

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



ITEM: 11.6
(ID # 19876)

MEETING DATE:
Tuesday, September 13, 2022

FROM : FLOOD CONTROL DISTRICT:

SUBJECT: FLOOD CONTROL DISTRICT: Approve Addendum to Plans and Specifications and Contract Documents; Accept Low Bid and Award the Contract for the North Norco Channel Line NB, Stage 3, Project No. 2-0-00145-03, District 2. [\$2,522,161 Total Cost – District Funds 100%]

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve Addendum No. 1 to the Plans and Specifications and Contract Documents issued prior to the July 12, 2022 bid opening;
2. Waive any minor bid irregularities, and accept the low bid submitted by the firm of Wright Construction Engineering for \$2,448,700.00 for the construction of the above-referenced project;
3. Award the contract to Wright Construction Engineering and authorize the Chair of the Riverside County Flood Control and Water Conservation District's ("District") Board of Supervisors ("Board") to execute the Construction Agreement on behalf of the District; and
5. Direct the Clerk of the Board to return three (3) copies of the executed North Norco Channel Line NB, Stage 3 contract documents to the District.

ACTION:Policy


Jason Uhley, GENERAL MGR-CHF FLD CNTRL ENG

8/31/2022

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Spiegel, seconded by Supervisor Jeffries and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Jeffries, Spiegel, Washington, Perez and Hewitt
Nays: None
Absent: None
Date: September 13, 2022
xc: Flood

Kecia R. Harper
Clerk of the Board
By 
Deputy

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

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	\$2,522,161	\$0	\$2,522,161	\$0
NET COUNTY COST	\$0	\$0	\$0	\$0
SOURCE OF FUNDS: 25120 947420 548200 Zone 2 Infrastructure 25120 947420 523220 Zone 2 License & Permits			Budget Adjustment: No	
			For Fiscal Year: 22/23	

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

On June 7, 2022 [Agenda Item 11.2, MT 19044], the District's Board authorized the Clerk of the Board to advertise for construction contract bids for the North Norco Channel Line NB, Stage 3 project ("project").

The District opened bids for the project on July 12, 2022. The lowest responsible bid was received from Wright Construction Engineering ("Contractor") for the sum of \$2,448,700. Seven (7) contractors submitted a bid in response to this call for bids. The bid documents have been reviewed by County Counsel and District staff. Three irregularities were identified in the bid proposal. First, the correct amount of the bid bond was not provided on page 1 of the Contractor's Proposal Form. The bidder inserted the full bid amount instead of writing out ten percent of the bid amount. Second, there were mathematical errors on two bid line items that affected the sum total of the bid amount. Lastly, two digits in the license number for one of the subcontractors was transposed, however, it was determined that the bid is valid and binding, and the omission did not create an unfair advantage. The omission has since been rectified by the Contractor. The bid was otherwise found to be responsive, and District staff recommends that its Board waive any minor irregularities found in the Contractor's bid.

On July 18, 2022, a Notice of Intent to Award the contract to the Contractor was posted under Public Notices at www.rcflood.org. Pursuant to Article 3, Section 3.3 of the Instructions to Bidders, bidders are provided five (5) days to submit any protest of the intent to award. No protests were received by the deadline.

The Contractor has executed the construction contract and provided the bonds and insurance documents that meet the requirements of the contract.

The fiscal data listed includes the bid amount, plus the required Western Riverside County Multiple Species Habitat Conservation Plan mitigation payment (see Additional Fiscal Information section below).

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

This project will replace approximately 1,800 lineal feet of the existing interim earthen channel with a concrete lined trapezoidal and rectangular channel with varying base width and height, as well as two separate reaches of reinforced concrete box. The primary objective is to provide 100-year flood protection to the community near the channel between Valley View Avenue and Sierra Avenue by collecting flows from the existing improved portion of the Line NB system east of Valley View Avenue and safely conveying the flows westerly into the channel before discharging into the existing North Norco Channel just east of Interstate 15. The project also includes installation of a permeable paver lined invert at the downstream end of the project to promote infiltration of low flows. See attached project description and location map.

County Counsel has reviewed the construction contract with exhibits and approved as to form.

CEQA Compliance

On December 5, 2017 [Agenda Item 11.2, MT 4999], the District's Board adopted Resolution No. F2017-15, which found that construction and maintenance of the project will not have a significant adverse effect on the environment and authorized the District to proceed with the project. A Notice of Determination was filed pursuant to 15075 of the California Environmental Quality Act ("CEQA") guidelines, no court challenges were received during the 30-day statute of limitations and no changes have occurred to the project that would trigger additional analysis under CEQA. In accordance with CEQA, a Notice of Determination was prepared by the District and filed by the Clerk of the Board upon approval of the project. Therefore, nothing further is required to comply with CEQA.

Prev. Agn. Ref.: MT #19044, 11.2 of 06/07/2022 Advertise
MT #6018, 11.1 of 05/08/2018 Coop Agreement
MT #4994, 11.1 of 09/26/2017 Section 18 Compliance
MT #4999, 11.2 of 12/05/2017 CEQA Findings

Impact on Residents and Businesses

This project will construct drainage infrastructure to remedy ongoing flooding problems. This project is funded by ad valorem property tax revenue and entails no new fees, taxes or bonded indebtedness.

Additional Fiscal Information

Pursuant to the Implementing Agreement for the Western Riverside County Multiple Species Habitat Conservation Plan ("MSHCP") executed on June 22, 2004, the Financial Data listed is comprised of the Contractor's bid amount of \$2,448,700, plus up to \$73,461 (3% of bid) for MSHCP mitigation, for a total of \$2,522,161. The MSHCP Implementing Agreement requires the District to make a payment to the Western Riverside County Regional Conservation Authority for up to 3% of the total capital costs (bid amount described above) as required mitigation for the construction of flood control facilities. The actual mitigation payment that will be made by the District may be reduced based on acquisition of replacement habitat for the benefit of Covered Species, as defined in the Implementing Agreement and the MSHCP.

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

Contract History and Price Reasonableness

Pursuant to Public Contract Code 21091, invitation of sealed bids was solicited by advertising in print and digital media. Seven contractors submitted a bid in response to this call for bids, and this item would award a construction contract to the lowest responsible bidder.

ATTACHMENTS:

1. Bid Summary/Abstract
2. Project Location Map
3. Contract Documents (Sheets XXIV through XXXV) and Certificate of Liability Insurance - 3 copies

P8/245045

DHG:rlp



Jacqueline Ruiz, Sr. Management Analyst 9/7/2022

JASON E. UHLEY
General Manager-Chief Engineer



P8/244641
1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

**RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT**

July 6, 2022

**ADDENDUM NO. 1
TO**

**North Norco Channel Line NB, Stage 3
RIVERSIDE COUNTY, CALIFORNIA**

Bid Opening Date: Tuesday, July 12, 2022, at 2:00 p.m.

PROPOSAL

REPLACE PROPOSAL in its entirety (Pages XV, XVa, XVb, and XVc, to accommodate:

- Change in quantity of Item No. 15 Class "A" Concrete, Non-Shrink Grout;
- The addition of a signature line on the bottom of Page XVc for acknowledgment of this Addendum.

DETAILED SPECIFICATIONS

REPLACE first paragraph of Section 32.3 Articulating Concrete Block (ACB) to read:

32.3 Articulating Concrete Block (ACB) - The contract item ACB is inclusive of all labor, materials, equipment, and incidentals required for, and all operations in connection with, the installation of the Articulating Concrete Block (ACB) system, **ArmorFlex Class 70-L or approved equivalent**, in accordance with the lines, grades, design and dimensions shown on the project drawings and as specified herein, but exclusive of grout required for mat installation. Grout will be covered under Section 16.17 - Non-Shrink Grout of these Detailed Specifications and paid for under Contract Item 15 - Class "A" Concrete, Non-Shrink Grout.

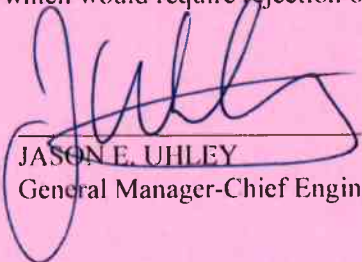
DRAWINGS

REPLACE Sheet No. 15 of Drawing No. 2-0471 in its entirety.

RESPONSE TO QUESTIONS

Attached to this Addendum is Response to Questions.

NOTE: Bidders are required to acknowledge receipt of all addenda at the bottom of **Page XVc** 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.



JASON E. UHLEY
General Manager-Chief Engineer

Attachment

RESPONSE TO QUESTIONS

North Norco Channel Line NB, Stage 3

This document has been prepared to clarify elements of the Contract Documents for the above-referenced project for which the Riverside County Flood Control and Water Conservation District has received questions.

Question 1	Is the bid opening going to be postponed?
Answer	<i>The District still plans to hold the bid opening on Tuesday, July 12, 2021, at 2:00 p.m.</i>
Question 2	Could you please confirm whether this project is subject to a PLA (Project Labor Agreement), a PSA (Project Stabilization Agreement), a CBA (Collective Bargaining Agreement), a CWA (Community Workforce Agreement), or anything of that nature?
Answer	<i>The Contractor is directed to the General Provisions Section 5.01 Laws to be Observed.</i>
Question 3	Per Detail 5 on Sheet No. 15 of the plans, the upper 8" of subgrade to be scarified and recompacted will be placed on top of the Filter Fabric. On Page 63 of the Specifications, it states that the soil directly under the Filter Fabric is to be scarified and recompacted. Please clarify if the Filter Fabric is to be placed at subgrade or under the upper 8" of the subgrade.
Answer	<i>Filter Fabric is to be placed on top of the scarified and recompacted subgrade. Please refer to the Addendum dated July 6, 2022.</i>
Question 4	Regarding Section 12.4 of the Detailed Specifications, will the Contractor be required to submit signed Traffic Control plans for any encroachment permits for the project?
Answer	<i>The Contractor shall provide all documents required to obtain the encroachment permit from the City. Please refer to Section 6.6 Encroachment Permits and Section 12.4 Traffic Control and Construction Signs of the Special Provisions.</i> <i>Signed Traffic Handling Plans are included as Sheet Nos. T1 to T3 in the project drawings for your reference.</i>
Question 5	On the Valley View Ave. detour plan, Sheet T1 of T3, for the southbound traffic on Valley View there is a call out for a flagger. This detour is for the 24/7 closure of Valley View. Is the Contractor required to provide a flagger 24/7 during the duration of the closure?
Answer	<i>Per Note 4 on Sheet Nos. TC1 – TC3 of the project drawings and Appendix F, City of Norco Technical Provisions Section 2-01.07 Secured Trenches, all trenches shall be backfilled and roads are to be reopened to traffic at the close of each working day. Twenty-four-hour road closures are <u>not</u> allowed.</i> <i>Flagger shall be available as needed to ensure public safety as directed by the Engineer.</i>
Question 6	Please clarify if select material is to be used to replace the existing soil in the over-excavation areas shown on the plans?
Answer	<i>Native soil that meets all requirements of Section 14.7 of the Detailed Specifications shall be re-compacted to replace the over-excavated material.</i>
Question 7	Section 21.8 of the Detailed Specifications states that Bid Item 42 – Block Wall includes the concrete. Detail 16 on Sheet 18 calls for the footing of the block wall to be Class "B" Concrete. Please clarify if the block wall concrete is to be part of Bid Item 42 or Bid Item 18 – Class "B" Concrete, Miscellaneous.

<i>Answer</i>	<i>Per Section 21.8 of the Detailed Specifications, Contract Item 42 – Block Wall shall cover the complete construction of the block wall, inclusive of all concrete and CLSM. This requirement is to be interpreted as inclusive of the footing of the wall.</i>
Question 8	Per the typical detail for the ArmorFlex mat to mat connection, the void is to be filled with 4,000 PSI concrete, grout, or other specified by the Engineer. Please clarify which material is to be used and if this material is incidental to the ACB installation to be paid in Bid Item 53 or will it be paid in another item?
<i>Answer</i>	<i>The Contractor shall fill the Articulated Concrete Block (ACB) mat to mat connection with Non-Shrink Grout. Non-Shrink Grout shall be in conformance to Section 16.17 of the Detailed Specifications and be paid for under Contract Item 15 – Class "A" Concrete, Non-Shrink Grout.</i> <i>Please refer to the Addendum dated July 6, 2022, for the modified quantity to Contract Item 15.</i>
Question 9	What are the sizes of the existing Reinforced Concrete Boxes being removed?
<i>Answer</i>	<i>The existing Reinforced Concrete Boxes measure approximately 8' W x 6' H at Sierra Ave. and 7' W x 6' H at Valley View Ave.</i>
Question 10	Insurance requirements state a Pollution & Professional Liability policy with \$2MM Per Occurrence and \$4MM Aggregate is required. If we maintain a policy with \$2MM per Occurrence and \$2MM Aggregate, will our limits be accepted?
<i>Answer</i>	<i>Per Section 8.02 of the General Provisions, Pollution and Asbestos Liability and Professional Liability shall be \$2,000,000 per occurrence and \$4,000,000 annual aggregate.</i>
Question 11	Are subcontractors required to be prequalified with the District in order to bid?
<i>Answer</i>	<i>Subcontractors are not required to be prequalified by the District.</i>



SPECIFICATIONS and CONTRACT DOCUMENTS
for the CONSTRUCTION of
NORTH NORCO CHANNEL LINE NB,
STAGE 3

PROJECT NO. 2-0-00145

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

Recommended By:


Design Engineer

May 12, 2022
Date



Approved By:


General Manager - Chief Engineer

May 12, 2022
Date



JASON E. UHLEY
General Manager-Chief Engineer



P8/244641
1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

July 6, 2022

ADDENDUM NO. 1
TO

North Norco Channel Line NB, Stage 3
RIVERSIDE COUNTY, CALIFORNIA

Bid Opening Date: Tuesday, July 12, 2022, at 2:00 p.m.

PROPOSAL

REPLACE PROPOSAL in its entirety (Pages XV, XVa, XVb, and XVc, to accommodate:

- Change in quantity of Item No. 15 Class "A" Concrete, Non-Shrink Grout;
- The addition of a signature line on the bottom of Page XVc for acknowledgment of this Addendum.

DETAILED SPECIFICATIONS

REPLACE first paragraph of Section 32.3 Articulating Concrete Block (ACB) to read:

32.3 Articulating Concrete Block (ACB) - The contract item ACB is inclusive of all labor, materials, equipment, and incidentals required for, and all operations in connection with, the installation of the Articulating Concrete Block (ACB) system, **ArmorFlex Class 70-L or approved equivalent**, in accordance with the lines, grades, design and dimensions shown on the project drawings and as specified herein, but exclusive of grout required for mat installation. Grout will be covered under Section 16.17 - Non-Shrink Grout of these Detailed Specifications and paid for under Contract Item 15 - Class "A" Concrete, Non-Shrink Grout.

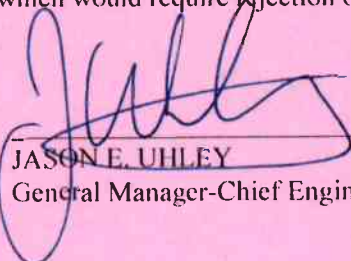
DRAWINGS

REPLACE Sheet No. 15 of Drawing No. 2-0471 in its entirety.

RESPONSE TO QUESTIONS

Attached to this Addendum is Response to Questions.

NOTE: Bidders are required to acknowledge receipt of all addenda at the bottom of **Page XVc** 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.



JASON E. UHLEY
General Manager-Chief Engineer

RESPONSE TO QUESTIONS

North Norco Channel Line NB, Stage 3

This document has been prepared to clarify elements of the Contract Documents for the above-referenced project for which the Riverside County Flood Control and Water Conservation District has received questions.

Question 1	Is the bid opening going to be postponed?
<i>Answer</i>	<i>The District still plans to hold the bid opening on Tuesday, July 12, 2021, at 2:00 p.m.</i>
Question 2	Could you please confirm whether this project is subject to a PLA (Project Labor Agreement), a PSA (Project Stabilization Agreement), a CBA (Collective Bargaining Agreement), a CWA (Community Workforce Agreement), or anything of that nature?
<i>Answer</i>	<i>The Contractor is directed to the General Provisions Section 5.01 Laws to be Observed.</i>
Question 3	Per Detail 5 on Sheet No. 15 of the plans, the upper 8" of subgrade to be scarified and recompacted will be placed on top of the Filter Fabric. On Page 63 of the Specifications, it states that the soil directly under the Filter Fabric is to be scarified and recompacted. Please clarify if the Filter Fabric is to be placed at subgrade or under the upper 8" of the subgrade.
<i>Answer</i>	<i>Filter Fabric is to be placed on top of the scarified and recompacted subgrade. Please refer to the Addendum dated July 6, 2022.</i>
Question 4	Regarding Section 12.4 of the Detailed Specifications, will the Contractor be required to submit signed Traffic Control plans for any encroachment permits for the project?
<i>Answer</i>	<i>The Contractor shall provide all documents required to obtain the encroachment permit from the City. Please refer to Section 6.6 Encroachment Permits and Section 12.4 Traffic Control and Construction Signs of the Special Provisions.</i> <i>Signed Traffic Handling Plans are included as Sheet Nos. T1 to T3 in the project drawings for your reference.</i>
Question 5	On the Valley View Ave. detour plan, Sheet T1 of T3, for the southbound traffic on Valley View there is a call out for a flagger. This detour is for the 24/7 closure of Valley View. Is the Contractor required to provide a flagger 24/7 during the duration of the closure?
<i>Answer</i>	<i>Per Note 4 on Sheet Nos. TC1 – TC3 of the project drawings and Appendix F, City of Norco Technical Provisions Section 2-01.07 Secured Trenches, all trenches shall be backfilled and roads are to be reopened to traffic at the close of each working day. Twenty-four-hour road closures are <u>not</u> allowed.</i> <i>Flagger shall be available as needed to ensure public safety as directed by the Engineer.</i>
Question 6	Please clarify if select material is to be used to replace the existing soil in the over-excavation areas shown on the plans?
<i>Answer</i>	<i>Native soil that meets all requirements of Section 14.7 of the Detailed Specifications shall be re-compacted to replace the over-excavated material.</i>
Question 7	Section 21.8 of the Detailed Specifications states that Bid Item 42 – Block Wall includes the concrete. Detail 16 on Sheet 18 calls for the footing of the block wall to be Class "B" Concrete. Please clarify if the block wall concrete is to be part of Bid Item 42 or Bid Item 18 – Class "B" Concrete, Miscellaneous.

<i>Answer</i>	<i>Per Section 21.8 of the Detailed Specifications, Contract Item 42 – Block Wall shall cover the complete construction of the block wall, inclusive of all concrete and CLSM. This requirement is to be interpreted as inclusive of the footing of the wall.</i>
Question 8	Per the typical detail for the ArmorFlex mat to mat connection, the void is to be filled with 4,000 PSI concrete, grout, or other specified by the Engineer. Please clarify which material is to be used and if this material is incidental to the ACB installation to be paid in Bid Item 53 or will it be paid in another item?
<i>Answer</i>	<i>The Contractor shall fill the Articulated Concrete Block (ACB) mat to mat connection with Non-Shrink Grout. Non-Shrink Grout shall be in conformance to Section 16.17 of the Detailed Specifications and be paid for under Contract Item 15 – Class "A" Concrete, Non-Shrink Grout.</i> <i>Please refer to the Addendum dated July 6, 2022, for the modified quantity to Contract Item 15.</i>
Question 9	What are the sizes of the existing Reinforced Concrete Boxes being removed?
<i>Answer</i>	<i>The existing Reinforced Concrete Boxes measure approximately 8' W x 6' H at Sierra Ave. and 7' W x 6' H at Valley View Ave.</i>
Question 10	Insurance requirements state a Pollution & Professional Liability policy with \$2MM Per Occurrence and \$4MM Aggregate is required. If we maintain a policy with \$2MM per Occurrence and \$2MM Aggregate, will our limits be accepted?
<i>Answer</i>	<i>Per Section 8.02 of the General Provisions, Pollution and Asbestos Liability and Professional Liability shall be \$2,000,000 per occurrence and \$4,000,000 annual aggregate.</i>
Question 11	Are subcontractors required to be prequalified with the District in order to bid?
<i>Answer</i>	<i>Subcontractors are not required to be prequalified by the District.</i>

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
Notice Inviting Bids to Contractors	II-III
Instructions to Bidders	IV-XIII
Bid Proposal	
Contractor's Proposal	XIV-XV
List of Subcontractors	XVI
Experience Statement	XVII
Statement of Licensure	XVIII
Non-Collusion Declaration	XIX
Iran Contracting Act Certification	XX
Compliance with Economic Sanctions Certification	XXI
Bid Bond	XXII-XXIII
Construction Agreement, Bonds and Other Forms	
Construction Agreement	XXIV-XXV
Exhibit A	XXVI
Performance Bond	XXVII-XXIX
Payment Bond	XXX-XXXI
Workers' Compensation Contractor Certificate	XXXII
Declaration of Sufficiency of Funds	XXXIII-XXXV

GENERAL PROVISIONS

Section I - Definition of Terms	1
1.01 Terms	
1.02 Similarity of Words	
Section II - Scope of Work	2
2.01 Work to be Done	
2.02 Construction Schedule	
2.03 Drawings and Specifications on the Work	
2.04 Estimate of Quantities	
2.05 Protests	
2.06 Alterations	
2.07 Extra Work	
2.08 Payment for Extra Work	
2.09 Rights of Way	
2.10 Cleaning Up	
Section III - Control of the Work	6
3.01 Authority of the Engineer	
3.02 Detail Drawings	
3.03 Conformity with Plans and Allowable Deviations	
3.04 Interpretation of Plans and Specifications	
3.05 Superintendence	
3.06 Lines and Grades	

TABLE OF CONTENTS contd.

GENERAL PROVISIONS contd.

	<u>Page</u>
3.07 Inspection of Work	
3.08 Removal of Defective and Unauthorized Work	
3.09 Equipment and Plant	
3.10 Final Inspection	
Section IV - Control of Material	9
4.01 District Furnished Materials	
4.02 Source of Supply and Quality of Materials	
4.03 Samples and Tests	
4.04 Digging Trenches or Other Excavations	
4.05 Storage of Materials	
4.06 Defective Materials	
4.07 Assignment of Claims	
Section V - Legal Relations and Responsibility	11
5.01 Laws to be Observed	
5.02 Contractor's Responsibility	
5.03 Contractor's Responsibility for Work	
5.04 Property Rights in Materials	
5.05 Permits and Licenses	
5.06 Royalties and Patents	
5.07 Sanitary Provisions	
5.08 Public Safety	
5.09 Use of Explosives	
5.10 Provisions for Emergencies	
5.11 Unforeseen Difficulties	
5.12 Access to the Work	
5.13 Guarantee of Work	
5.14 Damages by Act of God	
Section VI - Prosecution and Progress	18
6.01 Progress of the Work	
6.02 Overtime Work and Work at Night	
6.03 Subcontracting	
6.04 Character of Workmen	
6.05 Temporary Suspension of the Work	
6.06 Time of Completion and Damages	
6.07 Delays and Extension of Time	
6.08 Assignment	
6.09 Termination of Contract	

TABLE OF CONTENTS contd.

GENERAL PROVISIONS contd.

	<u>Page</u>
Section VII - Payment	22
7.01 Scope of Payments	
7.02 Payment and Compensation for Altered Quantities	
7.03 Force Account Payment	
7.04 Acceptance	
7.05 Deductions from Payments	
7.06 Partial Payments	
7.07 Delayed Payments	
7.08 Final Payment	
7.09 Claims Resolution - Claims up to \$375,000	
7.10 Claims Resolution - All Claims (Public Contract Code Section 9204)	
 Section VIII - General	 34
8.01 Cooperation between Contractors	
8.02 Insurance - Indemnification/Hold Harmless/Defend	
8.03 Public Utilities	
8.04 Protection of Existing Street Facilities	
8.05 Diversion and Control of Water	
8.06 Dust Abatement	
8.07 Project Signs	
8.08 Examination of Plans, Specifications, Contract, and Site of Work	
 Section IX - Watering	 40
9.01 Description	
 Section X - Public Convenience, Traffic Control and Detours	 41
10.01 General	
10.02 Signs	
10.03 Materials Storage	

SPECIAL PROVISIONS

Section 1 - General	43
1.1 Drawings and Specifications	
1.2 Submittals to District	
 Section 2 - Time of Completion, Damages and Legal Holidays	 43
2.1 Submittal Timeline	
2.2 Notice to Proceed	
2.3 Time of Completion	
2.4 Damages	
2.5 Legal Holidays	

TABLE OF CONTENTS contd.

SPECIAL PROVISIONS contd.

	<u>Page</u>
Section 3 - Force Account Payment	45
3.1 Labor Surcharge	
3.2 Equipment Rental	
Section 4 - Protection of Existing Utilities	45
4.1 General	
Section 5 - Project Site Maintenance	46
Section 6 - Special Requirements	46
6.1 National Pollutant Discharge Elimination System (NPDES)	
6.2 Sanitation	
6.3 Confined Space Compliance	
6.4 Working Hours	
6.5 Noise	
6.6 Encroachment Permits	
6.7 City of Norco Business License	
6.8 Toxic Material Disposal	
6.9 Survey Crew	
6.10 Survey Monuments	
6.11 Job Trailer Site	
6.12 Construction Tolerances	
6.13 Surplus Excavated Material	
6.14 Sewer Line Inspection	
6.15 Storm Drain Video Inspection	
6.16 Pipe Order Notification	
6.17 Precast Reinforced Concrete Box (PRCB) Order Notification	
6.18 Permanent and Temporary Construction Easement (TCE) Usage	
6.19 Project Signs	
6.20 Liability Insurance	
6.21 California Department of Fish and Wildlife (CDFW) Compliance	
6.22 USACE 404 Permit Compliance	
6.23 Waste Discharge Requirement	
6.24 Coordination with Paleontological/Archaeological/Historical Monitoring	
6.25 Accidental Discovery	
6.26 Nesting Bird Pre-Construction Survey	

TABLE OF CONTENTS contd.

SPECIAL PROVISIONS contd.

	<u>Page</u>
Section 7 - Soils Report	54
Section 8 - Not Used	54
Section 9 - Payment	54

DETAILED SPECIFICATIONS

Section 10 - Mobilization	55
10.1 Description	
10.2 Payment	
Section 11 - Water Control	55
11.1 Description	
11.2 Water Control	
11.3 Measurement and Payment	
Section 12 - Traffic Control	56
12.1 Description	
12.2 Notification of Agencies	
12.3 Public Convenience and Access	
12.4 Traffic Control and Construction Signs	
12.5 Flaggers	
12.6 Striping and Pavement Marking	
12.7 Payment	
Section 13 - Clearing and Miscellaneous Work	58
13.1 Description	
13.2 Clearing and Miscellaneous Work	
13.3 Payment	
Section 14 - Earthwork	60
14.1 Description	
14.2 General Excavation Requirements	
14.3 Vehicle Restrictions	
14.4 Excavation	
14.5 Channel Excavation	
14.6 Structure Excavation	

TABLE OF CONTENTS contd.

DETAILED SPECIFICATIONS contd.

	<u>Page</u>	
14.7	General Backfill Requirements	
14.8	Testing	
14.9	Backfill	
14.10	Controlled Low Strength Material (CLSM)	
14.11	Measurement	
14.12	Payment	
Section 15 -	Trench Safety System and Falsework	66
15.1	Description	
15.2	Trench Safety System	
15.3	Falsework	
15.4	Measurement and Payment	
Section 16 -	Concrete Construction	67
16.1	Description	
16.2	General Requirements	
16.3	Materials and Methods	
16.4	General Reinforcing Steel Requirements	
16.5	Consistency	
16.6	Placing	
16.7	Form Removal and Finish	
16.8	Curing	
16.9	Controlled Low Strength Material (CLSM) Curing	
16.10	Joints	
16.11	Weepholes	
16.12	Use of the Channel Invert	
16.13	Class "A" Concrete, Trapezoidal Channel Paving	
16.14	Class "A" Concrete, Channel Invert	
16.15	Class "A" Concrete, Channel Wall	
16.16	Class "A" Concrete, Minor Structures	
16.17	Class "A" Concrete, Non-Shrink Grout	
16.18	Class "B" Concrete, 2' Cutoff Wall	
16.19	Class "B" Concrete, 3.5' Cutoff Wall	
16.20	Class "B" Concrete, Miscellaneous	
16.21	Transition Structure No. 3	
16.22	Junction Structure No. 1	
16.23	Manhole No. 4	
16.24	Measurement	
16.25	Payment	

TABLE OF CONTENTS contd.

DETAILED SPECIFICATIONS contd.

	<u>Page</u>
Section 17 - Concrete Pipe	76
17.1 Description	
17.2 General Pipe Requirement	
17.3 Reinforced Concrete Pipe	
17.4 Pipe on Curves	
17.5 Measurement	
17.6 Payment	
Section 18 - Air-Placed Concrete	77
18.1 Air-Placed Concrete	
18.2 Measurement and Payment	
Section 19 - Flexible Pavement Construction	79
19.1 Description	
19.2 Aggregate Base, Class 2	
19.3 General Hot Mix Asphalt (HMA) Requirements	
19.4 Hot Mix Asphalt (HMA) Aggregate	
19.5 Asphalt Binder	
19.6 Hot Mix Asphalt (HMA) Paint Binder/Tack Coat	
19.7 Hot Mix Asphalt (HMA) Placement	
19.8 Hot Mix Asphalt (HMA)	
19.9 Asphalt Concrete Grinding	
19.10 Temporary Resurfacing	
19.11 Measurement	
19.12 Payment	
Section 20 - Fences and Gates	86
20.1 Description	
20.2 Safety Bollard	
20.3 Metal Post Delineator	
20.4 6-Foot Chain Link Fence	
20.5 Temporary Fencing	
20.6 Cable Railing	
20.7 14-Foot Double Drive Gates	
20.8 Measurement	
20.9 Payment	
Section 21 - Miscellaneous	88
21.1 Description	
21.2 Miscellaneous Iron and Steel	
21.3 Subdrain	
21.4 Remodel 4-Inch Vitrified Clay Pipe (VCP) House Connection	
21.5 Relocate Waterline Service Connection	
21.6 Remove Existing RCB and Structures	

TABLE OF CONTENTS contd.

DETAILED SPECIFICATIONS contd.

	<u>Page</u>
21.7 Full Trash Capture Device (FTCD)	
21.8 Block Wall	
21.9 Adjust Manhole to Grade	
21.10 Extra Directed Work	
21.11 Measurement	
21.12 Payment	
Section 22 through 25 NOT USED	92
Section 26 - Stonework	92
26.1 Description	
26.2 General	
26.3 Filter Material	
26.4 ASTM #2 Stone	
26.5 Measurement	
26.6 Payment	
Section 27 - Dust Abatement	93
27.1 Description	
27.2 Dust Abatement	
27.3 Payment	
Section 28 - NOT USED	94
Section 29 - Stormwater and Non-Stormwater Pollution Control	94
29.1 Description	
29.2 General Requirements	
29.3 Permit Registration Documents (PRDs) Preparation and Approval	
29.4 Permit Registration Documents (PRDs) and Rain Event Action Plan (REAP) Amendments	
29.5 Non-Compliance Reporting	
29.6 Stormwater Pollution Prevention Plan (SWPPP) Implementation	
29.7 Non-Stormwater Discharge or Dewatering	
29.8 Reports	
29.9 Payment	
Section 30 - Utilities	106
30.1 Description	
30.2 Relocate 12-Inch Waterline	
30.3 Measurement and Payment	



TABLE OF CONTENTS contd.

DETAILED SPECIFICATIONS contd.

	<u>Page</u>
Section 31 - Precast Reinforced Concrete Box	107
31.1 Description	
31.2 General Requirements	
31.3 Materials	
31.4 Fabrication	
31.5 Precast Reinforced Concrete Box (PRCB) Shop Drawings, Calculations, and Layout Diagrams	
31.6 Basis of Acceptance	
31.7 Contractor Supplied Third-Party Inspection of PRCB Plant	
31.8 Installation of PRCB	
31.9 Precast Reinforced Concrete Box (PRCB)	
31.10 Measurement	
31.11 Payment	
Section 32 - Articulating Concrete Block (ACB)	110
32.1 Description	
32.2 General Articulating Concrete Block (ACB) Requirements	
32.3 Articulating Concrete Block (ACB)	
32.4 Subgrade Preparation	
32.5 Filter Fabric	
32.6 Biaxial Geogrid	
32.7 Measurement	
32.8 Payment	
Appendix "A" - South Coast Air Quality Management District Rule 403	116
Appendix "B" - Project Signs	117
Appendix "C" - Log of Soil Borings Geotechnical Report	118
Appendix "D" - State of California Department of Fish and Wildlife Notification of Lake or Streambed Alteration Permit	119
Appendix "E" - Waste Discharge Requirements Permit	120
Appendix "F" - City of Norco Technical Provisions	121
Appendix "G" - Schedule of Values Form 1	122
Appendix "H" - RCFC Video Procedures	123
Appendix "I" - TLMA Draft Standard Plan No. 313	124



TABLE OF CONTENTS contd.

	<u>Page</u>
Appendix "J" - U.S. Army Corps of Engineers Section 404 Nationwide Permit (NWP) 31	125
Drawing No. 2-0471 Potholes and Borings Traffic Handling Plan Utility Relocation Plan	Sheets 1 through 27 Sheets B1 and B2 Sheets T1 through T3 Sheets U1 and U2

NOTICE INVITING BIDS TO CONTRACTORS

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

**North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
located in the city of Norco
Riverside County, California**

On or after **June 7, 2022**, the Specifications and Contract Documents may be examined and obtained through www.ebidboard.com. The Specifications and Contract Documents may also be viewed at the District's office at 1995 Market Street, Riverside, California, and purchased from the District for **\$60.00** per set if picking up and **\$65.00** per set if requesting to be mailed. No refunds.

When appropriate, Addenda will be issued by the District. The Addenda can be obtained through the link to 'Currently Advertised Projects' on the District's website at: <https://reflood.org/Business/Construction-Bid-Opps/>. Bidders are required to acknowledge receipt of all Addenda at the bottom of Page XVc of the Proposal. The Addenda will include a signature line for this acknowledgment. Failure to acknowledge all Addenda on the bid form may cause the bid to be considered not responsive to the invitation.

Each proposal must be accompanied by a bid security in the form of a certified check, 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.

Bid Proposals must be placed in a sealed envelope clearly marked "Bid Proposal". Bid Proposals must be in accordance with the instructions and other Contract Documents and filed with the District by **2:00 p.m. on Tuesday, July 12, 2022** at 1995 Market Street, Riverside, California, which time and place are fixed for the public opening of bids. No mandatory pre-bid site meeting is scheduled for this project.

Any questions, requests for information and requests for clarification or interpretation of the Specifications must be submitted in writing to the District attention:

Andrew Chan

Email: ACHan@rivco.org

OR

Hard Copy: Riverside County Flood Control and Water Conservation District

1995 Market Street, Riverside, CA 92501

Attn: Andrew Chan

Questions or requests must be received **no later than 5:00 p.m. on Tuesday, June 28, 2022.**

Pursuant to Labor Code Section 1771.1, any Contractor bidding and subcontractors to be listed on a Bid Proposal are subject to Public Contract Code Section 4104 and shall not be eligible to bid unless currently registered with the Department of Industrial Relations and qualified to perform public works pursuant to Labor Code Section 1725.5. No Contractor or subcontractor may be awarded a public works project or enter into a Contract without proof of current registration to perform public works.

General prevailing rate of 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.

THIS PROJECT IS SUBJECT TO COMPLIANCE MONITORING AND ENFORCEMENT BY THE DEPARTMENT OF INDUSTRIAL RELATIONS. The awarded prime Contractor shall post job site notices, including a copy of the prevailing rate of per diem wages determinations made by the Director for the Department of Industrial Relations and other notices prescribed by regulations and comply with the provisions of the California Labor Code, including, without limitation, Sections 1771.4, 1773.1, 1773.2, 1774, 1775, 1776, and 1777.5.

Contractor shall furnish the records specified in Labor Code Section 1776, including but limited to the certified payroll records, directly to the Labor Commissioner for the Department of Industrial Relations.

Substitution of securities for any moneys withheld by District shall be permitted as provided for by Section 22300 of the California Public Contract Code.

Contractors submitting proposals for this project shall have an active and in good standing Class "A" Contractor's license from the State of California in order to be considered eligible for the contract award. The license(s) shall remain active and in good standing throughout the entire duration of the project.

With the submittal of the Bid Proposal and other Contract Documents, the Contractor shall submit for approval by the District documented evidence of satisfaction of all of the Bidder Qualifications listed above and in accordance with Articles 1 through 4 of the Instructions to Bidders.

Dated: June 7, 2022

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

KECIA HARPER
Clerk of the Board

BY *Zuly Martinez*
Deputy

INSTRUCTIONS TO BIDDERS

ARTICLE 1 GENERAL CONDITIONS

1.1 DEFINITIONS

Capitalized terms used on the Contract Documents shall have the meanings assigned to them in the Construction Agreement, Bonds, other Forms, General Provisions, and Specifications and Contract Documents that are included in the Contract Documents. Capitalized terms not so defined shall have the meanings assigned to them in, or if none is assigned as reasonably interpreted according to the context of, the portion of the Contract Documents where such terms are used.

1.2 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.

1.3 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.

1.4 "OR EQUAL"

Pursuant to Division 2, Chapter 3, Article 5, commencing at Section 3400 of the Public Contract Code, all specifications shall be deemed to include the words "or equal", provided, however, that permissible exceptions or other requirements shall be specifically noted in the specifications. Any "equal" proposed by the Contractor must be described in the Contractor's Proposal.

1.5 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 District and the County of Riverside, (including their respective officers, districts, special districts and departments, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives) based on ignorance or misunderstanding of the contract provisions.

1.6 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 District 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.

1.7 CONTRACTOR REGISTRATION

In accordance with the Labor Code (especially Sections 1725.5 and 1771.1), prior to submitting a proposal to District, all Contractors and Subcontractors must register as a "Public Works Contractor" with the Department of Industrial Relations (DIR) using the online application. Contractor's and Subcontractor's DIR Registration Number must be listed in the appropriate space on Contractor's Proposal form. This project is subject to compliance monitoring and enforcement by the DIR.

1.8 BALANCE BID

The Contractor is cautioned against unbalancing of its Bid by including its overhead and profit 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 the schedule.

1.9 ANTI-DISCRIMINATION

It is the policy of the District that, in connection with all work performed under the Construction Agreement, there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age, marital status, or sexual preference. The Contractor agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practice Act, beginning with Labor Code Section 1410, and Labor Code Section 1735. In addition, the Contractor agrees to require like compliance by any subcontractors employed on the Work.



1.10 REQUIRED SUBMITTALS

There are a number of forms and other documents required as submittals by the Bidder during the various stages of the project. The following table provides a checklist of submittals required by the Bidder as requested in the Contract Documents. Bidders shall be made aware that the documents listed in the following table do not guarantee a complete submittal package.

	BID DOCUMENT	SUBMITTAL TIMEFRAME
<input type="checkbox"/>	Contractor's Proposal	with Bid Proposal
<input type="checkbox"/>	List of Subcontractors	with Bid Proposal
<input type="checkbox"/>	Experience Statement	with Bid Proposal
<input type="checkbox"/>	Statement of Licensure	with Bid Proposal
<input type="checkbox"/>	Non-Collusion Declaration	with Bid Proposal
<input type="checkbox"/>	Iran Contracting Act Certification	with Bid Proposal
<input type="checkbox"/>	Compliance with Economic Sanctions Certification	with Bid Proposal
<input type="checkbox"/>	Bid Bond (10% of Contract Price)	with Bid Proposal
<input type="checkbox"/>	Construction Agreement	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Performance Bond (100% of Contract Price)	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Payment Bond (100% of Contract Price)	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Workers' Compensation Contractor Certificate	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Declaration of Sufficiency of Funds	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Certificates of Insurance	within 7 days of Notice of Intent to Award
<input type="checkbox"/>	Construction Schedule	within 14 days of Notice of Intent to Award
<input type="checkbox"/>	Schedule of Values	within 14 days of Notice of Intent to Award
<input type="checkbox"/>	Affirmative Action Compliance Program (for Contractors with 50+ Employees)	within 30 days of Award of Contract

**ARTICLE 2
BIDDING PROCEDURES**

2.1 PROPOSAL FORMS

Attention of all bidders is called to all bid proposal forms attached hereto. Bidders are cautioned that all bid proposals submitted must be accompanied by all forms properly executed.

2.2 SUBMISSION OF BID PROPOSALS

All copies of the Contractor's Proposal, Bid Security, and other Bid Proposal Submittals shall be enclosed by the Bidder in a sealed opaque envelope. Said envelope, as well as any other, outer envelope or packaging in which said envelope may have been placed by Bidder or the carrier for delivery, shall be addressed and delivered as provided in the Notice Inviting Bids to Contractors.

2.3 TIMELY RECEIPT

The Bidder assumes full and sole responsibility for timely receipt of its Bid Proposal, including its Bid Security and all other Bid Submittals, at the location designated in the Notice Inviting Bids to Contractors.

2.4 DELIVERY METHOD OF BID PROPOSAL

Submittal of Bid Proposals shall be by hand delivery or mail, only. Oral, telephonic, telegraphic, facsimile or other electronic transmission is not permitted.

2.5 INVALID BID PROPOSALS

Bid Proposals submitted by fax or e-mail and those which fail to reach the place fixed for opening of Bid Proposals prior to the date and hour set for opening same will not be considered.

