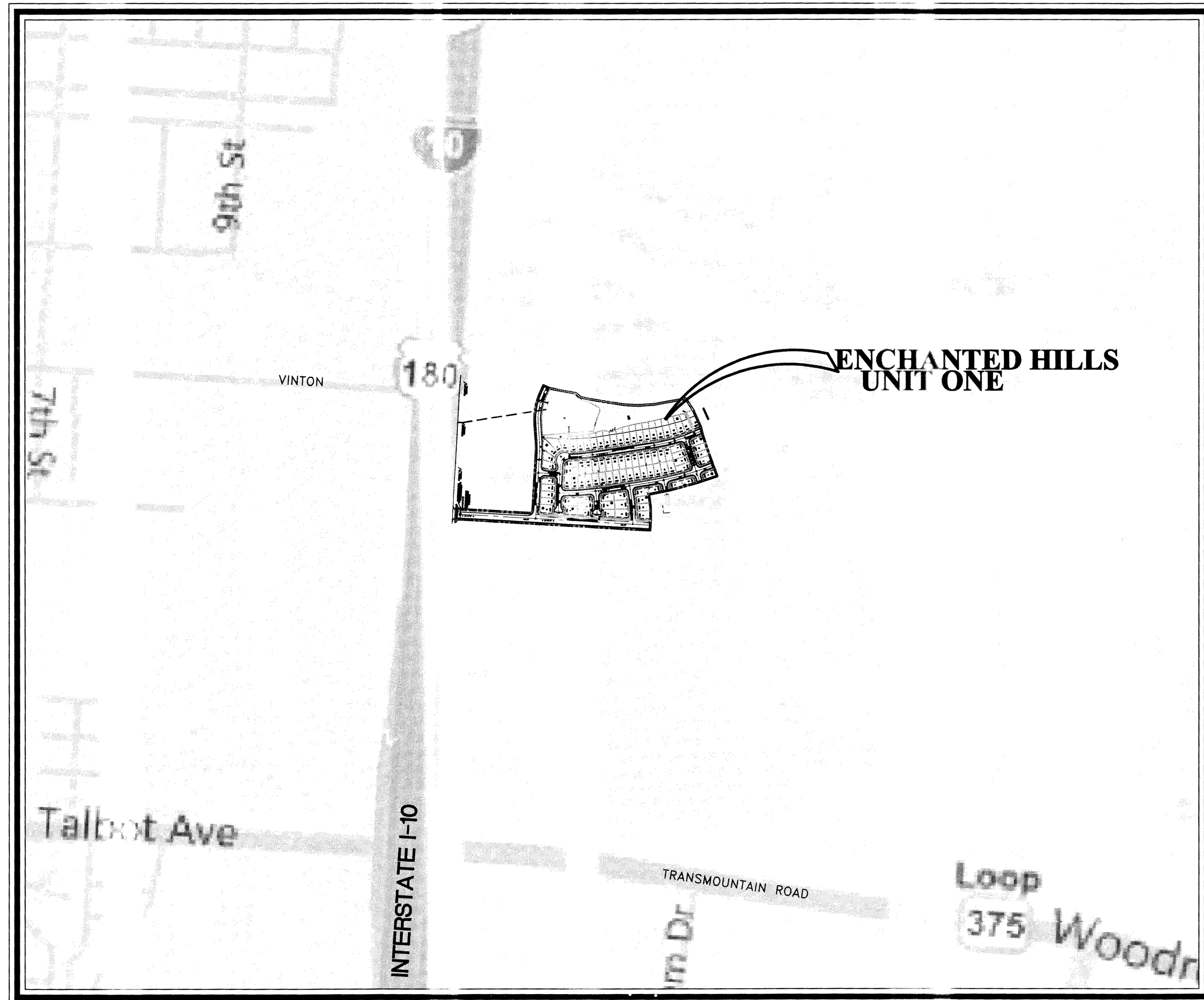
ENCHANTED HILLS UNIT ONE

ENCHANTED HILLS UNIT ONE



LOCATION MAP

SCALE 1" = 600'



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

<input type="checkbox"/> Demolition Only	<input type="checkbox"/> Sidewalks
<input type="checkbox"/> Grading & Drainage	<input type="checkbox"/> Driveways
<input type="checkbox"/> Wheelchair Ramps	<input type="checkbox"/> Retaining Rock Wall
<input type="checkbox"/> On Site Parking Layout	<input type="checkbox"/> On-Site Ponding of Storm Waters

Contractor Must Call 24 Hours Prior To Construction
 Date: 11/03/2011

VICINITY MAP

OWNER:	NAME	ADDRESS	CITY & ZIP	PHONE	FAX
ENGINEER:	EP. TRANSMOUNTAIN RESIDENTIAL, L.L.C.	6080 Surely Drive, Suite 300	EL PASO, TEXAS 79902	915-592-0294	915-590-8127
SURVEYOR:	BRADLEY ROE, P.E. 31886	601 N. COTTON STREET, SUITE 6	EL PASO, TEXAS 79902	915-533-1418	915-533-4972
	BRADLEY ROE, R.P.L.S. 2446	601 N. COTTON STREET, SUITE 6	EL PASO, TEXAS 79902	915-533-1418	915-533-4972

brn **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@swbell.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

STREET IMPROVEMENT PACKAGE

STATE OF TEXAS
 BRADLEY ROE P.E. TX 31886
 LICENSED PROFESSIONAL ENGINEER
 DATE: 10/19/11

STATE OF TEXAS
 BRADLEY ROE R.P.L.S. TX 2446
 LICENSED PROFESSIONAL SURVEYOR
 DATE: 10/19/11

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

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LOCATION MAP SCALE: 1" = 600'

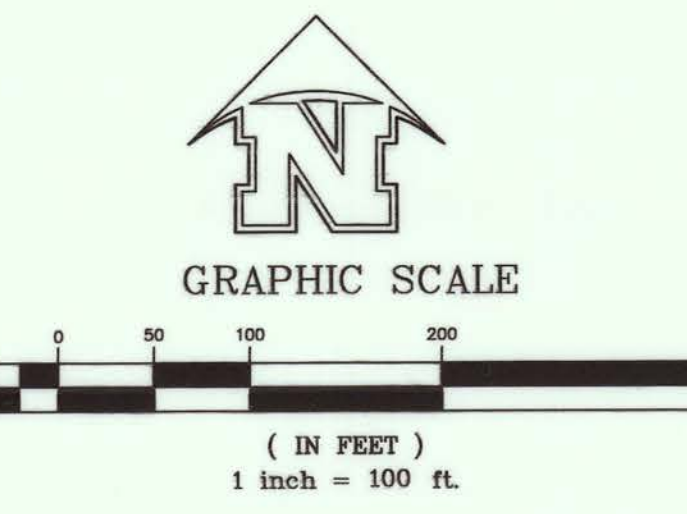
NOTES:

- 1. SUBDIVISION TO BE SERVICED BY THE U.S. POSTAL SERVICE...
2. SIDEWALKS FOR ALL STREETS WITHIN AND ABUTTING THIS SUBDIVISION WILL BE PROVIDED BY BUILDER AND DEVELOPER...
3. RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK...
4. THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" EXPLANATION OF ZONE "A" AREAS OF 100-YEAR FLOOD...
5. VEHICULAR ACCESS TO LOTS 1-3, BLOCK 1, LOTS 1-5, BLOCK 3...
6. THE INSTRUMENT ASSURING RELEASE OF ACCESS IS FILED IN EL PASO COUNTY CLERK'S OFFICE...
7. THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO ENCHANTED HILLS UNIT ONE BY THE EL PASO PUBLIC SERVICE BOARD...
8. THIS SUBDIVISION LIES WITHIN CANUTILLO INDEPENDENT SCHOOL DISTRICT

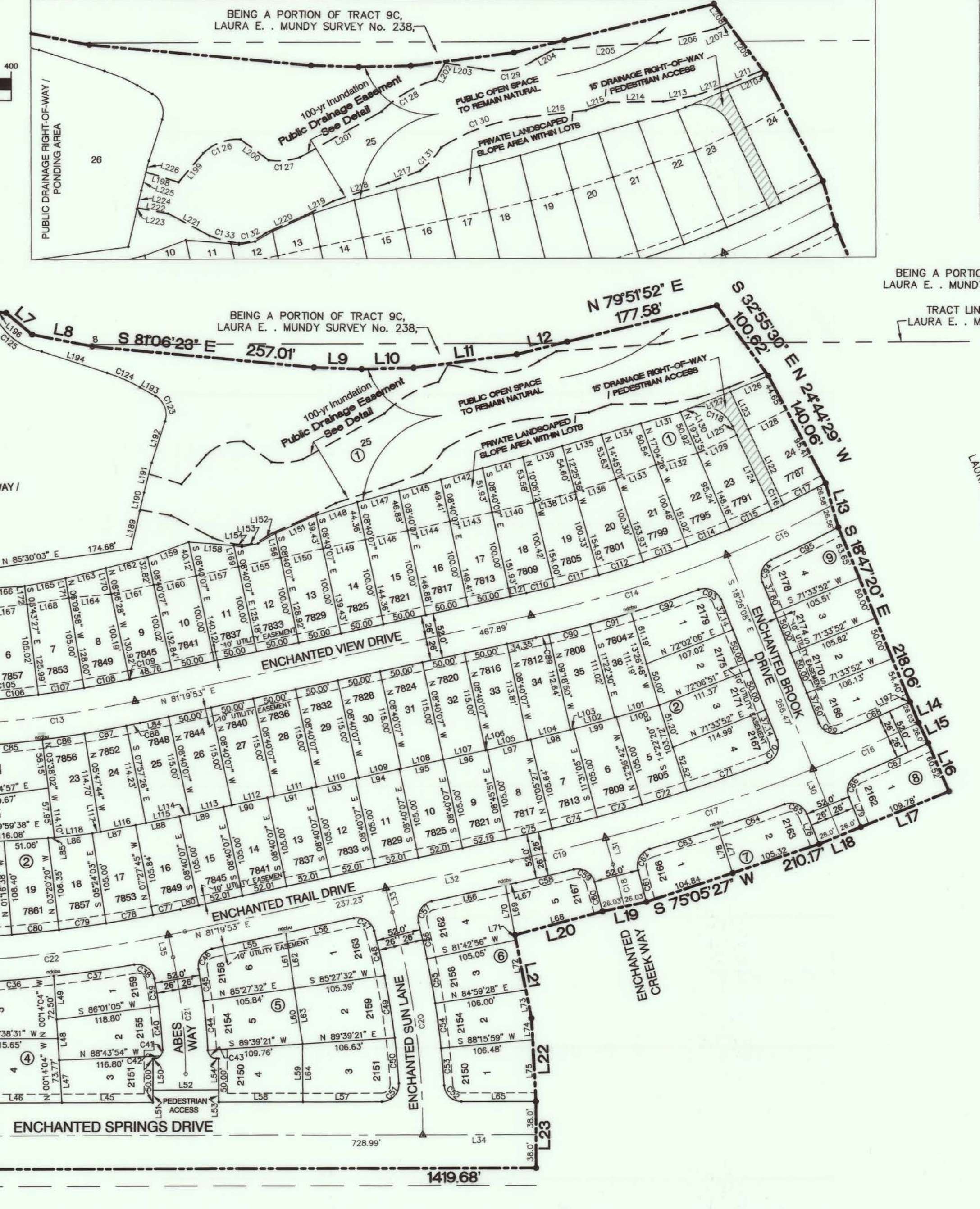
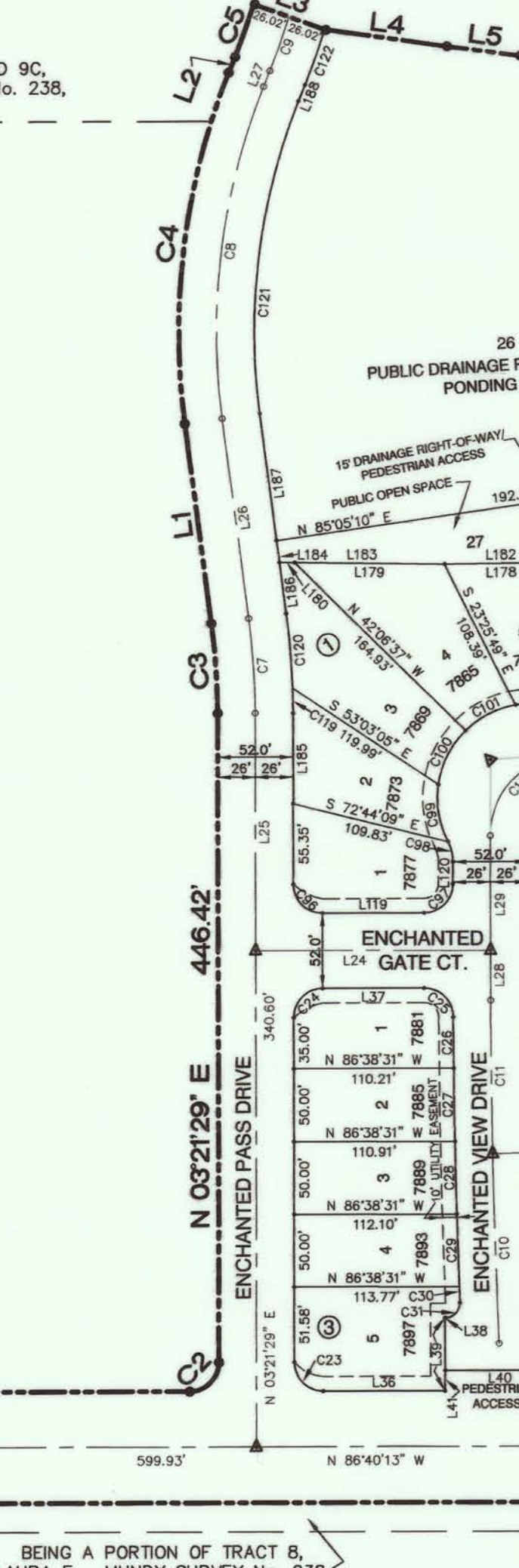
CURVE TABLE with columns: CURVE, RADIUS, LENGTH, TANGENT, CHORD, BEARING, DELTA. Lists curve data for various lots and sections.

LINE TABLE with columns: LINE, BEARING, LENGTH. Lists line data for various lots and sections.

PARCEL TABLE with columns: LOT, SQUARE FOOTAGE, ACRES. Lists parcel data for lots 1 through 238.



LEGEND: PROPOSED CITY MONUMENT, EXISTING CITY MONUMENT, 15' DRAINAGE RIGHT-OF-WAY / PEDESTRIAN ACCESS, PROPOSED NDCBU.



WESTSIDE SERVICE AREA table with columns: METER SIZE, METER CAPACITY RATIO, WATER, WASTEWATER. Lists service rates for different meter sizes.

ENCHANTED HILLS UNIT ONE

BEING A PORTION OF TRACTS 8 AND 9C, LAURA E. MUNDY SURVEY No. 238, CITY OF EL PASO, EL PASO COUNTY, TEXAS

CONTAINING IN ALL 1,132,185.48 sq. ft. OR 25.9914 acres OF LAND MORE OR LESS OWNER'S DEDICATION, CERTIFICATION

STATE OF TEXAS COUNTY OF EL PASO

EP 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-WAY, PONDING AND DRAINAGE RIGHT-OF-WAY, DRAINAGE AND PEDESTRIAN ACCESS RIGHT-OF-WAYS, PUBLIC OPEN SPACE, PUBLIC DRAINAGE EASEMENT 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.

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 EP 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 14 DAY OF November, 2011 A.D.

Susan McMillan, Notary Public in and for El Paso County, Texas. My commission expires 3-16-13.

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 26 DAY OF December, 2011 A.D.

EXECUTIVE SECRETARY, CHAIRPERSON, CITY ENGINEER signatures and names.

COUNTY CLERK'S RECORDING CERTIFICATE

I, Delia Briones, COUNTY CLERK OF EL PASO COUNTY, CERTIFY THAT THE PLAT BEARING THIS CERTIFICATE WAS FILED AND RECORDED UNDER THE INSTRUMENT NO. 2015002909 IN THE PLAT RECORDS OF THE EL PASO COUNTY.

BY: COUNTY CLERK, CHATLIE QUINDA, DATE 5/4/2013

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, Registered Professional Engineer No. 31886

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

WESTSIDE SERVICE AREA table (repeated) with columns: METER SIZE, METER CAPACITY RATIO, WATER, WASTEWATER.

TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORDS SECTION, INSTRUMENT No. 2015002909/2, DATE 5-4-15

U.S. INTERSTATE HIGHWAY #10 (I-10 WEST) ROAD RIGHT-OF-WAY (when-gate-way meets road 300' to road)

DESERT BOULEVARD NORTH TRACT RIGHT-OF-WAY

TRACT LINE TRACTS 8 AND 9C, LAURA E. MUNDY SURVEY No. 238

BEING A PORTION OF TRACT 8, LAURA E. MUNDY SURVEY No. 238

BEING A PORTION OF TRACT 9C, LAURA E. MUNDY SURVEY No. 238

TRACT LINE TRACTS 8 AND 9C, LAURA E. MUNDY SURVEY No. 238

BEING A PORTION OF TRACT 9C, LAURA E. MUNDY SURVEY No. 238

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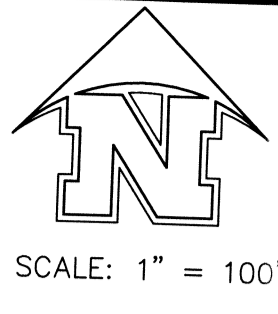
BEING A PORTION OF TRACT 8, LAURA E. MUNDY SURVEY No. 238

TRACT LINE TRACTS 8 AND 9C, LAURA E. MUNDY SURVEY No. 238

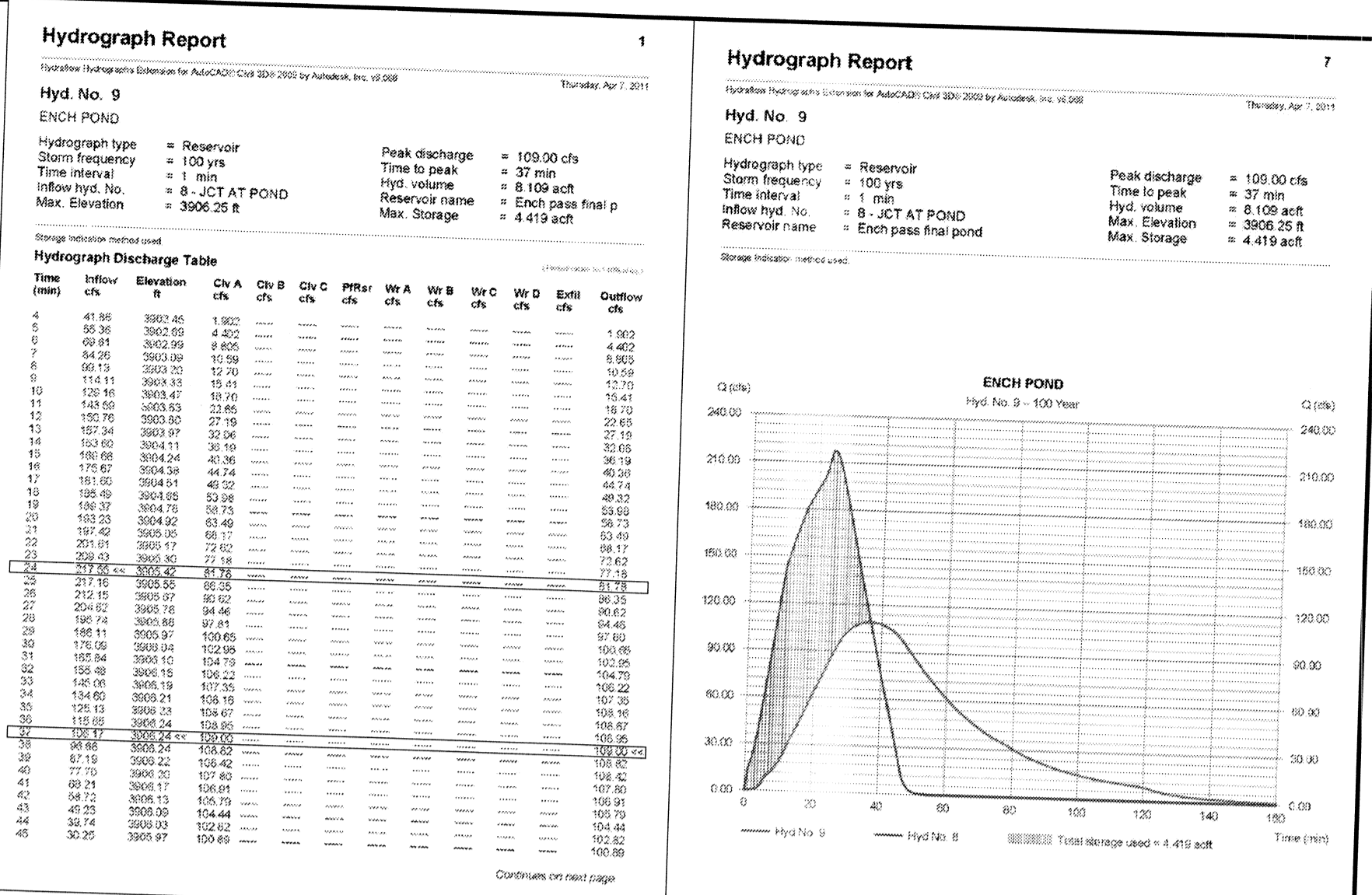
BEING A PORTION OF TRACT 9C, LAURA E. MUNDY SURVEY No. 238

TRACT LINE TRACTS 8 AND 9C, LAURA E. MUNDY SURVEY No. 238

BEING A PORTION OF TRACT 8, LAURA E. MUNDY SURVEY No. 238



OFFSITE DRAINAGE STRUCTURE IN THE COMMERCIAL AREA WILL MAINTAIN BY THE DEVELOPER UNTIL PLATTED



ENCHANTED PASS W.C.D.B. COMPUTATIONS
COMPUTATIONS BASED ON RATIONAL FORMULA, FOR 100 YEAR STORM FREQUENCY

Basin	Required Capacity Acre-Feet	Available Capacity Acre-Feet	Peak Inflow C.F.S.	Outflow Discharge C.F.S.	H.W.E.	Bottom Elevation (Feet)	Top Elevation (Feet)	Free Board
ENCHANTED PASS BASIN	4.419	29.07	217.55	109.00	3906.25	3902.00	3916.00	9.75

REFER TO HYDROGRAPH REPORT ON THIS SHEET

DROP INLET TABLE

System Inlet #	Profile Sta.	Street Name	Top of Curb Elevation (ft)	Invert Elevation (ft)	Depth (ft)	No. of Grates	Drop Inlet C.F.S.	Proposed (Total)	Proposed + Future (Total)
SYSTEM #1A	5+75	ENCHANTED VIEW DRIVE	3921.18 TC 3920.88 CT RM	3916.00	4.68'	6	65.58 c.f.s.	40.03 c.f.s.	
SYSTEM #2B	16+01.95	ENCHANTED VIEW DRIVE	3943.64 TC 3943.14 CT RM	3939.00	4.13'	6	65.58 c.f.s.	7.28 c.f.s.	28.76 c.f.s. (total development)
SYSTEM #3C	9+81.59	ENCHANTED PASS DRIVE	3916.33 TC 3915.83 CT RM	3911.00	4.83'	3	32.29 c.f.s.	3.28 c.f.s.	33.50 c.f.s. (total development)
SYSTEM #4D	1+30.01	ENCHANTED SPRING DRIVE	3894.20 TC 3893.70 CT RM	3888.00	5.70'	3	33.50 c.f.s.	22.51 c.f.s.	
SYSTEM #5E	1+11.18	ENCHANTED SPRING DRIVE	3893.50 TC 3893.00 CT RM	3888.47	4.53'	1	48.88 c.f.s.	30.33 c.f.s.	
SYSTEM #6F	N/A	ENCHANTED FUTURE DRIVE	3926.33 TC 3925.83 CT RM	3919.00	3.66'	6	65.58 c.f.s.	0.00 c.f.s.	41.74 c.f.s. (total development)
SYSTEM #4-C HEADWALL	8+93.61	ENCHANTED PASS DRIVE	3899.00 TOP PIPE	3895.00	4.00'		253.00 c.f.s.	109.00 c.f.s.	96.31 c.f.s. (total development)

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

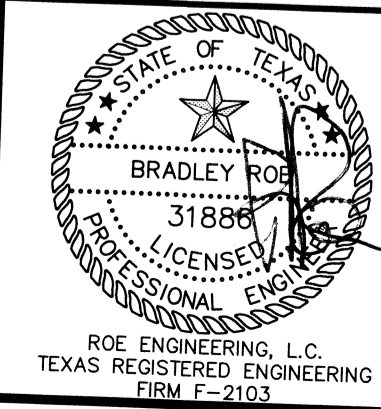
Watershed Area No.	Type	Tc Min.	C Coefficient	A Acres	Q 100 C.F.S.	Q 100 C.F.S. CU. FT. PER SECOND	CONCENTRATION POINT
1	DRAIN 36" RCP	21	0.65	12.04	3.87	30.33	(2)
2	DRAIN 36" RCP	15	0.80	6.06	4.64	22.51	(2)
3	E.P.W.C.D.B.	23	0.65	91.31	3.67	218.29	(1)
4	E.P.W.C.D.B.	11	0.65	11.45	5.38	40.03	(1)
5	E.P.W.C.D.B.	11	0.65	2.07	5.38	7.24	(1)
6	E.P.W.C.D.B.	10	0.90	0.65	5.60	3.28	(1)
7	DRAIN 36" RCP	10	0.90	3.69	5.60	18.62	(1)
8	DRAIN 2-60"	19	0.65	18.01	4.08	47.76	(3)
9	DRAIN 2-60"	10	0.90	10.29	5.60	51.91	(3)
10	E.P.W.C.D.B.	10	0.65	2.44	5.60	8.88	(4)
11	N/A	10	0.65	1.15	5.60	4.18	(5)

Line No.	Line ID	Diversion Coeff	Roughness Coeff	Flow Rate (cfs)	Flow Depth (ft)	Capacity (cfs)	Line Slope	Line Length (ft)	Invert (ft)	Depth (ft)	Vel (ft/s)	HGL (ft)	HGL (ft)	HGL (ft)	EOL (ft)	EOL (ft)	Energy Loss (ft)	Flowing	Rating
1	SYST A(W4)	0.00	0.05	3.38	42.10	107.48	0.00	30.14	50.000	3902.85	2.90	2.10	3902.85	3902.85	3902.85	0.120	10715388.39	359385.48	(1)
2	SYST A(W4)	0.10	0.05	3.38	42.10	65.12	0.00	3.38	181.12	3909.92	2.91	2.10	3910.11	3910.11	3910.11	0.120	10715388.39	359385.48	(1)
3	SYST A(W4)	11.45	0.05	33.08	43.00	0.00	0.00	0.00	15.30	3921.06	3.02	1.14	3921.06	3921.06	3921.06	0.000	10715402.39	360257.97	(1)
4	SYST B(W5)	0.00	0.00	4.98	6.70	100.21	0.00	30.25	34.000	3925.56	3.04	0.37	3925.56	3925.56	3925.56	0.000	10715402.39	360257.97	(1)
5	SYST B(W5)	0.00	0.00	0.06	6.00	180.21	0.00	30.25	34.000	3925.56	3.04	0.37	3925.56	3925.56	3925.56	0.000	10715402.39	360257.97	(1)
6	SYST B(W5)	2.07	0.05	5.38	7.24	66.90	0.00	3.54	141.136	3934.00	3.09	0.87	3934.00	3934.00	3934.00	0.000	10715402.39	360257.97	(1)
7	SYST B(W5)	0.65	0.05	5.61	3.28	32.45	0.00	18.12	70.791	3902.00	3.09	0.59	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
8	SYST D	0.00	0.00	3.85	30.32	59.77	0.00	13.686	3887.30	3887.41	2.90	2.87	3887.41	3887.41	3887.41	0.000	10715402.39	360257.97	(1)
9	SYST E(W11)	12.04	0.05	3.88	30.32	30.32	0.00	2.58	30.320	3902.00	3.05	2.58	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
10	SYST D(W2)	6.06	0.80	4.64	22.51	47.76	0.00	5.41	99.000	3887.41	3.88	4.76	3887.41	3887.41	3887.41	0.000	10715402.39	360257.97	(1)
11	SYST A2C	0.00	0.00	0.00	109.00	258.73	0.00	54.000	3902.00	3902.00	2.50	2.50	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
12	Z(W4)P(R)	0.00	0.00	0.00	46.00	0.00	0.00	0.00	0.00	3902.00	2.50	2.50	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
13	SYST F	0.00	0.00	0.00	109.00	258.04	0.00	54.000	3902.00	3902.00	2.50	2.50	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
14	SYST F	0.00	0.00	0.00	46.00	0.00	0.00	0.00	0.00	3902.00	2.50	2.50	3902.00	3902.00	3902.00	0.000	10715402.39	360257.97	(1)
15	SYST F	0.00	0.00	0.00	46.00	63.69	0.00	3.21	210.000	3912.00	2.50	2.25	3912.00	3912.00	3912.00	0.000	10715402.39	360257.97	(1)

LEGEND

- PROPOSED DRAINAGE HIGH-POINT
- PROPOSED DRAINAGE LOW-POINT
- DENOTES EXISTING COUNTY MONUMENT
- DENOTES PROPOSED COUNTY MONUMENT
- PROPOSED RETAINING ROCK WALL
- EXISTING FLOOD AREA
- PROPOSED FLOOD AREA
- E.P.W.C.D.B. ENCHANTED PASS WATER CONTROL DISCHARGE BASIN
- 42-C WATERSHED DISCHARGE (2-60" R.C.P.)
- 42-C WATERSHED DISCHARGE (36" R.C.P.)

THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON APRIL 2011. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



DRAINAGE PLAN
ENCHANTED HILLS UNIT ONE
DRAINAGE PLAN

SCALE: 1" = 100'

HOR: _____ VER: _____
FILE NAME: _____
W.O.: 11509-1A E#1
DATE: FEBRUARY, 2010
DESIGN BY: H.P./RC
DRAWN BY: LAJ/H.P./IDR
CHKD. BY: H.P.
APPD. BY: BR

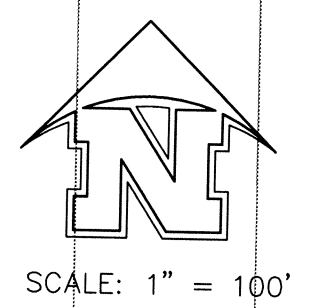
BRADLEY ROE ENGINEERING, L.C.
601 N. Cotton St. Suite No. 6 El Paso, TX, 79902
(915) 533-1418 - FAX: (915) 533-4972
E-MAIL: roe@bradleyroe.com

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 4 OF 33

FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	ROE MONUMENT CHINA 1880 (606 200444)
9/08/11	CITY COMMENTS	STAFF	LOCATED ABOUT 1.25 MILES EAST OF THE ROE GRANITE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10.
9/28/11	CITY COMMENTS	STAFF	ELEVATION 3940.24 NAVD 88

SECONDARY BENCHMARK
EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3887.21

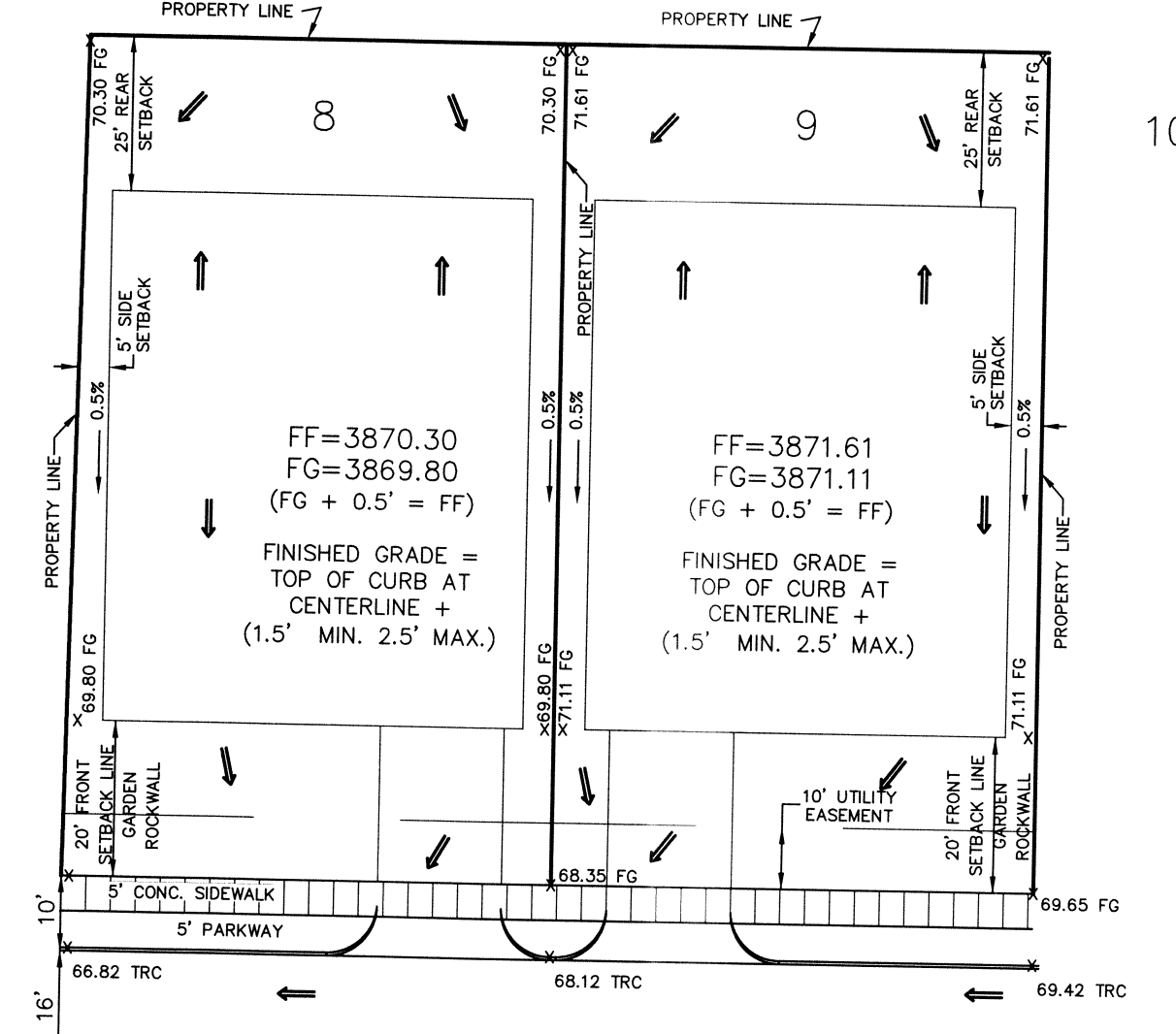
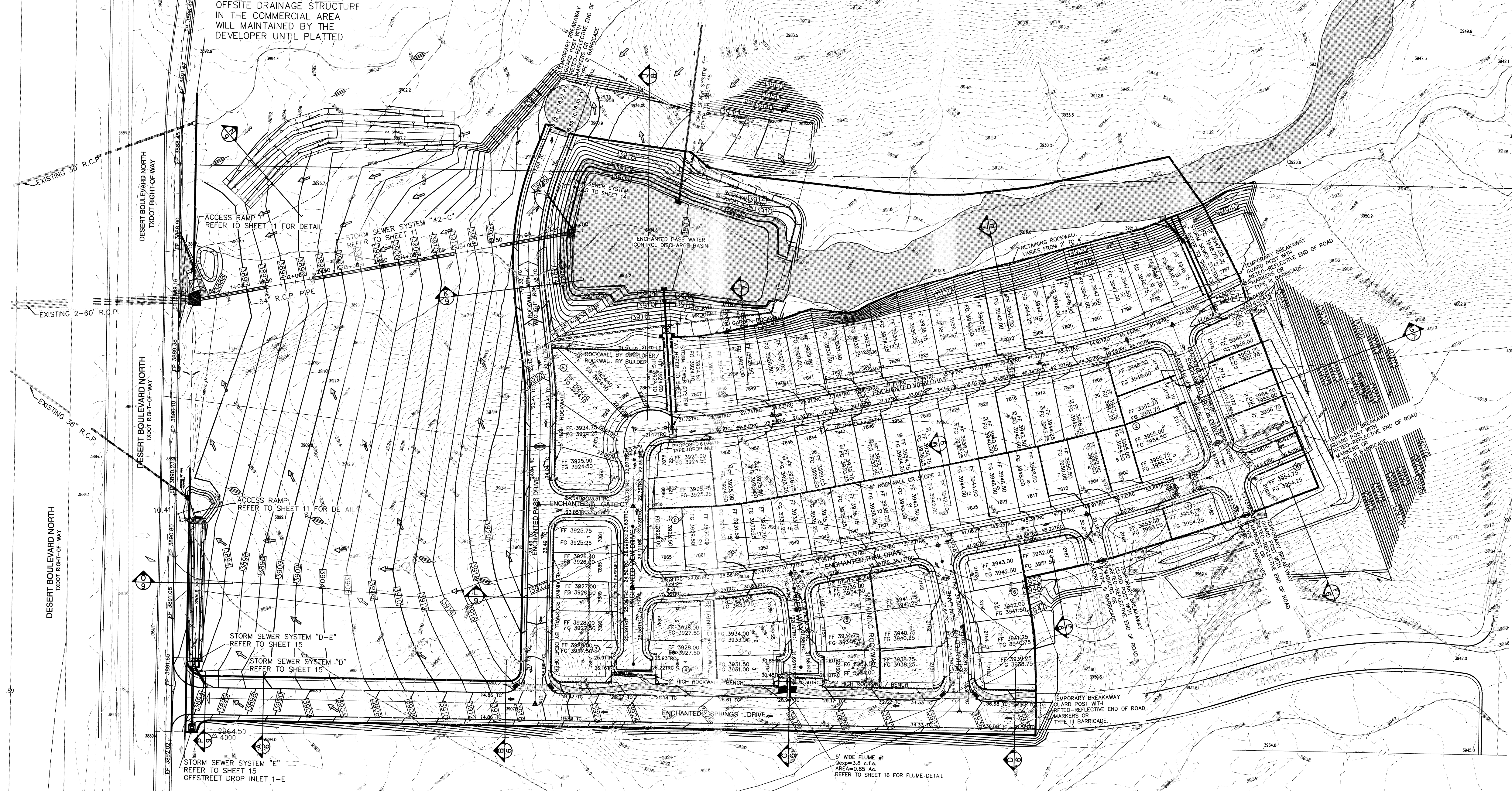


ENCHANTED HILLS

UNIT ONE

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, SC, SM, SC-SM, SP-SM, SP-SO. SOILS WILL BE CONSIDERED UNSATISFACTORY FOR FILL MATERIAL WHEN CLASSIFIED AS FOLLOWS: PT, OL, OH, ML, CL, AND 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.
- DEVELOPER SHALL CONSTRUCT BY DEVELOPER AS PART OF SUBDIVISION IMPROVEMENT.
- DEVELOPER IS RESPONSIBLE TO MAINTAIN ALL SLOPE OUTSIDE SUBDIVISION LIMITS.



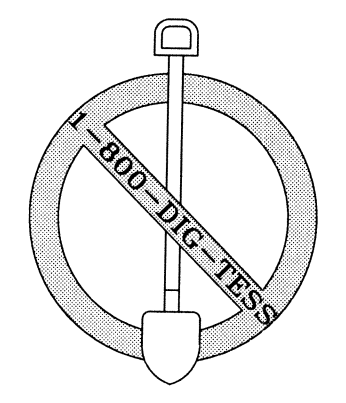
LEGEND

▲	PROPOSED DRAINAGE HIGH-POINT	△	PROPOSED CITY MONUMENT
▼	PROPOSED DRAINAGE LOW-POINT	→	PROPOSED DRAINAGE FLOWS
⊙	DENOTES EXISTING CITY MONUMENT	→	EXISTING DRAINAGE FLOW
⊙	DENOTES EXISTING SANITARY SEWER MANHOLE	SS	DENOTES EXISTING SANITARY SEWER LINE
○	PROPOSED RETAINING WALL	35.32 TC	PROPOSED TOP OF CURB ELEVATION
FG=4037.68	PROPOSED FINISHED GRADE ELEVATION	4040	EXISTING CONTOURS
FF=4038.35	PROPOSED FINISHED FLOOR ELEVATION	4030	PROPOSED CONTOURS
▨	EXISTING FLOOD AREA	▨	PROPOSED FLOOD AREA

TYPICAL LOT GRADING DETAIL
SCALE: 1" = 30'

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

- UTILITY COMPANIES**
- TEXAS GAS SERVICE (NATURAL GAS) 4200 PELLISSANO DRIVE EL PASO, TEXAS 79930 EMERGENCY 562-3003
 - AT&T (TELEPHONE) 11200 PELLISSANO DRIVE EL PASO, TEXAS 79935 828-5172
 - EL PASO PUBLIC SERVICE BOARD (WATER, SEWER) 1754 HAWKINS BOULEVARD EL PASO, TEXAS 79925 MR. ALFONSO ORTIZ 594-5527
 - TIME WARNER COMMUNICATIONS 7010 AIRPORT ROAD EL PASO, TEXAS 79906 775-7414
 - EL PASO ELECTRIC COMPANY (ELECTRIC) 501 WEST SAN ANTONIO STREET EL PASO, TEXAS 79901 MR. PAT KEITH 543-2917



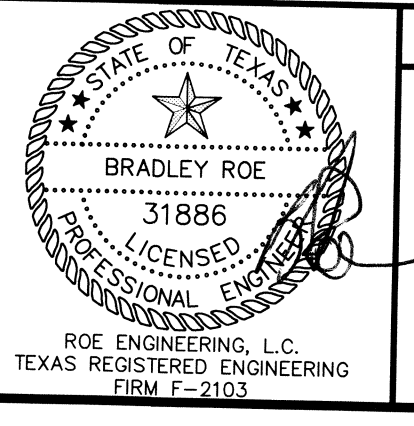
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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED. (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214.0011. DATED FEBRUARY 5, 1986.

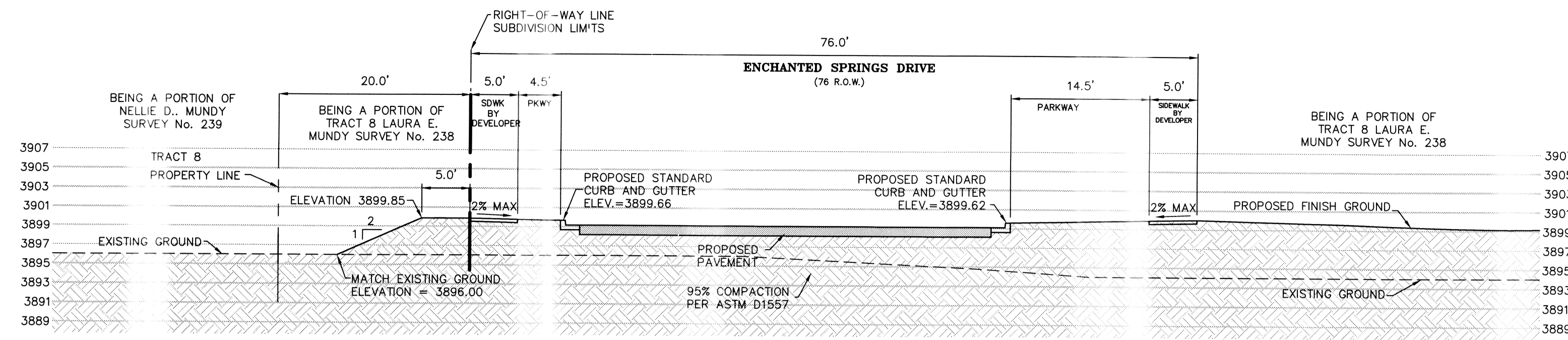
DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	NBS MONUMENT "CHRD 1980" (THE "CLOCK") LOCATION AS PER NATIONAL GEODETIC SURVEY 1981 LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE 1 MILE NORTH-NORTHWEST OF LOOP 375 (FRANKMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.24 NAVD 88
9/08/11	CITY COMMENTS	STAFF	
9/28/11	CITY COMMENTS	STAFF	
			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, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE ELEVATION: 3857.21

FILE NAME:	W.O.:	DATE:	DESIGN BY:	DRAWN BY:	CHKD. BY:	APPD. BY:
11509-1A EHI	H.P./RC	FEBRUARY, 2010	H.P./RC	LAJ/H.P./IDR	H.P.	BR

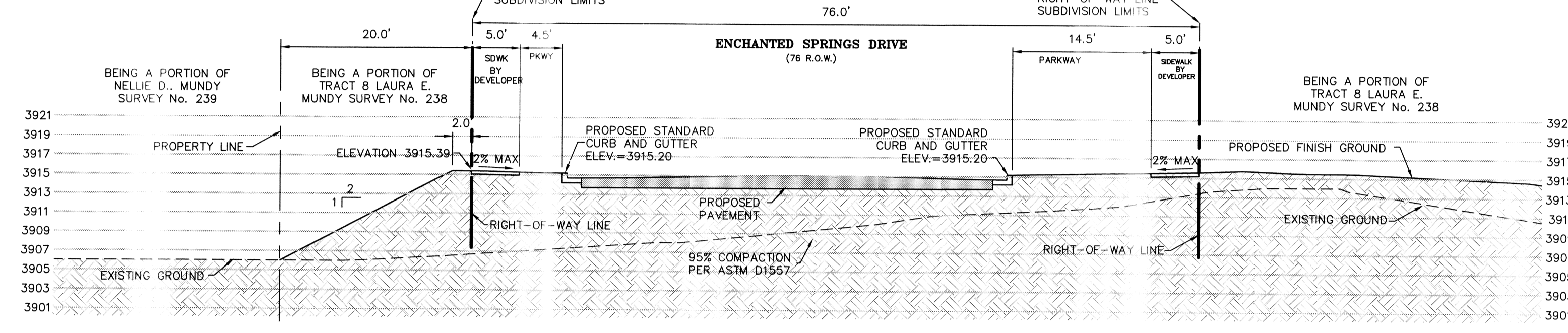


GRADING PLAN
ENCHANTED HILLS
UNIT ONE
GRADING PLAN

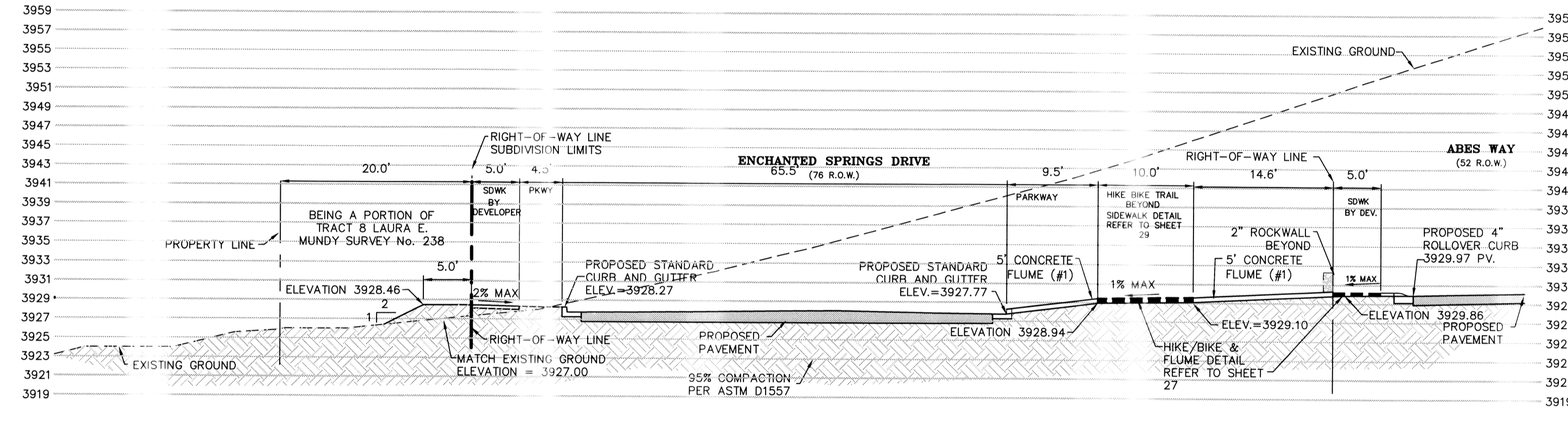
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
(915) 533-1418 - FAX (915) 533-4972
e-mail: roeeng@rbell.net
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SHEET 5 OF 33



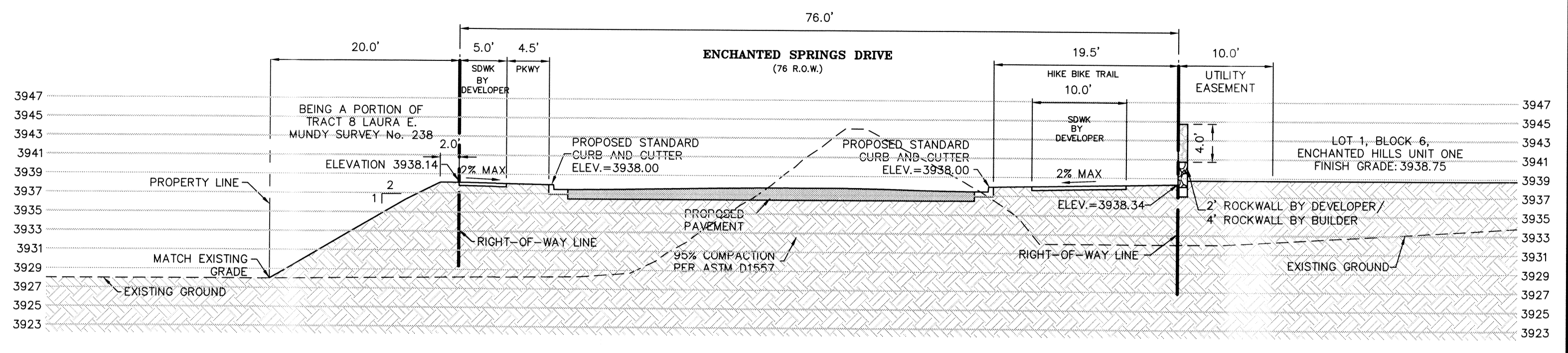
SECTION A-A
SCALE: 1" = 10'



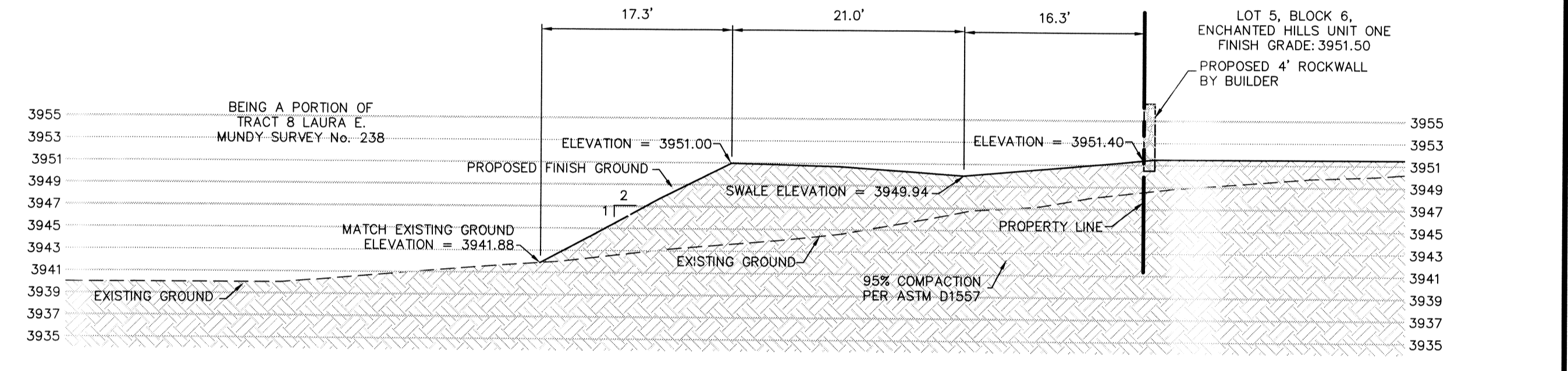
SECTION B-B
SCALE: 1" = 10'



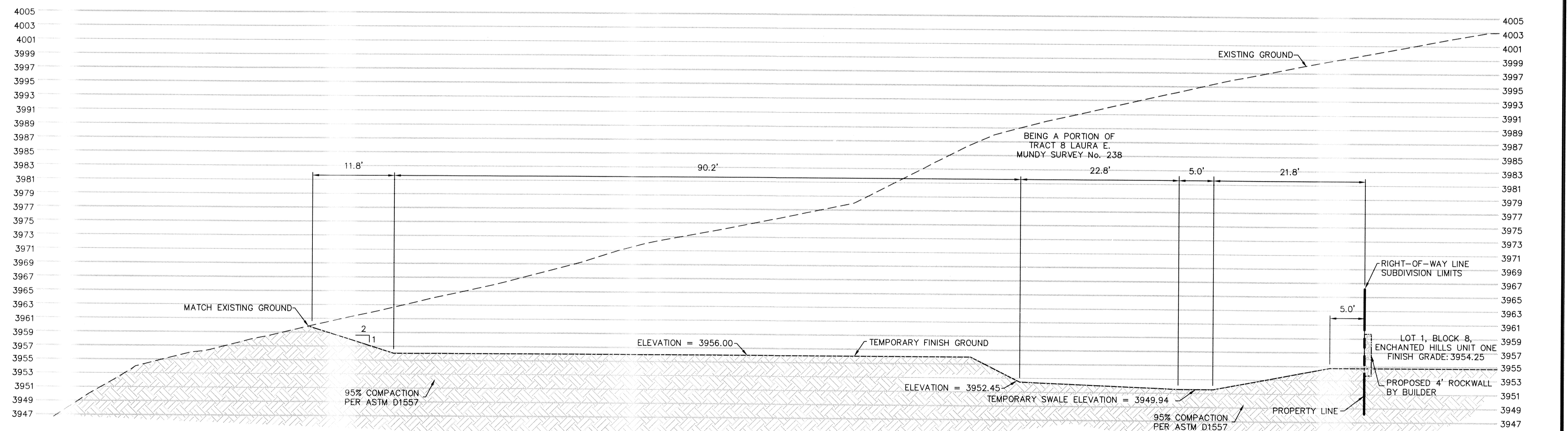
SECTION C-C
SCALE: 1" = 10'



SECTION D-D
SCALE: 1" = 10'

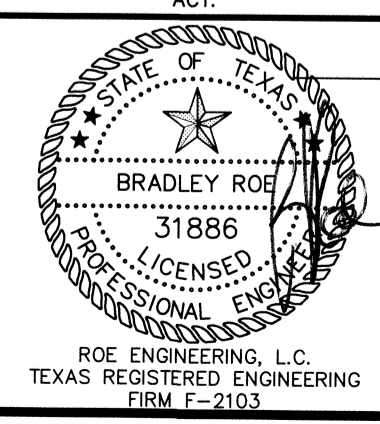


SECTION E-E
SCALE: 1" = 10'



SECTION F-F
SCALE: 1" = 10'

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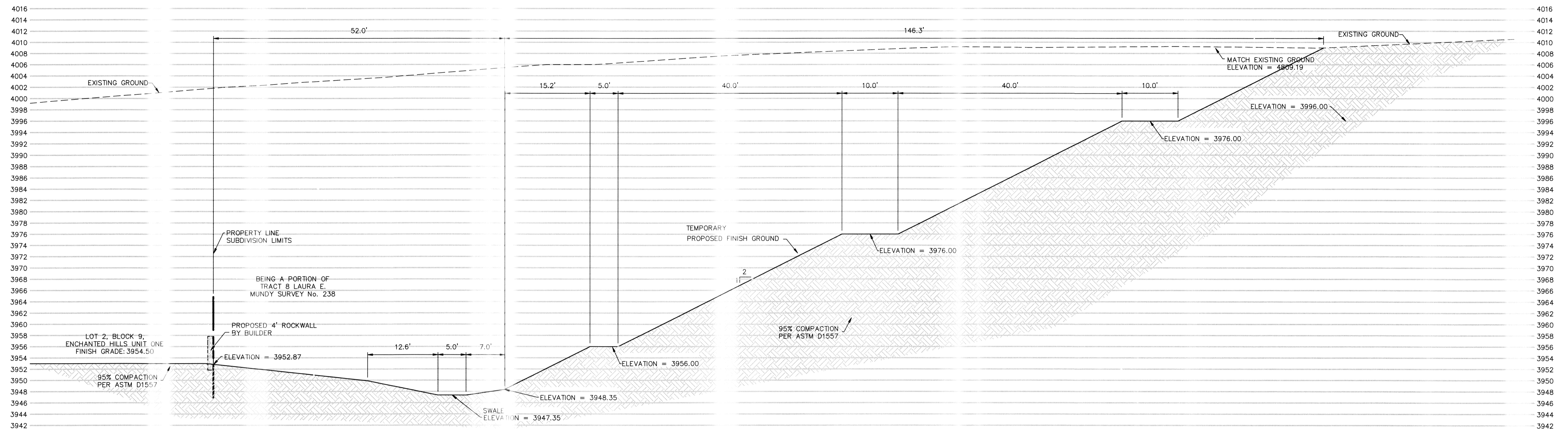
DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	NBS MONUMENT "CHNO 1880" (P.D. 820444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1983: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88
9/08/11	CITY COMMENTS	STAFF	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
9/28/11	CITY COMMENTS	STAFF	

SCALE	SECTIONS
HOR: 10 VER: 10	ENCHANTED HILLS UNIT ONE
FILE NAME: 11509-1A EH1	
W.O. 31888	
DATE: FEBRUARY, 2010	
DESIGN BY: H.P./RC	
DRAWN BY: LAJ/H.P./DR	
CHKD. BY: H.P.	
APPD. BY: BR	

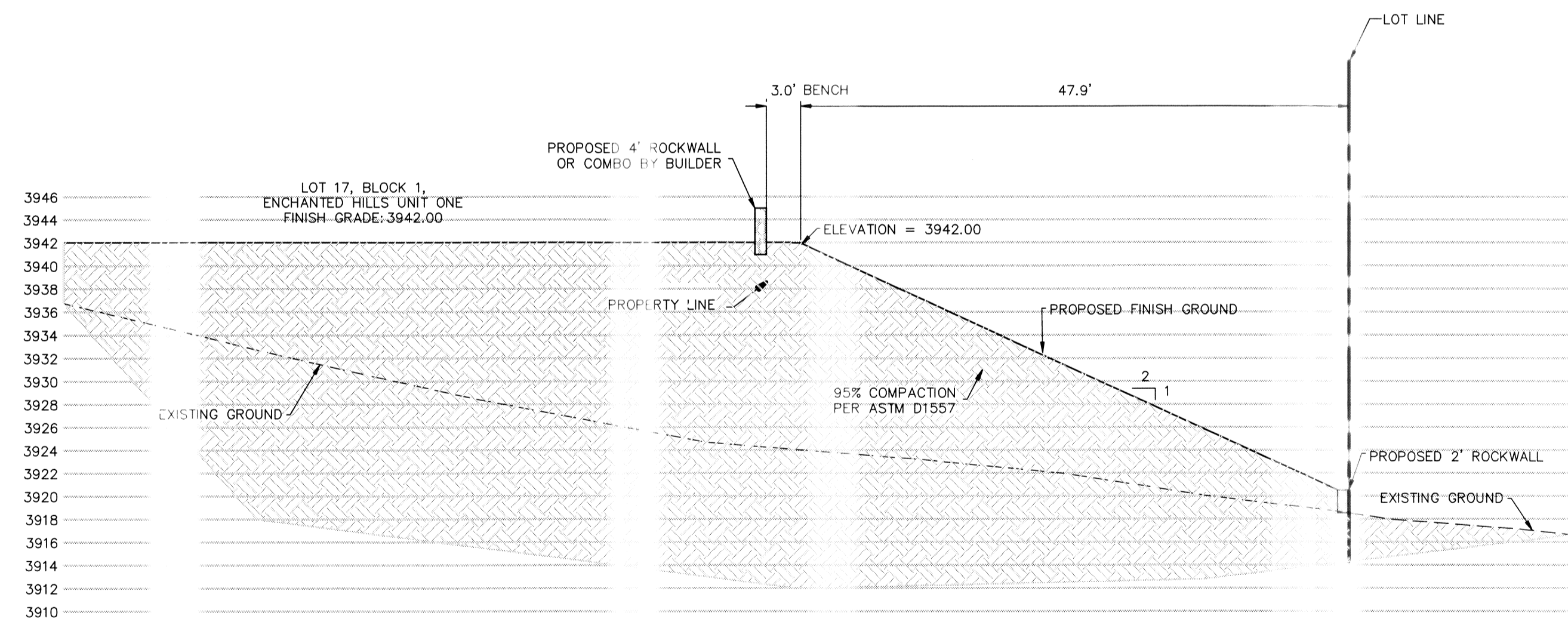
SECTIONS
ENCHANTED HILLS UNIT ONE

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

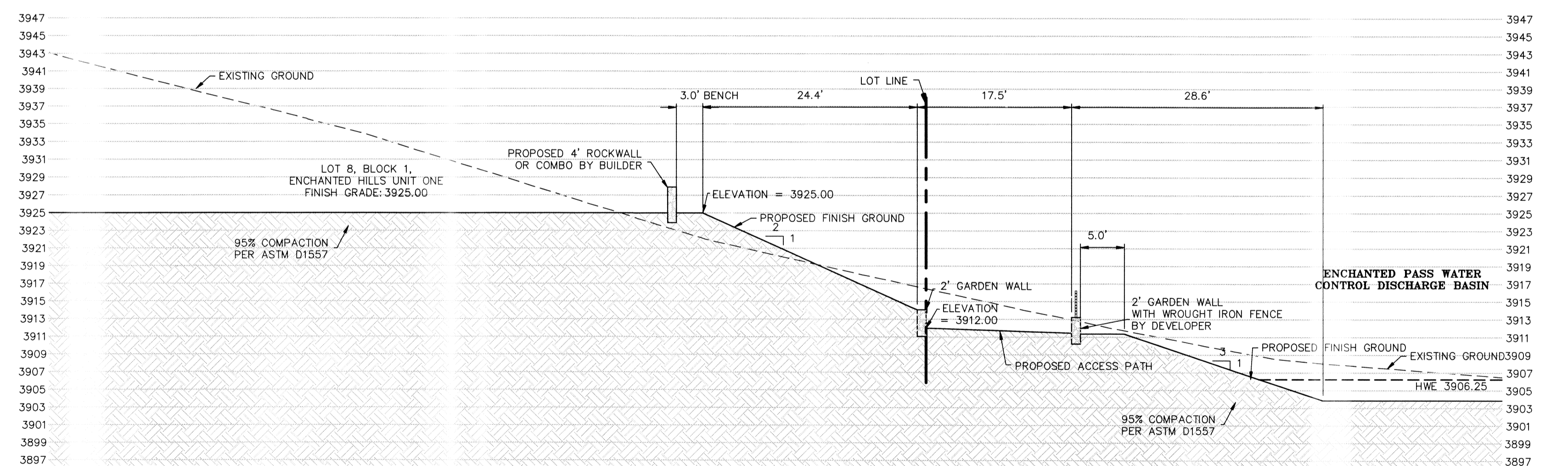
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 6 OF 33



SECTION G-G
SCALE: 1" = 10'



SECTION H-H
SCALE: 1" = 10'



SECTION I-I
SCALE: 1" = 10'

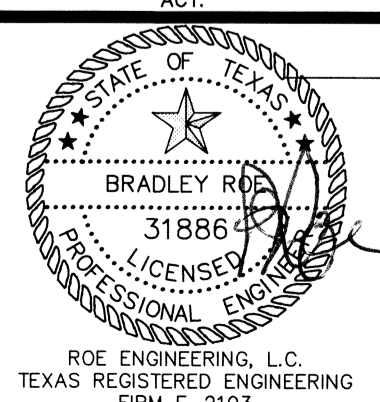
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NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

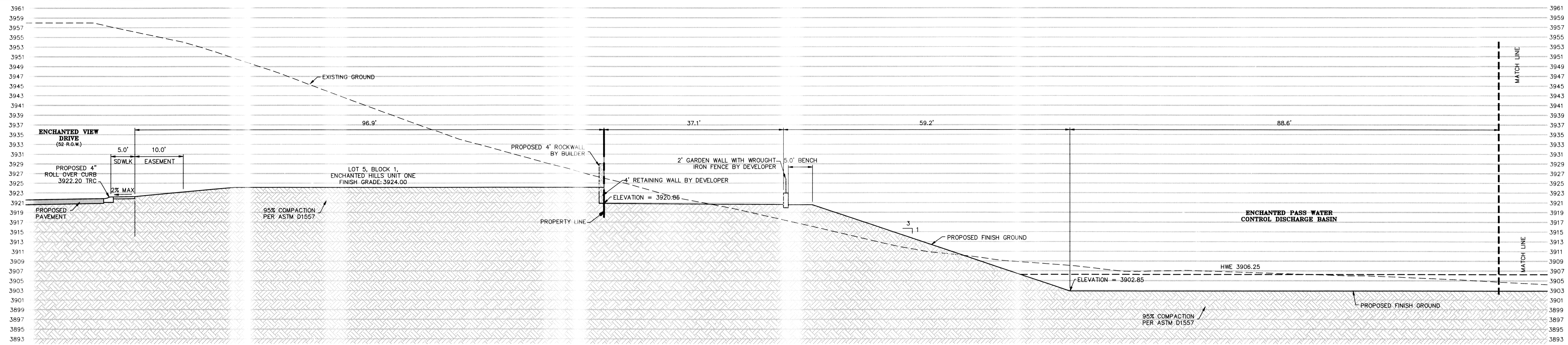
DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	ITY COMMENTS	STAFF	NOS MONUMENT (GRID 1985) (PB: 202444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1983: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88
9/08/11	ITY COMMENTS	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE ELEVATION: 3937.21
9/28/11	ITY COMMENTS	STAFF	

SCALE	DATE	DESIGN BY	DRAWN BY	CHKD. BY	APPD. BY
HOR: 10 VER: 10	11509-1A EH1	H.P./RC	LAJ/H.P./DR	H.P.	BR

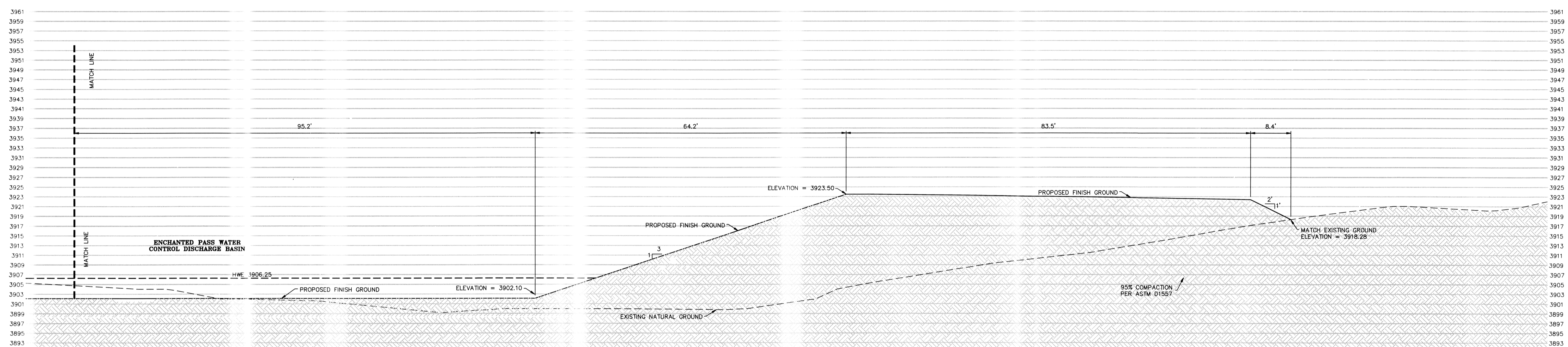


SECTIONS
**ENCHANTED HILLS
UNIT ONE**
SECTIONS

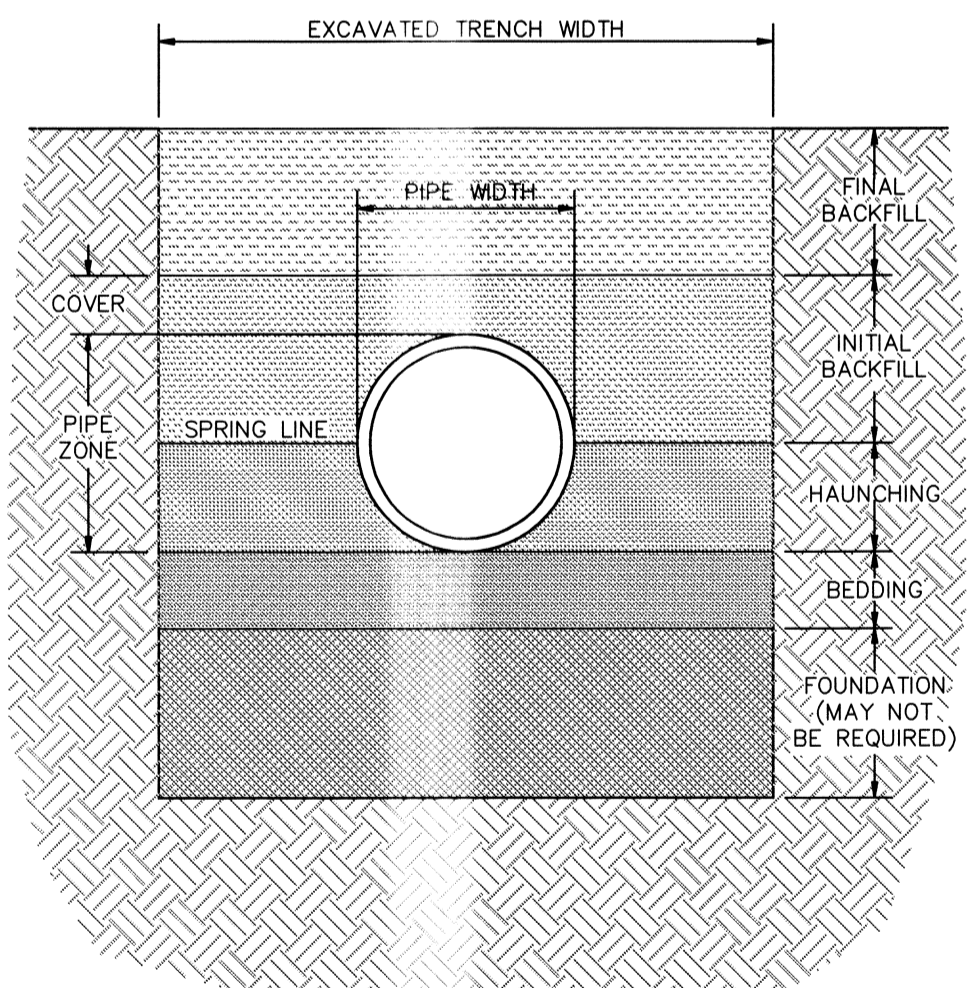
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e-mail: roeeng@rbell.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET **7** OF **33**



SECTION J-J
SCALE: 1" = 10'



SECTION J-J
SCALE: 1" = 10'

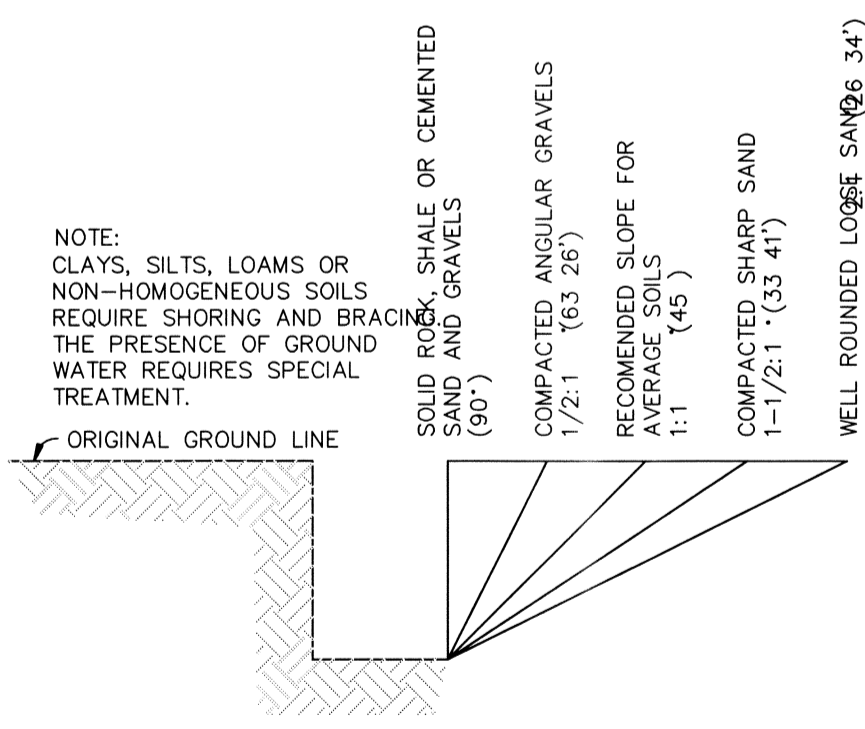


ALL TRENCHING SHALL BE IN ACCORDANCE WITH O.S.H.A. REGULATIONS

TRENCH SHORING - MINIMUM REQUIREMENTS

TRENCH JACKS MAY BE USED IN LIEU OF OR IN COMBINATION WITH CROSS BRACES. SHORING IS NOT REQUIRED IN SOLID ROCK, HARD SHALE, OR HARD SLAG. WHERE DESIRABLE, STEEL SHEET PILING AND BRACING OF EQUAL STRENGTH MAY BE SUBSTITUTED FOR WOOD.

DEPTH OF TRENCH	KIND OR CONDITION OF EARTH	SIZE AND SPACING OF MEMBERS										
		UPRIGHTS		STRINGERS		CROSS BRACES		MAXIMUM SPACING				
		MINIMUM DIMENSION	MAXIMUM SPACING	MINIMUM DIMENSION	MAXIMUM SPACING	WIDTH OF TRENCH		VERTICAL	HORIZONTAL			
5 TO 10	HARD, COMPACT	3 x 4 or 2 x 6	6			UP TO 3 FEET	3 TO 6 FEET	6 TO 9 FEET	9 TO 12 FEET	12 TO 15 FEET		
	LIKELY TO CRACK	3 x 4 or 2 x 6	3	4 x 6	4	2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
10 TO 15	SOFT, SANDY, OR FILLED	3 x 4 or 2 x 6	CLOSE SHEETING	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	HYDROSTATIC PRESSURE	3 x 4 or 2 x 6	CLOSE SHEETING	6 x 8	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
15 TO 20	HARD	3 x 4 or 2 x 6	4	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	LIKELY TO CRACK	3 x 4 or 2 x 6	2	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
20 TO 25	SOFT, SANDY, OR FILLED	3 x 4 or 2 x 6	CLOSE SHEETING	4 x 6	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
	HYDROSTATIC PRESSURE	3 x 6	CLOSE SHEETING	8 x 10	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6



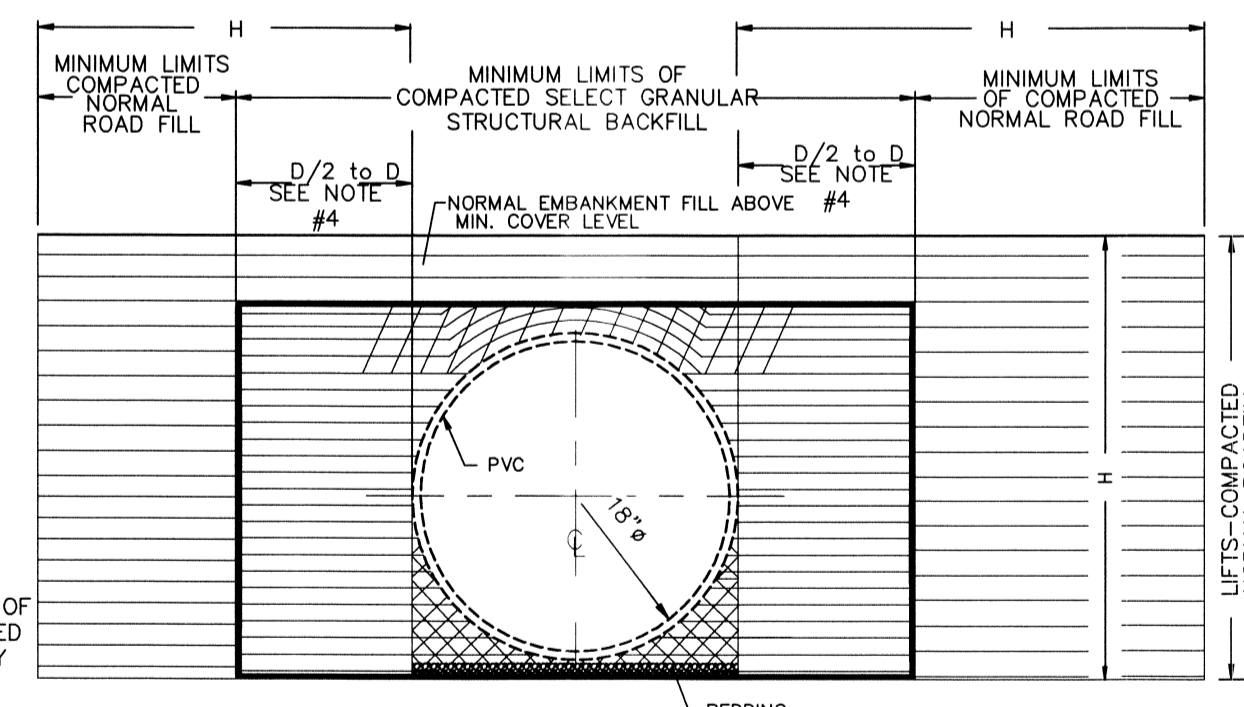
APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS

NOTE: ALL TRENCHING AND SHORING TO ADHERE STRICTLY TO O.S.H.A. 4576-2 AND O.S.H.A. 2228 "EXCAVATING AND TRENCHING OPERATION" 1975

NOTES:

- ALL SELECT GRANULAR BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8") LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.
- COMPLETE AND REGULAR MONITORING OF THE CSP SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.
- PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
- THIS WIDTH SHOULD BE EQUAL TO 1/2 DIA. TO ONE DIA. WIDTH TYPICALLY. GREATER OR LESSER DISTANCE MAY BE REQUIRED. DISTANCE DEPENDS ON BEARING LOAD FOR ANY GIVEN LOADING, STRUCTURE SHAPE AND BACKFILL MATERIAL. THIS MUST BE EVALUATED BY THE PROJECT ENGINEER FOR EACH SPECIFIC SITUATION.
- BEDDING ZONE SHOULD BE FREE OF DEBRIS. PLACE BEDDING MATERIAL AT MIN. THICKNESS EQUAL TO TWICE THE CORRUGATION DEPTH.
- EMBANKMENT WIDTH H TO BE SUCH THAT A STABLE EMBANKMENT CAPABLE OF RESISTING SIDE PRESSURES FROM CSP PIPE-ARCH SHAPE WILL BE MAINTAINED THROUGHOUT THE LIFE OF INSTALLATION. THIS WIDTH TO BE DETERMINED BY THE PROJECT ENGINEER.

ALL TRENCHING SHALL BE IN ACCORDANCE WITH O.S.H.A. REGULATIONS



- CRITICAL BACKFILL ZONE, PROPER COMPACTION MUST BE ACHIEVED
- INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT OR WITH SMALL TRACTOR (D-4 OR SMALLER) DRAWN EQUIPMENT.
- SELECT GRANULAR STRUCTURAL BACKFILL LIMITS.

