

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

DEVIATIONS FROM STANDARDS

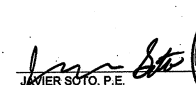
THE FOLLOWING RDMD STANDARDS HAVE BEEN MODIFIED:
STD PLAN 1103, PRIMARY HIGHWAY TYPICAL SECTIONS
- 11 FT. TRAVEL LANE
- 5 FT. SHOULDER

APPROVED:  5/21/07
IGNACIO G. OSORIO, P.E.
DIRECTOR OF PUBLIC WORKS/CHIEF ENGINEER

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

APPROVED FOR CONTRACT ADMINISTRATION PURPOSES:

SUBMITTED:

 5-16-07
JAVIER SOTO, P.E.
MANAGER, ROAD CAPITAL PROJECTS
CIVIL
STATE OF CALIFORNIA
No. 55938
Exp. 6-30-09

RECOMMENDED:

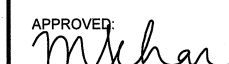
 5/16/07
TED RIGONI, P.E.
MANAGER, ROAD DIVISION

APPROVED:

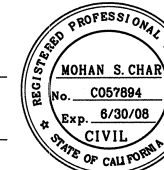
 5/21/07
IGNACIO G. OSORIO, P.E.
DIRECTOR OF PUBLIC WORKS/CHIEF ENGINEER

PREPARED BY

LIM & NASCIMENTO ENGINEERING
12-L MAUCHLY
IRVINE, CALIFORNIA 92618

APPROVED: 
REGISTERED CIVIL ENGINEER

8/25/06
DATE


MOHAN S. CHAR
No. C057894
Exp. 8/30/08
CIVIL
STATE OF CALIFORNIA

INDEX OF SHEETS

SHEET	DESCRIPTION
1.	TITLE SHEET
2.	METAL BEAM GUARD RAILING PLAN
2S1.	TYPE ST-20S RAIL DETAILS NO. 1
2S2.	TYPE ST-20S RAIL DETAILS NO. 2
2S3.	TYPE ST-20S RAIL DETAILS NO. 3
2S4.	TYPE ST-20S RAIL DETAILS NO. 4
3.	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

CALTRANS STANDARD PLANS DATED MAY, 2006

ROADWAY

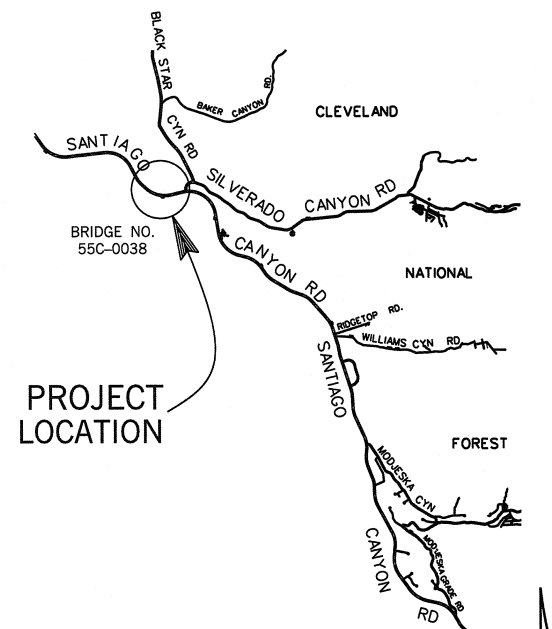
A20A, B & D	PAVEMENT MARKERS & TRAFFIC LINES TYPICAL DETAILS
A73B	MARKERS
A73C	DELINEATORS, CHANNELIZERS AND BARRICADES
A77F1, A77F4	METAL BEAM GUARD RAILING TYPICAL LAYOUT
A77J4	METAL BEAM GUARD RAILING TRANSITION RAILING (TYPE WB)
A77L1	METAL BEAM RAILING TERMINAL SYSTEM (TYPE SRT)
A77L3	METAL BEAM RAILING TERMINAL SYSTEM (TYPE ET)
T2	TEMPORARY CRASH CUSHION SAND FILLED (SHOULDER INSTALLATION)
T3	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
B11-55	CONCRETE BARRIER TYPE 732B
B11-57	CONCRETE BARRIER TYPE 742B (FOOTING)

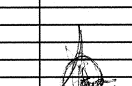
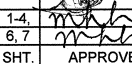
 Standard Plan Sheet No.
 Detail No.