2.6 BID SECURITY

Bid Security. Each Bid shall be accompanied by a Bid Security in the form of 1) cash, 2) a certified or cashier's check made payable to the Riverside County Flood Control and Water Conservation District, or 3) a Bid Bond (using the form of Bid Bond included in the Bidding Documents) issued by an Admitted Surety, in an amount equal to at least ten percent (10%) of the Bid Amount, as a guarantee that the Bidder, if awarded the Construction Contract, will enter into a Construction Contract with the District and furnish the Performance Bond, Payment Bond and other Post-Award Submittals required by the Bidding Documents. Should the Bidder refuse to enter into the Construction Contract or fail to furnish the Performance Bond, Payment Bond or any other Post-Award Submittals within the required timeframes as applicable, then the Bid Security shall be forfeited to the District in an amount equal to the difference between the amount of Bidder's Bid Amount and the amount for which the District may procure the work from another Bidder plus the costs to the District of redrafting, redrawing and republishing the Bidding Documents.



Retention by District. The District will have the right to retain the Bid Security of any Bidder to whom an Award is being considered until either (1) the Construction Contract has been executed and the Performance Bond, Payment Bond and other Post-Award Submittals have been furnished, or (2) all Bids have been rejected.

Return of Proposal Guarantees. Within ten (10) days after the award of the contract, the District 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.

2.7 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 (½) 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 shall list only one subcontractor for each portion as is defined by the Contractor in the Contractor's Bid Proposal.

2.8 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 the District. No communication by anyone as to such matters except by an Addendum affects the meaning or requirements of the Contract Documents.

2.9 ADDENDA

Interpretations, corrections, clarifications and changes to the Contract Documents will be made by Addenda. The District reserves the right to issue Addenda to the Contract Documents at any time prior to the time set to open bids.

Addenda will be posted on and available to the public through the link to 'Currently Advertised Projects' on the District's website at: <https://rcflood.org/Business/Construction-Bid-Opps/>.

Prospective Bidders who obtain the bid package directly from the District's office are requested to provide their name and contact information for the purpose of receiving Addenda. Copies of Addenda will be transmitted directly to those Prospective Bidders electronically or in hard copy based on the information provided at time of picking up the bid package.

To be considered responsive to the invitation for bids, a Contractor's Proposal must acknowledge by signature all issued Addenda. Failure of the Bidder to receive any Addendum shall not relieve the Bidder from any of its obligations under its Contractor's Proposal. The costs of performance by Bidder of all items of Work and other obligations contained in all Addenda issued by the District shall be deemed included in the amount of the Contractor's Proposal.

2.10 **RESPONSE TO QUESTIONS**

Any questions or requests for information must be submitted in writing to the District attention:

Andrew Chan
Email: AChan@rivco.org
OR
Hard Copy: Riverside County Flood Control and Water Conservation District
1995 Market Street, Riverside, CA 92501
Attn: Andrew Chan

Questions or requests must be received **no later than 5:00 p.m. on Tuesday, June 28, 2022.**

2.11 **POSTPONEMENT**

The District reserves the right to postpone the time and date for the public opening of bids as specified in the Notice Inviting Bids to Contractors by issuance of an Addendum to the Contract Documents at any time prior to the specified time and date for public opening of bids.

2.12 **REJECTION OF BID PROPOSALS CONTAINING ALTERATIONS, ERASURES OR IRREGULARITIES**

Bid Proposals may be rejected if they show any alterations of form, additions not called for, conditional Bid Proposals, incomplete Bid Proposals, erasures, or irregularities of any kind. Erasures or interlineations in the Bid Proposal must be explained or noted over the signature of the Bidder. The District may determine as unresponsive any Bid Proposal in which any statement or representation made or incorporated by reference in the Contractor's Proposal, including any Bid submittal comprising the Bid Proposal, is false, incorrect or materially incomplete and misleading.

2.13 **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.

2.14 **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.



2.15 IRAN CONTRACTING ACT

In accordance with Public Contract Code Section 2204(a), prior to bidding on, submitting a proposal or executing a contract or renewal for a District contract for goods or services of \$1,000,000 or more, a Contractor must either:

- a) Certify it is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code Section 2203(b) and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or
- b) Demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code Section 2203(c) or (d).

To comply with this requirement, please insert your Contractor or financial institution name and Federal ID Number (if available) and complete one of the options on Page XX. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts. (Public Contract Code section 2205.)

2.16 ECONOMIC SANCTIONS IN RESPONSE TO RUSSIA'S ACTIONS IN UKRAINE

The Contractor must certify that it is not a target of economic sanctions imposed by the United States government or the State of California in response to Russia's actions in Ukraine. The Contractor is required to comply with the economic sanctions imposed in response to Russia's actions in Ukraine, including with respect to, but not limited to, the federal executive orders identified in California Executive Order N-6-22, located at <https://www.gov.ca.gov/wp-content/uploads/2022/03/3.4.22-Russia-Ukraine-Executive-Order.pdf>, and the sanctions identified on the United States Department of the Treasury website at <https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions>.

The Contractor is required to comply with all applicable reporting requirements regarding compliance with the economic sanctions, including, but not limited to, those reporting requirements set forth in California Executive Order N-6-22 for all parties with one or more agreements with the State of California, the County of Riverside, or any other local agency, with a value of Five Million Dollars (\$5,000,000) or more. Notwithstanding any other provision in these documents, failure to comply with the economic sanctions and all applicable reporting requirements may result in disqualification or termination of the Construction Agreement, if awarded. For Contractors with an agreement value of Five Million Dollars (\$5,000,000) or more with the State of California, the County of Riverside, or any other local agency, reporting requirements include, but are not limited to, information related to steps taken in response to Russia's actions in Ukraine, including, but not limited to:

1. Desisting from making any new investments or engaging in financial transactions with Russian institutions or companies that are headquartered or have their principal place of business in Russia;
2. Not transferring technology to Russia or companies that are headquartered or have their principal place of business in Russia; and
3. Direct support to the government and people of Ukraine.

To comply with this requirement, please insert your Contractor name and Federal ID Number (if available) on the Certification Form on Page XXI, execute by a duly authorized representative for the contractor, and return with the bid proposal.

-X-



2.17 PUBLIC OPENING OF PROPOSALS

Proposals will be opened and read publicly at the time and place indicated in the Notice Inviting Bids to Contractors. Bidders or their authorized agents are invited to be present.

ARTICLE 3 CONSIDERATION OF BIDS

3.1 BASIS OF AWARD

The award of the Contract, if it be awarded, will be to the lowest responsible and qualified Bidder based upon all Bid items.

3.2 NOTICE OF INTENT TO AWARD

Within thirty (30) days following public opening and reading of Bids, the District will issue a Notice of Intent to Award identifying the name of the Bidder to whom the District intends to Award the Construction Contract. Such notice will be posted under Public Notices at reflood.org. The District may, in its sole and absolute discretion, elect to extend the time for its issuance of its Notice of Intent to Award.

3.3 BID PROTESTS

Any Bidder submitting a Bid Proposal to the District may file a protest of the District's proposed Award of the Construction Contract provided that each and all of the following are complied with:

1. The bid protest is in writing.
2. The bid protest is both: (1) filed with and received by David Garcia at the following address, 1995 Market Street, Riverside, California, not more than five (5) days following the date of issuance of the Notice of Intent to Award. Failure to timely file and serve the bid protest as afore stated shall constitute grounds for the District's denial of the bid protest without consideration of the grounds stated therein.
3. The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the bid protest. Any grounds not set forth in the bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and credible evidence. Any bid protest not conforming to the foregoing shall be rejected as invalid.
4. Provided that a bid protest is filed in conformity with the foregoing, the General Manager-Chief Engineer, or such individual(s) as may be designated by the General Manager-Chief Engineer in his/her discretion, shall review and evaluate the basis of the bid protest, and shall provide a written decision to the Bidder submitting the bid protest, either concurring with or denying the bid protest. The written decision of the General Manager-Chief Engineer or his/her designee shall be final, unless overturned by the Board of Supervisors.
5. An inadvertent error in listing the California contractor license number or DIR public works contractor registration number for a subcontractor shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the corrected number is submitted to the District within 24 hours after the bid opening and provided the corrected number corresponds to the submitted name and location for that subcontractor.



**ARTICLE 4
POST-NOTICE OF INTENT TO AWARD**

4.1 POST-NOTICE OF INTENT TO AWARD SUBMITTALS

Within the time periods set forth below, the successful Bidder identified in the Notice of Intent to Award as the successful Bidder shall submit the following additional Post-Notice of Intent to Award submittals, completed and signed in the manner required by the Contract Documents, to the District at 1995 Market Street, Riverside, California 92501:

4.1.1 Within seven (7) days after issuance by District to Bidder of the Notice of Intent to Award and prior to contract award, such Bidder shall submit to the District the following:

- (1) Construction Agreement duly executed by the authorized delegate of the Contractor;
- (2) Performance Bond and Payment Bond (issued by Surety), as set forth in Section 4.2 below;
- (3) Evidence of Insurance, as specified by the Contract Documents;
- (4) Workers' Compensation Certificate, in the form specified by the Contract Documents; and
- (5) Declaration of Sufficiency of Funds (required only if the Bidder has not entered into a collective bargaining agreement covering the workers to be employed for performance of the Work), in the form specified by the Contract Documents.

4.1.2 Within fourteen (14) days after issuance by District to Bidder of the Notice of Intent to Award and prior to commencement of the Work, such Bidder shall submit to the District the following:

- (1) Construction Schedule, prepared by Bidder in the manner required by Section 2.02 of the General Provisions; and
- (2) Schedule of Values, prepared by Bidder in the manner required by the Specifications and Contract Documents.

4.2 CONTRACT SECURITY – PERFORMANCE BOND AND PAYMENT BOND

The Contractor shall furnish two (2) surety bonds, each in quadruplicate, 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. The penal sums of the Performance Bond and Payment Bond shall each be initially in the amount of one hundred percent (100%) of the Contract Price. The penal sum may be required to be increased for Contract Adjustments increasing the Contract Price that are authorized by Change Order. All bonds must be submitted on forms provided by the District. Bonds submitted in any other form will not be accepted.

Prior to the execution of the Contract, the Contractor shall furnish to the District the required, original, Performance and Payment Bonds, issued by an admitted surety and shall have a A.M. Best's Insurance Rating of A VIII (A:8) or better rated surety company, authorized to do business in the State of California. The Bonds shall be executed by an authorized attorney-in-fact for the Surety company and his/her original or certified copy Power of Attorney must be attached to the Bonds. Premiums for Bonds shall be paid by the Contractor. Notary acknowledgements of the signatures of the Contractor and Surety(ies) is required.



The attorney-in-fact who executes the required Performance Bond and Payment Bond on behalf of the Surety shall affix thereto a certified and current copy of the Power of Attorney authorizing such attorney-in-fact to execute same on behalf of such Surety. Should any Surety on the Performance Bond or Payment Bond be deemed unsatisfactory by the District, Contractor shall upon notice promptly substitute new bonds satisfactory to the District.

If the Performance Bond provides for a one-year warranty, a separate Maintenance Bond is not necessary. If the warranty period specified in the contract is for longer than one year, a Maintenance Bond equal to ten percent (10%) of the contract price is required. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in the State of California and secured through an authorized agent with an office in California.

4.3 FORFEITURE FOR FAILURE TO POST SECURITY AND EXECUTE AGREEMENT

In the event the Bidder, to whom an award will be made, fails or refuses to post the required bonds and provide the required certificates of insurance and fails to return executed copies of the Construction Agreement within seven (7) days after the prescribed forms are presented to it for signature, the District may declare the Bidder's Bid deposit or bond forfeited as damages caused by the failure of the Bidder to post such security and execute such copies of the Construction Agreement and may award the Work to the next lowest responsible Bidder, or may call for new bids.

4.4 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.



CONTRACTOR'S PROPOSAL

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

The undersigned hereby declare(s):

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

Name of Company (and dba if applicable) ("Contractor"): Wright Construction Engineering Corp

(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, subject to such adjustments and alterations as elsewhere provided for in the Contract Documents.

As bid security, 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

Two Million Four Hundred Fifty-One Thousand Two Hundred Sixty And Zero Cents Dollars (\$2,451,260.00)

**THE REQUIRED REFERENCES AND OTHER REQUIRED DOCUMENTS
MUST BE ATTACHED TO THIS BID PROPOSAL.**

It is understood and agreed that should the Contractor within seven (7) 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.

RECEIVED

JUL 12 2022

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

1:50 PM

PROPOSAL

For the Construction of North Norco Channel Line NB, Stage 3, located in the city of Norco, Riverside County, consisting of the following estimated quantities:

SECT. NO.	ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
10	1.	Mobilization	L.S.	---	---	<u>\$125,000.00</u>
11	2.	Water Control	L.S.	---	---	<u>\$10,000.00</u>
12	3.	Traffic Control	L.S.	---	---	<u>\$15,000.00</u>
13	4.	Clearing and Miscellaneous Work	L.S.	---	---	<u>\$40,000.00</u>
14	5.	Excavation	CY	2381	<u>\$40.00</u>	<u>\$95,240.00</u>
14	6.	Channel Excavation	CY	1829	<u>\$40.00</u>	<u>\$76,160.00</u>
14	7.	Structure Excavation	CY	518	<u>\$40.00</u>	<u>\$20,720.00</u>
14	8.	Backfill	CY	1415	<u>\$35.00</u>	<u>\$49,525.00</u>
14	9.	Controlled Low Strength Material (CLSM)	CY	208	<u>\$300.00</u>	<u>\$62,400.00</u>
15	10.	Trench Safety System and Falsework	LS	---	<u>\$20,000.00</u>	<u>\$20,000.00</u>
16	11.	Class "A" Concrete, Trapezoidal Channel Paving	CY	512	<u>\$700.00</u>	<u>\$358,400.00</u>
16	12.	Class "A" Concrete, Channel Invert	CY	268	<u>\$530.00</u>	<u>\$142,040.00</u>
16	13.	Class "A" Concrete, Channel Wall	CY	226	<u>\$700.00</u>	<u>\$158,200.00</u>
16	14.	Class "A" Concrete, Minor Structures	CY	46	<u>\$800.00</u>	<u>\$36,800.00</u>
16	15.	Class "A" Concrete, Non-Shrink Grout	CF	122	<u>\$50.00</u>	<u>\$6,100.00</u>
16	16.	Class "B" Concrete, 2' Cutoff Wall	LF	2118	<u>\$27.00</u>	<u>\$57,186.00</u>
16	17.	Class "B" Concrete, 3.5' Cutoff Wall	LF	503	<u>\$80.00</u>	<u>\$40,240.00</u>
16	18.	Class "B" Concrete, Miscellaneous	CY	35	<u>\$520.00</u>	<u>\$18,200.00</u>
16	19.	Transition Structure No.3	EA	1	<u>\$15,000.00</u>	<u>\$15,000.00</u>
16	20.	Junction Structure No. 1	EA	1	<u>\$12,000.00</u>	<u>\$12,000.00</u>

PROPOSAL contd.

16	21.	Manhole No. 4	EA	1	\$8,500.00	\$8,500.00
17	22.	18" RCP, CLASS IV	LF	26	\$300.00	\$7,800.00
17	23.	24" RCP, CLASS IV	LF	81	\$330.00	\$26,730.00
17	24	30" RCP, CLASS IV	LF	90	\$350.00	\$31,500.00
17	25	36" RCP, CLASS IV	LF	254	\$400.00	\$101,160.00
19	26	Class 2 Aggregate Base	CY	30	\$125.00	\$3,750.00
19	27	Hot Mix Asphalt (HMA)	TONS	81	\$378.00	\$30,618.00
19	28	Asphalt Concrete Grinding	SF	880	\$5.00	\$4,400.00
19	29	Temporary Resurfacing	TONS	20	\$200.00	\$4,000.00
20	30	Safety Bollard	EA	6	\$1,500.00	\$9,000.00
20	31	Metal Post Delineator	EA	1	\$1,000.00	\$1,000.00
20	32	6-Foot Chain Link Fence	LF	380	\$82.00	\$31,160.00
20	33	Temporary Fencing	LF	218	\$15.50	\$3,379.00
20	34	Cable Railing	LF	904	\$32.00	\$28,928.00
20	35	14-Foot Double Drive Gates	PAIR	7	\$1,500.00	\$10,500.00
21	36	Miscellaneous Iron and Steel	LBS	8820	\$3.20	\$28,224.00
21	37	Subdrain	LF	1107	\$70.00	\$77,490.00
21	38	Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection	LF	14	\$300.00	\$4,200.00
21	39	Relocate Waterline Service Connection	EA	2	\$3,000.00	\$6,000.00
21	40	Remove Existing RCB and Structures	LF	258	\$230.00	\$59,340.00
21	41	Full Trash Capture Device	EA	8	\$1,650.00	\$13,200.00
21	42	Block Wall	LF	123	\$210.00	\$25,830.00
21	43	Adjust Manhole to Grade	EA	3	\$1,200.00	\$3,600.00
21	44	Extra Directed Work	LS	---	---	100,000.00
26	45	Filter Material	CY	446	\$126.00	\$56,196.00
26	46	ASTM #2 Stone	CY	145	\$130.00	\$18,850.00

PROPOSAL contd.

SECT. NO.	ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
27	47	Dust Abatement	LS	---	\$7,500.00	\$7,500.00
29	48	Stormwater and Non-Stormwater Pollution Control	LS	---	\$10,000.00	\$10,000.00
29	49	Non-Stormwater Discharge or Dewatering	LS	---	\$8,500.00	\$8,500.00
30	50	Relocate 12-Inch Waterline	LS	---	\$25,000.00	\$25,000.00
31	51	Precast Reinforced Concrete Box (PRCB) 12'W x 5'H	LF	63	\$1,702.00	\$107,226.00
31	52	Precast Reinforced Concrete Box (PRCB) 10'W x 6'H	LF	144	\$1,082.00	\$155,808.00
32	53	Articulating Concrete Block (ACB)	SY	218	\$300.00	\$65,400.00
32	54	Filter Fabric	SY	586	\$20.00	\$11,720.00
32	55	Biaxial Geogrid	SY	218	\$30.00	\$6,540.00
For the Total Bid Proposal of:					TOTAL COST (State in Figures)	\$2,451,260.00

PROPOSAL contd.

Wright Construction Engineering Corp
Name of Contractor

2625 S Santa Fe Ave.,
Address

San Marcos, CA 92069
City, State, Zip

(760) 599-3915 X:102 (760) 599-3920
Telephone Number Fax Number

wwright@wcec.net
Email

Dated: 7/9/22



Signature of Contractor's authorized representative

Name: Wesley Wright


Title: President

46-5724187
S.S.N. or E.I.N.

995153 - Class "A"
Contractor's License No. and Classification

1000026974
Contractor's DIR Registration No.

If bidder is a corporation, corporate seal and attestation shall be provided below.

Attested: 
Signature

ADDENDUM NO. 1 ACKNOWLEDGED:


Signature

**CERTIFICATE OF CORPORATE RESOLUTION
WRIGHT CONSTRUCTION ENGINEERING CORP.**

I, Wesley Wright, President of Wright Construction Engineering Corp., organized and existing under the laws of California and having its principal place of business at 3725 Trieste Dr. Carlsbad, California, hereby certify that the following is a true copy of a resolution adopted by the Board of Directors of the Corporation at a meeting convened and held on July 1, 2014 at which a quorum was present and voting throughout and that such resolution is now in full force and effect and is in accordance with the provisions of the charter and by-laws of the Corporation.

RESOLVED: That the President, Wesley Wright, of the Corporation is hereby authorized to sign any contracts or forms on behalf of the Corporation.

RESOLVED FURTHER: That the President, Wesley Wright, is hereby authorized and directed to certify to any interested party that this resolution has been duly adopted, is in full force and effect, and is in accordance with the provisions of the charter and by-laws of the Corporation.

I further certify that this Corporation is duly organized and existing, and has the power to take the action called for by the foregoing resolution.

DIRECTORS

<u>Wesley Wright</u>	<u>7-1-2014</u>
President	Date
<u>Wesley Wright</u>	<u>7-1-2014</u>
Vice President	Date
<u>Wesley Wright</u>	<u>7-1-2014</u>
Secretary	Date
<u>Wesley Wright</u>	<u>7-1-2014</u>
Treasurer	Date

Witness my hand seal of this corporation on this 1st day of July, 2014.

LIST OF SUBCONTRACTORS

Contractor Wright Construction Engineering Corp

North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03

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) 30, 31, 32, 33, 34 & 35

Name of Subcontractor Harris Steel Fence Co., Inc

Address/City/Phone 8728 So. San Pedro St., Los Angeles, CA 90003

License No. 319155 Subcontractor's DIR Registration No. 1000002287

Item No. (s) 11, 12, 13, 16, 17, 19, 20, 21, 51 & 52

Name of Subcontractor Camblin Steel Service, Inc

Address/City/Phone 11112 Elm Ave., Rancho Cucamonga, CA 91730

License No. 218839 Subcontractor's DIR Registration No. 1000003852

Item No. (s) 41

Name of Subcontractor United Storm Water, Inc

Address/City/Phone 14000 E. Valley Blvd., City of Industry, CA 91746

License No. 768853 Subcontractor's DIR Registration No. 1000012438

Item No. (s) _____

Name of Subcontractor _____

Address/City/Phone _____

License No. _____ Subcontractor's DIR Registration No. _____

Item No. (s) _____

Name of Subcontractor _____

Address/City/Phone _____

License No. _____ Subcontractor's DIR Registration No. _____

List of Completed Projects

Job #	Project Name	Description	Date Completed	Agency	Agency Contact	Contract Amount	Percent Complete
38	Casa Romantica Parking Lot Improvements	Install Storm Drain, BioClean Filter, Pavers, Sidewalk, Handrail, Asphalt, Landscaping, & Striping	4/23/21	CasRomantica Cultural Center 415 Avenida Granada San Clemente, CA 92672	Amy Behrens-(949)498-2139, behrens@casromantica.org	\$645,124.57	100%
37	Frost Avenue Drainage Improvements	Construct Curb Inlet w/ Local Depression, & Asphalt Slot Patch	11/17/20	City of Carlsbad 1635 Faraday Ave., Carlsbad, CA 92008	Graham Jordan-(760)602-2462, Graham.Jordan@carlsbadca.gov	\$53,556.25	100%
36	RD 339 Yard Timber Retaining Wall Replacement Off-Sys (2018WOOLSEYFIRE)	Removal of Timber Wall, Install of PIP Wall, Concrete Stairs, Handrail, & AC Pavement	12/9/20	County of Los Angeles 900 S. Fremont Ave., Alhambra, CA 91803	Andrew Chole-(626)458-4975, AChole@dpw.lacounty.gov	\$336,311.62	100%
35	Dyer Road Storm Drain Repair	Removal of Damaged CMP Pipe, Install of new 24" RCP Pipe, Install of Asphalt and Loop Detectors	10/23/20	City of Santa Ana 20 Civic Center Plaza, Santa Ana, CA 92701	Victor So-(714)647-5076, vso@santana.org	\$64,400.00	100%
34	San Marcos Boulevard Slope Stabilization	Installation of 24" Piles, curb, gutter, sidewalk, asphalt, striping, lighting, waterworks, & striping	9/29/20	City of San Marcos 1 Civic Center Drive, San Marcos, CA 92069	Perryn White-(760)759-0441 PWhite@sanmarcos.net	\$716,858.00	100%
33	Mt. Rubidoux Park Stormwater, Erosion Control, Trail and Site Improvements	Install of Masonry Rock Retaining Wall, Timber Steps, Post & Chain Barrier, Faux Wood Handrail & Swales	5/4/20	City of Riverside Parks & Rec, 6927 Magnolia Ave. 2nd Floor Riverside, CA 92522	Aliya Sramala-(951)8262021 ASramala@riversideca.gov	\$335,000.00	100%
32	Cliff Drive to High Drive Stairway Replacement	Removal of old concrete staircase & installation of new concrete staircase, handrails & landscaping	2/28/20	City of Laguna Beach 505 S. Forest Ave Laguna Beach, CA 92651	Bob Koch-(949)412-6546 rkoch@lagunabeachcity.net	\$246,265.66	100%
31	Pearl Street Beach Access Rehabilitation	Removal of old concrete staircase & installation of new concrete staircase, handrails & landscaping	2/3/20	City of Laguna Beach 505 S. Forest Ave Laguna Beach, CA 92651	Tom Sandefur-(949)497-0339 tsandefur@lagunabeachcity.net	\$1,020,000.00	100%
30	Reche Rd at Live Oak Elementary School & Potter Junior High School Road Improvements	Installation of sidewalk, curb, gutter, structures, RCP, AC, drainage ditch, landscape, & irrigation	1/15/20	County of San Diego 5500 Overland Ave, Suite 310, San Diego, CA 92123	Mike Moen (619)933-7242 MMoen@kleinfelder.com	\$1,050,340.75	100%
29	Tide Beach Park Slope Paving Removal	Removal of Cracked and deteriorated concrete slope paving	1/8/20	City of Solana Beach 635 S Coast Highway 101 Solana Beach, CA 92075	Dan Goldberg-(858)720-2474, dgoldberg@cosb.org	\$41,980.00	100%
28	RDO Drainage Upgrades-Casa De Amparo	Construct 24" RCP Storm Drain, Transition Structure, & Inlet w/ local depression	12/18/19	City of Oceanside 300 North Coast Highway Oceanside, CA 92054	Victor Velasco-(760)435-5102 VVelasco@oceansideca.org	\$128,782.00	100%
27	SDWD 10-Inch Water Main Replacement Project	Removal of existing 10" steel water main (in casing), installation of new 10" PVC water main	3/5/19	San Diego Water District 160 Calle Magdalena Encinitas, CA 92024	Blair Knoll-(760)633-2793 Bknoll@encinitasca.gov	\$78,607.67	100%
26	Emergency Protection for Linda Lane Pump Station Phase IV	Installation of additional reinforcements / bracing for existing retaining wall, North Side	1/10/19	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Greg Deist-(949)337-3139 Deist@san-clemente.org	\$28,211.07	100%
25	Meadowview Stream Restoration Stage 60	Streambank Restoration, Habitat Restoration, Filtrex Compost Roll System Installation	11/5/18	Riverside County Flood Control District 1995 Market Street Riverside, CA 92501	David Garcia-(951)315-0730 Dgarcia@rivco.org	\$385,546.55	100%

Job #	Project Name	Description	Date Completed	Agency	Agency Contact	Contract Amount	Percent Complete
24	Detention Basin at Rancho Wash	Construct concrete splitter structure, connect to existing CMP	9/6/18	City of Rancho Cucamonga 10500 Civic Center Drive Rancho Cucamonga, CA 91730	Romeo David - (909) 774-4070 Romeo.David@cityofrc.us	\$296,570.68	100%
23	S. Palm Canyon Drive and La Plaza Safety Bollard Installation	Installation of 22 pneumatic retractable bollards including monolithic footing, pavers	7/25/18	City of Palm Springs 3200 E. Tahquitz Canyon Way Palm Springs, CA 92262	Mike Lytar - (760) 902-4861 Mike.Lytar@palmspringsca.gov	\$222,368.68	100%
22	Queda Way Retaining Wall Replacement Project	Installation of a new retaining wall, CIDH Piles, timber lagging, concrete and asphalt work	7/10/18	City of Laguna Beach 505 S. Forest Ave Laguna Beach, CA 92651	Tri Nguyen - (949) 497-0741 TNguyen@lagunabeachcity.net	\$209,021.62	100%
21	Emergency Protection for Linda Lane Pump Station Phase III	Reinforcement to Existing retaining wall, Installation of Drainage Components, Steel Kicker Installation	7/6/18	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Greg Deist - (949) 337-3139 DeistG@san-clemente.org	\$82,589.71	100%
20	Citywide Drainage Improvements Project	Parkway drains, small storm drain, BioClean Inlet Structure	7/2/18	City of Diamond Bar 21810 Copley Drive Diamond Bar, CA 91765	David Sloan - (909) 839-7043 DSloan@talt.com	\$410,985.73	100%
19	Malaga Park Project	Construct a new park, install concrete monument sign, landscape & irrigation	5/9/18	City of Wildomar 23873 Clinton Keith Road Wildomar, CA 92295	Cameron Luna - (951) 677-7751 X 245 CLuna@cityofwildomar.org	\$284,980.02	100%
18	Cambridge Ave / Edinburg Ave Alley Water Improvements Project	Installation of a new 4" Water main, Abandon Existing water main, Re-connect resident service laterals	4/13/18	San Diego Water District 160 Calle Magdalena Encinitas, CA 92024	Bair Knoll - (760) 633-2793 Bknoll@encinitasca.gov	\$142,694.34	100%
17	Santee Lakes Generator Project	Install a new 150 KW generator, including gated enclosure, and automatic transfer switch	2/28/18	Padre Dam Municipal Water District 9310 Fanita Parkway Santee, CA 92071	Brian Hague - (619) 258-4751 BHague@padre.org	\$197,294.71	100%
16	Boleta Pressure Reducing Station Vault Replacement and Design Improvements Project	Remove existing waterworks vault, Install new waterworks vault, install new waterworks components	1/9/18	City of Carlsbad 1635 Faraday Ave Carlsbad, CA 92008	Dallas Poore - (619) 804-8180 DPoore@fortitudeec.com	\$259,796.99	100%
15	Rathbun Creek Phase I A Bridge Installation	Installation of a pre-fabricated pedestrian bridge, concrete approach slabs, site work	12/18/17	City of Big Bear Lake P.O. Box 10000 Big Bear Lake, CA 92315	Andrew Simmons - (909) 866-5831 ASimmons@cityofbigbearlake.com	\$114,542.30	100%
14	Cress Street Wall and Sidewalk Improvements	Soldier Pile Reinforcing Wall, Sidewalk Improvements, Atrium Drain System	11/15/17	City of Laguna Beach 505 S. Forest Ave Laguna Beach, CA 92651	Tom Sandefur - (949) 497-0339 Tsandefur@lagunabeachcity.net	\$400,138.00	100%
13	MTD 1854 Corak Storm Drain Improvements	Reinforced Concrete Pipe, Sidewalk and ADA Ramp Improvements, Structures	7/16/17	City of Baldwin Park 14403 E. Pacific Avenue Baldwin Park, CA 91706	David Lopez - (626) 960-4011 Dlopez@baldwinpark.com	\$1,205,039.60	100%
12	Laurel Ave Storm Drain Replacement	Storm Drain and Catch Basin Installation	6/23/17	City of Manhattan Beach 1400 Highland Ave Manhattan Beach, CA 90266	Tim Birthisel (310) 802-5365 Tbirthisel@cityymb.info	\$105,541.16	100%
11	Cabot Road Bioswale	Bioswale Installation, Drainage Structure / Splitter structure installation.	4/1/17	City of Laguna Hills 24035 El Toro Road Laguna Hills, CA 92653	Ken Rosenfield (949) 707-2655 krosenfield@lagunahillisca.gov	\$376,732.05	100%
10	Ray Stoyer WRF Concrete Repairs	Repair existing concrete influent and effluent channels. Replace old and damaged plumbing	4/1/17	Padre Dam Municipal Water District 9310 Fanita Parkway Santee, CA 92071	Aime Sandvik - (909) 305-2947 asandvik@padre.org	\$431,281.73	100%

Job #	Project Name	Description	Date Completed	Agency	Agency Contact	Contract Amount	Percent Complete
9	Emergency Protection for Linda Lane Pump Station Phase II	Increase lagging size in existing soldier pile reinforcing wall	2/9/17	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Greg Deist - (949) 337-3139 DeistG@san-clemente.org	\$73,399.43	100%
8	Huntington Harbor Beaches Sand Replenishment	Import 8,500 CY of sand from the lower Santa Ana River to various Huntington Harbor beaches	2/7/17	City of Huntington Beach 2000 Main Street Huntington Beach, CA 92648	Scott Smith - (714) 536-5287 Ssmith@surfcity-hb.org	\$453,864.00	100%
7	Milligan drive Bridge Renovations	Remove existing milligan drive bridge. Replace with pre-cast bridge	12/20/16	City of Laguna Beach 505 S. Forest Ave Laguna Beach, CA 92651	Tri Nguyen - (949) 497-0741 tnguyen@lagunabeachcity.net	\$314,669.79	100%
6	North Beach Opportunistic Sand Replenishment Project	Import 12,000 CY of sand to San Clemente's North Beach	12/9/16	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Aeryn Donnelly - (949) 361-8267 DonnellyA@san-clemente.org	\$430,900.00	100%
5	HWY 101 Storm Drain and Slope Repair	Slope Restoration, Storm Drain, Road Repair, Runoff Mitigation, Work took place adjacent a coastal lagoon	6/22/16	City of Encinitas 505 S. Vulcan Ave. Encinitas, CA 92024	Nick Diele - (760) 633-2782 Ndiele@encinitasca.gov	\$667,821.26	100%
4	Franklin Lift Station Wet Well Expansion	Expansion of an existing wet well at a sewage pump station. Included a 24-hour bypass	6/3/16	City of La Verne 3660 "D" Street La Verne, CA 91750	Jerry Mesa - (909) 596-8749 Jmesa@cityofaverne.org	\$613,429.27	100%
3	Juanita Cooke Greenbelt Trail	Construct pedestrian & horse trail, Landscape and Irrigation	5/9/16	City of Fullerton 303 W. Commonweath Ave Fullerton, CA 92832	Paul Lubliner - (714) 738-6886 PaulL@ci.fullerton.ca.us	\$206,358.00	100%
2	El Portal Beach Access Rehabilitation Project	Demolish existing beach access stairs, Construct new beach access stairs & handrail	12/11/15	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Aeryn Donnelly - (949) 361-8267 DonnellyA@san-clemente.org	\$850,104.00	100%
1	Emergency Protection for Linda Lane Pump Station Phase 1	Install soldier pile wall at toe of slope to protect existing pump station	8/4/15	City of San Clemente 910 Calle Negocio San Clemente, CA 92673	Greg Deist - (949) 337-3139 DeistG@san-clemente.org	\$107,000.00	100%

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. 995153 ; and
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: 7/9/22

[Handwritten Signature]
Signature

President
Title

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA) §
COUNTY OF RIVERSIDE)

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

the undersigned Notary Public, personally appeared

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 that he/she 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.

Notary's Signature (Seal)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

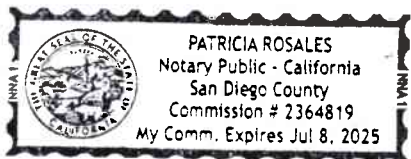
A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Diego }

On July 9, 2022, before me, Patricia Rosales, Notary Public,
personally appeared Wes W. Wright

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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



NOTARY SEAL ABOVE

WITNESS my hand and official seal.

SIGNATURE Patricia Rosales

OPTIONAL

Description of attached document

Title or type of document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other than Named Above: _____

NON-COLLUSION DECLARATION

(Public Contract Code Section 7106)

The undersigned declares:

I am the President of Wright Construction Engineering Corp, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. 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. All statements contained in the bid are true. 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, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on July 9, 2022 [date], at San Marcos [city], CA [state].



[Signature of Declarant]

Wesley Wright

[Printed Name of Person Signing]

Wright Construction Engineering Corp

[Name of Bidder]

President

[Office or Title]



IRAN CONTRACTING ACT CERTIFICATION


In accordance with Public Contract Code Section 2204(a), prior to bidding on, submitting a proposal or executing a contract or renewal for a District contract for goods or services of \$1,000,000 or more, a Contractor must either:

- c) Certify it is not on the current list of persons engaged in investment activities in Iran created by the California Department of General Services ("DGS") pursuant to Public Contract Code Section 2203(b) and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person, for 45 days or more, if that other person will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS; or
- d) Demonstrate it has been exempted from the certification requirement for that solicitation or contract pursuant to Public Contract Code Section 2203(c) or (d).

To comply with this requirement, please insert your Contractor or financial institution name and Federal ID Number (if available) and complete one of the options below. Please note: California law establishes penalties for providing false certifications, including civil penalties equal to the greater of \$250,000 or twice the amount of the contract for which the false certification was made; contract termination; and three-year ineligibility to bid on contracts. (Public Contract Code Section 2205.)

Option #1 – Certification

I, the official named below, certify I am duly authorized to execute this certification on behalf of the Contractor/financial institution identified below, and the Contractor/financial institution identified below is **not** on the current list of persons engaged in investment activities in Iran created by DGS and is not a financial institution extending twenty million dollars (\$20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current list of persons engaged in investment activities in Iran created by DGS.

<i>Contractor Name/Financial Institution (Printed)</i> Wright Construction Engineering Corp		<i>Federal ID Number (or n/a)</i> 46-5724187
<i>By (Authorized Signature)</i> 		
<i>Printed Name and Title of Person Signing</i> Wesley Wright - President		
<i>Date Executed</i> 7/9/22	<i>Executed in</i> San Marcos, CA	

Option #2 – Exemption

Pursuant to Public Contract Code Sections 2203(c) and (d), a public entity may permit a Contractor/financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit a proposal for, or enters into or renews, a contract for goods and services.

If you have obtained an exemption from the certification requirement under the Iran Contracting Act, please fill out the information below, and attach documentation demonstrating the exemption approval.

<i>Contractor Name/Financial Institution (Printed)</i>		<i>Federal ID Number (or n/a)</i>
<i>By (Authorized Signature)</i>		
<i>Printed Name and Title of Person Signing</i>		
<i>Date Executed</i>	<i>Executed in</i>	

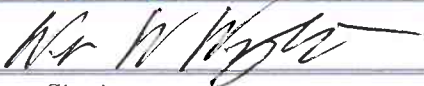
**COMPLIANCE WITH ECONOMIC SANCTIONS IN
RESPONSE TO RUSSIA'S ACTIONS IN UKRAINE**

Prior to bidding on, submitting a proposal, or executing a contract, a Contractor must certify: 1) it is not a target of economic sanctions and 2) compliance with economic sanctions imposed by the United States government in response to Russia's actions in Ukraine, as well as any requirements related to the Russian sanctions imposed by the California Governor's Executive Order N-6-22 issued on March 4, 2022, and under state law, if any.

To comply with this requirement, please insert the Contractor name and Federal ID Number (if available), complete the information described below, and execute by an authorized representative of the Contractor.

CERTIFICATION

I, the authorized representative for the Contractor named below, certify I am duly authorized to execute this certification on behalf of the Contractor below, and the Contractor identified below has conducted a good faith review of existing contracts. I attest that the Contractor is not a target of economic sanctions, and the Contractor is in compliance with the economic sanctions imposed by the United States government in response to Russia's actions in Ukraine, as well as any requirements related to the Russian sanctions imposed by the California Governor's Executive Order N-6-22 issued on March 4, 2022, and under state law, if any.

<i>Contractor Name/Financial Institution (Printed)</i> Wright Construction Engineering Corp		<i>Federal ID Number (or n/a)</i> 46-5724187	
<i>By (Authorized Signature)</i> 			
<i>Printed Name and Title of Person Signing</i> Wesley Wright - President			
<i>Date Executed</i> 7/9/22		<i>Executed in</i> San Marcos, CA	

BID BOND

Page 1 of 2

Recitals

1. The undersigned Wright Construction Engineering Corp (Contractor), is herewith submitting to the Riverside County Flood Control and Water Conservation District (District), a Bid Proposal ("Proposal") dated July 12 2022, for the construction of public work for **North Norco Channel Line NB, Stage 3** in accordance with a Notice to Contractors dated June 7, 2022.
2. Contractor is obligated as a condition of said Bid to submit security in the amount of at least ten percent (10%) of the Bid Amount, which security may be in the form of a Bid Bond issued by an admitted surety insurer pursuant to Code of Civil Procedure Section 995.120 ("Admitted Surety").
3. U.S. Specialty Insurance Company a Texas corporation, hereafter called (Surety), is the surety on this Bid 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 ten percent (10%) of the amount of the Contractor's Proposal and insures, 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 Construction Agreement and furnishes the Performance Bond, Payment Bond 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 that no change, any extension of time within which District may accept the Proposal, alteration or addition to the terms of the Contract or the Bidding Documents, or to the work to be performed thereunder, nor any withdrawal of the Proposal in a manner not permitted by the requirements of the Bidding requirements shall in any way impair or affect Surety's obligation under this Bond, and Surety does hereby waive notice of any such changes, extension of time, alterations or additions.
4. This Bond is binding on our heirs, executors, administrators, successors and assigns.
5. In the event any legal proceeding or arbitration is brought upon this Bond by District and judgment or award is entered in favor of District as the prevailing party, Surety shall pay all costs and attorney's fees incurred by the District.

BID BOND

Page 2 of 2

IN WITNESS WHEREOF the undersigned parties have executed this instrument under their several seals this day of July 6, 2022, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Dated: 7/9/22

Wright Construction Engineering Corp

(Proper name of Contractor)

(Corporate Seal of Contractor,
if Corporation)

By: [Signature]
Signature of Contractor's authorized representative

Wesley Wright - President

Print or type authorized representative's Name and Title

2625 S. Santa Fe Ave., San Marcos, CA 92069

Print or type Contractor's Address

(Corporate Seal of Surety)

Surety U.S. Specialty Insurance Company

(Attach Attorney-in-Fact
Certificate and Required
Acknowledgments)

By: [Signature]
Attorney-in-Fact, Cynthia J. Young

Alliant Insurance Services, Inc.
Name and Address of California Agent of Surety

685 East Carnegie Dr. Ste. 265

San Bernardino, CA 92408

909-886-9861
Telephone Number of California Agent of Surety

NOTE: Notary acknowledgment of signatures of Contractor and Surety, and Surety's Power of Attorney, must be included or attached.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

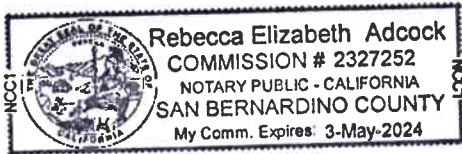
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Bernardino) ss.

