



**SUBMITTAL TO THE FLOOD CONTROL AND WATER CONSERVATION DISTRICT BOARD
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

108 B

FORM APPROVED BY COUNTY COUNSEL
DATE: 9/20/11
BY: NEAL R. KIRNIS

FROM: General Manager-Chief Engineer

SUBMITTAL DATE:
September 20, 2011

SUBJECT: Project Award – La Sierra Channel and Arlington Channel Repairs
Project Nos. 1-0-00060 and 1-0-00020

RECOMMENDED MOTION:

The Board approve the low bid submitted by the firm of Kormx, Inc. for \$327,726.50, for the construction of the above referenced project.

Authorize the Chairman to execute the contract on behalf of the District.

BACKGROUND:

The bid documents have been reviewed and approved for award by County Counsel.

FINANCIAL:

Funds are included in the District's FY 2011-2012 Zone 1 budget for this project.

Steve Thomas
For **WARREN D. WILLIAMS**
General Manager-Chief Engineer

FINANCIAL DATA	Current F.Y. District Cost:	\$327,726.50	In Current Year Budget:	Yes
	Current F.Y. County Cost:	N/A	Budget Adjustment:	No
	Annual Net District Cost:	N/A	For Fiscal Year:	2011-2012

SOURCE OF FUNDS: 25110 947400 527980 Zone 1 Const/Maint/Misc-Contracts	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION: APPROVE

BY: *Michael R. Shetler*
Michael R. Shetler

County Executive Office Signature

Dep't Recomm.: Consent Policy
Per Exec. Ofc.: Consent Policy

MINUTES OF THE FLOOD CONTROL AND WATER CONSERVATION DISTRICT

On motion of Supervisor Ashley, seconded by Supervisor Benoit and duly carried, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Buster, Benoit and Ashley
Nays: None
Absent: Tavaglione and Stone
Date: September 20, 2011
xc: Flood

Kecia Harper-Ihem
Clerk of the Board
By: *[Signature]*
Deputy

Prev. Agn. Ref.: 11.5 of 04/26/11 | District: 1st & 2nd | Agenda Number:

11.1

MEMORANDUM



RIVERSIDE COUNTY COUNSEL

September 9, 2011

TO: Michelle Ver Doorn
Flood Control and Water Conservation District

FROM: Neal Kipnis
Deputy County Counsel

RE: La Sierra Channel and Arlington Channel Repairs

A handwritten signature in black ink, appearing to read "Neal", is positioned to the right of the "FROM:" line.

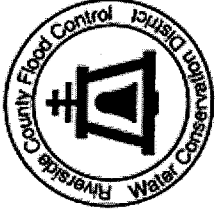
I am returning the Form 11 for award of this project, which is approved as to form.

Please let me know when I can be of further assistance.

Enclosure

Riverside County Flood Control & Water Conservation District

1995 Market St. Riverside, CA 92501 Phone: 951.955.1200 Fax: 951.788.9965



Bid Summary
Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

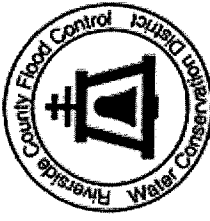
Project Number: 1-0-00060-00

Bid Open Date: 05/26/2011

<i>Total</i>	<i>Contractor Name</i>	<i>Address</i>	<i>Phone</i>
\$327,726.50	KORMX, INC.	820 W. Service Avenue, Suite B West Covina, CA 91790	626.856.3804
\$358,463.50	EARTH CONSTRUCTION & MINING	11542 Knott Street, #10 Garden Grove, CA 92841	714.897.4326
\$369,110.00	EXCAVATING ENGINEERS, INC.	5256 S. Mission Road #703-002 Bonsall, CA 92003	760.451.8600
\$385,635.00	SOUTHLAND CONSTRUCTION	3943 Irvine Boulevard, #405 Irvine, CA 92602	714.488.2891
\$429,275.00	BEDON CONSTRUCTION, INC.	27989 Holland Road Menifee, CA 92584	951.246.9005
\$608,040.00	BELZAK AND SONS, INC.	3510 E. Enterprise Drive Anaheim, CA 92807	714-998-5920
\$351,596.00	RCFC Engineer's Estimate		

Riverside County Flood Control & Water Conservation District

1995 Market St. Riverside, CA 92501 Phone: 951.955.1200 Fax: 951.788.9965



EARTH CONSTRUCTION & MINING

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00

Bid Open Date: 05/26/2011

ENGINEER'S ESTIMATE

KORMX, INC.

Item No. & Description	Unit	Quantity	Unit Bid	Total Bid	Unit Bid	Total Bid	Unit Bid	Total Bid
1 MOBILIZATION	L.S.	1	\$20,000.00	\$20,000.00	\$5,000.00	\$5,000.00	\$54,000.00	\$54,000.00
2 WATER CONTROL	L.S.	1	\$10,000.00	\$10,000.00	\$17,600.00	\$17,600.00	\$26,000.00	\$26,000.00
3 CLEARING AND MISCELLANEOUS WORK	L.S.	1	\$40,000.00	\$40,000.00	\$5,800.00	\$5,800.00	\$50,000.00	\$50,000.00
4 EXCAVATION	C.Y.	650	\$10.00	\$6,500.00	\$90.00	\$58,500.00	\$30.00	\$19,500.00
5 BACKFILL	C.Y.	300	\$10.00	\$3,000.00	\$106.00	\$31,800.00	\$30.00	\$9,000.00
6 SLURRY CEMENT BACKFILL	C.Y.	20	\$100.00	\$2,000.00	\$200.00	\$4,000.00	\$105.00	\$2,100.00
7 FILTER MATERIAL	C.Y.	350	\$50.00	\$17,500.00	\$80.00	\$28,000.00	\$56.70	\$19,845.00
8 CLASS "A" CONCRETE, CHANNEL PAVING	C.Y.	363	\$400.00	\$145,200.00	\$313.00	\$113,619.00	\$262.00	\$95,106.00
9 CLASS "B" CONCRETE, 2' CUTOFF WALL	L.F.	685	\$14.00	\$9,590.00	\$10.30	\$7,055.50	\$9.80	\$6,713.00
10 AGGREGATE BASE, CLASS 2	C.Y.	90	\$50.00	\$4,500.00	\$90.00	\$8,100.00	\$47.60	\$4,284.00
11 SUBDRAIN	L.F.	350	\$15.00	\$5,250.00	\$15.00	\$5,250.00	\$13.75	\$4,812.50
12 RECONSTRUCT SIDE INLET AT STATION 26+90+/-	L.S.	1	\$1,000.00	\$1,000.00	\$4,200.00	\$4,200.00	\$2,065.00	\$2,065.00
13 DUST ABATEMENT	L.S.	1	\$4,000.00	\$4,000.00	\$1,500.00	\$1,500.00	\$3,270.00	\$3,270.00
14 STORMWATER AND NON-STORMWATER POLLUTION CONTROL	L.S.	1	\$2,000.00	\$2,000.00	\$3,500.00	\$3,500.00	\$2,800.00	\$2,800.00
15 CONCRETE SPALLING - REPAIR AREA FOUR (4) SQUARE FEET OR LESS	S.F.	123	\$35.00	\$4,305.00	\$25.00	\$3,075.00	\$80.00	\$9,840.00
16 CONCRETE SPALLING - REPAIR AREA LARGER THAN FOUR (4) SQUARE FEET	S.F.	1,259	\$50.00	\$62,950.00	\$18.00	\$22,662.00	\$34.00	\$42,806.00
17 CONCRETE CRACK	S.F.	235	\$55.00	\$12,925.00	\$25.00	\$5,875.00	\$21.00	\$4,935.00
18 VERTICAL EXPANSION JOINTS	L.F.	73	\$12.00	\$876.00	\$30.00	\$2,190.00	\$19.00	\$1,387.00
				\$351,596.00		\$327,726.50		\$358,463.50

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00

Bid Open Date: 05/26/2011

Item No. & Description	Unit	Quantity	EXCAVATING ENGINEERS, INC.		SOUTHLAND CONSTRUCTION		BEDON CONSTRUCTION, INC.	
			Unit Bid	Total Bid	Unit Bid	Total Bid	Unit Bid	Total Bid
1 MOBILIZATION	L.S.	1	\$31,000.00	\$31,000.00	\$15,000.00	\$15,000.00	\$20,000.00	\$20,000.00
2 WATER CONTROL	L.S.	1	\$5,500.00	\$5,500.00	\$10,000.00	\$10,000.00	\$18,500.00	\$18,500.00
3 CLEARING AND MISCELLANEOUS WORK	L.S.	1	\$30,000.00	\$30,000.00	\$8,000.00	\$8,000.00	\$47,500.00	\$47,500.00
4 EXCAVATION	C.Y.	650	\$25.00	\$16,250.00	\$100.00	\$65,000.00	\$70.00	\$45,500.00
5 BACKFILL	C.Y.	300	\$15.00	\$4,500.00	\$30.00	\$9,000.00	\$26.85	\$8,055.00
6 SLURRY CEMENT BACKFILL	C.Y.	20	\$250.00	\$5,000.00	\$300.00	\$6,000.00	\$66.00	\$1,320.00
7 FILTER MATERIAL	C.Y.	350	\$35.00	\$12,250.00	\$50.00	\$17,500.00	\$90.00	\$31,500.00
8 CLASS "A" CONCRETE, CHANNEL PAVING	C.Y.	363	\$300.00	\$108,900.00	\$400.00	\$145,200.00	\$326.00	\$118,338.00
9 CLASS "B" CONCRETE, 2' CUTOFF WALL	L.F.	685	\$15.00	\$10,275.00	\$100.00	\$68,500.00	\$12.00	\$8,220.00
10 AGGREGATE BASE, CLASS 2	C.Y.	90	\$40.00	\$3,600.00	\$50.00	\$4,500.00	\$90.00	\$8,100.00
11 SUBDRAIN	L.F.	350	\$12.00	\$4,200.00	\$10.00	\$3,500.00	\$16.00	\$5,600.00
12 RECONSTRUCT SIDE INLET AT STATION 26+90+/-	L.S.	1	\$4,000.00	\$4,000.00	\$10,000.00	\$10,000.00	\$4,920.00	\$4,920.00
13 DUST ABATEMENT	L.S.	1	\$2,500.00	\$2,500.00	\$1,000.00	\$1,000.00	\$2,250.00	\$2,250.00
14 STORMWATER AND NON-STORMWATER POLLUTION CONTROL	L.S.	1	\$3,000.00	\$3,000.00	\$2,000.00	\$2,000.00	\$4,000.00	\$4,000.00
15 CONCRETE SPALLING - REPAIR AREA FOUR (4) SQUARE FEET OR LESS	S.F.	123	\$110.00	\$13,530.00	\$15.00	\$1,845.00	\$112.00	\$13,776.00
16 CONCRETE SPALLING - REPAIR AREA LARGER THAN FOUR (4) SQUARE FEET	S.F.	1,259	\$75.00	\$94,425.00	\$10.00	\$12,590.00	\$70.00	\$88,130.00
17 CONCRETE CRACK	S.F.	235	\$75.00	\$17,625.00	\$10.00	\$2,350.00	\$13.00	\$3,055.00
18 VERTICAL EXPANSION JOINTS	L.F.	73	\$35.00	\$2,555.00	\$50.00	\$3,650.00	\$7.00	\$511.00
				\$369,110.00		\$385,635.00		\$429,275.00

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00

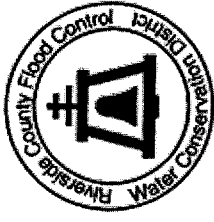
Bid Open Date: 05/26/2011

BELCZAK AND SONS, INC.

Item No. & Description	Unit	Quantity	Unit Bid	Total Bid
1 MOBILIZATION	L.S.	1	\$20,000.00	\$20,000.00
2 WATER CONTROL	L.S.	1	\$15,000.00	\$15,000.00
3 CLEARING AND MISCELLANEOUS WORK	L.S.	1	\$67,000.00	\$67,000.00
4 EXCAVATION	C.Y.	650	\$25.00	\$16,250.00
5 BACKFILL	C.Y.	300	\$35.00	\$10,500.00
6 SLURRY CEMENT BACKFILL	C.Y.	20	\$150.00	\$3,000.00
7 FILTER MATERIAL	C.Y.	350	\$90.00	\$31,500.00
8 CLASS "A" CONCRETE, CHANNEL PAVING	C.Y.	363	\$500.00	\$181,500.00
9 CLASS "B" CONCRETE, 2' CUTOFF WALL	L.F.	685	\$25.00	\$17,125.00
10 AGGREGATE BASE, CLASS 2	C.Y.	90	\$70.00	\$6,300.00
11 SUBDRAIN	L.F.	350	\$35.00	\$12,250.00
12 RECONSTRUCT SIDE INLET AT STATION 26+90+/-	L.S.	1	\$5,000.00	\$5,000.00
13 DUST ABATEMENT	L.S.	1	\$10,000.00	\$10,000.00
14 STORMWATER AND NON-STORMWATER POLLUTION CONTROL	L.S.	1	\$7,500.00	\$7,500.00
15 CONCRETE SPALLING - REPAIR AREA FOUR (4) SQUARE FEET OR LESS	S.F.	123	\$150.00	\$18,450.00
16 CONCRETE SPALLING - REPAIR AREA LARGER THAN FOUR (4) SQUARE FEET	S.F.	1,259	\$135.00	\$169,965.00
17 CONCRETE CRACK	S.F.	235	\$40.00	\$9,400.00
18 VERTICAL EXPANSION JOINTS	L.F.	73	\$100.00	\$7,300.00
				\$608,040.00

Riverside County Flood Control & Water Conservation District

1995 Market St. Riverside, CA 92501 Phone: 951.955.1200 Fax: 951.788.9965



Bid Summary

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00

Bid Open Date: 05/26/2011

<i>Total</i>	<i>Contractor Name</i>	<i>Address</i>	<i>Phone</i>
\$327,726.50	KORMX, INC.	820 W. Service Avenue, Suite B West Covina, CA 91790	626.856.3804
\$358,463.50	EARTH CONSTRUCTION & MINING	11542 Knott Street, #10 Garden Grove, CA 92841	714.897.4326
\$369,110.00	EXCAVATING ENGINEERS, INC.	5256 S. Mission Road #703-002 Bonsall, CA 92003	760.451.8600
\$385,635.00	SOUTHLAND CONSTRUCTION	3943 Irvine Boulevard, #405 Irvine, CA 92602	714.488.2891
\$429,275.00	BEDON CONSTRUCTION, INC.	27989 Holland Road Menifee, CA 92584	951.246.9005
\$608,040.00	BELCZAK AND SONS, INC.	3510 E. Enterprise Drive Anaheim, CA 92807	714-998-5920
\$351,596.00	RCFC Engineer's Estimate		

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00
Bid Open Date: 05/26/2011

BEDON CONSTRUCTION, INC.

SOUTHLAND CONSTRUCTION

EXCAVATING ENGINEERS, INC.

Item No. & Description	Unit	Quantity	Unit Bid	Total Bid	Unit Bid	Total Bid	Unit Bid	Total Bid
1 MOBILIZATION	L.S.	1	\$31,000.00	\$31,000.00	\$15,000.00	\$15,000.00	\$20,000.00	\$20,000.00
2 WATER CONTROL	L.S.	1	\$5,500.00	\$5,500.00	\$10,000.00	\$10,000.00	\$18,500.00	\$18,500.00
3 CLEARING AND MISCELLANEOUS WORK	L.S.	1	\$30,000.00	\$30,000.00	\$8,000.00	\$8,000.00	\$47,500.00	\$47,500.00
4 EXCAVATION	C.Y.	650	\$25.00	\$16,250.00	\$100.00	\$65,000.00	\$70.00	\$45,500.00
5 BACKFILL	C.Y.	300	\$15.00	\$4,500.00	\$30.00	\$9,000.00	\$26.85	\$8,055.00
6 SLURRY CEMENT BACKFILL	C.Y.	20	\$250.00	\$5,000.00	\$300.00	\$6,000.00	\$66.00	\$1,320.00
7 FILTER MATERIAL	C.Y.	350	\$35.00	\$12,250.00	\$50.00	\$17,500.00	\$90.00	\$31,500.00
8 CLASS "A" CONCRETE, CHANNEL PAVING	C.Y.	363	\$300.00	\$108,900.00	\$400.00	\$145,200.00	\$326.00	\$118,338.00
9 CLASS "B" CONCRETE, 2' CUTOFF WALL	L.F.	685	\$15.00	\$10,275.00	\$100.00	\$68,500.00	\$12.00	\$8,220.00
10 AGGREGATE BASE, CLASS 2	C.Y.	90	\$40.00	\$3,600.00	\$50.00	\$4,500.00	\$90.00	\$8,100.00
11 SUBDRAIN	L.F.	350	\$12.00	\$4,200.00	\$10.00	\$3,500.00	\$16.00	\$5,600.00
12 RECONSTRUCT SIDE INLET AT STATION 26+90+/-	L.S.	1	\$4,000.00	\$4,000.00	\$10,000.00	\$10,000.00	\$4,920.00	\$4,920.00
13 DUST ABATEMENT	L.S.	1	\$2,500.00	\$2,500.00	\$1,000.00	\$1,000.00	\$2,250.00	\$2,250.00
14 STORMWATER AND NON-STORMWATER POLLUTION CONTROL	L.S.	1	\$3,000.00	\$3,000.00	\$2,000.00	\$2,000.00	\$4,000.00	\$4,000.00
15 CONCRETE SPALLING - REPAIR AREA FOUR (4) SQUARE FEET OR LESS	S.F.	123	\$110.00	\$13,530.00	\$15.00	\$1,845.00	\$112.00	\$13,776.00
16 CONCRETE SPALLING - REPAIR AREA LARGER THAN FOUR (4) SQUARE FEET	S.F.	1,259	\$75.00	\$94,425.00	\$10.00	\$12,590.00	\$70.00	\$88,130.00
17 CONCRETE CRACK	S.F.	235	\$75.00	\$17,625.00	\$10.00	\$2,350.00	\$13.00	\$3,055.00
18 VERTICAL EXPANSION JOINTS	L.F.	73	\$35.00	\$2,555.00	\$50.00	\$3,650.00	\$7.00	\$511.00
				\$369,110.00		\$385,635.00		\$429,275.00

Project Name: LA SIERRA CHANNEL AND ARLINGTON CHANNEL REPAIRS

Project Number: 1-0-00060-00

Bid Open Date: 05/26/2011

BELCZAK AND SONS, INC.

Item No. & Description	Unit	Quantity	Unit Bid	Total Bid
1 MOBILIZATION	L.S.	1	\$20,000.00	\$20,000.00
2 WATER CONTROL	L.S.	1	\$15,000.00	\$15,000.00
3 CLEARING AND MISCELLANEOUS WORK	L.S.	1	\$67,000.00	\$67,000.00
4 EXCAVATION	C.Y.	650	\$25.00	\$16,250.00
5 BACKFILL	C.Y.	300	\$35.00	\$10,500.00
6 SLURRY CEMENT BACKFILL	C.Y.	20	\$150.00	\$3,000.00
7 FILTER MATERIAL	C.Y.	350	\$90.00	\$31,500.00
8 CLASS "A" CONCRETE, CHANNEL PAVING	C.Y.	363	\$500.00	\$181,500.00
9 CLASS "B" CONCRETE, 2' CUTOFF WALL	L.F.	685	\$25.00	\$17,125.00
10 AGGREGATE BASE, CLASS 2	C.Y.	90	\$70.00	\$6,300.00
11 SUBDRAIN	L.F.	350	\$35.00	\$12,250.00
12 RECONSTRUCT SIDE INLET AT STATION 26+90+/-	L.S.	1	\$5,000.00	\$5,000.00
13 DUST ABATEMENT	L.S.	1	\$10,000.00	\$10,000.00
14 STORMWATER AND NON-STORMWATER POLLUTION CONTROL	L.S.	1	\$7,500.00	\$7,500.00
15 CONCRETE SPALLING - REPAIR AREA FOUR (4) SQUARE FEET OR LESS	S.F.	123	\$150.00	\$18,450.00
16 CONCRETE SPALLING - REPAIR AREA LARGER THAN FOUR (4) SQUARE FEET	S.F.	1,259	\$135.00	\$169,965.00
17 CONCRETE CRACK	S.F.	235	\$40.00	\$9,400.00
18 VERTICAL EXPANSION JOINTS	L.F.	73	\$100.00	\$7,300.00
				\$608,040.00

**BOARD OF
SUPERVISORS**

SPECIFICATIONS and CONTRACT DOCUMENTS

for the CONSTRUCTION of

**LA SIERRA CHANNEL
&
ARLINGTON CHANNEL
REPAIRS
1-0-0060
1-0-0020**

RIVERSIDE COUNTY, CALIFORNIA



FOR APPROVED COUNTY COUNSEL
BY: Neal R. Kipnis DAVE

WARREN D. WILLIAMS
General Manager-Chief Engineer



1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

May 19, 2011

ADDENDUM NO. 1

TO

La Sierra Channel and Arlington Channel Repairs
Project Nos. 1-0-00060 and 1-0-00020

RIVERSIDE COUNTY, CALIFORNIA

Bid Opening Date: Thursday, May 26, 2011, 8:00 a.m.

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REPLACE Page Ie of the Table of Contents for the addition of a new Section 32.10 and renumbering remaining sections.

PROPOSAL

REPLACE PROPOSAL in its entirety (Pages VIII and VIIIa). To accommodate the addition of a signature line on the bottom of Page VIIIa for acknowledgement of this addendum.

DETAILED SPECIFICATIONS

CHANGE the reference to Section 32.7 in second paragraph of Section 32.5.9 Surface Preparation to Section 32.10.

CHANGE the reference to Section 32.7 in second paragraph of Section 32.6.9 Surface Preparation to Section 32.10.

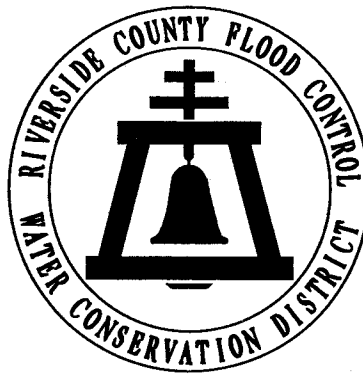
ADD/RENUMBER new Section 32.10 Reinforcing Steel Preparation in its entirety and renumber remaining sections.

32.10 Reinforcing Steel Preparation - Any exposed reinforcing steel shall be checked to verify its competence. Concrete shall be completely chipped away and sandblasted to remove all contaminants and rust from the exposed reinforcing steel. Deterioration of the reinforcing steel to a diameter less than the original diameter per the 'Arlington Channel - Storm Channel Wall Schedule' (RCFC Project 1-0-020, DWG 1-294, SHT 23) shall be removed and replaced as directed by the Engineer. Deteriorated steel shall be removed, and new reinforcing steel matching the size and type per the 'Arlington Channel - Storm Channel Wall Schedule' (RCFC Project 1-0-020, DWG 1-294, SHT 23) shall be spliced per the requirements of Rebar Splices, ACI Manual, Standard 318, Latest Edition. If the reinforcing steel is found to be competent with no loss in diameter, then the reinforcing steel can be treated with Sika Armatec 110 EpoCem.

Apply properly mixed Sika Armatec 110 EpoCem to prepared steel surface with a stiff-bristle brush, or "hopper type" spray equipment at 20 mils minimum thickness. Properly coat the underside of the totally exposed steel. Allow to dry (approximately 2 - 3 hours) then apply a second coat at 20 mils minimum thickness. Allow drying again before placing repair mortar.

NOTE: Bidders are required to acknowledge receipt of all addenda at the bottom of **Sheet VIIIa** of the PROPOSAL. Failure to acknowledge all addenda on the bid form may cause the bid to be considered not responsive to the Invitation, which would require rejection of the bid.

Steve Thomas
FOR WARREN D. WILLIAMS
General Manager-Chief Engineer



SPECIFICATIONS and CONTRACT DOCUMENTS

for the CONSTRUCTION of
LA SIERRA CHANNEL
REPAIR

1-0-0060

ARLINGTON
CHANNEL REPAIR

1-0-0020

These specifications and contract documents have been prepared under the direction of the following Registered Civil Engineers:

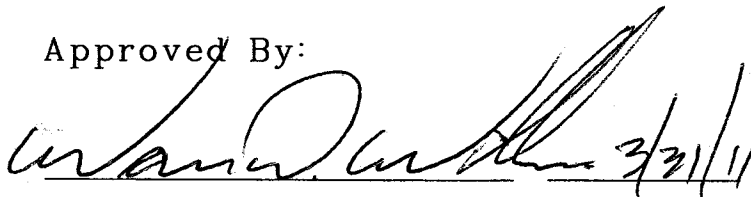
Recommended By:


Chief, Design & Construction

31-MAR-2011
Date



Approved By:


Chief Engineer

3/31/11
Date



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NOTICE TO CONTRACTORS

Riverside County Flood Control and Water Conservation District hereinafter called "District", invites sealed proposals for construction of:

La Sierra Channel and Arlington Channel Repairs

Project Nos. 1-0-00060 and 1-0-00020

**located in the community of Home Gardens and the city of Riverside, respectively,
Riverside County, California**

Specifications and Contract Documents may be examined at the District's office at 1995 Market Street, Riverside, California, and may be obtained upon payment to District of \$60.00 per set, received at the District's office and \$65.00 per set if mailed. The Specifications and Contract Documents are also offered on CD-ROM for \$10.00 received at the District's office and \$15.00 if mailed. No refund.

Each proposal must be accompanied by a certified or cashier's check or bid bond equal to ten percent (10%) of the amount bid, payable to the Riverside County Flood Control and Water Conservation District as a guarantee that the Contractor will, if awarded the contract, execute a satisfactory contract and furnish the required bonds and proof of insurance.

Proposals must be in accordance with the instructions and filed with District by 8:00 a.m. on Thursday, May 26, 2011 at the District office at the above address which time and place are fixed for the public opening of bids.

General prevailing rate per diem wages and general prevailing rate of per diem wages for holiday and overtime work, including employer payments for health and welfare, pension, vacation, apprentices and similar purposes for each craft, classification or type of workman needed for execution of contracts under the jurisdiction of District have been obtained by the Board of Supervisors of the District from the

Director of Industrial Relations of the State of California for the area where the work is to be done. The said determinations are on file in the principal office of the District, and will be made available to any interested person upon request.

Contractors submitting proposals for this project shall have an "A" Contractors license from the State of California in order to be considered eligible for the contract award.

Dated: April 26, 2011

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

KECIA HARPER-IHEM
Clerk of the Board

BY  _____
Deputy

INSTRUCTIONS TO BIDDERS

QUANTITIES: The amount of work to be done or materials to be furnished under the Contract as noted in the proposal, are but estimates and are not to be taken as an expressed or implied statement that the actual amount of work or materials will correspond to the estimate.

The right is reserved to increase or decrease or to entirely eliminate certain items from the work or materials if found desirable or expedient.

The Contractor will be allowed no claims for anticipated profits, loss of profits or for any damages of any sort because of any difference between the estimated and the actual amounts of work done, or materials furnished or used in the completed project.

The Contractor is cautioned against unbalancing of his bid by prorating his overhead into one or two items only when there are a number of items on the schedule. The overhead and indirect charges should be prorated on all items in schedule.

DISCREPANCIES AND OMISSIONS: Discrepancies, omissions, ambiguities, or requirements likely to cause disputes between trades and similar matters shall be promptly brought to the attention of the Engineer. When appropriate, Addenda will be issued by District. No communication by anyone as to such matters except by an Addendum affects the meaning or requirements of the Contract Documents.

WITHDRAWAL OF PROPOSALS: Any proposal may be withdrawn at any time prior to the hour fixed in the Notice to Contractors for the opening of proposals, provided that a request in writing, executed by the bidder or his duly authorized representative, for the withdrawal of such proposal, is filed with the Chief Engineer. The withdrawal of a proposal shall not prejudice the right of a bidder to file a new proposal.

AGREEMENT OF FIGURES: If the unit prices and the total amounts named by the bidder in the proposal do not agree, the unit prices alone will be considered as representing the bidder's intention.

INVALID PROPOSALS: Proposal submitted by telegraph or fax transmission and those which fail to reach the place fixed for opening of proposals prior to the date and hour set for opening same, will not be considered.

INSPECTION OF SITE: Bidders must examine the site and acquaint themselves with all conditions affecting the work.

Information derived from maps, plans or specifications, or from the Chief Engineer or his assistants, will not relieve the successful bidder from properly carrying out all the terms of the written contract.

By the submitting of a proposal, the bidder will be held to have personally examined the site and the drawings, to have carefully read the specifications and to have satisfied himself as to his ability to meet all the difficulties attending the execution of the proposed contract before the delivery of his proposal and agrees that if he is awarded the contract, he will make no claim against the Board of Supervisors based on ignorance or misunderstanding of the contract provisions.

QUALIFICATIONS OF BIDDERS: No proposal will be accepted from a contractor who is not licensed under laws of California, as evidenced by the submittal of the Statement of Licensure. No award will be made to any bidder who cannot give satisfactory assurance to the Board of Supervisors as to his own ability to carry out the contract, both from his financial standing and by reason of his previous experience as a contractor on work of the nature contemplated in the contract. The bidder is required to submit his record of work of similar nature to that proposed under these specifications, and unfamiliarity with the type of work may be sufficient cause for rejection of a proposal.

A bid shall be rejected and a bidder shall be disqualified to bid on a District project if the bidder or any officer, manager, partner or shareholder of the bidder within the eighteen month period prior to the bid date shall have been an officer or employee of the District.

PROPOSAL FORMS: Attention of all bidders is called to the proposal affidavit forms attached hereto and bidders are cautioned that all proposals submitted must be accompanied by the proper affidavit, properly executed. Proposals will be made on forms furnished by District.

REJECTION OF PROPOSALS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES: Proposals may be rejected if they show any alterations of form, additions not called for, conditional proposals, incomplete proposals, erasures or irregularities of any kind. Erasures or interlineations in the proposal must be explained or noted over the signature of the bidder.

PUBLIC OPENING OF PROPOSALS: Proposals will be opened and read publicly at the time and place indicated in the Notice to Contractors. Bidders or their authorized agents are invited to be present.

DISQUALIFICATION OF BIDDERS: More than one proposal from an individual, a firm or partnership, a corporation or an association under the same or different names will not be considered. Reasonable ground for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. If there is any reason for believing that collusion exists among the bidders, none of the participants in such collusion will be considered in awarding the contract. Proposals in which the prices obviously are unbalanced may be rejected.

ADDENDA: District reserves the right to issue Addenda to the Contract Documents at any time prior to the time set to open bids. Each potential bidder shall leave with the District its name and address for the purpose of receiving Addenda. District will cause copies of Addenda to be mailed or delivered to such names at such addresses. To be considered, a Contractor's proposal must list and take into account all issued Addenda.

AWARD OF CONTRACT: The right is reserved to reject any and all proposals and to waive technical defects as the best interests of the District may require.

The award of the Contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with the requirements prescribed. The award, if made, will be made within sixty (60) days after the opening of the proposals.

All proposals will be compared on the basis of the Engineer's estimate of the quantities of work to be done.

RETURN OF PROPOSAL GUARANTEES: Within ten (10) days after the award of the contract, the Clerk will return the proposal guarantees accompanying such of the proposals as are not considered in making the award. All other proposal guarantees will be held until the contract has been fully executed, after which they will be returned to the respective bidders whose proposal they accompany.

CONTRACT BONDS: The Contractor shall furnish two (2) surety bonds in duplicate, one as a security for the faithful performance of the contract in the amount equal to one hundred percent (100%) of the contract price, and one as security for the payment of all persons performing labor and furnishing materials in connection with the contract in an amount equal to one hundred percent (100%) of the contract price. All bonds must be submitted on forms provided by the District. Bonds submitted in any other form will not be accepted.

SUBLETTING AND SUBCONTRACTING: Bidders are required, pursuant to the Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code) to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications, in excess of one-half ($\frac{1}{2}$) of one percent (1%) of the prime Contractor's total bid. Failure to list a subcontractor for a portion of the work means that the prime contractor will do that portion of the work.

CONTRACTOR'S PROPOSAL

TO THE BOARD OF SUPERVISORS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT:

The undersigned hereby declare:

- (a) That the only persons or parties interested in this proposal as principals are the following:

Name of Company (and dba if applicable): KormX, Inc.

(If the Contractor is a corporation, give the name of the corporation and the name of its president, secretary, treasurer, and manager. If a copartnership, give the name under which the copartnership does business, and the names and addresses of all copartners. If an individual, state the name and address under which the contract is to be drawn.)

- (b) That this proposal is made without collusion with any other person, firm or corporation.

(c) That he has carefully examined the location of the proposed work, and has familiarized himself with all of the physical and climatic conditions, and makes his proposal solely upon his own knowledge.

(d) That he has carefully examined the attached specifications as referred to, and the plans, and makes this proposal in accordance therewith.

(e) That, if this proposal is accepted, he will enter into a written contract with the Riverside County Flood Control and Water Conservation District, Riverside, State of California.

(f) That he proposes to enter into such contract and to accept in full payment for the work actually done thereunder the prices shown in the attached schedule. It is understood and agreed that the quantities set forth are but estimates, and that the unit prices will apply to the actual quantities whatever they may be.

Accompanying this proposal is a certified or cashier's check or bid bond payable to the order of the Riverside County Flood Control and Water Conservation District, Riverside, California, in the sum of Ten Percent Dollars (\$10% Bidders Bond)

It is understood and agreed that should the Contractor within ten (10) days after the prescribed forms are presented to him for signature fail to return the contract and furnish acceptable surety bond and insurance, then, at the discretion of the District, the proceeds of said check shall become the property of the District, the Contractor shall be found in default and the project may be awarded to another contractor. The bid bond or check shall be held subject to payment to the District of the difference in money between the amount of the contract with another party to perform the work, together with the cost to the District of redrafting, redrawing and publishing documents and papers necessary to obtain new bids on said work. The bid bond or check shall, in addition, be held subject to all other actual damages suffered by the District. But if the contract is entered into and said bonds and insurance are furnished, or if the proposal is not accepted, then the said check shall be returned to the undersigned.

- VII -

RECEIVED
MAY 26 2011

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

7:35 a.m.

PROPOSAL

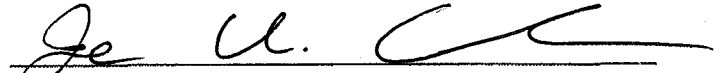
For the Construction of **La Sierra Channel and Arlington Channel Repairs**, located in the community of Home Gardens and the city of Riverside, respectively, Riverside County, consisting of the following estimated quantities:

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
1.	Mobilization	L.S.	---	---	\$5,000.00
2.	Water Control	L.S.	---	---	\$17,600.00
3.	Clearing and Miscellaneous Work	L.S.	---	---	\$5,800.00
4.	Excavation	C.Y.	650	\$90.00	\$58,500.00
5.	Backfill	C.Y.	300	\$106.00	\$31,800.00
6.	Slurry Cement Backfill	C.Y.	20	\$200.00	\$4,000.00
7.	Filter Material	C.Y.	350	\$80.00	\$28,000.00
8.	Class "A" Concrete, Channel Paving	C.Y.	363	\$313.00	\$113,619.00
9.	Class "B" Concrete, 2' Cutoff Wall	L.F.	685	\$10.30	\$7,055.50
10.	Aggregate Base, Class 2	C.Y.	90	\$90.00	\$8,100.00
11.	Subdrain	L.F.	350	\$15.00	\$5,250.00
12.	Reconstruct Side Inlet at Station 26+90+/-	L.S.	---	---	\$4,200.00
13.	Dust Abatement	L.S.	---	---	\$1,500.00
14.	Stormwater and Non-Stormwater Pollution Control	L.S.	---	---	\$3,500.00
15.	Concrete Spalling - Repair Area Four (4) Square Feet or Less	S.F.	123	\$25.00	\$3,075.00
16.	Concrete Spalling - Repair Area Larger Than Four (4) Square Feet	S.F.	1,259	\$18.00	\$22,662.00
17.	Concrete Crack	S.F.	235	\$25.00	\$5,875.00

PROPOSAL contd.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
18.	Vertical Expansion Joints	L.F.	73	\$ 30.00	\$ 2,190.00
				TOTAL	\$ 327,726.50

KormX, Inc.
Name of Company


Signature of Contractor

820 W. Service Ave Ste B
Address

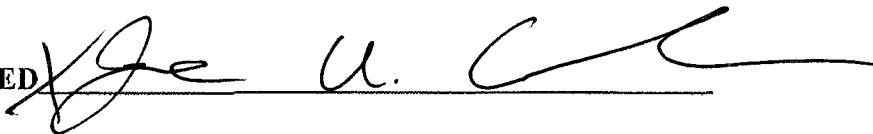
02-0797137
S.S.N. or E.I.N.

West Covina, CA 91790
City, State, Zip

417430-"A" General Engineering
Contractor's License No. and Classification

626 856-3804 / 856-3601
Telephone Number Fax Number

ADDENDUM NO. 1 ACKNOWLEDGED



LIST OF SUBCONTRACTORS

Contractor KormX, Inc. La Sierra Channel and Arlington Channel Repairs
Project Nos. 1-0-00060 and 1-0-00020

Give the name and the location of the place of business of each Subcontractor who will perform work or labor or render service to the General Contractor in or about the construction of the work or improvement, or a Subcontractor who specially fabricates and installs a portion of the work or improvement, in an amount in excess of one-half (1/2) of one percent (1%) of the General Contractor's total bid. List the bid item numbers of the work each subcontractor will do. If a portion of an item is to be subcontracted, show what percentage of that item is to be subcontracted.

Item No. (s) 8 & 9
Name of Subcontractor R & D Steel Inc.
Address/City/Phone 1200 S. Sante Fe Ave Compton, CA 90221
License No. 379990

Item No. (s) _____
Name of Subcontractor _____
Address/City/Phone _____
License No. _____

Item No. (s) _____
Name of Subcontractor _____
Address/City/Phone _____
License No. _____

Item No. (s) _____
Name of Subcontractor _____
Address/City/Phone _____
License No. _____

Item No. (s) _____
Name of Subcontractor _____
Address/City/Phone _____
License No. _____



KORMX, INC.

GENERAL ENGINEERING CONTRACTOR

19314 AVENIDA DEL SOL, WALNUT 91789

PHONE:(909)595-6104 FAX:(909)595-9086

Project References

County of Orange Public Works Dept.
300 North Flower Street, Santa Ana, CA 92703
Olive Island Sidewalk Imp. \$305,000
Bob Stanfield—Project Manager (714) 936-9731
90% of own work forced used
Completed: 8/28/09

City of Alhambra
111 South 1st Street, Alhambra, CA 91801
2008 HUD Funded Sidewalk Curb & Gutter Repair \$143,213.51
Amanda Eitel—Project Manager (626) 570-5062
100% of own work force used
Completed: 9/1/09

City of Santa Ana Public Works Dept.
20 Civic Center Plaza, Santa Ana, CA 92702
Channel Inlet Mod. \$110,375
William Albright—Assistant Engineer (714) 647-5029
90% of own work force used
Completed: 9/10/09

City of Santa Fe Springs
11710 E. Telegraph Road, Santa Fe Springs, CA 90670
Sorrenson Ave Sidewalk Imp. \$155,039.77
Robert Garcia—Project Manager (562) 868-0511 ext.7545
95% of own work forced used
Completed: 10/19/09

City of South Pasadena
1414 Mission Street, South Pasadena, CA 91030
Oak Street Sidewalk Replacement Project \$29,387.37
Gabriel Nevarez—Project Manager (626) 403-7248
100% own work forced used
Completed 1/15/10

City Of Buena Park
6650 Beach Blvd, Buena Park, CA 90622
Improvements of Alleyways from 11th Street to 10th Street
and From Pacific Avenue to Tulare Street \$63,591.01
Neda Ghazvini—Project Manager (714) 562-3689
95% of own work force used
Completed 1/28/10



KORMX, INC.
GENERAL ENGINEERING CONTRACTOR

19314 AVENIDA DEL SOL, WALNUT 91789

PHONE:(909)595-6104 FAX:(909)595-9086

Project References

City of Montclair

5111 Benito Street, Montclair, CA 91763

Fremont Avenue Imp. Project \$112,955

Steve Stanton—(909) 625-9444

100% of own work force used

Completed 2/26/10

City of Baldwin Park

14403 East Pacific Avenue, Baldwin Park, CA 91706

CDBG/ARRA Street Improvements Project \$305,105.00

Victor Chavez—Project Manager (626) 960-4011 ext. 459

90% own work force used

Completed 4/30/10

County of Orange Social Services Agency

888 N. Main Street, Santa Ana, CA 92701

Restoration of Parking Lots \$41,800.00

Steven Espinoza—Project Contact (714) 541-7712

100% own work force used

Completed 5/28/10

City of Orange

300 E. Chapman Ave, Orange, CA 92866

ADA Wheelchair Access Ramps Various Locations FY 09-10 \$66,075.00

Christian Saxe—Project Manager (714) 744-5567

100% own work force used

Completed 6/25/10

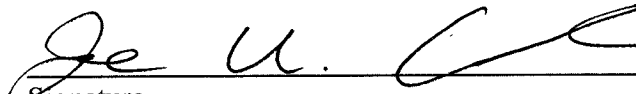
STATEMENT OF LICENSURE

Pursuant to California Public Contract Code §3300, the undersigned does certify as follows:

1. That the pocket license/certificate of licensure I have presented to owner as of this date is my own license, being State of California, Contractors License No. 417430 and "A"
2. That said Contractors License is current and valid; and
3. That said Contractors License is of a classification appropriate to the work to be undertaken for owner, a Class "A" license.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

DATED: 5/26/11


Signature

President
Title

STATE OF CALIFORNIA) §
COUNTY OF RIVERSIDE)

On this the _____ day of _____, 20____, before me

the undersigned Notary Public, personally appeared

personally known to me

proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged that he/she executed it.

WITNESS my hand and official seal.

Notary's Signature

State of California)
County of Los Angeles)

CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

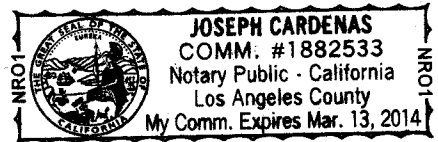
On 5-26-11 before me, Joseph Cardenas, Notary Public
(here insert name and title of the officer)

personally appeared Joe Uribe Cardenas

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(ies), and that by his/~~her/their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Joseph Cardenas

(Seal)

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

- Individual(s)
 Attorney-in-Fact
 Corporate Officer(s) _____
Title(s) _____

- Guardian/Conservator
 Partner - Limited/General
 Trustee(s)
 Other: _____

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
 form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

- Additional Signer(s) Signer(s) Thumbprint(s)

AFFIDAVIT FOR INDIVIDUAL CONTRACTORS

STATE OF CALIFORNIA) §
COUNTY OF RIVERSIDE)

_____, being first duly sworn, deposes and says:

That he or she is the party making the foregoing proposal or bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the Riverside County Flood Control and Water Conservation District or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

His or Her signature

Subscribed and sworn to before me

this _____ day of _____, 20____.

Signature and stamp of Notary
administering oath

AFFIDAVIT FOR JOINT VENTURE OR COPARTNERSHIP CONTRACTOR

STATE OF CALIFORNIA) §
COUNTY OF RIVERSIDE)

_____, being first duly sworn, deposes and says:

That he or she is a member of the joint venture or copartnership firm designated as

which is the party making the foregoing proposal or bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the Riverside County Flood Control and Water Conservation District or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

That he has been and is duly vested with authority to make and sign instruments for the joint venture or copartnership by

_____ who constitute the other members of the joint venture or copartnership.

His or Her signature

Subscribed and sworn to before me

this _____ day of _____, 20____

Signature and stamp of Notary
administering oath

AFFIDAVIT FOR CORPORATE CONTRACTOR

STATE OF CALIFORNIA) §
COUNTY OF RIVERSIDE)

Joe Uribe Cardenas, being first duly sworn, deposes and says:

That he or she is President
of KORMX, Inc.

a corporation which is the party making the foregoing proposal or bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the Riverside County Flood Control and Water Conservation District or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Joe U. Cardenas
His or Her signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Signature and stamp of Notary administering oath

State of California)

County of Los Angeles)

CALIFORNIA JURAT

Subscribed and sworn to (or affirmed) before me on this 26th day

of May, 20 11, by Joe Uribe Cardenas

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.



Signature Joseph Cardenas

Seal

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this jurat to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

This certificate is attached to a document titled/for the purpose of

containing _____ pages, and dated _____.

Additional Information

Method of Affiant Identification

Proved to me on the basis of satisfactory evidence:
 form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:

Page # _____ Entry # _____

Notary contact: _____

Other

Affiant(s) Thumbprint(s) Describe: _____

BID BOND

Recitals:

1. Kormx, Inc. (Contractor), has submitted its Contractor's Proposal to the Riverside County Flood Control and Water Conservation District, (District), for the construction of public work for **La Sierra Channel and Arlington Channel Repair** in accordance with a Notice to Contractors dated April 26, 2011.

American Safety Casualty Insurance Company a Oklahoma corporation, hereafter called (Surety), is the surety on this Bond.

Agreement: We, Contractor as principal and Surety as surety, jointly and severally agree and state as follows:

1. The amount of the obligation of this Bond is 10% of the amount of the Contractor's Proposal and inures to the benefit of District.

2. This Bond is exonerated by (1) District rejecting said Proposal or, in the alternate, (2) if said Proposal is accepted, Contractor executes the Agreement and furnishes the Bonds and Insurance as agreed to in its Proposal, otherwise it remains in full force and effect for the recovery of loss, damage and expense of District resulting from failure of Contractor to act as agreed to in its Proposal. Some types of possible loss, damage and expense are specified in the Contractor's Proposal.

3. Surety for value received, stipulates and agrees that its obligations hereunder shall in no way be impaired or affected by any extension of time within which District may accept the Proposal and waives notice of any such extension.

4. This Bond is binding on our heirs, executors, administrators, successors and assigns.

Dated: May 25, 2011

By Elisabete Salazar

Elisabete Salazar, Attorney-in-Fact
(Printed Name)

American Safety
Title Casualty Insurance Company
(Surety)

By Joe U. Cardenas

Joe Uribe Cardenas
(Printed Name)

Title Kormx, Inc.
(Contractor)

**NOTARY ACKNOWLEDGEMENT REQUIRED
FOR EACH SIGNATURE PLEASE ATTACH
SEPARATE FORM**

**NOTARY ACKNOWLEDGEMENT REQUIRED
FOR EACH SIGNATURE PLEASE ATTACH
SEPARATE FORM**

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Los Angeles

On May 25, 2011 before me, M. S. Rodriguez, Notary Public
Date Here Insert Name and Title of the Officer

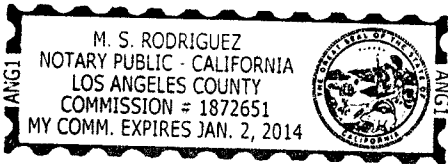
personally appeared ELISABETE SALAZAR
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature M. S. Rodriguez
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT
OF SIGNER
Top of thumb here



POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that American Safety Casualty Insurance Company has made, constituted and appointed, and by these presents does make, constitute and appoints

Elisabete Salazar

its true and lawful attorney-in-fact, for it and its name, place, and stead to execute on behalf of the said Company, as surety, bonds, undertaking and contracts of suretyship to be given to

ALL OBLIGEEES

provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of
****ONE MILLION DOLLARS (\$1,000,000.00)****

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company of the 6th day of August, 2009.

RESOLVED, that the President in conjunction with the Secretary or any Assistant Secretary may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the Company, to execute and deliver and affix the seal of the Company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorneys-in-fact or agents and revoke any power of attorney previously granted to such persons.

RESOLVED FURTHER, that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the company when: (i) when signed by the President or any Vice-President and attested and sealed (if a seal is required) by any Secretary or Assistant Secretary or (ii) when signed by the President or any Vice-President or Secretary or Assistant Secretary, and counter-signed and sealed (if a seal is required) by a duly authorized attorney-in-fact or agent; or (iii) when duly executed and sealed (if a seal is required) by one or more attorney-in-fact or agents pursuant to and within the limits of the authority evidenced by the power of attorney issued by the Company to such person or persons.

RESOLVED FURTHER, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company; and such signature and seal when so used shall have the same force and effects as though manually affixed.

IN WITNESS WHEREOF, American Safety Casualty Insurance Company has caused its official seal to be hereunto affixed, and these presents to be signed by its President and attested by its Secretary this 6th day of August, 2009

Attest

Ambuj Jain



Joseph D. Scollo Jr.

STATE OF GEORGIA }
COUNTY OF COBB }

On this 6th day of August, 2009, before me personally came Joseph D. Scollo, Jr., to me known, who, being by me duly sworn, did depose and say that he is the President of American Safety Casualty Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

JAMI BAILEY
Notary Public, Hall Co., GA
My Commission Expires Aug. 13, 2012

Jami Bailey, Notary Public

I, the undersigned, Secretary of American Safety Casualty Insurance Company, an Oklahoma corporation, DO HEREBY CERTIFY, that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney, is now in force.

Signed and sealed in the City of Atlanta, in the State of Georgia

Dated this 25th day of May 2011



Ambuj Jain



State of California)

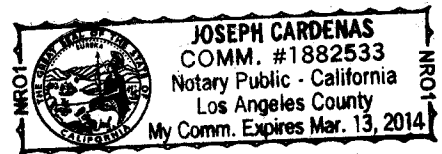
County of Los Angeles)

CALIFORNIA JURAT

Subscribed and sworn to (or affirmed) before me on this 26th day
of May, 2011, by Joe Uribe Cardenas;

proved to me on the basis of satisfactory evidence to be the person(s)
who appeared before me.

Signature Joseph Cardenas



Seal

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this jurat to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

This certificate is attached to a document titled/for the purpose of

containing _____ pages, and dated _____.

Additional Information

Method of Affiant Identification

Proved to me on the basis of satisfactory evidence:
 form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:

Page # _____ Entry # _____

Notary contact: _____

Other

Affiant(s) Thumbprint(s) Describe: _____

AGREEMENT

THIS AGREEMENT is made as of September 20, 2011 and is between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT (District) and KORMX, INC. (Contractor).

IT IS AGREED BY THE PARTIES AS FOLLOWS:

1. The Work. Contractor shall furnish all tools, equipment, apparatus, facilities, labor and material necessary to perform the work for **Project Nos. 1-0-00060 and 1-0-00020, La Sierra Channel and Arlington Channel Repairs** of District, in exact conformity with the Contract Documents (identified below) for the Project, subject to such inspection as District deems appropriate and pursuant to orders and instructions, drawings, etc., issued by District in accordance with the Contract Documents.

2. Contract Documents. The Contract Documents for **Project Nos. 1-0-00060 and 1-0-00020, La Sierra Channel and Arlington Channel Repairs** of District are: (a) Notice to Contractors; (b) Instructions To Bidders; (c) Contractor's Proposal; (d) Agreement; (e) General Provisions; (f) Special Provisions; (g) Detailed Specifications; (h) Plans; (i) Bid Bond; (j) Performance Bond; (k) Payment Bond; (l) Appendices and any other documents included in or incorporated into the contract documents; (m) Orders, Instructions, Drawings and Plans issued by District during the course of the work in accordance with the provisions of the Contract Documents.

Each of the above-mentioned documents presently in existence are by this reference incorporated herein and each of said documents not now in existence are incorporated herein as of the time of their issuance.

The Bid Bond is exonerated upon execution and delivery to District in a form satisfactory to District, of the following, duly executed by Contractor and also by its Surety as to the Bonds, Agreement, Certificate of Insurance, Payment Bond, and Performance Bond.

3. Bonds - Insurance. Prior to commencement of the work, Contractor must deliver to District and District must approve, a fully executed Performance Bond in the amount of 100% of the estimated contract price, a fully executed Payment Bond in the amount of 100% of the estimated contract price, and fully executed certificates of insurance evidencing the existence of the insurance required by Subsection 8.02 of the General Provisions. The Payment Bond and Performance Bond must be on forms furnished by District.

Should any surety on the Payment Bond or Performance Bond be deemed unsatisfactory by the Board of Supervisors of District, Contractor shall upon notice promptly substitute new Bonds in form satisfactory to District.

4. Contract Price - Payment. Attached hereto, marked Exhibit A and by this reference made a part hereof, is provision for the Contract Price and its payment.

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

By Marion Ashley
Chairman of its Board of Supervisors

MARION ASHLEY

ATTEST:

KECIA HARPER-IHEM
Clerk of the Board

By Kecia Harper-Ihem
Deputy

(Seal)

Kormx, Inc.
Contractor

By Joe U. Clark

Title President

(If corporation affix corporate seal)

EXHIBIT A

(To Agreement for Riverside County Flood Control and Water Conservation District's Project Nos. 1-0-00060 and 1-0-00020, La Sierra Channel and Arlington Channel Repairs, located in the community of Home Gardens and the city of Riverside, respectively, Riverside County, California.)

Contract Price - Payment - District shall pay Contractor the following sums for the items set forth below in accordance with Contractor's Proposal as accepted by District, which sums shall be paid as provided in the General Provisions and subject to additions and deductions as provided in the Contract Documents.

It is understood that the quantities listed, except for those shown as "Final" or "Lump Sum" are but estimates only and final payment will be based on actual work performed, subject to such adjustments and alterations as elsewhere provided.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
1.	Mobilization	L.S.	---	---	\$ 5,000.00
2.	Water Control	L.S.	---	---	17,600.00
3.	Clearing and Miscellaneous Work	L.S.	---	---	5,800.00
4.	Excavation	C.Y.	650	\$90.00	58,500.00
5.	Backfill	C.Y.	300	\$106.00	31,800.00
6.	Slurry Cement Backfill	C.Y.	20	\$200.00	4,000.00
7.	Filter Material	C.Y.	350	\$80.00	28,000.00
8.	Class "A" Concrete, Channel Paving	C.Y.	363	\$313.00	113,619.00
9.	Class "B" Concrete, 2' Cutoff Wall	L.F.	685	\$10.30	7,055.50
10.	Aggregate Base, Class 2	C.Y.	90	\$90.00	8,100.00
11.	Subdrain	L.F.	350	\$15.00	5,250.00
12.	Reconstruct Side Inlet at Station 26+90+/-	L.S.	---	---	4,200.00
13.	Dust Abatement	L.S.	---	---	1,500.00
14.	Stormwater and Non-Stormwater Pollution Control	L.S.	---	---	3,500.00

EXHIBIT contd.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
15.	Concrete Spalling – Repair Area Four (4) Square Feet or Less	S.F.	123	\$25.00	3,075.00
16.	Concrete Spalling – Repair Area Larger Than Four (4) Square Feet	S.F.	1,259	\$18.00	22,662.00
17.	Concrete Crack	S.F.	235	\$25.00	5,875.00
18.	Vertical Expansion Joints	L.F.	73	\$30.00	2,190.00
				TOTAL	\$327,726.50

PERFORMANCE BOND

BOND NO. 20-SBA-300820
Premium: \$6,555.00

Premium Based On
Final Contract Price

Recitals:

1. Kormx, Inc., (Contractor) has entered into an Agreement dated _____ with the Riverside County Flood Control and Water Conservation District (District) for construction of public work known as Project Nos. 1-0-00060 and 1-0-00020, La Sierra Channel and Arlington Channel Repairs.

2. American Safety Casualty Insurance, an Oklahoma, corporation (Surety), is the surety under this Bond. Company

Agreement: We, Contractor as principal, and Surety as surety, jointly and severally agree, state, and are bound unto District, as obligee, as follows:

1. The amount of the obligation of this Bond is 100% of the estimated contract price for the Project of \$ 327,726.50 and inures to the benefit of District.

2. This Bond is exonerated by Contractor doing all things to be kept and performed by it in strict conformance with the Contract Documents for the Project, otherwise it remains in full force and effect for the recovery of loss, damage and expense of District resulting from failure of Contractor to so act. All of said Contract Documents are incorporated herein.

3. This obligation is binding on our successors and assigns.

4. For value received, Surety stipulates and agrees that no change, time extension, prepayment to Contractor, alteration or addition to the terms and requirements of the Contract Documents or the work to be performed thereunder shall affect its obligations hereunder and waives notice as to such matters, except the total contract price cannot be increased by more than 25% without approval of Surety.

THIS BOND is executed as of June 21, 2011.

KORMX, INC.

AMERICAN SAFETY CASUALTY INSURANCE COMPANY

By *[Signature]*

By: *[Signature]*

By _____

Type Name Gracie Lopez,

Its Attorney in Fact (Surety)

Title President
(Contractor)

NOTE: This Bond must be executed by both parties with corporate seal affixed. All signatures must be acknowledged (attach acknowledgments).

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Los Angeles

On June 21, 2011 before me, M. S. Rodriguez, Notary Public

Date

Here Insert Name and Title of the Officer

personally appeared GRACIE LOPEZ

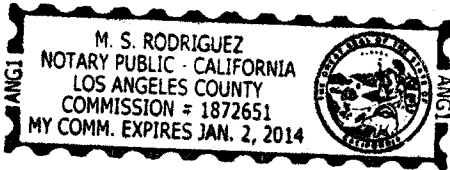
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature M. S. Rodriguez
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

PAYMENT BOND

BOND NO. 20-SBA-300820
Premium Included in
Performance Bond.

(Public Work - Civil Code, Section 3247 et seq.)

The makers of this Bond are Kormx, Inc., as Principal and Original Contractor and American Safety Casualty Insurance Company, a corporation, authorized to issue Surety Bonds in California, as Surety, and this Bond is issued in conjunction with that certain public works contract dated _____, between Principal and Riverside County Flood Control and Water Conservation District (District), a public entity, as Owner, for \$ 327,726.50, the total amount payable. THE AMOUNT OF THIS BOND IS 100 PERCENT OF SAID SUM. Said contract is for public work generally consisting of the construction of La Sierra Channel and Arlington Channel Repairs project. The beneficiaries of this Bond are as is stated in Section 3248 of the Civil Code and the requirements and conditions of this Bond are as is set forth in Sections 3248, 3249, 3250 and 3252 of said Code. Without notice, Surety consents to extension of time for performance, change in requirements, amount of compensation, or prepayment under said contract.

DATED: June 21, 2011

KORMX, INC.
Original Contractor - Principal

AMERICAN SAFETY CASUALTY INSURANCE COMPANY
Surety

By: *Jc U. C*

By *Gracie Lopez*
Its Attorney in Fact - Gracie Lopez

Title President
(If corporation, affix seal)

(Corporate Seal)

STATE OF CALIFORNIA §
COUNTY OF _____)

SURETY'S ACKNOWLEDGMENT

On _____ before me personally appeared _____ known to me to be the person whose name is subscribed to the within instrument as attorney in fact of, _____ a corporation, and acknowledged that he subscribed the name of said corporation thereto, and his own name as its attorney in fact.

Notary Public (Seal)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California }
 County of Los Angeles

On June 21, 2011 before me, M. S. Rodriguez, Notary Public
Date Here Insert Name and Title of the Officer

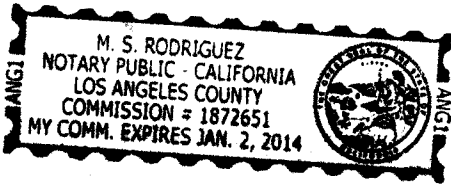
personally appeared GRACIE LOPEZ
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature M. S. Rodriguez
Signature of Notary Public



Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

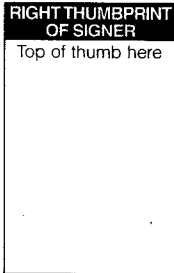
Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

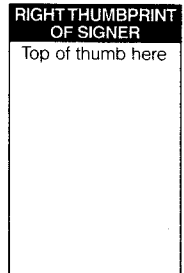
- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____



NUMBER
20-SBA-300820

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS that American Safety Casualty Insurance Company has made, constituted and appointed, and by these presents does make, constitute and appoints

Gracie Lopez

its true and lawful attorney-in-fact, for it and its name, place, and stead to execute on behalf of the said Company, as surety, bonds, undertaking and contracts of suretyship to be given to

ALL OBLIGES

provided that n bond or undertaking or contract of suretyship executed under this authority shall exceed in amount the sum of
Three Hundred Twenty Seven Thousand Seven Hundred Twenty Six Dollars and Fifty Cents (\$327,726.50)

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company of the 6th day of August, 2009.

RESOLVED, that the President in conjunction with the Secretary or any Assistant Secretary may appoint attorneys-in-fact or agents with authority as defined or limited in the instrument evidencing the appointment in each case, for and on behalf of the Company, to execute and deliver and affix the seal of the Company to bonds, undertakings, recognizances, and suretyship obligations of all kinds; and said officers may remove any such attorney-in-fact or agent and revoke any power of attorney previously granted to such persons.

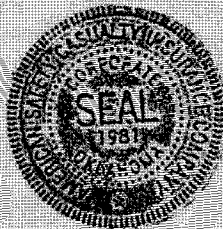
RESOLVED FURTHER, that any bond, undertaking, recognizance, or suretyship obligation shall be valid and binding upon the company when:
(i) when signed by the President or any Vice-President and attested and sealed (if a seal is required) by any Secretary or Assistant Secretary or (ii) when signed by the President or any Vice-President or Secretary or Assistant Secretary, and counter-signed and sealed (if a seal is required) by a duly authorized attorney-in-fact or agent; or (iii) when duly executed and sealed (if a seal is required) by one or more attorney-in-fact or agents pursuant to and within the limits of the authority evidenced by the power of attorney issued by the Company to such person or persons.

RESOLVED FURTHER, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company; and such signature and seal when so used shall have the same force and effects as though manually affixed.

IN WITNESS WHEREOF, American Safety Casualty Insurance Company has caused its official seal to be hereunto affixed, and these presents to be signed by its President and attested by its Secretary this 6th day of August, 2009

Attest:

Ambuj Jain



Joseph D. Scollo, Jr.

STATE OF GEORGIA }
COUNTY OF COBB }

On this 6th day of August, 2009, before me personally came Joseph D. Scollo, Jr., to me known, who, being by me duly sworn, did depose and say that he is the President of American Safety Casualty Insurance Company, the corporation described in and which executed the above instrument; that he knows the seal of the said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

JAMI BAILEY
Notary Public, Hall Co., GA
My Commission Expires Aug. 13, 2012

Jami Bailey, Notary Public

I, the undersigned, Secretary of American Safety Casualty Insurance Company, an Oklahoma corporation, DO HEREBY CERTIFY, that the foregoing and attached Power of Attorney remains in full force and has not been revoked; and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney, is now in force.