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	



PROJECT
LOCATION

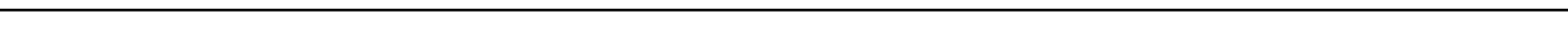
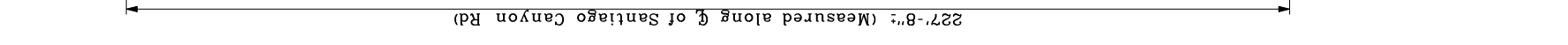
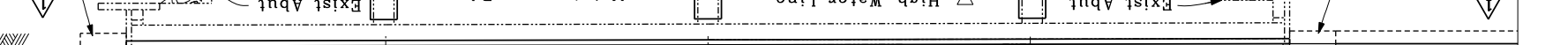
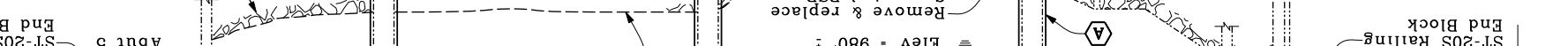
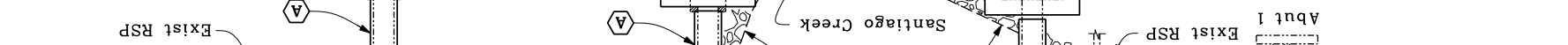
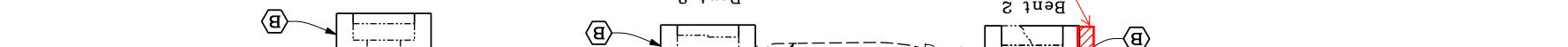
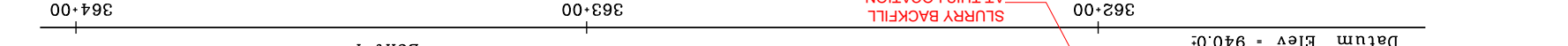
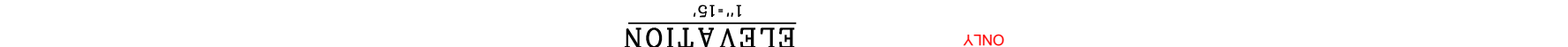
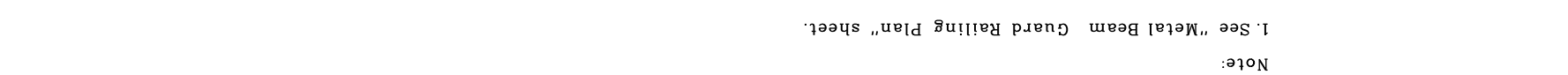
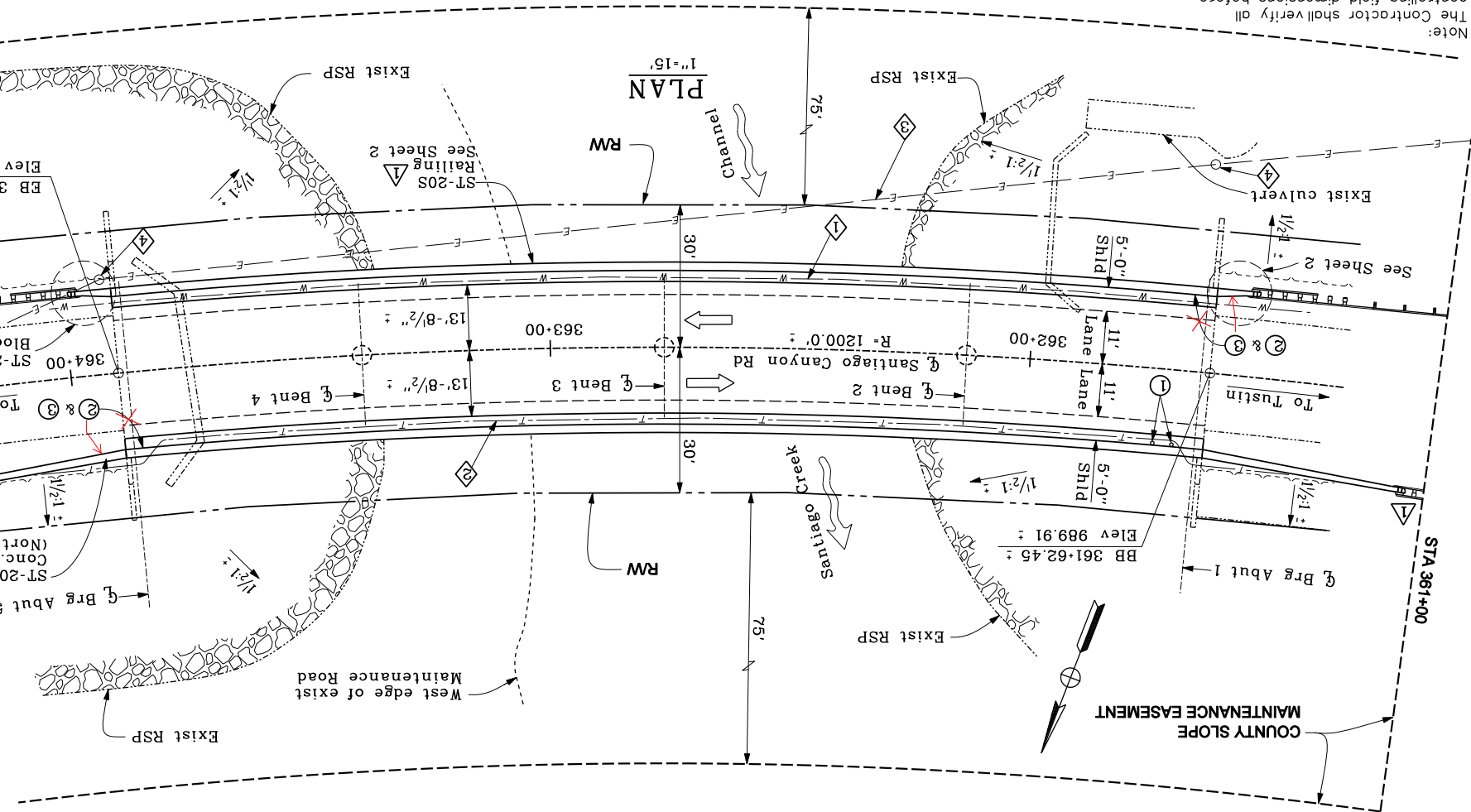
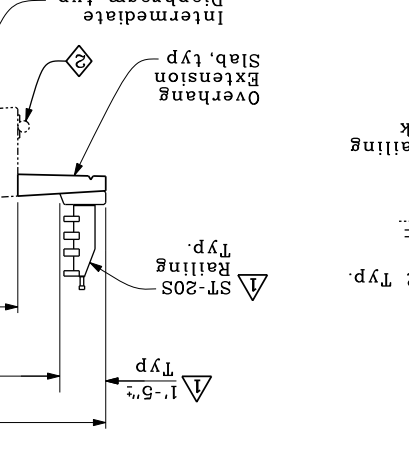
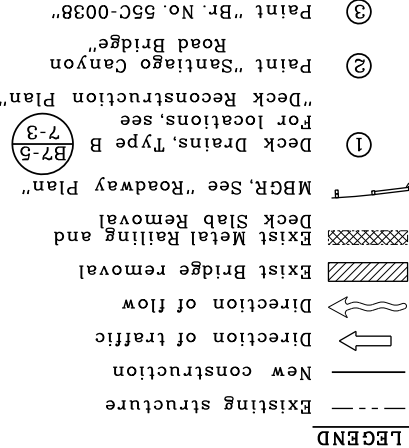
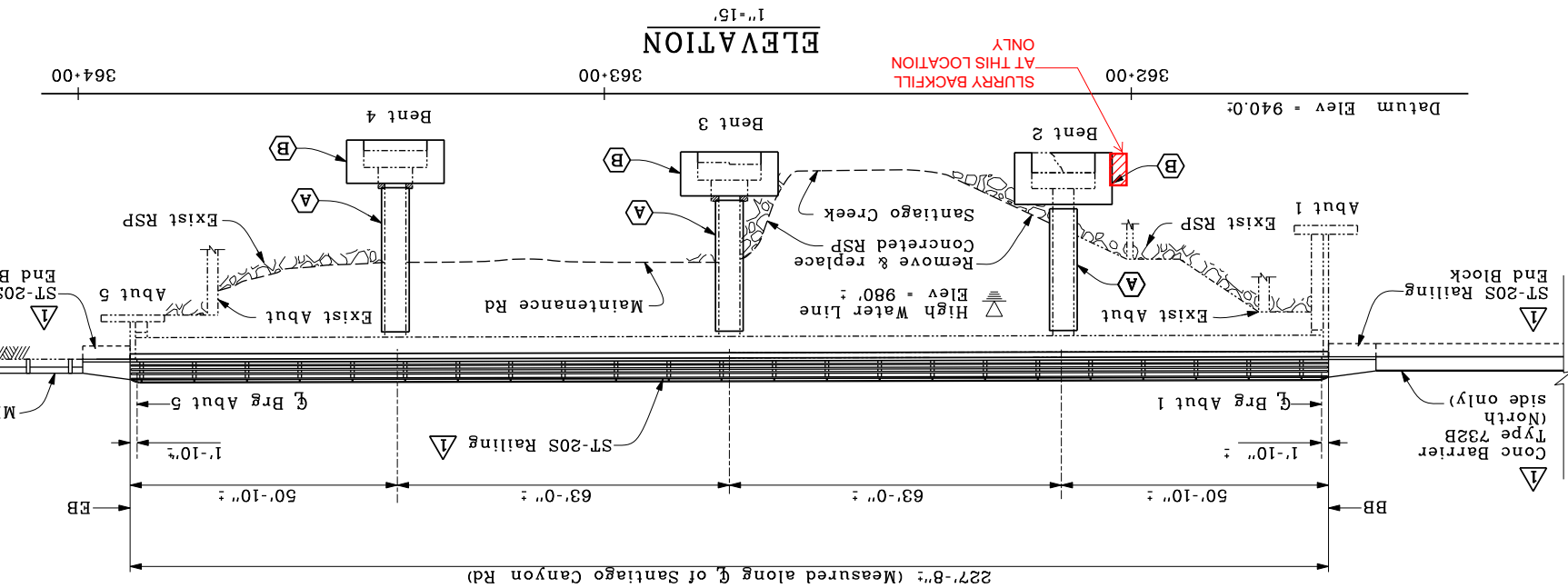
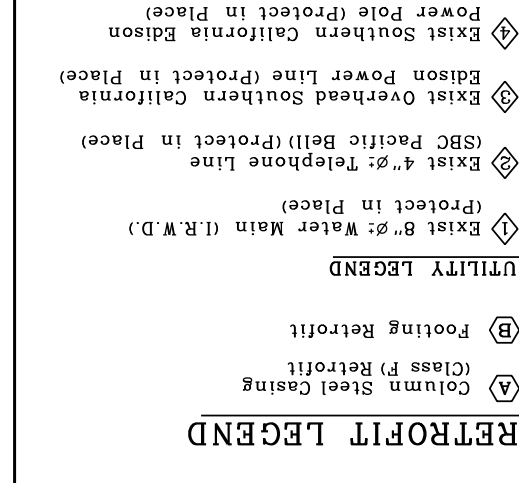
LOCATION MAP
NO SCALE

