## ANGELES COUNTY ORBA LINDA RIVERSIDE COUNTY ANGELES COUNTY ANGELES COUNTY ORBA LINDA RIVERSIDE COUNTY ANGELEN ANGELEN RIVERSIDE COUNTY ANGELEN CLEVELAND NATIONAL FOREST SAN JUAN CAPISTRANO OCC ANGELEN SAN JUAN CAPISTRANO OCC ANGELEN SAN JUAN CAPISTRANO OCC NATIONAL FOREST VICINITY MAP NO SCALE

# SANT 14 CLEVELAND SANT 14 CLEVELAND BRIDGE NO. 55C-0038 PROJECT LOCATION FOREST

NO SCALE

## ORANGE COUNTY RESOURCES AND DEVELOPMENT MANAGEMENT DEPARTMENT

SANTA ANA, CALIFORNIA

BRYAN G. SPEEGLE, DIRECTOR

PLANS FOR THE CONSTRUCTION OF

### BARRIER REPLACEMENT & SEISMIC RETROFIT FOR SANTIAGO CANYON ROAD BRIDGE SC-9 (BR No. 55C-0038)

W.O. # ER09337

DECEMBER 2007

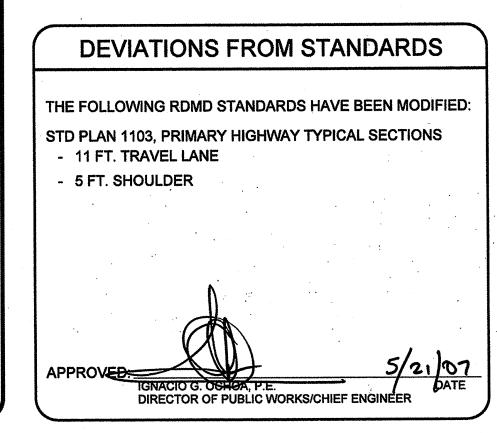
#### No As-Built Changes

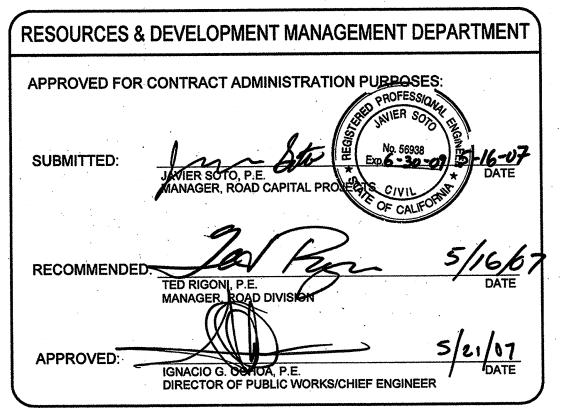
#### AS BUILT CORRECTION BY: \_\_D.D. CONTRACT NO.: \_\_\_ DATE: \_\_JULY 15, 2009

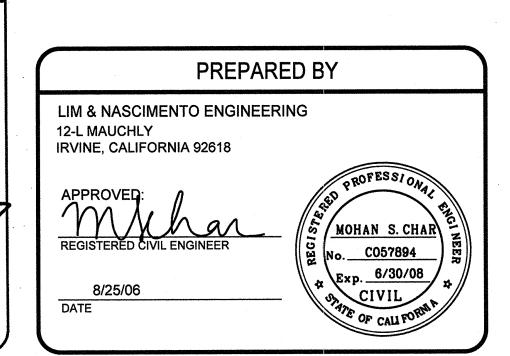
Resident Engineer: Hamid Abedzadeh
Inspector: David Dimaggio/Mario Garcia
Contractor: KLM Construction Inc.

Completion Date: May 20, 2008

FUNDED BY: HBRRP FUNDS AND COUNTY OF ORANGE POST-PROJECT OWNERSHIP & MAINTENANCE RESPONSIBILITY: COUNTY OF ORANGE



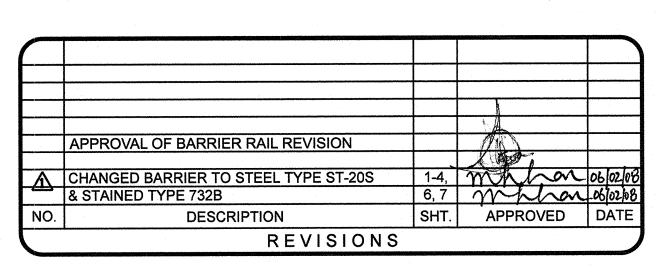




	INDEX OF SHEETS
SHEET	DESCRIPTION
1.	TITLE SHEET
2.	METAL BEAM GUARD RAILING PLAN
<b>1</b> 2S1.	TYPE ST-20S RAIL DETAILS NO. 1
<b>1</b> 282.	TYPE ST-20S RAIL DETAILS NO. 2
<b>1</b> 2S3.	TYPE ST-20S RAIL DETAILS NO. 3
<b>1</b> 284.	TYPE ST-20S RAIL DETAILS NO. 4
<b>3</b> .	TRAFFIC HANDLING PLAN
4.	GENERAL PLAN
5.	FOUNDATION PLAN
6.	DEMOLITION PLAN
7.	BARRIER RECONSTRUCTION DETAILS
8.	DECK RECONSTRUCTION DETAILS
9.	BENT 2 FOOTING LAYOUT & DETAILS
10.	BENT 2 FOOTING DETAILS
11.	BENT 3 FOOTING LAYOUT & DETAILS
12.	BENT 3 FOOTING DETAILS
13.	STEEL COLUMN CASINGS
14.	LOG OF TEST BORINGS
15.	AS-BUILT LOG OF TEST BORINGS

