

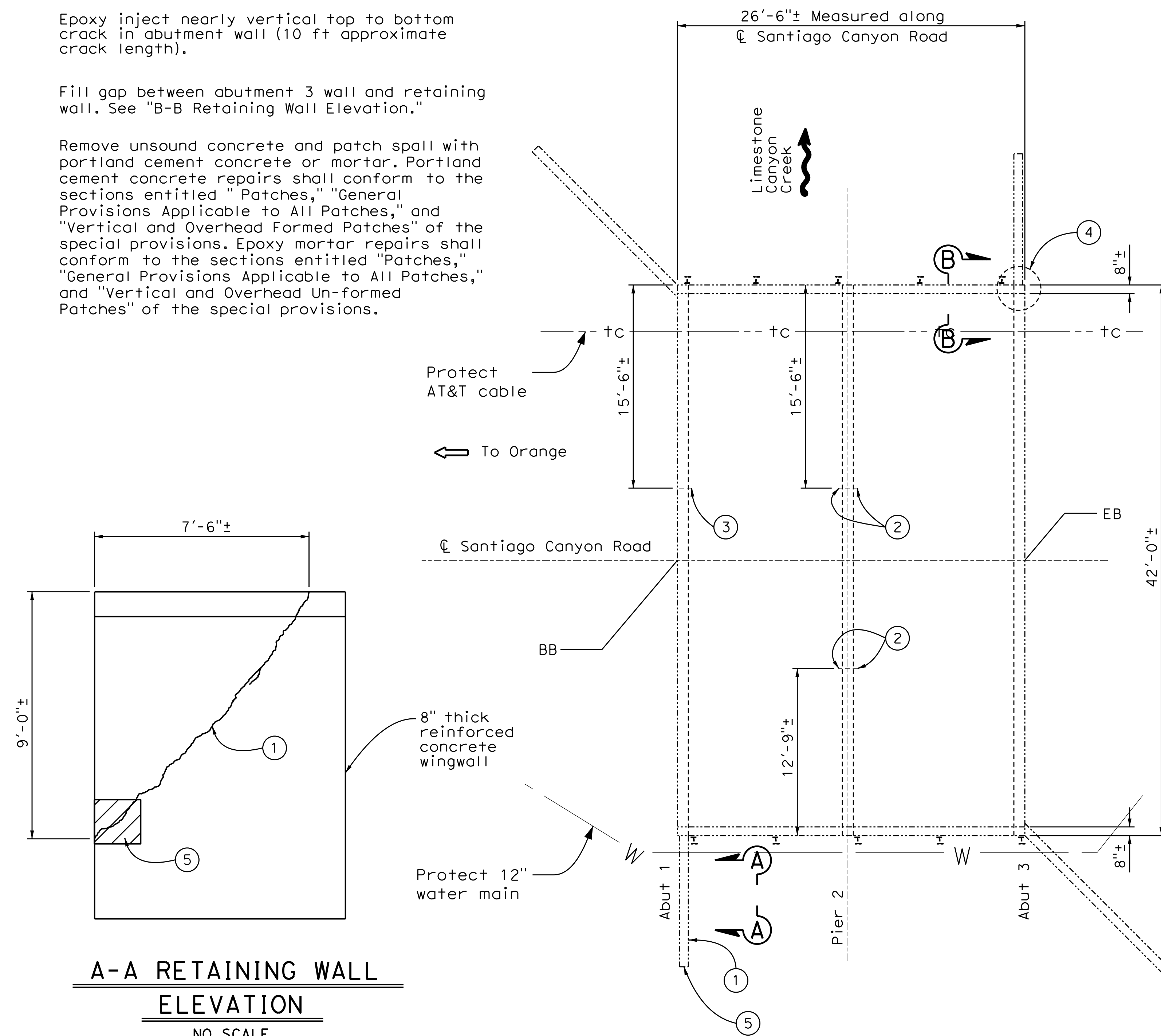
LEGEND

Indicates existing.

Indicates direction of traffic.

Indicates direction of flow.

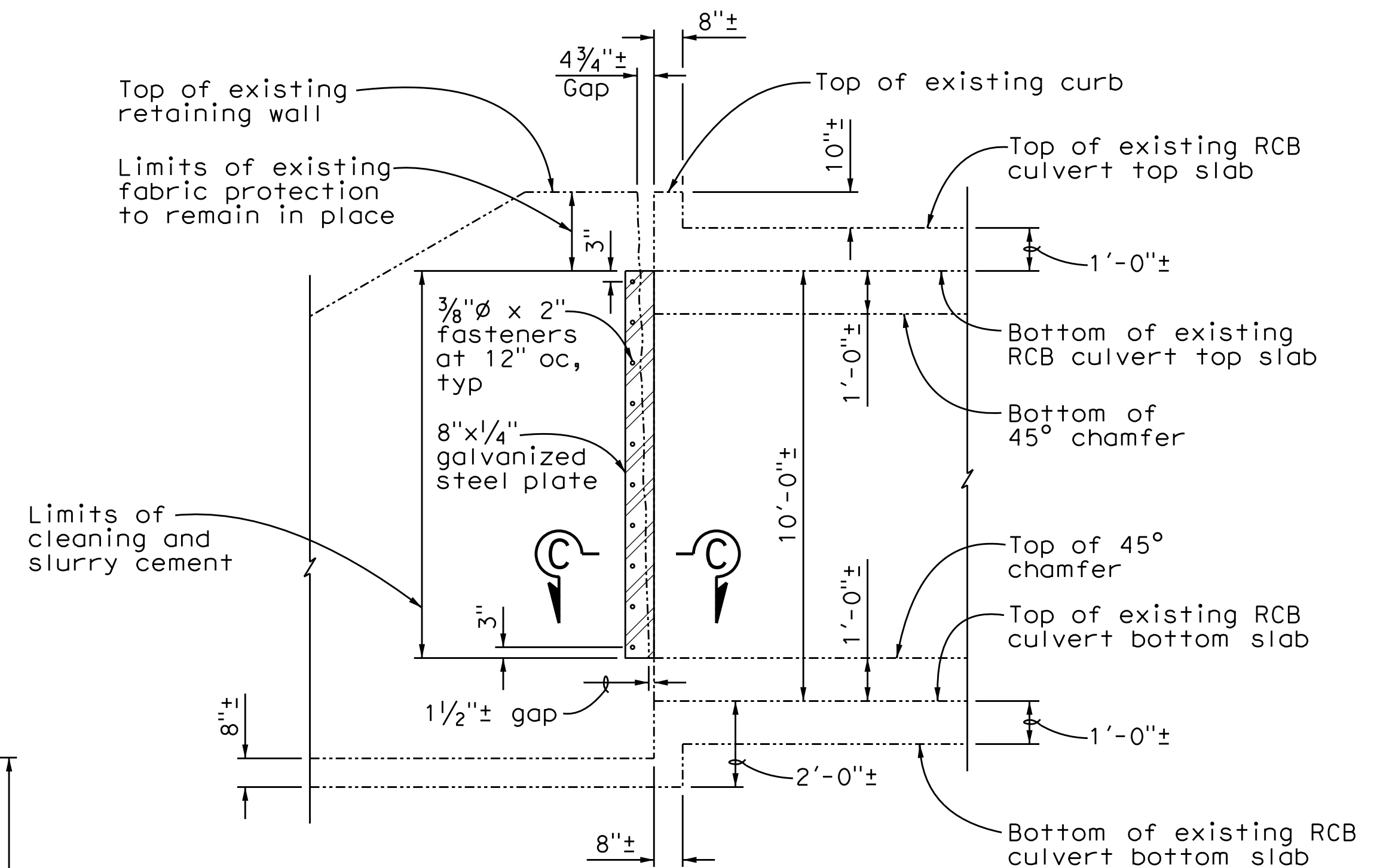
- ① Epoxy inject crack in reinforced concrete retaining wall. See "A-A Retaining Wall Elevation" (12 ft approximate crack length).
- ② Epoxy inject nearly vertical top to bottom crack in middle wall of the RCB culvert (10 ft approximate crack length, each location).
- ③ Epoxy inject nearly vertical top to bottom crack in abutment wall (10 ft approximate crack length).
- ④ Fill gap between abutment 3 wall and retaining wall. See "B-B Retaining Wall Elevation."
- ⑤ Remove unsound concrete and patch spall with portland cement concrete or mortar. Portland cement concrete repairs shall conform to the sections entitled "Patches," "General Provisions Applicable to All Patches," and "Vertical and Overhead Formed Patches" of the special provisions. Epoxy mortar repairs shall conform to the sections entitled "Patches," "General Provisions Applicable to All Patches," and "Vertical and Overhead Un-formed Patches" of the special provisions.



A-A RETAINING WALL
ELEVATION

NO SCALE

PLAN

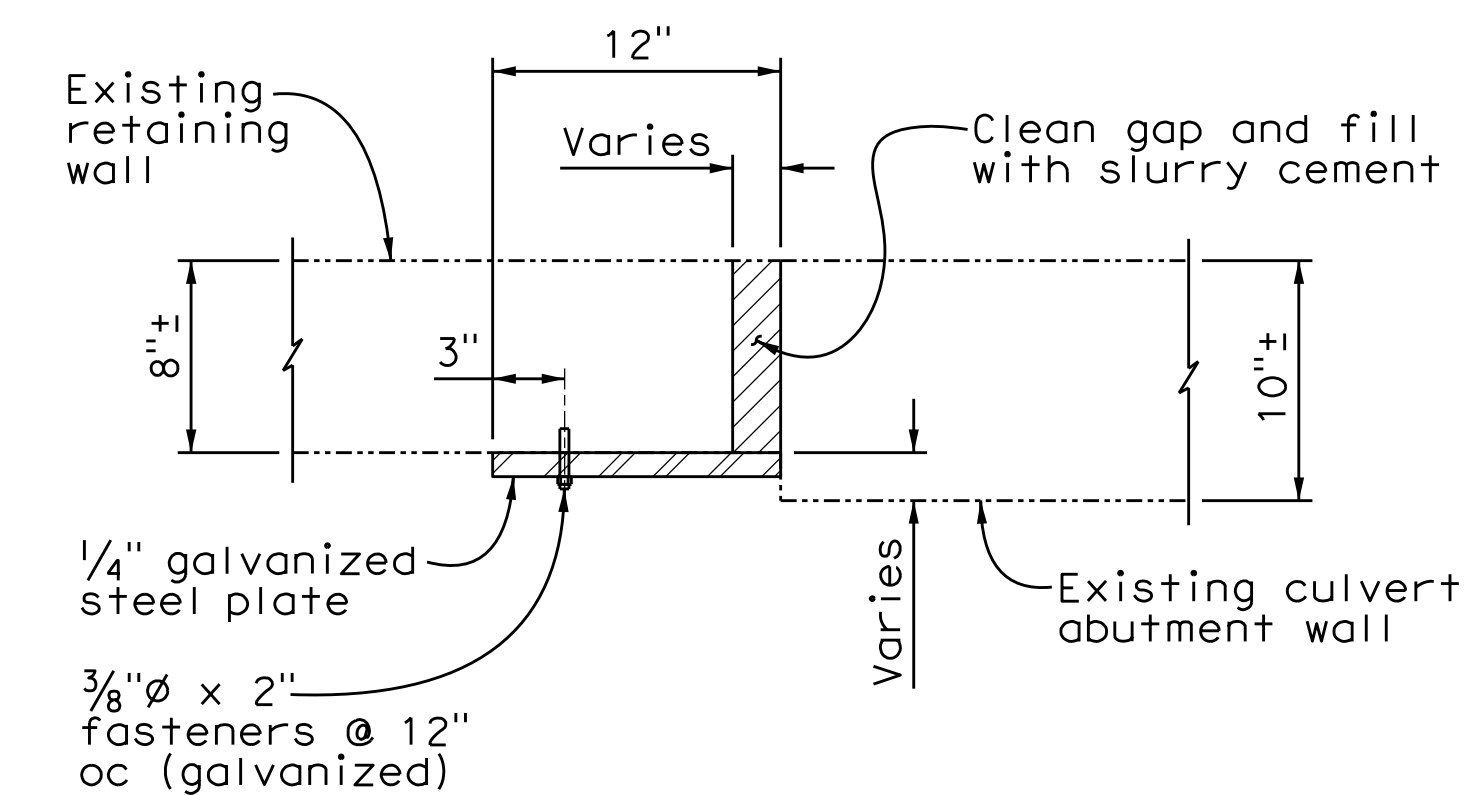
$$\frac{3}{16}'' = 1' - 0''$$


B-B RETAINING WALL ELEVATION

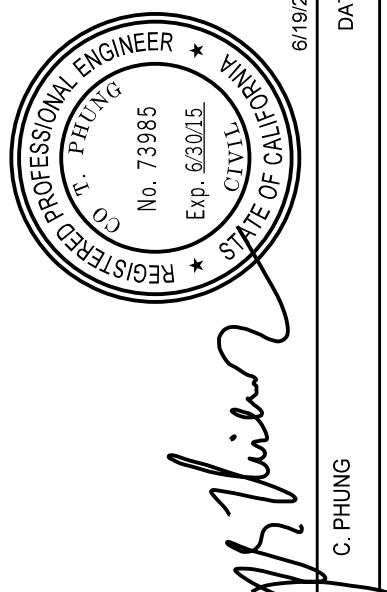
$$\frac{3}{8}'' = 1' - 0''$$

Note:

Fasteners must be embedded as noted on plans into solid, uncracked concrete. Drilled hole for fastener installation must not exceed $1/3$ of the wall thickness.