NO.	DESCRIPTION	SHT.	APPROVED	DATE
APPROVAL OF BARRIER RAIL REVISION				
1.	CHANGED BARRIER TO STEEL TYPE ST-20S	1-4		06/02/06
2.	& STAINED TYPE 732B	6, 7		06/02/06

REVISIONS

BRIDGE NO. 55C-0038
DWG. NO.

SHEET 1 OF 15



ELEVATION

1/4" = 1'-0"

See Note 5'-3'-0" ± 3'-0" ± 3'-0"

Bottom of exist ftg

Bottom of new ftg extension

Unreinforced PCC underpinning

Exist

Unreinforced PCC underpinning

Bottom of exist

ftg extension

Unreinforced PCC underpinning

4" dia RC Column, typ

Steel Casting

New

Approx 06

Remove & Replace RSP

Ɛ Bent 2

PLAN

1/4" = 1' - 0"

Labels:

- New Ftg Extension
- Steel Casting
- Exist Column
- Exist Ftg
- PCC underpinning
- Exist unreinforced

Dimensions:

- Total width: 18'-6"
- Width segments: 3'-3", 6'-0", 6'-0", 3'-3"
- Total height: 19'-0"
- Height segments: 2'-3", 7'-3", 7'-3", 2'-3"

Notes:

- Bent 2
- Note 4

[illegible][illegible]

1. Roughen exist concrete surface. Apply epoxy resin adhesive just prior to placement of new concrete.
2. All bars shall be epoxy coated prefabricated reinforcement with purple coating.
3. For "Detail 1", see "Bent 3 Footing Layout & Details" sheet.
4. Existing concrete removal limit shall be to the vertical faces of existing footing and to the existing FCC underpinning bottom elevation.
5. Match bottom of new footing with bottom of existing FCC underpinning.

NOTES:

AS BUILT

CORRECTION BY: D.D.

DATE: JULY 15, 2009

$$0-1 = 2/1$$

1. All bars shall be epoxy coated with prefabricated reinforcement with purple coating.
2. Terminals bars 2" clear from face of existing column.

CORRECTION BY: D.D.