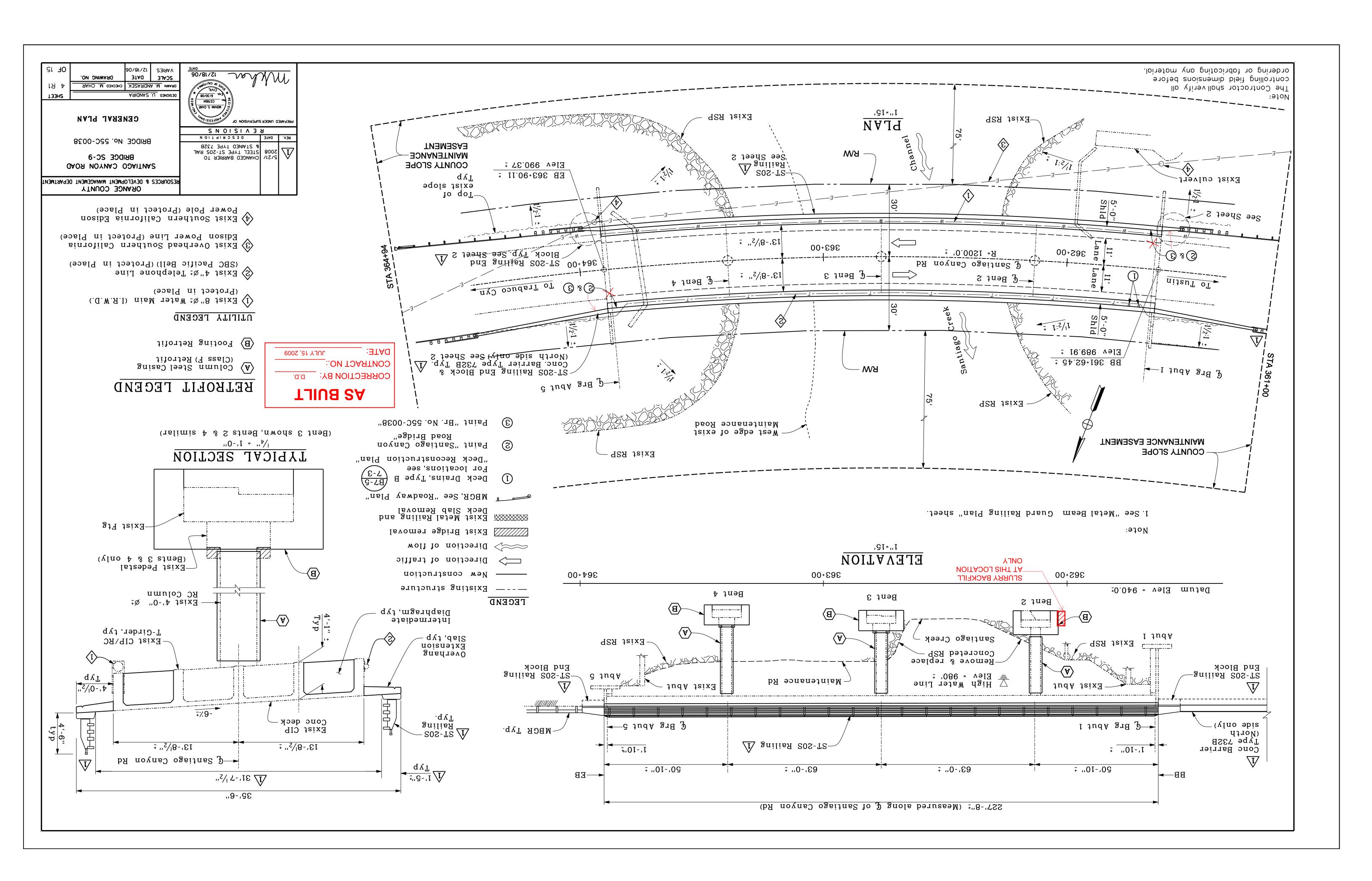
CALTRAI	NS STANDARD PLANS DATED MAY, 2006	
ROADWAY		
A20A, B & D	PAVEMENT MARKERS & TRAFFIC LINES TYPICAL DETAILS	
A73B	MARKERS	
A73C	DELINEATORS, CHANNELIZERS AND BARRICADES	
A77F1, A77F4	METAL BEAM GUARD RAILING TYPICAL LAYOUT	
A77J4	METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)	
A77L1	METAL BEAM RAILING TERMINAL SYSTEM (TYPE SRT)	
A77L3	METAL BEAM RAILING TERMINAL SYSTEM (TYPE ET)	
T2	TEMPORARY CRASH CUSHION SAND FILLED (SHOULDER INSTALLATION)	
Т3	TEMPORARY RAILING (TYPE K)	
BRIDGE		
A10A	ACRONYMS AND ABBREVIATION (A-L)	
A10B	ACRONYMS AND ABBREVIATION (M-Z)	
A10C & D	SYMBOLS	
A77J THRU	METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILS,	
A77J4	RETAINING WALLS & ABUTMENTS	
B7-1	BOX GIRDER DETAILS	
B7-5	DECK DRAINS	
<b>↑</b> B11-55	CONCRETE BARRIER TYPE 732B	
<b>⊼</b> B11-57	CONCRETE BARRIER TYPE 742B (FOOTING)	
St.	andard Plan Sheet No.	
Detail No.		