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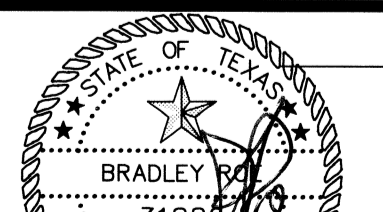
FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY
6/27/11	CITY COMMENTS	STAFF
9/08/11	CITY COMMENTS	STAFF
9/28/11	CITY COMMENTS	STAFF

PRIMARY BENCHMARK
THIS MONUMENT "CHERRY TREE" (TRC 180424) LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 370 (TRANSMONTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88

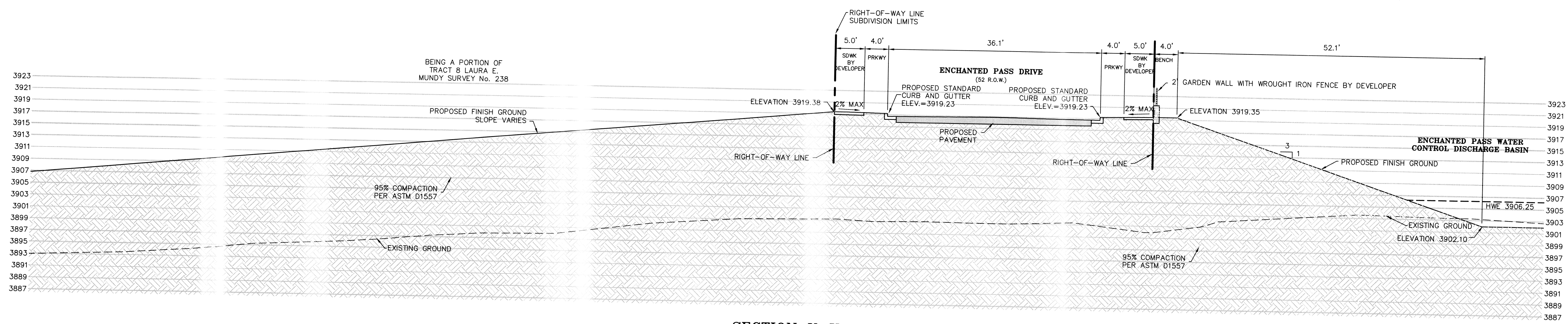
SECONDARY BENCHMARK
EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3957.21

SCALE
HOR: 10 VER: 10
FILE NAME: 09
W.O. 11509-1A EH1
DATE: FEBRUARY, 2010
DESIGN BY: H.P./RC
DRAWN BY: LAJ/H.P./IDR
CHKD. BY: H.P.
APPD. BY: BR

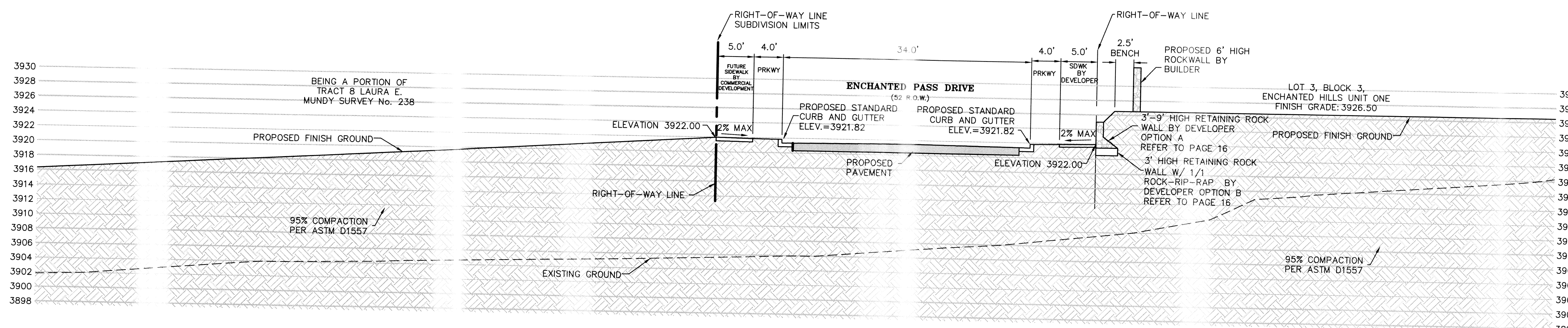


SECTIONS
ENCHANTED HILLS UNIT ONE
SECTIONS

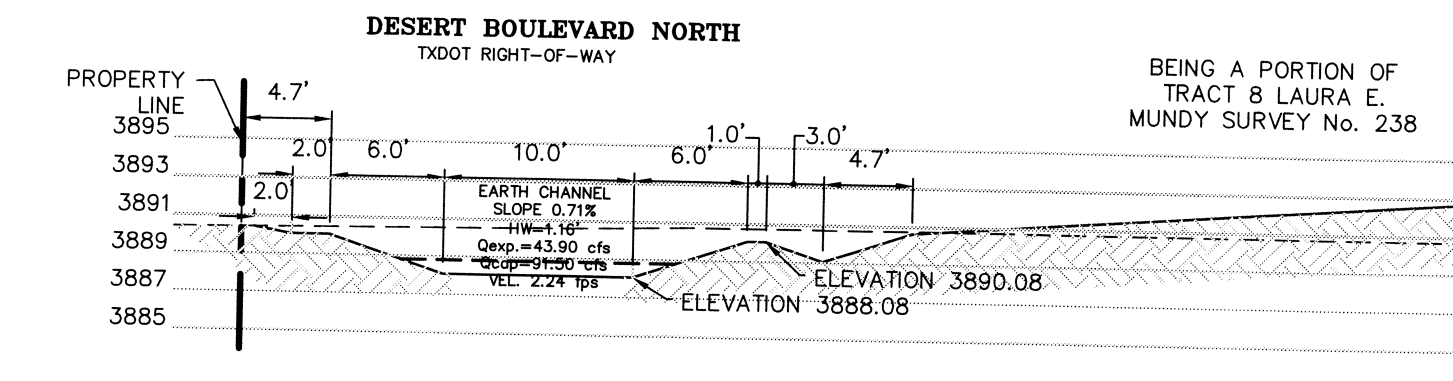
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx, 79902
(915) 533-1418 - FAX: (915) 533-4972
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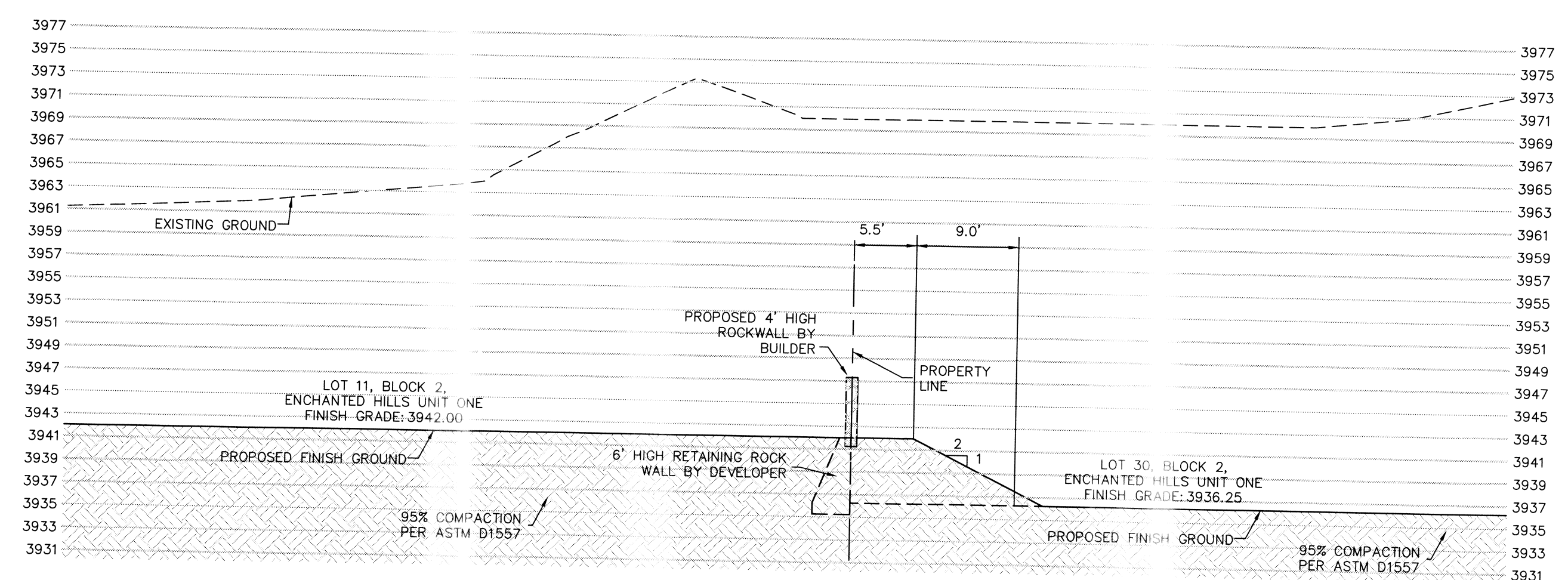
SECTION K-K
SCALE: 1" = 10'



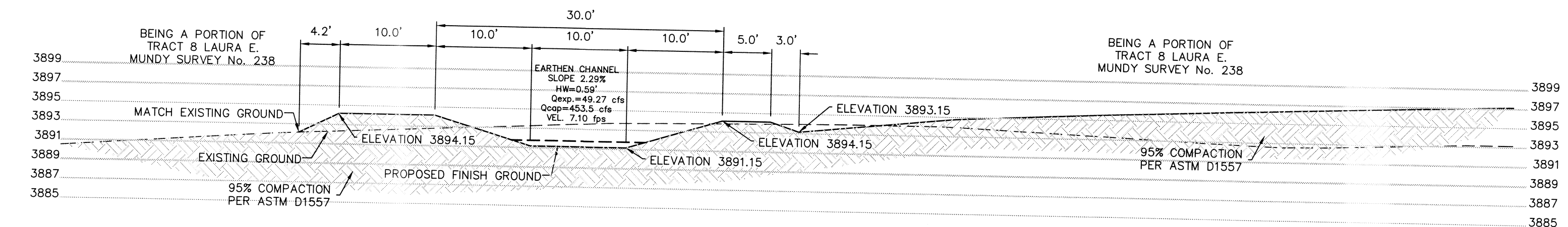
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SCALE: 1" = 10'



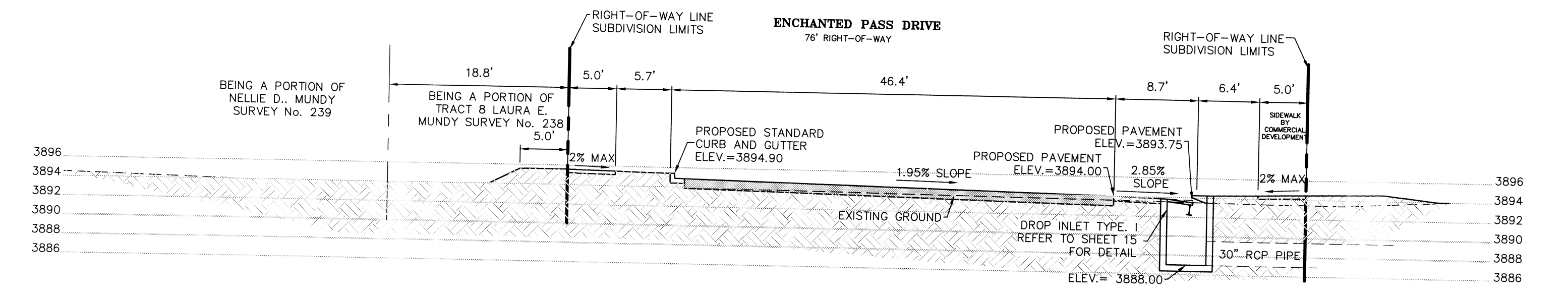
SECTION O-O
SCALE: 1" = 10'



SECTION M-M
SCALE: 1" = 10'



SECTION N-N
SCALE: 1" = 10'

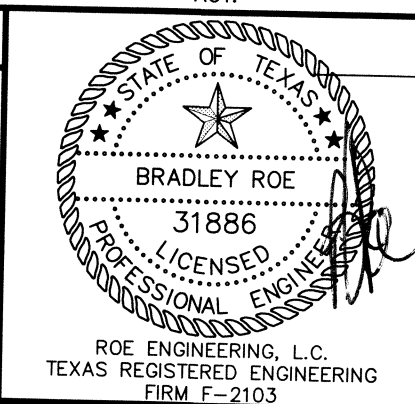


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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED. (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NBS MONUMENT "CHINA 1980" (E.C. 060444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1983; 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 3940.24 NAVD 88	HOR: 10 VER: 10
9/08/11	CITY COMMENTS	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MICHES 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: 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF		DATE: FEBRUARY, 2010
				DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./IDR
				CHKD. BY: H.P.
				APPD. BY: BR



SECTIONS
ENCHANTED HILLS UNIT ONE
SECTIONS

hnp 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
SHEET 9 OF 33

ENCHANTED HILLS UNIT ONE

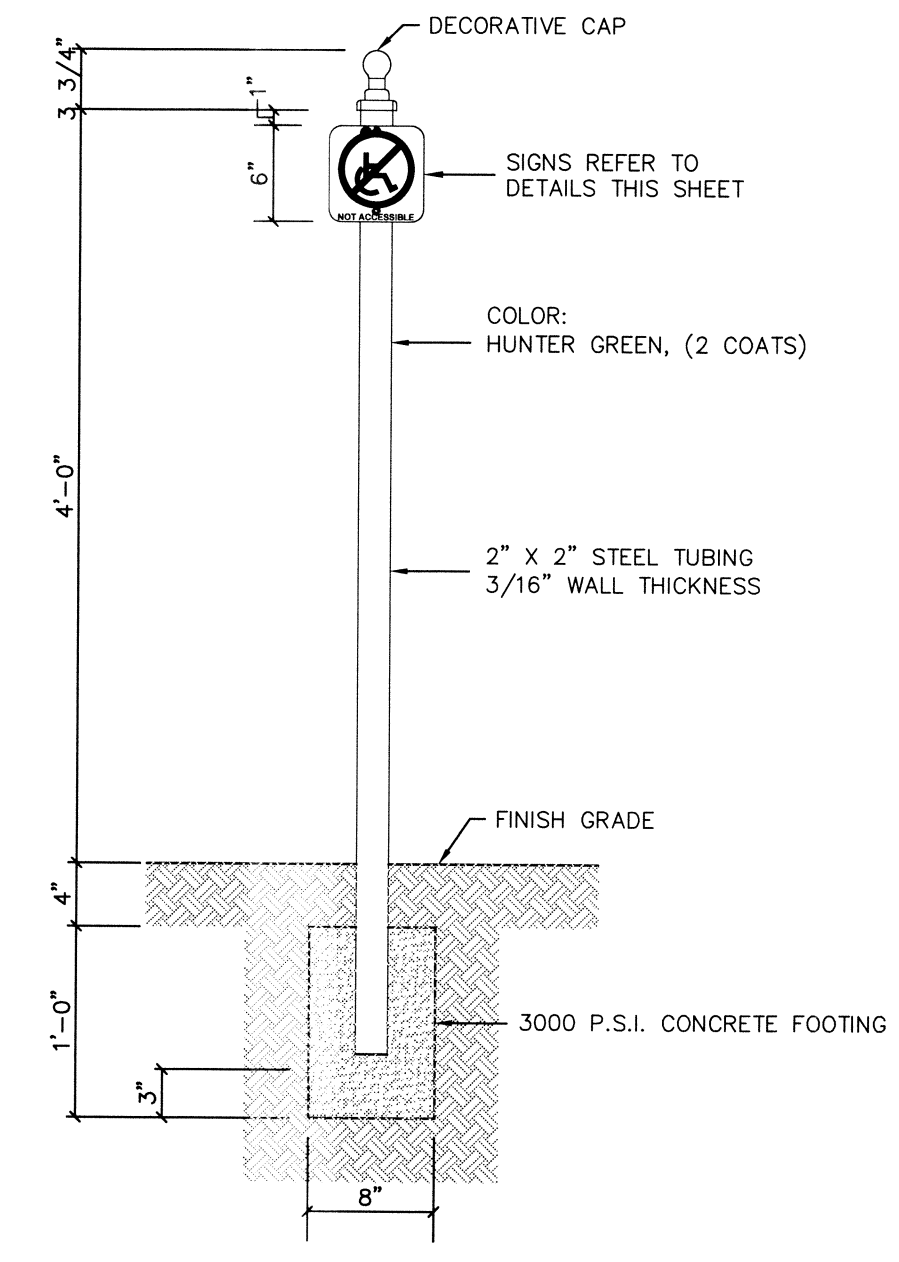
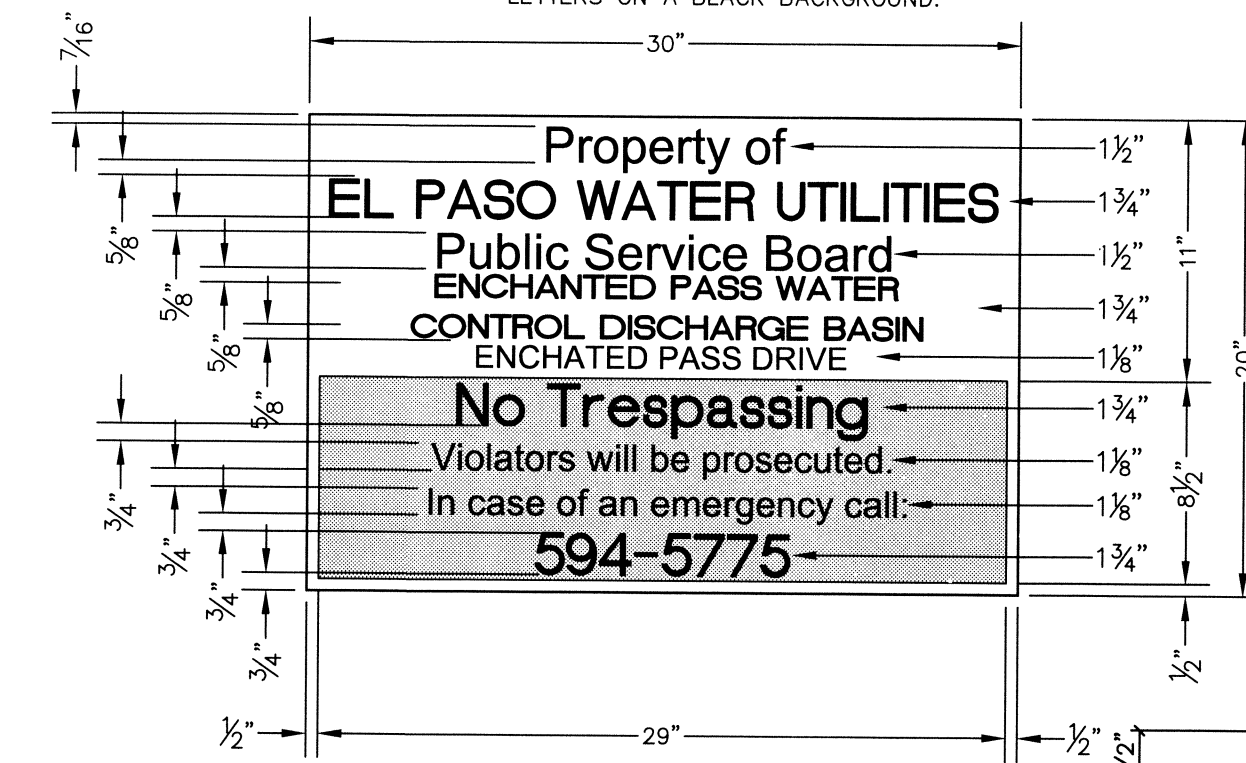
HighDesert
Environmental Consulting
& Native Plants

NOTE
REVEGETATION AND RESTORATION WORK AT THIS SITE WILL BE CONDUCTED WITH A SEED IMPRINTER, AS WITH THE HOME LOTS SITE, A SEED MIX OF NATIVE GRASSES, WILDFLOWERS AND SHRUBS WILL BE USED (SEE TABLE 1).

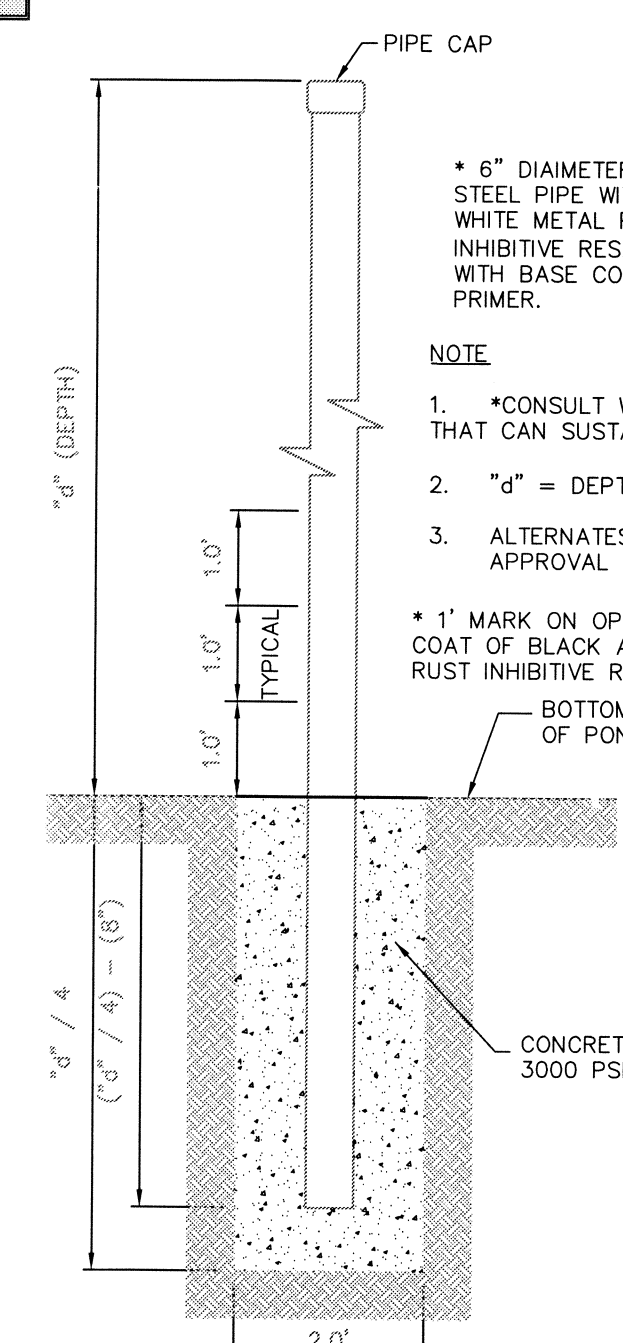
Proposed species to be included in seed mix and live plantings. Substitutions may be made based on availability.

Seed Mix	Plants (for Additive Alternate No. 2)
Grasses	Yucca (<i>Yucca torreyi</i>) up to 20 plants
Sideoats Grama (<i>Bouteloua curtipendula</i>)	Ocotillo (<i>Fouquieria splendens</i>) up to 60 plants
Sand Dropseed (<i>Sporobolus cryptandrus</i>)	Agave (<i>Agave schottii</i>) up to 100 plants
Indian Ricegrass (<i>Achnatherum hymenoides</i>)	Sotol (<i>Dasylirion wheeleri</i>) up to 20 plants
Alkali Sacaton (<i>Sporobolus airoides</i>)	
Cane Bluestem (<i>Bothriochloa barbinoia</i>)	Substitute/Alternate Species
	Prickly Pear cactus
	Texas Rainbow cactus
Wildflowers	Claret cup cactus
Desert Marigold (<i>Baileya multiradiata</i>)	Barrel Cactus
Penstemon (<i>Penstemon</i> spp.)	
Blanket flower (<i>Gaillardia</i> spp.)	
Globeamallow (<i>Sphaeralcea</i> spp.)	
Shrubs	
Fourwing saltbush (<i>Atriplex canescens</i>)	
Crescotebush (<i>Larrea tridentata</i>)	
Winterfat (<i>Kraeheninnikovia lanata</i>)	
Rabbitbrush (<i>Eriogonum fasciculatum</i>)	

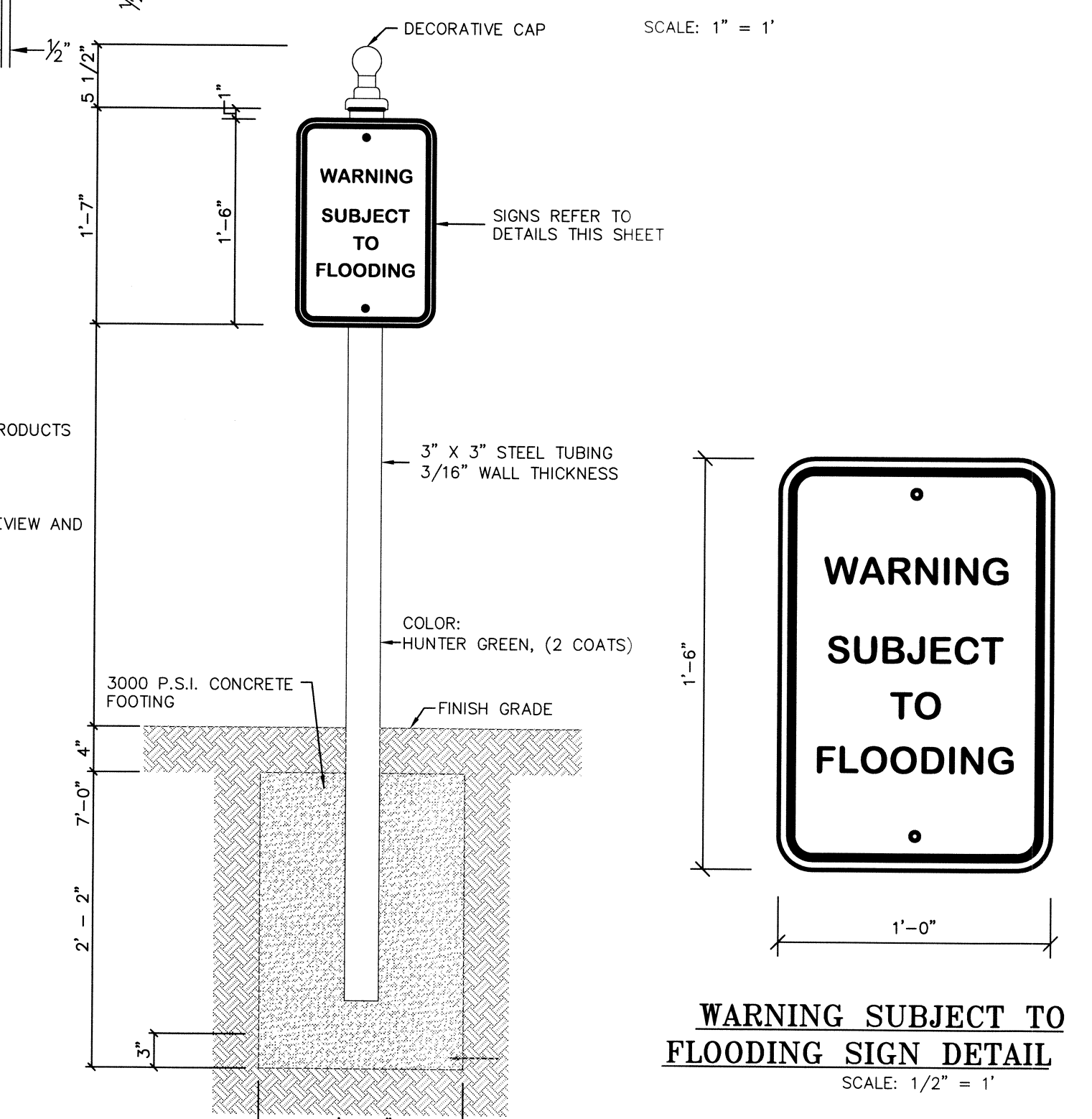
- GENERAL NOTES:
1. SIGN MATERIAL TO BE 16 GAUGE GALVANIZED SHEET METAL.
2. TOP PART OF SIGN SHALL SHOW BLACK LETTERS ON A WHITE BACKGROUND.
3. BOTTOM PART OF SIGN SHALL SHOW WHITE LETTERS ON A BLACK BACKGROUND.



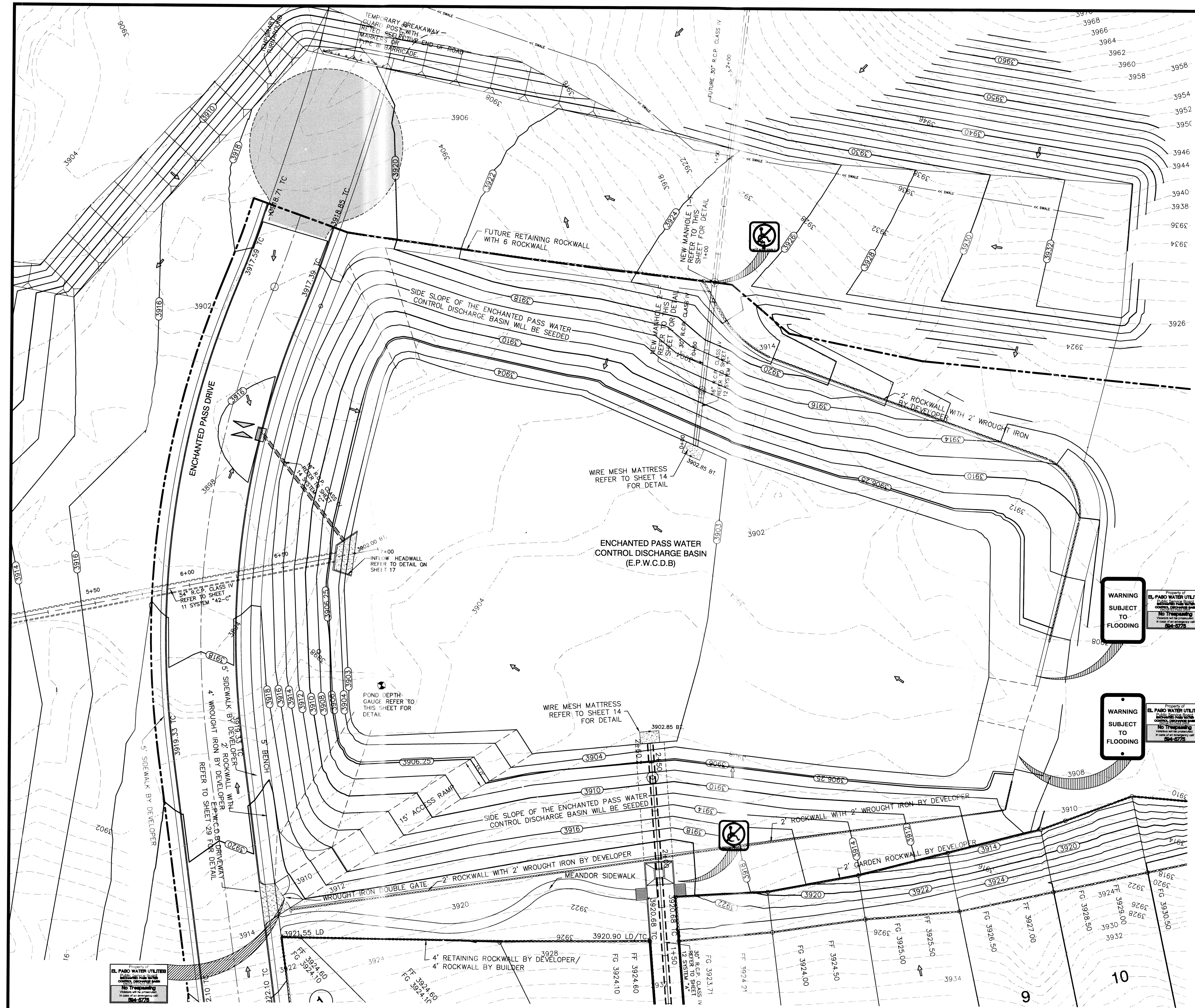
NOT ACCESSIBLE POST DETAIL
SCALE: 1" = 1'



POND DEPTH GAUGE
SCALE: 1" = 2'



WARNING SUBJECT TO FLOODING
POST DETAIL
SCALE: 1" = 1'

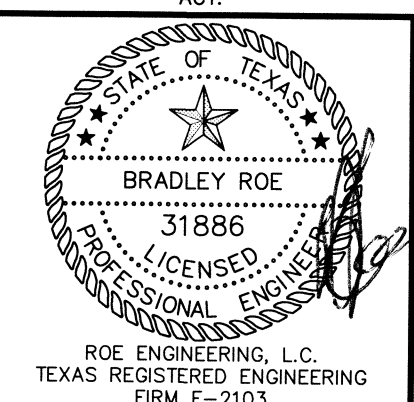


NOT ACCESSIBLE SIGN DETAIL
SCALE: 1/2" = 1'

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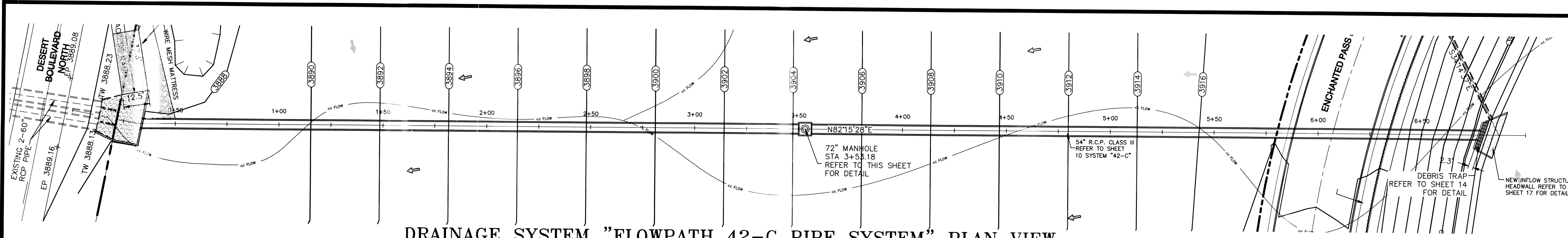
FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 48224-0311 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NWS MONUMENT POINT 1980 (PID: 020444) LOCATION AS PER NATIONAL GEODETIC SERVICE 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 3940.24 NAVD 88	HOR: 1:10 VER: 1:10
9/08/11	CITY COMMENTS	STAFF		FILE NAME: 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF		DATE: FEBRUARY, 2010
				DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./DR
				CHKD. BY: H.P.
				APPD. BY: BR

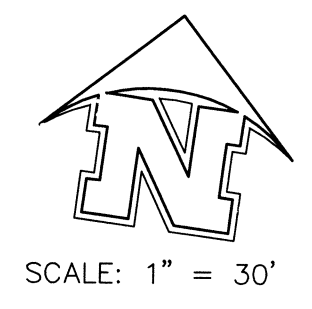


E. P. W. C. D. B. DETAIL
**ENCHANTED HILLS
UNIT ONE**
**ENCHANTED PASS WATER
CONTROL DISCHARGE BASIN**

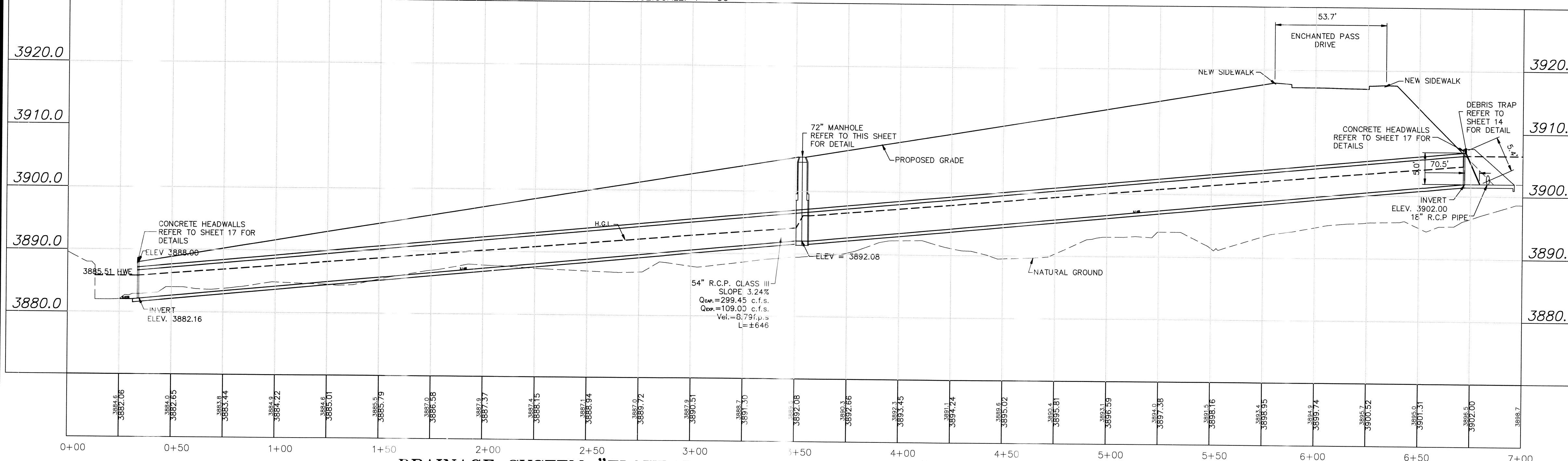
Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@webell.net
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SHEET 10 OF 33



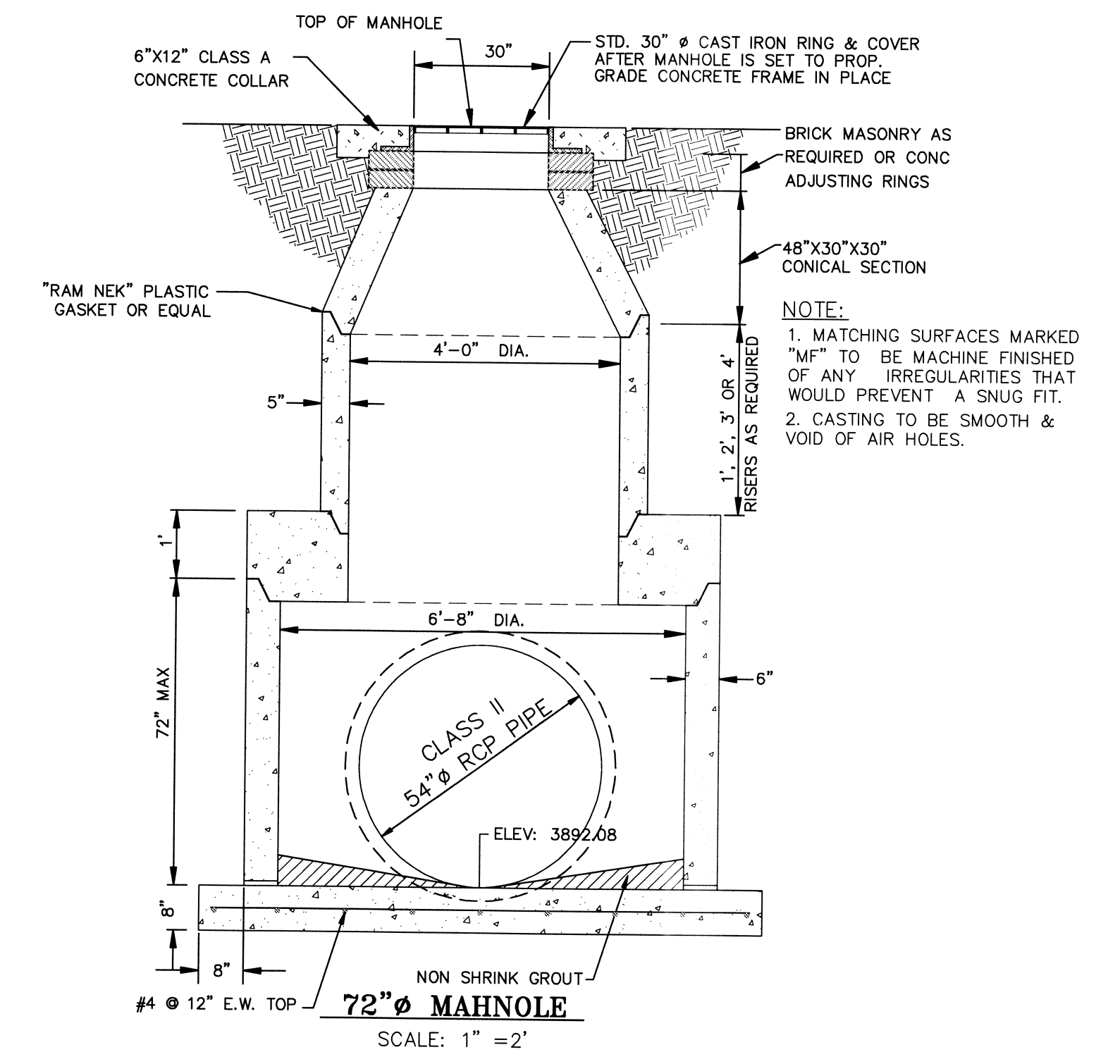
DRAINAGE SYSTEM "FLOWPATH 42-C PIPE SYSTEM" PLAN VIEW
HOZ. SCALE: 1" = 30'



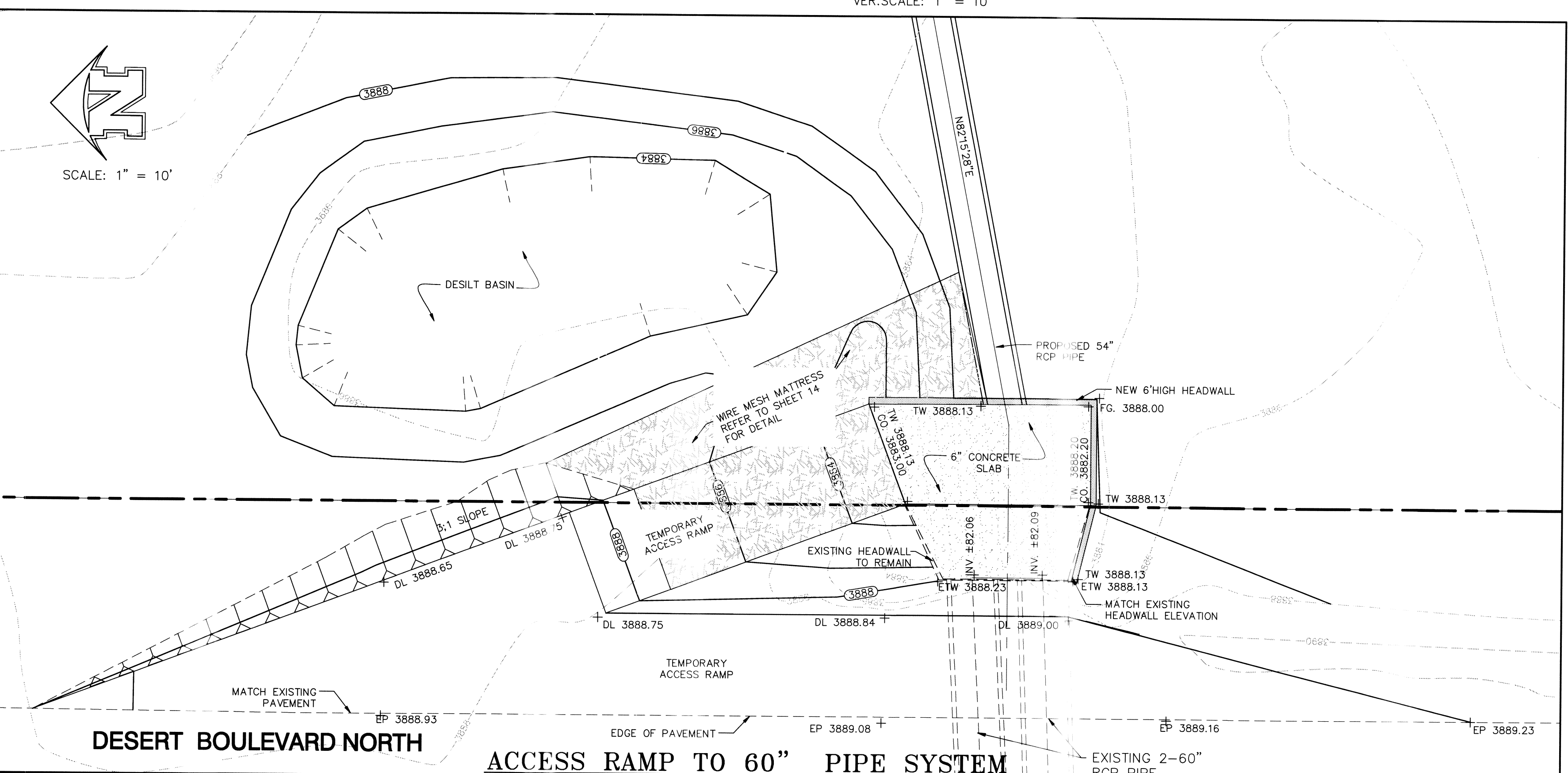
- NOTES:**
1. CONCRETE FOR ALL DRAINAGE STRUCTURES SHALL BE CLASS-A CONCRETE, AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 POUNDS PER SQUARE INCH.
 2. SUBGRADE UNDER ALL DRAINAGE STRUCTURES SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
 3. ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE CURRENT CITY OF EL PASO STANDARD SPECIFICATIONS.
 4. SHARP EDGES RESULTING FROM FABRICATION SHALL BE DULLED BY ANY ACCEPTABLE METHOD FOR SAFETY IN HANDLING.
 5. ALL WELDS SHALL CONFORM TO THE SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND TO THE AWS STRUCTURAL WELDING CODE. ELECTRODES SHALL BE COMPATIBLE TO THE DIFFERENT GRADES OF STEEL THAT COMPRISE THE GRATE MEMBERS.
 6. ALL STEEL USED SHALL BE AS PER ASTM A153 CLASS A.
 7. MINIMUM SLOPE AT FLOOR OF FLUME SHALL BE 2%.



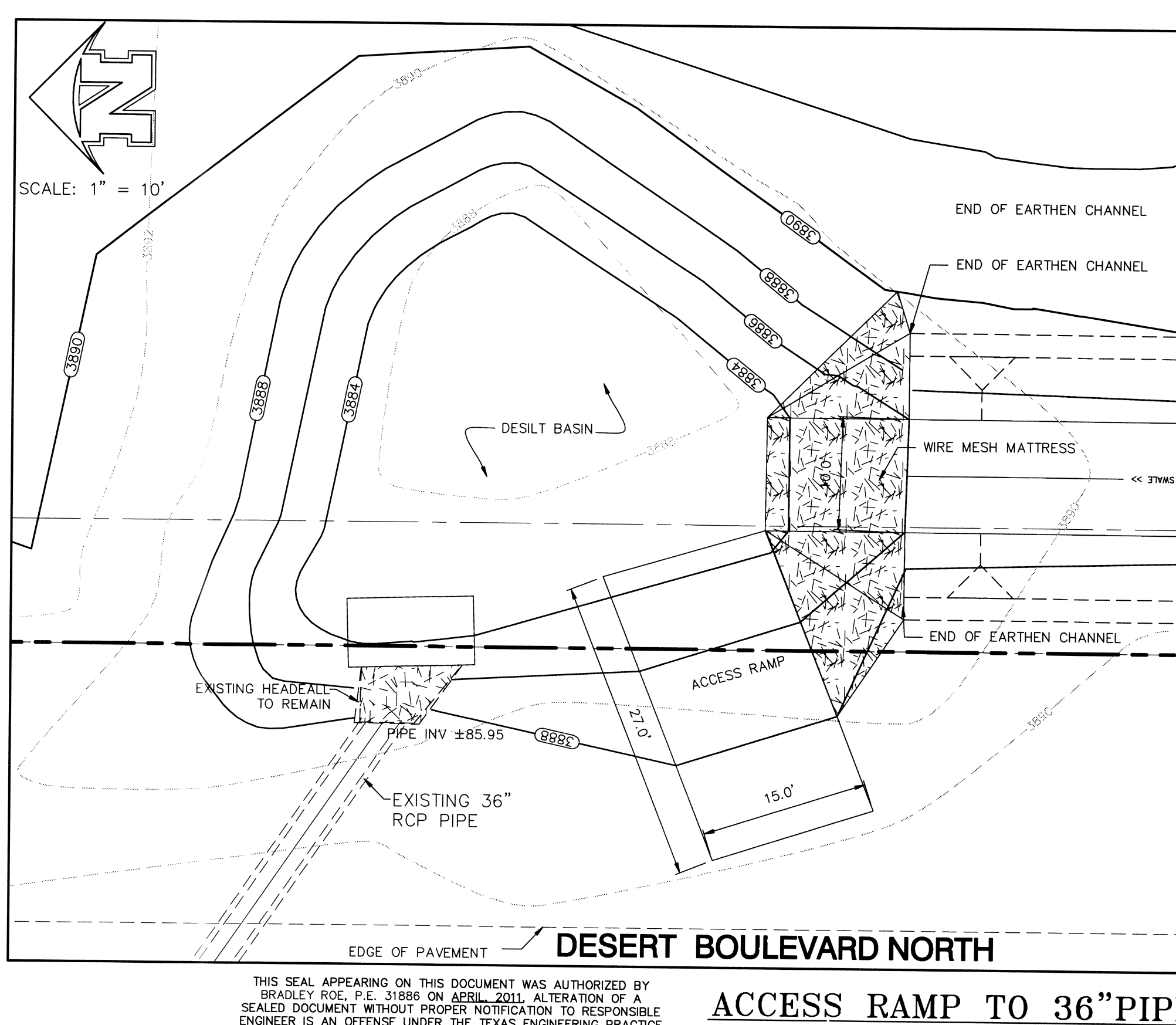
DRAINAGE SYSTEM "FLOWPATH 42-C PIPE SYSTEM" PROFILE VIEW
HOZ. SCALE: 1" = 30'
VER. SCALE: 1" = 10'



SCALE: 1" = 2'



DESERT BOULEVARD NORTH ACCESS RAMP TO 60" PIPE SYSTEM



ACCESS RAMP TO 36" PIPE SYSTEM

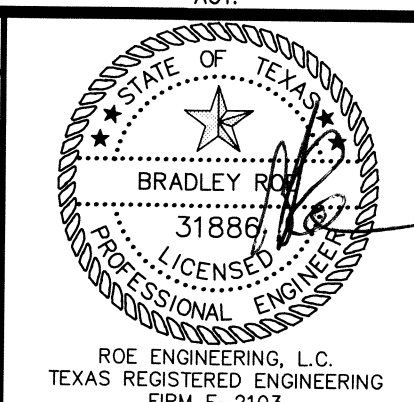
- LEGEND**
- ◆ PROPOSED DRAINAGE HIGH-POINT
 - ◆ PROPOSED DRAINAGE LOW-POINT
 - ◆ DENOTES EXISTING COUNTY MONUMENT
 - △ DENOTES PROPOSED COUNTY MONUMENT
 - 3885.00 PROPOSED ELEV. OF 6" ROLLOVER CURB & GUTTER
 - 3885.00 PROPOSED CONTOUR ELEVATION
 - 3885.00 EXISTING CONTOUR ELEVATION
 - 3885.75 PROPOSED TOP OF HEADWALL ELEV.
 - 3885.75 PROPOSED TOP OF GROUND ELEV.
 - 3885.00 PROPOSED TOP OF CONCRETE ELEV.
 - 3885.00 TEMPORARY ACCESS RAMP
 - 3885.00 EXISTING TOP OF HEADWALL ELEV.
 - 3885.00 EXISTING PAVEMENT ELEV.

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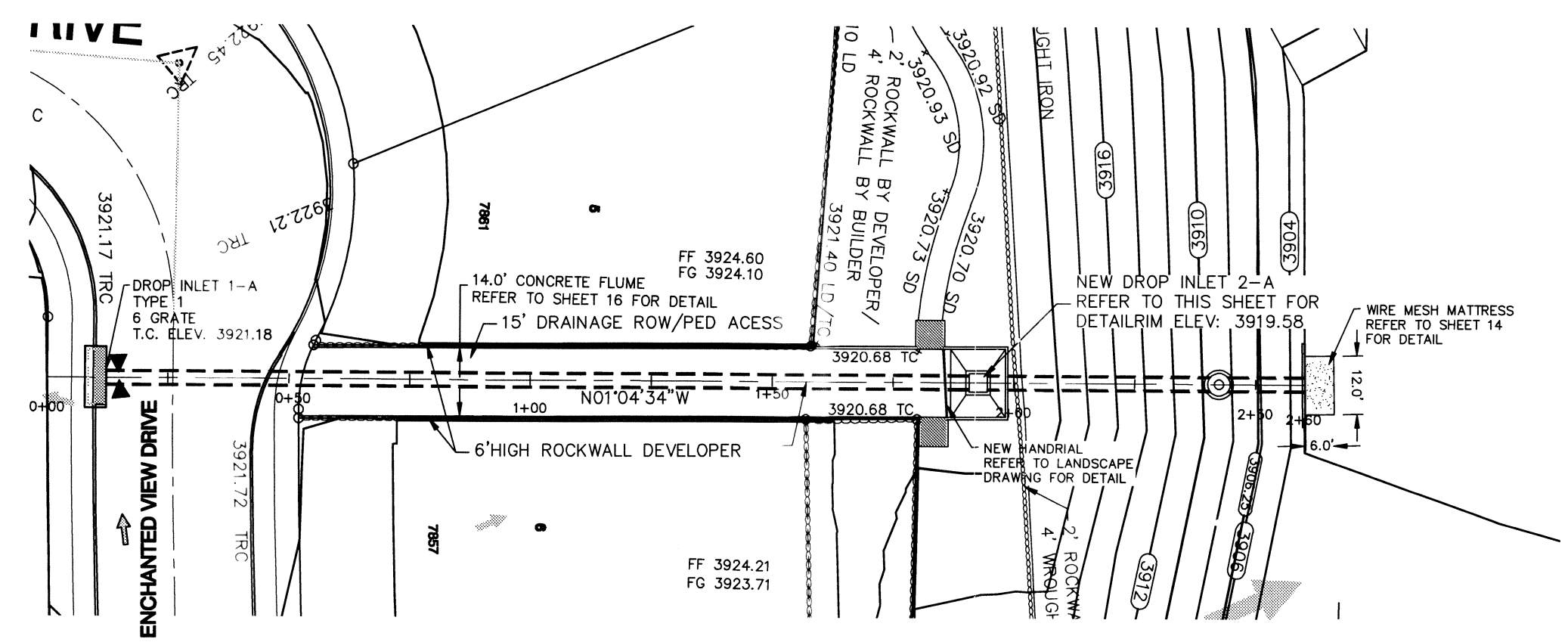
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NIS MONUMENT "8880" (8880) (CE0444)	HOR: 1:30 VER: 1:10
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3945.24 NAVD 88	FILE NAME: 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: FEBRUARY, 2010

DESIGN INFORMATION:
 DESIGN BY: H.P./RC
 DRAWN BY: LAJ/H.P./DR
 CHKD. BY: H.P.
 APPD. BY: BR



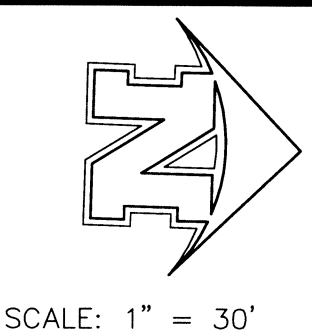
STORM DRAINAGE PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
42-C PIPE SYSTEM PLAN AND PROFILE
ACCESS RAMP DETAILS

Roe Engineering, L.C.
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 (915) 533-1418 - FAX (915) 533-4972
 e-mail: roe@roebell.com
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 11 OF 33



DRAINAGE SYSTEM "A" PLAN VIEW

HOZ. SCALE: 1" = 30'



SCALE: 1" = 30'

DROP INLET #1 DRAINAGE CALCULATIONS TYPE ONE

GRATING

$Q_{CAP} = 0.7 \times AREA \times (2 \times 32.2 \times H)^{1/2}$

$Q_{CAP} = 0.7 \times 3.86 \times (2 \times 32.2 \times 0.42)^{1/2}$

$Q_{CAP} = 14.00 \text{ cfs} \times 0.67 \text{ (CLOGGING FACTOR)}$

$Q_{CAP} = 9.33 \text{ cfs}$

WEIR - CURB OPENING

$Q_{EXP} = 3.087 \times L \times H^{3/2}$

$Q_{EXP} = 3.087 \times 1.93 \times 0.42^{3/2}$

$Q_{EXP} = 1.6 \text{ cfs}$

OF GRATES NEEDED FOR DROP INLET #1-A

$Q_{EXP} = 40.03 \text{ cfs}$

$Q_{CAP} = 9.33 + 1.60 = 10.93 \text{ cfs}$

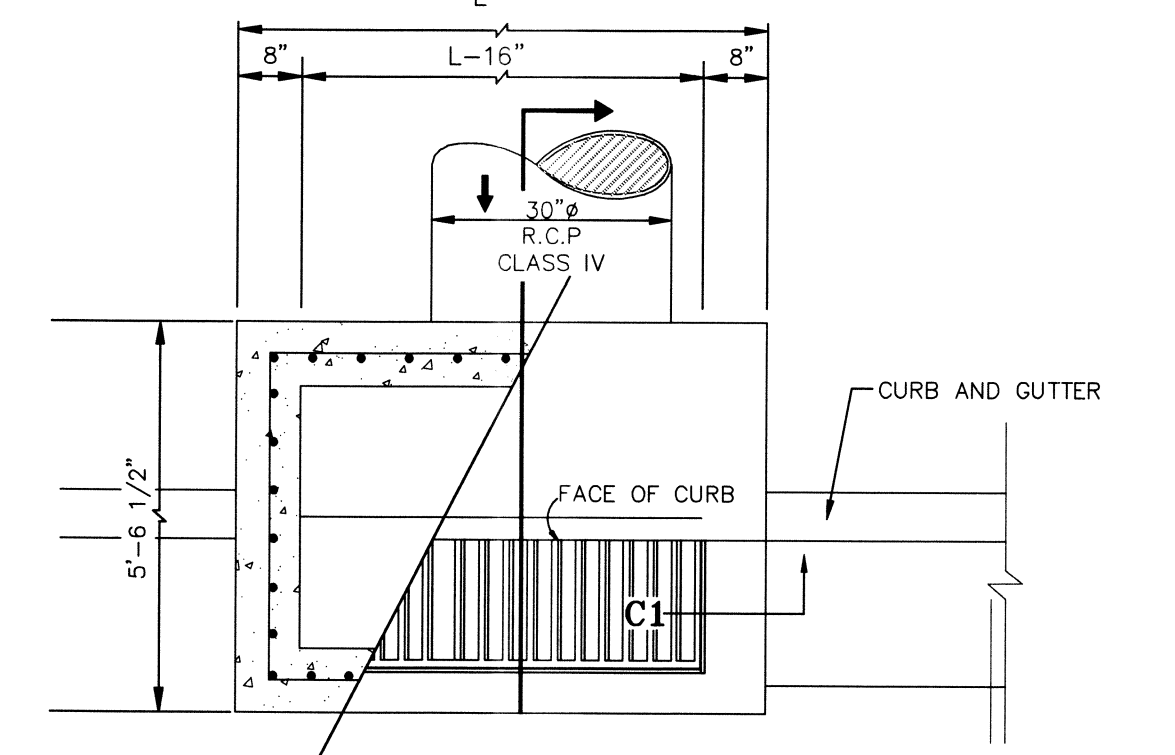
OF GRATES = 40.03/10.93 = 3.66

USE 6 GRATES

DROP INLET NOTES

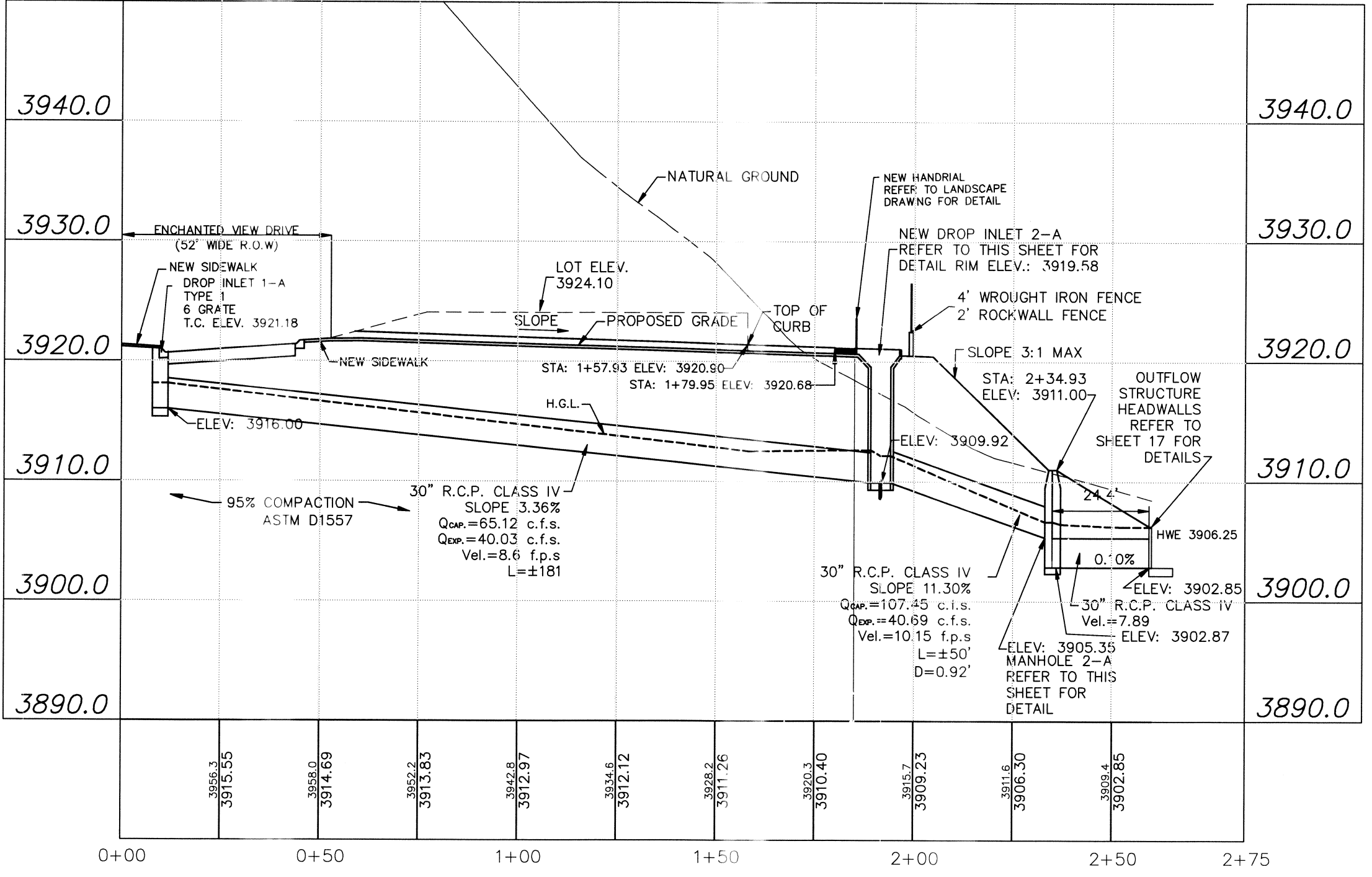
- WELDED STEEL OR CAST GRATES AS DETAILED ARE ALL ACCEPTABLE GRATES. MIXING OF ALTERNATE TYPES OF GRATES ON THE SAME PROJECT WILL BE PERMITTED WITH THE APPROVAL OF THE CITY ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS.
- SHARP EDGES RESULTING 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 SUMP.
- WELDED GRATES SHALL BE STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-183 OR OF CORROSION RESISTANT STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF AASHTO M-161 OR M-222 OR BE MADE OF OTHER APPROVED STEELS OF EQUAL QUALITY. MIXING 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 SPEC. 1.2.1, GRADE N-1.
- FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY SHALL BE COATED WITH ASPHALT BASE PAINT RESULTING IN A SMOOTH COATING, TOUGH AND TENACIOUS WHEN COLD, NOT TACKY NOR BRITTLE.

- 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.
- 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.D. 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 DEPRESSED 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.
- *21. 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-A (TYPE 1)

SCALE N.T.S. (6 GRATE)



DRAINAGE SYSTEM "A" PROFILE

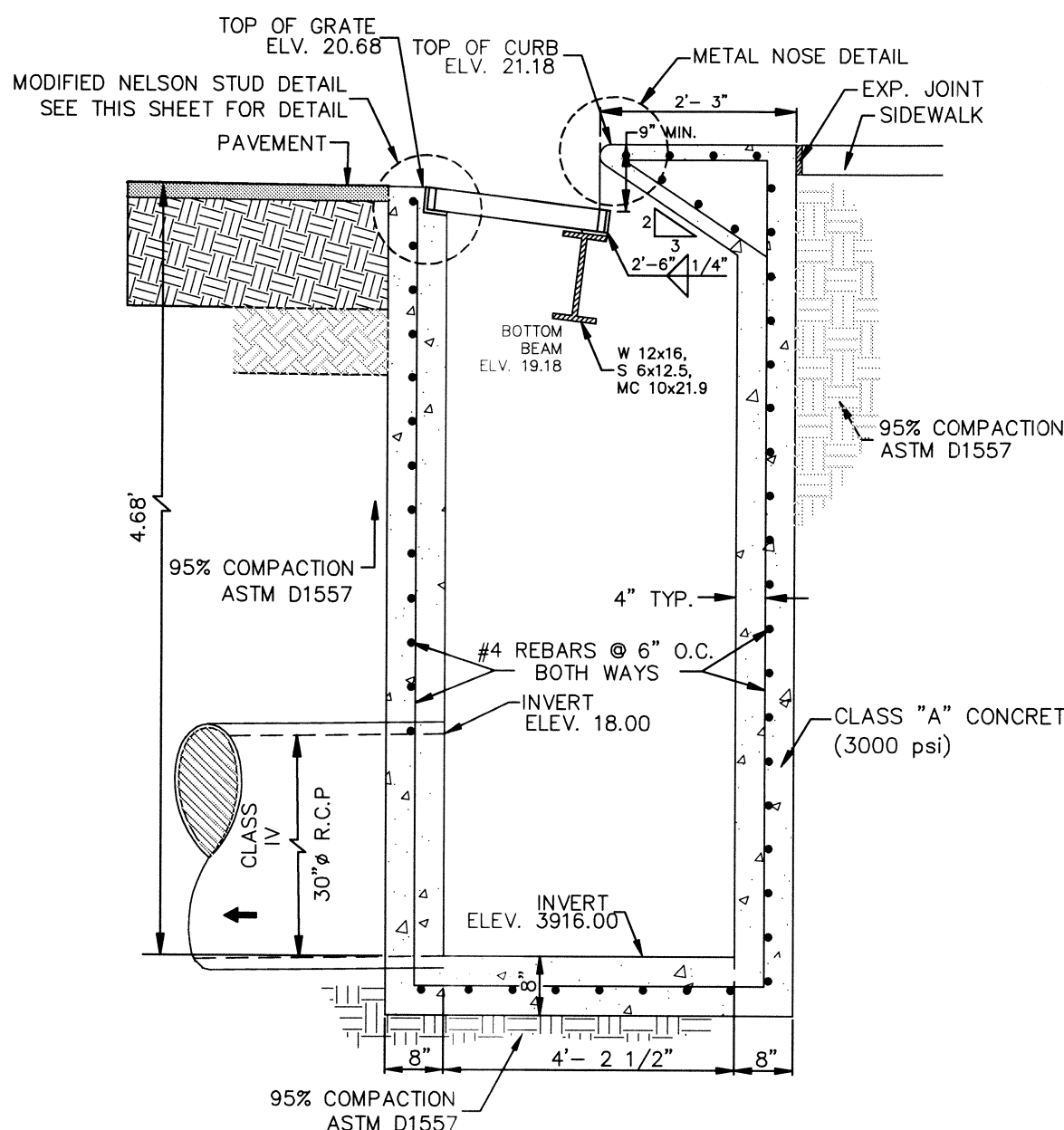
HOZ. SCALE: 1" = 30'
VER. SCALE: 1" = 10'

DROP INLET TYP. I @ ENCHANTED VIEW DR. STA 5+75

DROP INLET	REQUIRED FLOW CAPACITY @ REQ. (CFS)	AVAILABLE FLOW CAPACITY @ AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS	TYPE OF INLET	NUMBER OF GRATES
1	40.03	65.68	0	0	I	6

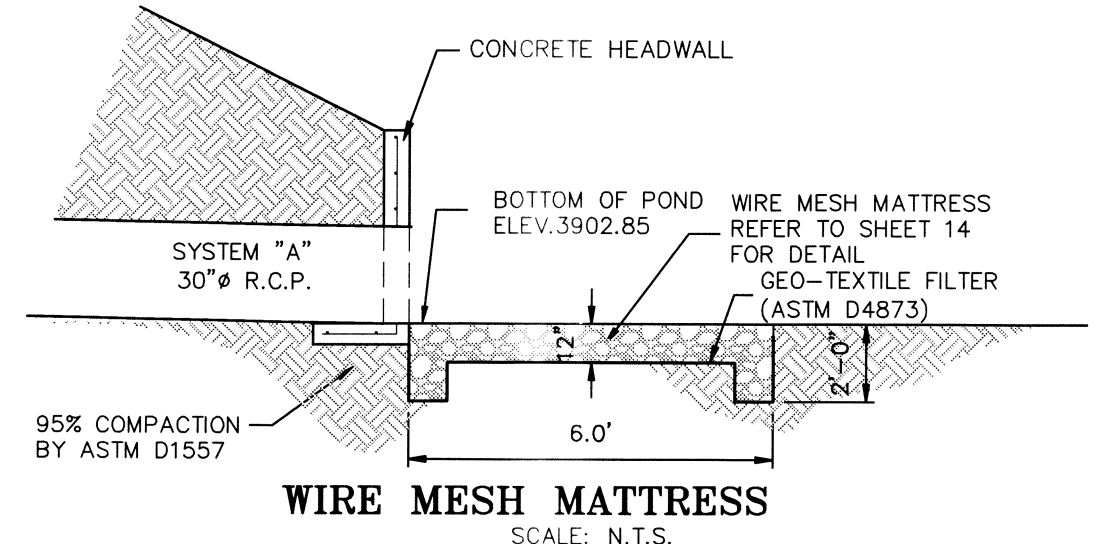
NO. OF GRATES

NO. OF GRATES	L'	BEAMS	
		LENGTH	MINIMUM SIZES
6	12'-6 5/8"	12'-0 5/8"	W12X19, S8X23, MC10X25

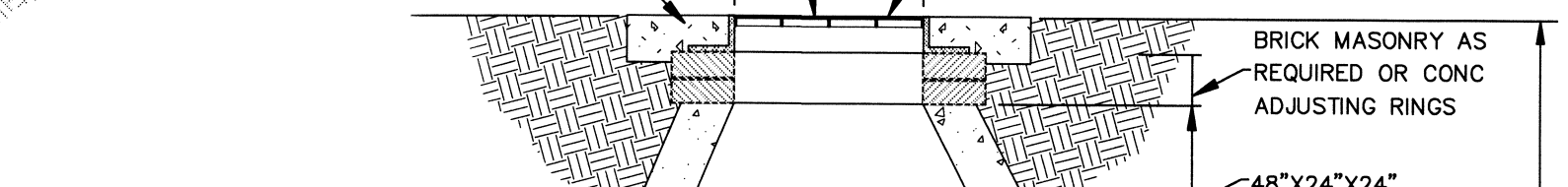
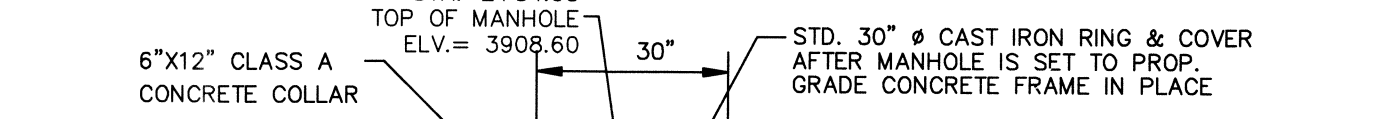


SECTION DROP INLET #1-A (TYPE 1)

SCALE N.T.S. (6 GRATE)



WIRE MESH MATTRESS



ENERGY DISSIPATOR MANHOLE #2-A 60" DIAMETER

SCALE: N.T.S.

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SPIDER INLET CALCULATIONS

TOP

$Q_{CAP} = 0.7 \times AREA \times (2 \times 32.2 \times H)^{1/2}$

$Q_{CAP} = 0.7 \times 15.98 \times (2 \times 32.2 \times 0.67)^{1/2}$

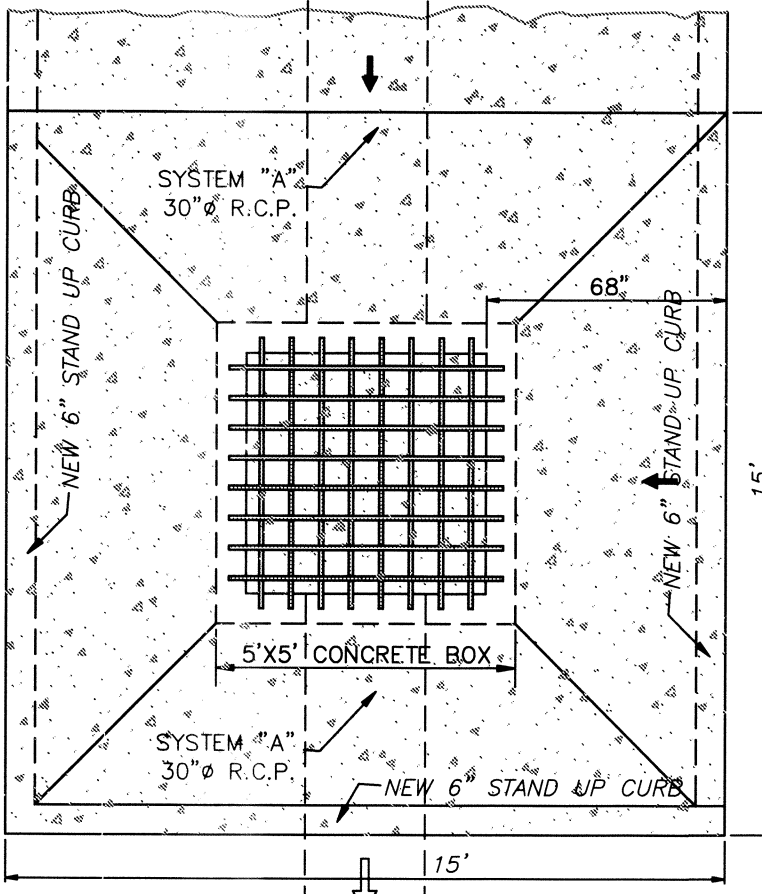
$Q_{CAP} = 73.32 \text{ cfs} \times 0.67 \text{ (CLOGGING FACTOR)}$

$Q_{CAP} = 49.88 \text{ cfs}$

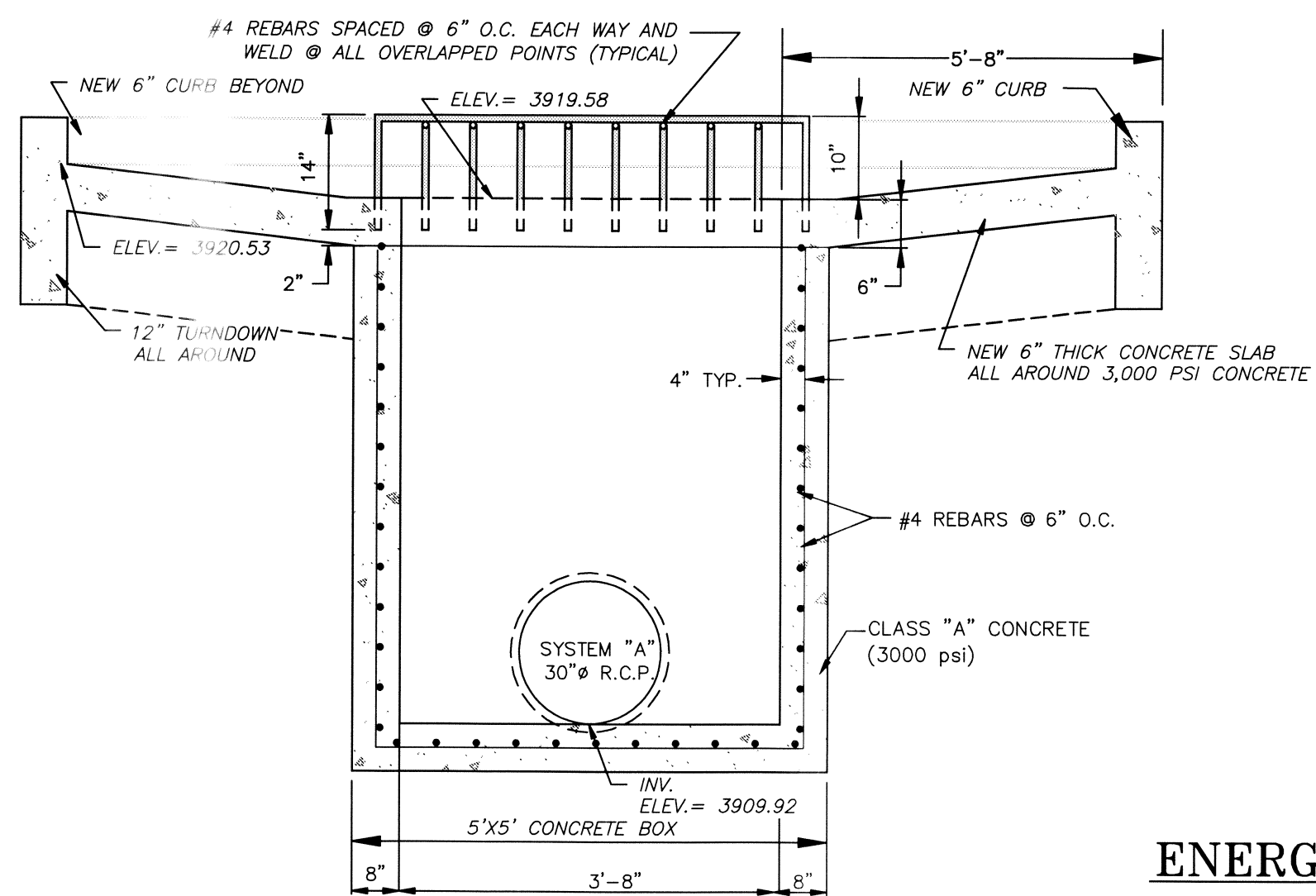
INLET TOTAL CAP.

$Q_{EXP} = 0.66 \text{ cfs}$

$Q_{CAP} = 49.88 \text{ cfs}$



PLAN VIEW 2-A



NEW SPIDER GRATE DETAIL DROP INLET #2-A

SCALE: 1" = 1'

TEST RESULTS

THE OWNER / DEVELOPER FIELD SUPERINTENDENT SHALL PROVIDE ALL TEST RESULTS WITHIN FORTY-EIGHT (48) HOURS OF RECEIPT OF TEST RESULTS TO THE COUNTY CONSTRUCTION INSPECTOR.

NOTES:

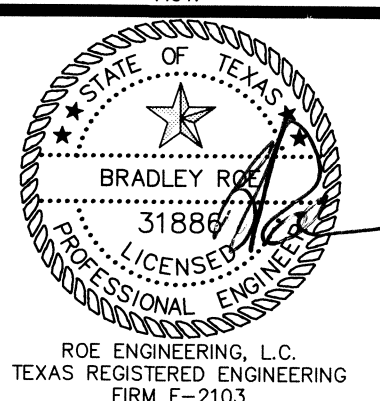
- CONCRETE FOR ALL DRAINAGE STRUCTURES SHALL BE CLASS-A CONCRETE AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 P.S.I.
- SUBGRADE UNDER ALL DRAINAGE STRUCTURE SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
- ALL CONSTRUCTION AND MATERIAL SHALL BE IN ACCORDANCE WITH THE CURRENT COUNTY OF EL PASO STANDARD SPECIFICATIONS.

FLOOD NOTE:

THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING). ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	MONUMENT CORNO 1880 PBD (26444)	HOR: 1:30 VER: 1:10
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 372 (FRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	FILE NAME: 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF LOT 12, BLOCK 2, CAROLLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CAROLLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	W.O. DATE: FEBRUARY, 2010

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	MONUMENT CORNO 1880 PBD (26444)	HOR: 1:30 VER: 1:10
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 372 (FRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	FILE NAME: 11509-1A EH1
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STORM DRAINAGE PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

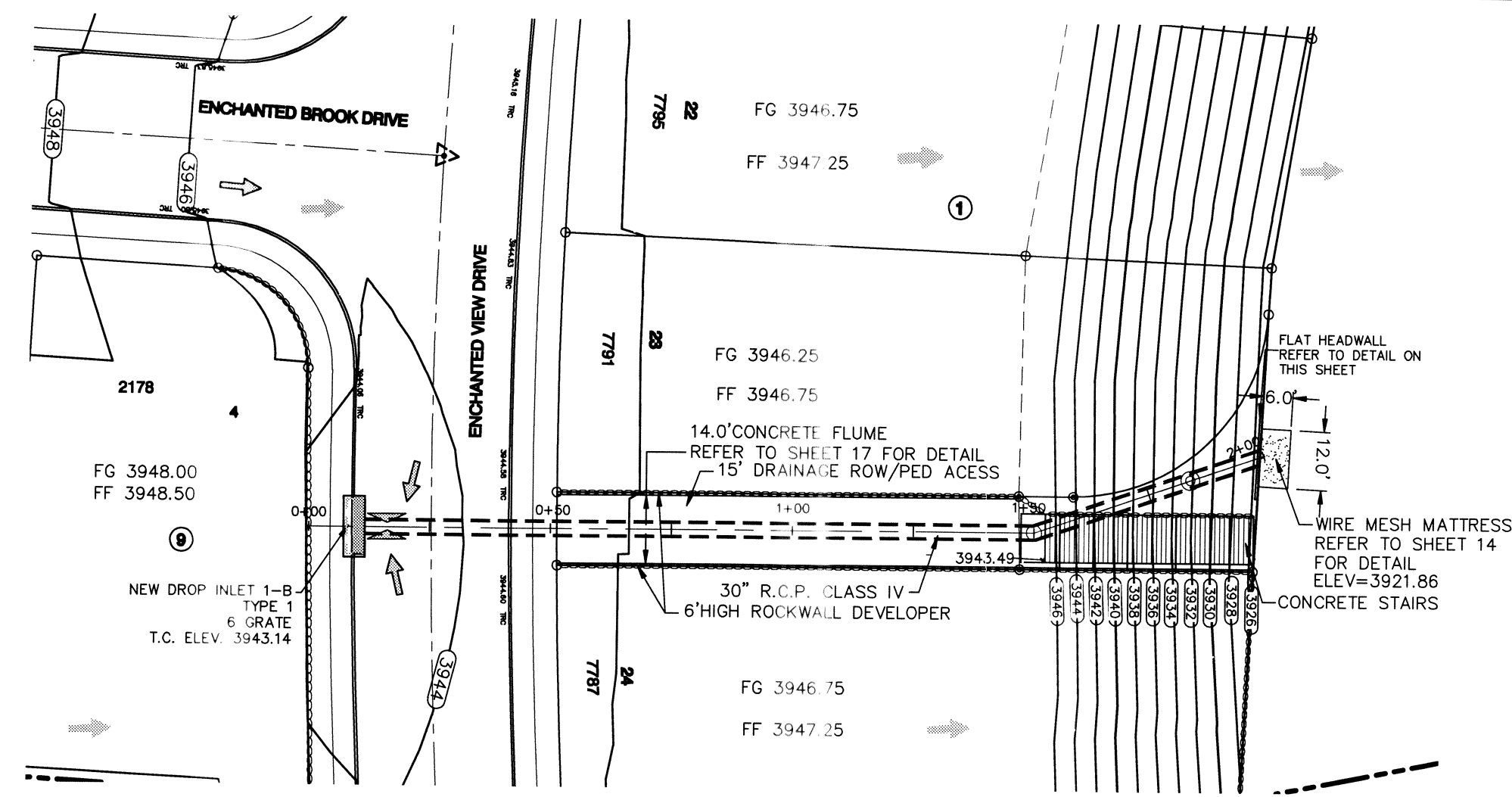
SYSTEM A PLAN AND PROFILE ENCHANTED VIEW DR. STA 5+75

brp Roe Engineering, L.C.