DATE: JULY 15, 2009

DATE 12/18/06

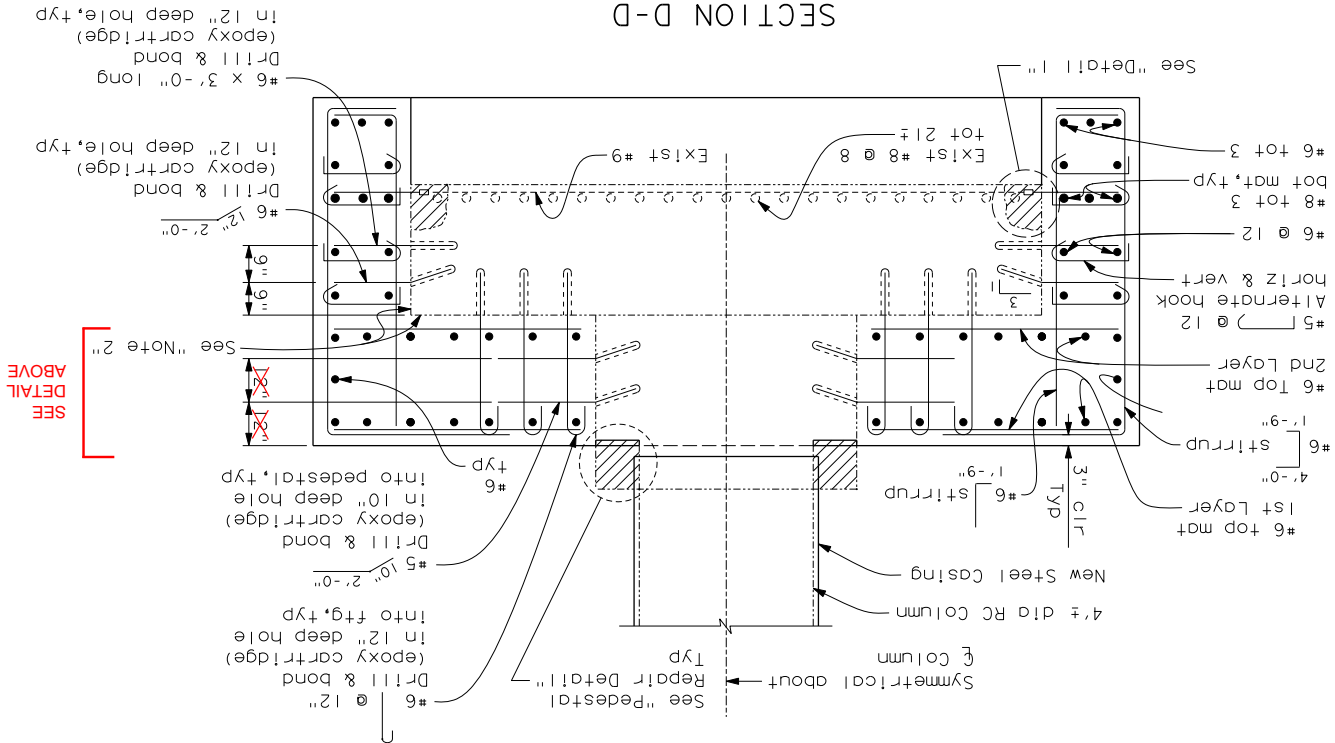
M. Khan

REGISTERED PROFESSIONAL ARCHITECT
JOHAN S. CHAI
NO. C51894
EXP. 6/30/08
CIVIL
STATE OF CALIFORNIA

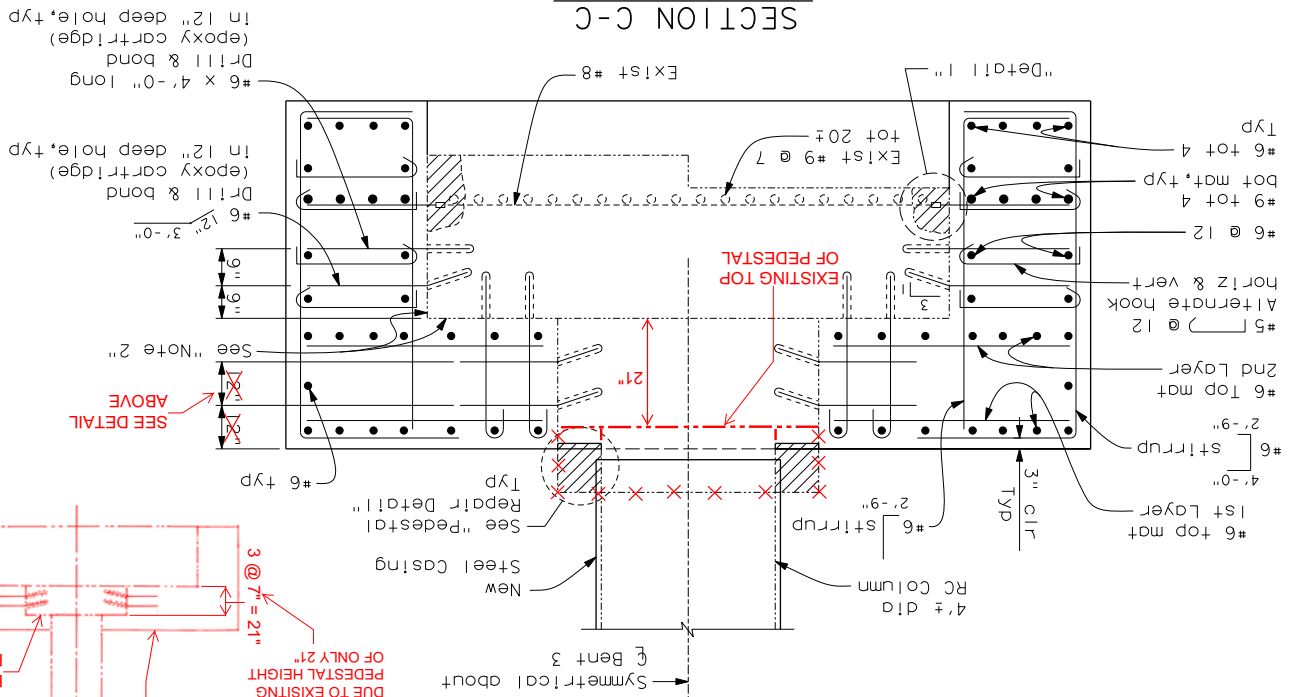
PREPARED UNDER SUPERVISION OF

JULY 15, 2009

Bent 3 shown, Bent 4 similar



Bent 3 shown, Bent 4 similar



Notes:

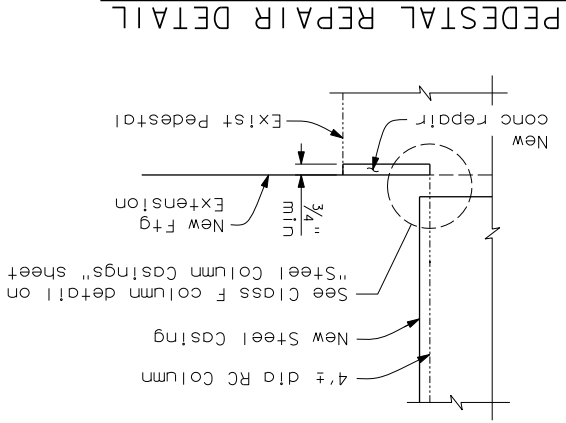
1. Existing pedestals at Bent 3 & 4 only.
2. Roughen exist concrete surface. Apply epoxy resin adhesive just prior to placement of new concrete.
3. All bars shall be epoxy coated with prefabricated reinforcement with purple coating.