Signed and sealed in the City of Atlanta, in the State of Georgia

Dated this 21st day of June, 2011



Ambuj Jain

ORIGINALS OF THIS POWER OF ATTORNEY ARE PRINTED WITH RED NUMERICAL NUMBERS
DUPLICATES SHALL HAVE THE SAME FORCE AND EFFECT AS AN ORIGINAL ONLY WHEN ISSUED IN CONJUNCTION WITH THE ORIGINAL

State of California)
County of Los Angeles)

CALIFORNIA ALL-PURPOSE CERTIFICATE OF ACKNOWLEDGMENT

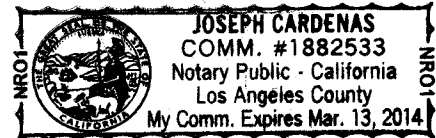
On 7/11/11 before me, Joseph Cardenas; Notary Public
(here insert name and title of the officer)

personally appeared Joe Uribe Cardenas

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature Joseph Cardenas

(Seal)

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

- Individual(s)
- Attorney-in-Fact
- Corporate Officer(s) _____
Title(s) _____
- Guardian/Conservator
- Partner - Limited/General
- Trustee(s)
- Other: _____

representing: _____
Name(s) of Person(s) or Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:
 form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:
Page # _____ Entry # _____

Notary contact: _____

Other

- Additional Signer(s) Signer(s) Thumbprint(s)
- _____



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
6/20/2011

81-11 KORMX, INC

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Shaw Moses Mendenhall & Associates 625 Fair Oaks Suite 158 South Pasadena CA 91030		CONTACT NAME: Toni King PHONE (A/C, No, Ext): (626) 799-7813 FAX (A/C, No): (626) 799-8784 E-MAIL ADDRESS: toni@smmainurance.com PRODUCER CUSTOMER ID #: 00050455	
INSURED Kormx Inc. P O Box 688 Walnut CA 91788		INSURER(S) AFFORDING COVERAGE INSURER A: James River Insurance Co. NAIC # 12203 INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	

COVERAGES CERTIFICATE NUMBER: CL1162002641 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADD'L SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY		000471750	2/26/2011	2/26/2012	EACH OCCURRENCE \$ 2,000,000 ✓
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY	<input checked="" type="checkbox"/>				DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 ✓
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR					MED EXP (Any one person) \$ 5,000
	GEN'L AGGREGATE LIMIT APPLIES PER:					PERSONAL & ADV INJURY \$ 1,000,000 ✓
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					GENERAL AGGREGATE \$ 2,000,000 ✓
	AUTOMOBILE LIABILITY					PRODUCTS - COMP/OP AGG \$ 2,000,000 ✓
	<input type="checkbox"/> ANY AUTO					\$
	<input type="checkbox"/> ALL OWNED AUTOS					\$
	<input type="checkbox"/> SCHEDULED AUTOS					\$
	<input type="checkbox"/> HIRED AUTOS					\$
	<input type="checkbox"/> NON-OWNED AUTOS					\$
	UMBRELLA LIAB	<input type="checkbox"/> OCCUR				COMBINED SINGLE LIMIT (Ea accident) \$
	EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE				BODILY INJURY (Per person) \$
	DEDUCTIBLE					BODILY INJURY (Per accident) \$
	RETENTION \$					PROPERTY DAMAGE (Per accident) \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY					\$
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	N/A			WC STATU-TORY LIMITS
	If yes, describe under DESCRIPTION OF OPERATIONS below					OTH-ER
						E.L. EACH ACCIDENT \$
						E.L. DISEASE - EA EMPLOYEE \$
						E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Riverside County Flood Control and Water Conservation District, and the county of Riverside are named as an Additional Insured Managers or Lessors of Premises as regards to General Liability and those usual to the Insured's Operations. Location: Project La Sierra Channel and Arlington Channel Repairs #30 - DAY NOTICE OF CANCELLATION FOR NON-PAYMENT AND/OR NON-REPORTING. No Exclusions do not exist in this policy

CERTIFICATE HOLDER CANCELLATION

Riverside County Flood Control and Water Conservation District Attn: Henry Olivo-Contract Administration 1995 Market Street Riverside, CA 92501	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>Toni</i> Toni King/TONI
--	--

approved 8-1-11 E

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED - OWNERS, LESSEES OR
CONTRACTORS - SCHEDULED PERSON OR
ORGANIZATION**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

**Name Of Additional Insured Person(s)
Or Organization(s):**

Riverside County Flood Control and Water Conservation District, County of Riverside, its agencies, districts, special districts, and departments, their respective directors, officers, Board of Supervisors, employees, elected or appointed officials, agents, or representatives.

Location(s) Of Covered Operations

La Sierra Channel & Arlington Channel Repairs
Contact Administration
FY 11/12

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. Section II - Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.



P.O. BOX 420807, SAN FRANCISCO, CA 94142-0807

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

ISSUE DATE: 06-20-2011

GROUP: 000238
POLICY NUMBER: 0011173-2010
CERTIFICATE ID: 45
CERTIFICATE EXPIRES: 10-01-2011
~~10-01-2010~~

RIVERSIDE COUNTY FLOOD CONTROL
1995 MARKET ST
RIVERSIDE CA 92501-1719

SC

This is to certify that we have issued a valid Workers' Compensation insurance policy in a form approved by the California Insurance Commissioner to the employer named below for the policy period indicated.

This policy is not subject to cancellation by the Fund except upon 30 days advance written notice to the employer.

We will also give you 30 days advance notice should this policy be cancelled prior to its normal expiration.

This certificate of insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policy listed herein. Notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate of insurance may be issued or to which it may pertain, the insurance afforded by the policy described herein is subject to all the terms, exclusions, and conditions, of such policy.

James Neary
Authorized Representative

Thomas E. Rone
President and CEO

EMPLOYER'S LIABILITY LIMIT INCLUDING DEFENSE COSTS: \$1,000,000 PER OCCURRENCE. ✓

ENDORSEMENT #1600 - CARDENAS, JOSEPH URIBE P, S T - EXCLUDED.

ENDORSEMENT #2065 ENTITLED CERTIFICATE HOLDERS' NOTICE EFFECTIVE 10-01-2009 IS ATTACHED TO AND FORMS A PART OF THIS POLICY.

~~Handwritten notes and signatures~~
attached
8-15-11

EMPLOYER

KORMX INC
PO BOX 688
WALNUT CA 91788

SC

[B15,SC]

PRINTED : 06-20-2011

STATE
COMPENSATION
INSURANCE
FUND

HOME OFFICE
SAN FRANCISCO

ALL EFFECTIVE DATES ARE
AT 12:01 AM PACIFIC
STANDARD TIME OR THE
TIME INDICATED AT
PACIFIC STANDARD TIME

ENDORSEMENT AGREEMENT
WAIVER OF SUBROGATION

BROKER COPY

REP 09
238-10 011173
RENEWAL
SC
5-16-21-51
PAGE 1 OF 1

EFFECTIVE AUGUST 10, 2011 AT 12.01 A.M.
AND EXPIRING OCTOBER 1, 2011 AT 12.01 A.M. ✓

KORMX INC

PO BOX 688
WALNUT, CA 91788

ANYTHING IN THIS POLICY TO THE CONTRARY NOTWITHSTANDING,
IT IS AGREED THAT THE STATE COMPENSATION INSURANCE FUND
WAIVES ANY RIGHT OF SUBROGATION AGAINST,

RIVERSIDE CNTY FLOOD CONT & WATER CONS DI ✓

WHICH MIGHT ARISE BY REASON OF ANY PAYMENT UNDER THIS
POLICY IN CONNECTION WITH WORK PERFORMED BY,

KORMX INC ✓

IT IS FURTHER AGREED THAT THE INSURED SHALL MAINTAIN
PAYROLL RECORDS ACCURATELY SEGREGATING THE REMUNERATION
OF EMPLOYEES WHILE ENGAGED IN WORK FOR THE ABOVE
EMPLOYER.

IT IS FURTHER AGREED THAT PREMIUM ON THE EARNINGS OF SUCH
EMPLOYEES SHALL BE INCREASED BY 03%.

NOTHING IN THIS ENDORSEMENT CONTAINED SHALL BE HELD TO VARY, ALTER, WAIVE
OR EXTEND ANY OF THE TERMS, CONDITIONS, AGREEMENTS, OR LIMITATIONS OF THIS
POLICY OTHER THAN AS STATED. NOTHING ELSEWHERE IN THIS POLICY SHALL BE
HELD TO VARY, ALTER, WAIVE OR LIMIT THE TERMS, CONDITIONS, AGREEMENTS OR
LIMITATIONS OF THIS ENDORSEMENT.

COUNTERSIGNED AND ISSUED AT SAN FRANCISCO:

AUGUST 12, 2011

2570

James Neary
AUTHORIZED REPRESENTATIVE

Thomas E. Rose
PRESIDENT AND CEO

GENERAL PROVISIONS

GENERAL PROVISIONS

SECTION I - DEFINITION OF TERMS

1.01 Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

(a) DISTRICT: The Riverside County Flood Control and Water Conservation District of the State of California, as created by law, also sometimes referred to as the Flood Control District, or party of the first part.

(b) BOARD OF SUPERVISORS: The Board of Supervisors of the Riverside County Flood Control and Water Conservation District as created by law, also sometimes referred to as the Board.

(c) ENGINEER: The Chief Engineer of the Riverside County Flood Control and Water Conservation District, also sometimes referred to as the Flood Control Engineer, the Chief Engineer, or the General Manager-Chief Engineer, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

(d) LABORATORY: The established laboratory of the Riverside County Road Department or laboratories authorized by the District to test materials and work involved in the contract.

(e) BIDDER: Any individual, firm or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

(f) CONTRACTOR: The person or persons, copartnership or corporation, private or municipal, who have entered into a contract with the District, as party or parties of the second part or his or their legal representatives.

(g) SUPERINTENDENT: The Executive representative of the Contractor, present on the work at all times during progress, authorized to receive and execute instruction from the Engineer.

(h) PLANS: The official plans, profiles, typical cross sections, general cross sections, working drawings, and supplemental drawings, or exact reproductions thereof, approved by the Engineer, which show the location, character, dimensions and details of the work to be done, and which are to be considered as a part of the contract supplementary to these specifications.

(i) SPECIFICATIONS: The directions, provisions, and requirements contained herein as supplemented by such special provisions, as may be necessary, pertaining to the method and manner of performing the work or to the quantities and qualities of materials to be furnished under the contract. The Special Provisions are specific clauses setting forth conditions

or requirements peculiar to the project under consideration and covering work or materials involved in the proposal and estimate but not satisfactorily covered by these General Provisions. Supplemental agreements or contract change orders are written agreements executed by the Contractor and by the District, covering alterations, amendments or extensions to the project, as hereinafter provided.

(j) CONTRACT: The written agreement covering the performance of the work and the furnishing of labor and materials in the construction of the work. The contract shall include the Notice to Contractors, the Proposal, Plans, Specifications, Special Provisions, and Contract Bonds, also, any and all supplemental agreements or contract change orders amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner.

(k) CONTRACT PRICE: Shall mean either the lump sum, unit price, or unit prices to be named in the contract, or the total of all payments under the contract at the lump sum, unit price, or unit prices, as the case may be.

(l) SURETY OR SURETIES: The bondsmen or party or parties, approved by the Engineer, who may guarantee the fulfillment of the contract by bond, and whose signatures are attached to said bond.

(m) RIGHT OF WAY: The whole right of way which is reserved for and secured for use in constructing the improvement.

(n) THE WORK: All the work specified in the Special Provisions, proposal and contract, or indicated on the plans as the contemplated complete improvement covered by the contract.

1.02 Wherever in the specifications or upon the plans the words directed, required, permitted, ordered, designated, prescribed, or words of like import are used, it will be understood that the direction, requirements, permission, order, designation, or prescription of the Flood Control Engineer is intended, and similarly the words approved, acceptable, satisfactory, or words of like import, shall mean approved by, or acceptable to, or satisfactory to, the Flood Control Engineer, unless otherwise expressly stated.

SECTION II - SCOPE OF WORK

2.01 WORK TO BE DONE

It is the intent of these General Provisions, Special Provisions, Detailed Specifications, and the plans herein referred to, to provide for and include all labor, power, light, water, materials, tools, scaffolding, machinery, plant transportation, insurance, permits, bonds, temporary protection, watchmen, and superintendence necessary to construct and complete all work, and to furnish all materials included in the contract, except those furnished by the District and as specifically mentioned in these specifications.

The contract documents are complementary, and the work called for by any one shall be as binding as if called for by all.

2.02 CONSTRUCTION SCHEDULE

The Contractor shall submit at such times as may be requested by the Engineer, a schedule which shall show the order and dates in which the Contractor proposes to carry on the various parts of the work; including estimated completion dates.

2.03 DRAWINGS AND SPECIFICATIONS ON THE WORK

The Contractor shall keep one copy of all drawings and specifications on the work, in good order, available to the Engineer and his representatives.

2.04 ESTIMATE OF QUANTITIES

The quantities of work to be done and the materials to be furnished under this contract are approximate only. The District is not to be held responsible for the accuracy of the estimate of quantities.

The Contractor shall judge for himself, after considering all circumstances and conditions, the costs and quantities of materials involved in the contract. The Contractor shall not at any time assert that there was any misunderstanding in regard to the depth or class of the excavations to be made, or the nature or kind or amount of materials to be furnished for the work.

The Contractor herewith agrees that he will not ask, demand, sue for, or seek to recover, for compensation in excess of the amounts payable for the various unit costs or lump sum charges for the work, as stipulated in the proposal, which he actually performs as specified.

2.05 PROTESTS

If the Contractor considers any work demanded of him to be outside of the requirements of the contract, or considers any record or ruling of the Engineer to be unfair, he shall immediately, upon such work being demanded or such record or ruling being made, ask, in writing, for written instructions covering protested items of work. Immediately on receipt of written instructions from the Engineer he shall proceed without delay to diligently perform the work in conformance with the written record or ruling. Within ten (10) calendar days after date of receipt of the written instructions or ruling, the Contractor shall file a written protest with the Engineer stating clearly and in detail the basis of his protest. Except for such protests as are made of record in the manner herein specified and within the time limit stated, the records, rulings, instructions, or decisions of the Engineer shall be final and conclusive.

2.06 ALTERATIONS

It must be distinctly understood that such reasonable alterations and modifications may be made by the Chief Engineer, as may be deemed desirable, and that this may be done without notices to the Sureties on the Contractor's bonds. If such changes result in increased or decreased quantities under the items specified in the proposal, the Contractor will be paid on the basis of actual quantities as measured by the Engineer, and such changes shall not affect the unit prices bid by the Contractor. If, however, such changes result in delay to the work, the

Contractor will be given such extension of time on the completion of his contract as the Chief Engineer may deem equitable.

2.07 EXTRA WORK

A. General

The District reserves and shall have the right, when confronted with unpredicted conditions, unforeseen events, or emergencies, to revise the details of the contemplated work, or to add work of a different character or function and have the Contractor perform such revised or added work as "Extra Work", when such extra work is considered by the Chief Engineer to be virtually appurtenant to the satisfactory completion of the project.

"Extra Work" is defined as added work of a different character or function and for which no basis for payment is prescribed; or that involving revisions of the details of the work in such manner as to render inequitable payment under items upon which the Contractor bid; or that work which is indeterminate at the time of advertising and is specifically designated as extra work in the plans and Special Provisions.

The signing of the contract by the Contractor will be deemed to be an agreement on his part to perform extra work, as and when ordered by the Chief Engineer. Notice to the Sureties on the Contractor's bonds will not be given unless the estimated total value of the contract, as changed or supplemented, shall exceed the original total bid price by more than 25 percent.

If required extra work results in delay to the work, the Contractor will be given an equivalent extension of time.

Approval of extra work shall be obtained from the Board of Supervisors before such work is authorized to be done, if:

- a. For contracts with a total contract price of \$250,000 or less, a change due to extra work exceeds ten percent (10%) of the original contract amount; or
- b. For contracts with a total contract price of more than \$250,000, a change due to extra work exceeds \$25,000 plus one percent (1%) of the original contract amount in excess of \$250,000; or
- c. An individual change exceeds \$100,000; or
- d. Cumulative contract changes exceed ten percent (10%) of the original contract amount.

Extra work specially authorized by the Board of Supervisors shall not be included in the cost limitations above stated.

B. Procedure for Extra Work

1. Upon decision of the District to have extra work performed, the Chief Engineer will so inform the Contractor, acquainting him with the essential details of the new work. The Contractor shall thereupon prepare a price for said work based upon his estimate of cost and submit said price and estimate to the Chief Engineer whose approval shall be secured before work is started; excepting that the Chief Engineer may, when in the best interest of the District, order the Contractor to proceed with the extra work in advance of the submission of such prices, provided that preliminary estimates, as made by the District, show that the cost will not exceed \$1,000.

2. Prices for extra work shall be prepared by the Contractor on one or both of the following methods, as requested by the District, and submitted to the Chief Engineer for approval:

a. For a stated unit price or lump sum amount based upon current prevailing fair prices for materials, labor, plant, overhead and profit.

b. On a cost basis (force account by the Contractor). The cost of all work done by the Contractor will be computed in the manner described in Section 7.03, and the compensation thus provided shall be accepted as payment in full by the Contractor, and no additional payment will be allowed for the use of small tools, superintendent's services, timekeeper's services, pickup or yard trucks, except as specifically essential to the work, nor any other overhead expenses incurred in the prosecution of the force account work.

3. Upon receipt of the Contractor's price, the Chief Engineer will make an analysis thereof and adopt one of the following procedures:

a. Accept the Contractor's price for lump sum or unit price amount in the original or amended form and direct him to proceed with the work; or direct him to perform the work on a cost plus basis.

b. Have the work performed by District's forces or separate contract, without undue interference or hindrance to the Contractor and without claim or suit by the Contractor for damages on account thereof.

c. Direct the Contractor to proceed with the work and accept payment therefor in the amount as adjudicated later in a court of law.

2.08 PAYMENT FOR EXTRA WORK

At the end of each month the Contractor shall make and deliver to the Chief Engineer a statement of the cost of the extra work completed during the current month, itemized and in a form satisfactory to the Chief Engineer. Upon verification of said statement by the Chief Engineer, the Contractor's claim for the full amount, as shown on said statement, will be added to the monthly partial payment made in accordance with Paragraph 7.06 of the General Provisions.

2.09 RIGHTS OF WAY

The District shall provide the rights of way upon which the work under this contract is to be done, except that the Contractor shall provide land required for the erection of temporary construction facilities and storage of his material, together with right of access to same. The District will not be responsible for any delay in furnishing the rights of way and such delay shall not be made the basis for a claim for additional compensation by the Contractor. However, in case the failure of the District to furnish the required rights of way delays the prosecution of the work, the time allowed for completion will be extended by a period of time equal to that lost by the Contractor due to such delay.

2.10 CLEANING UP

The Contractor shall, as directed by the Engineer, remove from the District's right of way and from all public and private property, at his own expense, all temporary structures, rubbish and waste materials resulting from his operations.

SECTION III - CONTROL OF THE WORK

3.01 AUTHORITY OF THE ENGINEER

The Engineer shall have general supervision and direction of the contract under authority of the Board of Supervisors. He has the authority to stop the work whenever such stoppage may be necessary to ensure the proper execution of the contract. The Engineer shall decide all questions which may arise as to the quality or acceptability of materials furnished, work performed, and rate or progress of the work; all questions which may arise as to the interpretation of the plans and specifications; all questions as to the acceptable fulfillment of the contract on the part of the Contractor; and all questions as to compensation.

His determination and decision thereon shall be final and conclusive; and such determination and decision, in case any question shall arise, shall be a condition precedent to the right of the Contractor to receive any money hereunder.

3.02 DETAIL DRAWINGS

The approved plans shall be supplemented by such working drawings as are necessary to control the work adequately. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made of any plan or drawing after the same has been approved by the Engineer, except by his direction.

It is expressly understood, however, that approval by the Engineer of the Contractor's working drawings does not relieve the Contractor of any responsibility for accuracy of dimensions and details. It is mutually agreed that the Contractor shall be responsible for agreement and conformity of his working drawings with the approved plans and specifications.

Full compensation for furnishing all working drawings shall be considered as included in the prices paid for the various contract items of work, and no additional allowance will be made therefor.

3.03 CONFORMITY WITH PLANS AND ALLOWABLE DEVIATIONS

Finished surfaces in all cases shall conform with the lines, grades, cross-sections, and dimensions shown on the approved plans. Deviations from the approved plans and working drawings, as may be required by the exigencies of construction, will in all cases be determined by the Engineer and authorized in writing.

3.04 INTERPRETATION OF PLANS AND SPECIFICATIONS

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these specifications and the Special Provisions, the Contractor shall apply to the Engineer for such further explanations as may be necessary and shall conform to the same part of the contract, so far as may be consistent with the original specifications; and in the event of any doubt or questions arising respecting the true meaning of the specifications; reference shall be made to the Engineer, whose decision thereon shall be final.

In the event of any discrepancy between any drawings and the figures written thereon, the figures shall be taken as correct. The Contractor will not be allowed to take advantage of errors and omissions in the drawings and specifications. When errors or omissions are found, they will be corrected or supplied by the Engineer.

3.05 SUPERINTENDENCE

The Contractor shall keep on his work, continually during its progress, a competent Superintendent responsible for the construction of the work, and any necessary assistants; all satisfactory to the Engineer. The Superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor. Important directions shall be confirmed in writing to the Contractor. Other directions shall be so confirmed on written request in each case.

3.06 LINES AND GRADES

The Contractor shall provide reasonable and necessary opportunities and facilities for setting points and making measurements. He shall not proceed until he has made timely demand upon the Engineer for, and has received from him, such lines and grades as may be necessary as the work progresses. The work shall be done in strict conformity with such lines and grades.

The Contractor shall carefully preserve benchmarks, reference points and stakes, and in case of willful or careless destruction, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

3.07 INSPECTION OF WORK

The Engineer and his representatives shall at all times have access to the work during its construction, and shall be furnished with every reasonable facility for ascertaining that the stock and materials used and employed, and the workmanship, are in accordance with the requirements and intentions of these specifications. All work done and all materials furnished shall be subject to the Engineer's inspection and approval to ensure design objectives.

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contracts as prescribed, and defective work shall be made good and unsuitable materials may be rejected, notwithstanding that such defective work and materials have been previously overlooked by the Engineer and accepted or estimated for payment.

3.08 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

All work which has been rejected shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed him for such removal or replacement. Any work done beyond the lines and grades shown on the plans or established by the Engineer, or any extra work done without written authority, will be considered as unauthorized and will not be paid for. Work so done may be ordered removed at the Contractor's expense. Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed and to deduct the costs for this work from any monies due or to become due the Contractor.

3.09 EQUIPMENT AND PLANT

Equipment not suitable to produce the quality of work required will not be permitted to operate on the project. Plants shall be designed and constructed in accordance with general practice for such equipment and shall be of sufficient capacity and of such character to ensure the production of sufficient material to carry the work to completion within the time limit.

The Contractor shall provide adequate and suitable equipment and plants to meet the above requirements and, when ordered by the Engineer, shall remove unsuitable equipment from the work and discontinue the operation of unsatisfactory plants. No worn or obsolete equipment shall be used, and in no case shall the maker's rating of the capacity for any equipment be exceeded.

All vehicles used to haul materials over existing highways shall be equipped with pneumatic tires.

3.10 FINAL INSPECTION

The Engineer will not make the final inspection until the work provided for and contemplated by the contract has been completed and the final cleaning up performed.

SECTION IV - CONTROL OF MATERIAL

4.01 DISTRICT FURNISHED MATERIALS

The Contractor shall furnish all materials required to complete the work, except those specified in the Special Provisions to be furnished by the District. Materials furnished by the District will be delivered to the Contractor at the points specified in the Special Provisions.

The Contractor will be held responsible for all materials so delivered to him, and deductions will be made from any monies due him to make good any shortages and deficiencies,

from any cause whatsoever, which may occur after such delivery, or for any demurrage charges due to delinquency in unloading.

4.02 SOURCE OF SUPPLY AND QUALITY OF MATERIALS

At the option of the Engineer the source of supply of each of the materials shall be approved by him before the delivery is started. Only materials conforming to the requirements of these specifications and approved by the Engineer shall be used in the work. All materials proposed for use may be inspected or tested at any time during their preparation and use. If, after trial, it is found that sources of supply which have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish approved material from other approved sources. No material which, after approval, subsequently becomes unfit for use shall be used in the work.

4.03 SAMPLES AND TESTS

All tests of materials furnished by the Contractor shall be made by the District in accordance with commonly recognized standards of national organizations, and such special methods and tests as are in use at the District's approved laboratory and described in the Detailed Specifications.

Field tests of materials will also be made by the Engineer when deemed necessary and these tests shall be made in accordance with standard practices of the District.

The Contractor shall furnish such samples of all materials as are requested by the Engineer without charge. No material shall be used until it has been approved by the Engineer. Samples will be secured and tested whenever necessary to determine the quality of the material.

Promptly after the approval of the contract, the Contractor shall notify the Engineer of the proposed sources of supply of all materials to be furnished by him, using a form which will be supplied by the Engineer upon request.

Whenever reference is made in these specifications to standard tests or requirements of the laboratory of the District, the American Society for Testing Materials, the American Railway Engineering Association, or the American Association of State Highway Officials, the reference shall be construed to mean the standards that are in effect at the date of these specifications with subsequent amendments, changes, or additions as thereafter adopted and published by the organization referred to.

4.04 STORAGE OF MATERIALS

Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. When considered necessary by the Engineer, they shall be placed on wooden platforms or other hard, clean surfaces and not on the ground. They shall be placed under cover when so directed. Stored materials shall be so located as to facilitate prompt inspection.

4.05 DEFECTIVE MATERIALS

All materials not conforming to the requirements of these specifications shall be considered as defective and all such materials, whether in place or not, shall be rejected and shall be removed immediately from the site of the work unless otherwise permitted by the Engineer. No rejected materials, the defects of which have been subsequently corrected, shall be used until approval in writing has been given by the Engineer. Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to remove and replace defective material and to deduct the cost of removal and replacement from any monies due or to become due the Contractor.

4.06 ASSIGNMENT OF CLAIMS

In submitting a bid on this public works project, or any subcontractor agreeing to supply goods, services, or materials, and entering a contract pursuant thereto, the Contractor and/or subcontractor do offer and agree to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

SECTION V - LEGAL RELATIONS AND RESPONSIBILITY

5.01 LAWS TO BE OBSERVED

(a) Compliance with Applicable Law. Reference to and/or incorporation into the Contract Documents of a particular law, statute, ordinance, rule or regulation is not, nor is it intended to be, a definitive statement of the law applicable to the Contract Documents and the accomplishment of the work. Contractor must keep informed as to all such applicable law - Federal, State, County, Municipal, District - as it affects the conduct of the work and comply with such law, including, but not limited to, having requisite licenses, obtaining necessary permits, paying necessary fees and taxes, posting notices and installing, operating and maintaining safety precautions and facilities. It is likewise Contractor's responsibility to see to it that his subcontractors also fully comply with such applicable law.

If at any time Contractor is of the opinion that there is a discrepancy or inconsistency in the plans, drawings, specifications or other Contract Documents, he shall immediately cease work involving such alleged discrepancies or inconsistencies and report the same in writing to the Chief Engineer and shall not proceed with such work until ordered so to do, and in the manner instructed by the Chief Engineer.

Contractor shall protect and defend District, its officers, agents and employees against any claim or liability arising from or based upon any alleged violation of such applicable law. See also Subsection 8.02.

(b) Labor Code - Reference is made to Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). By this reference said Chapter 1 is incorporated herein with like effect as if it were here set forth in full. The parties recognize that said Chapter 1 deals with, among other things, discrimination, penalties and forfeitures, their disposition and enforcement, wages, working hours and securing workers' compensation insurance and directly affect the method of prosecution of the work by Contractor and subject it under certain conditions to penalties and forfeitures. Execution of the Agreement by the parties constitutes their agreement to abide by said Chapter 1. Their stipulation as to all matters which they are required to stipulate as to by the provisions of said Chapter 1, constitutes Contractor's certification that it is aware of the provisions of said Chapter 1 and will comply with them and further constitutes Contractor's certification as follows: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract." Contractor and its subcontractors shall comply with the provisions of S1777.5 of the Labor Code regarding apprentices.

Contractor shall post at each job site during the course of the work a copy of County's "Determination of Prevailing Wage Rates", copies of said Determination are available from County for this purpose.

(c) Equal Employment Opportunity

General - Contractor shall not discriminate in its recruiting, hiring, promotion, demotion or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age or physical handicap in the performance of this Contract and shall comply with the provisions of the Government Code Section (commencing with §12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), as amended, and all administrative rules and regulations issued pursuant to said Acts and Order. See particularly 41 Code of Federal Regulation (CFR) Chapter 60.

Contractor shall require each of its subcontractors to comply with the preceding paragraph and shall include in each subcontract language similar to the preceding paragraph.

Contractor shall permit access to its records of employment, employment advertisement, application forms and other pertinent data and records by Owner and any state or federal agency having jurisdiction for the purpose of investigation to ascertain compliance with this Section.

Owner may assign an affirmative action representative to monitor Contractor and its subcontractor(s) conduct required by this Section, including the right of entry to the construction site for the purpose of obtaining information from persons performing work on the project providing such inspection does not interfere with the progress of the work.

Elsewhere in the Contract Documents specific requirements may be contained covering the same subject matter of this Section. If so, such specific requirements prevail over this Section in case of conflict.

Transactions of \$10,000 or under - Contracts and subcontracts not exceeding \$10,000 are exempt from the requirements of this Section. No Contractor or subcontractor shall procure supplies and/or services in less than usual quantities to avoid applicability of this Section. With respect to contracts and subcontracts for indefinite quantities, this Section applies unless the amount required in any one year under such contract will reasonably be expected not to exceed \$10,000.

Transactions in Excess of \$10,000 but less than \$50,000 - At Owner's request, Contractor shall certify that it has in effect an affirmative action plan and agrees to comply with all state and federal laws and regulations regarding Fair Employment Practices. Contractor shall maintain a written copy of its affirmative action plan and furnish Owner a copy of the plan upon request. Owner may require Contractor to complete an Affirmative Action Compliance Report, on a form furnished by Owner, setting forth definite goals during the term of this contract.

Transactions of \$50,000 or more - If Contractor has 50 or more employees and a contract for \$50,000 or more, it shall develop and submit to Owner, within 30 days after award, a written affirmative action compliance program providing in detail specific steps to guarantee equal employment opportunity. Contractor shall include in its affirmative action program a table of job classifications, which table shall include but need not be limited to job titles, duties and rates of pay.

Contractor shall in each subcontract let to do a portion of the work covered hereunder, where the subcontractor involved has 50 or more employees and the subcontract is for \$50,000 or more, impose in the subcontract the above requirements.

For the purpose of determining the number of employees, the average of the Contractor's or its subcontractor's employees for the 12 month period immediately prior to award, or the total number of employees Contractor or its subcontractor will have when performing this contract, whichever is higher, shall be used.

Federally Assisted Construction - If this project is a Federally assisted construction project, then the contract provisions contained 41 CFR S60-1.4(b) are incorporated herein and Contractor shall likewise incorporate said provisions in each subcontract entered into by Contractor to perform the work. Federally assisted construction is identified as such in the Notice Inviting Bids.

(d) Registration of Contractors - In order to be considered a prospective bidder must be licensed in accordance with Division 3, Chapter 9 (commencing with Section 7000) of the Business and Professions Code.

(e) Accident Prevention - Particular attention shall be given to relevant Division of Industrial Safety Construction and Electrical Safety Orders. Said Orders are contained in Title 8 of the California Administrative Code, Chapter 4, Subchapters 4 and 5. Specific attention shall be taken of the California Occupational Safety and Health Act of 1973 (commencing with Section 6300 of the Labor Code) and the Federal Occupational Safety and Health Act of 1970 (P.L. 91-596) and rules and regulations issued pursuant to said Acts. Specific reference is made to Article 6 of said Construction Safety Orders. Contractor shall submit to Engineer, who will

accept in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping of the sides of trenches, or other provisions to be made for protection of personnel during earthwork operations. In event the Contractor's plan does not conform with the shoring system requirements of Article 6, the Contractor's proposed shoring design shall be prepared and signed by a civil or structural engineer registered in the State of California.

The Contractor shall also impose the foregoing requirements on all subcontractors involved and enforce compliance therewith.

The duties here set forth are nondelegable by Contractor who shall protect and defend District, its officers, agents and employees in connection therewith. See Subsection 8.02.

5.02 CONTRACTOR'S RESPONSIBILITY

Contractor is under the absolute duty in fulfilling its contractual obligations hereunder to proceed, and cause its subcontractors to proceed, in a safe, workmanlike manner, with adequate safeguards for the protection of the public, the workmen and persons from time to time inspecting the work. If at any time Contractor finds any of its subcontractors are allowing work to proceed in an unsafe manner and contrary to the intent of these Contract Documents, Contractor shall immediately cause such action to stop and immediately take all action necessary to protect workmen, inspectors and the general public and cause the work to proceed in a safe manner.

Contractor shall protect and defend District, its officers, agents and employees in reference to acts or omissions contrary to the above. See particularly Subsection 8.02.

District may withhold funds otherwise due Contractor whenever, in its judgment, this subsection is not being complied with.

5.03 CONTRACTOR'S RESPONSIBILITY FOR WORK

Until the formal acceptance of the work by the District, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the nonexecution of the work. The Contractor shall rebuild, repair, restore, and make good all injuries or damages to any portion of the work occasioned by any of the above causes before its completion and acceptance and shall bear the expense thereof, except for such injuries or damages as are occasioned by acts of the Federal Government and the public enemy. In case of suspension of work from any cause whatever, the Contractor shall be responsible for all materials and shall properly store them if necessary and shall erect temporary structures where necessary.

5.04 PROPERTY RIGHTS IN MATERIALS

Nothing in the contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil. All such materials shall become the property of the District upon being so attached or affixed.

5.05 PERMITS AND LICENSES

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work.

5.06 ROYALTIES AND PATENTS

The Contractor shall assume all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated on the work, and agrees to indemnify and save harmless the Riverside County Flood Control District, the Board of Supervisors, the Flood Control Engineer, and their duly authorized representatives, from all suits at law, or actions of every nature for, or on account of, the use of any patented materials, equipment, devices, or processes.

5.07 SANITARY PROVISIONS

Necessary conveniences, properly secluded from public observation shall be provided by the Contractor where needed for the use of laborers on the work. Their location, construction and maintenance shall be subject to the approval of the Engineer, and their use shall be strictly enforced. The Contractor shall obey and enforce such sanitary regulations as may be prescribed by the State Department of Health or other authorities having jurisdiction.

5.08 PUBLIC SAFETY

The Contractor at his own expense shall furnish, erect, and maintain such fences, barriers, lights, and signs as are necessary to give adequate warning to the public at all times that the bridges, culverts, and work along public highways are under construction; and of any dangerous conditions to be encountered as a result thereof; and he shall erect such warning and directional signs and employ such flagmen as are required and maintain same throughout the construction period.

Full compensation for the work involved in carrying out the precautionary measures above specified shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

5.09 USE OF EXPLOSIVES

When the use of explosives is necessary for the prosecution of the work, the Contractor shall use the utmost care not to endanger life or property.

All explosives shall be stored in accordance with the provisions of Division II, Part I, Chapter 3, of the Health and Safety Code of the State of California.

5.10 PROVISIONS FOR EMERGENCIES

Unusual conditions may arise on the work which will require that immediate and unusual provisions be made to protect the public from danger or loss or damage to life and property, due directly or indirectly to the prosecution of the work, and it is part of the service required of the Contractor to make such provisions and to furnish such protection.

The Contractor shall use such foresight and shall take such steps and precautions as his operations make necessary to protect the public from danger or damage, or loss of life or property, which would result from the interruption or contamination of public water supply, irrigation or other public service, or from the failure of partly completed work.

Whenever work is undertaken pursuant to the above provisions, Contractor shall promptly file with District a verified report setting forth the nature of the emergency and the action taken by the Contractor by reason of the emergency.

Whenever, in the opinion of the Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the safety of the public or the protection of utilities or of adjacent structures or property which may be injured by process of construction on account of such neglect; and whenever, in the opinion of the Engineer, immediate action shall be considered necessary in order to protect public or private, personal or real property interests, or prevent likely loss of human life or damage on account of the operations under the contract, then and in that event the Engineer may provide suitable protection to said interests by causing such work to be done and material to be furnished as, in the opinion of the Engineer, may seem reasonable and necessary.

The cost and expense of all such emergency work shall be borne by the Contractor, and if he shall not pay said cost and expense upon presentation of the bills therefor, duly certified by the Engineer, then said cost and expense will be paid by the District and shall thereafter be deducted from any amounts due, or which may become due said Contractor. Failure of the District, however, to take such precautionary measures, shall not relieve the Contractor of his full responsibility for public safety.

5.11 UNFORESEEN DIFFICULTIES

All loss or damages, except as noted in Section 8.03, arising out of the nature of the work to be done under the contract, or from any unforeseen obstructions or difficulties which may be encountered during the progress of the work and in the prosecution of the same, or from the action of the elements, or from encumbrances in the line of work, shall be sustained by the Contractor.

5.12 ACCESS TO THE WORK

Access to the work from existing roads shall be provided by the Contractor at his expense and maintained in a manner so as not to create a public nuisance. The Board of Supervisors, Flood Control District and Engineer assume no responsibility for the condition or maintenance of any existing road or structure thereon that may be used by the Contractor for performing the work under these specifications and for traveling to and from the site of the work. No direct payment will be made to the Contractor for constructing temporary roads used for construction operations or for improving, repairing, or maintaining any existing road or structure thereon that may be used by the Contractor for performance of the work under these specifications. The cost of all work described in this paragraph shall be included in the prices bid in the schedule for other items of construction work.

5.13 GUARANTEE OF WORK

All work is guaranteed by Contractor for a period of one year from the recordation of the Notice of Completion against defects resulting from the use of inferior materials, equipment, or workmanship. Upon notice from District, Contractor shall promptly remedy such defects at his expense, including payment to District of its expenses in connection with remedying such defects, otherwise District shall proceed to remedy such defects and Contractor shall upon demand reimburse District for its expenses in connection therewith.

The above one year guarantee is in addition to any specific guarantee(s) provided for elsewhere in the Contract Documents.

5.14 DAMAGES BY ACT OF GOD

If the construction of the project herein is damaged, which damage is determined to have been proximately cause by an act of God, in excess of 5% of the contract amount, provided that the work damaged is built in accordance with applicable building standards and the plans and specifications, then the District, may, without prejudice to any other right or remedy, terminate the contract.

SECTION VI - PROSECUTION AND PROGRESS

6.01 PROGRESS OF THE WORK

The Contractor shall begin the work within ten (10) calendar days after the date of the receipt by him of notice to proceed from the Chief Engineer and shall diligently prosecute the same to completion within the time limit provided in the Special Provisions.

6.02 OVERTIME WORK AND WORK AT NIGHT

It is intended that the Contractor prosecute the work on a five (5) day, forty (40) hour work week with no work on legal holidays. If the Contractor feels it is necessary to work more than the normal 40 hour work week, he will make a written request for permission from the Engineer, outlining the reasons for such request. The decision of granting permission for overtime work shall be made by the Engineer and shall be final. A condition will be imposed on the granting of a request to work overtime, requiring the Contractor to pay the District the cost incurred at overtime rates for additional inspection and engineering time required in connection with the overtime work.

When any work is performed at night, only such classes of work shall be done as can be properly inspected. Adequate light must be provided for the safety of the men and for proper inspection.

6.03 SUBCONTRACTING

Reference is made to the Subletting and Subcontracting Fair Practice Act contained in the Public Contract Code (commencing §4100). By this reference, said Act is incorporated herein with like effect as if it were here set forth in full and the parties shall abide by its terms and substitution shall be only as allowed by that Act.

Contractor shall be responsible for the acts and omissions of its subcontractors and shall make certain that at all times its subcontractors comply with the terms of the Contract Documents and applicable law insofar as such compliance relates to the work.

District reserves the right to approve all subcontractors whether or not they are required to be listed in the Contractor's Proposal. As used in this Section "subcontractor" includes any person who fabricates or manufactures any article for incorporation into the work whether or not they install or test after installation or contract to install or test after installation, but does not include suppliers of fungible goods for incorporation into the work unless such supplier also installs or tests or contracts to install or test.

The Contractor shall give his personal attention to the fulfillment of the contract and shall keep the work under his control. The Contractor shall perform with his own organization work of a value amounting to not less than 60 percent of the remainder obtained by subtracting from the total original contract value the sum of any item designated herein or in the Special Provisions as Specialty Items. The furnishing and placing of reinforcing steel, when placing is performed by the supplier, will be considered as a Specialty Item for this purpose; however, he shall be designated in the list of subcontractors. The value of the work subcontracted will be based on the contract item bid price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

Where a portion of the work which has been subcontracted by the Contractor is not being prosecuted in a manner satisfactory to the District, the subcontractor shall be removed immediately on the requisition of the Engineer and shall not again be employed on the work.

6.04 CHARACTER OF WORKMEN

If any subcontractor or person employed by the Contractor shall fail or refuse to carry out the directions of the Engineer or shall appear to the Engineer to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the requisition of the Engineer, and such person shall not again be employed on this work.

6.05 TEMPORARY SUSPENSION OF THE WORK

The Engineer shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary, due to unsuitable weather, or to such other conditions as are

considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provision of the contract. The Contractor shall immediately comply with the written order of the Engineer to suspend the work wholly or in part. The work shall be resumed when conditions are favorable and methods are corrected, as ordered or approved in writing by the Engineer.

6.06 TIME OF COMPLETION AND DAMAGES

The Contractor shall complete the work called for under the contract in all parts and requirements within the number of working days specified in the Special Provisions.

A working day is hereby defined as any day; except Saturdays, Sundays, and legal holidays and days on which the Contractor is specifically required by the Special Provisions to suspend construction operations; on which the Contractor is not prevented by inclement weather or conditions resulting immediately therefrom adverse to the current controlling operation or operations, as determined by the Engineer, from proceeding with at least 60 percent of the normal labor and equipment force engaged in such operation or operations for at least five hours toward completion of such operation or operations.

The Engineer will furnish the Contractor a weekly statement showing the number of working days charged to the contract for the preceding week, the number of working days specified for completion of the contract, and the number of working days remaining to complete the contract. The Contractor will be allowed one week in which to file a written protest setting forth in what respects said weekly statement is incorrect, otherwise the statement shall be deemed to have been accepted by the Contractor as correct.

The following holidays will be considered as legal holidays: New Year's Day; Martin Luther King Jr.'s Birthday, Lincoln's Birthday; Washington's Birthday; Memorial Day; Independence Day; Labor Day; Columbus Day; Veteran's Day; Thanksgiving Day; Christmas; and such other days as are declared holidays by ordinance passed by the Board of Supervisors of Riverside County.

Contractor acknowledges that failure to perform in strict accordance with the Contract Documents and within the time limit specified in the Special Provisions will cause District to suffer special damages in addition to cost of completion of the work in accordance with the provisions of the Contract Documents. Such special damage could include, but is not limited to, lease and rental cost, additional salaries and overhead, interest during construction, attorney expense, additional engineering, inspection expense, cost of maintaining or constructing alternate facilities and injury to the property of the District or others. The daily cost to the District for inspection and superintendence by the District shall be the amount specified in the Special Provisions. The District may withhold from any money due or that may become due the Contractor under the contract, such amount as the District may elect to offset the damages incurred and any withholding or failure to withhold shall not in any way limit recovery for damages actually incurred.

It is further agreed that in case the work called for under the contract is not finished and completed in all parts and requirements within the time specified, the Board of Supervisors shall have the right to extend the time for completion or not, as may seem best to serve the interest of the District, and if it decides to extend the time limit for the completion of the contract, it shall further have the right to charge to the Contractor, his heirs, assigns or sureties and to deduct from the final payment for the work all or any part, as it may deem proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract, and which accrue during the period of such extension, except that cost of final surveys and preparation of final estimate shall not be included in such charges.

The Contractor shall not be assessed damages nor the cost of engineering and inspection during any delay in the completion of the work caused by acts of God or of the public enemy, acts of the District, encountering unknown utility facilities, fire, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and severe weather or delays of subcontractors due to such causes, provided that the Contractor shall notify the Engineer in writing of the causes of delay within ten (10) days from the beginning of any such delay, and his findings of the facts thereon shall be final and conclusive. Contractor shall not be assessed damages for delay in the completion of the project, when such delay was caused by the failure of the District or the owner of the utility facilities.

The term "severe weather" shall be construed to mean only such weather as is unreasonable or extraordinary and in the opinion of the Engineer, the work could not be prosecuted by the Contractor during the period throughout which such weather prevailed.

6.07 DELAYS AND EXTENSION OF TIME

If delays are caused by unforeseen causes beyond the control of either the Contractor or the District, such as war, strikes, fire, floods, or other action of the elements, such delays will entitle the Contractor to an equivalent extension of time for the completion of the contract, but the Contractor shall not be entitled to damages or additional payments over and above the contract price due to delay caused by any of the above-mentioned causes. Furthermore, if the Contractor suffers any delay caused by the failure of the District to furnish the necessary right of way or materials agreed to be furnished by it, or by failure to supply necessary plans or instructions concerning the work to be done after written request therefor has been made, the Contractor shall be entitled to an extension of time equivalent to the time lost for any of the above-mentioned reasons, but shall not be entitled to any damages for such delay.

6.08 ASSIGNMENT

The contract may be assigned only upon written consent of the District. Such written consent to sublet, assign or otherwise dispose of any portion of the contract, shall not be construed to relieve the Contractor of any responsibility for the fulfillment of the contract.

6.09 TERMINATION OF CONTRACT

Subject to all applicable provisions of these specifications and/or the contract to be entered into hereunder, the Engineer is hereby empowered to direct the time and rate of delivery of materials at the site of work and to direct the time, rate and sequence of work. If the Contractor fails to begin delivery of material and equipment or to commence work within the

time specified herein, and/or in the contract, or to maintain the rates of delivery of materials, or to execute the work in the manner and at such locations as directed by the Engineer, or fails to maintain a program of work in such a manner as will, in the judgment of the Engineer inure to interests of the District, or, if in the judgment of the Engineer, the Contractor is not carrying out the provisions of the contract in their true intent and meaning, written notice by the Chief Engineer may be served upon him and the Surety on his faithful performance bond demanding a satisfactory compliance with the contract, and with these specifications. If the Contractor and/or his Surety refuses or neglects to comply with such notice within five (5) days after receiving same, or after commencing so to do, fails to continue so to do, or has assigned or sublet the contract without the consent of the District, then the District may exclude him from the premises and take possession thereof, together with all material and equipment thereon, and may complete the work itself, either by force account or by letting the unfinished portion of the work to another Contractor or by a combination of such methods. In any event, the cost of the completion of said work shall be a charge against the Contractor and his Surety and may be deducted from any money due or becoming due from the District, and if the sums due under the contract are insufficient, said Contractor and/or his Surety shall pay to the District within five (5) days after the completion of the work all of such cost in excess of the contract price.

The Surety, in the event that it assumes part of the work, shall take the Contractor's place in this contract in all respects for that part and shall be paid by the District for all work performed by it in accordance with the terms of this contract. If the Surety assumes the entire contract, all monies remaining due the Contractor at the time of his default shall be made payable to the Surety as the work progresses, subject to the terms of the contract.

SECTION VII - PAYMENT

7.01 SCOPE OF PAYMENTS

The Contractor shall accept compensation, as herein provided, in full payment for furnishing all materials, labor, tools, and equipment necessary to the completed work and for performing all work contemplated and embraced under the contract; also for loss or damage arising from the nature of the work, or from the action of the elements, except as hereinbefore provided, or from any unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the Board of Supervisors; and for all risks of description connected with the prosecution of the work, also for all expenses incurred in consequence of the suspension or discontinuance of the work as herein specified; and for completing the work according to the plans and specifications. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligation to make good any defective work or material.

7.01A Measurement and Computation of Quantities - All items of the work to be paid for at a contract price per unit of measurement will be measured by the Engineer in accordance with United States Standard Measures. A ton shall mean 2,000 pounds, avoirdupois. Except as otherwise expressly provided in the specifications, the methods of measurement and computation of quantities of such items will be determined by the Engineer, taking into account the price of the item relative to its quantity and the costs of measurement.

The weights of metalwork, pipe, and other metal parts to be paid for by weight will be determined by the Engineer on the basis of handbook weights, scale weights, or manufacturer's

catalog weights, or in the absence of any of the foregoing, on the basis of estimated weights; provided, that weights of nonmetallic coatings will be excluded.

7.01B Payment at Contract Prices - The contract price for an item of the work shall include full compensation for all costs of that item, including the costs of any work, materials and equipment incidental to the item but not specifically shown or described in the drawings and specifications, subject only to such express limitations as may be stated in the specifications defining the item or prescribing payment therefor.

The contract prices shall include full compensation for all costs of any work, materials, and equipment required by the drawings and specifications at the time of contract award, but not covered by a contract price or otherwise expressly made the subject of direct payment.

7.02 PAYMENT AND COMPENSATION FOR ALTERED QUANTITIES

When alterations in plans or quantities of work are ordered and performed, the Contractor shall accept payment in full at the contract unit price for the actual quantities of work done and no allowance will be made for anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

7.03 FORCE ACCOUNT PAYMENT

When extra work is to be paid for on a force account basis, compensation will be determined as follows:

7.03A Work Performed by Contractor - The Contractor will be paid for labor, materials, and equipment rental as hereinafter provided, except where agreement has been reached to pay in accordance with Section 7.03B. Only materials incorporated in the work will be paid for.

To the total computed as provided in Sections 7.03A(1), 7.03A(2) and 7.03A(3) will be added the following percentages:

Labor	-	24 percent
Materials	-	15 percent
Equipment Rental	-	15 percent

It is understood labor, materials, and equipment may be furnished by the Contractor or by the subcontractor or by others on behalf of the Contractor.

When extra work paid for on a force account basis is performed by forces other than the Contractor's organization, the Contractor shall reach agreement with such other forces as to the distribution of the payment made by the District for such work and no additional payment therefor will be made by the District.

7.03A(1) Labor - The Contractor will be paid the cost of labor for the workmen (including foremen when authorized by the Engineer), used in the actual and direct performance of the work. The cost of labor, whether the employer is the Contractor, subcontractor, or other forces, will be the sum of the following:

7.03A(1a) Actual Wages - The actual wages paid will be as published by the Director of Industrial Relations of the State of California for the region where work is performed and that are in effect at the time of award of the contract. The classification of workmen used shall not be in excess of the industry standard for the region where work is performed. Copies of the published labor rates are on file at the District office.

7.03A(1b) Labor Surcharge - To the actual wages as defined in Section 7.03A(1a), will be added a labor surcharge set forth in the Special Provisions, which labor surcharge shall constitute full compensation for all payments imposed by State and Federal laws and for all other payments made to, or on behalf of, the workmen, other than actual wages as defined in Section 7.03A(1a) and subsistence and travel allowance as specified in Section 7.03A(1c).

7.03A(1c) Subsistence and travel allowance paid to such workmen as required by collective bargaining agreements.

7.03A(2) Materials - The cost of materials incorporated in the work will be the cost to the purchaser, whether Contractor, subcontractor or other forces, from the supplier thereof, except as the following are applicable:

7.03A(2a) If a cash or trade discount by the actual supplier is offered or available to the purchaser, it shall be credited to the District notwithstanding the fact that such discount may not have been taken.

7.03A(2b) If the materials are procured by the purchaser by any method which is not a direct purchase from and a direct billing by the actual supplier to such purchaser, the cost of such materials shall be deemed to be the price paid to the actual supplier as determined by the Engineer. No markup except for actual costs incurred in the handling of such materials will be permitted.

7.03A(2c) If the materials are obtained from a supply or source owned wholly or in part by the purchaser, payment therefor will not exceed the price paid by the purchaser for similar materials furnished from said source on contract items or on the current wholesale price for such materials delivered to the job site whichever price is lower.

7.03A(2d) If the cost of such materials is, in the opinion of the Engineer, excessive, then the cost of such materials shall be deemed to be the lowest current wholesale price at which such materials are available in the quantities concerned delivered to the job site, less any discounts as provided in Section 7.03(2a).

7.03A(2e) If the Contractor does not furnish satisfactory evidence of the cost of such materials from the actual supplier thereof, the cost shall then be determined in accordance with Section 7.03A(2d).

The District reserves the right to furnish such materials as it deems advisable, and the Contractor shall have no claims for costs and profit on such materials.

7.03A(3) Equipment Rental - The Contractor will be paid for the use of equipment at the rental rates listed for such equipment in the Special Provisions, regardless of ownership and any rental or other agreement, if such may exist, for the use of such equipment entered into by the Contractor. If it is deemed necessary by the Engineer to use equipment not listed in the Special Provisions, a suitable rental rate for such equipment will be established by the Engineer. The Contractor may furnish any cost data which might assist the Engineer in the establishment of such rental rate.

The rental rates paid as above provided shall include the cost of fuel, oil, lubrication, supplies, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.

Operators of rented equipment will be paid for as provided under Section 7.03A(1).

All equipment shall, in the opinion of the Engineer, be in good working condition and suitable for the purpose for which the equipment is to be used.

Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.

Individual pieces of equipment or tools having a replacement value of \$25.00 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.

Rental time will not be allowed while equipment is inoperative due to breakdowns.

In computing the rental time of equipment, less than 30 minutes shall be considered ½ hour.

7.03A(3a) Equipment on the Work - The rental time to be paid for equipment on the work shall be the time the equipment is in operation on the extra work being performed, and in addition, shall include the time required to move the equipment to location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location, except that moving time will not be paid for if the equipment is used at the site of the extra work on other than such extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made if the equipment is used at the site of the extra work on other than such extra work.

7.03A(3b) Equipment not on the Work - For the use of equipment moved in on the work and used exclusively for extra work paid for on a force account basis, the Contractor will be paid the rental rates listed in the Special Provisions or as agreed to as provided

in Section 7.03A(3) and for the cost of transporting the equipment to the location of the work and its return to its original location, all in accordance with the following provisions:

(1) The original location of the equipment to be hauled to the location of the work shall be agreed to by the Engineer in advance.

(2) The District will pay the costs of loading and unloading such equipment.

(3) The cost of transporting equipment on low bed trailers shall not exceed the hourly rates charged by established haulers.

(4) The cost of transporting equipment shall not exceed the applicable minimum established rates of the Public Utilities Commission.

(5) The rental period shall begin at the time the equipment is unloaded at the site of the extra work, shall include each day that the equipment is at the site of the extra work, excluding Saturdays, Sundays, and legal holidays unless the extra work is performed on such days, and shall terminate at the end of the day on which the Engineer directs the Contractor to discontinue the use of such equipment. The rental time to be paid per day will be in accordance with the following:

<u>Hours Equipment is in Operation</u>	<u>Hours to be Paid</u>
0.....	4
0.5.....	4.25
1.....	4.5
1.5.....	4.75
2.....	5
2.5.....	5.25
3.....	5.5
3.5.....	5.75
4.....	6
4.5.....	6.25
5.....	6.5
5.5.....	6.75
6.....	7
6.5.....	7.25
7.....	7.5
7.5.....	7.75
8.....	8
Over 8.....	hours in operation

When hourly rates are listed, less than 30 minutes of operation shall be considered to be 1/2 hour of operation.

When daily rates are listed, payment for 1/2 day will be made if the equipment is not used. If the equipment is used, payment will be made for one day.

The minimum rental time to be paid for the entire rental period on an hourly basis shall not be less than 8 hours or if on a daily basis shall not be less than one day.

(6) Should the Contractor desire the return of the equipment to a location other than its original location, the District will pay the cost of transportation in accordance with the above provisions, provided such payment shall not exceed the cost of moving the equipment to the work.

(7) Payment for transporting, loading and unloading equipment, as above provided, will not be made if the equipment is used on the work in any other way than upon extra work paid for on a force account basis.

7.03B Work Performed by Special Forces or Other Special Services - When the Engineer and the Contractor, by agreement, determine that a special service or an item of extra work cannot be performed by the forces of the Contractor or those of any of his subcontractors, such service or extra work item may be performed by a specialist. Invoices for such service or item of extra work on the basis of the current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with the established practice of the special service industry to provide such complete itemization. In those instances wherein a Contractor is required to perform extra work necessitating a fabrication or machining process in a fabrication or machine shop facility away from the job site, the charges for that portion of the extra work performed in such facility may, by agreement, be accepted as a specialist billing.

To the specialist invoice price, less a credit to the District for any cash or trade discount offered or available, whether or not such discount may have been taken, will be added 15 percent in lieu of the percentages provided in Section 7.03A.

7.03C Records - The Contractor shall maintain his records in such a manner as to provide a clear distinction between the direct costs of extra work paid for on a force account basis and the costs of other operations.

The Contractor shall furnish the Engineer report sheets in duplicate of each day's extra work paid for on a force account basis no later than the working day following the performance of said work. The daily report sheets shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the Contractor, subcontractor, or other forces, except for charges described in Section 7.03B. The daily report sheets shall provide names or identifications and classifications of workmen, the hourly rate of pay and hours worked, and also the size, type and identification number of equipment, and hours operated.

Material charges shall be substantiated by valid copies of vendor's invoices. Such invoices shall be submitted with the daily report sheets, or if not available, they shall be submitted with subsequent daily report sheets. Should said vendor's invoices not be submitted within 15 days after acceptance of the work, the District reserves the right to establish the cost of such materials at the lowest current wholesale prices at which said materials are available in the quantities concerned delivered to the location of the work, less any discounts provided in Section 7.03A(2a).

Said daily report sheets shall be signed by the Contractor or his authorized agent.

The Engineer will compare his records with the daily report sheets furnished by the Contractor, make any necessary adjustments, and compile the costs of work paid for on a force account basis on daily extra work report forms furnished by the District. When these daily extra work reports are agreed upon and signed by both parties, they shall become the basis of payment for the work performed, but shall not preclude subsequent adjustment based on a later audit.

The Contractor's cost records pertaining to work paid for on a force account basis shall be open to inspection or audit by representatives of the District, during the life of the contract and for a period of not less than 18 months after the date of acceptance thereof, and the Contractor shall retain such records for that period. Where payment for materials or labor is based on the cost thereof to forces other than the Contractor, the Contractor expressly guarantees that the cost records of such other forces shall be open to inspection and audit by representatives of the District on the same terms and conditions as the cost records of the Contractor. If an audit is to be commenced more than 60 days after the acceptance date of the contract, the Contractor will be given a reasonable notice of the time when such audit is to begin.

7.03D - Payment as provided above in Sections 7.03A and 7.03B shall constitute full compensation to the Contractor for performance of work paid for on a force account basis and no additional compensation will be allowed therefor.

7.04 ACCEPTANCE

The work shall be inspected for acceptance by the Engineer promptly upon receipt of notice in writing from the Contractor that the work is ready for such inspection.

The structures will not be finally accepted until the completion of the entire work under the contract.

7.05 DEDUCTIONS FROM PAYMENTS

The Riverside County Flood Control and Water Conservation District, by and through the Board of Supervisors or other appropriate District officer or officers, may at its option and at any time retain out of any amounts due the Contractor sums sufficient to cover any unpaid claims, provided that sworn statements of said claims shall have been filed in the office of the District or in the office of any other District officer or officers having jurisdiction thereover.

7.06 PARTIAL PAYMENTS

On or about the last day of each month, the Engineer shall make an estimate in writing of the total amount of work done by the Contractor to the time of such estimate and the value thereof. The District shall retain 10 percent (10%) of such estimated value of the work done as part security for the fulfillment of the contract by the Contractor, except that at any time after 50 percent (50%) of the work has been completed, if the District finds that satisfactory progress is being made, the District may make any of the remaining progress payments in full for actual work completed during such estimate period or may withhold any amount up to 10 percent (10%) thereof as the District may find appropriate based on the Contractor's progress. At no

time shall the amount retained by the District be less than 5 percent (5%) of the total value of the work completed at the time such payments are made.

After deducting all previous payments and all sums to be kept or retained under the provisions of the contract, the District shall make monthly progress payments to the Contractor. No such estimate or payment shall be required to be made when, in the judgment of the Chief Engineer, the work is not proceeding in accordance with the provisions of the contract.

In accordance with Public Contract Code Section 22300 and other applicable law, the Contractor may substitute securities for any monies withheld to ensure performance under the contract. Such substitution shall be made only upon a separate agreement between the District and the Contractor which contains terms and conditions in compliance with all laws applicable to monies withheld under the contract.

7.07 DELAYED PAYMENTS

All the monies due the Contractor under the contract will be paid by demand on the Treasurer of the District, prepared and approved as required by law, and it is understood that any delay in the preparation, approval and payment of these demands will not constitute a breach of contract on the part of the District.

7.08 FINAL PAYMENT

The Engineer, after the completion of the contract, shall make a final estimate in writing to the Board of Supervisors of the amount of work done thereunder, and the value of such work, and the District shall pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the contract. All prior partial estimates and payment shall be subject to correction in the final estimate and payment. The final payment shall not be due and payable until the expiration of forty-five (45) days from the date of acceptance of the work by the Board of Supervisors.

It is mutually agreed between the parties to the contract that no certificate given or payments made under the contract, except the final payment, shall be conclusive evidence of the performance of the contract, either wholly or in part against any claim of the party of the first part, and no payment shall be construed to be an acceptance of any defective work or improper materials.

And the Contractor further agrees that the payment of the final amount due under the contract, and the adjustment and payment for any work done in accordance with any alterations of the same, shall release the Riverside County Flood Control and Water Conservation District, the Board of Supervisors, and the Engineer from any and all claims or liability on account of work performed under the contract or any alteration thereof.

7.09 CLAIMS RESOLUTION

In accordance with Public Contract Code Section 20104 - 20104.6 and other applicable law, public works claims of \$375,000 or less which arise between the Contractor and the District shall be resolved following the statutory procedure unless the District has elected to resolve the dispute pursuant to Public Contract Code § 10240 et seq.

1. All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before the date of final payment unless other notice requirements are provided in the contract. "Claim" means a separate demand by the claimant for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the claimant and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled, or (3) an amount the payment of which is disputed by the District.

- (a) Claims under \$50,000. The District shall respond in writing to the claim within 45 days of receipt of the claim, or, the District may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the District may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the District and the claimant. The District's written response shall be submitted 15 days after receiving the additional documentation, or within the same period of time taken by the claimant to produce the additional information, whichever is greater.
- (b) Claims over \$50,000 but less than or equal to \$375,000. The District shall respond in writing within 60 days of receipt, or, may request in writing within 30 days of receipt of the claim, any additional documents supporting the claim or relating to defenses or claims the District may have against the claimant. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the District and the claimant. The District's response shall be submitted within 30 days after receipt of the further documents, or within the same period of time taken by the claimant to produce the additional information or documents, whichever is greater.

2. If the claimant disputes the District's response, or if the District fails to respond within the statutory time period, the claimant may so notify the District within 15 days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement. Upon such demand, the District shall schedule a meet and confer conference within 30 days.

3. If following the meet and confer conference, the claim or any portion thereof remains in dispute, the claimant may file a claim pursuant to Government Code § 900 et seq. and Government Code § 910 et seq. For purposes of those provisions, the time within which a claim must be filed shall be tolled from the time the claimant submits the written claim until the time the claim is denied, including any time utilized for the meet and confer conference.

4. If a civil action is filed to resolve any claim, the provisions of Public Contract Code § 20104.4 shall be followed, providing for nonbinding mediation and judicial arbitration.

SECTION VIII - GENERAL

8.01 COOPERATION BETWEEN CONTRACTORS

The Contractor shall be required to cooperate fully with all utility and public agency representatives engaged in construction, relocation, altering or otherwise rearranging any facilities interfering with the progress of the work.

Full compensation for any delay or inconvenience to the Contractor's operation due to such operations as described above shall be considered included in the unit price paid for other items of work and no additional allowance will be made therefor.

8.02 INSURANCE - HOLD HARMLESS

Contractor shall not commence work under this contract until he has obtained the insurance required hereunder and satisfactory proof of said insurance has been submitted to District and has been approved as to form by Riverside County Counsel.

Compensation Insurance - Contractor shall procure and maintain during the life of the contract Workers' Compensation Insurance as required by the State of California. Contractor shall further require each of its subcontractors to procure Workers' Compensation Insurance as required by the State while working on the project.