On JUL 06 2022 before me, Rebecca Elizabeth Adcock, Notary Public
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Cynthia J. Young
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person 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.
Rebecca Elizabeth Adcock
Signature of Notary Public

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 _____
- Partner -- Limited General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: _____

RT THUMBPRINT OF SIGNER
Top of thumb here

Signer is Representing: _____

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

№ 07984

Amended

Certificate of Authority

THIS IS TO CERTIFY THAT, Pursuant to the Insurance Code of the State of California,

U.S. Specialty Insurance Company

of Houston, Texas, organized under the
laws of Texas, subject to its Articles of Incorporation or
other fundamental organizational documents, is hereby authorized to transact within the State, subject to
all provisions of this Certificate, the following classes of insurance:

Fire, Marine, Surety, Disability, Liability,
Workers' Compensation, Aircraft, and Miscellaneous

as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in
full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made
under authority of the laws of the State of California as long as such laws or requirements are in effect
and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 29th
day of December, 2004, I have hereunto
set my hand and caused my official seal to be affixed this
29th day of December, 2004



By

John Garamendi
Insurance Commissioner

Victoria S. Slubov
for Ida Zodrow Deputy
Asst. Chief Deputy

NOTICE:

Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly
after issuance of this Certificate of Authority. Failure to do so will be a violation of Insurance Code Section 701 and will be
grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the
conditions contained herein.

FORM CB-3

CSRS OSP 00 28201



TOKIOMARINE
HCC

POWER OF ATTORNEY

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Christina Mountz, Cynthia J. Young or Laurie B. Druck of San Bernardino California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** *****Three Million***** Dollars (*****\$3,000,000.00*****). This Power of Attorney shall expire without further action on January 31st, 2024. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.


Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 23rd day of September, 2021.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
County of Los Angeles



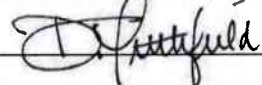
By: 
Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 23rd day of September, 2021, before me, D. Littlefield, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person 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  (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 6th day of July, 2022

Corporate Seal
Bond No.

Agency No. 3501




Kio Lo, Assistant Secretary

- Kan't Kopy® K1
Security Paper
- Hidden Pantograph
 - Color Match
 - Artificial Watermark
 - Anti-Copy Coin Rub
 - Erasure Protection
 - Security Features Box
 - Microprint Protection
 - Acid Free

- Kan't Kopy® K1
Security Paper
- Hidden Pantograph
 - Color Match
 - Artificial Watermark
 - Anti-Copy Coin Rub
 - Erasure Protection
 - Security Features Box
 - Microprint Protection
 - Acid Free

- Kan't Kopy® K1
Security Paper
- Hidden Pantograph
 - Color Match
 - Artificial Watermark
 - Anti-Copy Coin Rub
 - Erasure Protection
 - Security Features Box
 - Microprint Protection
 - Acid Free

- Kan't Kopy® K1
Security Paper
- Hidden Pantograph
 - Color Match
 - Artificial Watermark
 - Anti-Copy Coin Rub
 - Erasure Protection
 - Security Features Box
 - Microprint Protection
 - Acid Free

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Diego }

On July 9, 2022, before me, Patricia Rosales, Notary Public,
personally appeared Wes W. Wright

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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



NOTARY SEAL ABOVE:

WITNESS my hand and official seal.

SIGNATURE Patricia Rosales

OPTIONAL

Description of attached document

Title or type of document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other than Named Above: _____

CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT ("Agreement") is made as of September 13, 2022 and is by and between RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a body politic, (District) and WRIGHT CONSTRUCTION ENGINEERING CORP.

IT IS AGREED BY THE PARTIES AS FOLLOWS:

1. The Work. Contractor shall furnish all tools, equipment, apparatus, facilities, labor, supervision, services, transportation, materials and other required items and materials and do all things necessary to perform, accomplish and complete the work for **Project No. 2-0-00145-03, North Norco Channel Line NB, Stage 3** 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 No. 2-0-00145-03, North Norco Channel Line NB, Stage 3** of District are:

- (a) Notice Inviting Bids to Contractors;
- (b) Instructions To Bidders;
- (c) Contractor's Proposal, including List of Subcontractors, Statement of Licensure, Non-Collusion Declaration, Iran Contracting Act Certification;
- (d) Bid Bond
- (e) Construction Agreement, including Exhibit A, Workers' Compensation Contractor Certificate, Declaration of Sufficiency of Funds, and Evidence of Insurance;
- (f) Performance Bond;
- (g) Payment Bond;
- (h) General Provisions;
- (i) Special Provisions;
- (j) Detailed Specifications;
- (k) Plans;
- (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; and
- (n) Addenda No. 1

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, Construction Agreement, Certificate of Insurance, Performance Bond, and Payment Bond.

3. Bonds - Insurance. 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 Performance Bond or Payment 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. The District agrees to pay and the Contractor agrees to accept in full consideration for the performance of the Agreement, the sum of the total amount provided in Exhibit A, attached hereto, marked Exhibit A and by this reference made a part hereof, is provision for the Contract Price and its payment, subject to additions and deductions as provided in the Specifications and Contract Documents.

5. Contract Time for Completion. The Work shall be commenced on a date to be specified in a written "Notice To Proceed" to be issued by the District and shall be completed within the duration specified in the Specifications and Contract Documents. It is expressly agreed that except for extensions of time duly granted in the manner and for the reasons specified in the General Provisions, time shall be of the essence.

FORM APPROVED COUNTY COUNSEL
BY: Synthia M. Corzel 8-25-22
SYNTHIA M. CORZEL DATE

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

By Karen S. Spiegel
Chair of its Board of Supervisors
KAREN SPIEGEL

ATTEST:

KECIA HARPER
Clerk of the Board

By [Signature]
Deputy

(Seal)

Wright Construction Engineering Corp
Contractor
By [Signature]
Title **President**

(If corporation affix corporate seal)



1950-1951



EXHIBIT A

(To Agreement for Riverside County Flood Control and Water Conservation District's Project No. **2-0-00145-03, North Norco Channel Line NB, Stage 03** located in the city of Norco, 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.	---	\$125,000.00	\$125,000.00
2.	Water Control	L.S.	---	\$10,000.00	10,000.00
3.	Traffic Control	L.S.	---	\$15,000.00	15,000.00
4.	Clearing and Miscellaneous Work	L.S.	---	\$40,000.00	40,000.00
5.	Excavation	CY	2381	\$40.00	95,240.00
6.	Channel Excavation	CY	1829	\$40.00	73,160.00
7.	Structure Excavation	CY	518	\$40.00	20,720.00
8.	Backfill	CY	1415	\$35.00	49,525.00
9.	Controlled Low Strength Material (CLSM)	CY	208	\$300.00	62,400.00
10.	Trench Safety and Falsework	LS	---	\$20,000.00	20,000.00
11.	Class "A" Concrete, Trapezoidal Channel Paving	CY	512	\$700.00	358,400.00
12.	Class "A" Concrete, Channel Invert	CY	268	\$530.00	142,040.00
13.	Class "A" Concrete, Channel Wall	CY	226	\$700.00	158,200.00
14.	Class "A" Concrete, Minor Structures	CY	46	\$800.00	36,800.00
15.	Class "A" Concrete, Non-Shrink Grout	CF	122	\$50.00	6,100.00
16.	Class "B" Concrete, 2' Cutoff Wall	LF	2118	\$27.00	57,186.00

EXHIBIT A contd.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
17.	Class "B" Concrete, 3.5' Cutoff Wall	LF	503	\$80.00	40,240.00
18.	Class "B" Concrete, Miscellaneous	CY	35	\$520.00	18,200.00
19.	Transition Structure No.3	EA	1	\$15,000.00	15,000.00
20.	Junction Structure No. 1	EA	1	\$12,000.00	12,000.00
21.	Manhole No. 4	EA	1	\$8,500.00	8,500.00
22.	18" RCP, CLASS IV	LF	26	\$300.00	7,800.00
23.	24" RCP, CLASS IV	LF	81	\$330.00	26,730.00
24.	30" RCP, CLASS IV	LF	90	\$350.00	31,500.00
25.	36" RCP, CLASS IV	LF	254	\$400.00	101,600.00
26.	Class 2 Aggregate Base	CY	30	\$125.00	3,750.00
27.	Hot Mix Asphalt (HMA)	TONS	81	\$378.00	30,618.00
28.	Asphalt Concrete Grinding	SF	880	\$5.00	4,400.00
29.	Temporary Resurfacing	TONS	20	\$200.00	4,000.00
30.	Safety Bollard	EA	6	\$1,500.00	9,000.00
31.	Metal Post Delineator	EA	1	\$1,000.00	1,000.00
32.	6-Foot Chain Link Fence	LF	380	\$82.00	31,160.00
33.	Temporary Fencing	LF	218	\$15.50	3,379.00
34.	Cable Railing	LF	904	\$32.00	28,928.00
35.	14-Foot Double Drive Gates	PAIR	7	\$1,500.00	10,500.00
36.	Miscellaneous Iron and Steel	LBS	8820	\$3.20	28,224.00
37.	Subdrain	LF	1107	\$70.00	77,490.00
38.	Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection	LF	14	\$300.00	4,200.00
39.	Relocate Waterline Service Connection	EA	2	\$3,000.00	6,000.00
40.	Remove Existing RCB and Structures	LF	258	\$230.00	59,340.00

EXHIBIT A contd.

ITEM NO.	ITEM OF WORK	UNIT	QUANTITY	UNIT COST	TOTAL COST
41	Full Trash Capture Device	EA	8	\$1,650.00	13,200.00
42	Block Wall	LF	123	\$210.00	25,830.00
43	Adjust Manhole to Grade	EA	3	\$1,200.00	3,600.00
44	Extra Directed Work	LS	---	\$100,000.00	100,000.00
45	Filter Material	CY	446	\$126.00	56,196.00
46	ASTM #2 Stone	CY	145	\$130.00	18,850.00
47	Dust Abatement	LS	---	\$7,500.00	7,500.00
48	Stormwater and Non-Stormwater Pollution Control	LS	---	\$10,000.00	10,000.00
49	Non-Stormwater Discharge or Dewatering	LS	---	\$8,500.00	8,500.00
50	Relocate 12-Inch Waterline	LS	---	\$25,000.00	25,000.00
51	Precast Reinforced Concrete Box (PRCB) 12'W x 5'H	LF	63	\$1,702.00	107,226.00
52	Precast Reinforced Concrete Box (PRCB) 10'W x 6'H	LF	144	\$1,082.00	155,808.00
53	Articulating Concrete Block (ACB)	SY	218	\$300.00	65,400.00
54	Filter Fabric	SY	586	\$20.00	11,720.00
55	Biaxial Geogrid	SY	218	\$30.00	6,540.00

TOTAL COST \$2,448,700.00



PERFORMANCE BOND

(Public Work – Public Contract Code Section 21091)

WHEREAS, the Riverside County Flood Control and Water Conservation District ("District") on September 13, 2022, has awarded Construction Contract Number: **2-0-00145-03** ("Contract") to the undersigned Wright Construction Engineering Corp., as Principal ("Principal") to perform the work ("Work") for the following project; **North Norco Channel Line NB, Stage 3**, which Contract is by this reference hereby incorporated herein and made a part hereof;

WHEREAS, said Principal is required by the Contract and/or by California Public Contract Code, Section 21091 to furnish a performance bond for the faithful performance of the Contract;

NOW THEREFORE, we, the Principal and U.S. Specialty Insurance Company ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto District in the penal sum of Two Million Four Hundred Forty Eight Thousand Seven Hundred Dollars (\$2,448,700.00), this amount being not less than one hundred percent (100%) of the total sum payable by District under the Contract at the time the Contract is awarded by District to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents, to:

1. Perform all the work required to complete the Project; and
2. Pay to the District all damages the District incurs as a result of the Contractor's failure to perform all the Work required to complete the Project.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors or assigns approved by District, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions and agreements in the Contract, including, without limitation, all obligations during the original term and any extensions thereof as may be granted by District, with or without notice to Surety thereof (including, without limitation, the obligation for Principal to pay liquidated damages), all obligations during the period of any warranties and guarantees required under the Contract and all other obligations otherwise arising under the terms of the Contract (such as, but not limited to, obligations of indemnification), all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.



PERFORMANCE BOND

Page 2 of 3

Whenever Principal shall be, and is declared by District to be, in default under the Contract, the Surety shall promptly either remedy the default, or, if the Contract is terminated by District or the Principal's performance of the Work is discontinued, Surety shall promptly complete the Contract through its agents or independent contractors, subject to acceptance of such agents or independent contractors by District as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract (including, without limitation, all obligations with respect to payment of liquidated damages) less the "Balance of the Contract Price" (as hereinafter defined); subject to the penal amount of this bond as set forth above. The term "Balance of the Contract Price", as used in this paragraph, shall mean the total amount payable to Principal by District under the Contract and any modifications thereto, less the amount previously paid by District to the Principal and less amounts that District is authorized to withhold under the terms of the Contract.

If District determines that completion of the Contract by Surety or its agents or independent contractors must be performed by a lowest responsible bidder selected pursuant to a competitive bidding process, then Surety shall comply with such processes in accordance with the requirements of District and applicable laws. Unless otherwise approved by District, in the exercise of its sole and absolute discretion, Surety shall not utilize Principal in completing performance of the Work.

No right of action shall accrue on this bond to or for the use of any person or entity other than District or its successors or assigns.

In the event any legal proceeding or arbitration is brought upon this bond by District and judgment or award is entered in favor of District as the prevailing party, Surety shall pay all costs and attorney's fees incurred by the District.

Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing District's rights against the others.



PERFORMANCE BOND

Page 3 of 3

(Corporate Seal of Principal,
if Corporation)

Wright Construction Engineering Corp

(Proper name of Principal)

By: Wesley Wright

Signature of Principal's authorized representative

Wesley Wright, President

Print or type authorized representative's Name and Title

2625 S. Santa Fe Ave., San Marcos, CA 92069

Print or type Principal's Address

(Corporate Seal of Surety)

Surety U.S. Specialty Insurance Company
By: Cynthia J. Young

Attorney-in-Fact Cynthia J. Young

(Attach Attorney-in-Fact
Certificate and Required
Acknowledgments)

Alliant Insurance Services, Inc.

Name and Address of California Agent of Surety

685 E. Carnegie Dr., Ste. 265

San Bernardino, CA 92408

909-886-9861

Telephone Number of California Agent of Surety

NOTE: Notary acknowledgment of signatures of Principal and Surety, and Surety's Power of Attorney, must be included or attached.



CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Bernardino) ss.

On AUG 13 2022 before me, Rebecca Elizabeth Adcock, Notary Public
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Cynthia J. Young
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person 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]
Signature of Notary Public

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.

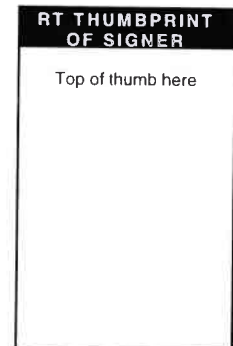
Description of Attached Document

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 _____
- Partner -- Limited General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer is Representing:

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

No 07984

Amended

Certificate of Authority

THIS IS TO CERTIFY THAT, Pursuant to the Insurance Code of the State of California,

U.S. Specialty Insurance Company

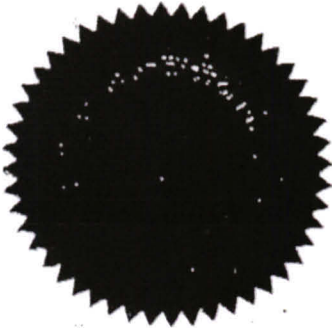
of Houston, Texas, organized under the
laws of Texas, subject to its Articles of Incorporation or
other fundamental organizational documents, is hereby authorized to transact within the State, subject to
all provisions of this Certificate, the following classes of insurance:

Fire, Marine, Surety, Disability, Liability,
Workers' Compensation, Aircraft, and Miscellaneous

as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in
full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made
under authority of the laws of the State of California as long as such laws or requirements are in effect
and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 29th
day of December, 2004, I have hereunto
set my hand and caused my official seal to be affixed this
29th day of December, 2004.



John Garamendi
Insurance Commissioner

By

Victoria S. Sidorsky
for Ida Zodrow Deputy
Asst. Chief Deputy

NOTICE:

Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly
after issuance of this Certificate of Authority. Failure to do so will be a violation of Insurance Code Section 701 and will be
grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the
conditions contained herein.





**TOKI MARINE
HCC**

**POWER OF ATTORNEY
AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Christina Mountz, Cynthia J. Young or Laurie B. Druck of San Bernardino California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed *****Three Million***** Dollars (***\$3,000,000.00***). This Power of Attorney shall expire without further action on January 31st, 2024. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 23rd day of September, 2021.

**AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

State of California
County of Los Angeles



By: [Signature]
Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 23rd day of September, 2021, before me, D. Littlefield, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person 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 [Signature] (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 13th day of August 2022.

Corporate Seals
Bond No. 1001155667
Agency No. 3501



[Signature]
Kio Lo, Assistant Secretary

Kan't Kopy® K1
Security Paper

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

Kan't Kopy® K1
Security Paper

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

Kan't Kopy® K1
Security Paper

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

Kan't Kopy® K1
Security Paper

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

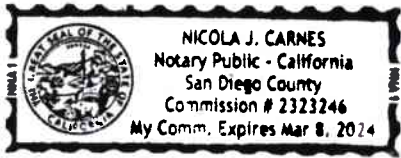
A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Diego }

On August 16, 2022, before me, Nicola Carnes Notary Public,
personally appeared Wes W. Wright

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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



NOTARY SEAL ABOVE

WITNESS my hand and official seal.

SIGNATURE *Nicola Carnes*

OPTIONAL

Description of attached document

Title or type of document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other than Named Above: _____

1964-1965
STATE OF CALIFORNIA
DEPARTMENT OF REVENUE
SALES TAX RECEIPTS
NO. 1

PAYMENT BOND

Page 1 of 2

(Public Work - Civil Code Sections 9550 et seq.)

WHEREAS, the Riverside County Flood Control and Water Conservation District ("District") by action of the Board of Supervisors on September 13, 2022, has awarded Construction Contract Number: 2-0-00145-03 ("Contract") to the undersigned Wright Construction Engineering Corp., as Principal ("Principal") to perform the work ("Work") for the following project; North Norco Channel Line NB, Stage 03.

WHEREAS, said Principal is required by the Contract and/or by the California Civil Code Section 9550 et seq. to furnish a payment bond in connection with the Contract;

NOW THEREFORE, we, the Principal and U.S. Specialty Insurance Company ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto District in the penal sum of Two Million Four Hundred Forty Eight Thousand Seven Hundred Dollars (\$ 2,448,700.00), this amount being not less than one hundred percent (100%) of the total sum payable by District under the Contract at the time the Contract is awarded by District to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors, or assigns approved by District, or its subcontractors, of any contracting tier, shall fail to pay any amounts or any person or persons named and described in California Civil Code, Section 9554, then Surety will pay for the same, in or to an amount not exceeding the penal amount hereinabove set forth, and also will pay to the prevailing party if suit is brought upon this bond, reasonable attorney's fees as provided in California Civil Code, Section 9564.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder, nor any rescission or attempted rescission of the Contract or this bond, nor any conditions precedent or subsequent in the bond or Contract attempting to limit the right of recovery of any claimant otherwise entitled to recover under the Contract or this bond shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety is not released from liability to those for whose benefit this bond has been given, by reason of any breach of the Contract by District or Principal.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under Section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.



PAYMENT BOND

Page 2 of 2

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing District's rights against the others.

Wright Construction Engineering Corp

(Proper name of Principal)

(Corporate Seal of Principal,
if Corporation)

By: 
Signature of Principal's authorized representative

Wesley Wright, President


Print or type authorized representative's Name and Title

2625 S. Santa Fe Ave., San Marcos, CA 92069

Print or type Principal's Address

(Corporate Seal of Surety)

Surety U.S. Specialty Insurance Company

By: 
Attorney-in-Fact Cynthia J. Young

(Attach Attorney-in-Fact
Certificate and Required
Acknowledgments)

Alliant Insurance Services, Inc.

Name and Address of California Agent of Surety

685 E. Carnegie Dr., Ste. 265

San Bernardino, CA 92408

909-886-9861

Telephone Number of California Agent of Surety

NOTE: Notary acknowledgment of signatures of Principal and Surety, and Surety's Power of Attorney, must be included or attached.



CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
County of San Bernardino) ss.

On AUG 13 2022 before me, Rebecca Elizabeth Adcock, Notary Public
Name and Title of Officer (e.g., "Jane Doe, Notary Public")

personally appeared Cynthia J. Young
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person 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]
Signature of Notary Public

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 _____
- Partner -- Limited General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: _____

RT THUMBPRINT OF SIGNER
Top of thumb here

Signer is Representing: _____

STATE OF CALIFORNIA
DEPARTMENT OF INSURANCE
SAN FRANCISCO

NO 07984

Amended
Certificate of Authority

THIS IS TO CERTIFY THAT, Pursuant to the Insurance Code of the State of California,

U.S. Specialty Insurance Company

of Houston, Texas, organized under the
laws of Texas, subject to its Articles of Incorporation or
other fundamental organizational documents, is hereby authorized to transact within the State, subject to
all provisions of this Certificate, the following classes of insurance:

Fire, Marine, Surety, Disability, Liability,
Workers' Compensation, Aircraft, and Miscellaneous

as such classes are now or may hereafter be defined in the Insurance Laws of the State of California.

THIS CERTIFICATE is expressly conditioned upon the holder hereof now and hereafter being in
full compliance with all, and not in violation of any, of the applicable laws and lawful requirements made
under authority of the laws of the State of California as long as such laws or requirements are in effect
and applicable, and as such laws and requirements now are, or may hereafter be changed or amended.

IN WITNESS WHEREOF, effective as of the 29th
day of December, 2004, I have hereunto
set my hand and caused my official seal to be affixed this
29th day of December, 2004



By

John Garamendi
Insurance Commissioner

Victoria A. Sidorov
for Ida Zodrow Deputy
Asst. Chief Deputy

NOTICE:

Qualification with the Secretary of State must be accomplished as required by the California Corporations Code promptly
after issuance of this Certificate of Authority. Failure to do so will be a violation of Insurance Code Section 701 and will be
grounds for revoking this Certificate of Authority pursuant to the covenants made in the application therefor and the
conditions contained herein.





TOKIO MARINE
HCC

POWER OF ATTORNEY

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, Texas Bonding Company, an assumed name of American Contractors Indemnity Company, United States Surety Company, a Maryland corporation and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

Christina Mountz, Cynthia J. Young or Laurie B. Druck of San Bernardino California

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed *****Three Million***** Dollars (***\$3,000,000.00***) . This Power of Attorney shall expire without further action on January 31st, 2024. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

Be it Resolved, that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and effected by the Corporate Secretary.

Be it Resolved, that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 23rd day of September, 2021.

AMERICAN CONTRACTORS INDEMNITY COMPANY TEXAS BONDING COMPANY
UNITED STATES SURETY COMPANY U.S. SPECIALTY INSURANCE COMPANY

State of California
County of Los Angeles



By: [Signature]
Daniel P. Aguilar, Vice President

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On this 23rd day of September, 2021, before me, D. Littlefield, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person 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 [Signature] (seal)



I, Kio Lo, Assistant Secretary of American Contractors Indemnity Company, Texas Bonding Company, United States Surety Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 13th day of August, 2022

Corporate Seals
Bond No. 1001153067
Agency No. 3501



[Signature]
Kio Lo, Assistant Secretary

**Kan't Kopy™ K1
Security Paper**

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

**Kan't Kopy™ K1
Security Paper**

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

**Kan't Kopy™ K1
Security Paper**

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

**Kan't Kopy™ K1
Security Paper**

- Hidden Pantograph
- Color Match
- Artificial Watermark
- Anti-Copy Coin Rub
- Erasure Protection
- Security Features Box
- Microprint Protection
- Acid Free

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California }
County of San Diego }

On August 16, 2022, before me, Nicola Carnes Notary Public,
personally appeared Wes W. Wright

who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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



NOTARY SEAL ABOVE

WITNESS my hand and official seal.

SIGNATURE Nicola Carnes

OPTIONAL

Description of attached document

Title or type of document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other than Named Above: _____



WORKERS' COMPENSATION CONTRACTOR CERTIFICATE

(Labor Code Sections 1860, 1861 & 3700)

In accordance with the provisions of Section 3700 of the Labor Code, every Contractor shall secure compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this state.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or as one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees.
- (c) For any county, city, city and county, municipal corporation, public district, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702.

Labor Code Section 1861 requires each Contractor to whom a public works Contract is awarded shall sign and file with the District the following certification prior to performing the Work of the public works construction Contract:

I am aware of the provisions of Section 3700 of the 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.

By signing this certification, the Contractor understands the requirements of and agrees to comply with the aforementioned requirements.

Name of Contractor: Wright Construction Engineering Corp

By: 

Title: President

DECLARATION OF SUFFICIENCY OF FUNDS

(California Labor Code Section 2810)

I, the undersigned, an authorized representative of **Wright Construction Engineering Corp** ("Bidder") with authority to make the statements contained in this Declaration on behalf of Bidder, hereby declare the following:

1. The Bidder's employer identification number for state tax purposes is:
C3675827

2. The Bidder's workers' compensation insurance policy number is:
UB-2T543710-22-2S-G

and the name, address, and telephone number of the insurance carrier providing said insurance is:

Travelers Property Casualty Company
9325 Sky Park Court, Suite 220, San Diego, CA - 1-877-828-4132

3. The following information is provided concerning any and all vehicles that are owned by the Bidder and that will be used for transportation in connection with any service provided for the performance of the Work that is the subject of the Bidder's Bid [Insert information requested. Attach additional sheets, if needed.]:

<i>Vehicle</i>	<i>Vehicle ID #</i>	<i>Vehicle, Liability Insurance Policy Number (of policy covering vehicle)</i>	<i>Name, Address and Telephone Number of Vehicle Liability Insurance Carrier (issuing policy covering vehicle)</i>
2001 Toyota Tundra	5TBRT34161S137437	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132
2007 Ford F350	1FTWX31P77EA71454	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132
2016 Ford F250	1FTBF2A66GEC61121	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132
2016 Ford F550	1FDUF5GT4GED48373	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132
2006 Toyota Tundra	5TBRT34196S476588	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132
2005 Ford F250	1FTNF20505EA91695	BA-8L729156-22-2S-G	Travelers Indemnity Company One Tower Square, Hartford, CT 06183, 1-877-828-4132

4. The following is the address of any real property that will be used to house workers in connection with the performance of the Work that is the subject of the Bidder's Bid [If no such housing will be provided, enter "none"]:
N/A

DECLARATION OF SUFFICIENCY OF FUNDS

5. The actual or estimated number of workers that will be employed to perform the Work that is the subject of the Bidder's Bid, the total amount of wages to be paid to said workers, and the dates on which said wages will be paid are as follows [Attach additional sheets, if needed.]:

<i>Total Number of Workers</i>	<i>Total Amount of Wages</i>	<i>Date(s) for Payment of Wages</i>
12	Un-None	Weekly

6. Check only one of the following boxes, as applicable:

- The statement of number of workers declared in Paragraph 5, above, is a statement of the actual number of workers that will be employed.
- The actual number of workers requested in Paragraph 5, above, is unknown and therefore the statement of number of workers declared therein is based on the Bidder's best estimate available at the time of submitting its Bid, rather than the actual number of workers that will be employed and if and when the actual number of workers and the other information requested above is available, it will be reported to the District by Bidder in writing.

7. The actual or estimated total number of persons who will be utilized as independent Contractors to perform the Work of the Project that is the subject of the Bidder's Bid (together with their known, current local, state, and federal Contractor license identification numbers that each is required to have under local, state or federal laws or regulations) are as follows [Attach additional sheets, if needed.]:

<i>List of Independent Contractors</i>	<i>Current, local, state and federal Contractor license identification number</i>
Camblin Steel	218839
Harris Steel Fence CO, Inc	319155
United Storm Water, Inc.	768583

DECLARATION OF SUFFICIENCY OF FUNDS

8. Check only one of the following boxes, as applicable:

- The statement of number of independent Contractors declared in Paragraph 7, above, is a statement of the actual number of independent Contractors that will be utilized.

- The actual number of independent Contractors requested in Paragraph 7, above, is unknown and therefore the statement of number of independent Contractors declared therein is based on the Bidder's best estimate available at the time of submitting its Bid, rather than the actual number of independent Contractors that will be utilized, and if and when the actual number of independent Contractors and the other information requested above is available, it will be reported to the District by Bidder in writing.

I, the undersigned, declare under penalty of perjury that the foregoing statements are within my personal knowledge and are true and correct. Executed on this 16th day of August, in the year 2022 at San Marcos, California.



(Signature)

Wesley Wright

Type Name of Signer:

Wright Construction Engineering Corp

Type Name of Bidder:





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/22/2022

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 have ADDITIONAL INSURED provisions or 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 License # 0C36861 Inland Empire-Alliant Insurance Services, Inc. 685 E. Carnegie Dr Ste 265 San Bernardino, CA 92408	CONTACT NAME: Christina M Mountz	
	PHONE (A/C, No, Ext): (909) 886-9861	FAX (A/C, No): (909) 886-2013
	E-MAIL ADDRESS: cmountz@alliant.com	
INSURED Wright Construction Engineering Corp 2625 S. Santa Fe Ave San Marcos, CA 92069-5927	INSURER(S) AFFORDING COVERAGE	
	INSURER A : Travelers Indemnity Company of Connecticut	25682
	INSURER B : Travelers Property Casualty Company of America	25674
	INSURER C : Westchester Surplus Lines Insurance Company	10172
	INSURER D :	
	INSURER E :	

COVERAGES CERTIFICATE NUMBER: 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	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> PD Ded \$5,000/Occ GEN'L AGGREGATE LIMIT APPLIES PER <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X		CO7K006077	3/4/2022	3/4/2023	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea. occurrence) \$ 300,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 EBL AGGREGATE \$ 2,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY \$1,000 Comp Ded <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY \$1,000 Coll Ded	X		BA8L729156	3/4/2022	3/4/2023	COMBINED SINGLE LIMIT (Ea. accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			CUP1N870435	3/4/2022	3/4/2023	EACH OCCURRENCE \$ 4,000,000 AGGREGATE \$ 4,000,000 Over GL/AL/EL \$
B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y <input checked="" type="checkbox"/> N If yes, describe under DESCRIPTION OF OPERATIONS below		X	UB2T543710	3/4/2022	3/4/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E L EACH ACCIDENT \$ 1,000,000 E L DISEASE - EA EMPLOYEE \$ 1,000,000 E L DISEASE - POLICY LIMIT \$ 1,000,000
C	Pollution Liability			G73614272 001	8/15/2022	8/15/2023	Each Condition \$ 2,000,000
C	Pollution Liability			G73614272 001	8/15/2022	8/15/2023	Aggregate \$ 4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: North Norco Channel Line NB, Stage 3.
 Riverside County Flood Control and Water Conservation District, the County of Riverside, its Agencies, Districts, Special Districts and Departments, City of Norco, and any municipal corporation or governmental entity in which the work is to be accomplished, their respective directors, officers, Board of Supervisors, governing boards or councils, employees, elected and appointed officials, agents, representatives are additional insureds as respects general liability and auto per endorsements attached. Workers' Compensation waiver of subrogation applies to Riverside County Flood Control and Water Conservation District and the County of Riverside per endorsement attached. X C U exclusions do not exist under the commercial general liability policy per policy provisions. Cancellation notice per attached endorsements.
 This certificate cancels and replaces certificate previously issued on 8/12/22

CERTIFICATE HOLDER Riverside County Flood Control and Water Conservation District 1995 Market St Riverside, CA 92501	CANCELLATION 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

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED
(Includes Products-Completed Operations If Required By Contract)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

PROVISIONS

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that you agree in a written contract or agreement to include as an additional insured on this Coverage Part is an insured, but only:

- a. With respect to liability for "bodily injury" or "property damage" that occurs, or for "personal injury" caused by an offense that is committed, subsequent to the signing of that contract or agreement and while that part of the contract or agreement is in effect; and
- b. If, and only to the extent that, such injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the written contract or agreement applies. Such person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

The insurance provided to such additional insured is subject to the following provisions:

- a. If the Limits of Insurance of this Coverage Part shown in the Declarations exceed the minimum limits required by the written contract or agreement, the insurance provided to the additional insured will be limited to such minimum required limits. For the purposes of determining whether this limitation applies, the minimum limits required by the written contract or agreement will be considered to include the minimum limits of any Umbrella or Excess liability coverage required for the additional insured by that written contract or agreement. This provision will not increase the limits of insurance described in Section III – Limits Of Insurance.
- b. The insurance provided to such additional insured does not apply to:

- (1) Any "bodily injury", "property damage" or "personal injury" arising out of the providing, or failure to provide, any professional architectural, engineering or surveying services, including:

- (a) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders or change orders, or the preparing, approving, or failing to prepare or approve, drawings and specifications; and
- (b) Supervisory, inspection, architectural or engineering activities.

- (2) Any "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the written contract or agreement specifically requires you to provide such coverage for that additional insured during the policy period.

- c. The additional insured must comply with the following duties:

- (1) Give us written notice as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, such notice should include:

- (a) How, when and where the "occurrence" or offense took place;
- (b) The names and addresses of any injured persons and witnesses; and
- (c) The nature and location of any injury or damage arising out of the "occurrence" or offense.

- (2) If a claim is made or "suit" is brought against the additional insured:



COMMERCIAL GENERAL LIABILITY

- (a) Immediately record the specifics of the claim or "suit" and the date received; and
 - (b) Notify us as soon as practicable and see to it that we receive written notice of the claim or "suit" as soon as practicable.
- (3) Immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.
- (4) Tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover such additional insured for a loss we cover. However, this condition does not affect whether the insurance provided to such additional insured is primary to other insurance available to such additional insured which covers that person or organization as a named insured as described in Paragraph 4., Other Insurance, of Section IV – Commercial General Liability Conditions.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO EXTENSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to the Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

- | | |
|---|---|
| A. BROAD FORM NAMED INSURED | H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT |
| B. BLANKET ADDITIONAL INSURED | I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT |
| C. EMPLOYEE HIRED AUTO | J. PERSONAL EFFECTS |
| D. EMPLOYEES AS INSURED | K. AIRBAGS |
| E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS | L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS |
| F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS | M. BLANKET WAIVER OF SUBROGATION |
| G. WAIVER OF DEDUCTIBLE – GLASS | N. UNINTENTIONAL ERRORS OR OMISSIONS |

PROVISIONS

A. BROAD FORM NAMED INSURED

The following is added to Paragraph A.1., **Who Is An Insured**, of SECTION II – LIABILITY COVERAGE:

Any organization you newly acquire or form during the policy period over which you maintain 50% or more ownership interest and that is not separately insured for Business Auto Coverage. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. BLANKET ADDITIONAL INSURED

The following is added to Paragraph c. in A.1., **Who Is An Insured**, of SECTION II – LIABILITY COVERAGE:

Any person or organization who is required under a written contract or agreement between you and that person or organization, that is signed and

executed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to be named as an additional insured is an "insured" for Liability Coverage, but only for damages to which this insurance applies and only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Section II.

C. EMPLOYEE HIRED AUTO

1. The following is added to Paragraph A.1., **Who Is An Insured**, of SECTION II – LIABILITY COVERAGE:

An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in that "employee's" name, with your permission, while performing duties related to the conduct of your business.



COMMERCIAL AUTO

2. The following replaces Paragraph b. in B.5., Other insurance, of SECTION IV – BUSINESS AUTO CONDITIONS:

b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

- (1) Any covered "auto" you lease, hire, rent or borrow; and
- (2) Any covered "auto" hired or rented by your "employee" under a contract in that individual "employee's" name, with your permission, while performing duties related to the conduct of your business.

However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

D. EMPLOYEES AS INSURED

The following is added to Paragraph A.1., Who Is An Insured, of SECTION II – LIABILITY COVERAGE:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

E. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

1. The following replaces Paragraph A.2.a.(2), of SECTION II – LIABILITY COVERAGE:

(2) Up to \$3,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

2. The following replaces Paragraph A.2.a.(4), of SECTION II – LIABILITY COVERAGE:

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to \$500 a day because of time off from work.

F. HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS

The following replaces Subparagraph (5) in Paragraph B.7., Policy Period, Coverage Territory, of SECTION IV – BUSINESS AUTO CONDITIONS:

(5) Anywhere in the world, except any country or jurisdiction while any trade sanction, embargo, or similar regulation imposed by the United States of America applies to and prohibits the transaction of business with or

within such country or jurisdiction, for Liability Coverage for any covered "auto" that you lease, hire, rent or borrow without a driver for a period of 30 days or less and that is not an "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.

(a) With respect to any claim made or "suit" brought outside the United States of America, the territories and possessions of the United States of America, Puerto Rico and Canada:

(i) You must arrange to defend the "insured" against, and investigate or settle any such claim or "suit" and keep us advised of all proceedings and actions.

(ii) Neither you nor any other involved "insured" will make any settlement without our consent.

(iii) We may, at our discretion, participate in defending the "insured" against, or in the settlement of, any claim or "suit".

(iv) We will reimburse the "insured" for sums that the "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, that the "insured" pays with our consent, but only up to the limit described in Paragraph C., Limit Of Insurance, of SECTION II – LIABILITY COVERAGE.

(v) We will reimburse the "insured" for the reasonable expenses incurred with our consent for your investigation of such claims and your defense of the "insured" against any such "suit", but only up to and included within the limit described in Paragraph C., Limit Of Insurance, of SECTION II – LIABILITY COVERAGE, and not in addition to such limit. Our duty to make such payments ends when we have used up the applicable limit of insurance in payments for damages, settlements or defense expenses.

(b) This insurance is excess over any valid and collectible other insurance available



to the "insured" whether primary, excess contingent or on any other basis.

- (c) This insurance is not a substitute for required or compulsory insurance in any country outside the United States, its territories and possessions, Puerto Rico and Canada.

You agree to maintain all required or compulsory insurance in any such country up to the minimum limits required by local law. Your failure to comply with compulsory insurance requirements will not invalidate the coverage afforded by this policy, but we will only be liable to the same extent we would have been liable had you complied with the compulsory insurance requirements.

- (d) It is understood that we are not an admitted or authorized insurer outside the United States of America, its territories and possessions, Puerto Rico and Canada. We assume no responsibility for the furnishing of certificates of insurance, or for compliance in any way with the laws of other countries relating to insurance.

G. WAIVER OF DEDUCTIBLE – GLASS

The following is added to Paragraph D., **Deductible**, of SECTION III – **PHYSICAL DAMAGE COVERAGE**:

No deductible for a covered "auto" will apply to glass damage if the glass is repaired rather than replaced.

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

The following replaces the last sentence of Paragraph A.4.b., **Loss Of Use Expenses**, of SECTION III – **PHYSICAL DAMAGE COVERAGE**:

However, the most we will pay for any expenses for loss of use is \$65 per day, to a maximum of \$750 for any one "accident".

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

The following replaces the first sentence in Paragraph A.4.a., **Transportation Expenses**, of SECTION III – **PHYSICAL DAMAGE COVERAGE**:

We will pay up to \$50 per day to a maximum of \$1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type.

J. PERSONAL EFFECTS

The following is added to Paragraph A.4., **Coverage Extensions**, of SECTION III – **PHYSICAL DAMAGE COVERAGE**:

Personal Effects

We will pay up to \$400 for "loss" to wearing apparel and other personal effects which are:

- (1) Owned by an "insured"; and
- (2) In or on your covered "auto".

This coverage applies only in the event of a total theft of your covered "auto".

No deductibles apply to this Personal Effects coverage.

K. AIRBAGS

The following is added to Paragraph B.3., **Exclusions**, of SECTION III – **PHYSICAL DAMAGE COVERAGE**:

Exclusion 3.a. does not apply to "loss" to one or more airbags in a covered "auto" you own that inflate due to a cause other than a cause of "loss" set forth in Paragraphs A.1.b. and A.1.c., but only:

- a. If that "auto" is a covered "auto" for Comprehensive Coverage under this policy;
- b. The airbags are not covered under any warranty; and
- c. The airbags were not intentionally inflated.

We will pay up to a maximum of \$1,000 for any one "loss".

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

The following is added to Paragraph A.2.a., of SECTION IV – **BUSINESS AUTO CONDITIONS**:

Your duty to give us or our authorized representative prompt notice of the "accident" or "loss" applies only when the "accident" or "loss" is known to:

- (a) You (if you are an individual);
- (b) A partner (if you are a partnership);
- (c) A member (if you are a limited liability company);
- (d) An executive officer, director or insurance manager (if you are a corporation or other organization); or
- (e) Any "employee" authorized by you to give notice of the "accident" or "loss".



COMMERCIAL AUTO

M. BLANKET WAIVER OF SUBROGATION

The following replaces Paragraph A.5., **Transfer Of Rights Of Recovery Against Others To Us**, of SECTION IV – BUSINESS AUTO CONDITIONS:

5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract signed and executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by

such contract. The waiver applies only to the person or organization designated in such contract.

N. UNINTENTIONAL ERRORS OR OMISSIONS

The following is added to Paragraph B.2., **Concealment, Misrepresentation, Or Fraud**, of SECTION IV – BUSINESS AUTO CONDITIONS:

The unintentional omission of, or unintentional error in, any information given by you shall not prejudice your rights under this insurance. However this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.





**WORKERS COMPENSATION
AND
EMPLOYERS LIABILITY POLICY**

ENDORSEMENT WC 99 03 76 (A) - 001

POLICY NUMBER: UB-2T543710-22-2S-G

**WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS
ENDORSEMENT - CALIFORNIA
(BLANKET WAIVER)**

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

The additional premium for this endorsement shall be 02.00 % of the California workers' compensation premium.