UTILITY OWNER	PHONE NO.	CONTACT
IRVINE RANCH WATER DISTRICT (I.R.W.D.)	949-453-5551	MALCOLM CORTEZ
SOUTHERN CALIFORNIA EDISON	714-934-0847	JENNIFER WARD
SBC (PACIFIC BELL)	714-237-6950	STEVE HICKS
UNDERGROUND SERVICE ALERT	800-422-4133	



OF 15

BRIDGE NO.	55C-0038	1	CUEET
DWG. NO.		) (	SUEEI



ordering or fabricating any material. controlling field dimensions before The Contractor shall verify all :9toN

10LY 15, 2009 **TJIUB SA** No As-Built Changes

:3TAQ CONTRACT NO.: CORRECTION BY: D.D.

80/0<u>2</u>/9 MOHAN S. CHAR R E VISIONS REV. DATE DESCRIPTION

12/18/06 0ATE

BBIDCE 2C-6 SANTIAGO CANYON ROAD ORANCE COUNTY

RESOURCES & DEVELOPMENT MANACEMENT DEPARTMENT

FOUNDATION PLAN

BBIDCE NO° 22C-0038

DRAWING NO.

SHEET

12/18/06

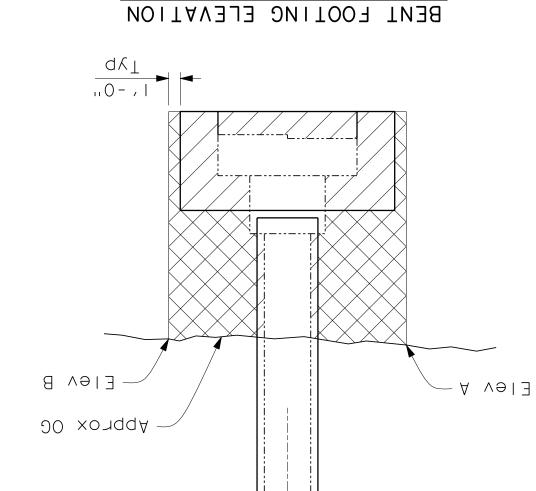
DARWN M. ANDRASEK CHECKED M. CHAR

SCALE DATE

DESIGNED N° SANDIRA

see "Approximate OG Elevations at Bent" Table. For Approximate OG Elevations A & B, :9+0N

#### No Scale LIMITS OF PAYMENT FOR STRUCTURAL EXCAVATION & BACKFILL



\_\_\_\_\_\_

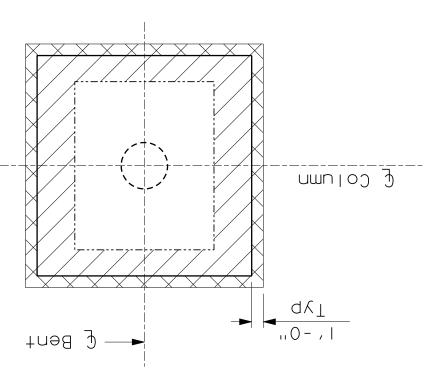
→ € Bent

<u> 3</u>82 °2 | + <u>7</u>92

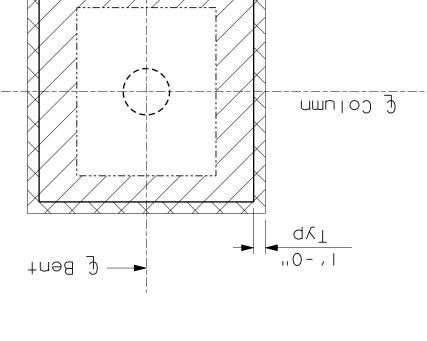
362+00

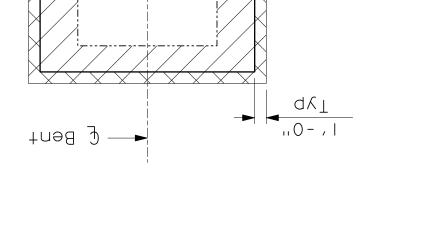
<u>7</u> 92 ° 79+19€

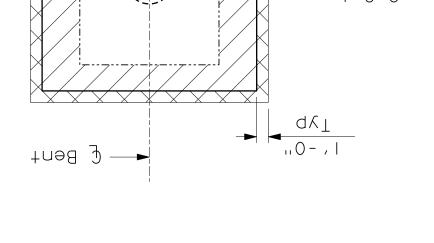
∓ 0°996



BENT FOOTING PLAN









362+76,28±

£ Santiago Canyon Rd!