601 N. Cotton St. Suite No. 8 El Paso, Tx. 79902
(915) 633-1418 - FAX: (915) 633-4972
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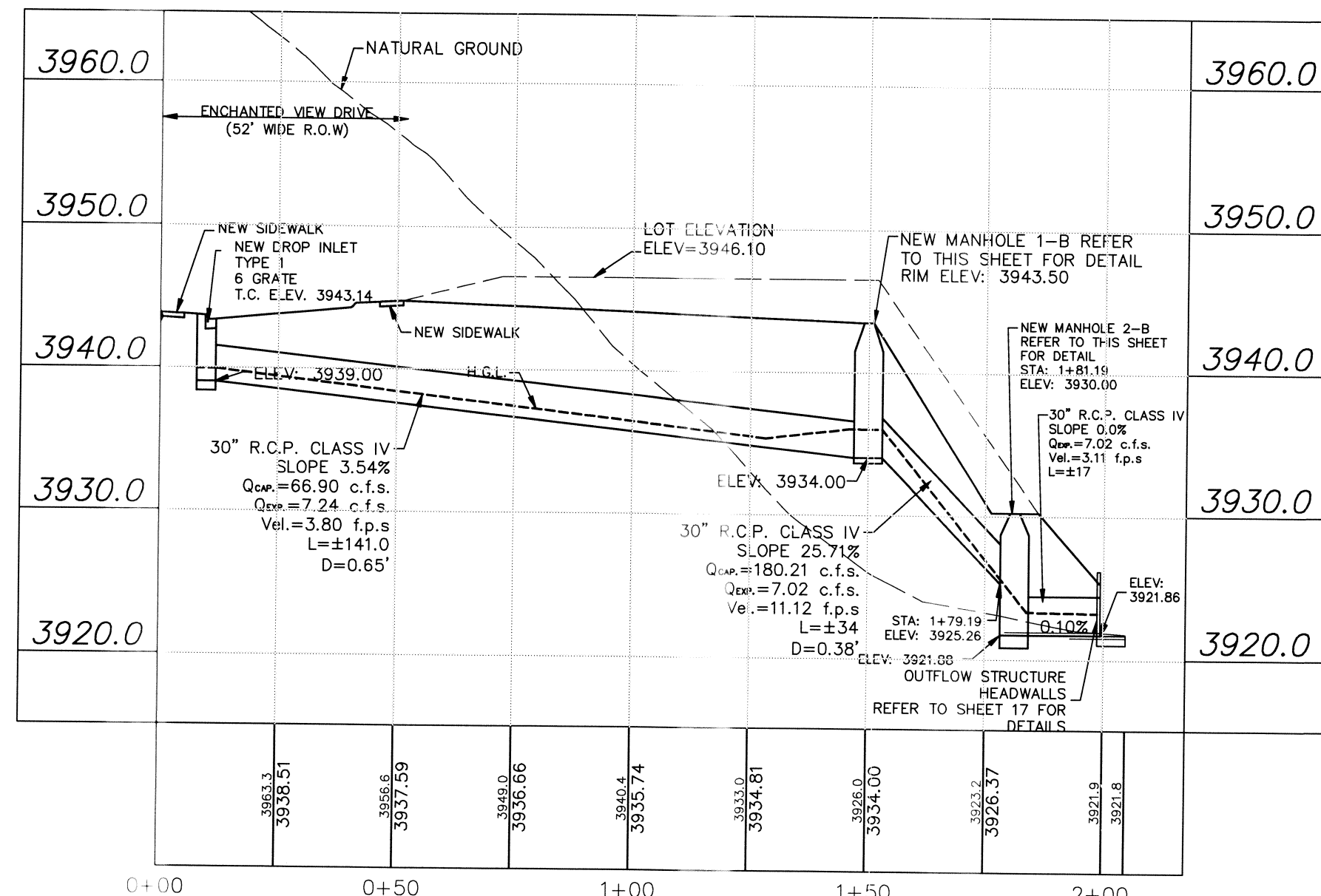
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 12 OF 33



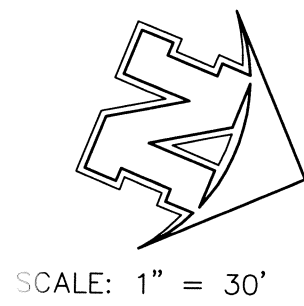
DRAINAGE SYSTEM "B" PLAN VIEW

HOZ. SCALE: 1" = 30'



DRAINAGE SYSTEM "B" PROFILE

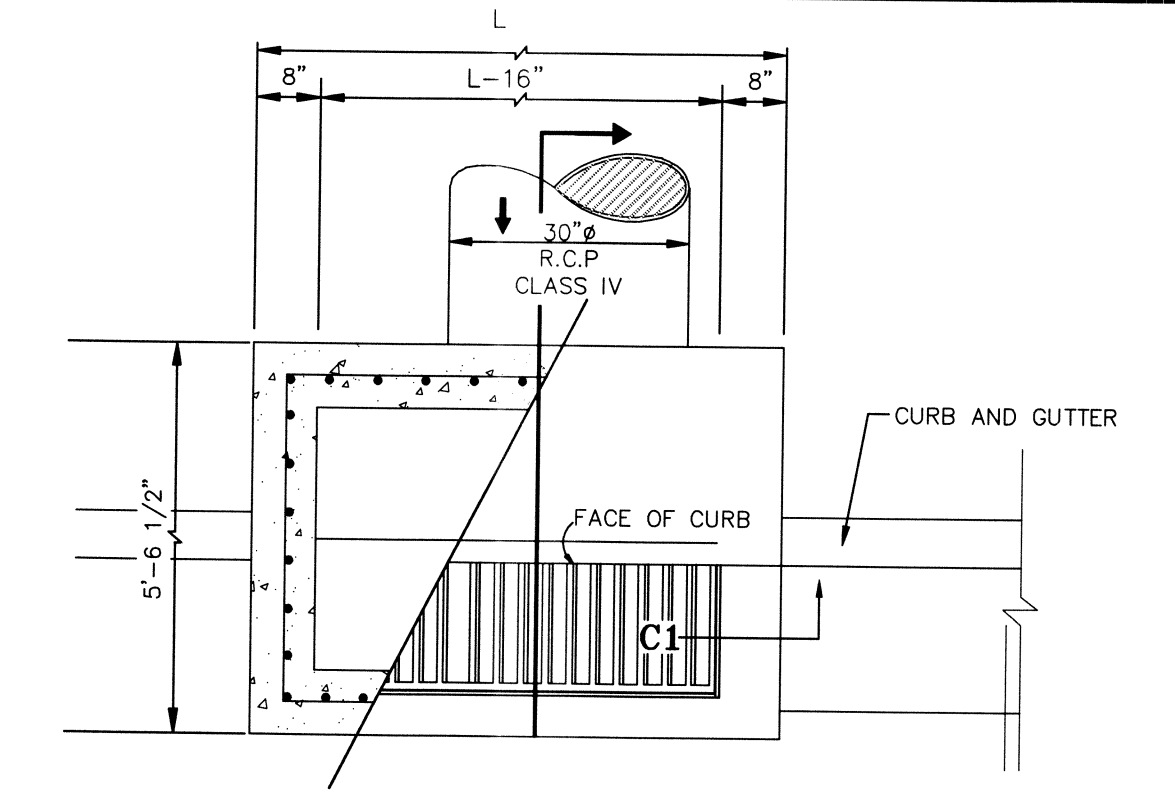
HOZ. SCALE: 1" = 30'
VER. SCALE: 1" = 10'



SCALE: 1" = 30'

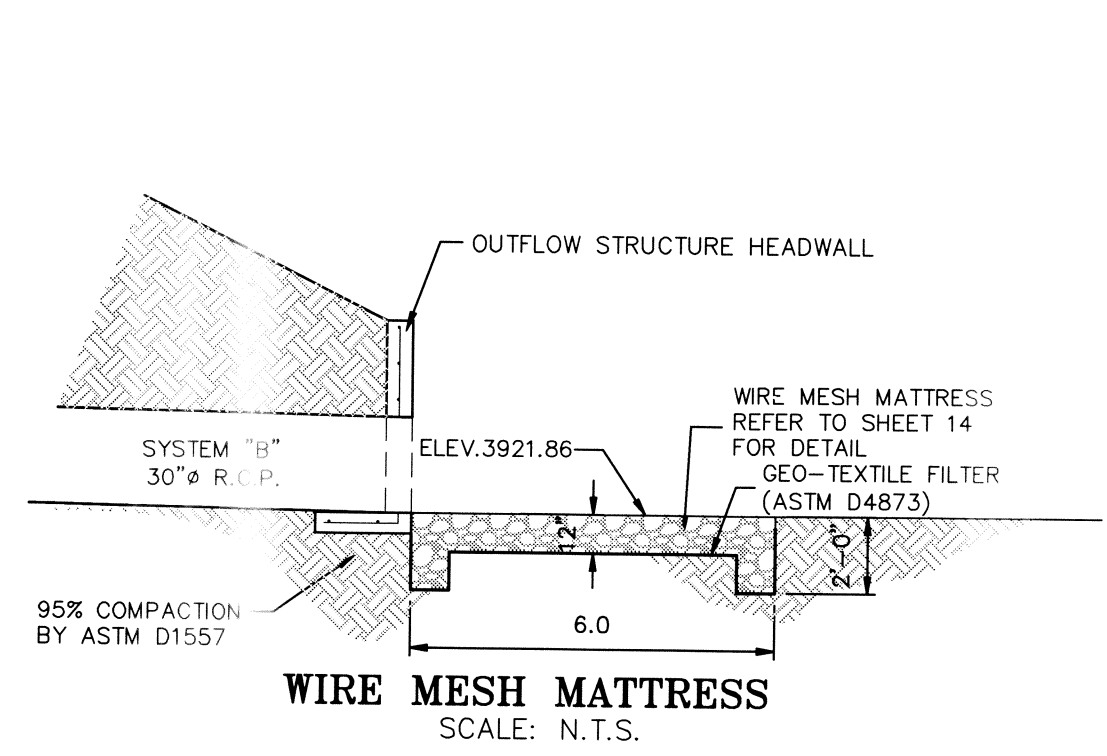
DROP INLET NOTES

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 GRATE 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 40-45, OR OF GRAY IRON CONFORMING TO THE REQUIREMENTS OF AASHTO M-105, CLASS 35B OR ASTM A-48 CLASS 35B. THE SPECIFICATIONS OF GENERAL APPLICATION FOR CAST STEEL GRATES SHALL BE AASHTO M-103 SCOPE 1.2.1, GRADE N-1.
9. FERROUS CASTINGS SHALL BE OF UNIFORM QUALITY, FREE OF BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTION OR OTHER DEFECTS. THEY SHALL BE SMOOTH AND WELL CLEANED BY SHOT BLASTING OR OTHER APPROVED CLEANING METHOD. AFTER CLEANING THEY 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 I.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 DEPRESSED 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 (TYPE 1)

SCALE: N.T.S. (6 GRATE)



WIRE MESH MATTRESS

SCALE: N.T.S.

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

$Q_{cap} = 46.95 \text{ cfs}$

$Q_{cap} = 9.33 + 1.60 = 10.93 \text{ cfs}$

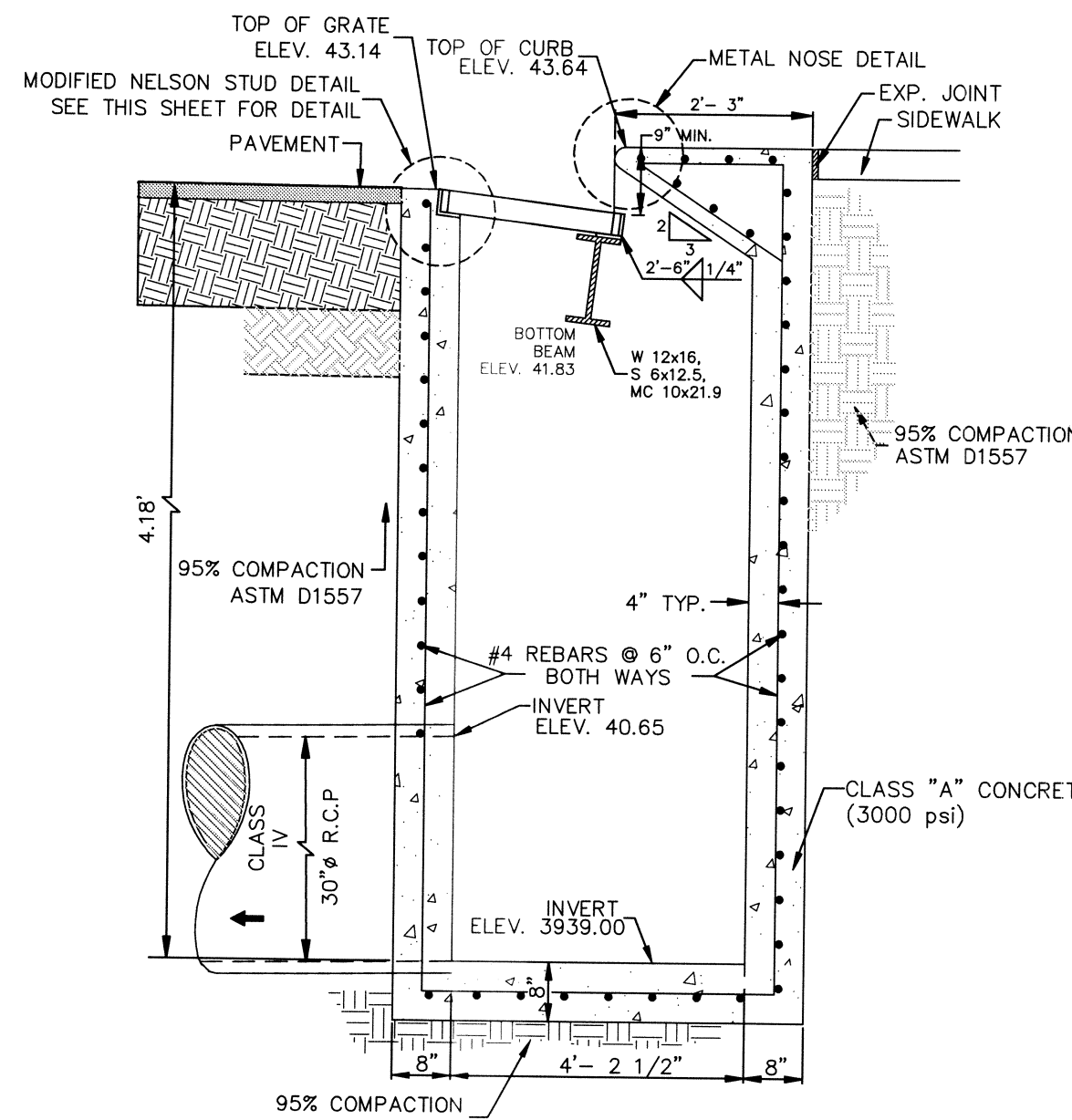
$\# \text{ OF GRATES} = 7.24 / 10.93 = 0.64$

USE 6 GRATES

DROP INLET TYP.1-B @ ENCHANTED VIEW STA. 16+01.95

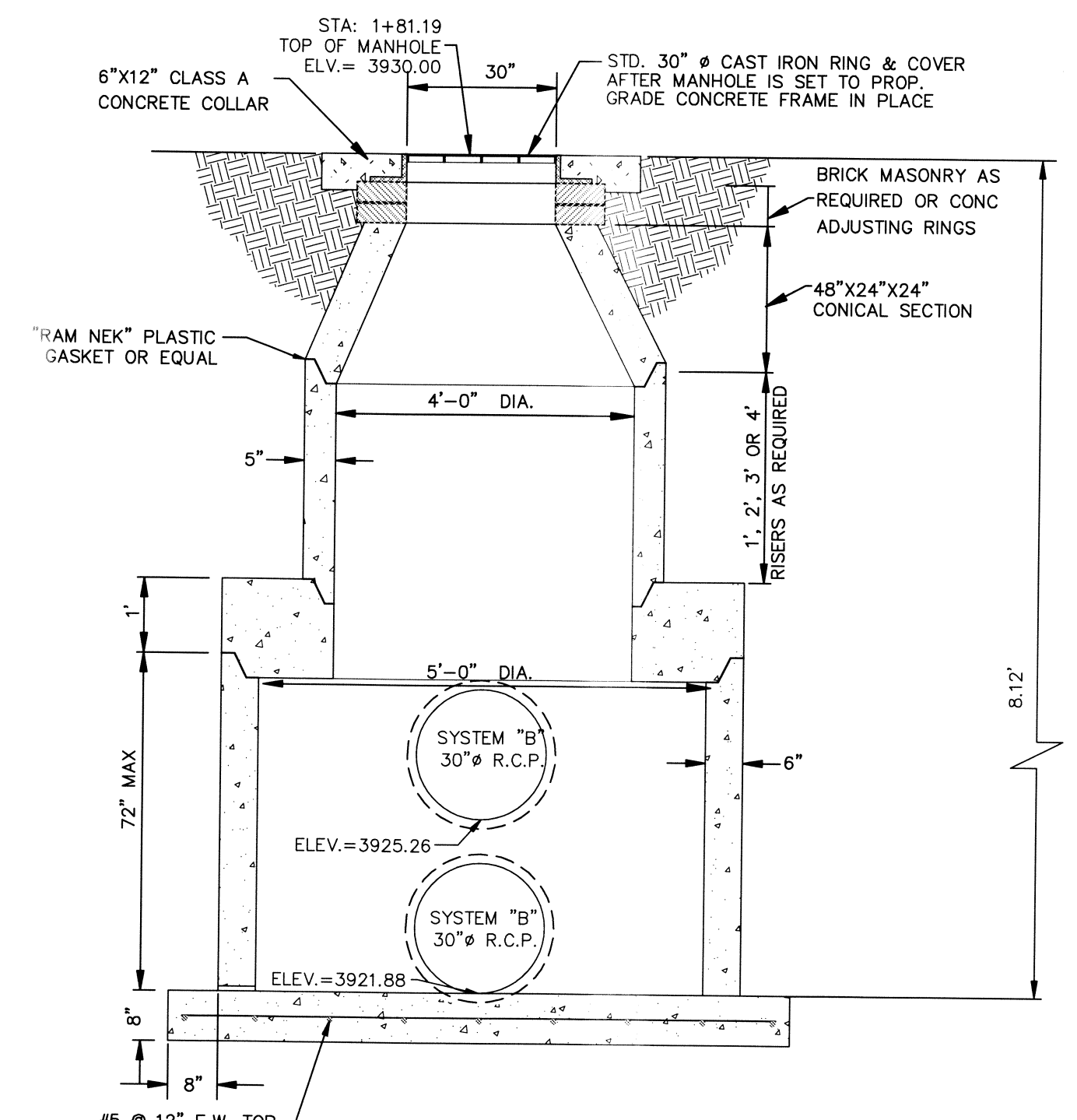
DROP INLET	REQUIRED FLOW CAPACITY Q REQ. (CFS)	AVAILABLE FLOW CAPACITY Q AVAIL. (CFS)	ADDITIONAL FLOW (CFS)	FLOW BYPASS	TYPE OF INLET	NUMBER OF GRATES
1-B	7.24	65.68	0	0	1	6

NO. OF GRATES	L'	BEAMS	
		LENGTH	MINIMUM SIZES
6	12'-6 5/8"	12'-0 5/8"	1W12X19, S8X23, MC10X25



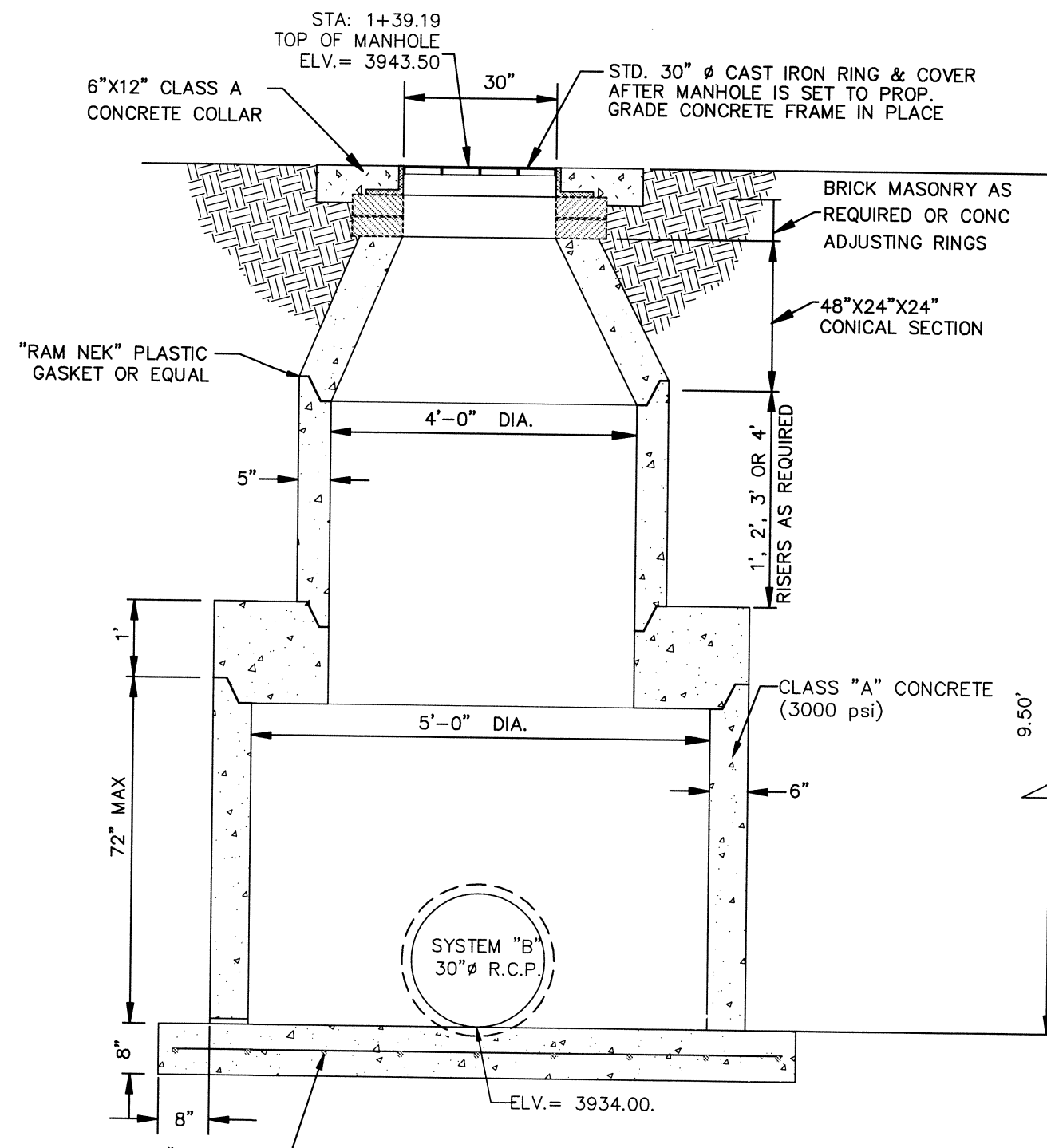
SECTION DROP INLET #1 (TYPE 1)

SCALE: N.T.S. (6 GRATE)



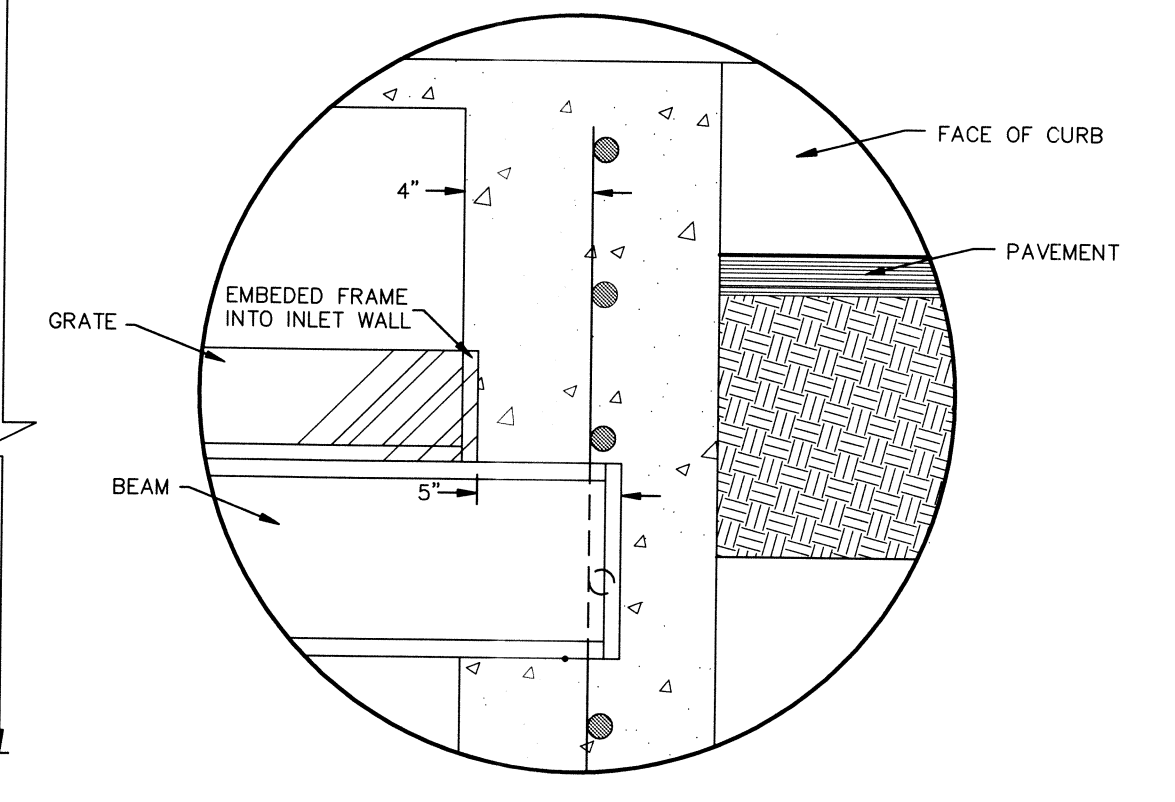
ENERGY DISSIPATOR MANHOLE #2-B 60" DIAMETER

SCALE: N.T.S.



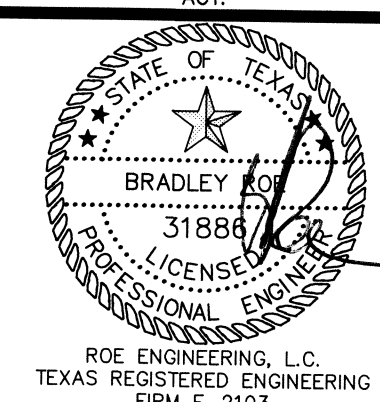
MANHOLE #1-B 60" DIAMETER

SCALE: N.T.S.



SECTION C1-C1 THIS SHEET

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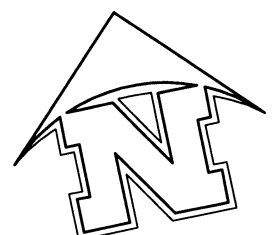
STORM PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
SYSTEM B PLAN AND PROFILE
ENCHANTED VIEW DR. STA 5+75

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ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 13 OF 33

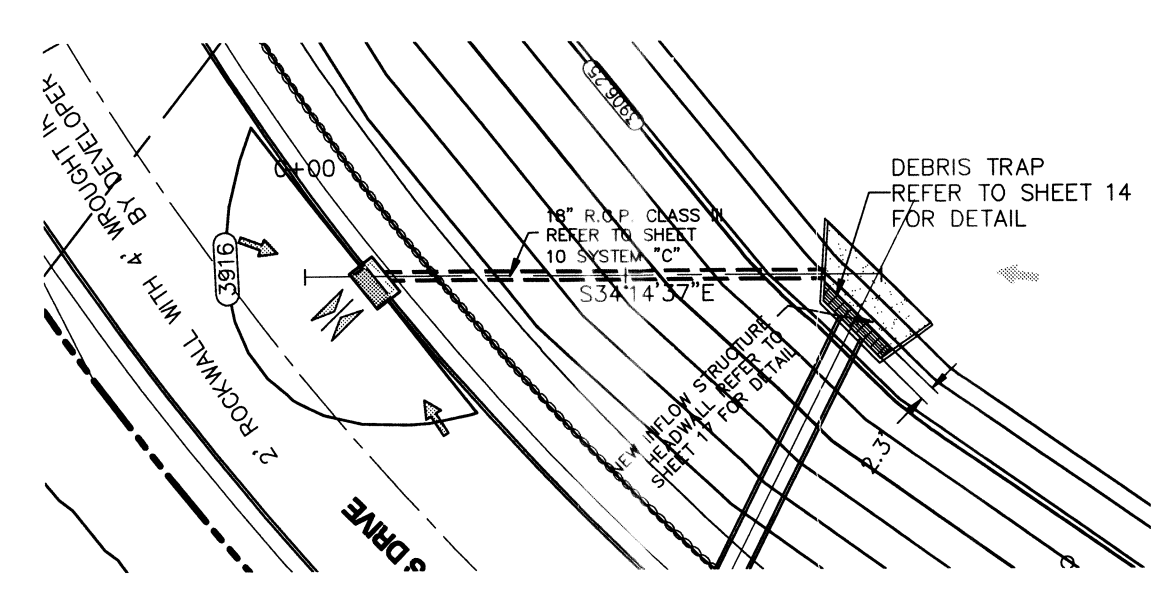
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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED. (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	THIS MONUMENT TYPED BY THE SURVEYOR	HOR: 1:30 VER: 1:10
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: 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: 3940.24 NAVD 88	FILE NAME: 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHIS DRIVE IN FRONT OF BLOCK 7, CANTUELO HEIGHTS UNIT TWO AND LOT 11. ELEVATION: 3857.21	DATE: FEBRUARY, 2010

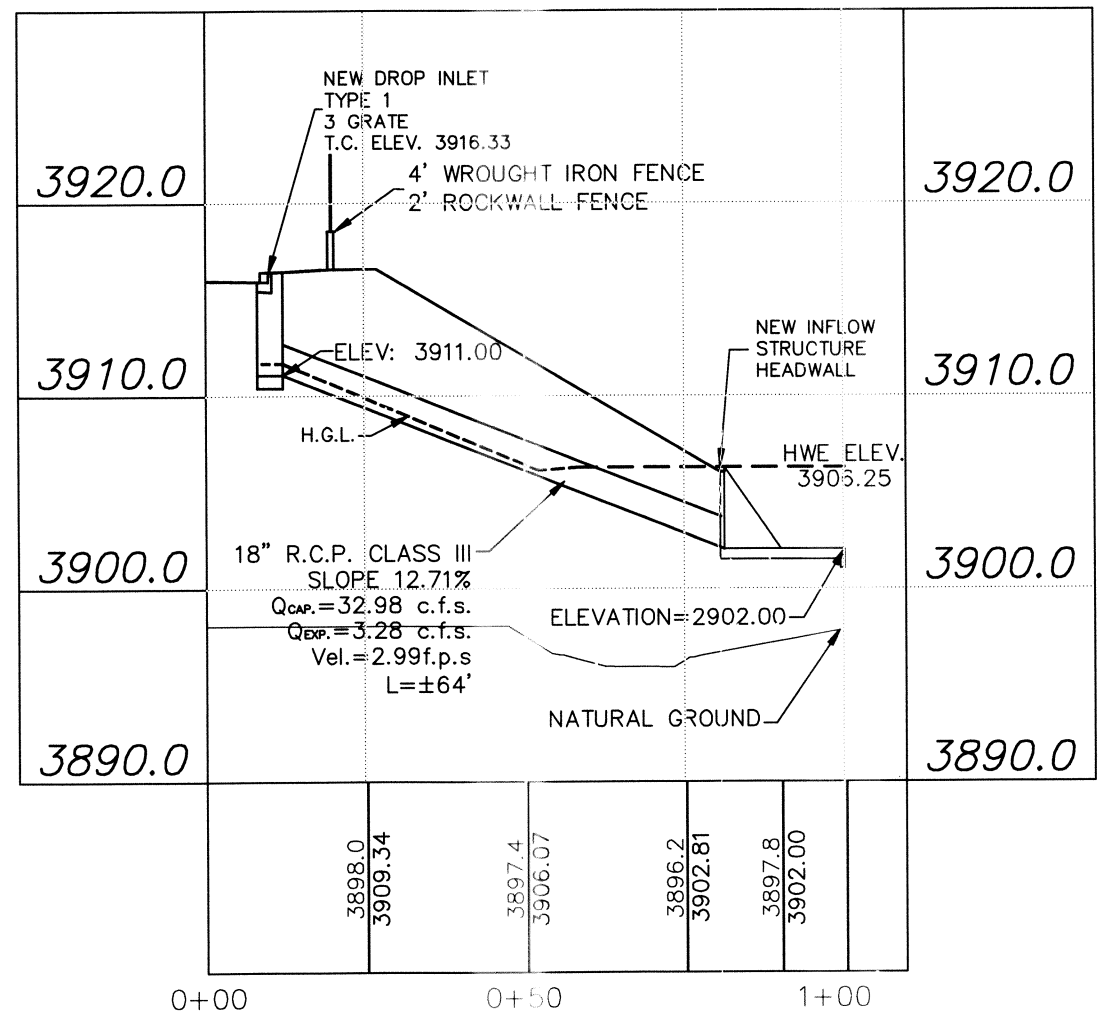


SCALE: 1" = 30'



DRAINAGE SYSTEM "C" PLAN VIEW

HOZ. SCALE: 1" = 30'



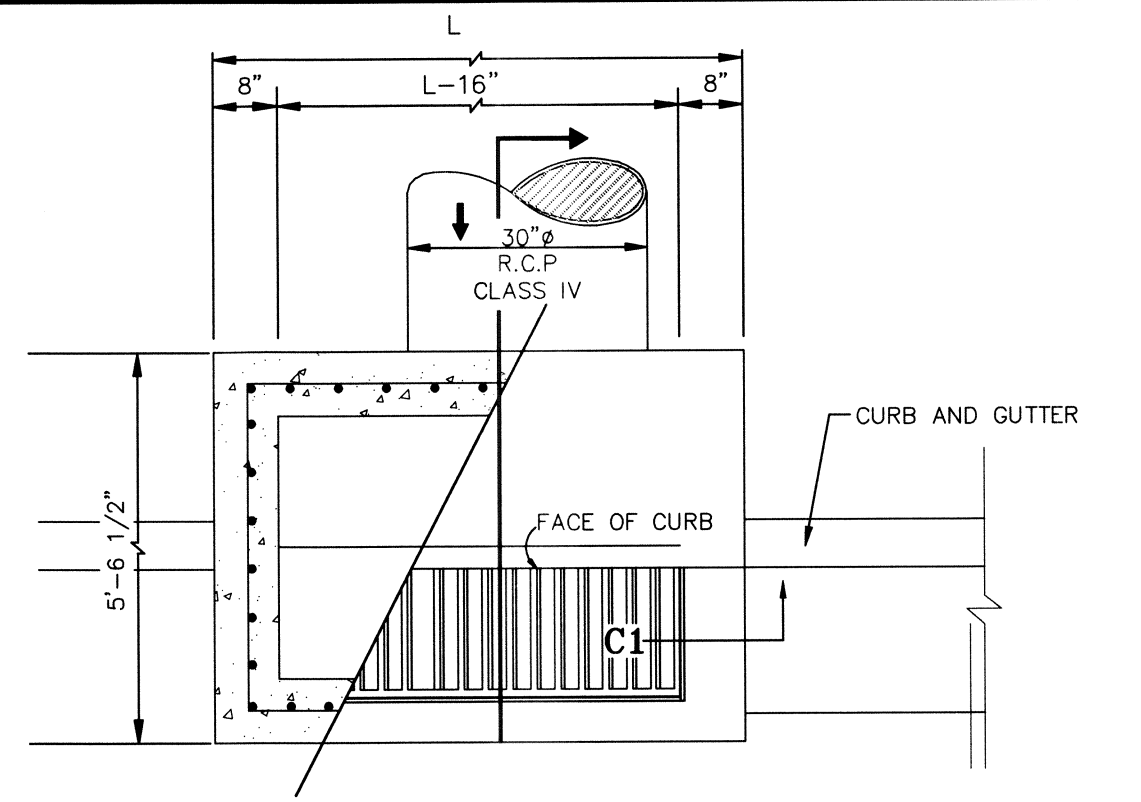
DRAINAGE SYSTEM "C" PROFILE

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

Table with drainage calculations for Drop Inlet #1-D, including grating and weir flow rates.

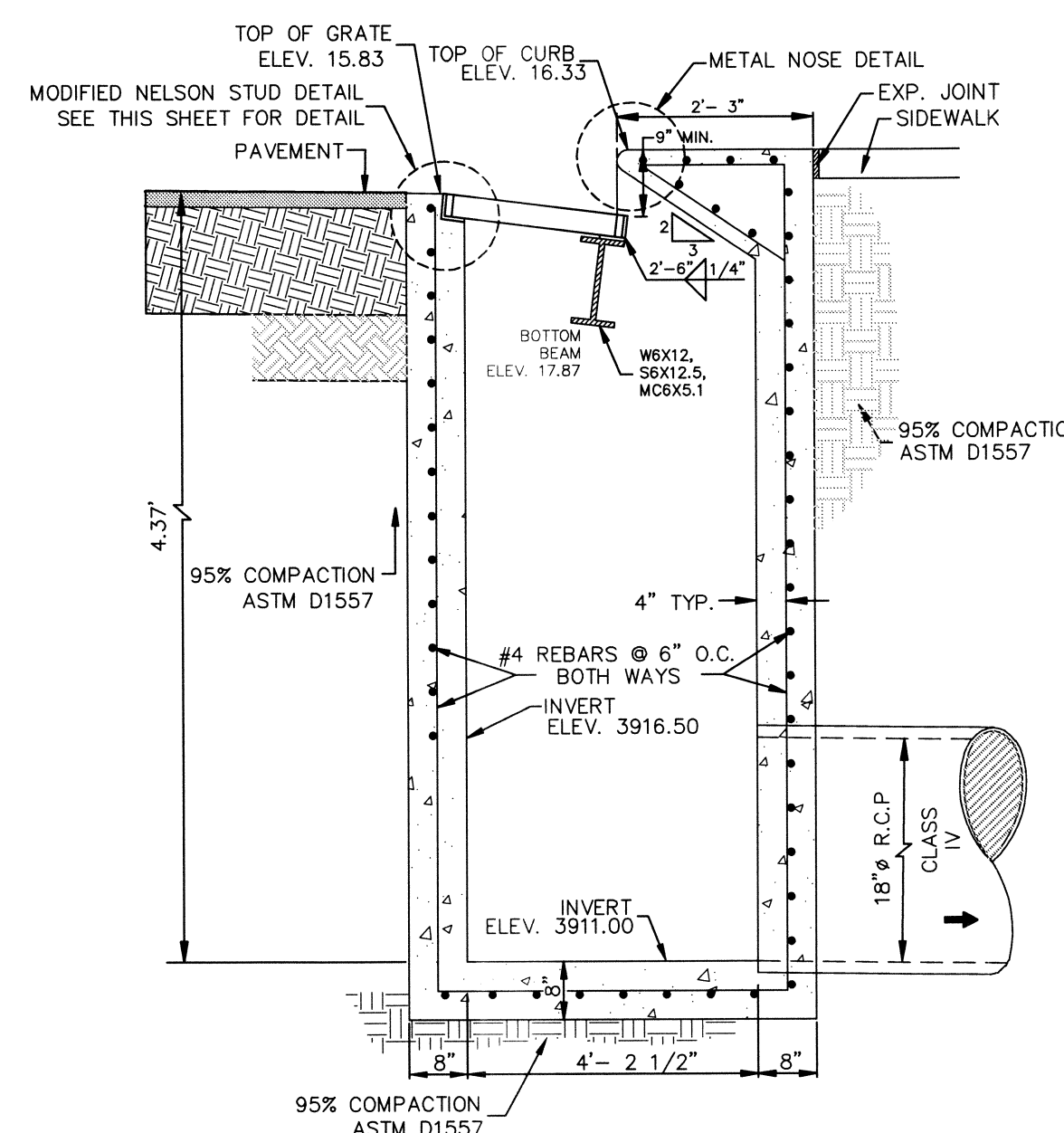
DROP INLET NOTES

- List of 22 notes detailing construction requirements for drop inlets, including materials, dimensions, and safety standards.



PLAN VIEW DROP INLET #1 (TYPE 1)

SCALE N.T.S. (3 GRATE)



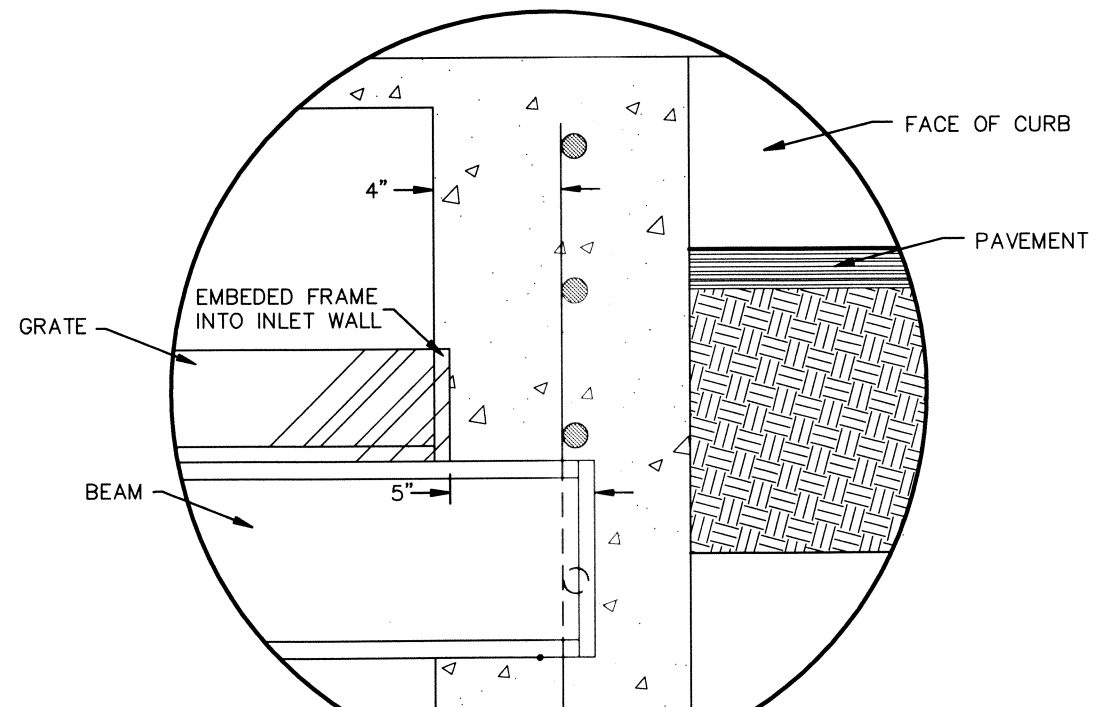
SECTION DROP INLET #1 (TYPE 1)

SCALE N.T.S. (3 GRATE)

DROP INLET TYP. 1-C @ ENCHANTED PASS STA. 9+81.59

Table showing flow capacity and other data for Drop Inlet Typ. 1-C.

Table showing beam specifications for the drop inlet, including length and minimum sizes.



SECTION C1-C1 THIS SHEET

64. WIRE MESH GABIONS AND MATTRESSES

- SCOPE: 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.

Table with wire mesh specifications for Lacing Wire, Welded Mesh, and Spiral Binder.

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

Table with mattress specifications for Mattress Height, Rock Size, and Dimensions.

At least 30 days prior to delivery to the site, the Contractor shall inform the engineer in writing of the source from which the rock will be obtained...

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

6. FILLING OPERATION: After adjacent empty 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.

Internal connecting cross-ties shall be placed in each unrestrained gabion cell greater than 18 inches in height, including gabion cells left temporarily unrestrained.

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.

The last 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.

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 neat lines of the gabion structure...

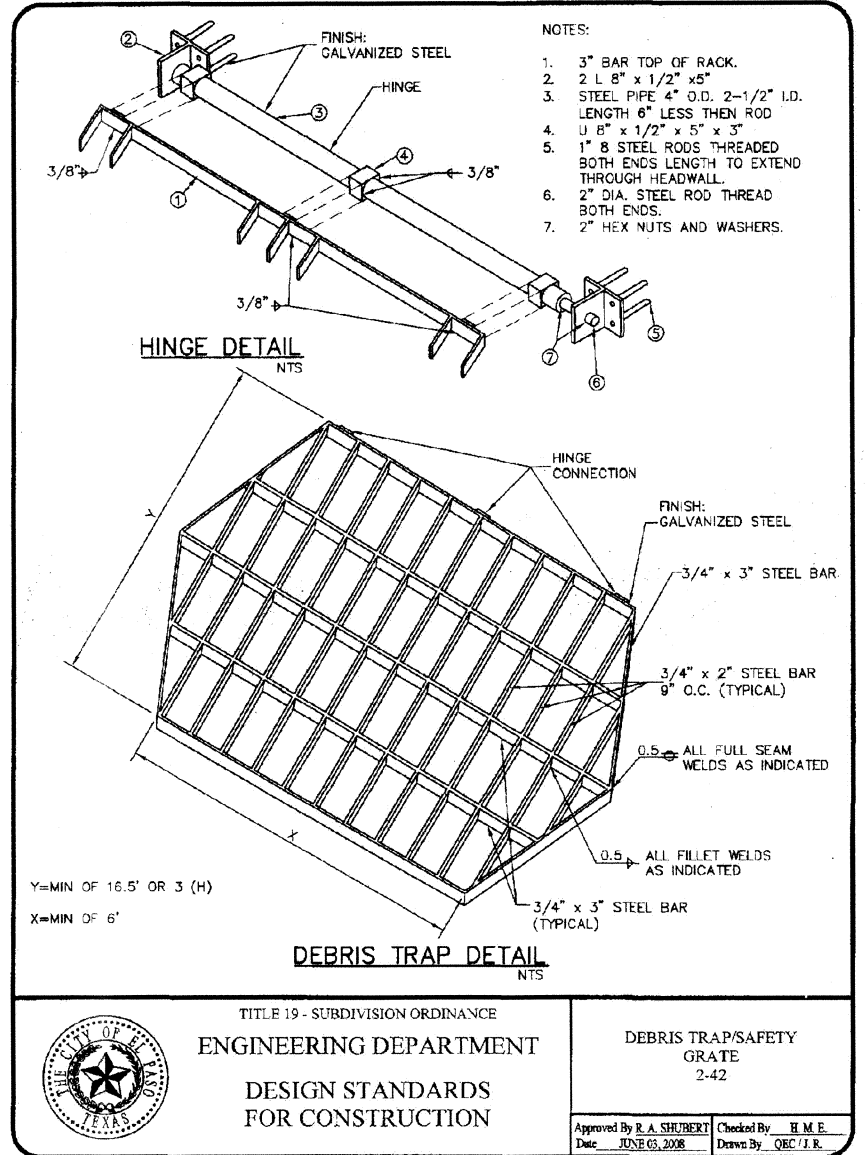
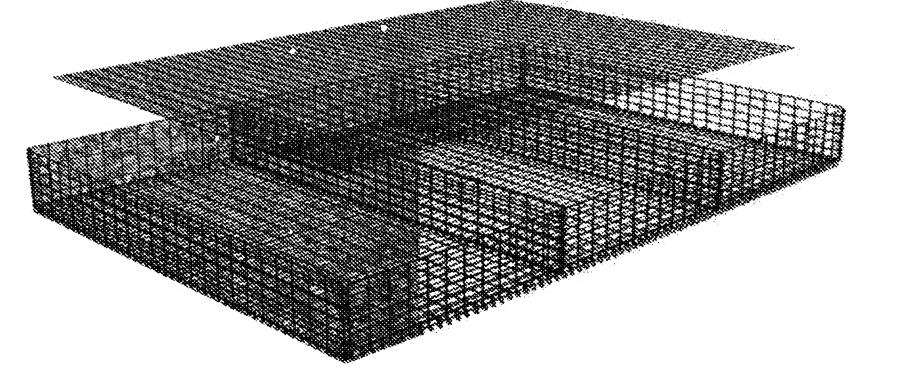


Table with gabion specifications for Letter Code, Length, Width, Height, and Capacity in Cu. Yds.



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

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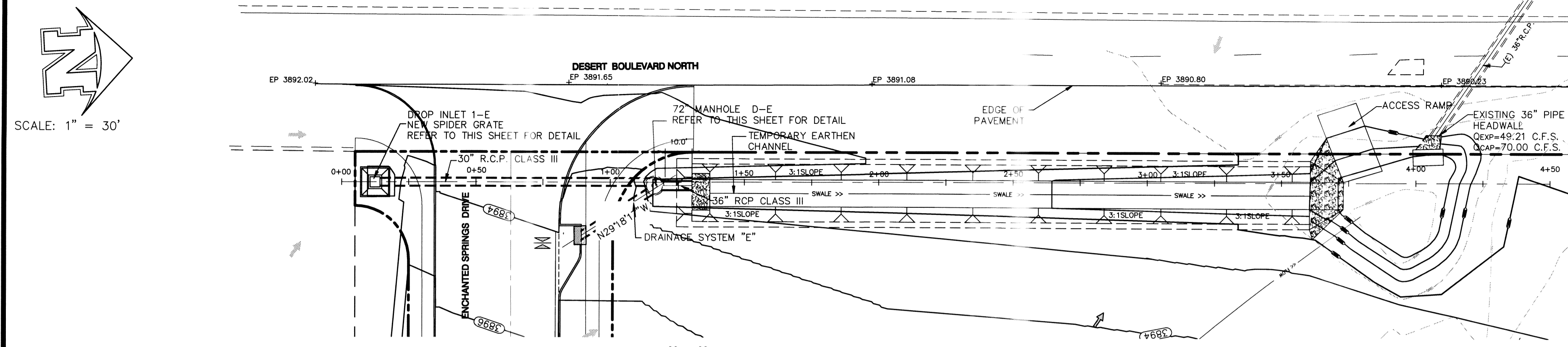
Professional seal and signature block for Bradley Roe, P.E., including project details and dates.

Project information block including Storm Plan and Profile, Enchanted Hills Unit One, System C Plan and Profile, Enchanted Pass Dr. Sta. 9+81.59, and Sheet 14 of 33.

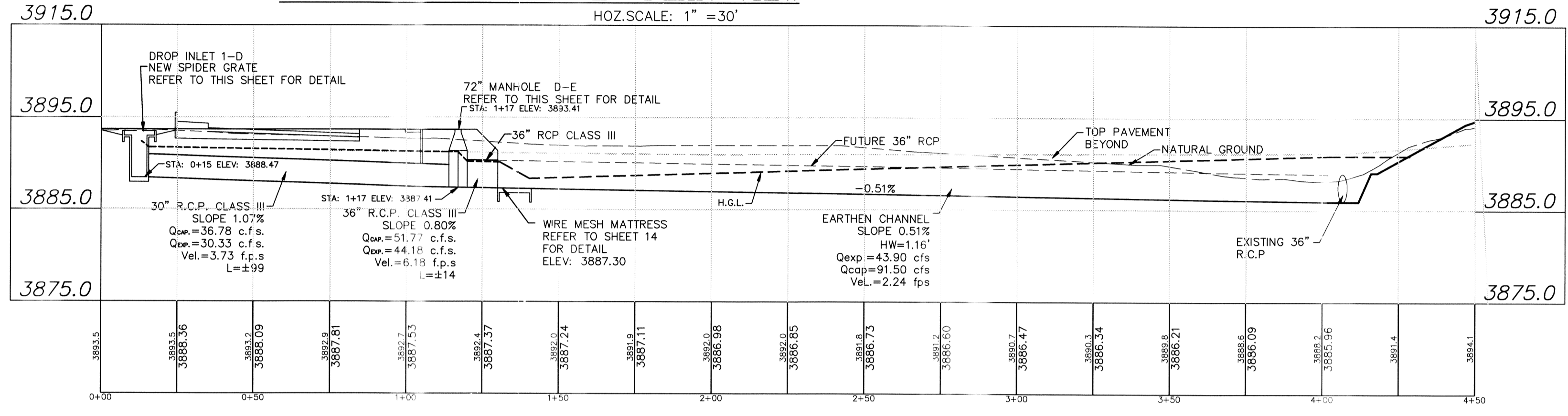
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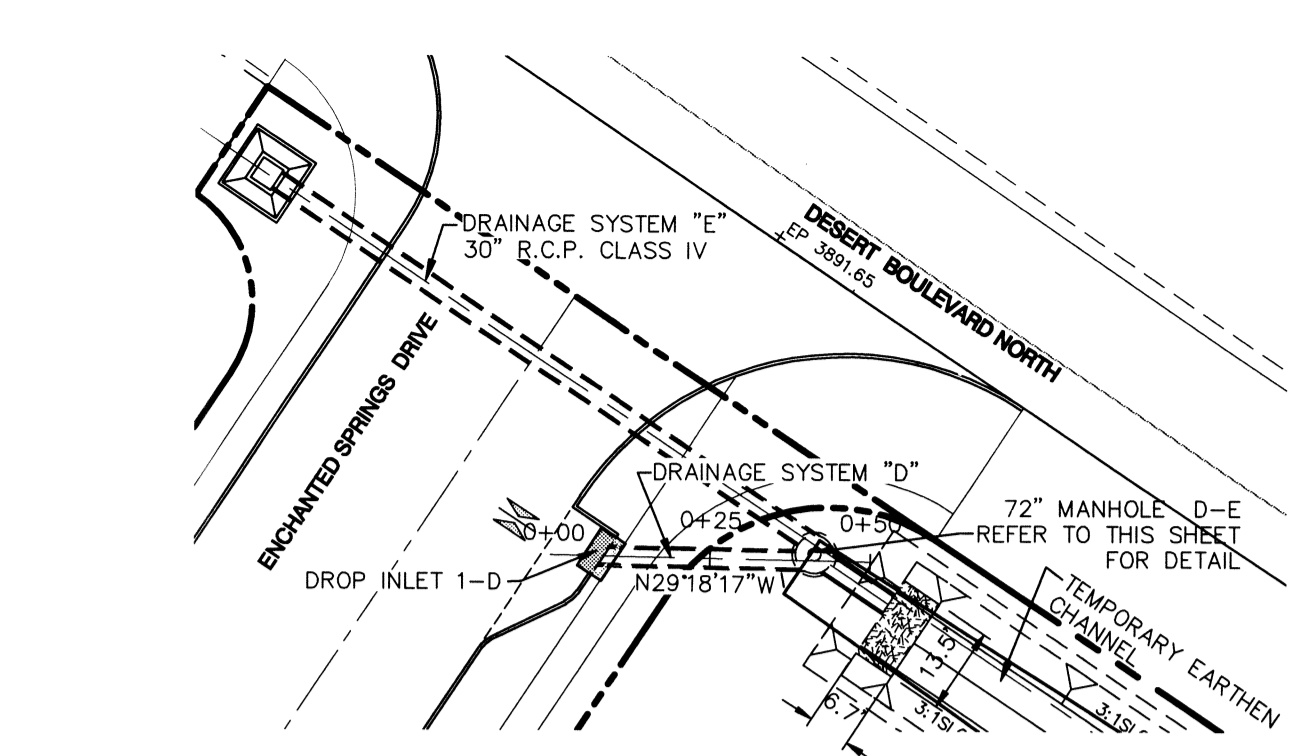
Table with project history including Date, Revisions, and Primary/Benchmarks.



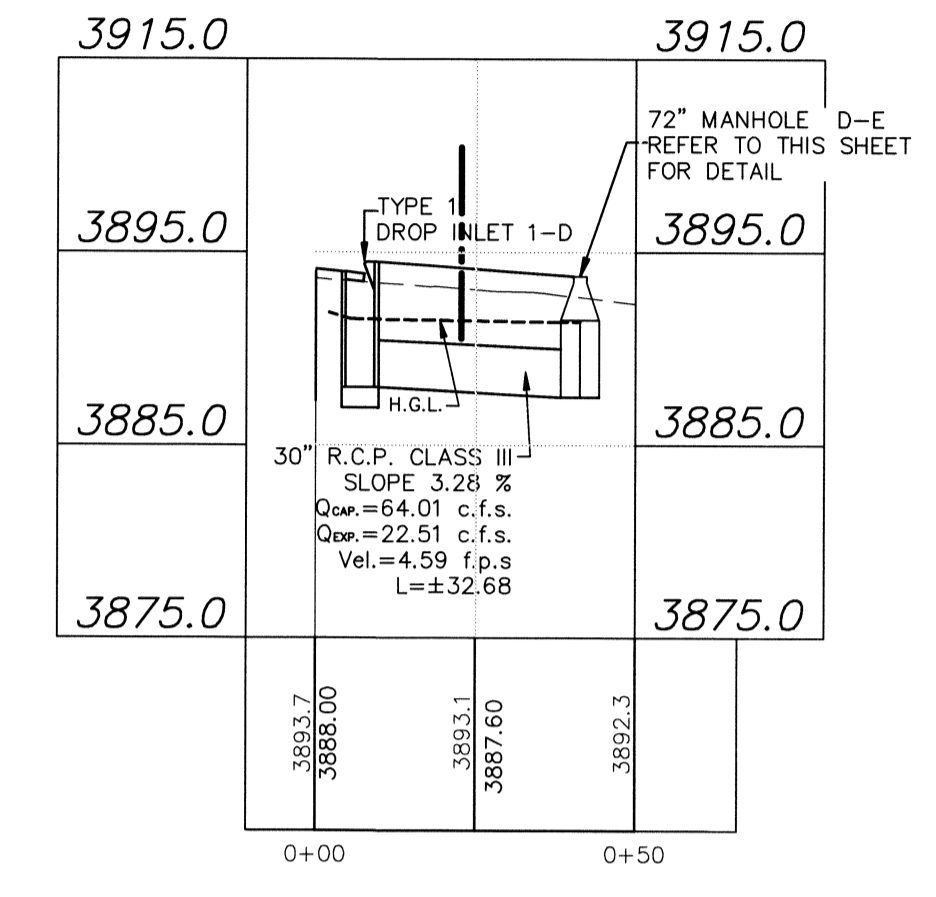
DRAINAGE SYSTEM "E" PLAN VIEW



DRAINAGE SYSTEM "E" PROFILE



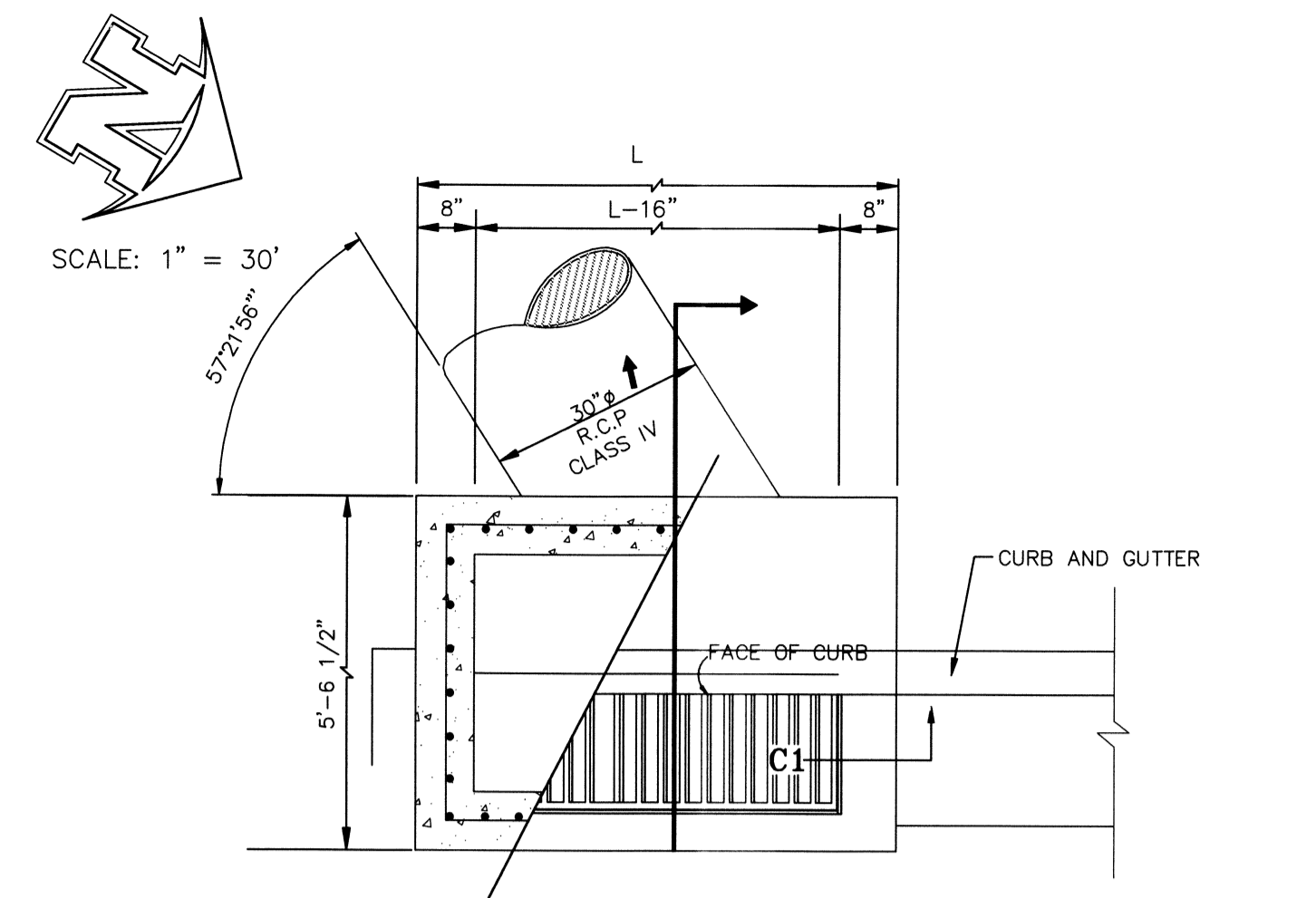
DRAINAGE SYSTEM "D" PLAN VIEW



DRAINAGE SYSTEM "D" PROFILE

NO. OF GRATES	L'	BEAMS	
		LENGTH	MINIMUM SIZES
3	7'-0 1/4"	6'-5 1/8"	W6X15, S6X15.3, MC7X17.6

DROP INLET TYP. 1-D @ ENCHANTED PASS STA. 9+81.59						
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	22.51	32.79	0	0	1	3



PLAN VIEW DROP INLET #1-A (TYPE 1)

SCALE N.T.S. (3 GRATE)

DROP INLET #1-D DRAINAGE CALCULATIONS TYPE ONE

GRATING

Q_{cap} = 0.7 x AREA x (2 x 32.2 x H)^{1/2}

Q_{cap} = 0.7 x 3.86 x (2 x 32.2 x 0.42)^{1/2}

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

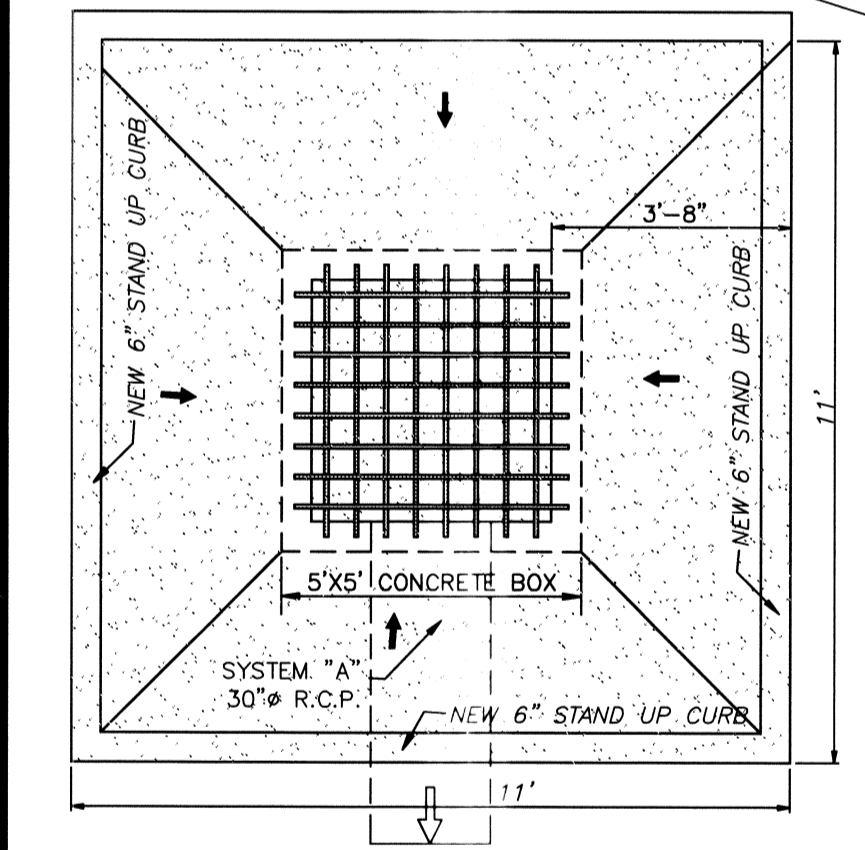
OF GRATES NEEDED FOR DROP INLET #1

Q_{exp} = 46.95 cfs

Q_{cap} = 9.33 + 1.60 = 10.93cfs

OF GRATES = 22.51/10.93 = 2.05

USE 3 GRATES



PLAN VIEW 1-E

DROP INLET 1-E CALCULATIONS

TOP

Q_{cap} = 0.7 x AREA x (2 x 32.2 x H)^{1/2}

Q_{cap} = 0.7 x 15.98 x (2 x 32.2 x 0.67)^{1/2}

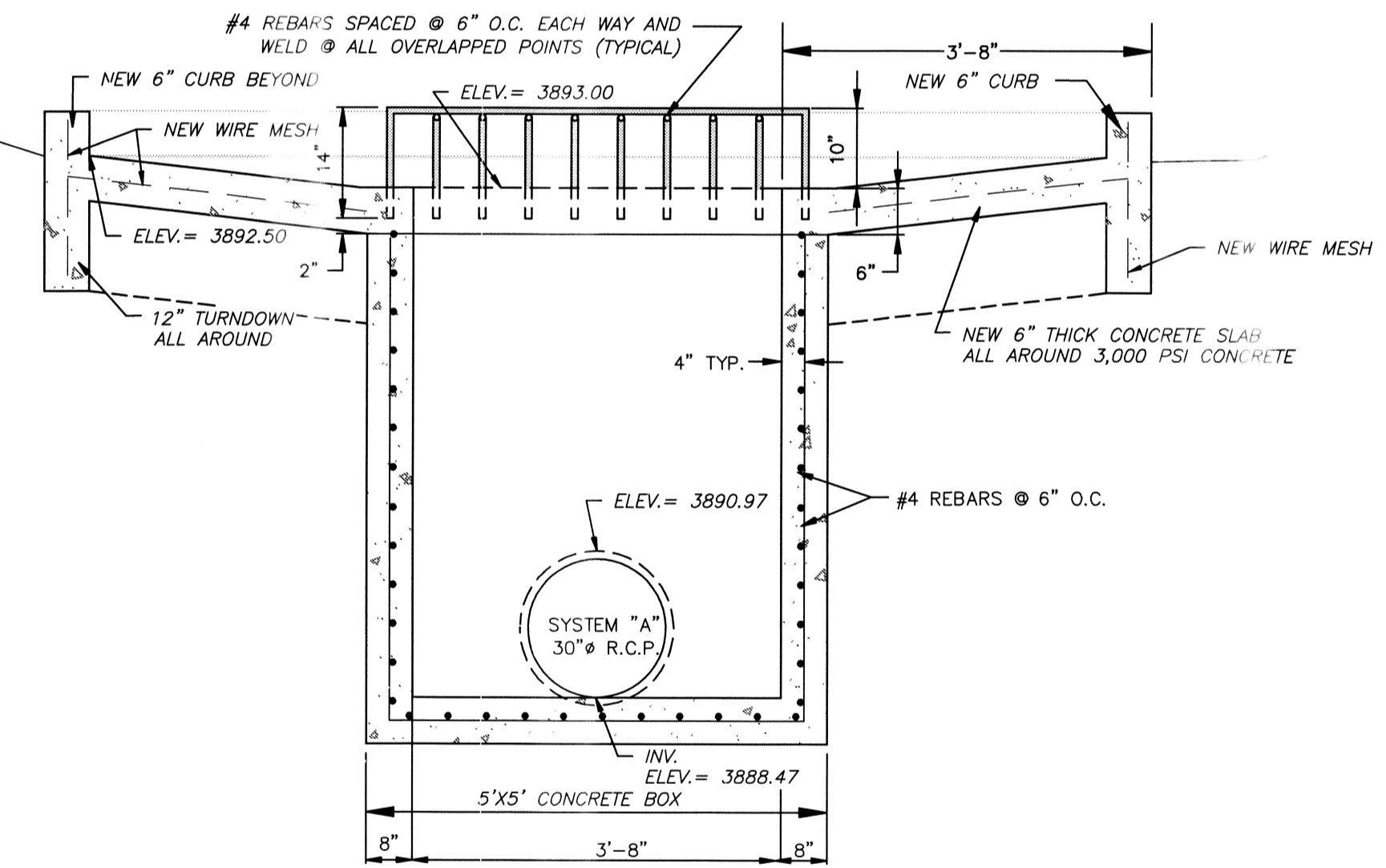
Q_{cap} = 73.32 cfs x 0.67 (CLOGGING FACTOR)

Q_{cap} = 48.88 cfs

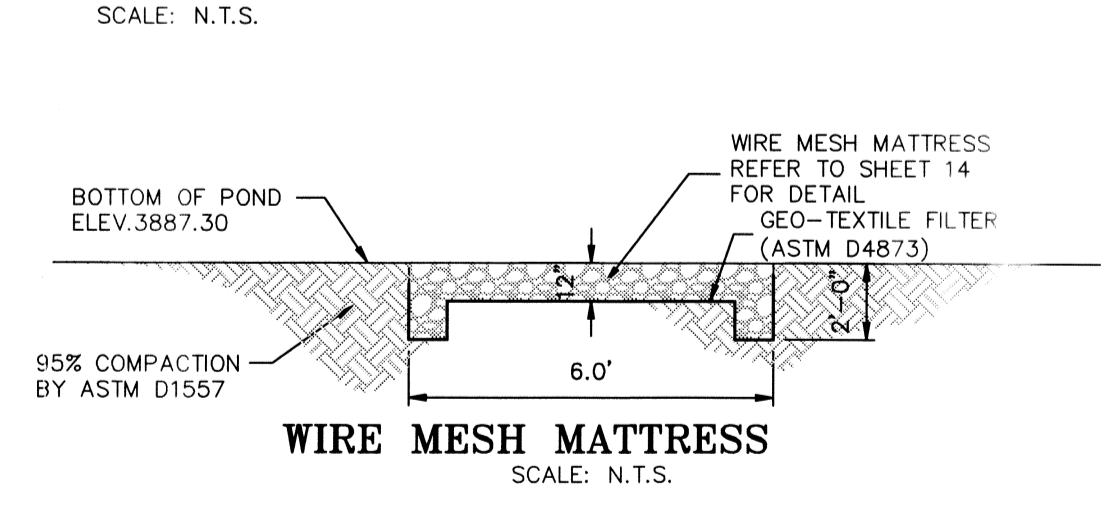
INLET TOTAL CAP.

Q_{exp} = 30.33 cfs

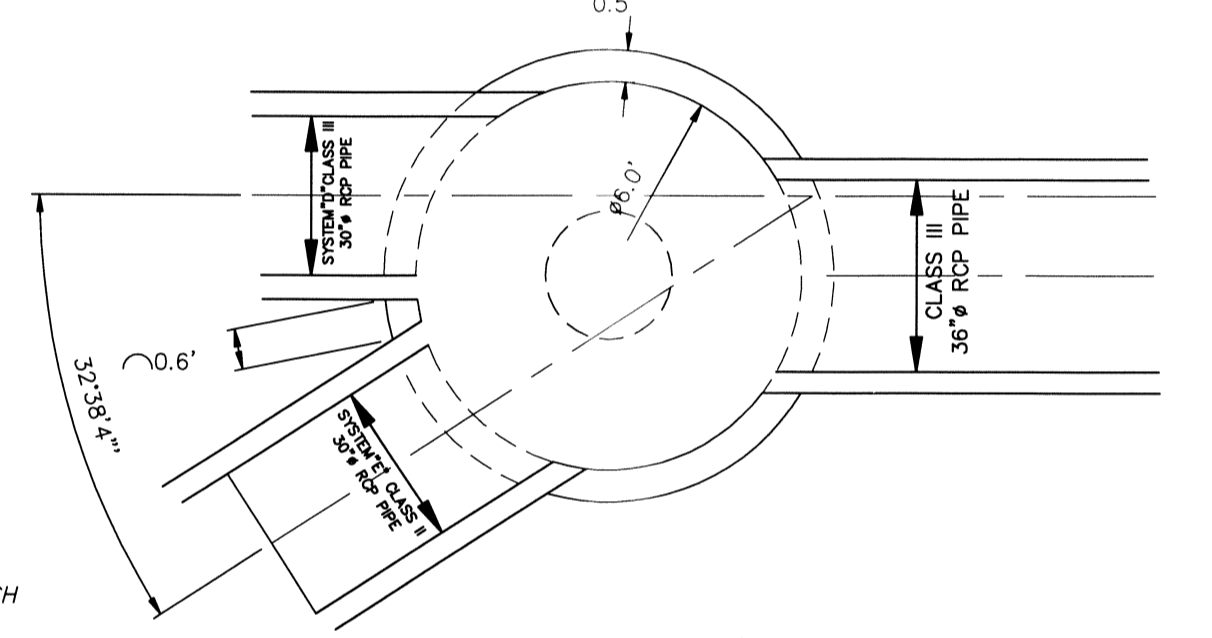
Q_{cap} = 48.88 cfs



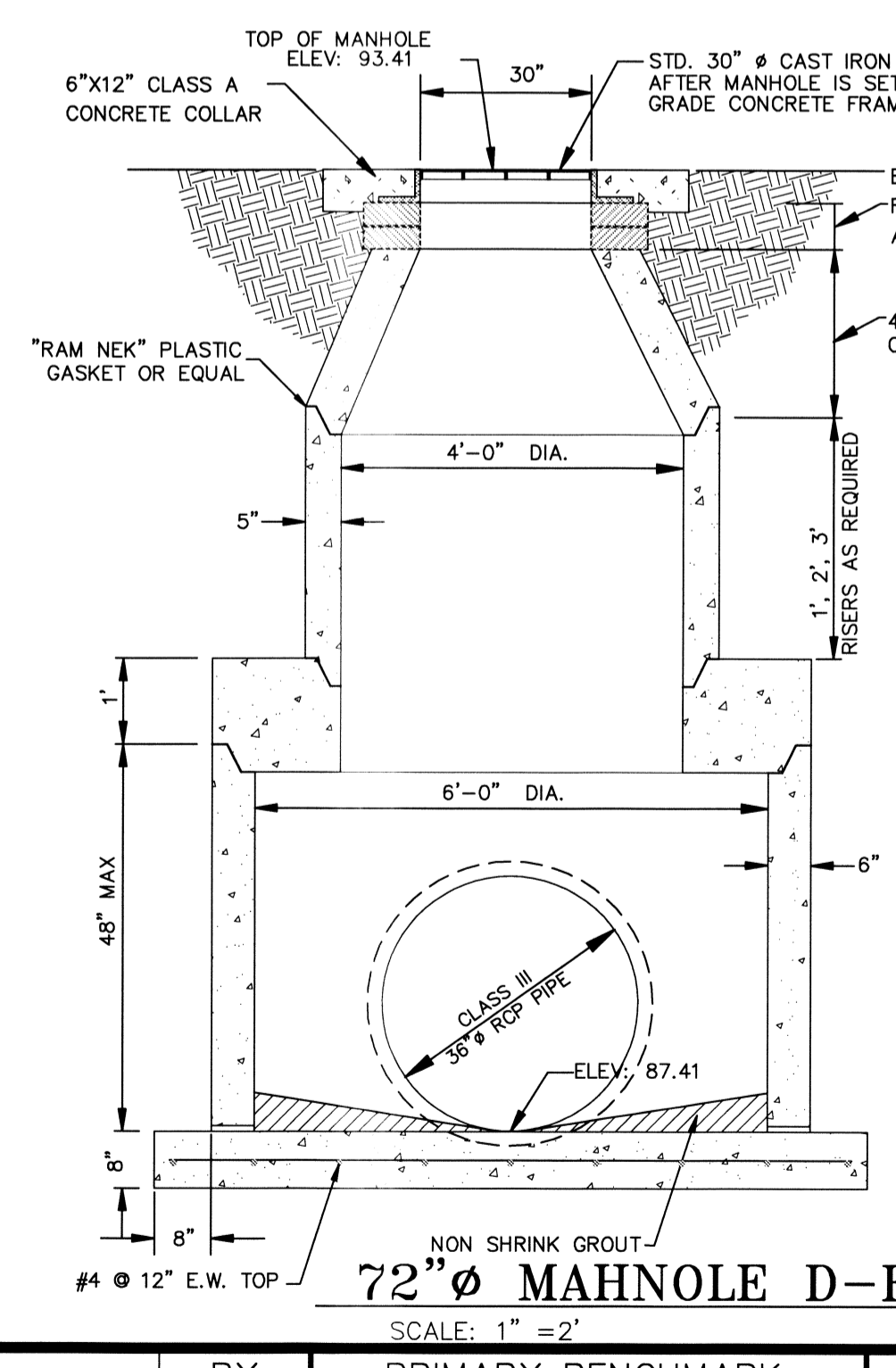
NEW SPIDER GRATE DETAIL DROP INLET #1-E



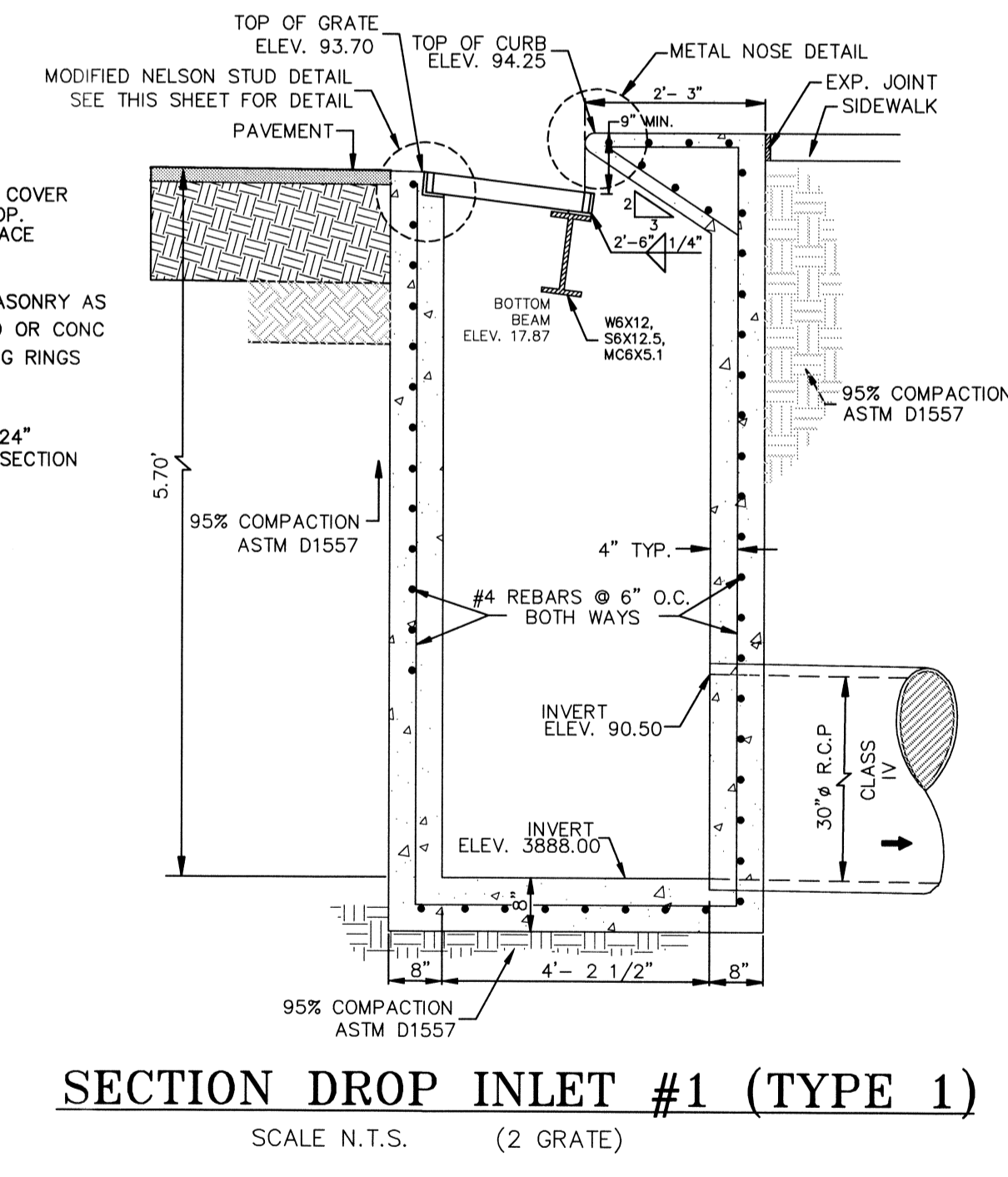
WIRE MESH MATTRESS



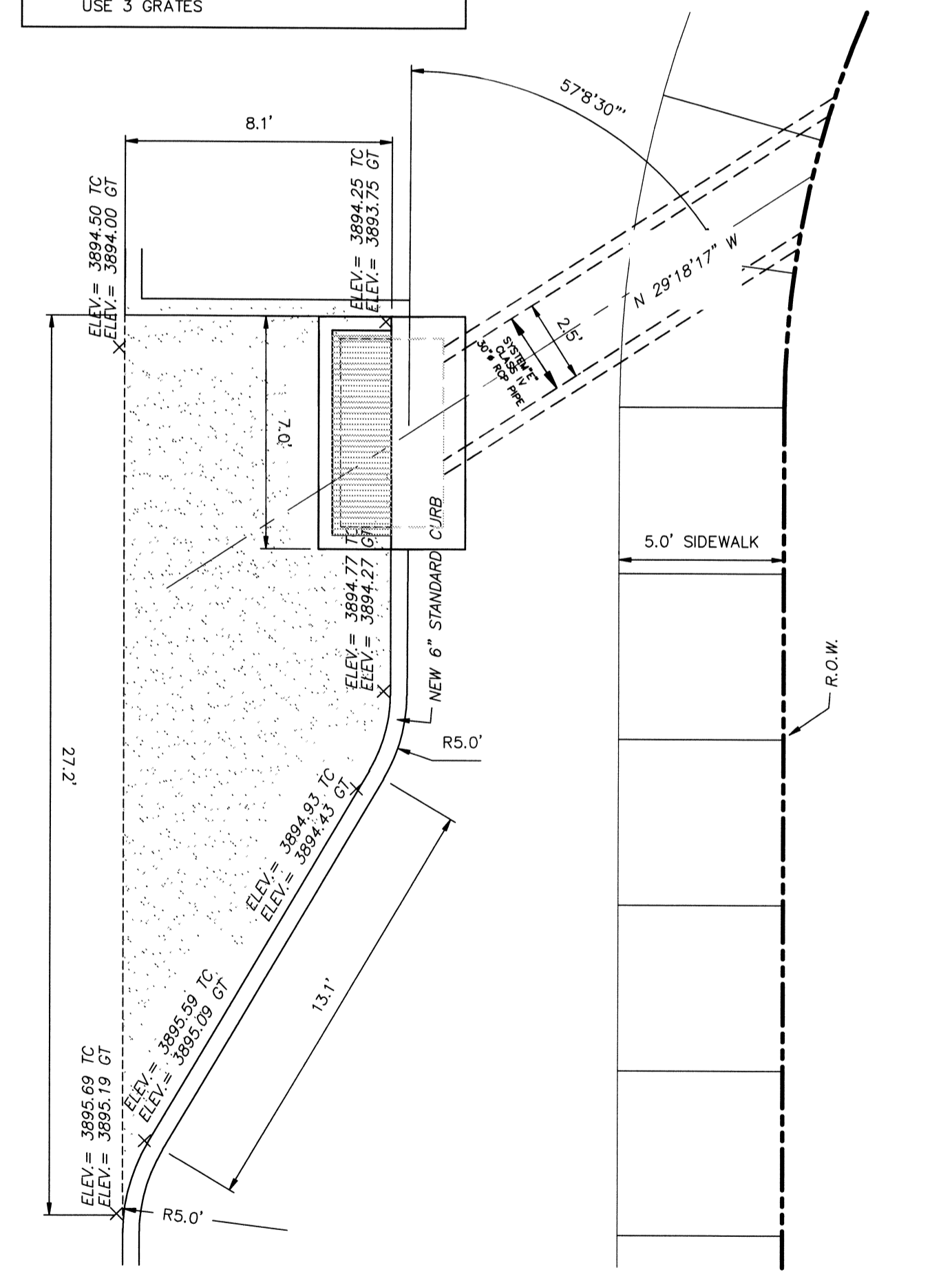
PLAN VIEW 72" MANHOLE D-E



72" MANHOLE D-E



SECTION DROP INLET #1 (TYPE 1)



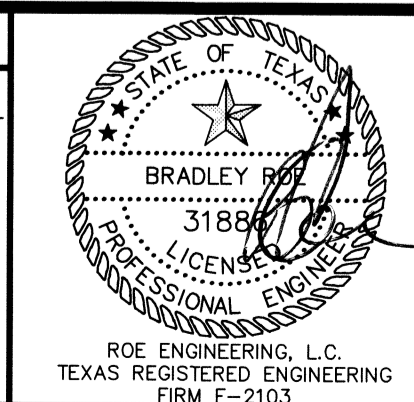
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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZAROUS NOT DETERMINED. (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING). ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA A COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