SECTION C-C

$$1\frac{1}{2}'' = 1' - 0''$$
[illegible]

ORANGE COUNTY PUBLIC WORKS	DESIGNED BY: C. PHUNG	
	DRAWN BY: C. PHUNG	CHECKED BY: R. HU
	DRAWING CODE:	
	FILE NAME:	
PREPARED BY: INFRASTRUCTURE PROGRAMS/ CAPITAL PROJECTS	PLOT DATE: 6/19/2016	SCALE: AS NOTED

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON AREA
BRIDGES - PHASE II

SANTIAGO CANYON RD
OVER LIMESTONE CANYON
BRIDGE BR. NO. 55C-0065

SHEET
REFERENCE
NUMBER

GENERAL PLAN

SHEET 2 OF 11

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

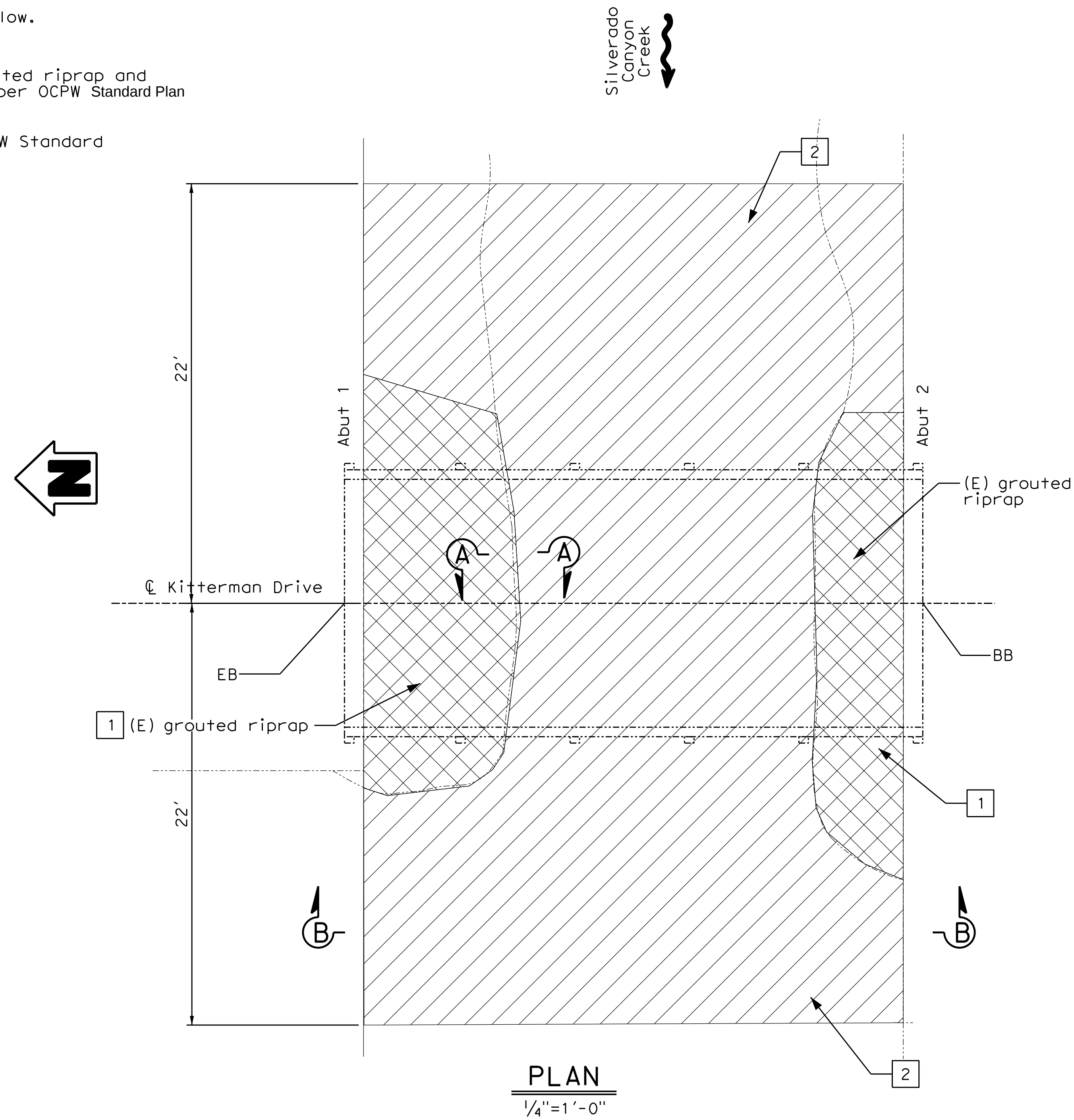
LEGEND

----- Indicates Existing.

 Indicates direction of flow.

	1	Remove existing grouted riprap and replace with riprap per OCPW Standard Plan Plan 1809.
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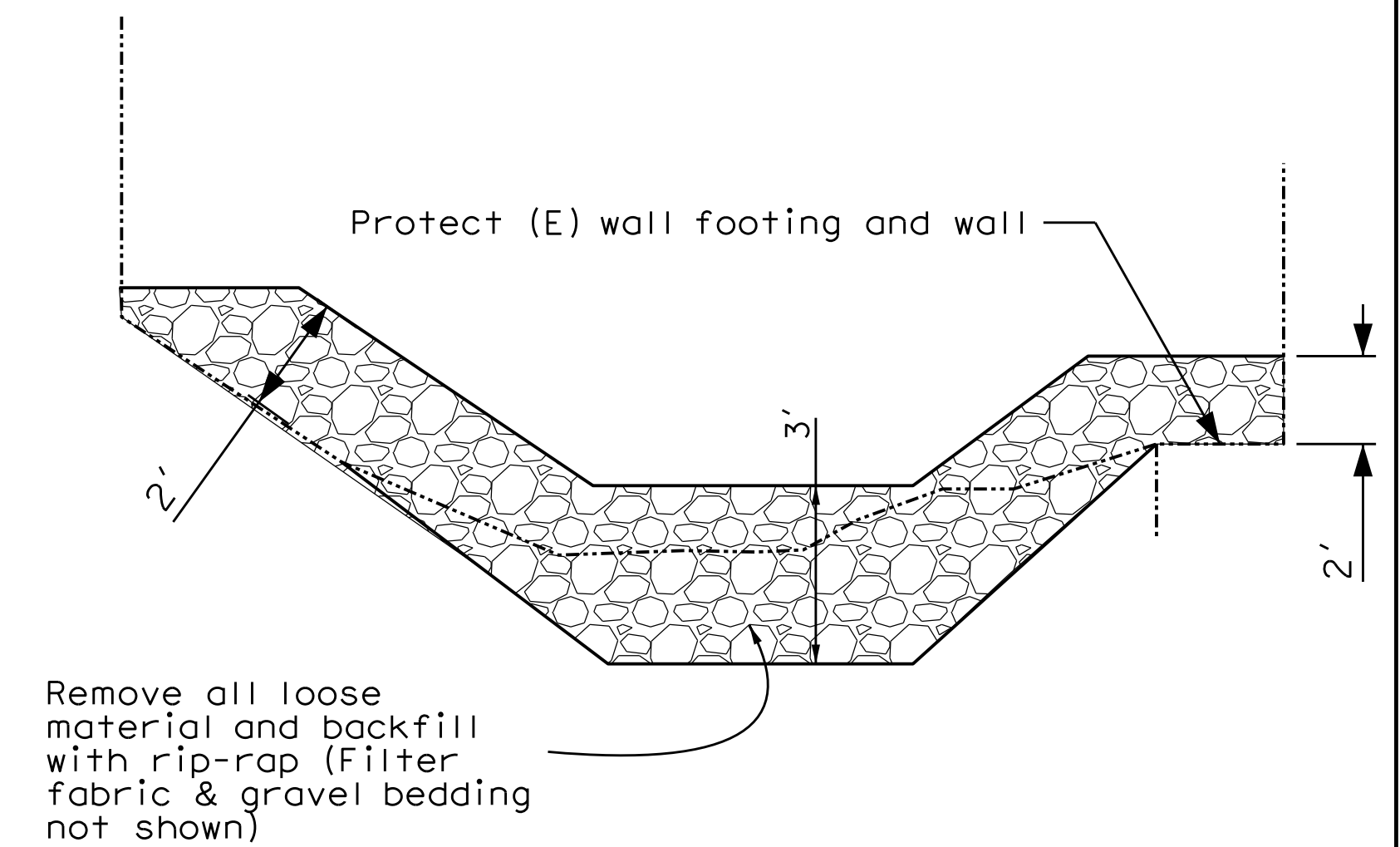
 2 Place riprap per OCPW Standard Plan 1809.