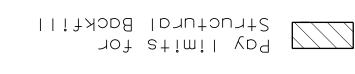
- 0°996

/±82°62+29ε

F = 1200°0'±

00+292

± 3°ZS6



Pay limits for Structural Excavation

pnitoot pnitsixa satboibnl —---

noitbyələ pnitoot pnitsixə to mottod satpoibal

LEGEND

- 8°096

.snoitby919 20 The contractor shall field verify \* Provided for information only.

ELEV B (ft)	(++) A V∃J∃	NOITADOL			
<del>-</del> 196	<del>-</del> 796	BENT 2			
<del>-</del> 796	<del>-</del> 196	BENL 3			
<del>-</del> 796	∓ <b>∀</b> 96	BENT 4			

ELEVATIONS AT BENT APPROXIMATE OG \*

±82°88+£9£

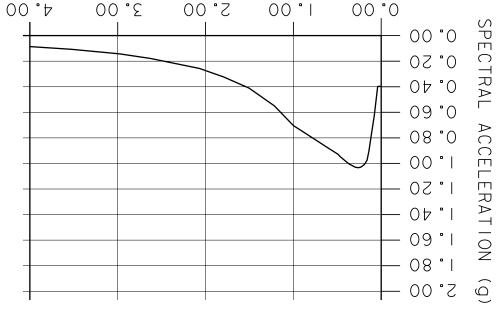
± 0°Z86

00+798

PERIOD, T (Sec) 0°00 1°00 5°00 3°00 4°00 O°SO -O° do -- 09 °0

(M=7,25 +/- 0,25) PGA=0,4g

Modified Caltrans SDC ARS Curve for Soil Profile C



Design Applied Pressure, q Applied Ultimate Soil Bearing Capacity q<sub>ult</sub> = 17 KSF

Spread Footing EXIZINC isq 000,8 $\epsilon$  =  $\chi$ f  $70\epsilon$ A MT2A SIEEF:

: A T A Q

FOUNDATION

STRUCTURAL

isq 000,00 = Yt 307A MT2A SLEEF:

**BEINFORCING** Class 2 (Barrier only) (ONU) isq 000 , = 5'} 307A , isq 000.03 = ytNew Concrete (Bridge)

> f'c = 5000 psiisq 000,44 = 44

(Assumed for Retrofit Evaluation) **CONCRETE:** Existing Concrete **BEINFORCED** 

T ½ 1.0 seconds by 20%; - Increase the Spectral accelerations for

shall be determined by Linear Interpolation. - Spectral acceleration for 0,5 ≤ T ≤ 1,5 is not required for I  $\leq$  0.5 seconds. - Spectral acceleration modification near fault effect:

for SDC Response Spectra to account for The following adjustment shall be made Peak Rock Acceleration = 0.4g Fault Moment Magnitude = 7,25 ±0,25