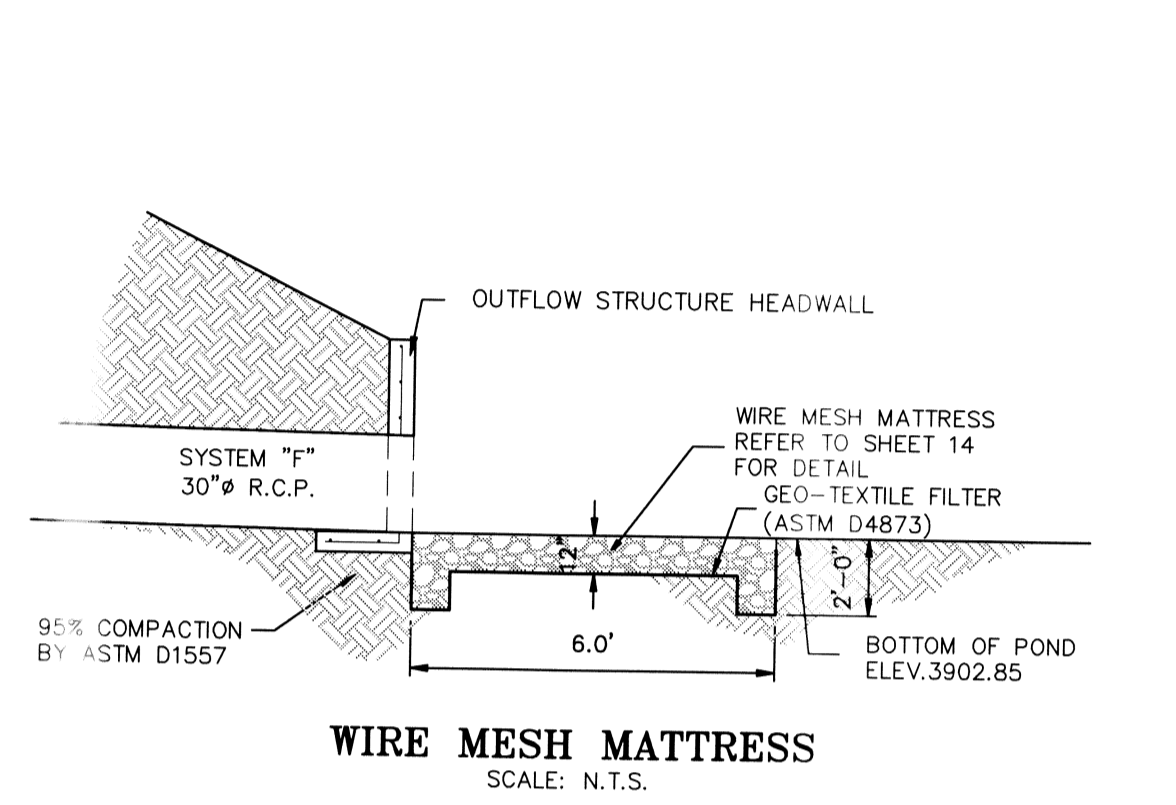
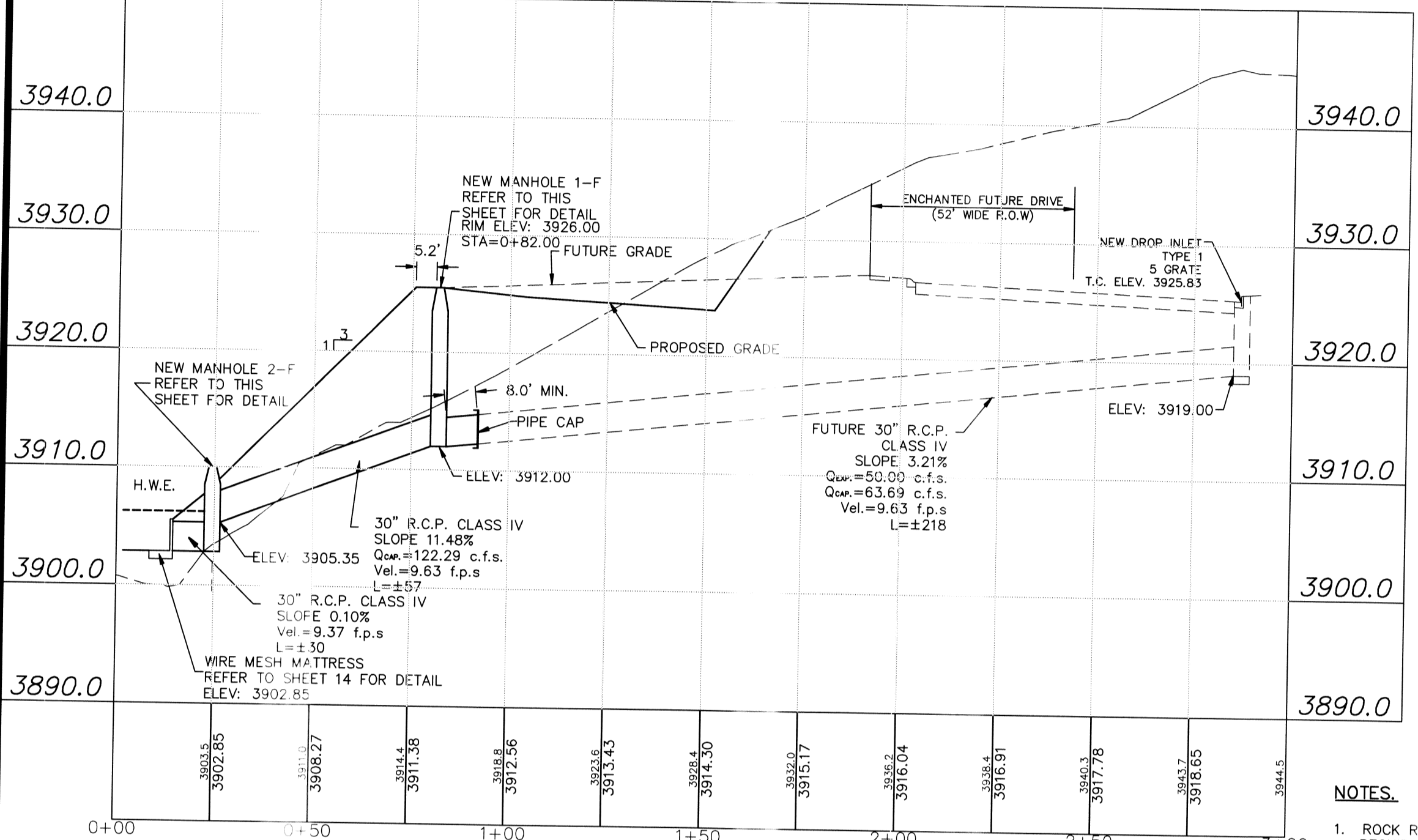
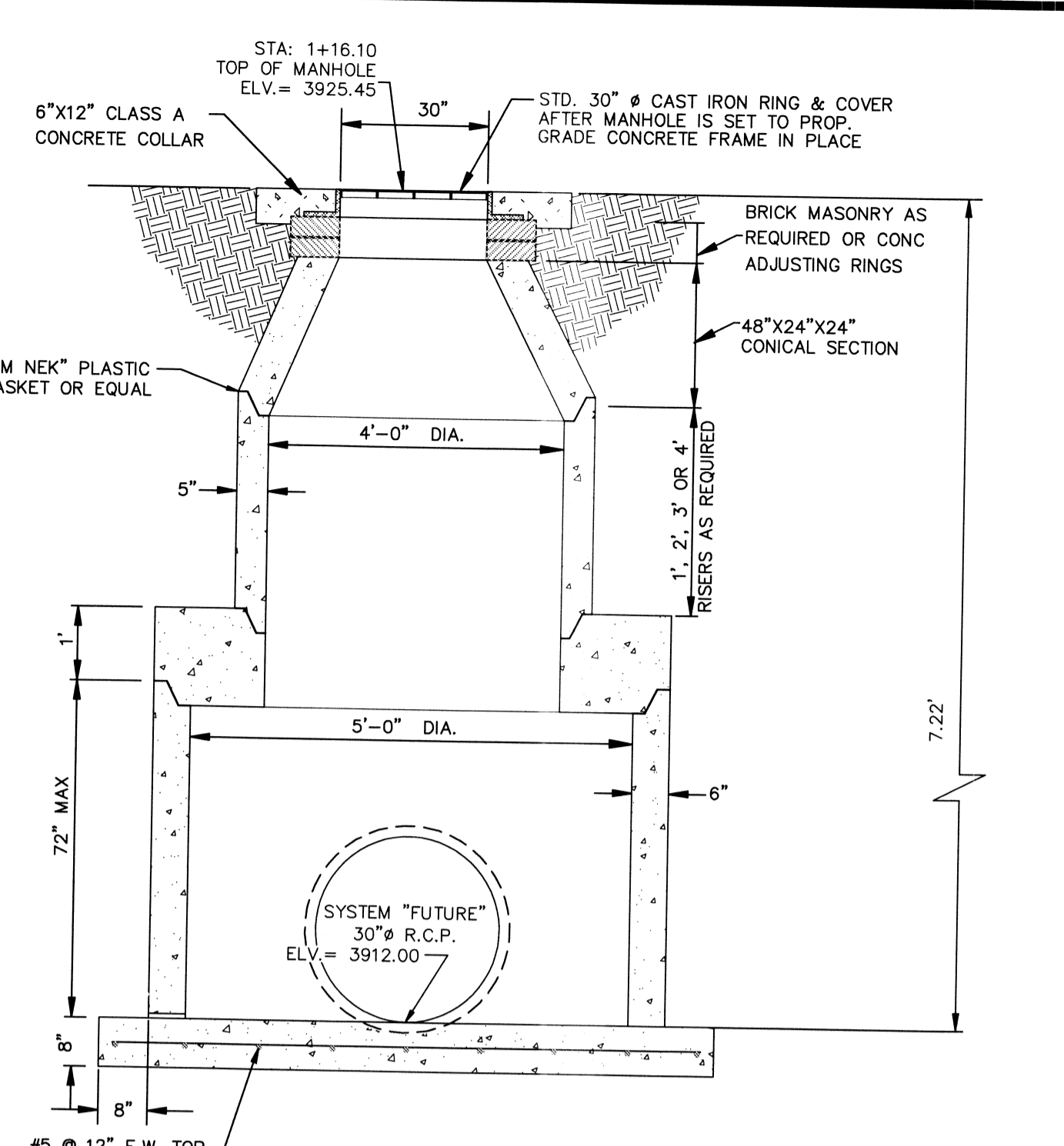
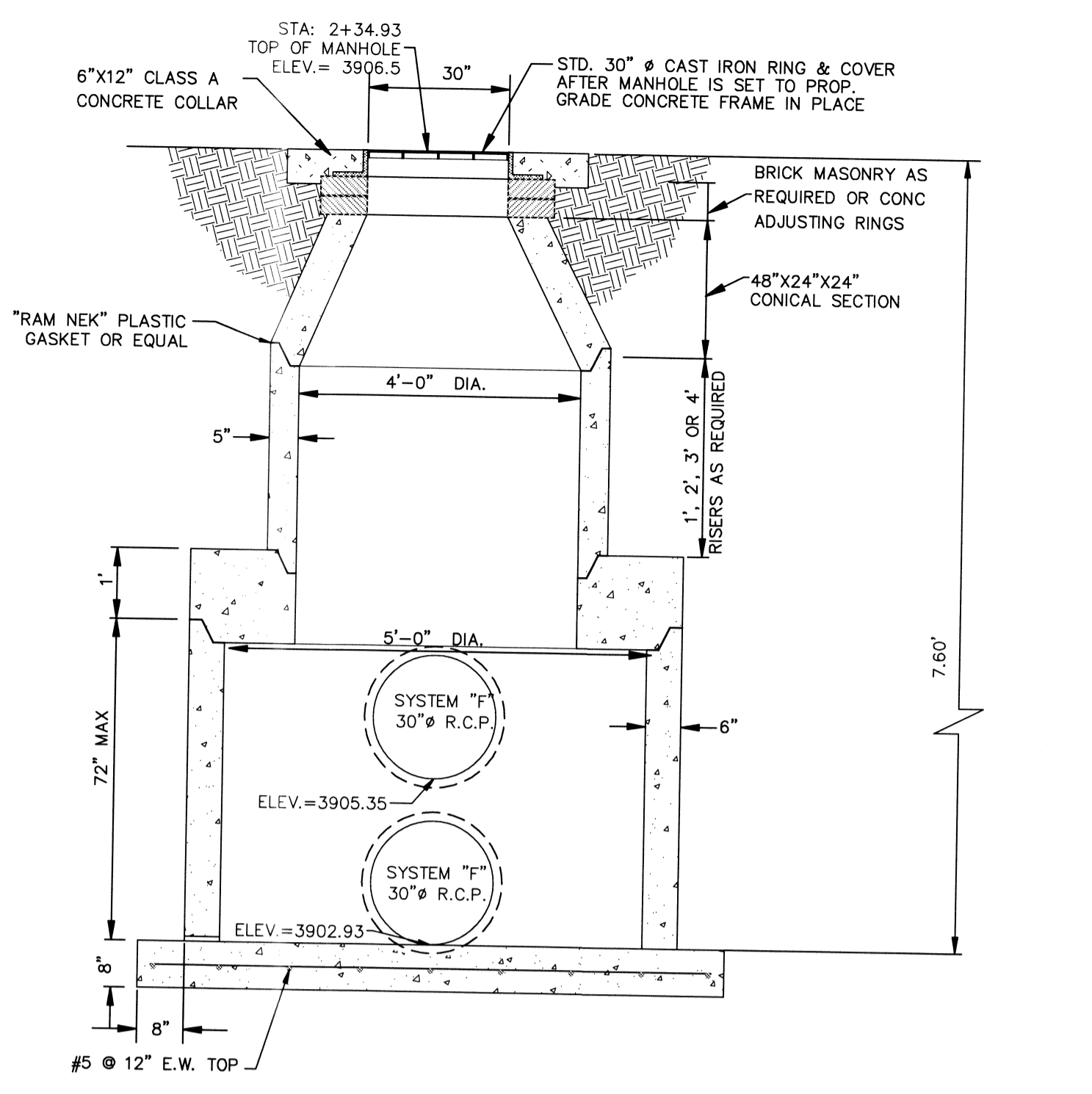
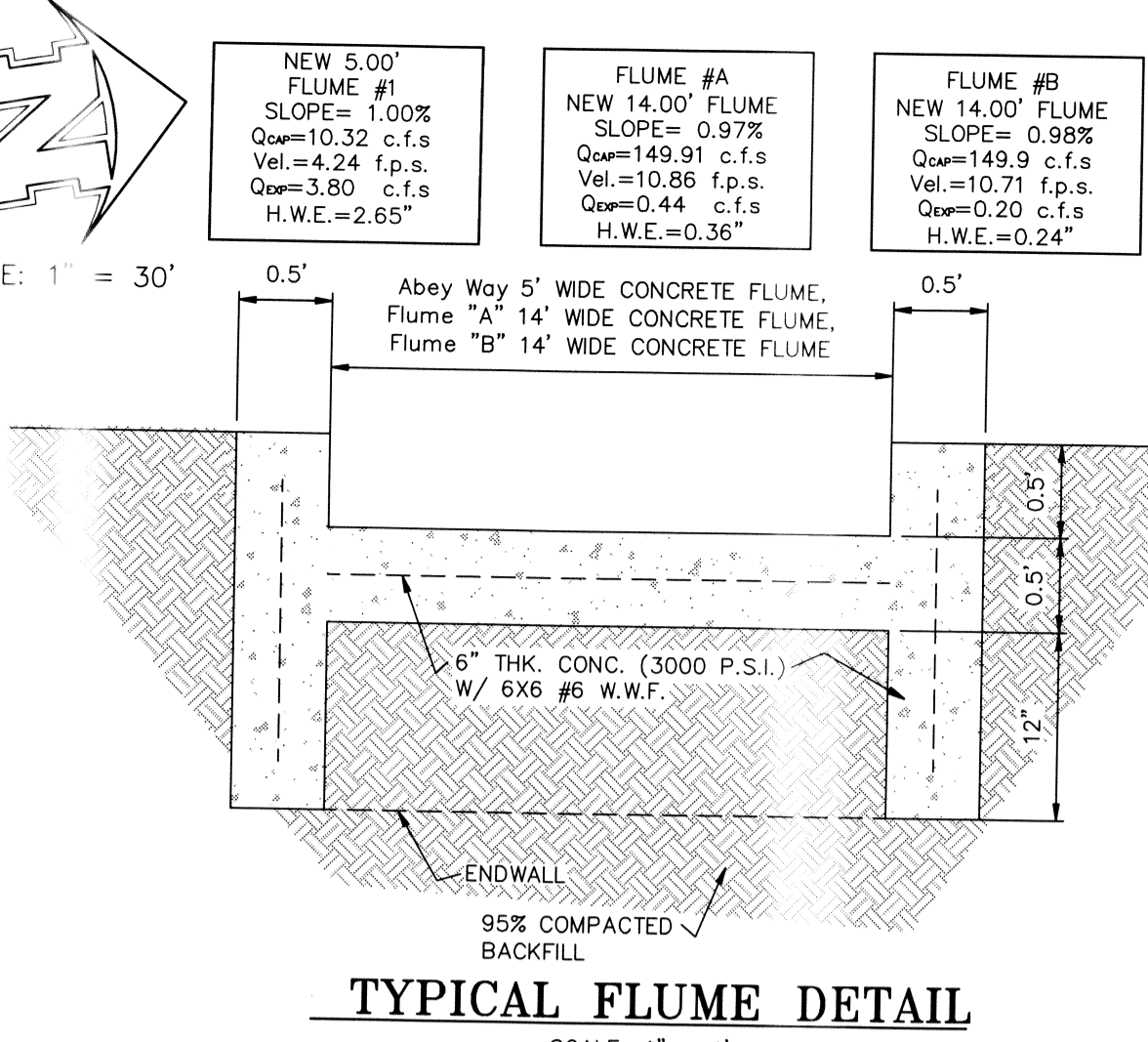
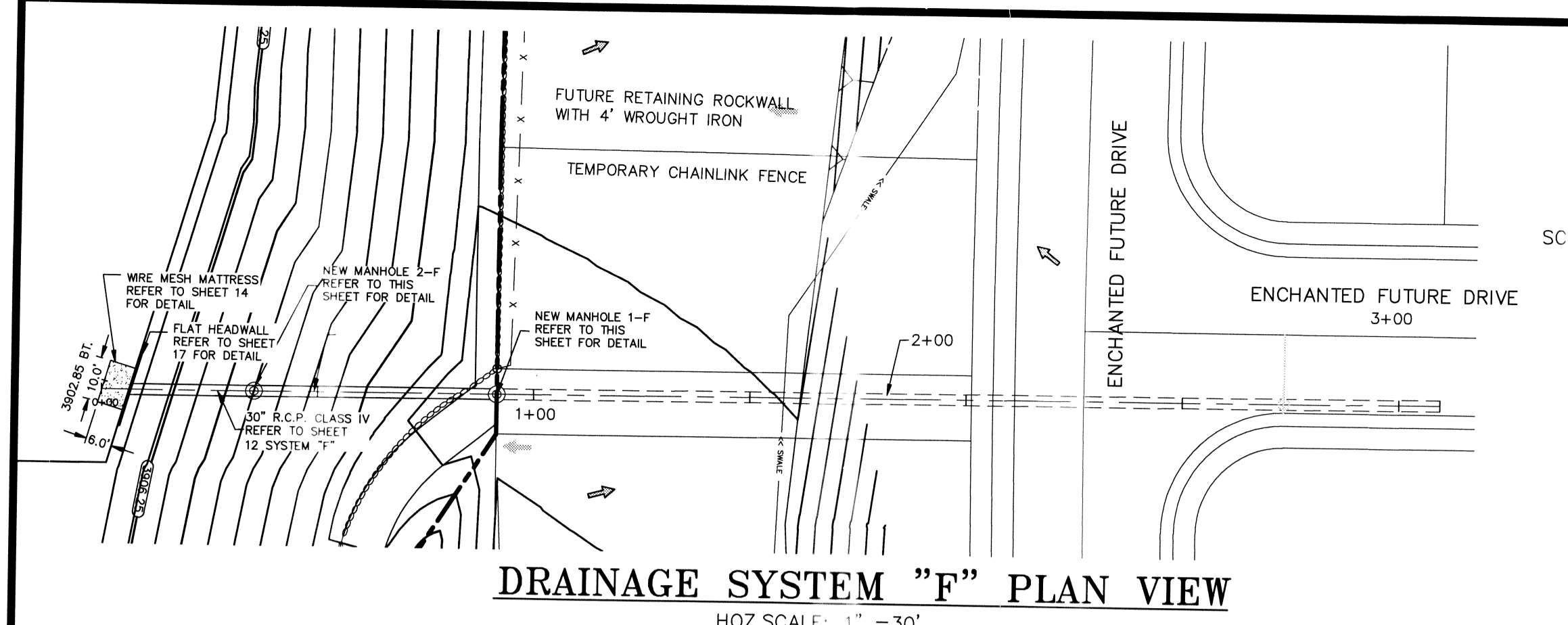
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	WIS MONUMENT "ORNDORFF" (TSP 322444)	HOR: 1:30 VER: 1:10
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3842.4 NAVD 88	FILE NAME: 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF	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 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: FEBRUARY, 2010

DESIGN BY: H.P./RC
DRAWN BY: LAJ/H.P./IDR
CHKD. BY: H.P.
APPD. BY: BR

STORM PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
BOX CULVERT UNDER ENCH. SPRING SYSTEM
PLAN AND PROFILE DRAINAGE SYSTEM AT ENCHANTED SPRING STA: 1+30.00



Roe Engineering, L.C.
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ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 15 OF 33



WALL SCHEDULE FOR ROCKWALL AND ROCKWALL WITH RIP-RAP

HEIGHT (H)	BASE (B)	REINFORCING
3' - 0"	2' - 2"	4 #4 REBARS @ 12" O.C.
4' - 6"	3' - 0"	5 #4 REBARS @ 12" O.C.
6' - 0"	4' - 0"	6 #4 REBARS @ 12" O.C.
7' - 0"	4' - 6"	8 #4 REBARS @ 12" O.C.
8' - 0"	5' - 0"	8 #4 REBARS @ 12" O.C.
9' - 0"	6' - 3"	8 #4 REBARS @ 12" O.C.

- NOTES:**
- ROCK RIP-RAP SHALL BE PLACED ON EMBANKMENTS OR WHERE REQUIRED BY THE CITY ENGINEER FOR EROSION PROTECTION, EXCEPT FOR POND AREAS.
 - ROCK RIP-RAP SHALL BE A MINIMUM OF 8" MORTARED ROCK.
 - STONE FOR ROCK RIP-RAP SHALL BE AS NEARLY UNIFORM IN SECTION AS IS PRACTICABLE. STONE SHALL BE QUARRIED; FRACTURED RIVERSTONE SHALL NOT BE PERMITTED.
 - MORTAR FOR ROCK RIP-RAP SHALL BE TYPE S, 1800 P.S.I. PER PER ASTM C270.
 - FOR SLOPE GREATER THAN 1:1 OR VERTICAL HEIGHT OF MORE THAN SIX(6) FEET, THE RIP-RAP SHALL BE DESIGNED BY PROFESSIONAL ENGINEER.
 - PROVIDE ONE(1) INCH EXPANSION JOINT AT EVERY FIFTY(FIFTY) FEET.
 - PROVIDE DUMMY JOINT AT TEN(10) FEET O.C.
 - NON-MORTARED ROCK RIP-RAP SHALL BE ALLOWED WHERE APPROVED BY CITY ENGINEER.

ROCKWALL CALCULATIONS
CONSIDERING A 3'-0" HIGH RETAINING ROCKWALL

SOIL TEST RESULTS:
f_c = 3000 psi
f_m = 40,000 psi
WEIGHT OF CONG = 150 pcf
WEIGHT OF SOIL = 120 pcf
SOIL BEARING CAPACITY = 2500 pcf

SOIL FACTORS:
SOIL PRESSURE = 510 Ka = 0.29
SOIL MOMENT = 377
RESULTANT = 1.33'

REACTIONS:
WEIGHT/UNIT LENGTH OF WALL = 893
RESISTING MOMENT = 781
DISTANCE FOR EQUILIBRIANT (x) = 0.45'

SAFETY FACTORS:
OVERTURNING FACTOR = 2.07 (> 1.5)
SLIDING FACTOR = 2.37 (> 1.5)

SOIL PRESSURE:
ECCENTRICITY = 0.42' [0.29']
SOIL PRESSURE AT TOE = 1249 [2300]
SOIL PRESSURE AT HEEL = -229 [0]

ROCKWALL CALCULATIONS
CONSIDERING A 4'-0" HIGH RETAINING ROCKWALL

SOIL TEST RESULTS:
f_c = 3000 psi
f_m = 40,000 psi
WEIGHT OF CONG = 150 pcf
WEIGHT OF SOIL = 120 pcf
SOIL BEARING CAPACITY = 2500 pcf

SOIL FACTORS:
SOIL PRESSURE = 630 Ka = 0.29
SOIL MOMENT = 737
RESULTANT = 1.67'

REACTIONS:
WEIGHT/UNIT LENGTH OF WALL = 1733
RESISTING MOMENT = 2382
DISTANCE FOR EQUILIBRIANT (x) = 0.95'

SAFETY FACTORS:
OVERTURNING FACTOR = 3.23 (> 1.5)
SLIDING FACTOR = 2.94 (> 1.5)

SOIL PRESSURE:
ECCENTRICITY = 0.43' [0.46']
SOIL PRESSURE AT TOE = 1215 [2500]
SOIL PRESSURE AT HEEL = -45 [0]

ROCKWALL CALCULATIONS
CONSIDERING A 5'-0" HIGH RETAINING ROCKWALL

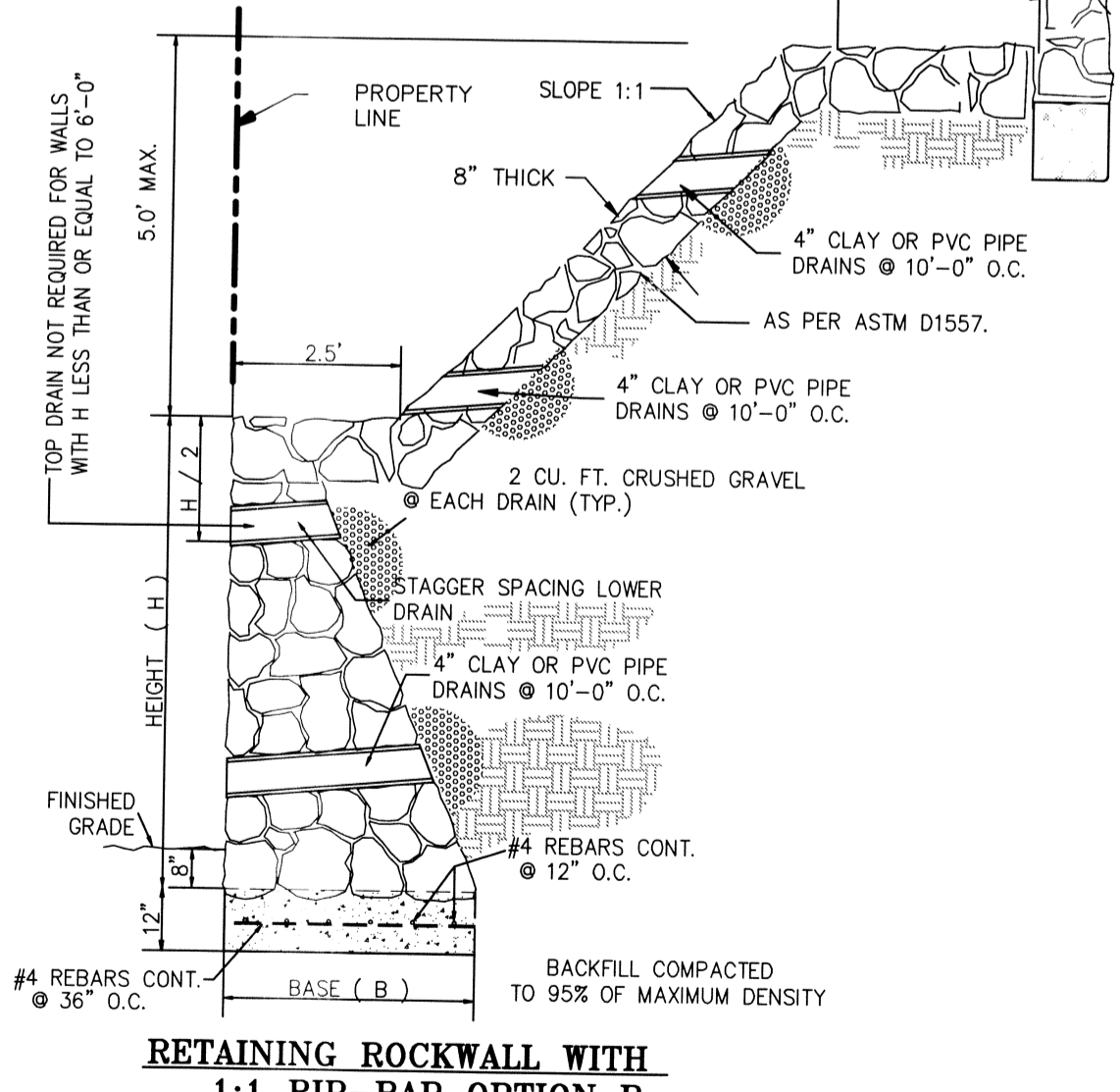
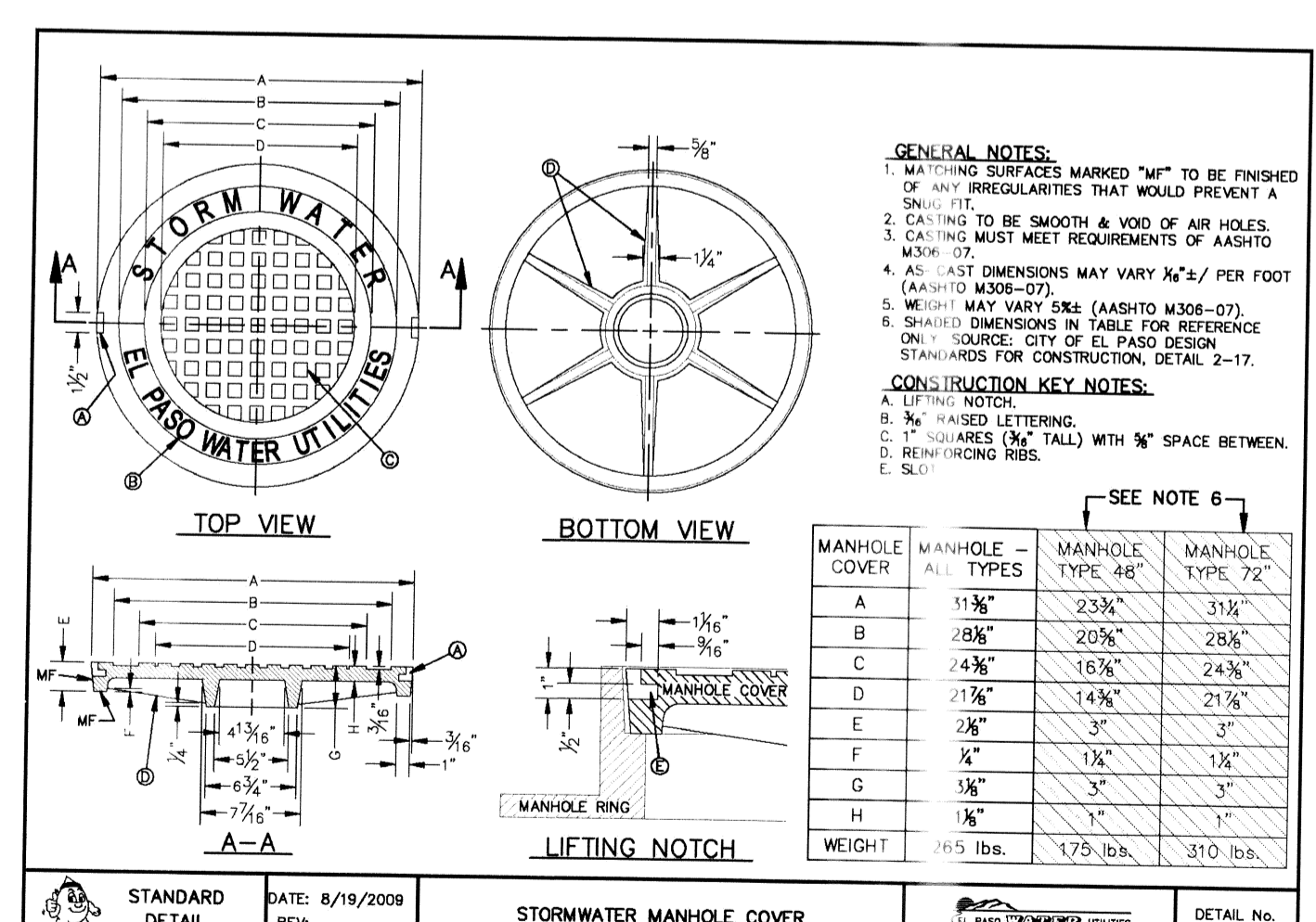
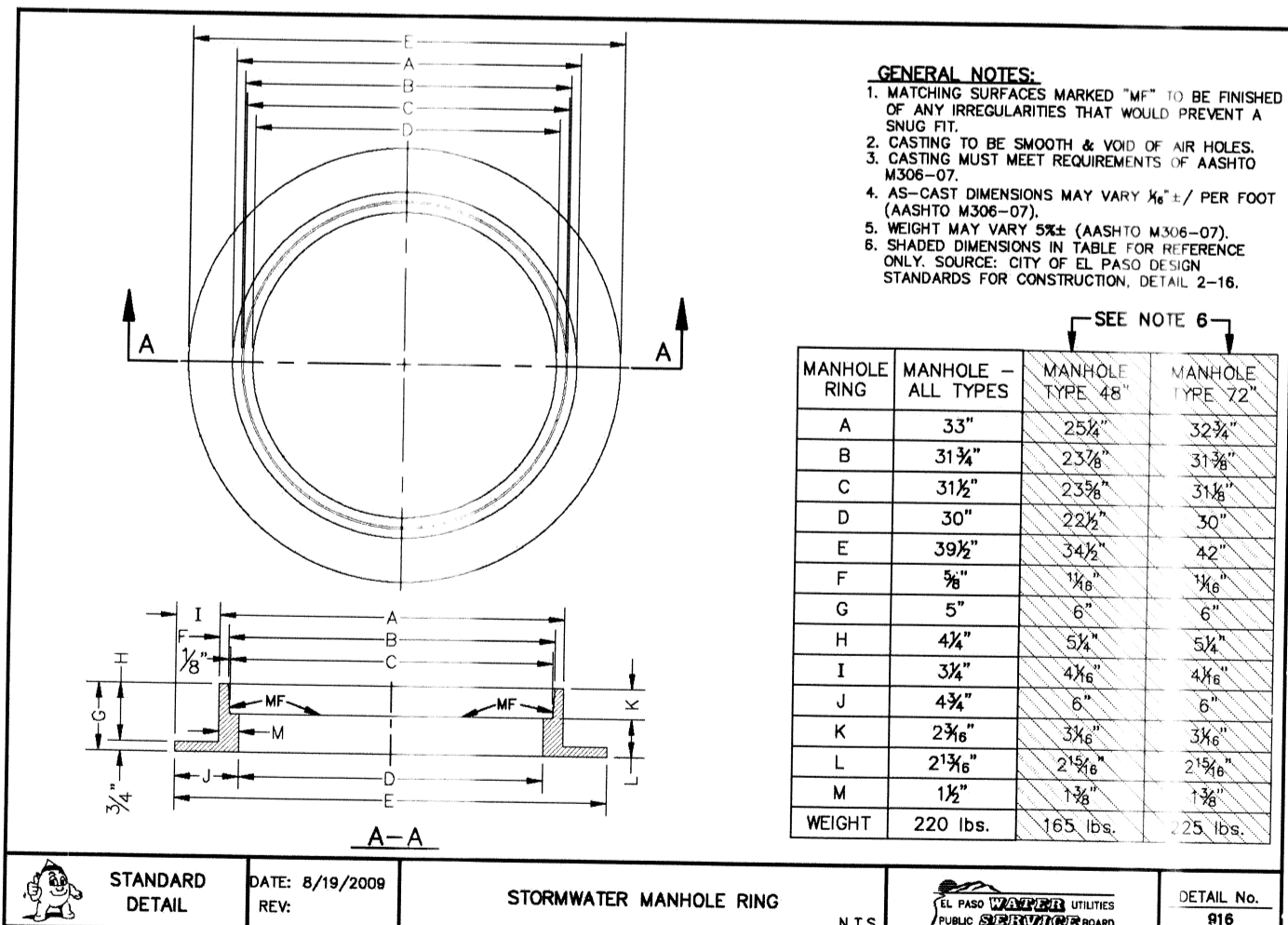
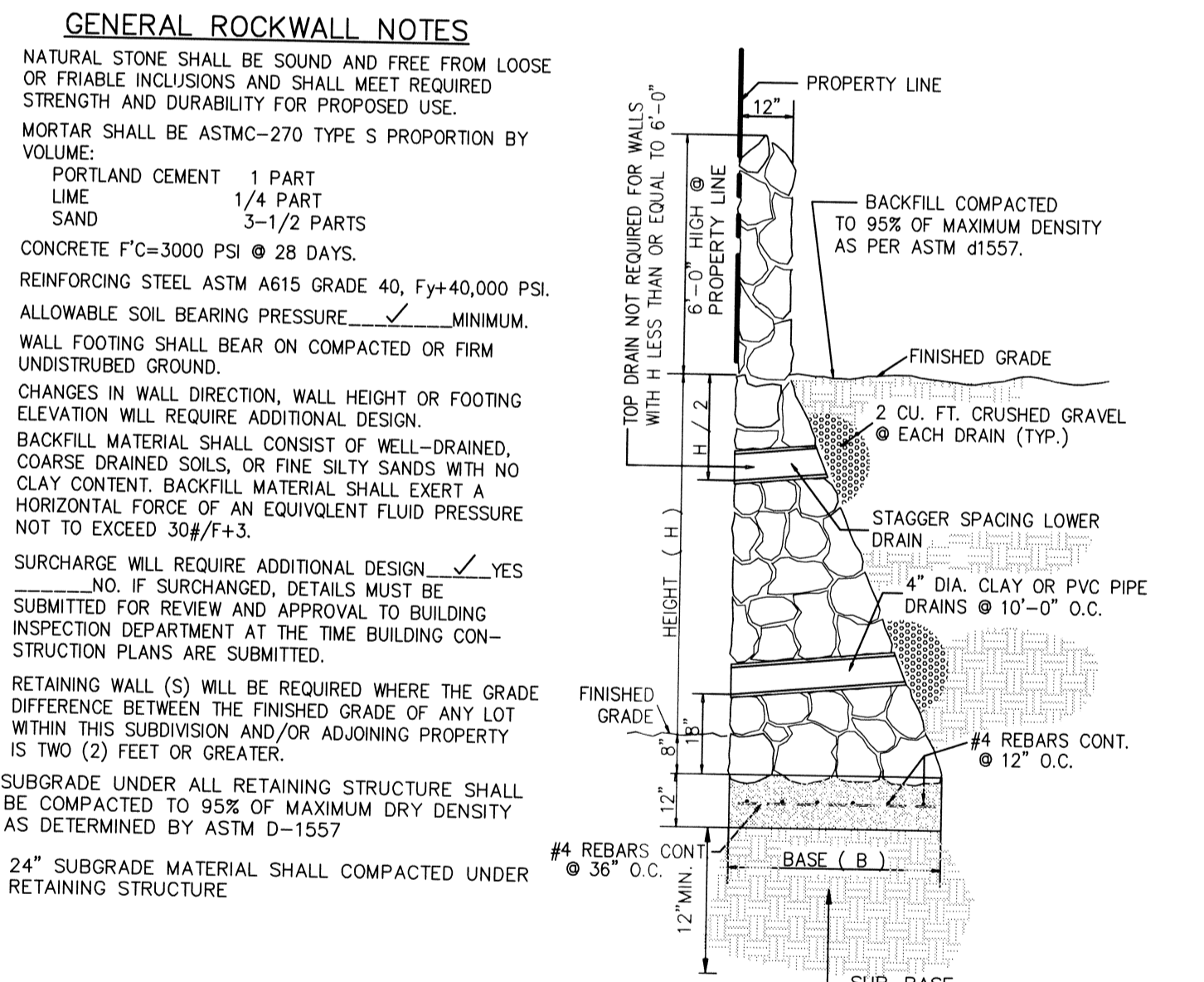
SOIL TEST RESULTS:
f_c = 3000 psi
f_m = 40,000 psi
WEIGHT OF CONG = 150 pcf
WEIGHT OF SOIL = 120 pcf
SOIL BEARING CAPACITY = 2500 pcf

SOIL FACTORS:
SOIL PRESSURE = 750 Ka = 0.29
SOIL MOMENT = 1274
RESULTANT = 2.00'

REACTIONS:
WEIGHT/UNIT LENGTH OF WALL = 2250
RESISTING MOMENT = 3375
DISTANCE FOR EQUILIBRIANT (x) = 0.95'

SAFETY FACTORS:
OVERTURNING FACTOR = 2.65 (> 1.5)
SLIDING FACTOR = 2.65 (> 1.5)

SOIL PRESSURE:
ECCENTRICITY = 0.57' [0.50']
SOIL PRESSURE AT TOE = 1599 [2500]
SOIL PRESSURE AT HEEL = -99 [0]



ROCKWALL CALCULATIONS
CONSIDERING A 6'-0" HIGH RETAINING ROCKWALL

SOIL TEST RESULTS:
f_c = 3000 psi
f_m = 40,000 psi
WEIGHT OF CONG = 150 pcf
WEIGHT OF SOIL = 120 pcf
SOIL BEARING CAPACITY = 2500 pcf

SOIL FACTORS:
SOIL PRESSURE = 990 Ka = 0.29
SOIL MOMENT = 3019
RESULTANT = 2.32'

REACTIONS:
WEIGHT/UNIT LENGTH OF WALL = 4208
RESISTING MOMENT = 8941
DISTANCE FOR EQUILIBRIANT (x) = 1.41'

SAFETY FACTORS:
OVERTURNING FACTOR = 2.96 (> 1.5)
SLIDING FACTOR = 2.79 (> 1.5)

SOIL PRESSURE:
ECCENTRICITY = 0.72' [0.71']
SOIL PRESSURE AT TOE = 1993 [2500]
SOIL PRESSURE AT HEEL = -13 [0]

ROCKWALL CALCULATIONS
CONSIDERING A 7'-0" HIGH RETAINING ROCKWALL

SOIL TEST RESULTS:
f_c = 3000 psi
f_m = 40,000 psi
WEIGHT OF CONG = 150 pcf
WEIGHT OF SOIL = 120 pcf
SOIL BEARING CAPACITY = 2500 pcf

SOIL FACTORS:
SOIL PRESSURE = 1110 Ka = 0.29
SOIL MOMENT = 1274
RESULTANT = 3.00'

REACTIONS:
WEIGHT/UNIT LENGTH OF WALL = 4995
RESISTING MOMENT = 11239
DISTANCE FOR EQUILIBRIANT (x) = 1.39'

SAFETY FACTORS:
OVERTURNING FACTOR = 2.81 (> 1.5)
SLIDING FACTOR = 2.61 (> 1.5)

SOIL PRESSURE:
ECCENTRICITY = 0.86' [0.75']
SOIL PRESSURE AT TOE = 2384 [2500]
SOIL PRESSURE AT HEEL = -164 [0]

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DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	NOS MONUMENT CHAIN 1980 (TIP) (CONVERT)
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSCONTINENTAL ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3940.24 NAVD 83
9/28/11	CITY COMMENTS	STAFF	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

SCALE
HOR: 1:30 VER: 1:10
FILE NAME:
W.O. 11509-1A EHI
DATE: FEBRUARY, 2010
DESIGN BY: H.P./RC
DRAWN BY: LAJ/H.P./DR
CHKD. BY: H.P.
APPD. BY: BR

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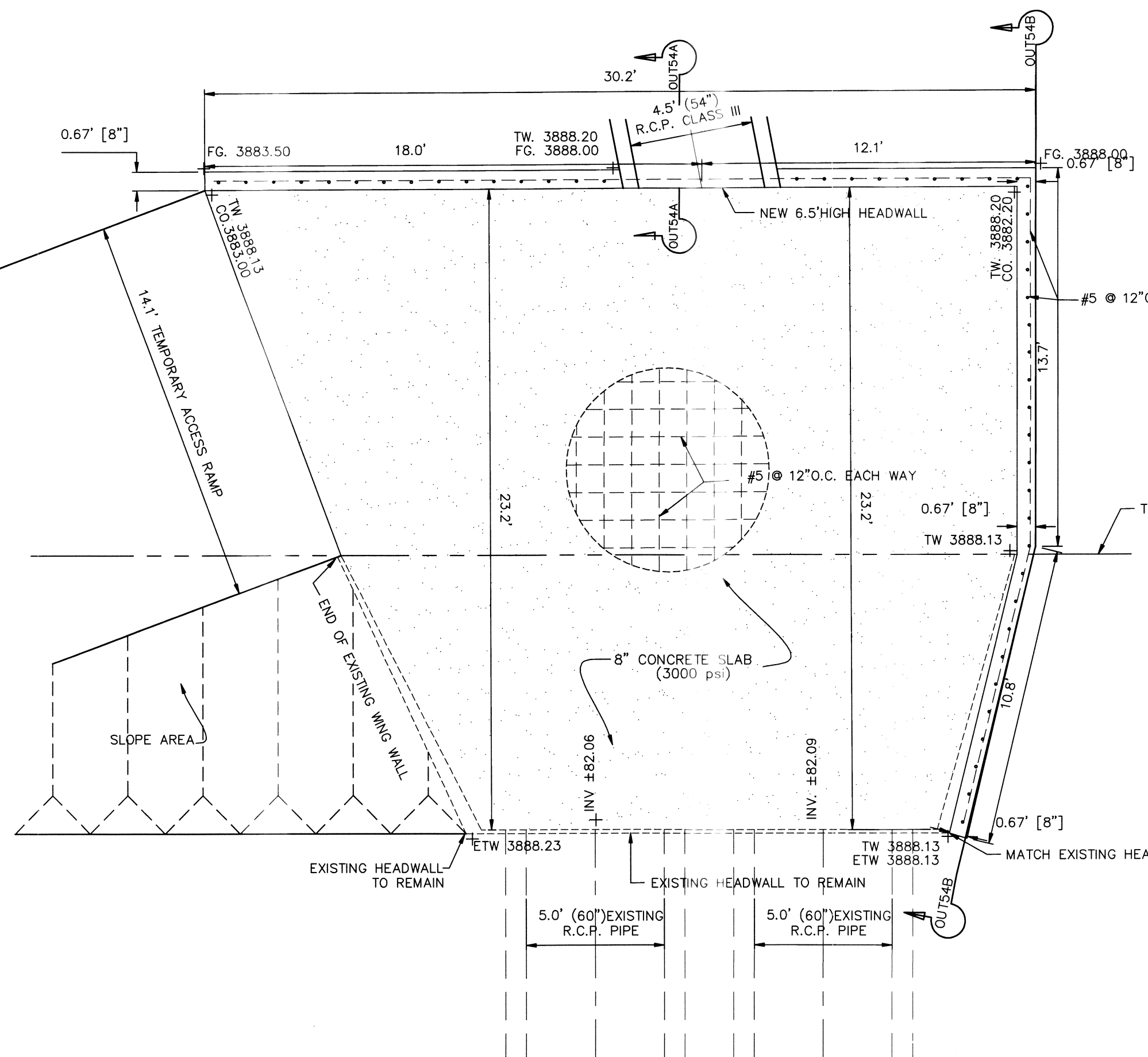
ROE ENGINEERING, L.C.
TEXAS REGISTERED ENGINEERING FIRM # 2103

STORM PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
NORTH SYSTEM PLAN AND PROFILE
ENCHANTED FUTURE STA. 1+74.59

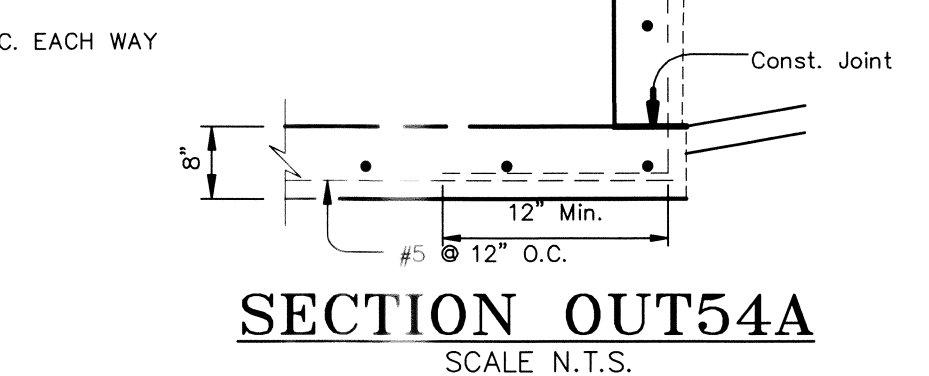
RoE Engineering, L.C.
601 N. Cotton St. Suite No.8 El Paso, TX 79902
(915) 533-4148 - FAX: (915) 533-4972
e-mail: roeeng@roebell.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 16 OF 33

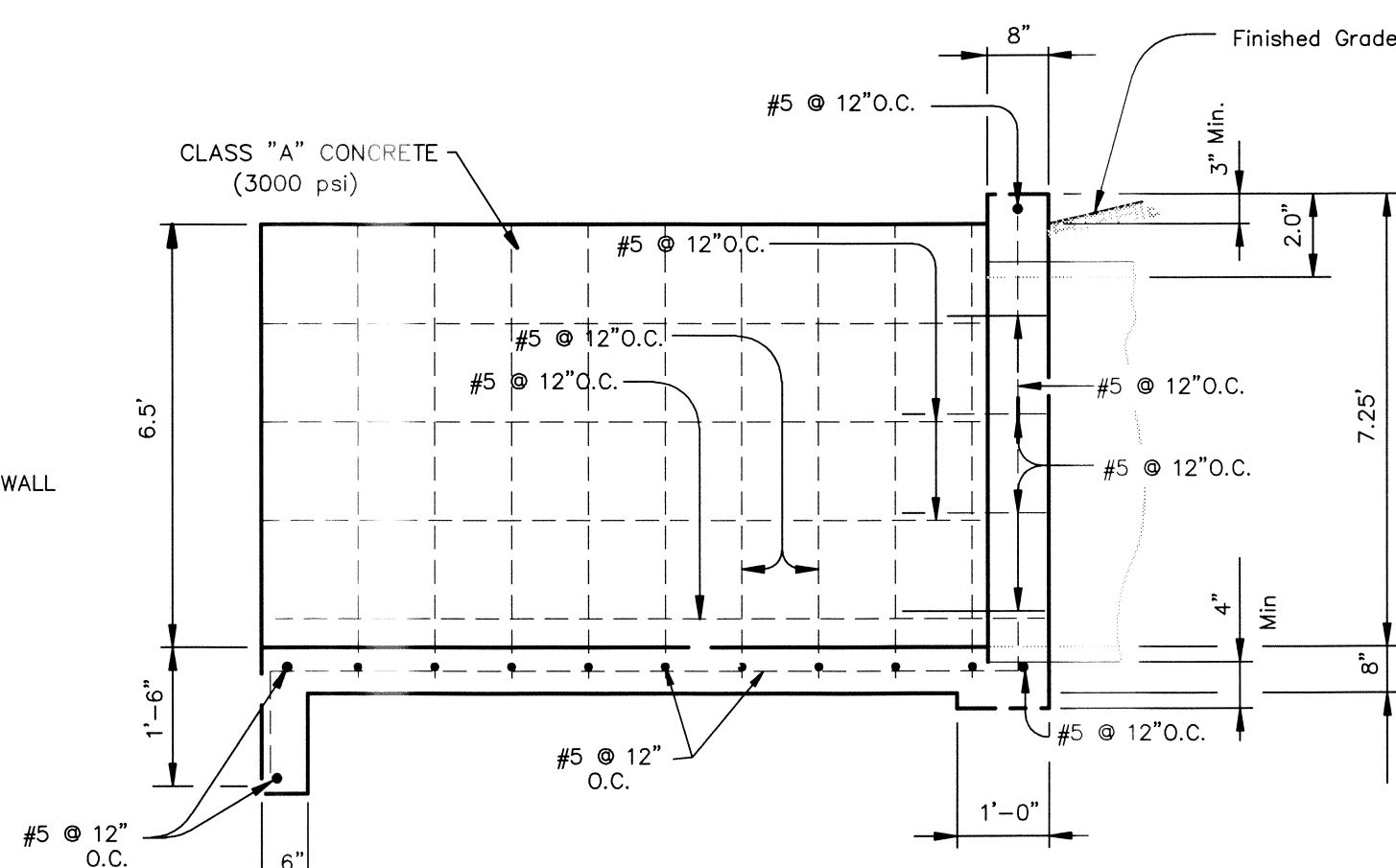
GENERAL NOTES:
 Designed according to current AASHTO Standard and Interim Specifications.
 Reinforcing steel shall be placed with the center of the outside layer of bars 3" from the surface of the concrete.
 All reinforcing steel shall be Grade 60.
 All concrete shall be Class "C" and shall have a minimum 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.



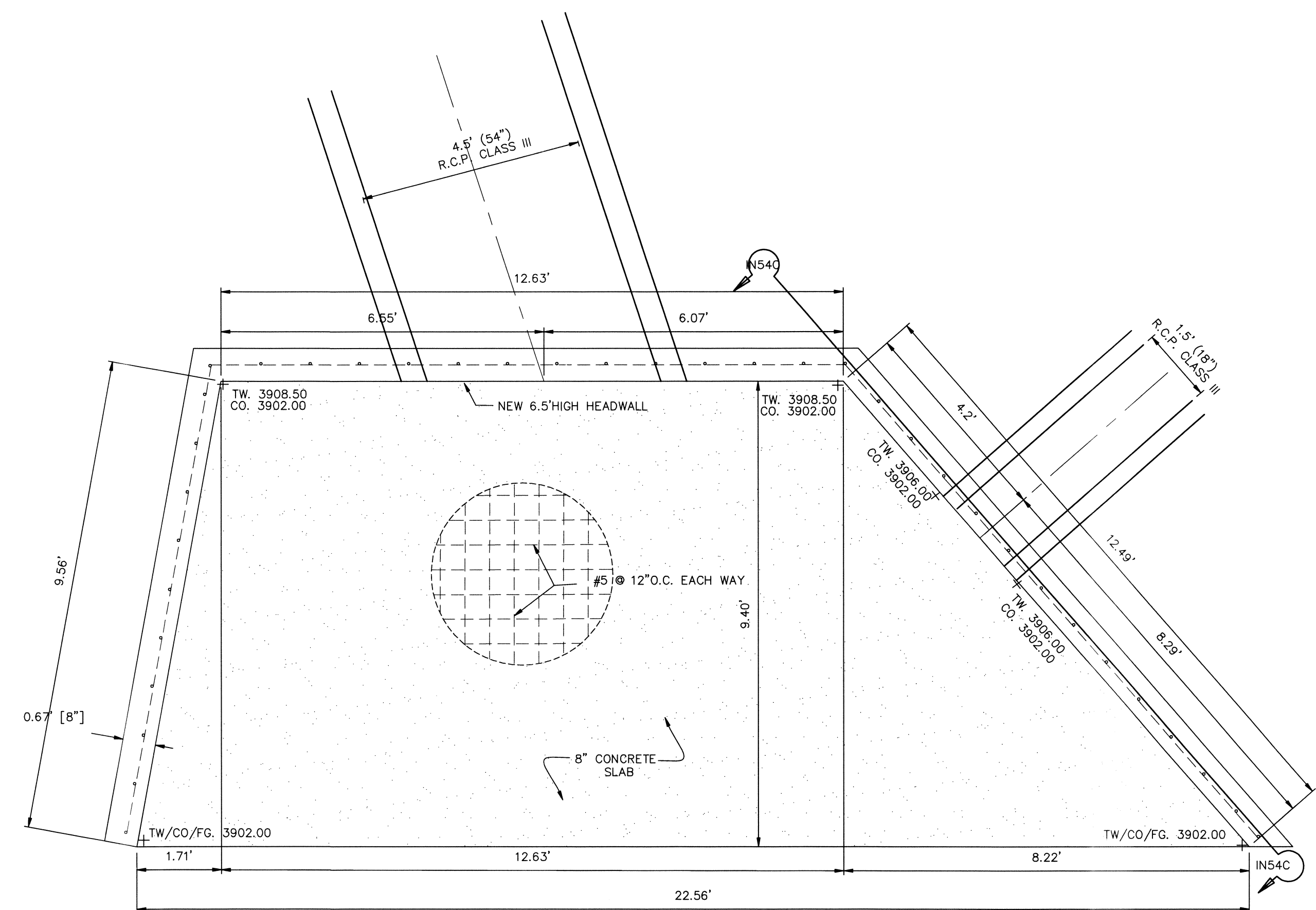
OUTFLOW STRUCTURE DETAIL
 SCALE 1" = 4'



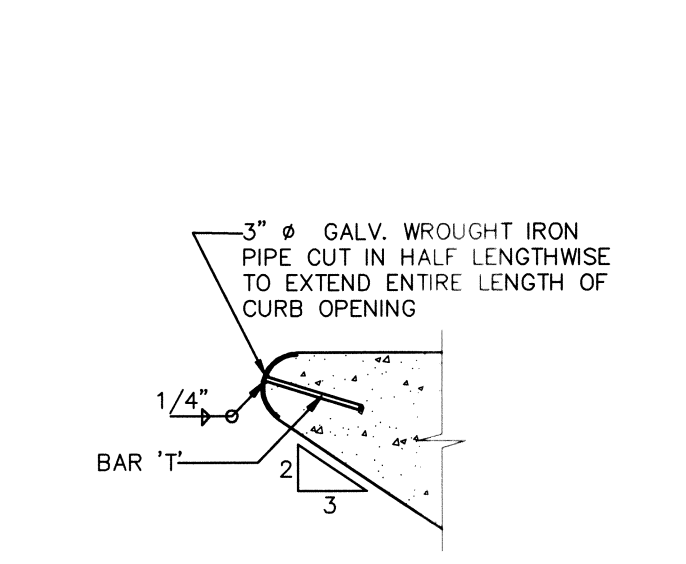
SECTION OUT54A
 SCALE N.T.S.



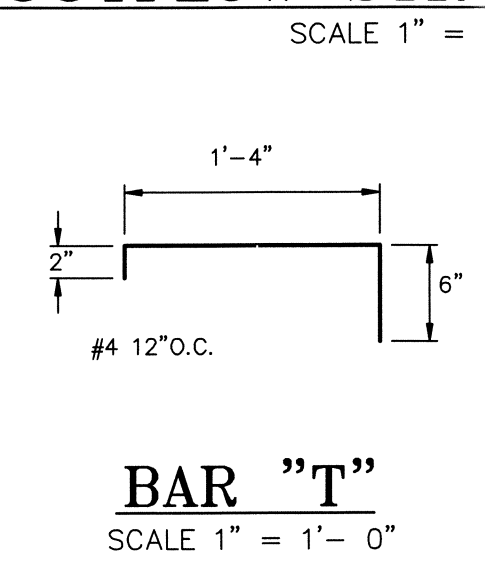
SECTION OUT54B TYPICAL WING ELEVATION
 SCALE N.T.S.



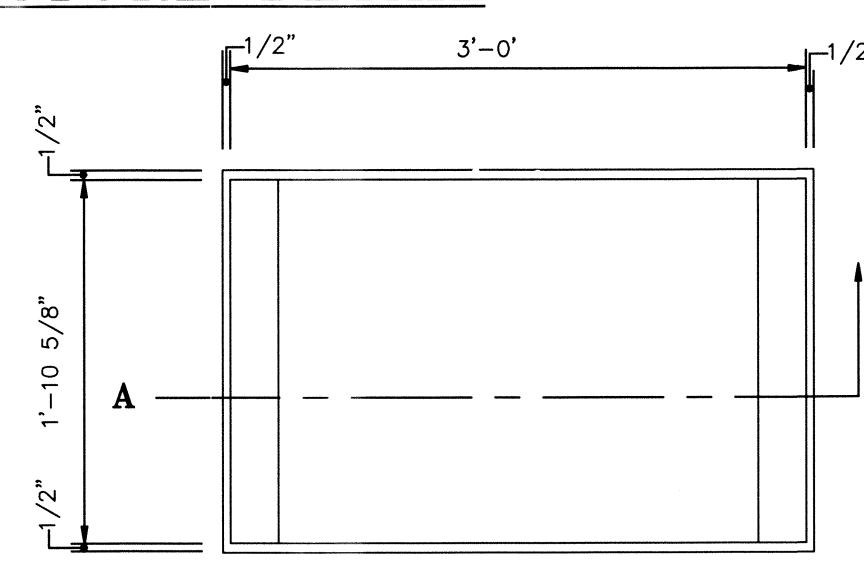
INFLOW STRUCTURE DETAIL
 SCALE 1" = 2'



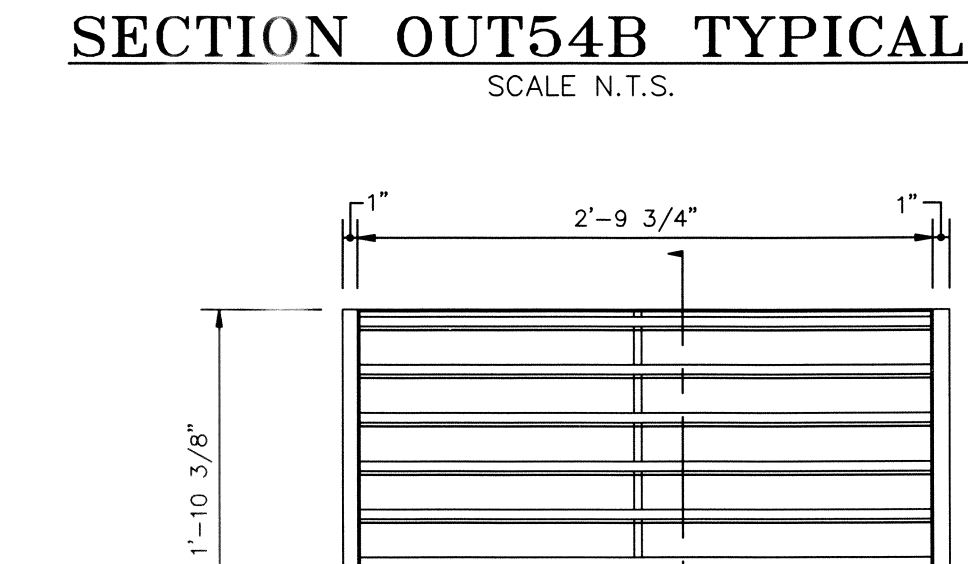
METAL NOSE DETAIL
 SCALE 1" = 1'-0"



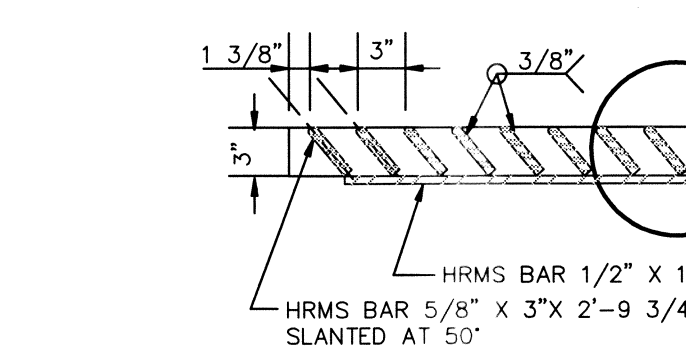
BAR "T"
 SCALE 1" = 1'-0"



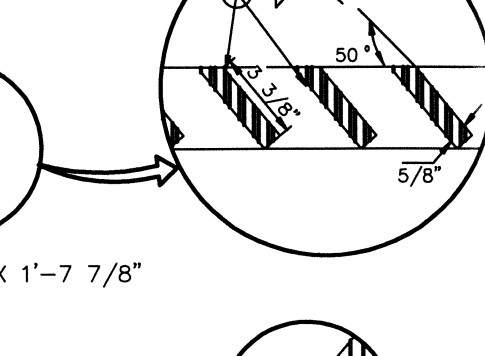
FRAME
 SCALE: 1" = 1'-1"



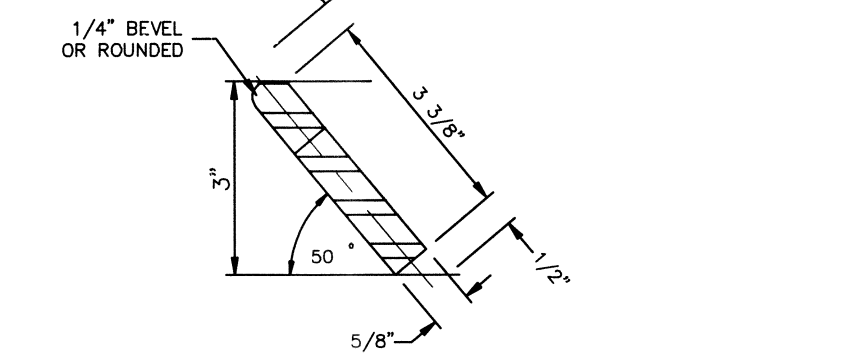
GRATE
 SCALE: 1" = 1'-0"



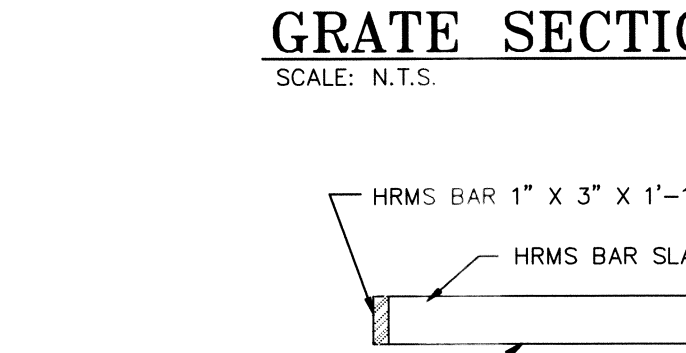
GRATE SECTION
 SCALE: N.T.S.



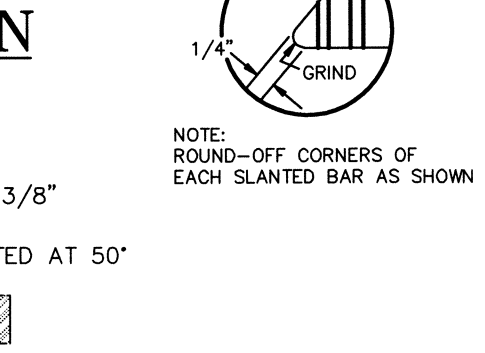
SLANTED BAR DETAIL
 SCALE: 1" = 3"



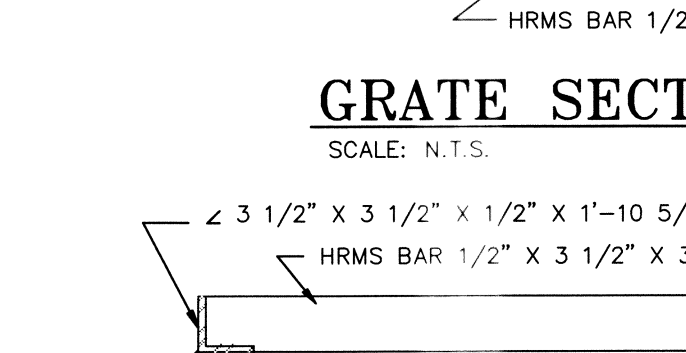
NELSON STUD DETAIL
 SCALE: 1" = 6"



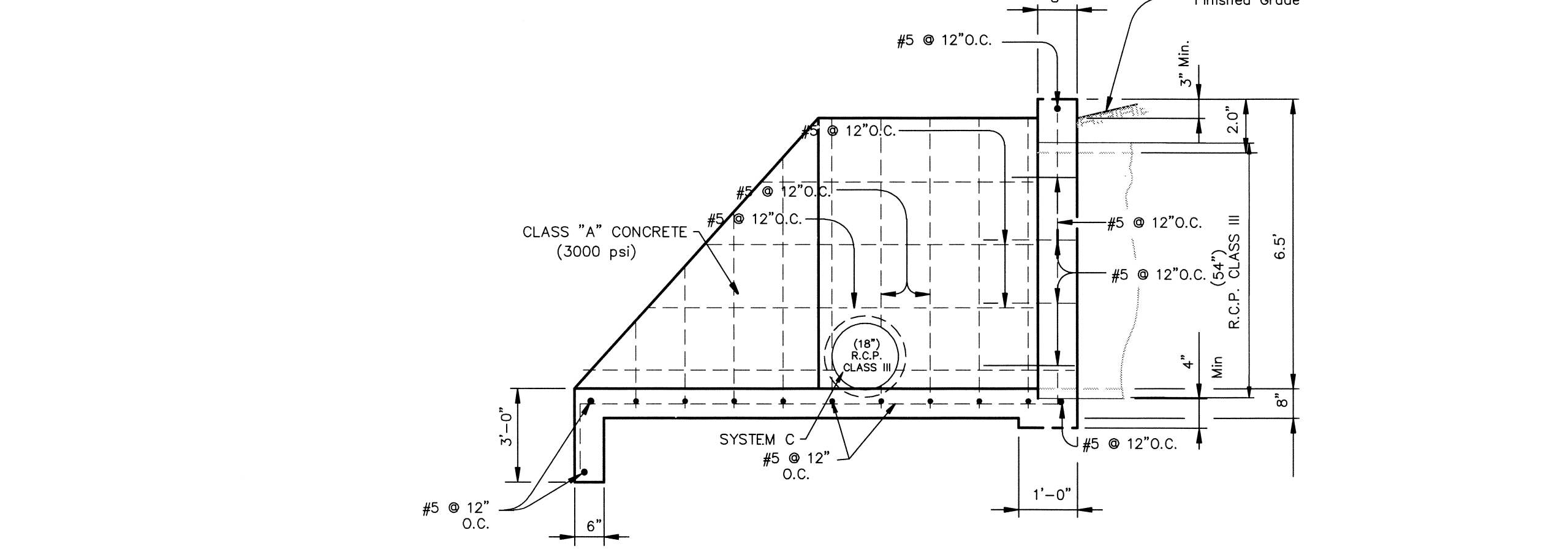
GRATE SECTION
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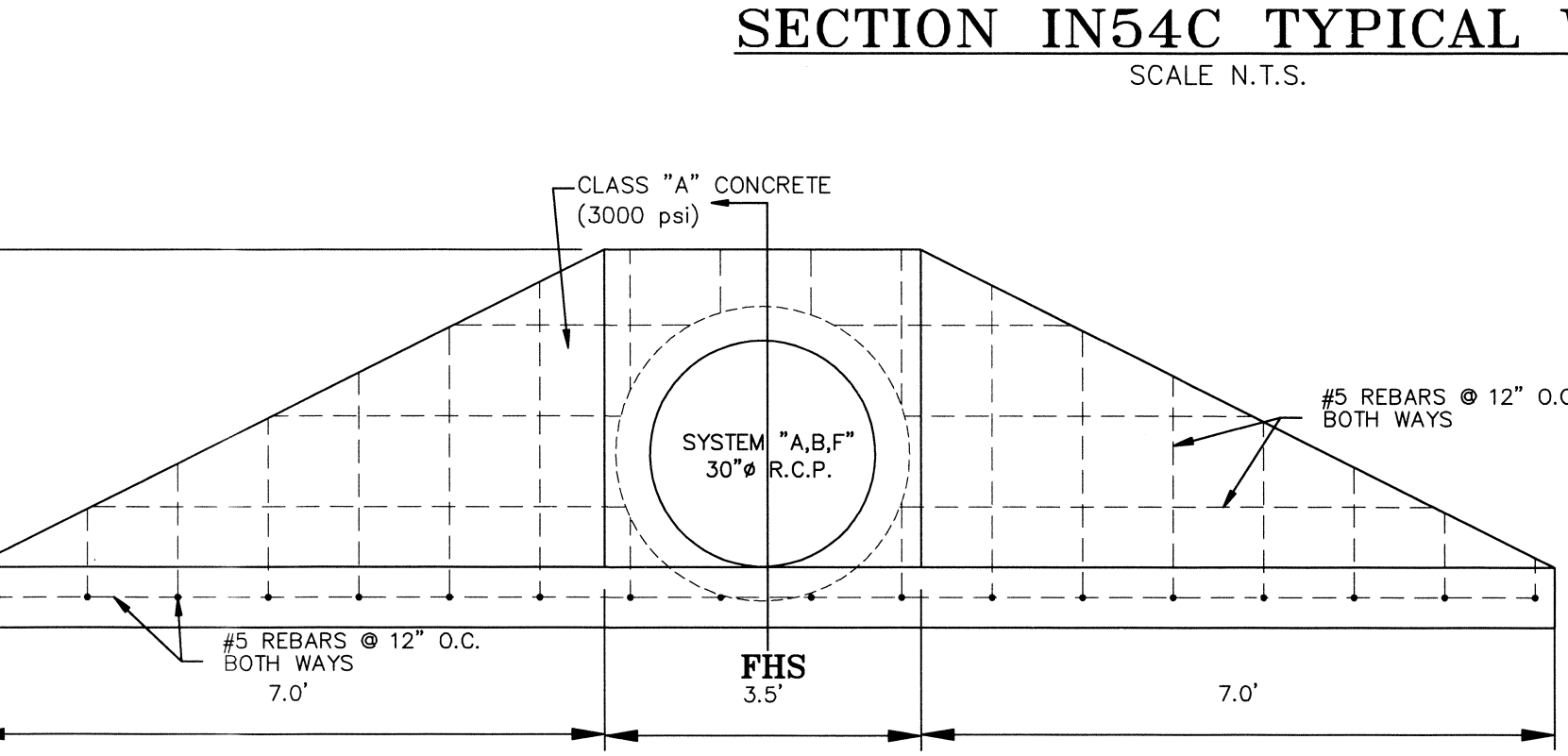
NELSON STUD DETAIL
 SCALE: 1" = 6"



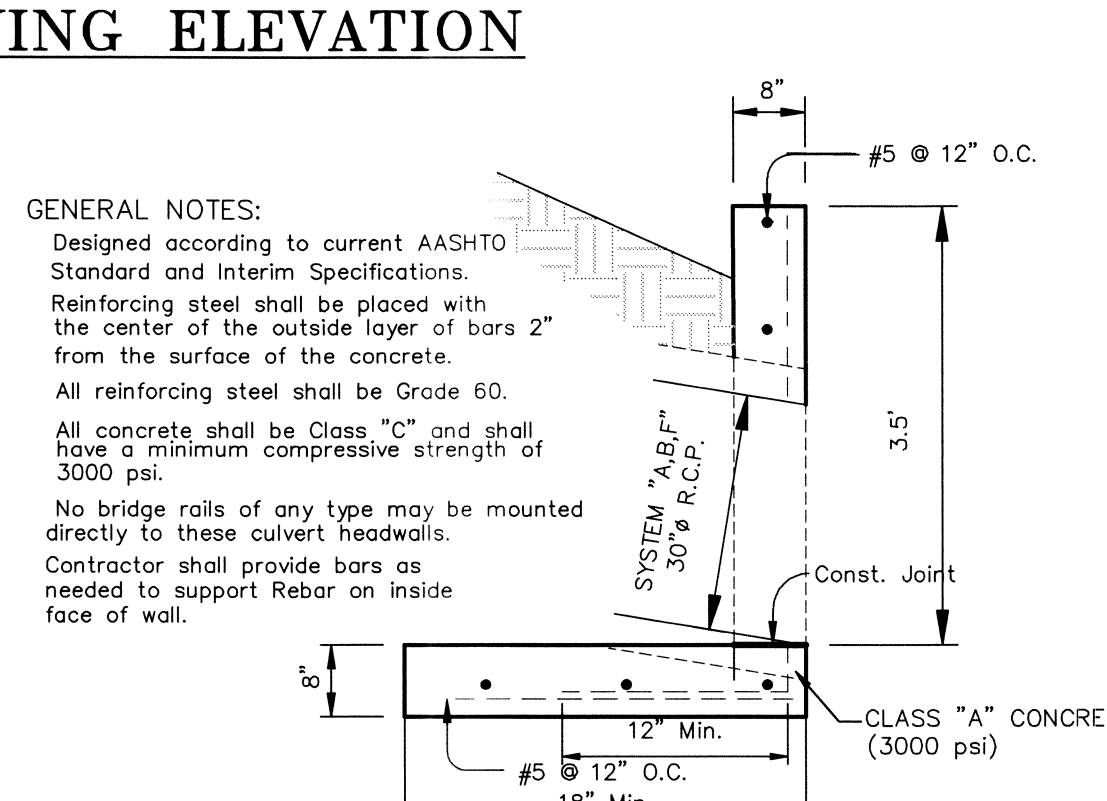
SECTION A
 SCALE: N.T.S.



SECTION IN54C TYPICAL WING ELEVATION
 SCALE N.T.S.



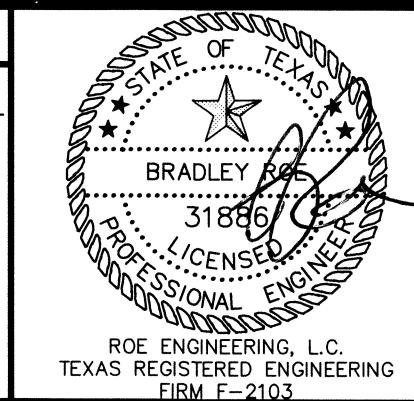
OUTFLOW STRUCTURE DETAIL
 SCALE 1" = 2'



SECTION FHS-FHS
 SCALE N.T.S.