Schedule

Person or Organization

Job Description

ANY PERSON OR ORGANIZATION FOR WHICH THE INSURED HAS AGREED BY WRITTEN CONTRACT EXECUTED PRIOR TO LOSS TO FURNISH THIS WAIVER.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective 3-04-2022

Policy No. UB-2T543710-22-2S-G

Insured Wright Construction Engineering Corp

Insurance Company Travelers Property Casualty Co of Amer

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CALIFORNIA CHANGES – CANCELLATION AND NONRENEWAL

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
MEDICAL PROFESSIONAL LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

A. Paragraphs **2.** and **3.** of the **Cancellation** Common Policy Condition are replaced by the following:

2. All Policies In Effect For 60 Days Or Less

If this policy has been in effect for 60 days or less, and is not a renewal of a policy we have previously issued, we may cancel this policy by mailing or delivering to the first Named Insured, at the mailing address shown in the policy, and to the producer of record, advance written notice of cancellation, stating the reason for cancellation, at least:

a. 10 days before the effective date of cancellation if we cancel for:

(1) Nonpayment of premium; or

(2) Discovery of fraud by:

(a) Any insured or his or her representative in obtaining this insurance; or

(b) You or your representative in pursuing a claim under this policy.

b. 30 days before the effective date of cancellation if we cancel for any other reason.

3. All Policies In Effect For More Than 60 Days

a. If this policy has been in effect for more than 60 days, or is a renewal of a policy we issued, we may cancel this policy only upon the oc-

currence, after the effective date of the policy, of one or more of the following:

(1) Nonpayment of premium, including payment due on a prior policy we issued and due during the current policy term covering the same risks.

(2) Discovery of fraud or material misrepresentation by:

(a) Any insured or his or her representative in obtaining this insurance; or

(b) You or your representative in pursuing a claim under this policy.

(3) A judgment by a court or an administrative tribunal that you have violated a California or Federal law, having as one of its necessary elements an act which materially increases any of the risks insured against.

(4) Discovery of willful or grossly negligent acts or omissions, or of any violations of state laws or regulations establishing safety standards, by you or your representative, which materially increase any of the risks insured against.

(5) Failure by you or your representative to implement reasonable loss control requirements, agreed to by you as a condition of policy issuance, or which were conditions precedent to our use of a particular rate or rating plan, if that failure

materially increases any of the risks insured against.

(6) A determination by the Commissioner of Insurance that the:

(a) Loss of, or changes in, our reinsurance covering all or part of the risk would threaten our financial integrity or solvency; or

(b) Continuation of the policy coverage would:

(i) Place us in violation of California law or the laws of the state where we are domiciled; or

(ii) Threaten our solvency.

(7) A change by you or your representative in the activities or property of the commercial or industrial enterprise, which results in a materially added, increased or changed risk, unless the added, increased or changed risk is included in the policy.

b. We will mail or deliver advance written notice of cancellation, stating the reason for cancellation, to the first Named Insured, at the mailing address shown in the policy, and to the producer of record, at least:

(1) 10 days before the effective date of cancellation if we cancel for nonpayment of premium or discovery of fraud; or

(2) 30 days before the effective date of cancellation if we cancel for any other reason listed in Paragraph 3.a.

B. The following provision is added to the **Cancellation** Common Policy Condition:

7. Residential Property

This provision applies to coverage on real property which is used predominantly for residential purposes and consisting of not more than four dwelling units, and to coverage on tenants' household personal property in a residential unit, if such coverage is written under one of the following:

Commercial Property Coverage Part

Farm Coverage Part – Farm Property – Farm Dwellings, Appurtenant Structures And Household Personal Property Coverage Form

a. If such coverage has been in effect for 60 days or less, and is not a renewal of coverage we previously issued, we may cancel this coverage for any reason, except as provided in b. and c. below.

b. We may not cancel this policy solely because the first Named Insured has:

(1) Accepted an offer of earthquake coverage; or

(2) Cancelled or did not renew a policy issued by the California Earthquake Authority (CEA) that included an earthquake policy premium surcharge.

However, we shall cancel this policy if the first Named Insured has accepted a new or renewal policy issued by the CEA that includes an earthquake policy premium surcharge but fails to pay the earthquake policy premium surcharge authorized by the CEA.

c. We may not cancel such coverage solely because corrosive soil conditions exist on the premises. This restriction (c.) applies only if coverage is subject to one of the following, which exclude loss or damage caused by or resulting from corrosive soil conditions:

(1) Commercial Property Coverage Part – Causes Of Loss – Special Form; or

(2) Farm Coverage Part – Causes Of Loss Form – Farm Property, Paragraph D. Covered Causes Of Loss – Special.

C. The following is added and supersedes any provisions to the contrary:

Nonrenewal

1. Subject to the provisions of Paragraphs C.2. and C.3. below, if we elect not to renew this policy, we will mail or deliver written notice, stating the reason for nonrenewal, to the first Named Insured shown in the Declarations, and to the producer of record, at least 60 days, but not more than 120 days, before the expiration or anniversary date.

We will mail or deliver our notice to the first Named Insured, and to the producer of record, at the mailing address shown in the policy.

2. Residential Property

This provision applies to coverage on real property used predominantly for residential purposes and consisting of not more than four dwelling units, and to coverage on tenants' household property contained in a residential unit, if such coverage is written under one of the following:

Commercial Property Coverage Part

Farm Coverage Part – Farm Property – Farm Dwellings, Appurtenant Structures And Household Personal Property Coverage Form

- a. We may elect not to renew such coverage for any reason, except as provided in **b.**, **c.** and **d.** below.
- b. We will not refuse to renew such coverage solely because the first Named Insured has accepted an offer of earthquake coverage.

However, the following applies only to insurers who are associate participating insurers as established by Cal. Ins. Code Section 10089.16. We may elect not to renew such coverage after the first Named Insured has accepted an offer of earthquake coverage, if one or more of the following reasons applies:

- (1) The nonrenewal is based on sound underwriting principles that relate to the coverages provided by this policy and that are consistent with the approved rating plan and related documents filed with the Department of Insurance as required by existing law;
- (2) The Commissioner of Insurance finds that the exposure to potential losses will threaten our solvency or place us in a hazardous condition. A hazardous condition includes, but is not limited to, a condition in which we make claims payments for losses resulting from an earthquake that occurred within the preceding two years and that required a reduction in policyholder surplus of at least 25% for payment of those claims; or
- (3) We have:
 - (a) Lost or experienced a substantial reduction in the availability or scope of reinsurance coverage; or
 - (b) Experienced a substantial increase in the premium charged for reinsurance coverage of our residential property insurance policies; and

the Commissioner has approved a plan for the nonrenewals that is fair and equitable, and that is responsive

to the changes in our reinsurance position.

- c. We will not refuse to renew such coverage solely because the first Named Insured has cancelled or did not renew a policy, issued by the California Earthquake Authority, that included an earthquake policy premium surcharge.
 - d. We will not refuse to renew such coverage solely because corrosive soil conditions exist on the premises. This restriction (**d.**) applies only if coverage is subject to one of the following, which exclude loss or damage caused by or resulting from corrosive soil conditions:
 - (1) Commercial Property Coverage Part – Causes Of Loss – Special Form; or
 - (2) Farm Coverage Part – Causes Of Loss Form – Farm Property, Paragraph **D.** Covered Causes Of Loss – Special.
3. We are not required to send notice of nonrenewal in the following situations:
- a. If the transfer or renewal of a policy, without any changes in terms, conditions or rates, is between us and a member of our insurance group.
 - b. If the policy has been extended for 90 days or less, provided that notice has been given in accordance with Paragraph **C.1.**
 - c. If you have obtained replacement coverage, or if the first Named Insured has agreed, in writing, within 60 days of the termination of the policy, to obtain that coverage.
 - d. If the policy is for a period of no more than 60 days and you are notified at the time of issuance that it will not be renewed.
 - e. If the first Named Insured requests a change in the terms or conditions or risks covered by the policy within 60 days of the end of the policy period.
 - f. If we have made a written offer to the first Named Insured, in accordance with the timeframes shown in Paragraph **C.1.**, to renew the policy under changed terms or conditions or at an increased premium rate, when the increase exceeds 25%.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CALIFORNIA CHANGES – CANCELLATION AND NONRENEWAL

This endorsement modifies insurance provided under the following:

CAPITAL ASSETS PROGRAM (OUTPUT POLICY) COVERAGE PART
COMMERCIAL AUTOMOBILE COVERAGE PART
COMMERCIAL GENERAL LIABILITY COVERAGE PART
COMMERCIAL INLAND MARINE COVERAGE PART
COMMERCIAL PROPERTY COVERAGE PART
CRIME AND FIDELITY COVERAGE PART
EMPLOYMENT-RELATED PRACTICES LIABILITY COVERAGE PART
EQUIPMENT BREAKDOWN COVERAGE PART
FARM COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
MEDICAL PROFESSIONAL LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

A. Paragraphs **2.** and **3.** of the **Cancellation** Common Policy Condition are replaced by the following:

2. All Policies In Effect For 60 Days Or Less

If this policy has been in effect for 60 days or less, and is not a renewal of a policy we have previously issued, we may cancel this policy by mailing or delivering to the first Named Insured, at the mailing address shown in the policy, and to the producer of record, advance written notice of cancellation, stating the reason for cancellation, at least:

a. 10 days before the effective date of cancellation if we cancel for:

(1) Nonpayment of premium; or

(2) Discovery of fraud by:

(a) Any insured or his or her representative in obtaining this insurance; or

(b) You or your representative in pursuing a claim under this policy.

b. 30 days before the effective date of cancellation if we cancel for any other reason.

3. All Policies In Effect For More Than 60 Days

a. If this policy has been in effect for more than 60 days, or is a renewal of a policy we issued, we may cancel this policy only upon the oc-

currence, after the effective date of the policy, of one or more of the following:

(1) Nonpayment of premium, including payment due on a prior policy we issued and due during the current policy term covering the same risks.

(2) Discovery of fraud or material misrepresentation by:

(a) Any insured or his or her representative in obtaining this insurance; or

(b) You or your representative in pursuing a claim under this policy.

(3) A judgment by a court or an administrative tribunal that you have violated a California or Federal law, having as one of its necessary elements an act which materially increases any of the risks insured against.

(4) Discovery of willful or grossly negligent acts or omissions, or of any violations of state laws or regulations establishing safety standards, by you or your representative, which materially increase any of the risks insured against.

(5) Failure by you or your representative to implement reasonable loss control requirements, agreed to by you as a condition of policy issuance, or which were conditions precedent to our use of a particular rate or rating plan, if that failure



materially increases any of the risks insured against.

- (6) A determination by the Commissioner of Insurance that the:
- (a) Loss of, or changes in, our reinsurance covering all or part of the risk would threaten our financial integrity or solvency; or
 - (b) Continuation of the policy coverage would:
 - (i) Place us in violation of California law or the laws of the state where we are domiciled; or
 - (ii) Threaten our solvency.
- (7) A change by you or your representative in the activities or property of the commercial or industrial enterprise, which results in a materially added, increased or changed risk, unless the added, increased or changed risk is included in the policy.
- b. We will mail or deliver advance written notice of cancellation, stating the reason for cancellation, to the first Named Insured, at the mailing address shown in the policy, and to the producer of record, at least:
- (1) 10 days before the effective date of cancellation if we cancel for nonpayment of premium or discovery of fraud; or
 - (2) 30 days before the effective date of cancellation if we cancel for any other reason listed in Paragraph 3.a.
- B. The following provision is added to the **Cancellation** Common Policy Condition:

7. Residential Property

This provision applies to coverage on real property which is used predominantly for residential purposes and consisting of not more than four dwelling units, and to coverage on tenants' household personal property in a residential unit, if such coverage is written under one of the following:

Commercial Property Coverage Part

Farm Coverage Part – Farm Property – Farm Dwellings, Appurtenant Structures And Household Personal Property Coverage Form

- a. If such coverage has been in effect for 60 days or less, and is not a renewal of coverage we previously issued, we may cancel this coverage for any reason, except as provided in b. and c. below.

- b. We may not cancel this policy solely because the first Named Insured has:

- (1) Accepted an offer of earthquake coverage; or
- (2) Cancelled or did not renew a policy issued by the California Earthquake Authority (CEA) that included an earthquake policy premium surcharge.

However, we shall cancel this policy if the first Named Insured has accepted a new or renewal policy issued by the CEA that includes an earthquake policy premium surcharge but fails to pay the earthquake policy premium surcharge authorized by the CEA.

- c. We may not cancel such coverage solely because corrosive soil conditions exist on the premises. This restriction (c.) applies only if coverage is subject to one of the following, which exclude loss or damage caused by or resulting from corrosive soil conditions:

- (1) Commercial Property Coverage Part – Causes Of Loss – Special Form; or
- (2) Farm Coverage Part – Causes Of Loss Form – Farm Property, Paragraph D. Covered Causes Of Loss – Special.

- C. The following is added and supersedes any provisions to the contrary:

Nonrenewal

- 1. Subject to the provisions of Paragraphs C.2. and C.3. below, if we elect not to renew this policy, we will mail or deliver written notice, stating the reason for nonrenewal, to the first Named Insured shown in the Declarations, and to the producer of record, at least 60 days, but not more than 120 days, before the expiration or anniversary date.

We will mail or deliver our notice to the first Named Insured, and to the producer of record, at the mailing address shown in the policy.

- 2. **Residential Property**

This provision applies to coverage on real property used predominantly for residential purposes and consisting of not more than four dwelling units, and to coverage on tenants' household property contained in a residential unit, if such coverage is written under one of the following:

Commercial Property Coverage Part

Farm Coverage Part – Farm Property – Farm Dwellings, Appurtenant Structures And Household Personal Property Coverage Form

- a. We may elect not to renew such coverage for any reason, except as provided in **b.**, **c.** and **d.** below.
- b. We will not refuse to renew such coverage solely because the first Named Insured has accepted an offer of earthquake coverage.

However, the following applies only to insurers who are associate participating insurers as established by Cal. Ins. Code Section 10089.16. We may elect not to renew such coverage after the first Named Insured has accepted an offer of earthquake coverage, if one or more of the following reasons applies:

- (1) The nonrenewal is based on sound underwriting principles that relate to the coverages provided by this policy and that are consistent with the approved rating plan and related documents filed with the Department of Insurance as required by existing law;
- (2) The Commissioner of Insurance finds that the exposure to potential losses will threaten our solvency or place us in a hazardous condition. A hazardous condition includes, but is not limited to, a condition in which we make claims payments for losses resulting from an earthquake that occurred within the preceding two years and that required a reduction in policyholder surplus of at least 25% for payment of those claims; or
- (3) We have:
 - (a) Lost or experienced a substantial reduction in the availability or scope of reinsurance coverage; or
 - (b) Experienced a substantial increase in the premium charged for reinsurance coverage of our residential property insurance policies; and

the Commissioner has approved a plan for the nonrenewals that is fair and equitable, and that is responsive

to the changes in our reinsurance position.

- c. We will not refuse to renew such coverage solely because the first Named Insured has cancelled or did not renew a policy, issued by the California Earthquake Authority, that included an earthquake policy premium surcharge.
- d. We will not refuse to renew such coverage solely because corrosive soil conditions exist on the premises. This restriction (**d.**) applies only if coverage is subject to one of the following, which exclude loss or damage caused by or resulting from corrosive soil conditions:
 - (1) Commercial Property Coverage Part – Causes Of Loss – Special Form; or
 - (2) Farm Coverage Part – Causes Of Loss Form – Farm Property, Paragraph **D.** Covered Causes Of Loss – Special.
- 3. We are not required to send notice of nonrenewal in the following situations:
 - a. If the transfer or renewal of a policy, without any changes in terms, conditions or rates, is between us and a member of our insurance group.
 - b. If the policy has been extended for 90 days or less, provided that notice has been given in accordance with Paragraph **C.1.**
 - c. If you have obtained replacement coverage, or if the first Named Insured has agreed, in writing, within 60 days of the termination of the policy, to obtain that coverage.
 - d. If the policy is for a period of no more than 60 days and you are notified at the time of issuance that it will not be renewed.
 - e. If the first Named Insured requests a change in the terms or conditions or risks covered by the policy within 60 days of the end of the policy period.
 - f. If we have made a written offer to the first Named Insured, in accordance with the timeframes shown in Paragraph **C.1.**, to renew the policy under changed terms or conditions or at an increased premium rate, when the increase exceeds 25%.

POLICY NUMBER: UB-2T543710-22-2S-G

CALIFORNIA CANCELTION ENDORSEMENT

This endorsement applies only to the insurance provided by the policy because California is shown in Item 3.A. of the information page.

The cancelation condition in Part Six (Conditions) of the policy is replaced by these conditions:

CANCELTION

1. You may cancel this policy. You must mail or deliver advance written notice to us stating when the cancelation is to take effect.
2. We may cancel this policy for one or more of the following reasons:
 - a. Non-payment of premium;
 - b. Failure to report payroll;
 - c. Failure to permit us to audit payroll as required by the terms of this policy or of a previous policy issued by us;
 - d. Failure to pay any additional premium resulting from an audit of payroll required by the terms of this policy or any previous policy issued by us;
 - e. Material misrepresentation made by you or your agent;
 - f. Failure to cooperate with us in the investigation of a claim;
 - g. Failure to comply with Federal or State safety orders;
 - h. Failure to comply with written recommendations of our designated loss control representatives;
 - i. The occurrence of a material change in the ownership of your business;
 - j. The occurrence of any change in your business or operations that materially increases the hazard for frequency or severity of loss;
 - k. The occurrence of any change in your business or operation that requires additional or different classification for premium calculation;
 - l. The occurrence of any change in your business or operation which contemplates an activity excluded by our reinsurance treaties.
3. If we cancel your policy for any of the reasons listed in (a) through (f), we will give you 10 days advance written notice, stating when the cancelation is to take effect. Mailing that notice to you at your mailing address shown in Item 1 of the Information Page will be sufficient to prove notice. If we cancel your policy for any of the reasons listed in Items (g) through (l), we will give you 30 days advance written notice; however, we agree that in the event of cancelation and reissuance of a policy effective upon a material change in ownership or operations, notice will not be provided.
4. The policy period will end on the day and hour stated in the cancelation notice.





CERTIFICATE OF PROPERTY INSURANCE

DATE (MM/DD/YYYY)
08/22/2022

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.

PRODUCER **License # 0C36861**
Inland Empire-Alliant Insurance Services, Inc.
685 E. Carnegie Dr Ste 265
San Bernardino, CA 92408

CONTACT NAME: **Christina M Mountz**
PHONE (A/C, No, Ext): **(909) 886-9861** FAX (A/C, No): **(909) 886-2013**
E-MAIL ADDRESS: **cmountz@alliant.com**
PRODUCER CUSTOMER ID: **WRIGCON-02**

INSURED
Wright Construction Engineering Corp
2625 S. Santa Fe Ave
San Marcos, CA 92069-5927

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : AGCS Marine Insurance Company	22837
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

LOCATION OF PREMISES / DESCRIPTION OF PROPERTY (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Construction Project Site(s) Address: 17715 Walnut Street, Fountain Valley, CA 92708

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	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	COVERED PROPERTY	LIMITS	
	PROPERTY				BUILDING	\$	
	CAUSES OF LOSS				DEDUCTIBLES	PERSONAL PROPERTY	\$
	BASIC				BUILDING	BUSINESS INCOME	\$
	BROAD				CONTENTS	EXTRA EXPENSE	\$
	SPECIAL					RENTAL VALUE	\$
	EARTHQUAKE					BLANKET BUILDING	\$
	WIND					BLANKET PERS PROP	\$
	FLOOD				BLANKET BLDG & PP	\$	
							\$
			\$				
X	INLAND MARINE	TYPE OF POLICY Builders Risk	08/22/2022	04/22/2023	X Job Site	\$ 2,448,750	
A	CAUSES OF LOSS	POLICY NUMBER MXI93089846			X Transit	\$ 100,000	
	NAMED PERILS				X Temp Loc	\$ 250,000	
X	Special form, ACV				X \$10,000 Ded	\$	
	CRIME				\$		
	TYPE OF POLICY				\$		
					\$		
	BOILER & MACHINERY / EQUIPMENT BREAKDOWN				\$		
					\$		
					\$		
					\$		

SPECIAL CONDITIONS / OTHER COVERAGES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Re: North Norco Channel Line NB, Stage 3.

SEE ATTACHED ACORD 101

CERTIFICATE HOLDER

Riverside County Flood Control
and Water Conservation District
1995 Market St
Riverside, CA 92501

CANCELLATION

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



ADDITIONAL REMARKS SCHEDULE

AGENCY Inland Empire-Alliant Insurance Services, Inc.		License # 0C36861	NAMED INSURED Wright Construction Engineering Corp 2625 S. Santa Fe Ave San Marcos, CA 92069-5927
POLICY NUMBER SEE PAGE 1			
CARRIER SEE PAGE 1	NAIC CODE SEE P 1	EFFECTIVE DATE: SEE PAGE 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
 FORM NUMBER: ACORD 24 FORM TITLE: Certificate of Property Insurance

Special Conditions:

Description of Covered Property: Excavation, installation of cut-off wall, transition structure, channel invert & wall junction structure, RCP, asphalt, trapezoidal paving & fencing.



GENERAL PROVISIONS

GENERAL PROVISIONS

SECTION I - DEFINITION OF TERMS

1.01 TERMS. 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 District 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, co-partnership 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 or PROJECT DRAWINGS: 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 Specifications and Contract Documents, including the Special Provisions, proposal and contract, or indicated on the plans as the contemplated complete improvement covered by the contract.

1.02 SIMILARITY OF WORDS. 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, that the Contractor shall provide all labor, power, light, water, materials, equipment, tools, scaffolding, machinery, 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.

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. The District's receipt of such schedule(s) shall not indicate any concurrence by the District in the items or dates described in the schedule(s).

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 shall not at any time assert that there was any misunderstanding in regard to the nature of the work or the 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. Immediately upon receipt of the written instructions or ruling and before the start of such work, and no later than five (5) business days, 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

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 may request an extension of time on the completion of his contract and the Chief Engineer may grant such extension as the Chief Engineer may deem equitable.

2.07 EXTRA WORK

A. General

The District reserves and shall have the right, for any reason whatsoever, or 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 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%.

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. Extra work may not be done by the Contractor without prior request and proper written approval by the District. 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 present in writing 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 and foreman'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.

4. The price agreed to by the Contractor for the extra work shall be full compensation to the Contractor for all labor, materials, equipment or other costs related to the extra work.

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 elevations, lines, grades, cross-sections, and dimensions shown on the approved plans or as described in the Specifications and Contract Documents. Deviations from the approved plans and working drawings, will in all cases be in the Engineer's discretion and as determined by the Engineer and preauthorized 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 must bring this to District's attention in writing and 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. The requirements in this Section 3.04 shall also apply during the bidding process and before submittal of the Contractor's Proposal.

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. All such persons shall be acceptable to the District continuously throughout the duration of the Project. 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 opportunity and 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.

Wherever the name, or brand, or manufacturer of an item is specified, it is used as a measure of quality and utility or a standard. Except in those instances where the product is designated to match others presently in use, or as otherwise stated in the Contract Documents, specifications calling for a designated material, product, thing or service by specific brand or trade name shall be deemed to be followed by the words "or equal" so that the Contractor may propose in the Contractor's bid any equal material, product, thing or service. If the Contractor desires to use any other brand or manufacturer of equal quality or utility to that specified, he shall list definite particulars of that which it considers equivalent to the specified item in its bid. The District will then determine whether or not the proposed name brand or article is equal in quality and utility to that specified, and the District's determination in that regard shall be final and binding upon the Contractor.

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 DIGGING TRENCHES OR OTHER EXCAVATIONS

Any work that involves digging trenches or other excavations extending deeper than four feet below the surface, then the following terms shall apply:

4.04.1 Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:

- 4.04.1.1 Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- 4.04.1.2 Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
- 4.04.1.3 Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

4.04.2 The District shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.

4.04.3 In the event that a dispute arises between the District and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

4.04.4 Contractor shall submit to District, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. Prior to any excavation is commenced, District shall accept said plan. If such plan varies from the shoring system standards, the plan shall be prepared by a registered civil or structural engineer.

4.04.5 Nothing in this section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders.

4.04.6 Nothing in this section shall be construed to impose tort liability on the awarding body or any of its employees.

4.05 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.

4.06 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.

4.07 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 - The Contractor shall comply with all applicable requirements of the California Labor Code including but not limited to Labor Code, Chapter 2, Subchapter 1, Article 10, Required Apprentices on Public Works Contracts. 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 requires 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 Section 1777.5 of the Labor Code regarding apprentices.

Contractor shall post at each job site during the course of the work a copy of District's "Determination of Prevailing Wage Rates", copies of said Determination are available from District for this purpose and at <http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>.

(c) Equal Employment Opportunity

General - The Contractor shall comply with all applicable non-discrimination and equal employment laws. The 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 California Fair Employment Practice Act (commencing with Section 1410 of

the Labor Code), 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 (including but not limited to certified payroll information) by District and any state or federal agency having jurisdiction for the purpose of investigation to ascertain compliance with this Section.

District 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 District'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 District a copy of the plan upon request. District may require Contractor to complete an Affirmative Action Compliance Report, on a form furnished by District, 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 District, 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 § 60-1.4(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 Code of Regulations, 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 non-execution 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 whatsoever, 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, (including but not limited to: National Pollution Discharge Elimination System (NPDES) and South Coast Air Quality Management District (AQMD) permit requirements), 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 and Water Conservation 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.

The performance of guarantee and conditions specified in Section 5.13., shall be secured by a surety bond which shall be delivered by the Contractor to the District prior to the date on which final payment is made to the Contractor. Said bond shall be in an approved form and executed by a surety company or companies satisfactory to the District, in the amount of 10% of the final contract price. Said bond shall remain in force for the duration of the guarantee period specified in Section 5.13. Instead of providing such a bond as described above, the Contractor may, at its option, provide for the performance bond furnished under the contract to remain in force for said amount until the expiration of said guarantee period; and the amount of said performance bond may be reduced to 10% of the final contract price beginning at the time of recordation of the Notice of Completion.

5.14 DAMAGES BY ACT OF GOD

If the construction of the project herein is damaged, which damage is determined to have been proximately caused 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 and continuously 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 forty (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 workers 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% 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. Liquidated damages shall apply as stated in the Special Provisions and the Contract Documents.

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% 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 the District.

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 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%
Materials	-	15%
Equipment Rental	-	15%

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 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 7.03A(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 Rates - 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 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% 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 5% of such estimated value of the work done as part security for the fulfillment of the contract by the Contractor. At no time shall the amount retained by the District be less than 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 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 - CLAIMS UP TO \$375,000

In accordance with Public Contract Code Section 20104 - 20104.8 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.

1. All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before processing of the 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 against the claimant. If additional information is needed thereafter, it shall be requested and 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 requested and 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 District's response or within 15 days of the District's failure to respond within the time prescribed, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon such demand, the District shall schedule a meet and confer conference within 30 days for settlement of the dispute.

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 as a result of the meet and confer process, 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.

5. Location for Filing of Claims, Jurisdiction. Any legal action related to the performance of the work or the terms of the Contract Documents shall be filed only in the Superior Court of the State of California located in Riverside, California.

7.10 CLAIMS RESOLUTION - ALL CLAIMS (PUBLIC CONTRACT CODE SECTION 9204)

This section is intended to help resolve disputes between the parties related to this project. Such disputes shall be brought to the attention of the District at the earliest possible time, so that such disputes may be promptly resolved, if possible, or other appropriate action or investigation may be promptly undertaken. Claims must be filed on or before the date of final payment as required in Public Contract Code Section 20104.2. Public works claims which arise between the Contractor and the District shall be resolved using the following procedure:

A "claim" means a separate demand by the Contractor sent by registered mail or certified mail return receipt requested for one or more of the following: (a) a time extension including, without limitation, for relief from damages or penalties for delay assessed by the District; (b) payment by the District of money or damages arising from work done by or on behalf of the Contractor and payment for which is not otherwise expressly provided or to which the Contractor is not otherwise entitled; (c) payment of an amount that is disputed by the District. The Contractor shall furnish reasonable documentation to support the claim.

A. Form and Contents of Claim(s)

The Contractor shall furnish reasonable documentation to support the Claim, which shall be sent by registered mail or certified mail with return receipt requested to the District at the

address provided herein this Section 7.10. The Contractor's written Claim must include, but not limited to, the following:

- 1) A statement to identify that it is a Claim under this Section 7.10, on a company letterhead, and a request for a decision on the Claim;
- 2) A detailed description or narrative of pertinent events, act, error, omission, unforeseen condition, event or other circumstance giving rise to the Claim;
- 3) Citation to contract provisions;
- 4) Theory of entitlement that provides a detailed justification for any remedy or relief sought by the Claim. This includes, but not limited to: a detailed cost breakdown, invoices, material tickets, staff logged time, summary of quantities, other cost records and total cost calculations;
- 5) Complete pricing of all cost impacts;
- 6) A time impact analysis of all time delays that shows actual time impact on the critical path; and
- 7) Documentation, District letters, notifications, related drawings and photos supporting items (1) through (6).

The Claim must be verified under penalty of perjury by Contractor's project superintendent as to the Claim's accuracy, and shall be priced like a Change Order, and must be updated at regular intervals as to cost and entitlement if a continuing Claim. Routine contract materials, for example, correspondence, RFI, Change Order requests, or payment requests shall not constitute a Claim. Contractor shall bear all costs incurred in the preparation and submission of a Claim.

Claims and support documentation related must be sent to:

Mr. Claudio M. Padres
Chief of Design and Construction Division
Riverside County Flood Control
and Water Conservation District
1995 Market Street
Riverside, CA 92501

B. Claims Procedure

- 1) Upon receipt of a Claim and the supporting documentation, the District shall conduct a reasonable review of the Claim and within 45 days, or an extended period as may be set by mutual agreement of the District and Contractor, provide the Contractor with a written statement identifying what portion of the Claim is still disputed and what portion is undisputed.
- 2) Notwithstanding the time period set forth in B.1) above, if the District needs approval from the Board of Supervisors to provide the Contractor with a written statement identifying the disputed portion and the undisputed portion of the Claim, and the Board of Supervisors does not meet within the 45 days or within the mutually agreed to extension of time following receipt of the Claim, the District shall have up to three (3) days following the next

duly publicly noticed meeting of the Board of Supervisors after the forty-five (45) day period, or extension, expires to provide Contractor a written statement identifying the disputed portion and the undisputed portion of the Claim.

- 3) Any payment due on the undisputed portion of the Claim under this section shall be processed and made within 60 days after the District issues its written statement. Amounts not paid in a timely manner as required by this Section 7.10 shall bear interest at 7% per annum. If the District fails to issue a written statement, the Claim shall be deemed rejected in its entirety. Failure by the District to respond to a claim from a Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A Claim that is denied by reason of the District's failure to have responded to the Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of the Contractor.
- 4) If the Contractor disputes the District's written response, or if the District fails to respond within the time prescribed, the Contractor may demand in writing, sent by registered mail or certified mail return receipt requested, an informal meet and confer conference for settlement of the portion of the Claim in dispute. Upon receipt of the demand, the District shall schedule a meet and confer conference within 30 days.
- 5) Within 10 business days following the conclusion of the meet and confer conference, if the Claim or any portion thereof remains in dispute, the District shall provide the Contractor a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion shall be processed and made within 60 days after the District issues its written statement. Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the District and Contractor sharing the associated costs equally. The District and Contractor shall mutually agree to a mediator within 10 business days after the disputed portion of the Claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.
- 6) For purposes of this section, mediation includes any nonbinding process, including but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute with resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section. Unless

otherwise agreed to by the District and the Contractor in writing, the mediation conducted pursuant to this Section 7.10 shall excuse any further obligation under Section 20104.4 of the Public Contract Code to mediate after litigation has been commenced.

- 7) If mediation is unsuccessful to resolve all issues, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside of this section and the requirements of Public Contract Code § 9204. The Claim resolution procedures in this Section do not preclude the District from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this Article does not resolve the parties' dispute.
- 8) Following the procedures set forth in this Section 7.10, including the mediation, if the Claim or any portion of it remains in dispute, the Contractor may file a Claim as provided in Chapter 1 (commencing with § 900) and Chapter 2 (commencing with § 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.
- 9) If the Government Code claim is denied, Contractor may file an action in court. If a civil action is filed to resolve any claim, such action shall be subject to the provisions of Public Contract Code Sections 9204 or 20104.4 and shall be followed, providing for non-binding mediation and judicial arbitration. This Section applies only to claims subject to Public Contract Code Sections 9204 or 20104. If a claim is not subject to Public Contract Code Sections 9204 or 20104, the Contractor's right to file a civil action shall be as otherwise provided by law.

C. Subcontractor Claim(s)

If a subcontractor or a lower tier subcontractor has a Claim, the Contractor may present to the District a Claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a Claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the Claim be presented to the District shall furnish reasonable documentation as set forth in Section 7.10 to support the Claim. Within 45 days of receipt of this written request, the Contractor shall notify the subcontractor in writing as to whether the Contractor presented the Claim to the District, and if the Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not having done so.

D. Consistency with Public Contract Code Sections 9204 and 20104

If any Claim(s) arising under this Contract is subject to the provisions of Public Contract Code Sections 9204 or 20104 et seq. (Div. 2, Part 3, Chapter 1, Article 1.5), and if provisions of those statutory sections require a procedure or procedural element different from that established in this Contract, then the provisions of those statutory sections shall apply in place of the conflicting procedure or procedural element established herein.

E. Any legal action related to the performance of the work or the terms of the Contract Documents shall be filed only in the Superior Court of the State of California located in Riverside, California.

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 - INDEMNIFICATION/HOLD HARMLESS/DEFEND

1. Insurance.

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.

Without limiting or diminishing the Contractor's obligation to indemnify, defend or hold the District harmless, Contractor shall procure and maintain or cause to be maintained, at its sole cost and expense, the following insurance coverages during the term of this Contract. In respects to the requirements for the Project and as further described in this section, the District herein refers to the Riverside County Flood Control and Water Conservation District, the County of Riverside, its Agencies, Districts, Special Districts and Departments, and any municipal corporation or governmental entity in which the work is to be accomplished, their respective directors, officers, Board of Supervisors, governing boards or councils, employees, elected and appointed officials, agents, representatives as Additional Insured.

Workers' Compensation - If the Contractor has employees as defined by the State of California, the Contractor shall maintain statutory Workers' Compensation Insurance (Coverage A) as prescribed by the laws of the State of California. Policy shall include Employers' Liability (Coverage B) including Occupational Disease with limits not less than **\$1,000,000** per person per accident. The policy shall be endorsed to waive subrogation in favor of the District and County of Riverside.

Commercial General Liability - Commercial General Liability insurance coverage, including but not limited to, premises liability, contractual liability, products and completed operations liability, personal and advertising injury, cross liability coverage, and covering claims which may arise from or out of Contractor's performance of its obligations hereunder. Policy shall name the District, all Agencies, Districts, Special Districts, and Departments of the County of Riverside, together with their respective directors, officers, Board of Supervisors, employees,

elected or appointed officials, agents or representatives as Additional Insureds. Policy's limit of liability shall not be less than **\$2,000,000** per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit.

Vehicle Liability - If Contractor's vehicles or mobile equipment are used in the performance of the obligations under this Agreement, then Contractor shall maintain liability insurance for all owned, non-owned or hired vehicles so used in an amount not less than **\$1,000,000** per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit. Policy shall name the District, all Agencies, Districts, Special Districts, and Departments of the County of Riverside, together with their respective directors, officers, Board of Supervisors, employees, elected or appointed officials, agents or representatives as Additional Insureds.

Builder's Risk - Contractor shall obtain, at Contractor's expense, and keep in effect until final acceptance by the District, Builder's Risk Insurance (including earthquake and flood) covering the real and personal property of others in the care, custody, and control of the Contractor. Builder's Risk Insurance shall include theft and damage coverage. The minimum amount of coverage to be carried shall be equal to the full amount of the contract. Contractor shall be financially responsible for any deductible applied to loss. This insurance shall include the District, County of Riverside, the Contractor and its subcontractors as their interests may appear.

Professional Liability - Contractor shall maintain Professional Liability Insurance providing coverage for the Contractor's performance of work included within this Agreement, with a limit of liability of not less than \$2,000,000 per occurrence and \$4,000,000 annual aggregate. If Contractor's Professional Liability Insurance is written on a claims made basis rather than an occurrence basis, such insurance shall continue through the term of this Agreement and Contractor shall purchase at his sole expense either 1) an Extended Reporting Endorsement (also, known as Tail Coverage); or 2) Prior Dates Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) demonstrate through Certificates of Insurance that Contractor has Maintained continuous coverage with the same or original insurer. Coverage provided under items; 1), 2), or 3) will continue as long as the law allows.

Pollution and Asbestos Liability - If hazardous material is encountered during construction, the Project Manager must be notified immediately, and if any work is done to remove it, any Contractor performing work shall obtain and keep in effect during the term of their contract with Contractor, Pollution Liability Insurance, including Asbestos Liability Insurance, covering the subcontractor's liability for bodily injury, property damage, and environmental damage resulting from "sudden accidental" or "gradual" pollution and related cleanup costs incurred by the subcontractor, all arising out of the work or services (including the transportation risk, when applicable) to be performed under this contract. Combined single limit per occurrence shall not be less than \$2,000,000, or the equivalent. Annual aggregate limit shall not be less than \$4,000,000.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the District requires and shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the District.

General Insurance Provisions - All lines -

a) Any insurance carrier providing insurance coverage hereunder shall be admitted to the State of California and have an A.M. Best rating of not less than A: VIII (A:8) unless such requirements are waived, in writing, by the District Risk Manager. If the District's Risk Manager waives a requirement for a particular insurer such waiver is only valid for that specific insurer and only for one policy term.

b) The Contractor's insurance carrier(s) must declare its insurance deductibles or self-insured retentions. If such deductibles or self-insured retentions exceed \$500,000 per occurrence such deductibles and/or retentions shall have the prior written consent of the District's Risk Manager before the commencement of operations under this Agreement. Upon notification of deductibles or self-insured retentions unacceptable to the District, and at the election of the District's Risk Manager, Contractor's carriers shall either, 1) reduce or eliminate such deductibles or self-insured retentions as respects this Agreement with the District, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses.

c) Contractor shall cause Contractor's insurance carrier(s) to furnish the District with either 1) a properly executed original Certificate(s) of Insurance and certified original copies of Endorsements effecting coverage as required herein, or 2) if requested to do so orally or in writing by the District's Risk Manager, provide original certified copies of policies including all Endorsements and all attachments thereto, showing such insurance is in full force and effect. Further, said Certificate(s) and policies of insurance shall contain the covenant of the insurance carrier(s) that 30 days written notice shall be given to the District prior to any material modification, cancellation, expiration or reduction in coverage of such insurance. In the event of a material modification, cancellation, expiration, or reduction in coverage, this Agreement shall terminate forthwith, unless the District receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverages set forth herein and the insurance required herein is in full force and effect. Contractor ***shall not commence operations until the District has been furnished original Certificate(s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this Section. An individual authorized by the insurance carrier to do so on its behalf shall sign the original endorsements for each policy and the Certificate of Insurance.***

d) It is understood and agreed to by the parties hereto and the insurance company(s), that the Certificate(s) of Insurance and policies shall so covenant and shall be construed as primary insurance, and the District's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.

e) The District's Reserved Rights--Insurance. If, during the term of this Agreement or any extension thereof, there is a material change in the scope of services; or, there is a material change in the equipment to be used in the performance of the scope of work (such as the use of aircraft or watercraft), the District reserves the right to adjust the types of insurance required under this Agreement and the monetary limits of liability for the insurance coverages currently required herein, if, in the District's Risk Manager's reasonable judgment, the amount or type of insurance carried by the Contractor has become inadequate.

f) Contractor shall pass down the insurance obligations contained herein to all tiers of subcontractors working under this Agreement.

g) The insurance requirements contained in this Agreement may be met with a program(s) of self-insurance acceptable to the District.

h) Said insurance must contain an endorsement that District, County of Riverside, and any municipal corporation or governmental entity 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 District 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.

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.

2. Indemnification - Hold Harmless and Defend.

Contractor shall indemnify and hold harmless the District, County of Riverside, and any municipal corporation or governmental entity in which the work is to be accomplished, together with its Agencies, Districts, Special Districts and Departments, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives (individually and collectively hereinafter referred to as Indemnitees) from any liability whatsoever, based or asserted upon any acts, omissions or services of Contractor, its officers, employees, subcontractors, agents or representatives arising out of or in any way relating to this Contract, relating to or in any way connected with or arising from the accomplishment of the work, whether or not in furtherance of the work, including but not limited to property damage, bodily injury, or death or any other element of any kind or nature whatsoever arising from the performance of Contractor, its officers, employees, subcontractors, agents or representatives Indemnitors from this Contract. Contractor shall defend, at its sole expense, all costs and fees including, but not limited, to attorney fees, cost of investigation, defense and settlements or awards, the Indemnitees in any claim or action based upon such alleged acts or omissions.

With respect to any action or claim subject to indemnification herein by Contractor, Contractor shall, at their sole cost, have the right to use counsel of their own choice and shall have the right to adjust, settle, or compromise any such action or claim without the prior consent of the District; provided, however, that any such adjustment, settlement or compromise in no manner whatsoever limits or circumscribes Contractor's indemnification to Indemnitees as set forth herein.

Contractor's obligation hereunder shall be satisfied when Contractor has provided to District the appropriate form of dismissal relieving the Indemnitees from any liability for the action or claim involved.

The specified insurance limits required in this Agreement shall in no way limit or circumscribe Contractor's obligations to indemnify and hold harmless the Indemnitees herein from third party claims.

In the event there is conflict between this clause and California Civil Code Section 2782, this clause shall be interpreted to comply with Civil Code 2782. Such interpretation shall not relieve the Contractor from indemnifying the Indemnitees to the fullest extent allowed by law.