LEGEND

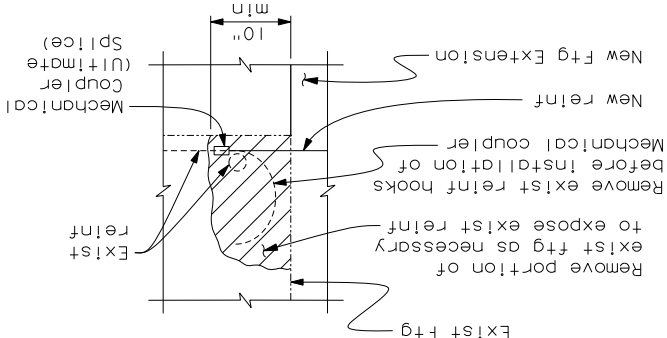


Diagram illustrating the section view of a column and footing. The diagram shows an existing column and footing, and a new concrete footing. The existing column is labeled "EXISTING COLUMN" and the existing footing is labeled "EXISTING FOOTING". The new concrete footing is labeled "NEW CONCRETE FOOTING". The diagram also shows the "EXISTING PEDESTAL" and "EXISTING PLATE". The height of the existing column is indicated as "EXISTING COLUMN HEIGHT = 21'". The height of the new concrete footing is indicated as "NEW CONCRETE FOOTING HEIGHT = 3' @ 7' = 21'".