Liability Insurance - Contractor shall take out and maintain during the course of the work combined single limit liability insurance covering bodily injury and property damage insurance and blanket contractual coverage as to the work and obligations covered hereunder in an amount not less than \$2,000,000, or the equivalent thereof. Said insurance must contain an endorsement that District, County of Riverside, and any municipal corporation in which the work is to be accomplished, are named as an additional insured as respects the work covered hereunder. Said insurance must not contain, as respects the work covered hereunder, any exclusions as to bodily injury or death or property damage arising out of blasting, explosion, or underground damage to wire, pipes, conduits, mains, sewers, tank tunnels or any similar property, i.e., the so-called "x c u" exclusions. The insurance certificate evidencing such insurance must affirmatively state that the insurance carrier(s) will give Owner thirty (30) days written notice prior to cancellation of the insurance or a reduction in coverage; must state that the "x c u" exclusions are waived or do not exist in the policy(s); and that District, County of Riverside, and any municipal corporation in which the work is to be accomplished, are named as an additional insured as respects the work covered hereunder.

In the alternate to naming Owner and County of Riverside, and any municipal corporation in which the work is to be accomplished, as additional insured, Contractor may take out and maintain during the course of the work and until acceptance by Owner, Owner's Protective Liability Insurance amount not less than \$2,000,000 covering District, County of Riverside, and any municipal corporation in which the work is to be accomplished.

The cost of this insurance shall be included in the prices bid for the various items of work and no additional compensation will be made therefor.

Hold Harmless - Contractor shall hold District, County of Riverside and any municipal corporation in which the work is to be accomplished, together with the officers, agents and employees of each, free and harmless from any liability whatsoever, including wrongful death, based or asserted upon any act or omission of Contractor, its officers, agents, employees or subcontractors, relating to or in any way connected with or arising from the accomplishment of the work, whether or not in furtherance of the work; and Contractor agrees to protect and defend, including all attorney fees and other expenses, each of the foregoing bodies and persons in any legal action based or asserted upon any such acts or omissions.

Obligations - The obligations assumed by Contractor cover all obligations set forth in this Subsection and elsewhere in the Contract Documents, such as Subsections 5.01, 5.02, 5.05, 5.06, 5.08, 5.09, 5.10, 10.01, and 10.02.

8.03 PUBLIC UTILITIES

The locations of all pipelines, power lines, communication lines and other utility components known to District to exist within the limits of the work, are indicated on the drawings and may be the subject of a specific Special Provision(s). Size, location and characteristics of such utilities is based upon information made available to District - primarily from the owner of the utility in question. The exactness of such information is not guaranteed but may be assumed to have been accomplished with reasonable accuracy.

In addition to the drawings and any such provision regarding utilities, Contractor is under a duty to take into account the location of service laterals or other appurtenances which can be inferred from the presence of facilities such as buildings, meters and junction boxes in or about the limits of the work.

Unless otherwise directed by the Contract Documents, all existing utilities - where shown or described or not - shall be left in place and Contractor must conduct its operations so that such utilities are protected from damage at all times during the course of the work and the work must be accomplished so as to give such utilities proper protection and support upon completion of the work by Contractor.

If during the course of the work, Contractor discovers underground utility components not indicated in the drawings, the Special Provisions or elsewhere in the Contract Documents, Contractor must immediately notify, in writing, the Engineer and the utility company (public or private) involved, stating with exactness the condition found.

When Contractor encounters a utility not shown or described in the Contract Documents, Contractor shall cease all work which would disturb such utility and its support until given specific instructions as to how to proceed regarding such utility by Engineer. All work done by Contractor to protect existing utilities shown or described in the Contract Documents, or which can be reasonably inferred from the presence of other visible facilities, is at Contractor's expense, the cost of which is deemed included in Contractor's Proposal to do the work.

Contractor's cost of locating, repairing damage not due to the failure of Contractor to exercise reasonable care, and removing or relocating utility components and facilities not indicated in the drawings, specifications or elsewhere in the Contract Documents with reasonable accuracy, shall be paid Contractor as Extra Work as provided in Subsection 2.07 and Subsection 7.03 of the General Provisions. Compensation for idle time of equipment shall be paid as provided in Section 8-1.09, "Right of Way Delays", of the State Standard Specifications. No surcharge rates for equipment will be applied for idled equipment.

District may direct the Contractor to do such repair or relocation work as required. When such repair or relocation work is not elsewhere provided for in these Contract Documents, or reasonably inferred therefrom, a requirement of District that Contractor perform such work shall be compensated for as Extra Work pursuant to Subsections 2.07 and 7.03 of these General Provisions.

Contractor shall not be assessed liquidated damages for delay in completion of the project, if such delay is caused by failure of District, or the owner of the utility in question, to provide for removal or relocation of the utility involved.

8.04 PROTECTION OF EXISTING STREET FACILITIES

The Contractor shall be responsible for the protection of existing signs, fences, concrete curbs, gutters and other facilities which may be encountered. The replacement or repair of any facilities which the District deems necessary as a result of the Contractor's operations shall be done by the Contractor at his own expense and to the satisfaction of the Engineer.

Excavation within the street right of way shall be conducted in a manner to cause the least interruption to traffic. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways. Hydrants under pressure, valve pipe covers, valve boxes, curb stop boxes, fire or police call boxes, or other utility controls shall be left unobstructed and accessible during construction.

8.05 DIVERSION AND CONTROL OF WATER

Unless otherwise provided in the Proposal, no separate payment will be made for diversion and control of surface or groundwater. All costs incidental to maintaining dry working areas shall be included in the unit prices paid for other items of work in the schedule.

8.06 DUST ABATEMENT

During the performance of all work included in the contract, the Contractor shall take the necessary precautions to save the District free and harmless from any loss or damage resulting from his operations that raise or produce dust in such amounts that will be objectionable, and/or cause damage to adjacent property or property owners.

The Contractor will be required to have a positive and continuous method of dust control which is satisfactory to the Engineer. The methods to be used for controlling dust in the

construction area and along haul roads shall be approved by the Engineer prior to starting any of the work included in the contract. All costs incidental to dust control shall be included in the unit prices paid for other items of work in the schedule.

8.07 PROJECT SIGNS

The Contractor shall erect project signs at the locations designated by the Engineer.

No separate payment will be made for erecting the project signs and all costs in connection therewith will be considered a subsidiary obligation of the Contractor.

8.08 EXAMINATION OF PLANS, SPECIFICATIONS, CONTRACT, AND SITE OF WORK

The bidder shall examine carefully the site of the work contemplated, the plans and specifications, and the proposal and contract forms therefor. The submission of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of work to be performed, the quantities of materials to be furnished, and as to the requirements of the proposal, plans, specifications, and the contract.

Where the District has made investigations of subsurface conditions in areas where work is to be performed under the contract, or in other areas, some of which may constitute possible local material sources, such investigations are made only for the purpose of study and design. Where such investigations have been made, bidders or Contractors may, upon request, inspect the records of the District as to such investigations subject to and upon the conditions hereinafter set forth. Such inspection of records may be made at the office of the District.

The records of such investigations are not a part of the contract and are shown solely for the convenience of the bidder or Contractor. It is expressly understood and agreed that the District assumes no responsibility whatsoever in respect to the sufficiency or accuracy of the investigations thus made, the records thereof, or of the interpretations set forth therein or made by the District in its use thereof and there is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout such areas, or any part thereof, or that unlooked-for developments may not occur, or that materials other than, or in proportions different from those indicated, may not be encountered.

When a log of test borings showing a record of the data obtained by the District's investigation or subsurface conditions is included with the contract plans, it is expressly understood and agreed that said log of test borings does not constitute a part of the contract, represents only the opinion of the District as to the character of the materials encountered by it in its test borings, is included in the plans only for the convenience of bidders and its use is subject to all of the conditions and limitations set forth in this Section 8.08.

No information derived from such inspection of records of investigations or compilation thereof made by the District or from the Engineer, or his assistants, will in any way relieve the bidder or Contractor from any risk or from properly fulfilling the terms of the contract.

SECTION IX - WATERING

9.01 DESCRIPTION

This work shall consist of developing a water supply for all water required for the work. The application of the water shall be under the control of the Engineer at all times and shall be applied in the amounts and at the locations approved by the Engineer.

At least one mobile unit of at least 1,000-gallon capacity for applying water shall be available on the project at all times.

Water for compacting embankment material and for laying dust shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses with nozzles that will ensure a uniform application of water.

No separate payment or additional allowances will be made for this work and all costs in connection therewith will be considered as included in other items in the schedule.

SECTION X - PUBLIC CONVENIENCE, TRAFFIC CONTROL AND DETOURS

10.01 GENERAL

The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to the public and he shall have under construction no greater length or amount of work than he can prosecute properly with due regard to the rights of the public.

Unless otherwise provided in the Special Provisions, all public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible.

Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately at the Contractor's expense.

Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property owners.

Convenient access to driveways, houses and buildings along the line of work shall be maintained and temporary approaches to crossings or intersecting highways shall be provided and kept in good condition.

10.02 SIGNS

It shall be the responsibility of the Contractor to provide and maintain all lights, barricades and signs, both on and off the site of work, as required by the Engineer, and all such devices shall be of a type approved by him.

If, in any case, the Engineer finds it necessary to replace, add to or erect said barricades, signs, or lights, when the Contractor fails to do so when informed, the Contractor shall be billed for all costs thereof including a daily rental fee for signs.

No separate payment, unless otherwise provided for under the Special Provisions, will be made for traffic control and detour signing and all costs incidental to these items shall be included in the unit prices paid for other items of work.

10.03 MATERIALS STORAGE

Storing or stockpiling of excavated material, imported backfill material or construction materials on any street or highway will not be permitted except as approved in writing by the Engineer.

SPECIAL PROVISIONS
AND
DETAILED SPECIFICATIONS

SPECIAL PROVISIONS

SECTION 1 - GENERAL

1.1 Drawings and Specifications - These documents are for the construction of **La Sierra Channel and Arlington Channel Repairs**, located in the community of Home Gardens and the city of Riverside, respectively, Riverside County, California. This work shall conform with the two (2) different sets of contract drawings indexed on the cover sheet of the drawings included herewith.

Referenced standard drawings are available on the District web site.

The Contractor shall copy any of the referenced District standard drawings from <http://www.rcflood.org>.

The Contractor shall be responsible to obtain referenced standard plans/drawings of various agencies from their respective office or web site.

References made in these Special Provisions or Detailed Specifications to the "Standard Specifications" refer to the "Greenbook" Standard Specifications for Public Works Construction, current edition, including supplements. Standard Specifications of the American Society for Testing and Materials shall be designated by ASTM and the appropriate number of the standard. Unless otherwise specified, wherever the words "State Standard Specifications" are used in these Special Provisions or Detailed Specifications they shall mean the Standard Specifications of the State of California, Department of Transportation, current edition. Whenever the words "Caltrans Standards" are used they shall mean the Standard Plans of the State of California, Department of Transportation, 2006 edition.

In the event that discrepancies are encountered, the option that provides the method, item or material with the greatest strength or utility shall be chosen, as directed by the Engineer.

Requirements on the construction plans for Portland Cement Concrete are modified to the PCC Class designations, as described in Section 90-1.01 of the 2006 State Standard Specifications, as follows:

Class "A" shall mean Class "2"

Class "B" shall mean Class "3"

Class "C" shall mean Class "4"

Class "D" shall mean Class "1"

In case of conflict between the drawings and the specifications, the drawings shall govern; in case of conflict between the referenced specifications and these specifications, the latter shall govern.

**SECTION 2 - TIME OF COMPLETION, DAMAGES AND
LEGAL HOLIDAYS**

2.1 **General** - The Contractor shall begin work within ten (10) calendar days after the date of receipt of Notice to Proceed from the Engineer and shall diligently prosecute the same to completion before the expiration of

FORTY (40) WORKING DAYS

from the date of receipt of Notice to Proceed.

2.2 **Damages** - The Contractor and the District expressly agree that the cost to the District for inspection and superintendence of the work for this contract is **\$800.00** per working day.

2.3 **Legal Holidays** - The Contractor will not be permitted to work on Legal Holidays (Reference Sections 6.02 and 6.06 of the General Provisions), except in cases of emergency as directed by the Engineer.

SECTION 3 - FORCE ACCOUNT PAYMENT

3.1 **Labor Surcharge** - Attention is directed to the provisions of Section VII, Article 7.03A (1b) of the General Provisions. The labor surcharge percentage to be applied to the actual wages paid as defined in Paragraph 7.03A (1a) will be twenty-four percent (24%).

3.2 **Equipment Rental** - Attention is directed to the provisions of Section VII, Article 7.03A (3) of the General Provisions. The equipment rental rates to be applied will be the rates published by the California Department of Transportation and in effect at the time of the award of the contract. A copy of said Equipment Rental Rates is on file at the District Office.

SECTION 4 - PROTECTION OF EXISTING UTILITIES

4.1 **General** - All existing underground utility lines, power poles and overhead wiring shall be protected in place at all times, except as noted otherwise on the plans. Any damage to utilities caused by the Contractor's operation shall be repaired or replaced at the Contractor's expense.

Prior to the commencement of any construction activities, the Contractor shall contact all utility companies and local municipalities servicing the project area to review as-built utility drawings and determine appropriate means of protecting utilities.

At the discretion of the Engineer, the Contractor may be required to verify, by potholing, the location of potentially affected utilities.

SECTION 5 - PROJECT SITE MAINTENANCE

Through all phases of construction, the Contractor shall comply with the provisions of Section 7-8 of the Standard Specifications. Before final acceptance of the work, the Contractor shall clean the work and the site of the work of all falsework, temporary structures, other construction materials and equipment, excess materials and rubbish, and shall leave the work and the site in a neat and presentable condition. Such final cleanup work shall be performed within the time specified for completion of all of the work.

SECTION 6 - SPECIAL REQUIREMENTS

6.1 National Pollutant Discharge Elimination System (NPDES) – The Contractor shall comply with the requirements of Board Order No. R8-2010-0033 (NPDES No. CAS618033), NPDES Area-Wide Municipal Stormwater Permit, hereafter referred to in this Section as the "Permit", issued by the California Regional Water Quality Control Board (CRWQCB) – Santa Ana Region. This Permit regulates stormwater discharges associated with construction activities performed under the direction of a municipal stormwater permittee. The Contractor shall prepare and implement a Pollution Prevention Plan (PPP) in accordance with Section 29 "Stormwater and Non-Stormwater Pollution Control" of the Detailed Specifications.

The Contractor's attention is directed to: 1) Section 29.2 "General Requirements" which allows the Engineer to withhold progress payments if the Contractor fails to fully implement Section 29 "Stormwater and Non-Stormwater Pollution Control" or is deemed to be in non-compliance with the provisions of the Permit; 2) Section 29.3 "Pollution Prevention Plan Preparation and Approval" which requires that a PPP be prepared and approved prior to the Pre-Construction meeting; and 3) Section 29.5 "Pollution Prevention Plan Implementation" which allows the Engineer to suspend construction operations if the Contractor fails to implement the approved PPP and any amendments thereto.

Throughout the term of this contract, the total soil-disturbed area of the project site shall be no more than 1 acre.

6.2 Heavy Equipment Working Hours - Heavy construction equipment will not be allowed to commence construction work until 7:00 a.m. each normal working day, unless otherwise approved by the Engineer.

6.3 Toxic Material Disposal - Toxic materials including oil, fuel oil, gasoline, coolant, fluid filters and other contaminants shall not be discharged within the project site. All such materials shall be transported offsite and disposed of at a County approved facility.

6.4 Survey Crew - The Contractor shall notify the Engineer in writing at least 48 hours prior to new construction staking.

Survey Crews will be available Monday through Thursday from 7:00 a.m. to 3:30 p.m., with a half-hour off for lunch. If the Contractor requires the Survey Crew to work beyond the

specified time mentioned above, it shall be considered as overtime and shall be paid by the Contractor at 1.5 times the Survey Crew's hourly rates.

6.5 Job Trailer Site - The Contractor is required to provide a site and install an office trailer for District personnel. This trailer shall be in good condition and located in a place acceptable to the District. The trailer shall be for the sole use of the District and shall not be used by the Contractor for any activity, including storage. The Contractor shall make provisions for the privacy and security of the office, and provide air conditioning, drinking water and electrical service. The Contractor shall also provide two office chairs and a desk suitable for reviewing plans. The Contractor shall pay the monthly billings for these services. The trailer shall be fully operational and available to District personnel on the first day of work. Should the trailer or office not be available and in working condition, it is agreed by both parties at the time of entering this contract that damages in the amount of \$3,000 per month shall be assessed. It is agreed that this amount may be prorated and shall be deducted from the first contract payment and any successive payments covering any period that the facilities are unavailable.

6.6 Construction Tolerances – Variation in alignment, grade and dimensions of the structures and structural components from the established alignment, grade and dimensions shown on the drawings shall be within the tolerances specified in the following:

Departure from established alignment		2 inches on tangents 4 inches on curves
Departure from established profile grade	Channel bottoms, channel sideslopes in cut and fill, levee and access road sideslopes in cut	Zero <u>above</u> and 3 inches <u>below</u> the specified grade
	Top surfaces of levees and access roads in both cut and fill, levee and access road sideslopes in fill	Zero <u>below</u> and 3 inches <u>above</u> the specified grade

Regardless of the construction tolerances specified, the excavation and grading shall be performed so that the finished surfaces are in uniform planes with no abrupt breaks in the surface.

Departure from established alignment		2 inches on tangents 4 inches on curves
Departure from established profile grade		1 inch
Variation in thickness of lining, sideslopes and invert		5 percent of specified thickness provided average thickness is maintained

Variation from specified width of section at any height		0.0025 times specified width W plus 1 inch. 0.0025W + 1 inch
Variation from specified height of lining		0.005 times specified height H plus 1 inch. 0.005H + 1 inch
Variation in surfaces (gradual)	Invert Sideslopes	¼ inch in 10 feet ½ inch in 10 feet
Variation in surfaces (abrupt)		¼ inch

Gradual Variation tolerance shall be measured by placing a 10-foot straight edge anywhere on the finished concrete structure within 72 hours after concrete placement. The gap at any point between the straightedge and the concrete shall not exceed the specified amount.

Departure from established alignment		1 inch on tangents 2 inches on curves
Departure from established profile grade		1 inch
Inside dimensions		0.005 times specified dimension
Variation from the plumb or the specified batter in the lines and surfaces of walls, piers and in arises	Exposed, in 10 feet Backfilled, in 10 feet	½ inch 1 inch
Variation in cross-sectional dimensions		Minus ¼ inch Plus ½ inch
Variation in surfaces (gradual)	Invert Soffits, Walls, Sideslopes	¼ inch in 10 feet ½ inch in 10 feet
Variation in surfaces (abrupt)		¼ inch

Variance from indicated position	Spacing between adjacent bars and the distance between layers of bars	one bar diameter nor more than one inch
Concrete cover measured perpendicular to steel in the direction of tolerance		¼ inch

6.7 Surplus Excavated Material - Any stockpiling, grading or disposal of material outside of the project limits is not covered under the District's permits and is the sole responsibility of the Contractor. Regulatory permits that may be required include, but are not limited to, Federal Clean Water Act (Sections 401 and 404), California Fish and Game Code (Section 1602) and Federal/State Endangered Species Acts. All costs to obtain these Regulatory Permits shall be borne by the Contractor.

6.8 Project Signs – Contractor shall not be required to provide project signs.

6.9 Accidental Discovery – The discovery of additional damage to both La Sierra Channel and Arlington Channel beyond the limits indicated on the drawings shall require approval from the Engineer prior to commencement of the repairs. Upon approval from the Engineer, the necessary repair works can be completed per the guidelines set forth in these specifications and the approved drawings. Any work done on areas outside of the designated repair limits without prior approval will be completed at the Contractor's sole expense.

6.10 Photographic Survey and 3D Images for Arlington Channel Repairs – Rick Engineering Company has provided two additional reports for informational purposes only. The Photographic Survey Report, dated October 13, 2009 provides full color photos of all the repair areas. These photos are identical to the photos used for the construction plans. A 3D Images Report, dated October 6, 2009 has also been provided. A 3D laser scan survey was performed along the channels' damaged areas. The 3D Images Report provides detail sections of each damaged area. The stationing used in both reports corresponds to the stationing on the Arlington Channel drawings. Both reports are on file in the District office, 1995 Market Street, Riverside and are available for review upon request.

SECTION 7 - SOILS REPORT

In conjunction with the soils investigation report prepared by Geo-Environmental, Inc. for La Sierra Channel, dated November 20, 2009, the Contractor's attention is directed to Article 8.08 of the General Provisions. The logs of the soil borings for this report are included for the convenience of the bidders, in conformance with Section 8.08 of the General Provisions, as Appendix "B" of these specifications. The soils report is on file in the District office, 1995 Market Street, Riverside and is available for review upon request.

SECTION 8 - NOT USED

SECTION 9 - PAYMENT

The contract prices shall include full compensation for all costs incurred under these Special Provisions and Detailed Specifications.

DETAILED SPECIFICATIONS

SECTION 10 - MOBILIZATION (BID ITEM NO. 1)

10.1 Description - The contract item Mobilization shall consist of expenditures for all preparatory work and operations, including but not limited to, those costs necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings, construction yards and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site as well as the related demobilization costs anticipated at the completion of the project.

10.2 Payment - The amount credited for Mobilization on each monthly progress payment shall be equal to the total of the amounts credited for work on all the other contract items for that monthly progress payment, up to a cumulative limit of eighty percent (80%) of the lump sum price bid for Mobilization. The remaining twenty percent (20%) of the lump sum price bid for Mobilization will be paid with the final payment.

Payment of the lump sum contract price for Mobilization shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to completion of this item of work.

The deletion of work or the addition of extra work as provided for herein shall not affect the price paid for Mobilization.

SECTION 11 - WATER CONTROL (BID ITEM NO. 2)

11.1 Description - This section covers the contract item Water Control. Watersheds and/or urban runoff areas are tributary to the project site. Surface water in varying quantities can be expected at any time of the year, and substantial runoff can be expected during periods of rainfall. Groundwater was not indicated at the time of the soils investigation for La Sierra Channel but subgrade soils were found to be highly moist. All bidders shall make their own determination regarding what the surface and/or groundwater conditions will be at the time of construction, and their impact on the bidder's operations and construction phasing.

11.2 Water Control - The contract item Water Control includes the control and/or diversion of surface runoff as well as groundwater within the work area as required to complete the work. All work shall be carried on in areas free of water. Care should be exercised so that runoff or diversion flows do not erode, undermine or otherwise damage either facilities which have been constructed or adjacent private properties. The responsibility for the protection of all existing and proposed improvements lies with the Contractor.

11.3 Measurement and Payment - The methods of controlling both surface and groundwater will be the responsibility of the Contractor. The contract lump sum price paid for Water Control

shall include full compensation for all direct and indirect costs incurred under this section, and for doing all the work involved in controlling surface runoff and groundwater within the construction area, as specified in these Detailed Specifications, and as directed by the Engineer.

Payment will be made on a basis of the percentage of the work completed on the entire project.

SECTION 12 – NOT USED

SECTION 13 - CLEARING AND MISCELLANEOUS WORK (BID ITEM NO. 3)

13.1 Description - This section covers the contract item Clearing and Miscellaneous Work as required for construction of the work. All objectionable materials shall be removed and disposed of outside of the limits of the construction easements and permanent rights of way.

13.2 Clearing and Miscellaneous Work - The contract item Clearing and Miscellaneous Work includes the removal and disposal of all vegetation, trees, roots, stumps, fences, pipes, culverts, rocks, debris, trash, structures, concrete and asphalt excluding those items defined specifically as excavation in the appropriate section.

Included in this item are the following:

1. The removal and disposal of existing damaged concrete channel lining and sideslope preparation per Section 14.
2. Cut and removal of all corroded steel exposed during repair in Arlington Channel.
3. Traffic control (labor, flagmen, lights, signal, etc.) for the portion of La Sierra Channel adjacent to Sampson Avenue.
4. The removal and installation of chain link fence as needed.

Finally, included in this item are those types of work as shown on the drawings not specified for pay under any other individual contract item.

13.3 Payment - The contract price paid for Clearing and Miscellaneous Work shall be full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 14 - EARTHWORK
(BID ITEM NO. 4 THROUGH BID ITEM NO. 7)

14.1 Description - This section covers the contract items Excavation; Backfill; Slurry Cement Backfill; and Filter Material.

14.2 General Excavation Requirements - Excavation shall be in conformance with Section 300-7. Access to trenches shall be in conformance with Section 306-1.1.4 and the manner of bracing excavations shall be in conformance with Section 306-1.1.6 of the Standard Specifications.

The foundation for concrete channels and sideslopes will be inspected and tested after excavation. The channel invert shall be excavated to the proposed subgrade depth and the surface proof rolled (or tracked to consolidate as directed by the Engineer) prior to the placement of the geotextile and filter material.

Material which will not provide a suitable foundation shall be removed and replaced with compacted select material as directed by the Engineer.

Any overexcavation shall be filled with select material compacted to ninety-five percent (95%) relative compaction and meeting the material requirements for backfill.

The Contractor shall remove slides and materials eroding into the work, and the slopes and grades refinished to original grades as specified.

The Contractor shall dispose of all surplus excavated material outside of the limits of the construction easements and permanent rights of way.

The removal of rock material from within the excavation paylines which requires the use of blasting or equipment beyond that normally necessary to accomplish the excavation (as determined by the Engineer) shall be paid for in accordance with Section VII, Article 7.03 of the General Provisions. The cost of removal and disposal (including trucking) of rock away from the jobsite will be paid for under the contract item Excavation and no additional compensation will be allowed.

Blasting, when necessary, as approved by the Engineer shall be in accordance with Section 19-2.03 of the State Standard Specifications.

The Contractor's attention is directed to the General Provisions, Section V, Article 5.09 on the use of explosives and Article 5.11 in regard to unforeseen difficulties.

14.3 Sideslope Preparation - Sideslope Preparation includes all excavation, trimming and preparatory work required to create a viable subgrade for placement of the concrete channel lining as shown on the drawings or as directed by the Engineer.

After the damaged slope paving is removed to the limits shown on the drawings or as directed by the Engineer, the Engineer and Contractor will inspect the exposed surfaces. Any areas determined unsuitable for the support of the sideslope paving shall be excavated as directed by the Engineer. If residual boulders occur in the finished excavation and are detached or partially detached from the exposed subsoils, they must be removed prior to fill placement. Where boulders appear to occur and are not detached or separated from the subsoils, they may be left in place. Holes resulting from removal of any of these residual boulders or large voids shall be backfilled with slurry cement backfill. As directed by the Engineer, exposed subgrade shall be cleaned to expose firm materials using air jet; water jet will not be permitted, however, the cleaned surface shall be moistened before placing concrete against it. All excess material shall be disposed of away from the site of the work. No separate payment will be made for this work.

14.4 Excavation - The contract item Excavation covers only that excavation required to establish viable subgrade below channel invert at the four (4) repair areas and the over excavation between Station 26+14 and Station 26+95. No other excavation required for La Sierra Channel to obtain the channel sideslopes and access road cross sections, will be measured for payment. All excess material shall be disposed of away from the site of the work.

14.5 General Backfill Requirements - Whenever fill is specified or required (except for pipe backfill) the work shall be performed as set forth in Sections 300-4.1 to 300-4.8 of the Standard Specifications.

Densification of backfill will be accomplished by mechanical method as described below. All relative compaction tests will be made by the Engineer in conformance with California Test 216. Whenever relative compaction is specified to be determined by California Test 216, the in-place density may be determined by California Test 231. The wet weight or dry weight basis and English units of measurement may be used at the option of the Engineer.

Mechanical Compaction - Backfill shall be mechanically compacted by means of tamping rollers or other mechanical tampers. Impact-type pavement breakers (stompers) will not be permitted unless otherwise approved by the Engineer.

All backfill material for structures shall be placed in uniform layers and shall be brought up uniformly on each side of the structure. The thickness of each layer of backfill shall not exceed 8 inches before compaction unless otherwise approved by the Engineer. For hand directed mechanical compactors, the thickness of each layer shall not exceed 4 inches before compaction.

Approval to use specific compaction equipment shall not be construed as guaranteeing or implying that the use of such methods and equipment will not result in damage to adjacent ground, existing improvements or improvements installed under the contract, nor shall it be construed as guaranteeing proper compaction. The Contractor shall make his own determination in this regard.

All backfill shall be compacted to not less than ninety-five percent (95%) relative compaction.

The Contractor's attention is directed to Section 7 – Soil Report. Fill soils for La Sierra Channel should consist of an approved material. The onsite sandy and silty soils encountered during the soils investigation may be acceptable for use as fill material provided the onsite material meets the requirements of the soils report and shall be granular with twelve percent (12%) or less passing #200 sieve. The Contractor shall make his own determination as to the availability of suitable onsite material. Should onsite material be unsatisfactory, the Contractor will be required to import suitable material.

14.6 Testing – District personnel shall perform compaction tests as described below. These tests represent the minimum required. Additional tests may be taken at the Engineer's discretion.

1. Mainline Trenches – Compaction tests will be taken for each 4-foot thickness of backfill placed. At least one compaction test shall be taken at each repair location.
2. Any failed test will result in a retest.

14.7 Backfill - The contract item Backfill includes only that backfill required to establish subgrade in overexcavation area between Station 26+14 and Station 26+95 within the paylines as shown on La Sierra Channel drawings.

14.8 Slurry Cement Backfill – The contract item Slurry Cement Backfill shall be the placement of slurry backfill as directed by the Engineer. Slurry Cement Backfill will be used in the event eroded areas beneath sideslope are larger than reasonable to fill with Class "A" Concrete, Channel Paving.

Slurry Cement Backfill shall be in conformance with Section 19-3.062 of the State Standard Specifications; except that slump shall be low enough that slurry will not run out of the voids on sideslopes.

A minimum of two (2) sacks of cement shall be used for each cubic yard of Slurry Cement Backfill produced.

14.9 Filter Material - The contract item Filter Material includes all filter material and filter fabric to be placed below the trapezoidal channel invert as shown on the drawings.

The materials for filter material shall conform to Sections 90-2.02 and 90-3.01 of the State Standard Specifications. Grading shall meet the requirements for 1" x No. 4 coarse aggregate as per Section 90-3.02 of the State Standard Specifications. The filter material shall be consolidated and the surface trimmed to final grade as directed by the Engineer.

14.10 Filter Fabric – Mirafi 1100N/15/300 filter fabric placed beneath the Filter Material shall conform to Type "B" per Section 88-1.04 of the State Standard Specifications with the exception that the weight in ounces per square yard shall be a minimum of 10.

14.11 Measurement - Excavation; and Backfill beyond the limits established by the drawings, unless ordered in writing by the Engineer, will not be measured for payment.

Longitudinal limits of the excavations as shown on the profile drawings terminate at a vertical plane at the nearest construction joint as determined by the Engineer in the field.

Measurement for payment for the contract item Excavation will be the number of cubic yards excavated as shown on the drawings or as directed by the Engineer.

Measurement for payment for the contract item Backfill will be the number of cubic yards of material placed in final position between Station 26+14 and Station 26+95 as specified and within the limits of the payment lines shown on the drawings or as directed by the Engineer. The longitudinal limits shall terminate at a vertical plane at the limits of the structure, measured along the longitudinal axis of the various structures. Volumes occupied by structures, aggregate base, asphalt concrete and other features for which a separate payment is made will be deducted from the gross volume.

Measurement for payment for the contract item Slurry Cement Backfill will be the number of cubic yards placed as directed by the Engineer, measured at the mixer as provided in Section 90-11 of the State Standard Specifications.

Measurement for payment for the contract item Filter Material will be the number of cubic yards of material placed in final position as specified and within the limits of the payment lines shown on the drawings. The longitudinal limits shall terminate at a vertical plane at the limits of the structure, measured along the longitudinal axis of the structure. No special measurement or payment will be made for the filter fabric.

14.12 Payment - The contract prices paid for Excavation; Backfill; Slurry Cement Backfill and Filter Material shall include full compensation for all costs incurred under this section.

SECTION 15 – NOT USED

SECTION 16 - CONCRETE CONSTRUCTION (BID ITEM NO. 8 AND BID ITEM NO. 9)

16.1 Description - This section includes the various classes of Concrete. All specifications and requirements for concrete repair for Arlington Channel are included in Section 32 – Concrete Repair, in these detailed specifications. Please refer to that section for repair material properties and application.

16.2 General Requirements - Concrete for all purposes shall be composed of Portland Cement, aggregates and water of the quantities and qualities herein specified, and in the required proportions. The ingredients are to be well mixed and brought to the proper consistency and to have a compressive strength at the age of 28 days of not less than the amount shown in the following tabulation for each type of work listed:

<u>CONCRETE CLASS</u>	<u>MINIMUM SACKS CEMENT/C.Y.</u>	<u>TYPE OF WORK</u>	<u>POUNDS PER SQUARE INCH</u>
A	6	Channel Paving, and Junction Structure No. 7,	3250*
B	5	Cutoff Walls, and Miscellaneous Concrete not otherwise specified	3000*

*Note: Concrete for use in structures constructed from State of California, Department of Transportation Standard Plans shall have compressive strengths as called for on those plans.

16.3 Material and Methods - All concrete materials, methods, forms and proportioning shall conform to Sections 51 and 90 of the State Standard Specifications. Concrete test specimens will be made in accordance with ASTM Designation C-31 and C172. Test for concrete compressive strengths will be performed in accordance with ASTM Designation C-39. Combined aggregate grading for all concrete shall be in conformance with Section 90-3.04 of the State Standard Specifications and the following tabulation for each type of work listed:

<u>TYPE OF WORK</u>	<u>COMBINED AGGREGATE GRADING</u>
The inverts of Trapezoidal Channels, and Junction Structures.	1-1/2" Maximum
Trapezoidal Channel, Cutoff Walls, Collars, and other Miscellaneous Concrete not otherwise specified. All other concrete structures	1" Maximum

Fly Ash, Class F may be substituted for cement, up to a maximum of 15 percent by weight for all concrete. Fly Ash shall meet the standards of ASTM Designation: C-618. Water reducing agents meeting ASTM Designation: C-494 will be permitted in amounts recommended by the supplier and approved by the Engineer in writing.

No other admixture shall be used in any class of concrete without written permission from the Engineer.

Supplementing Section 90-1.01 of the State Standard Specifications, prior to placement of any concrete the Contractor shall submit mix designs, for all types of concrete to be placed, to the Engineer for approval. Supplementing Section 90-6.03 of the State Standard Specifications, concrete delivered to the job site shall be accompanied by a ticket containing the weight of each of the individual ingredients in the mix.

16.4 General Reinforcing Steel Requirements - Reinforcing steel for all reinforced concrete structures shall be Grade 60 Low-Alloy or Grade 60 Billet-Steel. The reinforcing steel for use in structures constructed from State of California, Department of Transportation Standard Plans shall be of Grade 60 or as called for on those plans. Cleaning, bending, placing and spacing of reinforcement shall conform to the applicable provisions of Section 52 of the State Standard Specifications and to the drawings. The Contractor shall furnish a "Certificate of Compliance" with the specification of ASTM Designation: A-706/A or A-615/A. All splices shall conform to the requirements of A.C.I. Manual, Standard 318, latest edition. Splices requested by the Contractor for his convenience shall be subject to approval by the Engineer. Longitudinal lap shall be 16 inches minimum for #4 bars and 19 inches minimum for #5 bars.

16.5 Consistency - The consistency of the concrete shall be such as to allow it to be worked into place without segregation. Unless otherwise specified, the slump shall be 3 inches plus or minus 1 inch for all concrete, except the concrete for the cast-in-place concrete pipe which shall have a slump of 2 inches plus or minus 1 inch.

The slump test shall be performed in accordance with the requirements of ASTM Designation: C-143. Slumps greater than those specified may be cause for rejection of the concrete by the Engineer.

16.6 Placing - Supplementing Section 51-1.09 of the State Standard Specifications, concrete shall not be placed except in the presence of the Engineer. The Contractor shall give reasonable notice to the Engineer each time he intends to place concrete. Such notice shall be far enough in advance to give the Engineer adequate time to inspect the subgrade, forms, steel reinforcement and other preparations for compliance with the specifications before concrete is delivered for placing.

16.7 Form Removal and Finish - Forms shall be removed only when the Engineer has given his approval. Forms shall be removed in such a way as to prevent damage to the concrete. Supports shall be removed in a manner that will permit the concrete to take stresses due to its own weight uniformly.

Forms shall not be removed sooner than the following minimum time or strength after the concrete is placed. These times represent cumulative number of days and fractions of days, not necessarily consecutive, during which the temperature of the air adjacent to the concrete is above 50 degrees Fahrenheit. If the temperature falls below 50 degrees Fahrenheit at any time after the concrete is placed in the forms, the Engineer will advise the Contractor of additional time required before forms can be removed.

<u>Element</u>	<u>Strength or Time</u>
All structures	16 hours

The finish on all exposed formed surfaces shall conform to Section 51-1.18B Class 1 Surface Finish of the State Standard Specifications. A tight wood float finish will be required on the surface of trapezoidal channels and excessive surface working will not be permitted. The

exposed concrete surfaces shall be broomed in a transverse direction with a fine textured hair push broom to produce a uniform surface and eliminate float marks. Brooming shall be done when the surface is sufficiently set to prevent deep scarring. If directed by the Engineer, a fine spray of water shall be applied to the surface immediately in advance of brooming.

Exposed corners of all concrete structures shall be finished with a 3/4" chamfer.

Concrete flatwork shall match adjacent surfaces. The concrete shall be struck off and tamped or vibrated until a layer of mortar has been brought to the surface. The top surface and face of curbs, gutters, catch basins and sidewalks shall be finished to match adjacent surfaces.

16.8 Curing - All concrete shall be prevented from drying for a curing period of at least seven (7) days after it is placed. Surfaces exposed to air during the curing process shall be kept continuously moist for the entire period or until curing compound is applied.

Formed surfaces shall be thoroughly wetted immediately after forms are removed and shall be kept wet until patching and repairs are completed. Water or covering shall be applied in such a way that the concrete surface is not eroded or otherwise damaged. Water for curing shall be clean and free from any substances that will cause discoloration of the concrete.

Concrete may be coated with curing compound in lieu of the continued application of moisture. The curing compound shall comply with the requirements of Section 90-7.01B of the State Standard Specifications. The curing compound shall be No. 5 White Pigmented Curing Compound conforming to the requirements of ASTM Designation: C-309, Type 2, Class B for all concrete surfaces other than for flatwork which shall be coated with a clear or translucent curing compound containing a red fugitive dye.

The curing compound shall be sprayed on the moist concrete surfaces as soon as free water has disappeared, but shall not be applied to any surface until patching, repairs and finishing of that surface are completed. The curing compound shall be thoroughly mixed immediately before applying, and shall be applied at a uniform rate of not less than one gallon per 150 square feet of surface. No separate payment will be made for the curing compound or its application.

16.9 Joints - Joints shall be made at the locations shown on the drawings, or as approved by the Engineer.

Transverse weakened plane joints shall be required in the trapezoidal channel at 10-foot spacing or as directed by the Engineer. The joints may be formed by placing a continuous strip of plastic or other material which will not react adversely with the chemical constituents of the concrete or bond with the concrete. The strip shall have a minimum thickness of 0.013 foot, a width of not less than 0.12 foot nor more than 0.13 foot for the six-inch thick channel slope and invert. After placement, the vertical axis of the joint material shall be within 10 degrees of a plane normal to the surface of the concrete. The tops of the strip shall not be above nor more than 0.02 foot below the finished concrete. Final alignment of the strip for the transverse weakened plane joints shall not vary more than 0.04 foot from the edge of a 12-foot straight

edge. After installation of a joint material the concrete shall be free of segregation, rock pockets or voids and the finished concrete surface on each side of the joint shall be in the same plane.

The Contractor may elect to form the weakened plane joints in the channel surface by cutting a groove in the surface with a power driven saw. The grooves shall be cut to a minimum depth of 0.17 foot and the width shall be the minimum width possible with the type of saw being used, but in no case shall the width exceed 0.02 foot. The weakened plane joints shall be sawed within 12 hours after the concrete has been placed.

Construction joints, when required, shall be located between the transverse joints and, unless otherwise specified on the plans, shall utilize 1/2 inch diameter deformed bars 30 inches long, spaced at 18-inch centers as tie bars. The construction joints shall be straight and finished in a workmanlike manner.

Surfaces of construction joints shall be cleaned as set forth in Section 51-1.13 of the State Standard Specifications.

Joint filler for expansion joints shall be sponge rubber filler conforming to ASTM D 1752, Type 1. Joint filler shall be concrete gray in color. Adhesive for securing sponge rubber in place shall be a non-bituminous adhesive as recommended by the Manufacturer of the joint filler.

No measurement or payment will be made for Joints or joint filler.

16.10 Sideslope Weepholes – Sideslope Weepholes shall be constructed in accordance with the drawings and at locations directed by the Engineer. All sideslope weepholes shall be 2-1/2 inches in diameter unless noted otherwise on the drawings.

Sideslope weepholes may be formed by removable round wooden dowels, Schedule 40 PVC Pipe or greater, or by other methods acceptable to the Engineer.

All sideslope weepholes shall have a rodent screen consisting of 1/4-inch mesh, 16-gauge galvanized hardware cloth securely and permanently attached over the drain opening in a manner approved by the Engineer.

Filter material for the sideslope weepholes shall be one inch (1") nominal size crushed rock conforming to the gradation of Section 200-1.2 of the Standard Specifications. Filter material shall also meet the quality requirements of Sections 200-1.1 and 200-1.2 of the Standard Specifications.

Filter material shall be wrapped in a single layer of filter fabric as shown on the drawings or approved by the Engineer. Filter fabric shall conform to that specified for underdrains per Section 88-1.03 of the State Standard Specifications.

Filter fabric shall be furnished in protective wrapping which shall protect the fabric from ultraviolet radiation and from abrasion due to shipping and handling. The fabric shall also be ultraviolet stabilized.

The fabric shall be placed in the manner and at the locations shown on the drawings. The surface to receive the fabric shall be prepared to a smooth condition free of obstructions and debris.

The fabric shall be covered within 72 hours of its placement. Should the fabric be damaged during construction, the torn or punctured section shall be repaired or replaced as directed by the Engineer.

No separate payment will be made for the installation of the sideslope weephole, hardware cloth, filter material or filter fabric.

16.11 Channel Invert Weepholes – Channel Invert Weepholes shall be constructed in accordance with the drawings and at locations directed by the Engineer. All Channel Invert Weepholes shall be 4 inches in diameter.

Channel Invert Weepholes may be formed by drilling, coring, Schedule 40 PVC Pipe or greater, or by other methods acceptable to the Engineer.

No separate payment will be made for the Channel Invert Weepholes.

16.12 Use of the Channel Invert - Dump trucks, concrete trucks and earth moving equipment (whether full or empty) will not be allowed to operate on the invert of the concrete channel.

A small crane with capacity not to exceed 10 tons will be permitted to operate on the concrete channel invert for the purpose of setting and moving forms, and erecting the steel reinforcement for the walls. Wheel loading types and amounts will be subject to the approval of the Engineer. Vehicles of 3/4 ton capacity (or less) will also be permitted access to the invert. The speed of any vehicle using the invert will be limited to 10 m.p.h. maximum to avoid impact loading.

No other category of equipment, except that specifically approved by the Engineer in writing will be permitted to use the invert of the channel for access to the work area.

In any event, vehicular access to the invert will not be permitted until the concrete has achieved its design strength. Approval for access to use the invert shall not relieve the Contractor of the responsibility to avoid damage to the concrete. Cracking, displacement or other damage which occurs to the invert will be cause to restrict some or all of the categories of equipment allowed access to the channel. Repair or replacement of damaged concrete will be required.

16.13 Class "A" Concrete, Channel Paving - The contract item Class "A" Concrete, Channel Paving includes the concrete paving of the La Sierra Channel trapezoidal channel. Included in the pay item is all reinforcing steel required.

Finish surface of the channel shall be true to line and grade and concrete shall be not less than the minimum thickness indicated on the drawings, and as specified in Section 6.10 Construction Tolerances of these Special Provisions.

16.14 Class "B" Concrete, 2' Cutoff Wall - The contract item Class "B" Concrete, 2' Cutoff Wall covers the construction of the continuous cutoff walls on each side of the La Sierra Channel prism. Included in the pay item is all earthwork and reinforcing steel.

16.15 Measurement - Measurement for payment for the contract item Class "A" Concrete, Channel Paving will be the number of cubic yards placed as directed by the Engineer, measured at the mixer as provided in Section 90-11 of the State Standard Specifications.

Measurement for payment for the contract item Class "B" Concrete, 2' Cutoff Wall will be the number of lineal feet placed, measured parallel to the top of the wall.

No measurement or payment will be made for Junction Structure No. 7.

No measurement or payment will be made for dowels, tie bars, tie wires, blocks, chairs and other accessories.

16.16 Payment - The contract prices paid for the various Concrete items shall include full compensation for all costs incurred under this section.

SECTION 17 - CONCRETE PIPE

17.1 Description - This section covers Reinforced Concrete Pipe of the size as required for the work.

17.2 General Pipe Requirement - Pipe materials, manufacture and quality, shall conform to ASTM Designation: C-76 or C-655. The Engineer shall be furnished a "Certificate of Compliance" signed by the manufacturer of the pipe certifying that the pipe conforms to the ASTM requirements. All pipe and pipe material supplied by the Contractor shall be new.

Pipe shall be laid in a trench free of ponded water in conformance with Section 306-1.2.2, with joints in conformance with Section 306-1.2.4 of the Standard Specifications.

Pipe ends shall be cleaned and moistened prior to making up joint.

17.3 Pipe on Curves - Unsymmetrical closure of pipe joints shall not exceed 1 inch pull on the outside of the curve when pull is measured at the springline on the inside of the pipe. Mortar joints on curves shall conform in strength, texture of mortar finish and tightness to the joints for straight ended pipe.

When beveled pipe is used the maximum deflection angle shall not exceed 6 degrees unless shown on the plans or approved by the Engineer.

No separate payment will be made for the furnishing of the reinforced concrete pipe.

SECTION 18 - AIR-PLACED CONCRETE

18.1 Air-Placed Concrete – Air-placed concrete may be used for construction of channel paving.

Air-placed concrete shall be installed only by subcontractors with a minimum of 5 years experience specializing in construction of reinforced concrete structures by air-placed methods. Only personnel skilled in the techniques of air placement of concrete shall be utilized for air-placed concrete construction, and nozzle operators shall have a minimum of 3 years experience in air placement of concrete in reinforced concrete structures.

Air-placed concrete shall be applied only by Method B (shotcrete) in conformance with Section 303-2.1.3 of the Standard Specifications.

Equipment used for air placement of concrete shall be in conformance with Section 303-2.2 of the Standard Specifications for "Method B", except that only "positive displacement piston" type pumps shall be allowed to convey the premixed concrete. So called "rotating roller squeeze" pumps or "ball valve" pumps will not be allowed. In addition, two air compressors shall be provided. The air compressors shall have a minimum capacity of 250 cubic feet per minute for each operating nozzle.

Concrete for air-placed concrete shall conform to the material, proportioning and mixing requirements of these Special Provisions, except that materials shall conform to specifications applicable to the "wet-mix process" in Section 53-1.02 of the State Standard Specifications. The use of 3/8" pea gravel described therein will be required. The use of admixtures will be subject to the approval of the Engineer.

Strength of air-placed concrete shall be determined from cores taken from test panels in accordance with Section 303-2.4 of the Standard Specifications. Supplementing Section 303-2.4 of the Standard Specifications, the test panels shall have the same thickness as the maximum wall thickness of the transition section being constructed. A minimum of three cores shall be taken each day. One core test specimen shall be obtained and tested at 14 days, and the remaining two obtained and tested at 28 days. The tests shall be conducted in the presence of the Engineer and by a qualified laboratory acceptable to the District. All coring and testing required shall be at the Contractor's expense. The minimum compressive strength of air-placed concrete shall be in accordance with the requirements of these Special Provisions. A final report documenting all testing shall be given to the Engineer prior to acceptance of the project.

Preparation of surfaces to receive air-placed concrete shall be in accordance with Section 303-2.5 of the Standard Specifications.

Forms and ground wires shall be in conformance with Section 303-2.7 of the Standard Specifications.

Placement of air-placed concrete shall be in accordance with Section 303-2.6 of the Standard Specifications and these Special Provisions. Prior to placing any concrete, sufficient scaffolding or other means of access shall be provided to allow adequate access to the work area for proper placement and finishing of the air-placed concrete. Scaffolding shall not be supported by the reinforcing steel or forms. After placement of concrete has started, workmen shall not walk on reinforcing steel or graded slopes. No concrete shall be placed until all scaffolding, forms, reinforcement, ground wires and joints have been inspected and approved by the Engineer. Air-placed concrete shall be applied only in the presence of the Engineer. Whenever possible, except when enclosing reinforcing steel, the nozzle shall be held at right angles to the air-placed concrete surface at a distance of 2-1/2 to 3-1/2 feet. When enclosing steel, the nozzle shall be held at an angle so as to direct the material around the bars. A nozzleman's helper equipped with an air jet shall attend the nozzleman and blow out all rebound, sand, etc., which may have lodged on the forms, steel or air-placed concrete. Concrete material shall emerge from the nozzle in a steady, uninterrupted flow. When flow becomes intermittent for any cause, the nozzle shall be diverted from the work until the flow again becomes constant. In shooting walls or slopes, application shall begin at the bottom and shall completely embed the reinforcement for the full thickness of the structural section less an allowance of one inch for the finish coat. The limit of lift height (when the in place material begins to sag) shall not be exceeded. Immediately after the lift has been allowed to take its initial set, all surfaces shall be cleaned of rebound and other loose material by rodding or brooming.

Construction joints shall be in conformance with Section 303-2.8 of the Standard Specifications and these Special Provisions. Before applying air-placed concrete, construction joints and adjacent steel and forms shall be cleaned by sand, air and water blast of all laitance, overspray and rebound materials, and the surface of the joint thoroughly wetted.

Finishing shall be in accordance with Section 303-2.9 of the Standard Specifications and these Special Provisions. The finished surface shall have a broomed finish to match the adjacent trapezoidal channel surface. Prior to placing the finish coat, all laitance shall be removed from the existing surface, and the surface thoroughly cleaned and wetted by air and water blast. The finished coat shall be applied no more than 8 hours after the placement of the structural section, and the surface of the structural section shall be kept continuously moist until the finished coat is placed.

Curing of air-placed concrete shall be in accordance with the requirements of these Special Provisions.

SECTION 19 - ASPHALT CONCRETE CONSTRUCTION (BID ITEM NO. 10)

19.1 Description - This section covers the contract item Aggregate Base, Class 2.

19.2 Aggregate Base, Class 2 - The contract item Aggregate Base, Class 2 includes furnishing and placing such material as indicated on the drawings. Aggregate Base, Class 2 shall be clean and free from roots, vegetable matter and other deleterious substances, and be of such character that when wet it will compact to form a firm stable base. Material and placing shall be in accordance with Section 26 of the State Standard Specifications using 3/4-inch maximum size.

The aggregate base shall also have a sand equivalent value of not less than 35 when tested in conformance with California Test Method 217.

The aggregate base material shall be spread as specified in Sections 26-1.035 and 26-1.04 of the State Standard Specifications. The aggregate base material shall be compacted as specified in Section 26-1.05 of the State Standard Specifications.

19.3 Measurement - Measurement for payment of the contract item Aggregate Base, Class 2 will be the number of cubic yards placed to the lines, grades and dimensions shown on the drawings. **No allowance will be made for aggregate base placed outside said dimensions unless otherwise ordered by the Engineer.**

19.4 Payment - The contract prices paid for Aggregate Base, Class 2 shall include full compensation for all costs incurred under this section.

SECTION 20 - NOT USED

SECTION 21 - MISCELLANEOUS (BID ITEM NO. 11 AND BID ITEM NO. 12)

21.1 Description - This section covers the contract items Subdrain; and Reconstruct Side Inlet at Station 26+90+/-.

21.2 Subdrain - The contract item Subdrain covers trenching and the furnishing of the subdrain pipe, all fittings, galvanized screen, filter material and filter fabric.

The filter material shall be wrapped in filter fabric as shown on the drawings. Filter material and filter fabric shall conform to the material specifications as specified in Section 16.10, Weepholes, of these Detailed Specifications.

Filter Fabric shall be furnished in a protective wrapping which shall protect the fabric from ultraviolet radiation and from abrasion due to shipping and handling. The fabric shall also be ultraviolet stabilized.

The fabric shall be placed in the manner and at the locations shown on the drawings. The surface to receive the fabric shall be prepared to a smooth condition free of obstructions and debris.

The fabric shall be covered within 72 hours of its placement. Should the fabric be damaged during construction, the torn or punctured section shall be repaired by placing a piece

of fabric that is large enough to cover the damaged area and to meet the overlap requirement. Adjacent borders of the fabric shall be overlapped a minimum of twelve (12) inches or sewn. Upstream sections of fabric shall overlap downstream sections.

Perforated subdrain pipe shall be vitrified clay pipe, concrete pipe, ABS Pipe or PVC Pipe, at the option of the Contractor. Vitrified clay pipe shall meet the requirements of ASTM Designation: C-700, for extra strength pipe. Concrete pipe shall meet the requirements of ASTM Designation: C-14 Class 3 and C-444 Type I. ABS pipe shall meet the requirements of ASTM Designation: D-2751, SDR 23.5, and PVC pipe shall meet the requirements of ASTM Designation: D2665, and perforations shall be that as described in ASTM Designation: C-700.

21.3 Reconstruct Side Inlet at Station 26+90+/- - The contract item Reconstruct Side Inlet at Station 26+90+/- covers the 12 inch riser and guard, the 3 inch thick concrete apron around the drop inlet and the 12 inch Class IV RCP as shown on the plans. Included in the item is the concrete collar required to connect the dropt inlet to the existing 16 inch RCP and the new 12 inch RCP and all required excavation and backfill.

21.4 Measurement - Measurement for payment for the contract item Subdrain will be the number of lineal feet installed as specified. No measurement will be made of the gravel filter material required for this portion of the work.

Measurement for payment for the contract item Reconstruct Side Inlet at Station 26+90+/- shall be on a lump sum basis and shall include full compensation for all labor, materials, equipment and incidental costs incurred.

21.5 Payment - The contract prices paid for Subdrain; and Reconstruct Side Inlet at Station 26+90+/- shall include full compensation for all costs incurred under this section.

SECTION 22 THROUGH SECTION 26 – NOT USED

SECTION 27 - DUST ABATEMENT (BID ITEM NO. 13)

27.1 Description - This section covers the implementation of dust control measures necessary to prevent harm and nuisance from dust. Supplementing Section 8.06 of the General Provisions, the Contractor shall comply with all the provisions of the South Coast Air Quality Management District (SCAQMD) Rule 403 as described in Appendix "A".

27.2 Dust Abatement - The contract item Dust Abatement includes the action necessary to prevent, reduce or control dust within the work area as required to complete the work. The Contractor shall carry out proper and efficient measures to prevent his operations from producing dust in amounts damaging to property or causing a nuisance, or harm to persons living nearby or occupying buildings in the vicinity of the work. The methods to be used for controlling dust in the construction area and along haul roads shall be approved by the Engineer prior to starting any work included in this contract. The Rule 403 Implementation Handbook published by the

SCAQMD contains a detailed listing of reasonably available dust control measures and is available for inspection at the District office.

27.3 Payment - The contract lump sum price paid for Dust Abatement shall include full compensation for all direct and indirect costs incurred under this section.

This payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 28 – NOT USED

SECTION 29 – STORMWATER AND NON-STORMWATER POLLUTION CONTROL (BID ITEM NO. 14)

29.1 Description - The contract item Stormwater and Non-Stormwater Pollution Control shall include preparing, obtaining approval of, amending and implementing Contractor's Pollution Prevention Plan (PPP). The PPP shall identify site specific Best Management Practices (BMPs) to be implemented during and after construction to minimize the potential pollution of stormwater runoff and receiving waters. The identified BMPs shall be practices designed to minimize or eliminate the discharge of pollutants from the construction site and Contractor's construction activities, including, but not limited to:

1. Good housekeeping practices for solid and sanitary/septic waste management, vehicle and equipment cleaning/maintenance, and material handling and storage.
2. Construction procedures such as stabilized construction access points, scheduling/phasing to minimize areas of soil disturbance, soil stabilization and erosion/sediment control.

The PPP shall also stipulate an ongoing program for monitoring and maintenance of all BMPs.

29.2 General Requirements – Stormwater and Non-Stormwater Pollution Control work shall conform to the requirements in the latest version of Caltrans Storm Water Quality Handbooks, entitled "**Construction Site Best Management Practices (BMPs) Manual**" and "**Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual**". Copies of the "Construction Site BMPs Manual" and "SWPPP and WPCP Preparation Manual", hereafter referred to collectively as the "Caltrans Handbooks", may be obtained from the California Department of Transportation Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California, 95815-3800. Telephone: (916) 445-3520. Copies of the Caltrans Handbooks can also be downloaded from the Caltrans internet site at <http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>. In addition, copies of the Caltrans Handbooks are available for review at the District's office.

In the event the District incurs any Administrative Civil Liability or Mandatory Minimum Penalty (fine) imposed by the California Regional Water Quality Control Board,

as a result of Contractor's failure to fully implement the provisions of this section and permit requirements, "Stormwater and Non-Stormwater Pollution Control", the Engineer may, in the exercise of his sole judgment and discretion, withhold from payments otherwise due Contractor a sufficient amount to cover the Civil Liability. Liability for "Negligent Violations" may be in an amount up to \$50,000 per day per deemed occurrence while "Knowing Violations" can result in fines as high as \$250,000 and imprisonment.

The Contractor shall be responsible for all costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section, "Stormwater and Non-Stormwater Pollution Control", including but not limited to, compliance with the applicable provisions of the Caltrans Handbooks, and Federal, State, and local regulations. For the purpose of this paragraph, costs and liabilities include, but are not limited to, fines, penalties and damages whether assessed against the District or the Contractor, including those levied under the Federal Clean Water Act and the State Porter-Cologne Water Quality Act.

The Contractor shall become fully informed of and comply with the applicable provisions of the Caltrans Handbooks, and Federal, State and local regulations that govern the Contractor's activities and operation pertaining to both stormwater and non-stormwater discharges from both the project site and areas of disturbance outside the project limits during construction. The Contractor shall, at all times, keep copies of the approved PPP and all amendments at the project site. The PPP shall be made available upon request of a representative of the SWRCB, CRWQCB, United States Environmental Protection Agency (USEPA) or local stormwater management agency. Requests by the public shall be directed to the Engineer.

The Contractor is solely and exclusively responsible for any arrangements made between the Contractor and other property owners or entities that result in disturbance of areas or construction activities being conducted outside the limits of the designated rights-of-way and temporary construction easements as shown on the project drawings.

29.3 Pollution Prevention Plan Preparation and Approval - The Contractor shall prepare and obtain approval of the PPP as part of the Stormwater and Non-Stormwater Pollution Control work for this contract. The Contractor shall prepare the PPP in accordance with Section 3, "Preparing a Water Pollution Control Program (WPCP)", of the Caltrans Storm Water Quality Handbooks, entitled "**Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual**" and these Detailed Specifications.

In case of conflict between the Caltrans Handbooks and these Detailed Specifications, the Detailed Specifications shall govern.

Within five (5) working days after the award of the contract, the Contractor shall submit two (2) copies of the PPP to the Engineer for review and approval. The Contractor shall allow ten (10) working days for the Engineer to review the PPP. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the PPP within three (3) working days of receipt of the Engineer's comments and shall allow ten (10) working days for the Engineer to review the revisions. The Contractor shall submit four (4) copies of the

approved PPP to the Engineer prior to the pre-construction meeting. **The Contractor must have an approved PPP prior to the pre-construction meeting.**

The objectives of the PPP shall be to identify all pollution sources associated with Contractor's construction activities that may adversely affect the quality of stormwater discharges and receiving waters; to identify all non-stormwater discharges; to identify, construct, implement and maintain water pollution control best management practices, hereafter referred to as "BMPs"; to reduce to the maximum extent practicable pollutants in both stormwater and authorized non-stormwater discharges from the construction site during construction; and to develop a maintenance schedule for BMPs after construction is completed under this contract.

The PPP shall incorporate BMPs in each of the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Sediment tracking control practices;
4. Wind erosion control practices; and
5. Non-stormwater management, and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of BMPs are contained in the Caltrans Handbooks. The Contractor shall consider the objectives and minimum requirements presented in the Caltrans Handbooks for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate one or more of the listed minimum BMPs required into the PPP and implement them on the project to meet the pollution control objectives for the category. In addition, the Contractor shall consider other BMPs presented in the Caltrans Handbooks to supplement the minimum BMPs required when necessary to meet the objectives of the PPP. The Contractor shall document the selection process in accordance with the procedure specified in the Caltrans Handbooks.

The Contractor shall not assume that the minimum BMPs required for each category presented in the Caltrans Handbooks are adequate to meet the pollution control objectives. The Contractor may use other effective BMPs, as approved by the Engineer, in addition to the minimum BMPs required in the Caltrans Handbooks to achieve the pollution control objectives.

The PPP shall include all of the following items in the order given below:

1. Title Page;
2. Table of Contents;
3. Project Description and Contractor's Certification;
4. Project Information;
5. Pollution Sources and BMPs;
6. Water Pollution Control Drawings;
7. A copy of the Amendments, if any;
8. Amendment Log;
9. Maintenance, Inspection, and Repair Program;

10. Inspection Log;
11. Construction Site Inspection Checklist;
12. Current Inventory of BMP related materials; and
13. Mobilization Plan for BMP deployment.

The following notes (or notes of substantially similar intent) that address pollution prevention to the Maximum Extent Practicable during the construction phase of a project on a year-round basis need to be placed on the Stormwater and Non-Stormwater Pollution Control Drawings:

- ◆ Erosion control BMPs shall be implemented and maintained to minimize and/or prevent the entrainment of soil in runoff from disturbed soil areas on construction sites.
- ◆ Sediment control BMPs shall be implemented and maintained to prevent and/or minimize the transport of soil from the construction site.
- ◆ Stockpiles of soil shall be properly contained to eliminate or reduce sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking or wind.
- ◆ Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented to eliminate or reduce transport from the site to streets, drainage facilities or adjoining properties by wind or runoff.
- ◆ Runoff from equipment and vehicle washing shall be contained at construction sites and must not be discharged to receiving waters or the local storm drain system. Washwaters or rinsate from ready mix, concrete, or cement vehicles must be handled appropriately and may not be discharged to receiving waters or the storm drain system.
- ◆ All construction contractor and subcontractor personnel are to be made aware of the required best management practices and good housekeeping measures for the project site and any associated construction staging areas.
- ◆ At the end of each day of construction activity all construction debris and waste materials shall be collected and properly disposed in trash or recycle bins.
- ◆ Construction sites shall be maintained in such a condition that a storm does not carry wastes or pollutants off the site. Discharges other than stormwater (non-stormwater discharges) are prohibited, except as authorized by an individual NPDES permit, the State-wide General Permit for Storm Water Discharges Associated with Construction Activity. Potential pollutants include but are not limited to: solid or liquid chemical spills; wastes from paints, stains, sealants, solvents, detergents, glues, lime, pesticides, herbicides, fertilizers, wood preservatives and asbestos fibers; paint flakes or stucco fragments; fuels, oils, lubricants and hydraulic, radiator or battery fluids; concrete and related cutting or curing residues; floatable wastes; wastes from engine/equipment steam cleaning or chemical degreasing; wastes from street cleaning; and super-chlorinated potable water from line flushing and testing. During construction, disposal of such materials should occur in a specified and controlled temporary area onsite

physically separated from potential stormwater runoff, with ultimate disposal in accordance with local, State and Federal requirements.