3. 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 these General Provisions. Compensation for idle time of equipment shall be paid as provided in

Section 8-1.07C, "Payment Adjustments", 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 **North Norco Channel Line NB, Stage 3**, located in the city of Norco, Riverside County, California. This work shall conform with the contract drawings indexed on the cover sheet of the drawings included herewith.

References made in these Special Provisions or Detailed Specifications to the "Drawings" or "Plans" refer to the project drawings included in these Contract Documents as well as any referenced standard plans/drawings. 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 "Greenbook 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 "Caltrans 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, current edition, unless otherwise noted.

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.

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.

1.2 Submittals to District - Submittals shall be sent in the form of email or postal carrier to the attention of the Engineer. The Contractor shall allow the Engineer five (5) working days from the time of receipt of the submittal (mailing time is not included) to review and respond in writing.

SECTION 2 - TIME OF COMPLETION, DAMAGES AND LEGAL HOLIDAYS

2.1 Submittal Timeline - Following award of the contract, the Contractor shall comply with the following schedule:

STRICTLY ENFORCED SUBMITTALS TIMELINE POST AWARD

	Submittal	First Complete Submittal Deadline	District Review Timeline	Approval Deadline
Required Approvals for Unconditional Notice to Proceed (NTP)	Trench Safety System (Section 15)	Award date plus 10 working days	5 working days	Award date plus 20 working days
	Confined Space Procedures (Section 6.3)	Award date plus 10 working days	5 working days	
	OSHA Excavation Permit (Section 6.3)	Award date plus 10 working days	5 working days	
	Dust Control Plan (Section 27)	Award date plus 10 working days	5 working days	
	Stormwater Pollution Prevention Plan (Section 29.3)	Award date plus 10 working days	5 working days	
	Reinforced Concrete Pipe and Precast Reinforced Concrete Box Lay Sheets and/or Shop Drawings	Award date plus 10 working days	5 working days	
	City Business License (Section 6.6)	Award date plus 10 working days	5 working days	
	City Encroachment Permit (Section 6.5)	Award date plus 10 working days	5 working days	
	Waterline Relocation Schedule of Values (Section 30.3)	Award date plus 10 working days	5 working days	
	Water Control Plan (Section 11.2)	Award date plus 10 working days	5 working days	
	Material Submittals	All other project material submittals, including concrete, steel, etc.	15 working days before ordering of materials	

2.2 Notice to Proceed - A Notice to Proceed will be issued, no later than 20 working days after the date of the project award. The Contractor's attention is directed to Section 2.1 above. The Notice to Proceed will be issued unconditionally if the listed "Minimum" submittals are complete and accepted by the 20-working day deadline. If the "Minimum" submittals are not complete and accepted, the Notice to Proceed will be issued with conditions that may limit construction activities until the submittals are complete and accepted. Regardless of issuance of a Notice to Proceed, work shall not start on items lacking submittals that have been accepted by the Engineer.

2.3 Time of Completion - The Contractor shall diligently prosecute the work to completion before the expiration of

ONE HUNDRED SIXTY (160) WORKING DAYS

from the date on the Notice to Proceed.

The District will not extend the project working days due to the Contractor's failure to secure Engineer acceptance of submittals for all the items in the timeframes required in Section 2.1.

2.4 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 **\$1,600** per working day.

2.5 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 and above ground 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 3-12 of the Greenbook 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, weeds, vegetation, rubbish and trash, 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 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 or more recent order issued to replace this order, if applicable), 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 both stormwater and non-stormwater discharges associated with Contractor's construction activities. The Contractor shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) 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 "PRDs Preparation and Approval" which requires that the PRDs be prepared and approved prior to the Pre-Construction meeting; and 3) Section 29.6 "SWPPP Implementation" which allows the Engineer to suspend construction operations if the Contractor fails to implement the approved SWPPP and any amendments thereto.

6.2 Sanitation - Sewage flows shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. If pumping is required, it shall be done at the expense of the Contractor. A backup pumping system with equal capacity shall be provided at all times. Sewage shall not be permitted to flow in trenches or be covered by backfill.

6.3 Confined Space Compliance - The Contractor shall comply with all Cal/OSHA safety regulations including regulations concerning confined space and for maintaining a safe working environment for Contractor and District employees on the site. The Contractor shall develop and maintain a confined space procedure specific to this contract that complies with the requirements contained in California Code of Regulations, Title 8, Section 5158, Other Confined Space Operations and the District's Safety and Operation Manual (SOM) – Confined Space Procedure,

SOM-18. A copy of SOM-18 can be obtained from the District office, 1995 Market Street, Riverside upon request.

The Contractor shall submit three (3) copies of the procedure to the Engineer for review and approval. The submittal deadline and review period shall be as specified in Section 2.1 of these Special Provisions. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the procedure within three (3) working days of receipt of the Engineer's comments and shall allow four (4) working days for the Engineer to review the revisions. The Contractor must submit three (3) copies of the approved procedure to the Engineer prior to the pre-construction meeting.

The procedure shall provide for recording of data to develop a history of acceptable atmosphere within the confined space. That history will include:

1. Calibration schedule of a direct reading confined space meter by trained personnel.
2. Daily monitoring and recording of the confined space atmosphere with a calibrated direct reading confined space meter.
3. Records of Items 1 and 2 shall be maintained onsite and copies given to the Engineer.
4. The records shall indicate if readings are of natural or mechanically enhanced ventilation.

In addition, the procedure shall include daily tours of the job site with the Engineer to ensure inlets to the confined space are free of obstruction or substances that might affect the atmosphere of the confined space.

The Contractor will be required to keep a direct reading confined space meter onsite for the duration of the contract. The meter shall be calibrated according to the schedule specified in the Contractor's confined space procedure and shall be made available for the Engineer's use upon request.

6.4 Working Hours - Construction activities shall be allowed between the hours of 7:00 a.m. to 3:30 p.m. each normal working day, unless otherwise approved by the Engineer and the local governing agency.

6.5 Noise - Contractor shall ensure that excessive noise from construction does not occur outside construction working hours.

6.6 Encroachment Permits - City of Norco - The Contractor is required to obtain an encroachment permit from the City of Norco for work within City right of way. The City of Norco will not require the Contractor to pay a fee for the encroachment permit. A copy of the encroachment permit shall be provided to the Engineer prior to commencement of work.

6.7 City of Norco Business License - The Contractor is required to obtain a business license from the City of Norco for work within the city limits. The City of Norco will require the Contractor to pay a fee for the business license. A copy of the business license shall be provided to the Engineer prior to the commencement of work. See also Table in Section 2.1.

6.8 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.

6.9 Survey Crew - The Contractor shall notify the Engineer in writing at least 48 hours prior to new construction staking and shall provide safe and unobstructed access to the staking area within this period. Should the staking area be inadequately prepared, unsafe or obstructed when the District's survey crew arrives onsite to perform the new construction staking, the Contractor shall be subject to delay charges as define below.

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.

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

If the District's Survey Crew incurs delays or survey re-staking is required as a result of the Contractor's operations, the Contractor shall be charged at a rate of \$250 per hour, with a minimum charge of two (2) hours for each re-staking request. Charges shall be deducted from the monthly progress payment.

6.10 Survey Monuments - The Contractor shall salvage and give to the District all survey monuments and wells removed during construction. The District will reset monuments after construction.

6.11 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, electrical service and a private portable toilet for District personnel. 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.

6.12 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	Access road sideslopes in cut	Zero <u>above</u> and 3 inches <u>below</u> the specified grade
	Top surfaces of 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

**NOTE: Where access roads are paved with filter material, the above listed tolerance applies to the finished grade elevation at the top of the filter material. The filter material placed on the access road is subject to a maximum thickness limitation identified in Section 26.2 of these Detailed Specifications.*

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	¼ inch in 10 feet
	Sideslopes	½ inch in 10 feet
Variation in surfaces (abrupt)		¼ inch

Gradual Variation tolerance shall be measured by placing a 10-foot straightedge 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.

Table C - Tolerances for Formed, Cast-in-Place Concrete Structures		
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

Table D - Tolerances for Reinforcing Steel Placement		
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

Elements not meeting these requirements shall be removed and replaced as directed by the Engineer.

6.13 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. Related 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 any Regulatory Permits related to stockpiling, grading, disposal of material, or other activities outside of the project limits shall be borne by the Contractor.

6.14 Sewer Line Inspection - Prior to the commencement of construction, the Contractor is required to video record all sewer mains (8" diameter and larger) within the project limits. Additionally, the Contractor shall video record the sewer mains after the backfilling of the storm drain has been completed. Copies of the video shall be provided to the Engineer. All costs associated with this requirement shall be included in the contract price bid for Clearing and Miscellaneous Work. The Contractor is required to replace and/or repair at his own expense, any sewers damaged or misaligned as a result of his construction activities.

6.15 Storm Drain Video Inspection - All storm drains with a height or diameter of 60 inches or less shall be recorded by closed circuit television (CCTV) prior to final inspection. The recorded video and report shall be provided to the District for review. For storm drains within paved roadway, the video inspection and report shall be approved by the District prior to paving. Any additional video required to address video quality or construction deficiencies shall be completed by the Contractor at no additional expense to the District. All video inspection shall follow the RCFC Video Procedures (Appendix "H"), and any re-inspection shall be at a minimum of a storm drain segment as defined in the RCFC Video Procedures.

6.16 Pipe Order Notification - The Contractor shall submit to the District the invoice from the pipe company stating, (1) pipe order date, (2) pipe quantity, and (3) estimated date of pipe delivery within five (5) calendar days of the District's approval of the pipe lay sheets and/or shop drawings. Please refer to Section 2.1 of these Special Provisions for additional submittal deadlines.

6.17 Precast Reinforced Concrete Box (PRCB) Order Notification - The Contractor shall submit to the District the invoice from the PRCB company stating (1) PRCB order date, (2) PRCB quantity and (3) estimated date of PRCB delivery within five (5) calendar days of the District's approval of the PRCB lay sheets and/or shop drawings. Please refer to Section 2.1 of these Special Provisions for additional submittal deadlines.

6.18 Permanent and Temporary Construction Easement (TCE) Usage - The Contractor shall provide a minimum of 30 days advanced notice to the property owners of APN 127-075-001 prior to starting any construction activities within the permanent easement (RCFC Parcel 2145-22) and TCE along Fortuna Road as shown on Sheets 8 and 9 of the project drawings. Additionally, the Contractor shall coordinate closely with the property owner regarding interruptions for irrigation services, replacing landscaping, and any other items outlined in Section 13 of the Detailed Specifications.

Within four (4) weeks of issuing notice to the property owner, the Contractor shall complete all construction activities, clean the site and remove all construction material, debris and equipment falsework, and restore the site to the preconstruction condition as approved by the Engineer, including landscaping and irrigation services.

Finally, the Contractor shall provide a minimum two (2) week notice to the property owners prior to removing the temporary fencing used to secure the property, APN 127-075-001. Refer to Section 20.5 for additional temporary fencing requirements.

Notices shall be sent to the property owners at:

Mr. and Mrs. Seth Hall
3091 Sierra Avenue
Norco, CA 92860

6.19 Project Signs - Supplementing Section 8.07 of the General Provisions, the Contractor shall be required to provide two new project signs. The Contractor shall install and maintain the project signs at locations specified by the Engineer, with painting and lettering as shown in Appendix "B" of these Special Provisions. The signs shall be installed as directed by the Engineer within five

(5) days after District issuance of the Notice to Proceed. Upon completion of construction, the signs shall be removed.

6.20 Liability Insurance - The Contractor's attention is directed to Section 8.02, Insurance - Indemnification/Hold Harmless/Defend, of the General Provisions. The City of Norco shall also be named as additional insureds with the liability insurance coverage required to be maintained by the Contractor.

6.21 California Department of Fish and Wildlife (CDFW) Compliance - Pursuant to Section 1600 et seq. of the California Fish and Game Code, the District is permitted to commence construction under Operation of Law (Op Law) from CDFW. The Contractor must keep a copy of the Op Law package onsite at all times, comply with provisions of the Op Law and is required to present the Op Law to CDFW staff upon request.

The submitted Streambed Alteration Agreement Notification, including all attachments, and Op Law Letter from CDFW encompass the Op Law package and is provided under Appendix "D".

6.22 USACE 404 Permit Compliance - The U.S. Army Corps of Engineers (USACE) reviewed the jurisdictional determinations and concluded that the North Norco Channel Line NB, Stage 3 is a non-tidal drainage ditch excavated on dry land and, therefore, is not subject to USACE jurisdiction.

A copy of this determination is included as Appendix "J".

6.23 Waste Discharge Requirement - The Santa Ana Regional Water Quality Control Board (SARWQCB) issued a Waste Discharge Requirement (WDR) for the project (Order No. R8-2018-00900). The District must comply with all conditions listed in the WDR. The Contractor must keep a copy of the WDR onsite at all times during construction and comply with all applicable conditions related to construction. The Contractor must take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment. The Contractor must also allow representatives from the SARWQCB to inspect the authorized construction activity at any time to ensure compliance with the terms and conditions of the permit. The District will prepare and submit any reports related to the WDR Permit. The WDR Permit is attached herein under Appendix "E".

6.24 Coordination with Paleontological/Archaeological Monitoring - The District's professional paleontologist/archaeologist will be monitoring and inspecting grading and excavation activities. The Contractor shall coordinate and cooperate with the District's professional paleontologist/archaeologist in monitoring the grading and excavation. The paleontologist/archaeologist has the authority to halt construction if needed in order to protect a sensitive paleontological or archaeological resource.

If potential findings are uncovered during excavation activity, the Contractor's attention is directed to Section 6.25 Accidental Discovery.

6.25 Accidental Discovery - In the event that any human remains, hazardous materials, historical, archaeological or paleontological resources are accidentally discovered within project limits, the Contractor shall immediately cease all construction or ground disturbance activity in the vicinity of find and notify the Engineer. District will provide the appropriate professional to assess the significance of the discovery and, if necessary, develop appropriate management and treatment measures. **The Contractor shall not resume construction in the affected area without Engineer's approval.**

Per State Health and Safety Code 7050.5, if human remains are encountered during construction, no further disturbance shall occur within 50 feet of the find until the Riverside County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The Riverside County Coroner must be notified within 24 hours by the Engineer. If the County Coroner determines that the remains are not historic, but prehistoric, the Native American Heritage Commission (NAHC) must be contacted by the Engineer to determine the most likely descendent for this area. Once the most likely descendent is determined, treatment of the Native American human remains will proceed pursuant to Public Resources 5097.98. The NAHC may become involved with decisions concerning the disposition of the remains.

Should any of the above-mentioned discoveries result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

Should Burrowing Owl result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon contract prices.

6.26 Nesting Bird Pre-Construction Survey - A nesting bird preconstruction survey will be required if work commences during the nesting season of December 15th through September 15th. If work commences within the nesting season, the District biologist will conduct a protocol nesting bird survey. If active nests are identified, the District biologist shall implement and monitor specific avoidance and minimization measures, such as avoiding construction near active nests. If nesting birds are present, the Contractor will not be allowed to work within specific areas (up to 500 feet) as determined by the District biologist. **The Contractor shall not resume construction in the affected area without Engineer's approval.** If the Contractor does not initiate construction within 72 hours of Engineer's approval, the Contractor must notify the Engineer that another nesting bird survey is needed.

Should the presence of nesting birds result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract and shall not be entitled to damages due to downtime and idle equipment or additional payments over and above the agreed upon prices.

SECTION 7 - SOILS REPORT

In conjunction with the soils investigation report prepared by Geosyntec Consultants dated October 28, 2016, 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 "C" 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

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 all demobilization costs 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

11.1 Description - This section covers the contract item Water Control. Watersheds and/or urban runoff areas are tributary to the project site at various locations, but do not necessarily follow the alignment of the project under current conditions. Surface water and flow within the proposed project site 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 this project. 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 and must not be performed during periods of forecasted rain. Care should be exercised so that runoff, ponding or diversion flows do not erode, undermine or otherwise damage or degrade the constructed facilities, adjacent private properties or alter the suitability of the site for proposed work. The responsibility for the protection of all existing and proposed improvements lies with the Contractor.

Furthermore, the Contractor is required to submit a Water Control Plan to the District for review and approval in accordance with Section 2.1 of these Detailed Specifications. The submitted Water Control plan shall detail the proposed BMPs, implementation methods, locations and include a detailed phasing and maintenance schedule necessary to facilitate proper control of offsite surface runoff or groundwater to comply with the requirements provided above.

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. Contractor is advised that the Water Control Plan may be modified by the Engineer as field conditions require. No additional payment shall be made for modifications to the Water Control Plan.

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

SECTION 12 - TRAFFIC CONTROL

12.1 Description - The contract item Traffic Control cover all costs associated with complying with the requirements as set forth in this section and as shown on the drawings.

12.2 Notification of Agencies - The Contractor shall notify the following agencies a minimum of 48 hours in advance of start of any street work and inform them of the proposed construction schedule and provide any additional pertinent information they may request:

AT&T (Doug DiPaolo)	714.618.9125
City of Norco Police Department	951.270.5673
City of Norco Public Works (Shannon Dahl)	951.270.5627
Corona-Norco Unified School District	951.736.5000
Eastern Municipal Water District (Severino Mendoza)	951.928.3777 ext. 4480
Santa Ana Watershed Project Authority	951.354.4220
Southern California Edison	909.930.8591
The Gas Company (Art Moriel)	213.231.7965
Time Warner Cable (Anthony Marron)	951.406.1730
Underground Service Alert	800.227.2600
United States Postal Service	951.808.4679
Waste Management	800.423.9986

The Contractor is not relieved of his responsibility of notifying the various departments and agencies mentioned above, even if their telephone numbers may have changed without notice.

The above agencies shall also be advised by the Contractor of any major change in the construction schedule that could restrict pedestrian or vehicular traffic.

12.3 Public Convenience and Access - The Contractor shall comply with the requirements of Section X of the General Provisions and shall provide continuous access to all private property. Additional provisions shall be made as necessary to protect the public and accommodate vehicular and pedestrian traffic with a minimum of inconvenience.

Closures or partial closures of the traveled way implemented by the Contractor shall be related to actual work being performed at the time. Closures shall not be maintained if work is not being performed. If the existing closure is not essential to the type of work being performed at the time, the traveled way shall immediately be restored to a safe condition for public use.

The Contractor shall provide temporary bridge crossings for all driveway entrances to be closed to vehicular access for any period exceeding 4 hours.

Temporary bridges shall have a minimum width of 12 feet for residential driveways and 24 feet for business driveways and shall be designed for an AASHTO H20 truck loading. Steel plates placed over the trench shall have a minimum thickness of 1.25" and the surface shall be roughened or coated to provide a non-skid surface. For spans greater than 4 feet, a structural design shall be prepared by a Registered Civil Engineer and submitted to the District for review and approval.

The Contractor shall notify each resident in writing three (3) days in advance of working adjacent to resident's property or excavating past the affected driveway entrance. Such notice shall contain the expected day and period of time (not to exceed 4 hours) that the driveway is to be out of service and the expected duration of construction when working adjacent to resident's property. A copy of each letter shall be submitted to the Engineer.

12.4 Traffic Control and Construction Signs - The contractor bears full responsibility to identify, implement and maintain all traffic controls, including, but not limited to, labor, flagmen, lights, barricades, signs, materials, temporary bridges and equipment, and any other measures necessary to ensure the safety of vehicular and pedestrian traffic through and around their work areas. The drawings include Traffic Handling Plans, which are provided to simply indicate an approved concept of lane/road closures, detours and minimum signage and notes, however, the Contractor is responsible for identifying, implementing and maintaining additional or alternative traffic controls wherever necessary to ensure vehicular and pedestrian safety and where directed by the Engineer. Such additional or alternative traffic controls must provide at least equivalent signage and comport with the standard notes identified on the Traffic Handling Plans. All traffic controls, construction signs, barricades, delineators, etc. shall conform with the U.S. Department of Transportation, Federal Highway Administration, "Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), Part 6, latest edition", and the MUTCD California Supplement, Part 6 along with the California MUTCD Sign Charts.

The local City, County and/or Caltrans may require that the Contractor prepare and submit Traffic Control Plans as part of their encroachment permit. Such plans must be prepared by the Contractor

or their licensed engineer as required, at Contractors' cost, and must not include nor rely upon the signatures included on the traffic handling plans included in the drawings.

12.5 Flaggers - All personnel utilized as flaggers must be trained in the proper fundamentals of flagging and signaling per the latest standard Work Area Traffic Control Handbook (WATCH) procedures.

12.6 Striping and Pavement Marking - Temporary and permanent striping shall be performed by the Contractor at his/her expense as directed by the Engineer. The Contractor shall restore the permanent striping immediately after resurfacing of the streets is completed. The Contractor shall notify the City of Norco Public Works, Telephone: 951.270.5607, at least 48 hours prior to restriping.

All temporary traffic striping and pavement markings shall conform to Section 84 of the Caltrans Specifications and shall be acceptable to the Riverside County Transportation Department.

All new or replaced permanent pavement markings such as arrows, "STOP", "ONLY", reflectors, etc., shall be placed by the Contractor using thermoplastic. Thermoplastic crosswalk, traffic stripes and pavement markings shall conform to the provisions in Section 84-1, "General" and 84-2, "Traffic Stripes and Pavement Markings" of the Caltrans Specifications and these Detailed Specifications.

12.7 Payment - The contract prices paid for Traffic Control shall include full compensation for all material and labor costs incurred under this section. Contractor is advised that traffic plans as shown on the drawings may be modified as field conditions require. No additional payment shall be made for modifications to the traffic plan.

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

SECTION 13 - CLEARING AND MISCELLANEOUS WORK

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 legally 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 legal disposal of all vegetation, trees, roots, stumps, fences, block walls, pipes, abandoned facilities, culverts, rocks, structures, curbs, gutters, cross gutters, sidewalk, concrete and asphalt excluding those items defined specifically as Excavation in the appropriate sections.

Included in this item are the following:

1. The Contractor shall leave all landscaped and hardscaped areas and decorative treatments undisturbed where possible. When this is impractical, the Contractor shall re-turf, re-plant and restore in kind areas disturbed. Where sprinkler systems are broken or temporarily removed, the Contractor shall immediately notify the owner so that irrigation systems can be disabled until the repair is completed, and such repairs must be promptly performed. Sod shall be used to restore disturbed grass. All work is to be done to the satisfaction of the Engineer.
2. The protection and/or temporary relocation of signs and mailboxes and their reinstallation. Work involving mailboxes shall be coordinated with the Postal Service.
3. The stenciling and signage on top of all catch basins and drop inlets. Stenciling and signage will be provided by the District.
4. Miscellaneous grading to achieve proper drainage around concrete structures and to achieve finished grades as shown on the project drawings, except where otherwise specified for quantification and payment elsewhere in these Contract Documents.
5. Complete removal and legal disposal of existing catch basin and associated appurtenances as shown on Sheet 6 of the project drawings.
6. Complete removal and legal disposal of existing 18" RCP and associated appurtenances as shown on Sheet 6 of the project drawings, inclusive of all earthwork outside defined mainline trench limits.
7. Complete removal and legal disposal of existing 16" steel pipe and associated appurtenances as shown on Sheet 6 and Sheet 8 of the project drawings, inclusive of all earthwork outside defined mainline trench limits.
8. Sawcut, removal and legal disposal of interfering existing corrugated metal pipe (CMP) and associated appurtenances as shown on the project drawings, inclusive of all earthwork outside defined trench limits. Seal the CMP with Class "B" Concrete for a minimum depth of 6". Payment for pipe seal will be covered under the contract item Class "B" Concrete, Miscellaneous.

Finally, included in this item are those types of work as shown on the project drawings or specified in the Contract Documents 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

14.1 Description - This section covers the contract items Excavation; Channel Excavation; Structure Excavation; Backfill; and Controlled Low Strength Material (CLSM).

14.2 General Excavation Requirements - Open Trench Excavation shall be in conformance with Section 306 of the Greenbook Specifications. Channel Excavation shall be in conformance with Section 300-7. Structure Excavation shall be in conformance with Section 300-3 of the Greenbook Specifications. Trench access ladders shall be in conformance with Section 306-3.6 and the manner of shoring and bracing shall be in conformance with Section 306-4 of the Greenbook Specifications.

Excavation shall be kept to the minimum widths required for efficient placing of the structure and the construction of the project as shown on the drawings. The maximum length of open trench shall be in conformance with Section 306-3.5 of the Greenbook Specifications.

In excavating for surfaces against which concrete is to be placed, care shall be exercised in removing the final lift. The foundation for all structures including pipe, box, manholes, junctions, concrete channels and sideslopes will be inspected and tested after excavation. No structures, fill or backfill will be permitted until the foundation has been inspected and approved by the Engineer. Work completed without inspection of the foundation may, at the discretion of the Engineer, be required to be removed and replaced at the sole cost of the Contractor. The subgrade shall be ninety percent (90%) relative compaction prior to the placement of the structure. Surfaces against which concrete is to be placed shall be free of debris, mud or ponded water. If subgrade compaction is deficient, subgrade shall be scarified, moisture conditioned to or slightly above optimum moisture content, and the surface proof rolled to a minimum ninety percent (90%) relative compaction.

Subgrade against which the articulated concrete block system is to be placed shall be scarified and compacted to a final relative compaction between eighty percent (80%) and eight-five percent (85%) maximum relative compaction. In the event of overcompaction, the Contractor shall scarify the top 12-inches of subgrade and recompact, or as otherwise directed by the Engineer, to meet the target subgrade compaction.

Subgrade preparation will not be measured or paid separately, and no additional compensation will be allowed unless overexcavation is directed by Engineer.

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 percent (90%) relative compaction, unless otherwise specified, 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 legally dispose of all surplus excavated material outside of the limits of the construction easements and permanent rights of way.

The Geotechnical Report prepared for this project (Appendix "C") does not indicate the presence of non-rippable material. 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 (if encountered, and as determined by the Engineer) shall be paid for in accordance with Section VII, Article 7.03 of the General Provisions.

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

Excessive blasting will not be permitted. Any material outside the authorized cross sections which may be shattered or loosened because of blasting shall be removed by the Contractor at the Contractor's expense. The Contractor shall discontinue any methods of blasting which leads to overshooting or is dangerous to the public or destructive to property or to natural features. Further, velocity monitoring during the blasting operation should be performed by the Contractor.

Excavated rock slopes should be flattened to prevent vertical or overhanging rock slopes. The excavated rock slopes shall also be shaped such that the designed slopes, basin bottom and all other areas not specified or as directed by the Engineer are achieved.

Prior to any blasting, a blasting plan developed by a qualified blasting engineer should be submitted to the Engineer for approval. The Contractor is responsible for obtaining all necessary permits associated with blasting from local and state authorities. The cost of permits will be paid for under the contract item Excavation and no additional compensation will be allowed.

The Contractor shall be prohibited from using the resulting rock from the blasting operations, unless otherwise approved by the Engineer. Should the Contractor desire to use the resulting blasted rock on the project, the Contractor shall hire a professional geotechnical engineer to certify the quality and gradation of the blasted rock conforms to the requirements of Section 26 of these Detailed Specifications.

If the blasting plan does not generate the gradation or size of rocks, the Contractor is responsible for processing the rocks resulting from the blasting. No additional compensation will be allowed for this processing. Costs for any needed additional exploration to evaluate the rock quality within the excavation pay limits should be included in the bid unit price for various rock excavation identified in this specification.

The following information should also be included with the blasting plan submitted to the Engineer for review and approval.

- All appropriate permits for local and state authorities.

- Certification of the Contractor's Blaster which should meet the qualifications or the California State Regulations.
- Experience level of the Contractor's Blaster.
- Anticipated size of rock from Blasting. Consideration should be given to the project needs such as riprap and crushed rock base. Blasting should be planned such that size of rocks will meet the gradation and size requirements of the project.
- Statements about storage and method of deliveries of explosives, etc., which are in accordance and approved by the regulating authorities.
- The blasting time authorized by appropriate local authorities.
- Planning and procedures for small "test(s)" blasts to confirm blast design.

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 Vehicle Restrictions - Dump trucks, concrete trucks and earth moving equipment (whether full or empty) will not be allowed to operate on the subgrade of the articulated concrete blocks between approximate Station 4+44 and Station 6+89.

All work requiring operation on the subgrade against which the articulated concrete block system is to be placed shall be performed by a rubber track excavator with a maximum weight of 5000 pounds, unless otherwise approved by the Engineer, to avoid overcompaction. See Section 14.2 for additional subgrade compaction requirements.

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

14.4 Excavation - The contract item Excavation covers all equipment, labor and other costs associated with all excavation required for the construction and installation of pipe and the associated junction structures, manholes, pipe transitions, L2 and L3 channel transitions, trapezoidal channels below proposed invert, rectangular channels, retaining walls, and collars as labeled on the drawings and as directed by the Engineer. Included in this item is the sawcutting (where necessary), removal and disposal of all surplus excavated material, asphalt, aggregate base, abandoned pipelines and concrete from within the excavation paylines as specified and as required. All surplus material and items not suitable for use as backfill shall be legally disposed of outside the limits of the construction easements, temporary and permanent rights of way.

Excavation also covers all excavation and fill required to obtain the rectangular channel and access road cross sections, including any over excavation as directed by the Engineer or construction inspector. Over excavation may be required to remove soft or loose alluvial soils and/or soil materials from erosion and slumping that would not be suitable as a foundation material. In the event that a significant amount of over excavation is required, backfill to obtain the channel cross sections should be properly benched into the construction slopes as it is placed in lifts. Any backfilling done under this pay item must still comply with the General Backfill Requirements listed under Section 14.6 of these Detailed Specifications.

Before placing any fill to obtain the channel and access road cross sections the subgrade shall be free of all debris, vegetation, deleterious material and surficial soils containing roots and perishable materials.

From approximate Station 04+45 to Station 06+89, the upper 8 inches of subgrade soils (all soil directly under Geotex 601F Filter Fabric or approved equivalent) shall be scarified and recompactd per Section 14.2 General Excavation Requirements.

Excluded from this contract item is:

- The removal of the existing reinforced concrete boxes (RCB) and all associated appurtenances, which shall be paid for under Section 21.7 of these Detailed Specifications. The volume displaced by the existing RCBs and associated appurtenances shall be deducted from the total excavation volume.
- The excavation required for the reinforced concrete box road crossings. Refer to Section 14.5 of these Detailed Specifications.
- The excavation required for the trapezoidal concrete channel. Refer to Section 14.4 of these Detailed Specifications.
- The excavation necessary for the construction of the following structures as specified in Section 16 of these Detailed Specifications: Class "A" Concrete, Minor Structures; Class "B" Concrete, 2' Cutoff Wall; Class "A" Concrete, 43' Cutoff Wall; and Class "B" Concrete, Miscellaneous. Excavation for those items is included in the amounts paid for the respective concrete pay item.

14.5 Channel Excavation - The contract item Channel Excavation covers all equipment, labor and other costs for the excavation and fill required to obtain the trapezoidal channel and access road cross sections as shown on CH326 of the standard drawings and the project drawings, and the placement of material in the mandatory fill areas and areas where structures have been removed. Excavation and backfill below the invert are excluded in this contract item. See contract item Section 14.8, Backfill and 14.3 Excavation of these Detailed Specifications. All excess material shall be legally disposed of away from the site of the work.

14.6 Structure Excavation - The contract item Structure Excavation covers all equipment, labor and other costs for the full removal of all material including asphalt, aggregate base, abandoned pipelines and concrete from within the excavation paylines as specified and as required for the construction and installation of the reinforced concrete box road crossing as shown on the and the legal disposal of all surplus material outside the limits of the construction easements, temporary and permanent rights of way. All A.C. and P.C.C. shall be sawcut unless otherwise specified.

14.7 General Backfill Requirements - Whenever fill is specified or required (except for pipe and box backfill or otherwise specified herein) the work shall be performed as set forth in Sections 300-4.1 to 300-4.8 of the Greenbook Specifications. Backfill for pipe and box shall conform to Section 306-12 of the Greenbook Specifications, except jetting is not allowed.

All fill material placed shall be moistened and shall be free of sod, roots, brush, debris, trash and other objectionable material.

No backfill materials shall be placed against the outside walls of cast-in-place concrete structures until the concrete has developed eighty percent (80%) of its design strength. No fill or traffic will be permitted on the top of any cast-in-place concrete structure until the concrete in the structure has attained its design strength. Compressive strength will be determined by test cylinders taken by the Engineer. A maximum of six (6) test cylinders per structure will be made and paid by the District for the following day breaks: 7, 14, 21, 28 days (x2), and one break to be agreed upon by the Engineer and Contractor. The two-cylinder breaks at 28 days are to report the average as required by ACI. Any additional test cylinders requested by Contractor shall be deducted from the monthly progress payment at a rate of \$500.00/cylinder.

Regardless of the method of densification, backfill material shall not be placed against any reinforced concrete structure until the structure has been inspected and approved for backfilling by the Engineer.

Backfill will be accomplished by either mechanical methods or by placement of Controlled Low Strength Material (CLSM) as described in (1) and (2) below.

- (1) 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.

All relative compaction tests will be made by the Engineer in conformance with ASTM D1557 and ASTM D6938.

- (2) Controlled Low Strength Material (CLSM) - Controlled Low Strength Material (CLSM) placement for backfill shall be used when specified or approved by the Engineer. CLSM shall conform to Section 201-6 of the Greenbook Specifications and as specified in Section 16.

Approval to use specific methods and 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 around structures and pipe shall be compacted to not less than ninety percent (90%) relative compaction. Where such material is placed under existing or proposed paved roadways, the top 3 feet, measured from the subgrade plane, shall be compacted to ninety-five percent (95%) and shall be compacted by Method (1).

Trench bottoms for structures and pipe shall be graded to provide firm and uniform bearing throughout the entire length of the structures and pipe.

14.8 Testing - District personnel shall perform compaction tests as described below using either the ASTM D1556 (sand cone) or ASTM D6938 (nuclear) test method. These tests represent the minimum required. Additional tests may be taken at the Engineer's discretion.

1. Mainline Trenches - A complete series of compaction tests will be taken for each 4-foot thickness of backfill placed. Each series will consist of tests taken at approximate maximum intervals of 300 feet. Each series will begin above the structure.
2. Connector Pipe Trenches - Compaction tests will be taken on 50% of the laterals, one test for each 4-foot of depth.
3. Any failed test will result in a retest.

14.9 Backfill - The contract item Backfill covers all costs associated with storing and the transporting of suitable surplus excavated material from the overall project site and the placement and compaction of such material around the various concrete structures, reinforced concrete box, rectangular channels, L2 and L3 channel transitions, channel invert over-excavation, and pipe, and the associated junction structures, headwalls, manholes, transitions and collars within the paylines as shown on the drawings and as directed by the Engineer.

14.10 Controlled Low Strength Material (CLSM) - The contract item Controlled Low Strength Material (CLSM) shall cover all equipment, material, labor and other costs necessary for the placement of CLSM as specified on drawings and as directed by the Engineer.

CLSM material conformance is specified in Section 16 of these Detailed Specifications.

14.11 Measurement - Excavation; Channel Excavation; Structure Excavation; Backfill; and Controlled Low Strength Material (CLSM) beyond the limits established by the drawings, unless ordered in writing by the Engineer, will not be measured for payment.

All excavated material shall be measured from the ground surface existing at the start of excavation, as determined from survey data taken by the District to the lines, grades and dimensions shown on the drawings.

When measured for payment, the longitudinal limits of the excavation and backfill items terminate at a vertical plane at the limits of the structure, measured along the longitudinal axis of the various structures, as shown on the profile drawings.

Measurement for payment for the contract item Excavation will be the number of cubic yards of material excavated as shown on the drawings. Volume 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 Channel Excavation will be the number of cubic yards excavated as shown on the drawings or as directed by the Engineer. No measurement or payment of the fill required to obtain the channel and access road cross section and the placement and compaction of material in the mandatory fill areas will be made.

Measurement for payment for the contract item Structure Excavation will be the number of cubic yards of material excavated as shown on the drawings. Volume occupied by the existing reinforced concrete boxes should be deducted from the structure excavation paylines.

Measurement for payment for the contract items Backfill; will be the number of cubic yards of fill material placed in final position as specified and within the limits of the payment lines shown on the drawings. Existing (pre-project) and approved finished grades will be established by the District based on survey data. Volumes occupied by structures, aggregate base, asphalt concrete and other feature for which a separate payment is made will be deducted from the gross volume.

Measurement for payment for the contract item Controlled Low Strength Material (CLSM) will be the number of cubic yards of material placed in final position as specified and within the limits of the payment lines as shown on the drawings. Volume occupied by structures, aggregate base, asphalt concrete and other features for which a separate payment is made will be deducted from the gross volume.

14.12 Payment - The contract prices paid for Excavation; Channel Excavation; Structure Excavation; Backfill; and Controlled Low Strength Material (CLSM) shall include full compensation for all costs incurred under this section.

SECTION 15 - TRENCH SAFETY SYSTEM AND FALSEWORK

15.1 Description - This section covers the contract item Trench Safety System and Falsework. This item is defined as a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures. Trench safety systems include support systems, sloping and benching systems, shield systems and other systems that will provide necessary protection. The item includes the furnishing and implementation of the safety system as required by Section 306-4 of the Greenbook Specifications or as directed by the Engineer.

15.2 Trench Safety System - Excavation for any trench five (5) feet or more in depth shall not begin until the Contractor has provided to the Engineer, a detailed plan for worker protection from the hazards of caving ground during the excavation of the trench. The plan shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection including any design calculations done in the preparation of the plan. No such plan shall allow the use of shoring, sloping or a protective system less effective than that required by the Construction

Safety Orders of the California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal-OSHA). The plan shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California, and the plan and design calculations shall be submitted for review in accordance with Sections 1.2 and 2.1 of these Special Provisions.

All safety plans shall reflect surcharge loadings imparted to the side of the trench by equipment and stored materials. Surcharge loads shall be monitored to verify that such loads do not exceed the design assumptions for the system.

The Contractor should not assume that only one type of trench safety system such as a shield or "trench box" will be adequate for all trenching situations encountered on a given project. The Contractor should be prepared with alternative safety system designs (such as solid sheeting) should construction circumstances dictate the use of such.

Trench safety system designs for support systems, shield systems or other protective systems whether drawn from manufacturers' data, other tabulated data or designed for this particular project must be signed by a Civil Engineer registered in the State of California prior to submittal to the District for review. A shoring plan for the specific use of a shield shall be prepared. Catalogs or engineering data for a product should be identified in the plan as supporting data. All specific items or applicable conditions must be outlined on the submittal.

The State of California Department of Transportation "Trenching and Shoring Manual" will be used as a guide for plan review and approval.

Also included in this item is the fencing and barricading of the open trench as required for the safety of pedestrians and vehicular traffic as directed by the Engineer.

15.3 Falsework - Falsework for the construction of reinforced concrete boxes shall conform with Section 48-2 Falsework of the Caltrans Specifications.

The Falsework plan shall be prepared and signed by an engineer who is registered as a Civil Engineer in the State of California, and the plan and design calculations shall be submitted for review at least 4 weeks before the Contractor intends to begin Falsework construction.

The State of California Department of Transportation "Falsework Manual" will be used as a guide for plan preparation and review.

15.4 Measurement and Payment - The contract price paid for the item Trench Safety System and Falsework shall include full compensation for all costs incurred under this section.

This payment will be made on a basis of the percentage of the work completed on the items related to trenching operations.

SECTION 16 - CONCRETE CONSTRUCTION

16.1 Description - This section includes the contract items related to the various classes of Concrete.

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 (a minimum of 70 drum revolutions, and a maximum of 250 drum revolutions are required to provide sufficient agitation to the concrete mix) and brought to the proper consistency and to have a compressive strength at the age of 28 days of not less than the amount specified in Section 16.3 - Materials and Methods.

16.3 Material and Methods - All concrete materials, methods, forms and proportioning shall conform to Sections 51 and 90 and, additionally, curb construction shall conform to Section 73 of the Caltrans 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. A maximum of 6 test cylinders per structure will be made and paid by the District for the following day breaks: 7, 14, 21, 28 (x2), and one break to be agreed upon by the Engineer and Contractor. The two-cylinder breaks at 28 days are to report the average as required by ACI. Any additional test cylinders requested by Contractor shall be deducted from the monthly progress payment at a rate of \$500.00/cylinder.

Compressive strength at the age of 28 days shall not be less than the amount shown in the following tabulation for each type of work listed:

CONCRETE CLASS	TYPE OF WORK	POUNDS PER SQUARE INCH
A	Precast Concrete Boxes	5000
A	Rectangular Channel Invert, Rectangular Channel Walls, Parapet Wall, PRCB End Elevation, Concrete Transition Structure	4000
A	Trapezoidal Channel, Catch Basins, Drop Inlets, Junction Structure Nos. 1, Manholes, Aprons, and Concrete Collars	3600
A	Non-Shrink Grout	4000*
B	Local Depressions, Cutoff Walls, Encasements, Curb and Gutter, Cross Gutter, Swale, Concrete Pads, Fence Post Encasements and Miscellaneous Concrete not otherwise specified	3000
E	Controlled Low Strength Material (CLSM)**	50-100 (hand excavatable)

*Note: Non-Shrink Grout shall achieve 4000 psi compressive strength at 7 days.

**Note: All CLSM shall contain a maximum of 1/2 sack of cement per cubic yard.

Combined aggregate grading for all concrete shall be in conformance with Section 90-1.02C(4)(d) of the Caltrans Specifications and the following tabulation for each type of work listed:

TYPE OF WORK	COMBINED AGGREGATE GRADING
The footings of Rectangular Channels. The inverts of: Trapezoidal Channels, Reinforced Concrete Box, Rectangular Channels, Junction Structures, Transition Structures and Manholes.	1-1/2" Maximum
Trapezoidal Channel Side Slopes, Box Deck and Walls, Transition Structure Walls, Rectangular Channel Walls, Headwalls, Catch Basins, Drop Inlets, Local Depressions, Curb and Gutter, Cutoff Walls, Collars, Encasements and other Miscellaneous Concrete not otherwise specified. All other concrete structures.	1" Maximum
Controlled Low Strength Material (CLSM)	*See below

*Note: Controlled Low Strength Material (CLSM) gradation shall conform to Section 201-6.2.2 of the Greenbook Specifications except that the Contractor has the option to use reclaimed concrete material for the CLSM. The reclaimed material shall meet the same grading requirements as non-reclaimed material set forth in Greenbook Specifications Section 201-6.2.2.