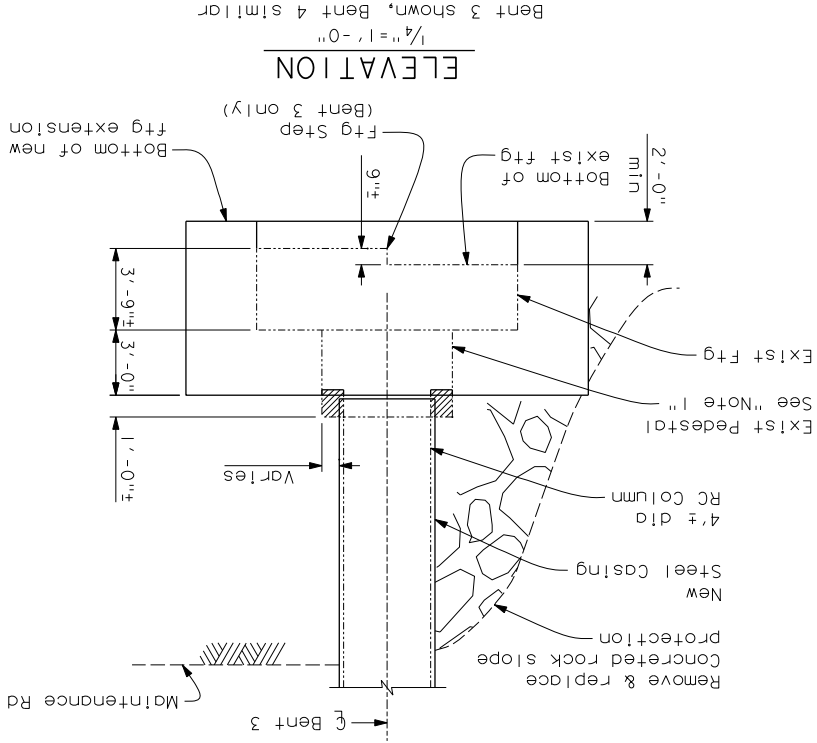
PEDESTAL REPAIR DETAIL



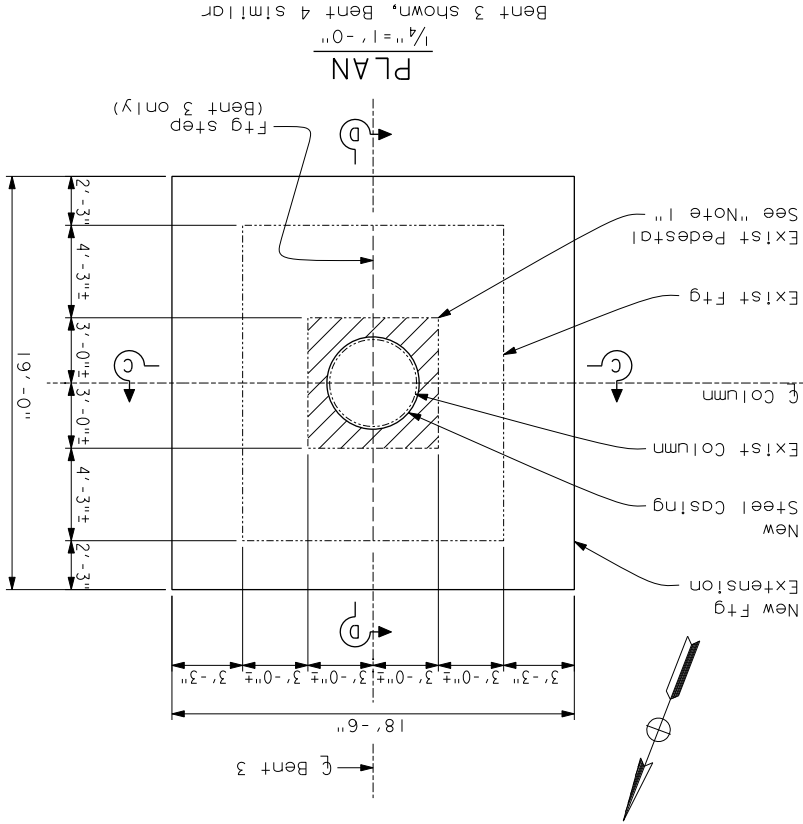
DETAIL I



Bent 3 shown, Bent 4 similar



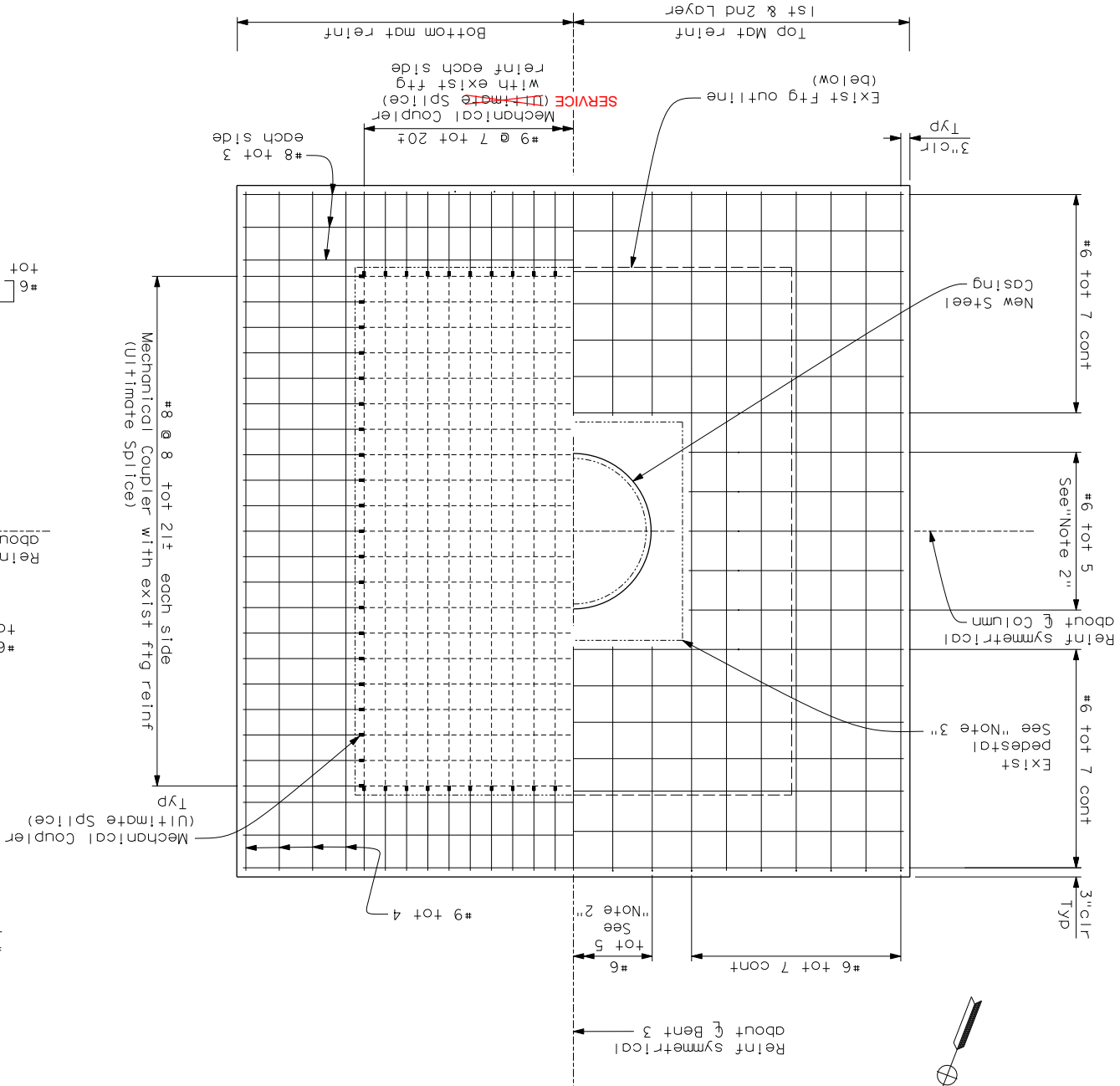
Bent 3 shown, Bent 4 similar



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

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

TOP & BOTTOM MAT
REINFORCEMENT LAYOUT

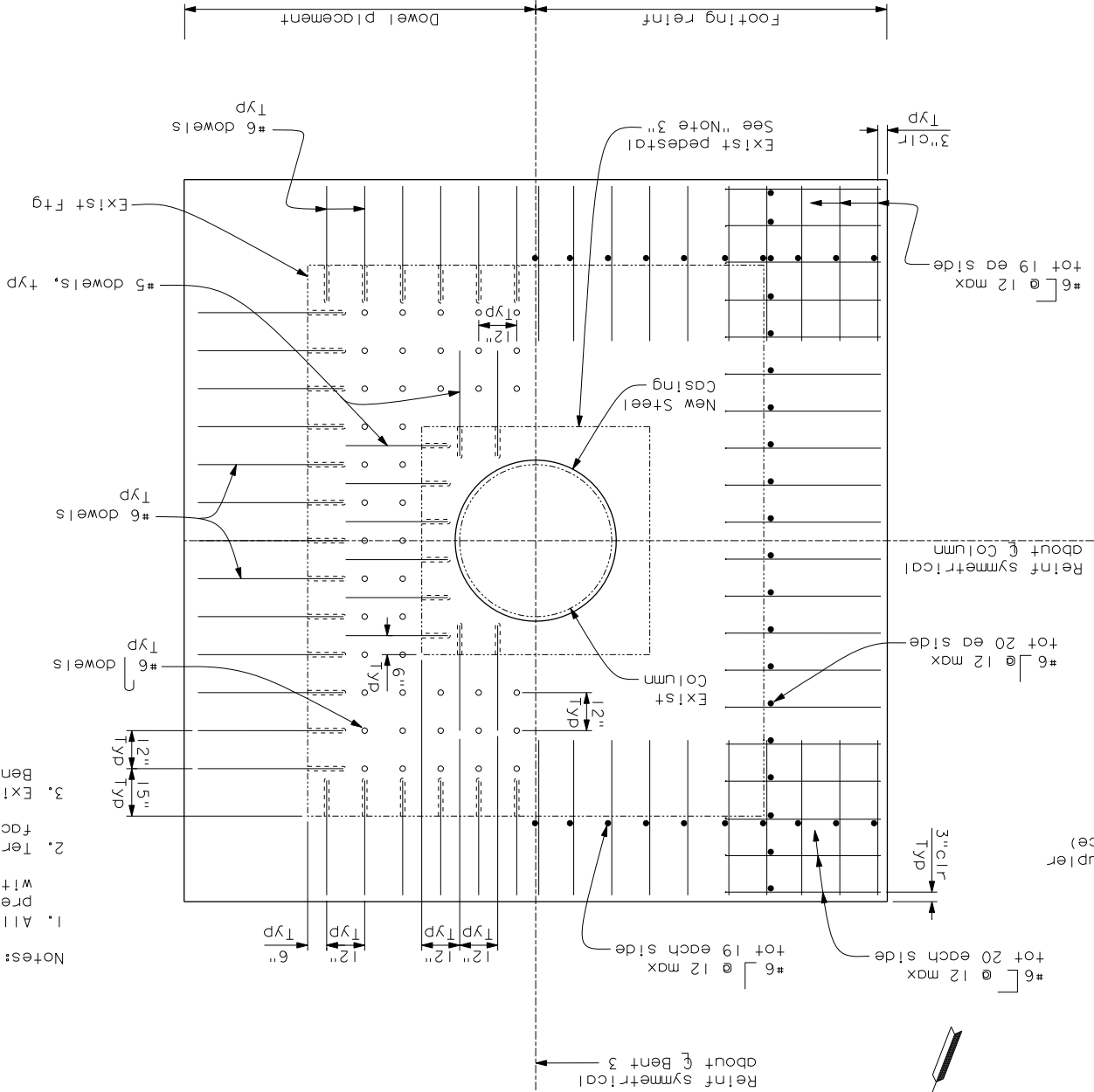


FOOTING REINFORCEMENT PLAN

$\frac{1}{2}" = 1'-0"$
Bent 3 shown, Bent 4 similar

STIRRUP & DOWEL LAYOUT

Not All Stirrups shown



- Notes:
- All bars shall be epoxy coated prefabricated reinforcement with purple coating.