NOTE:

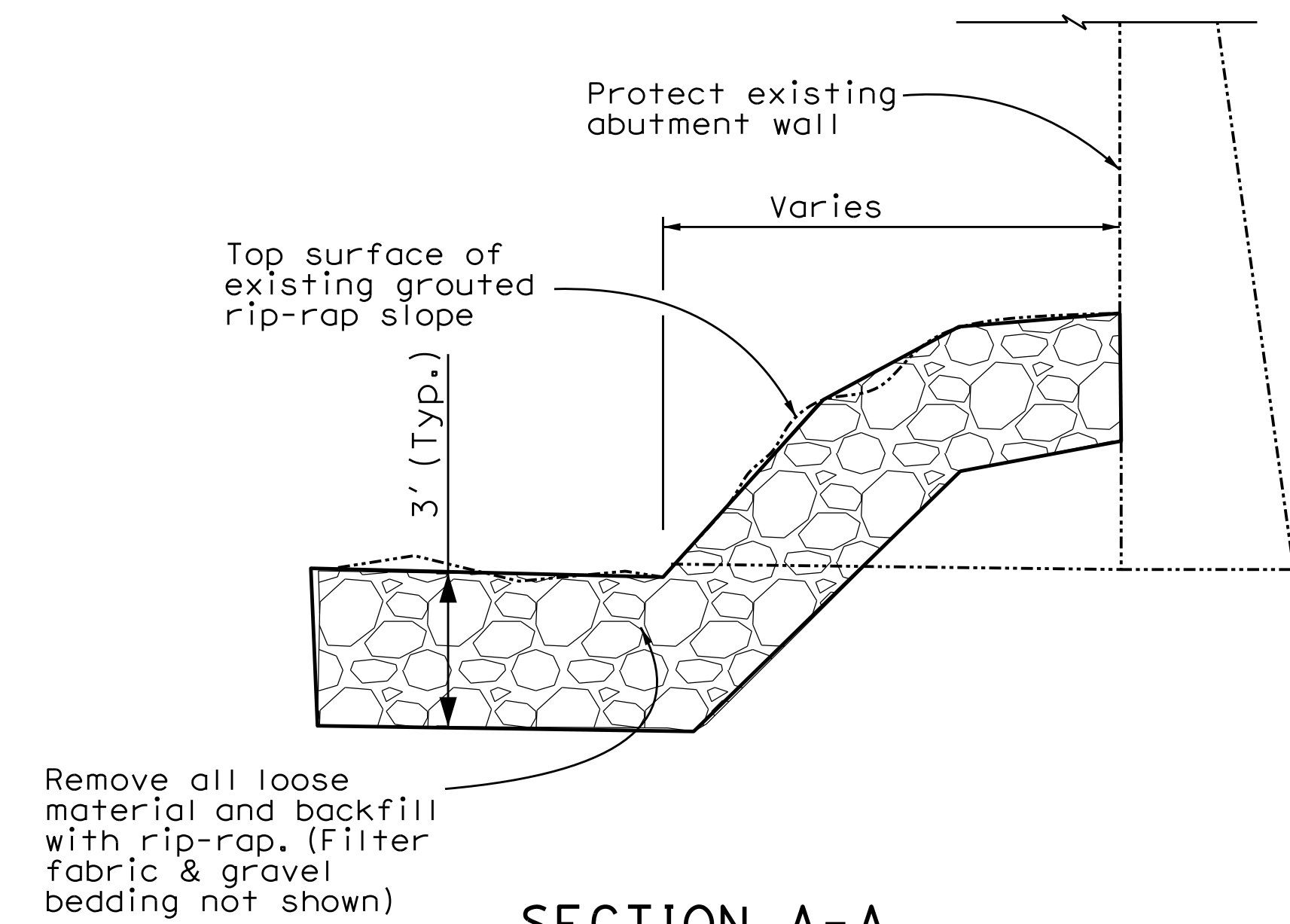
1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

2. EXCEPT INDICATE OTHERWISE, PROTECT IN PLACE ALL EXISTING UTILITIES, FACILITIES, AND IMPROVEMENTS.



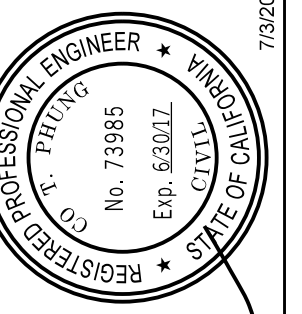
SECTION B-B

No Scale



SECTION A-A

No Scale

[illegible]

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

DATE _____

C. PHUNG

ORANGE COUNTY PUBLIC WORKS	DESIGNED BY: C. PHUNG	
	DRAWN BY: C. PHUNG	CHECKED BY: R. HU
PREPARED BY: INFRASTRUCTURE PROGRAMS/ CAPITAL PROJECTS	DRAWING CODE	
	FILE NAME:	
	PLOT DATE: 7/3/2015	SCALE: AS NOTED

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON AREA
BRIDGES - PHASE II

KITTERMAN DRIVE OVER
SILVERADO CANYON
CREEK

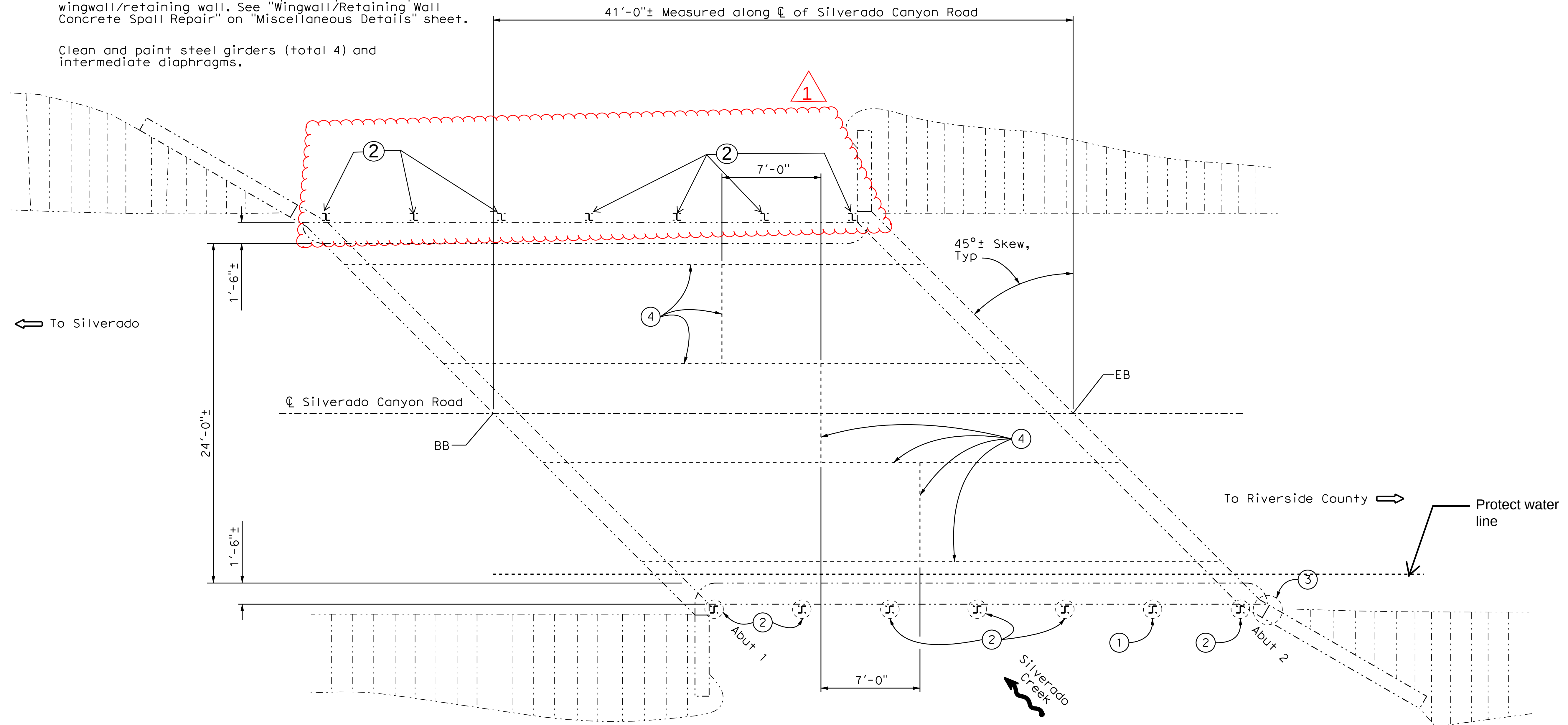
BR. NO. 55C-0176

SHEET
REFERENCE
NUMBER

SCOUR REPAIR

LEGEND

- Indicates Existing.
- ➞ Indicates direction of traffic.
- ➞ Indicates direction of flow.
- ① Replace missing railing metal post (total 1).
See "Metal Beam Guardrail - Post Connection Detail"
on "Miscellaneous Details" sheet.
- ② Remove and replace existing railing metal post (total 6).
See "Metal Beam Guardrail - Post Connection Detail"
on "Miscellaneous Details" sheet.
- ③ Remove unsound concrete and patch spall at top of
wingwall/retaining wall. See "Wingwall/Retaining Wall
Concrete Spall Repair" on "Miscellaneous Details" sheet.
- ④ Clean and paint steel girders (total 4) and
intermediate diaphragms.

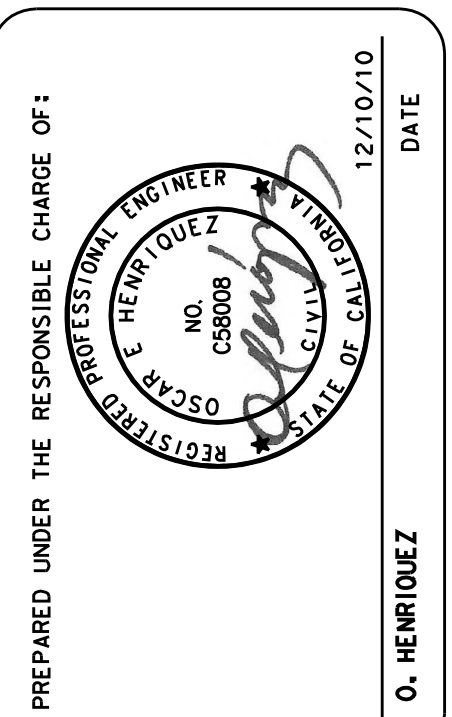


NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

NOTE:
THE CONTRACTOR SHALL PROTECT ALL UTILITY IN PLACE



MARK	DESCRIPTION	DATE	APPR.
1	rvn & rpl guard rail posts	7/2/14	C. Phung



DESIGNED BY: O. HENRIQUEZ	CHECKED BY: M. MARTIN
DRAWN BY: HV / RE	DRAWING CODE:
FILE NAME:	SCALE: AS NOTED
PLOT DATE: 12/10/10	

ORANGE COUNTY
PUBLIC WORKS

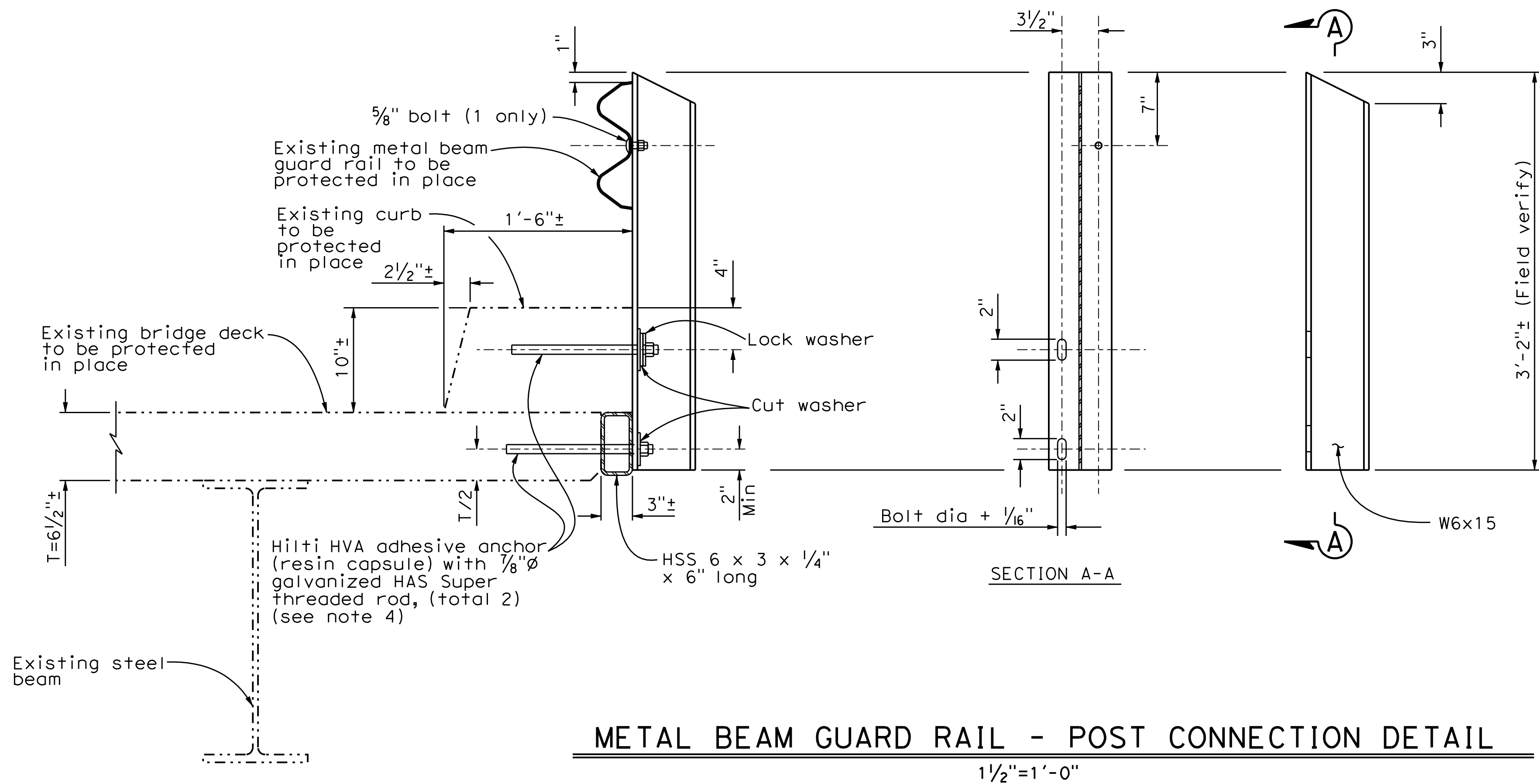
PREPARED BY:
McLEAN & SCHULTZ
3040 Saturn Street, Ste 105
Brea, CA 92821