The Contractor may also elect to use an air entrained agent or an accelerant (2% PolarSet or equivalent) to speed up the set time of the CLSM. The Contractor shall submit mix designs for review and approval.

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 Caltrans 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 90-1.02G(3) of the Caltrans 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 Caltrans 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. Heavy machinery, equipment and vehicles shall be kept off the steel reinforcement when stored or installed.

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.

Controlled Low Strength Material (CLSM) flow characteristics shall be determined by the producer to meet job site conditions and shall be approved by the Engineer.

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.

Non-shrink grout shall be mixed thoroughly to a consistency recommended by the manufacturer.

16.6 Placing - Supplementing Section 51-1.03D(1) of the Caltrans 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.

Formed concrete shall be placed in horizontal layers in lifts of not more than 20 inches. Hoppers and chutes, pipes and "elephant trunks" shall be used as necessary to prevent segregation of the concrete.

At the Contractors option, the concrete for the L2 and L3 portions of the transition structures may be placed using Air-Placed Concrete, in accordance with Section 18 of these Detailed Specifications.

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.

Element	Strength or Time
All structures	16 hours

The finish on all exposed formed surfaces shall conform to Section 51-1.03F(3) Class 1 Surface Finish of the Caltrans 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 90-1.03B(3) of the Caltrans Specifications and ASTM Designation C-309. The curing compound shall be No. 2 White Pigmented Curing Compound, Type 2, Class B for all concrete surfaces other than for flatwork which shall be coated with No. 6 Nonpigmented Curing Compound, Type I-D, Class A 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 Controlled Low Strength Material (CLSM) Curing - Controlled Low Strength Material (CLSM) must achieve a maximum indentation diameter of three (3) inches as determined under ASTM D6024 before covering.

16.10 Joints - Joints shall be made at the locations shown on the Standard Drawings or as approved by the Engineer.

The Contractor shall construct, in one continuous concrete placing operation, all work comprised between such joints. Joints shall be kept moist until adjacent concrete is placed.

Transverse weakened plane joints shall be required in concrete trapezoidal channel, maintenance ramps and drainage aprons at 10-foot spacing or as directed by the Engineer.

The Contractor may elect to form the weakened plane joints in the channel surface using a groover tool or by cutting a groove in the surface with a power-driven saw. The grooves shall be cut to a minimum depth of 0.083 foot (1 inch) and the width shall be the minimum width possible with the type of saw being used or groover tool, but in no case shall the width exceed 0.02 foot (3/16 inch). The weakened plane joints shall be sawed within 12 hours after the concrete has been placed.

Transverse construction joints, when required, shall be spaced and constructed as shown on the drawings, at a straight 90-degree angle to the centerline unless otherwise specified or shown on the drawings. A complete curtain of transverse steel shall be placed 3 inches from each face of the transverse construction joints and longitudinal steel will not be continuous through the joint. For rectangular channels, keyed transverse construction joints shall be spaced not more than 50 feet or less than 10 feet. Transverse joints in the invert and walls shall be in the same plane. The construction joints shall be straight and finished in a workmanlike manner.

The Contractor's attention is directed to the drawings to identify any locations on structures where construction joints are prohibited.

Surfaces of construction joints shall be cleaned as set forth in Section 51-1.03D(4) of the Caltrans Specifications.

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

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

All 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 weepholes shall be one inch (1") nominal size crushed rock conforming to the gradation of Section 200-1.2 of the Greenbook Specifications. Filter material shall also meet the quality requirements of Sections 200-1.1 and 200-1.2 of the Greenbook 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 be Class A per Section 96-1.02B of the Caltrans 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 weephole, hardware cloth, filter material or filter fabric.

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 channel once steel, concrete, or the articulated concrete blocks have been placed.

A small rubber track 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 strength as directed by the Engineer. 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, Trapezoidal Channel Paving - The contract item Class "A" Concrete, Trapezoidal Channel Paving covers all materials, labor and costs for the complete construction of

the trapezoidal channel, access ramps and the L1 portions of the concrete transition structures, exclusive of earthwork.

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 the Special Provisions.

16.14 Class "A" Concrete, Channel Invert - The contract item Class "A" Concrete, Channel Invert covers all materials, labor and costs for the complete construction of rectangular channel invert below the construction joint and L2 and L3 portions of concrete transition structure inverts as shown on the drawings, exclusive of earthwork.

16.15 Class "A" Concrete, Channel Wall - The contract item Class "A" Concrete, Channel Wall covers all materials, labor and costs for the complete construction of rectangular channel walls above the construction joint, L2 and L3 portions of concrete transition structure walls, parapet wall, and PRCB end elevation sections per the limits shown on the drawings, exclusive of earthwork.

16.16 Class "A" Concrete, Minor Structures - The contract item Class "A" Concrete, Minor Structures covers all materials, labor and costs for the complete construction of the catch basins, collars, aprons, and concrete drop inlets, as specified on the project drawings. Included in the pay item is all earthwork and reinforcing steel required for these structures but excluded is the required miscellaneous iron and steel.

16.17 Class "A" Concrete, Non-Shrink Grout - The contract item Class "A" Concrete, Non-Shrink Grout covers all materials, labor and costs for the complete placement of grout as specified on the project drawings. Manufacture product data sheets, installation instructions, etc. shall be submitted to the Engineer of Record. Qualified testing data that confirms compliance with the specified performance requirements shall also be submitted, if requested.

The non-shrink grout selected shall meet the requirements of ASTM C1107. The applicator must be experienced in the application of non-shrink grouting materials and be able to provide evidence proving competence in this type of work.

The non-shrink grout must achieve a minimum compressive strength of 4,000 psi at 7 days. Additionally, the curing time of the non-shrink grout shall allow for proper finishing of the grout.

Contractor shall deliver, store, handle, prepare and install the non-shrink grout as recommended by the manufacturer or as directed by the Engineer.

The product shall be delivered in its original, unopened undamaged packaging with manufactures identification (i.e., brand logo, product name, weight of packaged unit, lot number). The product shall be stored in a dry location, covered, out of direct sunlight, off the ground and protected from moisture. Maintain storage temperature required by the manufacture. Keep materials dry until used. Store bulk sand in a well-drained area on a clean, solid surface. Cover

sand to prevent contamination. The product should be handled in accordance with the manufacturer's published recommendations.

Protect grout from uneven and excessive evaporation during dry weather, windy conditions and strong blasts of dry air. Do not apply grout materials during inclement weather unless appropriate protection is employed. The Contractor shall clean the surfaces to which the grout is to be applied to ensure the surfaces are clean, sound and free from any materials that may inhibit bond such as oil, dirt, asphalt, sealing compounds, acids, wax and loose dust and debris. A citrus-based concrete cleaner should be used to clean and strip dirt, grease and laitance from surfaces to receive grout.

Prior to including any additives and admixture materials to the grout, the Contractor shall submit a certification from the grout manufacturer that the proposed admixture is compatible with the non-shrink grout to the Engineer for review and approval. Water used to mix with the grout should be clean potable water free of deleterious amount of silt and dissolved salts.

Consult with the manufactures qualified technical representative prior to the project if the grout will be pumped, mixed in a ready-mix truck, used with pea gravel, used at temperature extremes, installed less than ½ inch thick or over 6 inches thick, or when unusual job site conditions are anticipated.

During the curing process rapid water loss shall be prevented during the first 48 hours by use of either the wet burlap method or a curing compound compliant with ASTM C309 Type I, B.

16.18 Class "B" Concrete, 2' Cutoff Wall - The contract item Class "B" Concrete, 2' Cutoff Wall covers all materials, labor and costs for the complete construction of the entire longitudinal (continuous) cutoff walls on each side of the trapezoidal channel prism. Included in the pay item is all earthwork and reinforcing steel.

16.19 Class "B" Concrete, 3.5' Cutoff Wall - The contract item Class "B" Concrete, Cutoff Wall covers all materials, labor and costs for the complete construction of the entire longitudinal (continuous) 3.5' cutoff wall on each side of the channel invert lined with articulated concrete blocks (ACB) and transverse 3.5' cutoff walls. Included in this pay item is all earthwork and reinforcing steel.

16.20 Class "B" Concrete, Miscellaneous - The contract item Class "B" Concrete, Miscellaneous covers all materials, labor and costs for the complete construction of the curb, curb and gutters, curb transitions, cross gutters, swales, local depressions, pipe seals, concrete pads and any other concrete not specified. Included in the pay item is all earthwork and reinforcing steel required. The subgrade for cross gutters and driveways shall be recompacted to 95% relative compaction prior to the placement of concrete.

16.21 Transition Structure No. 3 - The contract item Transition Structure No. 3 covers all materials, labor and costs for the complete construction of these various structures, exclusive of earthwork.

16.22 Junction Structure No. 1 - The contract item Junction Structure No. 1 covers all material, labor and costs for the complete construction of this structure, exclusive of earthwork.

No separate payment will be made for Junction Structure No. 3 or Junction Structure No. 4.

16.23 Manhole No. 4 - The contract item Manhole No. 4 covers all materials, labor and costs for the complete construction of this structure, exclusive of earthwork and the miscellaneous iron and steel.

The manhole rings are required and shall conform to ASTM Designation: C-478 and the drawings. The rings shall be laid up, using Type II modified cement with a 1:2 mix mortar and with 1/2-inch minimum thickness pointed joints. On completion, vertical wall section shall not be out of plumb by more than 1/2-inch in 10 feet of vertical height. The manhole rings shall also be accurately aligned. The cast iron manhole frame and cover shall be installed, with frame accurately set to finished grade of pavement, in mortar well tamped around the perimeter of frame to ensure full bearing.

16.24 Measurement - Measurement for payment for the contract items Class "A" Concrete, Trapezoidal Channel Paving; Class "A" Concrete, Channel Invert; Class "A" Concrete, Channel Wall; Class "A" Concrete, Minor Structures; and Class "B" Concrete, Miscellaneous will be the number of cubic yards placed as specified, measured to the neat lines as shown on the drawings.

Measurement for payment for the contract item Class "A" Concrete, Non-Shrink Grout will be the number of cubic feet placed as directed by the Engineer, measured at the mixer.

Measurement for payment for the contract items Class "B" Concrete, 2' Cutoff Wall; and Class "B" Concrete, 3.5' Cutoff Wall will be the number of lineal feet placed, measured parallel to the top of the wall.

Measurement for payment for the contract items Transition Structure No. 3; Junction Structure No. 1; and Manhole No. 4 will be the number of each type constructed as specified.

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

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

SECTION 17 - CONCRETE PIPE

17.1 Description - This section covers the contract item Reinforced Concrete Pipe of the various sizes 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.

The District will also require the D-load bearing strength test conforming to ASTM C497 for new pipe 30" or greater, in conformance with Sections 207-2.9.1(1) and 207-2.9.2 of the Greenbook Specifications as a basis for acceptance of the pipe. The test shall be performed in the presence of the Engineer.

Pipe shall be laid in a trench free of ponded water in conformance with Section 306-5, with joints in conformance with Section 306-7.3 of the Greenbook Specifications.

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

17.3 Reinforced Concrete Pipe - The contract items for the various Reinforced Concrete Pipe include the furnishing and installing of the various pipe as specified, exclusive of earthwork.

17.4 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.

17.5 Measurement - Measurement for payment of the contract items Reinforced Concrete Pipe of the various sizes and classes will be the number of lineal feet of each class installed as specified measured along the centerline of the pipe in place including curves.

17.6 Payment - The contract prices paid for the Reinforced Concrete Pipe shall include full compensation for all costs incurred under this section.

SECTION 18 - AIR-PLACED CONCRETE

18.1 Air-Placed Concrete - At the Contractor's option, Air-Placed Concrete may be used for construction of the channel transition structures that are identified on the project drawings. One inch of concrete shall be added to the channel transition walls to obtain three inches of clear cover for steel reinforcement on the dirt side.

Air-placed concrete shall be installed only by subcontractors with a minimum of 5 years of 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 of 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 Greenbook Specifications.

Equipment used for air placement of concrete shall be in conformance with Section 303-2.2 of the Greenbook 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 Detailed Specifications, except those materials shall conform to specifications applicable to the "wet-mix process" in Section 53-1.02 of the Caltrans 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 Greenbook Specifications. Supplementing Section 303-2.4 of the Greenbook 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 for each 250 cubic yards or fraction thereof of air-placed concrete deposited 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 Detailed Specifications. 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 Greenbook Specifications.

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

Placement of air-placed concrete shall be in accordance with Section 303-2.6 of the Greenbook Specifications and these Detailed Specifications. 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 Greenbook Specifications and these Detailed Specifications. 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 Greenbook Specifications and these Detailed Specifications. The finished surface on exposed portions of transition walls with side slopes steeper than 1:1 (run to rise) shall have a Class 1 surface finish in conformance with Section 51-1.03F(3) of the Caltrans Specifications. Remaining portions of the transition 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 Detailed Specifications.

18.2 Measurement and Payment - Measurement for payment of Air-Placed Concrete shall be covered under the contract item Class "A" Concrete, Channel Wall per Section 16 of these Detailed Specifications.

SECTION 19 - FLEXIBLE PAVEMENT CONSTRUCTION

19.1 Description - This section covers the contract items Aggregate Base, Class 2; Hot Mix Asphalt (HMA); Asphalt Concrete Grinding; and Temporary Resurfacing.

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, organic material 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 Caltrans 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 26-1.03A and 26-1.03D of the Caltrans Specifications. The aggregate base material shall be compacted as specified in Section 26-1.03E of the Caltrans Specifications.

Aggregate material used in scenarios where it will be exposed to rainfall or runoff shall not contain recycled concrete products.

19.3 General Hot Mix Asphalt (HMA) Requirements - The Contractor shall not start paving Hot Mix Asphalt (HMA) until all compaction on the aggregate base is tested and approved by the Engineer.

The HMA shall be proportioned, mixed, spread and compacted in accordance with the applicable provisions in Section 39-2 of the Caltrans Specifications and these Detailed Specifications.

The Contractor shall ensure the safe transportation, storage, use and legal disposal of HMA.

The Contractor shall prevent the formation of carbonized particles caused by overheating HMA during manufacturing or construction.

19.4 Hot Mix Asphalt (HMA) Aggregate - Aggregates shall be clean and free from decomposed materials, organic material, and other deleterious substances. Coarse aggregate is material retained on the No. 4 sieve and fine aggregate is material passing the No. 4 sieve. Supplemental fine aggregate is added fine material passing the No. 30 sieve including, but not limited to, cement and stored fines from dust collectors.

The aggregate grading of Hot Mix Asphalt (HMA) shall conform to the following, unless otherwise specified on the plans:

HMA Type	Grading
A	¾-inch and/or ½-inch

The base course of the HMA shall consist of ¾-inch aggregate for Type A and the final surface course for Type A shall consist of ½-inch aggregate.

The combined aggregate gradation and quality characteristics for HMA Type A, prior to addition of asphalt binder, shall conform to the requirements found in the following tables:

**Aggregate Gradation HMA Type A
(Percentage Passing)**

¾-inch HMA Type A

Sieve Sizes	Target Value Limits	Allowable Tolerance
1-inch	100	-
¾-inch	90-98	TV ±5
½-inch	70-90	TV ±6
No. 4	42-58	TV ±5
No. 8	29-43	TV ±5
No. 30	10-23	TV ±4
No. 200	2-7	TV ±2

**Aggregate Gradation HMA Type A
(Percentage Passing)**

½-inch HMA Type A

Sieve Sizes	Target Value Limits	Allowable Tolerance
¾-inch	100	-
½-inch	95-98	TV ±5
3/8-inch	72-95	TV ±5
No. 4	52-66	TV ±5
No. 8	35-55	TV ±5
No. 30	15-30	TV ±4
No. 200	2-8	TV ±2

HMA Type A Aggregate Quality

Quality Characteristic	Test Method	Requirement
Percent of crushed particles ¹	AASHTO T 335	
Coarse aggregate (% min.)		
One fractured face		95
Two fractured faces		90
Fine aggregate (Passing No. 4 Sieve and retained on No. 8 Sieve) (% min.)		
One fractured face		70
Los Angeles Rattler (% max.) ¹	AASHTO T 96	
Loss at 100 rev.		12
Loss at 500 rev.		40
Sand equivalent ^{1,2} (min.)	AASHTO T 176	47
Fine aggregate angularity (% min.) ¹	AASHTO T 304 Method A	45
Flat and elongated particles (% max. by weight at 5:1) ¹	ASTM D 4791	10

¹ Combine aggregate in the job mix formula proportions.

² The reported value must be the average of 3 tests from a single sample. Use of a sand reading indicator is required as shown in AASHTO T 176, Figure 1. Sections

4.7, "Manual Shaker," 7.1.2, "Alternate Method No. 2," and 8.4.3, "Hand Method," do not apply. Prepare the stock solution as specified in section 4.8.1, "Stock solution with formaldehyde," except omit the addition of formaldehyde.

³ The Engineer waives this specification if the Type A HMA contains 10 percent or less of non-manufactured sand by weight of total aggregate. Manufactured sand is fine aggregate produced by crushing rock or gravel.

19.5 Asphalt Binder - The asphalt binder to be mixed with aggregate shall conform to these Detailed Specifications and shall be as designated below or as determined by the Engineer:

- Grade PG 64-10 (Inland Valleys)

The Contractor shall furnish and place the HMA with all asphaltic emulsions required.

Asphalt binder shall consist of refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt, prepared from crude petroleum. Asphalt binder shall be:

- Free from residues caused by the artificial distillation of coal, coal tar or paraffin
- Free from water
- Homogeneous

The Contractor shall furnish asphalt binder from a supplier that conforms to the State of California Department of Transportation's "Asphalt Supplier Certification Program". The Department maintains the program requirements, procedures, and a list of approved suppliers at <https://mets.dot.ca.gov/aml/AsphaltBindersList.php>.

The amount of asphalt binder to be mixed with the mineral aggregate shall be between three percent (3%) and seven percent (7%) by weight, of the dry mineral aggregate. The exact amount of asphalt binder to be mixed with the mineral aggregate shall be determined by a special mix design.

Performance grade paving asphalt shall conform to the testing requirements in the table below:

Performance Graded Asphalt Binder

Property	AASHTO Test Method	Specification Grade			
		PG 64-10	PG 64-16	PG 70-10	PG 64-28PM ¹
Original Binder					
Flash Point, Minimum °C	T48	230	230	230	230
Solubility, Minimum % ^b	T44	99	99	99	.5

Viscosity ^c at 135 °C, Maximum, Pa·s	T316	3.0	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T315	64 1.00	64 1.00	70 1.00	64 1.00
RTFO Test ^e , Mass Loss, Maximum, %	T240	1.00	1.00	1.00	1.00
RTFO Test Aged Binder					
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T315	64 2.20	64 2.20	70 2.20	64 2.20
Ductility at 25 °C Minimum, cm	T51	75	75	75	-
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum (delta), %	T315	-	-	-	Note g 80
PAV ^f Aging, Test Temperature, °C	R28	100	100	110	100
Elastic Recovery ^h , Test Temp., °C Minimum recovery, %	T 301	-	-	-	25 75
RTFO Test and PAV Aged Binder					
Dynamic Shear, Test Temp. at 10 rad/s, °C Maximum G*/sin(delta), kPa	T315	31 ^d 5000	28 ^d 5000	34 ^d 5000	22 5000
Creep Stiffness, Test Temperature, °C Maximum S-value, Mpa Minimum M-value	T313	0 300 0.300	-6 300 0.300	0 300 0.300	-18 300 0.300

Notes:

- a. Not used.
- b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by Department's "Certification Program for Suppliers of Asphalt".
- c. The Engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
- d. Test the sample at 3 °C higher if it fails at the specified test temperature. G*/sin(delta) shall remain 5000 kPa maximum.
- e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T240 or ASTM Designation: D2827.
- f. "PAV" means Pressurized Aging Vessel.

- g. Test temperature is the temperature at which $G^*/\sin(\delta)$ is 2.2 kPa. A graph of $\log G^*/\sin(\delta)$ plotted against temperature may be used to determine the test temperature when $G^*/\sin(\delta)$ is 2.2 Kpa. A graph of (δ) versus temperature may be used to determine δ at the temperature when $G^*/\sin(\delta)$ is 2.2 kPa. The Engineer also accepts direct measurement of (δ) at the temperature when $G^*/\sin(\delta)$ is 2.2 kPa.
- h. Test without a force ductility clamp may be performed.
- i. Do not modify PG Polymer Modifier using acid modification.

Certificates of compliance shall be furnished to the Engineer certifying that the asphaltic emulsions and paving asphalts conform to the referenced Greenbook Specifications.

19.6 Hot Mix Asphalt (HMA) Paint Binder/Tack Coat - Asphaltic emulsion for paint binder (tack coat) shall conform to the provisions in Section 94 "Asphaltic Emulsion" of the Caltrans Specifications for the rapid-setting or slow-setting type and grade approved by the Engineer. Grade CQS1 shall be used if not otherwise specified by the Engineer. Tack coat shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints in the surfacing against which additional material is to be placed, to a pavement to be surfaced, and to other surfaces designated in the Detailed Specifications. The application rate shall be from 0.02 to 0.10 gallon per square yard of surface covered. The exact rate and number of applications will be determined by the Engineer.

19.7 Hot Mix Asphalt (HMA) Placement - Hot Mix Asphalt (HMA) shall be spread and compacted in the number of layers of the thicknesses indicated in the following table:

Total Thickness Shown on Plans ¹	Minimum No. of Layers	Top Layer Thickness (ft.)		Next Lower Layer Thickness (ft.)		All Other Lower Layer Thickness (ft.)	
		Min.	Max.	Min.	Max.	Min.	Max.
0.24-foot or less	1	-	-	-	-	-	-
0.25-foot	2	0.12	0.13	0.12	0.13	-	-
0.26 - 0.46-foot	2	0.12	0.21	0.14	0.25	-	-
0.47-foot or more	3 or more	0.15	0.21	0.15	0.25	0.17	0.25

¹When pavement reinforcing mat is shown to be placed between layers of HMA, the thickness of HMA above the pavement reinforcing mat shall be considered to be the "total thickness shown on plans".

The straightedge for smoothness determination on the top layer of HMA pavement shall conform to the straightedge tolerances specified in Section 36-3.01D(4) of the Caltrans Specifications.

Areas of the top surface of the uppermost layer of HMA pavement that do not meet the specified surface tolerances shall be brought within tolerance by abrasive grinding. Areas which have been subjected to abrasive grinding shall receive a seal coat. The corrective method for each area shall be selected by the Contractor and shall be approved by the Engineer prior to beginning the corrective work.

When abrasive grinding is used to bring the top surface of the uppermost layer of HMA surfacing within the specified surface tolerances, additional abrasive grinding shall be performed as necessary to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel with, the nearest lane line or pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within a ground area. Ground areas shall be neat rectangular areas of uniform surface appearance.

19.8 Hot Mix Asphalt (HMA) - The contract item Hot Mix Asphalt (HMA) covers the furnishing and installation of HMA necessary for the repair and resurfacing of streets damaged or removed due to construction operations or as otherwise specified on the plans, including all aggregate, asphalt binder, prime coat and tack coat/paint binder as specified herein, exclusive of any excavation or pavement grinding.

19.9 Asphalt Concrete Grinding - The contract item Asphalt Concrete Grinding covers the asphalt grinding/header cut and removal of all materials, including asphalt concrete pavement and aggregate base, to the depths and dimensions as specified and as shown on the project drawings and the legal disposal of all surplus material.

If the specified grinding should result in exposure of the aggregate base, included in this contract item is the recompaction of the existing aggregate base to 95% relative compaction.

Exclusive of this contract item is the asphalt concrete excavation within the trench excavation limits, which will be measured and paid by the contract item Excavation, and the placement of new hot mix asphalt overlays, which are paid under separate items.

The cold planing machine shall have a cutter head of at least 72 inches wide and shall be operated so as not to produce fumes or smoke.

The final cut shall result in a uniform surface conforming to the typical cross sections. The outside lines of the planed area shall be neat and uniform. The road surfacing to remain in place shall not be damaged in any way.

The material planed from the roadway surface, including material deposited in existing gutters or on the adjacent traveled way, shall be immediately removed from the work site and legally disposed of outside the right of way. The removal crew shall follow within 50 feet of the planer unless otherwise directed by the Engineer.

19.10 Temporary Resurfacing - The contract item Temporary Resurfacing is required for short reaches of the mainline and connector pipe trenches whenever excavation is made through pavement on which traffic must be allowed immediately after backfilling, only as directed by the Engineer. Otherwise, the leveling course of the HMA may be used to open the work area to traffic until the final paving is completed. Measurement and payment of the leveling course will be made as a HMA item, not Temporary Resurfacing.



Temporary Resurfacing shall be 2" (0.17') and in conformance with Section 306-13 of the Greenbook Specifications.

19.11 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.**

Measurement for payment of the contract item Hot Mix Asphalt (HMA) will be the number of tons placed to the lines, grades and dimensions shown on the drawings. The HMA pay quantity shall be determined by using a conversion factor of 144 pounds per cubic foot for all HMA placed within standard paylines. No measurement for payment will be made for asphalt emulsions, including asphalt binder, HMA prime coat, HMA tack coat/paint binder required for this portion of the work, all costs for these items shall be included in the price paid for HMA. **No allowance will be made for HMA placed outside said dimensions unless otherwise ordered by the Engineer.**

Measurement for payment of the contract item Temporary Resurfacing will be the number of tons placed as specified in Section 19.10 and as directed by the Engineer.

Measurement for payment for the contract item Asphalt Concrete Grinding will be the number of square feet of material excavated as shown on the project drawings or as directed by the Engineer. Asphalt Concrete Excavation beyond the limits established by the project drawings, unless ordered in writing by the Engineer, will not be measured for payment.

19.12 Payment - The contract prices paid for Aggregate Base, Class 2; Hot Mix Asphalt (HMA); Temporary Resurfacing; and Asphalt Concrete Grinding shall include full compensation for all costs incurred under this section.

SECTION 20 - FENCES AND GATES

20.1 Description - This section covers the contract items Safety Bollard; Metal Post Delineator; 6-Foot Chain Link Fence; Temporary Fencing; Cable Railing; and 14-Foot Double Drive Gates.

20.2 Safety Bollard - The contract item Safety Bollard includes furnishing all materials, hardware parts, equipment, tools, fittings and all labor required to perform the installation of safety bollards at locations identified on the project drawings.

Steel posts shall be round schedule 40 or thicker steel with matching domed cap insert as indicated on the drawings. Dome insert shall be manufactured to fit the post diameter and shall be securely welded to post. Rebar footing anchor shall be securely welded to post to provide secure anchoring to the concrete footing. Post components and all welds shall be smooth to the touch and uniform in appearance. Steel posts shall be coated with uniform, factory applied powder coat finish. Color: Safety Yellow.

20.3 Metal Post Delineator - The contract item Metal Post Delineator includes furnishing all materials, hardware parts, equipment, tools, fittings and all labor required to perform the installation of metal posts at locations identified on the project drawings.

All materials shall be new and in accordance to Caltrans Standard A73C, Class 2 with Type G Retroreflective Sheeting and shall conform to Section 82 of the Caltrans Specifications.

20.4 6-Foot Chain Link Fence - The contract item 6-Foot Chain Link Fence includes all material, labor and costs associated with furnishing and installing the material required for this portion of the work as shown on the drawings and as directed by the Engineer. Included in this item is all hardware parts, posts and fittings. Also included in this item of work will be the removal and relocation, if required, of chain link fence as noted on the drawings and as directed by the Engineer.

All materials shall be new unless otherwise specified on the project drawings for removal and relocation, or unless the use of salvaged materials is approved by the Engineer. Materials salvaged shall be subject to the Engineer's approval prior to reinstallation. New fencing materials shall conform to Section 206-6 of the Greenbook Specifications and the project drawings. All installation shall be in conformance with Section 304-3.2 of the Greenbook Specifications. All posts shall be set in commercial plant quality, 4 sack per cubic yard concrete.

20.5 Temporary Fencing - The contract item Temporary Fencing shall include all labor, materials and equipment necessary for installing and removing the temporary fencing and removing property line fences as shown on the drawings. The temporary fencing shall be a 6-foot-high chain link fence with privacy screen. Fencing materials need not be new and fence posts need not be set in concrete. The temporary fencing shall be installed in such a manner that it will not allow the passage of any animals through its perimeter.

Temporary fencing installed to secure APN 127-075-001 shall remain in place for the full duration of construction within the property limits plus an additional 2 weeks or until removal instructed by property owner in writing (whichever comes first).

The property owner of APN 127-075-001 will be responsible for the installation of permanent fencing to secure their property. However, the Contractor shall notify and coordinate with the property owner a minimum two (2) weeks prior to the removal of the temporary fencing. Notices to the property owners shall be issued in accordance with Section 6.18 Permanent and Temporary Construction Easement Usage.

20.6 Cable Railing - The contract item Cable Railing includes furnishing and installing the material required for this portion of the work. Included in this item is all hardware, parts, posts and fitting in conformance with Section 83-2.07 of the Caltrans Specifications.

20.7 14-Foot Double Drive Gates - The contract item 14-Foot Double Drive Gates includes furnishing and installing the 14-foot double drive gates as shown on the project drawings, complete with all gate posts set in concrete and in conformance with Section 304-3.3 of the Greenbook

Specifications. Padlocks are not included in this item. On completion, gates shall operate freely without wedging or binding.

20.8 Measurement - Measurement for payment for the contract item Safety Bollard shall be the number of Safety Bollard installed as specified.

Measurement for the contract item Metal Post Delineator will be the number of posts installed as specified.

Measurement for payment for the contract item 6-Foot Chain Link Fence will be the number of lineal feet of new and relocated fence installed measured along the top of the fence parallel to the ground.

Measurement for payment for the contract item Temporary Fencing will be the number of lineal feet of fencing installed for the temporary fencing and relocations.

Measurement for payment for the contract item Cable Railing will be the number of lineal feet of new cable railing installed along the top of the railing parallel to the ground.

Measurement for payment for the contract item 14-Foot Double Drive Gate will be the number of pairs installed. Excavation and concrete required for fence or gate posts will not be measured for payment.

20.9 Payment - The contract price paid for Safety Bollard; Metal Post Delineator; 6-Foot Chain Link Fence; Temporary Fencing; 3-Foot Cable Railing; and 14-Foot Double Drive Gates shall include full compensation for all costs incurred under this section.

SECTION 21 - MISCELLANEOUS

21.1 Description - This section covers the contract items Miscellaneous Iron and Steel; Subdrain; Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection; Relocate Waterline Service Connection; Remove Existing RCB and Structures; Block Wall; Full Trash Capture Device (FTCD); Adjust Manhole to Grade; and Extra Directed Work.

21.2 Miscellaneous Iron and Steel - The contract item Miscellaneous Iron and Steel covers all ferrous metal used in the various hydraulic structures. Materials, parts and fittings shall conform with the following:

- (a) Manhole Frames and Covers - Per ASTM Designation: A-48, Class 35B. Manhole frames and covers shall be minimum weight as shown on the plans, and the weight of each frame and cover shall be indicated thereon in white paint. Style and markings shall be approved by the Engineer. The castings shall be free from cracks, blowholes or other imperfections, straight, true to pattern and have a uniform finish. The castings for manholes in streets shall be thoroughly cleaned and coated with

asphaltum paint of approved composition; all other castings for frames and covers shall be cleaned and galvanized. The cover shall fit firmly into the frame without rocking, with the frame accurately placed so that cover is flush with finish paving. All covers shall be provided with socket set screw locking devices. Drill and tap two holes to a depth of one-inch at 90 degrees to pick hole and install 3/4-inch x 3/4-inch stainless steel socket set screws with 3/8-inch recessed hex head. All threads shall be National Coarse threading.

- (b) All other Miscellaneous Metal - Per ASTM Designation: A-36.
- (c) Galvanizing – Except for manhole frames and covers described above, all exposed ferrous metal shall be galvanized per Section 210-3 of the Greenbook Specifications.

21.3 Subdrain - The contract item Subdrain covers trenching below channel subgrade, furnishing and installation of the subdrain pipe, all fittings, galvanized screen, filter material and filter fabric, including all materials, labor and other incidental costs.

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 16.11, 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.

21.4 Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection - The contract item Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection pertains to the removal of interfering portions of connections and replacement with new pipe and any mainline modification required. This contract item is inclusive of all labor, equipment, materials and incidentals required for the construction

and installation of the VCP as shown on the drawings and as required by these specifications, inclusive of earthwork. The remodeling shall be done in accordance with all applicable City of Norco Standard Drawings, as directed by the Engineer. The contract item includes excavation, backfill and any concrete encasement but excludes asphalt concrete or aggregate base required for this item of work. Only the VCP connections interfering with the RCB or pipe conduit to be constructed will be measured for payment.

21.5 Relocate Waterline Service Connection - The contract item Relocate Waterline Service Connection covers all labor, equipment, materials, testing, disinfection, sidewalk replacement and incidentals required for the relocation of all waterline service connections. Only the waterline service connections found to be interfering with the RCB, pipe conduit or other proposed structures will be measured for payment. All relocations shall use new pipe, completely remove the interfering service connections up to the water mainline, and salvage and reinstall any associated meters and valves.

Included in this item is any earthwork required, aggregate base and asphalt concrete used for resurfacing the street outside the storm drain trench, testing, dewatering, disinfection and incidentals required to safely relocate interfering service waterlines per City of Norco standards and specifications.

Excluded from this item is excavation, aggregate base and asphalt concrete used for resurfacing the street within the storm drain trench limits, which is included in contract items Excavation; Aggregate Base, Class 2; and Hot Mix Asphalt (HMA).

Prior to any remodeling, the Contractor shall contact the City of Norco to obtain and comply with any specifications or requirements regarding the remodeling.

21.6 Remove Existing RCB and Structures - The contract item Remove Existing RCB and Structures covers all materials, labor and costs associated with the sawcutting/demolition, removal and legal disposal of the existing RCBs, headwalls, parapet walls and transition structure as shown on the project drawings, exclusive of earthwork.

21.7 Full Trash Capture Device (FTCD) - The contract item Full Trash Capture Device (FTCD) covers furnishing and installing Full Trash Capture Devices, frames, brackets, screens, bolts and accessories, including all materials, labor and other incidental costs. FTCDs shall be furnished in accordance with and constructed per TLMA Draft Standard Plan No. 313, attached herein as Appendix "1".

21.8 Block Wall - The contract item Block Wall covers all materials, labor and costs associated with the complete construction of the block wall as shown on the project drawings and as directed by the Engineer, inclusive of all reinforcing steel, concrete, CLSM and earthwork. The block wall shall be constructed per Standard Plans for Public Works Construction Drawing No. 622-4.

21.9 Adjust Manhole to Grade - The contract item Adjust Manhole to Grade covers all labor, equipment, materials and incidentals required for the complete adjustment of all manholes identified on the project drawings to meet the finished grade. Utility manhole and vault frames

and covers within an area to be paved or graded will be set by the owners thereof to finished grade. Sewer and storm drain manhole frames within the area to be paved or graded shall be set to finish grade by the Contractor. Manholes in asphalt concrete pavement shall be set to finish grade in accordance with Section 403-3 of the Greenbook Specifications. In case of Portland cement concrete pavement, manhole frames shall be set to finish grade before paving. Repaving required as a result of reconstructing or adjusting all manhole and vault frames and covers to grade shall be the responsibility of the Contractor and the cost thereof shall be included in the bid item for pavement. The Contractor shall remove all debris from the interior of manholes and shall clean all foreign material from the top of the frames and covers.

21.10 Extra Directed Work - The contract item Extra Directed Work shall consist of necessary work that is not included in other contract bid items and not shown on the project drawings, as determined by the Engineer. All Extra Directed Work shall be performed only as directed by the Engineer

21.11 Measurement - Measurement for payment for the contract item Miscellaneous Iron and Steel will be the number of pounds used in the work as specified. Should manhole frames and covers exceed the minimum weights as shown on the drawings by more than two percent (2%) that weight in excess of the allowable two percent (2%) increase will not be measured for payment. Manhole frames and covers to be salvaged and reused will not be measured for payment.

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 Remodel 4-Inch VCP Connection will be the number of lineal feet of 4-inch vitrified clay pipe installed. There will be no separate payment for special fittings or joint materials and modification to the main line.

Measurement for payment for the contract item Relocate Waterline Service Connection shall be the number of service connections removed and reinstalled.

Measurement for payment for the contract item Remove Existing RCB and Structures shall be the number of lineal feet removed as measured horizontally along the centerline of the existing facility alignment.

Measurement for payment for the contract item Full Trash Capture Device (FTCD) shall be the number of Full Trash Capture Devices installed.

Measurement for payment for the contract item Block Wall shall be the number of lineal feet installed as measured along the top of the wall parallel to the ground.

Measurement for payment for the contract item Adjust Manhole to Grade shall be the number of manholes that are adjusted to meet the finished street grade.

21.12 Payment - The contract prices paid for Miscellaneous Iron and Steel; Subdrain; Remodel 4-Inch Vitrified Clay Pipe (VCP) Connection; Relocate Waterline Service Connection; Remove Existing RCB and Structures; Full Trash Capture Device (FTCD); Block Wall; Adjust Manhole to Grade; and Extra Directed Work shall include full compensation for all costs incurred under this section.

Full compensation for the contract item Extra Directed Work shall be as "Extra Work" and shall be paid pursuant to Section 2.07 of the General Provisions. The total accumulated costs for Extra Directed Work shall not exceed the amount specified in the contract bid item unless otherwise increased by change order.

SECTION 22 through 25 NOT USED

SECTION 26 - STONEMWORK

26.1 Description - This section covers the contract items Filter Material and ASTM #2 Stone.

26.2 General - The foundation in which one or more of these materials is installed upon shall be firm and dry prior to placement. Soft, spongy material shall be removed and replaced with acceptable compacted material as directed by the Engineer. The cost of foundation preparation shall be included in the price bid for excavation or channel excavation, and no additional allowance will be made for such work.

Filter Material and ASTM #2 Stone shall be consolidated and surface trimmed to final grade as directed by the Engineer.

26.3 Filter Material - The contract item Filter Material includes furnishing and placing all filter material underneath the pipe and box, and on access roads as shown on the project drawings and as directed by the Engineer.

The Contractor should note that the placing of additional filter material under the pipe and box will be determined from field conditions as directed by the Engineer.

The materials for filter material shall conform to Sections 90-1.02C and 90-1.02C(4)(a) of the Caltrans Specifications. Grading shall meet the requirements for 1" x No. 4 coarse aggregate as per Section 90-1.02C(4)(b) of the Caltrans Specifications. X values for rock gradation shall be 75 and 15 for 3/4" and 3/8' respectively.

Filter Material used on access roads shall additionally meet the spreading and compaction requirements of Sections 26-1.03D and 26-1.03E of the Caltrans Specifications. The filter material shall be consolidated and surface trimmed to final grade as directed by the Engineer. The finished thickness of Filter Material placed on access roads and turn arounds shall not exceed 3" and shall

be subject to verification and approval by the Engineer. Excess depth may be required to be removed.

Such exposed rock used on access roads or other areas as shown on the project drawings shall not contain recycled concrete products.

26.4 ASTM #2 Stone - The contract item ASTM #2 Stone includes all equipment, material, labor and other costs necessary for the placement of stone as specified and shown on the project drawings. The furnished materials shall be washed crushed stone and shall conform to the gradation for #2 Stone in ASTM C33-13 or ASTM D448-08. The Engineer shall be furnished a "Certificate of Compliance" signed by the supplier certifying that the stone complies to the requirements of ASTM C33/C33M-13 or ASTM D448-08.

The stone shall not be dropped from a height greater than 3 feet unless a demonstration is provided showing that the placement procedures will not damage the geotextile. The stone shall be placed in a manner that will ensure the quality of the subgrade below the filter fabric and filter fabric remain intact.

Following stone placement, the top surface of the stone shall be compacted to form a smooth plane surface to ensure that intimate contact is achieved between the stone and ACB (Articulating Concrete Block). The stone surface shall be mechanically compacted by a vibratory plate compactor, tamping rollers or other mechanical tampers. No holes, "pockmarks", footprints or other voids greater than 1/2 inch in depth normal to the design elevation shall be permitted. No grooves or depressions greater than 1/2 inch in depth normal to the subgrade with a dimension exceeding 1.0 foot in any direction shall be permitted.

Approval to use specific methods and 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.

26.5 Measurement - Measurement for payment for the contract item Filter Material will be the number of cubic yards of material placed in final position as specified to the lines, grades and dimensions as shown on the project drawings or as directed by the Engineer.

Measurement for payment for the contract item ASTM #2 Stone will be the number of cubic yards of material placed as specified and shown on the drawings. Payment for this section is inclusive of any compaction and labor required for proper preparation of the top surface of the ASTM #2 Stone.

26.6 Payment - The contract prices paid for Filter Material and ASTM #2 Stone shall include full compensation for all costs incurred under this section.

SECTION 27 - DUST ABATEMENT

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. This includes the implementation, maintenance, replacement or supplementation of dust abatement actions and measures outside of regular work hours. Material stockpiles and disturbed areas shall be covered or tended to over the weekends or holidays to prevent harm, nuisance and meet all applicable SCAQMD Rules.