GENERAL NOTES:
 Designed according to current AASHTO Standard and Interim Specifications.
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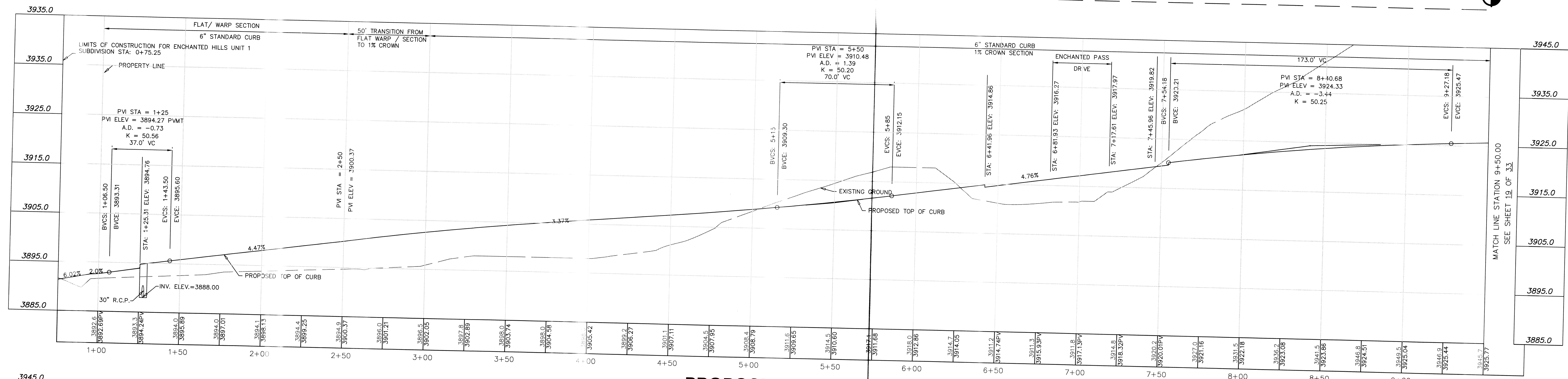
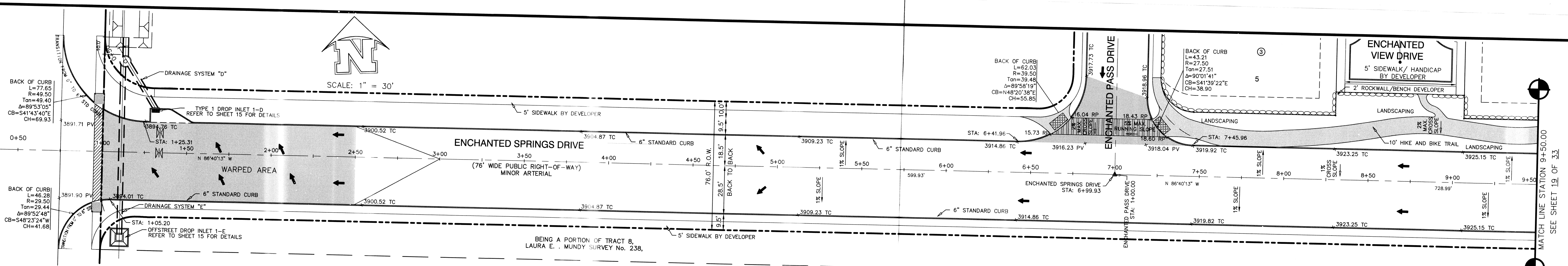
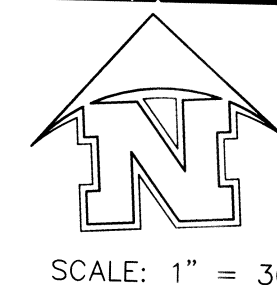
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NOS MONUMENT "ORND 1889" (TRIP) (264444)	
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (FRANQUIGNAN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3842.24 NAVD 83	
9/28/11	CITY COMMENTS	STAFF	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	

STORM DRAINAGE PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
DRAINAGE STRUCTURE DETAILS

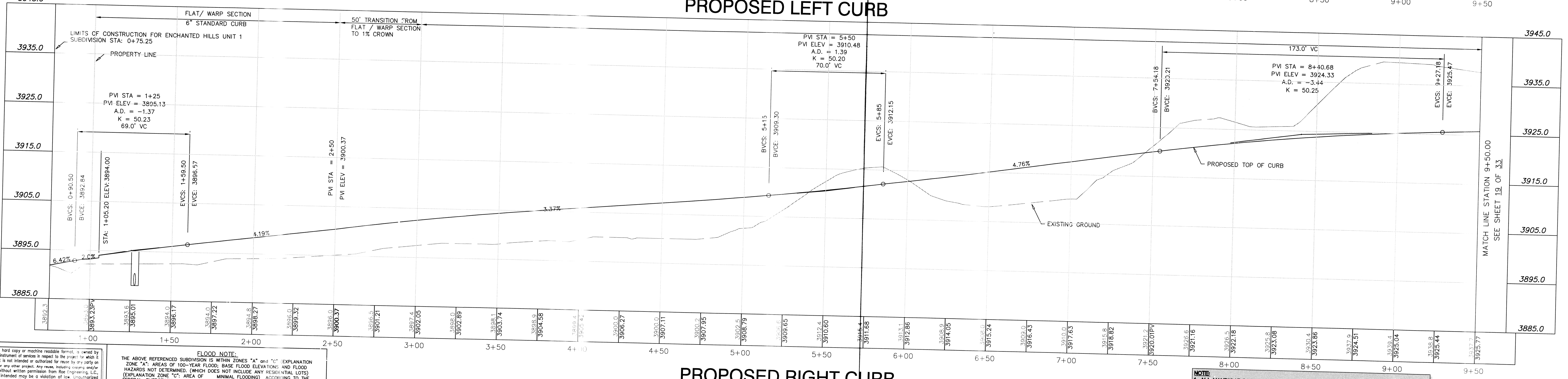
HOR: _____ VER: _____
 FILE NAME: _____
 W.O. 11509-1A EH1
 DATE: FEBRUARY, 2010
 DESIGN BY: H.P./RC
 DRAWN BY: LAJ/H.P./IDR
 CHKD. BY: H.P.
 APPD. BY: BR

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 e-mail: roeeng@roebill.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 17 OF 33

US INTERSTATE HIGHWAY #10 (I-10 WEST)
DESERT BOULEVARD NORTH

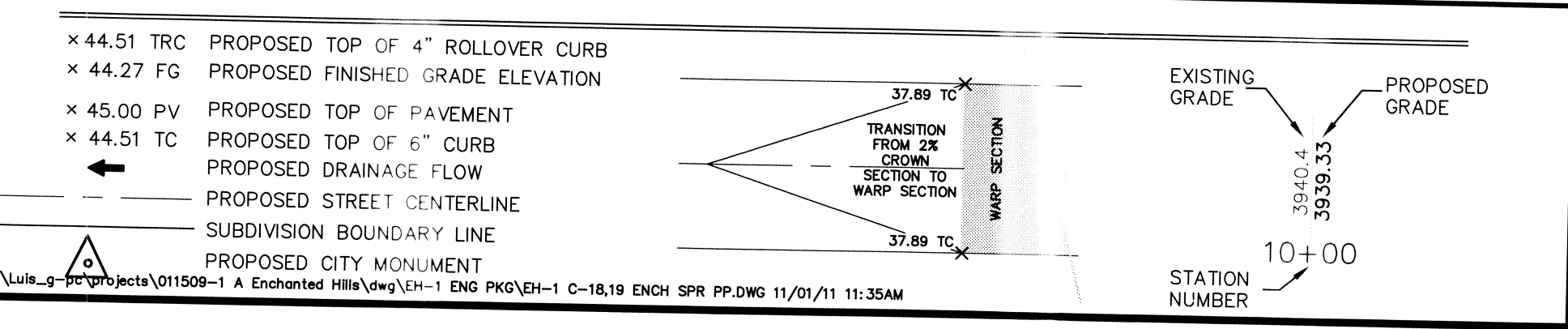


PROPOSED LEFT CURB



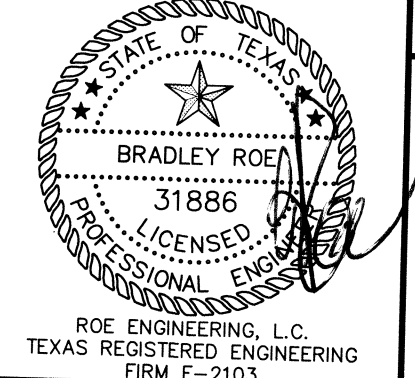
PROPOSED RIGHT CURB

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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NMS MONUMENT (GRID 1980) (P&R 2014)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODESIC SURVEY 1983: LOCATED ABOUT 1.25 MILES EAST OF THE GRID ORANGE 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	FILE NAME: W.O. 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF		DATE: FEBRUARY, 2010
10/03/11	CITY COMMENT(P&R)	STAFF		DESIGN BY: H.P./RC
			SECONDARY BENCHMARK	DRAWN BY: LAJ/H.P./JDR
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOQUES DRIVE IN FRONT OF LOT 15, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	CHKD. BY: H.P.
				APPD. BY: BR

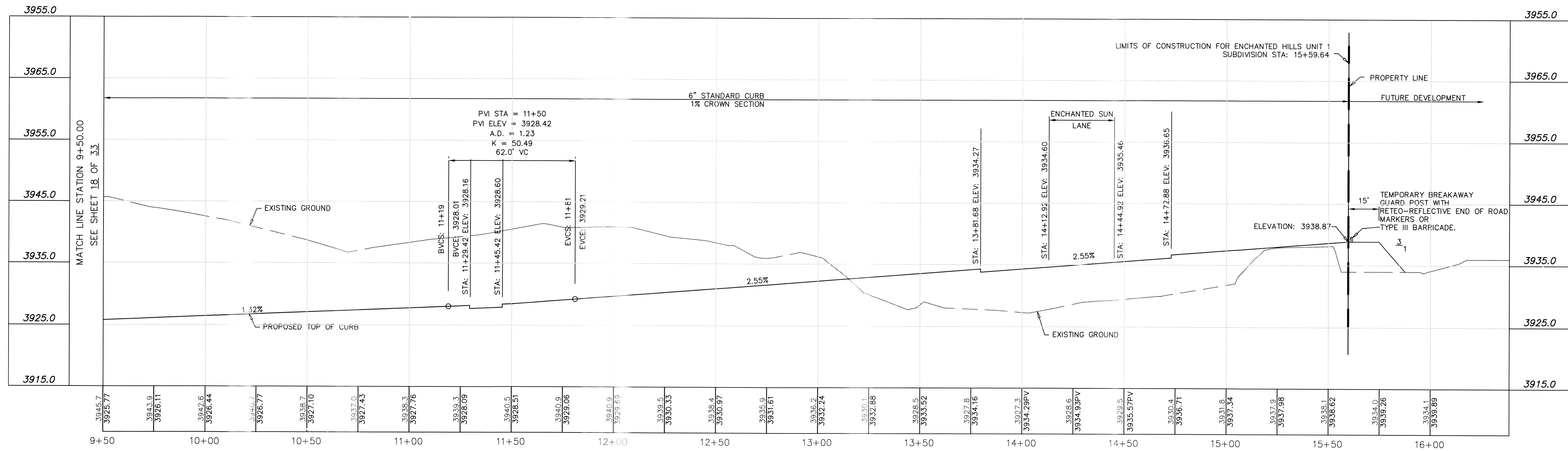
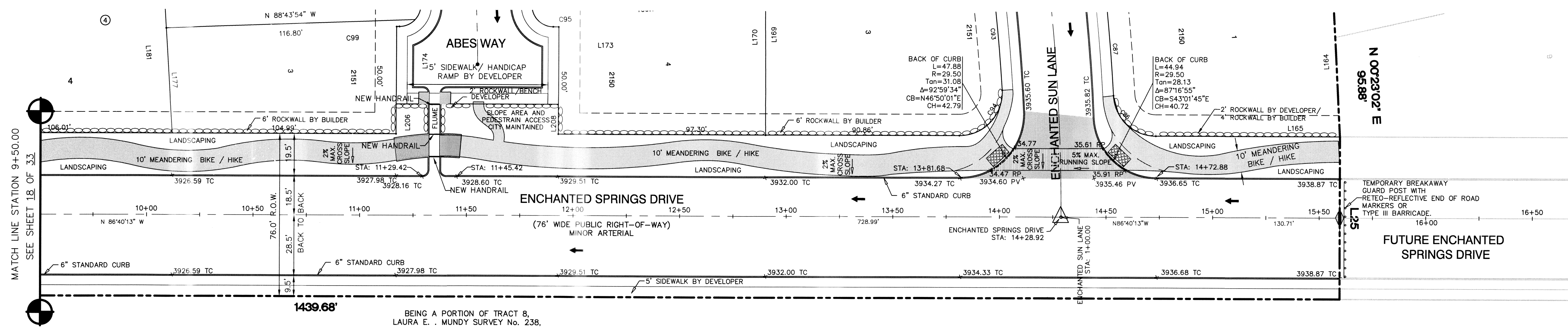
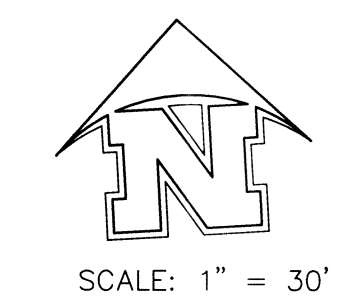
THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON APRIL 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



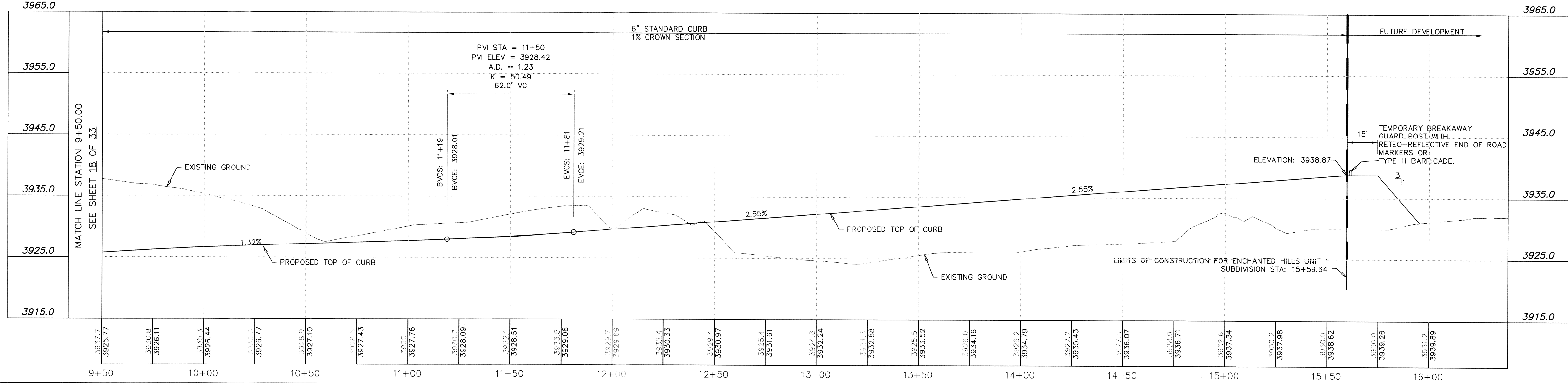
NOTE:
1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
ENCHANTED SPRINGS DRIVE
STATION 1+00 TO 9+50.00

brp Engineering, L.C.
601 N. Cotton St. Suite No. 8 El Paso, Tx. 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roeeng@bellsouth.net
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 18 OF 33



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

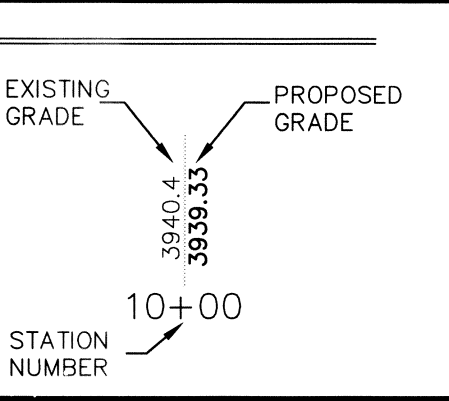
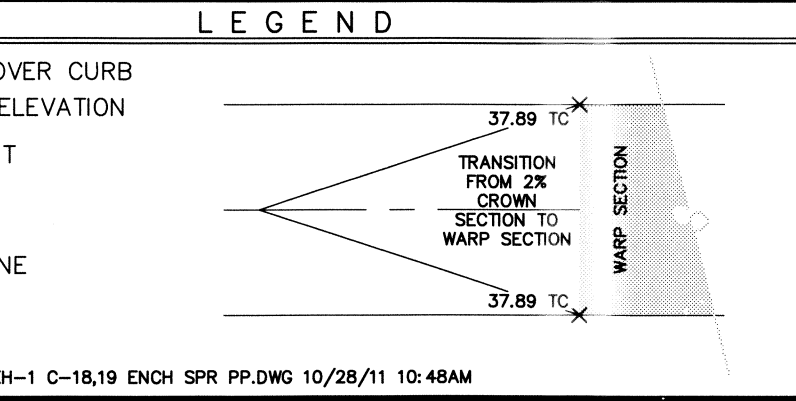
NOTE:
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

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FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A" - AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C" - AREA OF ANNUAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

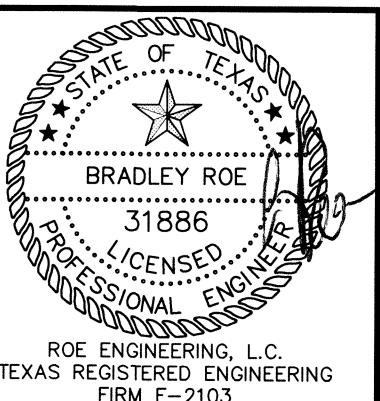
THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 11886 ON APRIL 20, 2011 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

- × 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



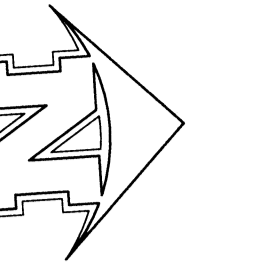
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	"RS" MONUMENT "CROSS 1886" (TRC - CROWN)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3940.24 NAVD 88	FILE NAME: W.O. 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF	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 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: FEBRUARY, 2010
10/03/11	CITY COMMENT(P&R)	STAFF		DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./JDR
				CHKD. BY: H.P.
				APPD. BY: BR

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	"RS" MONUMENT "CROSS 1886" (TRC - CROWN)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION: 3940.24 NAVD 88	FILE NAME: W.O. 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF	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 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DATE: FEBRUARY, 2010
10/03/11	CITY COMMENT(P&R)	STAFF		DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./JDR
				CHKD. BY: H.P.
				APPD. BY: BR

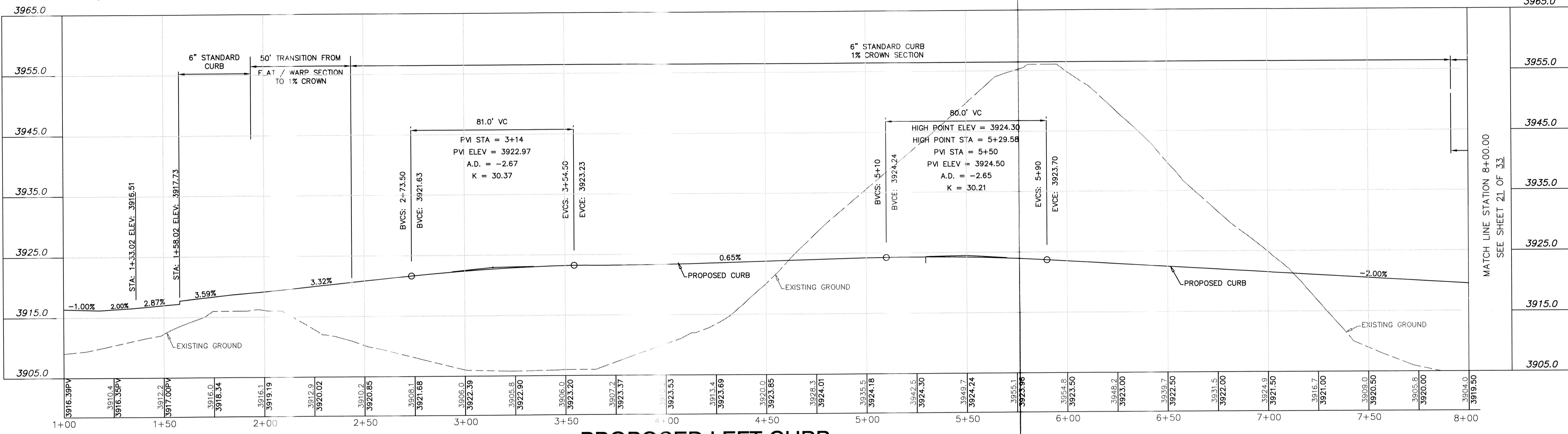
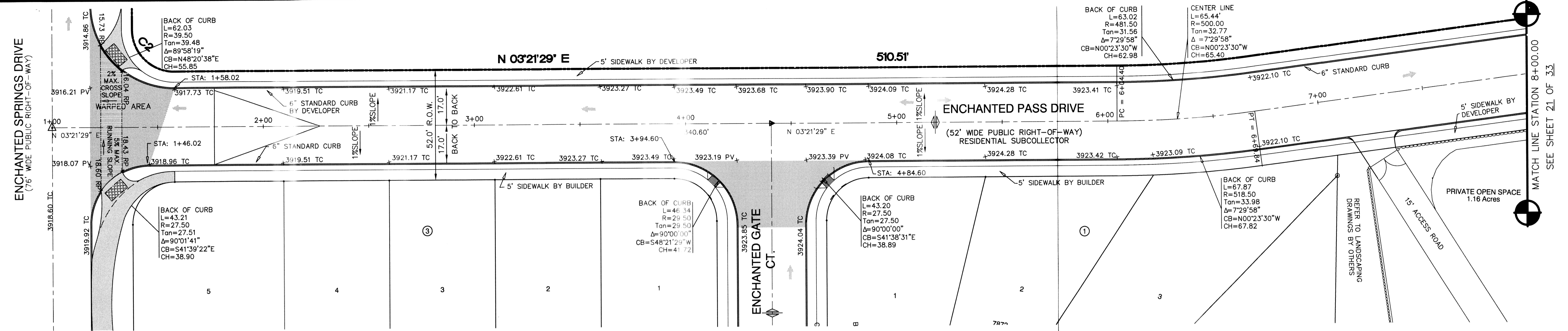


PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
ENCHANTED SPRINGS DRIVE
 STATION 09+50 TO 15+59.64

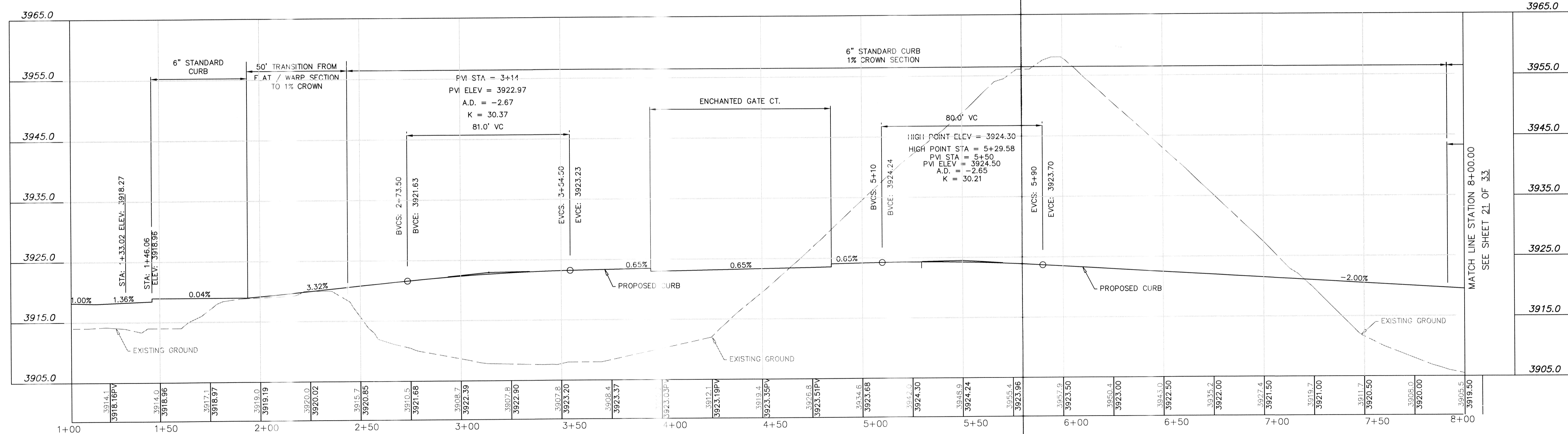
Roe Engineering, L.C.
 601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@swbell.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 19 OF 33



SCALE: 1" = 30'



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

NOTE:
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A" AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C" AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

LEGEND

- × 44.51 TRC PROPOSED TOP OF 4" ROLLOVER 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

TRANSITION FROM 1% CROWN SECTION TO WARP SECTION

WARP SECTION

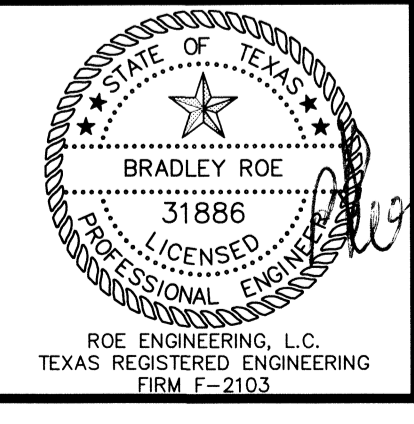
EXISTING GRADE

PROPOSED GRADE

STATION NUMBER

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NMS MONUMENT POINT NO. 1880 (PUB. 060444)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	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 3940.24 NAVD 88	FILE NAME: 11509-1A EHT
9/28/11	CITY COMMENTS	STAFF	SECONDARY BENCHMARK	W.O. 11509-1A EHT
10/03/11	CITY COMMENT(P&R)	STAFF	EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOROS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANUTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANUTILLO HEIGHTS UNIT ONE. ELEVATION: 3937.21	DATE: FEBRUARY, 2010
				DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./IDR
				CHKD. BY: H.P.
				APPD. BY: BR

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PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

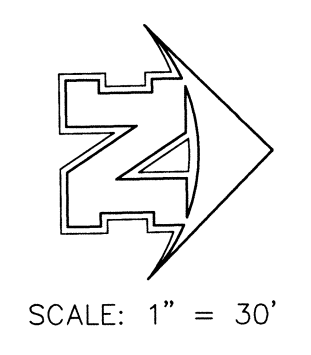
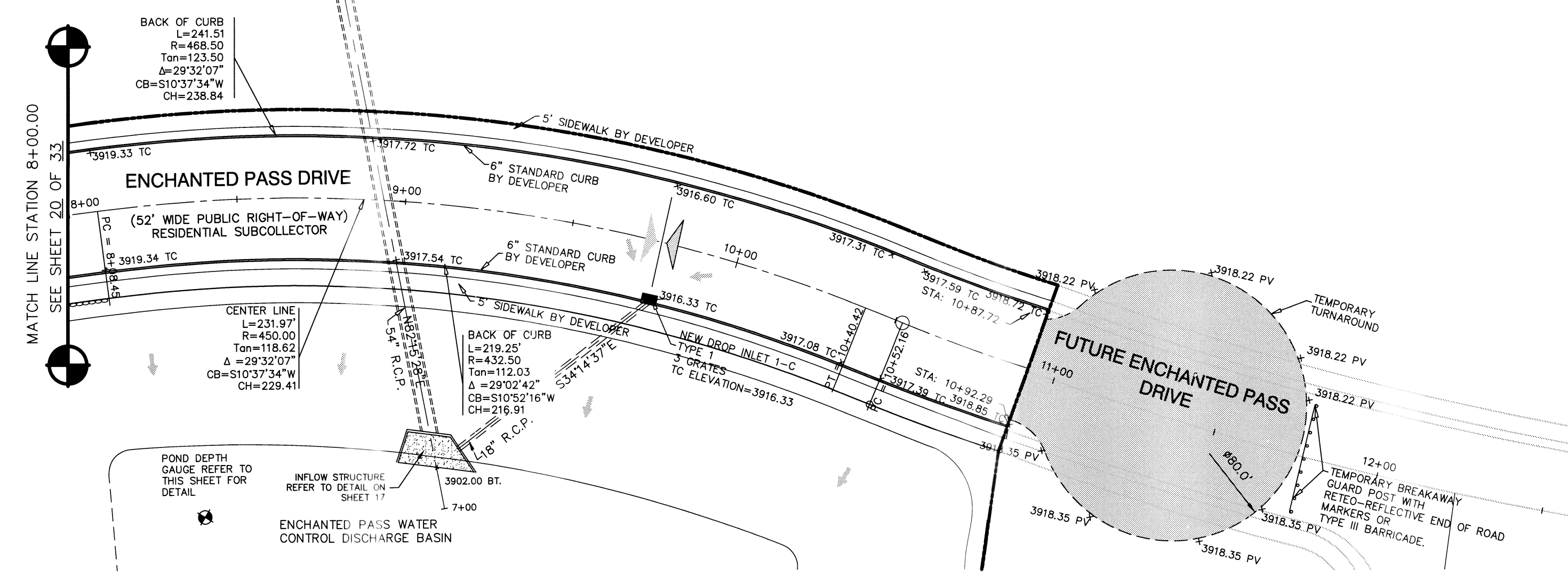
ENCHANTED PASS DRIVE STATION 1+00 TO 7+50.00

RoE Engineering, L.C.

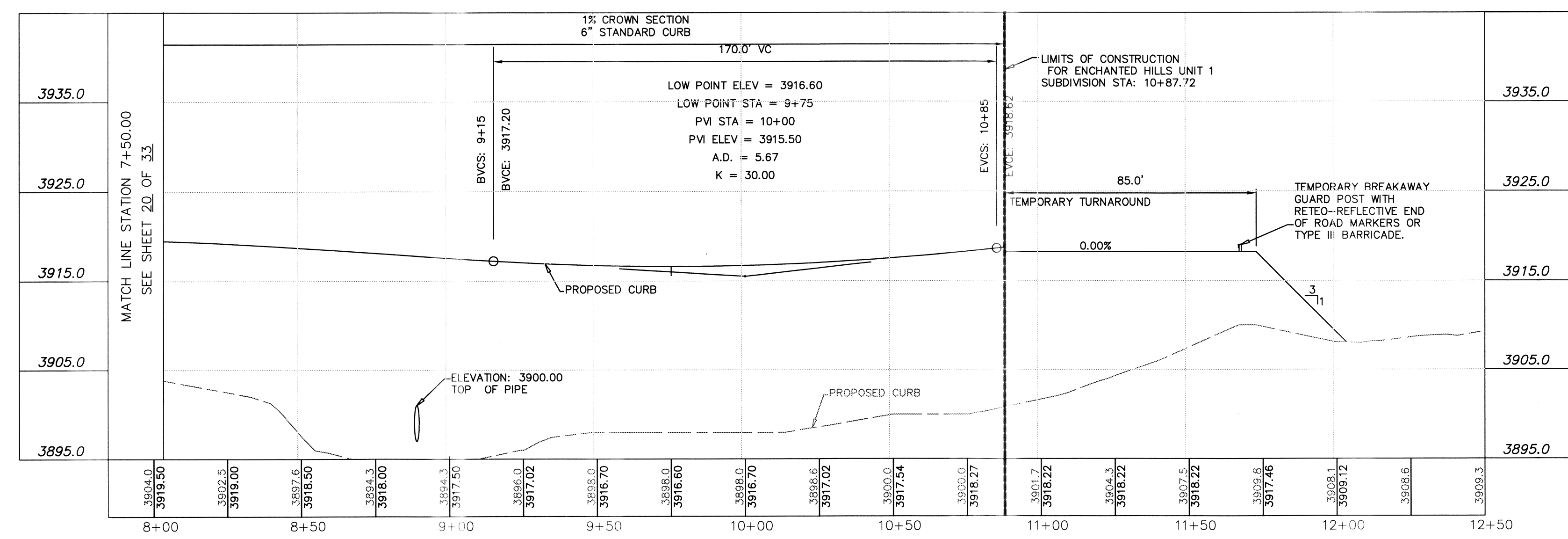
601 N. Cotton St. Suite No.6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@roebell.net

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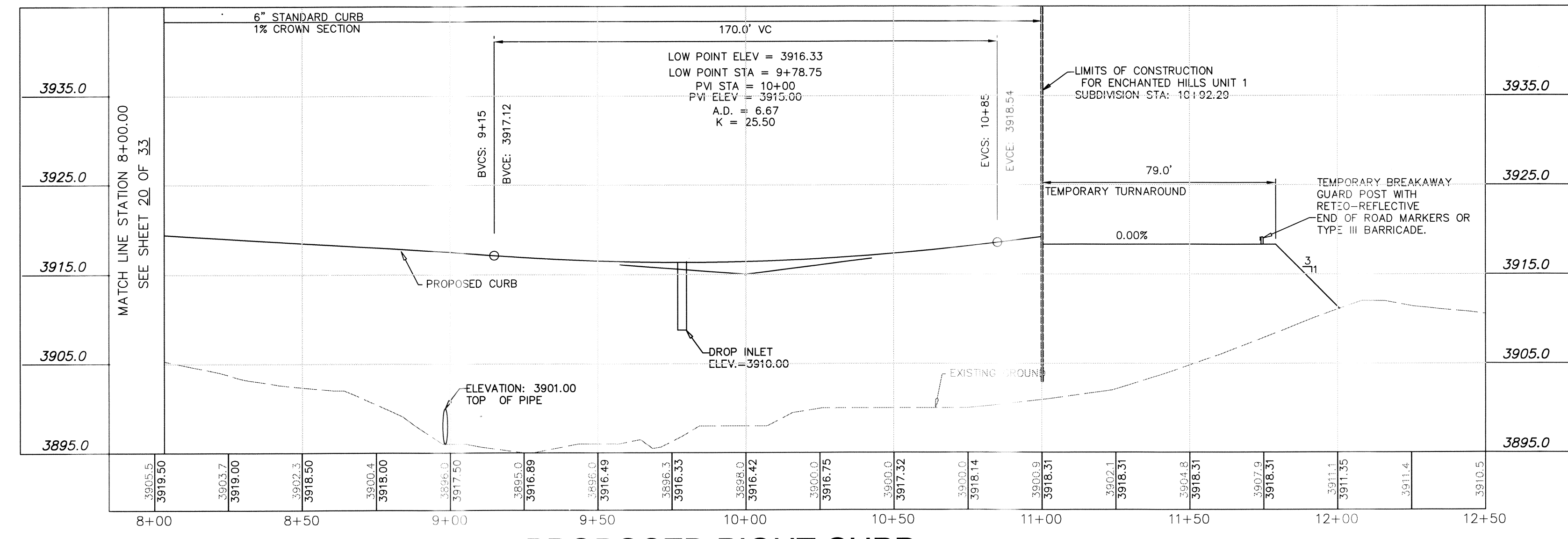
SHEET 20 OF 33



NOTE
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

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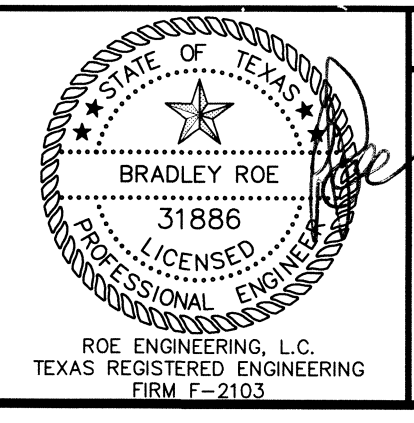
FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 48224 001 C, DATED FEBRUARY 5, 1996.

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DATE	REVISIONS	BY
6/27/11	CITY COMMENTS	STAFF
9/08/11	CITY COMMENTS	STAFF
9/28/11	CITY COMMENTS	STAFF

PRIMARY BENCHMARK	SCALE
N/S MONUMENT "CHINO 1980" (PID: 060444) LOCATION AS PER NATIONAL GEODETIC SURVEY (NAD83) LOCATED ABOUT 1.25 MILES EAST OF THE ROY GRADE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	HQR: 1"=30' VER: 1"=10' FILE NAME: W.O. 11509-1A EHI DATE: FEBRUARY, 2010 DESIGN BY: H.P./RC DRAWN BY: LAJ/H.P./DR CHKD. BY: H.P. APPD. BY: BR

LEGEND	PLAN AND PROFILE
<ul style="list-style-type: none"> × 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 	<p>ENCHANTED HILLS UNIT ONE</p> <p>ENCHANTED PASS DRIVE</p> <p>STATION 7+50 TO 10+92.29</p>



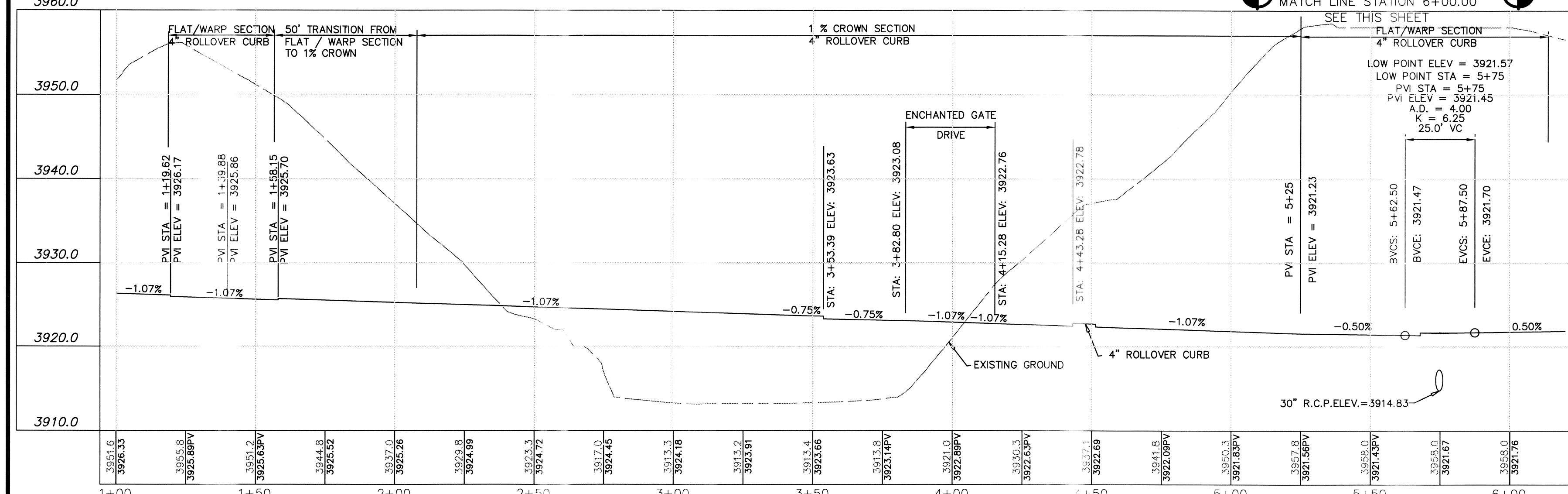
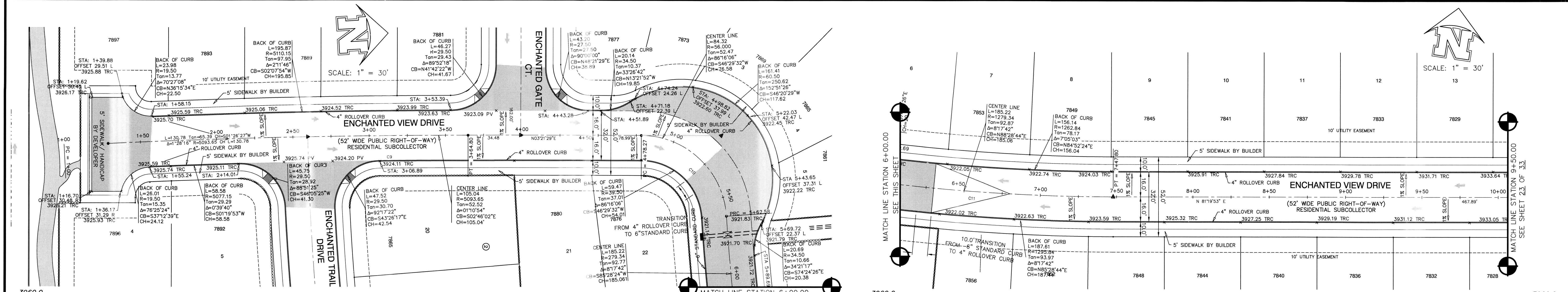
ROE ENGINEERING, L.C.
 TEXAS REGISTERED ENGINEERING FIRM F-2103

ENCHANTED HILLS UNIT ONE

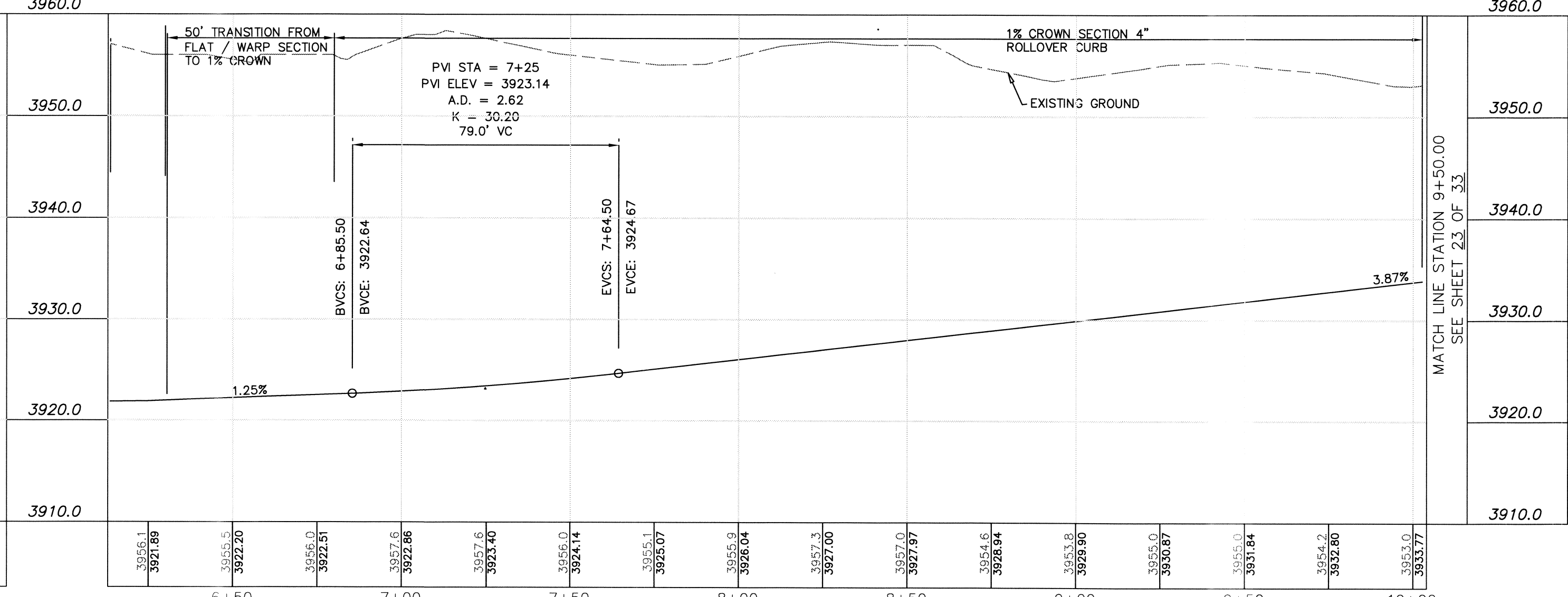
ENCHANTED PASS DRIVE

STATION 7+50 TO 10+92.29

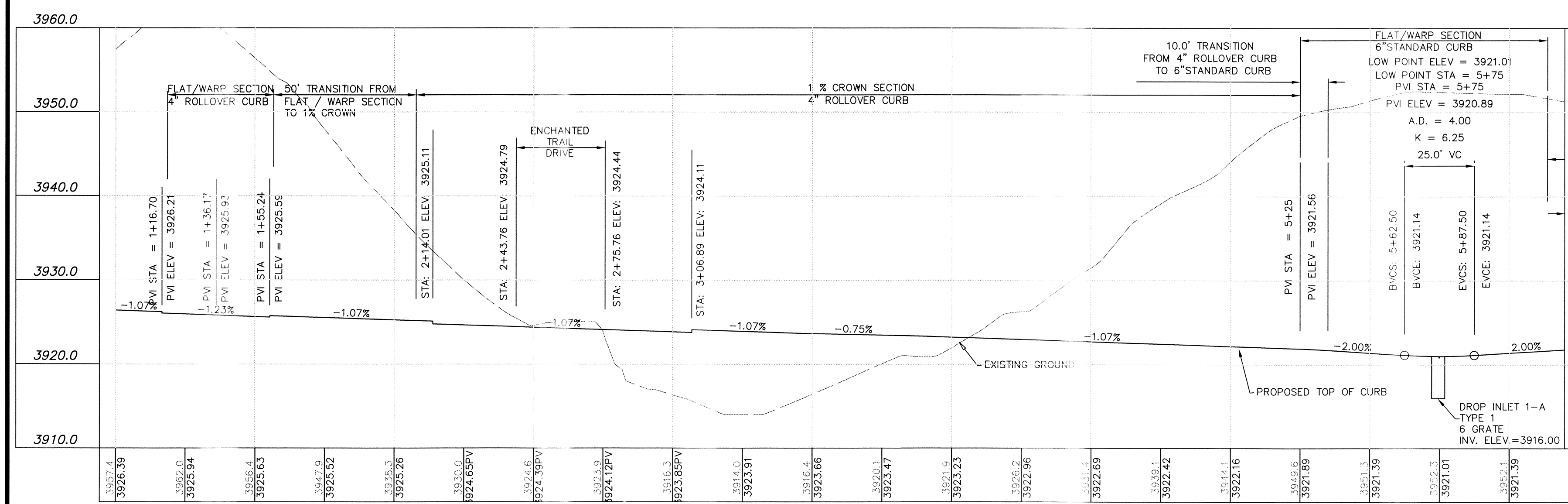
SHEET 21 OF 33



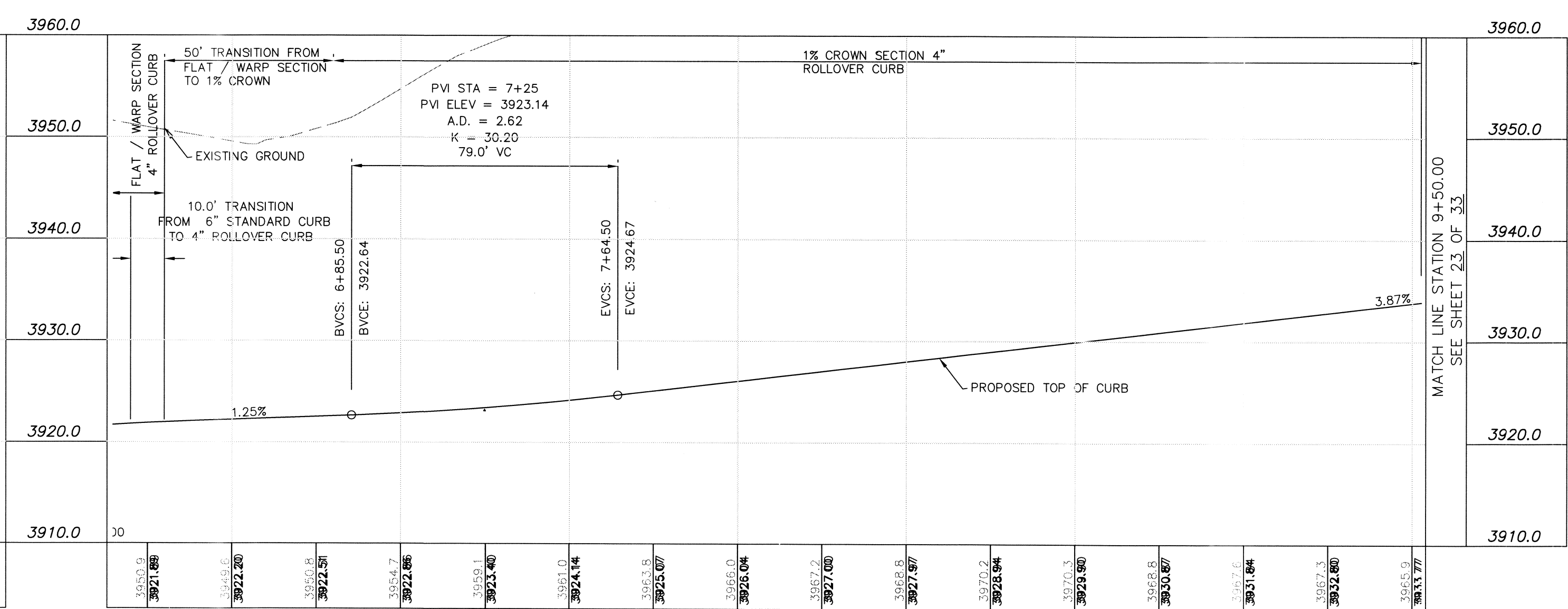
PROPOSED LEFT CURB



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

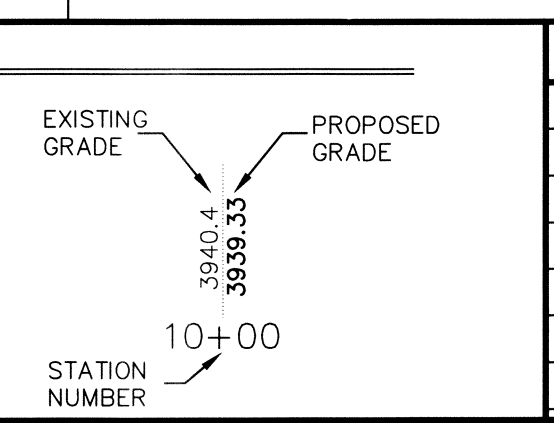


PROPOSED RIGHT CURB

FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A" AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C" AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

LEGEND

- × 44.51 TRC PROPOSED TOP OF 4" ROLLOVER 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



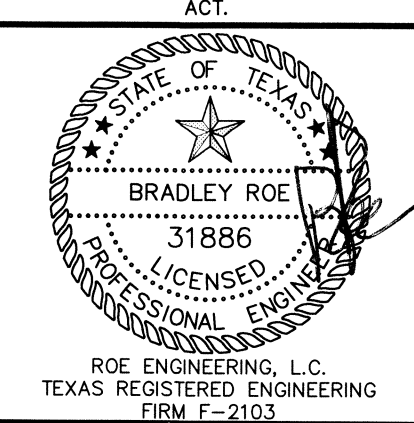
DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	THIS MONUMENT (MONUMENT 1880) (P.C. 800444) LOCATED AS PER NATIONAL GEODETIC SURVEY 1981, LOCATED ABOUT 125 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10.	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF		FILE NAME: W.O. 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF		DATE: FEBRUARY, 2010
			SECONDARY BENCHMARK	DESIGN BY: H.P./RC
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOCHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CAMARILLO HEIGHTS UNIT TWO AND LOT 15, BLOCK 7, CAMARILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	DRAWN BY: LAJ/H.P./DR
				CHKD. BY: H.P.
				APPD. BY: BR

PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

ENCHANTED VIEW DRIVE STATION 1+00 TO 10+00.00

ROE ENGINEERING, L.C.
 TEXAS REGISTERED ENGINEERING FIRM # 2103



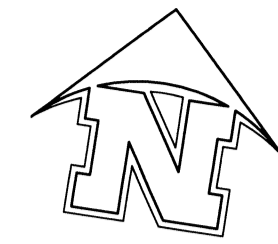
NOTE:

- ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 22.
- ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 22.

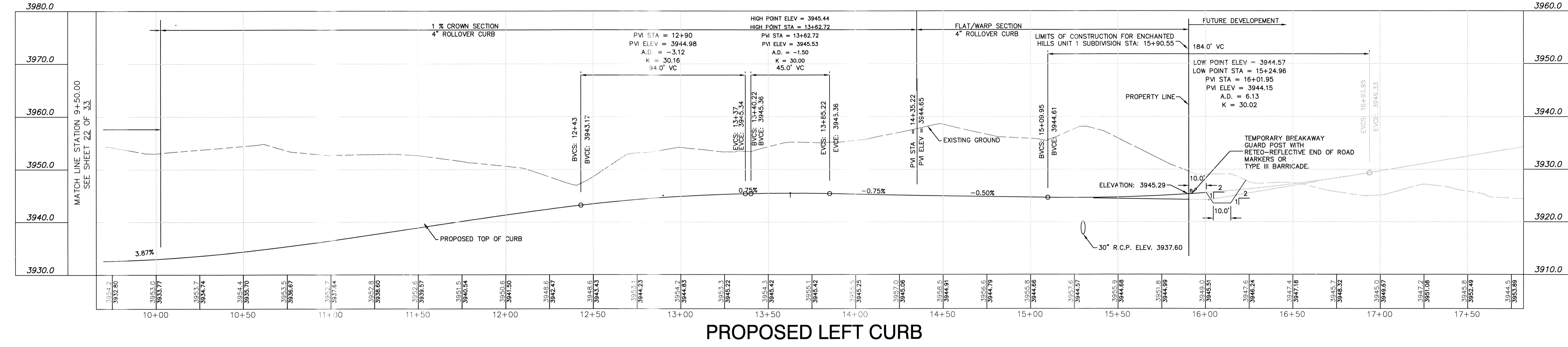
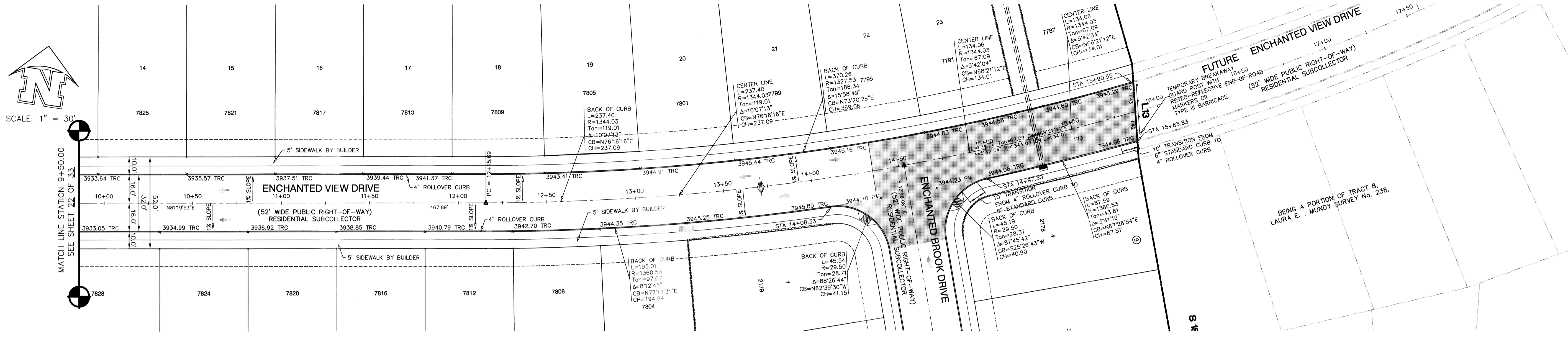
hnpRoe Engineering, L.C.
 601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@hnpbell.net

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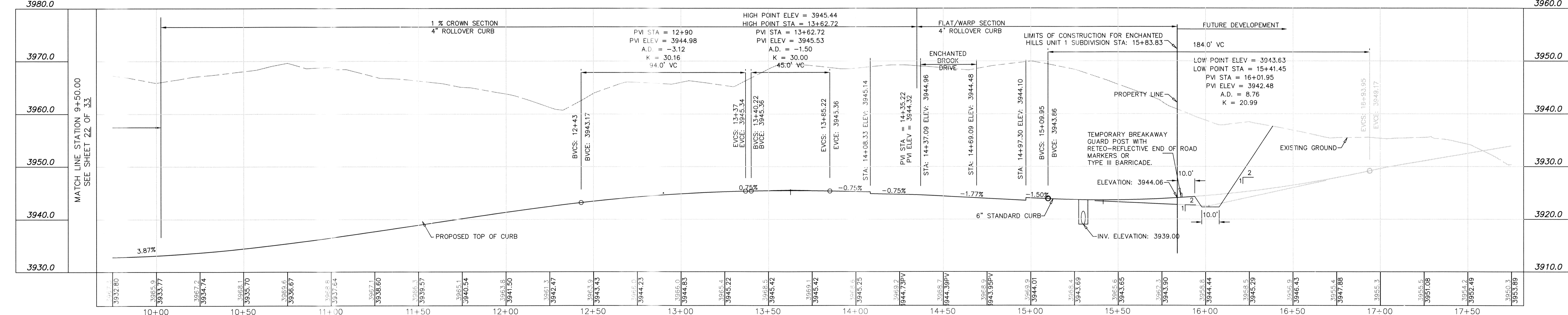
SHEET 22 OF 33



SCALE: 1" = 30'



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

NOTE:
1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

FLOOD NOTE:
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LEGEND

- 44.51 TRC PROPOSED TOP OF 4" ROLLOVER CURB
- 44.27 FC 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

EXISTING GRADE / PROPOSED GRADE

TRANSITION FROM 1X CROWN SECTION TO WARP SECTION

WARP SECTION

STATION NUMBER

DATE	REVISIONS	BY
6/27/11	CITY COMMENTS	STAFF
9/08/11	CITY COMMENTS	STAFF
9/28/11	CITY COMMENTS	STAFF

PRIMARY BENCHMARK
ROE MONUMENT 31886 (SEE TRACT B) - OBSERVATION 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: 3940.24 NAVD 88
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

SCALE
HOR: 1" = 30' VER: 1" = 10'
FILE NAME: W.O. 11509-1A EH1
DATE: FEBRUARY, 2010
DESIGN BY: H.P./RC
DRAWN BY: LAJ/H.P./IDR
CHKD. BY: H.P.
APPD. BY: BR



PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

ENCHANTED VIEW DRIVE

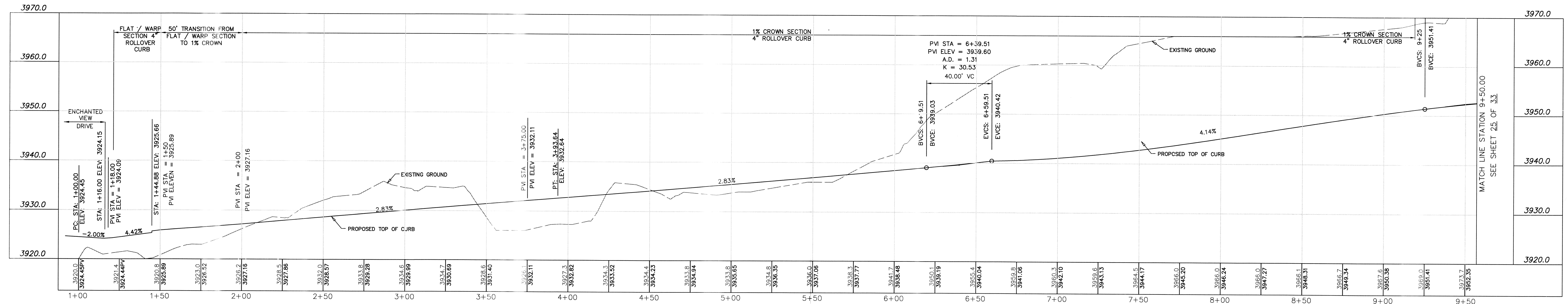
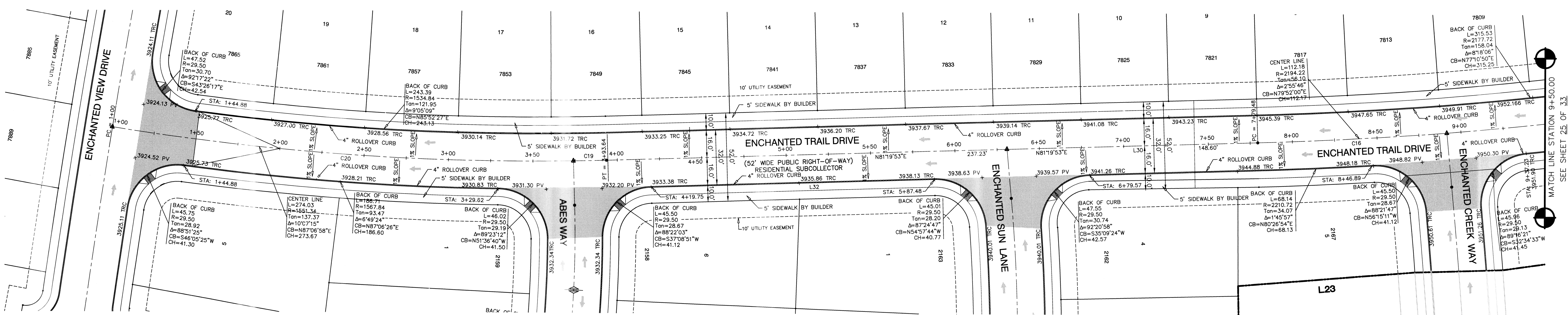
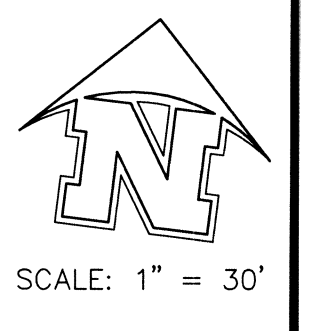
STATION 10+00 TO 15+87.15

Roe Engineering, L.C.

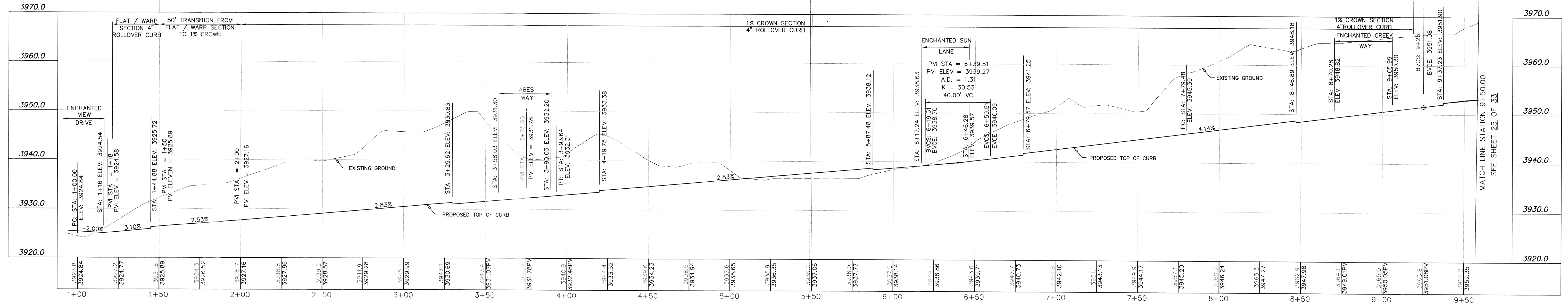
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
(915) 533-1418 - FAX (915) 533-4972
e-mail: roeeng@bell.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

SHEET 23 OF 33



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED. (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOT) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COUNCIL PANEL NO. 480214 001 C, (DATED) FEBRUARY 5, 1986.

THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON APRIL 20, 2011. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

- NOTE:**
1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

LEGEND

- × 44.51 TRC PROPOSED TOP OF 4" ROLLOVER 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

STATION NUMBER

10+00

3940.4
3939.33

EXISTING GRADE
PROPOSED GRADE

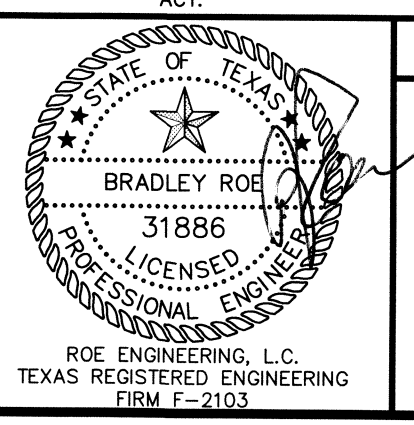
37.89 TC
37.89 TC

TRANSITION FROM 2% CROWN SECTION TO WARP SECTION

PP.DWG 11/01/11 12:35PM

DATE	REVISIONS	BY
6/27/11	CITY COMMENTS	STAFF
9/08/11	CITY COMMENTS	STAFF
9/28/11	CITY COMMENTS	STAFF

PRIMARY BENCHMARK	SCALE
N/S MONUMENT "CHINO 1880" (P.C. 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 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	HOR: 1"=30' VER: 1"=10'
SECONDARY BENCHMARK	FILE NAME: W.O. 11509-1A EHI DATE: FEBRUARY, 2010 DESIGN BY: H.P./RC DRAWN BY: LAJ/H.P./IDR CHKD. BY: H.P. APPD. BY: BR



PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

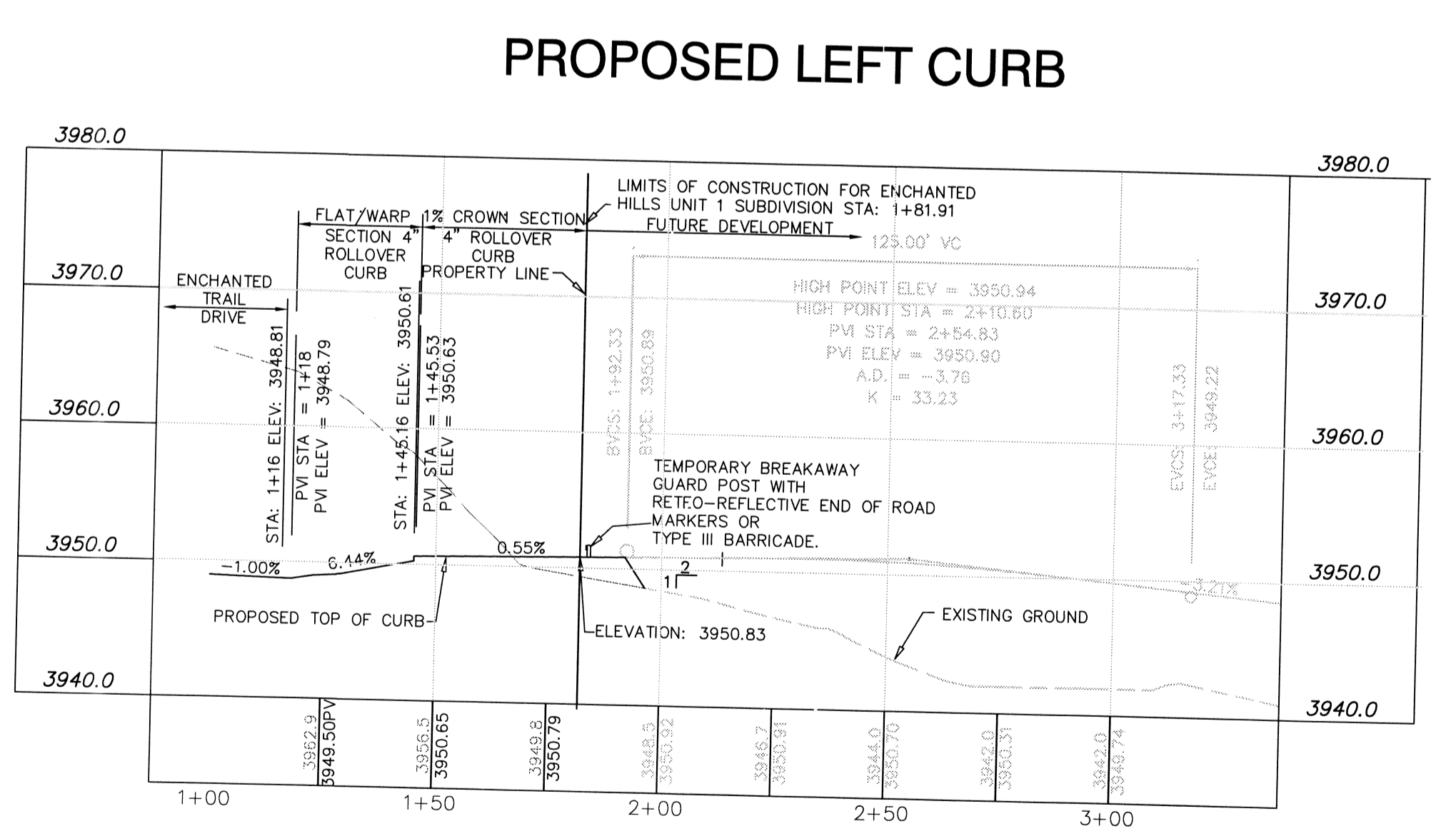
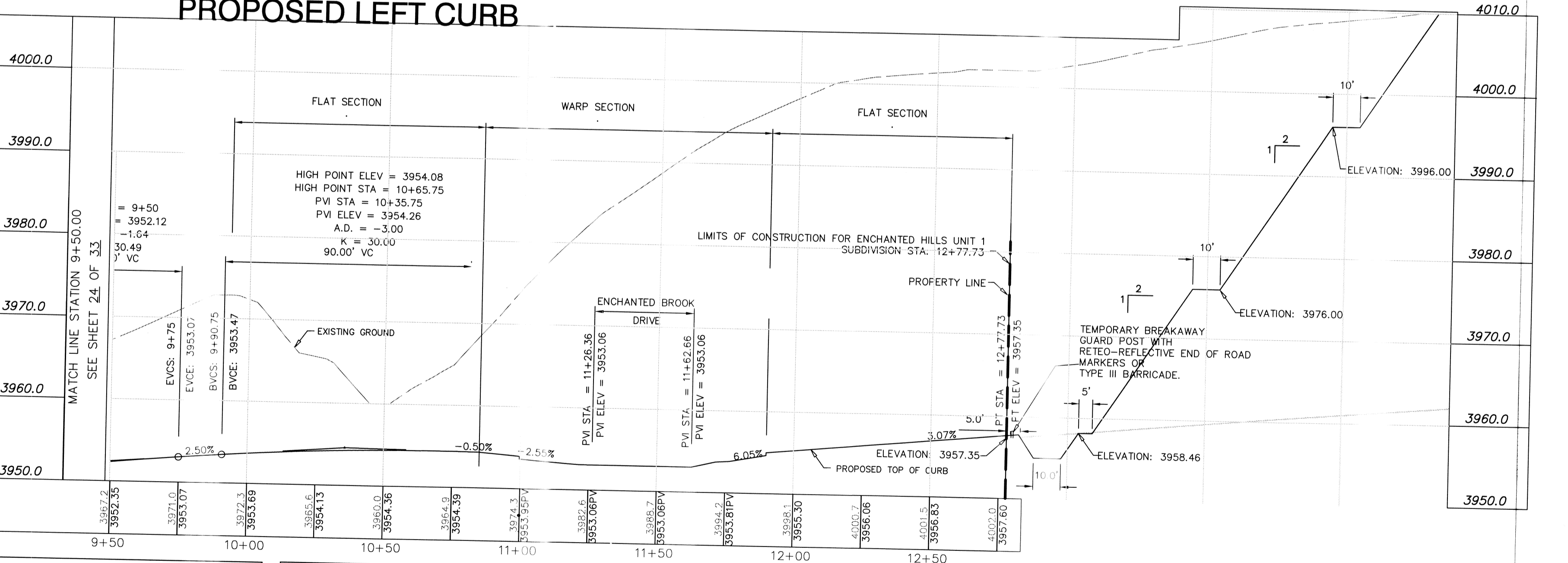
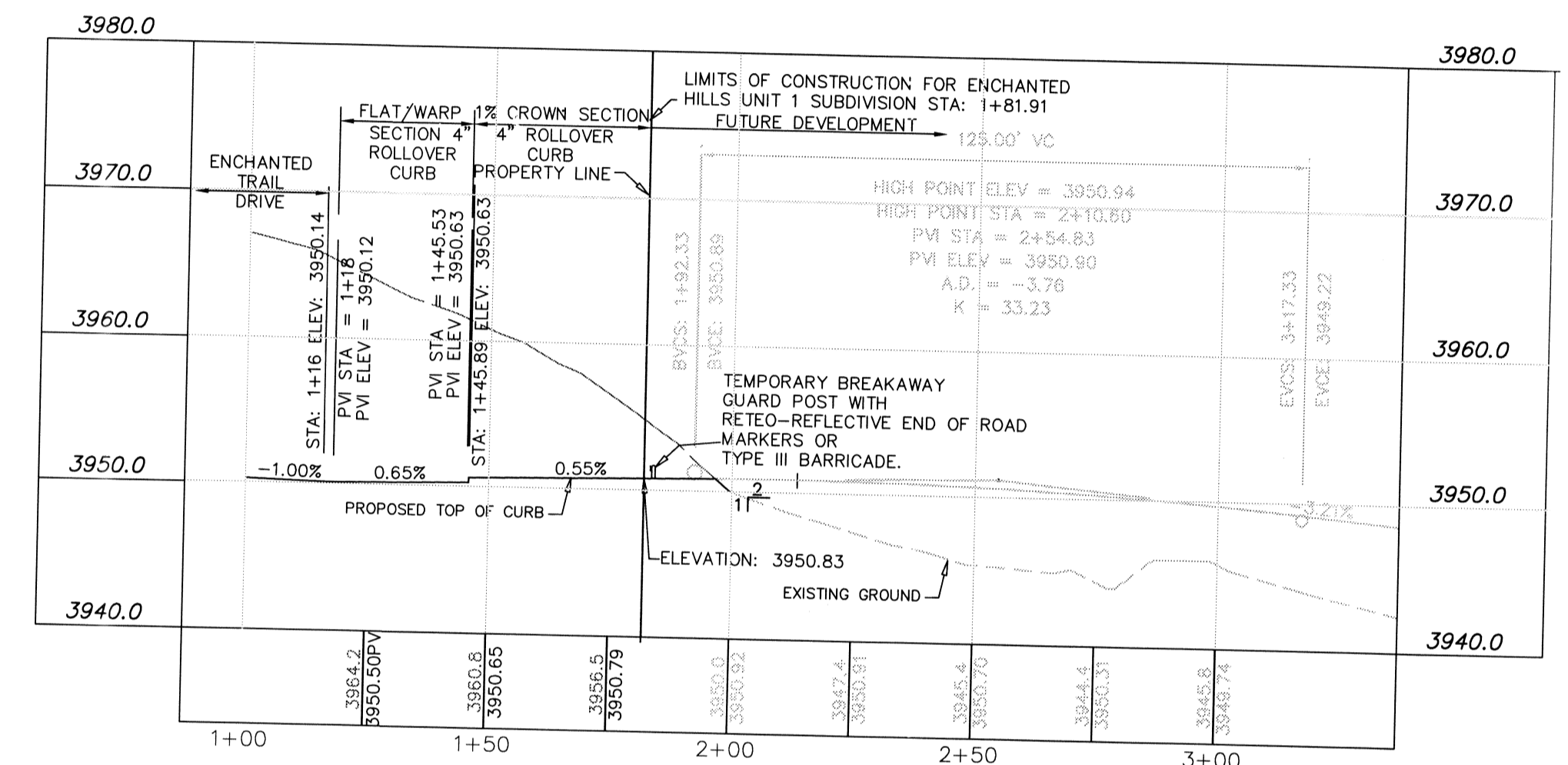
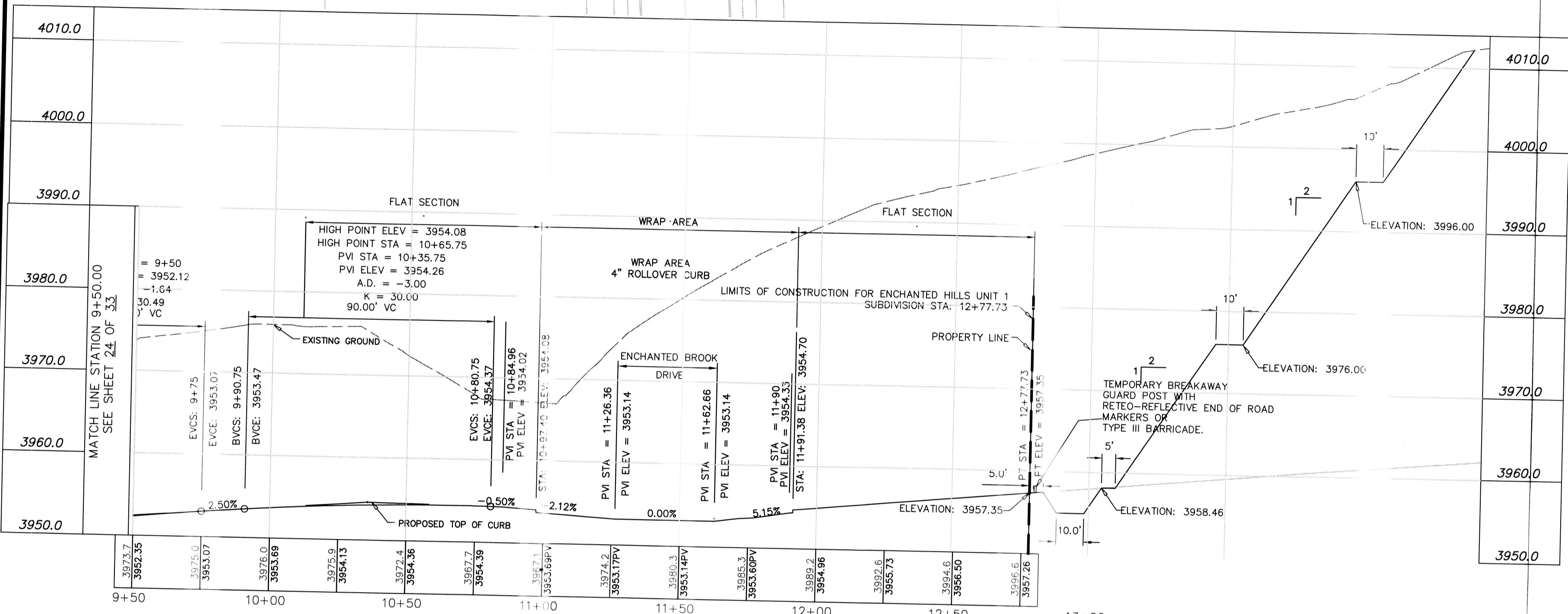
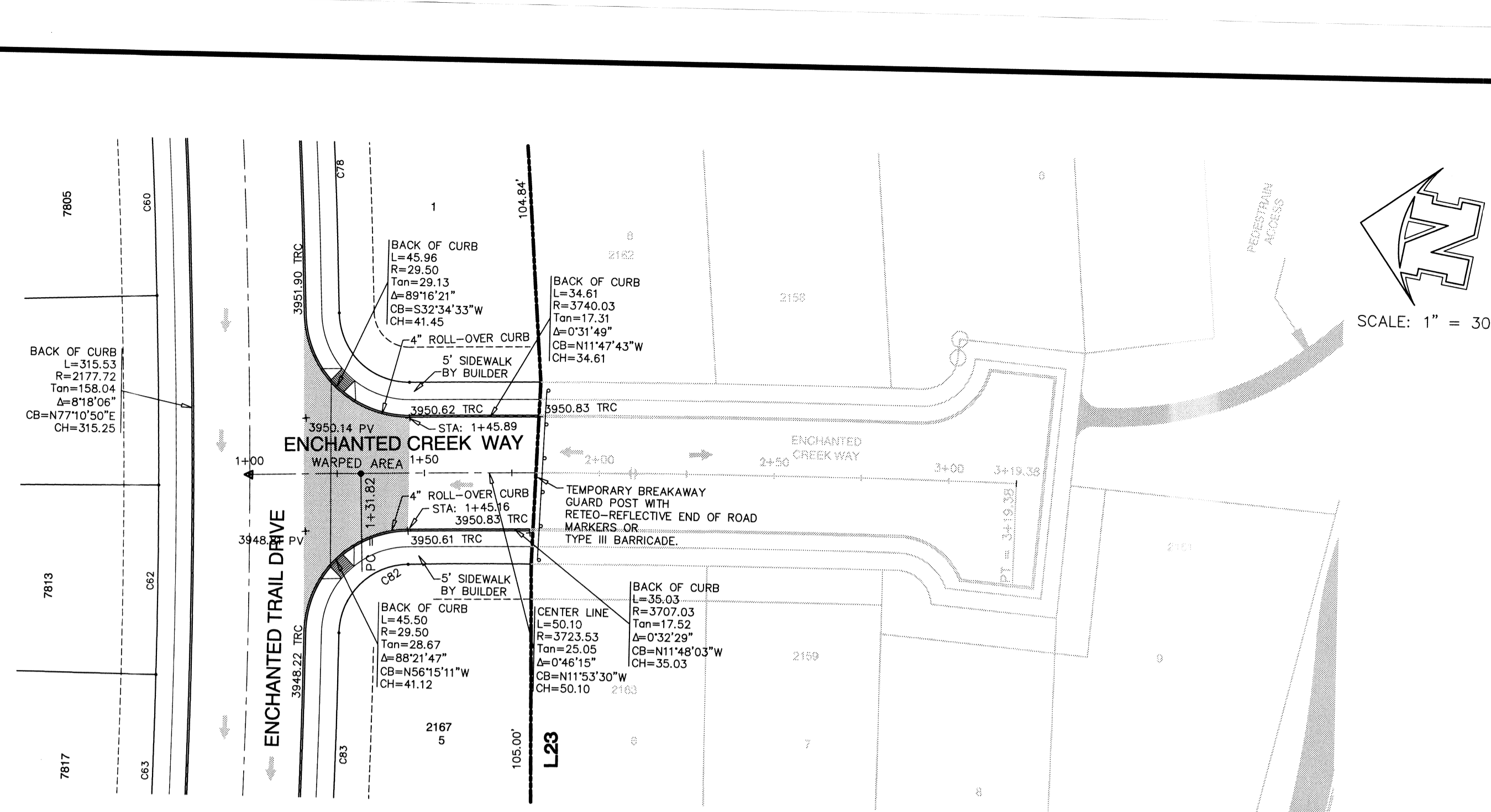
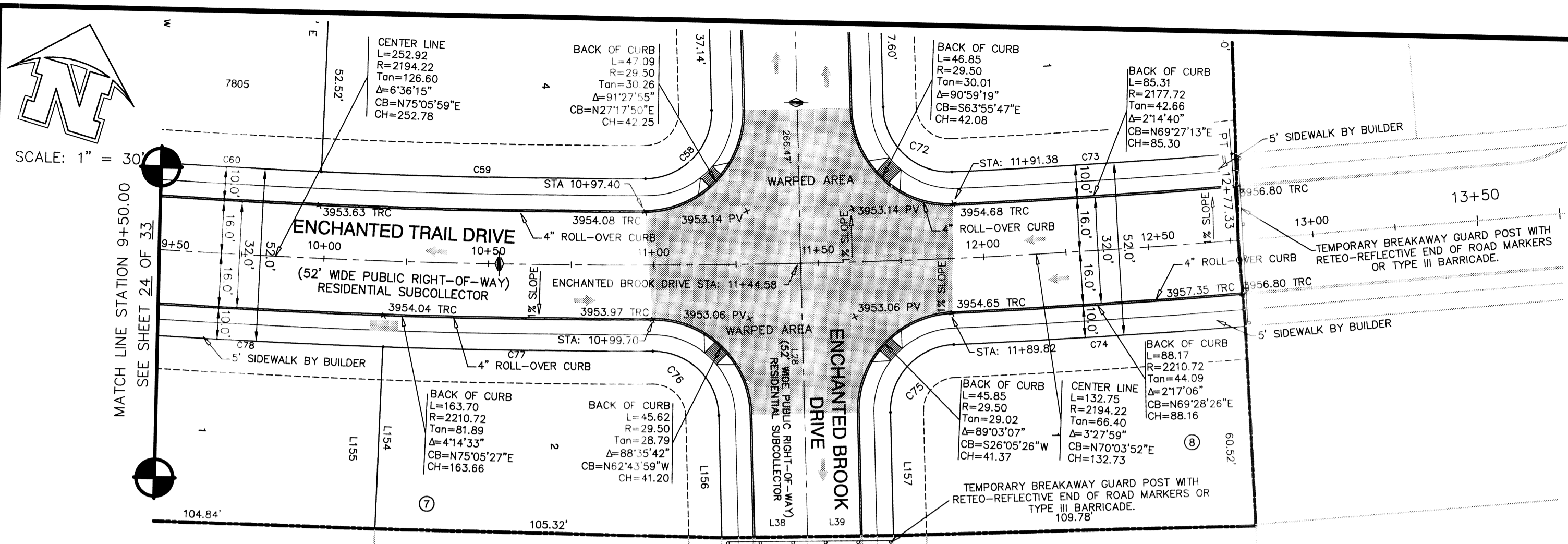
ENCHANTED TRAIL DRIVE STATION 1+00 TO 9+00.00

RoE Engineering, L.C.

801 N. Cotton St. Suite No. 8 El Paso, TX 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roe@roewell.com

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

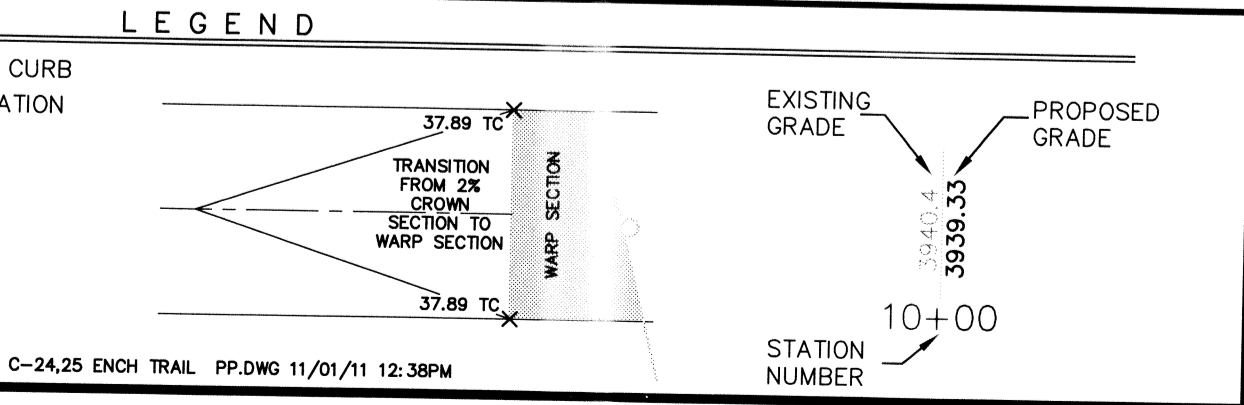
SHEET 24 OF 33



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The Engineering, L.C. shall not be held responsible for any loss of strength resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of endurance resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of patience resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of tolerance resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of forgiveness resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of mercy resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of kindness resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of compassion resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of love resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of hope resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of faith resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of trust resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of respect resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of honor resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of dignity resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of pride resulting from the use of this document. 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The Engineering, L.C. shall not be held responsible for any loss of self-worth resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of self-confidence resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of self-belief resulting from the use of this document. The Engineering, L.C. shall not be held responsible for any loss of self-trust resulting from the use of this document.

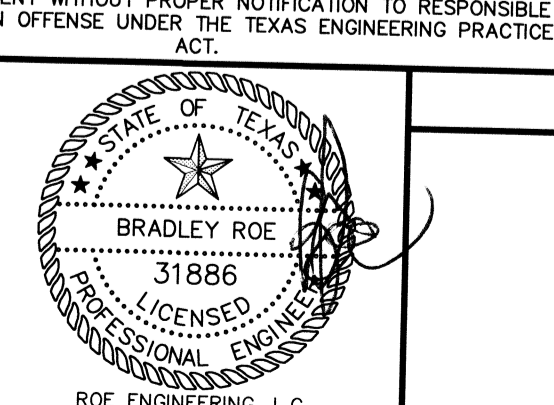
FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED. (ORIG) DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS PER AREA COMMUNITY PANEL NO. 480214 001 C, (DATE) FEBRUARY 5, 1986.

- LEGEND**
- × 44.51 TRC PROPOSED TOP OF 4" ROLLOVER 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	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NOS MONUMENT (ORIG) 1986 (PAC 20144)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1983: LOCATED ABOUT 1.28 MILES EAST OF THE RIO GRANDE 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	FILE NAME: W.O. 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF	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: 3957.21	DATE: FEBRUARY, 2010

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NOS MONUMENT (ORIG) 1986 (PAC 20144)	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1983: LOCATED ABOUT 1.28 MILES EAST OF THE RIO GRANDE 1 MILE NORTH-NORTHWEST OF LOOP 375 (TRANSMOUNTAIN ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3940.24 NAVD 88	FILE NAME: W.O. 11509-1A EH1
9/28/11	CITY COMMENTS	STAFF	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: 3957.21	DATE: FEBRUARY, 2010

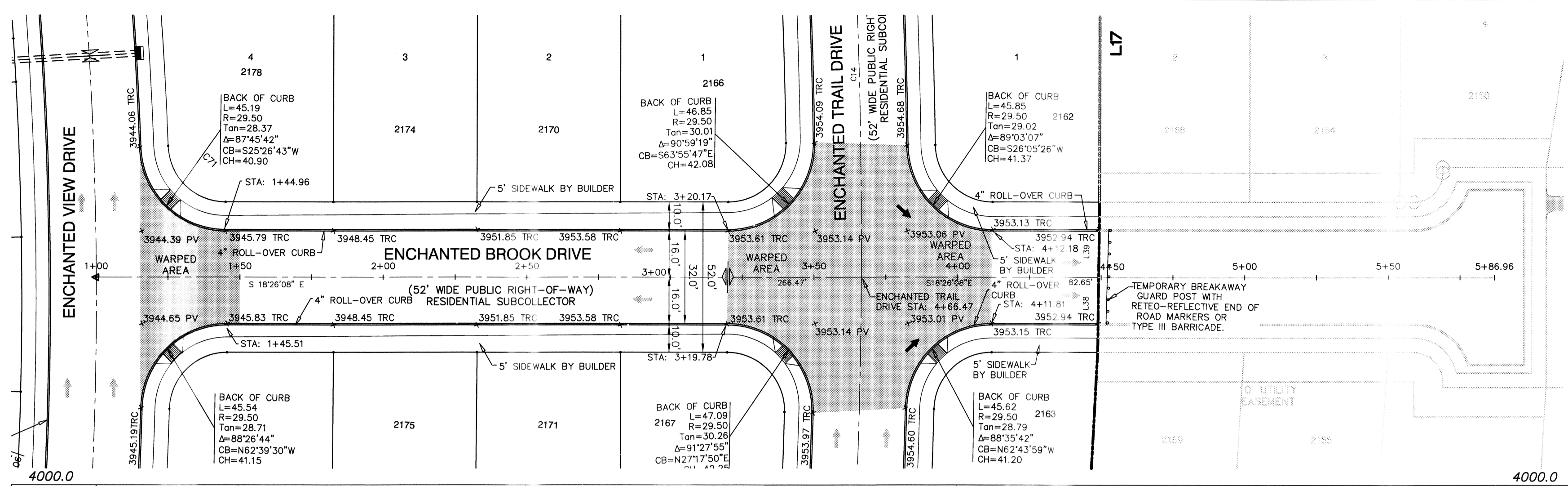


PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
 ENCHANTED TRAIL DRIVE
 STATION 9+00 TO 12+77.33
 ENCHANTED CREEK WAY
 STATION 1+00 TO 1+82.82

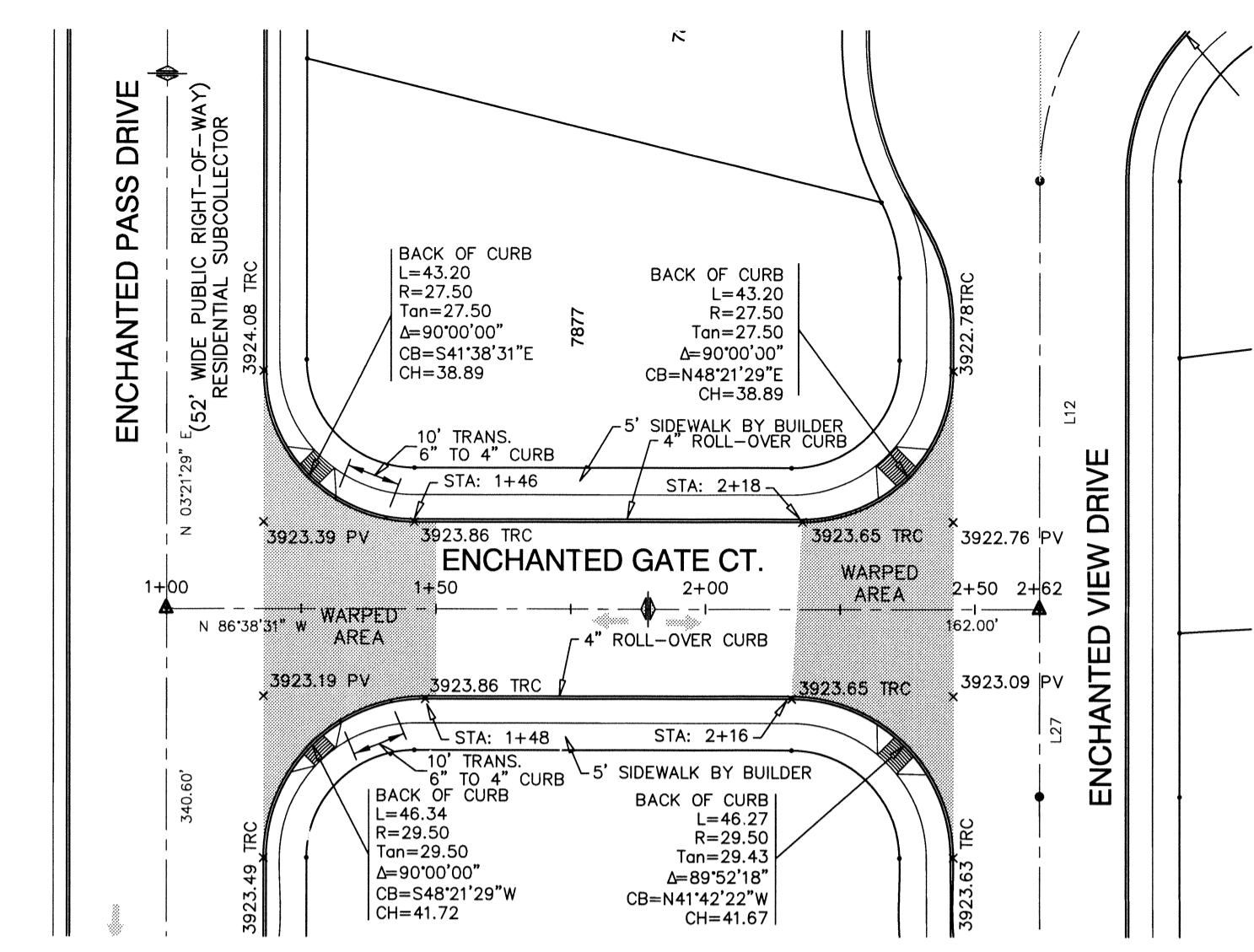
RoE Engineering, L.C.
 601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@bellsouth.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 25 OF 33

- NOTE:**
- ALL HANDICAP RAMP WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 - ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.