- ◆ Discharging contaminated groundwater produced by dewatering groundwater that has infiltrated into the construction site is prohibited. Discharging of contaminated soils via surface erosion is also prohibited.
- ◆ The Contractor is required to notify and obtain approval from the District ten (10) days prior to any non-stormwater discharge or dewatering associated with Contractor's construction activities.
- ◆ Construction sites shall be managed to minimize the exposure time of disturbed soil areas through phasing and scheduling of grading to the extent feasible and the use of temporary and permanent soil stabilization.
- ◆ BMPs shall be maintained at all times. In addition, BMPs shall be inspected prior to predicted storm events and following storm events.

29.4 Pollution Prevention Plan Amendments - The Contractor shall prepare amendments to the PPP, both graphically and in narrative form, whenever there is a change in Contractor's construction activities or operations which may result in the discharge of pollutants to surface waters, groundwaters, municipal storm drain systems or when deemed necessary by the Engineer. The Contractor shall also amend the PPP if it is not effectively achieving the objectives of reducing pollutants in stormwater discharges. Amendments shall show additional BMPs or revisions to Contractor's construction activities or operations (including any construction activities in areas not included in the initially approved PPP) which are required on the project to effectively control water pollution.

Amendments to the PPP shall be submitted for review and approval by the Engineer in the same manner specified for the initial approval of the PPP. The Contractor shall date and attach all approved amendments to the PPP. Upon approval of the amendment, the Contractor shall implement the additional BMPs, revised construction activities or operations as described therein.

29.5 Pollution Prevention Plan Implementation - Upon approval of the PPP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the BMPs included in the PPP and any amendments thereto and for removing and disposing of temporary BMPs. Unless otherwise directed by the Engineer or specified in these Detailed Specifications, the Contractor's responsibility for PPP implementation and maintenance shall continue throughout any temporary suspension of work ordered in accordance with Section 6.05, TEMPORARY SUSPENSION OF THE WORK, of the General Provisions. Requirements for installation, construction, inspection, maintenance, removal and disposal of BMPs are specified in the Caltrans Handbooks and these Detailed Specifications. The Contractor shall implement the PPP in accordance with the Caltrans Handbooks and these Detailed Specifications.

The Engineer may order the suspension of construction operations if the Contractor fails to comply with the requirements of this section, "Stormwater and Non-Stormwater Pollution Control", as determined by the Engineer.

- (a) **Stormwater Pollution Control - The Contractor shall implement soil stabilization practices and sediment control BMPs, including minimum requirements as presented in the Caltrans Handbooks, on all disturbed areas of the project site throughout the rainy season, defined as between August 1st - October 1st and November 1st - May 1st, which is consistent with Caltrans definition of rainy season for the eastern desert region.**

Implementation of soil stabilization practices and sediment control BMPs for soil-disturbed areas, including but not limited to, rough graded access roads, slopes, channel inverts, operational inlets and outlets of the project site shall be completed no later than ten (10) calendar days prior to the start of the winter season or upon start of applicable Contractor's construction activities for projects which begin either during or within ten (10) calendar days of the winter season.

Throughout the term of this contract, the total soil-disturbed area of the project site shall be less than one (1) acre. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control BMPs to protect soil-disturbed areas of the project site by maintaining an adequate quantity of soil stabilization and sediment control materials onsite to protect exposed, soil-disturbed areas and a detailed plan for the mobilization of sufficient labor and equipment to fully deploy the required BMPs prior to the onset of precipitation and for the duration of the project.

Throughout the winter season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control BMPs. The Contractor shall monitor the weather forecast on a daily basis. The National Weather Service forecast shall be used or an alternative weather forecast proposed by the Contractor may be used if approved by the Engineer. If precipitation is predicted prior to the end of the following workday, construction scheduling shall be modified, as required, and the Contractor shall deploy functioning control measures prior to the onset of the precipitation.

Throughout the winter season, soil-disturbed areas of the project site shall be considered to be non-active whenever soil disturbing activities are expected to be discontinued for a period of fifteen (15) calendar days or more. Areas that will become non-active either during the winter season or within ten (10) calendar days thereof shall be fully protected with soil stabilization practices such as covering with mulch, temporary seeding, fiber rolls, blankets, etc. within ten (10) calendar days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur. Areas that will become non-active either during the winter season or within ten (10) calendar days thereof shall be fully protected with sediment control BMPs within ten (10) calendar days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

- (b) Non-Stormwater Pollution Control – The Contractor shall implement, year-round and throughout the duration of the project, BMPs included in the PPP for sediment tracking, wind erosion, non-stormwater management, and waste management and disposal.
- (c) Inspections and Reporting - The Contractor shall regularly inspect the construction site for BMPs identified in the PPP to ensure the proper implementation and functioning of BMPs. The Contractor shall identify corrective actions and time frames to address any deficient BMPs or reinstate any BMPs that have been discontinued.

At a minimum, the Contractor shall inspect the construction site as follows:

1. Prior to a forecast storm;
2. After any precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24 hour intervals during extended precipitation events; and
4. At a regular interval of once every 2 weeks.

The construction site inspection checklist provided in the Caltrans Handbooks shall be used to ensure that the necessary BMPs are being properly implemented and are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer.

- (d) Maintenance – The Contractor shall maintain construction site BMPs identified in the PPP to ensure the proper implementation and functioning of BMPs. If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified BMP, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the District.
- (e) Training – The Contractor shall describe the types of training that the Contractor's BMP inspection, maintenance and repair personnel have received or will receive that is directly related to stormwater pollution prevention.

29.6 Payment - The contract lump sum price paid for contract item Stormwater and Non-Stormwater Pollution Control shall include full compensation for all direct and indirect costs incurred under this section.

Payment will be made on a basis of the percentage of work completed on the entire project.

SECTION 30 AND SECTION 31 – NOT USED

SECTION 32 – CONCRETE REPAIR
(BID ITEM NO. 15 THROUGH BID ITEM NO. 18)

32.1 Description - This section covers the contract items Concrete Spalling - Repair Area Four (4) Square Feet or Less; Concrete Spalling - Repair Area Larger than Four (4) Square Feet; Concrete Crack; and Vertical Expansion Joints.

32.2 General Requirements - All repairs to the Arlington Channel walls shall be completed using the materials specified in the drawings, per these specifications, or approved equal. The Contractor is to provide manufacturer specifications to the Engineer for approval prior to their use. Materials specified are manufactured by Sika Corporation, and are as follows.

Type of Repair	Specified Repair Product
Concrete Spalling	SikaTop 123 Plus (Hand Applied) SikaTop 111 Plus (Form and Pour)
Exposed Reinforcing Steel	Sika Armatec 110 EpoCem
Concrete Crack	SikaDur 31 Hi-Mod Gel SikaDur 35 Hi-Mod LV
Vertical Expansion Joints	SikaFlex-2C NS SikaFlex Primer 429

Note: All concrete repair products shall be prepared and installed per the drawings and the manufacturer's guideline and recommendations included in this section of these specifications.

Specifications for the material properties, requirements, site preparation, mixture, application, and clean up of each of the above products is included in these specifications. Manufacturer information, specifications, and material safety data sheets are available from the District upon request.

32.3 Concrete Spalling Repair – Repair of concrete spalling as indicated on the drawings shall be completed per the following specifications.

1. General - The Contractor shall verify the extent of all damaged areas prior to commencement of repair work. A hammer test shall be used to verify competent concrete around the damaged area. Any hollow areas shall be included for removal and repair with the adjacent spalling. The repair area limits are to be no smaller than 1" from the furthest extent of the damaged areas, as shown on the Concrete Repair Detail on Sheet 2 of 35 of the Arlington Channel drawings. The repair area shall be of a regular shape surrounding the damaged area. If the damaged area exceeds the Approximate Payline Limit line on the drawing from either the hammer test or chipping away of incompetent concrete, then approval from the Engineer must be obtained prior to commencement of the repair work.

32.4 Concrete Removal - Concrete is to be removed around the repair areas by saw cutting a regular shape around the spall area. Depth of saw cut shall be the depth of spalling but shall not exceed 1.5". The concrete is then chipped away by hand or approved mechanical device to the required depth to repair the damaged area as indicated on the drawings. The District must approve use of mechanical devices prior to their use. Concrete in the repair area shall be left clean, sound, and free of contaminants. All debris is to be removed from the jobsite and disposed at an approved waste facility as approved by the Engineer. Concrete must be mechanically prepared to a rough surface profile of +/- 1/16" to allow for adequate adhesion of the repair product. If a rough surface profile of +/- 1/16" cannot be achieved, an additional concrete bonding agent, such as Sika Armatec 110 EpoCem (or approved equal) must be used in the repair. Use of the additional bonding agent must be approved by the Engineer prior to completion of the repair. Additional repairs without prior approval completed by the Contractor shall be at the Contractor's sole expense.

32.5 Concrete Spalling – Repair Area Four (4) Square Feet or Less – The contract item Concrete Spalling – Repair Area Four (4) Square Feet or Less covers the removal and repair of all the spalling areas, as indicated on the drawings, and as approved by the Engineer. For all spall repair areas, SikaTop 123 Plus (or approved equal) shall be used per the following specifications. All repairs utilizing the SikaTop 123 Plus (or approved equal) are to be hand applied per the manufacturer's specifications.

1. SikaTop 123 Plus (or approved equal) - Hand Applied - This specification describes the patching of interior and/or exterior vertical or overhead surfaces with a polymer-modified, Portland cement mortar.
2. Quality Assurance -
 - A. Manufacturing Qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
 - B. Contractor Qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, State and Federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

3. Delivery, Storage, and Handling –
 - A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
 - B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
 - C. Condition the specified product as recommended by the manufacturer.
4. Job Conditions -
 - A. Environmental Conditions: Do not apply material if it is raining or if such conditions appear to be imminent. Minimum application temperature 40° F (5° C) and rising.
 - B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.
5. Submittals - Submit two (2) copies of the manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets.
6. Warranty - Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.
7. Products -
 - A. Manufacturer - SikaTop 123 Plus, as manufactured by Sika Corporation, is considered to conform to the requirements of this specification.
 - B. Materials - Polymer-modified, Portland cement mortar:
 1. Component A shall be a liquid polymer emulsion of an acrylic copolymer base and additives.
 - a. pH: 4.5 - 6.5
 - b. Film Forming Temperature: 73° F maximum
 - c. Tear Strength: 950 psi minimum
 - d. Elongation at Break: 500% minimum
 - e. Particle Size: Less than 0.1 micron

Component A shall contain an organic, penetrating corrosion inhibitor, which has been independently proven to reduce corrosion in concrete via ASTM G3 (half-cell potential tests). The

corrosion inhibitor shall not be calcium nitrite, and shall have a minimum of five (5) years of independent field-testing to document performance on actual construction projects.

2. Component B shall be a blend of selected Portland cements, specially graded aggregates, admixtures for controlling setting time, water reducers for workability, and an organic accelerator.
3. The materials shall be non-combustible, both before and after cure.
4. The materials shall be supplied in a factory-proportioned unit.
5. The polymer-modified, Portland cement mortar must be placeable from 1/8" to 1-1/2" in depth per lift for vertical applications and 1/8" to 1" in depth for overhead applications.

8. Performance Criteria -

A. Typical properties of the mixed polymer-modified, Portland cement mortar:

1. Working Time: Approximately 15 minutes
2. Finishing Time: 20 - 60 minutes
3. Color: Concrete Gray

B. Typical properties of the cured polymer-modified, Portland cement mortar:

1. Compressive Strength ASTM C-109 Modified.
 - a. 1 day: 3,500 psi minimum (24.1 MPa)
 - b. 7 day: 6,000 psi minimum (44.8 MPa)
 - c. 28 day: 7,000 psi minimum (48.3 MPa)
2. Flexural Strength ASTM C-293 at 28 days: 2,000 psi (13.8 MPa).
3. Splitting Tensile Strength ASTM C-496 at 28 days: 900 psi (6.2 MPa).
4. Bond Strength ASTM C-882 Modified at 28 days: 2,200 psi (15.2 MPa).
5. The Portland cement mortar shall not produce a vapor barrier.

6. Density (wet mix): 132 lbs./cu. ft. (2.2 kg/l).
7. Permeability AASHTO T-277 at 28 days, approximately 500 Coulombs.

9. Surface Preparation - Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16" (Concrete Surface Preparation 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/8" in depth.

Where reinforcing steel with active corrosion is encountered, it shall be treated as per Section 32.7 of these specifications.

10. Mixing and Application - Mechanically mix in an appropriately sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gallon Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add remaining Component A to mix for desired consistency. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 10 - 15 minutes. Do not re-temper material.

Placement Procedure: At the time of application, the substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. After filling, consolidate then screed. Allow mortar to set to desired stiffness then finish with trowel for smooth surface. Wood float or sponge float for a rough surface. Areas where the depth of the repair area to sound concrete is greater than 1-1/2", the repair shall be made in lifts of 1-1/2" maximum thickness. The top surface of each lift shall be scored to produce a rough surface for the next lift. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.

As per ACI recommendations for Portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-based* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28-day compressive strength. To prevent from freezing cover with insulating material. Setting time is dependent on temperature and humidity.

6. Density (wet mix): 132 lbs./cu. ft. (2.2 kg/l).
7. Permeability AASHTO T-277 at 28 days, approximately 500 Coulombs.
9. Surface Preparation - Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16" (Concrete Surface Preparation 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/8" in depth.

Where reinforcing steel with active corrosion is encountered, it shall be treated as per Section 32.10 of these specifications.

10. Mixing and Application - Mechanically mix in an appropriately sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gallon Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add remaining Component A to mix for desired consistency. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 10 - 15 minutes. Do not re-temper material.

Placement Procedure: At the time of application, the substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. After filling, consolidate then screed. Allow mortar to set to desired stiffness then finish with trowel for smooth surface. Wood float or sponge float for a rough surface. Areas where the depth of the repair area to sound concrete is greater than 1-1/2", the repair shall be made in lifts of 1-1/2" maximum thickness. The top surface of each lift shall be scored to produce a rough surface for the next lift. The preceding lift shall be allowed to reach final set before applying fresh material. The fresh mortar must be scrubbed into the preceding lift.

As per ACI recommendations for Portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-based* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28-day compressive strength. To prevent from freezing cover with insulating material. Setting time is dependent on temperature and humidity.

*Pretesting of curing compound is recommended.

Adhere to all procedures, limitations and cautions for the polymer-modified, Portland cement mortar in the manufacturer's current printed technical data sheet and literature.

11. Cleaning - The uncured polymer-modified, Portland cement mortar can be cleaned from tools with water. The cured polymer-modified, Portland cement mortar can only be removed mechanically.

Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.6 Concrete Spalling – Repair Area Larger than Four (4) Square Feet – The contract item Concrete Spalling – Repair Area Larger than Four (4) Square Feet covers the removal and repair of all the spalling areas, as indicated on the drawings, and as approved by the Engineer. For all spall repair areas, SikaTop 111 Plus (or approved equal) shall be used per the following specifications. All repairs utilizing the SikaTop 111 Plus (or approved equal) are to be formed and poured per the manufacturer's specifications.

1. SikaTop 111 Plus (or approved equal) - Form and Pour - This specification describes the patching of interior and/or exterior vertical or overhead surfaces with a polymer-modified, Portland cement mortar.
2. Quality Assurance -
 - A. Manufacturing Qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
 - B. Contractor Qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, State and Federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.
3. Delivery, Storage, and Handling –
 - A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.

- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
 - C. Condition the specified product as recommended by the manufacturer.
4. Job Conditions –
- A. Environmental Conditions: Do not apply material if it is raining or if such conditions appear to be imminent. Minimum application temperature 40° F (5° C) and rising.
 - B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.
5. Submittals – Submit two (2) copies of the manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets.
6. Warranty – Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.
7. Products -
- A. Manufacturer - SikaTop 111 Plus, as manufactured by Sika Corporation, is considered to conform to the requirements of this specification.
 - B. Materials - Polymer-modified, Portland cement mortar:
 - 1. Component A shall be a liquid polymer emulsion of an acrylic copolymer base and additives.
 - a. pH: 4.5 - 6.5
 - b. Film Forming Temperature: 73° F maximum
 - c. Tear Strength: 950 psi minimum
 - d. Elongation at Break: 500% minimum
 - e. Particle Size: Less than 0.1 micron

Component A shall contain an organic, penetrating corrosion inhibitor, which has been independently proven to reduce corrosion in concrete via ASTM G3 (half-cell potential tests). The corrosion inhibitor shall not be calcium nitrite, and shall have a minimum of five (5) years of independent field-testing to document performance on actual construction projects.

2. Component B shall be a blend of selected Portland cements, specially graded aggregates, admixtures for controlling setting time, water reducers for workability, and an organic accelerator.
3. The materials shall be non-combustible, both before and after cure.
4. The materials shall be supplied in a factory-proportioned unit.
5. The polymer-modified, Portland cement mortar must be placeable from 1/2" to 1" in depth per lift for horizontal applications.

To prepare a polymer-modified, Portland cement concrete: aggregate shall conform to ASTM C-33. The factory-proportioned unit shall be extended with 42-lb maximum of 3/8" (No. 8 distribution per ASTM C-33, Table II) clean, well-graded, saturated surface dry aggregate, having low absorption and high density. Aggregate must be approved for use by the Engineer.

8. Performance Criteria –

- A. Typical properties of the mixed polymer-modified, Portland cement mortar:
 1. Working Time: Approximately 30 minutes
 2. Finishing Time: 50 - 120 minutes
 3. Color: Concrete Gray
- B. Typical properties of the cured polymer-modified, Portland cement mortar:
 1. Compressive Strength ASTM C-109 Modified.
 - a. 1 day: 2,500 psi minimum (17.2 MPa)
 - b. 7 day: 5,500 psi minimum (37.9 MPa)
 - c. 28 day: 7,000 psi minimum (48.3 MPa)
 2. Flexural Strength ASTM C-293 at 28 days: 1,500 psi (10.3 MPa).
 3. Splitting Tensile Strength ASTM C-496 at 28 days: 700 psi (4.8 MPa).
 4. Bond Strength ASTM C-882 Modified at 28 days: 2,500 psi (17.2 MPa).

5. The Portland cement mortar shall not produce a vapor barrier.
6. Density (wet mix): 136 lbs./cu. ft. (2.18 kg/l).
7. Permeability AASHTO T-277 at 28 days, approximately 500 Coulombs.
9. Surface Preparation - Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16" (Concrete Surface Preparation 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/2" in depth.

Where reinforcing steel with active corrosion is encountered, it shall be treated as per Section 32.7 of these specifications.

10. Mixing and Application - Mechanically mix in an appropriate sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gallon Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add remaining Component A to mix if a more loose consistency is desired. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 30 minutes. Do not re-temper material.

Mixing of the polymer modified, Portland cement concrete: Pour all (1-gallon) of Component A into the mixing container. Add Component B while continuing to mix. Add correct amount of the pre-approved coarse aggregate, and continue mixing to a uniform consistency. Mixing time should be 3 minutes maximum.

Placement Procedure: At the time of application, the substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. After filling, consolidate then screed. Allow mortar or concrete to set to desired stiffness then finish with trowel, manual or power, for smooth surface. Broom or burlap drag for rough surface. Areas where the depth of the repair is 1 inch shall be repaired with polymer modified, Portland cement mortar. In areas where the depth of the repair is greater than 1 inch, the repair shall be made with polymer modified, Portland concrete cement.

As per ACI recommendations for Portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-

5. The Portland cement mortar shall not produce a vapor barrier.
 6. Density (wet mix): 136 lbs./cu. ft. (2.18 kg/l).
 7. Permeability AASHTO T-277 at 28 days, approximately 500 Coulombs.
9. Surface Preparation - Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of +/- 1/16" (Concrete Surface Preparation 5 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 1/2" in depth.

Where reinforcing steel with active corrosion is encountered, it shall be treated as per Section 32.10 of these specifications.

10. Mixing and Application - Mechanically mix in an appropriate sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour approximately 4/5 gallon Component A into the mixing container. Add Component B while continuing to mix. Mix to a uniform consistency for a maximum of three (3) minutes. Add remaining Component A to mix if a more loose consistency is desired. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that Component B is uniformly blended before mixing the components together. Mix only that amount of material that can be placed in 30 minutes. Do not re-temper material.

Mixing of the polymer modified, Portland cement concrete: Pour all (1-gallon) of Component A into the mixing container. Add Component B while continuing to mix. Add correct amount of the pre-approved coarse aggregate, and continue mixing to a uniform consistency. Mixing time should be 3 minutes maximum.

Placement Procedure: At the time of application, the substrate shall be saturated surface dry with no standing water. Mortar must be scrubbed into substrate filling all pores and voids. While the scrub coat is still plastic, force material against edge of repair, working toward center. If repair area is too large to fill while scrub coat is still wet use Sika Armatec 110 EpoCem in lieu of scrub coat. After filling, consolidate then screed. Allow mortar or concrete to set to desired stiffness then finish with trowel, manual or power, for smooth surface. Broom or burlap drag for rough surface. Areas where the depth of the repair is 1 inch shall be repaired with polymer modified, Portland cement mortar. In areas where the depth of the repair is greater than 1 inch, the repair shall be made with polymer modified, Portland concrete cement.

As per ACI recommendations for Portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-

based* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28-day compressive strength. To prevent from freezing cover with insulating material. Setting time is dependent on temperature and humidity.

*Pretesting of curing compound is recommended.

Adhere to all procedures, limitations and cautions for the polymer-modified, Portland cement mortar in the manufacturer's current printed technical data sheet and literature.

11. Cleaning – The uncured polymer-modified, Portland cement mortar can be cleaned from tools with water. The cured polymer modified, Portland cement mortar can only be removed mechanically.

Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.7 Concrete Crack – The contract item Concrete Crack covers the repair and seal of all concrete cracks as indicated on the drawings, and as approved by the Engineer. Repair and seal of concrete cracks shall be completed per the following specifications.

1. General - The Contractor shall verify the extent of all damaged areas prior to commencement of repair work. A hammer test shall be used to verify that the concrete cracking is not actually a spall. Any hollow areas are an indication of greater spall damage, and shall be repaired as such. If spall damage is encountered, Contractor shall notify the Engineer for prior approval before completing the repair. Any repairs beyond the limits shown in the drawings and completed by the Contractor prior to Engineer's approval shall be at the sole cost of the Contractor.
2. Epoxy Injected Concrete Repair - The repairs to concrete cracks shall be done using SikaDur 35 Hi-Mod LV and SikaDur 31 Hi-Mod Gel products (or approved equal), in accordance with the following specification.
3. SikaDur 35 Hi-Mod LV and SikaDur 31 Hi-Mod Gel - Epoxy Injected – This specification describes the pressure injection of cracks with an epoxy resin adhesive.
4. Quality Assurance –
 - A. Manufacturing Qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.

- B. Contractor Qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - C. Install materials in accordance with all safety and weather conditions required by the manufacturer or as modified by applicable rules and regulations of local, State and Federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.
5. Delivery, Storage, and Handling –
- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
 - B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
 - C. Condition the specified product as recommended by the manufacturer.
6. Job Conditions –
- A. Environmental Conditions: Do not apply material if it is raining or if such conditions appear to be imminent. Minimum application temperature 40° F (5° C) and rising.
 - B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified product.
7. Submittals – Submit two (2) copies of the manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets.
8. Warranty – Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.
9. Products –
- A. Manufacturers - SikaDur 35 Hi-Mod LV, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio 43302 is considered to conform to the requirements of this specification.

SikaDur 31 Hi-Mod Gel, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio 43302 is considered to conform to the requirements of this specification.

B. Materials – Epoxy resin adhesive for pressure injection of cracks shall be SikaDur 35 Hi-Mod LV:

1. Component A shall be a modified epoxy resin of the diglycidether bisphenol A type or containing suitable viscosity control agents. It shall not contain butyl glycidyl ether.
2. Component B shall be primarily a reaction product of a selected amine blend with an epoxy resin of the diglycidether bisphenol A type or containing suitable viscosity control agents, pigments, and accelerators.
3. The ratio of Component A to Component B shall be 2:1 by volume.
4. The material shall not contain asbestos.

C. Epoxy resin adhesive for sealing of cracks and porting devices shall be SikaDur 31 Hi-Mod Gel:

1. Component A shall be a modified epoxy resin of the diglycidether bisphenol A type or containing suitable viscosity control agents. It shall not contain butyl glycidyl ether.
2. Component B shall be primarily a reaction product of a selected amine blend with an epoxy resin of the diglycidether bisphenol A type containing suitable viscosity control agents, pigments, and accelerators.
3. The ratio of Component A to Component B shall be 1:1 by volume.
4. The material shall not contain asbestos.

D. Porting devices as required for either manual or automated application. Porting devices for automated application shall be supplied from manufacturer of the pressure injection equipment.

10. Performance Criteria –

A. Properties of the mixed epoxy resin adhesive used for the pressure injection grouting:

1. Pot Life: Minimum 25 minutes (60 gram mass) at 73° F.
 2. Tack-Free Time:
 - a. 90° F (32° C) 1.5 to 2 hours
 - b. 75° F (24° C) 3 to 3.5 hours
 - c. 40° F (5° C) 14-16 hours
 3. Viscosity: Approximately 375 cps.
 4. Color: Clear, Amber
- B. Properties of the cured epoxy resin adhesive used for pressure injection of grout:
1. Compressive Strength ASTM D-695 minimum.
 - a. 3 day: 10,000 psi (69.9 MPa)
 - b. 7 day: 11,000 psi (75.8 MPa)
 - c. 28 day: 13,000 psi (89.6 MPa)
 2. Compressive Modulus, Psi: minimum.
 - a. 7 day 320,000 psi (2,200 MPa)
 3. Shear Strength ASTM D-732.
 - a. 14 day: 5,100 psi (35 MPa)
 4. Flexural Strength ASTM D-790 minimum.
 - a. 14 day: 14,000 psi (97 MPa)
 5. Tangent Modulus of Elasticity in Bending, minimum.
 - a. 14 day: 370,000 psi (2,600 MPa)
 6. Bond Strength ASTM C-882 at 14 days (moist cure) minimum.
 - a. Hardened Concrete to Hardened Concrete: 2,900 psi (15 MPa)
 7. Water Absorption ASTM D-570 maximum.
 - a. 24 hour 0.90%

8. Tensile properties ASTM D-638 minimum.
 - a. 7 day Tensile Strength 8,900 psi (61 MPa)
 - i. Elongation at Break 5.4%
 - b. 14 day Modulus of Elasticity 4.1×10^5 psi (2,800 MPa)
- C. Properties of the mixed epoxy resin adhesive used for sealing of cracks and porting devices:
 1. Pot Life: Minimum 60 minutes (500 gram mass) at 73° F.
 2. Tack-Free Time: At 73° F (23° C) 1.5 – 2.5 hours at 30 mils thick.
 - a. Consistency: Non-Sag paste
 3. Color: Concrete Gray
- D. Properties of the cured epoxy resin adhesive used for sealing of cracks and porting devices:
 1. Compressive Strength ASTM D-695 minimum at 73° F.
 - a. 1 day: 13,000 psi (89.6 MPa)
 - b. 3 day: 14,000 psi (96.5 MPa)
 - c. 28 day: 16,000 psi (110.3 MPa)
 2. Compressive Modulus, Psi: minimum.
 - a. 7 day 795,000 psi (5,485 MPa)
 3. Shear Strength ASTM D-732.
 - a. 14 day: 4,600 psi (31.7 MPa)
 4. Flexural Strength ASTM D-790 minimum.
 - a. 14 day: 6,100 psi (42 MPa)
 5. Tangent Modulus of Elasticity in Bending, minimum.
 - a. 14 day: 1.67×10^6 psi (11,520 MPa)
 6. Bond Strength ASTM C-882)14 day (moist cure) minimum.

- a. Hardened Concrete to Hardened Concrete 2,900 psi (20 MPa)
- 7. Water Absorption ASTM D-570 maximum.
 - a. 24 hour 0.79%
- 8. Tensile Properties ASTM D-638 minimum.
 - a. 7 day Tensile Strength 3,300 psi (22.7 MPa)
 - i. Elongation at Break 0.9%
- 11. Mixing and Application – Mixing the epoxy resin adhesive for sealing the cracks and porting devices. Premix each component. Proportion equal parts by volume of Component A and Component B into a clean, dry mixing pail. Mix thoroughly for three (3) minutes with a jiffy paddle on a low-speed (400-600 rpm) drill. Mix only that quantity of material that can be used within its pot life (60 minutes at 73° F).
 - A. Mixing of the epoxy resin adhesive used for the pressure injection grouting:
 - 1. Manual: Proportion two (2) parts by volume of Component A to one (1) part Component B into a clean, dry mixing pail. Mix thoroughly for three (3) minutes with a jiffy paddle on a low-speed (400-600 rpm) drill. Mix only that quantity of material that can be used within its pot life (20-30 minutes at 73° F).
 - B. Placement Procedure:
 - 1. The epoxy resin adhesive for sealing the cracks and porting device: Set the porting devices as required by the equipment manufacturer. Spacing of the porting devices shall be accomplished as required to achieve the travel of the epoxy resin for the pressure injection grouting between ports and fill the cracks to the maximum. On structures open on both sides, provide porting devices on opposite sides at staggered elevations. Apply the mixed epoxy resin adhesive for sealing over cracks and around each porting device to provide an adequate seal to prevent the escape of the epoxy resin adhesive for the injection grouting. Where required by the Engineer, apply the epoxy resin adhesive for sealing in such a manner that minimal defacing or discoloration of the substrate shall result.
 - 2. The epoxy resin adhesive for the pressure injection grouting:

- a. Manual: Load the mixed epoxy resin adhesive for grouting into a disposable caulking cartridge or bulk-loading caulking gun. Inject the prepared cracks with a constant pressure in order to achieve maximum filling and penetration without the inclusion of air pockets or voids in the epoxy resin adhesive. Begin the pressure injection at the widest part of the crack being injected and continue until there is the appearance of epoxy resin adhesive at an adjacent port, thus indicating travel. When travel is indicated, to discontinue or continue the pressure injection from that port should be made by the Contractor based on his experience, with the approval of the Engineer. Continue procedure until pressure injectable cracks has been filled.
- b. Automated: Dispense the epoxy resin adhesive for grouting under constant pressure in accordance with procedures recommended by the equipment manufacturer as required to achieve maximum filling and penetration of the prepared cracks without the inclusion of air pockets or voids in the epoxy resin adhesive. The pressure injection of single or multiple ports, by use of a manifold system, is possible. This decision should be made by the Contractor, with the approval of the Engineer. Continue the approved procedure until all pressure injectable cracks have been filled.

If penetration of any cracks is impossible, consult the Engineer before discontinuing the injection procedure. If modification of the proposed procedure is required to fill the cracks, submit said modification in writing to the Engineer for acceptance prior to proceeding.

Adhere to all limitations and cautions for the epoxy resin adhesive in the manufacturer's current printed literature.

12. Cleaning – After the epoxy resin adhesive for grouting has cured, the epoxy resin adhesive for sealing cracks and porting devices shall be removed as required by the Engineer. Clean the substrate in a manner to produce a finish appearance acceptable to the Engineer.

The uncured epoxy resin adhesive can be cleaned from tools with approved solvent. The cured epoxy resin adhesive can only be removed mechanically.

Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.8 Vertical Expansion Joints – The contract item Vertical Expansion Joints covers the repair and seal of vertical expansion joints as indicated on the drawings, and as approved by the Engineer. Repair of the damaged Vertical Expansion Joints shall be completed per the following specifications.

1. General - The Contractor shall verify the extents of the damaged area prior to the commencement of repair work. For repair areas that also include spall repair, the expansion joints shall be sealed prior to the spall repair procedure. A hammer test shall be performed by the Contractor prior to commencement of the expansion joint repair to verify the concrete surrounding the repair site is competent. If hollow areas are encountered, it is an indication of greater spall damage, and shall be repaired as such. If spall damage is encountered, Contractor shall notify the Engineer for prior approval before completing the repair. Any repairs beyond the limits shown in the drawings and completed by the Contractor prior to the Engineer's approval shall be at the sole cost of the Contractor.
2. Elastomeric Sealant - The repairs to the damaged vertical expansion joints shall be done using SikaFlex Primer 429 and SikaFlex-2C NS products (or approved equal) in accordance with the following specifications. The primer mix shall be applied prior to the expansion joint sealant being applied. All surface contaminants, dust, laitance, oil sealant, grease, oils, curing compounds, form release agents, and foreign particles shall be removed from the expansion joints prior to the commencement of the repair.
3. SikaFlex Primer 429, Primer for Elastomeric Sealant – This specification describes the coating of joints with a one-component, adhesion promoting primer prior to application of a sealant.
4. Quality Assurance –
 - A. Manufacturing Qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
 - B. Contractor Qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, State and Federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

5. Delivery, Storage, and Handling –
 - A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
 - B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
 - C. Condition the specified product as recommended by the manufacturer.
6. Job Conditions –
 - A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40° F (5° C) and rising.
 - B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified sealant.
7. Submittals – Submit two (2) copies of the manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets.
8. Warranty - Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.
9. Products -
 - A. Manufacturers - SikaFlex Primer 429, as manufactured by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071 is considered to conform to the requirements of this specification.
 - B. Materials – Primer:

The primer shall be a one-component, brush, dauber, spray-applied material. It shall be applicable in a horizontal, vertical, and overhead joint. The primer shall cure under the influence of atmospheric moisture.
10. Performance Criteria –
 - A. Properties of the uncured primer:
 1. Dry time prior to sealant installation: 1hour < Dry time < 8 hours
 2. Consistency: Brush, or spray-applied liquid

3. Color: Clear
- B. Properties of the cured primer:
1. Promotes adhesion to the following substrates:
 - a. Concrete Block
 - b. Placed Concrete
 - c. Precast Concrete
 - d. Mortar
 - e. Grout
 - f. SikaTops
 - g. Granite
 - h. Unfinished Wood
 - i. IEFS: Dryvit, Synergy, Sto, etc.
 2. Service Range: -40° F to 170° F maximum.
 3. The primer shall be capable of being re-applied if necessary.
 4. The primer shall be acceptable for use in joints, which will be subjected to total water immersion.
11. Surface Preparation – All substrates must be clean, dry, sound, free of surface contaminants, and free of frost. Remove all traces of the old sealant, dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. sandblasting, etc., as approved by the Engineer. Blow joint free of dust using compressed air line equipped with an oil trap.
12. Mixing and Application –
- A. Primer:
1. Shake or stir primer well before using. Apply with a brush, dauber, or spray onto the substrate covering the sides of the joint surfaces.
 2. If the SikaFlex-2C NS sealant cannot be installed within 8 hours of priming, re-prime the area if necessary.
13. Cleaning – The uncured primer can be cleaned from tools and equipment with an approved solvent. The cured primer can only be removed mechanically.

Leave work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.9 SikaFlex-2C NS Elastomeric Sealant – This specification describes the sealing of joints and cracks with a two-component, non-sag or self-leveling, elastomeric polyurethane sealant.

1. Quality Assurance –
 - A. **Manufacturing Qualifications:** The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
 - B. **Contractor Qualifications:** Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
 - C. **Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, State and Federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.**
2. Delivery, Storage, and Handling –
 - A. **All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.**
 - B. **Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.**
 - C. **Condition the specified product as recommended by the manufacturer.**
3. Job Conditions –
 - A. **Environmental Conditions:** Do not apply material if it is raining or if such conditions appear to be imminent. Minimum application temperature 40° F (5° C) and rising.
 - B. **Protection:** Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.
4. Submittals – Submit two (2) copies of the manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets.

5. Warranty - Provide a written warranty from the manufacturer against defects of materials for a period of five (5) years, beginning with date of substantial completion of the project.
6. Products -
 - A. Manufacturers - SikaFlex-2C NS, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, OH 43302 is considered to conform to the requirements of this specification.
 - B. Materials - Polyurethane sealant:
 1. The joint sealant shall be a two-component, non-sag polyurethane-base material. It shall be applicable in horizontal, vertical, and overhead joints. The sealant shall be principally a chemical cure to form an elastomeric substance. The color shall be introduced through a "Color-pak" system or be pretinted from the manufacturer.
 2. Any primers, as required, recommended by the manufacturer of the specified product, shall be approved by the Engineer.
 3. Contractor shall provide all necessary backer rod or bond breaker tape as approved by the Engineer.
7. Performance Criteria -
 - A. Properties of the mixed polyurethane sealant:
 1. Initial Cure (Tack-Free Time): 6-10 hours
 2. Consistency: Non-sag
 3. Color: Concrete Gray. Additional architectural colors may be required and approved by the Engineer.
 - B. Properties of the cured polyurethane sealant:
 1. Tensile Properties ASTM D-412 at 14 days Non-sag.
 - a. Tensile Strength at break: Minimum 120 psi
 - b. Tensile Elongation: Minimum 500%
 - c. Modulus of Elasticity - 100% Elongation 70 psi, minimum
 2. Shore A Hardness ASTM D-2240 at 14 days:

- a. Non-sag: 25 +/- 5
 3. Tear Strength ASTM D-624 at 14 days: Non-sag 45 lbs./in.
 4. Adhesion in Peel ASTM C-794 at 21 days.
 - a. Concrete: 25-lb. Minimum, 0% Adhesion Loss
 5. Service Range: -40° to 170° F (-40° to 77° C).
 6. The sealant shall conform to ASTM C-920, Type M, NS, Class 25.
 7. The sealant shall be capable of ±50% of the average joint width when tested in accordance to the durability bond test of ASTM C-719.
 8. The sealant shall be non-staining.
 9. Final Cure: 3 days maximum.
8. Surface Preparation – The joint and adjacent substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of the old sealant, dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. sandblasting, etc., as approved by the engineer. Blow joint free of dust using compressed air line equipped with an oil trap.
9. Mixing and Application - Mixing of the polyurethane sealant: Pour out entire contents of Component B into pail of Component A. Add entire contents of Color-pak into pail and mix with low-speed drill (400-600 rpm) and approved paddle. Mix for 3-5 minutes to achieve a uniform color and consistency. Avoid entrapment of air during mixing.

A. Joints:

1. Placement Procedure: Prime all substrates as required based upon the recommendations of the manufacturer of the specified product, when field testing indicates need, and when the joints will be subject to immersion after cure, as approved by the Engineer.
2. Install approved backer rod or bond breaker tape in all joints subject to thermal movement to prevent three-sided bonding and to set the depth of the sealant at a maximum of 1/2 inch, measured at the center point of the joint width. Approval of the backer rod or bond breaker tape shall be made by the Engineer.

3. Joints shall be masked to prevent discoloration or application on unwanted areas, as directed by the Engineer. If masking tape is used, it shall not be removed before tooling, yet must be removed before the initial cure of the sealant. Do not apply the masking tape until just prior to the sealant application.
 4. Install sealant into prepared joints when the joint is at mid-point of its expansion and contraction cycle. Load the sealant into a caulking gun. Place the nozzle of the gun, either hand or air or electric powered, into the bottom of the joint and fill entire joint. Keep the tip of the nozzle in the sealant, continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool, as required, to properly fill the joint.
 5. Adhere to all limitations and cautions for the polyurethane sealant in the manufacturers printed literature.
10. Cleaning - The uncured polyurethane sealant can be cleaned with an approved solvent. The cured polyurethane sealant can only be removed mechanically.

Leave work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.10 Measurement - Measurement for payment for the contract items Concrete Spalling - Repair Area Four (4) Square Feet or Less; Concrete Spalling - Repair Area Larger than Four (4) Square Feet; and Concrete Crack will be the number of square feet of the repaired damaged area as specified and measured to the neat lines as shown on the drawings.

Measurement for payment for the contract item Vertical Expansion Joints will be the number of lineal feet as measured along the centerline of each item constructed and repaired as specified and as shown on the drawings.

No measurement or payment will be made for bond breaker tape and other necessary accessories for the construction and repair of the different items in this section.

32.11 Payment - The contract prices paid for Concrete Spalling - Repair Area Four (4) Square Feet or Less; Concrete Spalling - Repair Area Larger than Four (4) Square Feet; Concrete Crack; and Vertical Expansion Joints shall include full compensation for all costs incurred under this section and shall be paid upon completion of construction and approved repair work of each item.

3. Joints shall be masked to prevent discoloration or application on unwanted areas, as directed by the Engineer. If masking tape is used, it shall not be removed before tooling, yet must be removed before the initial cure of the sealant. Do not apply the masking tape until just prior to the sealant application.
 4. Install sealant into prepared joints when the joint is at mid-point of its expansion and contraction cycle. Load the sealant into a caulking gun. Place the nozzle of the gun, either hand or air or electric powered, into the bottom of the joint and fill entire joint. Keep the tip of the nozzle in the sealant, continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool, as required, to properly fill the joint.
 5. Adhere to all limitations and cautions for the polyurethane sealant in the manufacturers printed literature.
10. Cleaning - The uncured polyurethane sealant can be cleaned with an approved solvent. The cured polyurethane sealant can only be removed mechanically.

Leave work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

32.10 Reinforcing Steel Preparation - Any exposed reinforcing steel shall be checked to verify its competence. Concrete shall be completely chipped away and sandblasted to remove all contaminants and rust from the exposed reinforcing steel. Deterioration of the reinforcing steel to a diameter less than the original diameter per the 'Arlington Channel - Storm Channel Wall Schedule' (RCFC Project 1-0-020, DWG 1-294, SHT 23) shall be removed and replaced as directed by the Engineer. Deteriorated steel shall be removed, and new reinforcing steel matching the size and type per the 'Arlington Channel - Storm Channel Wall Schedule' (RCFC Project 1-0-020, DWG 1-294, SHT 23) shall be spliced per the requirements of Rebar Splices, ACI Manual, Standard 318, Latest Edition. If the reinforcing steel is found to be competent with no loss in diameter, then the reinforcing steel can be treated with Sika Armatec 110 EpoCem.

Apply properly mixed Sika Armatec 110 EpoCem to prepared steel surface with a stiff-bristle brush, or "hopper type" spray equipment at 20 mils minimum thickness. Properly coat the underside of the totally exposed steel. Allow to dry (approximately 2 - 3 hours) then apply a second coat at 20 mils minimum thickness. Allow drying again before placing repair mortar.

32.11 Measurement - Measurement for payment for the contract items Concrete Spalling - Repair Area Four (4) Square Feet or Less; Concrete Spalling - Repair Area Larger than Four (4) Square Feet; and Concrete Crack will be the number of square feet of the repaired damaged area as specified and measured to the neat lines as shown on the drawings.

Measurement for payment for the contract item Vertical Expansion Joints will be the number of lineal feet as measured along the centerline of each item constructed and repaired as specified and as shown on the drawings.

No measurement or payment will be made for bond breaker tape and other necessary accessories for the construction and repair of the different items in this section.

32.12 Payment - The contract prices paid for Concrete Spalling - Repair Area Four (4) Square Feet or Less; Concrete Spalling - Repair Area Larger than Four (4) Square Feet; Concrete Crack; and Vertical Expansion Joints shall include full compensation for all costs incurred under this section and shall be paid upon completion of construction and approved repair work of each item.

APPENDIX "A"

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT

RULE 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

- (1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.
- (2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.
- (3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.
- (4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.
- (5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

- (6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.
- (7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.
- (8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.
- (9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.
- (10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.
- (11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.
- (12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.
- (13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

- (14) **DISTURBED SURFACE AREA** means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:
- (A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;
 - (B) been paved or otherwise covered by a permanent structure; or
 - (C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.
- (15) **DUST SUPPRESSANTS** are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.
- (16) **EARTH-MOVING ACTIVITIES** means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.
- (17) **DUST CONTROL SUPERVISOR** means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.
- (18) **FUGITIVE DUST** means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.
- (19) **HIGH WIND CONDITIONS** means that instantaneous wind speeds exceed 25 miles per hour.
- (20) **INACTIVE DISTURBED SURFACE AREA** means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.
- (21) **LARGE OPERATIONS** means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

- meters (5,000 cubic yards) or more three times during the most recent 365-day period.
- (22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.
 - (23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.
 - (24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.
 - (25) PM₁₀ means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.
 - (26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.
 - (27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.
 - (28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.
 - (29) SIMULTANEOUS SAMPLING means the operation of two PM₁₀ samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.
 - (30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

- (31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.
 - (32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.
 - (34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.
 - (35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.
 - (36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.
 - (37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.
- (d) Requirements
- (1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

- (A) the dust remains visible in the atmosphere beyond the property line of the emission source; or
 - (B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.
- (2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.
- (3) No person shall cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM₁₀ monitoring. If sampling is conducted, samplers shall be:
- (A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM₁₀.
 - (B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.
- (4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.
- (5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.
- (A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

- (B) Pave the surface extending at least 100 feet and at least 20 feet wide.
 - (C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.
 - (E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).
- (6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.
- (e) Additional Requirements for Large Operations
- (1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:
 - (A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;
 - (B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;
 - (C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

- (D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;
 - (E) identify a dust control supervisor that:
 - (i) is employed by or contracted with the property owner or developer;
 - (ii) is on the site or available on-site within 30 minutes during working hours;
 - (iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;
 - (iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and
 - (F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).
- (2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).
- (f) **Compliance Schedule**
The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

- (1) The provisions of this Rule shall not apply to:
 - (A) Dairy farms.
 - (B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.
 - (C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.
 - (D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.
 - (E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:
 - (i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and
 - (ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and
 - (iii) makes the completed self-monitoring form available to the Executive Officer upon request.

- (F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.
 - (G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.
 - (H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.
 - (I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.
 - (J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:
 - (i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and
 - (ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.
 - (K) sandblasting operations.
- (2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:
- (A) When wind gusts exceed 25 miles per hour, provided that:

- (i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;
 - (ii) records are maintained in accordance with subparagraph (e)(1)(C).
 - (B) To unpaved roads, provided such roads:
 - (i) are used solely for the maintenance of wind-generating equipment; or
 - (ii) are unpaved public alleys as defined in Rule 1186; or
 - (iii) are service roads that meet all of the following criteria:
 - (a) are less than 50 feet in width at all points along the road;
 - (b) are within 25 feet of the property line; and
 - (c) have a traffic volume less than 20 vehicle-trips per day.
 - (C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.
- (3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.
 - (4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:
 - (A) Blasting operations which have been permitted by the California Division of Industrial Safety; and
 - (B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.
 - (5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

- (6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.
- (7) The provisions of subdivision (e) shall not apply to:
 - (A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.
 - (B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.
 - (C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.
- (8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM₁₀ pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	<ul style="list-style-type: none"> ✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	<ul style="list-style-type: none"> ✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	<ul style="list-style-type: none"> ✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	<ul style="list-style-type: none"> ✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	<ul style="list-style-type: none"> ✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	<ul style="list-style-type: none"> ✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	<ul style="list-style-type: none"> ✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<ul style="list-style-type: none"> ✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<ul style="list-style-type: none"> ✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<ul style="list-style-type: none"> ✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	<ul style="list-style-type: none"> ✓ Apply grave/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	<ul style="list-style-type: none"> ✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	<ul style="list-style-type: none"> ✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	<ul style="list-style-type: none"> ✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
 (Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Unpaved roads/parking lots	19-1 Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1 In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	<p>(1a) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR</p> <p>(1a-1) For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.</p>
Earth-moving: Construction fill areas:	<p>(1b) Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.</p>

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Earth-moving: Construction cut areas and mining operations:	(1c) Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b) Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c) Apply chemical stabilizers within five working days of grading completion; OR (2d) Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a) Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR (3b) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (3c) Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR (3d) Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS
Unpaved Roads	(4a) Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR (4b) Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR (4c) Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) Apply chemical stabilizers; OR (5b) Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR (5c) Install temporary coverings; OR (5d) Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling (Only applicable to Commercial Poultry Ranches)	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX "B"

LOG OF SOIL BORINGS

LOG OF BOREHOLE B-1 @ ~Station 26+45

Date Drilled: 10/29/09 Logged by: NW Project Manager: FHS
 Equipment: Hand Auger Driving Weight and Drop: N/A
 Surface Elevation(ft): ~ 688.4 Depth to Water(ft): Not Encountered

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB. TESTS And/Or OVA READINGS (ppm)
			DRIVE	BULK				
		SANDY SILT (ML) , olive brown, dry to moist, medium dense, fine-grained sand, porous, low plasticity fines	X	X	-	15.1	98.6	Comp GS
5		SANDY CLAY (CL) , olive brown, moist, stiff, medium plasticity fines, fine-grained sand	X	X	-	14.1	96.7	GS, AL
		With gravel, whitish brown, fine- to medium-grained sands	X	X	-	15.6	103.0	GS, AL
10		CLAYEY SAND (SC) , olive, moist, medium dense, high plasticity fines, fine- to medium-grained sand	X	X	-	23.7	93.5	GS, AL
		@ 11 feet, SILTY SAND to POORLY-GRADED SAND , olive, fine-grained sand -Mixtures of POORLY-GRADED SAND (SP) , olive, fine-grained sand						
15		POORLY-GRADED SAND (SP) , white with orange olive, moist, medium dense, fine- to medium-grained sands	X	X	-	2.3	101.0	GS
20		Borehole terminated at 15 feet below the existing ground surface. Borehole was backfilled and tamped with soil cuttings. No groundwater was encountered during hand-augering operations.						

LAGNN01 329-02.GPJ LAGNN01.GDT 11/20/09

GEO-ENVIRONMENTAL, INC. 2691 Richter Avenue, Suite 127 Irvine, California 92606-5125 Phone: (949) 263-8334 Fax: (949) 263-8338	La Sierra Storm Channel Restoration Project Riverside, CA GEI Project No.: 329-02	Figure A-1
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LOG OF BOREHOLE B-2 @ ~Station 26+45

Date Drilled: 10/29/09 Logged by: NW Project Manager: FHS
 Equipment: Hand Auger Driving Weight and Drop: N/A
 Surface Elevation(ft): ~ 679.3 Depth to Water(ft): Not Encountered

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB. TESTS <small>And/Or OVA READINGS (ppm)</small>
			DRIVE	BULK				
5		<p>PORTLAND CEMENT CONCRETE (PCC) SECTION, four (4) inches thick</p> <p>SUBDRAINAGE SYSTEM (Six (6)-inch diameter steel pipe surrounded by pea gravel)</p> <p>SANDY SILT (ML), olive brown, very moist, medium dense, fine- to medium-grained sands</p> <p>SILTY SAND (SM), olive brown, very moist, medium dense, fine- to coarse-grained sands with little gravel</p>			-	22.4	96.2	GS Corr Comp GS GS
10		<p>Borehole terminated at five (5) feet below the existing ground surface. Borehole was backfilled with soil cuttings and patched with Portland Cement Concrete (PCC) Ready-Mix. No groundwater was encountered during hand-augering operations.</p>						
15								
20								

LAGNN01 329-02.GPJ LAGNN01.GDT 11/20/09

<p>GEO-ENVIRONMENTAL, INC. 2691 Richter Avenue, Suite 127 Irvine, California 92606-5125 Phone: (949) 263-8334 Fax: (949) 263-8338</p>	La Sierra Storm Channel Restoration Project Riverside, CA GEI Project No.: 329-02	Figure A-2
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LOG OF BOREHOLE B-3 @ ~Station 10+50

Date Drilled: 10/29/09 Logged by: NW Project Manager: FHS
 Equipment: Hand Auger Driving Weight and Drop: N/A
 Surface Elevation(ft): ~ 677.2 Depth to Water(ft): Not Encountered




DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB. TESTS And/Or OVA READINGS (ppm)
			DRIVE	BULK				
		PORTLAND CEMENT CONCRETE (PCC) SECTION, four (4) inches thick SUBDRAINAGE SYSTEM (Six (6)-inch diameter steel pipe surrounded by pea gravel)						
5		SILTY SAND (SM), brown, very moist, medium dense, medium- to coarse-grained sands SANDY SILT (ML), brown, very moist, medium dense, mostly fines, medium- to coarse-grained sands	X	X	-	19.7	98.6	GS
		POORLY-GRADED SAND (SP), brown, very moist, medium dense, fine- to medium-grained sands		X				
10		Borehole terminated at seven (7) feet below the existing ground surface. Borehole was backfilled with soil cuttings and patched with Portland Cement Concrete (PCC) Ready-Mix. No groundwater was encountered during hand-augering operations.						
15								
20								

LAGNN01 329-02.GPJ LAGNN01.GDT 11/20/09

GEO-ENVIRONMENTAL, INC. 2691 Richter Avenue, Suite 127 Irvine, California 92606-5125 Phone: (949) 263-8334 Fax: (949) 263-8338	La Sierra Storm Channel Restoration Project Riverside, CA GEI Project No.: 329-02	Figure A-3
--	---	-------------------

LOG OF BOREHOLE B-4 @ ~Station 1+81

Date Drilled: 11/9/09 Logged by: NW Project Manager: FHS
 Equipment: Hand Auger Driving Weight and Drop: N/A
 Surface Elevation(ft): ~ 675.9 Depth to Water(ft): Not Encountered

DEPTH (ft)	GRAPHIC LOG	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES		BLOWS/FOOT	MOISTURE (%)	DRY UNIT WT. (pcf)	LAB. TESTS And/Or OVA READINGS (ppm)
			DRIVE	BULK				
5		<p>PORTLAND CEMENT CONCRETE (PCC) SECTION, five (5) inches thick SUBDRAINAGE SYSTEM (Six (6)-inch diameter steel pipe surrounded by pea gravel) SILTY SAND (SM), brown, moist, medium dense, medium- to coarse-grained sands, low plasticity fines</p>	 			15.8	102.8	
10		<p>Borehole terminated at five (5) feet below the existing ground surface. Borehole was backfilled with soil cuttings and patched with Portland Cement Concrete (PCC) Ready-Mix. No groundwater was encountered during hand-augering operations.</p>						
15								
20								

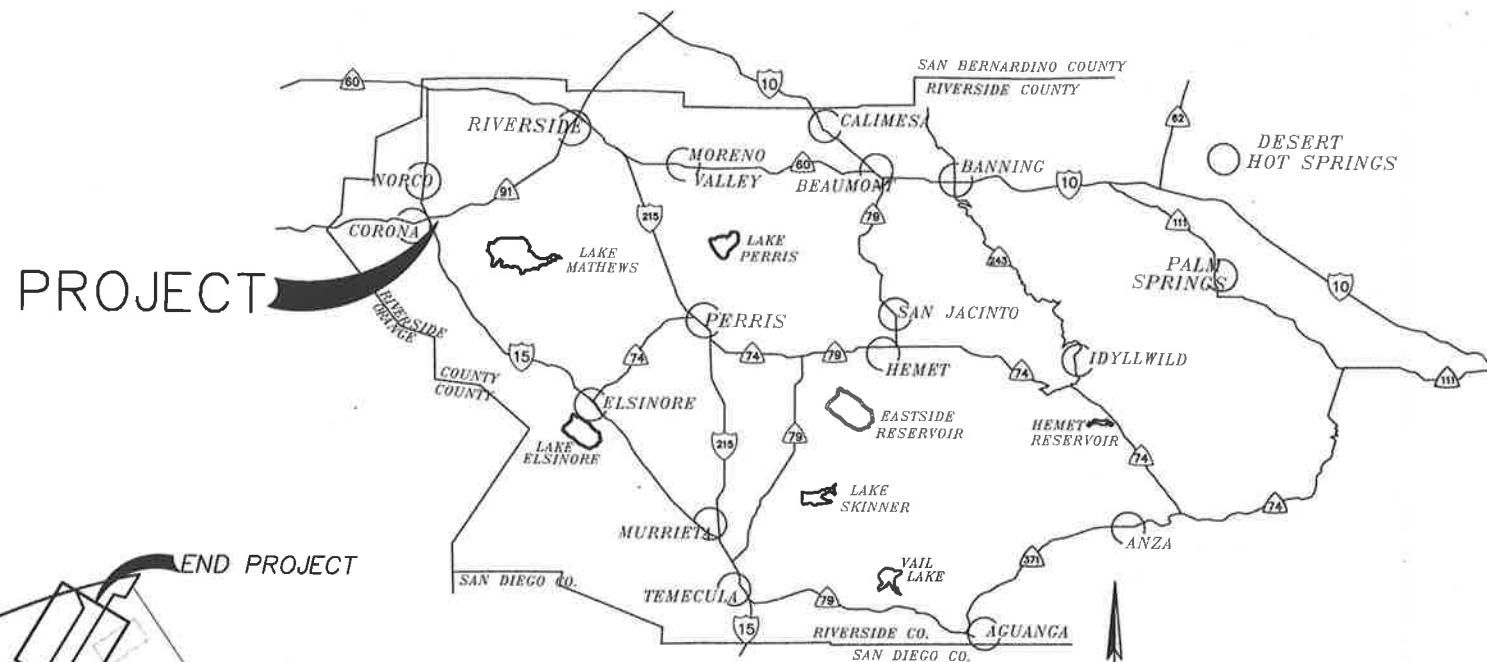
LAGNN01 329-02.GPJ LAGNN01.GDT 11/20/09

GEI
GEO-ENVIRONMENTAL, INC.
 2691 Richter Avenue, Suite 127
 Irvine, California 92606-5125
 Phone: (949) 263-8334 Fax: (949) 263-8338

La Sierra Storm Channel Restoration Project
 Riverside, CA
 GEI Project No.: 329-02

Figure A-4

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

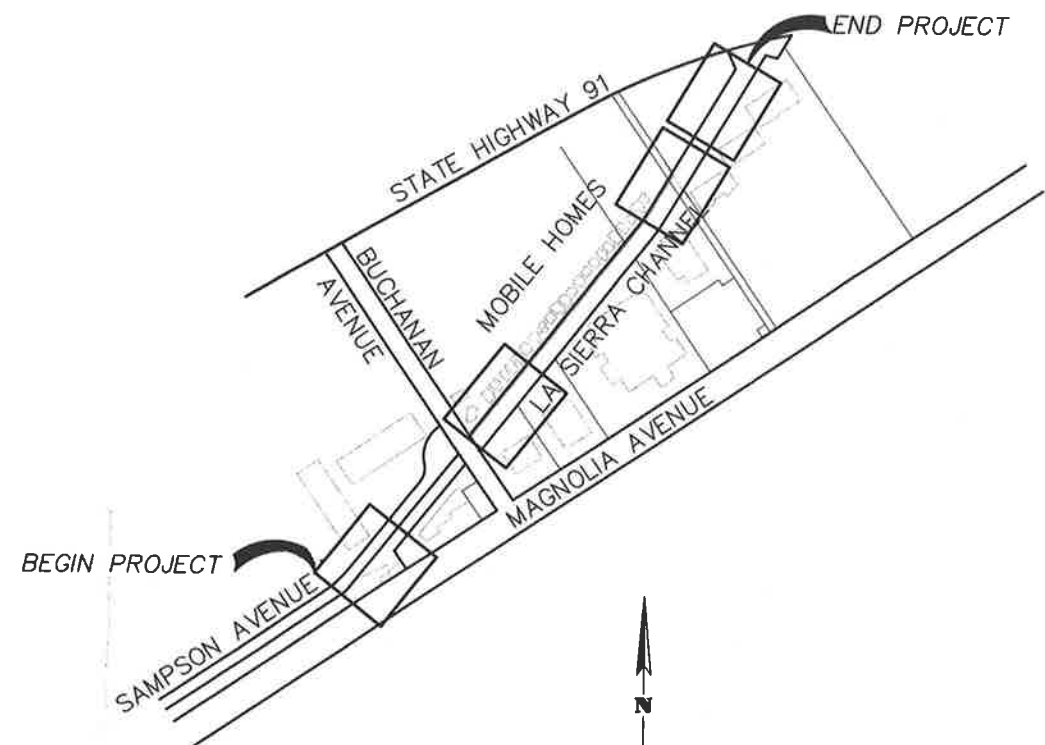


INDEX

TITLE SHEET	SHEET NO.
TITLE SHEET	1
PLAN AND PROFILE SHEET	2 - 3
DETAIL SHEET	4

R.C.F.C. & W.C.D. STANDARD DRAWINGS

JS 232 JUNCTION STRUCTURE NO. 7
CH 326 TRAPEZOIDAL CHANNEL DETAILS



INDEX MAP
NTS

GENERAL NOTES

1. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION.
2. ALL CHANNEL/STORM DRAIN REFERENCES AND CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
3. THE VERTICAL DATUM IS DERIVED FROM NGVD 29. THE HORIZONTAL DATUM IS DERIVED FROM NAD 27.
4. STANDARD DRAWINGS CALLED FOR ON THE PLAN & PROFILE SHALL CONFORM TO RCFC. & WCD STD DRAWINGS, OR CALTRANS/CITY/COUNTY STANDARD PLANS.
5. ELEVATIONS AND LOCATIONS OF UTILITIES WERE OBTAINED FROM AVAILABLE INFORMATION AND ARE SHOWN APPROXIMATELY ON THESE PLANS. 48 HOURS BEFORE EXCAVATION CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600. ALL UTILITIES SHALL BE PROTECTED IN PLACE EXCEPT AS NOTED ON PLANS AND SPECIFICATIONS.
6. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY AGENCIES REGARDING TEMPORARY SUPPORT AND SHORING REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
7. ALL OPENINGS RESULTING FROM CUTTING OR PARTIAL REMOVAL OF EXIST. CULVERTS, PIPES, OR SIMILAR STRUCTURES TO BE ABANDONED, SHALL BE SEALED AT BOTH ENDS WITH 6" MIN. CLASS "B" CONCRETE.
8. ● INDICATES APPROX. SOIL BORING LOCATION PER SOILS REPORT DATED NOVEMBER 20, 2009, PERFORMED BY GEO-ENVIRONMENTAL INC.

WOLFE
Engineering and Design Inc.

380 FIRST STREET #262
Tustin, CA 92780
714-402-9645
DESIGNED BY: MPR
DRAWN BY: MPR/JSW
DATE DRAWN: DECEMBER 2010
CHECKED BY: LSW

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for the location of buried utility lines.
Don't disrupt vital services.
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BENCH MARK
B.M. NO. Z6324
FD. N & RCFC&WCD TAG FLUSH WITH PAVEMENT ON N'LY SIDE OF SAMSON AVENUE, ±280 FEET W'LY OF JASON COURT, ±5 FEET S'LY OF CURB,
686.593 EL.