The methods to be used for controlling dust in the construction area and a long-haul road 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 – HYDROSEEDING - NOT USED

SECTION 29 – STORMWATER AND NON-STORMWATER POLLUTION CONTROL

Santa Ana Watershed LUP

29.1 Description - This section covers the contract items Stormwater and Non-Stormwater Pollution Control; and Non-Stormwater Discharge or Dewatering. The contract item Stormwater and Non-Stormwater Pollution Control shall include preparing, obtaining approval of, amending and implementing the Permit Registration Documents (PRDs) as required by the State Water Resources Control Board (SWRCB) and the California Regional Water Quality Control Board (CRWQCB) - Santa Ana Region. The contract item Non-Stormwater Discharge or Dewatering shall include compliance with Santa Ana Regional Water Quality Board Order No. R8-2015-0004.

29.2 General Requirements - All activities performed by the Contractor for this project shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CAS000002 as amended by Board Order No. 2010-0014-DWQ and Board Order No. 2012-0006-DWQ) for Stormwater Discharges Associated with Construction and Land Disturbance Activities, hereafter

referred to as the "General Permit", issued by the SWRCB. This General Permit regulates both stormwater and non-stormwater discharges associated with Contractor's construction activities. This General Permit can be downloaded at http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

The PRDs mentioned above consist of:

1. Notice of Intent
2. Risk Assessment (Section VIII of the General Permit)
3. Site Map
4. Stormwater Pollution Prevention Plan (SWPPP) (Section XIV of the General Permit)
5. Annual Fee
6. Signed Certification Statement

Notice of Intent - The District will complete and submit the Notice of Intent.

Risk Assessment - Using the methodology in Appendix 1 of the General Permit, the District has calculated the preliminary Risk Level to be 1 based on returning disturbed areas to pre-construction conditions at the end of the day.

Site Map - The Contractor shall revise District provided site map of the project area if Contractor's Qualified SWPPP Developer (QSD) deems necessary. Site Map shall conform to requirements of General Permit Attachment A, Section B.

SWPPP - For the convenience of the Contractor and to expedite the SWPPP preparation and approval, a "90%" SWPPP Template has been prepared by the District. This SWPPP Template has been tailored to the referenced project and can be downloaded from <https://content.rcflood.org/documents/SWPPP-Template-2000145.pdf> or obtained from the District in CD form. Winning bidder will be provided a Word document of the "90%" SWPPP Template to amend. The Contractor shall review and amend this SWPPP Template based on the requirements of the General Permit and per the construction schedule and work plan proposed by the Contractor. The Contractor shall then submit a SWPPP certified by the Contractor's QSD which conforms to Section 29.3 for District review and approval.

The Contractor shall amend and finalize the complete "90%" SWPPP Template referenced above. The Contractor shall, at a minimum, provide and/or prepare the following:

1. Name and contact information for the Contractor's Qualified SWPPP Practitioner (QSP) and QSD.
2. Contractor name and contact information
3. Contractor site contact person and emergency contact person information
4. Verification of disturbance area due to construction
5. Construction commencement date
6. Anticipated construction completion date

7. Construction Activity Schedule/Best Management Practices (BMPs) Installation Schedule
8. Name and contact information for personnel responsible for pre-storm, post-storm and storm event BMP inspections – this should be the project's QSP
9. Name of the lab responsible for testing any stormwater samples for non-visible pollutants
10. Verification of project risk level and permit type (Linear Underground/Overhead Project (LUP) or Traditional)
11. List of all subcontractors that will be working on the project
12. Review and finalize water pollution control drawings

The SWPPP shall be certified by the Contractor's QSD and implemented by the Contractor's QSP. The SWPPP shall be developed based on the format outlined in the CASQA SWPPP Template located in the California Stormwater Quality Association (CASQA) Construction BMP Handbook Portal and modified as required to meet the LUP specific requirements set forth in the General Permit Attachment A. The portal can be found on the CASQA Website: www.casqa.org. The SWPPP shall identify site specific BMPs to be implemented during and after construction to minimize the potential pollution of stormwater runoff and downstream 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 SWPPP shall also stipulate an ongoing program for monitoring and maintenance of all BMPs.

The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;
2. Where not otherwise required to be under a Regional Water Board permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
3. Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Conventional Technology (BAT/BCT) standard;
4. Calculations and design details as well as BMP controls for site run-on are complete and correct; and

5. Stabilization BMPs, installed to reduce or eliminate pollutants after construction, are completed.

To demonstrate compliance with requirements of the General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

The Contractor shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Regional Board inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

Annual Fee - The District will pay any necessary fees.

Signed Certification Statement - The Contractor's QSD shall submit a signed certification certifying the SWPPP is a true, accurate and complete representation of the proposed project and mitigation measures.

In the event the District incurs any Administrative Civil Liability or Mandatory Minimum (fine) imposed by the CRWQCB - Santa Ana Region, 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.

Stormwater and Non-Stormwater Pollution Control work shall conform to the requirements in the latest version of the CASQA Handbook, entitled "**California Stormwater BMP Handbook - Construction**". A copy of the "California Stormwater BMP Handbook – Construction", hereafter referred to as the "CASQA Handbook", may be obtained from CASQA, Post Office Box 2105, Menlo Park, California 94026-2105. Telephone: 650.366.1042. Copies of the CASQA Handbook can also be downloaded from the CASQA Construction BMP Handbook Portal.

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 CASQA Handbook, General Permit, General De Minimus Permit, 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 CASQA Handbook, General Permit, General De Minimus Permit, 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 General Permit, General De Minimus Permit, approved SWPPP and all amendments at the project site. The SWPPP 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 limits of the designated rights-of-way and temporary construction easements as shown on the project drawings.

The Contractor shall, during work hours, allow authorized agents of the CRWQCB, SWRCB, USEPA or local stormwater management agency, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the construction site and the Contractor's facilities pertinent to the work;
2. Have access to and copy any records required to be kept as specified in the General Permit;
3. Inspect the construction site, including any offsite staging areas or material storage areas, and related soil stabilization practices and sediment control BMPs; and
4. Sample or monitor for the purpose of ensuring compliance with the General Permit.

The Contractor shall notify the Engineer immediately upon request from regulatory agencies to enter, inspect, sample, monitor or otherwise access the project site or the Contractor's records.

29.3 PRDs Preparation and Approval - The Contractor shall prepare and obtain approval of the PRDs as part of the Stormwater and Non-Stormwater Pollution Control work for this contract. The SWPPP shall include an appropriate Monitoring and Reporting Program (M&RP) as required by Section M, "Monitoring and Reporting Requirements" of Attachment A of the General Permit. A guidance document titled "Field Monitoring and Analysis Guidance" is available from the CASQA internet site in their Construction BMP Handbook Portal. The Contractor shall prepare and implement the SWPPP in accordance with the CASQA Handbook, the General Permit and these Detailed Specifications.

In case of conflict between the CASQA Handbook and these Detailed Specifications, the Detailed Specifications shall govern; in case of conflict between these Detailed Specifications and the General Permit, the latter shall govern.

Within ten (10) working days after the award of the contract, the Contractor shall submit 2 copies of the PRDs to the Engineer for review and approval. The Contractor shall allow five (5) working days for the Engineer to review the PRDs. If revisions are required as determined by the

Engineer, the Contractor shall revise and resubmit the PRDs within 3 working days of receipt of the Engineer's comments and shall allow 10 working days for the Engineer to review the revisions. The Contractor shall submit 4 hard copies and 1 pdf copy of the approved SWPPP to the Engineer prior to the pre-construction meeting. **The Contractor must have approved PRDs prior to the pre-construction meeting.**

The SWPPP 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 described in the CASQA Handbook. The Contractor shall consider the objectives and minimum requirements presented in the CASQA Handbook 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 SWPPP 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 CASQA Handbook to supplement the minimum BMPs required when necessary to meet the objectives of the SWPPP and maintain compliance with the General Permit. The Contractor shall document the selection process in accordance with the procedure specified in the CASQA Handbook.

The Contractor should not assume that the minimum BMPs required for each category presented in the CASQA Handbook 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 as required in the CASQA Handbook to achieve the pollution control objectives.

The SWPPP shall include the following items as described in the CASQA Handbook and General Permit:

Section 1 - SWPPP Requirements:

- 1.1 Introduction
- 1.2 PRDs
- 1.3 SWPPP Availability and Implementation
- 1.4 SWPPP Amendments
- 1.5 Retention of Records
- 1.6 Required Non-Compliance Reporting
- 1.7 Annual Report
- 1.8 Changes to Permit Coverage
- 1.9 Notice of Termination

Section 2 - Project Information:

- 2.1 Project and Site Description
- 2.2 Permits and Governing Documents
- 2.3 Stormwater Run-on from Offsite Areas
- 2.4 Findings of the LUP Type Determination
- 2.5 Construction Schedule
- 2.6 Potential Construction Site Pollutant Sources
- 2.7 Identification of Non-Stormwater Discharges
- 2.8 Required Site Map Information

Section 3 - Best Management Practices:

- 3.1 Schedule for BMP Implementation
- 3.2 Erosion Control and Sediment Control
- 3.3 Non-Stormwater Controls, Waste and Material Management

Section 4 - BMP Inspection and Maintenance:

- 4.1 BMP Inspection and Maintenance

Section 5 - Training

Section 6 - Responsible Parties and Operators:

- 6.1 Responsible Parties
- 6.2 Contractor List

Section 7 - Monitoring and Reporting Program (M&RP):

- 7.1 Objectives
- 7.2 M&RP Implementation Schedule
- 7.3 LUP Monitoring and Reporting Requirements
- 7.4 Monitoring for Non-Visible Pollutants

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, individuals responsible for creating, revising, overseeing, and implementing the SWPPP should participate in applicable training programs and document such training in the SWPPP. A copy of the SWPPP should be located at the construction site.

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 any storm drain system.
- ◆ All construction contractor and subcontractor personnel are to be made aware of the required BMPs 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) is prohibited, except as authorized by an individual NPDES Permit or the State-wide General Permit for Stormwater 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 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 PRD and Rain Event Action Plan (REAP) Amendments - If the scope or schedule of the project changes, the Contractor shall immediately notify the Engineer. The Engineer will determine if the Contractor will be required to recalculate the Risk Assessment. If it is determined by the Engineer that a new Risk Assessment is required, the Engineer will notify the Contractor to resubmit amended PRDs and in the case that the risk level increases, the Contractor shall comply with additional applicable requirements of the General Permit, including preparation and implementation of REAPs, M&RP, Numeric Action Level (NAL) Exceedance Reports, and annual reporting requirements. The Contractor shall also prepare amendments to the PRDs, 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 as deemed necessary by the Engineer. The Contractor shall also amend the PRDs if they are in violation of any condition of the General Permit or has not effectively achieved the objective of reducing pollutants in stormwater discharges. Amendments shall show additional BMPs, revised Contractor's construction activities or operations, including those in areas not shown in the initially approved SWPPP, which are required on the project to effectively control water pollution.

Amendments to the PRDs shall be submitted for review and approval by the Engineer in the same manner specified for the initial approval of the PRDs. The Contractor shall date and attach all approved amendments to any of the PRDs. Upon approval of the amendment, the Contractor shall implement the approved changes, revised construction activities or operations.

29.5 Non-Compliance Reporting - If the project is in non-compliance at any time, the Contractor shall make a written report to the Engineer within 2 calendar days of identification of non-compliance activities.

29.6 Stormwater Pollution Prevention Plan (SWPPP) Implementation - Upon approval of the SWPPP, the Contractor shall be responsible throughout the duration of the project for placing, installing, constructing, inspecting and maintaining the BMPs as well as conducting the M&RP as included in the SWPPP and any amendments thereto, and for removing and disposing of temporary BMPs. All SWPPP implementation shall be performed or supervised by a QSP. Unless otherwise directed by the Engineer or specified in these Detailed Specifications, the Contractor's responsibility for SWPPP implementation 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 CASQA Construction BMP Handbook Portal 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.

The Contractor will not be compensated for sampling and analysis work because of the Contractor's failure to properly implement, inspect, maintain and repair BMPs in the approved SWPPP and any amendments thereto, or for failing to store construction materials or wastes in watertight containers.

- (a) **Stormwater Pollution Control - The Contractor shall implement soil stabilization practices and sediment control BMPs, including minimum requirements as presented in the CASQA Construction BMP Handbook Portal, on all disturbed areas of the project site throughout the duration of the project.**

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 shall be completed prior to soil disturbance. The General Permit requires BMPs to be deployed throughout the duration of the project.

The Engineer may require the Contractor, on a case-by-case basis, to reduce the active, soil-disturbed area limit of the project. 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 duration of the project, soil-disturbed areas of the project site shall be considered to be inactive whenever soil disturbing activities are expected to be discontinued for a period of 14 calendar days or more. Areas that will become inactive shall be fully protected with soil stabilization practices such as covering with mulch, temporary seeding, fiber rolls, blankets, etc., within 10 calendar days of the discontinuance of soil disturbing activities or 2 calendar days prior to the onset of precipitation, whichever is first to occur. Areas that will become inactive shall be fully protected with sediment control BMPs within 10 calendar days of the discontinuance of soil disturbing activities or 2 calendar days prior to the onset of precipitation, whichever is first to occur.

Throughout the duration of the project, the project site shall be fully protected 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.

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

have been discontinued. All repairs and design changes shall begin to be implemented within 72 hours of identification.

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 week.

The construction site inspection checklist provided in the CASQA SWPPP Template shall be used to ensure that the necessary BMPs are being properly implemented and are functioning adequately. The Contractor shall submit 1 copy of each site inspection record to the Engineer.

- (d) Maintenance - The Contractor's QSP shall maintain construction site BMPs identified in the SWPPP to ensure the proper implementation and functioning of BMPs. If the QSP or the Engineer identifies a deficiency in the deployment or functioning of an identified BMP, the QSP shall begin implementing repairs or design changes within 72 hours of identification and complete as soon as possible. The correction of deficiencies shall be at no additional cost to the District.
- (e) Training - The Contractor shall ensure that all persons responsible for implementing requirements of the General Permit shall be appropriately trained in accordance with Section VII "Training Qualifications and Certification Requirements" of the General Permit. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. All training shall be documented and included in the SWPPP as an appendix.

The Contractor shall ensure that SWPPPs are written, amended and certified by a QSD. The Contractor shall also ensure that all inspection, maintenance, repair and sampling activities shall be performed or supervised by a QSP. A QSP is a person responsible for non-stormwater and stormwater visual observations, sampling and analysis.

29.7 Non-Stormwater Discharge or Dewatering - **Dewatering activity should only be considered after other methods have been determined to be inadequate for construction by the Engineer.** See also information provided in Section 11. If groundwater will be encountered during the project activities, the dewatering activity must be covered by the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant Threat to Water Quality (De Minimus Permit), Santa Ana Regional Water Quality Control Board Order No. R8-2015-0004. The Contractor shall comply with this Order and notify and obtain approval from the Engineer 15 days prior to any non-stormwater discharging of groundwater dewatering. If an

emergency or unforeseen dewatering activity that will discharge to Waters of the United States occurs, the Contractor shall contact the Engineer immediately.

When discharging groundwater from dewatering activities to surface waters, the Contractor shall comply with and implement the Monitoring and Reporting Program required under Order No. R8-2015-0004. This Order can be downloaded from http://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2015_orders.shtml. Under the Monitoring and Reporting Program, the Contractor shall prepare the monitoring report in accordance with Attachment E of the Order. The Contractor must submit the Monitoring Reports to the Engineer by the 15th day of each month following the monitoring period. The District will submit the Monitoring Reports to the Santa Ana Regional Water Quality Control Board. The Monitoring Reports shall cover the previous month's monitoring activities.

If there is any other form of non-stormwater discharge from the project to surface waters, the Contractor shall immediately contact the Engineer to determine appropriate actions required for coverage under the De Minimus Permit.

Failure of the Contractor to fully comply with this requirement may result in the suspension of construction operations and liability for any associated monitoring, fines, penalties and remediation activities related to the discharge.

29.8 Reports -

- (a) Annual Report - The Contractor shall be responsible for preparing an Annual Report to meet the requirements of Section XVI of the General Permit covering the preceding period of construction from July 1st to June 30th. The Annual Report shall be structured in accordance with the CASQA Construction BMP Handbook Portal Section 1.7. The Contractor shall submit 2 copies of the Annual Report to the Engineer by July 15th of each year for review and approval. The Contractor shall allow 10 working days for the Engineer to review the Annual Report. If revisions are required as determined by the Engineer, the Contractor shall revise and resubmit the Annual Report within 3 working days of receipt of the Engineer's comments. The Contractor shall submit 4 copies of the approved Annual Report to the Engineer prior to August 15th of each year. **The Contractor shall be responsible for providing an Annual Report to the Engineer for any construction occurring for part of the year after July 1st prior to receiving final payment on the project.**
- (b) Monthly Report - The Contractor shall prepare and submit to the Engineer a Monthly Report within 5 working days of the end of the month including:
1. All visual observation reports;
 2. All sampling and analysis reports;
 3. All NAL Exceedance Reports; and
 4. Summary of changes to the SWPPP and or REAP based on inspection results for the preceding month.

29.9 Payment - The contract lump sum price paid for Stormwater and Non-Stormwater Pollution Control work shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in developing, preparing, obtaining approval of, revising and amending the PRDs, and installing, constructing, maintaining, removing and disposing of BMPs as shown in the SWPPP, as specified in the CASQA Handbook, General Permit and these Detailed Specifications, and as directed by the Engineer.

The contract lump sum price paid for Non-Stormwater Discharge or Dewatering shall include full compensation for compliance of Section 29.10, "Non-Stormwater Discharge or Dewatering". **Contractor shall not be paid any portion of the contract lump sum if coverage under the De Minimus Permit is not required.**

Monthly payment will be made on a basis of the percentage of work completed on the entire project and subject to the submittal of a complete Monthly Report as specified in Section 29.11(b). Failure to complete or report required visual inspections, monitoring, sampling and analysis requirements, NAL Exceedance Reports, and/or other necessary follow-up actions to ensure that the project stays in compliance with the General Permit can be the basis for reducing monthly progress payments for the project. Monthly progress payments will be reduced by the amount of direct costs, overhead costs and engineering costs incurred by the Engineer to address compliance deficiencies, including costs to conduct inspections, monitoring, reporting and supplemental BMP implementation necessary to comply with the General Permit and costs incurred by the Engineer to address complaints, additional State inspections and violations and/or fines issued by the State or USEPA associated with failure to properly comply with the General Permit. Progress payment reductions can exceed the monthly percentage or total contract lump sum price for Stormwater and Non-Stormwater Pollution Control work.

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

SECTION 30 - UTILITIES

30.1 Description - This section covers the contract items Relocate 12-Inch Waterline.

30.2 Relocate 12-Inch Waterline - The contract item Relocate 12-Inch Waterline covers all labor, equipment, materials, testing, dewatering, disinfection, earthwork, removal of existing waterline and incidentals required for the construction and installation of the 12-inch ductile iron waterline and all associated appurtenances as shown on Sheets U1-U2 of the project drawings. The relocation shall be performed in accordance with the City of Norco Technical Provisions included as Appendix F.

The City of Norco Public Utilities Department - Water Division will install 12-inch valves to isolate and depressurize the 12-inch waterline prior to relocation. The Contractor shall coordinate with the City regarding the scheduling and relocation of the existing 12-inch waterline. Contractor shall perform the required pressure test and complete the disinfection and final

connection, including all required earthwork, in accordance to the City of Norco Technical Provisions.

All materials proposed to be used by the Contractor for the construction of the relocation shall be submitted for review and approval to the City of Norco and the District.

The Contractor is required to closely coordinate and cooperate with the City of Norco to ensure that the work proceeds in an orderly manner and that the waterline is out of service for a minimum period of time.

The Contractor shall notify the City of Norco, Public Utilities Department - Water Division (Name: Derek Lacombe, Telephone: 951.270.5605) in writing at least ten working days before relocation is started.

30.3 Measurement and Payment - The contract lump sum prices paid for Relocate 12-Inch Waterline shall include full compensation for all costs incurred under this section. The successful bidder shall submit a "**Schedule of Values**" breakdown for the contract item and shall utilize Form 1, Appendix "G". Payment shall be made on a basis of the percentage of work completed as listed in the approved "**Schedule of Values**" breakdown for each submittal.

SECTION 31 – PRECAST REINFORCED CONCRETE BOX

31.1 Description - This section includes the contract items Precast Reinforced Concrete Box (PRCB) of the various sizes.

31.2 General Requirements - This specification covers single-cell Precast Reinforced Concrete Box (PRCB) sections, the span, rise, soil weight and design earth cover shall be as shown on the plans. The Contractor shall follow Sections 216 and 306-10 of the Greenbook Specifications except as noted in the following sections.

31.3 Materials - The materials used for PRCB shall comply with Section 216-2 of the Greenbook Specifications except as follows:

A four-inch minimum layer of Filter Material shall be placed under the PRCB per District Standard Drawing M815. Filter Material shall be installed, measured and paid for as described in Section 26 of these Detailed Specifications.

31.4 Fabrication - The Fabrication for the PRCB shall conform to Section 216-3 of the Greenbook Specifications:

Reinforcement placement shall conform to the details shown on the plans or standard plans except that the minimum cover of concrete over the reinforcement for the invert is two (2) inches.

All splices or laps must be tied.

PRCB sections shall be fabricated with one end beveled where the curves, grade breaks or angle points shown on the drawings would otherwise result in a clear space greater than 1 inch measured at the extreme ends. Beveled sections must be identified on the Shop Drawings and PRCB Layout Diagrams.

The interior surface of the PRCB shall be smooth and well finished. The manufacturer may be required to provide a representative section to be used to determine the acceptable finish by the Engineer.

31.5 Precast Reinforced Concrete Box (PRCB) Shop Drawings, Calculations, and Layout Diagrams - PRCB Shop Drawings and Layout Diagrams shall be prepared and submitted in accordance with the Greenbook Specifications, with the following additions.

Shop Drawings shall show the necessary details of all reinforcing steel and lifting devices and locations for all PRCB sections.

The Contractor must provide engineered special designs for all PRCB sections that incorporate openings for manholes and junction structures not already detailed on the plans. Shop Drawings and supporting engineering calculations for these specially designed sections shall be prepared by a California Registered Civil Engineer and submitted to the Engineer for approval prior to the pre-construction meeting and in accordance with Section 3-8.1 of the Greenbook Specifications. No manufacturing of any specially designed PRCB sections will be allowed prior to the approval of the Shop Drawings.

The Shop Drawings and PRCB Layout Diagrams must explicitly identify which joints are beveled and the 'drop' dimension for each.

31.6 Basis of Acceptance - The basis of acceptance of PRCB shall be dependent on whether the plant fabricating the PRCB sections is currently certified on the Caltrans Authorized Facility Audit List for Structural Precast Concrete, (<https://mets.dot.ca.gov/afl/AuditedFacilitiesList.php?af1=1>) as follows:

- a) If the PRCB Manufacturing Plant is NOT certified on Caltrans Authorized Facility Audit List:

The basis of acceptance shall be full compliance with these Specifications demonstrated through Contractor-supplied third-party inspections and verification in accordance with Section 31.7 of these Detailed Specifications.

- b) If PRCB Manufacturing Plant IS certified on Caltrans Authorized Facility Audit List:

The basis of acceptance shall be provision of a Certificate of Compliance conforming to Section 4-5 of the Greenbook Specifications from the certified manufacturing plant **BEFORE** any PRCB is ordered or fabricated. The Contractor

shall supply documentation to the satisfaction of the Engineer, that the plant is currently certified on the Caltrans Authorized Facility Audit List.

Either acceptance, however, shall be considered a tentative acceptance. Final acceptance will only be made when the work is completed.

31.7 Contractor Supplied Third-Party Inspection of PRCB Plant - If the PRCB is fabricated at a plant that is NOT currently certified on the Caltrans Authorized Facility Audit List, the Contractor, at its expense, shall engage a Qualified Inspector or Accredited Testing Laboratory to inspect the materials, equipment and manufacture of the PRCB.

The PRCB inspections shall be conducted for every 400 feet or 50 units and shall include cage manufacturing, curing processes, batching equipment and process, aggregate and cement storage, concrete mix designs and product handling.

The Qualified Inspector or Accredited Testing Laboratory shall be approved by the Engineer and:

1. Either be registered as a Civil Engineer in the State of California or have a current Plant Quality Personnel Certification, Level II from the Precast/Prestressed Concrete Institute; and
2. Be a subcontractor providing only quality control inspection services; and
3. The Inspector or Accredited Testing Laboratory must not be affiliated with, employed or compensated by any material provider, the PRCB manufacturer, or any other subcontractor providing other services or materials for this project.

The Inspection Reports to be submitted to the Engineer shall include, at a minimum:

1. Plant location;
2. Names of all inspectors and the specific inspections they performed that day;
3. Verification of compliance with these contract documents for every 400 feet or 50 units;
4. Any problems or deficiencies discovered;
5. Any testing or repair work performed; and
6. Daily production reports.

The Third-Party Inspector shall forward all daily reports to the Engineer on a weekly basis. Any problems or deficiencies discovered shall be immediately reported to the PRCB manufacturer and to the Engineer. Deficiencies shall be corrected to the satisfaction of the Engineer, or the affected products must be replaced at no cost to the District.

31.8 Installation of PRCB - The installation of PRCB shall comply with Section 306-10 of the Greenbook Specifications, except as follows:

Earthwork shall conform to Section 14 of these Detailed Specifications and the paylines shown on the drawings.

A four-inch minimum layer of Filter Material shall be placed under the PRCB. Filter Material shall be installed, measured and paid for as described in Section 26 of these Detailed Specifications, within the paylines shown on the drawings.

The finishing of joints shall be in accordance with Section 306-10.6 of the Greenbook Specifications with the exception that preformed flexible joint sealant shall NOT be used to fill the joint annular space on the inside of the PRCB Section. The interior annular space of all joints shall be filled with concrete or mortar as otherwise required per the Greenbook Specifications, and troweled smooth so that the PRCB will form a continuous conduit with a smooth uniform interior surface. Tongue and groove-ends of the PRCB shall be free from any deleterious substance or condition, which might prevent a satisfactory mortar at the joint.

External Sealing Bands shall be installed on top of the PRCB joints as shown on the Greenbook Specifications.

31.9 Precast Reinforced Concrete Box (PRCB) - The contract item Precast Reinforced Concrete Box (PRCB) includes the complete furnishing and installation of the various PRCB sizes as specified, exclusive of Earthwork and Filter Material.

31.10 Measurement - Measurement for payment of the contract item Precast Reinforced Concrete Box (PRCB) of the various sizes will be the number of lineal feet of each size installed as specified measured along the centerline of the box in place including curves.

31.11 Payment - The contract prices paid for the Precast Reinforced Concrete Box (PRCB) shall include full compensation for all costs incurred under this section.

SECTION 32 – ARTICULATING CONCRETE BLOCK (ACB)

32.1 Description - This section includes the contract items Articulating Concrete Block (ACB); Filter Fabric; and Geogrid.

32.2 General Articulating Concrete Block (ACB) Requirements - The Articulating Concrete Block (ACB) system shall meet the minimum requirements defined in the table below or as approved by the Engineer.

TABLE 1 HYDRAULIC REQUIREMENTS	
Minimum Design Flow Rate (ft ³ /sec)	750
Minimum Velocity (ft/s)	16
Maximum Flow Depth (ft)	5.8
Channel Bottom Width (ft)	8
Channel Bed Slope	0.0026
Manning's Roughness	0.032

**TABLE 3
PHYSICAL REQUIREMENTS**

Compressive Strength Net Area Min. p.s.i (mPa)		Water Absorption Max. lb/ft³ (kg/m³)	
Avg. of 3 units	Individual Unit	Avg. of 3 units	Individual Unit
4,000 (27.6)	3,500 (24.1)	9.1 (160)	11.7 (192)

All units shall be sound and free of defects which would interfere with the proper placement of the unit, or which would impair the performance of the system. Surface cracks incidental to the usual methods of manufacture, or surface chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.

Cracks exceeding 0.25 inch (.635 cm) in width and/or 1.0 inch (2.54 cm) in depth shall be deemed grounds for rejection. Chipping resulting in a weight loss exceeding 10% of the average weight of a concrete unit shall be deemed grounds for rejection.

Blocks rejected at the job site shall be repaired with structural grout or replaced upon request of the Engineer at the expense of the Contractor.

32.3 Articulating Concrete Block (ACB) - The contract item ACB is inclusive of all labor, materials, equipment, and incidentals required for, and all operations in connection with, the installation of the Articulating Concrete Block (ACB) system, **ArmorFlex Class 70-L or approved equivalent**, in accordance with the lines, grades, design and dimensions shown on the project drawings and as specified herein, but exclusive of grout required for mat installation. Grout will be covered under Section 16.17 - Non-Shrink Grout of these Detailed Specifications and paid for under Contract Item 15 - Class "A" Concrete, Non-Shrink Grout and paid for under Contract Item 15 - Class "A" Concrete.

The Contractor shall furnish manufacturer's certificates of compliance for ACB/mats, revetment cable, geotextile, and any revetment cable fittings and connectors. The Contractor shall also furnish the manufacturer's specifications, literature, preliminary shop drawings for the layout of the mats, installation and safety instructions, and any recommendations, if applicable, that are specifically related to the project.

An approved equivalent ACB system shall conform to the specifications outlined in Section 32.2 of these Detailed Specifications. The Contractor shall attach the following information to the District when submitting a proposed equivalent ACB system:

1. Evidence of satisfactory full-scale laboratory testing in accordance with ASTM D7277, Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow, performed on behalf of the submitting manufacturer on a qualifying test flume of sufficient length for the test flows to achieve normal depth in all cases, and associated engineered calculations quantifying the Factor of Safety of the proposed ACB system, stamped and signed by a registered Professional Engineer;

Testing shall conform to ASTM D7277, Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow, as amended and updated. Analysis and interpretation of the test data shall conform to the guidance contained in ASTM D7276, Standard Guide for Analysis and Interpretation of Test Data for Articulating Concrete Block (ACB) Revetment Systems in Open Channel Flow, as amended and updated.

The performance of the ACB system shall be analyzed based upon the stability of the ACBs due to gravity forces alone, neglecting conservative forces added by cabling, mechanical anchorage, contact with adjacent blocks, or other restraints not attributable to gravity-based forces. The analysis must account for a 0.5-inch block projection, in accordance with ASTM D6884, Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems, Section 6.3.3.

ACB units shall be installed per manufacturer's instructions to ensure sufficient interlocking of ACB units to minimize lateral displacement of each block for enhanced stability. **The ACB mats shall be constructed of open cell units and have sufficient wall thickness to resist cracking during shipping and installation. The open cell units have an open area of 18-23% as measured from the base of the mat and have a minimum thickness of 8.5 inches.** Parallel strands of cable should extend through a minimum of two (2) cable ducts in each block allowing for longitudinal binding of the units within a mat. Each row of units shall be laterally offset by one-half of a block width from the adjacent row so that any given block is cabled to four (4) other blocks (two (2) in the row above and two (2) in the row below).

Concrete units covered by this specification are made from lightweight or normal weight aggregates, or both.

ACB units shall be produced using a dry cast method, unless otherwise approved by the Engineer. Materials shall conform to the material requirements prescribed in Table 2 listed below:

TABLE 2 MATERIAL REQUIREMENTS	
Materials	Specification
Portland Cements	ASTM C 150
Blended Cements	ASTM C 595
Hydrated Lime Types	ASTM C 207
Pozzolans	ASTM C 618
Aggregates	ASTM C 33*

**Grading requirements shall not necessarily apply*

At the time of delivery to the work site, the ACB units shall conform to the physical requirements prescribed in Table 2 listed below.

2. A list of three (3) comparable projects, in terms of size and applications, in the United States, where the satisfactory performance of the proposed equivalent ACB system can be verified after a minimum of five (5) years of service life;
3. Information about, or certifications of, all materials associated with the ACB system as detailed above, including (but not limited to) cable, fittings, and any other materials required for satisfactory installation in accordance with ASTM D6884, Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems; and
4. The names and contact information (phone numbers and email addresses, at a minimum) for the supplier's representatives, for technical, production or logistics questions.

32.4 Subgrade Preparation - All subgrade preparation shall be performed in accordance with ASTM D6884, Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems, (as updated and amended) except that compaction and vehicle restriction requirements shall be in accordance with Section 14.2 and 14.3, respectively, of these Detailed Specifications.

The subgrade below the filter fabric shall be graded to a smooth plane surface to ensure that intimate contact is achieved between the subgrade and the geotextile (filter fabric). Any debris, surface vegetation, deleterious material, existing fill, and surficial soils containing roots and perishable materials shall be stripped, removed, and legally disposed from the site prior to the start of construction. Subgrade preparation shall be performed in conformance to Section 14 of these Detailed Specifications, and as directed by the Engineer.

Excavation and preparation for all termination trenches or aprons shall be done in accordance with the lines, grades and dimensions shown in the project drawings. The termination trench hinge-point at the top of the slope shall be uniformly graded so that no dips or bumps greater than 0.5 inch over or under the local grade occur. The width of the termination trench hinge-point shall also be graded uniformly to assure intimate contact between all ACBs and the underlying grade at the hinge-point.

The subgrade shall be free of loose or extraneous material and sharp objects that may damage the fabric during installation. The subgrade shall be inspected and approved by the Engineer prior to Contractor placing the filter fabric.

32.5 Filter Fabric - The contract item Filter Fabric is inclusive of all labor, materials, equipment, and incidentals required for, and all operations in connection with, the furnishing and installing the Filter Fabric, Geotex 601 Filter Fabric or approved equivalent, in accordance with the lines, grades, design and dimensions shown on the project drawings. Excluded from this contract item is all the earthwork, including subgrade preparation, which is covered under Section 14 of these Detailed Specifications. The approved filter should meet the minimum physical requirements listed in Table 4 below.

The filter fabric shall conform to AASHTO M-288, Class 2 Permanent Erosion Control Application. The Contractor shall furnish manufacturer's certified test results to the Engineer, showing actual test values obtained when the physical properties are tested for compliance with the specifications.

TABLE 4 PHYSICAL REQUIREMENTS		
Physical Property	Test Procedure	Minimum Value
Grab Tensile Strength (Unaged Geotextile)	ASTM D4632	AASHTO M288 Class 2
Breaking Elongation (Unaged Geotextile)	ASTM D4632	50% max. (in any principal direction)
Burst Strength	ASTM D3786	AASHTO M288 Class 2
Puncture Strength	ASTM D4833	AASHTO M288 Class 2
Apparent Opening Size	ASTM D4751	0.25 mm max.
UV Stability (Retained Strength)	ASTM D4355	50% after 500 hrs.

Furthermore, if an alternate to the specified filter fabric indicated on the project drawings will be proposed, the District will be the sole arbiter of equivalence. Manufacturer certificates stating the equivalence to the Filter Fabric specified on the project drawings may be submitted for District consideration; however, such manufacturer statements will not be controlling in the District's final decision. All Contractor submittals for Filter Fabric material must receive District approval prior to installation.

During all periods of shipment and storage, the filter fabric shall be stored, handled, and protected from direct sunlight and UV radiation in conformance with the manufacturer's recommendations and as directed by Engineer. To the extent possible, the filter fabric shall be maintained wrapped in its protective covering. The filter fabric shall not be exposed to sunlight or UV radiation until the installation process begins.

Equipment or vehicles shall not be operated or driven directly on the Filter Fabric.

Filter Fabric damaged during placement shall be replaced or repaired, as directed by the Engineer, by the Contractor at the Contractor's expense. Fabric damaged beyond repair, as determined by the Engineer, shall be replaced. Repairing damaged fabric shall be per manufacturer's recommendations. The minimum fabric overlap from the edge of the damaged area shall be 3 feet for overlap joints.

32.6 Biaxial Geogrid - The contract item Biaxial Geogrid is inclusive of all labor, materials, equipment and incidentals required for, and all operations in connection with, furnishing and

installing the **Biaxial Geogrid, Tensar BX1200 or approved equivalent**, in accordance with the lines, grades, design and dimensions shown on the project drawings. Excluded from this contract item is all the earthwork, including subgrade and ASTM #2 Stone preparation, which is covered under Section 14 and Section 26 of these Detailed Specifications, respectively.

The approved biaxial geogrid shall be a regular grid structure of polymeric material and shall have aperture geometry, rib and junction cross-sections sufficient to permit significant mechanical interlock and retain the underlying material. The geogrid shall impart:

- a) high resistance to loss of load capacity or structural integrity when the geogrid is subjected to mechanical stress during installation,
- b) high resistance to deformation when the geogrid is subjected to applied force in use, and;
- c) high resistance to loss of load capacity or structural integrity when the geogrid is subjected to all forms of ultraviolet, biological or chemical degradation normally encountered in earthwork construction.

Furthermore, if an alternate to the specified biaxial geogrid indicated on the project drawings will be proposed, the District will be the sole arbiter of equivalence. Manufacturer certificates stating the equivalence to the biaxial geogrid specified on the project drawings may be submitted for District consideration; however, such manufacturer statements will not be controlling in the District's final decision. All Contractor submittals for Biaxial Geogrid material must receive District approval prior to installation.

The Biaxial Geogrid shall be delivered, stored, handled, prepared and installed in accordance with the manufacturer's recommendations, unless otherwise noted by the Engineer or in ASTM D6884. At minimum, the installation of the biaxial geogrid shall be conducted in a manner that minimizes disturbance on the surface of the ASTM #2 Stone. Depressions or voids greater than 1/2 inch in depth normal to the design elevation, or greater than 1/2 inch in depth normal to the subgrade with a dimension exceeding 1-foot in any direction shall be prohibited. The Contractor shall restore all depressions and voids to the lines and grades as shown on the project drawings, as directed by the Engineer. The Engineer shall inspect and approve the prepared surface of the ASTM #2 Stone prior to installing the biaxial geogrid.

32.7 Measurement - Measurement for payment for the contract item Articulating Concrete Block (ACB) will be made per square yard installed.

Measurement for payment for the contract items Filter Fabric; and Biaxial Geogrid will be the number of square yards of material placed as specified and shown on the drawings.

32.8 Payment - The contract prices paid for Articulating Concrete Block (ACB); Filter Fabric; and Biaxial Geogrid shall include full compensation for all costs incurred under this section.

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 ✓ Hydrosseed 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.	✓ Apply gravel/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.	✓ 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)	✓ 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.	✓ 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 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
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)

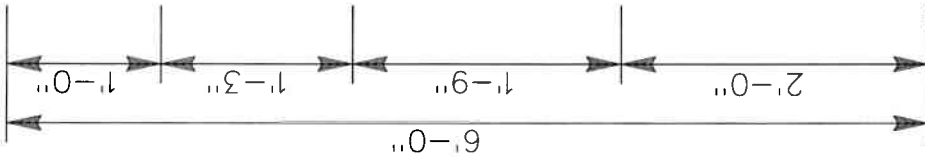
SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling (Only applicable to Commercial Poultry Ranches)	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying 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"

PROJECT SIGN



8'-0"



RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT ①

NORTH NORCO CHANNEL LINE NB,
STAGE 3 ②

TOTAL CONSTRUCTION COST: \$ * ③

FUNDED BY RIVERSIDE COUNTY FLOOD CONTROL AND ④
WATER CONSERVATION DISTRICT

START DATE: * ④ APPROX. COMPLETION DATE: *

ENGINEER:

JASON E. UHLEY
GENERAL MANAGER-CHIEF ENGINEER ⑤
RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT
RIVERSIDE, CALIFORNIA
(951) 955-1200

CONTRACTOR:

*

3/4" CDX GRADE
PLYWOOD



NOTES:

1. MINIMUM SPACING BETWEEN LINES 1".
2. * -INFO. FURNISHED BY ENGINEER
3. ALL LETTERS FILLED AND CENTERED
4. THE STRIPES ARE GOLD AND BLACK ON WHITE BACKGROUND.

LETTER SCHEDULE

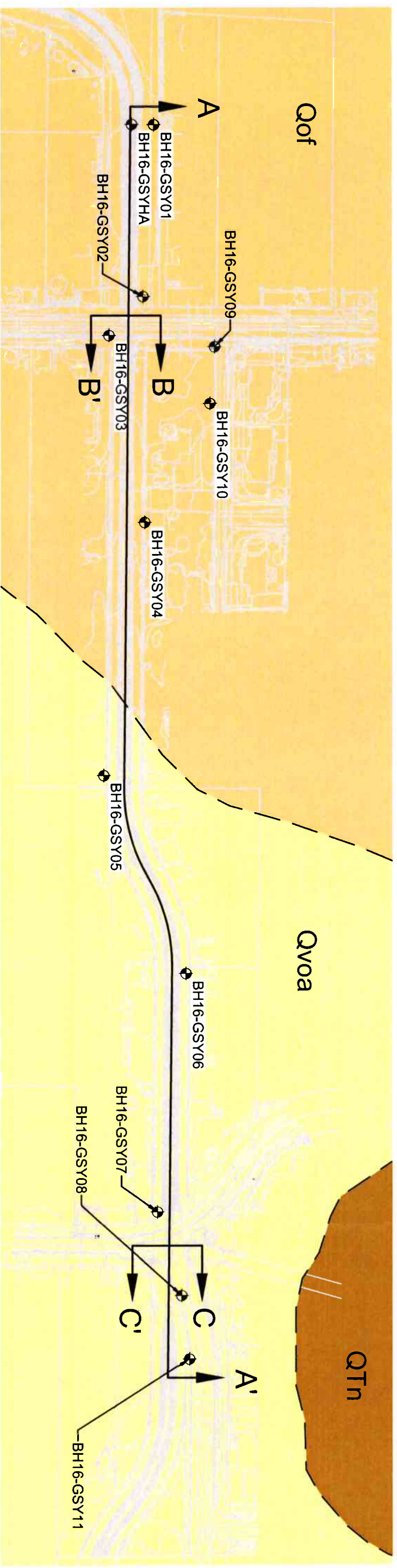
	SIZE	COLOR
①	2"	BLACK
②	4"	ROYAL
③	3"	ROYAL
④	2"	ROYAL
⑤	2"	BLACK

APPENDIX "B" PROJECT SIGN

APPENDIX "C"

LOG OF SOIL BORINGS
GEOTECHNICAL REPORT

NOTICE: The geotechnical report is included herein for informational purposes only. This report was not prepared for purposes of bid development. It was produced to assist the design engineer regarding overall project feasibility and to make recommendations regarding some design parameters. Contractors are encouraged to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer.