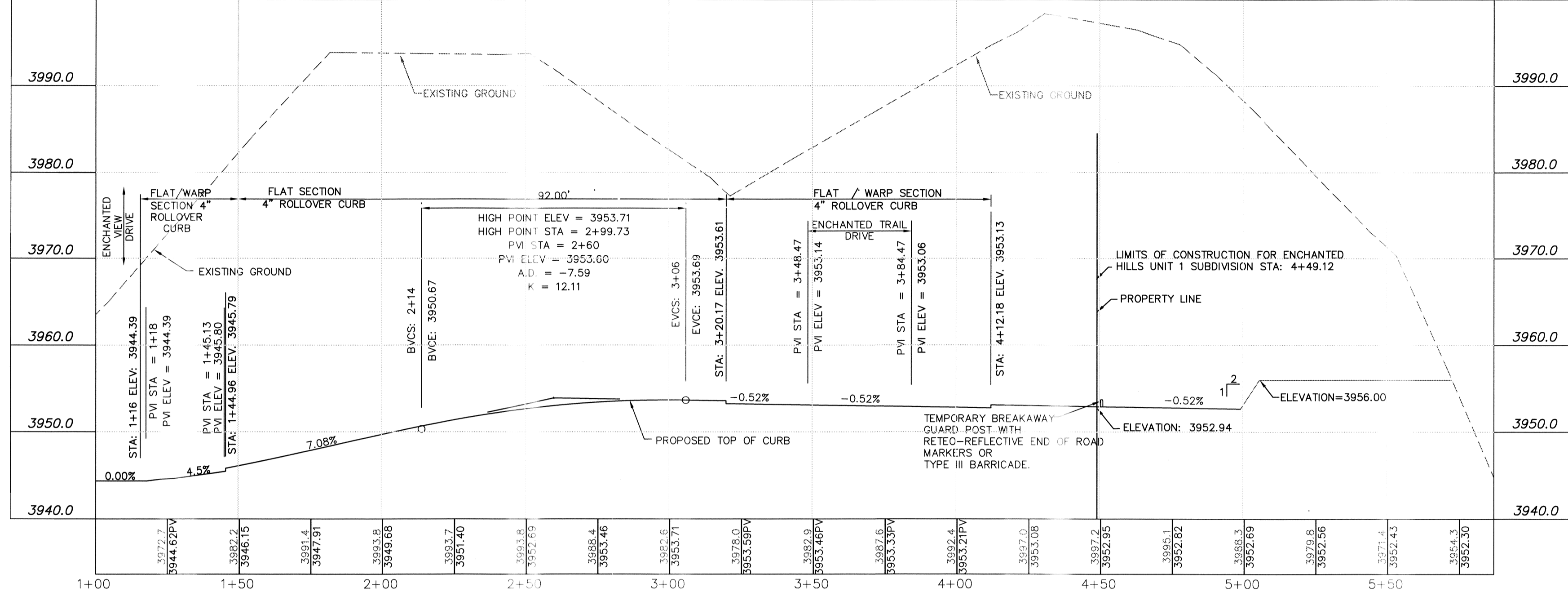
THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON APRIL 20, 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.



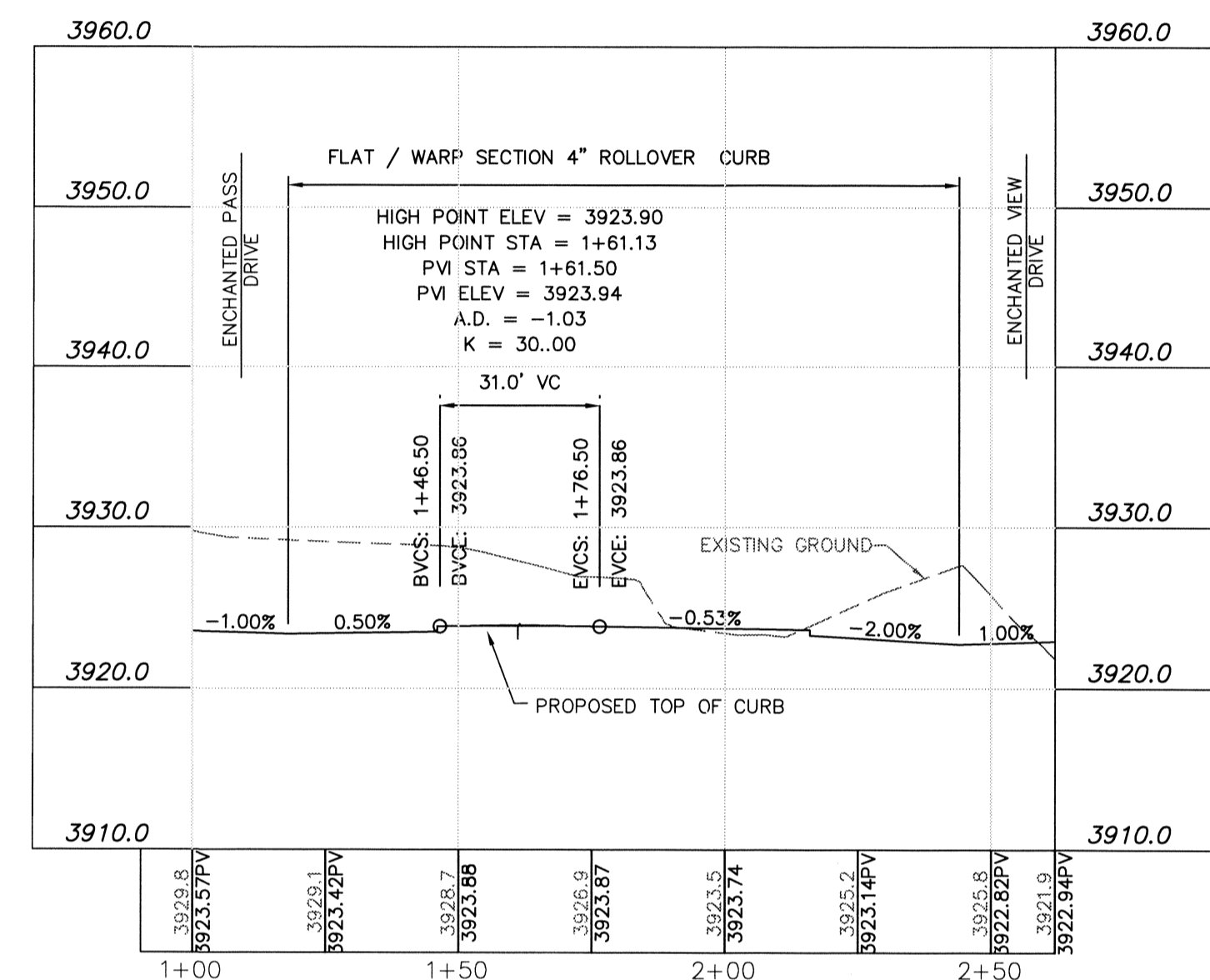
SCALE: 1" = 30'



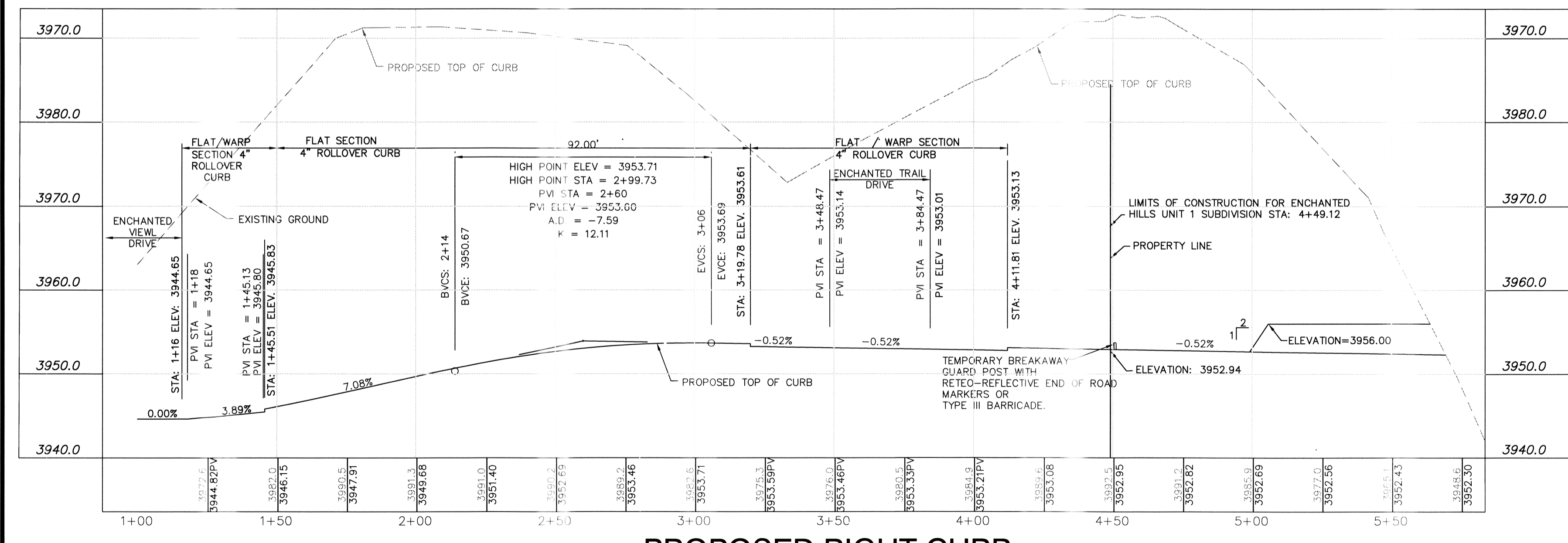
SCALE: 1" = 30'



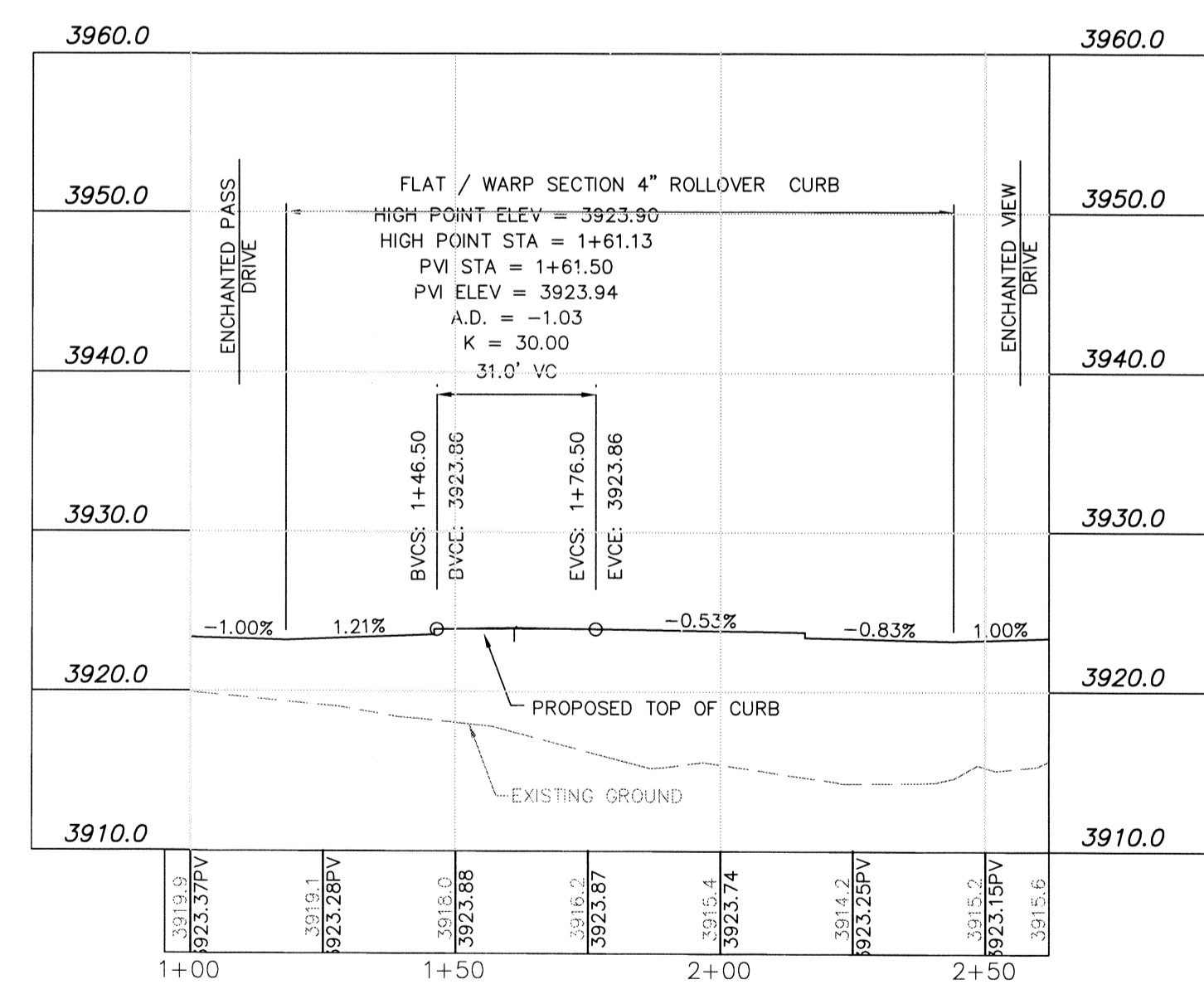
PROPOSED LEFT CURB



PROPOSED LEFT CURB



PROPOSED RIGHT CURB



PROPOSED RIGHT CURB

FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF ANNUAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

LEGEND	
× 44.51 TRC	PROPOSED TOP OF 4" ROLLOVER CURB
× 44.27 FG	PROPOSED FINISHED GRADE ELEVATION
× 45.00 PV	PROPOSED TOP OF PAVEMENT
× 44.51 TC	PROPOSED TOP OF 6" CURB
←	PROPOSED DIRECTION OF FLOW
---	PROPOSED STREET CENTERLINE
---	SUBDIVISION BOUNDARY LINE
▲	PROPOSED CITY MONUMENT
---	EXISTING GRADE
---	PROPOSED GRADE
---	STATION NUMBER

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NO MONUMENT "GRID 1887" (TRC "CELESTY") 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: 3940.24 NAVD 88	HOR: 1"=30' VER: 1"=10'
9/08/11	CITY COMMENTS	STAFF	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, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CANTILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	FILE NAME: 11509-1A EHI
9/28/11	CITY COMMENTS	STAFF		DATE: FEBRUARY, 2010
				DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./DR
				CHKD. BY: H.P.
				APPD. BY: BR

THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 11886 ON APRIL 2011 ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT

ROE ENGINEERING, L.C.
 TEXAS REGISTERED ENGINEERING FIRM E-2103

PLAN AND PROFILE

ENCHANTED HILLS UNIT ONE

ENCHANTED BROOK DRIVE
 STATION 1+00 TO 3+49.12

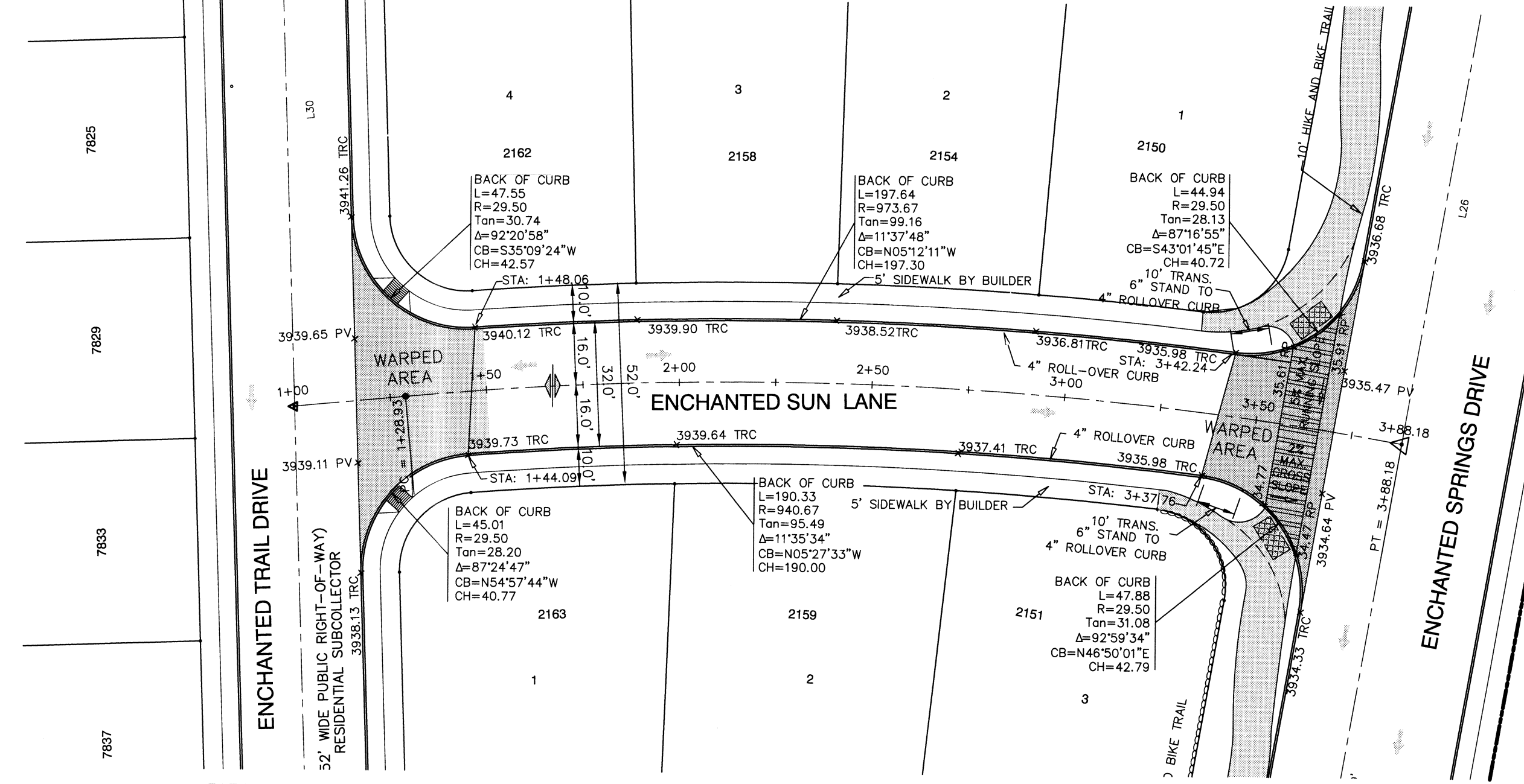
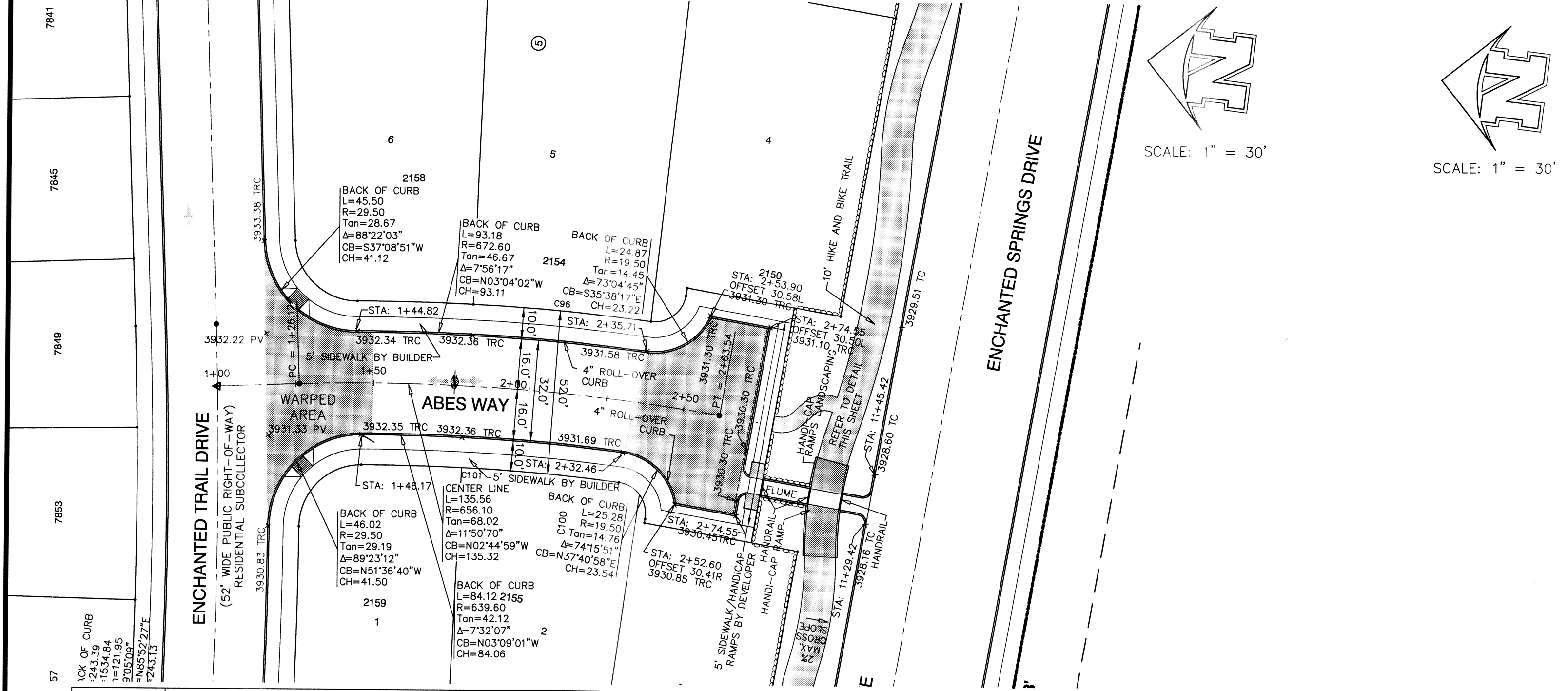
ENCHANTED GATE COURT
 STATION 1+00 TO 2+62.00

RoE Engineering, L.C.

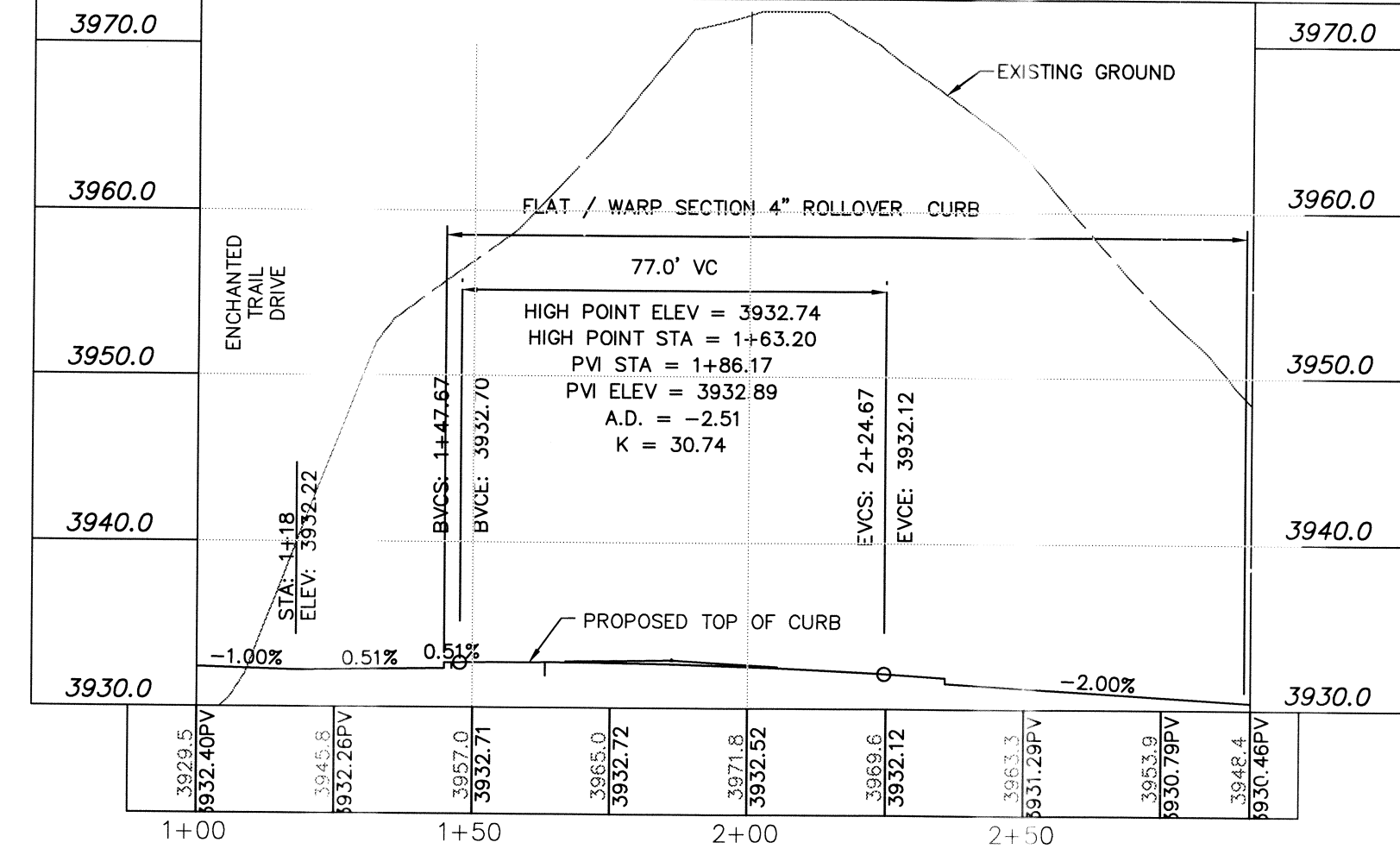
601 N. Cotton St. Suite No. 6 El Paso, Tx. 79902
 (915) 533-1418 - FAX: (915) 533-4972
 e-mail: roeeng@roebell.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

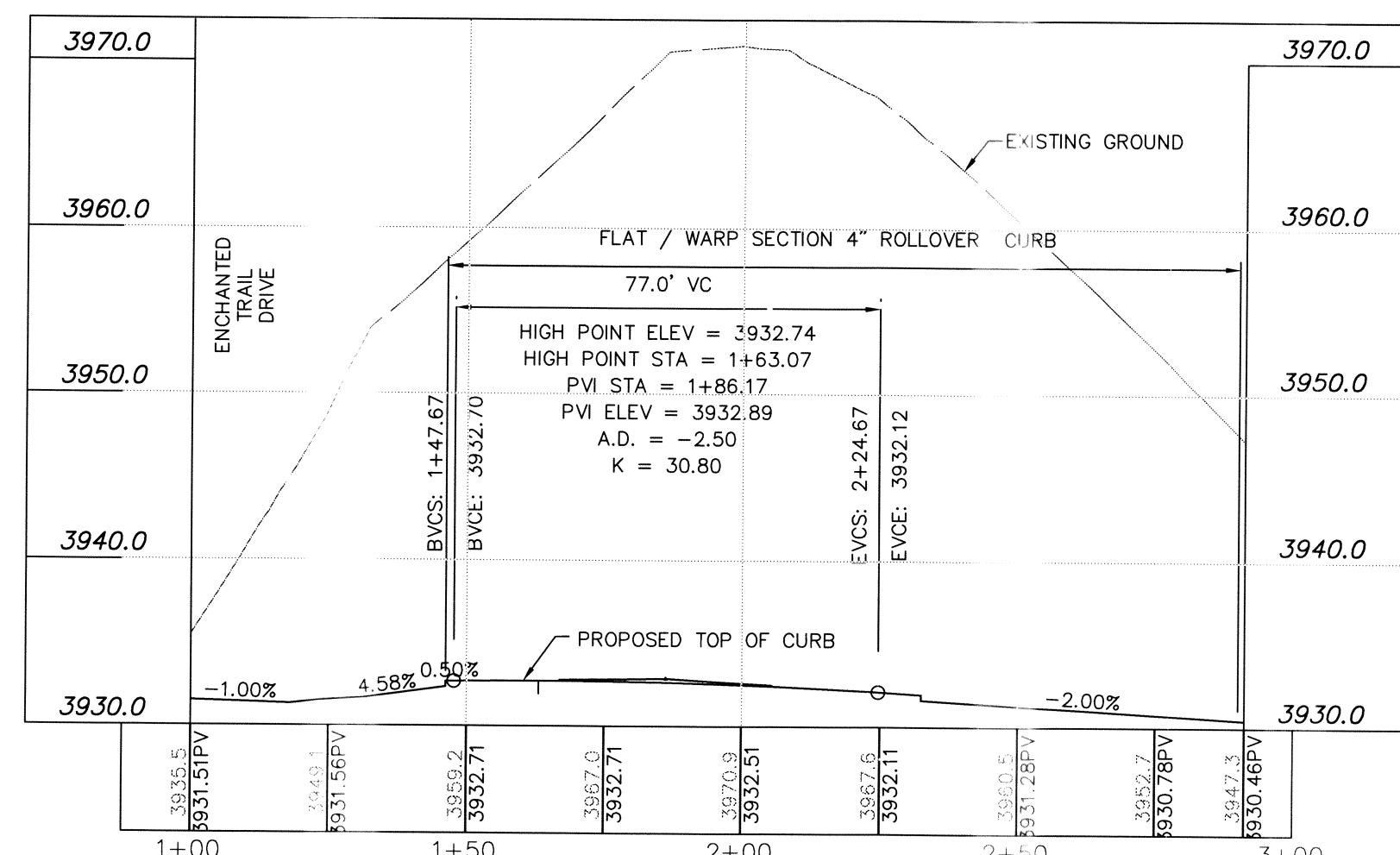
SHEET 26 OF 33



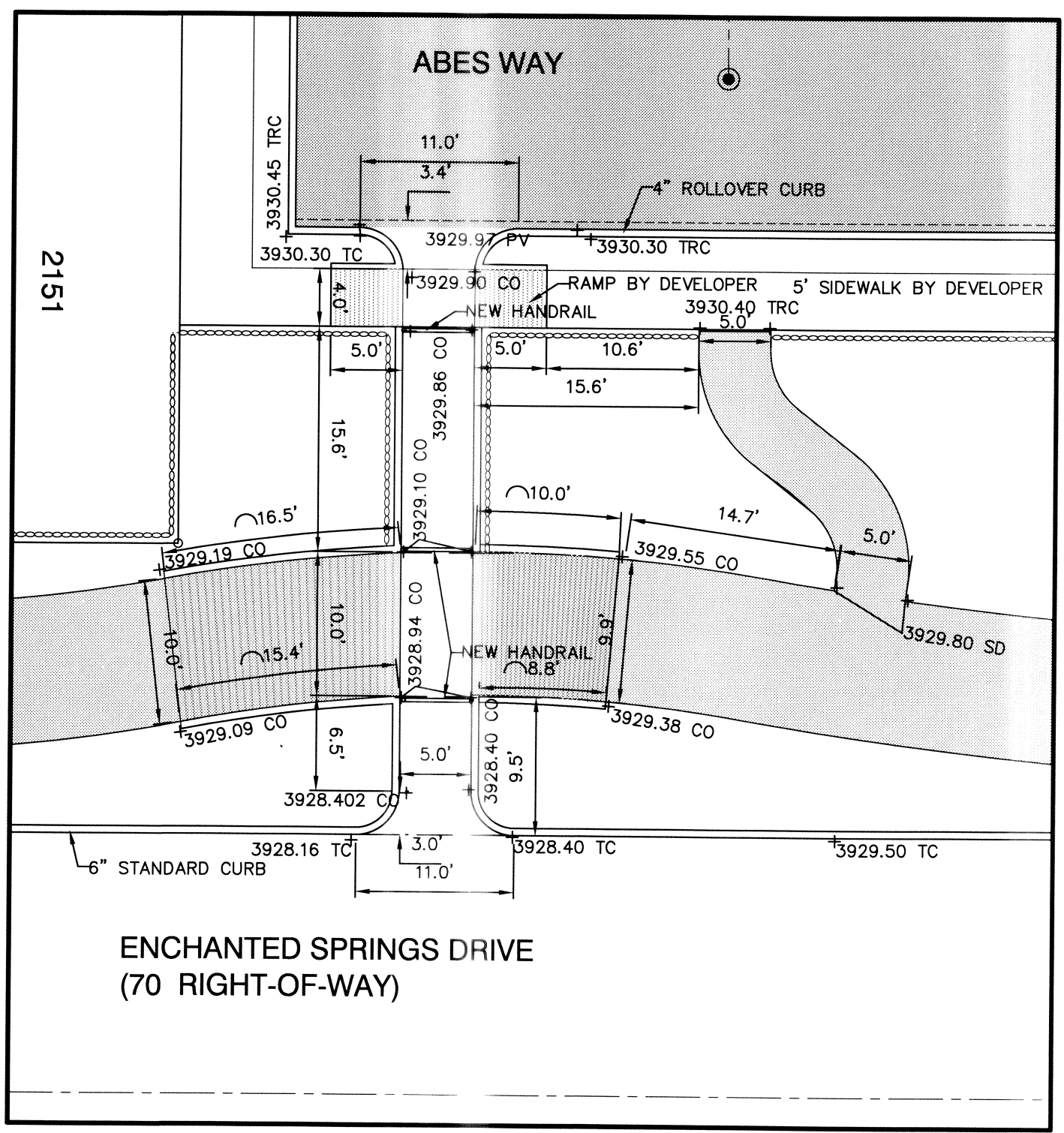
NOTE:
 1. ALL HANDICAP RAMPS WITHIN SUBDIVISION ARE TO BE BUILT BY DEVELOPER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.
 2. ALL SIDEWALKS WITHIN SUBDIVISION ARE TO BE BUILT BY BUILDER/CONTRACTOR UNLESS OTHERWISE NOTED. SEE DETAILS ON SHEET 28.



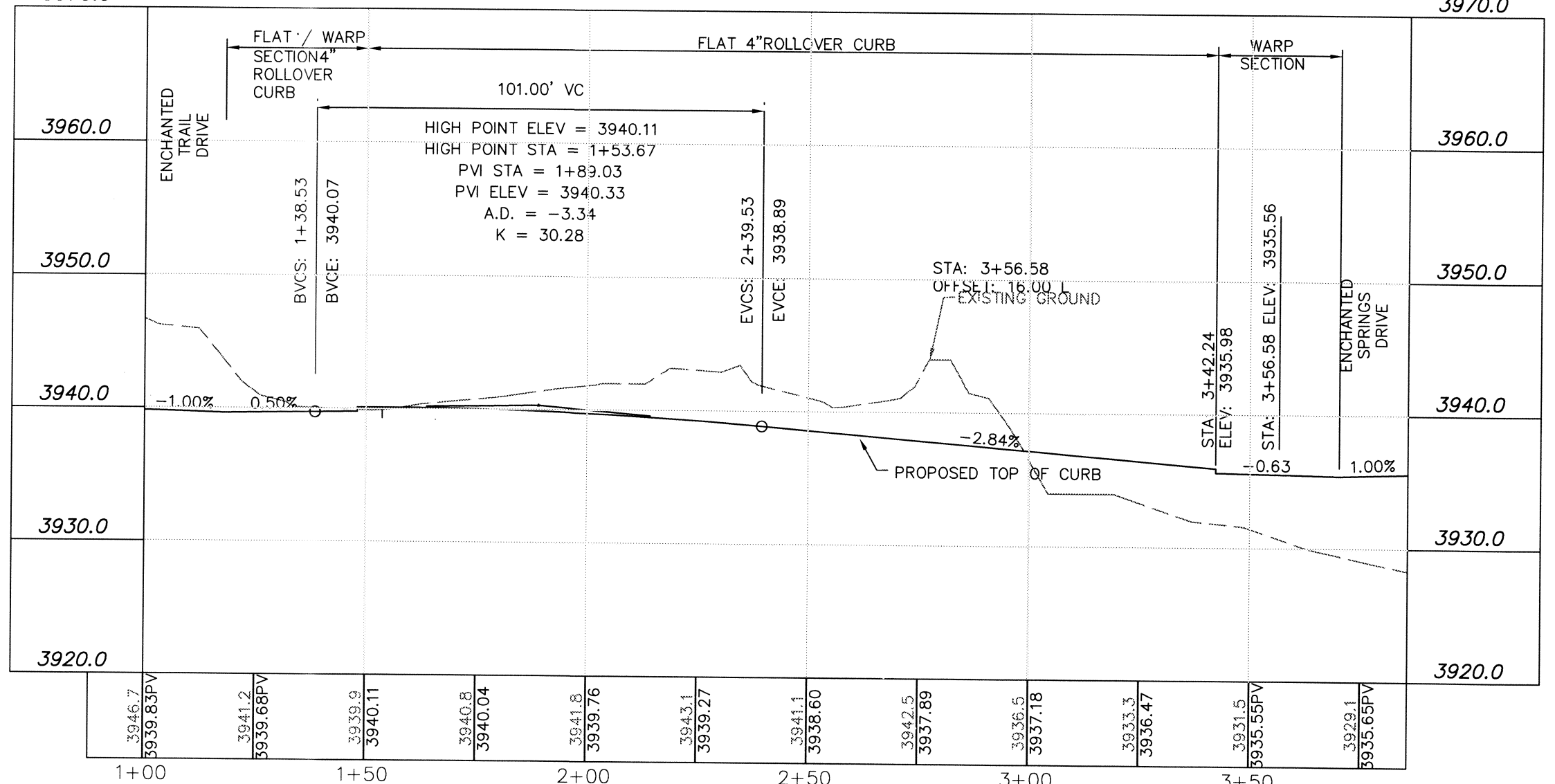
PROPOSED LEFT CURB



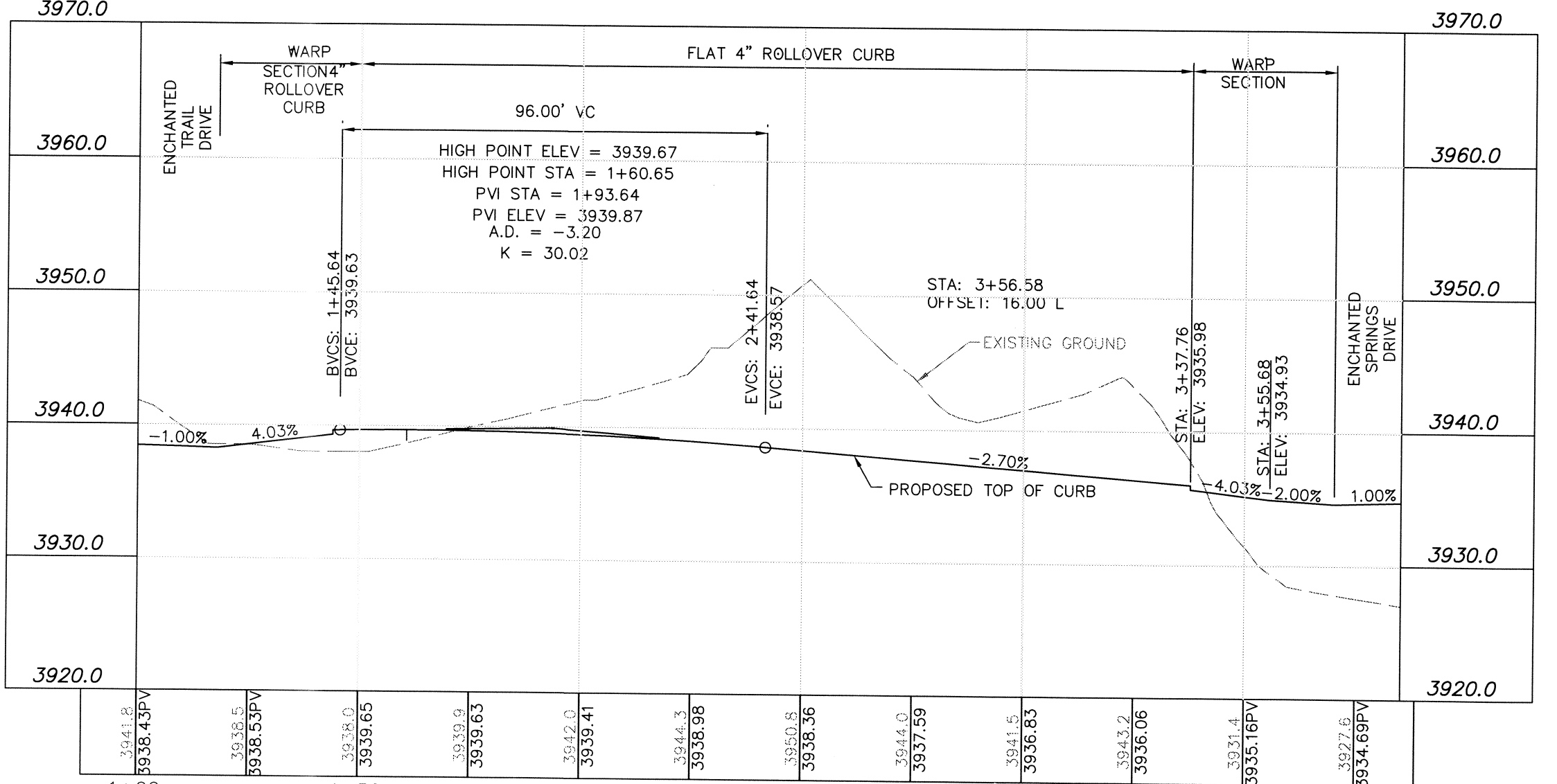
PROPOSED RIGHT CURB



FLUME #1 DETAIL
SCALE 1"=10'



PROPOSED LEFT CURB



PROPOSED RIGHT CURB

FLOOD NOTE:
 THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS); ZONE "C": AREA OF MINOR FLOODING) ACCORDING TO THE (EXPLANATION ZONE "C": AREA OF MINOR FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 48024-0001-C, DATED FEBRUARY 5, 1996.

LEGEND

- × 44.51 TRC PROPOSED TOP OF 4" ROLLOVER 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

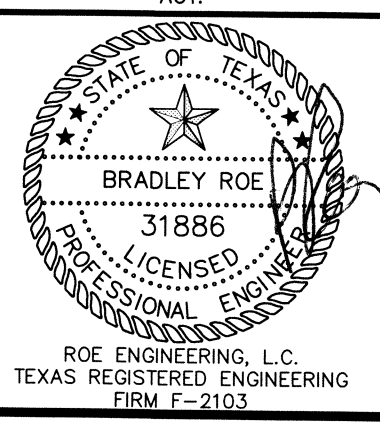
EXISTING GRADE
 37.89 TC
 37.89 TC
 37.89 TC

PROPOSED GRADE
 39.30 TC
 39.30 TC
 39.30 TC

STATION NUMBER 10+00

DATE	REVISIONS	BY
6/27/11	CITY COMMENTS	STAFF
9/08/11	CITY COMMENTS	STAFF
9/28/11	CITY COMMENTS	STAFF
10/03/11	CITY COMMENT(P&R)	STAFF
10/10/11	CITY COMMENT(P&R)	STAFF

PRIMARY BENCHMARK	SCALE
THIS MONUMENT FORM 1980 (TRC: C0244) LOCATED AS PER NATIONAL GEODETIC SURVEY 1981 NORTH-NORTHWEST OF LOOP 375 (FRANKMOUNTAIN ROAD) AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3942.24 MAND 88	HOR: 1"=30' VER: 1"=10'
SECONDARY BENCHMARK	FILE NAME: 11509-1A EH1
EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MOJOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CAMILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 7, CAMILLO HEIGHTS UNIT ONE. ELEVATION: 3857.21	W.O. DATE: FEBRUARY, 2010
	DESIGN BY: H.P./RC
	DRAWN BY: LAU/H.P./IDR
	CHKD. BY: H.P.
	APPD. BY: BR



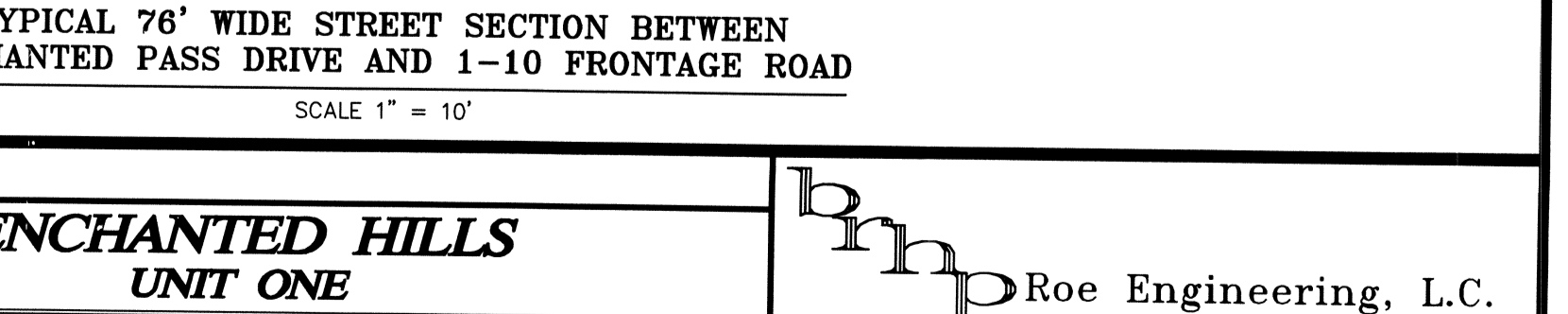
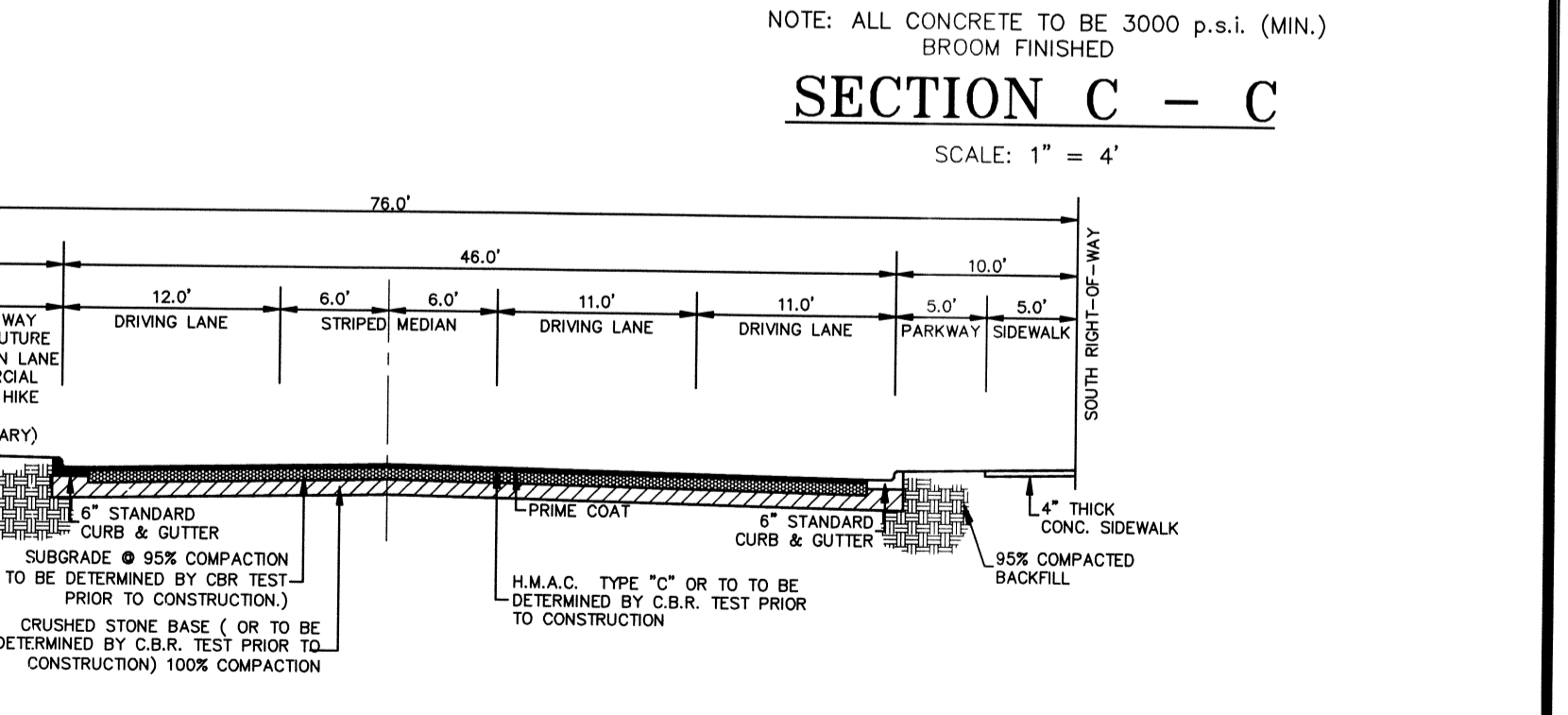
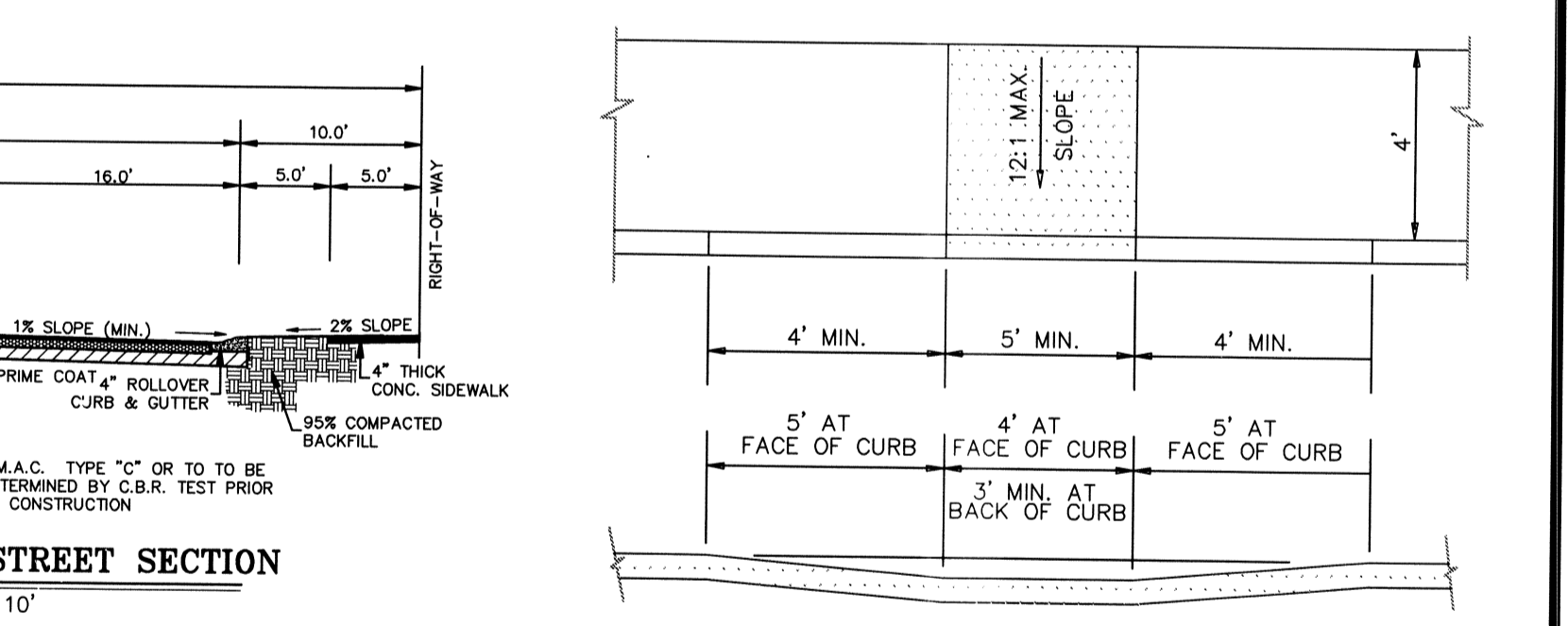
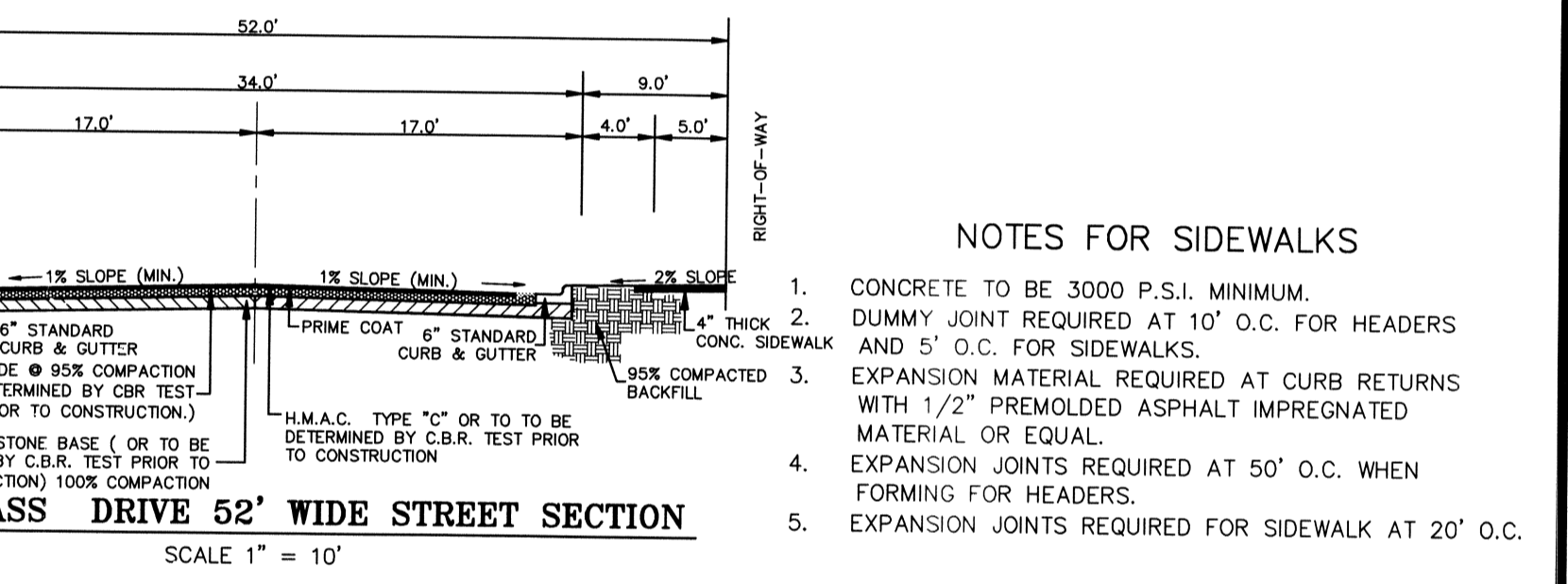
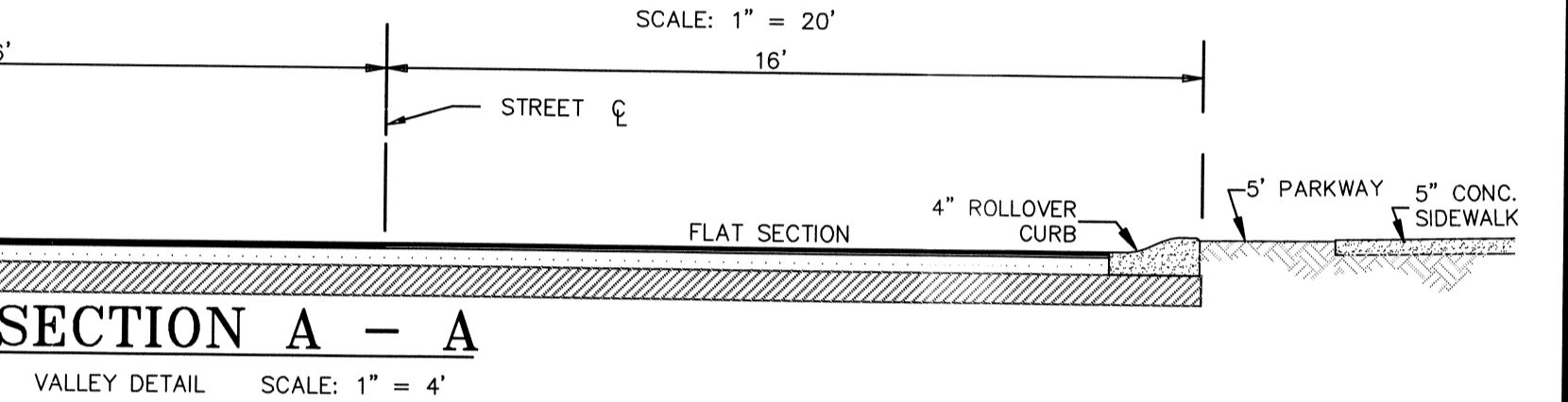
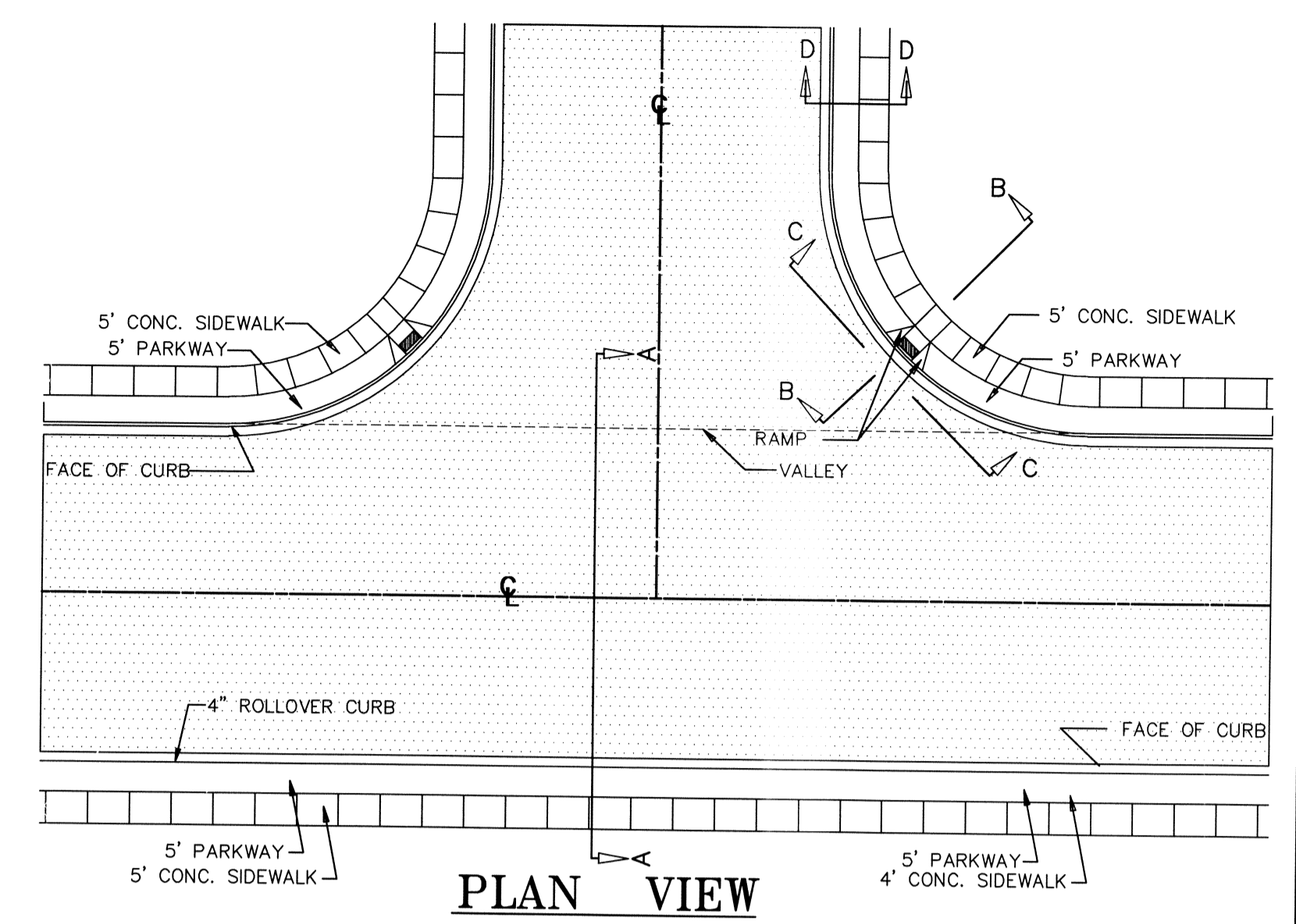
PLAN AND PROFILE
ENCHANTED HILLS UNIT ONE
 ABES WAY
 STATION 1+00 TO 2+63.54
 ENCHANTED SUN LANE
 STATION 1+00 TO 3+88.18

brp 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@rwehll.net
 ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
 SHEET 27 OF 33

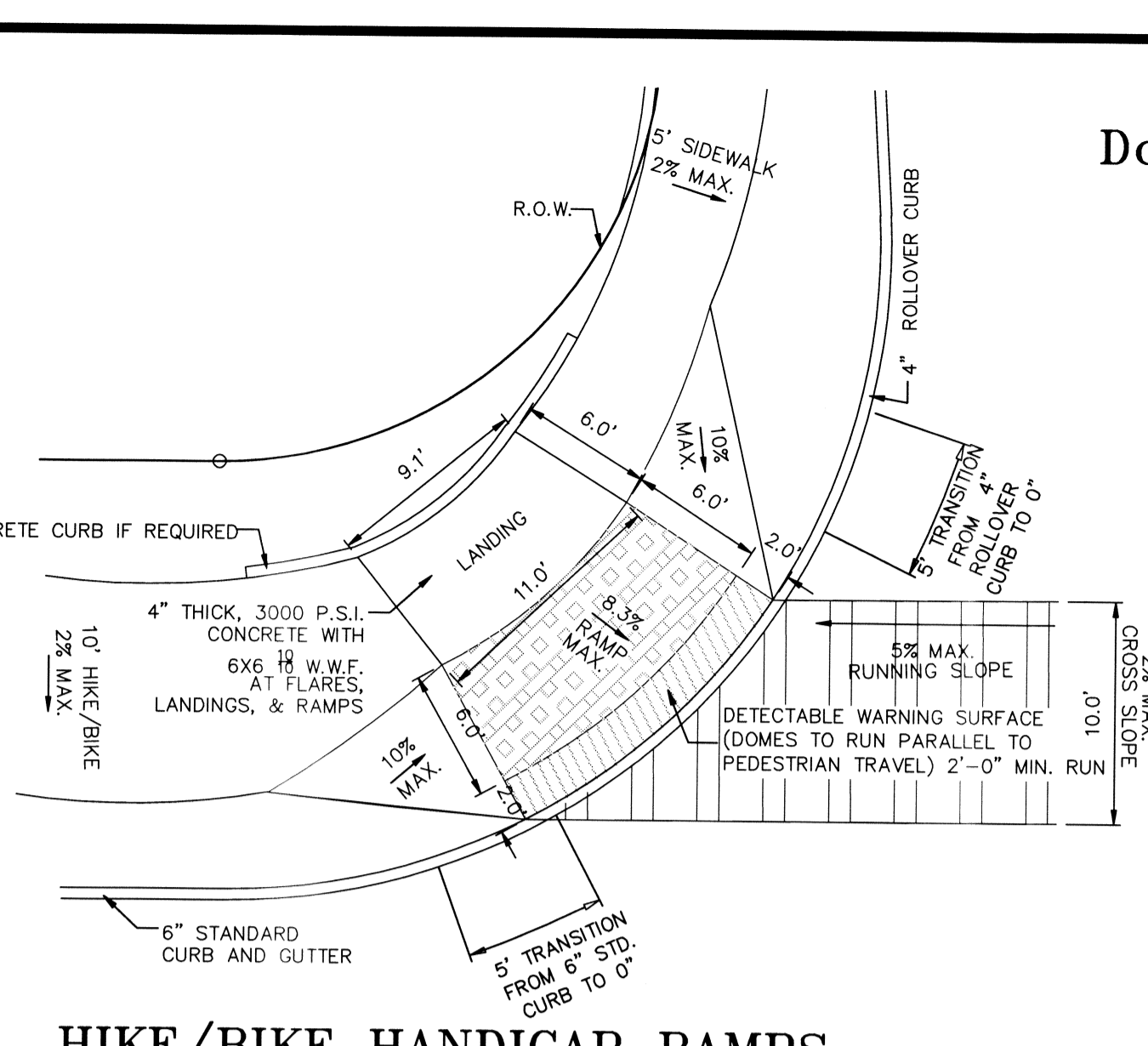
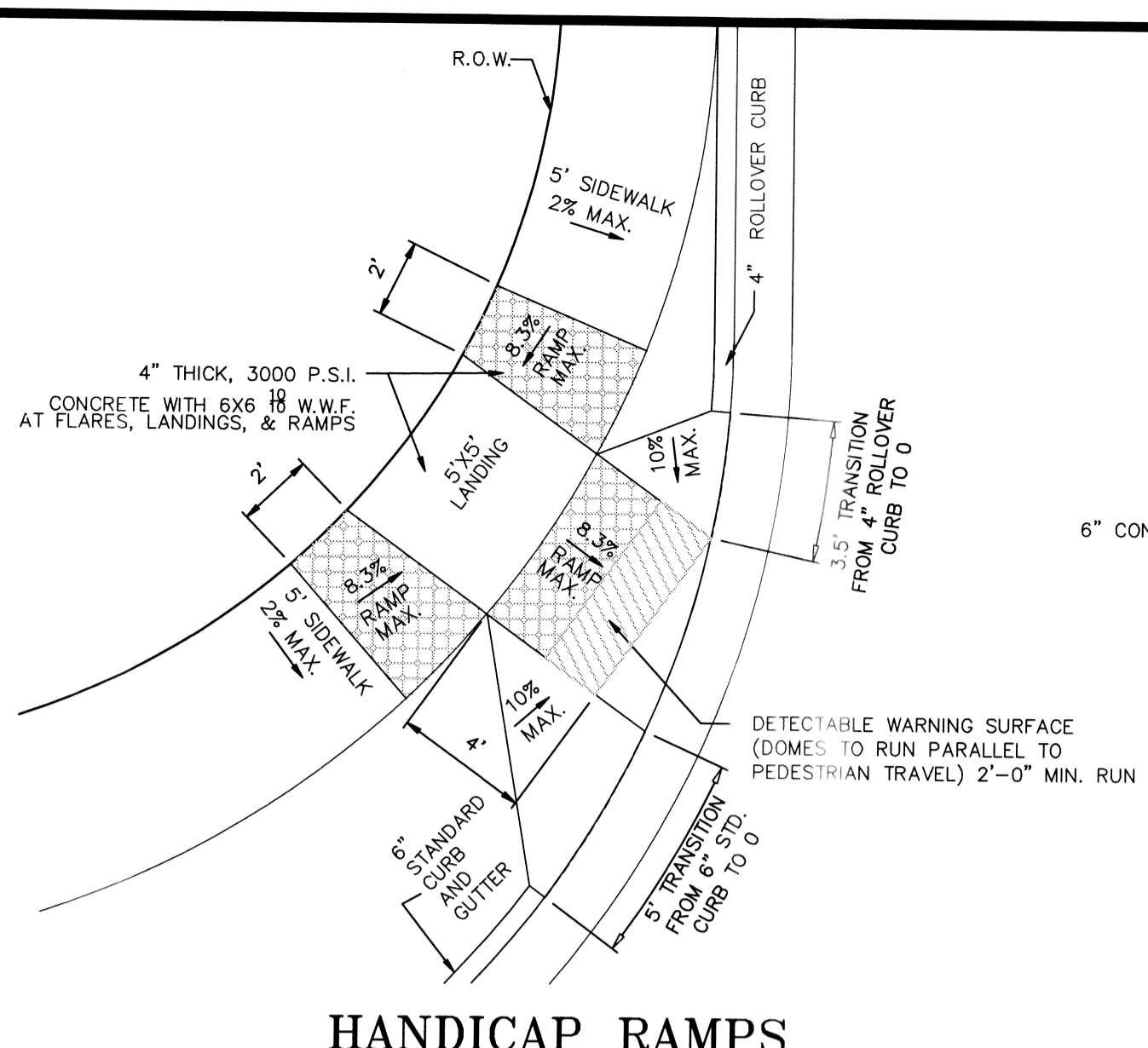
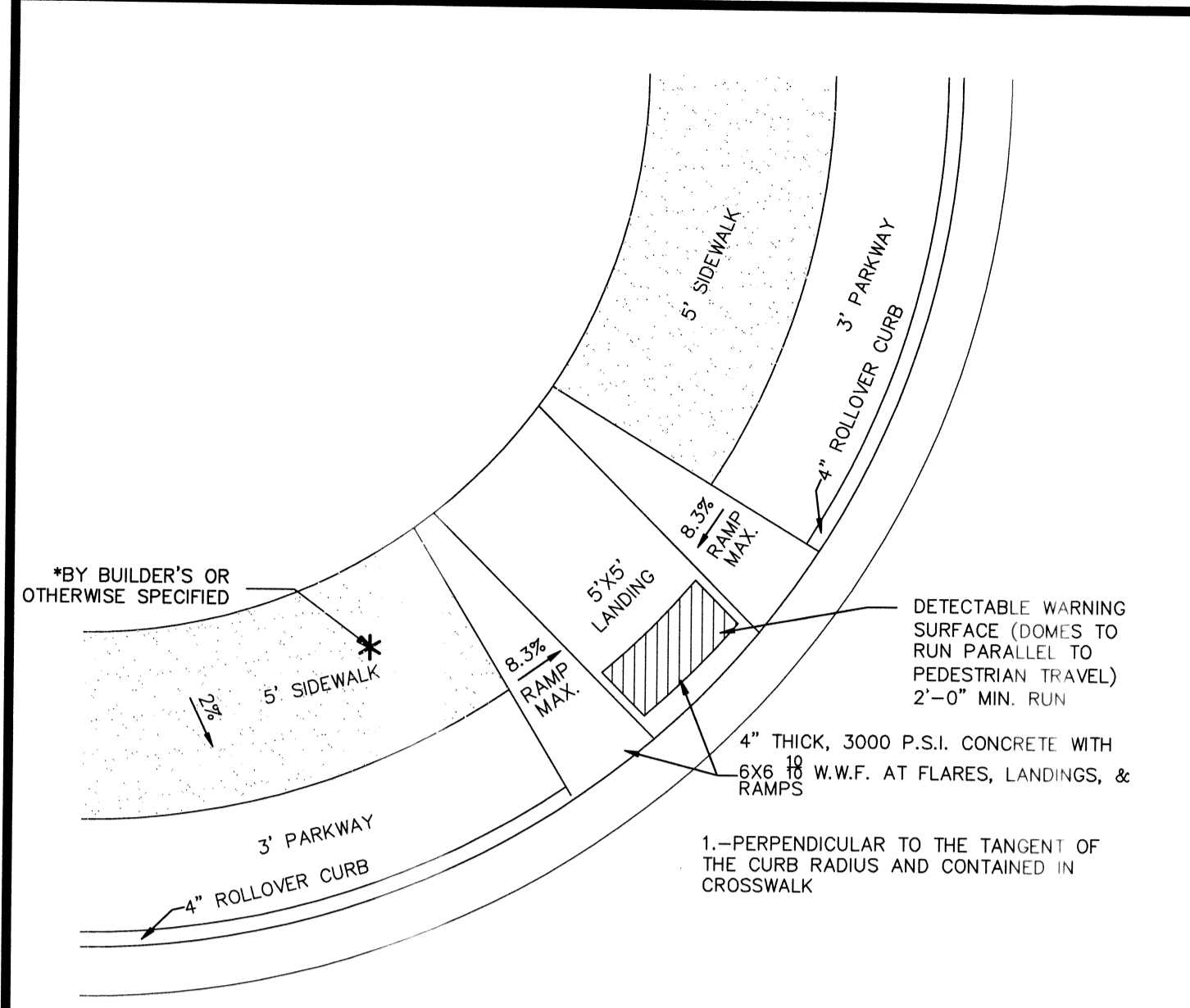
City of El Paso Dome Size and Spacing

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 (5MM), 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 INTERNAL 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" PREMOLED 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.



DIAGONAL COMBINATION CURB RAMP

HANDICAP RAMPS

HIKE/BIKE HANDICAP RAMPS

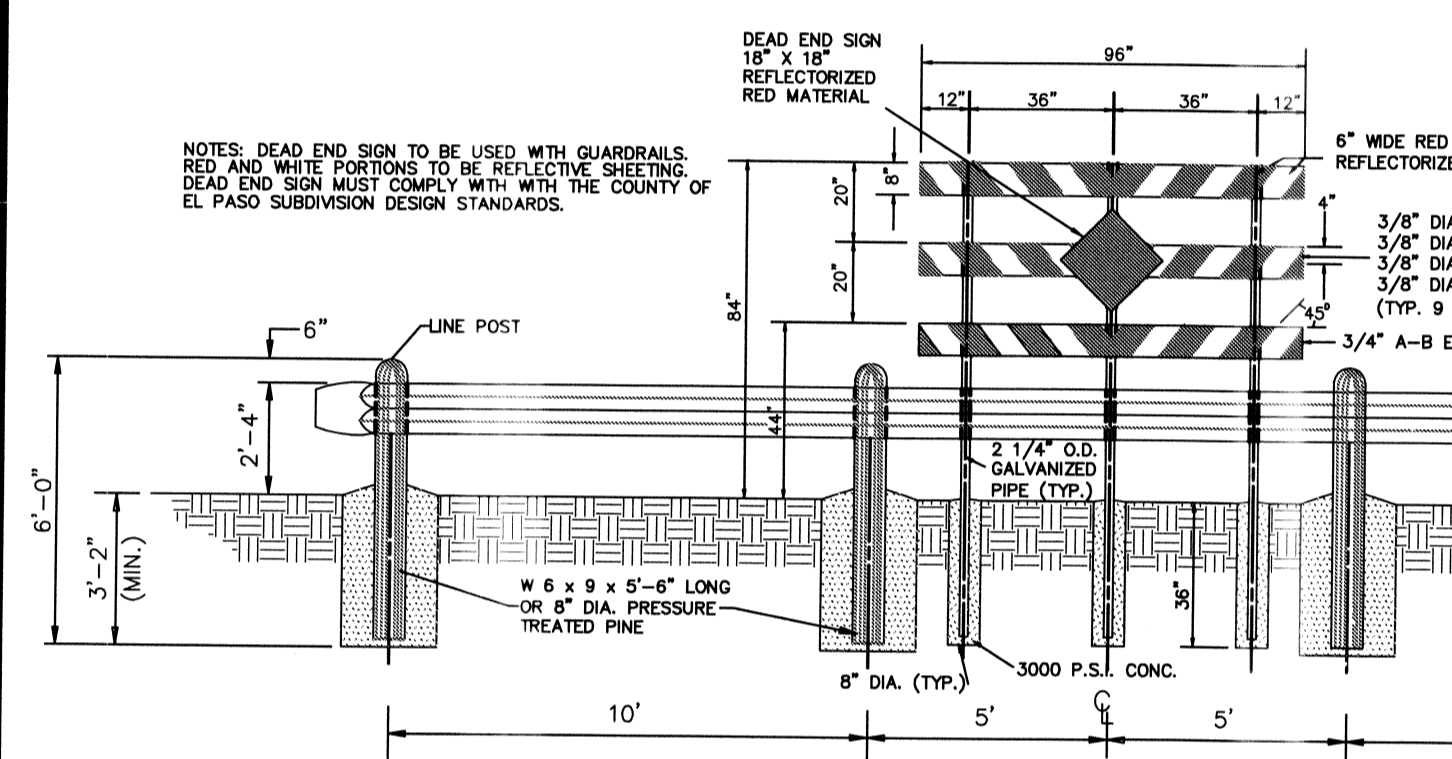
Pedestrian Facilities General Notes

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 premoled 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.

- ### 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 DRAWINGS ARE TYPICAL AND APPLY TO SIMILAR PROJECT CONDITIONS REGARDLESS OF WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED.