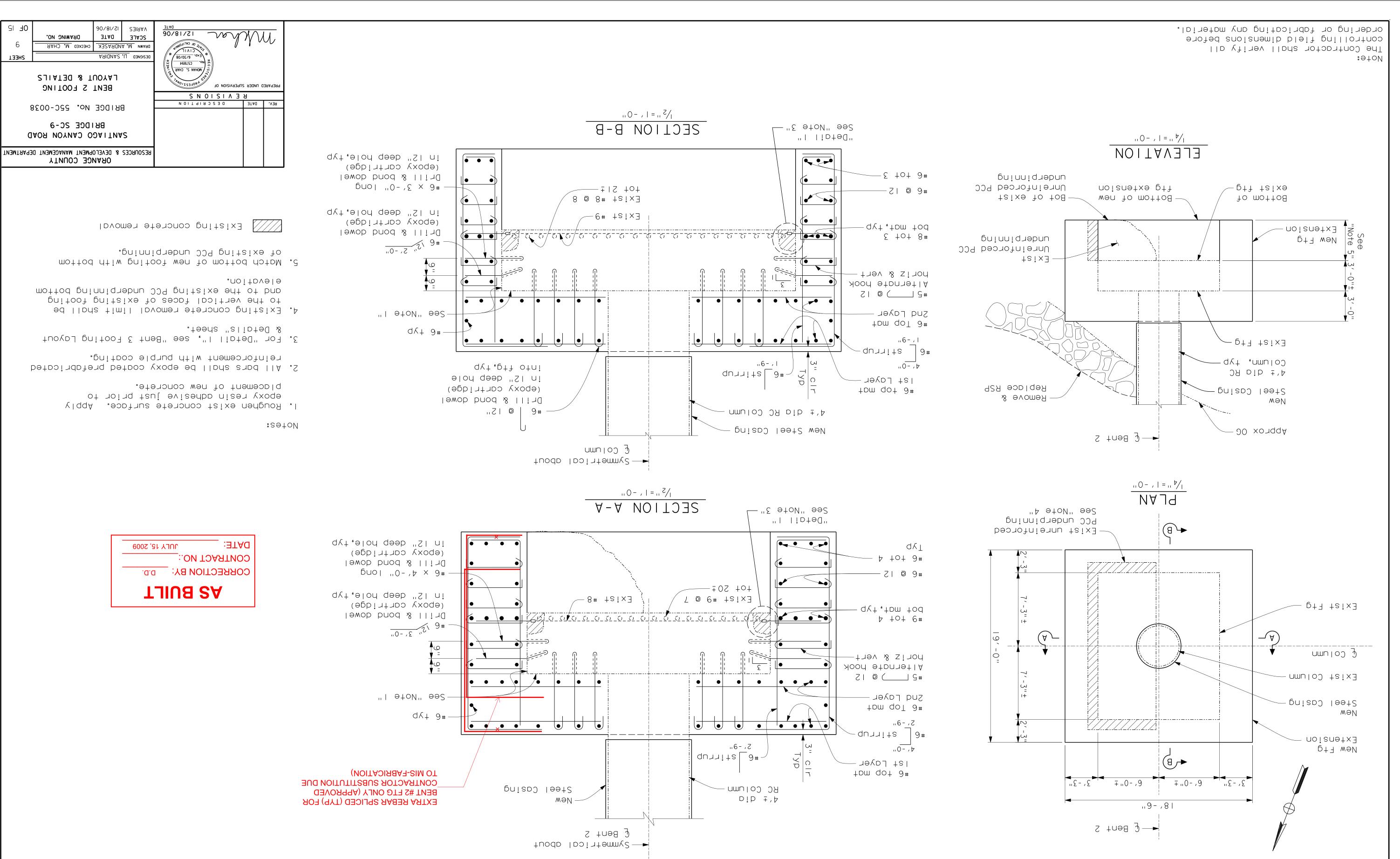
Soil Profile = Type C LOADING: ATC-32 ARS Curve **SEIZWIC** 

LIVE LOADING: HS20-44 and alternative permit design load

Version 1.3, Mdy 2006 **DEZICM**: CALTRANS Seismic Design Criteria (SDC) **SEIZWIC** 

and Revisions by CALTRANS) aminətni dtiw OTH2AA 3661) - (Q7J) 0002 lingA CALTRANS BRIDGE DESIGN SPECIFICATIONS DE21CM:

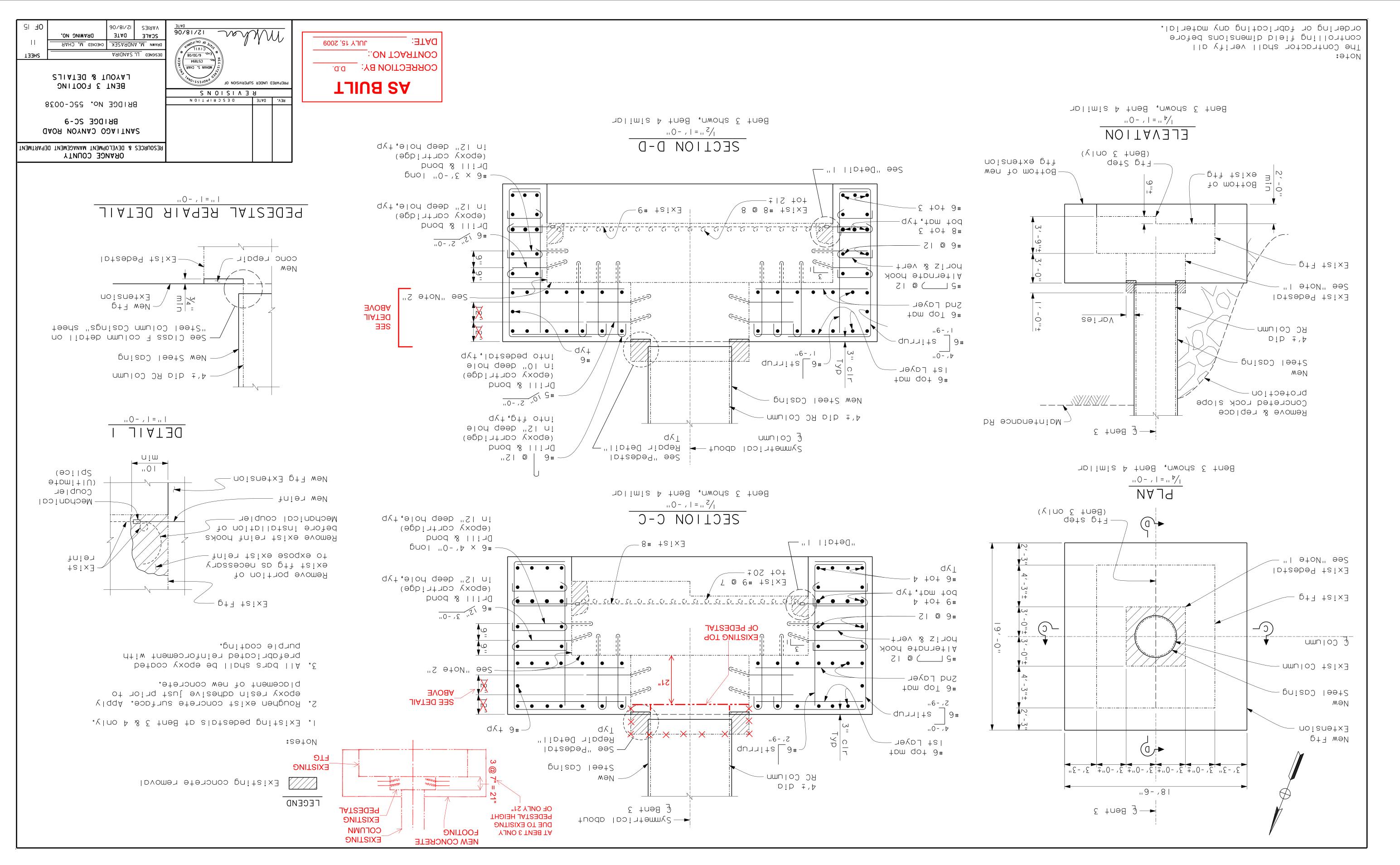
> LOAD FACTOR DESIGN CENERAL NOTES



12/18/06 DATE ordering or fabricating any material. 12/18/06 SCALE DATE controlling field dimensions before DRAWING NO. 0. C57894 Exp. 6/30/08 DARWN M. ANDRASEK CHECKED M. CHAR The Contractor shall verify all DESIGNED N° SANDIKA :9†oN SHEET MOHAN S. CHAR BENT 2 FOOTING DETAILS R E VISIONS REV. DATE DESCRIPTION BBIDCE NO° 22C-0038 ..O-,| = ..Z/ BBIDCE 2C-6 FOOTING REINFORCEMENT PLAN SANTIAGO CANYON ROAD ORANGE COUNTY

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT Not All Stirrups shown REINFORCEMENT LAYOUT STIRRUP & DOWEL LAYOUT TAM MOTTOB & 9OT 1st & 2nd Layer Footing reinf Dowel placement Anies tom motto8 fop Mat reinf :3TAQ 10LY 15, 2009 SERVICE (Uttimate Splice)
with exist ftg
reinf each side CONTRACT NO.: (PG|OM)CORRECTION BY: D.D. Exist Ftg outline дКТ **TAINB SA** ∓0Z +O+ ∠ ៙ 6# edch side 3110115 5 +0+ 8# exist Ftg — əbis bə 91 tot \*DM SI @ 18# - pnispj face of existing column, 199†2 w9N 2. Terminate bars 2" clear from oqyTo with purple coating. prefabricated reinforcement I. All bars shall be epoxy coated — pnisd :sətoN leets well dΚΤ SIƏMOP 9# about ([ Column <del>╶┡┊╡</del>╶╌┾╶╶┽╌┼╌┽╌┼╌┼╌┼╌┼╌┼ Reinf symmetrical each side exist ftg reinf about [Column] Reinf symmetrical #6 |@ |2 max +0+ 20 ea sidedКΤ S|ƏMOP | 9#uwnloj †six∃ Typ Typ - Mechanical Coupler (Ultimate Splice) -12" | 4VT | 4VT | \*6 ] @ |2 max — 9bis dob9 91 tot tot 20 each side-"S ətoN" əə2 #6 @ 12 max 5 +0+ 9# +000 8 +0+ 9# Reinf symmetrical —— S tnaB & tuodp Reinf symmetrical