MAINTENANCE OF VARIOUS BRIDGES IN ORANGE COUNTY
SANTIAGO CANYON AREA BRIDGES - PHASE II
SILVERADO CANYON ROAD OVER SILVERADO CANYON CREEK
BR. NO. 55C-0179

SHEET
REFERENCE
NUMBER

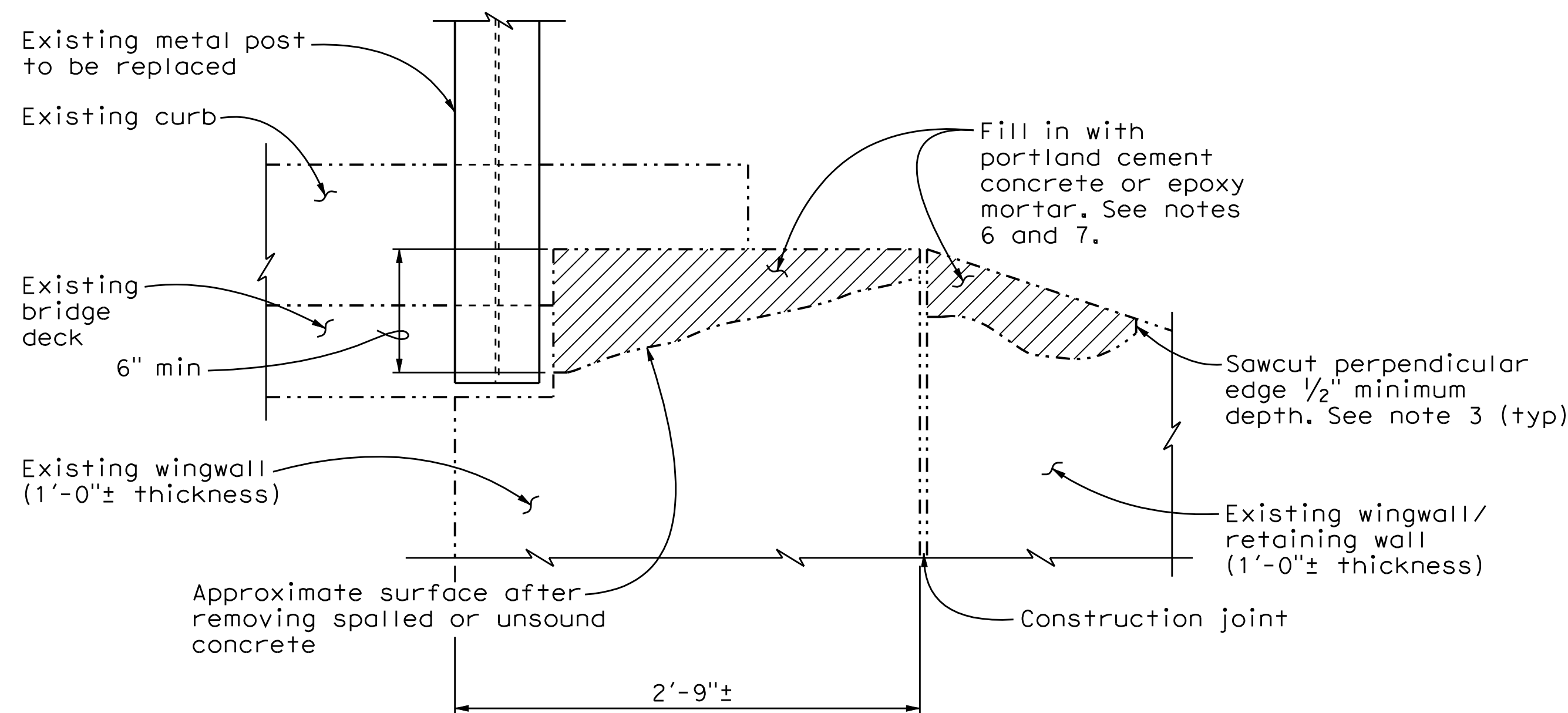
GENERAL PLAN

SHEET 4 OF 11



Notes:

1. Contractor to provide metal shims to align posts vertically.
2. Posts and anchors to be galvanized after fabrication.
3. Contractor to verify all post dimensions with existing conditions.
4. Anchor rods to be located on side of post web opposite to existing condition to avoid conflict with existing bolts.



NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

Notes:

1. Existing reinforcement shall be protected in place during unsound concrete removal operations.
2. It is the responsibility of the contractor to repair any reinforcement that is accidentally cut by saw cutting operation.
3. The saw cut depth shall not exceed 1/2 inch or the concrete cover to the outer layer of reinforcement, whichever is less.
4. Remove unsound concrete to expose sound, hard concrete substrate.
5. Replace original concrete surface with fill-in material indicated on plans.
6. Portland cement concrete repairs shall conform to the sections entitled "Patches," "General Provisions Applicable to All Patches," and "Vertical and Overhead Formed Patches" of the special provisions.
7. Epoxy mortar repairs shall conform to the sections entitled "Patches," "General Provisions Applicable to All Patches," and "Vertical and Overhead Un-Formed Patches" of the special provisions.



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
O. HENRIQUEZ
NO. CS9008
STATE OF CALIFORNIA

DATE: 12/10/10

O. HENRIQUEZ

DESIGNED BY: O. HENRIQUEZ
CHECKED BY: M. MARTIN
DRAWN BY: HV / RE
DRAWING CODE:
FILE NAME:
PLOT DATE: 12/10/10
SCALE: AS NOTED

ORANGE COUNTY
PUBLIC WORKS

PREPARED BY:
McLEAN & SCHULTZ
3040 Saturn Street, Ste 105
Brea, CA 92821

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON
AREA BRIDGES - PHASE II

SILVERADO CANYON ROAD
OVER
SILVERADO CANYON CREEK
BR. NO. 55C-0179

SHEET
REFERENCE
NUMBER

MISCELLANEOUS
DETAILS

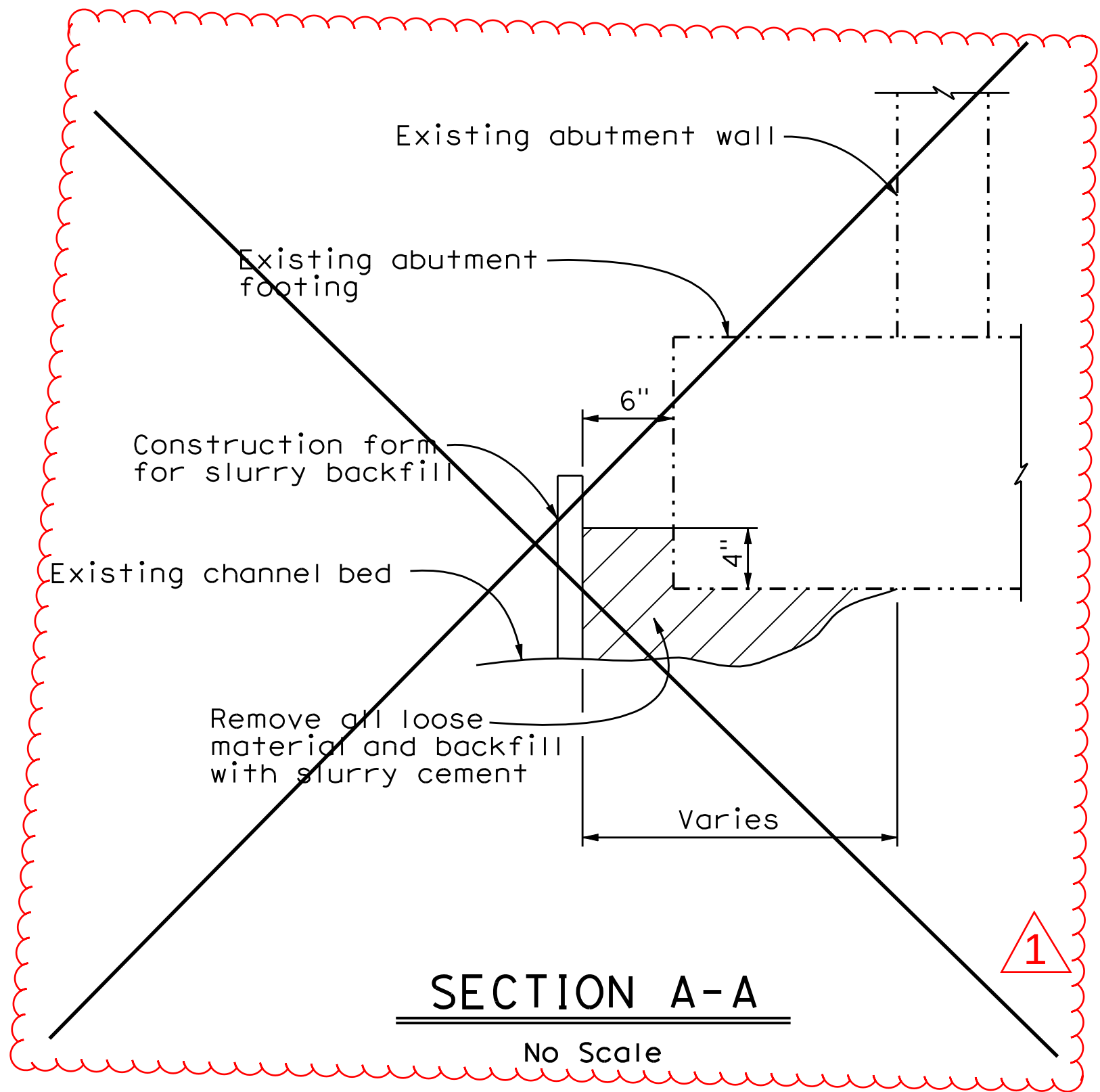
SHEET 5 OF 11

LEGEND

- Indicates Existing.
- ➡ Indicates direction of traffic.
- ➡ Indicates direction of flow.