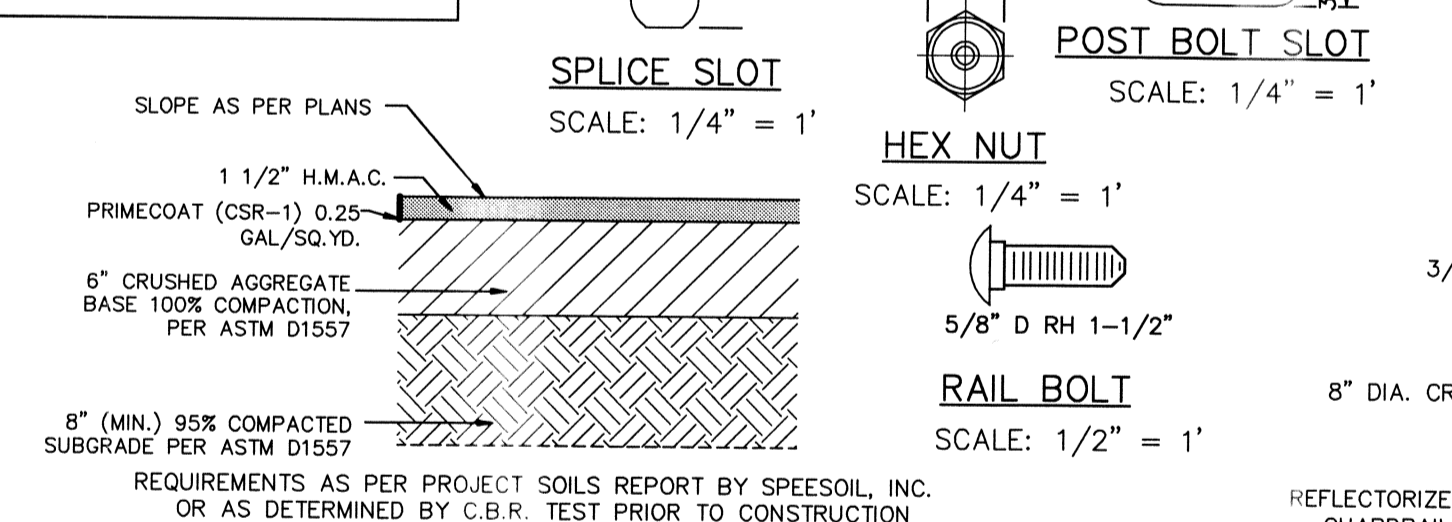
TERMINAL PLATE

SCALE: 1" = 1"



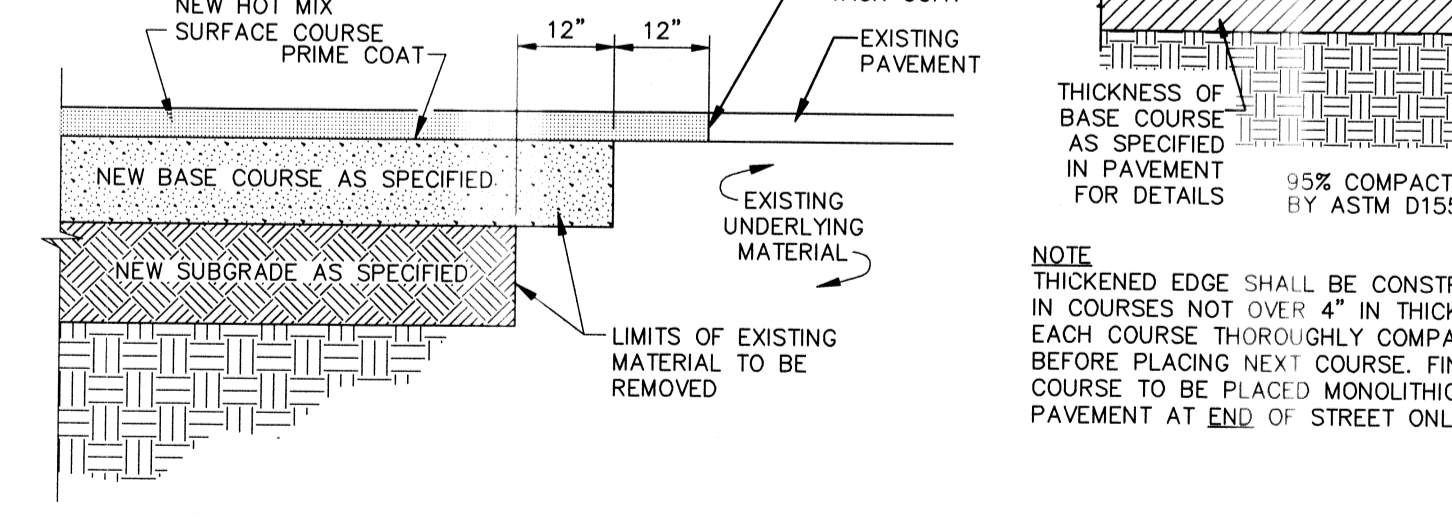
GUARD RAIL DETAIL

FINAL BASE AND PAVEMENT SECTION TO BE DETERMINED AND VERIFIED BY C.B.R. TESTING OF SUBBASE



TYPICAL PAVEMENT SECTION

SCALE: 1" = 1"

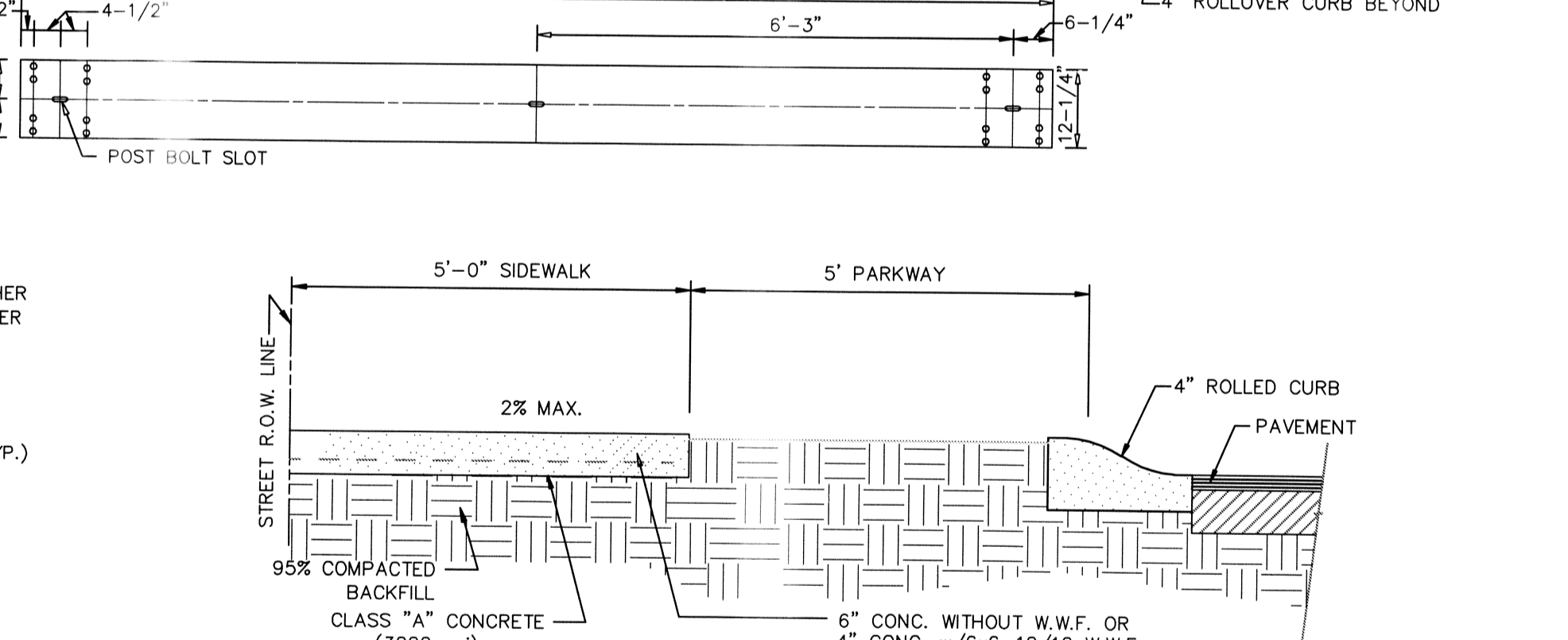


JUNCTURE OF NEW FLEXIBLE AND EXISTING FLEXIBLE PAVEMENT

SCALE: 1/2" = 1"

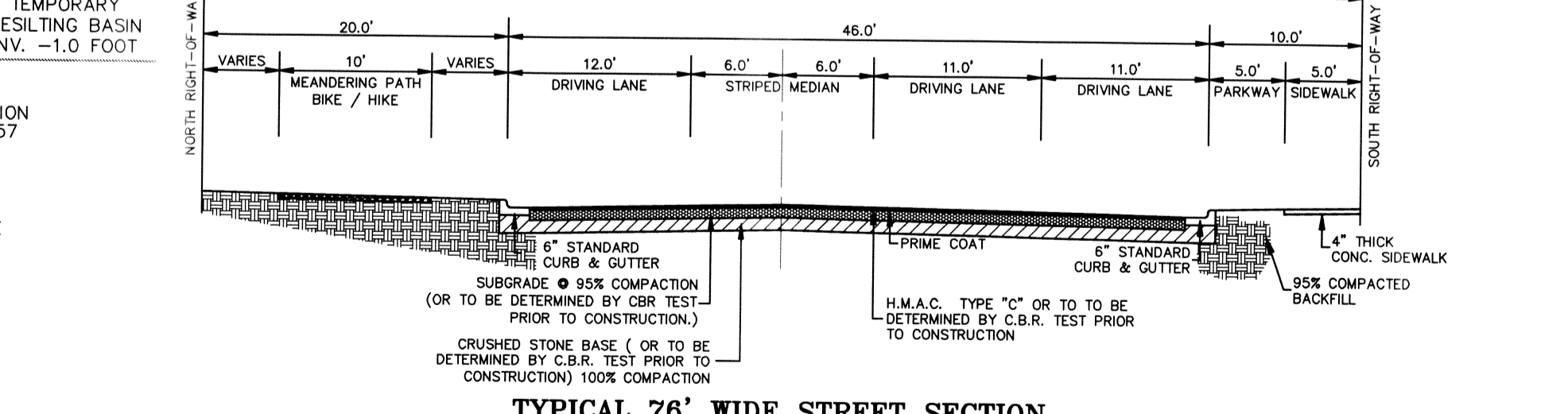
TERMINUS OF STREET

SCALE: 1" = 2"



SECTION D - D

SCALE: 1" = 2"



TYPICAL 76' WIDE STREET SECTION

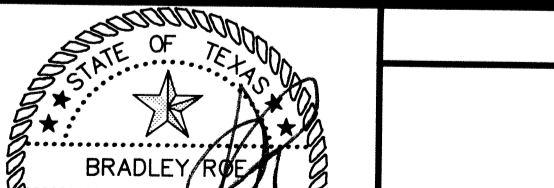
SCALE: 1" = 10"

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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" AND "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	NO. 3888 ON APRIL 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.
9/08/11	CITY COMMENTS	STAFF	NO. 3888 ON APRIL 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.
9/28/11	CITY COMMENTS	STAFF	NO. 3888 ON APRIL 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.
10/03/11	CITY COMMENT(P&R)	STAFF	NO. 3888 ON APRIL 2011, ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

SCALE	VER
AS SHOWN	AS SHOWN
FILE NAME:	18
W.O.:	11509-1A EHI
DATE:	FEBRUARY, 2010
DESIGN BY:	H.P./RC
DRAWN BY:	LAJ/H.P./IDR
CHKD. BY:	H.P.
APPD. BY:	BR

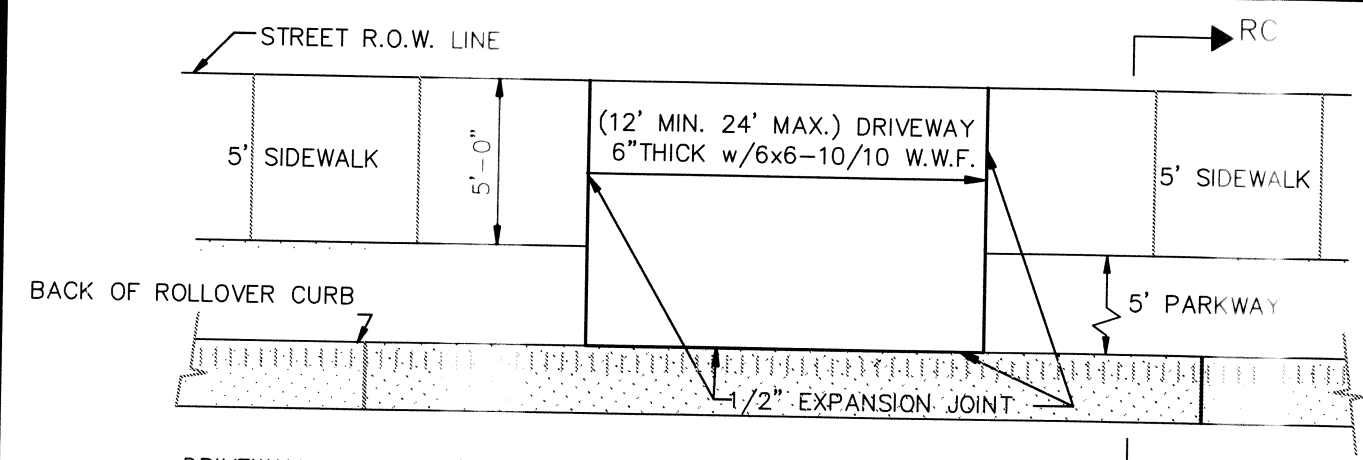


ENCHANTED HILLS UNIT ONE

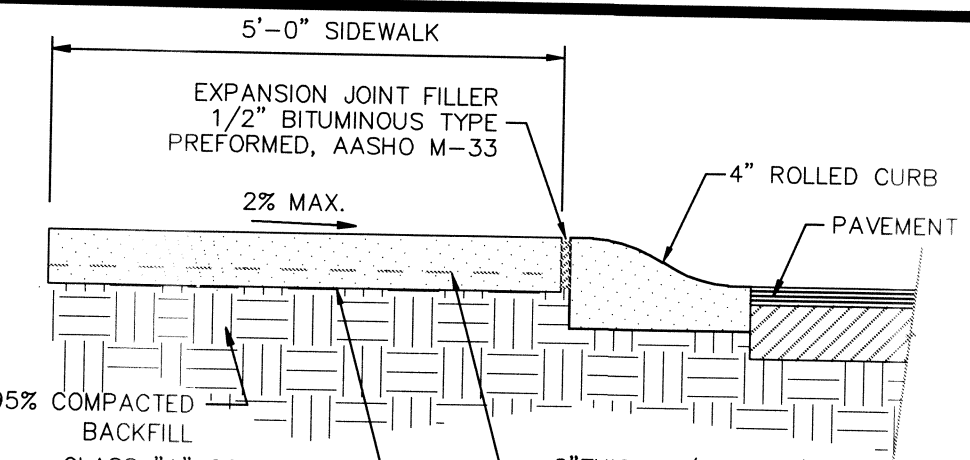
TYPICAL DETAILS

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@swbell.net

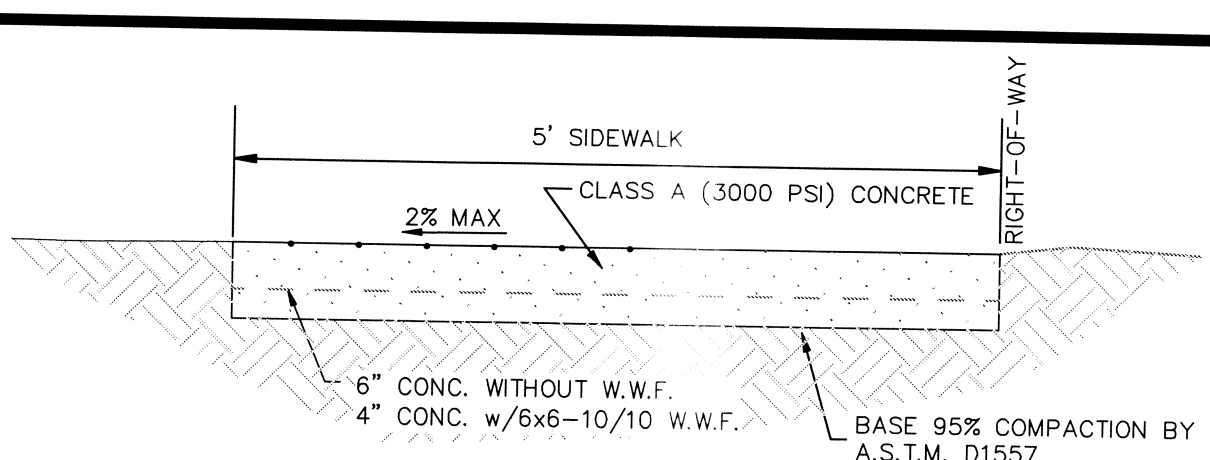
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 28 OF 33



PLAN VIEW/ROLL-OVER TYPE CURB
SCALE: 1" = 6'



SIDEWALK @ CUL-DE-SAC
SCALE: 1" = 2'

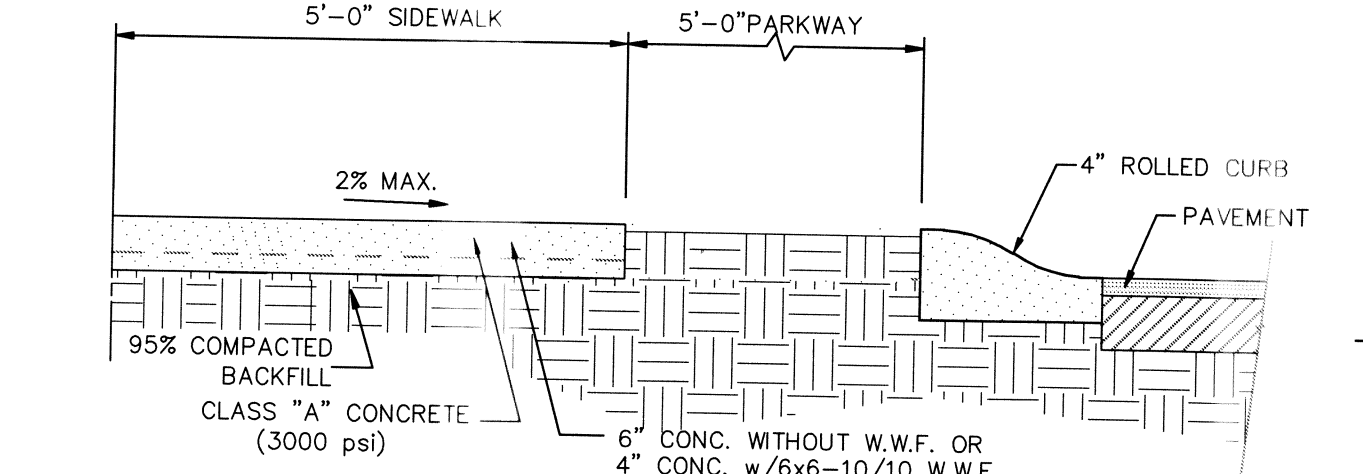


5' SIDEWALK DETAIL
SCALE: 1" = 1'

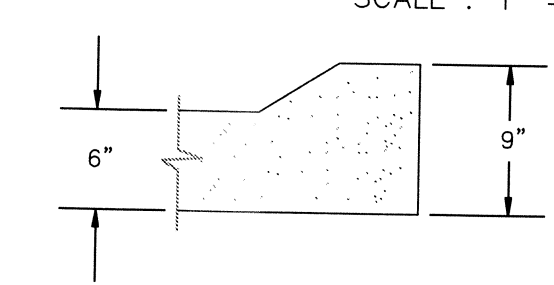
NOTES FOR CURB AND GUTTER:
1. EXPANSION JOINTS WILL BE REQUIRED AT THE END OF CURB RETURNS, AT 50' O.C. & POINT OF TANGENCY WITH STRAIGHT RUNS OF CURB AT EVERY INTERSECTION.
2. CONTRACTION JOINTS (1/2" MIN. SCORED JOINTS) MUST BE INSTALLED EVERY 10 FEET IN CURB OR GUTTER AND GUTTER.
3. ALL EXPANSION JOINTS WILL BE PREFORMED BITUMINOUS FIBER 1/2" INCH THICK.
4. CONCRETE TO BE CLASS "A", 3000 P.S.I.

STANDARD CURB AND GUTTER DETAIL
SCALE 1 1/2" = 1'

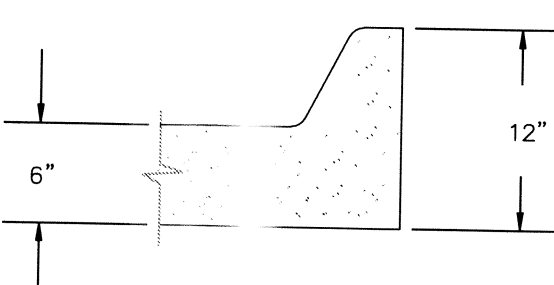
ROLL-OVER CURB
SCALE 1 1/2" = 1'



SECTION RC-RC
SCALE: 1" = 2'

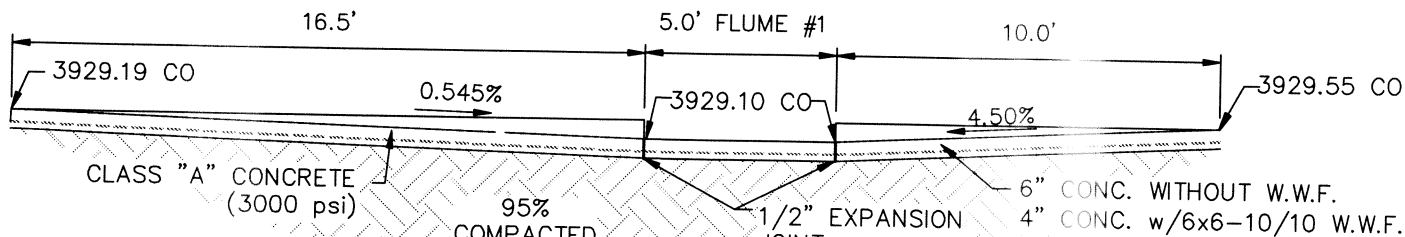


SECTION DWC-DWC
SCALE: 1" = 1'

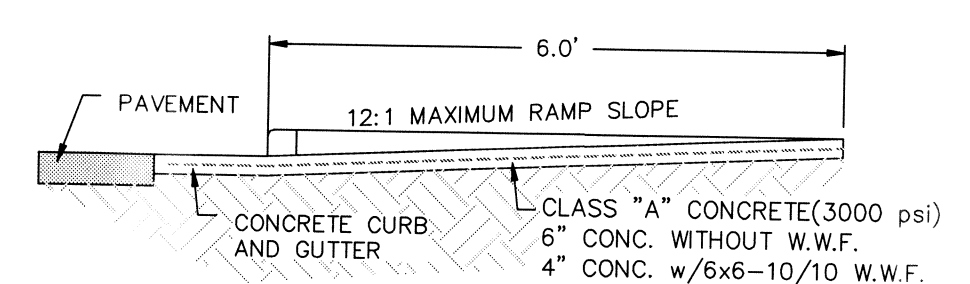


SECTION DWD-DWD
SCALE 1" = 1'

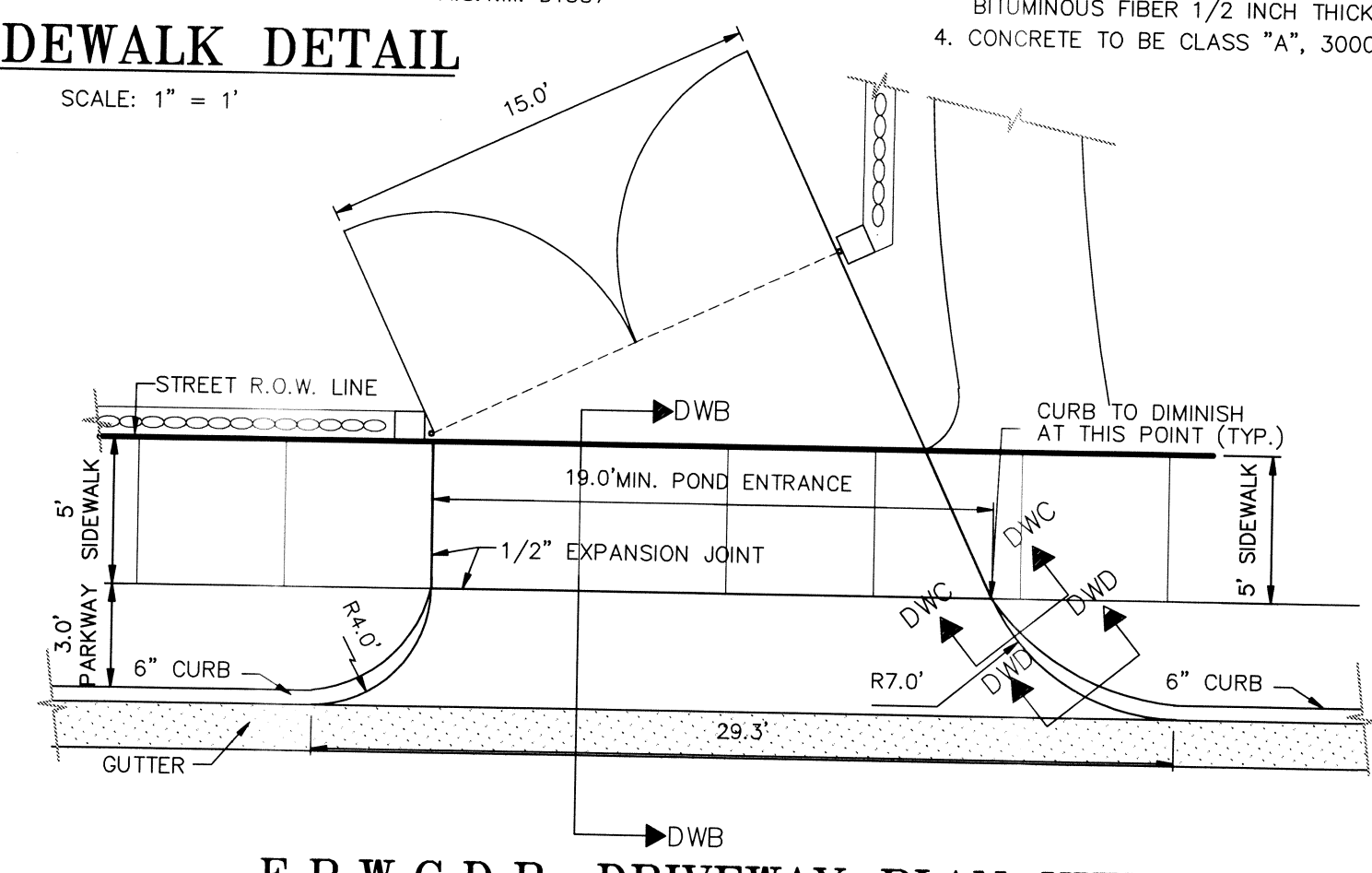
TYPICAL CONCRETE DRIVEWAY



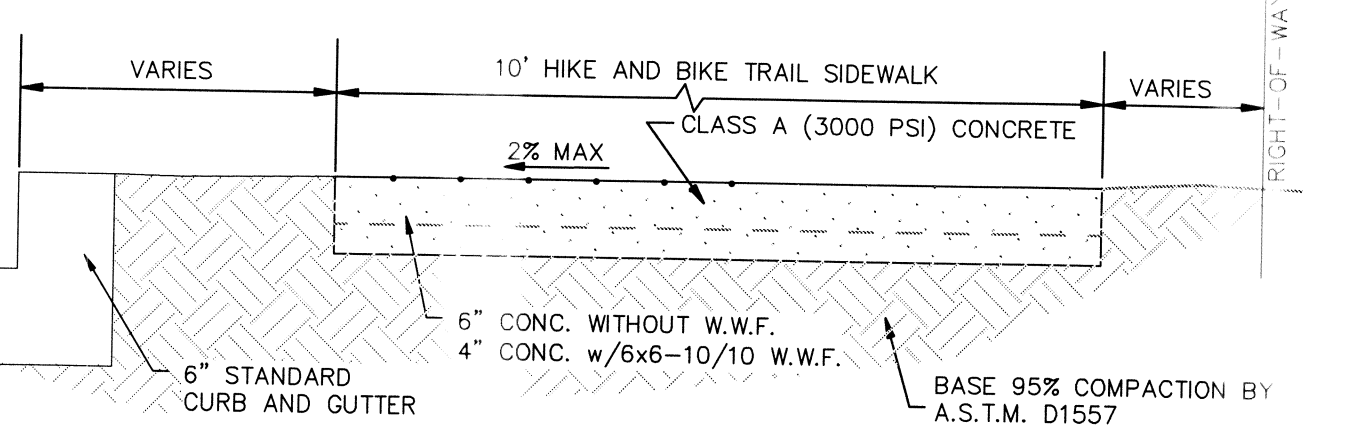
FLUME # 1 HANDICAP RAMP
SCALE: 1" = 5'



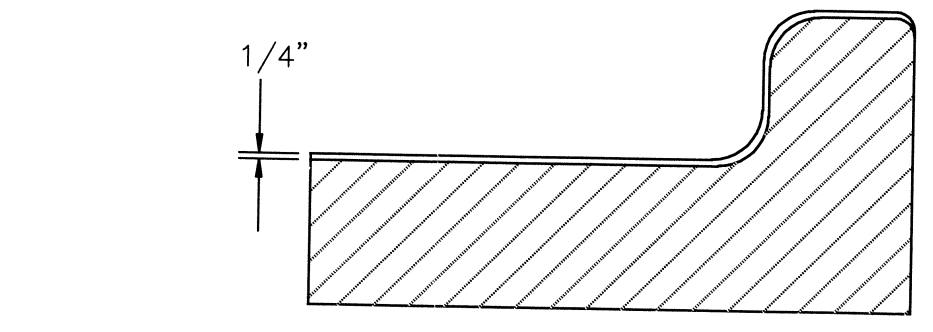
TYPICAL HANDICAP RAMP
SCALE: 1" = 2'



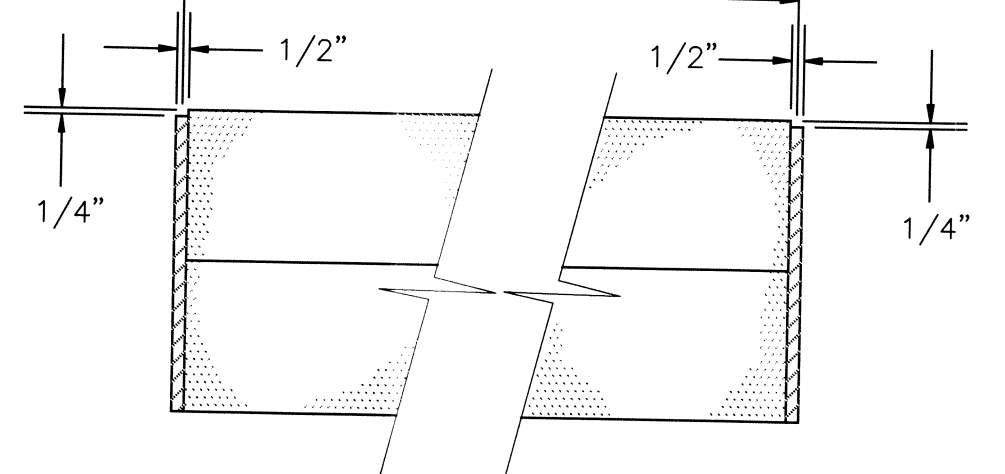
E.P.W.C.D.B. DRIVEWAY PLAN VIEW
SCALE: 1" = 6'



HIKE AND BIKE TRAIL DETAIL
SCALE: 1" = 1'



CURB AND GUTTER EXPANSION JOINT DETAIL

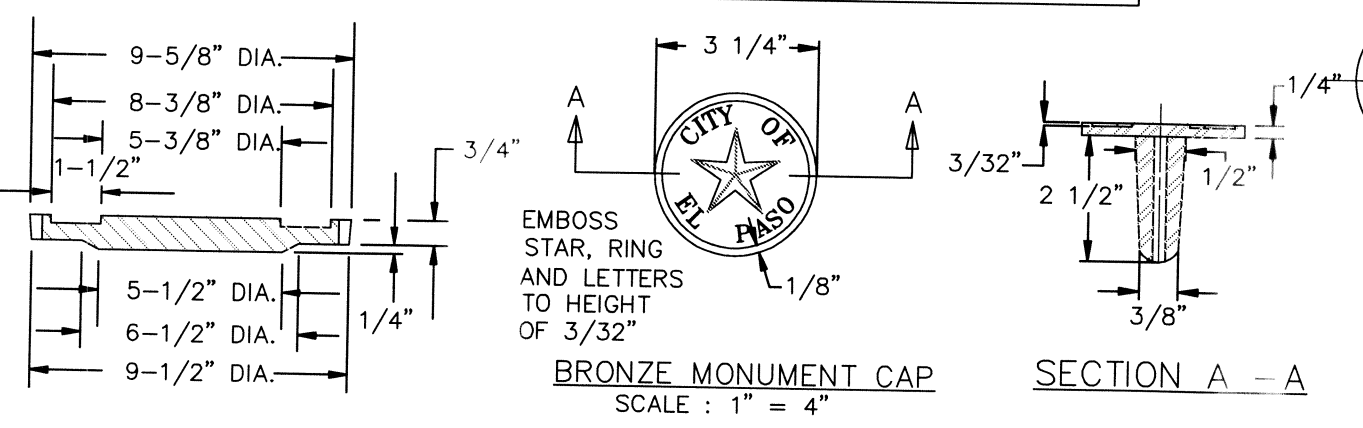


ROLL-OVER CURB
SCALE 1 1/2" = 1'

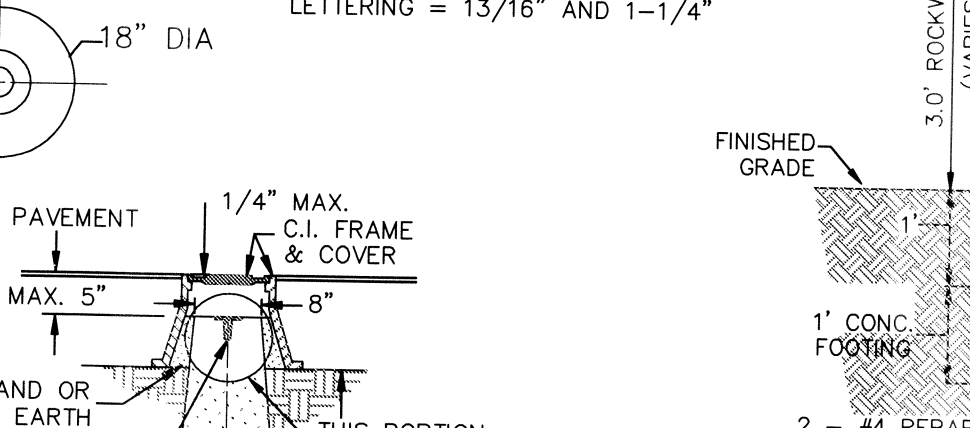
SIZE AND CONSTRUCTION:
THE STANDARD CITY MONUMENT SHALL BE POURED-IN-PLACE CONCRETE CONE, EIGHT (8) INCHES MINIMUM DIAMETER AT THE TOP, EIGHTEEN (18) INCHES MINIMUM DIAMETER AT THE BOTTOM, THIRTY-SIX (36) INCHES MINIMUM IN DEPTH WITH THE MONUMENT CAP IN PLACE ON TOP.
THE MONUMENT SHALL BE COVERED WITH A CAST IRON BOX AND COVER.
NUMBER AND LOCATIONS:
THE MONUMENTS SHALL BE INSTALLED WHERE SHOWN ON THE SUBDIVISION PLAT AS APPROVED BY THE CITY ENGINEER.
ANY MONUMENT MUST BE WITHIN THE LINE OF SIGHT OF ANY OTHER MONUMENT (2000 FEET MAXIMUM DISTANCE BETWEEN MONUMENTS).
THE SIZE, TOPOGRAPHY AND LAYOUT OF THE SUBDIVISION SHALL GOVERN THE NUMBER OF MONUMENTS REQUIRED.

NO FEWER THAN TWO MONUMENTS SHALL BE PLACED IN A ONE STREET SUB-DIVISION.
AT LEAST ONE (1) MONUMENT SHALL BE PLACED ON EACH HORIZONTAL CURVE. TWO SHALL BE PLACED IF THE POINT OF INTERSECTION (P.I.) OF THE TANGENTS LEADING INTO THE CURVE FALLS OUTSIDE OF CITY RIGHT-OF-WAY. THE MONUMENTS SHALL BE INSTALLED SO THAT ALL FRONT PROPERTY CORNERS OF ALL LOTS IN THE SUBDIVISION ARE WITHIN LINE OF SIGHT OF A MONUMENT, OR WITHIN LINE OF SIGHT BETWEEN TWO ADJACENT MONUMENTS.

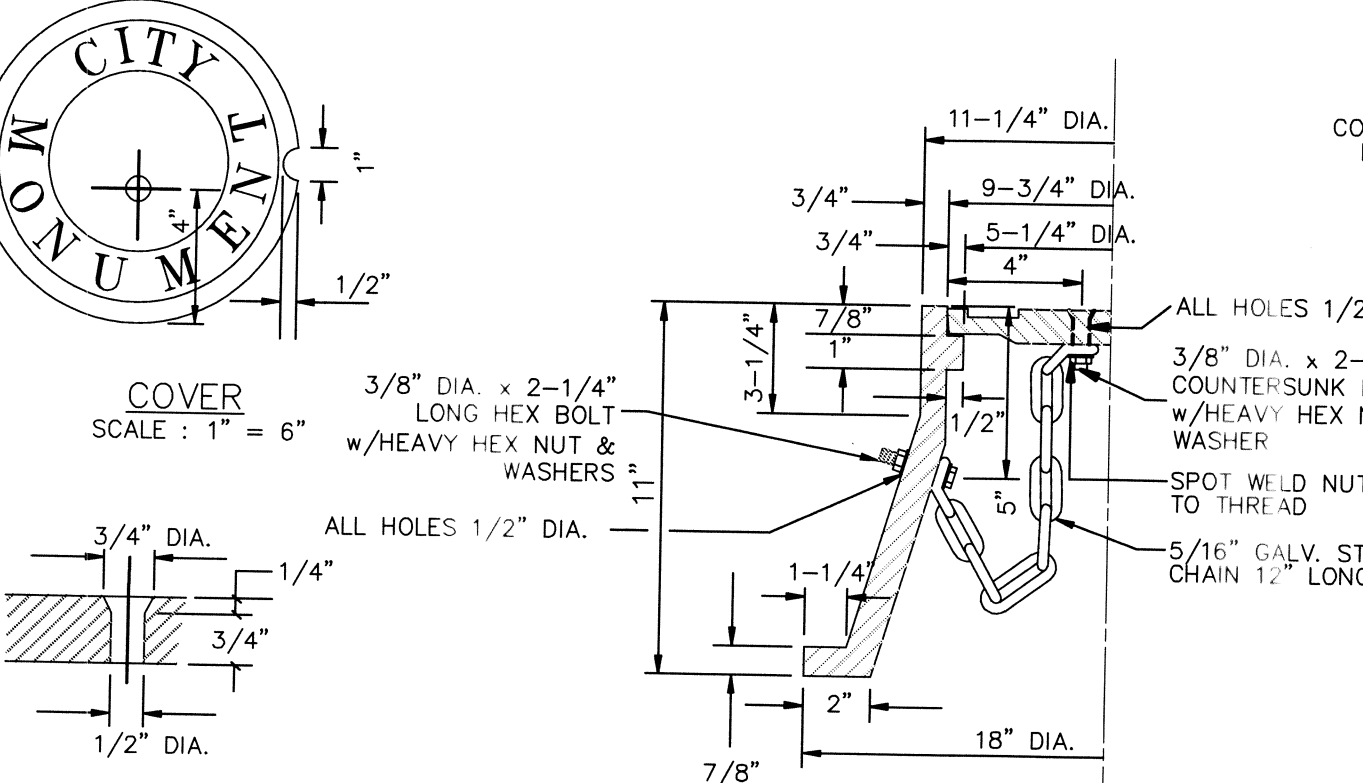
OUTSIDE RADIUS OF STAR = 3/4"
INSIDE RADIUS OF STAR = 5/16"
HEIGHT OF LETTERS = 7/16"
WIDTH OF LETTER BODY = 3/16"
LETTERING = 13/16" AND 1-1/4"



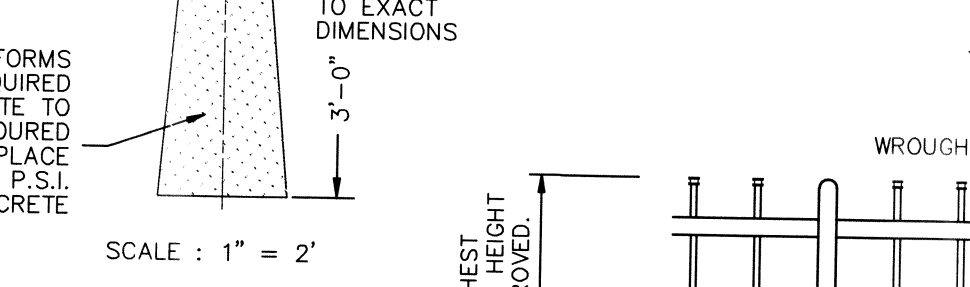
BRONZE MONUMENT CAP
SCALE: 1" = 4"



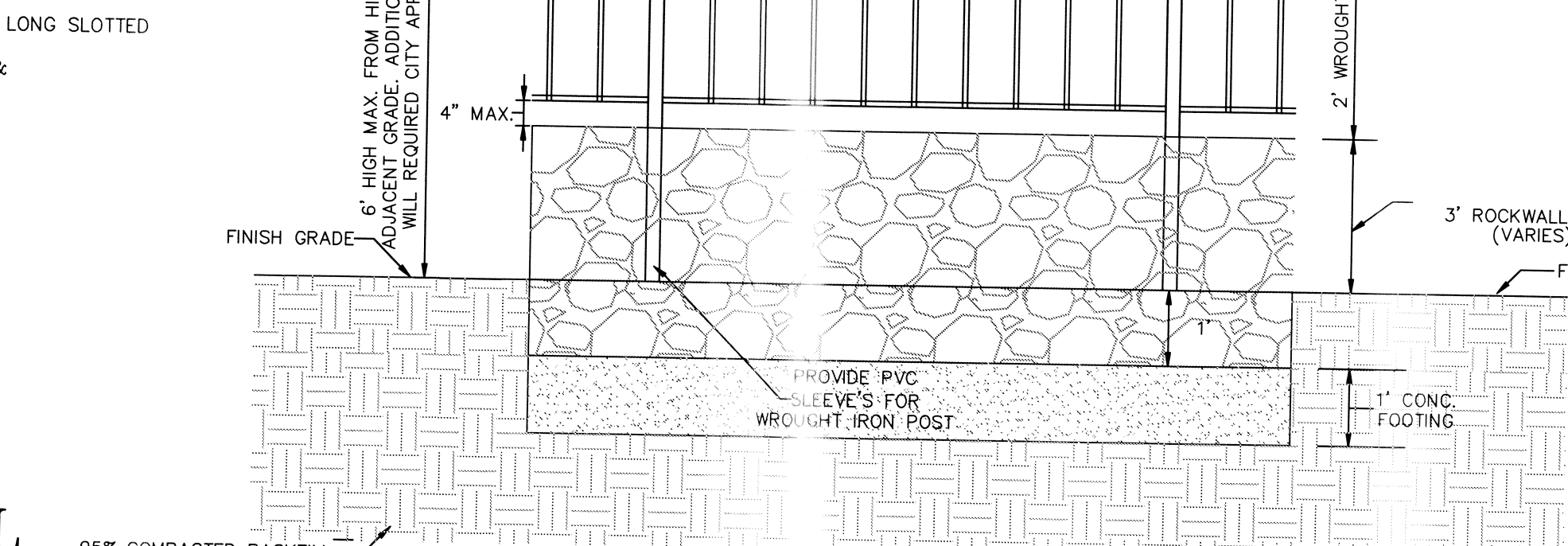
SECTION A - A



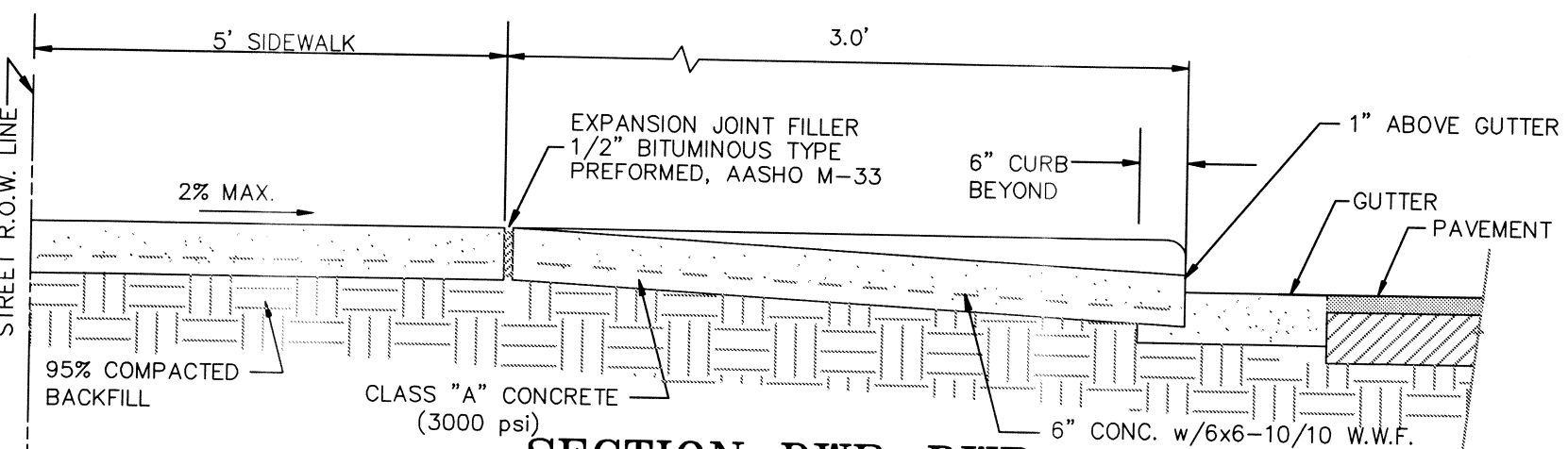
CITY MONUMENT DETAIL



ROCKWALL
SCALE: 1" = 2'



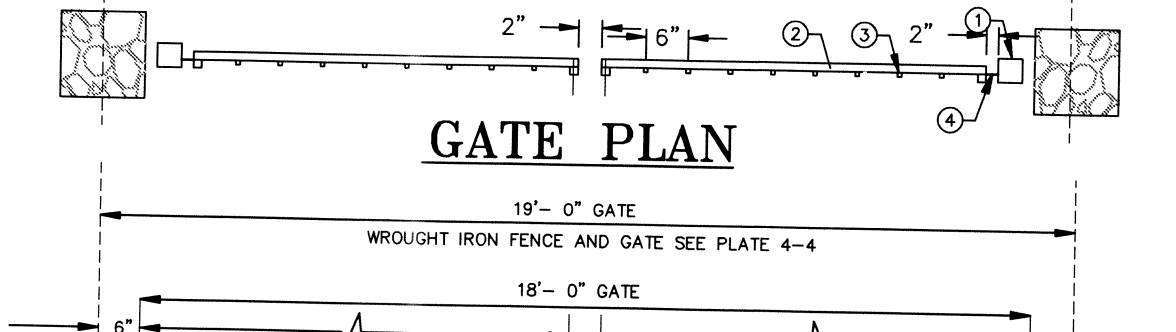
ROCKWALL W/ WROUGHT IRON FENCE
SCALE: 1" = 2'



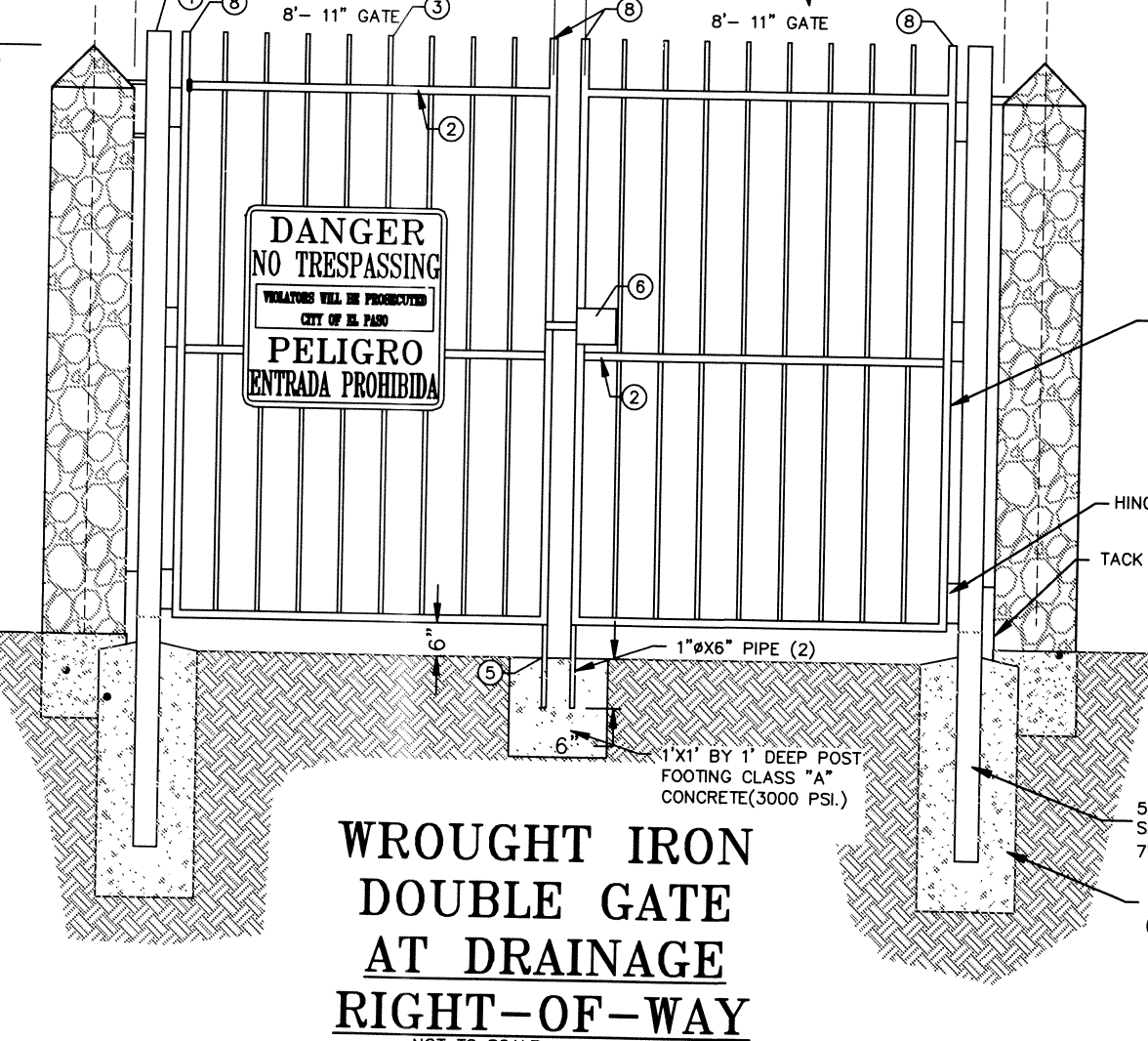
SECTION DWB-DWB
SCALE: 1" = 2'

- NOTE:**
- 3"x3"x 3/16" SQUARE STEEL TUBING
 - 2"x1"x 1/4" RECTANGULAR STEEL TUBING
 - 1 1/2"x1/2"x 1/8" RECTANGULAR STEEL TUBING
 - BOLT HOOK AND STRAP HINGE
 - CANE BLOT LAUNCH W/KEEPER 5-8"x18" LONG (2 REQUIRED)
 - DOUBLE GATE HEAVY DUTY INDUSTRIAL LATCH W/PAD LOCK
 - FLAT TOP POLYVINYL CAP
 - 2" X1" X 10 GA. RECTANGULAR STEEL TUBING

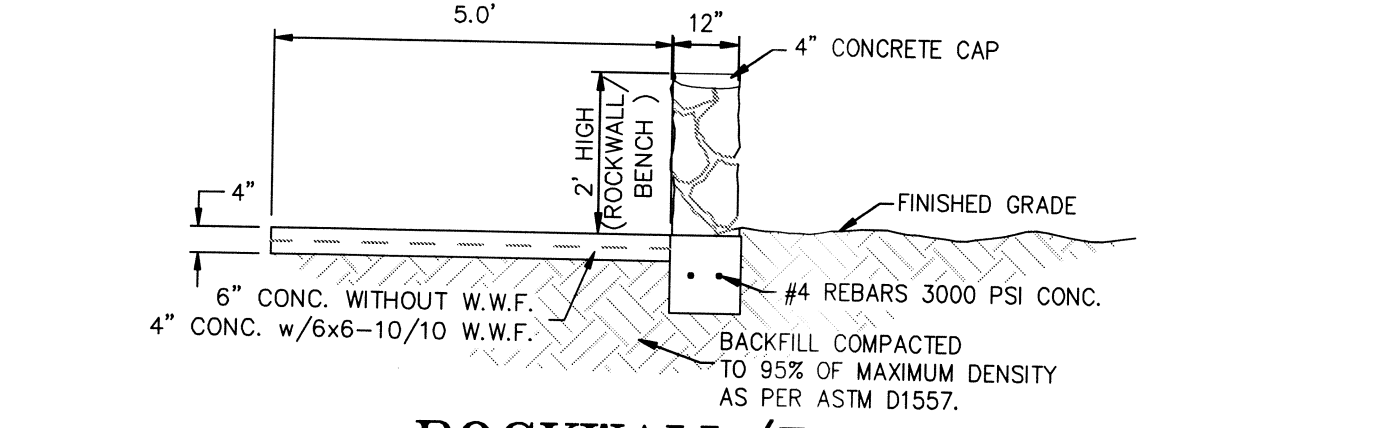
ROCKWALL DETAIL
SCALE: 1" = 3'



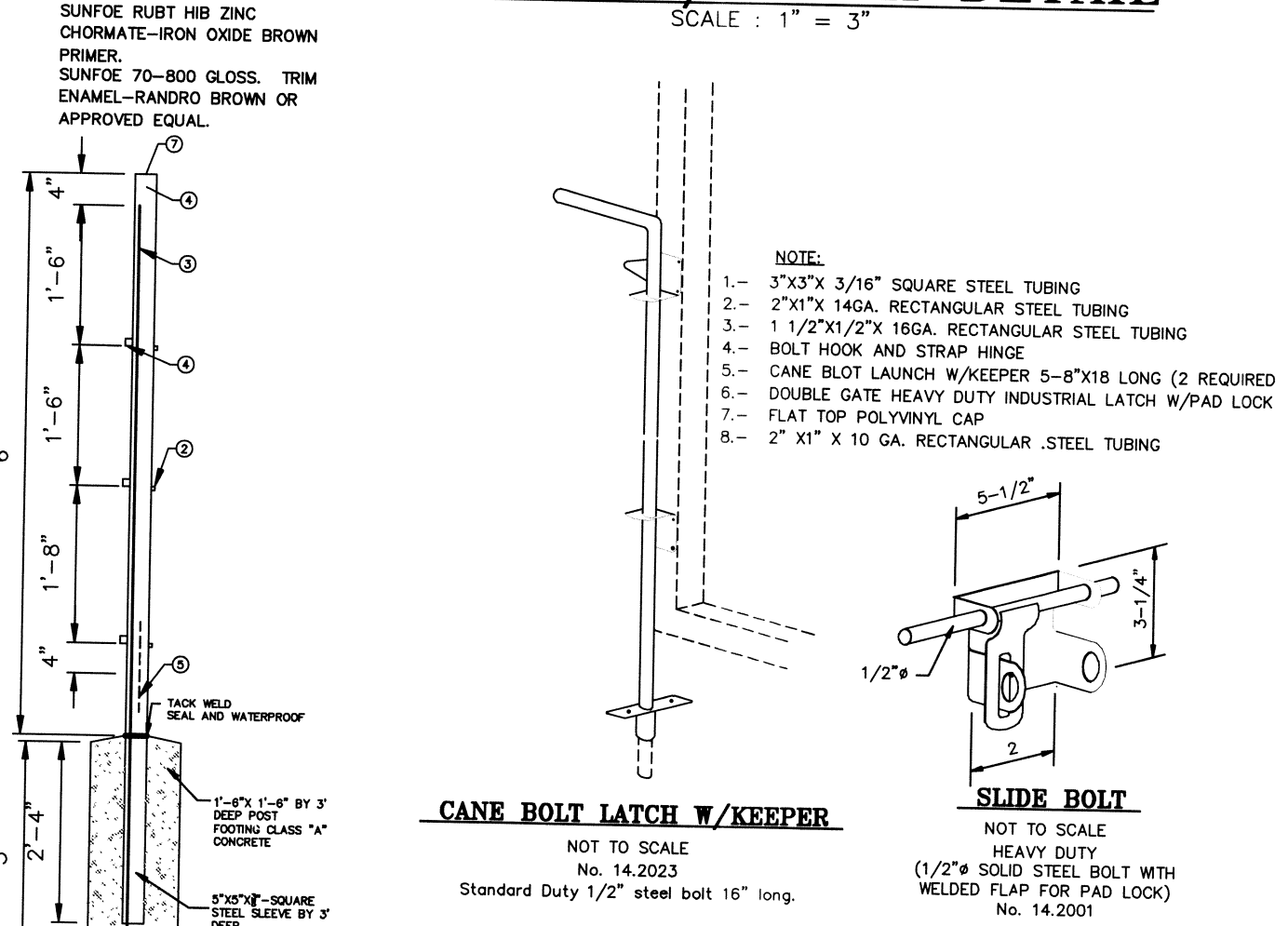
GATE PLAN



WROUGHT IRON DOUBLE GATE AT DRAINAGE RIGHT-OF-WAY



ROCKWALL/BENCH DETAIL
SCALE: 1" = 3'



GATE SECTION

CANE BOLT LATCH W/KEEPER
NOT TO SCALE
HEAVY DUTY
NO. 14-2023
Standard Duty 1/2" steel bolt 16" long
No. 14-2001

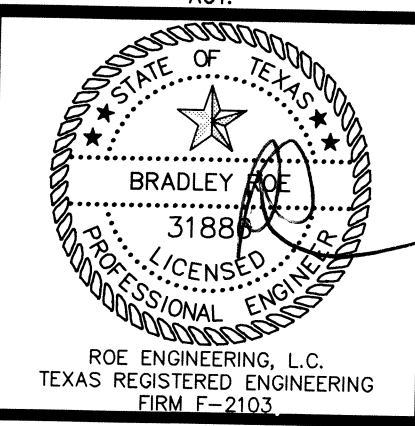
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FLOOD NOTE:
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DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	NOIS MONUMENT (ORNO 1980 (PID: 260444)	
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1983: 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 3940.24 NAVD 88	
9/28/11	CITY COMMENTS	STAFF		
			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	

NOTE: ALL PART NUMBERS ARE FROM AAA STEEL & ORNAMENTAL, INC. 7117 W. LOOP DR., EL PASO, TX, 79915 / (915) 755-0085

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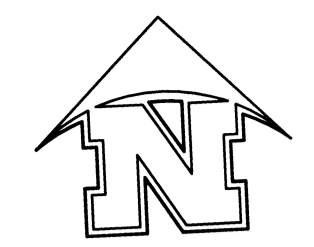
TYPICAL DETAILS
ENCHANTED HILLS UNIT ONE

TYPICAL DETAILS

Roe Engineering, L.C.
601 N. Cotton St. Suite No. 6 El Paso, TX, 79902
(915) 533-1418 - FAX: (915) 533-4972
e-mail: roe@roee.com
ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING
SHEET 29 OF 33

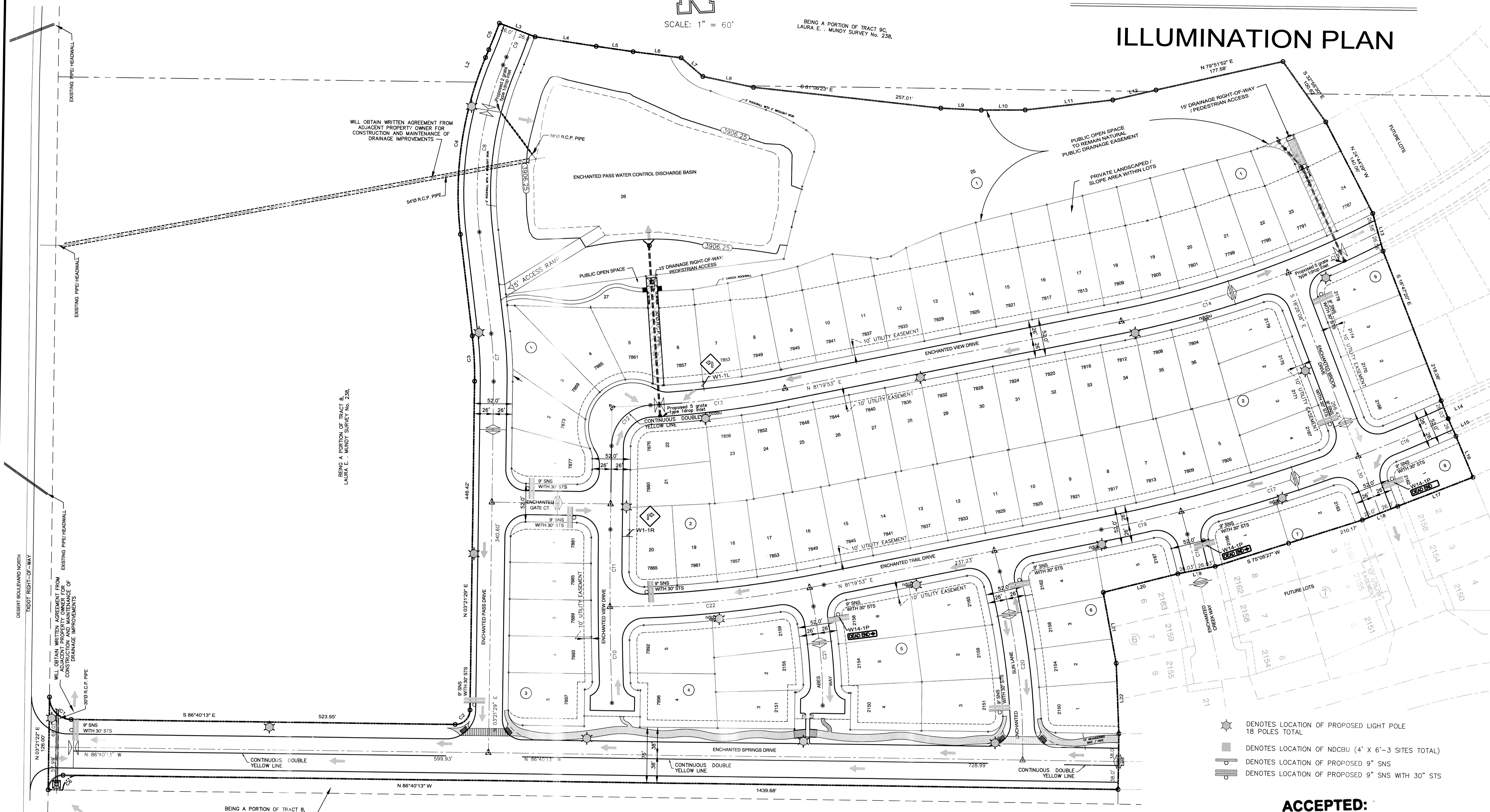
ENCHANTED HILLS

ILLUMINATION PLAN



SCALE: 1" = 60'

BEING A PORTION OF TRACT 9C,
LAURA E. MUNDY SURVEY No. 238,

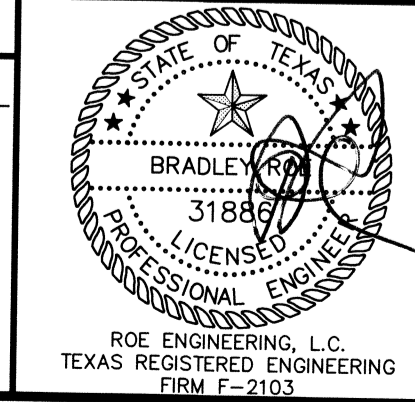


- DENOTES LOCATION OF PROPOSED LIGHT POLE
18 POLES TOTAL
- DENOTES LOCATION OF NDCBU (4' X 6'-3 SITES TOTAL)
- DENOTES LOCATION OF PROPOSED 9" SNS
- DENOTES LOCATION OF PROPOSED 9" SNS WITH 30" STS

ACCEPTED:

BY *[Signature]* DATE *12 Oct 11*
DEPARTMENT OF TRANSPORTATION
CITY OF EL PASO

THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY
BRADLEY ROE, P.E. 31886 ON APRIL 2011, ALTERATION OF A
SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE
ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE
ACT.



ILLUMINATION PLAN
**ENCHANTED HILLS
UNIT ONE**
ILLUMINATION PLAN
SHEET 30 OF 33

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ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

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FLOOD NOTE:
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"A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT
DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE
"C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY
MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS, AS PER AREA COMMUNITY PANEL
NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK	SCALE
6/27/11	CITY COMMENTS	STAFF	N2S MONUMENT (GRID 1980) (P&R) (020444)	HOR: 60 VER: 60
9/08/11	CITY COMMENTS	STAFF	LOCATION AS PER NATIONAL GEODETIC SURVEY 1981: 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 3540.24 NAVD 88	FILE NAME: 19
9/28/11	CITY COMMENTS	STAFF		W.O. 11509-1A EHI
10/03/11	CITY COMMENT(P&R)	STAFF	SECONDARY BENCHMARK	DATE: FEBRUARY, 2010
			EXISTING CITY MONUMENT LOCATED AT THE POINT OF CURVATURE ALONG THE CENTERLINE OF LOS MACHOS DRIVE IN FRONT OF LOT 12, BLOCK 2, CANTILLO HEIGHTS UNIT TWO AND LOT 11, BLOCK 2, CANTILLO HEIGHTS UNIT ONE ELEVATION: 3057.21	DESIGN BY: H.P./RC
				DRAWN BY: LAJ/H.P./IDR
				CHKD. BY: H.P.
				APPD. BY: BR

STORM WATER POLLUTION PREVENTION PLAN NARRATIVE

Project Title: ENCHANTED HILLS UNIT ONE
Operator with Control Over Construction Plans and Specifications: Robert F. Foster, Inc.
Company Name and Address: Robert F. Foster, Inc., 6080 Surety Drive Suite 300

Table with columns: Revision No., Date, Description of Changes, Signature

Copy of NOI(s) or Site Notice(s) and TPDES General Permit TXR150000 attached?
Name of Municipal Separate Storm Sewer System (MS4) Receiving Discharge (if applicable):

Table with columns: 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.

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.

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.

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.

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.

1. 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.

6. ESTABLISH CONSTRUCTION ACCESS. Provide a description of measures to minimize the off-site tracking of sediment by vehicles.

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.

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

- 1. Install Temporary Erosion And Sediment Controls (e.g. Silt Fence And/ Or Earthen Berm, And Stabilized Construction Entrance). From ... to ...
2. Perform Roadway Clearing And Grubbing: From ... to ...
3. Excavation For Utilities: From ... To ...

EROSION AND SEDIMENT CONTROL SOIL STABILIZATION PRACTICES

- Temporary Seeding
Permanent Planting, Sodding, Or Seeding
Mulching
Soil Retention Blanket
Buffer Zones
Preservation Of Natural Resources

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
Silt Fences And Filter Barriers (Permanent)
Storm Drains (Permanent)
Velocity Control Devices
Vegetated Swales & Natural Depressions

NON-STORMWATER DISCHARGES ALLOWED

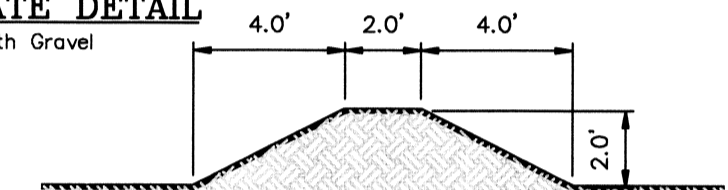
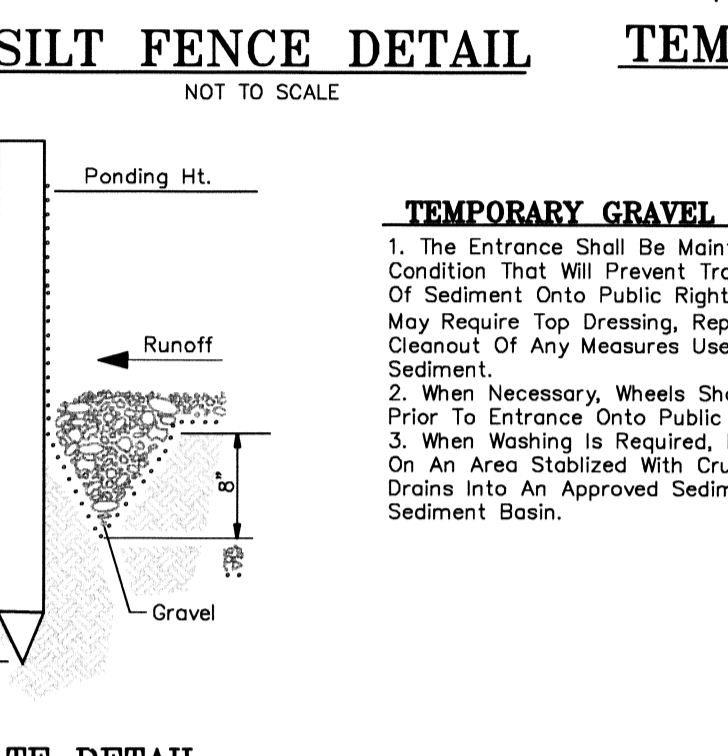
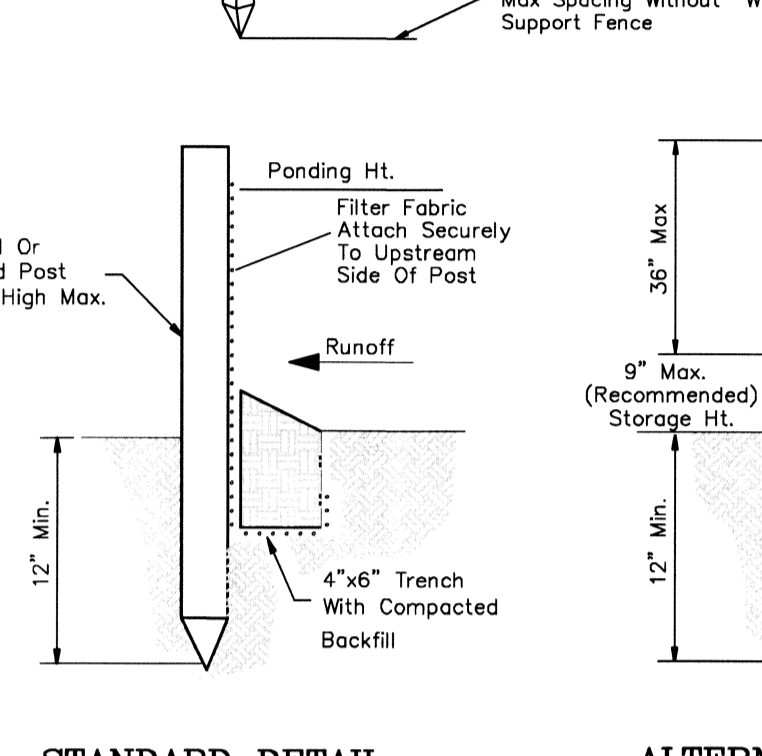
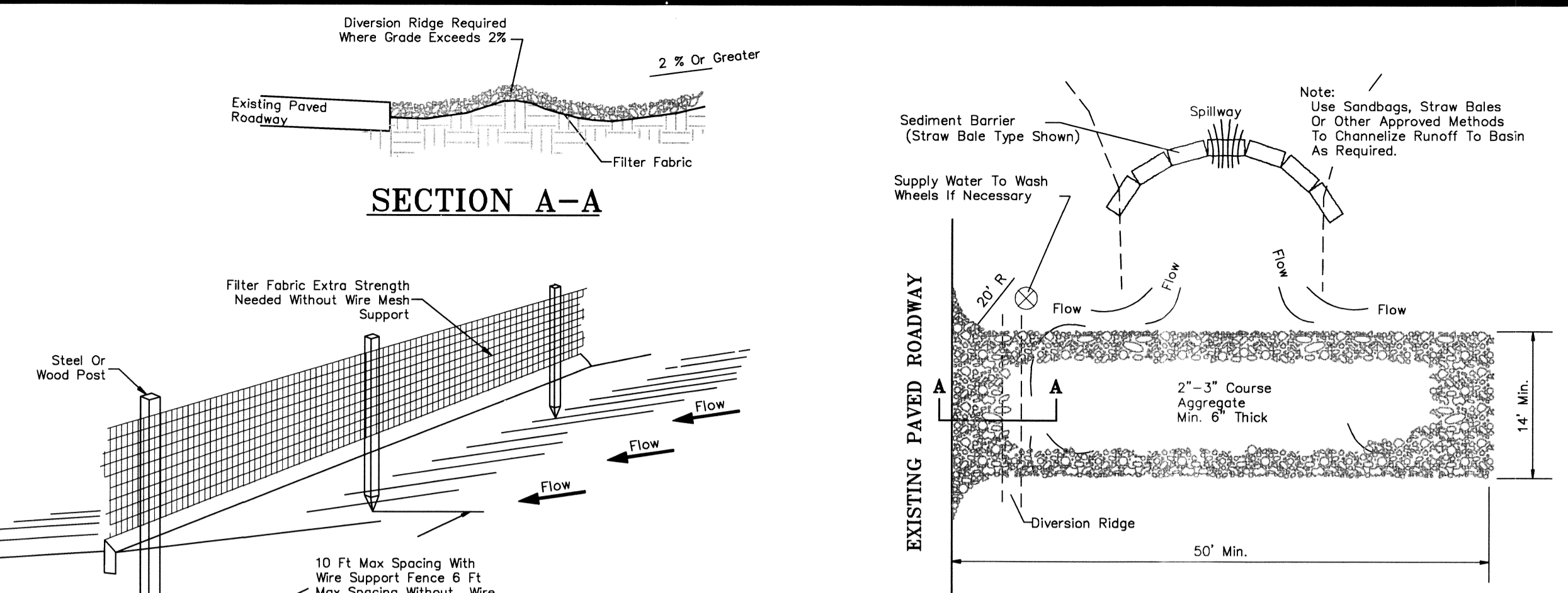
- A. No person shall introduce or cause to be introduced into the municipal separate storm sewer system (MS4) or waters within the jurisdiction of the city any discharge that is not composed entirely of stormwater.
B. It is an affirmative defense to any enforcement action for violation of subsection A of this section that the discharge was composed entirely of one or more of the following categories of discharges:

- 1. A discharge authorized by, and in full compliance with, an NPDES permit (other than the NPDES permit for discharges from the MS4);
2. A discharge resulting from firefighting;
3. Agricultural stormwater runoff;
4. 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;
5. A discharge from lawn watering, landscape irrigation, or other irrigation water;
6. A discharge from a diverted stream flow or natural spring;
7. A discharge from uncontaminated pumped groundwater or rising groundwater;
8. Uncontaminated groundwater infiltration (as defined as 40 CFR Section 35.2005 (20)) to the MS4;

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.
By: Douglas A. Swartz, Manager
Owner: (Name)
915-592-0290
Phone Number



CONSTRUCTION SPECIFICATIONS

- 1. The Height Of A Silt Fence Shall Not Exceed 36 Inches. Storage Height Shall Never Exceed 18".
2. The Fence Line Shall Follow The Contour As Closely As Possible.
3. 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.

SANITARY WASTE: BEST MANAGEMENT PRACTICES CONTROLS

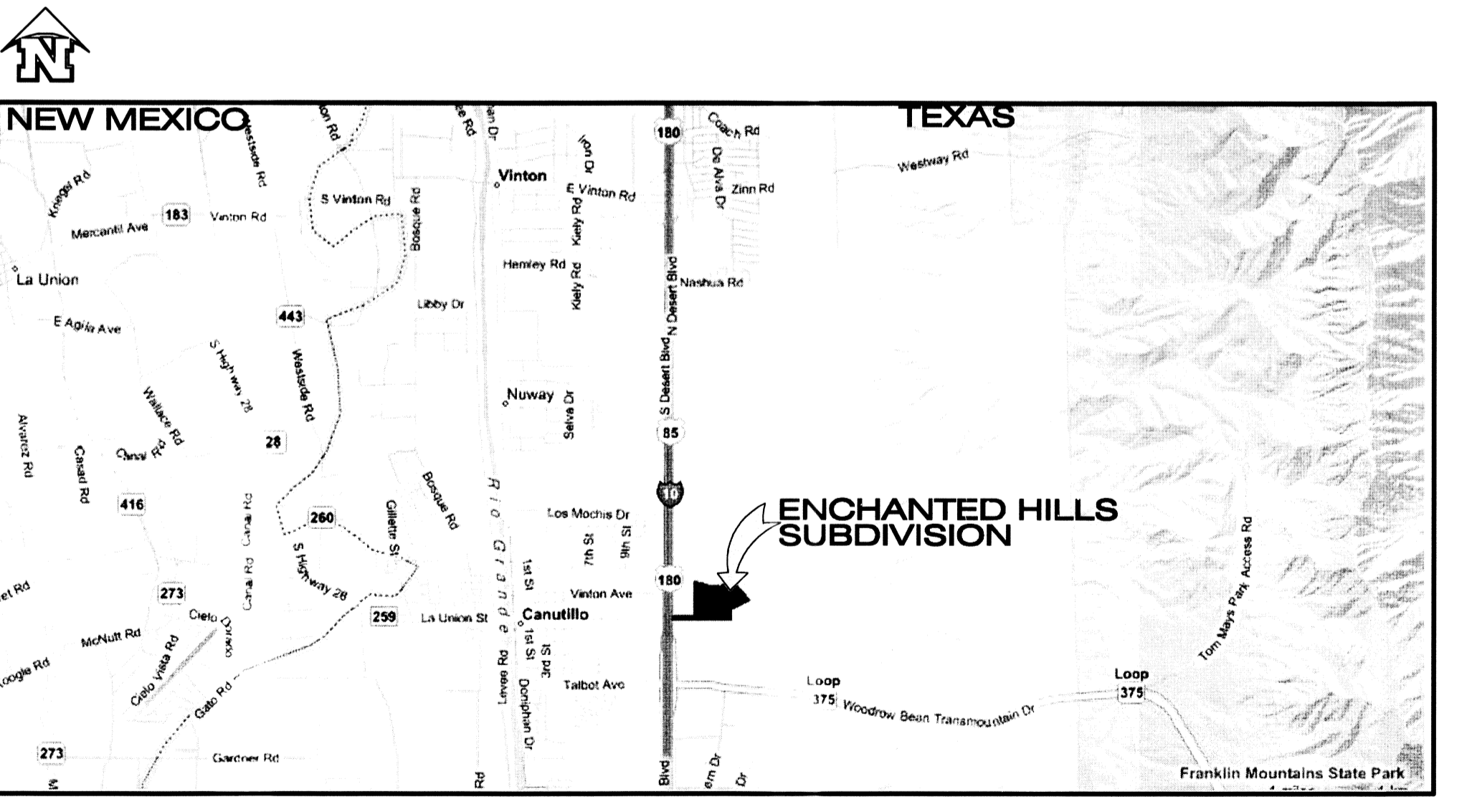
- 1. All Sanitary Waste Shall Be Collected From The Construction Portable Units As Necessary Or As Required, Chapter 18.08 (Building Code), By A Licensed Sanitary Waste Management Contractor. All Waste Material Shall Be The Responsibility Of The Contractor.
2. The Following Practices Shall Be Used To Reduce The Risk Of Spills Of Other Accidental Exposures Of Materials To Storm Water Runoff.

- III GOOD HOUSEKEEPING:
a. Store Only Enough Products Required To Do The Job
b. Neatly Store Materials On-Site In An Orderly Manner
c. Keep Products In Their Original Container
d. Do Not Mix Substances With One Another, Unless Otherwise Recommended By The Manufacturer
e. Use Entire Contents Of A Product Before Disposing The Container
f. Follow Manufacturer's Recommendations For Proper Use And Disposal Volume.

- IV HAZARDOUS PRODUCTS:
Practices Used To Reduce Risks:
a. Keep Products In Their Original Container If At All Possible
b. Retain Original Labels, Product Information And Material Safety Data Sheets (MSDS)
c. Dispose Surplus Product In Accordance With Manufacturer's Or Local & State Recommended Methods

- 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:
a. Manufacturer's Recommended Methods For Spill Cleanup Shall Be Clearly Posted And Site Personnel Shall Be Made Aware Of The Procedures.
b. Materials And Equipment Necessary For Spill Cleanup Shall Be Kept In The Material Storage Area On-Site.
c. All Spills Shall Be Cleaned Up Immediately After Discovery
d. Spill Area Shall Be Well Ventilated And Appropriate Clothing Will Be Worn:
e. Any Spill Shall Be Reported To The Appropriate Governmental Agency

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 SDPCP.
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 Bridges, Matting, Falsework, Piling Debris Or Other Obstructions Placed During Construction Operations That Are Not A Part Of The Finished Work.

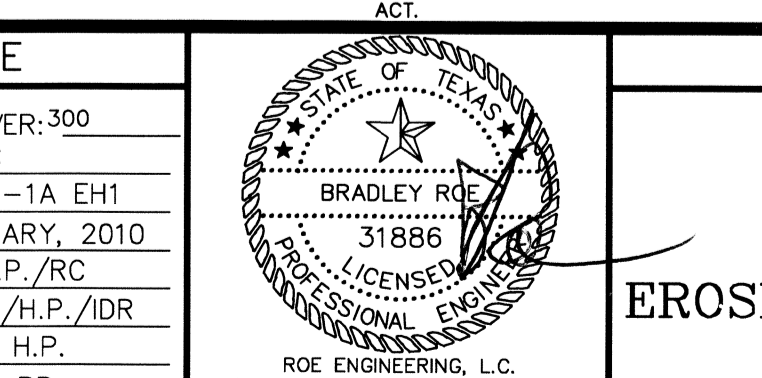


LOCATION MAP

Table with columns: DATE, REVISIONS, BY, PRIMARY BENCHMARK, SCALE, HO, VER, FILE NAME, W.O., DATE, DESIGN BY, DRAWN BY, CHKD BY, APPD BY.

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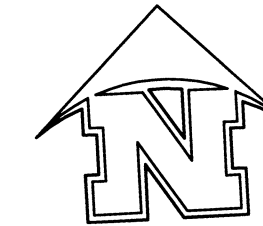
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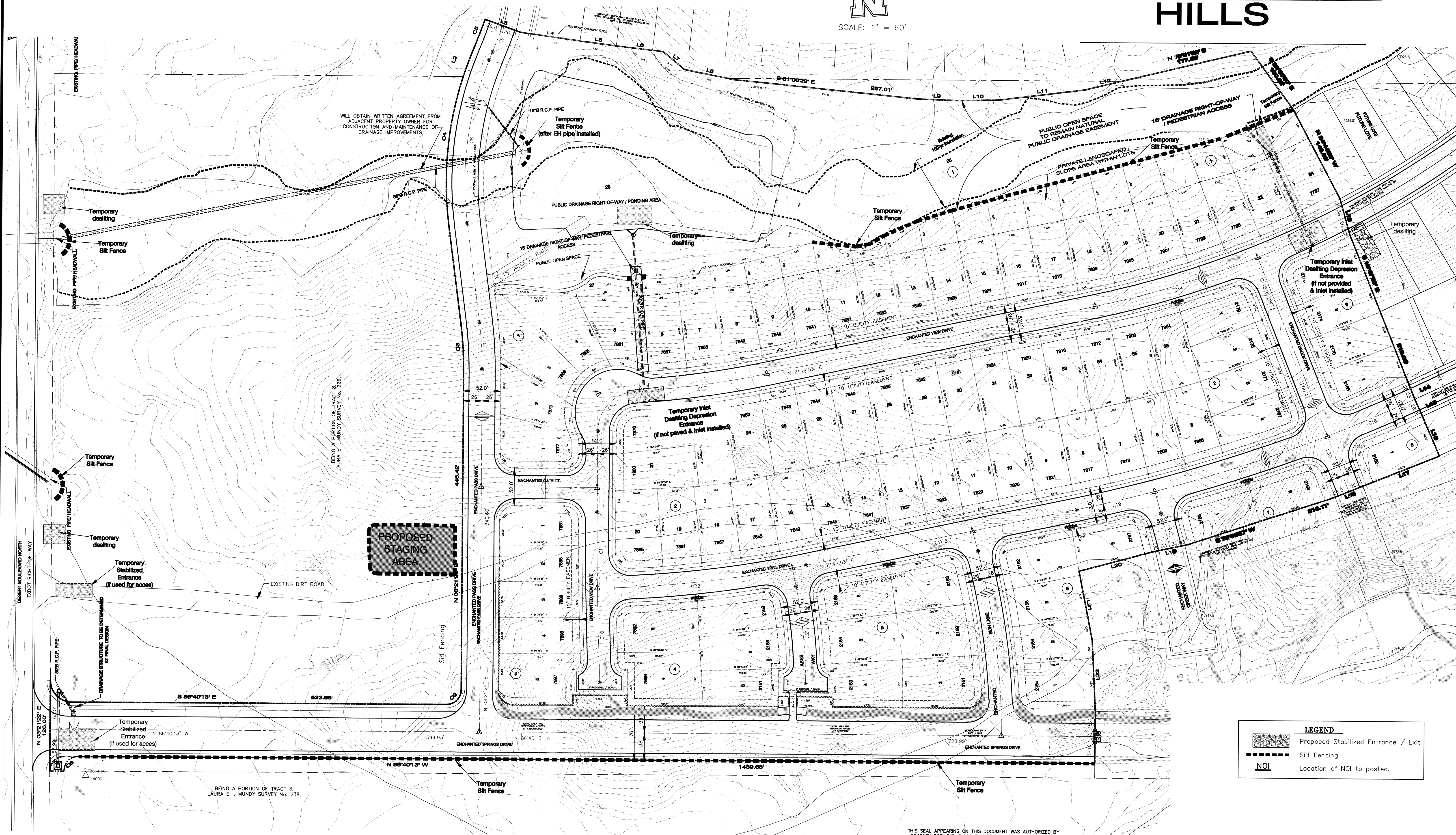
EROSION AND DUST CONTROL PLAN ENCHANTED HILLS UNIT ONE

Engineering/Land Development/Planning/Surveying SHEET 32 OF 33

ENCHANTED HILLS



SCALE: 1" = 60'



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

THIS SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRADLEY ROE, P.E. 31886 ON APRIL 2011. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

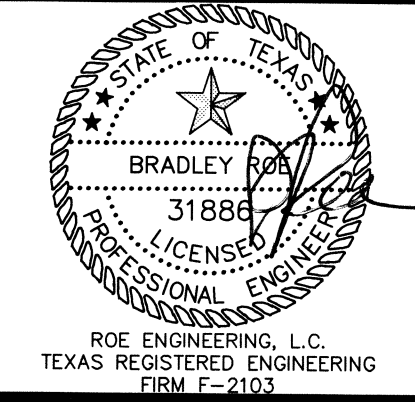
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FLOOD NOTE:
THE ABOVE REFERENCED SUBDIVISION IS WITHIN ZONES "A" and "C" (EXPLANATION ZONE "A": AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARDS NOT DETERMINED, (WHICH DOES NOT INCLUDE ANY RESIDENTIAL LOTS) (EXPLANATION ZONE "C": AREA OF MINIMAL FLOODING) ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS AS PER AREA COMMUNITY PANEL NO. 480214 0011 C, DATED FEBRUARY 5, 1986.