about & Bent 2



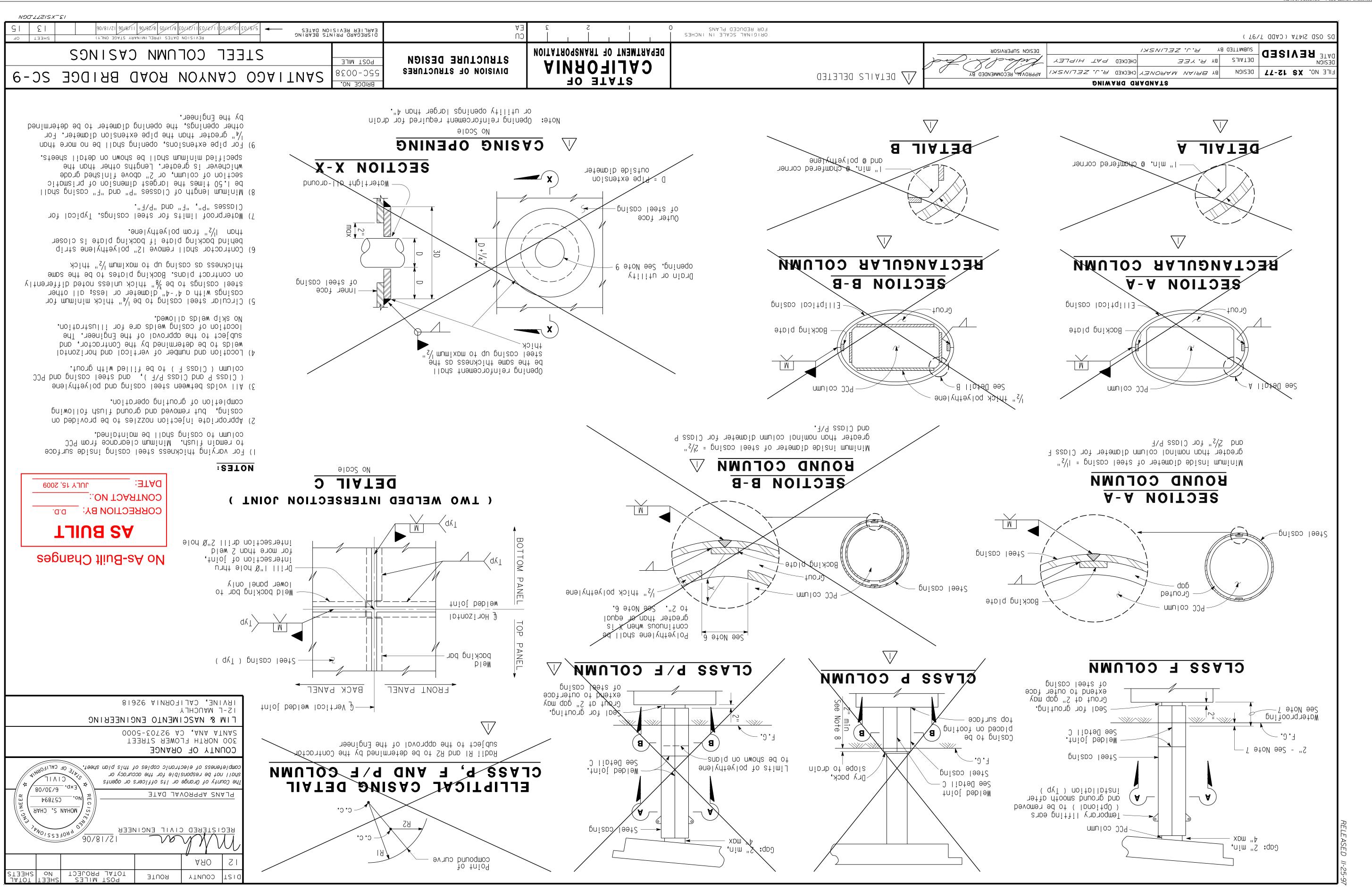
MM 12/18/06 ordering or fabricating any material. **OL** I2 12/18/06 SCALE DATE controlling field dimensions before DRAWING NO. :3TAQ 10LY 15, 2009 DARWN M. ANDRASEK CHECKED M. CHAR The Contractor shall verify all CONTRACT NO.: to. C57894 DESIGNED N° SANDIRA SHEET :9†0N CORRECTION BY: D.D. MOHAN S. CHAR BENT 3 FOOTING DETAILS **TJIU8 SA BENIZIONZ** NOIT O E S C R I P T I O N BBIDCE NO° 22C-0038 Bent 3 shown, Bent 4 similar ..O-,| = ..Z/| BBIDCE 2C-6 FOOTING REINFORCEMENT PLAN SANTIAGO CANYON ROAD ORANCE COUNTY