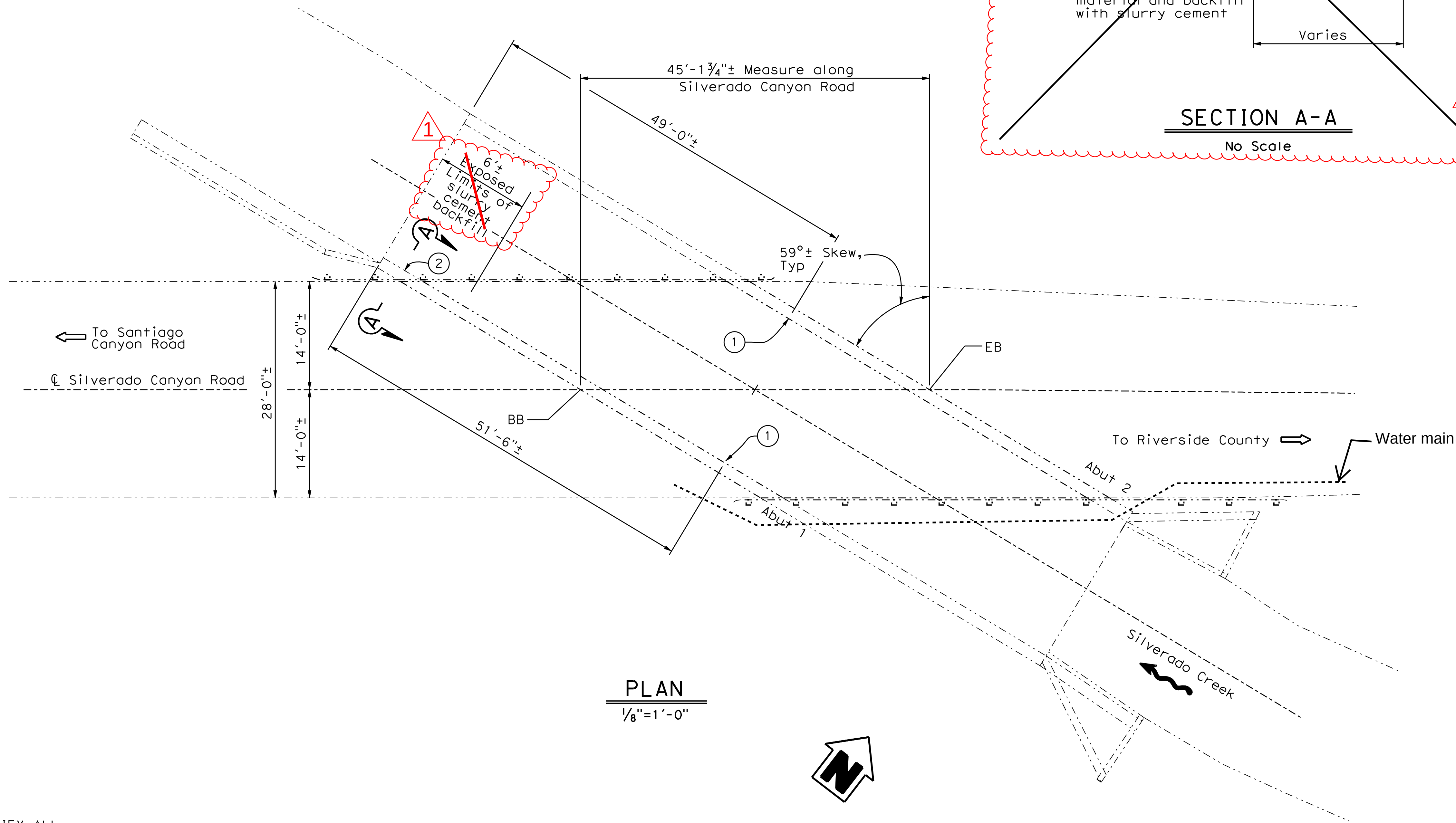
- ① Epoxy inject nearly vertical crack in abutment wall 14'± height from top of abutment footing to deck soffit at locations shown and at any location in the abutment walls where the crack width measures more than 10 mils.
- ② Slurry cement backfill under exposed abutment footing. See "Section A-A".

1



SECTION A-A

No Scale



PLAN

1/8"=1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

NOTE:
THE CONTRACTOR SHALL PROTECT ALL UTILITY IN PLACE



MARK	DESCRIPTION	DATE	APPR.
1	Delete slurry cement backfill	7/2/14	C. Plung

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
O. HENRIQUEZ
NO. CS9008
STATE OF CALIF.

12/10/10 DATE

O. HENRIQUEZ

DESIGNED BY: O. HENRIQUEZ
CHECKED BY: M. MARTIN
DRAWN BY: HV / RE
DRAWING CODE:
FILE NAME:
PLOT DATE: 12/10/10
SCALE: AS NOTED

ORANGE COUNTY
PUBLIC WORKS

PREPARED BY:
McLEAN & SCHULTZ
3040 Soturn Street, Ste 105
Brea, CA 92821

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON
AREA BRIDGES - PHASE II

SILVERADO CANYON ROAD
OVER
SILVERADO CANYON CREEK
BR. NO. 55C-0181

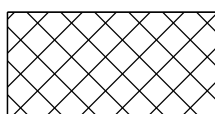
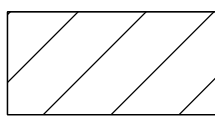
SHEET
REFERENCE
NUMBER

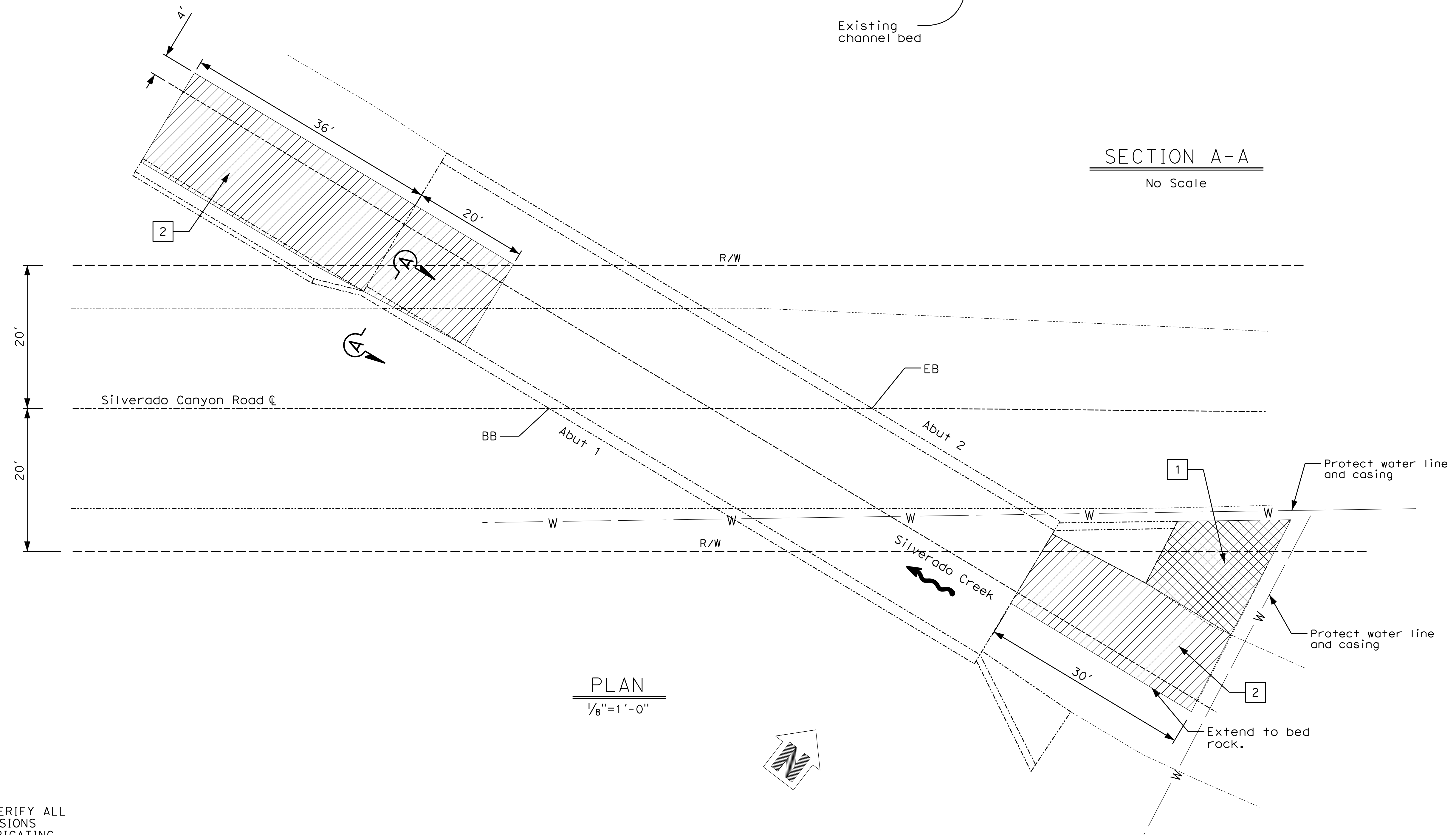
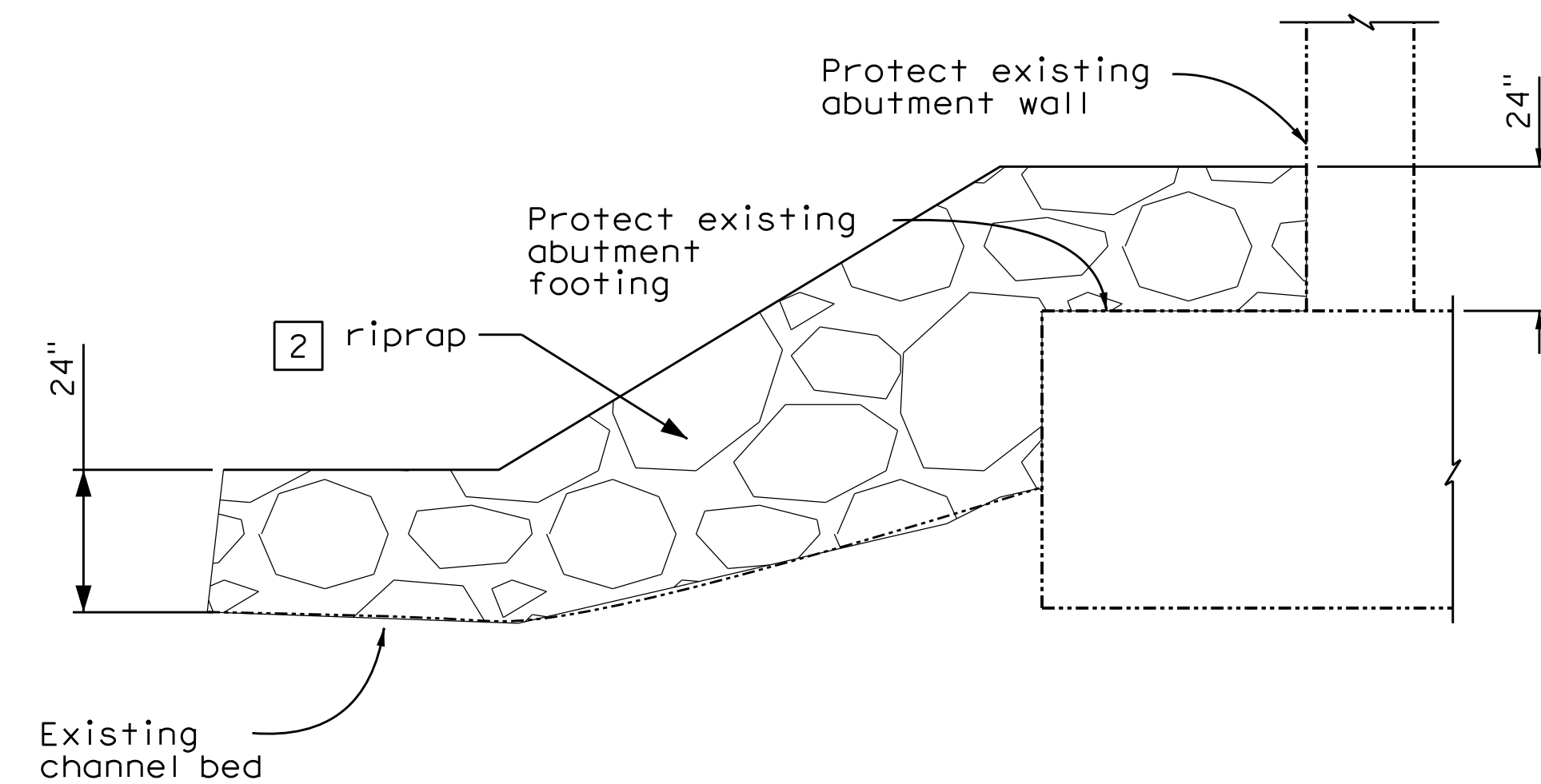
GENERAL PLAN

SHEET 6 OF 11

LEGEND

- Indicates Existing.
- ➡ Indicates direction of traffic.
- ➡ Indicates direction of flow.