 - Terminate bars 2" clear from face of existing pedestal.
 - Existing pedestals at Bent 3 & 4 only.

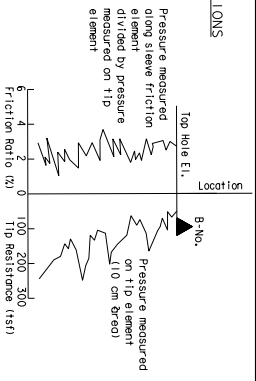
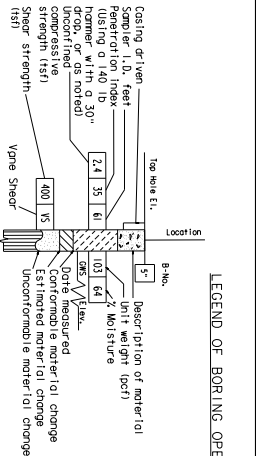
ORANGE COUNTY RESOURCES & DEVELOPMENT DEPARTMENT		SANTIAGO CANYON ROAD BRIDGE SC-9		BRIDGE No. 55C-0038		BENT 3 FOOTING DETAILS	
DESIGNED	J.L. SANDRRA	CHECKED	M. CHARR	DRAWN	M. ANDRASKA	DATE 12/18/06	
SCALE VARIES		12/18/06		DATE		DATE	
SHEET 12		OF 15		CONTRACT NO. 55C-0038		CORRECTION BY: D.D.	
CONTRACT NO. 55C-0038		DATE: JULY 15, 2009		AS BUILT		CORRECTION BY: D.D.	