REF.	DESCRIPTION	APPR.	DATE

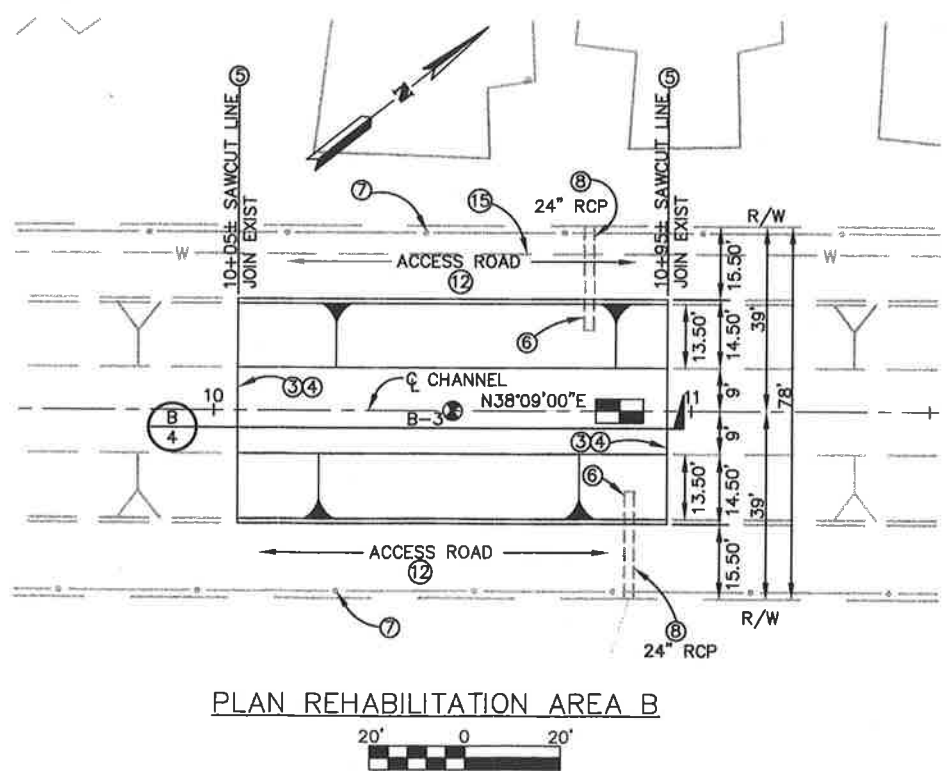
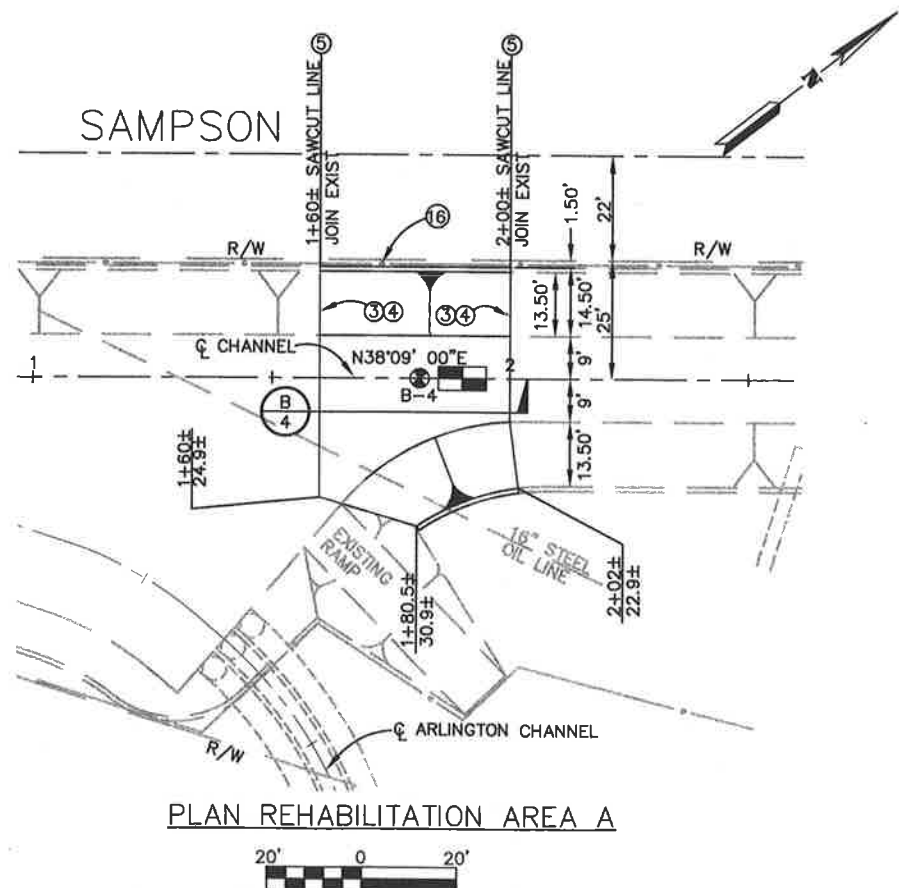
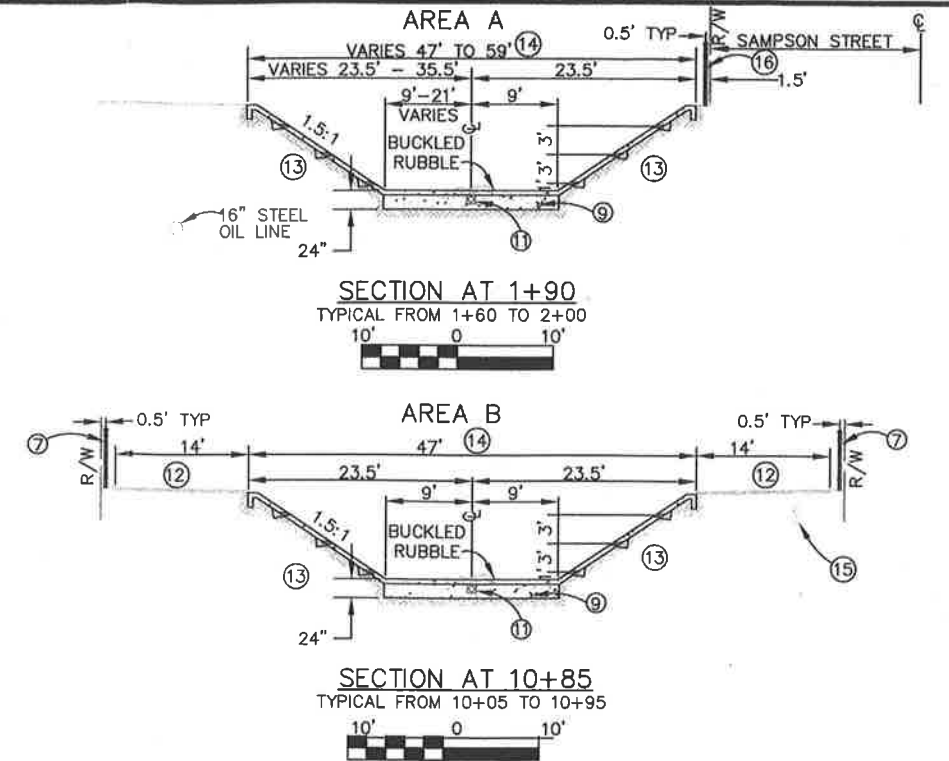
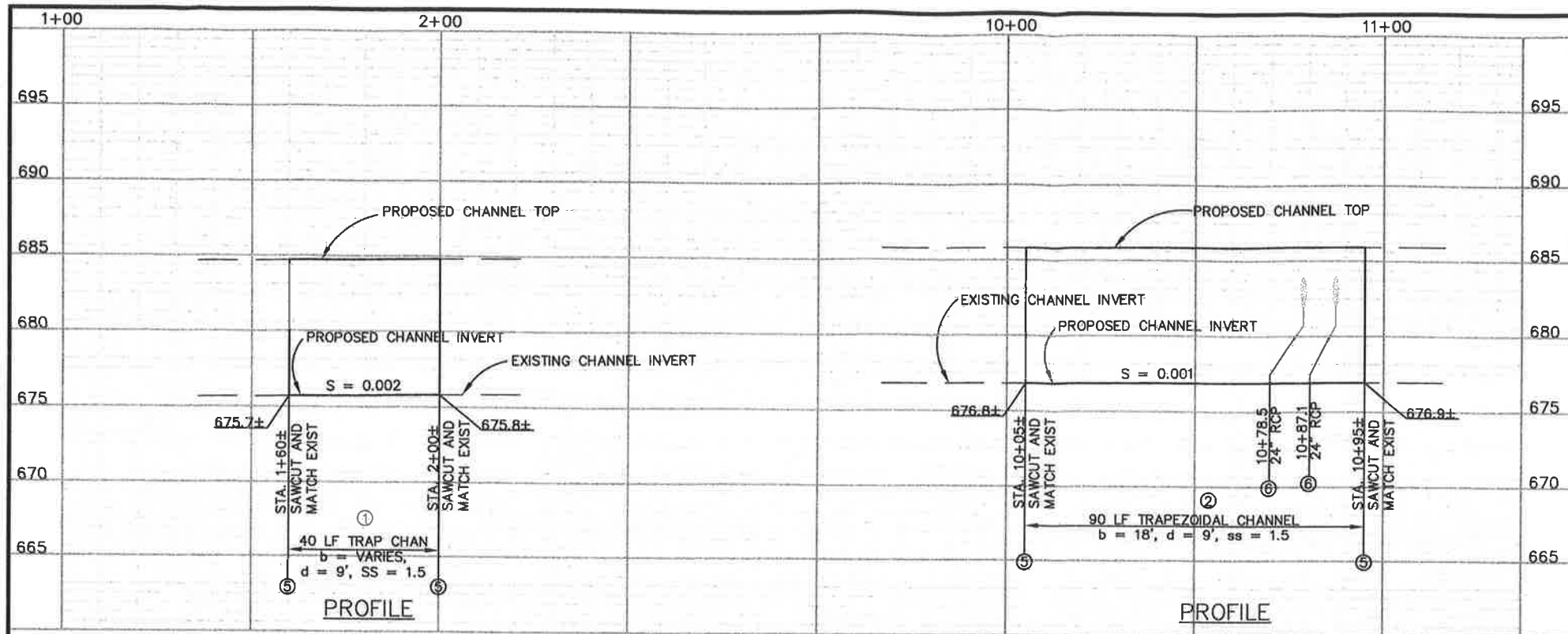
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 23-MAR-2011
APPROVED BY: [Signature]
DATE: 3/21/11

LA SIERRA CHANNEL
REPAIR
TITLE SHEET

PROJECT NO. 1-0-0060-00
DRAWING NO. 1-688
SHEET NO. 1 OF 4



9/20/2011 11.1

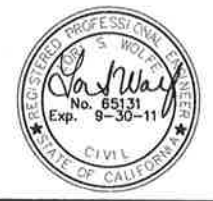


CONSTRUCTION NOTES:

- ① CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER STD. CH326 AND SECTION SHOWN AND PLAN AREA A.
- ② CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER STD. CH326 AND SECTION SHOWN AND PLAN AREA B.
- ③ SEE JOINT DETAIL 'A' ON SHEET 4.
- ④ INSTALL 1/4" EXPANSION JOINT FILLER BETWEEN EXISTING AND PROPOSED CONCRETE EDGES - INVERT AND SIDEWALL.
- ⑤ STATION SHOWN IS APPROXIMATE. BEGIN REMOVAL AT CLOSEST TRANSVERSE CONSTRUCTION JOINT.
- ⑥ CONSTRUCT JUNCTION STRUCTURE NO. 7 PER STD. JS232.
- ⑦ PROTECT EXISTING FENCE IN PLACE.
- ⑧ PROTECT EXISTING STORM DRAIN PIPE IN PLACE.
- ⑨ EXCAVATE 24" BELOW FLOW LINE AND BACKFILL W/ 18" LAYER FILTER MATERIAL OVER MIRAFI 1100N/15/30 FABRIC
- ⑩ REPLACE SUBDRAIN PIPE PER STD. CH326 AND CH332
- ⑪ RECONSTRUCT ACCESS ROAD WITH 3" THICK CLASS 2 AGREGATE BASE.
- ⑫ CONSTRUCT WEEPHOLES PER STD. CH326 - 3' SPACING VERTICAL AND 6' O.C. ALONG CHANNEL - BOTH SIDES
- ⑬ REMOVE ENTIRE EXISTING CONCRETE CHANNEL LINING. AFTER SOIL REMOVAL AND COMPACTION OPERATION, CONSTRUCT NEW CHANNEL PER STD. CH326 AND AS SHOWN HEREON.
- ⑭ PROTECT EXISTING WATER LINE IN PLACE.
- ⑮ REMOVE AND INSTALL EXISTING FENCE AS NEEDED.

STA.	X	D	SS	A*	C	EL.	"S"
10+78.5	24"	1.5	90°	17.0'		681.9±	
10+87.1	24"	1.5	90°	16.7'		682.0±	

* EXACT ANGLE "A" UNKNOWN. CONTRACTOR TO DETERMINE IN FIELD PRIOR TO CONSTRUCTION.



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DRAWN BY: MPR/JSW
DATE DRAWN: DECEMBER 2010
CHECKED BY: LSW

BENCH MARK
B.M. NO. Z6324

FD, N & R/CFC&W/D TAG FLUSH WITH PAVEMENT ON NLY SIDE OF SAMPSON AVENUE, ±280 FEET W'LY OF JASON COURT, ±5 FEET S'LY OF CURB.

686.593 EL.

REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 22 MAR 2011

APPROVED BY: [Signature]
DATE: 23-MAR 2011

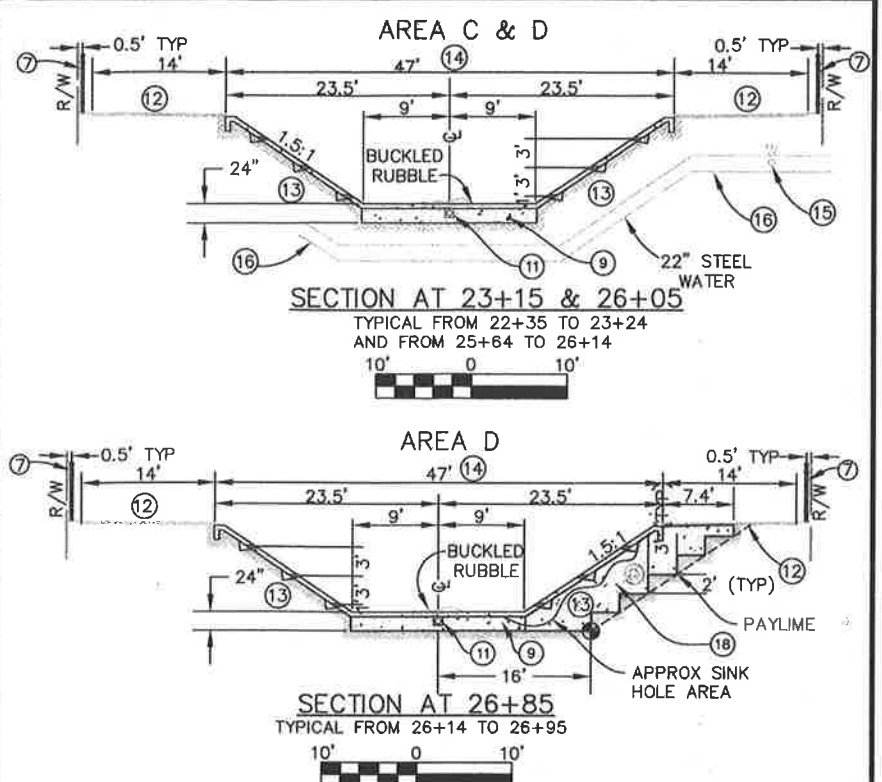
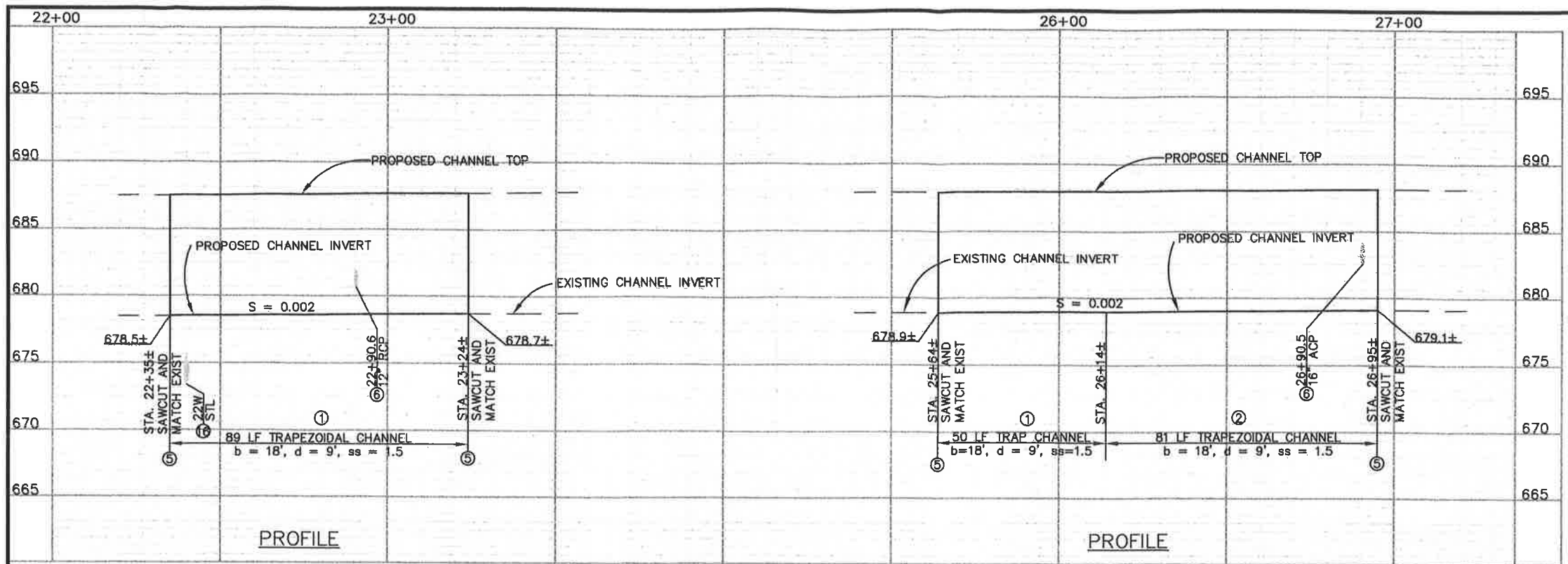
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LA SIERRA CHANNEL REPAIR

STA 1+60 TO STA 2+00
STA 10+05 TO 10+95

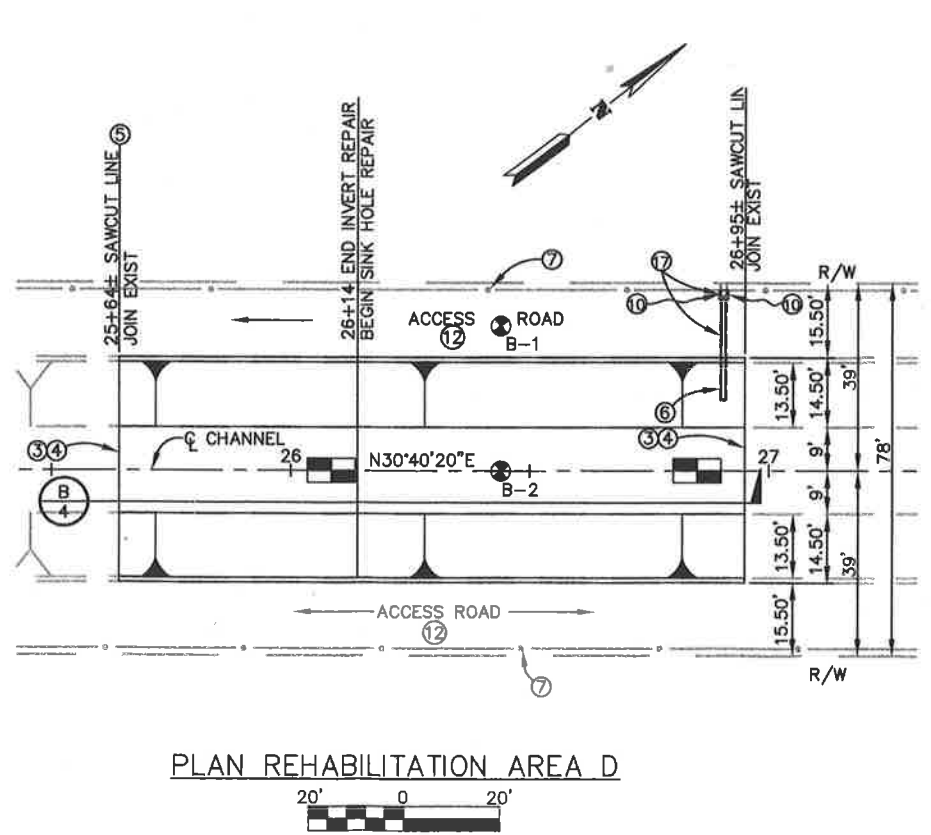
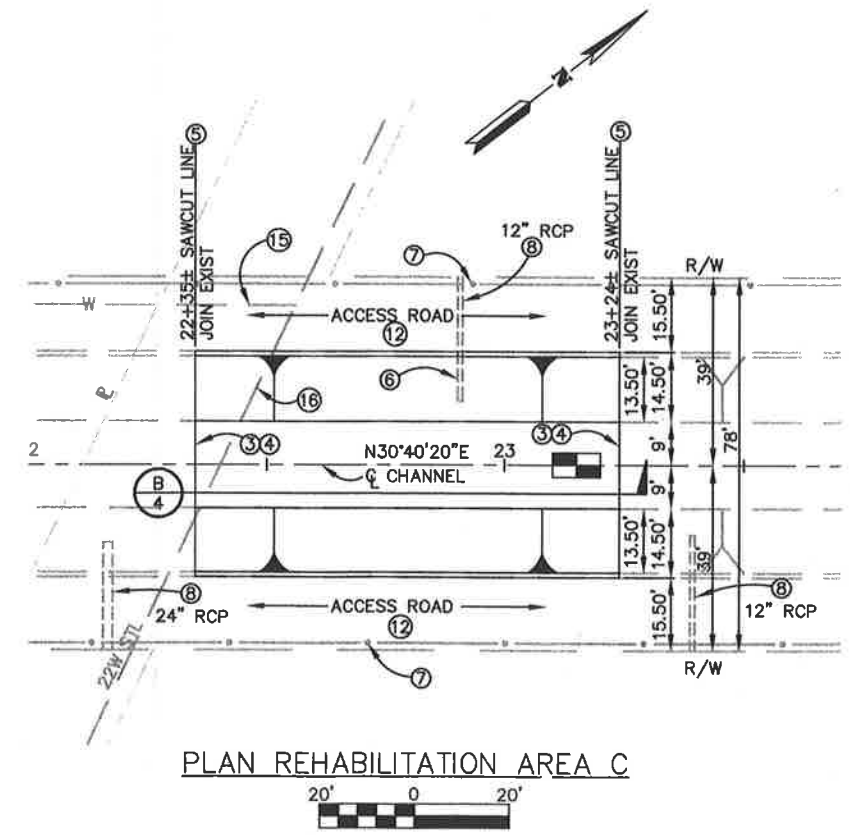
DRAWING NO. 1-688

SHEET NO. 2 of 4



CONSTRUCTION NOTES:

- ① CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER STD. CH326 AND SECTION SHOWN AND PLAN AREA C & D.
 - ② CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER STD. CH326 AND SECTION SHOWN AND PLAN AREA D.
 - ③ SEE JOINT DETAIL 'A' ON SHEET 4.
 - ④ INSTALL 1/4" EXPANSION JOINT FILLER BETWEEN EXISTING AND PROPOSED CONCRETE EDGES - INVERT AND SIDEWALL.
 - ⑤ STATION SHOWN IS APPROXIMATE. BEGIN REMOVAL AT CLOSEST TRANSVERSE CONSTRUCTION JOINT.
 - ⑥ CONSTRUCT JUNCTION STRUCTURE NO. 7 PER STD. JS232.
- | STA | X | D | SS | A* | C | EL. "S" |
|---------|-----|-----|-----|-------|---|---------|
| 22+90.6 | 12" | 1.5 | 90° | 13.2' | | 680.6± |
| 26+90.5 | 16" | 1.5 | 90° | 14.7' | | 682.5± |
- * EXACT ANGLE "A" UNKNOWN. CONTRACTOR TO DETERMINE IN FIELD PRIOR TO CONSTRUCTION.
- ⑦ PROTECT EXISTING FENCE IN PLACE.
 - ⑧ PROTECT EXISTING STORM DRAIN PIPE IN PLACE.
 - ⑨ EXCAVATE 24" BELOW FLOW LINE AND BACKFILL W/ 18" LAYER FILTER MATERIAL OVER MIRAFI 1100N/15/30 FABRIC
 - ⑩ GRADE TO DRAIN AS DIRECTED BY THE ENGINEER AND CONSTRUCT 3" THICK CONCRETE APRON AROUND THE DROP INLET
 - ⑪ CONSTRUCT SUBDRAIN PIPE PER STD. CH326 AND CH332
 - ⑫ RECONSTRUCT ACCESS ROAD WITH 3" THICK CLASS 2 AGREGATE BASE.
 - ⑬ CONSTRUCT WEEPHOLES PER STD. CH326 - 3' SPACING VERTICAL AND 6' O.C. ALONG CHANNEL - BOTH SIDES
 - ⑭ REMOVE ENTIRE EXISTING CONCRETE CHANNEL LINING. AFTER SOIL REMOVAL AND COMPACTION OPERATION, CONSTRUCT NEW CHANNEL PER STD. CH326 AND AS SHOWN HEREON.
 - ⑮ PROTECT EXISTING WATER LINE IN PLACE.
 - ⑯ CONTRACTOR TO POTHOLE PRIOR TO EXCAVATION AND PROTECT IN PLACE.
 - ⑰ LOCATE EXISTING DAMAGED SIDE INLET PIPE. REMOVE AND REPLACE EXISTING PIPE WITH 12" DIAMETER CLASS IV RCP. INSTALL NEW DROP INLET PER DETAIL ON SHEET 4.
 - ⑱ BACKFILL WITH SELECT MATERIAL FROM EXCAVATION OR IMPORT MATERIAL AS APPROVED BY THE ENGINEER.



360 FIRST STREET #262
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714-402-9845

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DRAWN BY: MPR/JSW
DATE DRAWN: DECEMBER 2010
CHECKED BY: LSW

BENCH MARK
B.M. NO. Z6324

FD, N & RCF&WCD TAG FLUSH WITH PAVEMENT ON N'LY SIDE OF SAMSON AVENUE, ±280 FEET W'LY OF JASOR COURT, ±5 FEET S'LY OF CURB.

686.593 EL.

REF.	DESCRIPTION	APPR.	DATE

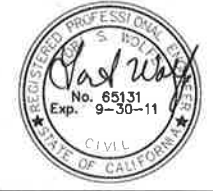
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

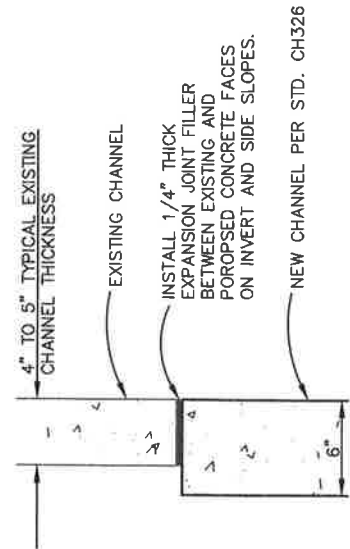
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DATE: 22 MAR 2011

APPROVED BY: [Signature]
DATE: 23 MAR 2011

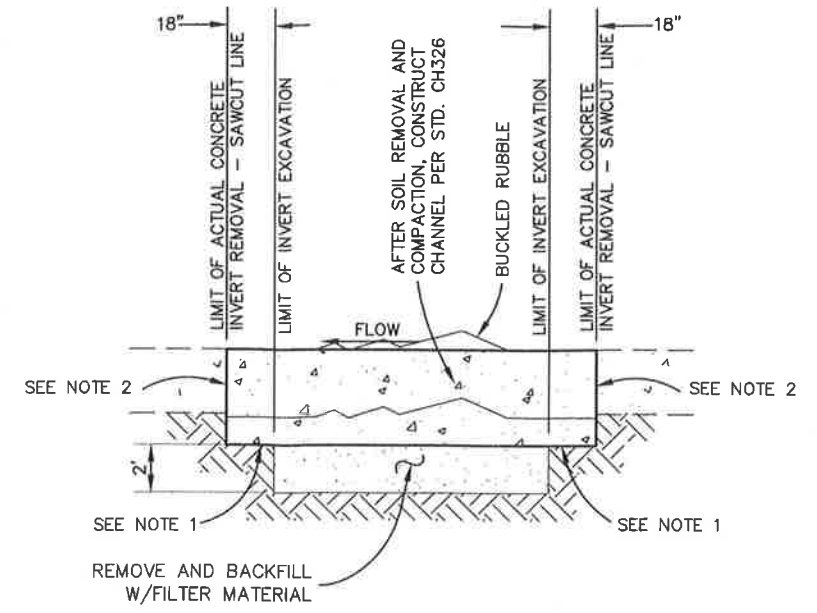
PROJECT NO. 1-0-0060-00
DRAWING NO. 1-688
SHEET NO. 3 OF 4

LA SIERRA CHANNEL
REPAIR
STA 22+35 TO STA 23+24
STA 25+64 TO 26+95





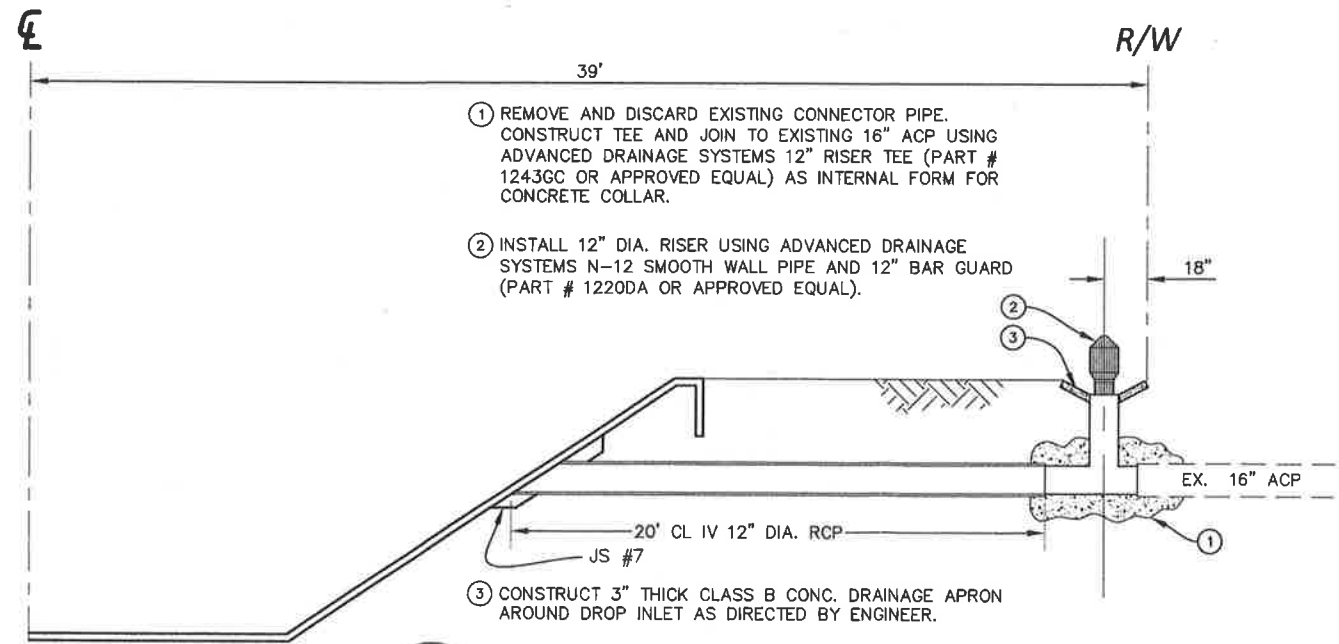
A JOINT DETAIL
JOIN NEW CHANNEL TO EXISTING CHANNEL
NTS



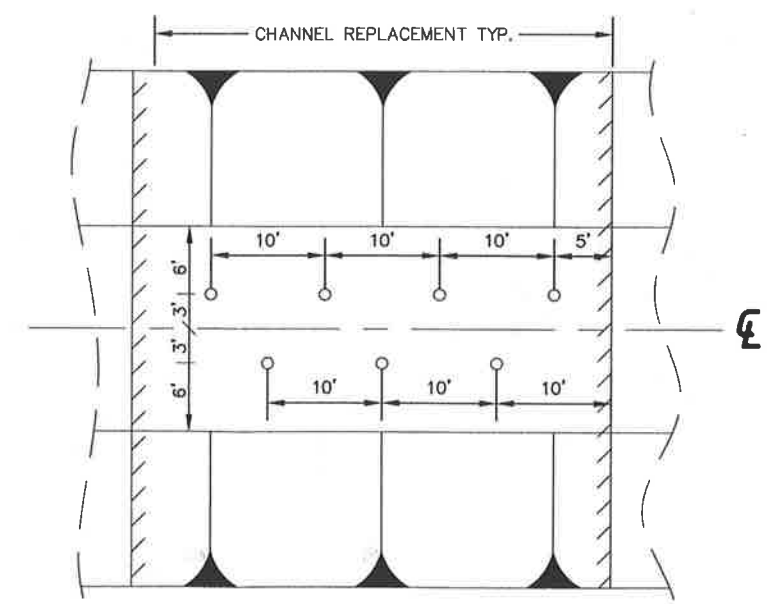
B INVERT REMOVAL DETAIL
LOOKS ALONG STATION LINE
NTS

INFORMATIONAL NOTES:

1. CONTRACTOR TO TAKE STEPS REQUIRED TO MAINTAIN FULLY COMPACTED SOILS BENEATH EDGE OF NEWLY EXPOSED, EXISTING CONCRETE CHANNEL.
2. SEE JOINT DETAIL 'A'



17 CONNECTOR PIPE DETAIL
NTS



13 CHANNEL INVERT WEEPHOLE CORING PLAN
NTS

TWO ROWS OF 4" DIAMETER WEEPHOLES SHALL BE CORE DRILLED (OR CAST USING 4" ID PVC) THROUGH INVERT SLAB. WEEPHOLES SHALL BE PLACED 3 FEET OFF OF CHANNEL CENTERLINE IN ALTERNATING PATTERN AS SHOWN ON DETAIL THIS SHEET.



WOLFE
Engineering and Design Inc.

360 FIRST STREET #252
Tustin, CA 92780
714-402-9645
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DRAWN BY: MPR/JSW
DATE DRAWN: DECEMBER 2010
CHECKED BY: LSW

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BENCH MARK
B.M. NO. Z6324
FD, N & RCFC&WCD TAG FLUSH WITH PAVEMENT ON N'LY SIDE OF SAMSON AVENUE, ±280 FEET W'LY OF JASON COURT, ±5 FEET S'LY OF CURB.
686.593 EL.

REF.	DESCRIPTION	APPR.	DATE

REVISIONS

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
DATE: 22 MAR 2011
APPROVED BY: [Signature]
DATE: 23 MAR 2011

LA SIERRA CHANNEL REPAIR DETAILS

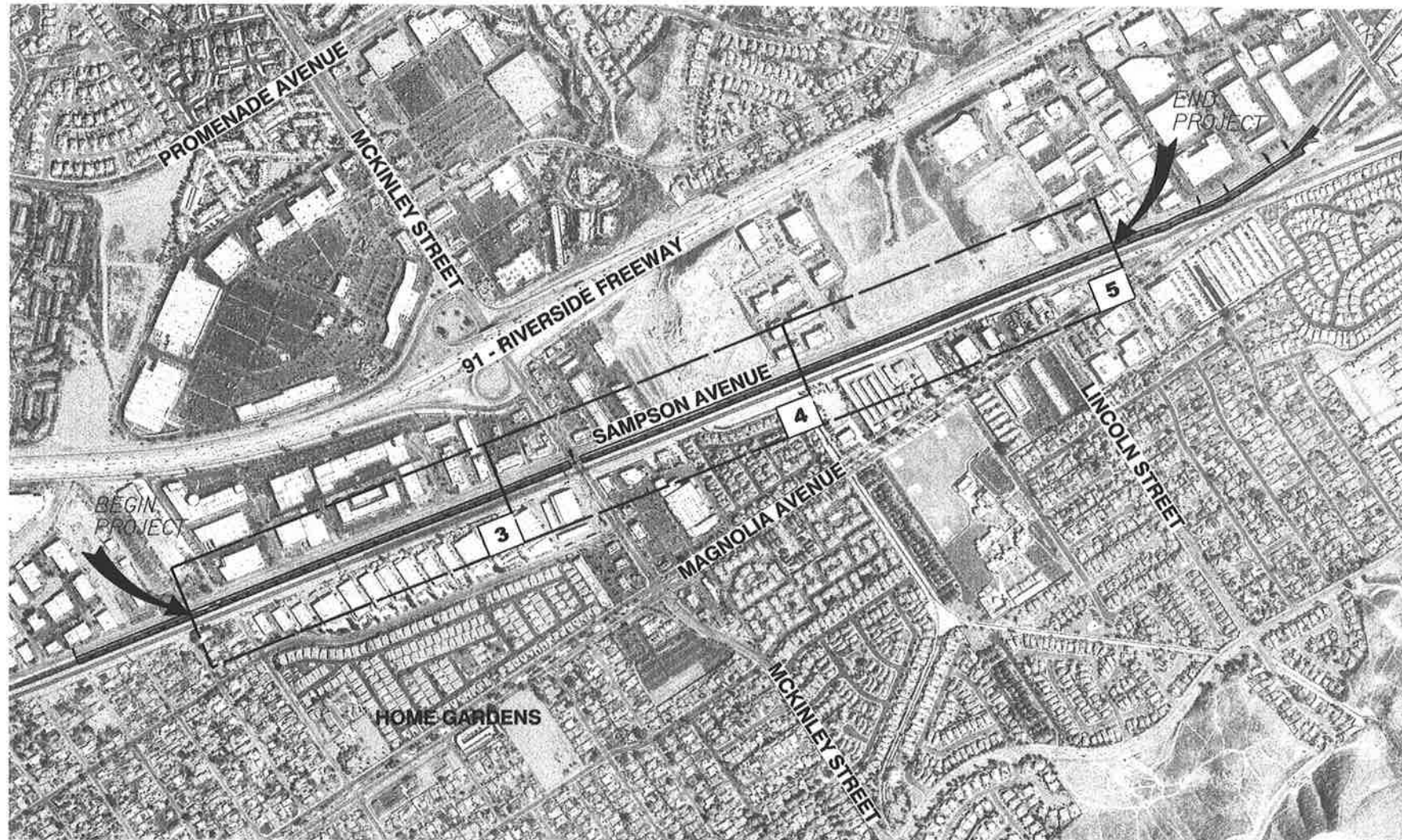
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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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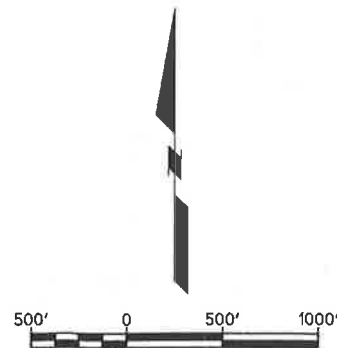
1
2
3
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5
6-35



INDEX MAP
1" = 400'



VICINITY MAP
NOT TO SCALE



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SEAL:
REGISTERED PROFESSIONAL ENGINEER
ROBERT A. STOCKTON
No. 0033591
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
1770 KYWA AVENUE - SUITE 100
RIVERSIDE, CA 92507
951.782.0707
(FAX) 951.782.0723
tickengineering.com
San Diego - Chgo - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson
PLANS PREPARED UNDER SUPERVISION OF
ROBERT A. STOCKTON DATE 3/16/11
R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
601-31-69 RESET 1975
ELEV: 688.098
NGVD29

REF.	DESCRIPTION	APPR.	DATE

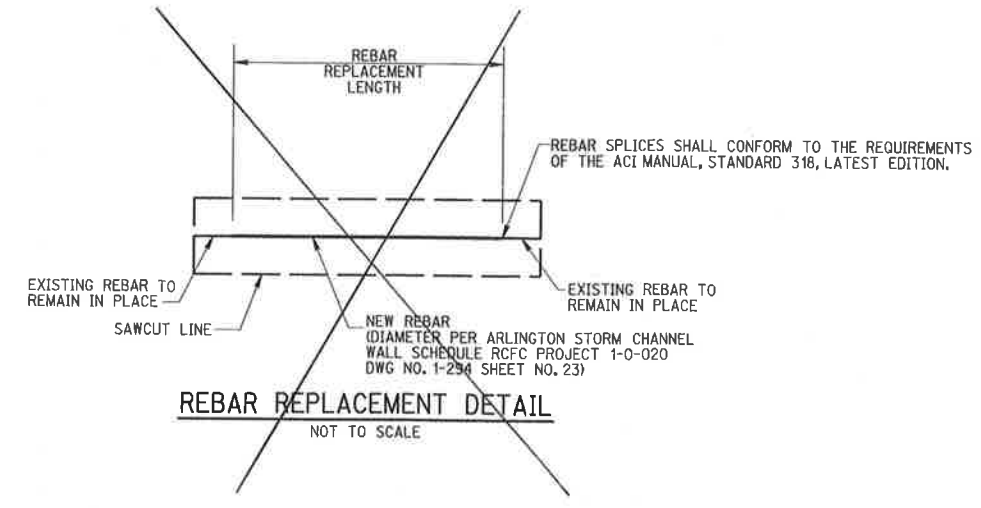
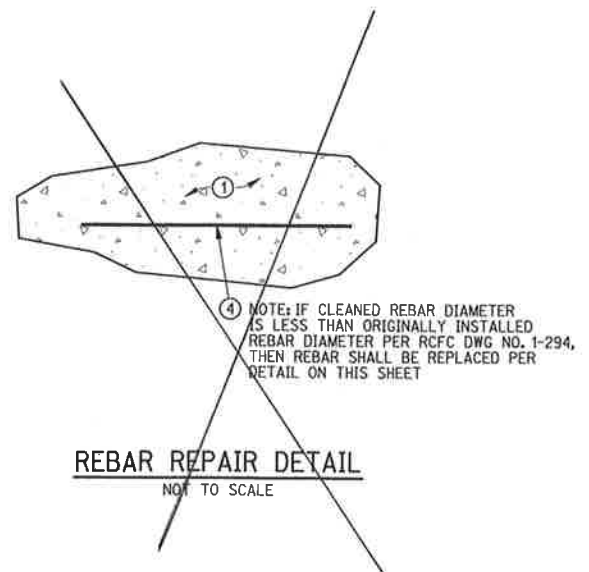
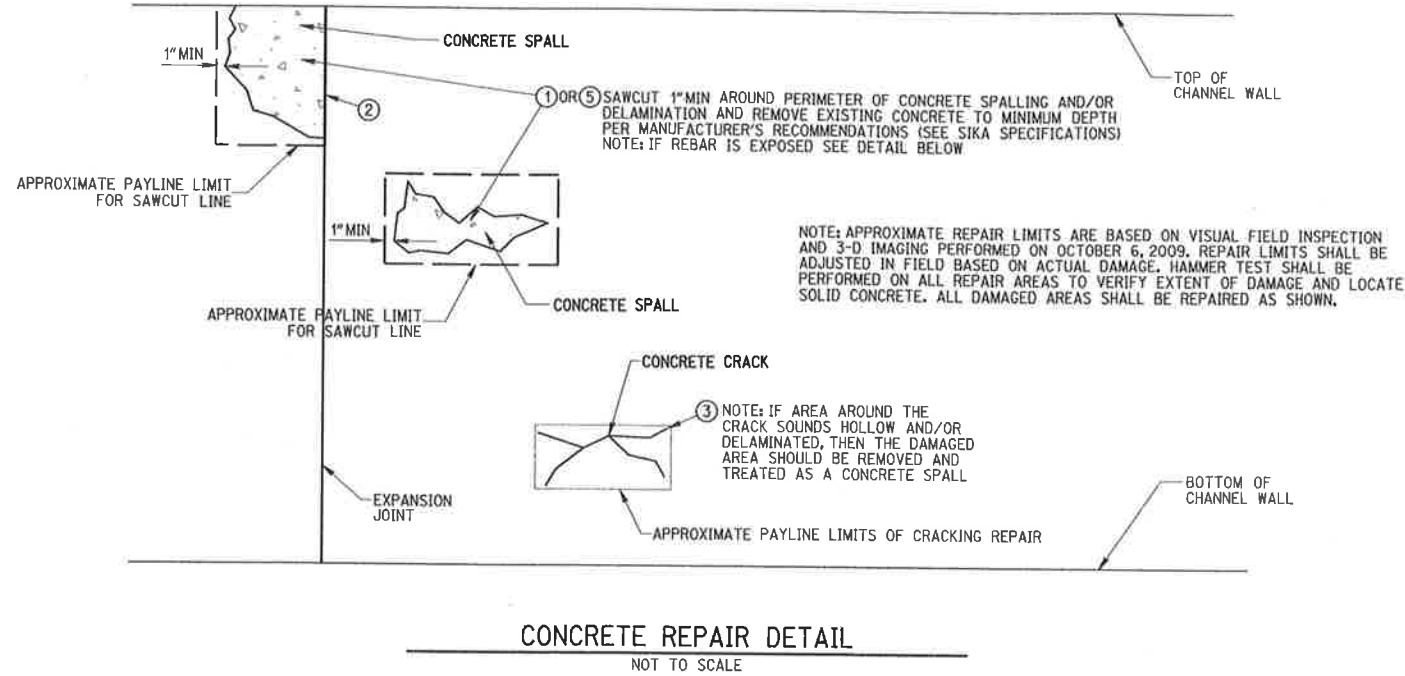
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY:
Robert A. Stockton
CHIEF OF DESIGN AND CONSTRUCTION
DATE: 23-MAR-2011

APPROVED BY:
William O. Smith
CHIEF ENGINEER
DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
TITLE SHEET

PROJECT NO. 1-0-0020-00
DRAWING NO. 1-690
SHEET NO. 1 OF 35



CONSTRUCTION NOTES AND QUANTITY ESTIMATES

① REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.	123 SF
② SEAL VERTICAL EXPANSION JOINT WITH SIKAFLEX PRIMER 429 AND SIKAFLEX-2C NS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS	73 LF
③ REPAIR CONCRETE CRACKING WITH SIKADUR 35 HI-MOD LV AND SIKADUR 31 HI-MOD GEL (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS	235 SF
④ REPAIR EXPOSED REBAR WITH MECHANICAL CLEANING AND TREAT WITH TWO COATS OF SIKA-ARMATEC-H10-EPODEM (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS	43 LF
⑤ REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 111 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS GREATER THAN 4 SQ. FT.	1,258 SF

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SEAL: REGISTERED PROFESSIONAL ENGINEER
ROBERT A. STOCKTON
No. C033591
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
1770 JONAH AVENUE - SUITE 100
RIVERSIDE, CA 92507
951.782.0797
FAX 951.782.0723
www.rickengineering.com
PLANS PREPARED UNDER SUPERVISION OF
ROBERT A. STOCKTON
DATE 3/14/11
R.C.E. No. 33591
EXPIRES 6-30-12

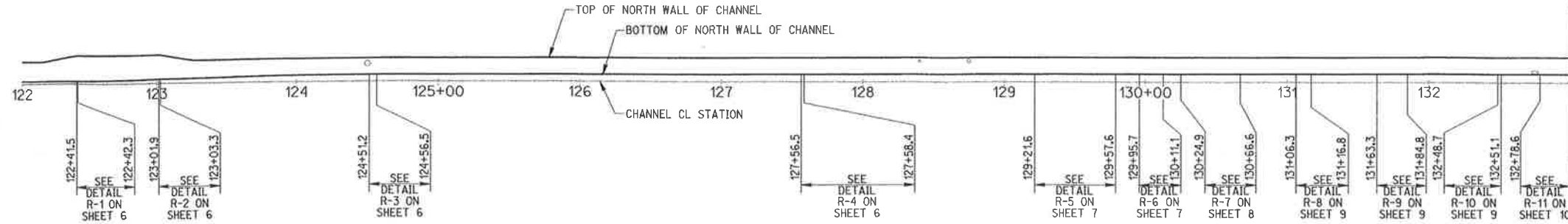
BENCHMARK:
SEE SHEET 1

REF.	DESCRIPTION	APPR.	DATE

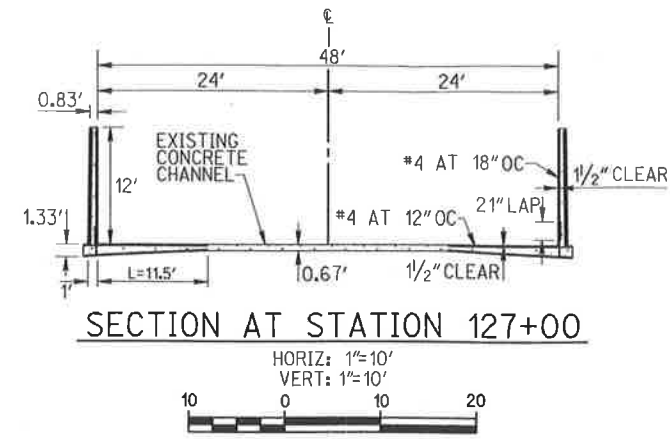
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: [Signature]
APPROVED BY: [Signature]
DATE: 22 MAR 2011
DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
DETAIL SHEET
PROJECT NO. 1-0-0020-00
DRAWING NO. 1-690
SHEET NO. 2 OF 35
PLOT DATE: 10-MAR-2011 JN 16118

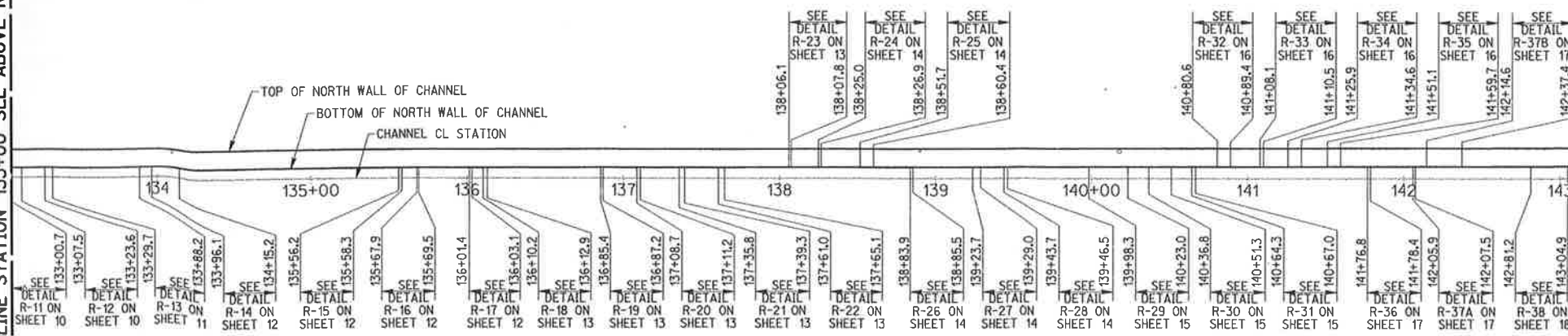
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.



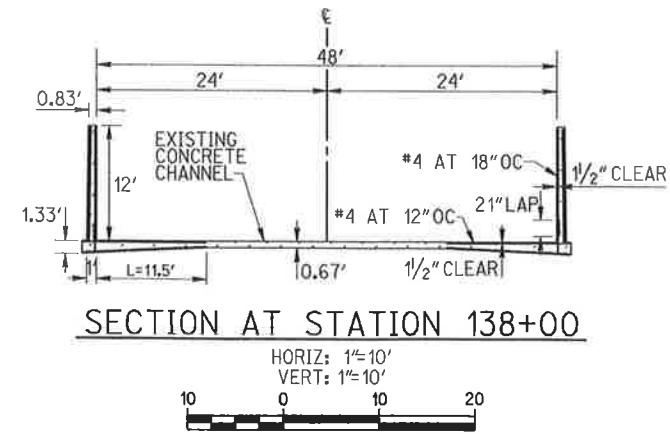
MATCHLINE STATION 133+00 SEE BELOW LEFT



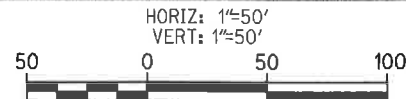
MATCHLINE STATION 133+00 SEE ABOVE RIGHT



MATCHLINE STATION 143+10 SEE SHEET NO. 4



PROFILE: ARLINGTON STORM CHANNEL



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ROBERT A. STOCKTON
No. C033591
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

RICK
ENGINEERING COMPANY
1770 BOWMAN AVENUE - SUITE 100
RIVERSIDE, CA 92507
951.782.8707
(FAX) 951.782.0723
Plans Prepared Under Supervision of
ROBERT A. STOCKTON
DATE 3/14/11
R.C.E. NO. 33591
EXPIRES 6-30-12

REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: *[Signature]*
DATE: 22 MAR 2011

APPROVED BY: *[Signature]*
DATE: 23 MAR 2011

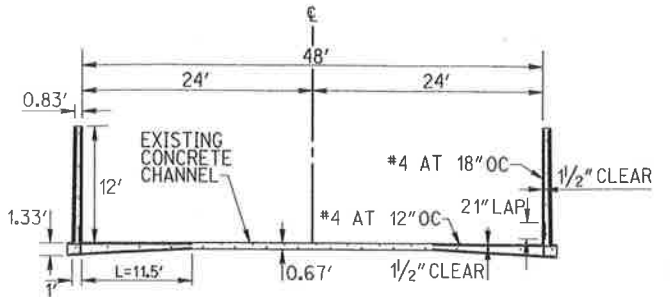
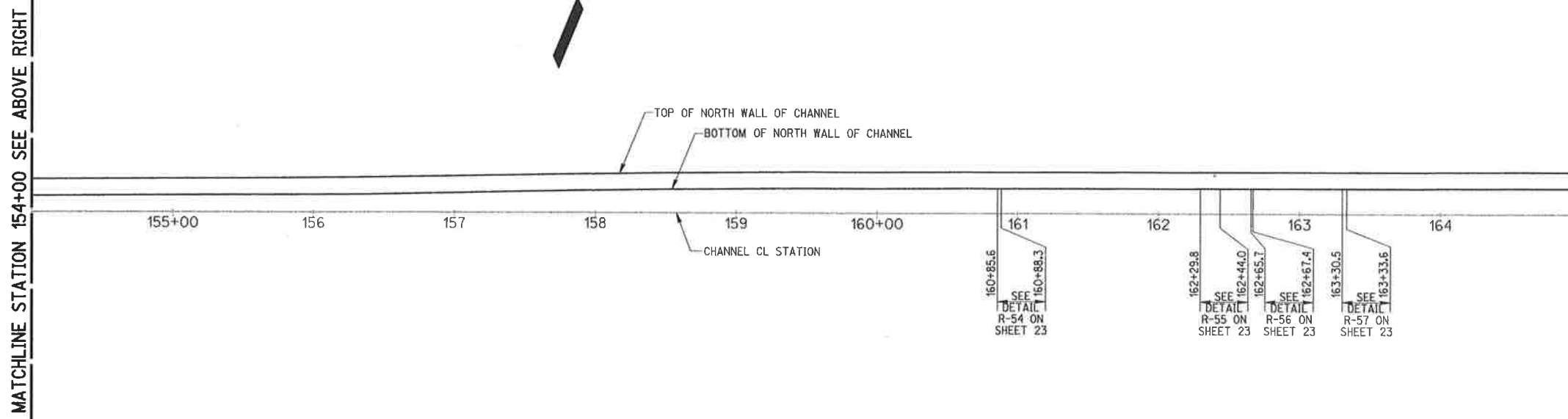
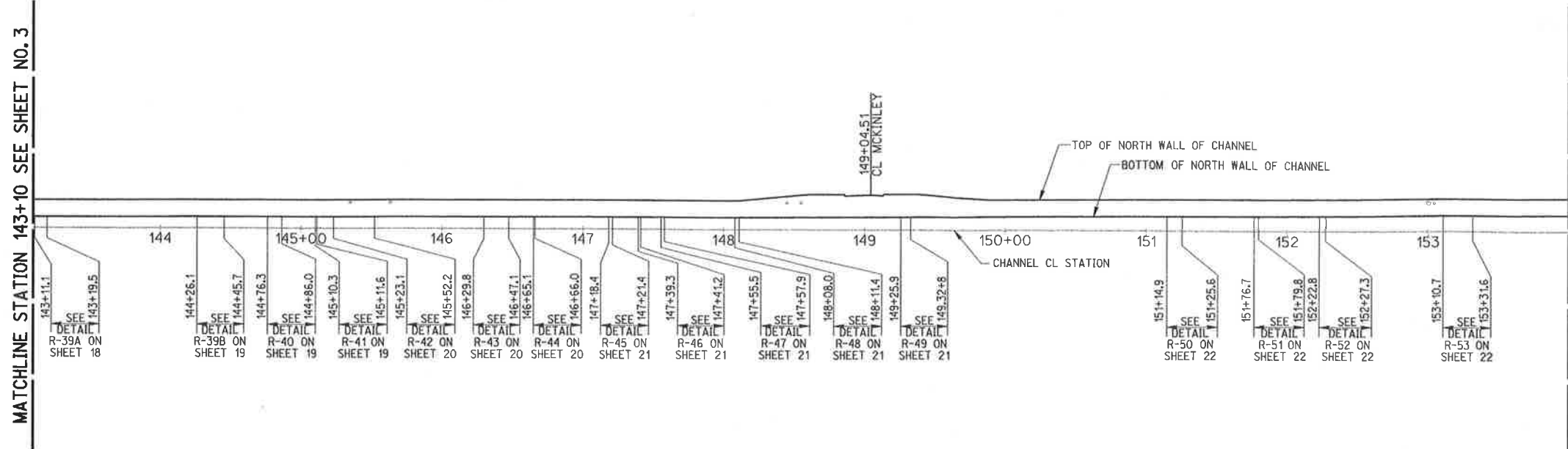
ARLINGTON CHANNEL REPAIRS PLANS
STATION 122+00 TO 143+10

PROJECT NO. 1-0-0020-00
DRAWING NO. 1-690
SHEET NO. 3 OF 35

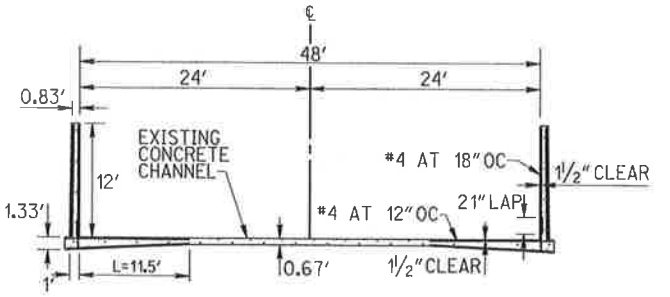
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

MATCHLINE STATION 143+10 SEE SHEET NO. 3

MATCHLINE STATION 154+00 SEE ABOVE RIGHT



SECTION AT STATION 147+00
 HORIZ: 1"=10'
 VERT: 1"=10'
 Scale: 10 0 10 20



SECTION AT STATION 161+00
 HORIZ: 1"=10'
 VERT: 1"=10'
 Scale: 10 0 10 20

PROFILE: ARLINGTON STORM CHANNEL



DIG ALERT
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 UNDERGROUND SERVICE ALERT
 Call at least 2 working days prior to excavating.

SEAL: REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
 1770 KIWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0707
 FAX: 951.782.0723
 Plans Prepared Under Supervision of
 ROBERT A. STOCKTON
 DATE: 3/14/11
 R.C.E. No. 33591 EXPIRES 6-30-12

BENCHMARK: SEE SHEET 1

REF.	DESCRIPTION	APPR.	DATE

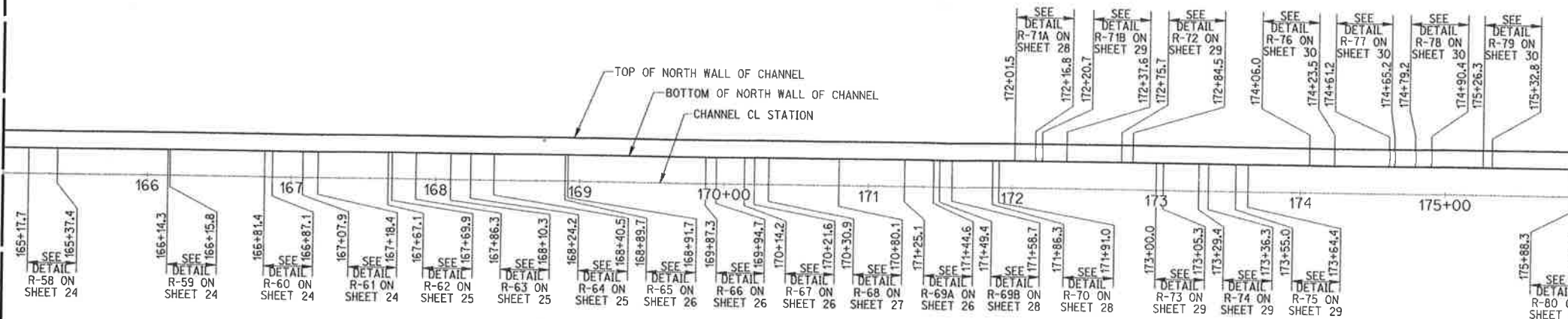
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: [Signature]
 DATE: 22 MAR 2011
 APPROVED BY: [Signature]
 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 STATION 143+10 TO 165+00

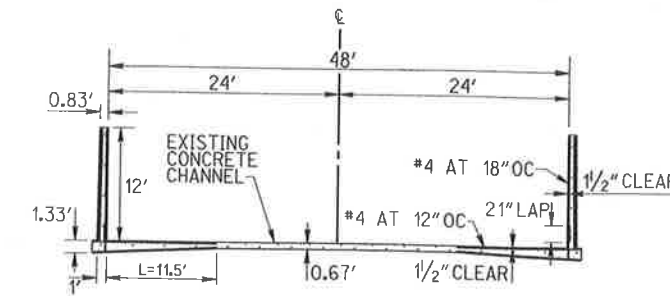
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 4 OF 35

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES CROSSING OR PARALLELING THE STORM DRAIN UNLESS OTHERWISE NOTED.