-  1 Place grouted riprap per OCPW Standard Plan 1809.
-  2 Place riprap per OCPW Standard Plan 1809.

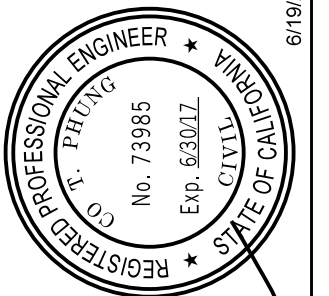


NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:



C. Phung
C. PHUNG

6/19/2015
DATE

DESIGNED BY: C. PHUNG
DRAWN BY: C. PHUNG
CHECKED BY: R. HU
DRAWING CODE
FILE NAME:
PLOT DATE: 6/19/2015
SCALE: AS NOTED

ORANGE COUNTY
PUBLIC WORKS

PREPARED BY:
INFRASTRUCTURAL PROGRAMS/
CAPITAL PROJECTS

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON AREA
BRIDGES - PHASE II

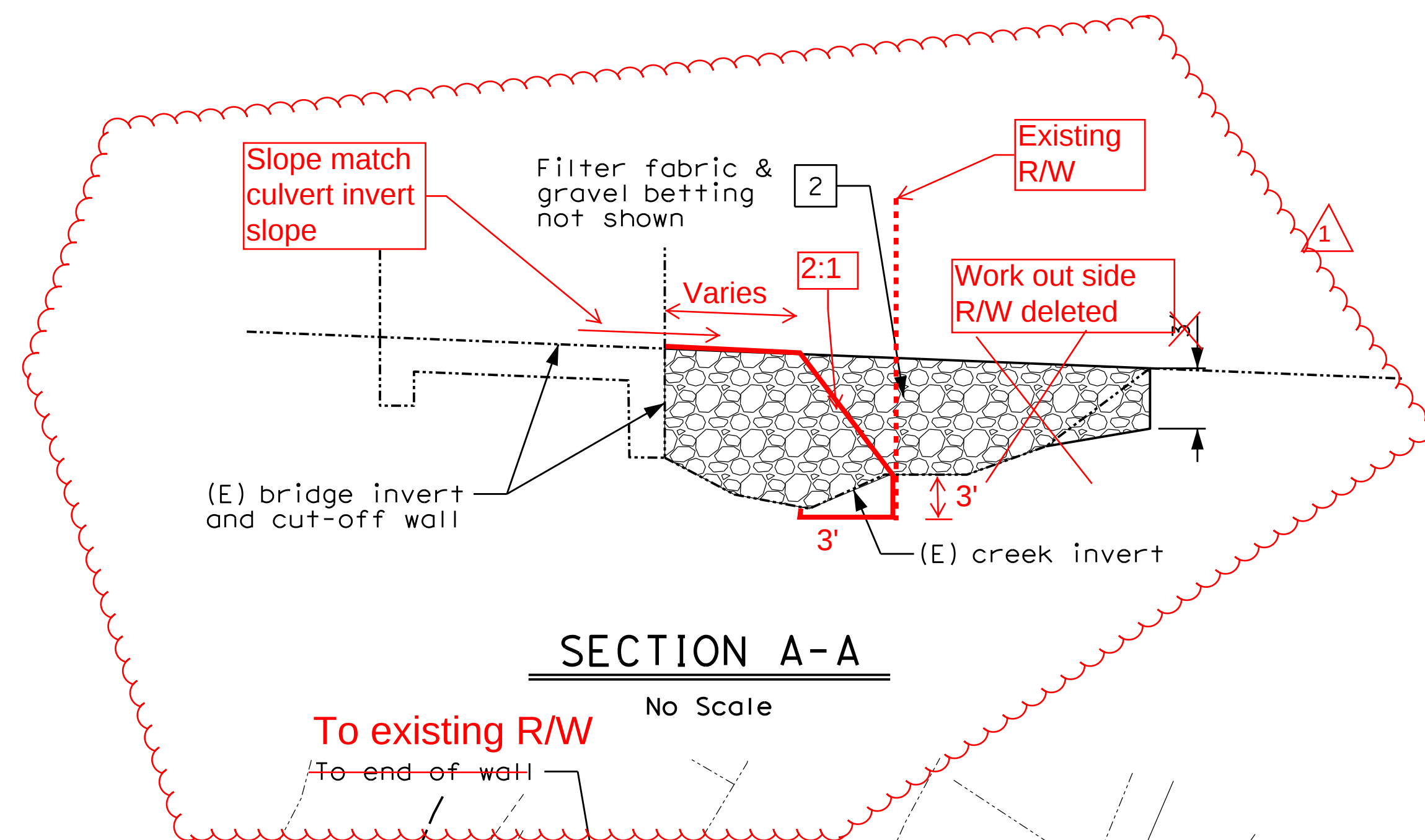
SILVERADO CANYON RD
OVER SILVERADO
CREEK
BR. NO. 55C-0181