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

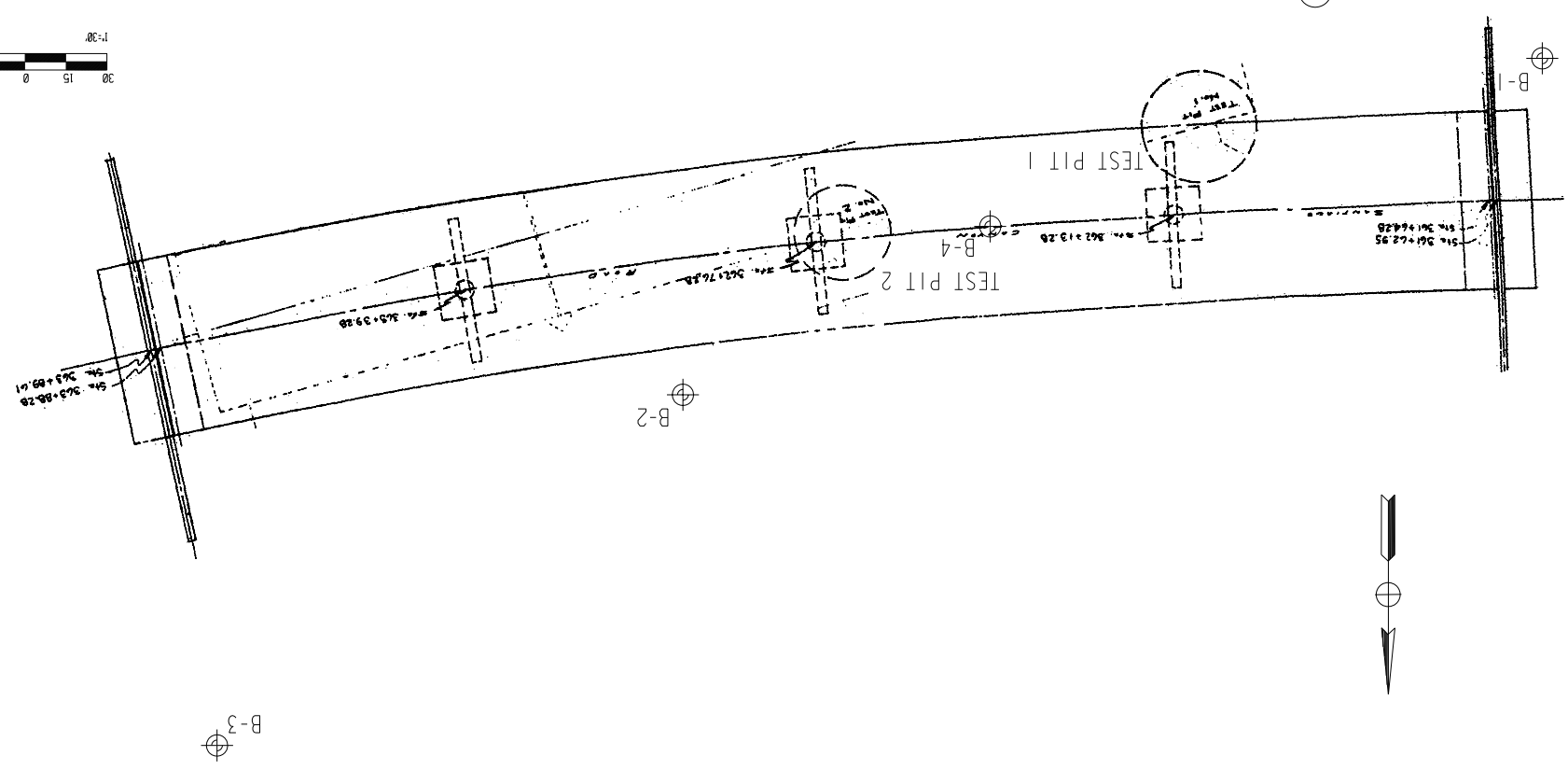
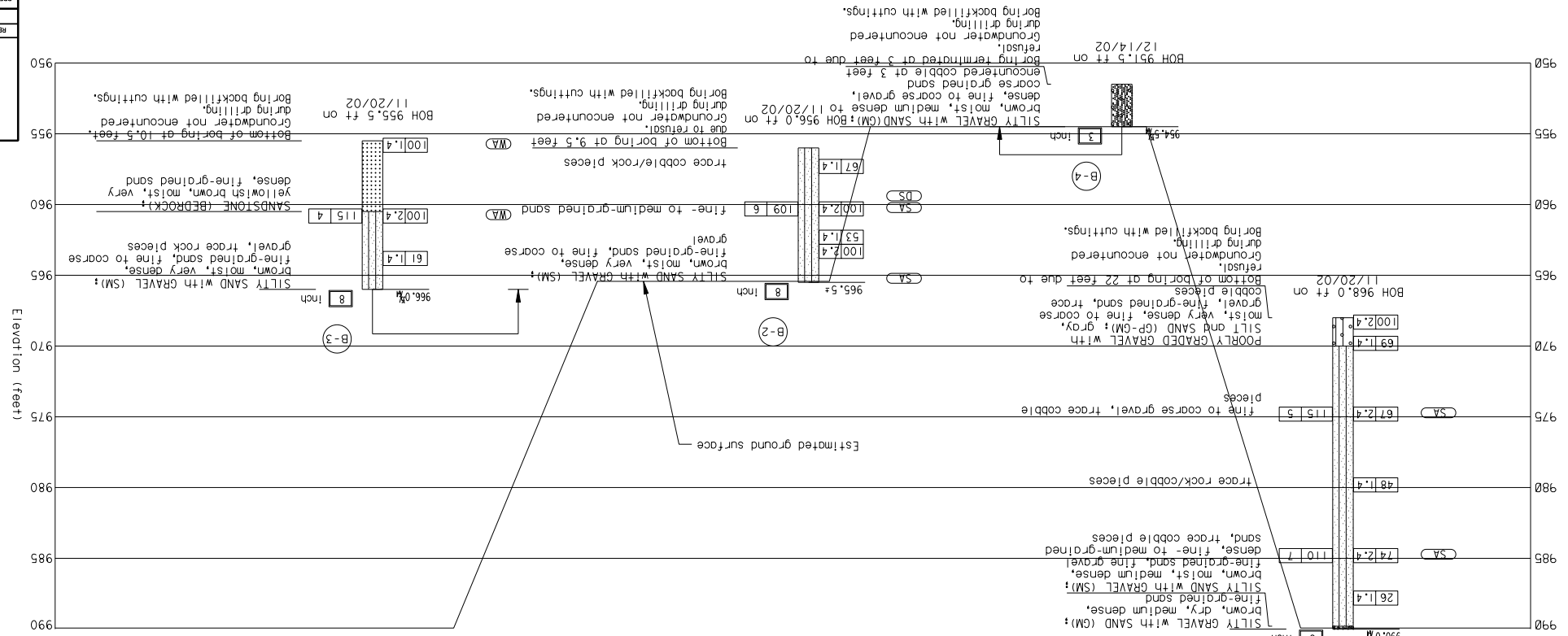
CONSISTENCY CLASSIFICATION FOR SOILS	
According to the Standard Penetration Test	
GRANULAR	COHESIVE
Penetration Index	Penetration Index
0-4	Very Loose
4-10	Loose
10-30	Medium Dense
30-50	Dense
>50	Very Hard

NOTE: Classification of earth material is shown on this sheet. Is inspection and based on visual inspection and/or mechanical analysis where indicated.

LEGEND OF EARTH MATERIALS	
SYMBOLS	LETTER
CL	CL
OL	OL
ML	ML
GM	GM
SM	SM
CH	CH
PT	PT
1s	1s



- SOIL TESTS
- (AL) ATTERBERG LIMITS
 - (GP) POCKET PENETROMETER
 - (TV) TORVANE SHEAR
 - (R) R-VALUE
 - (SA) SIEVE ANALYSIS
 - (W) WASH #200
 - (5128) AUGER BORING (DR)
 - (2.4) MODIFIED CALIFORNIA SAMPLER (2.42" I.D., 3" O.D.)
 - (1.4) STANDARD PENETRATION TEST
- CONSOLIDATION
- (CS) DIRECT SHEAR
 - (HTD) HYDROMETER ANALYSIS
- CHEMICAL TESTING
- (CND) CONSOLIDATION
- COMPACTION
- (CND) CONSOLIDATION



EXPLANATION

DYA BORING LOCATION

DESIGNED: N. SU	DATE: 12/18/06	SCALE: 1/4" = 1'-0"	PROJECT: BRIDGE No. 55C-0038
CHECKED: V. R. N.	DATE: 12/18/06	SCALE: 1/4" = 1'-0"	PROJECT: BRIDGE No. 55C-0038
DATE: 12/18/06	SCALE: 1/4" = 1'-0"	PROJECT: BRIDGE No. 55C-0038	PROJECT: BRIDGE No. 55C-0038

BRIDGE No. 55C-0038

BRIDGE SC-9

SANTIAGO CANYON ROAD

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

AS BUILT

DATE: JULY 15, 2009

CORRECTION BY: D.D.

CONTRACT NO.:

NO As-Built Changes

REVIEWER	1
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REVIEWER	100



AS BUILT

No As-Built Changes

CORRECTION BY: D.D.

CONTRACT NO.:

DATE: JULY 15, 2009