MATCHLINE STATION 165+00 SEE SHEET NO. 4



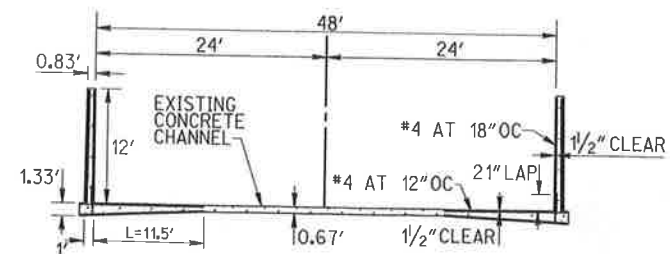
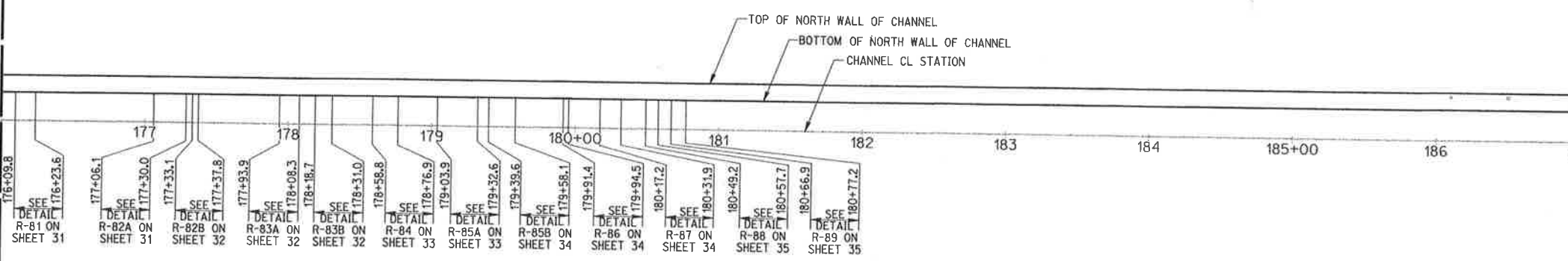
MATCHLINE STATION 176+00 SEE BELOW LEFT



SECTION AT STATION 167+00



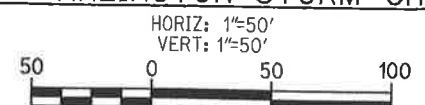
MATCHLINE STATION 176+00 SEE ABOVE RIGHT



SECTION AT STATION 181+00



PROFILE: ARLINGTON STORM CHANNEL



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UNDERGROUND SERVICE ALERT
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RICK ENGINEERING COMPANY
1770 JONAH AVENUE - SUITE 100
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951.782.0707
951.782.0723
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PLANS PREPARED UNDER SUPERVISION OF
ROBERT A. STOCKTON
R.C.E. NO. 33591
DATE 3/14/11
EXPIRES 6-30-12

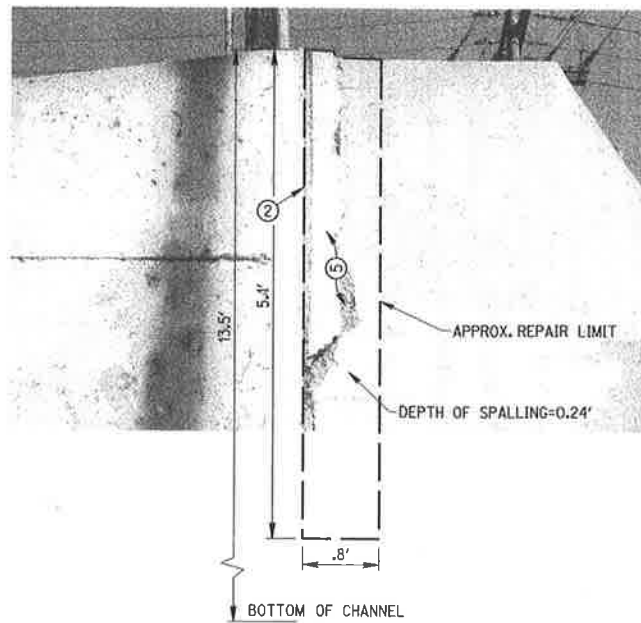
BENCHMARK:
SEE SHEET 1

REF.	DESCRIPTION	APPR.	DATE

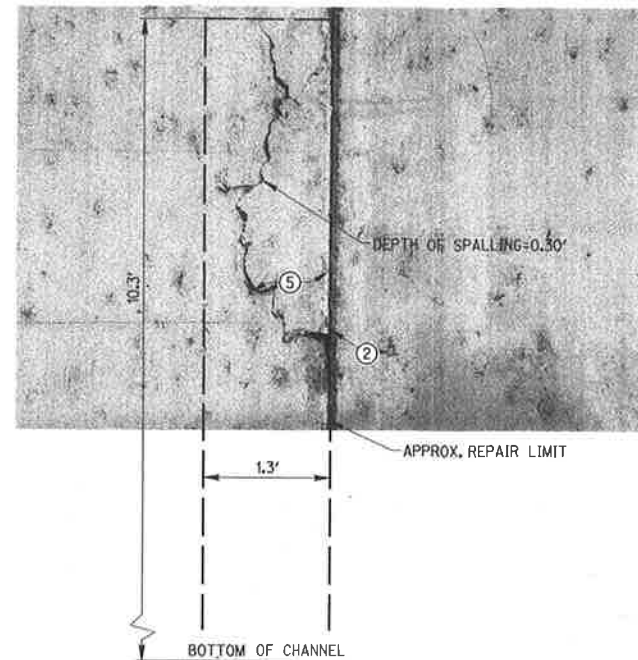
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: *[Signature]*
APPROVED BY: *[Signature]*
DATE: 22 MAR 2011
DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
STATION 165+00 TO 187+00

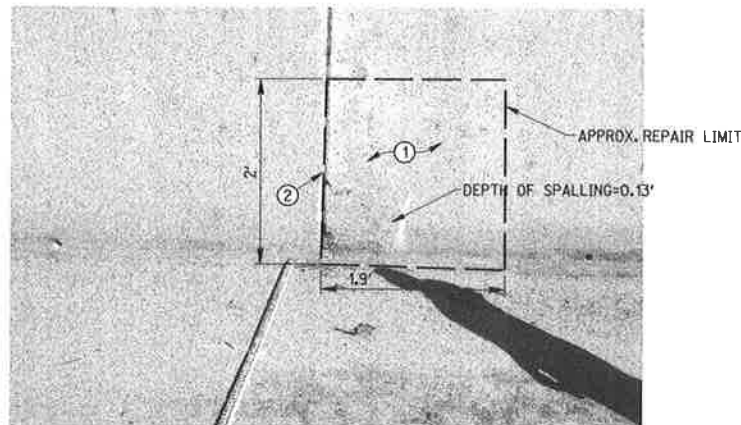
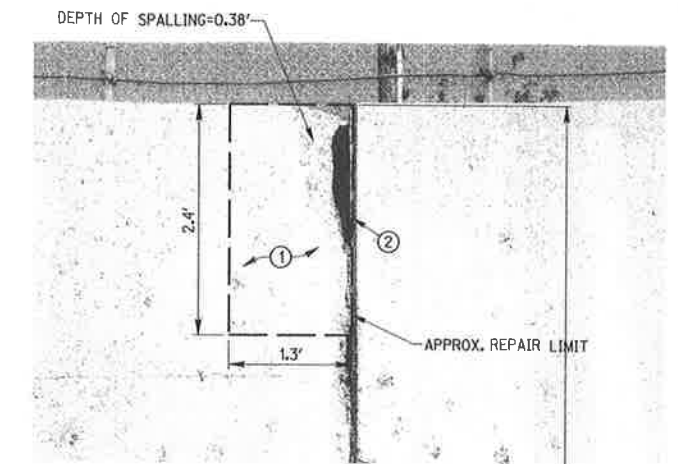
PROJECT NO. 1-0-0020-00
DRAWING NO. 1-690
SHEET NO. 5 OF 35



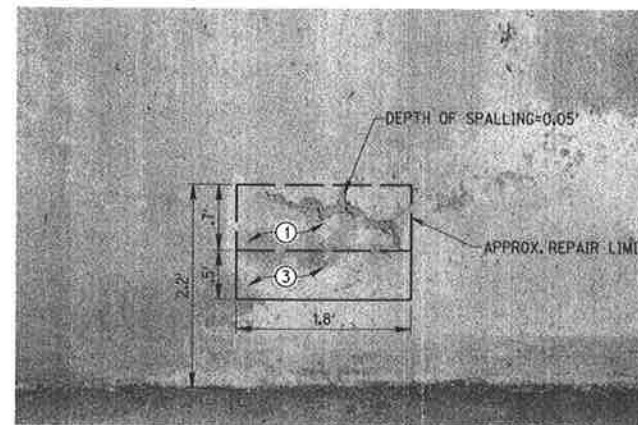
R-1 ; 122+41.5 TO 122+42.3



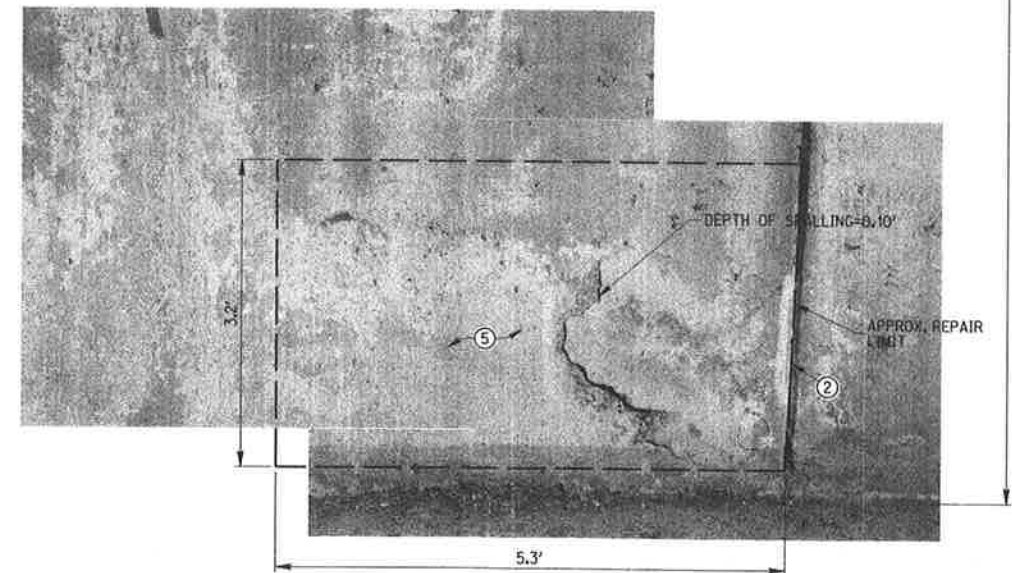
R-2 ; 123+01.9 TO 123+03.3



R-4 ; 127+56.5 TO 127+58.4



R-3 ; 124+51.2 TO 124+56.5



CONSTRUCTION NOTES

- ① REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
- ② SEAL VERTICAL EXPANSION JOINT WITH SIKAFLEX PRIMER 429 AND SIKAFLEX-2C NS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS
- ③ REPAIR CONCRETE CRACKING WITH SIKADUR 35 HI-MOD LV AND SIKADUR 31 HI-MOD GEL (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS
- ④ REPAIR EXPOSED REBAR WITH MECHANICAL CLEANING AND TREAT WITH TWO COATS OF SIKA-ARMATEC 110 EPOXY (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS
- ⑤ REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 111 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS GREATER THAN 4 SQ. FT.



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SEAL:

 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
 1770 IOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0797
 (FAX) 951.782.0723
 rickengineering.com
 San Diego • Orange • San Luis Obispo • Redwood City • Sacramento • Phoenix • Tucson
 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/10/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

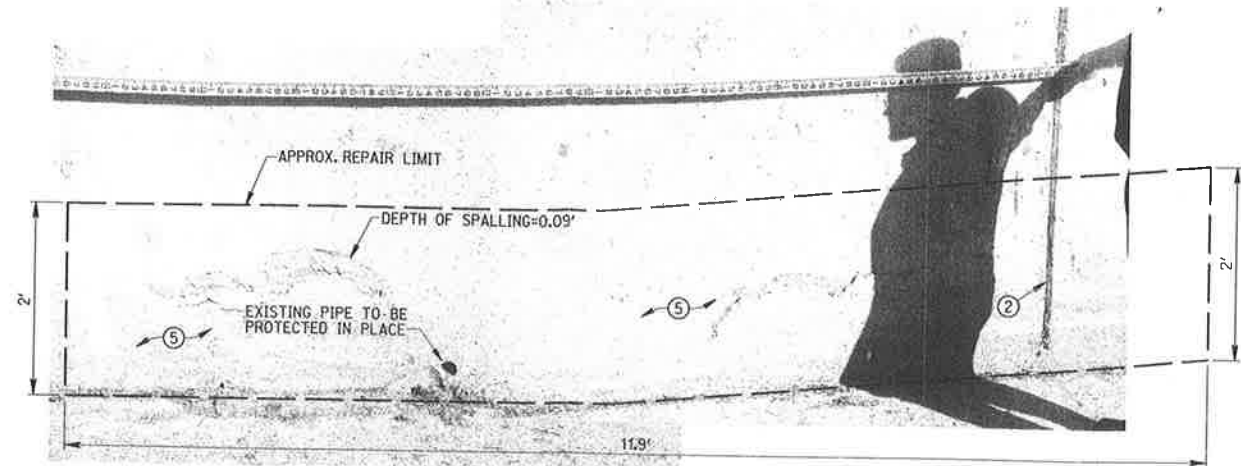
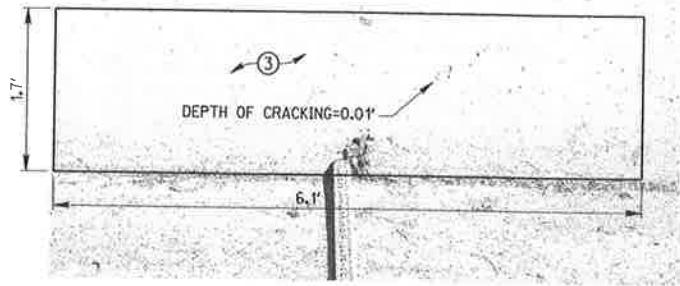
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

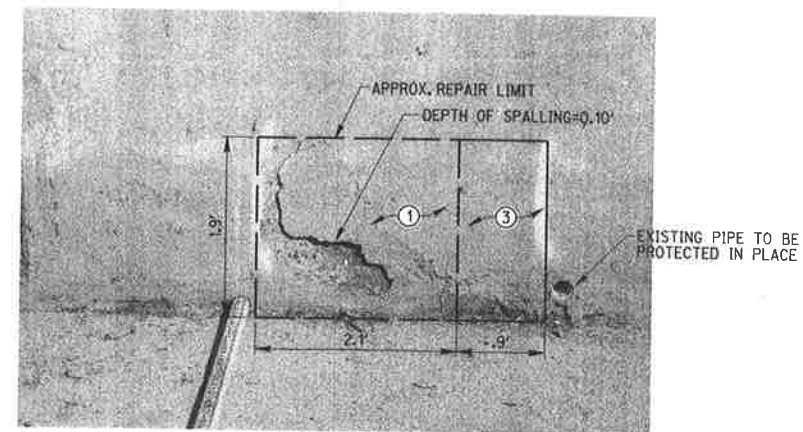
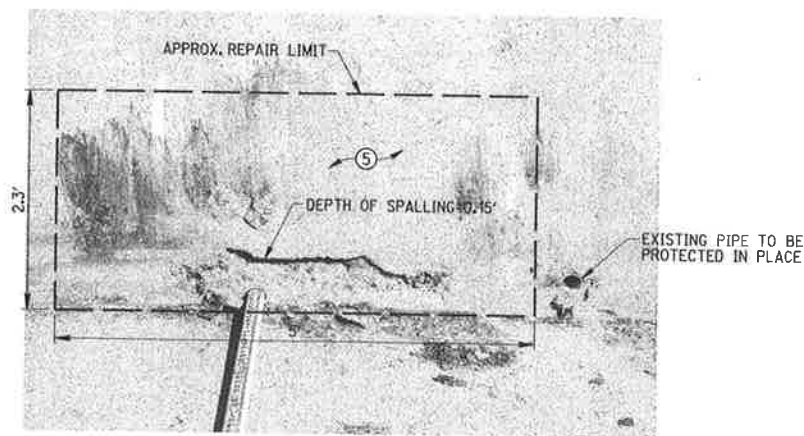
 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 27-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-1, R-2, R-3, AND R-4
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 6 OF 35
 PLOT DATE: 11-MAR-2011 JN 16118



R-5 ; 129+21.6 TO 129+57.6



R-6 ; 129+95.7 to 130+11.1

CONSTRUCTION NOTES

- ① REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
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SEAL:
 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
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 (FAX) 951.782.0723
 www.rickengineering.com
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 PLANS PREPARED UNDER SUPERVISION OF
 ROBERT A. STOCKTON DATE 3/14/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REV.	DESCRIPTION	APPR.	DATE

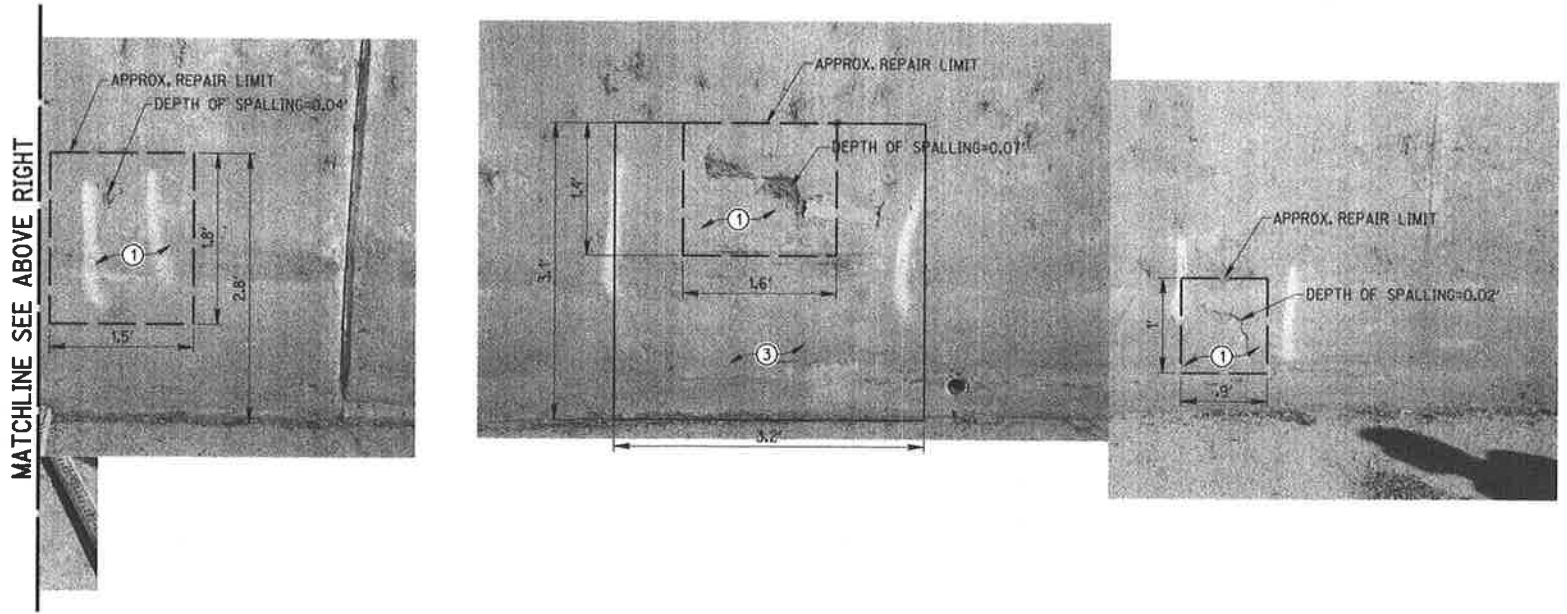
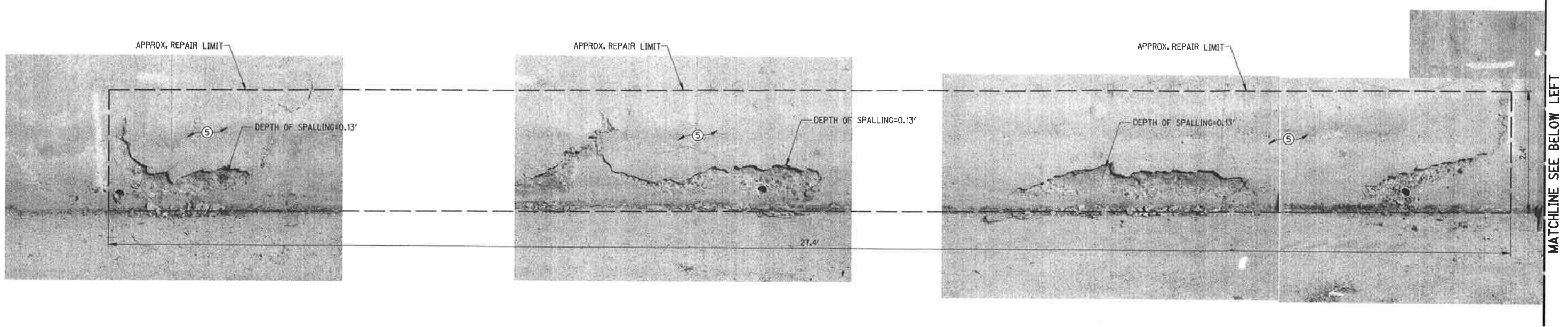
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY: [Signature]
 DATE: 22 MAR 2011

APPROVED BY: [Signature]
 DATE: 27-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-5 AND R-6

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 7 OF 35



R-7 ; 130+24.9 to 130+66.6

CONSTRUCTION NOTES

- ① REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
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- 4 REPAIR EXPOSED REBAR WITH MECHANICAL CLEANING AND TREAT WITH TWO COATS OF SIKA ARMATEG410 EPOGEM (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS
- ⑤ REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 111 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS GREATER THAN 4 SQ. FT.



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 Exp. 6-30-12
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 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
 1770 KOWA AVENUE - SUITE 100
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 rickeng@earthlink.net
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 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/14/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR.	DATE

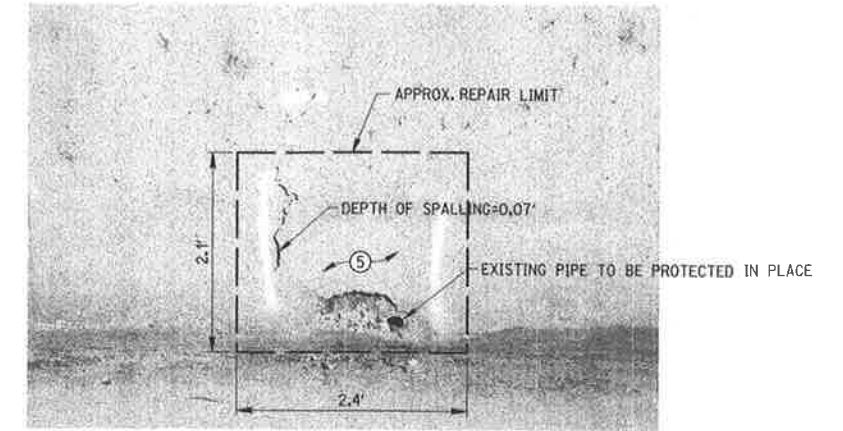
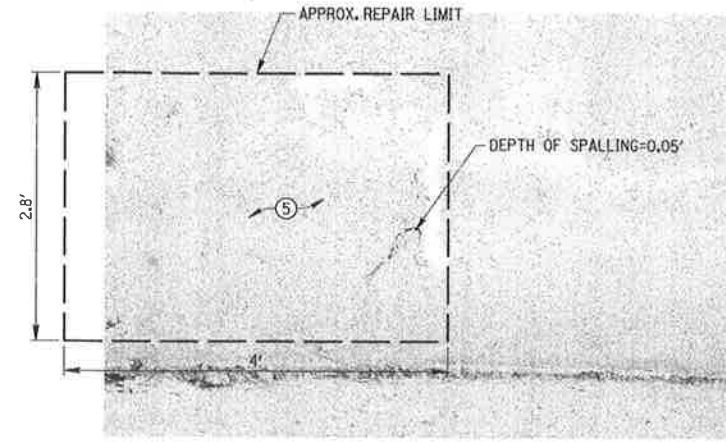
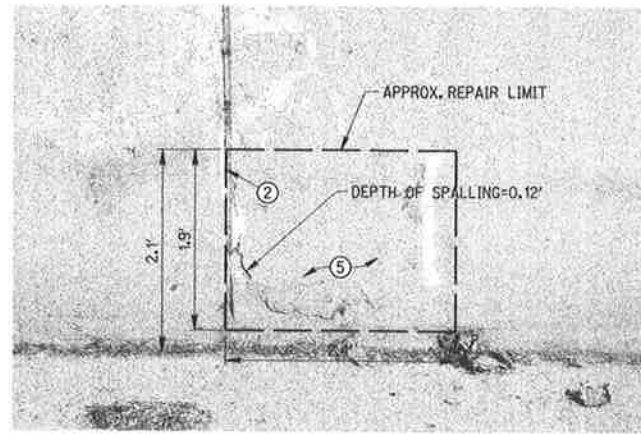
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 23-MAR-2011

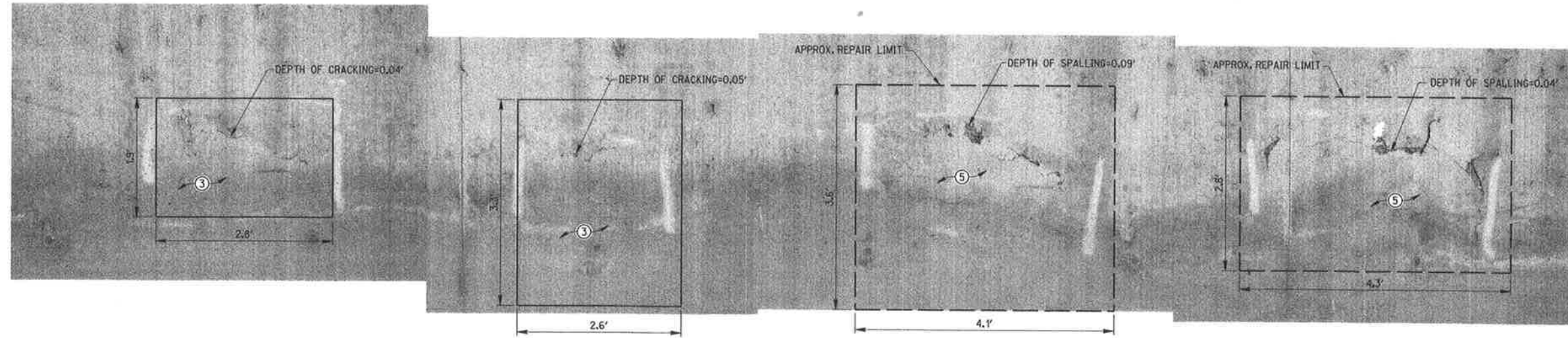
ARLINGTON CHANNEL REPAIRS PLANS
 DETAIL R-7

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 8 OF 35



R-8 ; 131+06.3 TO 131+16.8

R-10 ; 132+48.7 TO 132+51.1



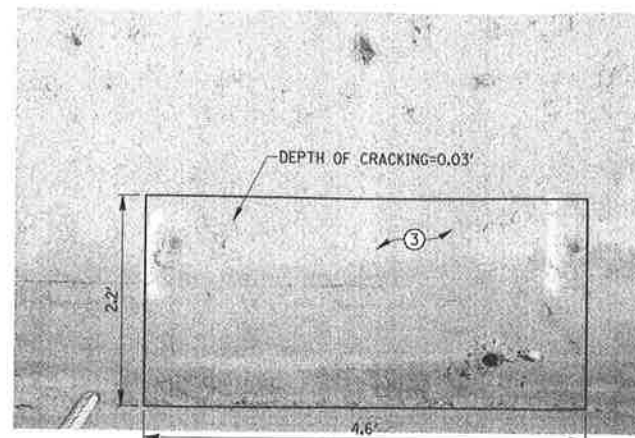
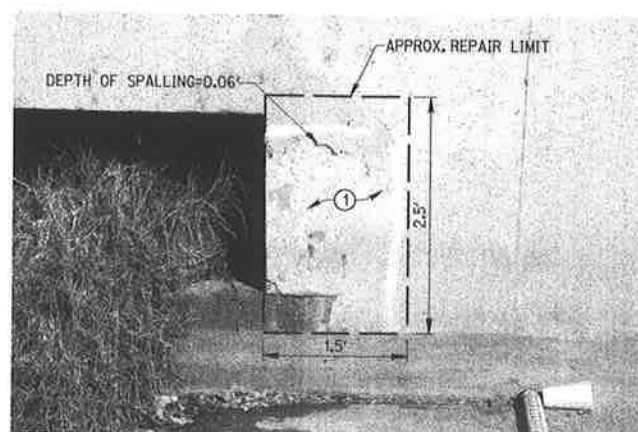
R-9 ; 131+63.3 TO 131+84.8

CONSTRUCTION NOTES

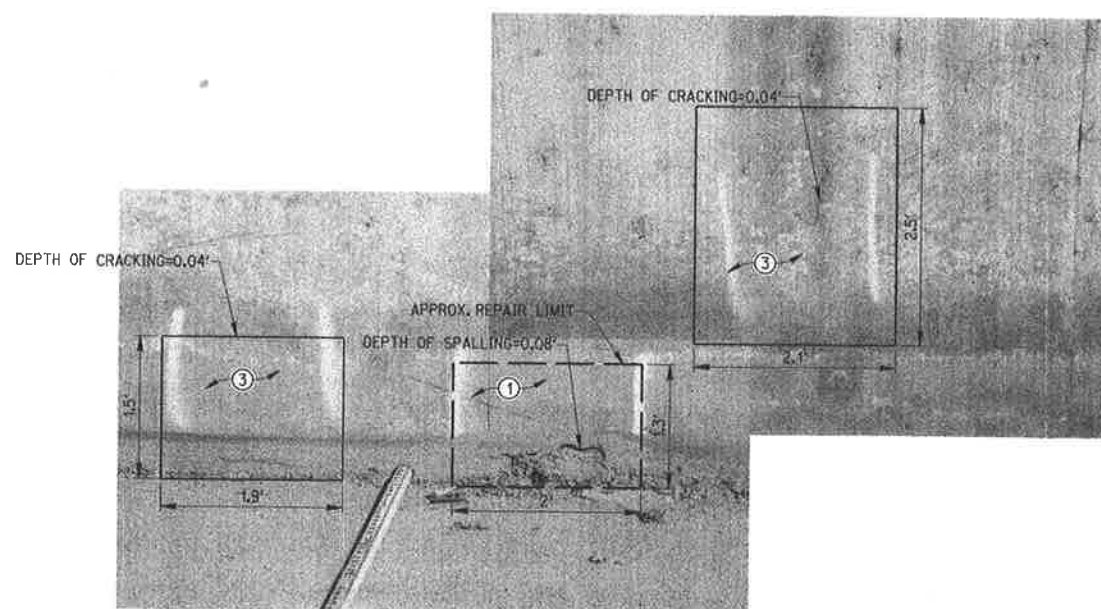
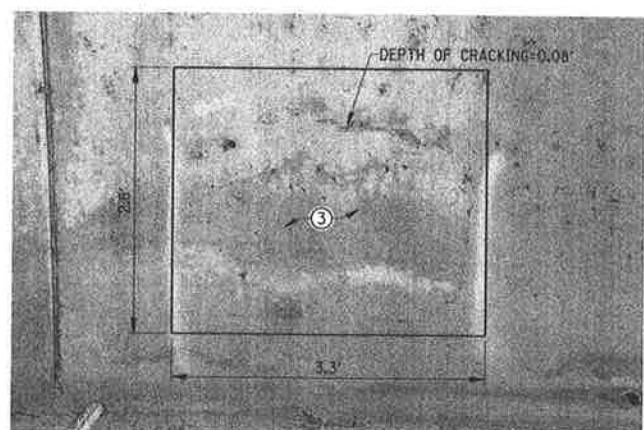
- 1 REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
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DIG ALERT CALL BEFORE YOU DIG! 1-800-227-2600 UNDERGROUND SERVICE ALERT Call at least 2 working days prior to excavating.	SEAL: RICK ENGINEERING COMPANY 1770 KOWA AVENUE - SUITE 100 RIVERSIDE, CA 92507 951.782.0707 (FAX) 951.782.0723 rickengineering.com San Diego - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson PLANS PREPARED UNDER SUPERVISION OF ROBERT A. STOCKTON R.C.E. NO. 33591 EXPIRES 6-30-12	BENCHMARK: 601-31-69 RESET 1975 ELEV: 688.098 NGVD29	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	DATE																RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: 22 MAR 2011	APPROVED BY: DATE: 23 MAR 2011	ARLINGTON CHANNEL REPAIRS PLANS DETAILS R-8, R-9, AND R-10	PROJECT NO. 1-0-0020-00 DRAWING NO. 1-690 SHEET NO. 9 OF 35
				NO.	DESCRIPTION	DATE																			
PLOT DATE: 10-MAR-2011																									



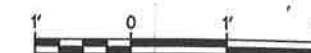
R-11 ; 132+78.6 to 133+00.7



R-12 ; 133+07.5 TO 133+23.6

CONSTRUCTION NOTES

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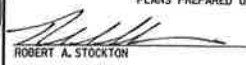


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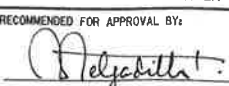

SEAL:

 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C0333591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

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 ENGINEERING COMPANY
 1770 KOWA AVENUE - SUITE 100
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 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/11/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

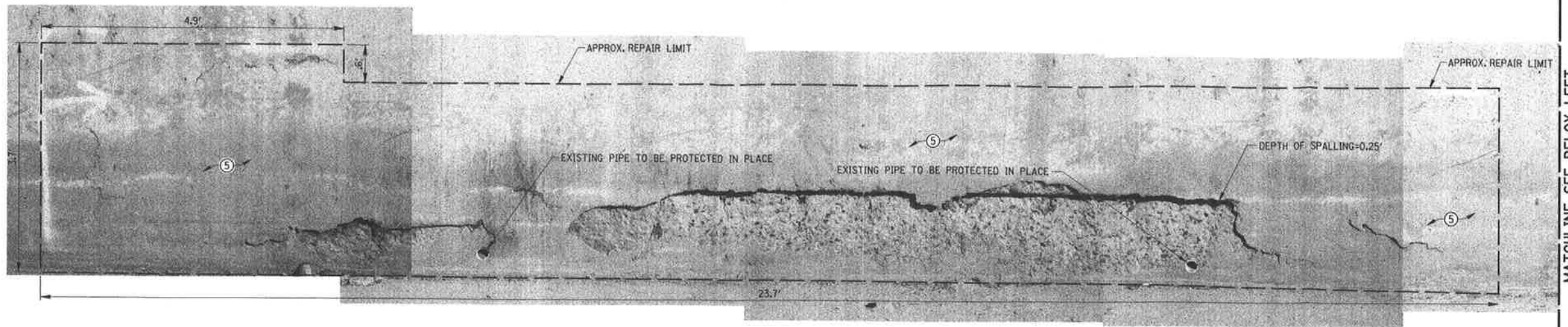
BENCHMARK:
 601-31-69 RESET 1975
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 NGVD29

REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

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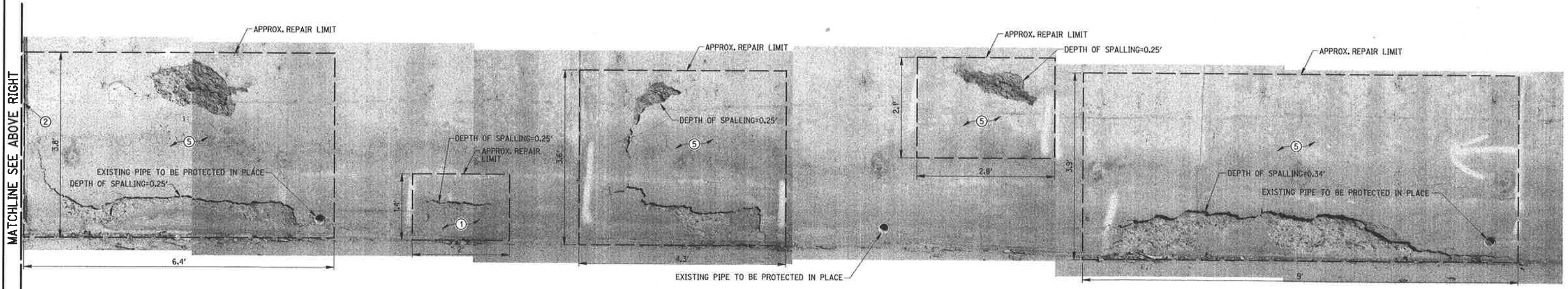
ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-11 AND R-12

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 10 OF 35



R-13 ; 133+29.7 TO 133+88.2

MATCHLINE SEE BELOW LEFT



R-13 ; 133+29.7 TO 133+88.2

MATCHLINE SEE ABOVE RIGHT

CONSTRUCTION NOTES

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SEAL:

 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. 0033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
 1770 KOWALAVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0717 (FAX) 951.782.0723
 San Diego - Orange - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson
 PLANS PREPARED UNDER SUPERVISION OF:

 ROBERT A. STOCKTON DATE 3/14/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR.	DATE

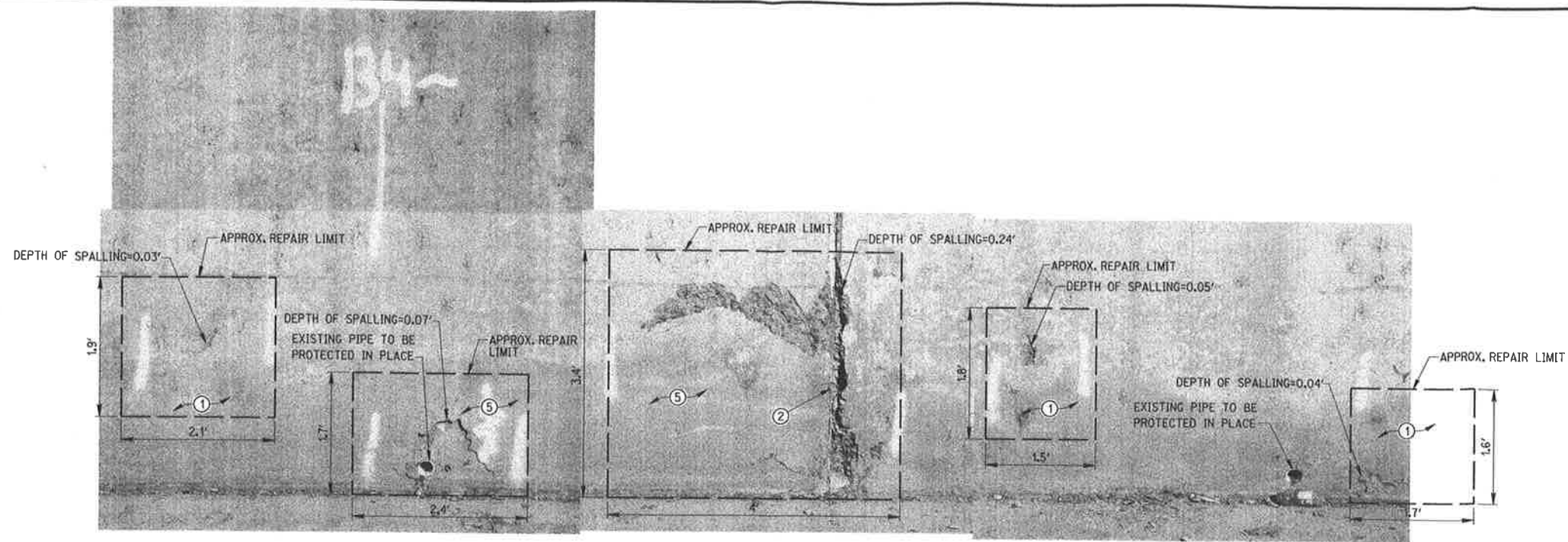
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011
 APPROVED BY:

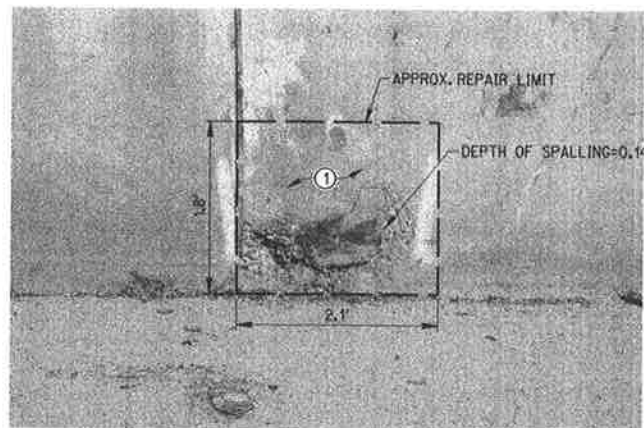
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ARLINGTON CHANNEL REPAIRS PLANS
 DETAIL R-13

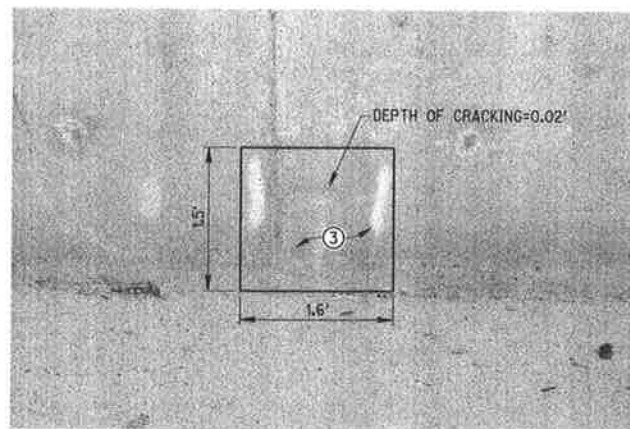
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 11 OF 35



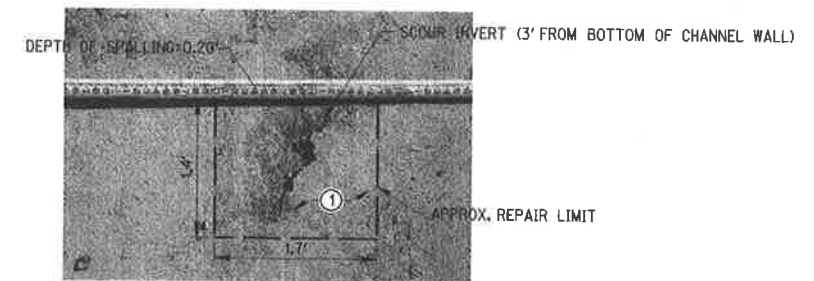
R-14 ; 133+96.1 to 134+15.2



R-15 ; 135+56.2 TO 135+58.3



R-16 ; 135+67.9 TO 135+69.5



R-17 ; 136+01.4 TO 136+03.1

CONSTRUCTION NOTES

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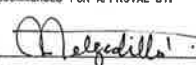
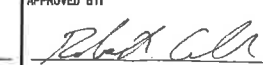
 REGISTERED PROFESSIONAL ENGINEER
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 STATE OF CALIFORNIA

RICK
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 1770 KONA AVENUE - SUITE 100
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 (FAX) 951.782.0723
 rickeng@earthlink.net
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 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

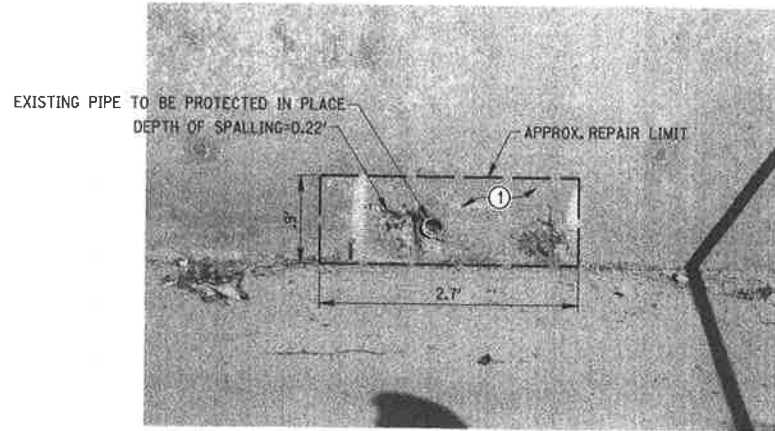
BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR.	DATE

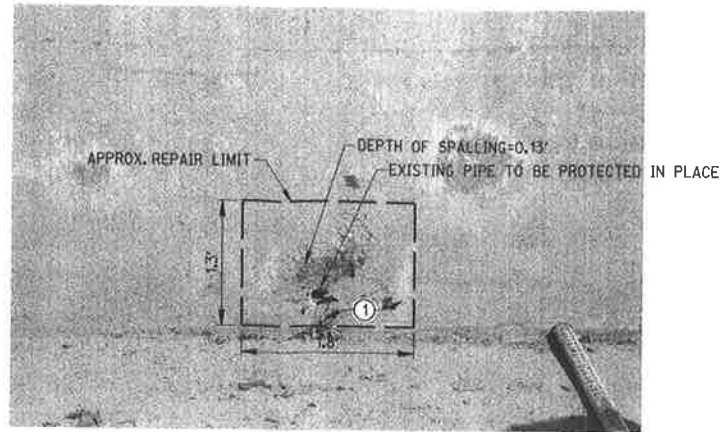
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 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-14, R-15, R-16, AND R-17

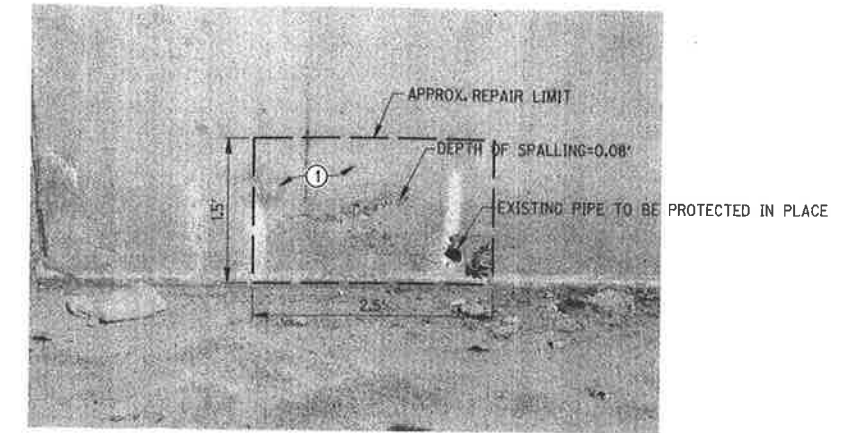
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 12 OF 35



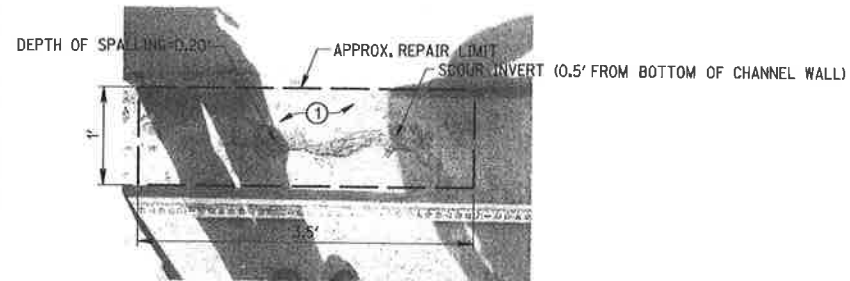
R-18 ; 136+10.2 to 136+12.9



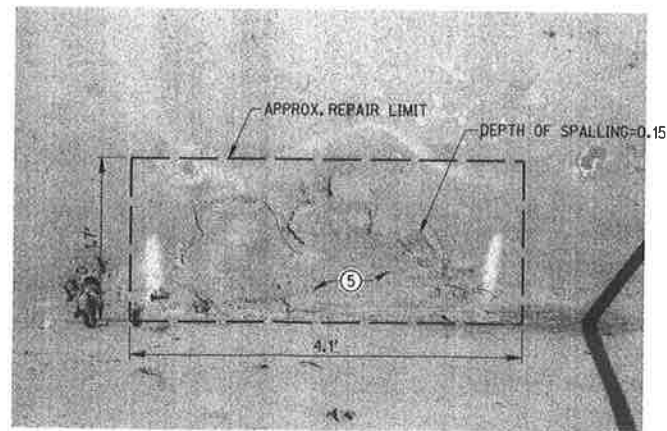
R-19 ; 136+85.4 to 136+87.2



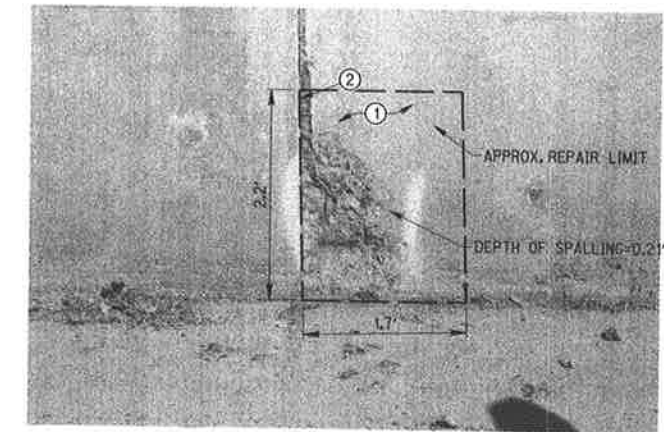
R-20 ; 137+08.7 to 137+11.2



R-21 ; 137+35.8 to 137+39.3



R-22 ; 137+61.0 to 137+65.1



R-23 ; 138+06.1 to 138+07.8

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 PLANS PREPARED UNDER SUPERVISION OF
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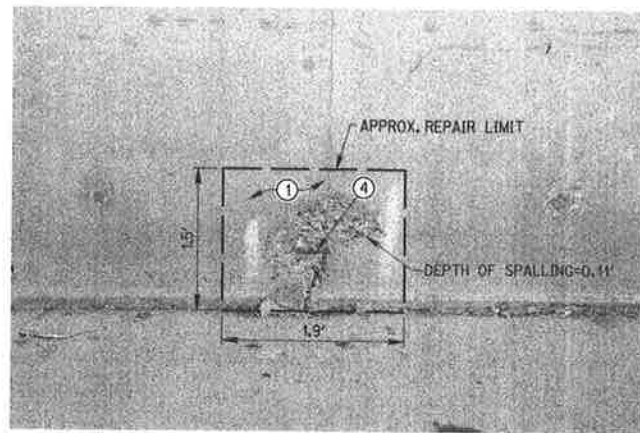
BENCHMARK:
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 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR. DATE

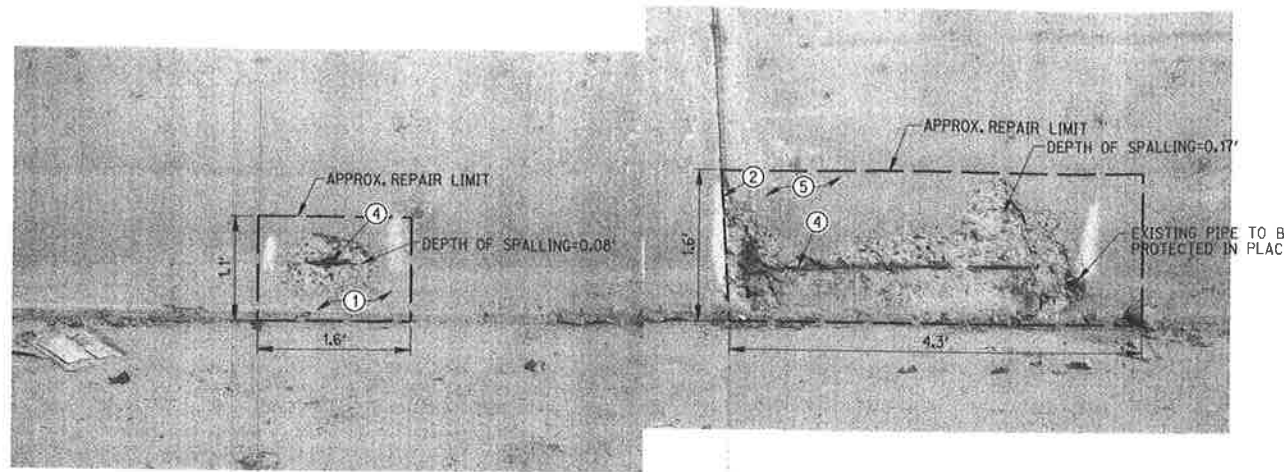
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: [Signature]
 DATE: 22 MAR 2011
 APPROVED BY: [Signature]
 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-18, R-19, R-20, R-21, R-22, AND R-23

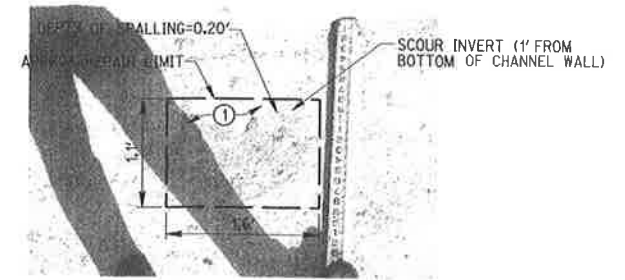
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 13 OF 35



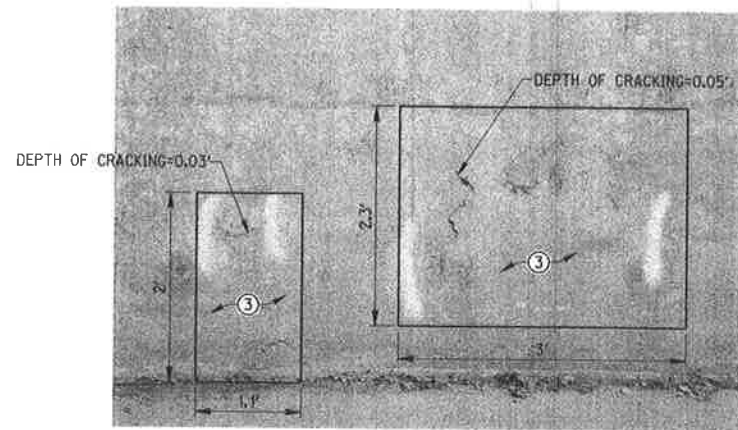
R-24 ; 138+25.0 to 138+26.9



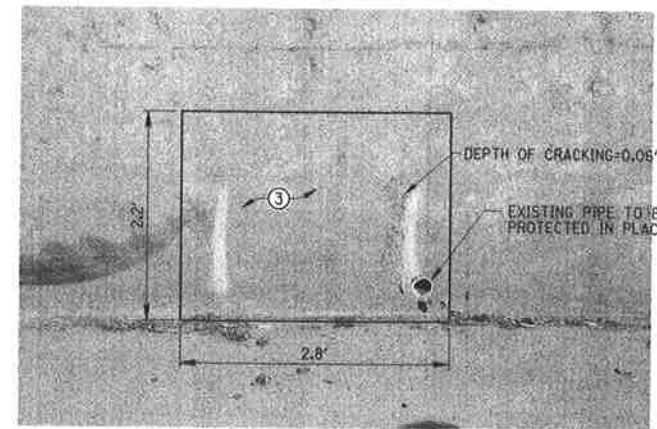
R-25 ; 138+51.7 to 138+60.4



R-26 ; 138+83.9 to 138+85.5



R-27 ; 139+23.7 to 139+29.0



R-28 ; 139+43.7 to 139+46.5

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 ROBERT A. STOCKTON DATE 3/24/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
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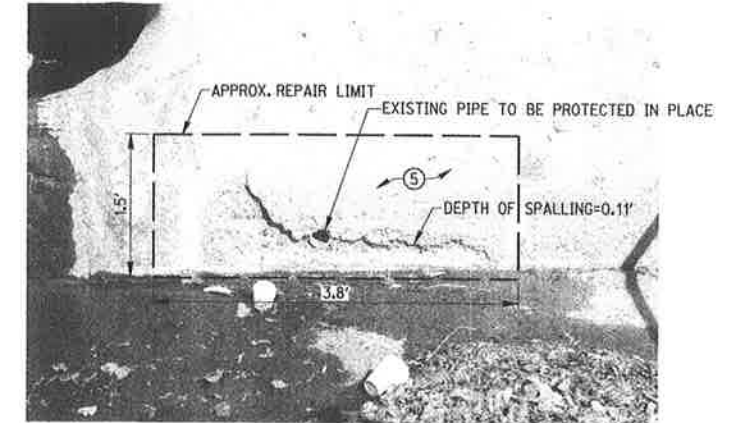
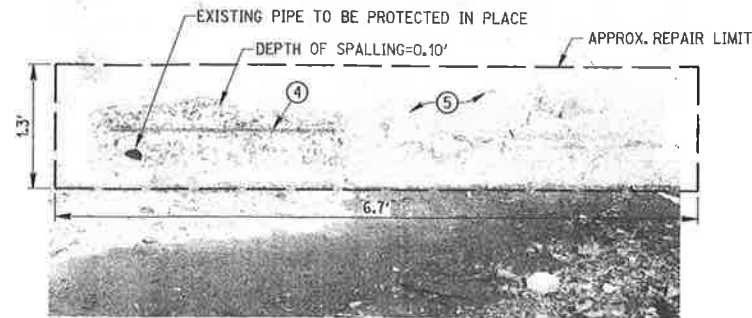
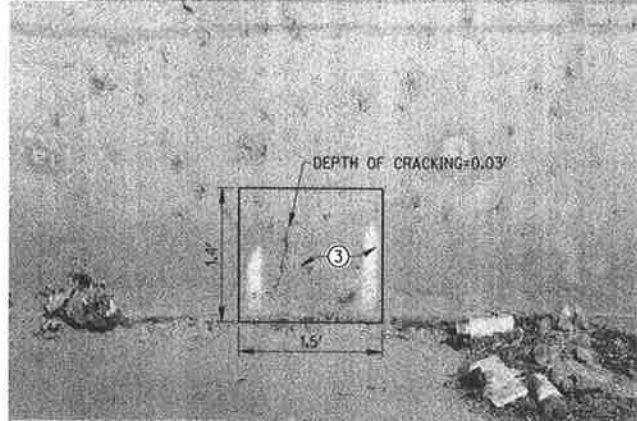
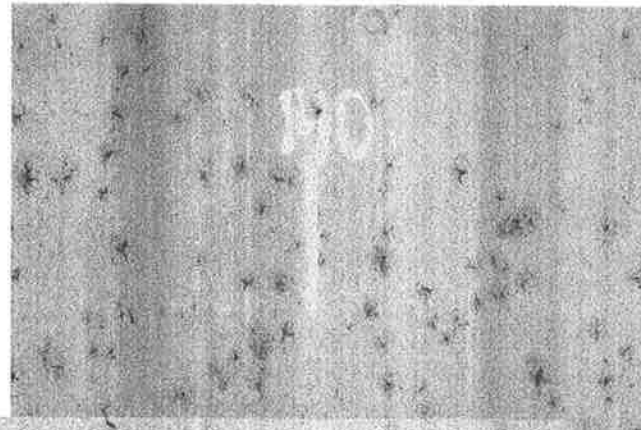
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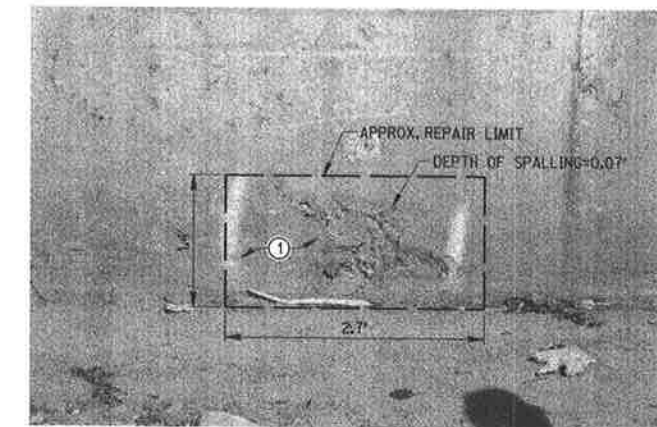
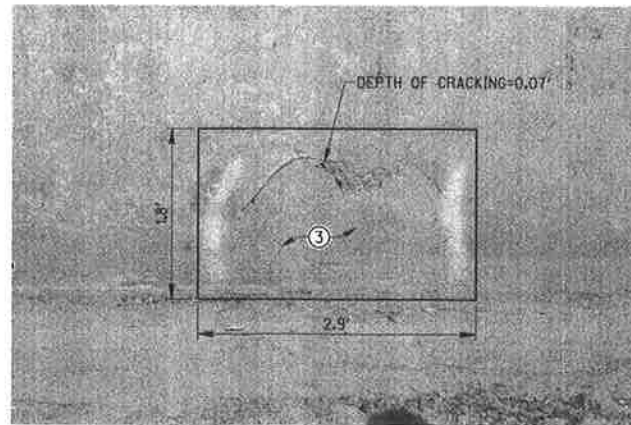
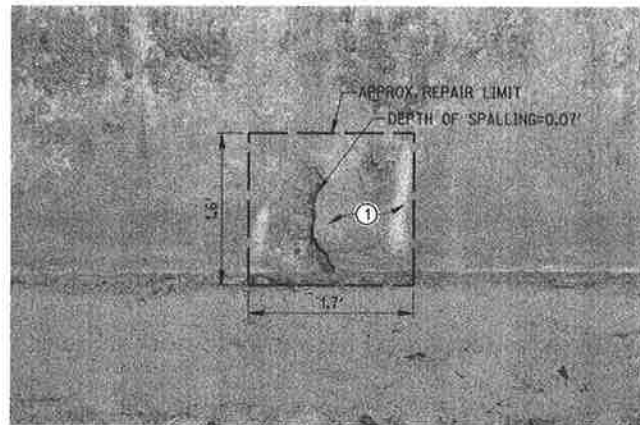
 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-24, R-25, R-26, R-27, AND R-28
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 14 OF 35



R-29 ; 139+98.3 to 140+23.0



R-30 ; 140+36.8 to 140+51.3

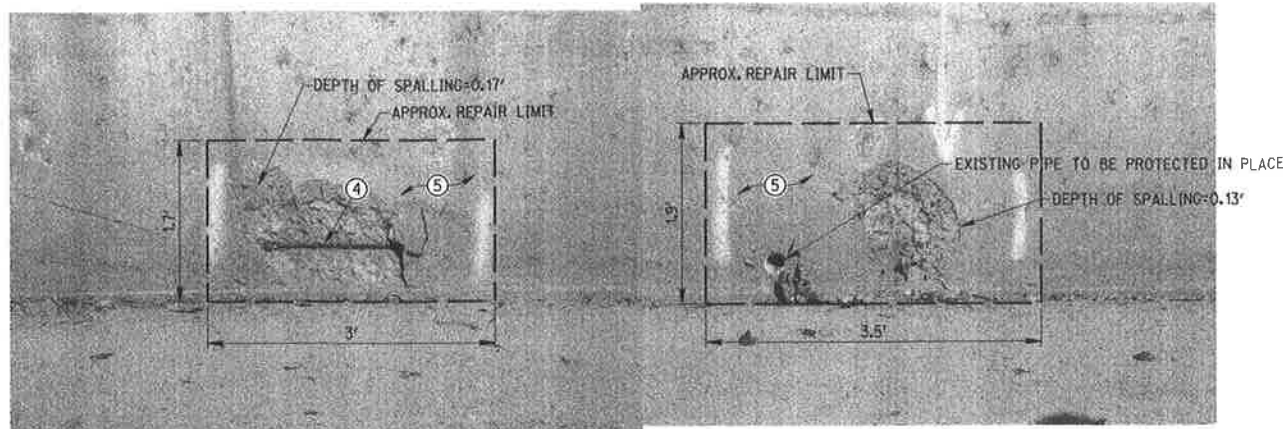
R-31 ; 140+64.3 to 140+67.0

CONSTRUCTION NOTES

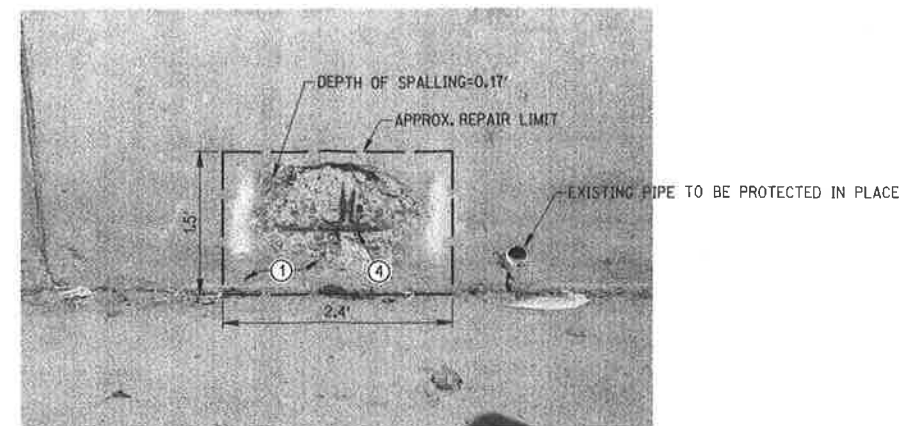
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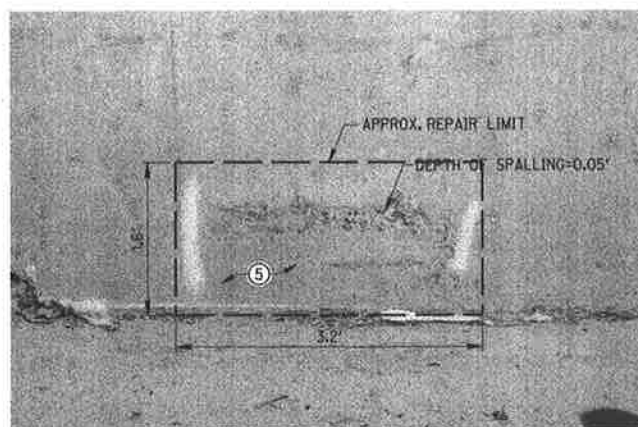
DIG ALERT CALL BEFORE YOU DIG! 1-800-227-2600 UNDERGROUND SERVICE ALERT Call at least 2 working days prior to excavating.	SEAL: RICK ENGINEERING COMPANY 1770 KOWA AVENUE - SUITE 100 RIVERSIDE, CA 92507 951.782.0707 (FAX) 951.782.0725 rickengineering.com PLANS PREPARED UNDER SUPERVISION OF ROBERT A. STOCKTON R.C.E. NO. 33591 DATE 3/16/11 EXPIRES 6-30-12	BENCHMARK: 601-31-69 RESET 1975 ELEV: 688.098 NGVD29	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>APPR.</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DESCRIPTION	APPR.	DATE																	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: 22 MAR 2011	APPROVED BY: DATE: 27-MAR-2011	ARLINGTON CHANNEL REPAIRS PLANS DETAILS R-29, R-30, AND R-31	PROJECT NO. 1-0-0020-00
				NO.	DESCRIPTION	APPR.	DATE																				
DRAWING NO. 1-690	SHEET NO. 15 OF 35																										