SHEET
REFERENCE
NUMBER

SCOUR PLAN

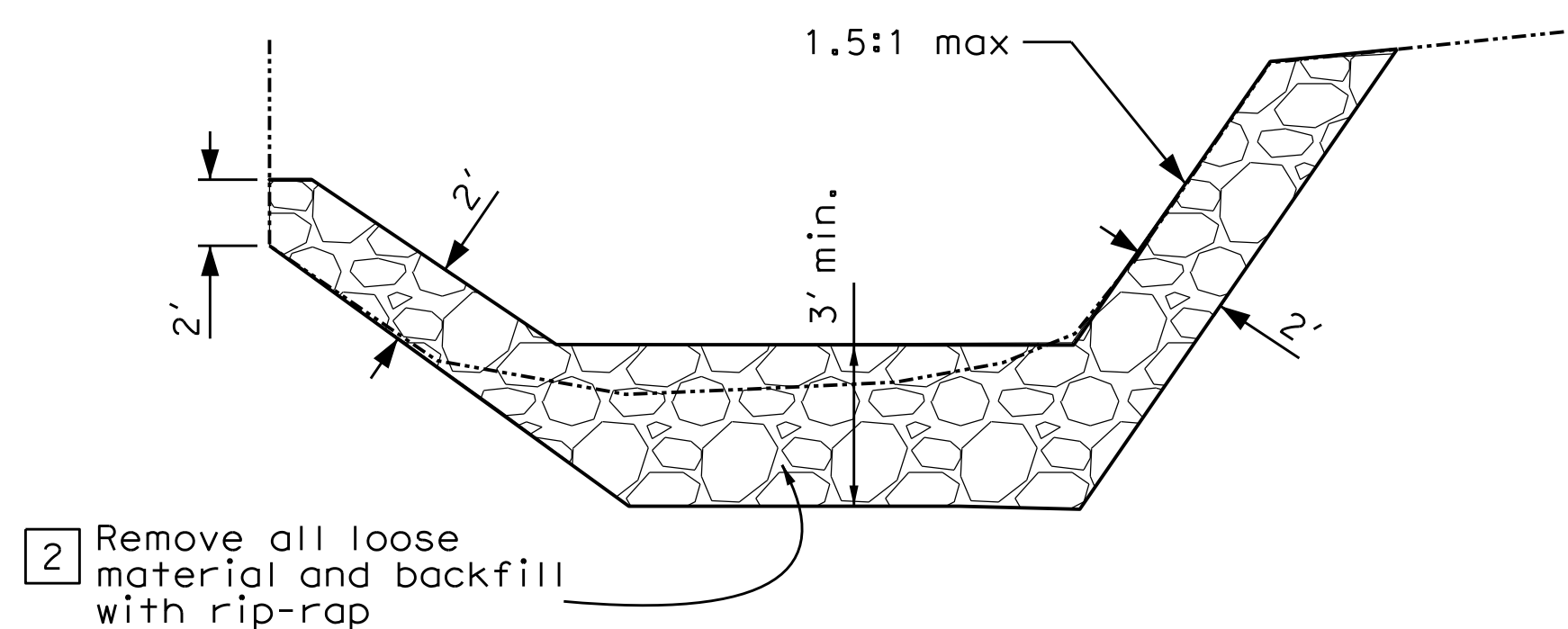
SHEET 7 OF 11

- Indicates existing.
- Indicates direction of traffic.
- ~~~~~→
Indicates direction of flow.
- 1 Remove existing grouted riprap and replace with riprap per OCPW Standard Plan 1809.
- 2 Place riprap per OCPW Standard Plan 1809.
- 3 Construct Terrace and Down Drain per OCPW Stnd Plan 1321



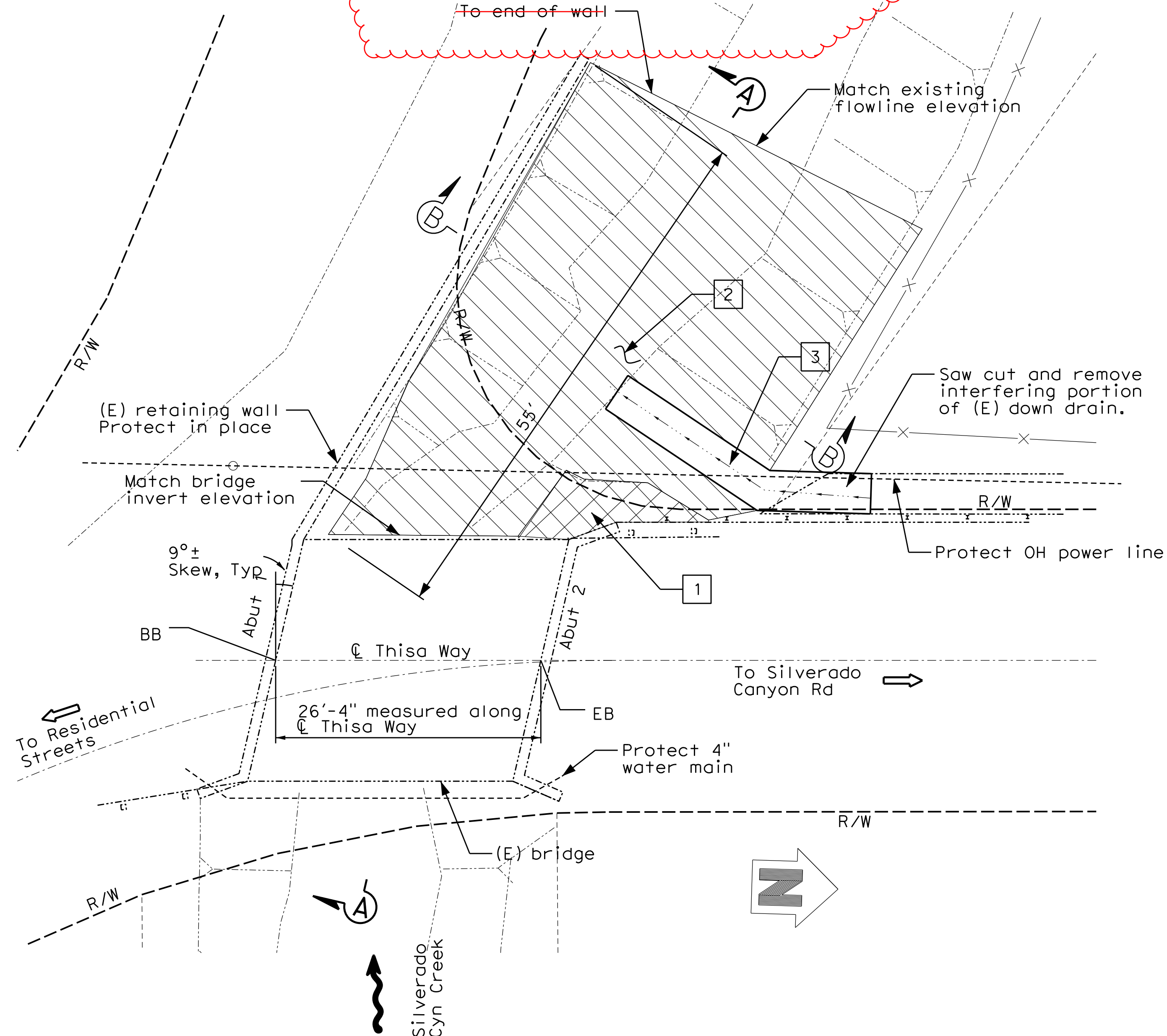
SECTION A-A

No Scale



SECTION B-B

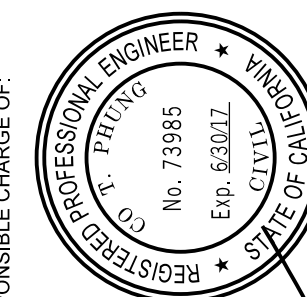
No Scale



PLAN

NTS

1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
2. EXCEPT INDICATE OTHERWISE, PROTECT IN PLACE ALL EXISTING UTILITIES, FACILITIES, AND IMPROVEMENTS.

[illegible]

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C. PHUNG

ORANGE COUNTY PUBLIC WORKS	DESIGNED BY: C. PHUNG	
	DRAWN BY: C. PHUNG	CHECKED BY: R. HU
	DRAWING CODE:	
	FILE NAME:	
PREPARED BY: INFRASTRUCTURAL PROGRAMS/ CAPITAL PROJECTS	PLOT DATE: 7/22/2015	SCALE: AS NOTED

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON AREA
BRIDGES - PHASE II

THIS WAY OVER
SILVERADO CANYON
CREEK

BR. NO. 55C-0188

SHEET
REFERENCE
NUMBER

SCOUR REPAIR

SHEET 8 OF 11

----- Indicates Existing.

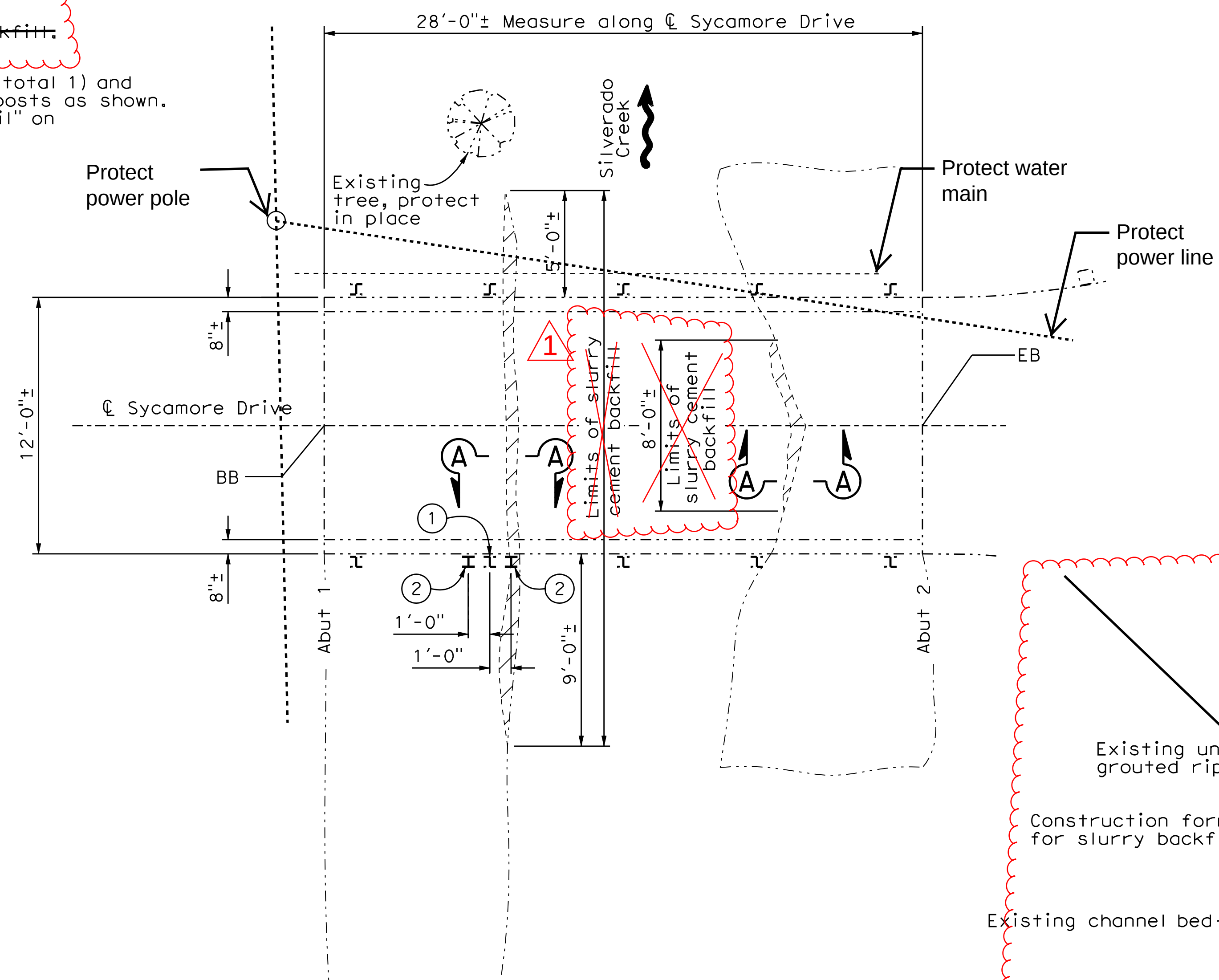
 Indicates direction of flow.

Indicates tree defining limits of slurry cement backfill west of bridge, tree to be protected in place.

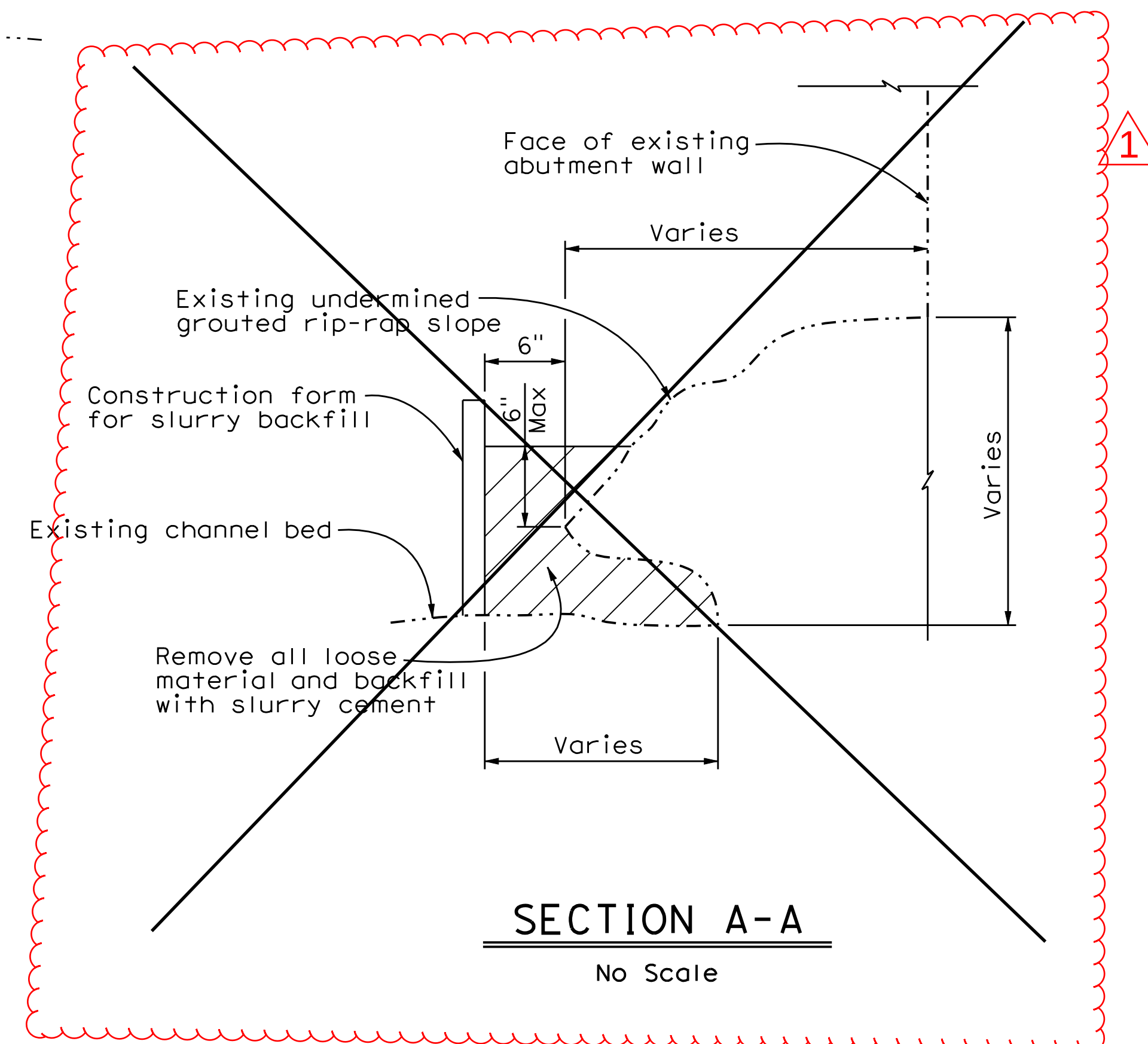
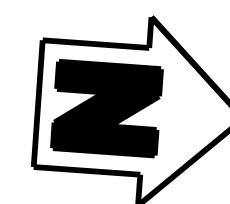
~~Indicates limits of slurry cement backfill.~~

Remove damaged guardrail metal post (total 1) and replace with two new guardrail metal posts as shown. See "Guardrail - Post Connection Detail" on "Miscellaneous Details" sheet.

New guardrail metal post.



PLAN

$$\frac{1}{4}'' = 1' - 0''$$


SECTION A-A

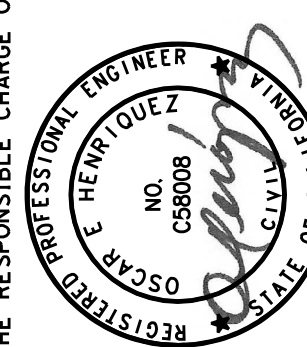
No Scale

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.

NOTE:
THE CONTRACTOR SHALL PROTECT ALL UTILITY IN PLACE

[illegible]

PREPARED UNDER THE RESPONSIBLE CHARGE OF:



OF CALIF.	12/10/10
D. HENRIQUEZ	DATE

ORANGE COUNTY PUBLIC WORKS	DESIGNED BY:	O. HENRIQUEZ	
	DRAWN BY:	CHECKED BY:	
	HW / RE	M. MARTIN	
	DRAWING CODE:		
PREPARED BY: McLEAN & SCHULTZ 3040 Saturn Street, Ste 105 Brea, CA 92821	FILE NAME:		
	PLOT DATE:	12/09/10	
	SCALE:	AS NOTED	

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

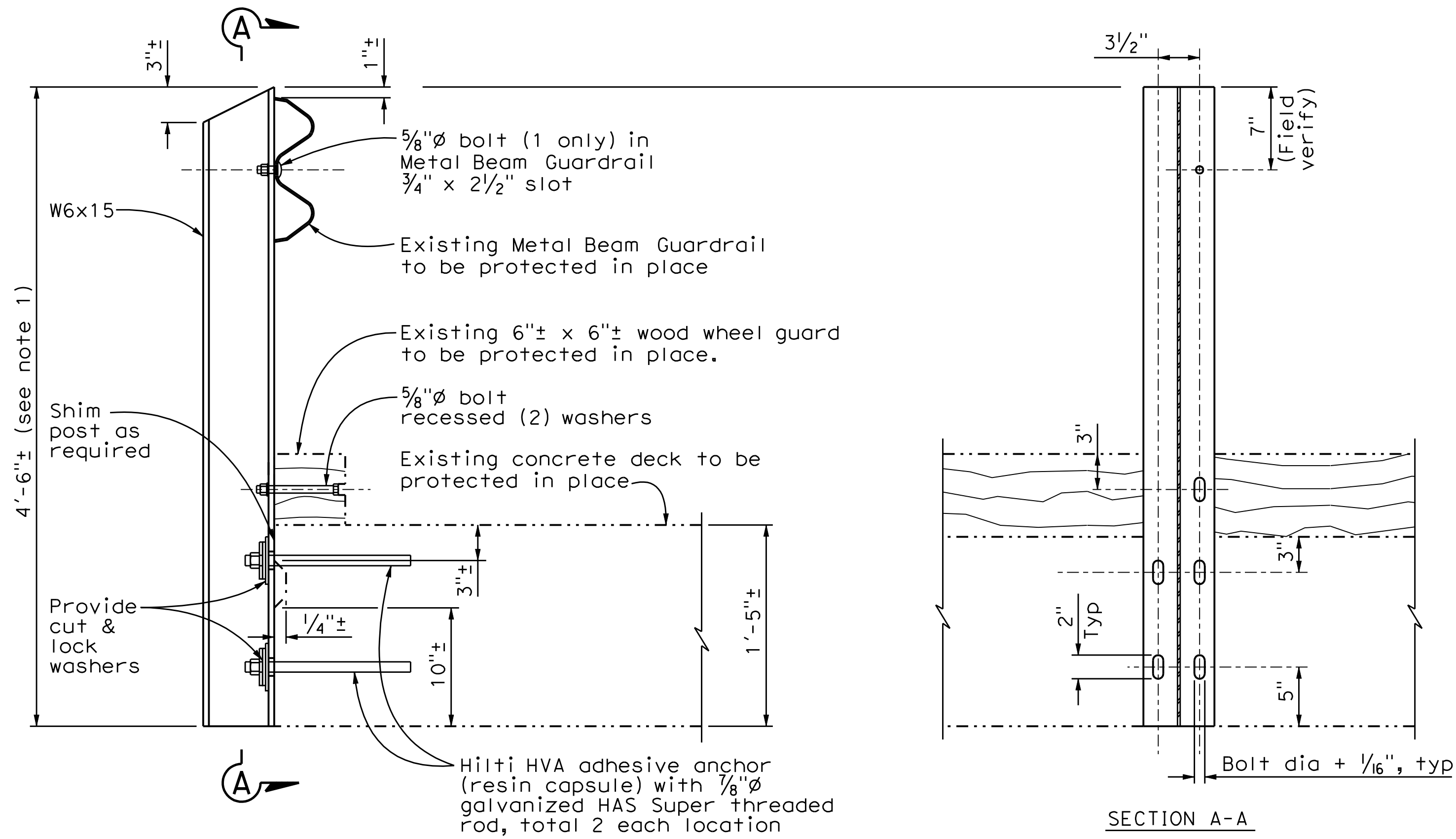
SANTIAGO CANYON
AREA BRIDGES - PHASE II