DATE	REVISIONS	BY	PRIMARY BENCHMARK
6/27/11	CITY COMMENTS	STAFF	NS MONUMENT (CRNO 1880) (P.O. 060444) LOCATION AS PER NATIONAL GEODETIC SURVEY 1981; LOCATED ABOUT 1.25 MILES EAST OF THE RIO GRANDE, 1 MILE NORTH-NORTHWEST OF LOOP 376 (TRANSMONTANA ROAD), AND ON THE EAST SIDE OF INTERSTATE 10. ELEVATION 3946.24 NAVD 88
9/08/11	CITY COMMENTS	STAFF	
9/28/11	CITY COMMENTS	STAFF	

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

SCALE	
HORZ	VER: 300
FILE NAME:	22
W.O.:	11509-1A EH1
DATE:	FEBRUARY, 2010
DESIGN BY:	H.P./RC
DRAWN BY:	LAJ/H.P./IDR
CHKD. BY:	H.P.
APPD. BY:	BR



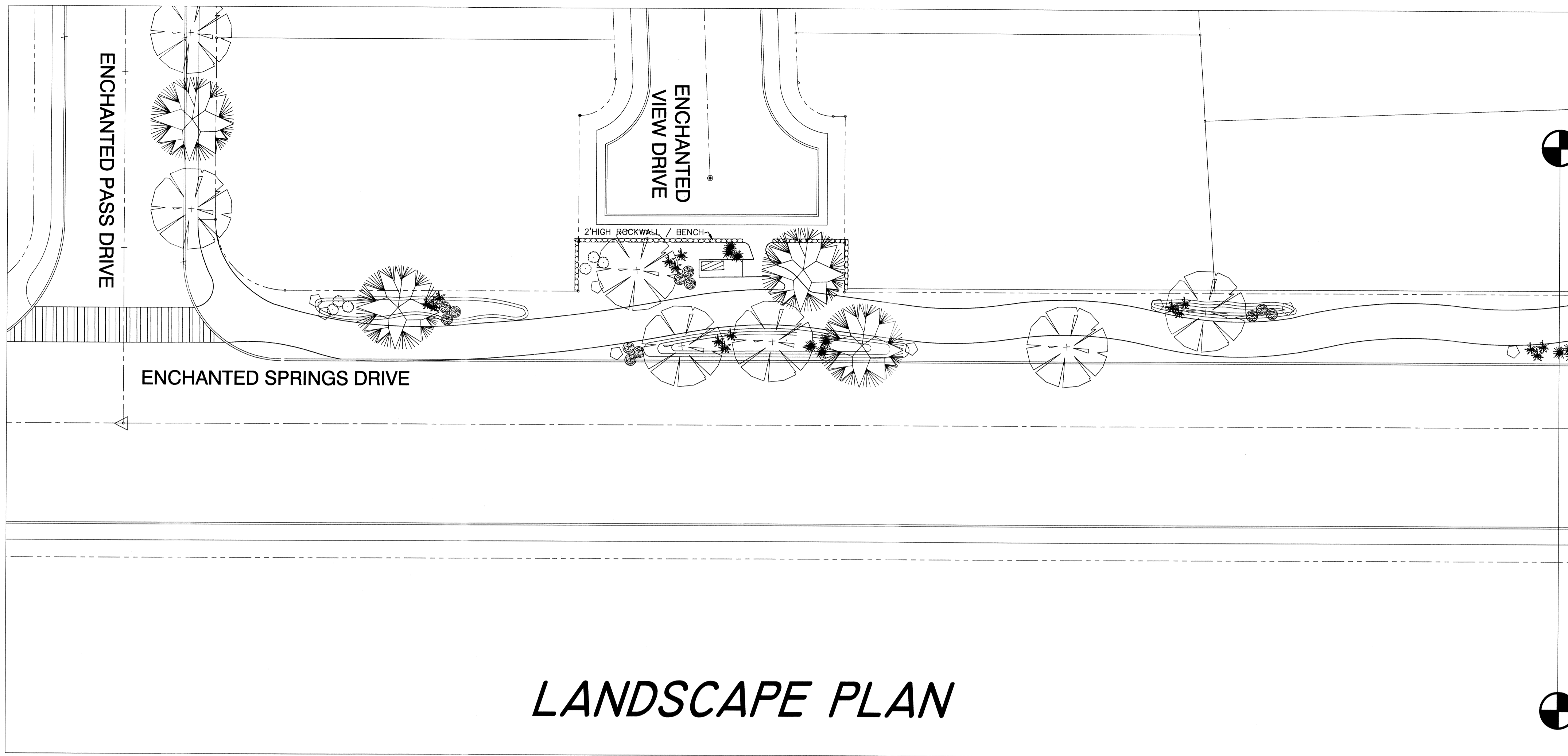
EROSION AND DUST CONTROL PLAN
ENCHANTED HILLS
UNIT ONE

EROSION CONTROL PLAN

Roe Engineering, L.C.
601 N. Cotton St., Suite No. 6 El Paso, Tx. 79902
(915) 658-1418 - FAX (915) 658-4972
e-mail: roeeng@ruebell.net

ENGINEERING/LAND DEVELOPMENT/PLANNING/SURVEYING

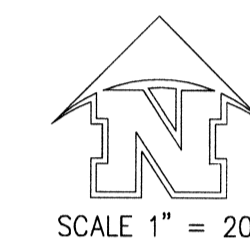
SHEET 33 OF 33



LANDSCAPE PLAN

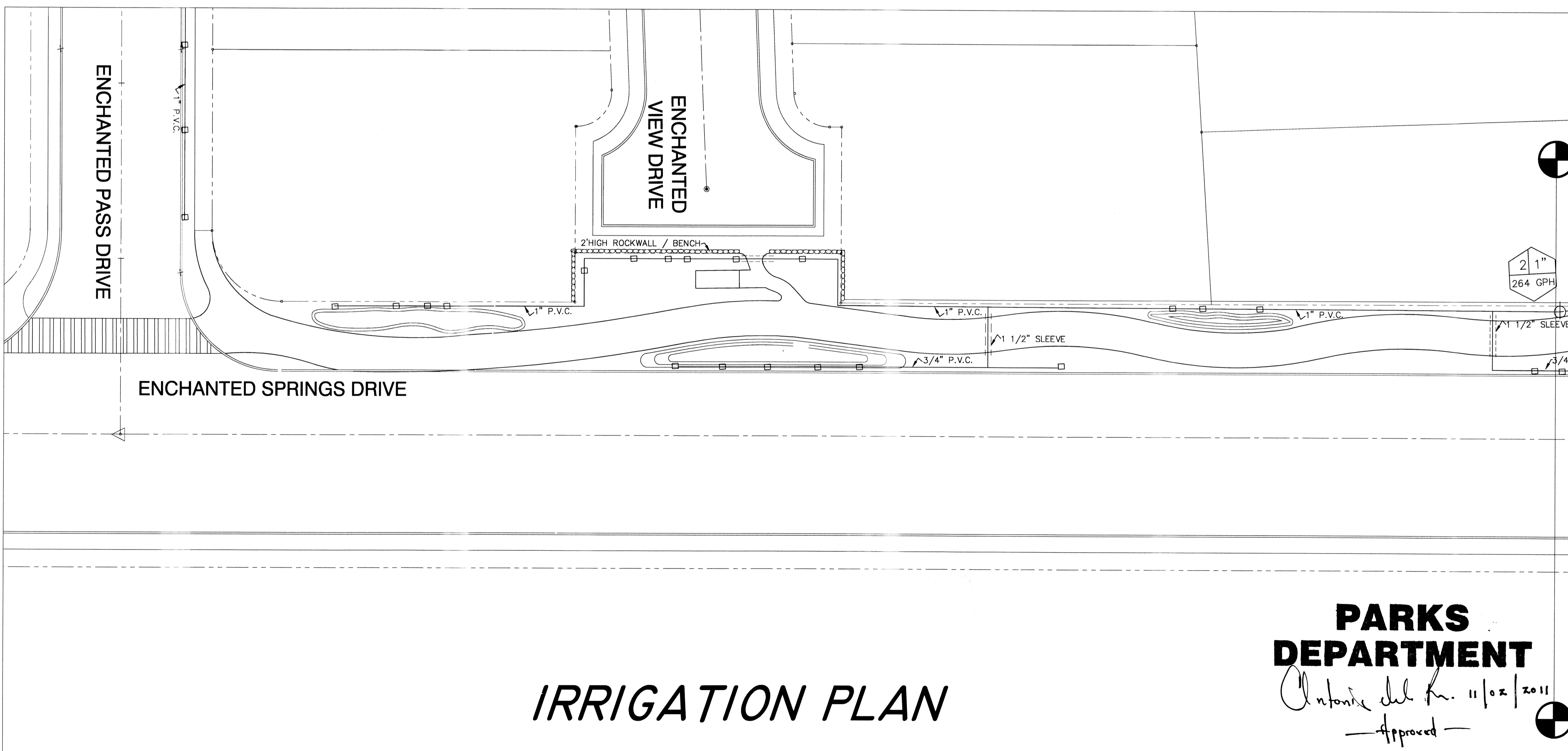
MATCH LINE SHEET 2

PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
			FAN TEX ASH	FRAXINUS VELUTINA	2"	10'		TREE	DECIDUOUS
			RAYWOOD ASH	FRAXINUS OXYCARPA	2"	10'		TREE	DECIDUOUS
			RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
			RED AUTUMN SAGE	SALVIA GREGGII	5 GAL.			SHRUB	EVERGREEN
			SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
			INDIAN HAWTHORN	RAPHILOLEPS INDICA	5 GAL.			SHRUB	EVERGREEN
GROUND COVERS									
			PARK BENCH						
			CANYON RED ROCK W/DRY-TT-PRO 5 WEED BARRIER OR EQUAL			3"		ROCK	GROUND COVER



NOTE:

TBOS BATTERY OPERATED TIMER CONTROLLER, BACKFLOW TESTS, AS BUILT DRAWING AND ACCEPTANCE LETTERS WILL BE SUBMITTED AT THE WALK THRU.



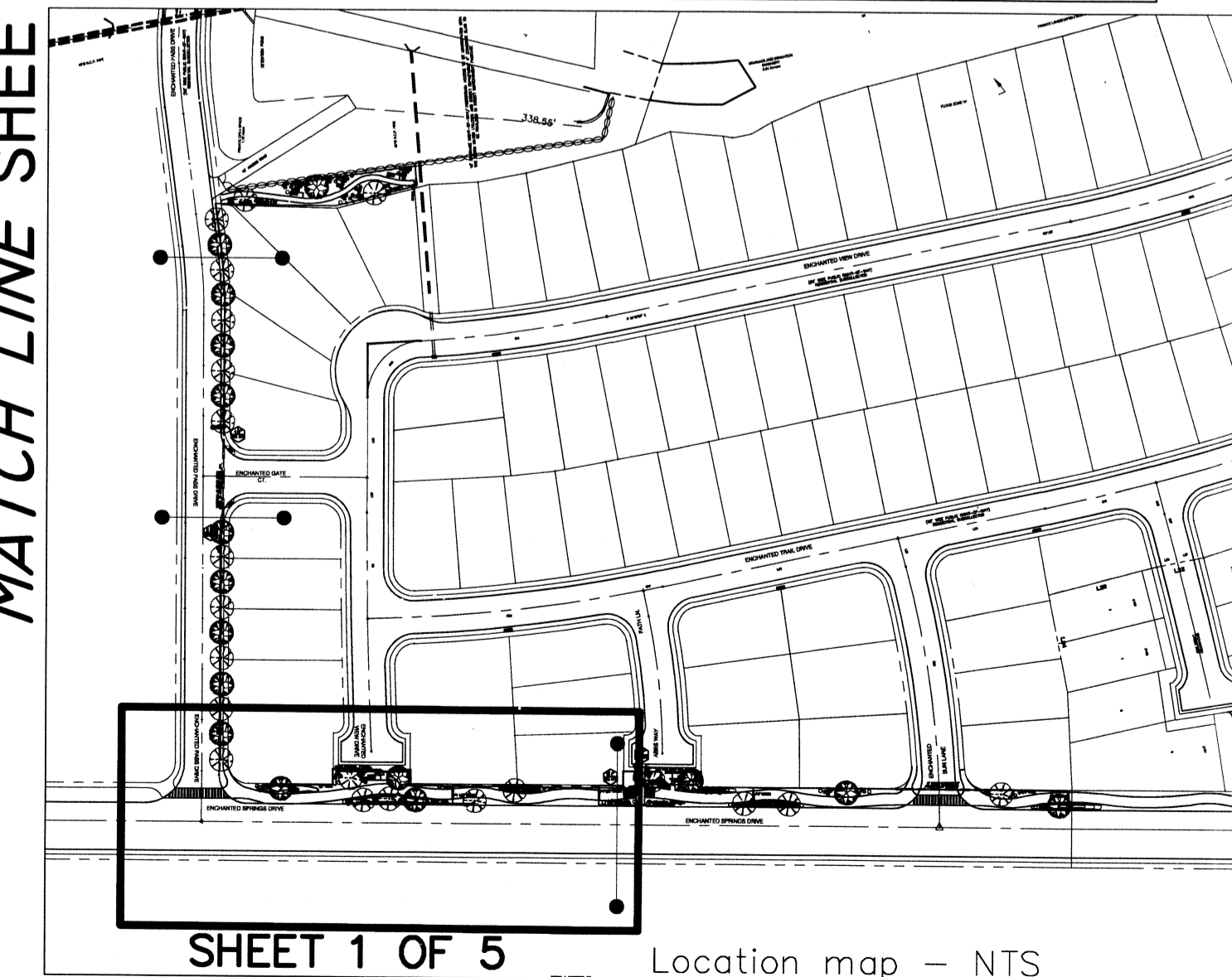
IRRIGATION PLAN

PARKS DEPARTMENT

Antonio del Rio 11/02/2011
Approved

MATCH LINE SHEET 2

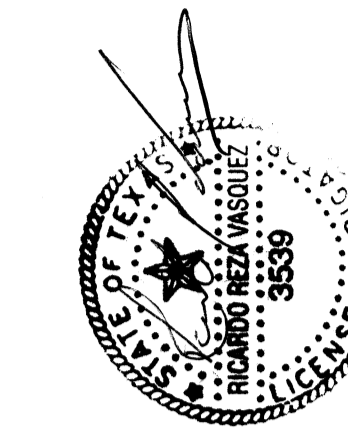
IRRIGATION LEGEND	
	FEBCO 850YA; MASTER SERIES IN LINE DESIGN DOUBLE CHECK VALVE
	RAINBIRD PE SERIES 3/4" CONTROL VALVE UNIK SYSTEM w/ 30M PRESSURE REGULATOR AND RAINBIRD "Y" FILTER
	3/4" WATER METER (BY OTHERS)
	MULTI PORT Emitter MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 Emitter
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
	RAINBIRD TBOS SERIES 1 STATION BATTERY OPERATED CONTROLLER
	1 1/4" PRESSURE MAIN PIPE, C150 SCHEDULE 40 PVC PIPE
	DISTRIBUTION LATERALS; C150 SCHEDULE 40 PVC PIPE (SIZE AS NOTED)



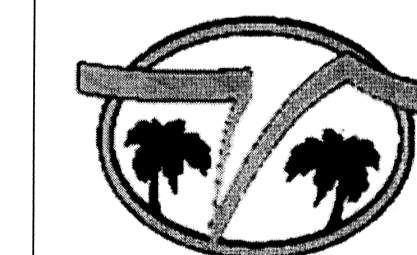
SHEET 1 OF 5 Location map - NTS

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

**ENCHANTED HILLS UNIT 1
HIKE AND BIKE TRAIL
EL PASO, TEXAS**



DOUBLE V
ENTERPRISES
8104 STAR AVENUE
EL PASO, TX 79907
(915) 858-7515

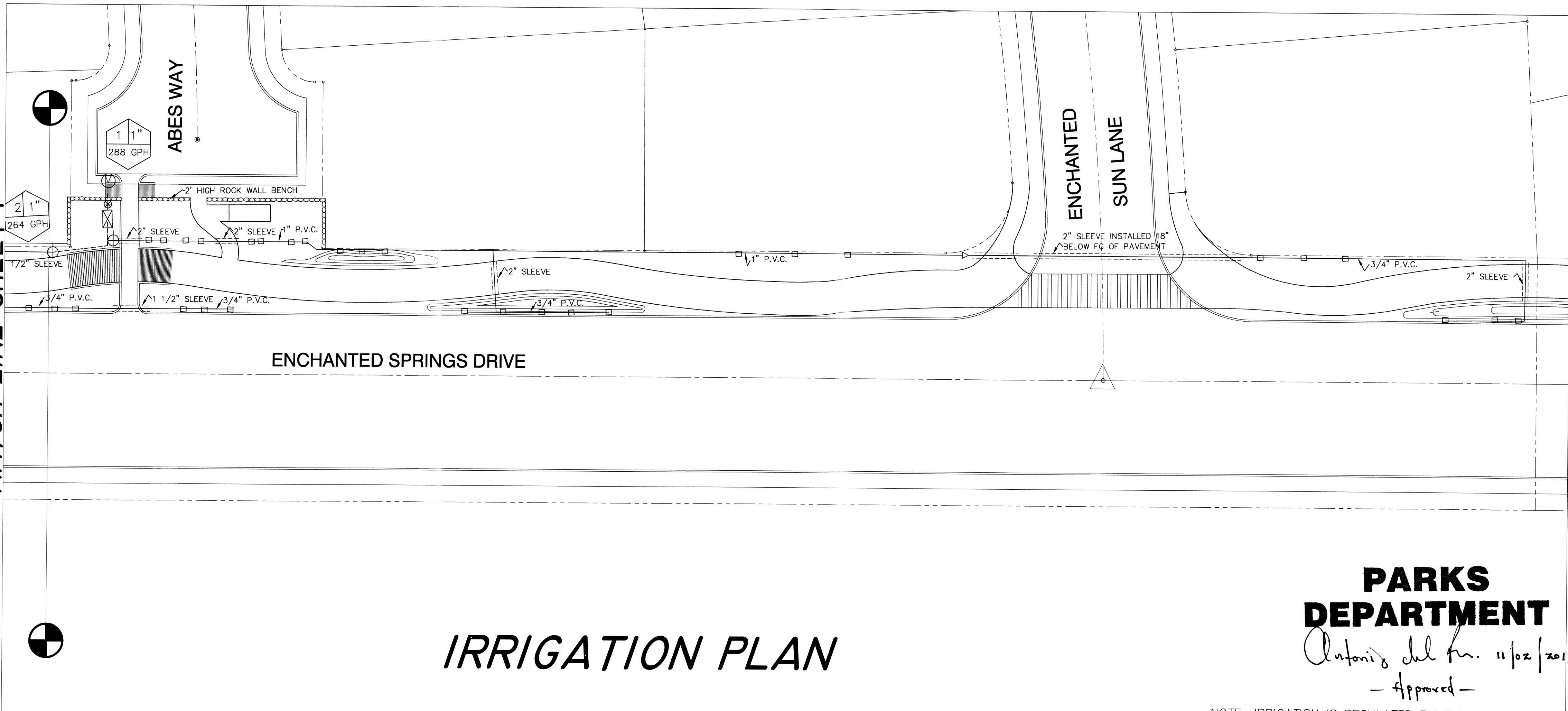
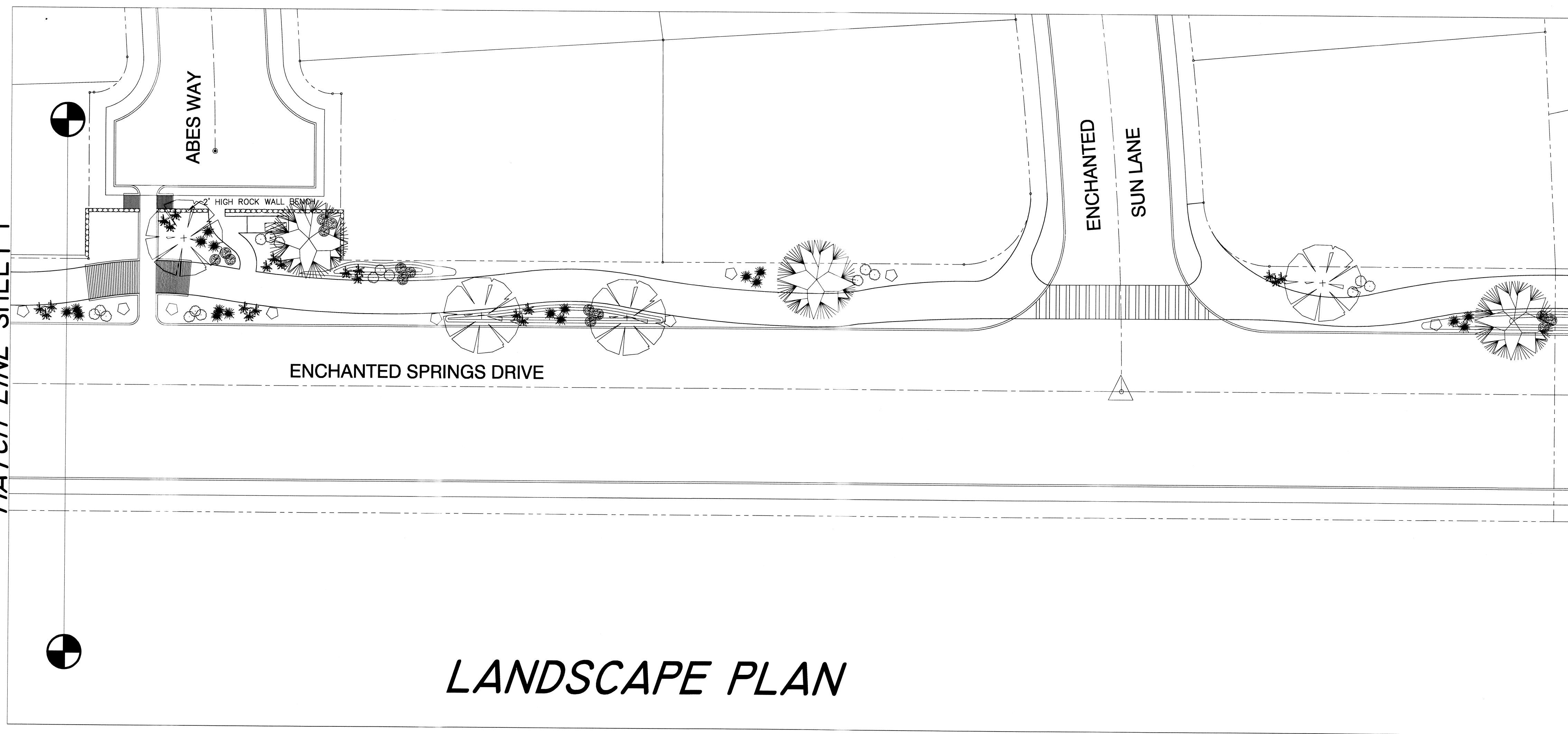


LANDSCAPE IRRIGATION
Drawn by: RJM
Checked by: RV
PROJECT:
EH1LI20110501.DWG
PHASE:
PRELIM-FINAL

Sheet no.
LI-1
Sheet no. 1 of 5

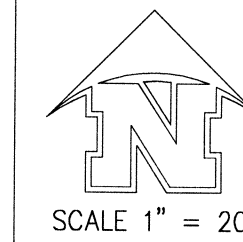
MATCH LINE SHEET I

MATCH LINE SHEET I



PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
			FAN TEX ASH	FRAXINUS VELUTINA	2"	10'		TREE	DECIDUOUS
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			RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
			RED AUTUMN SAGE	SALVIA GREGGII	5 GAL.			SHRUB	EVERGREEN
			SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
			INDIAN HAWTHORN	RAPHIDOLEPIS INDICA	5 GAL.			SHRUB	EVERGREEN
GROUND COVERS									
			PARK BENCH						
			CANYON RED ROCK W/DWITT-PRO 5 WEED BARRIER OR EQUAL			3"		ROCK	GROUND COVER

END OF PROJECT



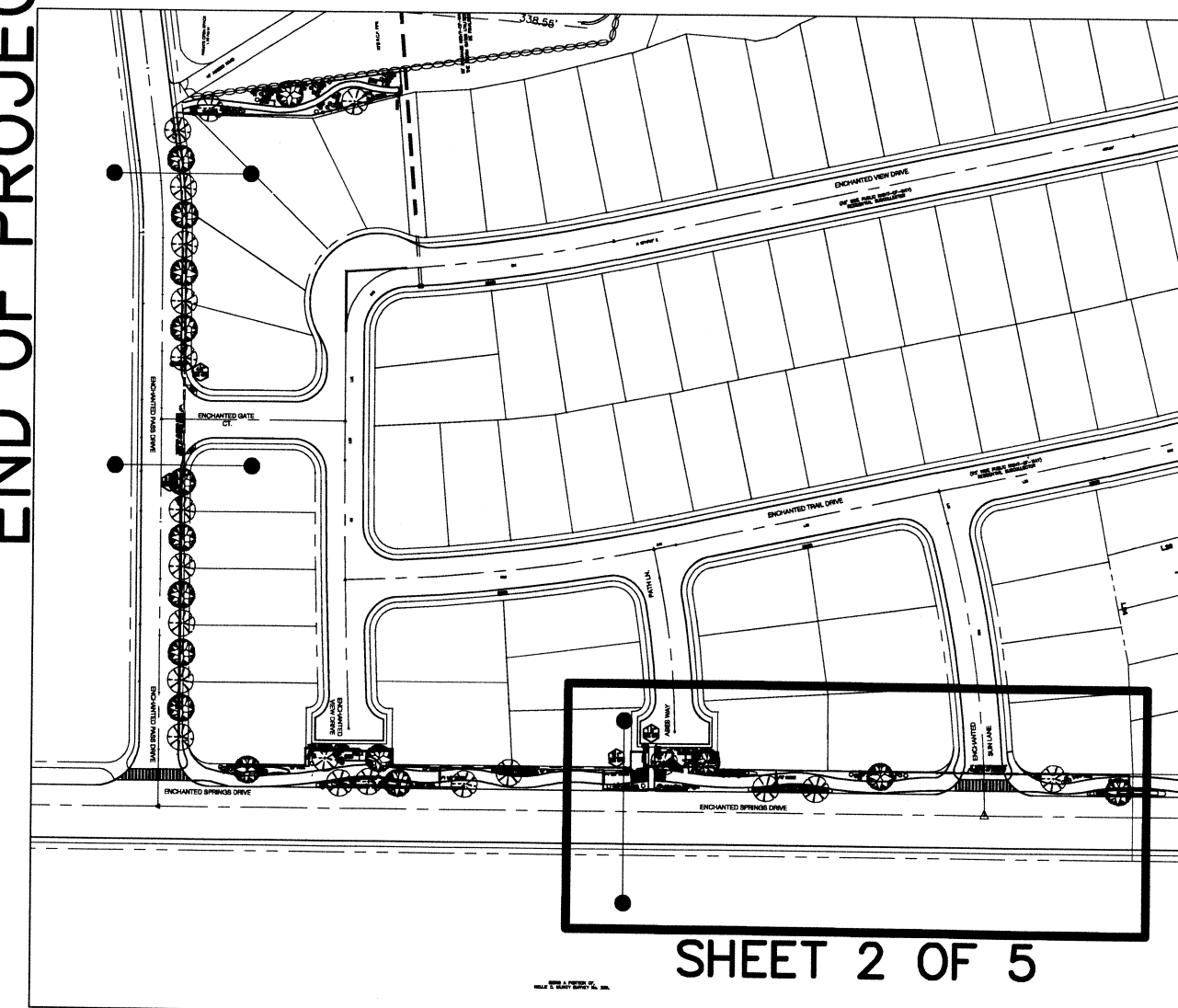
NOTE:

TBOS BATTERY OTBOS BATTERY OPERATED TIMER CONTROLLER, BACKFLOW TESTS, AS BUILT DRAWING AND ACCEPTANCE LETTERS WILL BE SUBMITTED AT THE WALK THRU.

IRRIGATION LEGEND

	FEBCO 850YA; MASTER SERIES IN LINE DESIGN DOUBLE CHECK VALVE
	RAINBIRD PE SERIES 3/4" CONTROL VALVE UNIK SYSTEM W/ 30M PRESSURE REGULATOR AND RAINBIRD "Y" FILTER
	3/4" WATER METER (BY OTHERS)
	MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
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	DISTRIBUTION LATERALS; C150 SCHEDULE 40 PVC PIPE (SIZE AS NOTED)

END OF PROJECT



ENCHANTED HILLS UNIT 1
HIKE AND BIKE TRAIL
EL PASO, TEXAS

DOUBLE V
ENTERPRISES
8104 STAR AVENUE
EL PASO, TX 79907
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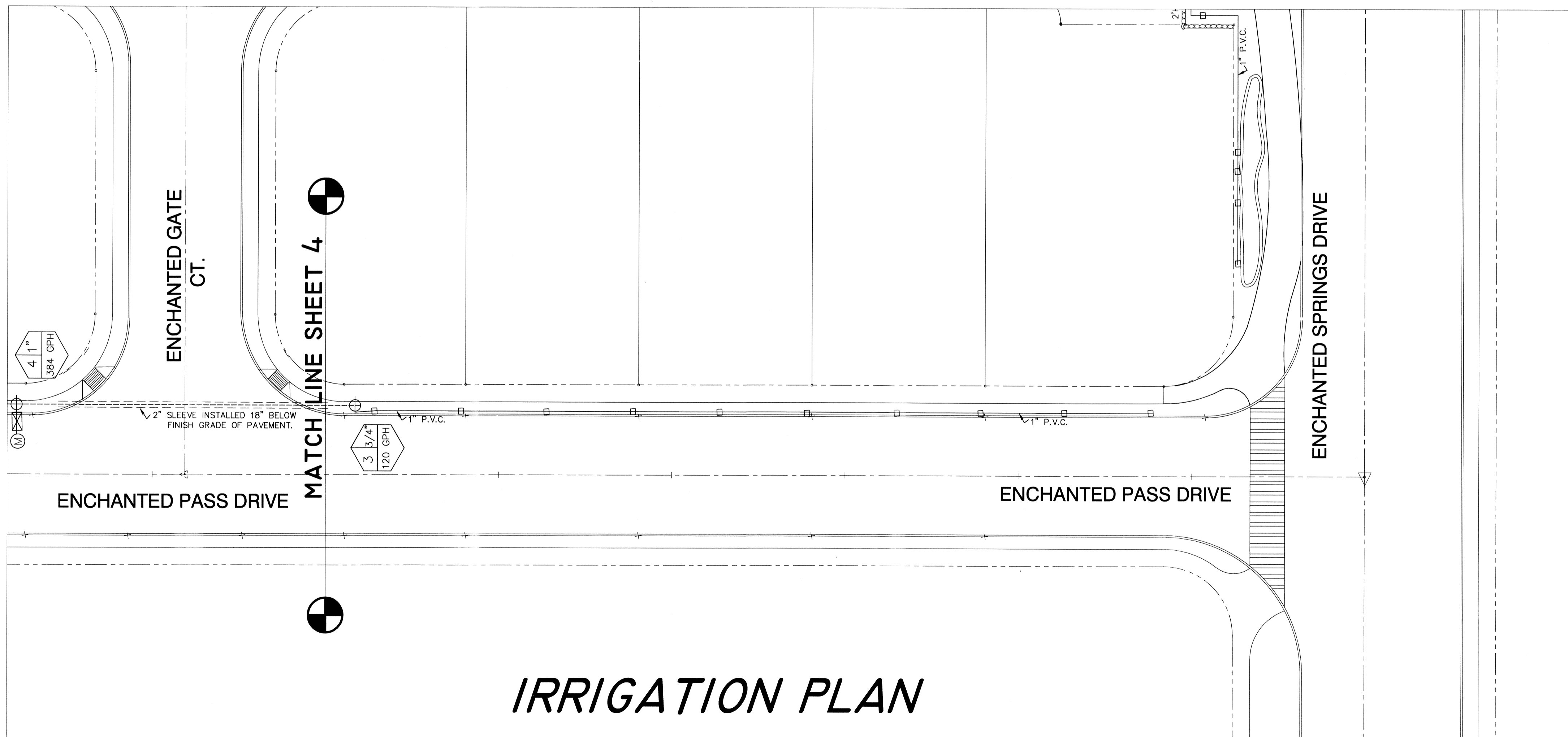
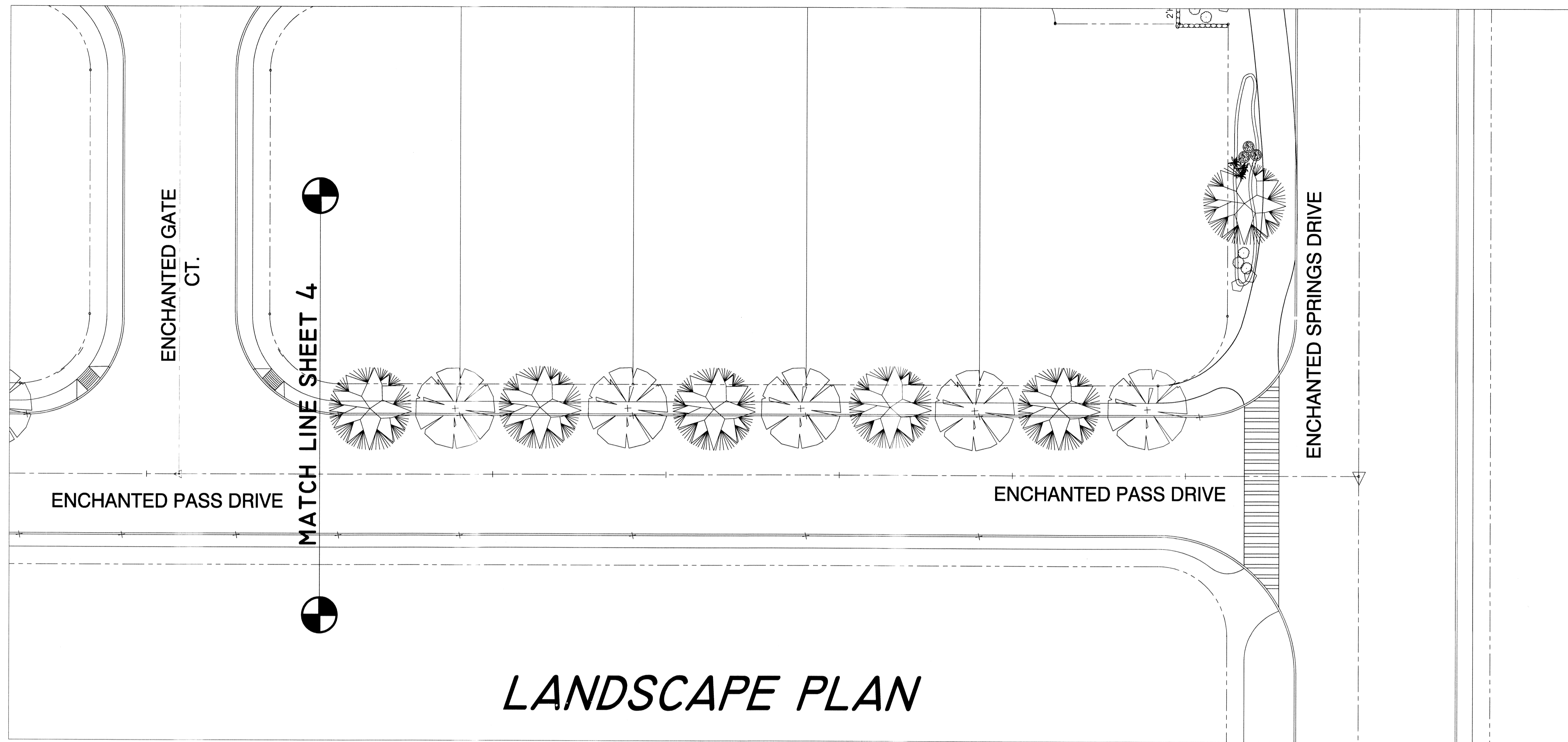
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Checked by: RV
PROJECT: EH1L20110501.DWG
PHASE: PRELIM-FINAL

Sheet no.
LI-2
Sheet no. 2 of 5

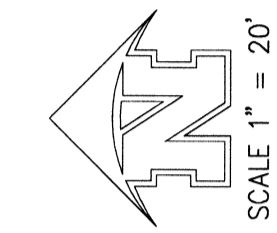
PARKS DEPARTMENT

Antonio del Rio
11/02/2011
- Approved -

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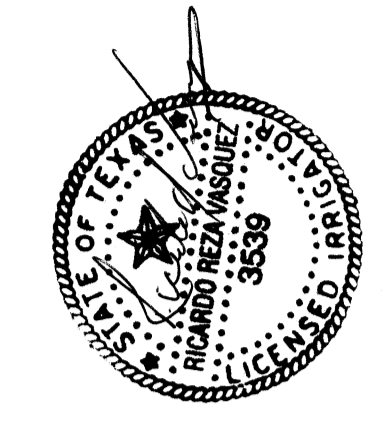
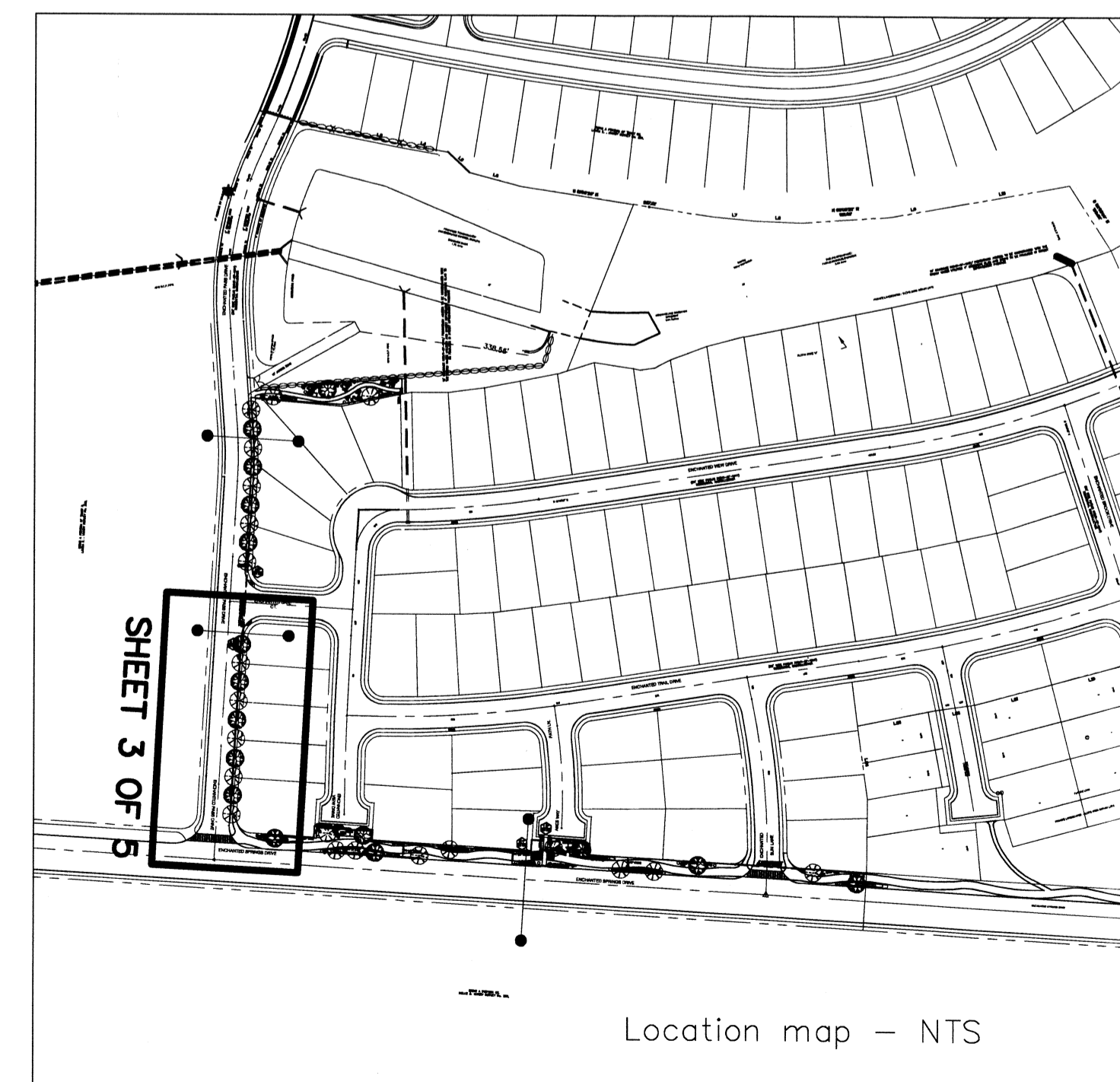


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GROUND COVERS									
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			CANYON RED ROCK W/D#MTT-PRD 5 WEED BARRIER OR EQUAL			3"		ROCK	GROUND COVER



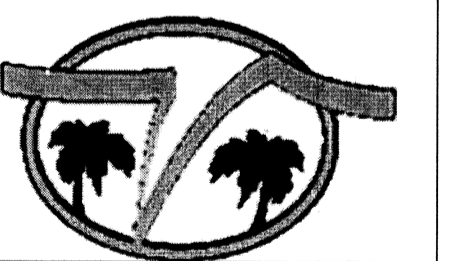
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**ENCHANTED HILLS UNIT 1
 HIKE AND BIKE TRAIL
 EL PASO, TEXAS**

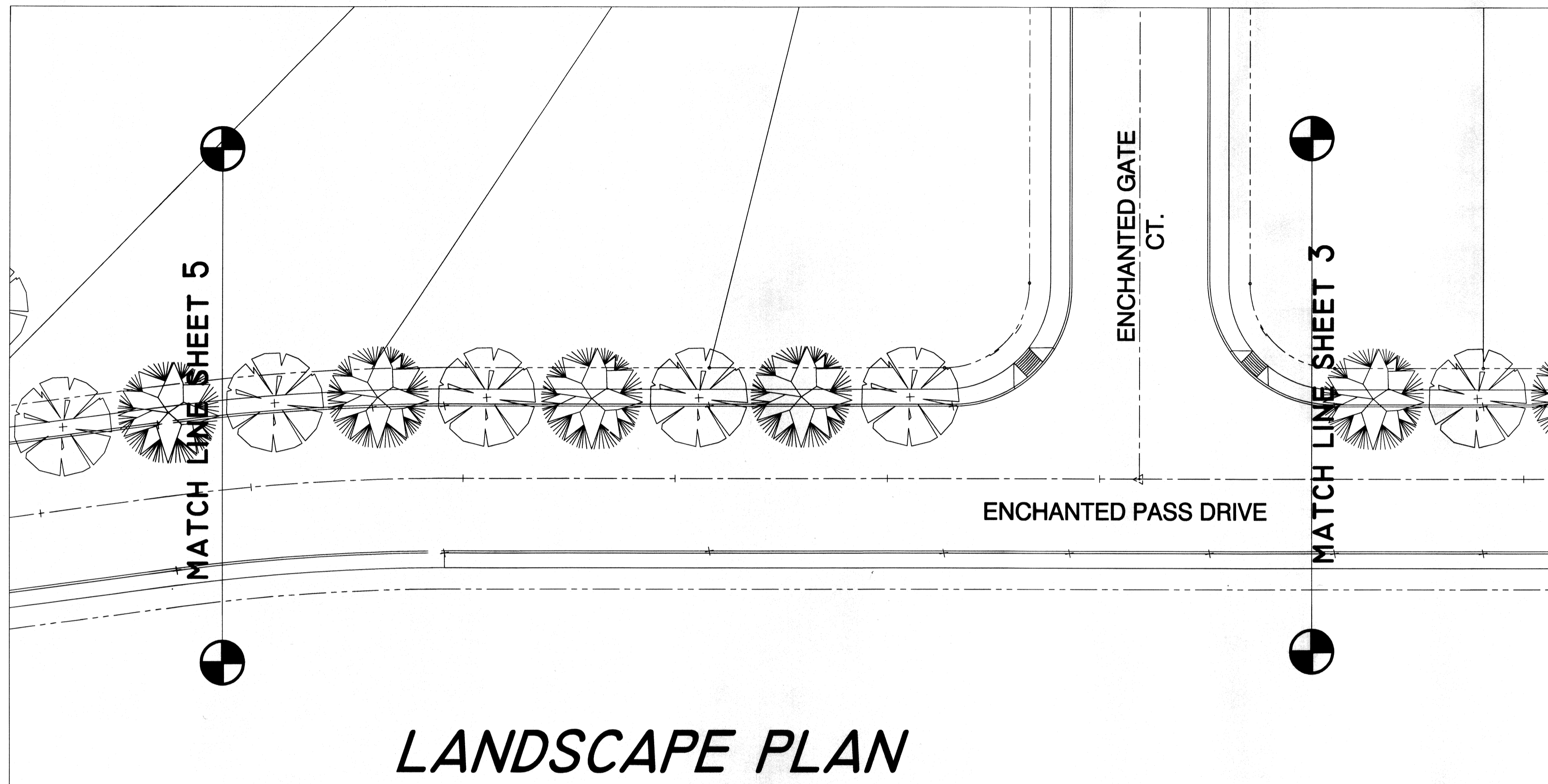
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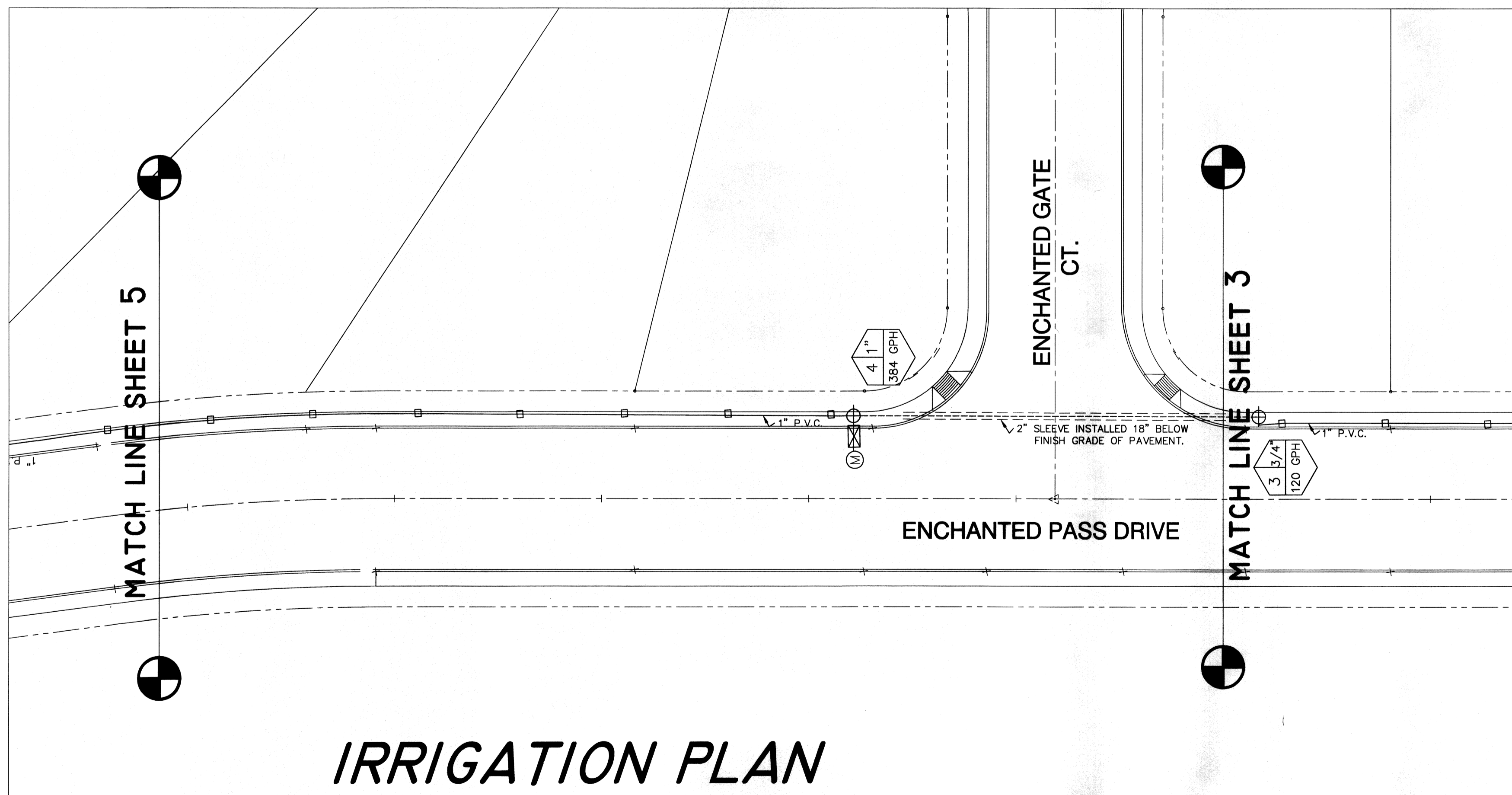
LANDSCAPE
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 Drawn by: RJM
 Checked by: RV
 PROJECT:
 EH1LI20110501.DWG
 PHASE:
 PRELIM-FINAL

Sheet no.
 LI-3
 Sheet no. 3 of 5

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



LANDSCAPE PLAN



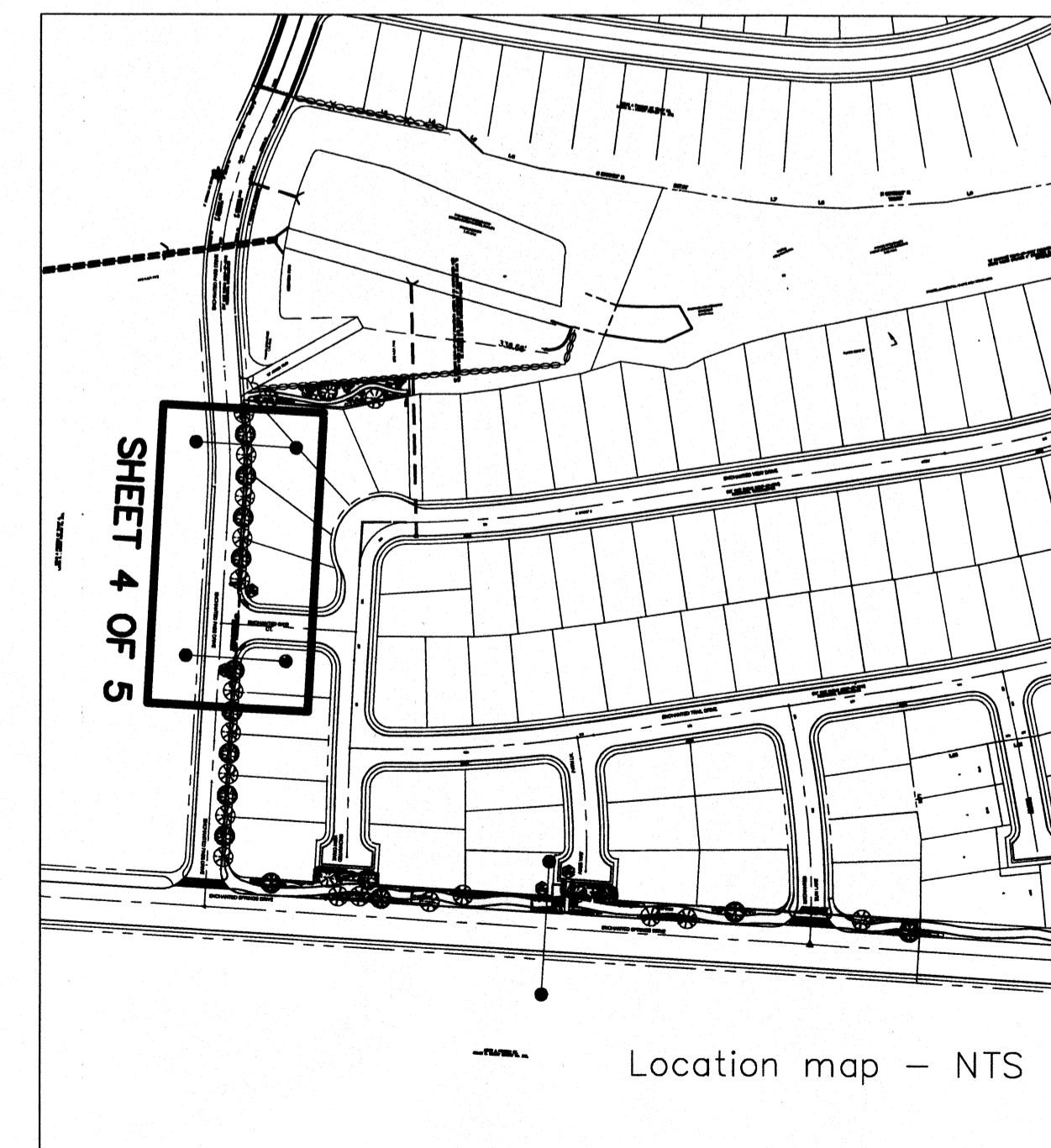
IRRIGATION PLAN



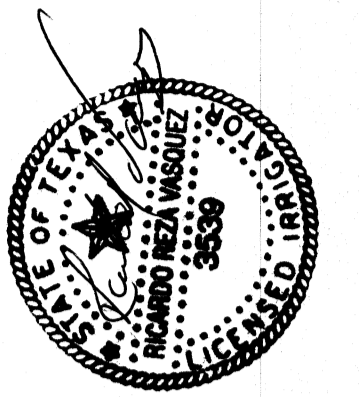
PLANT SCHEDULE									
SYM.	TYPE	QTY.	COMMON NAME	BOTANICAL NAME	SIZE	HT.	WT.	FORM	DESCRIPTION
			FAN TEX ASH	FRAXINUS VELUTINA	2"	10'		TREE	DECIDUOUS
			RAYWOOD ASH	FRAXINUS OXYCARPA	2"	10'		TREE	DECIDUOUS
			RED YUCCA	HESPERALOE PARVIFLORA	5 GAL.			SHRUB	EVERGREEN
			RED AUTUMN SAGE	SALVIA GREGGII	5 GAL.			SHRUB	EVERGREEN
			SOFT LEAF YUCCA	YUCCA RECURVIFOLIA	5 GAL.			SHRUB	EVERGREEN
			INDIAN HAWTHORN	RAPHIDOLEPIS INDICA	5 GAL.			SHRUB	EVERGREEN
GROUND COVERS									
			PARK BENCH						
			CANYON RED ROCK W/D&MTT-PRO 5 WEED BARRIER OR EQUAL		3"			ROCK	GROUND COVER

NOTE:
 TBOS BATTERY OPERATED TIMER CONTROLLER,
 BACKFLOW TESTS, AS BUILT DRAWING AND ACCEPTANCE
 LETTERS WILL BE SUBMITTED AT THE WALK THRU.

IRRIGATION LEGEND	
	FEBCO 850YA; MASTER SERIES IN LINE DESIGN DOUBLE CHECK VALVE
	RAINBIRD PE SERIES 3/4" CONTROL VALVE UNIK SYSTEM w/ 30M PRESSURE REGULATOR AND RAINBIRD "Y" FILTER
	3/4" WATER METER (BY OTHERS)
	MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
	SLEEVE, 2 1/2" C150 SCHEDULE 40 PVC PIPE
	RAINBIRD TBOS SERIES 1 STATION BATTERY OPERATED CONTROLLER
	1 1/4" PRESSURE MAIN PIPE, C150 SCHEDULE 40 PVC PIPE
	DISTRIBUTION LATERALS; C150 SCHEDULE 40 PVC PIPE (SIZE AS NOTED)

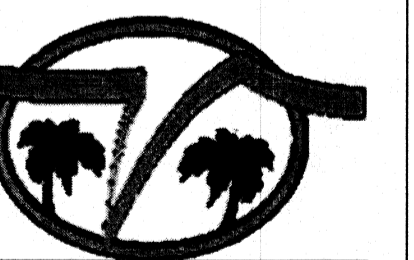


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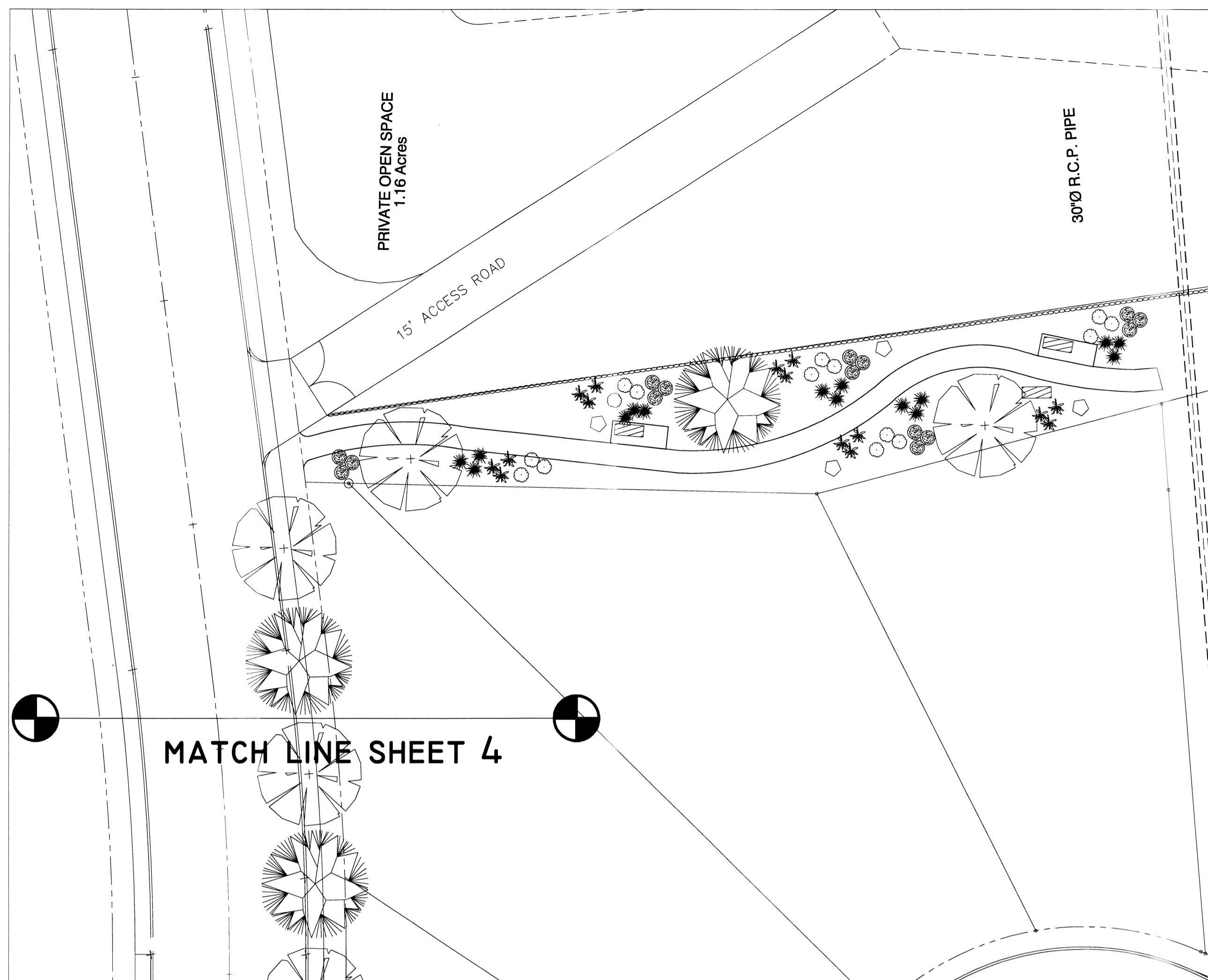
**ENCHANTED HILLS UNIT 1
 HIKE AND BIKE TRAIL
 EL PASO, TEXAS**

DOUBLE V
 ENTERPRISES
 8104 STAR AVENUE
 EL PASO, TX 79907
 (915) 858-7515

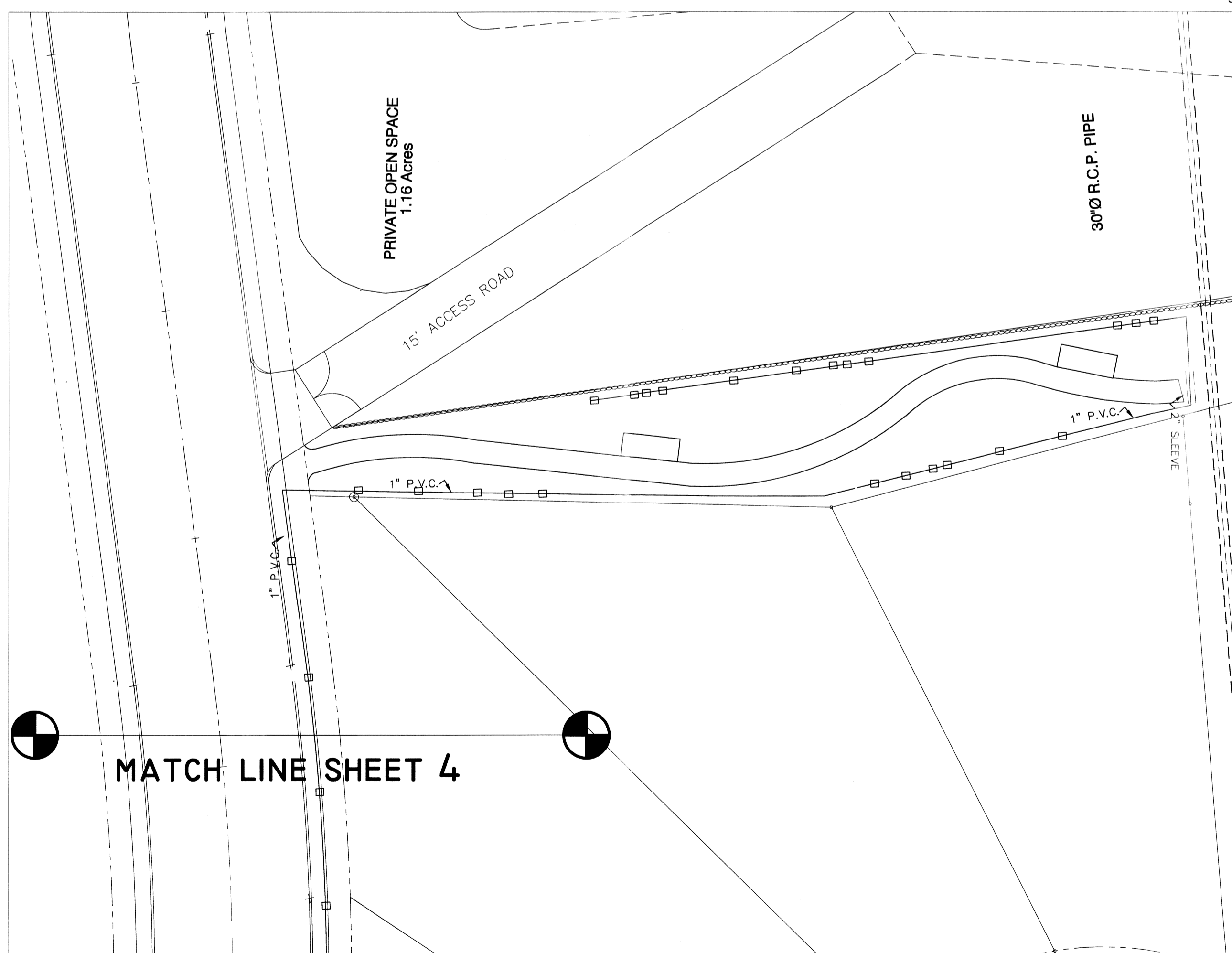


LANDSCAPE
 IRRIGATION
 Drawn by: RJM
 Checked by: RV
 PROJECT:
 EH1L20110501.DWG
 PHASE:
 PRELIM-FINAL

Sheet no.
 4 of 5



LANDSCAPE PLAN



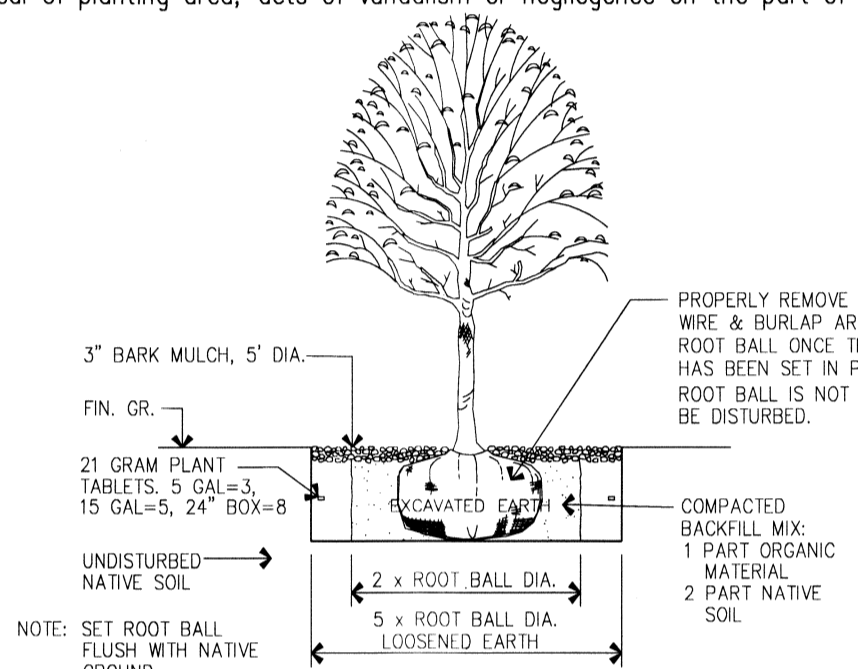
IRRIGATION PLAN

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GROUND COVERS									
			PARK BENCH						
			CANYON RED ROCK W/D&WITT-PRO 5 WEED BARRIER OR EQUAL		3"			ROCK	GROUND COVER

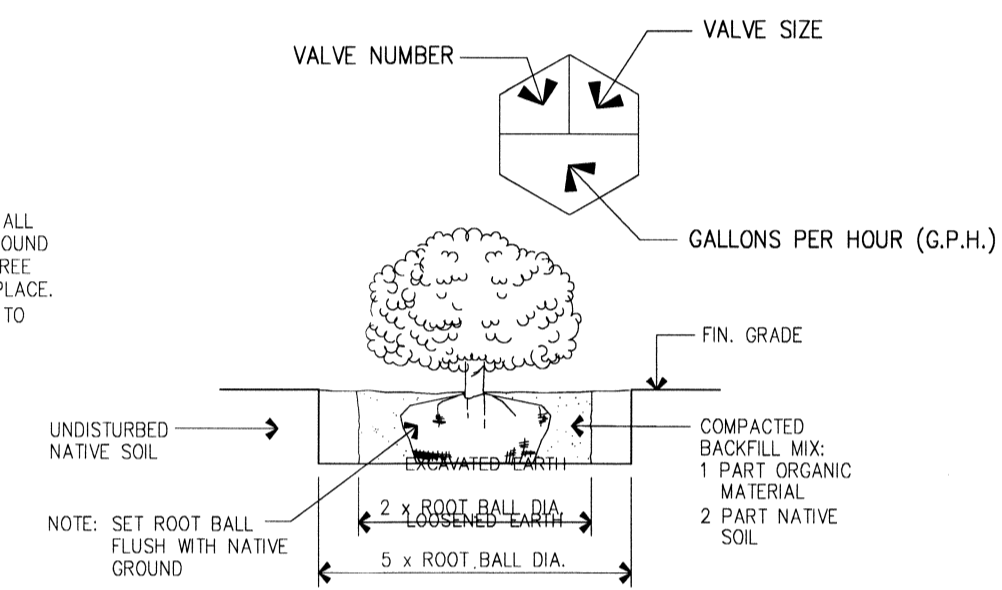
END OF PROJECT

TREES, SHRUBS AND GROUND COVERS

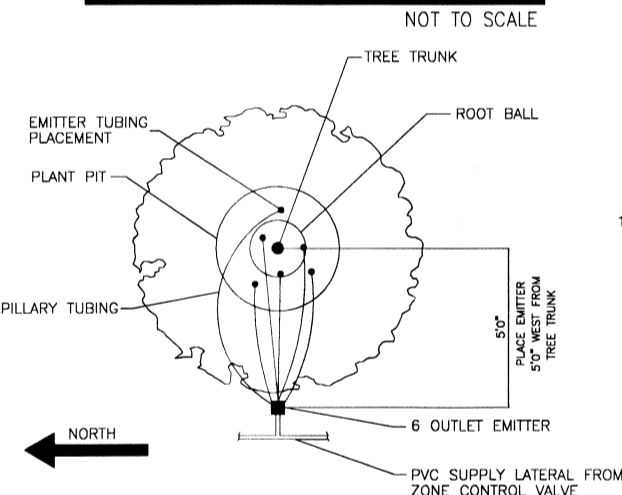
- Provide plant materials record drawings
- The contractor shall coordinate the construction activities with Parks department.
- Identify field changes of trees, plants and shrubs on final asbuilt drawing.
- A complete list of plants, including sizes, quantity, and other requirements to be shown on drawings. 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.



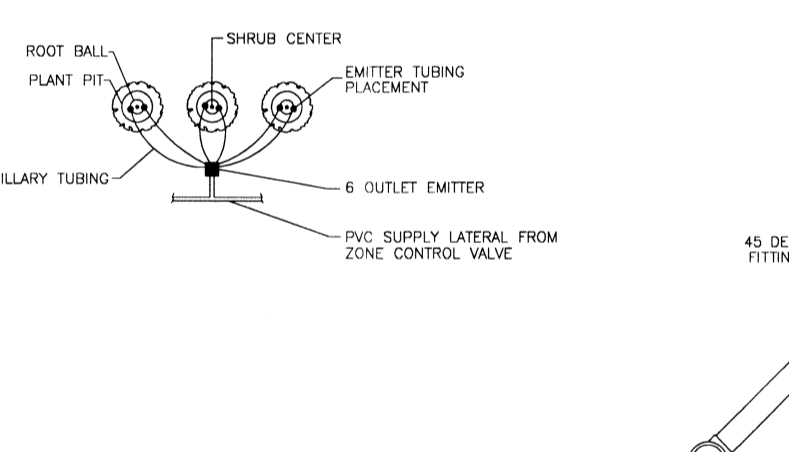
TREE PLANTING DETAIL
NOT TO SCALE



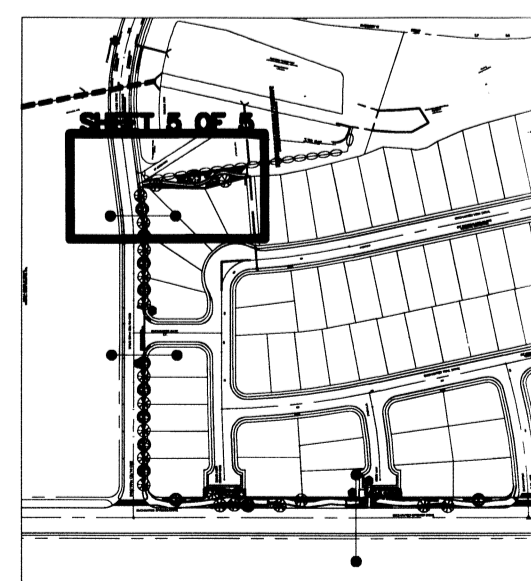
SHRUB PLANTING DETAIL
NOT TO SCALE



EMITTER OUTLET PLACEMENT DETAIL
NOT TO SCALE



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



Location map - NTS

MULTI PORT EMITTER MANIFOLD-RAINBIRD XERI-BIRD-XBD-80 EMITTER
NTS

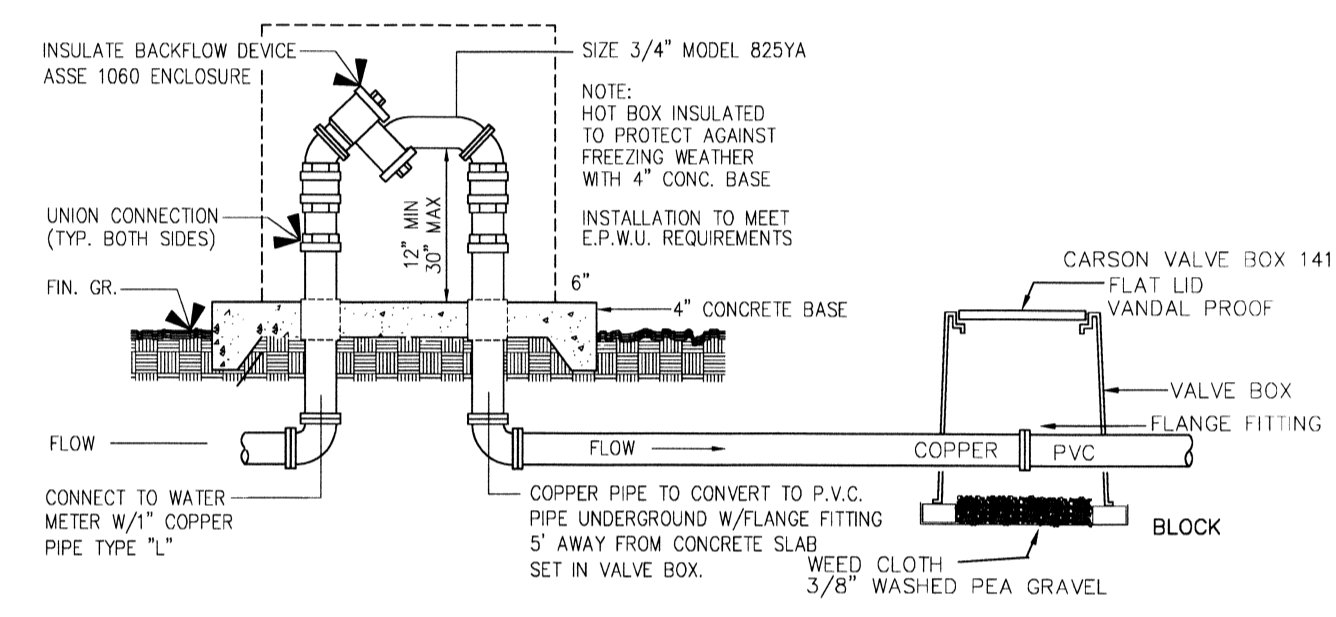
- NOTE:**
TBOS BATTERY OPERATED TIMER CONTROLLER, BACKFLOW TESTS, AS BUILT DRAWING AND ACCEPTANCE LETTERS WILL BE SUBMITTED AT THE WALK THRU.

IRRIGATION LEGEND	
	FEBCO 850YA; MASTER SERIES IN LINE DESIGN DOUBLE CHECK VALVE
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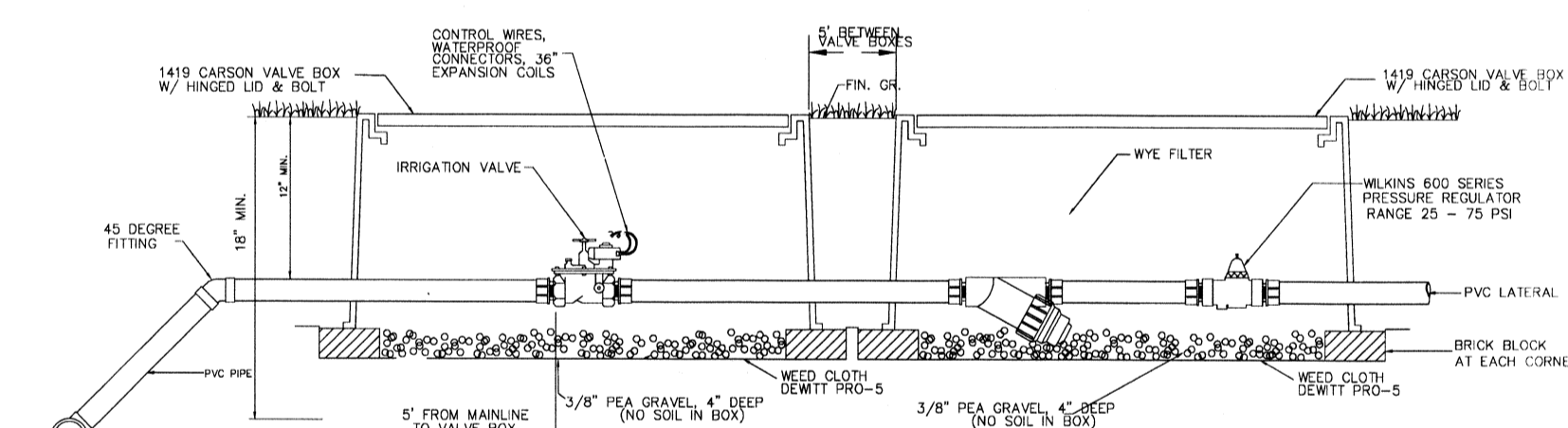
IRRIGATION NOTES:

- 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 Rain Bird for 1.25" or smaller. 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 past BFP.

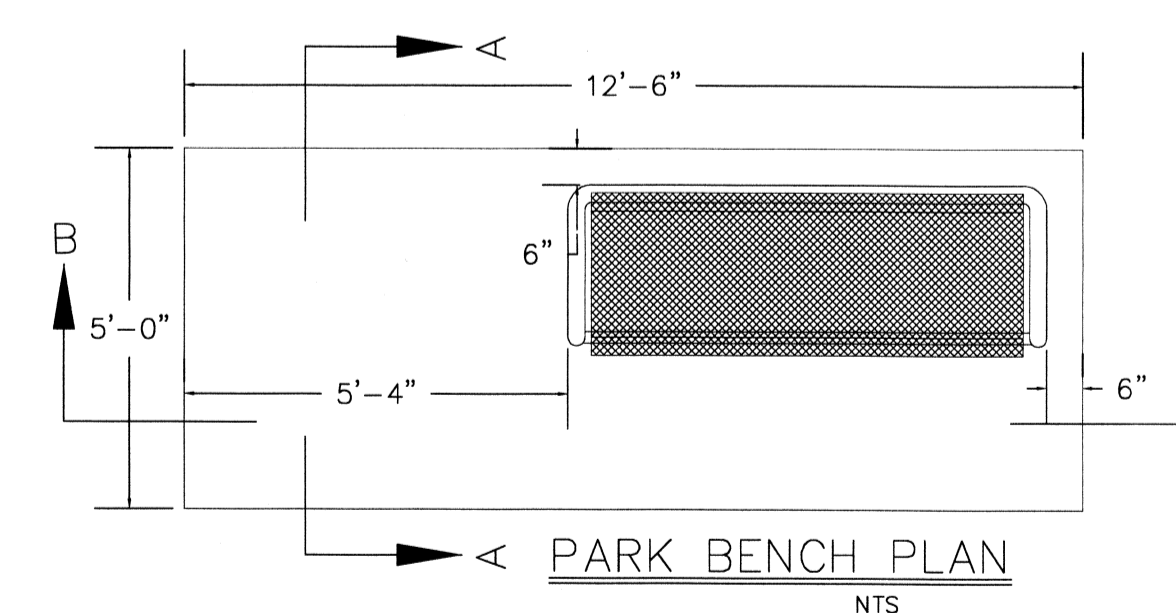
ENCLOSURE TO BE BY HYDRO COWL, MODEL No. 2000-AL. IRRIGATOR IS TO SELECT APPROPRIATE SIZE OF ENCLOSURE AND INSTALL AS PER MANUFACTURER'S INSTRUCTIONS.



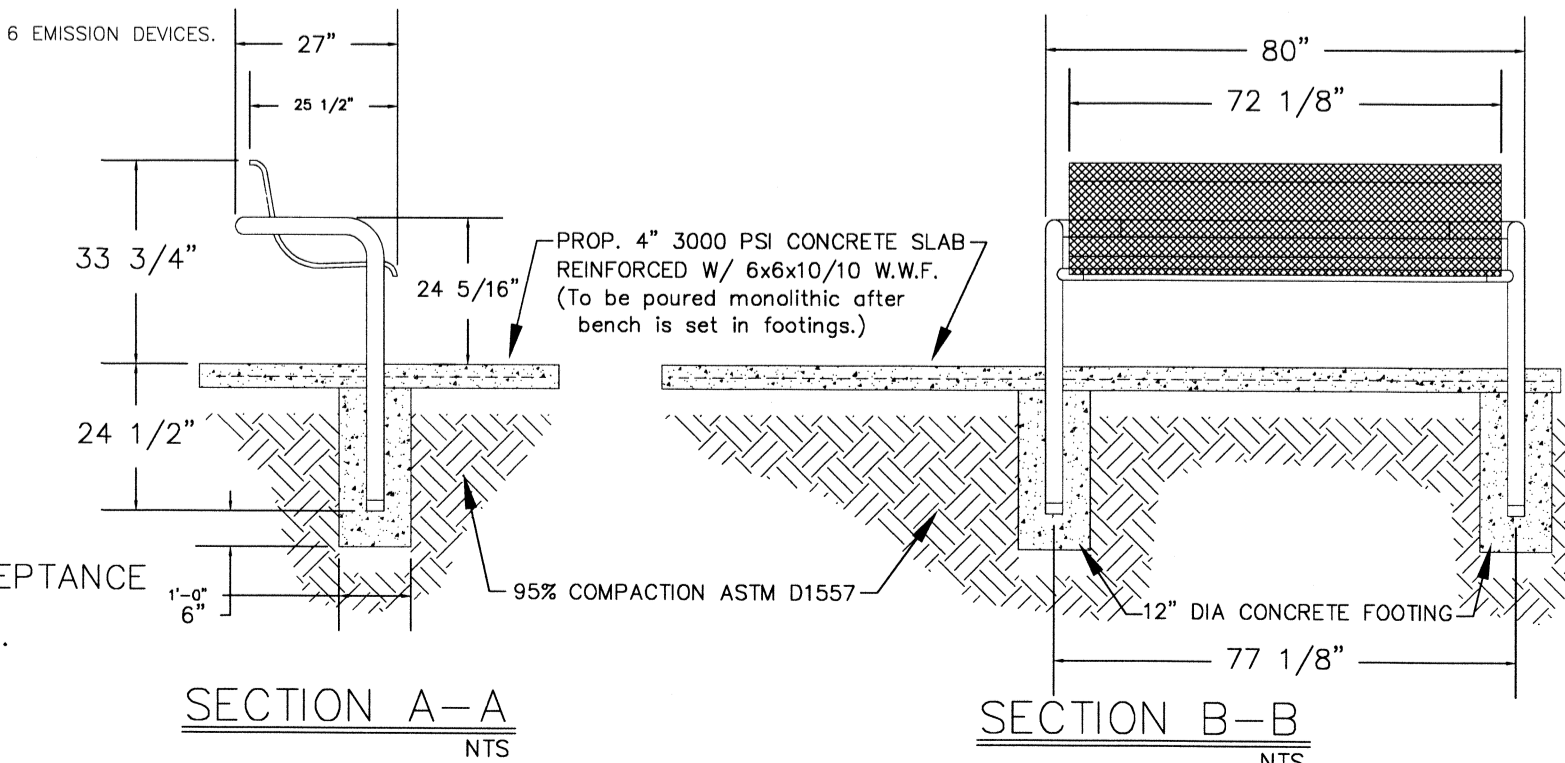
BACKFLOW DEVICE DETAIL
NOT TO SCALE



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

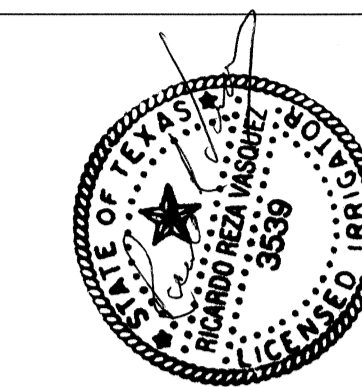


PARK BENCH PLAN
NTS



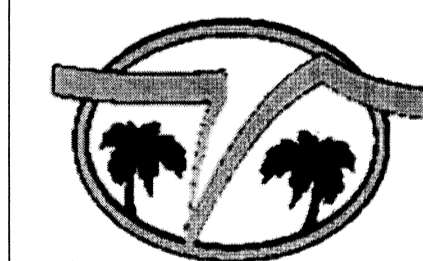
SECTION A-A
NTS

SECTION B-B
NTS



**ENCHANTED HILLS UNIT 1
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EL PASO, TEXAS**

DOUBLE V
ENTERPRISES
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LANDSCAPE IRRIGATION
 Drawn by: RJM
 Checked by: RV
 PROJECT: EH1LI20110501.DWG
 PHASE: PRELIM-FINAL

Sheet no.
 11-5
 Sheet no. 5 of 5