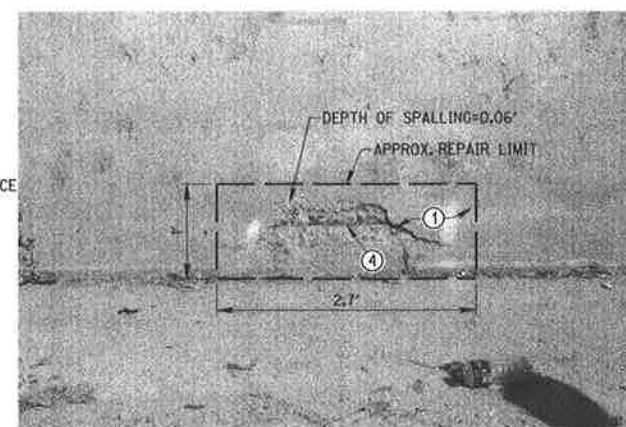
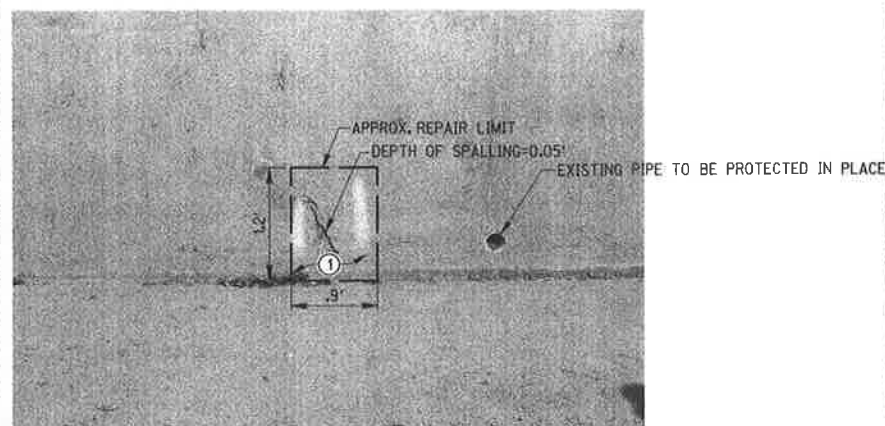
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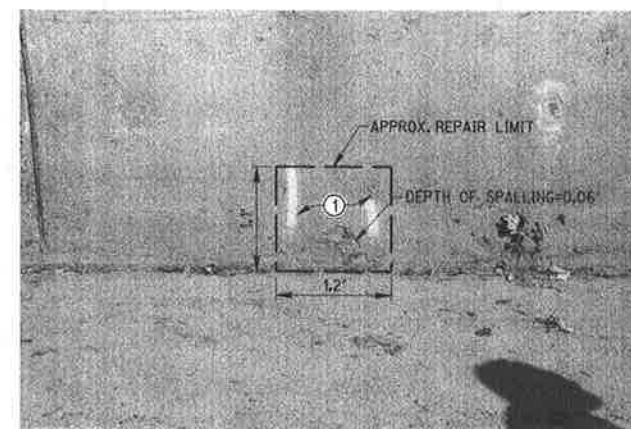
R-33 ; 141+08.1 to 141+10.5



R-34 ; 141+25.9 to 141+34.6



R-35 ; 141+51.1 to 141+59.7



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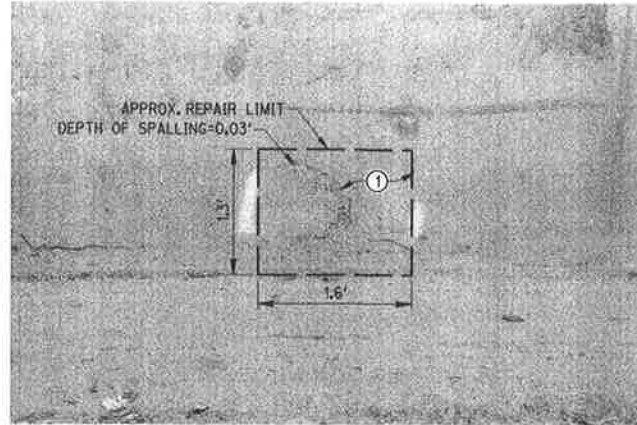
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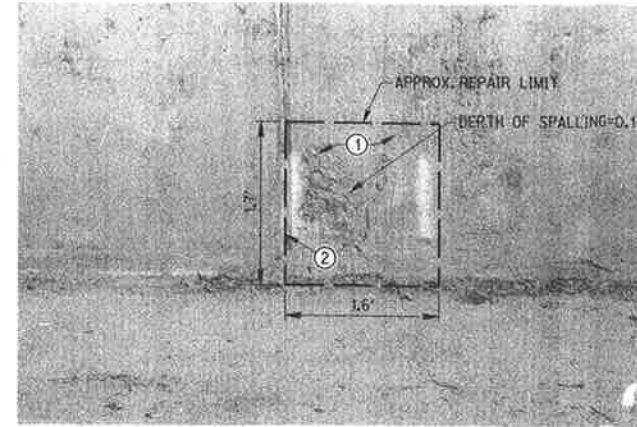
ARLINGTON CHANNEL REPAIRS PLANS

DETAILS R-32, R-33, R-34, AND R-35

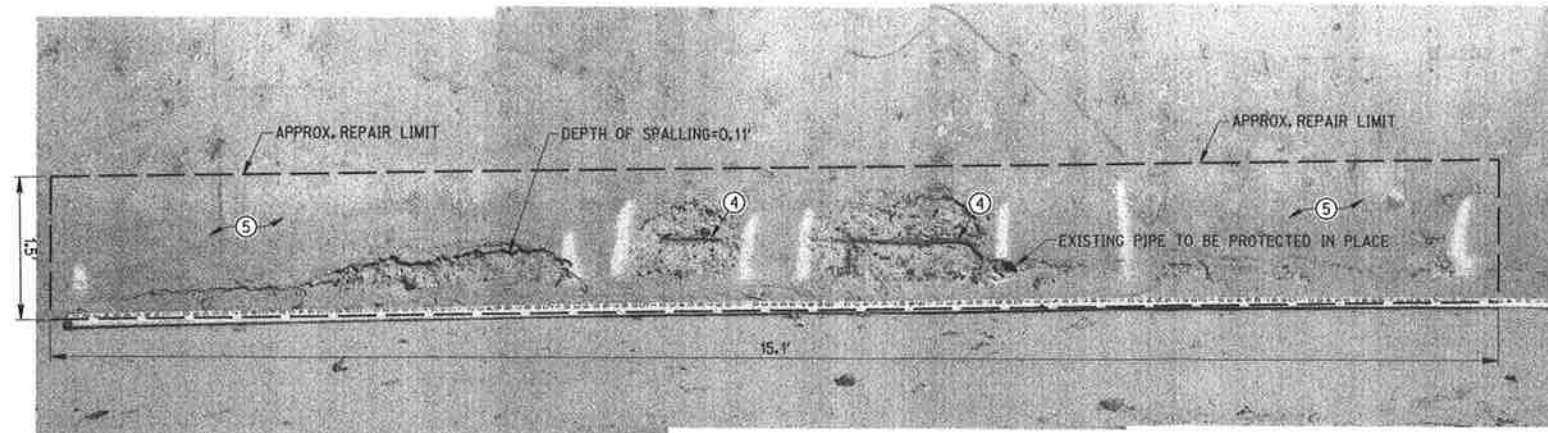
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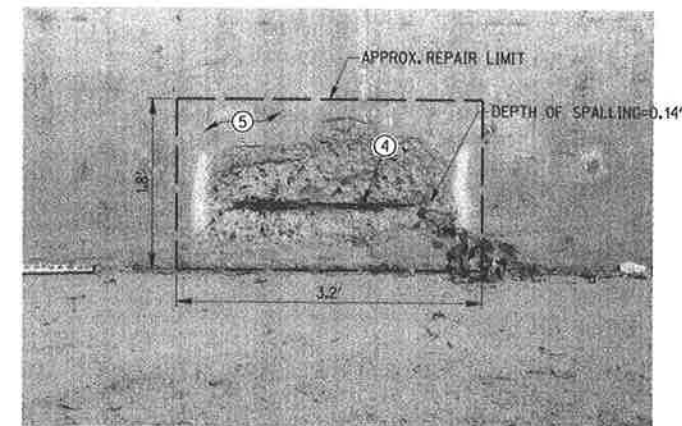
R-36 ; 141+76.8 to 141+78.4



R-37A ; 142+05.9 to 142+07.5



R-37B ; 142+14.6 to 142+37.4

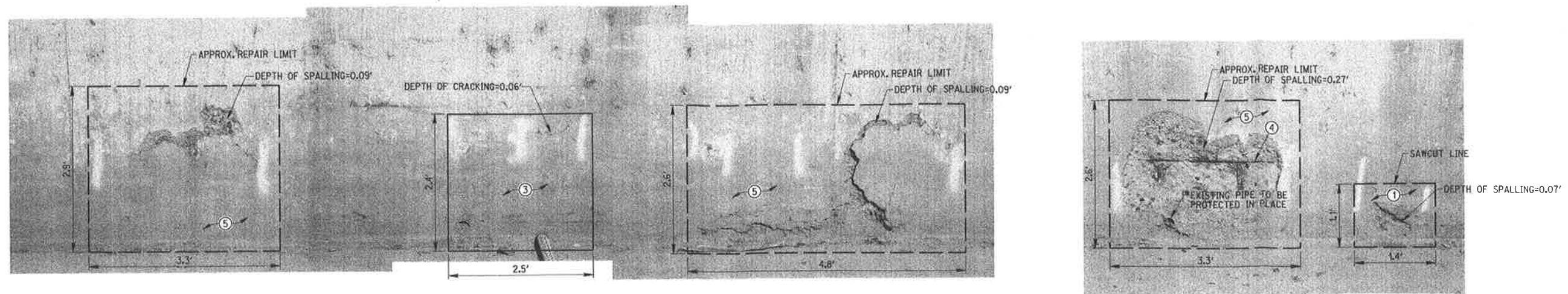


CONSTRUCTION NOTES

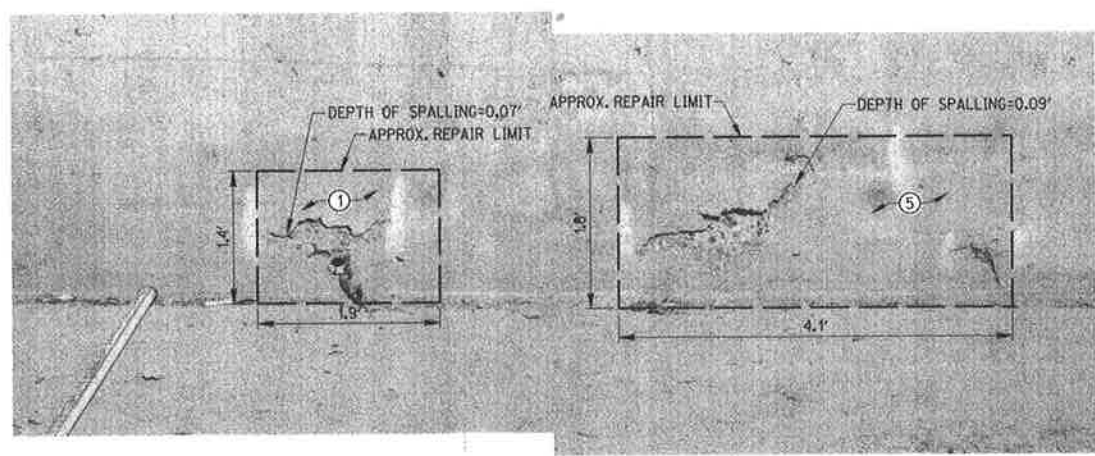
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DIG ALERT CALL BEFORE YOU DIG! 1-800-227-2600 UNDERGROUND SERVICE ALERT Call at least 2 working days prior to excavating.	SEAL: REGISTERED PROFESSIONAL ENGINEER ROBERT A. STOCKTON No. C033591 Exp. 6-30-12 CIVIL STATE OF CALIFORNIA	RICK ENGINEERING COMPANY 1770 ROMA AVENUE - SUITE 100 RIVERSIDE, CA 92507 951.782.0707 (FAX) 951.782.0723 rickengineering.com Riverside San Diego - Chgo - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tampa PLANS PREPARED UNDER SUPERVISION OF ROBERT A. STOCKTON DATE 3/14/11 R.C.E. NO. 33591 EXPIRES 6-30-12	BENCHMARK: 601-31-69 RESET 1975 ELEV: 688.098 NGVD29	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>APPR.</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DESCRIPTION	APPR.	DATE																																									RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: 22 MAR 2011	APPROVED BY: DATE: 27 MAR 2011	ARLINGTON CHANNEL REPAIRS PLANS DETAILS R-36, R-37A, AND R-37B	PROJECT NO. 1-0-0020-00 DRAWING NO. 1-690 SHEET NO. 17 OF 35
					NO.	DESCRIPTION	APPR.	DATE																																												
1" 0 1' 2'		PLOT DATE: 10-MAR-2011 JN 16118																																																		



R-38 ; 142+81.2 to 143+04.9



R-39A ; 143+11.1 to 143+19.5

CONSTRUCTION NOTES

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 Exp. 6-30-12
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 1770 KOWAVALUE - SUITE 100
 RIVERSIDE, CA 92507
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 ROBERT A. STOCKTON DATE: 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR. DATE

RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011

APPROVED BY:

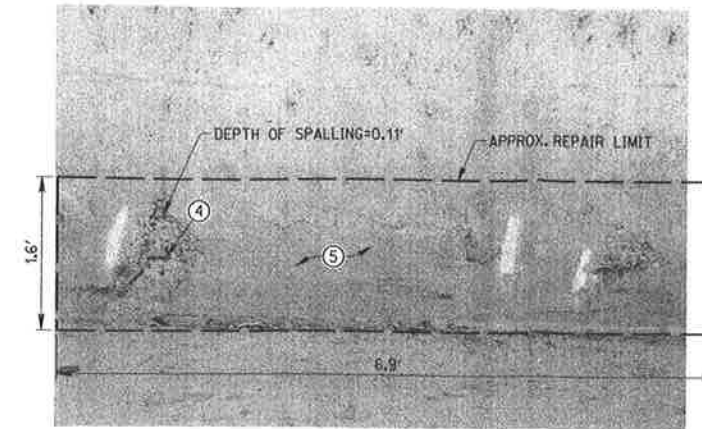
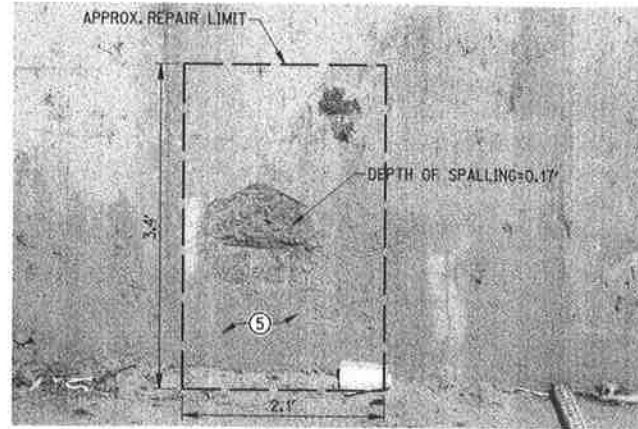
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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

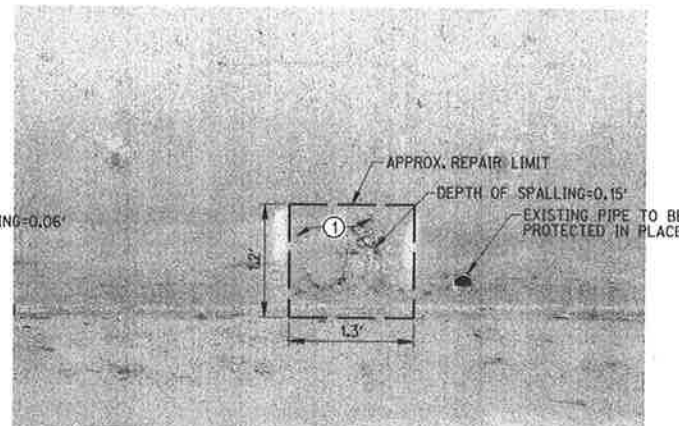
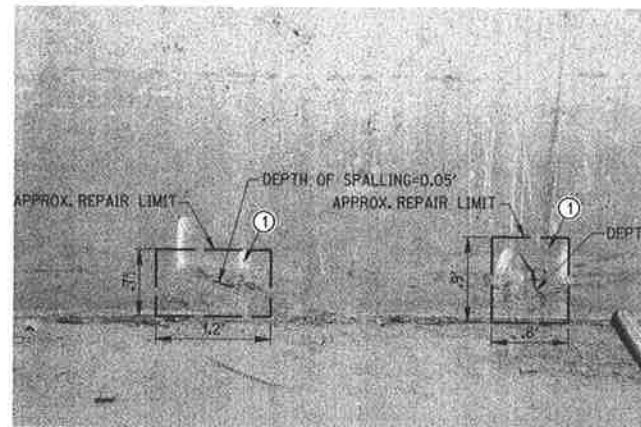
ARLINGTON CHANNEL REPAIRS PLANS

DETAILS R-38 AND R-39A

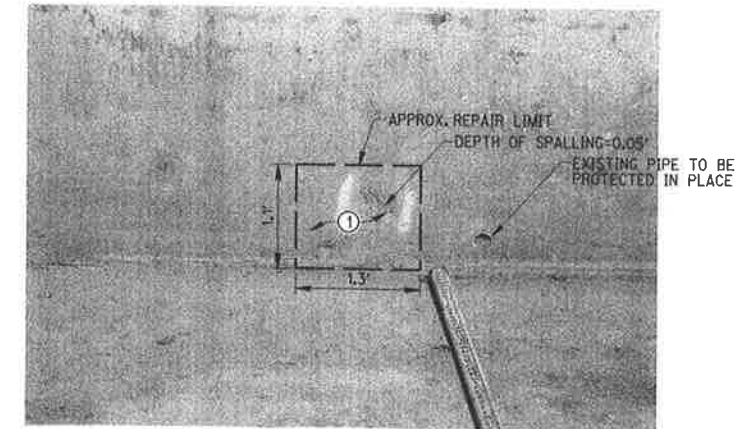
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 18 OF 35



R-39B ; 144+26.1 to 144+45.7



R-40 ; 144+76.3 to 144+86.0



R-41 ; 145+10.3 to 145+11.6

CONSTRUCTION NOTES

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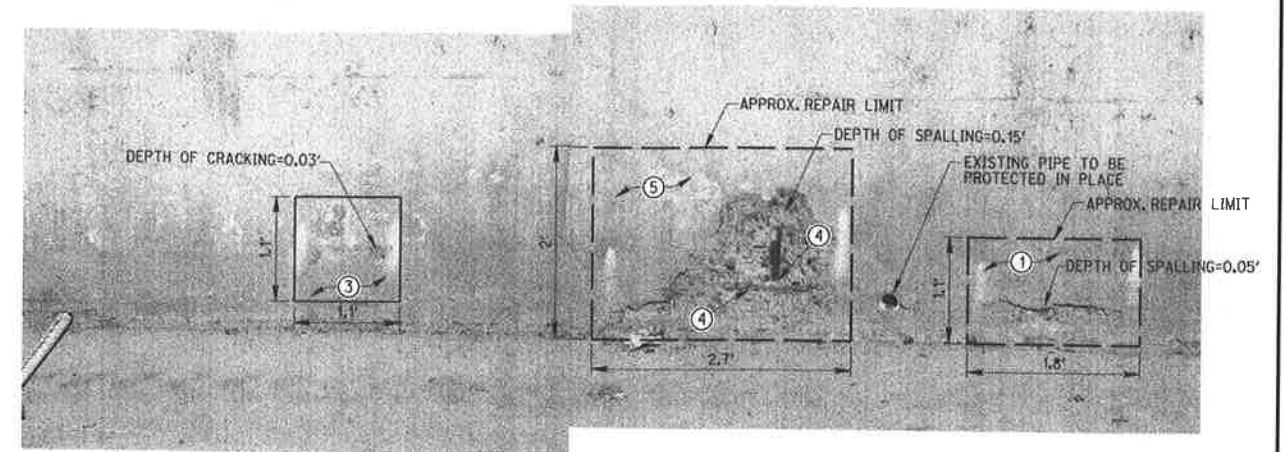
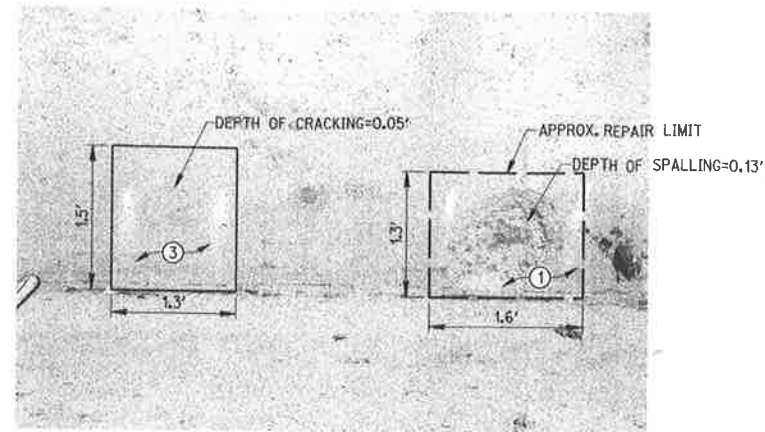
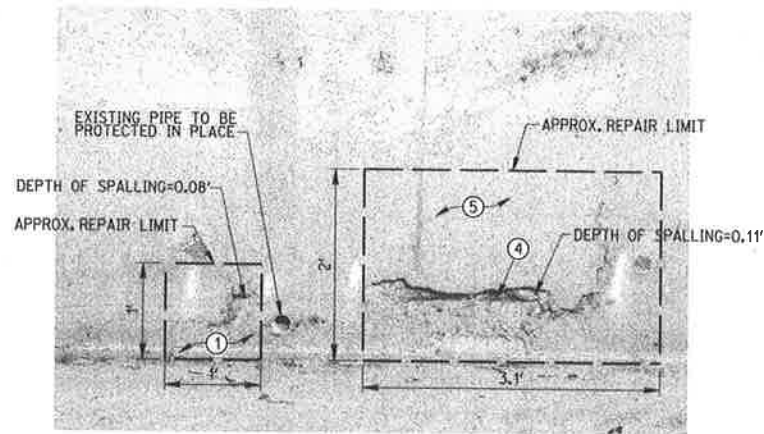
RICK ENGINEERING COMPANY
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 RIVERSIDE, CA 92507
 951.782.0707 (FAX) 951.782.0723
 PLANS PREPARED UNDER SUPERVISION OF
 ROBERT A. STOCKTON
 DATE 3/14/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

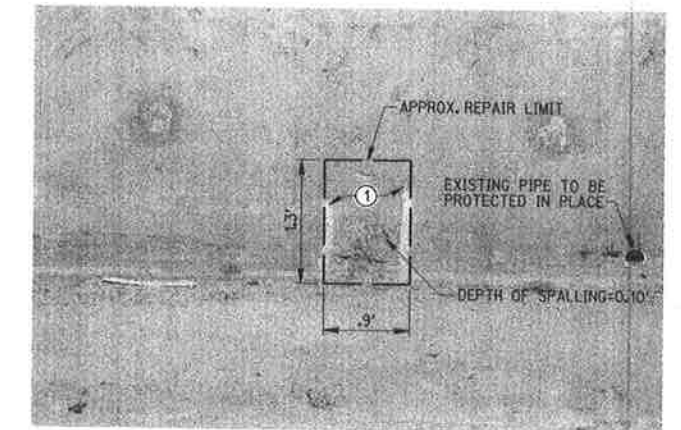
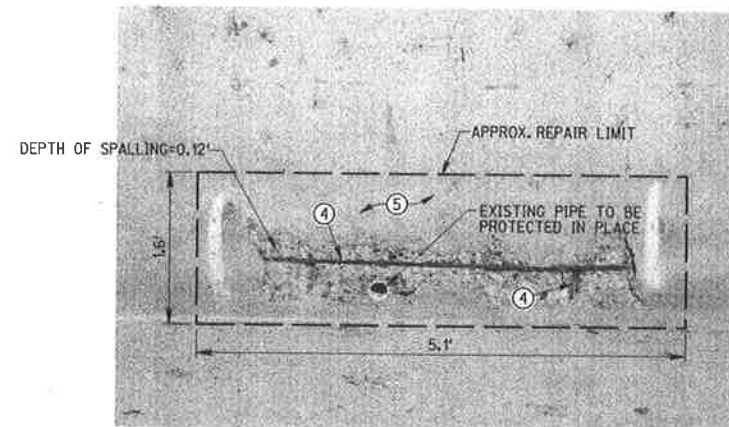
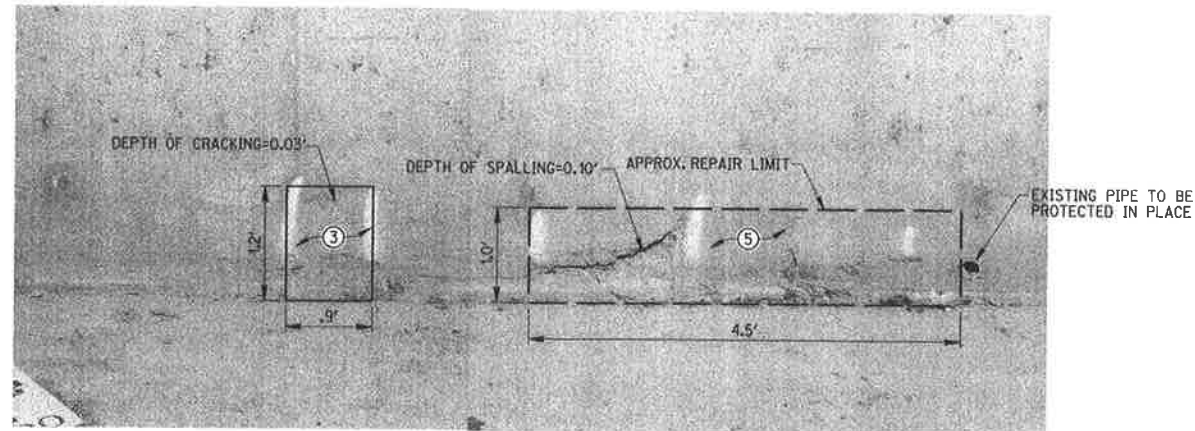
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: *[Signature]*
 DATE: 22 MAR 2011
 APPROVED BY: *[Signature]*
 DATE: 23 MAR 2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-39B, R-40, AND R-41
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 19 OF 35



R-42 ; 145+23.1 to 145+52.2



R-43 ; 146+29.8 to 146+47.1

R-44 ; 146+65.1 to 146+66.0

CONSTRUCTION NOTES

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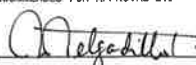

 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. 0033591
 Exp. 6-30-12
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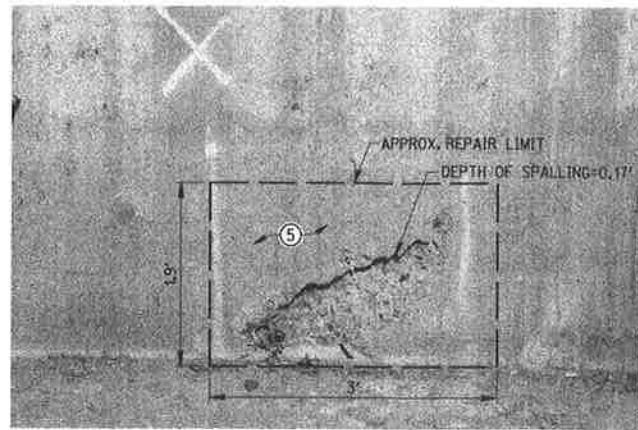
 ROBERT A. STOCKTON DATE 3/16/11
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BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NQVD29

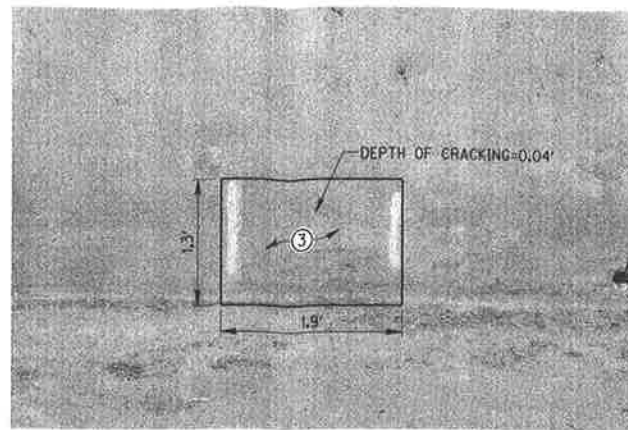
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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
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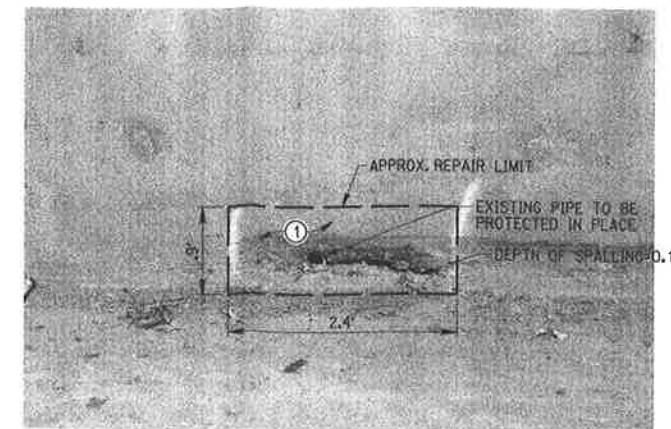
ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-42, R-43, AND R-44
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 20 OF 35
 PLOT DATE: 10-MAR-2011 JN 16116



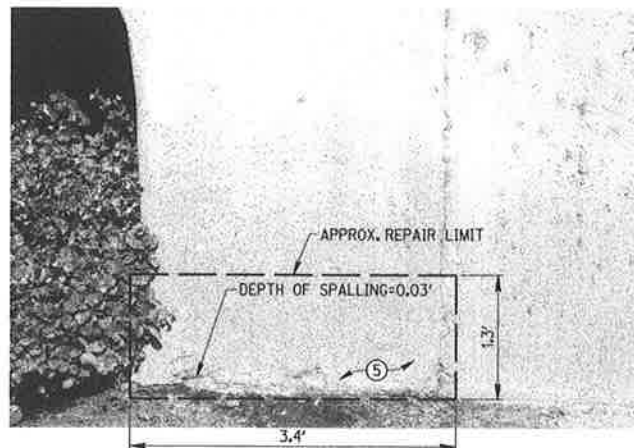
R-45 ; 147+18.4 to 147+21.4



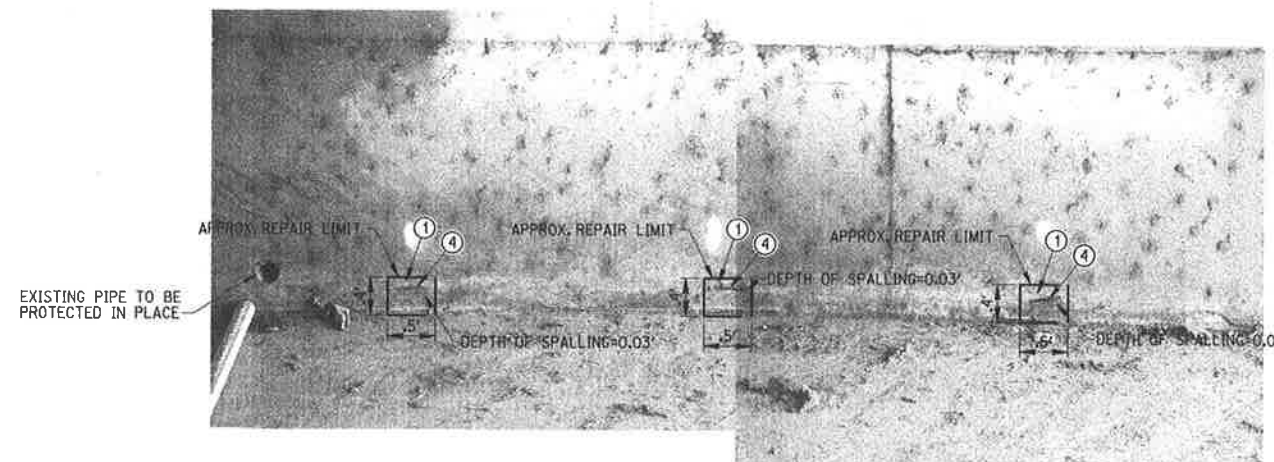
R-46 ; 147+39.3 to 147+41.2



R-47 ; 147+55.5 to 147+57.9



R-48 ; 148+08.0 to 148+11.4



R-49 ; 149+25.9 to 149+32.8


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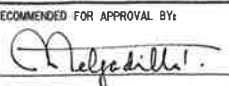

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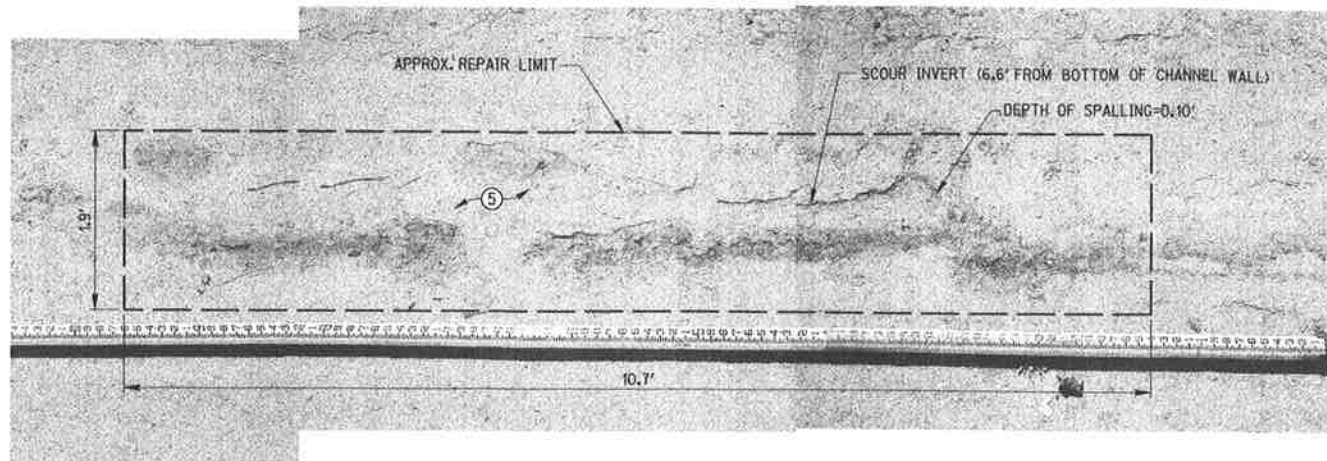
BENCHMARK:
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 NGVD29

REF.	DESCRIPTION	APPR.	DATE

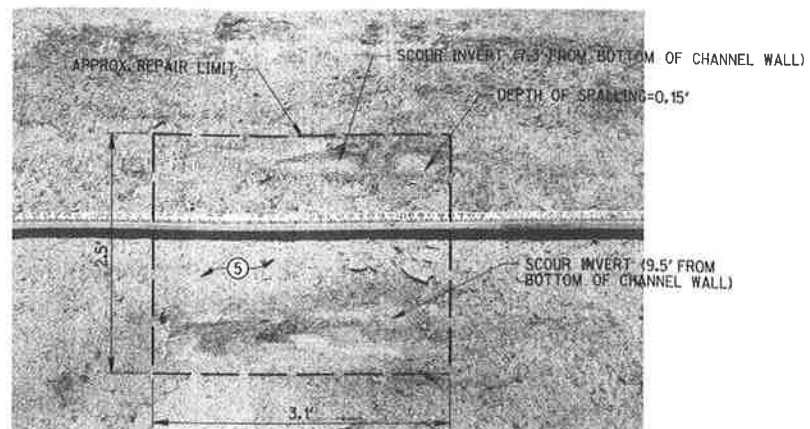
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 APPROVED BY:

 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-45, R-46, R-47, R-48, AND R-49

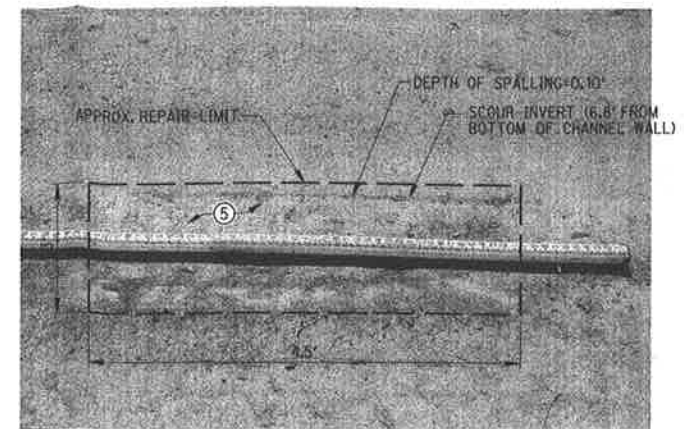
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 DRAWING NO. 1-690
 SHEET NO. 21 OF 35



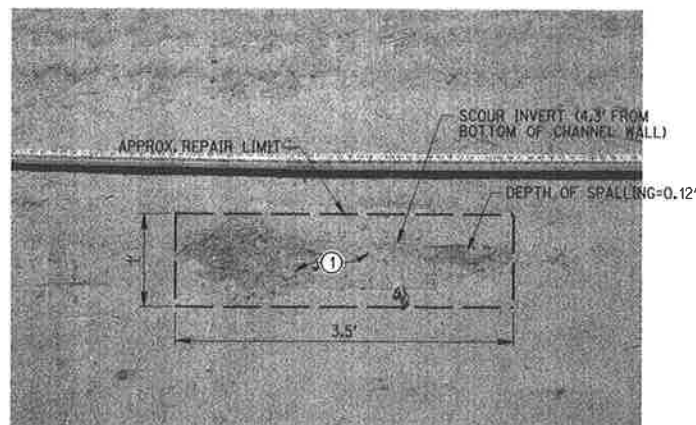
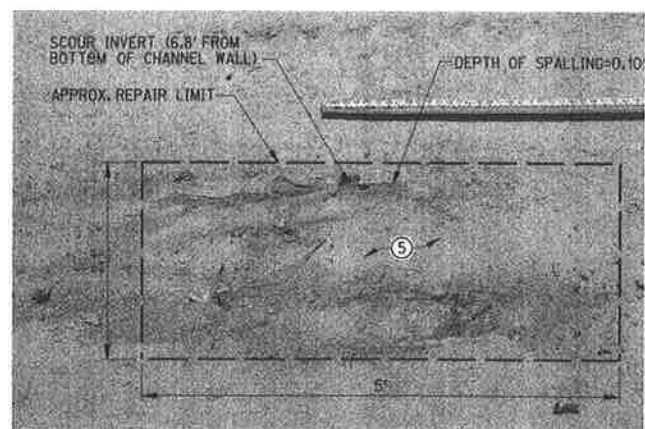
R-50 ; 151+14.9 to 151+25.6



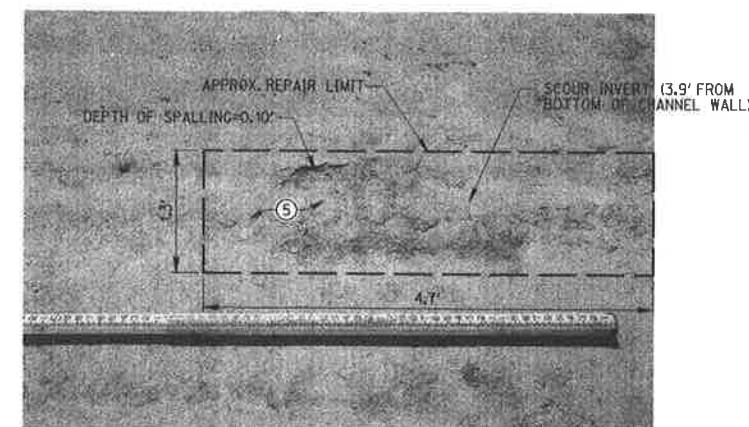
R-51 ; 151+76.7 to 151+79.8



R-52 ; 152+22.8 to 152+27.3



R-53 ; 153+10.7 to 153+31.6



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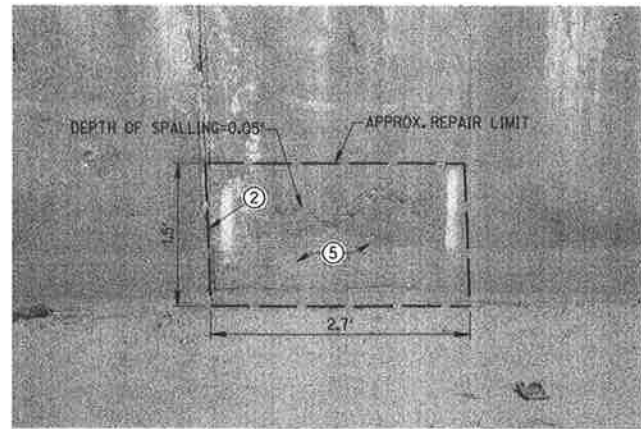
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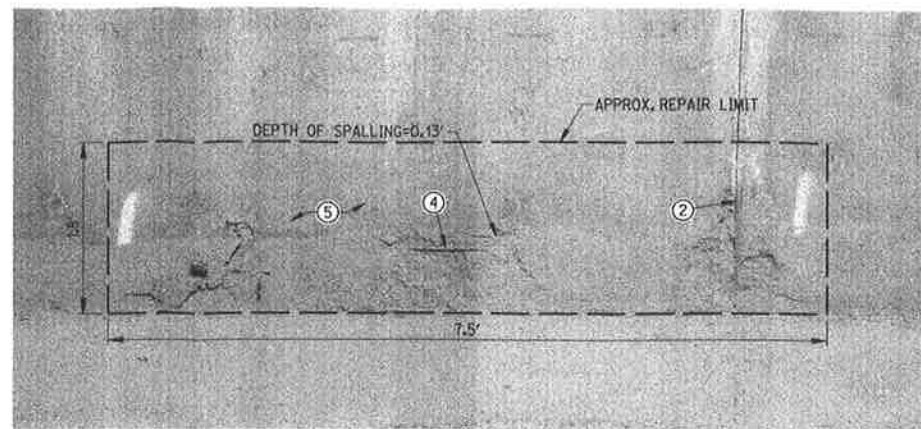
ARLINGTON CHANNEL REPAIRS PLANS

DETAILS R-50, R-51, R-52, AND R-53

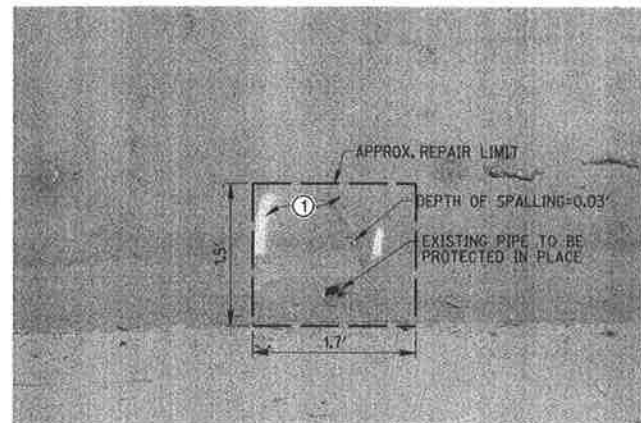
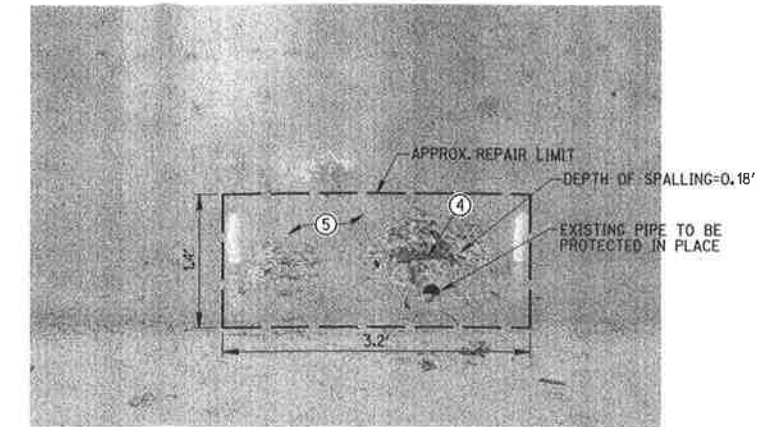
PROJECT NO.
 1-0-0020-00
 DRAWING NO.
 1-690
 SHEET NO.
 22 OF 35



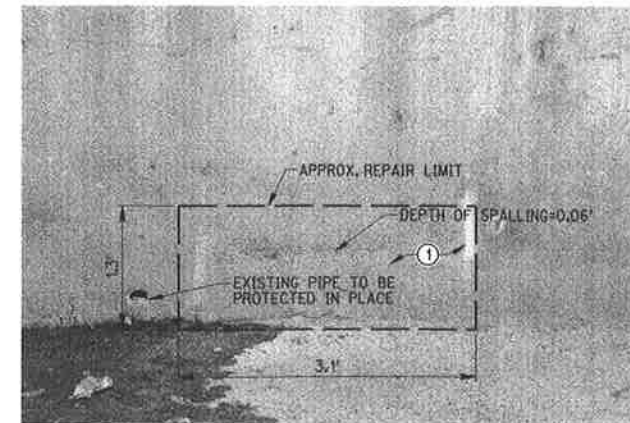
R-54 ; 160+85.6 to 160+88.3



R-55 ; 162+29.8 to 162+44.0



R-56 ; 162+65.7 to 162+67.4



R-57 ; 163+30.5 to 163+33.6

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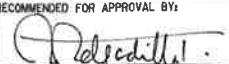

SEAL:

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 STATE OF CALIFORNIA

RICK
 ENGINEERING COMPANY
 1770 IOWA AVENUE - SUITE 100
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 951.762.2707
 FAX: 951.762.8723
 rickengineering.com
 San Diego - Chicago - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson
 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

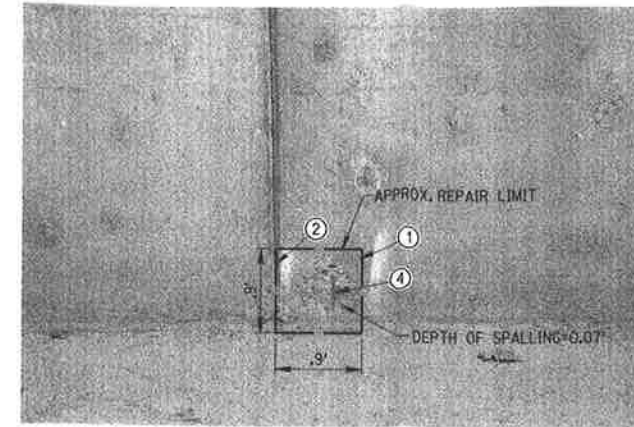
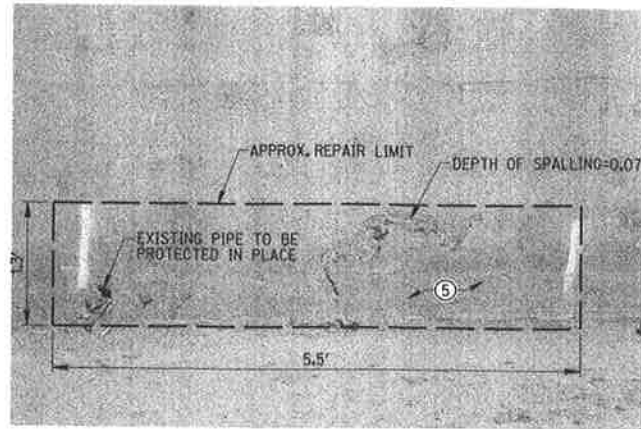
BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REV.	DESCRIPTION	APPR.	DATE

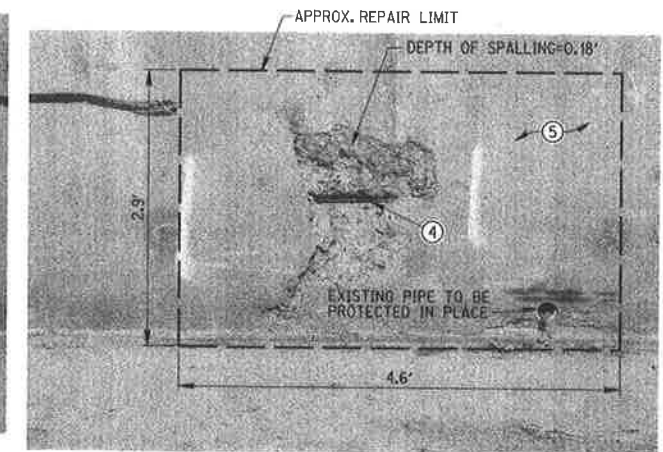
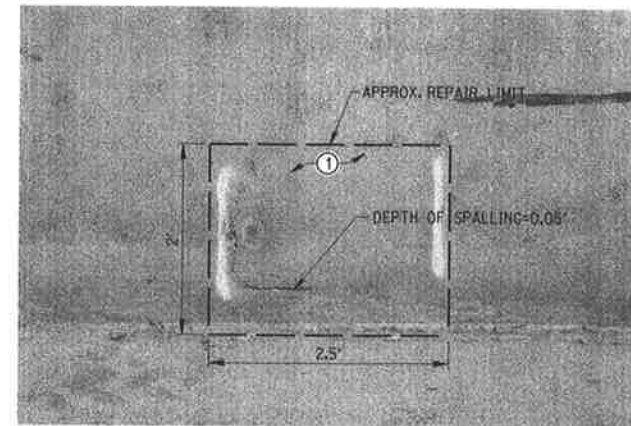
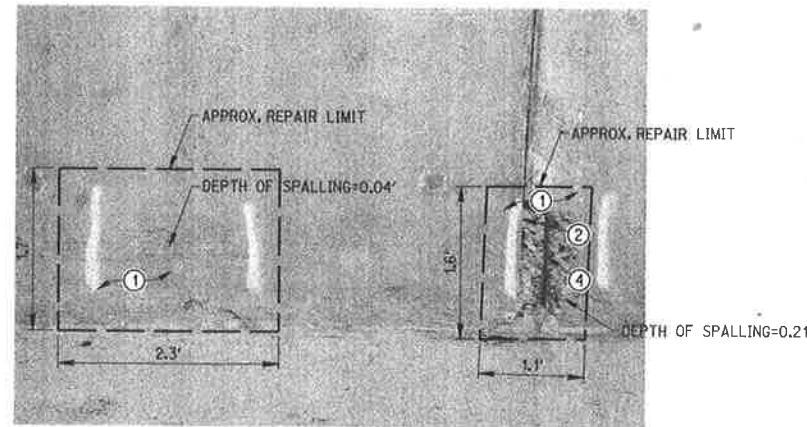
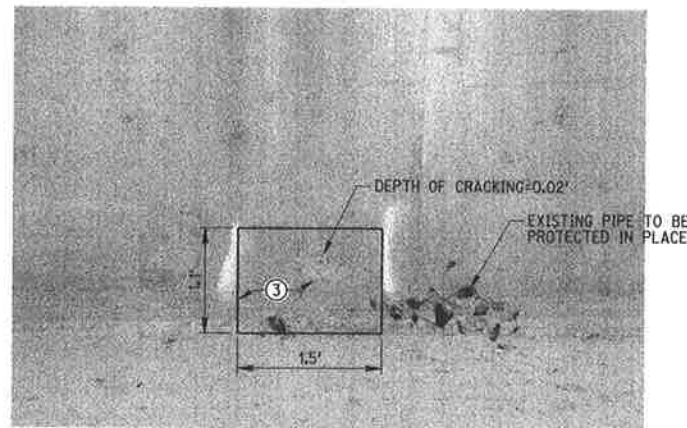
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 23 MAR 2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-54, R-55, R-56, AND R-57

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 23 OF 35



R-58 ; 165+17.7 to 165+37.4



R-59 ; 166+14.3 to 166+15.8

R-60 ; 166+81.4 to 166+87.1

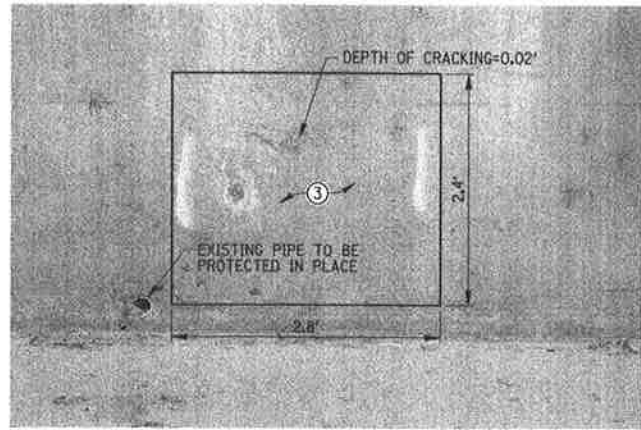
R-61 ; 167+07.9 to 167+18.4

CONSTRUCTION NOTES

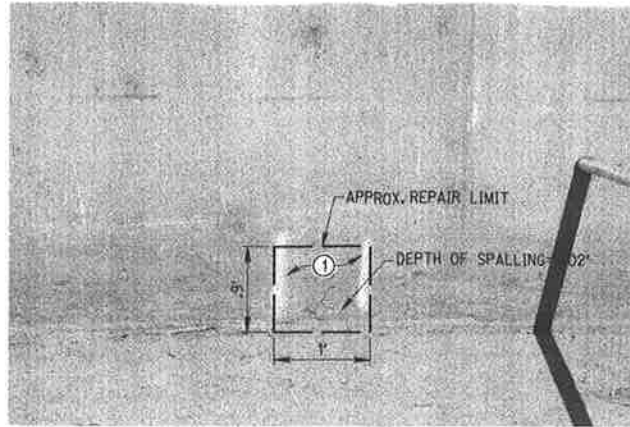
- ① REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
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- ⑤ REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 111 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS GREATER THAN 4 SQ. FT.