SYCAMORE DR BRIDGE
OVER SILVERADO
CANYON CREEK
BR. NO. 55C-01189

SHEET
REFERENCE
NUMBER

GENERAL PLAN

SHEET 9 OF 11



GUARDRAIL - POST CONNECTION DETAIL

1 1/2"=1'-0"

Notes:

1. Dimensions of new metal posts should match dimensions of damaged existing post to be removed.
2. Contractor to provide metal shims to align posts vertically.
3. New posts and anchors to be galvanized after fabrication.
4. New posts to be painted white to match existing color.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL
CONTROLLING FIELD DIMENSIONS
BEFORE ORDERING OR FABRICATING
ANY MATERIAL.



MARK	DESCRIPTION	DATE	APPR.

PREPARED UNDER THE RESPONSIBLE CHARGE OF:

REGISTERED PROFESSIONAL ENGINEER
O. HENRIQUEZ
NO. CS9008
STATE OF CALIFORNIA

O. HENRIQUEZ
DATE: 12/10/10

DESIGNED BY: O. HENRIQUEZ
CHECKED BY: M. MARTIN
DRAWN BY: HV / RE
DRAWING CODE:
FILE NAME:
PLOT DATE: 12/10/10
SCALE: AS NOTED

ORANGE COUNTY
PUBLIC WORKS

PREPARED BY:
McLEAN & SCHULTZ
3040 Saturn Street, Ste 105
Brea, CA 92821

MAINTENANCE OF VARIOUS
BRIDGES IN ORANGE COUNTY

SANTIAGO CANYON
AREA BRIDGES - PHASE II

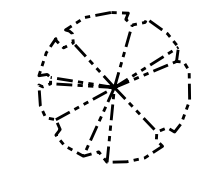
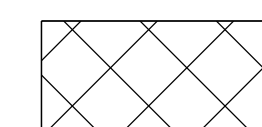
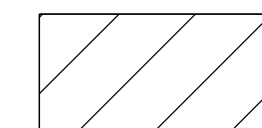
SYCAMORE DR BRIDGE
OVER SILVERADO
CANYON CREEK
BR. NO. 55C-0189

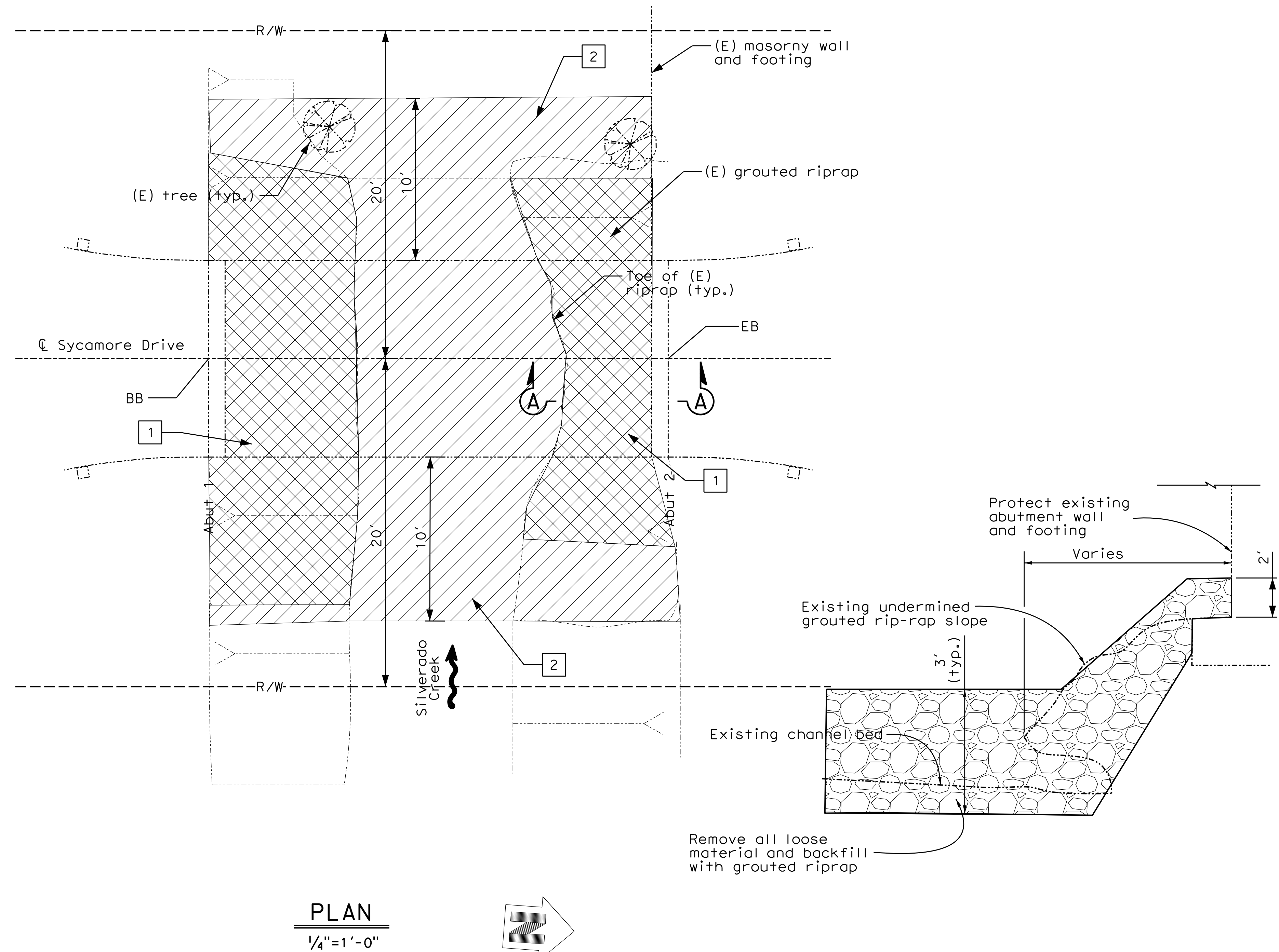
SHEET
REFERENCE
NUMBER

MISCELLANEOUS
DETAILS

SHEET 10 OF 11

LEGEND

- Indicates Existing.
-  Indicates direction of flow.
-  Indicates tree defining limits of slurry cement backfill west of bridge, tree to be protected in place.
-  1 Remove existing grouted riprap and replace with riprap per OCPW Standard Plan 1809.
-  2 Place riprap per OCPW Standard Plan 1809.



PLAN

1/4"=1'-0"

SECTION A-A

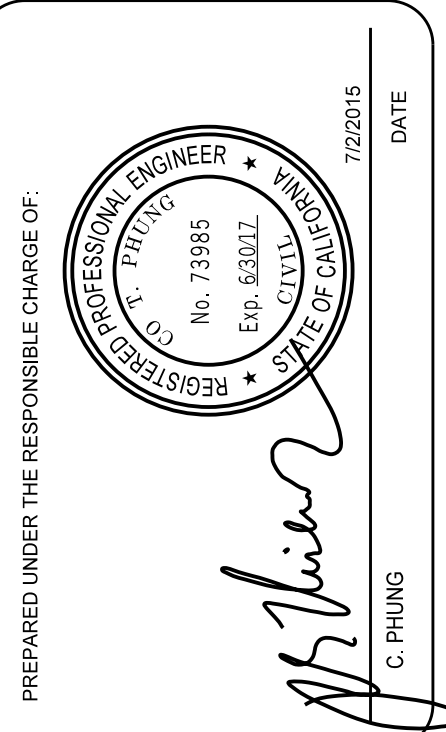
No Scale

NOTE:

1. THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.
2. EXCEPT INDICATE OTHERWISE, PROTECT IN PLACE ALL EXISTING TREES, UTILITIES, FACILITIES, AND IMPROVEMENTS.



MARK	DESCRIPTION	DATE	APPR.



DESIGNED BY: C. PHUNG	CHECKED BY: R. HU	SCALE: AS NOTED
DRAWN BY: C. PHUNG	DRAWING CODE	FILE NAME:
ORANGE COUNTY PUBLIC WORKS	PREPARED BY: INFRASTRUCTURAL PROGRAMS/ CAPITAL PROJECTS	PLOT DATE: 7/2/2015

MAINTENANCE OF VARIOUS BRIDGES IN ORANGE COUNTY	SANTIAGO CANYON AREA BRIDGES - PHASE II
SYCAMORE DR BRIDGE OVER SILVERADO CANYON CREEK	BR. NO. 55C-0189

SHEET REFERENCE NUMBER
SCOUR REPAIR
SHEET 11 OF 11