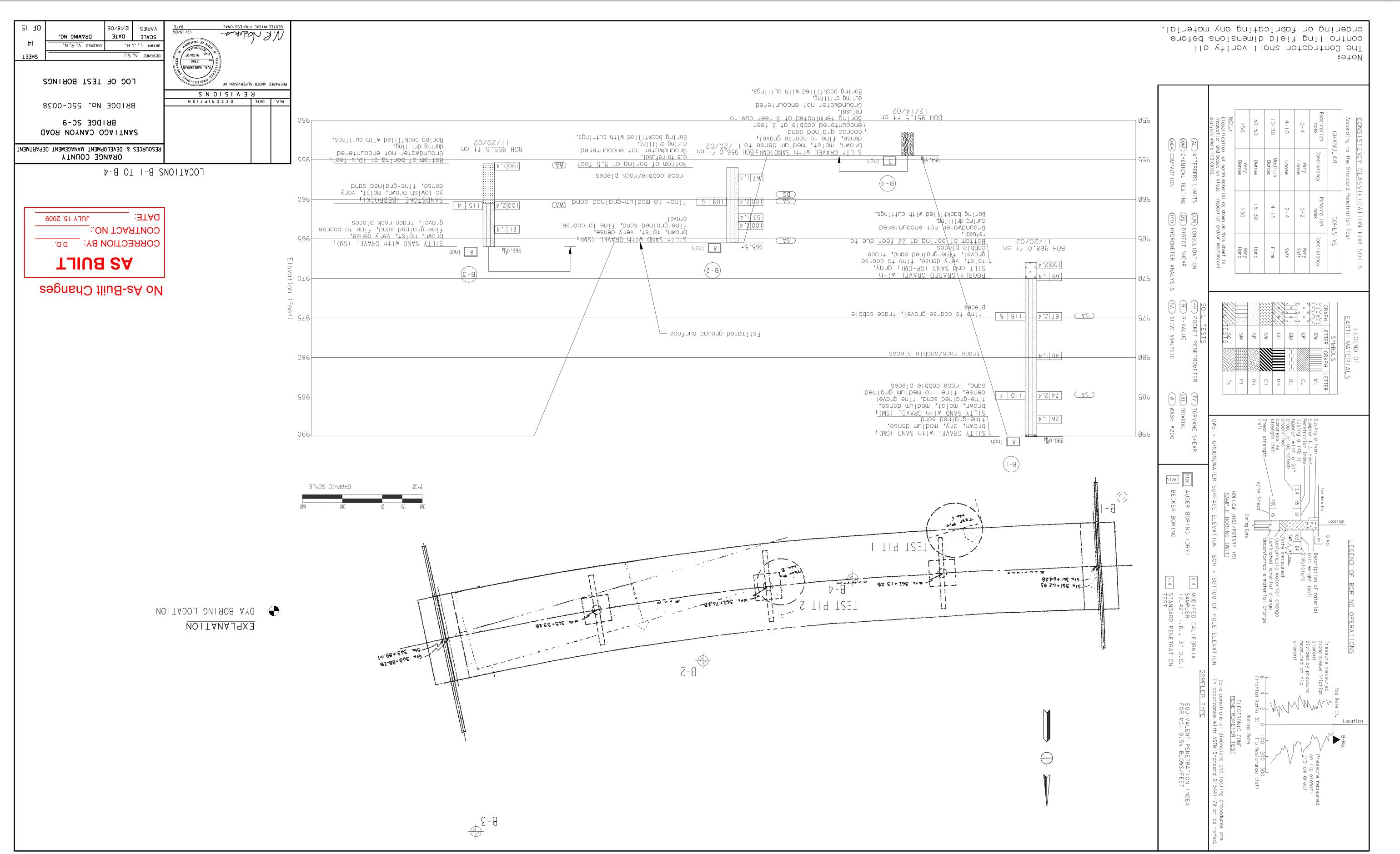
RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT Not All Stirrups shown REINFORCEMENT LAYOUT STIRRUP & DOWEL LAYOUT TAM MOTTOB & 9OT 1st & 2nd Layer Dowel placement Footing reinf Bottom mat reinf Top Mat reinf SERVICE (<u>III+imate</u> Splice)

with exist ftg

reinf each side (PG|OM)Exist Ftg outline Mechanical Coupler qкТ - "E 9toN" 992 ∓0Z +0+ Z Ø 6# S|ƏMOP 9# edch side 3"C|r 3110115 Exist pedestal 5 +0+ 8# -Exist Ftg -- abis ba 81 tot \*6 |2 max qųt įslewob 2# — - paisd) 199†2 w9N oqyTo ∕ Duisb⊃ \ləət2 wəN <sup>-</sup> dΚΤ Slawob 9# — about ( Column Reinf symmetrical each side exist ftg reinf \_ nmulo) ] tuodo -abis ba 02 tot ДХI Reinf symmetrical xDM 2| @ | 3# S|ƏMOP | 9#-- uwn|0) ts:×∃ Y V = Typ Typ 7 " 5 9 + 0 N " 9 9 S lbtsəbəq Bent 3 & 4 only. ts:x3 3. Existing pedestals at .lbteabaq paitsixa to abbt (Oltimate Splice) 2. Terminate bars 2" clear from Mechanical Coupler with purple coating. prefabricated reinforcement I. All bars shall be epoxy coated "3 "SI "S1 "S1 "S ətoN" — əbis dəbə 91 tot - abis doba 02 tot 995 :sətoN #6 ] @ |2 max G +O+ ■■ XDM SI Ø J 9# #6 +0+ 7 con+ about € Bent 3 — apont & Bent 3 —— Reinf symmetrical Reinf symmetrical

...\100%/038/13\_XS12T7\_SC9.dgn 2/21/2007 3:15:31 PM





Note: The Contractor shall verify all controlling field dimensions before ordering or fabricating any material,

SCALE DATE DRAWING NO.

SHEET

SCALE DATE

OF 15

DATE

OF 15

R E VISIONS

REV. DATE DESCRIPTION

AS-BUILT LOG OF TEST BORINGS

BBIDCE NO° 22C-0038

SANTIAGO CANYON ROAD

8-9

DEVELOPMENT MANACEMENT DEPARTMENT

RESOURCES & DEVELOPMENT MANACEMENT

CORRECTION BY: D.D.

CONTRACT NO.:

JULY 15, 2009

DATE:

**AS BUILT** 

No As-Built Changes