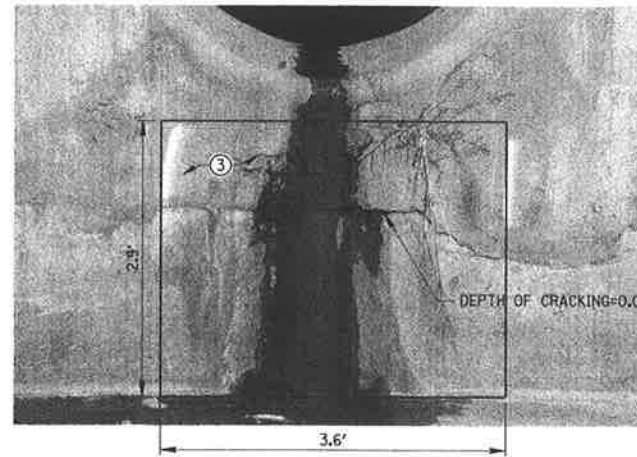
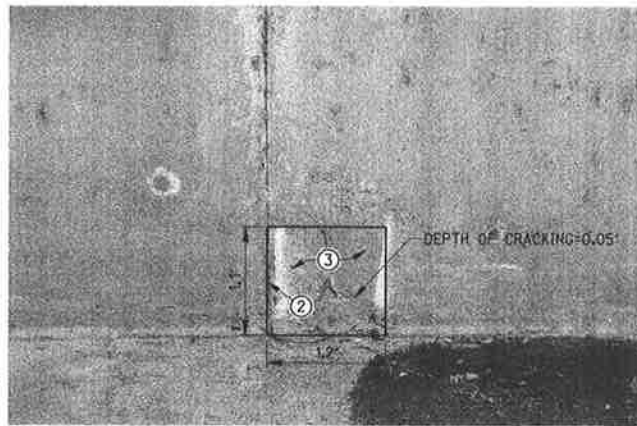
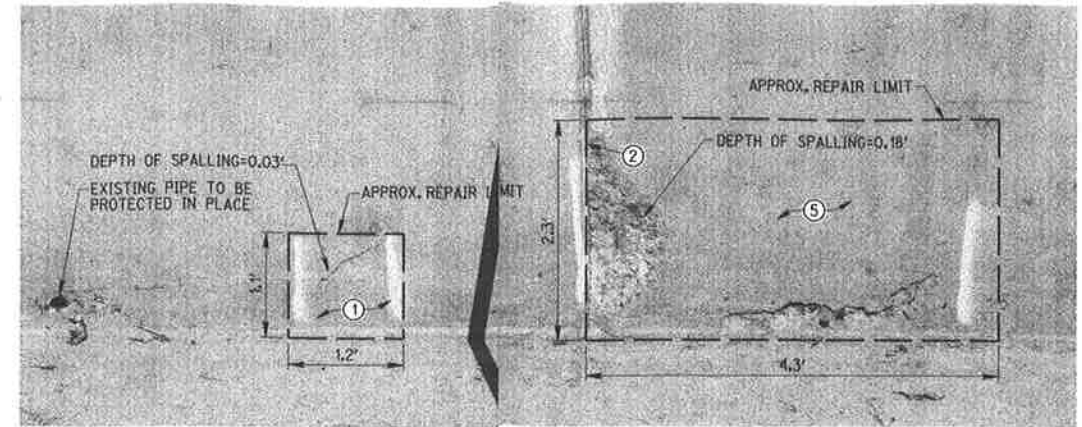
DIG ALERT CALL BEFORE YOU DIG! 1-800-227-2600 UNDERGROUND SERVICE ALERT Call at least 2 working days prior to excavating.	SEAL: CIVIL	RICK ENGINEERING COMPANY 1770 IOWA AVENUE - SUITE 100 RIVERSIDE, CA 92507 951.782.0707 (FAX) 951.782.0723 rickengineering.com San Diego - Chicago - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson PLANS PREPARED UNDER SUPERVISION OF ROBERT A. STOCKTON DATE 3/16/11 R.C.E. NO. 33591 EXPIRES 6-30-12	BENCHMARK: 601-31-69 RESET 1975 ELEV: 688.098 NGVD29	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>REF.</th><th>DESCRIPTION</th><th>APPR.</th><th>DATE</th></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	REF.	DESCRIPTION	APPR.	DATE																	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: 22 MAR 2011	APPROVED BY: DATE: 28-MAR-2011	ARLINGTON CHANNEL REPAIRS PLANS DETAILS R-58, R-59, R-60, AND R-61	PROJECT NO. 1-0-0020-00 DRAWING NO. 1-690 SHEET NO. 24 OF 35
					REF.	DESCRIPTION	APPR.	DATE																				
1" = 0' 1" = 2'																												



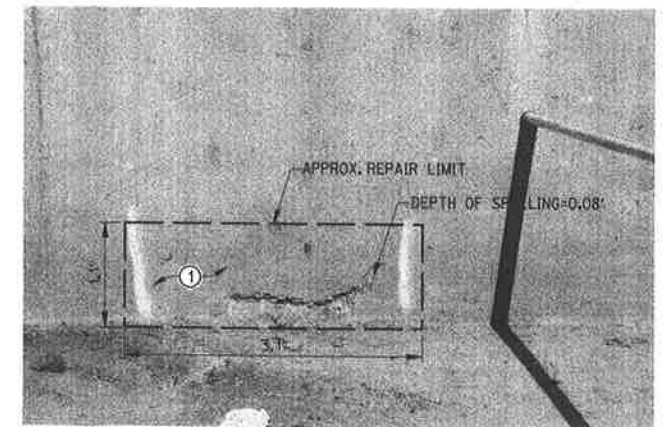
R-62 ; 167+67.1 to 167+69.9



R-64 ; 168+24.2 to 168+40.5



R-63 ; 167+86.3 to 168+10.3



CONSTRUCTION NOTES


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DIG ALERT

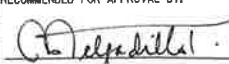
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 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

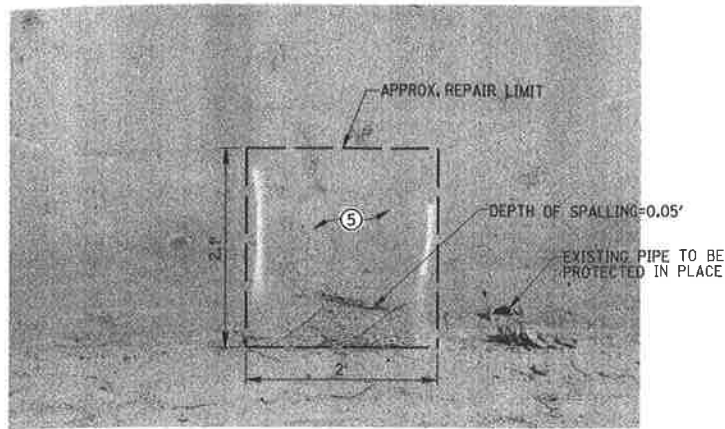
REF.	DESCRIPTION	APPR. DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011

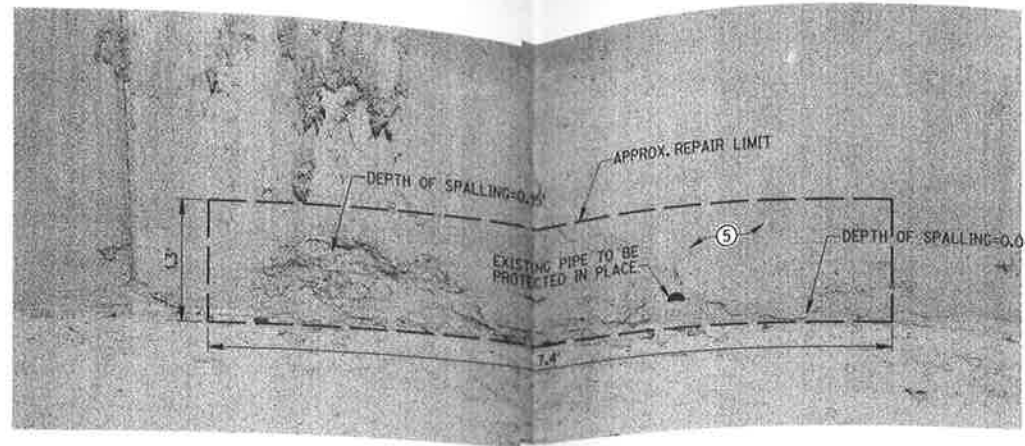
APPROVED BY:

 DATE: 23 MAR 2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-62, R-63, AND R-64

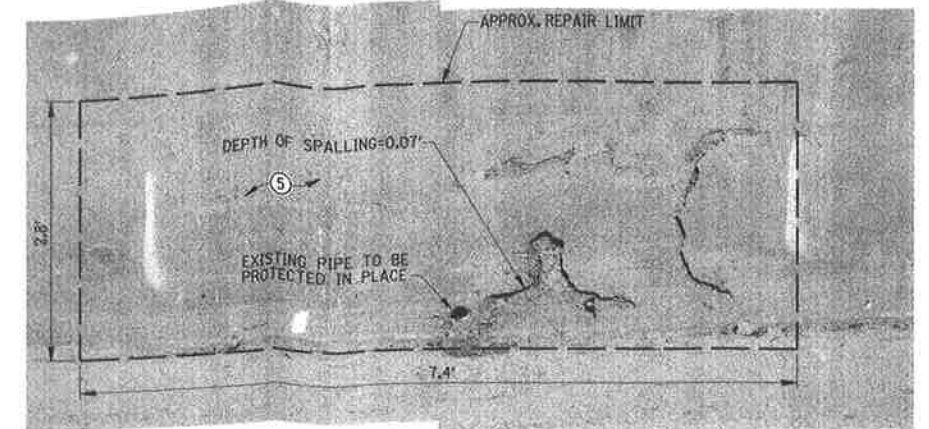
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 25 OF 35



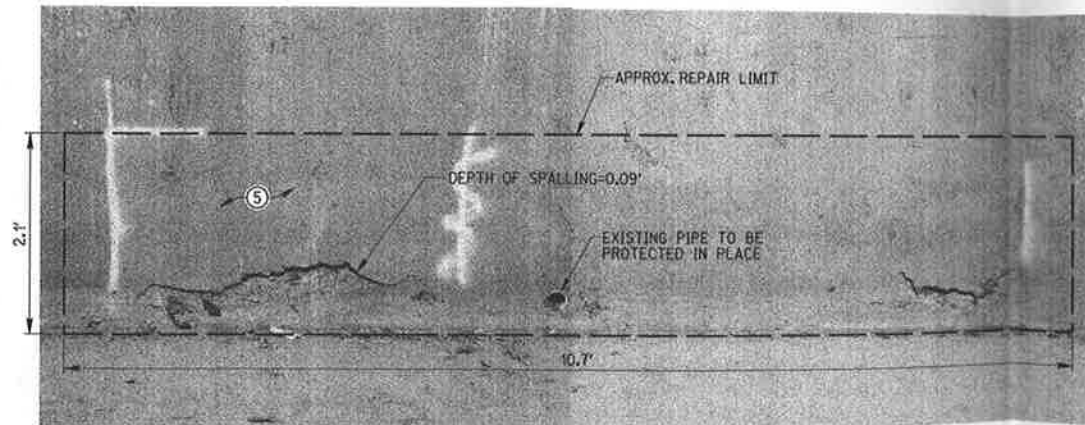
R-65 ; 168+89.7 to 168+91.7



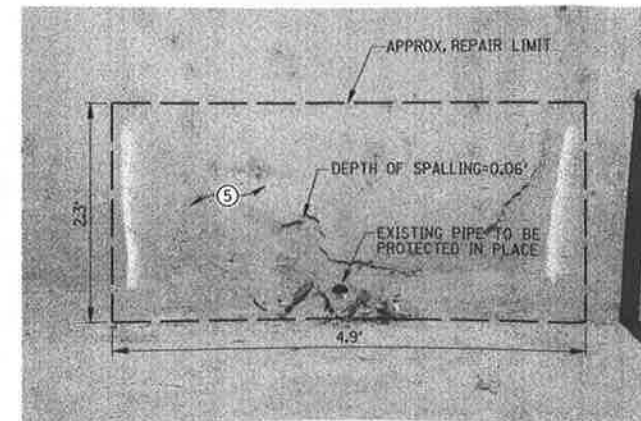
R-66 ; 169+87.3 to 169+94.7



R-67 ; 170+14.2 to 170+21.6



R-69A ; 171+25.1 to 171+44.6



CONSTRUCTION NOTES

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SEAL: REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK
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 1770 HOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
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 (FAX) 951.782.0723
 rickengineering.com
 San Diego - Orange - San Luis Obispo - San Marcos - San Clemente - Phoenix - Tucson

PLANS PREPARED UNDER SUPERVISION OF
 ROBERT A. STOCKTON
 DATE 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

NO.	REVISIONS	DATE

RIVERSIDE COUNTY FLOOD CONTROL
 AND
 WATER CONSERVATION DISTRICT

RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011

APPROVED BY:

 DATE: 23 MAR 2011

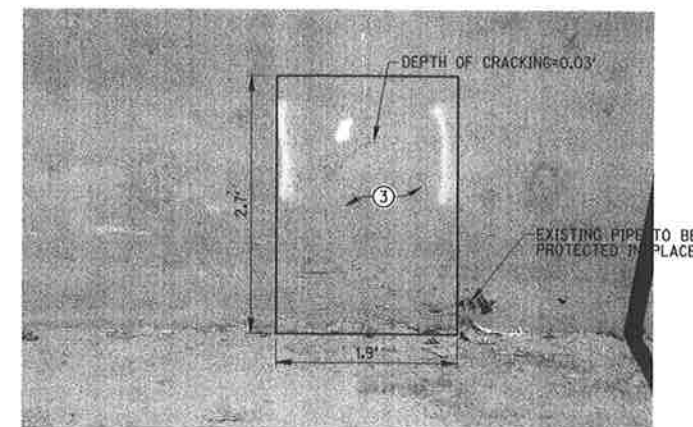
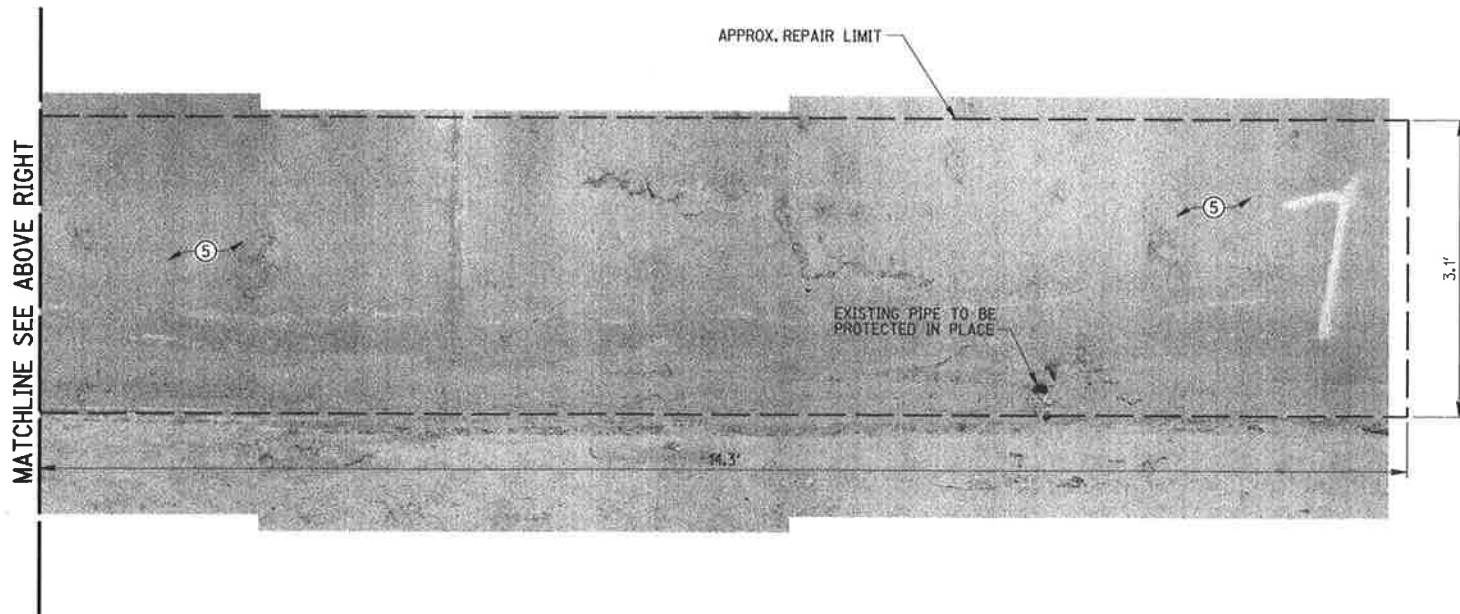
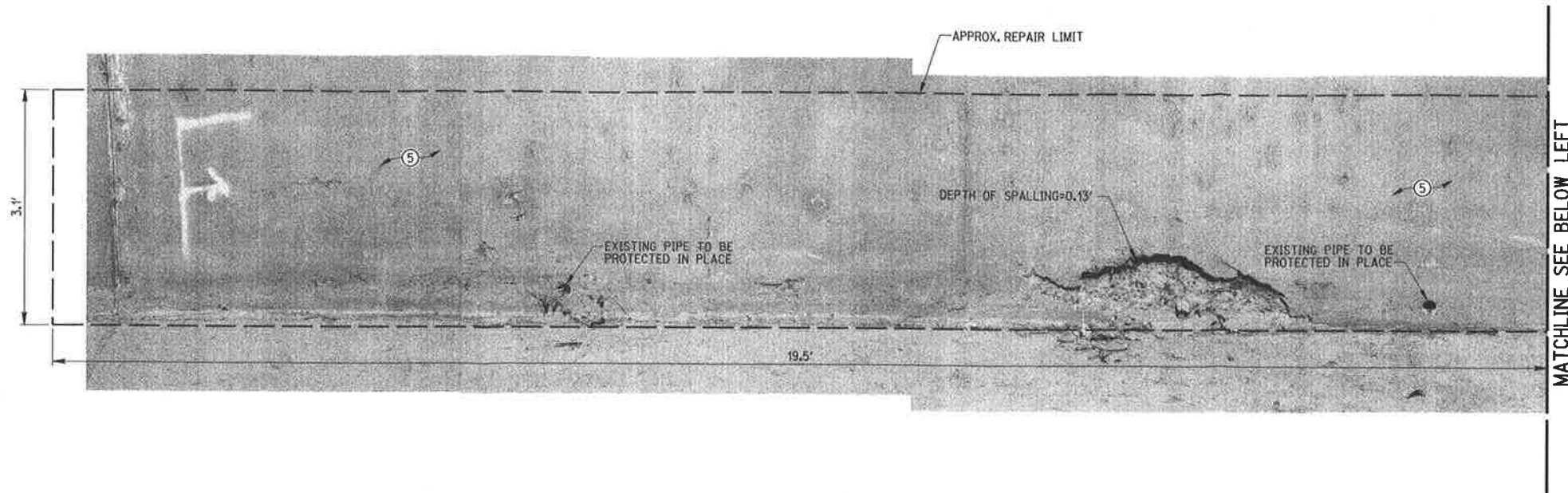
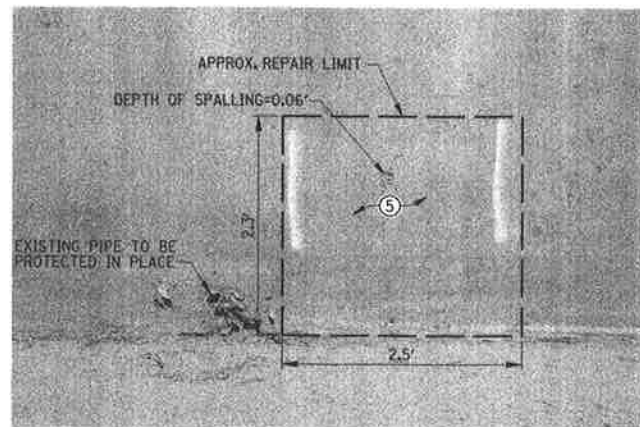
ARLINGTON CHANNEL
 REPAIRS PLANS

DETAILS R-65, R-66, R-67, AND R-69A

PROJECT NO.
 1-0-0020-00

DRAWING NO.
 1-690

SHEET NO.
 26 OF 35



R-68 ; 170+30.9 to 170+80.1

CONSTRUCTION NOTES

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 Exp. 6-30-12
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 STATE OF CALIFORNIA

RICK
 ENGINEERING COMPANY
 1770 IOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0717 (FAX) 951.782.0723
 rickeng@earthlink.net
 No Change - Change - See List Change - Material - Structure - Permit - Station
 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

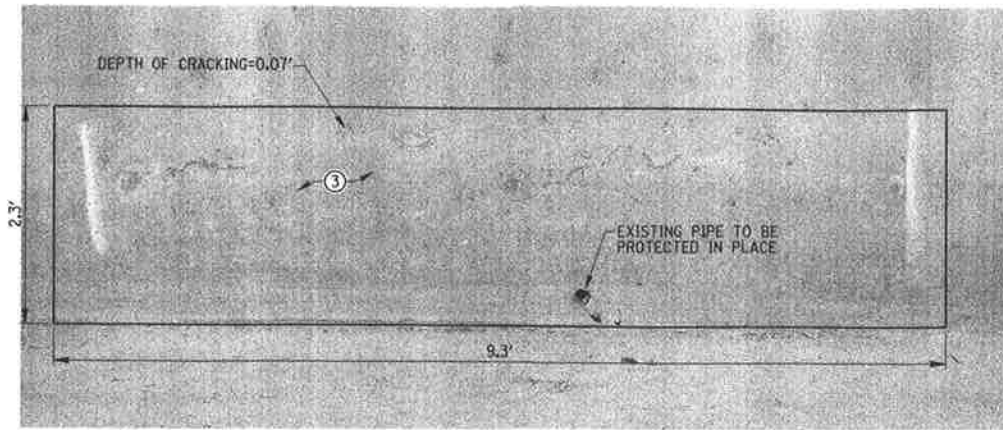
REF.	DESCRIPTION	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

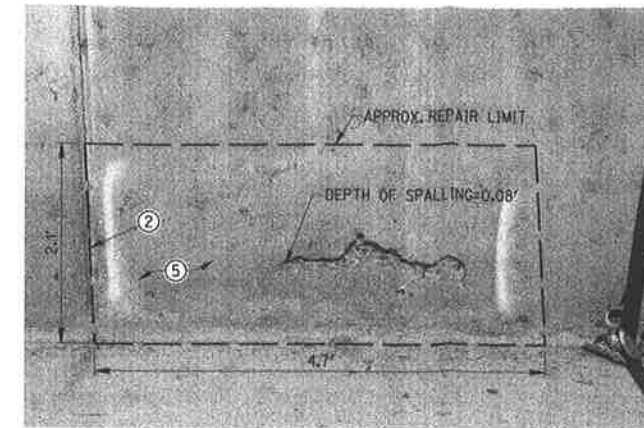
 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 27-MAR-2011

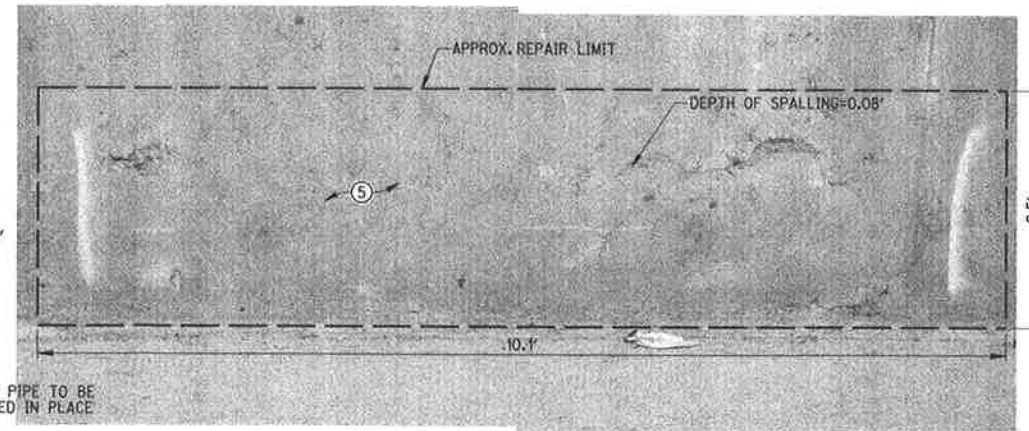
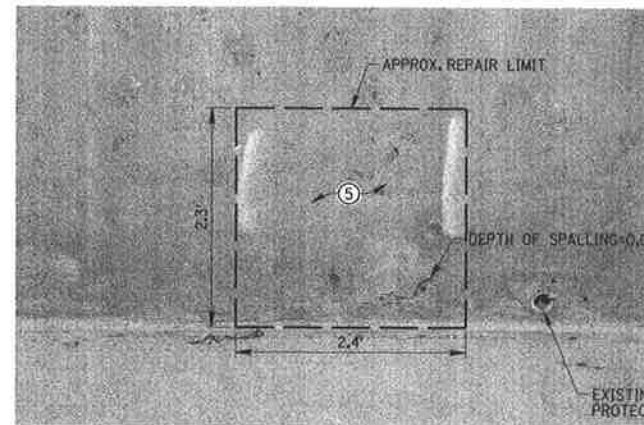
ARLINGTON CHANNEL REPAIRS PLANS
 DETAIL R-68
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 27 OF 35
 PLOT DATE: 10-MAR-2011 JN 16116



R-69B ; 171+49.4 to 171+58.7



R-70 ; 171+86.3 to 171+91.0



R-71A ; 172+01.5 to 172+16.8

CONSTRUCTION NOTES

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 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE 3/4/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR.	DATE

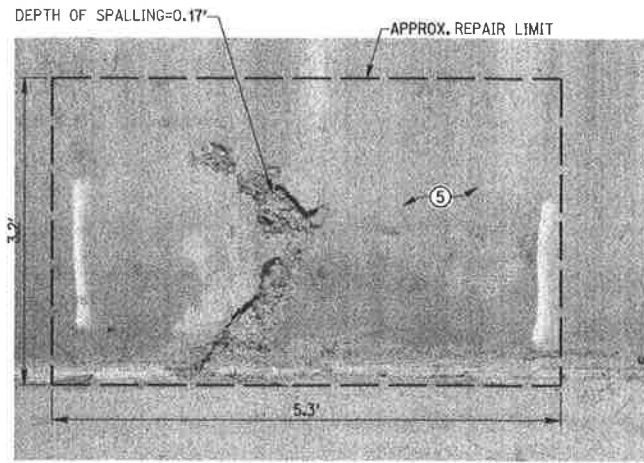
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
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 DATE: 22 MAR 2011
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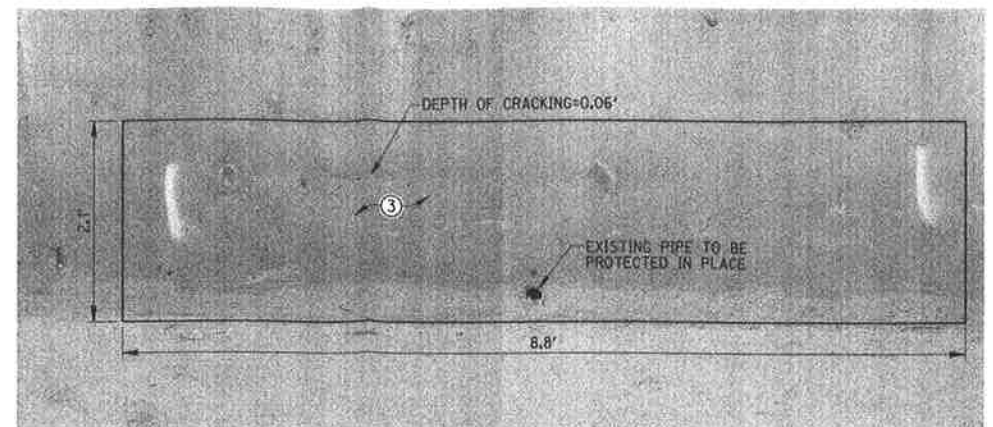
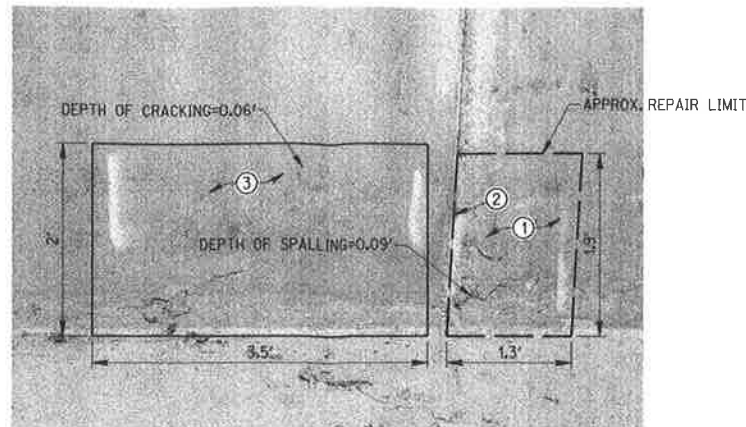
 DATE: 23-MAR-2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-69B, R-70, AND R-71A

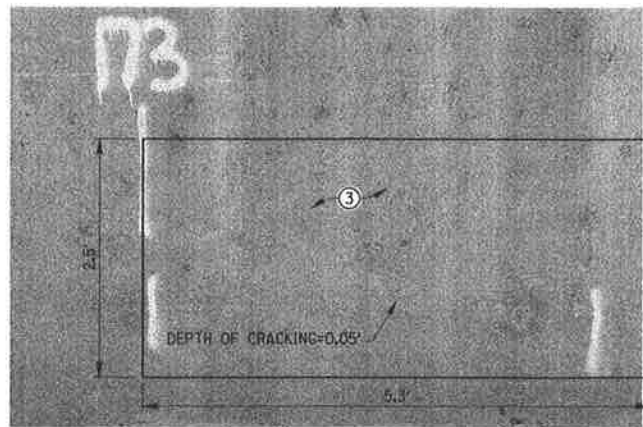
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 28 OF 35



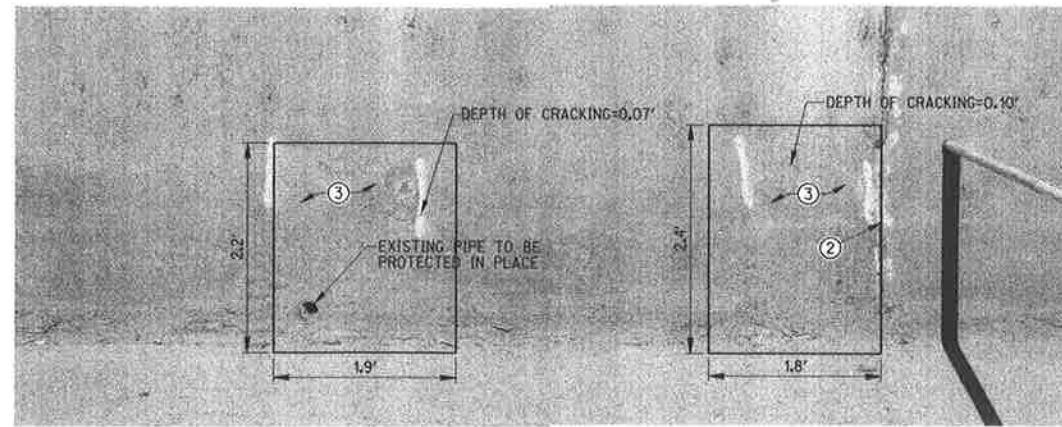
R-71B ; 172+20.7 to 172+37.6



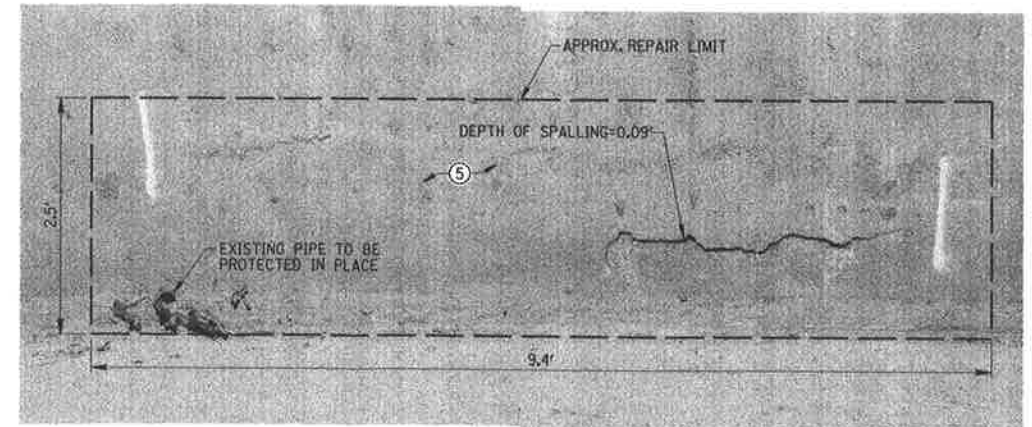
R-72 ; 172+75.7 to 172+84.5



R-73 ; 173+00.0 to 173+05.3



R-74 ; 173+29.4 to 173+36.3



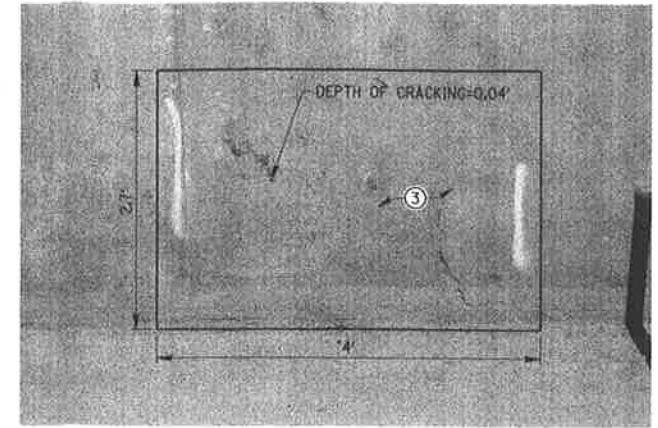
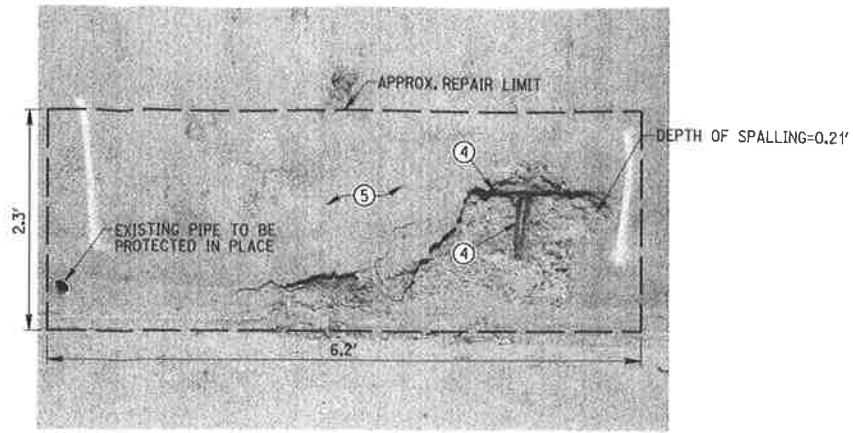
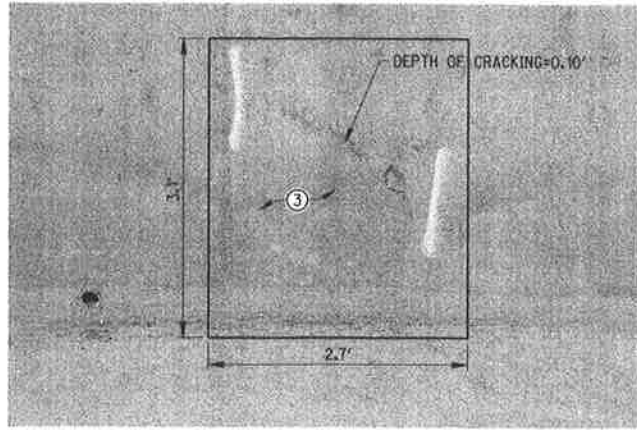
R-75 ; 173+55.0 to 173+64.4

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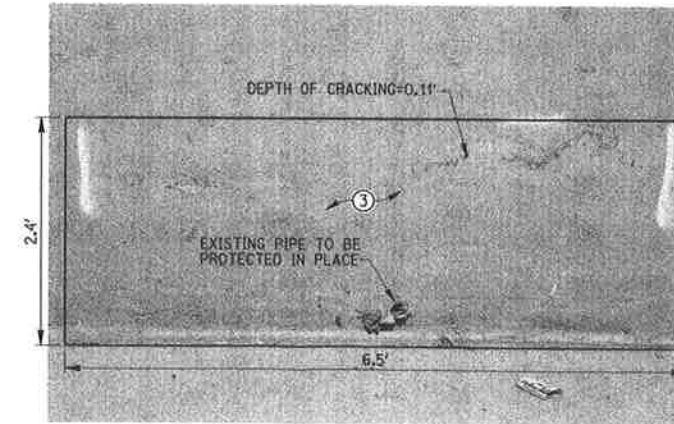
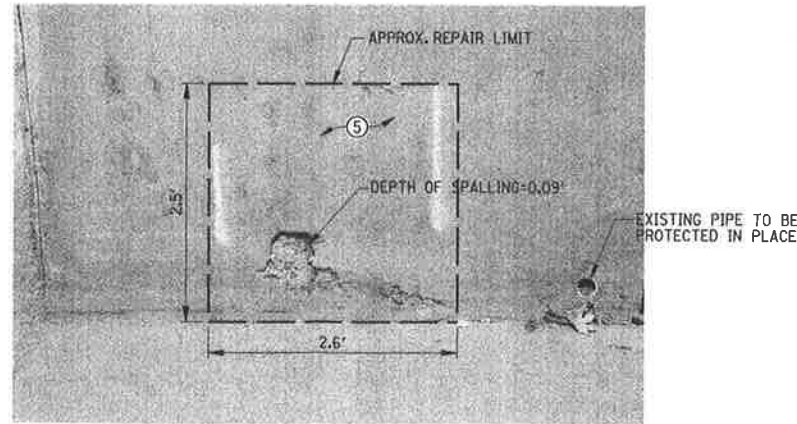
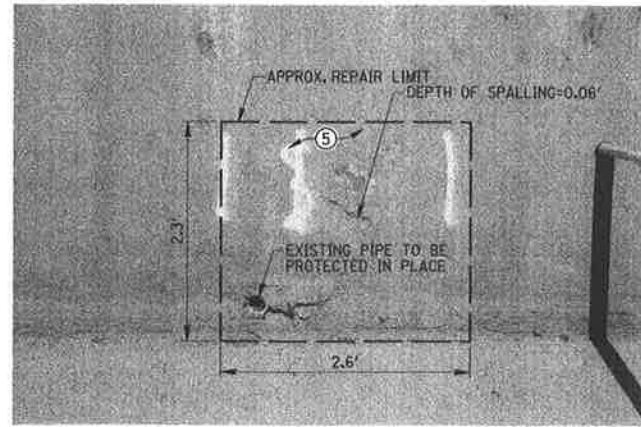


 DIG ALERT CALL BEFORE YOU DIG! 1-800-227-2600 UNDERGROUND SERVICE ALERT Call at least 2 working days prior to excavating.	SEAL: ROBERT A. STOCKTON CIVIL STATE OF CALIFORNIA	 RICK ENGINEERING COMPANY 1770 IOWA AVENUE - SUITE 100 RIVERSIDE, CA 92507 951.782.0707 (FAX) 951.782.0723 rickengineering.com San Diego - Chicago - San Luis Obispo - Bakersfield - Sacramento - Phoenix - Tucson PLANS PREPARED UNDER SUPERVISION OF ROBERT A. STOCKTON DATE <u>3/16/11</u> R.C.E. NO. <u>33591</u> EXPIRES <u>6-30-12</u>	BENCHMARK: 601-31-69 RESET 1975 ELEV: 688.098 NGVD29	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>APPR.</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DESCRIPTION	APPR.	DATE																																									RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT RECOMMENDED FOR APPROVAL BY: DATE: <u>22 MAR 2011</u>	APPROVED BY: DATE: <u>23-MAR-2011</u>	ARLINGTON CHANNEL REPAIRS PLANS DETAILS R-71B, R-72, R-73, R-74, AND R-75	PROJECT NO. 1-0-0020-00 DRAWING NO. 1-690 SHEET NO. 29 OF 35
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R-76 ; 174+06.0 to 174+23.5

R-77 ; 174+61.2 to 174+65.2



R-78 ; 174+79.2 to 174+90.4

R-79 ; 175+26.3 to 175+32.8

CONSTRUCTION NOTES

- 1 REPAIR VERTICAL CONCRETE SPALLING WITH SIKATOP 123 PLUS (OR APPROVED EQUAL) PER MANUFACTURER'S GUIDELINES AND SPECIFICATIONS FOR REPAIR AREAS LESS THAN OR EQUAL TO 4 SQ. FT.
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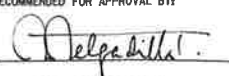
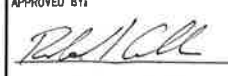
SEAL:


RICK ENGINEERING COMPANY
 1770 IOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0707 (FAX) 951.782.0723
 rickeng@earthlink.net
 PLANS PREPARED UNDER SUPERVISION OF

 ROBERT A. STOCKTON DATE: 3/16/11
 R.C.E. NO. 33591 EXPIRES 6-30-12

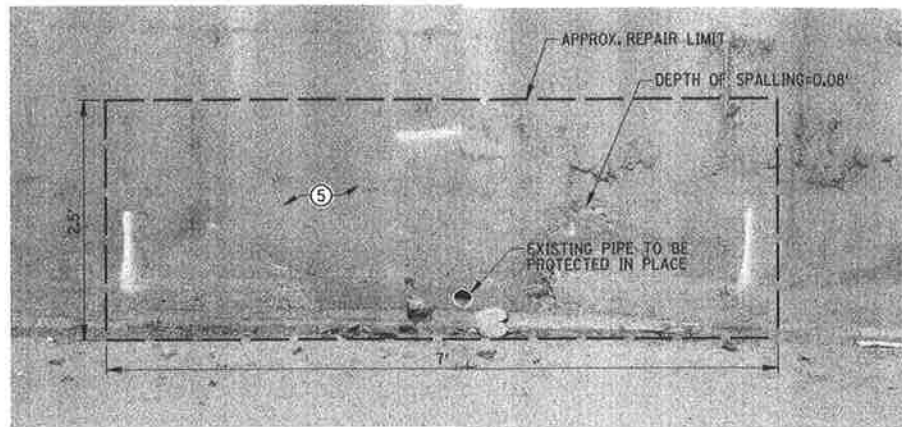
BENCHMARK:
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 ELEV: 688.098
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REF.	DESCRIPTION	APPR.	DATE

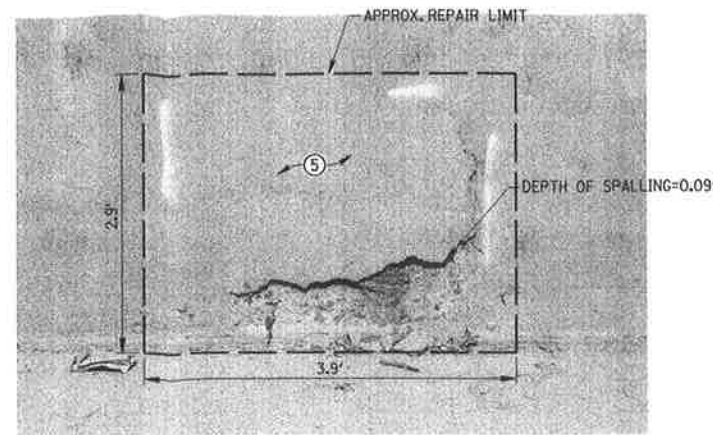
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

 DATE: 22 MAR 2011
 APPROVED BY:

 DATE: 28 MAR 2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-76, R-77, R-78, AND R-79

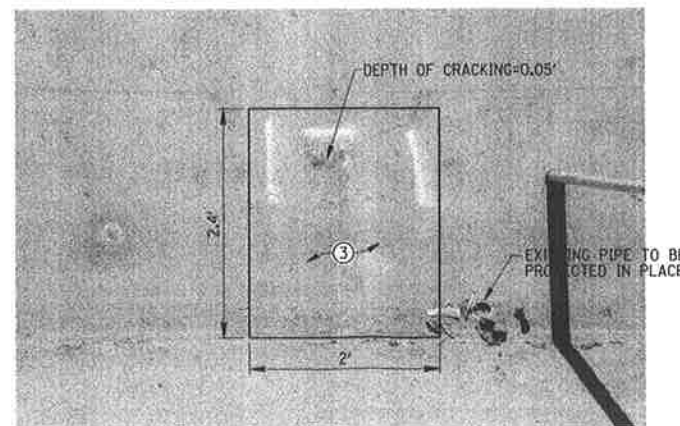
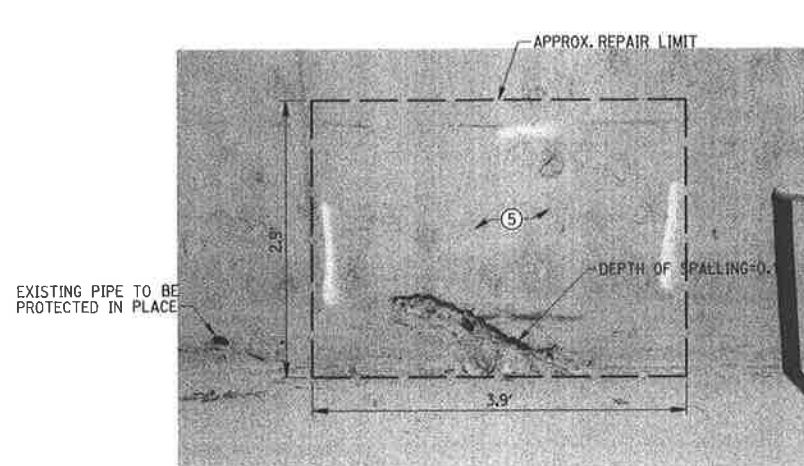
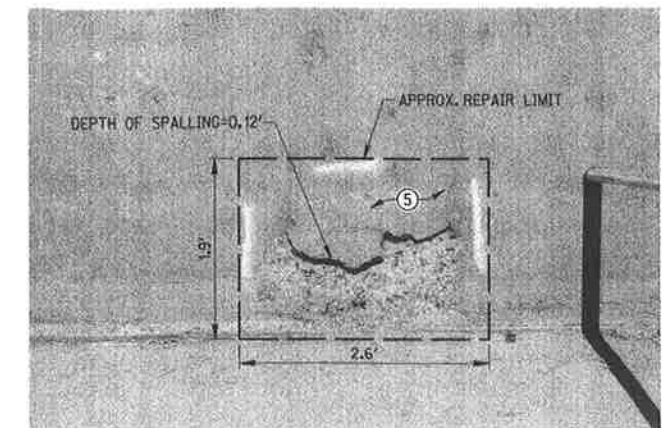
PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 30 OF 35



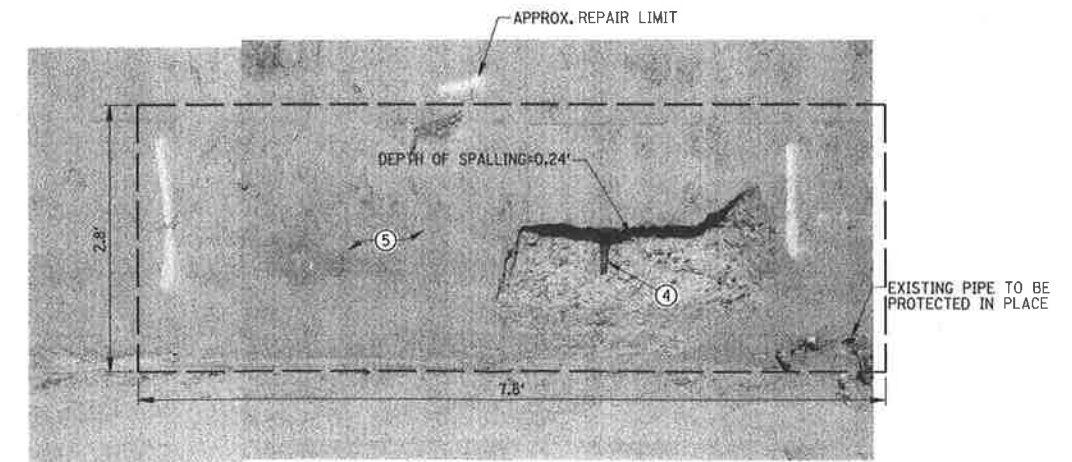
R-80 ; 175+88.3 to 175+95.3



R-81 ; 176+09.8 to 176+23.6



R-82A ; 177+06.1 to 177+30.0

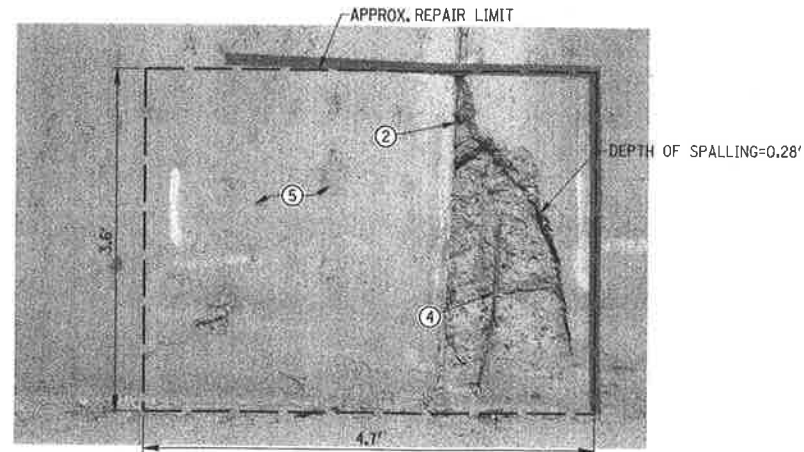


CONSTRUCTION NOTES

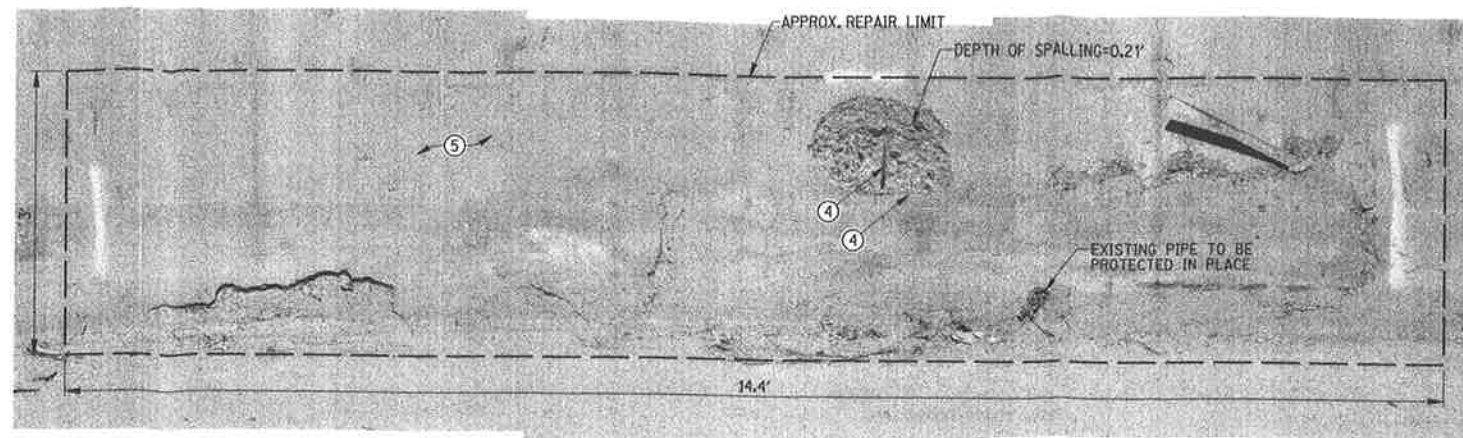
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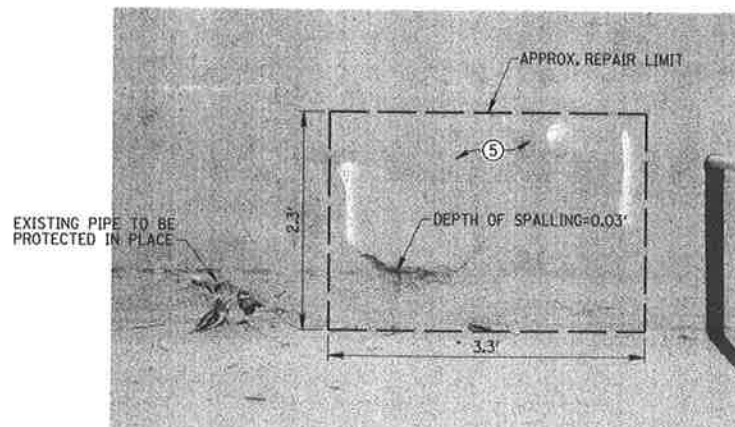
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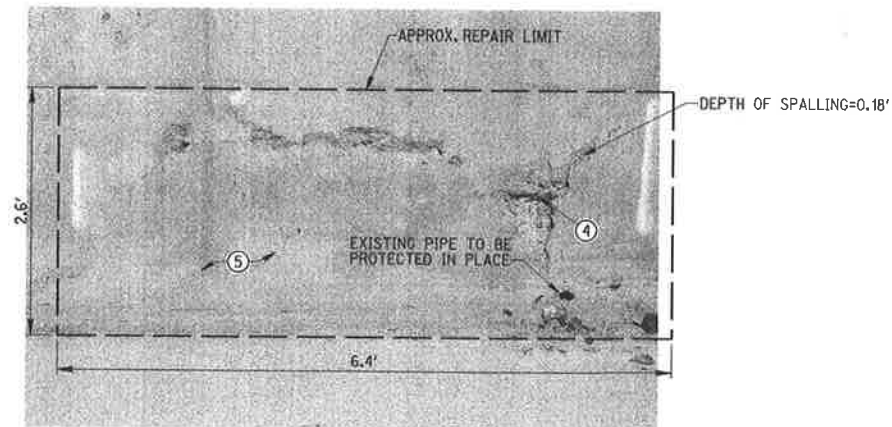
R-82B ; 177+33.1 to 177+37.8



R-83A ; 177+93.9 to 178+08.3



R-83B ; 178+18.7 to 178+31.0



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SEAL:
 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK ENGINEERING COMPANY
 1770 KOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.8707
 (FAX) 951.782.8723
 rickengineering.com
 San Diego • Orange • San Luis Obispo • Redwood City • Sacramento • Phoenix • Tucson
 PLANS PREPARED UNDER SUPERVISION OF
 ROBERT A. STOCKTON DATE 3/14/11
 R.C.E. No. 33591 EXPIRES 6-30-12

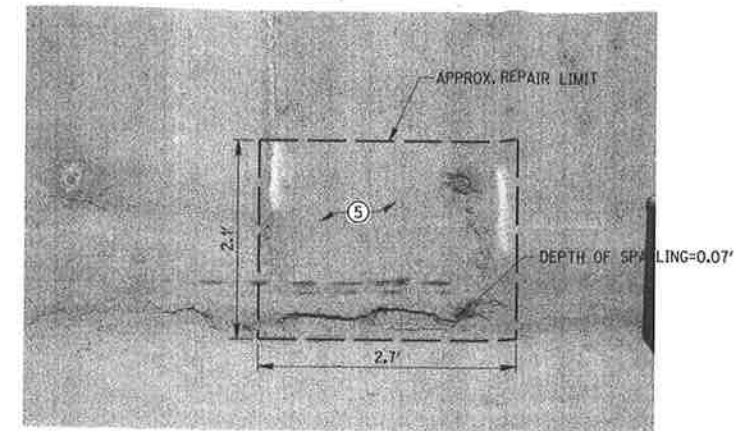
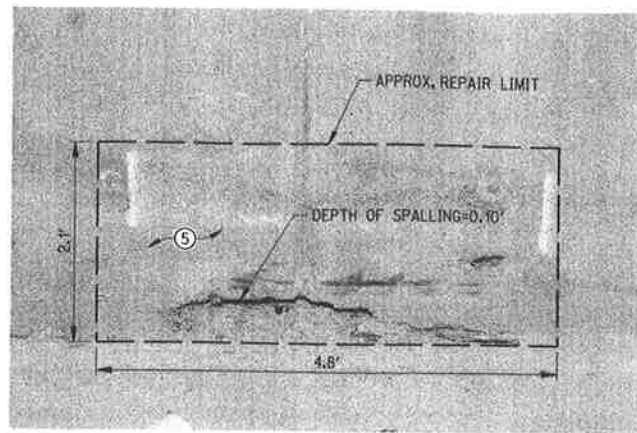
BENCHMARK:
 601-31-69 RESET 1975
 ELEV: 688.098
 NGVD29

REF.	DESCRIPTION	APPR. DATE

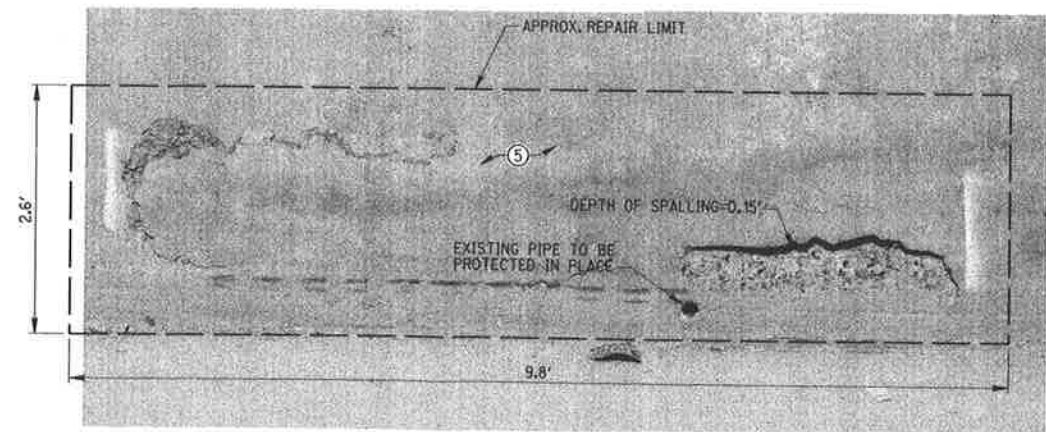
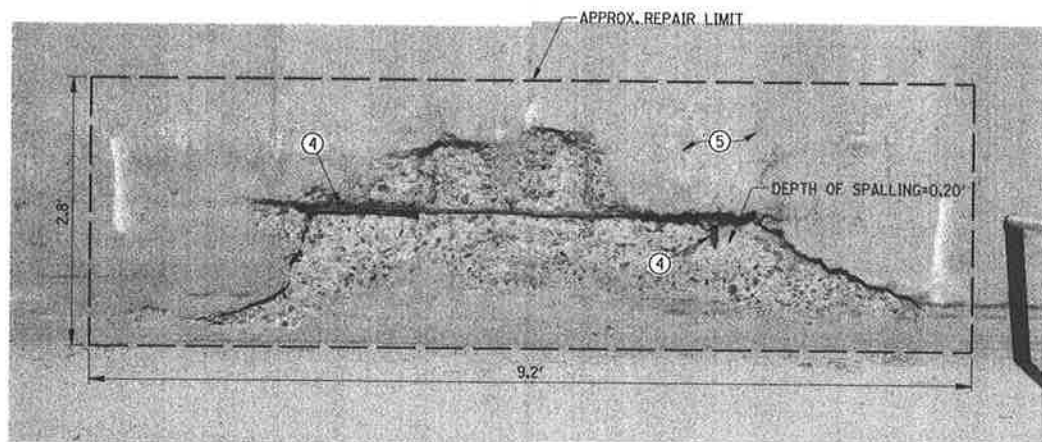
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY: [Signature]
 DATE: 22 MAR 2011
 APPROVED BY: [Signature]
 DATE: 22 MAR 2011

ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-82B, R-83A, AND R-83B

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 32 OF 35



R-84 ; 178+58.8 to 178+76.9



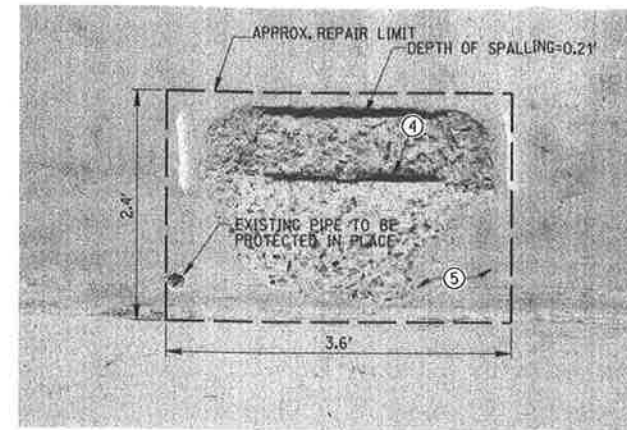
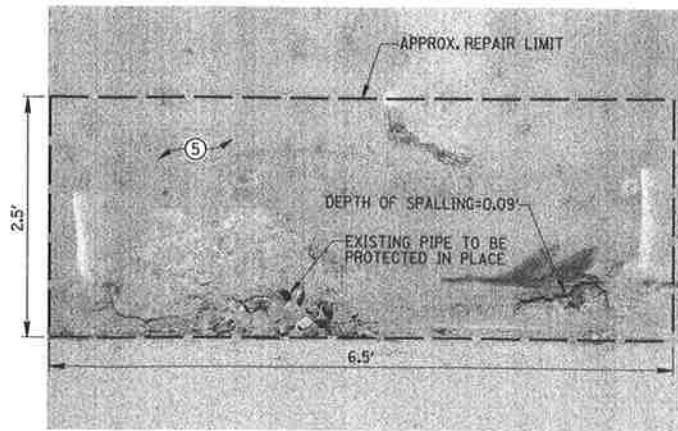
R-85A ; 179+03.9 to 179+32.6

INSTRUCTION NOTES

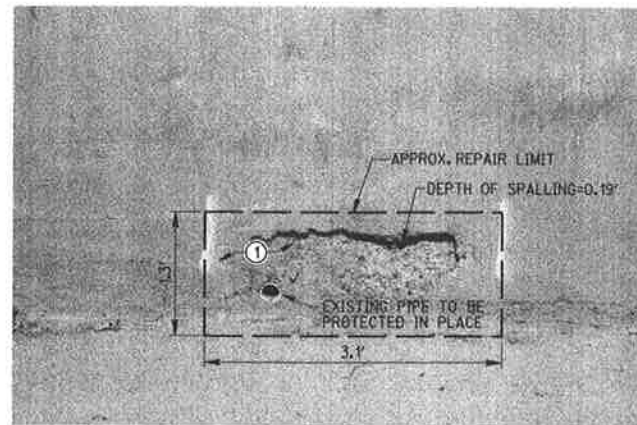
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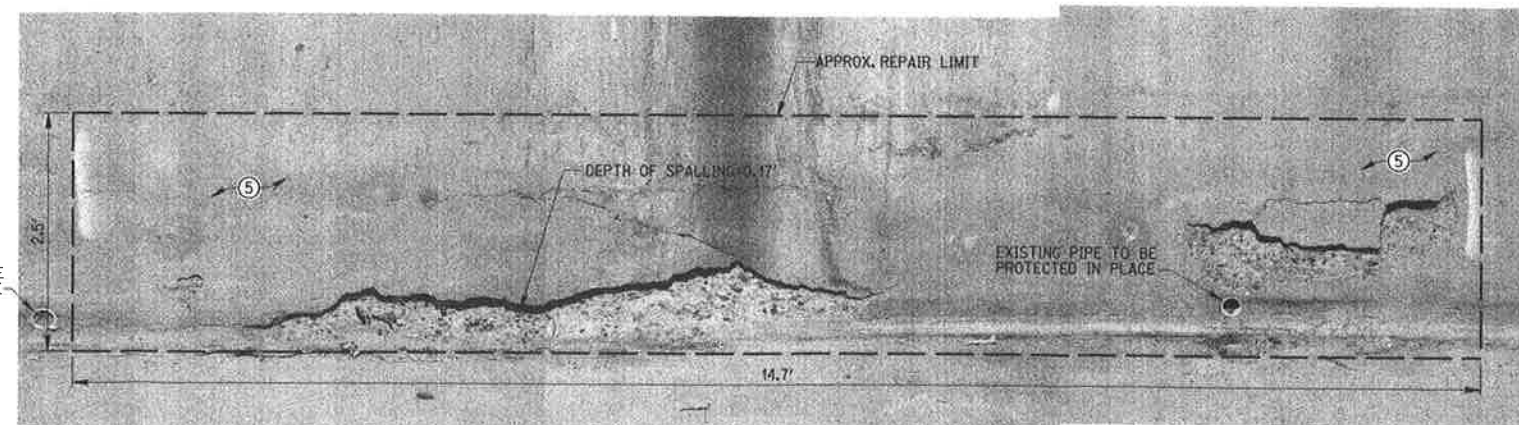
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<p>PLANS PREPARED UNDER SUPERVISION OF</p> <p>ROBERT A. STOCKTON R.C.E. NO. 33591 EXPIRES 6-30-12</p>	<p>RECOMMENDED FOR APPROVAL BY:</p> <p>DATE: 22 MAR 2011</p>	<p>APPROVED BY:</p> <p>DATE: 27 MAR 2011</p>																													



R-85B ; 179+39.6 to 179+58.1



R-86 ; 179+91.4 to 179+94.5



R-87 ; 180+17.2 to 180+31.9

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SEAL:

 REGISTERED PROFESSIONAL ENGINEER
 ROBERT A. STOCKTON
 No. C033591
 Exp. 6-30-12
 CIVIL
 STATE OF CALIFORNIA

RICK
 ENGINEERING COMPANY
 1770 IOWA AVENUE - SUITE 100
 RIVERSIDE, CA 92507
 951.782.0707
 (FAX) 951.782.0723
 rick@rickeng.com
 Plans Prepared Under Supervision of

 ROBERT A. STOCKTON DATE 3/16/11
 R.C.E. No. 33591 EXPIRES 6-30-12

BENCHMARK:
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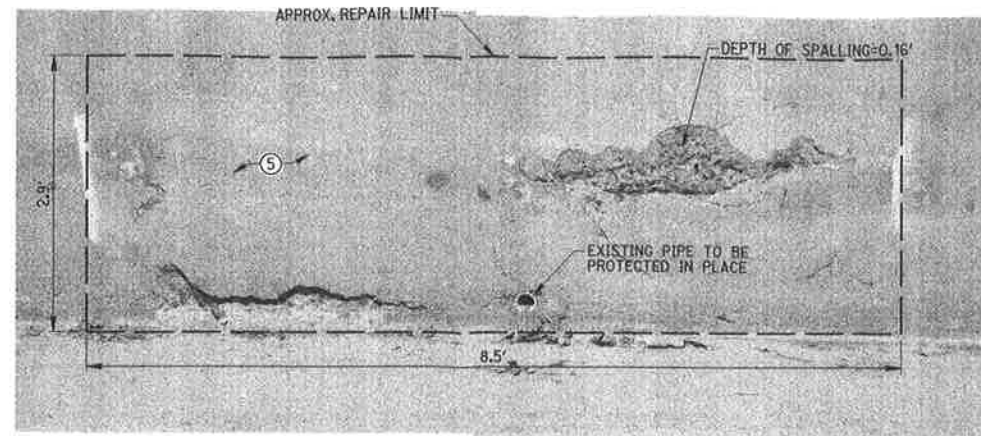
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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
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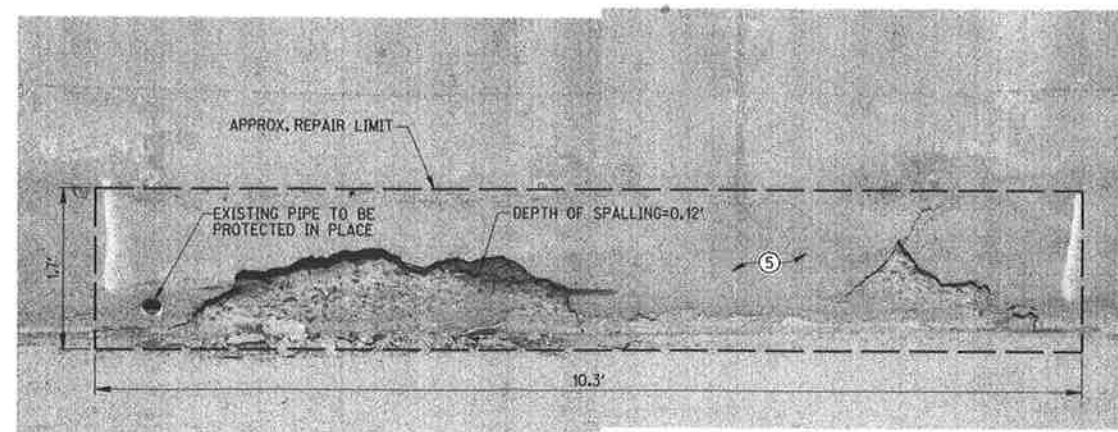
 DATE: 22 MAR 2011
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ARLINGTON CHANNEL REPAIRS PLANS
 DETAILS R-85B, R-86 AND R-87
 PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 34 OF 35
 PLOT DATE: 10-MAR-2011 JN 16118



R-88 ; 180+49.2 to 180+57.7



R-89 ; 180+66.9 to 180+77.2

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 PLANS PREPARED UNDER SUPERVISION OF

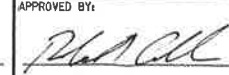
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BENCHMARK:
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RECOMMENDED FOR APPROVAL BY:

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APPROVED BY:

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ARLINGTON CHANNEL REPAIRS PLANS

DETAILS R-88 AND R-89

PROJECT NO. 1-0-0020-00
 DRAWING NO. 1-690
 SHEET NO. 35 OF 35