LEGEND

- EXISTING (DEVELOPMENT)
- ⊕ GEOTECHNICAL BORING
- GEOLOGIC CONTACT
- C C' CROSS SECTION LOCATION

GEOLOGIC UNITS

- Qof** OLD ALLUVIAL FAN DEPOSITS
- Qvoa** VERY OLD ALLUVIAL CHANNEL DEPOSITS
- QTn** LATE CENOZOIC SEDIMENTARY ROCKS

- NOTES:**
1. DESIGN DRAWINGS AFTER RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, 2015.
 2. GEOLOGY AFTER MORTON ET AL, 2002.

GEOTECHNICAL INVESTIGATION LOCATIONS AND SITE GEOLOGIC MAP
 NORTH NORCO CHANNEL
 NORCO, CALIFORNIA



	Figure 2



GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE				COMMENTS			
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)		PID READING (ppm)	TIME (00:00)	
	Clayey Sand (SC); strong brown; moist; fine to coarse-grained sand. [Quaternary Alluvium]										13:57	Begin drilling 7/18/16	
5	Sandy Silt (ML); firm; brown; moist; fine-grained sand; low plasticity. [Quaternary Alluvium]										14:01		
						BH16-GSY01-03							
						BH16-GSY01-05		3	100			14:04	
								5					
								7					
10	Poorly Graded Sand (SP); medium dense; mottled pale brown, yellow and pink; moist; medium grained sand; trace silt. [Decomposed Bedrock]											14:10	
						BH16-GSY01-10		3	100				
								9					
								12					
15	Poorly Graded Sand (SP); medium dense; mottled pale brown, yellow and pink; moist; medium grained sand; trace silt; trace gravel. [Decomposed Bedrock]												
						BH16-GSY01-15		10	100				
								19					
								24					
20	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine gravel. [Decomposed Bedrock]												
						BH16-GSY01-17							
						BH16-GSY01-20		5	100			14:18	
								7					
								4					
25	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine gravel. [Decomposed Bedrock]												
						BH16-GSY01-25		19	100			14:23	
								25					
								25					
	Total Depth - 26.5 ft			Groundwater not encountered 7/18/2016								14:27	End drilling 7/18/2016 Construct temporary well

07-WELL BORE HL1588.GPJ GEOSYNTEC.GDT R12/16

CONTRACTOR BC2 Environmental **NORTHING** 2283343.73
EQUIPMENT CME 95 **EASTING** 6165745.24
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

GS FORM
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Gravel (Af), grey, dry, coarse; semi-rounded. [Artificial Fill]										11:07	Begin drilling 7/20/16
5	Silt (ML); firm; orange-brown, moist; trace fine sand, low plasticity. [Quaternary Alluvium]					BH16-GSY-02-05		1 2 4	100		11:14	
10	Poorly Graded Sand (SP); medium dense; pale yellowish brown; moist, fine-grained; trace silt. [Decomposed Bedrock]					BH16-GSY-02-10		6 20 23	100		11:17	
15	Poorly Graded Sand (SP); dense; pale yellowish brown to white, moist; fine to medium-grained, trace silt. [Decomposed Bedrock]					BH16-GSY-02-15		12 14 21	100		11:21	
20	Poorly Graded Sand (SP); pale yellowish brown to white, moist; fine to medium-grained; trace silt. [Decomposed Bedrock]					BH16-GSY-02-20		N/A	100		11:25	
25	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace fine gravel. [Decomposed Bedrock]					BH16-GSY-02-22					11:27	
25						BH16-GSY-02-25		6 10 15	100			

07_WELL_BORE_HL1588.GPJ_GEOSYNTEC.GDT_8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283328.50
EQUIPMENT CME 95 **EASTING** 6165992.82
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY02 **SHEET 2 OF 2**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 619
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Silty Sand (SM); medium dense; yellowish brown; wet; fine to medium-grained sand. [Decomposed Bedrock]			▽ @30.5' bgs - 11:34 water observed on sampler		BH16-GSY-02-33		5 15 21	100		11:34	Water on bottom 12" of sampler
35	Silty Sand (SM); medium dense; yellowish brown; wet; fine to medium-grained sand. [Decomposed Bedrock]					BH16-GSY-02-35		7 13 22	100		11:42	
40	Silty Sand (SM); medium dense; yellowish brown; wet; fine to medium-grained sand; trace fine gravel. [Decomposed Bedrock]					BH16-GSY-02-40		6 15 22	100		11:51	
45	Well Graded Gravel with Sand (GW); mottled pale brown, yellow and black; wet; fine-grained sand. [Decomposed Bedrock]					BH16-GSY-02-45		10 16 31	100		12:04	
50	Diorite; mottled white and black; fine to medium-grained; intensely weathered; weak; friable. [Bedrock] Total Depth - 50.5 ft	x x x x		Groundwater encountered @30.5' bgs on 7/20/2016, 11:34.		BH16-GSY-02-50		75	33		12:16 12:22	75 blows for 6" 7/20/16. Backfill 50 5'-43" with bentonite chips (150 lbs), to surface with cuttings. Materials tremied to total depth.
55												
60												

WELL BORE HL1588.GPJ GEOSYNTEC.GDT R2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283328.50
EQUIPMENT CME 95 **EASTING** 6165992.82
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY03 **SHEET 1 OF 1**
START DRILL DATE Jul 19, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 19, 16 **GROUND SURF.** 619
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Sandy Silt (ML); orange-brown; moist, fine grained sand; low plasticity. [Quaternary Alluvium]										10:49	Begin drilling 7/19/2016
5	Sandy Silt (ML); firm; orange-brown; moist; fine grained sand; low plasticity. [Quaternary Alluvium]					BH16-GSY03-05		5 6 8	100		10:52	
						BH16-GSY03-07					10:56	
10	Sandy Silt (ML); very stiff, orange-brown; moist; fine grained sand; low plasticity. [Quaternary Alluvium]					BH16-GSY03-10		4 9 18	100		11:02	
	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt. [Decomposed Bedrock]					BH16-GSY03-15						
15	Silty Sand (SM); medium dense; mottled olive brown; moist; fine to medium-grained sand. [Decomposed Bedrock]					BH16-GSY03-20		4 12 18	100		11:12	
20	Silty Sand (SM) with Gravel; very dense; mottled pale brown, yellow and pink; moist; fine-grained sand; fine gravel [Decomposed Bedrock]					BH16-GSY03-25		13 23 27	100		11:21	
												Slow drilling - rig mechanical issue
25	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt. [Decomposed Bedrock]					BH16-GSY03-25		6 16 27	100		11:37	
	Total Depth - 26.5 ft										11:40	7/19/16 - Backfill 26.5'-21.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
30				Groundwater not encountered 7/19/2016								

07:WELL BORE HL1588.GPJ GEOSYNTEC.GDT R/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283279.29
EQUIPMENT LAR **EASTING** 6166047.82
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY04 **SHEET 1 OF 1**
START DRILL DATE Jul 18, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 18, 16 **GROUND SURF.** 622
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00.00)
	Silt with Clay (ML), pale brown; moist, trace fine-grained sand; low plasticity. [Quaternary Alluvium]										13:15	7/18/2016 - Begin drilling
5	Silt with Clay (ML); firm; pale brown, moist; trace fine-grained sand; low plasticity. [Quaternary Alluvium]					BH16-GSY04-03		2	100			
						BH16-GSY04-05		3				
						BH16-GSY04-10		6	100		13:18	
	Poorly Graded Sand (SP), medium dense, mottled pale brown, yellow and pink; moist; fine-grained. [Decomposed Bedrock]					BH16-GSY04-15		12	100		13:21	
	Poorly Graded Sand (SP); medium dense; mottled pale brown, yellow and pink; moist; medium-grained. [Decomposed Bedrock]					BH16-GSY04-20		7	100			
	Well Graded Sand (SW), dense; mottled pale brown, yellow and pink; moist, trace fine gravel. [Decomposed Bedrock]					BH16-GSY04-22		5	100		13:27	
	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace fine gravel. [Decomposed Bedrock]					BH16-GSY04-25		16				
	Total Depth - 26.5 ft					BH16-GSY04-27		27			13:34	7/18/2016 - Backfill 26'5"-21'5" bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
				Groundwater not encountered 7/18/2016								

WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283330.52
EQUIPMENT CME 95 **EASTING** 6166316.45
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY05 **SHEET 1 OF 1**
START DRILL DATE Jul 18, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 18, 16 **GROUND SURF.** 625.5
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Silty Sand with Gravel (SM); strong brown, moist; fine-grained sand, fine to coarse gravel and cobbles. [Quaternary Alluvium]					BH16-GSY05-01					08:31	Begin drilling 7/18/2016
5	Sandy Silt (ML); stiff, yellowish brown; moist; fine-grained sand. [Quaternary Alluvium]					BH16-GSY05-05		6 8 10	100		08:36	2" diameter split spoon 140 lbs wire line hammer 30" drop
10	Well Graded Sand (SW); loose, mottled pale brown, yellow and pink; moist, trace silt and fine gravel. [Decomposed Bedrock]					BH16-GSY05-10		5 7 10	100		08:42	2" diameter split spoon 140 lbs wire line hammer 30" drop
15	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine gravel. [Decomposed Bedrock]					BH16-GSY05-15		12 15 20	100		09:50	2" diameter split spoon 140 lbs wire line hammer 30" drop
20	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine gravel. [Decomposed Bedrock]					BH16-GSY05-20		2 12 22	100		09:55	
25	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine gravel. [Decomposed Bedrock]					BH16-GSY05-25		14 17 20	100		10:01	
	Total Depth - 26.5 ft			Groundwater not encountered 7/18/2016							10:10	Backfill 26.5' to 21.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.

WELL BORE HL1588.GPJ GEOSNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283271.39
EQUIPMENT CME 95 **EASTING** 6166679.78
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY06 **SHEET 1 OF 2**
START DRILL DATE Jul 18, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 18, 16 **GROUND SURF.** 628
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Sandy Clay (CL); strong brown, moist; fine grained sand; medium plasticity. [Quaternary Alluvium]					BH16-GSY06-01	X				11:16	Begin drilling 7/18/2016
5	Poorly Graded Sand (SP); loose, mottled pale brown, yellow and pink; moist; medium to coarse-grained. [Decomposed Bedrock]					BH16-GSY06-05		3 4 5	100			
						BH16-GSY06-08	X				11:26	
10	Well Graded Sand (SW), medium dense; mottled pale brown, yellow and pink; moist; trace silt. [Decomposed Bedrock]					BH16-GSY06-10		5 18 21	100		11:30	
15	Silty Sand (SM); medium dense, pale yellowish brown, moist; trace fine sand; non-plastic. [Decomposed Bedrock]					BH16-GSY06-15		8 12 16	100		11:36	
20	Poorly Graded Sand (SP); medium dense; mottled pale brown, yellow and pink; moist; medium-grained. [Decomposed Bedrock]					BH16-GSY06-20		5 19 25	25		11:42	Partial recovery - sand fell out of rings
25	Well Graded Sand (SW), medium dense; mottled pale brown, yellow and pink; moist; trace silt and fine to medium gravel. [Decomposed Bedrock]					BH16-GSY06-25		1 6 17	100		11:49	
30												

WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283389.15
EQUIPMENT CME 95 **EASTING** 6166964.41
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY06 **SHEET 2 OF 2**
START DRILL DATE Jul 18, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 18, 16 **GROUND SURF.** 628
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Well Graded Sand (SW); dense; mottled pale brown, yellow and pink; moist; trace silt and fine to medium gravel. [Decomposed Bedrock]					BH16-GSY06-30		15 41 35	100		11:57	
35	Well Graded Sand (SW); very dense; mottled pale brown, yellow and pink; moist; trace silt and fine to medium gravel [Decomposed Bedrock] Total Depth - 36.5 ft			Groundwater not encountered 7/18/2016		BH16-GSY06-35		7 23 35	100		12:03	
											12:08	Backfill 36.5' to 31.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.

17-Well Bore HL1588.GPJ GEOSYNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283389.15
EQUIPMENT CME 95 **EASTING** 6166964.41
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY07 **SHEET 1 OF 2**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 632
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Clayey Sand (SC); strong brown; moist; fine to medium-grained sand. [Quaternary Alluvium]										09:26	Begin drilling 7/20/2016
5	Sandy Clay (CL); stiff; strong brown; moist; fine-grained sand; medium plasticity. [Quaternary Alluvium]					BH16-GSY07-05		4 6 7	100		09:34	
10	Sandy Clay (CL); very stiff; brown to grey; moist; fine-grained sand; low plasticity. [Quaternary Alluvium]					BH16-GSY07-08						
						BH16-GSY07-10		4 16 18	100		09:38	
15	Silty Sand (SM); medium dense; orange-brown; moist; fine-grained. [Decomposed Bedrock]					BH16-GSY07-15		2 6 8	100		09:42	
20	Silt (ML); stiff; orange-brown; moist; medium plasticity. [Decomposed Bedrock]					BH16-GSY07-20		8 12 16	100		09:45	
25	Sandy Silt (ML); very stiff; orange-brown; moist; fine to medium-grained sand; low plasticity. [Decomposed Bedrock]					BH16-GSY07-25		6 9 11	100		09:50	
30												

WELL BORE HL1588 GEL GEOSYNTEC.GDT R12/16

CONTRACTOR BC2 Environmental **NORTHING** 2283348.47
EQUIPMENT CME 95 **EASTING** 6167307.73
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY07 **SHEET 2 OF 2**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 632
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM.
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
30	Sandy Fat Clay (CH); very stiff, strong brown; moist; fine to medium-grained sand, high plasticity. [Decomposed Bedrock]	[Hatched pattern]	[Wavy pattern]			BH16-GSY07-30		6 16 21	100		09:54	
35	Sandy Clay (CL), stiff, strong brown; moist; fine to medium-grained sand [Decomposed Bedrock]	[Dotted pattern]	[Wavy pattern]			BH16-GSY07-35		6 7 8	100		10:00	
40	Well Graded Sand (SW), very dense, mottled grey; moist, trace fine to medium gravel. [Decomposed Bedrock]	[Dotted pattern]	[Wavy pattern]			BH16-GSY07-40		50	33		10:07	50 blows for 6"
45	Diorite; speckled brownish grey and black; medium-grained; intensely weathered, weak, friable. [Bedrock]	[Cross-hatched pattern]	[Wavy pattern]			BH16-GSY07-43		50	28		10:10	Bulk sample material likely sourced from ~35' bgs
46.5						BH16-GSY07-45		50	28		10:13	50 blows for 5"
50	Diorite; speckled brownish grey and black; medium-grained; intensely weathered; weak; friable. [Bedrock] Total Depth - 50.5 ft	[Cross-hatched pattern]	[Wavy pattern]	Groundwater encountered @46.5' bgs on 7/20/2016, 10:20.		BH16-GSY07-50		50	28		10:20 10:25	50 blows for 5" Backfill 50.5' to 43' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
55												
60												

CONTRACTOR BC2 Environmental **NORTHING** 2283348.47
EQUIPMENT CME 95 **EASTING** 6167307.73
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

07-WELL BORE HL1588.GPJ GEOSYNTec.GDT 8/21/16



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY08 **SHEET 1 OF 2**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 634
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Sandy Silt (ML); strong brown, moist; fine to coarse-grained sand; trace fine gravel; low plasticity [Quaternary Alluvium]										08:28	Begin drilling 7/20/2016
5	Sandy Silt (ML); stiff, strong brown; moist; fine to coarse-grained sand; trace fine gravel; low plasticity [Quaternary Alluvium]					BH16-GSY08-02					08:33	
						BH16-GSY08-05		2 3 7	100		08:35	
10	Silt (ML); very stiff, pale yellowish brown; moist; medium plasticity. [Quaternary Alluvium]					BH16-GSY08-08						
						BH16-GSY08-10		6 18 26	100			
15	Sandy Silt (ML); very stiff; strong brown; moist; fine to medium-grained sand; low plasticity. [Quaternary Alluvium]					BH16-GSY08-15		2 6 10	100		08:41	
20	Poorly Graded Sand (SP); dense, mottled pale brown, yellow and pink; moist; fine to medium-grained sand [Decomposed Bedrock]					BH16-GSY08-20		13 32 42	100			
25	Clayey Sand (SC); medium dense; strong brown; moist; fine-grained sand. [Decomposed Bedrock]					BH16-GSY08-25		6 8 12	100		08:51	
30												

WELL BORE HL1588 GSI GEOSYNTEC GDT R2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283383.35
EQUIPMENT CME 95 **EASTING** 6167429.52
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:

SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY08 **SHEET 2 OF 2**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 634
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Clayey Sand (SC); medium dense; reddish brown; moist to wet; medium-grained sand. [Decomposed Bedrock]					BH16-GSY08-30		5 10 16	100		08:57	
35	Clayey Sand (SC); very dense; mottled dark grey; wet; medium to coarse-grained sand. [Decomposed Bedrock] Total Depth - 35.5 ft			Groundwater encountered @33' bgs on 7/20/2016, 09:03		BH16-GSY08-35		50	33		09:03	50 blows for 6" Backfill 35.5'-30.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
40												
45												
50												
55												
60												

WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/12/16

CONTRACTOR BC2 Environmental **NORTHING** 2283383.35
EQUIPMENT CME 95 **EASTING** 6167429.52
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY09 **SHEET 1 OF 1**
START DRILL DATE Jul 19, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 19, 16 **GROUND SURF.** 620
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 2) USCS Name 3) Color 4) Moisture 5) Percent Grain Size 6) Plasticity 7) Density/Consistency 8) Structure 9) Other (Mineralization, Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
0	Silty Sand (SM)										08:40	Begin drilling 7/19/2016
0-5	Gravel (Af); poorly graded; grey; dry; coarse; semi-rounded. [Artificial Fill]											
5-8	Gravel with Silt (Af); loose; grey to olive brown; moist; poorly graded semi-rounded coarse gravel. [Artificial Fill]					BH16-GSY09-05		6 7 8	100			1" sample rings discarded due to gravel falling out
8-10												
10-15	Gravel with Silt (Af); very dense; grey to olive brown; moist; poorly graded semi-rounded coarse gravel. [Artificial Fill]					BH16-GSY09-10		25	33			25 blows for 6"
15-20	Poorly Graded Sand (SP); medium dense; mottled pale brown, yellow and pink; moist; fine to medium-grained. [Decomposed Bedrock]					BH16-GSY09-15		5 12 18	100		09:22	
20-21.5	Silt (ML); very stiff; pale olive brown; moist to wet; low plasticity. [Decomposed Bedrock]					BH16-GSY09-20		11 12 16	100		09:27	
21.5	Total Depth - 21.5 ft										09:31	Backfill 21.5' to 16.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
				Groundwater not encountered 7/19/2016								

WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283430.71
EQUIPMENT LAR **EASTING** 6166064.89
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY10 **SHEET 1 OF 1**
START DRILL DATE Jul 19, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 19, 16 **GROUND SURF.** 620
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM: WELL BORE 01/04 **BOREHOLE LOG**

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, Discoloration, Odor, etc.) 5) Percent Grain Size	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Silt (ML); pale yellowish brown; dry; trace fine sand [Quaternary Alluvium]					BH16-GSY10-01					10:04	Begin drilling 7/19/2016
5	Silt (ML); firm; pale yellowish brown; moist; trace fine sand. [Quaternary Alluvium]					BH16-GSY10-05		3 3 5	100		10:07	
10	Poorly Graded Sand (SP); medium dense; pale yellowish brown; moist; grain size alternates between fine and medium in approximately 3" thick layers. [Decomposed Bedrock]					BH16-GSY10-10		6 12 18	100			
15	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt. [Decomposed Bedrock]					BH16-GSY10-15		4 9 12	100			
20	Well Graded Sand (SW); medium dense; mottled pale brown, yellow and pink; moist; trace silt. [Decomposed Bedrock]					BH16-GSY10-20		8 22 22	100		10:23	
	Total Depth - 21.5 ft			Groundwater not encountered 7/19/2016							10:28	Backfill 21.5' to 16.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.

WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283423.64
EQUIPMENT LAR **EASTING** 6166145.70
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSY11 **SHEET 1 OF 1**
START DRILL DATE Jul 18, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 18, 16 **GROUND SURF.** 635
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 - 02

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Sandy Silt (ML); strong brown; moist; fine-grained sand, trace fine gravel; low plasticity. [Quaternary Alluvium]					BH16-GSY11-01					10:37	Begin drilling 7/18/2016
5	Sandy Clay (CL); stiff, strong brown; moist; fine-grained sand; medium plasticity. [Quaternary Alluvium]					BH16-GSY11-05		6 11 13	100			
10	Sandy Clay (CL); stiff, strong brown; moist; fine-grained sand; medium plasticity. [Quaternary Alluvium]					BH16-GSY11-10		3 5 5	100			
15	Sandy Clay (CL); stiff, strong brown; moist; fine to coarse-grained sand; medium plasticity. [Quaternary Alluvium]					BH16-GSY11-15		3 7 11	100			
20	Poorly Graded Sand (SP); dense; mottled pale brown, yellow and pink; moist; fine-grained sand, trace coarse sand. [Decomposed Bedrock]					BH16-GSY11-20		4 14 20	100		10:58	Backfill 21.5' to 16.5' bgs with bentonite, to surface with cuttings. Materials tremied to total depth.
	Total Depth - 21.5 ft			Groundwater not encountered 7/18/2016								

DL:WELL_BORE_HL1588.GPJ GEOSYNTEC.GDT_8/2/16

CONTRACTOR BC2 Environmental **NORTHING** 2283394.34
EQUIPMENT CME 95 **EASTING** 6167520.68
DRILL MTHD HSA **COORDINATE SYSTEM:**
DIAMETER 8" **NAD83**
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS



2100 Main St
Suite 150
Huntington Beach, CA 92648
Tel: (714) 969-0800
Fax: (714) 969-0820

BORING BH16-GSYHA **SHEET 1 OF 1**
START DRILL DATE Jul 20, 16 **ELEVATION DATA:**
FINISH DRILL DATE Jul 20, 16 **GROUND SURF.** 611
LOCATION North Norco Channel **TOP OF CASING**
PROJECT Geotechnical Investigation **DATUM**
NUMBER HL1588 -- 04

GS FORM:
WELL BORE 01/04

BOREHOLE LOG

DEPTH (ft-bgs)	DESCRIPTION 1) Unit/Formation, Mem. 6) Plasticity 2) USCS Name 7) Density/Consistency 3) Color 8) Structure 4) Moisture 9) Other (Mineralization, 5) Percent Grain Size Discoloration, Odor, etc.)	GRAPHIC LOG	WELL LOG	GROUNDWATER OR STRUCTURE	ELEVATION (ft)	SAMPLE					COMMENTS 1) Rig Behavior 2) Air Monitoring	
						SAMPLE NO.	TYPE	BLOWS PER 6"	RECOVERY (%)	PID READING (ppm)		TIME (00:00)
	Sandy Silt (ML); firm, brown, moist; fine-grained sand; low plasticity. [Quaternary Alluvium]										14:35	Begin hand augering 7/20/2016
	Poorly Graded Sand (SP); mottled pale brown, yellow, and pink; moist, medium grained sand. [Decomposed Bedrock].											
5	Total Depth - 5 ft			Groundwater not encountered 7/20/2016							14:50	Set temporary well: 5ft, 0.020" horizontal screen, backfill with pea gravel.
10												
15												
20												
25												
30												

07-2 WELL BORE HL1588.GPJ GEOSYNTEC.GDT 8/9/16

CONTRACTOR BC2 Environmental **NORTHING** 2283312.40
EQUIPMENT **EASTING** 6165745.50
DRILL MTHD Hand Auger **COORDINATE SYSTEM:**
DIAMETER 4" NAD83
LOGGER G. Wharton **REVIEWER** S. Siciliano, P.G., C.E.G.

NOTES:
SEE KEY SHEET FOR SYMBOLS AND ABBREVIATIONS

APPENDIX "D"

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND WILDLIFE
NOTIFICATION OF LAKE OR STREAMBED
ALTERATION PERMITS



MEMORANDUM

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DATE: December 13, 2021

TO: Claudio M. Padres, Chief of Design and Construction Division
FROM: Joan Valle, Chief of Regulatory Division *RS for*
RE: Final Construction Environmental Compliance/Requirements
North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03

We have finished the environmental documentation and regulatory review for the above-referenced project. Attached you will find a matrix that includes the CEQA mitigation measures, regulatory permit conditions, and an accompanying recommended spec to be included in the final spec book in order to ensure that the District is in compliance with all required environmental commitments.

Please note that if the project changes in limits and type, further coordination with ERS II will be needed.

Section 18/CEQA

The Section 18 process was previously completed for the North Norco Channel Line NB, Stage 3 project. A Mitigated Negative Declaration was prepared for this project and adopted by the District's Board of Supervisors on December 5, 2017 pursuant to the provision of CEQA. No further action to comply with CEQA is required.

Regulatory Permits - The permits listed below authorize construction and maintenance of the project:

1602 Lake or Streambed Alteration Agreement (LSAA) - The District submitted a notification for a Lake or Streambed Alteration Agreement (LSAA) to the California Department of Fish and Wildlife (CDFW) on December 20, 2017. CDFW had 30 days to deem the application complete or request additional information to deem the application complete pursuant to Section 1602, Subdivision (a)(2) of the California Fish and Game Code. The District did not receive any requests for additional information, therefore, the notification was complete on January 19, 2018. CDFW then had 60 days to issue an agreement or inform the District that an agreement was not required. The District did not receive an LSAA from CDFW by March 20, 2018 and, therefore, pursuant to Section 1602, Subdivision (a)(4)(D) of the California Fish and Game Code, the project may proceed under Operation of Law. Project-related activities must be conducted in the manner in which they were described in the application package (P8/217825). This memo and the application package, including all attachments, shall serve as permission to commence construction of the project and must be kept onsite at all times during construction (attached). **Additional authorization from CDFW may be required if changes to the project are required or if the project schedule extends beyond December 31, 2023.**

USACE 404 Permit - The U.S. Army Corps of Engineers (USACE) reviewed the jurisdictional determinations made by Corps Regulatory (Eric Stein) on July 21, 1997 and declined to take jurisdiction on January 7, 2016. The USACE concluded that the North Norco Channel Line NB is a non-tidal drainage ditch excavated on dry land and therefore is not subject to USACE jurisdiction.

Waste Discharge Requirement - The Santa Ana Regional Water Quality Control Board (SARWQCB) issued a Waste Discharge Requirement (WDR) dated October 19, 2018 (Order No. R8-2018-0090). The Waste Discharge Requirement coverage terminates on October 19, 2023. **If the project does not commence construction prior to October 19, 2023, then we will need to reapply.**

MEMO

-2-

December 13, 2021

TO: Claudio M. Padres
FROM: Joan Valle
RE: Final Construction Environmental Compliance/Requirements
North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03

All permit conditions and environmental requirements have been reviewed by ERS and are summarized in the attached matrix. The information in the "Directive" column includes directives for District staff to initiate at various milestones, and the "Recommended Specification Condition" column includes spec items that should be included in the final construction specifications document.

If you have any questions, please coordinate with Carol Thompson at 52313 or Kevin Cunningham at 51526 as needed.

Attachment

ec: Simon Tse
Carol Thompson
Kevin Cunningham
David Garcia

CAT:mc:mcv
P8/241149

JASON E. UHLEY
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

December 20, 2017

SENT VIA UPS NEXT DAY

Mr. Jeff Brandt
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764-4913

Dear Mr. Brandt:

Re: North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
Section 1602 Notification of
Streambed Alteration

The District is submitting this notification of a Streambed Alteration Agreement pursuant to Section 1602 of the California Fish and Game Code for the construction and maintenance of the proposed North Norco Channel Line NB, Stage 3 Project (Project).

This complete notification includes the project location and existing conditions; a jurisdictional waters delineation; a project description and impact analysis; avoidance, minimization and mitigation measures; and the total agreement fee in the amount of \$8,376. The contents of this permit application, including attachments, are also provided digitally on the enclosed CD.

The following supporting documents are enclosed:

1. Completed Section 1602 "Notification of Lake or Streambed Alteration" Form
2. Completed Attachment D – Routine Maintenance Form
3. Warrant No. 0503613206 for \$8,376 for Section 1602 Agreement Fees

List of Figures and Exhibits

- Figure 1 – Regional Location Map (Jurisdictional Delineation)
- Figure 2 – Local Vicinity Map (Jurisdictional Delineation)
- Figure 6 – Aquatic Resource Jurisdiction Map (Jurisdictional Delineation)
- Exhibit 1 – CDFW Jurisdictional Limits
- Figure 3 – Vegetation Communities (Jurisdictional Delineation)

The following supporting documents are enclosed on CD:

- Attachment A – Jurisdictional Delineation Report by URS, dated November 2014
- Attachment B – General Biological Assessment by URS, dated April 2014
- Attachment C – Preliminary design drawings for the Project, Drawing No. 2-0471, Sheet Nos. 1 through 24
- Attachment D – Final CEQA Initial Study/Mitigated Negative Declaration, dated June 2017
KMZ of Project Area

Mr. Jeff Brandt

-2-

December 20, 2017

Re: North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
Section 1602 Notification of
Streambed Alteration

Project Location

The Project is generally bounded on the north by Fifth Street, on the south by Fourth Street, on the east by Valley View Avenue, and on the west by the I-15 and North Norco Channel in the city of Norco, Riverside County (Figure 1). The proposed Project area can be found within Township 3 South, Range 6 West, and Section 7 of the Corona North 7.5 Series Topographic Quadrangle maps. The southern terminus of the Project is north of Fourth Street and approximately 250 feet east of Sierra Avenue (Figure 2). The coordinates for the beginning and end points of the Project are 33.926764, -117.555730 and 33.926905, -117.549134, respectively. The parcels associated with the Project include APNs 127-040-052, 127-075-008, 127-080-016, and 127-113-003.

Project Description and Purpose

The existing interim North Norco Channel Line NB facility is currently inadequate for the conveyance of 100-year flow rates. The Project consists of replacing the previously constructed earthen channel with a lined channel that would convey the 100-year flow rates and protect existing development within the city of Norco. The Project will continue to convey stormwater runoff from the existing North Norco Channel Line NB and outlet into the existing concrete-lined North Norco Channel upstream of the I-15.

The Project design consists of a concrete-lined trapezoidal and rectangular channel. An Armorflex invert will be used for infiltration and water quality purposes at the western end of the channel and just upstream of the North Norco Channel. The Project also includes reconstructing existing concrete culverts across Valley View Avenue and Sierra Avenue. Side drain connector lines, inlets, and catch basins would also be constructed/reconstructed on Sierra Avenue, Fortuna Road, Valley View Avenue, and Gallop Lane.

Project Construction

Construction is estimated to begin in spring 2018 and last through winter 2018. Approximately 15 people would be onsite each day during construction, depending on the nature of construction occurring at any one time. The estimated construction equipment includes a water truck, roller, paver, concrete saw, concrete pump, crane, grader, excavators, crawler tractors, rubber tired loaders and dump trucks. Approximately 2,850 cubic yards of soil material will be excavated and hauled away offsite. The construction contractor will be required to obtain any required permits for the offsite disposal of excavated material.

Maintenance Activities

The existing North Norco Channel Line NB earthen channel was constructed in 1975 and the Project site is currently maintained by the District under the existing Memorandum of Understanding for maintenance with CDFW. Routine maintenance of the Project will be similar to the maintenance of the existing channel. The proposed channel lining will reduce erosion and the associated repairs. Maintenance will occur on an as needed basis and is expected to be required no more than two times per year under normal (non-emergency) conditions. Typical District maintenance activities include weed management, and sediment/debris removal. If herbicides need to be applied to jurisdictional areas, the District is currently enrolled in the NPDES Statewide General Aquatic Weed Control Permit, which requires the implementation of BMPs to reduce potential impacts resulting from herbicide use to the maximum extent practicable.

Project Impacts

A jurisdictional delineation report was prepared for the Project (see enclosed CD Attachment A). The report identified the facility as falling under CDFW jurisdiction. The existing channel mapped as potential CDFW jurisdiction consists of a man-made earthen ditch that was constructed from uplands. The existing channel conveys ephemeral flows and is not associated with a natural drainage feature.

Mr. Jeff Brandt
Re: North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
Section 1602 Notification of
Streambed Alteration

-3-

December 20, 2017

As detailed in the jurisdictional delineation report (Figure 6) there is 2.01 acres of potential CDFW jurisdiction within the mapped area. However, the study area included areas outside of the actual project footprint. The actual acres within the final Channel Impact Limits total 1.09 as shown on Exhibit 1. No additional jurisdictional drainage features are located within the boundaries of the Project site. Wetlands do not occur onsite and the Project area conditions are typical of developed and disturbed habitats. Approximately 0.02 acre of Armorflex, a pervious concrete block system, invert will be used for infiltration, and water quality purposes. The Armorflex will be placed at the western end of the channel and just upstream of the North Norco Channel. Approximately 2,820 cubic yards of material will be excavated and hauled away offsite.

Vegetation/Land Cover Types

The Project site is composed of the Open Earthen/Concrete land cover that is regularly maintained and mostly devoid of vegetation (Figure 3). The eastern segment of the existing channel is earthen lined and transitions to concrete on the west end of the Project area. Vegetation within the channel is minimal and composed of non-native weedy species. In addition, the access roads on either side of the channel have been graded, and are regularly maintained and devoid of vegetation. Outside of the main channel, the Project vicinity consists of developed areas including paved roads associated with the laterals and residential areas adjacent to the laterals. Vegetation, where present within this land cover type, consists of ornamental and weedy species.

Special Status Species

The plant and animal species observed onsite within the study area are typical of developed and disturbed areas (Section 3.2 General Biological Assessment) see Attachment B. The Project will not impact sensitive wildlife, habitat or plant species. There are no federally listed species documented or that have potential to occur within or in proximity to the Project site. The Project site does not overlap U.S. Fish and Wildlife Service designated critical habitat for any species.

No special-status wildlife species were observed during surveys. The majority of special-status wildlife species documented in the vicinity have no or little potential to occur within the Project area given the lack of native vegetation, high level of disturbance, and developed surroundings.

No special-status plant species were observed during surveys. The special-status plant species documented in the vicinity are not expected to occur within the Project site due to either lack of suitable soils or vegetation communities.

Multi-Species Habitat Conservation Plan (MSHCP) Compliance

Based on the discussion in Section 3.1.3 of the enclosed General Biological Assessment (Attachment B), the proposed Project is consistent with the MSHCP. The Project is located within the MSHCP Riverside and Norco Area Plans and is outside of any designated Criteria Cells or Cell Groups. The Project area does not include any MSHCP Conserved Lands or Public/Quasi-Public (PQP) lands.

Results of the Conservation Summary Report Generator (CSRG) described that the Project does not occur within any Narrow Endemic Plant Species identified by the MSHCP Section 6.1.3 or Amphibian, Burrowing Owl, Mammalian, Criteria Area Species, or Special Linkage Areas identified by MSHCP Section 6.3.2 Survey Needs and Procedures. Therefore, no additional actions (focused surveys or mitigation) are required for these criteria.

As discussed in Section 3.2.4 of the General Biological Assessment, this feature does not contain riparian or riverine habitat as defined in Section 6.1.2 of the MSHCP, therefore, any alterations to the channel would not affect any Covered Species or Conservation Areas either directly or indirectly through downstream effects. Furthermore, the feature does not contain any natural or created wetlands or created open waters. Section 4.0, Making Consistency Determinations, in the *Western Riverside County Multiple Species Habitat Conservation*

Mr. Jeff Brandt
Re: North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
Section 1602 Notification of
Streambed Alteration

-4-

December 20, 2017

Plan Permittee Implementation Guidance Manual (Regional Conservation Authority, 2007) states that artificially-constructed areas, and areas that do not contain biological functions and values that contribute to downstream habitat values for covered species, are not considered riparian/riverine resources. Because no permanent impacts to riparian/riverine areas as defined by the MSHCP within the study area are expected, or impacts that would affect downstream covered species or habitats, a Determination of Biologically Equivalent or Superior Preservation (DBESP) is not required for the proposed Project.

Avoidance and Minimization

The Project is outside of any special status species survey areas and there is no habitat to support these species. However, to comply with the California Fish and Game Code protecting native birds (Sections 3503, 3503.5, 3505, and 3513) and the federal Migratory Bird Treaty Act, a pre-construction nesting bird survey will be completed by a qualified biologist within the Project area and appropriate surrounding buffer.

The Project construction activities will comply with the applicable requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-006-DWQ or the latest approved general permit). This Construction General Permit requires construction activities that involve the disturbance of one acre or more of total land area, to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which contains Best Management Practices (BMPs) to reduce or eliminate construction-related pollutants in the runoff. The SWPPP will be prepared prior to construction and include the applicable BMPs for the Project site. The District complies with the requirements of the Regional Water Quality Control Board's 2010 SAR MS4 Permit during the construction, operation and maintenance of its Watershed Protection Projects. Onsite minimization measures also include the section of pervious Armorflex concrete block invert that will allow for infiltration.

Compensatory Mitigation

The Project would replace an existing maintained earthen channel with a maintained concrete/Armorflex lined channel. This would impact 1.09 acres of ruderal and open channel within the existing earthen channel. Therefore, there would not be a substantial loss of fish and wildlife resources, either temporarily or permanently.

Due to the limited change in habitat value from the channel lining, a 0.5:1 mitigation ratio is proposed for the minimal impacts resulting from lining the existing earthen channel. Mitigation would be completed through the purchase of Enhancement Credits from the Riverside – Corona Resource Conservation District in-lieu fee program for 0.54 acre of invasive vegetation removal. There are no opportunities within the channel right of way for onsite compensatory mitigation. The District included the same mitigation in a recent permit application to the Regional Water Quality Control Board.

California Environmental Quality Act (CEQA)

The District is the Lead Agency for the Project under the California Environmental Quality Act (CEQA). An Initial Study/Mitigated Negative Declaration (IS/MND) was circulated for public review in May 2017 and was approved by the District Board of Supervisors on December 5, 2017. A copy of the Final IS/MND is included on the CD (Attachment D). The Notice of Determination will be provided to the Department as soon as it is available.

Mr. Jeff Brandt

-5-

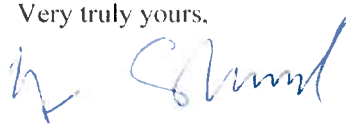
December 20, 2017

Re: North Norco Channel Line NB, Stage 3
Project No. 2-0-00145-03
Section 1602 Notification of
Streambed Alteration

Conclusion

This letter and the enclosed documents should provide adequate information and a complete notification for the purposes of Section 1602. If you have any questions or need additional information please contact Carol Thompson at 951.955.2313 or me at 951.955.1306.

Very truly yours,



RANDY SHEPPEARD
Senior Flood Control Planner

Enclosures

CAT:RS:mev
P8\217825



FOR DEPARTMENT USE ONLY				
Date Received	Amount Received	Amount Due	Date Complete	Notification No
	\$	\$		
Assigned to:				

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

1. APPLICANT PROPOSING PROJECT

Name	Jason Uhley, General Manager-Chief Engineer			
Business/Agency	Riverside County Flood Control and WCD			
Mailing Address	1995 Market Street			
City, State, Zip	Riverside, CA, 92501			
Telephone	(951) 955.1250	Fax	951.788.9965	
Email	fcexcsec@rivco.org			

2. CONTACT PERSON *(Complete only if different from applicant)*

Name	Randy Sheppeard, Senior Flood Control Planner			
Street Address	1995 Market Street			
City, State, Zip	Riverside, CA, 92501			
Telephone	951.955.1306	Fax	951.788.9965	
Email	rsheppea@rivco.org			

3. PROPERTY OWNER *(Complete only if different from applicant)*

Name				
Street Address				
City, State, Zip				
Telephone		Fax		
Email				

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name		North Norco Channel Line NB Stage 3		
B. Agreement Term Requested		<input checked="" type="checkbox"/> Regular (5 years or less) <input type="checkbox"/> Long-term (greater than 5 years)		
C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (year)	Ending (year)	Start Date (month/day)	End Date (month/day)	
2018	2023	N/A	N/A	±120



5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, E, or F is checked, complete the specified attachment.

A.	<input checked="" type="checkbox"/> Standard (Most construction projects, excluding the categories listed below)	
B.	<input type="checkbox"/> Gravel/Sand/Rock Extraction (Attachment A)	Mine I.D. Number: _____
C.	<input type="checkbox"/> Timber Harvesting (Attachment B)	THP Number: _____
D.	<input type="checkbox"/> Water Diversion/Extraction/Impoundment (Attachment C)	SWRCB Number: _____
E.	<input checked="" type="checkbox"/> Routine Maintenance (Attachment D)	
F.	<input type="checkbox"/> Remediation of Marijuana Cultivation Sites (Attachment E)	
G.	<input type="checkbox"/> Department Grant Programs	Agreement Number: _____
H.	<input type="checkbox"/> Master	
I.	<input type="checkbox"/> Master Timber Operations	

6. FEES

See the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. **Note: The Department may not process this notification until the correct fee has been received.**

A. Project		B. Project Cost	C. Project Fee
1	North Norco Channel Stage 3 Project	\$1,915,000	\$5,000.00
2	Routine Maintenance Attachment D		\$3,376.00
3			
4			
5			
6			
7			
8			
9			
10			
		D. Base Fee (if applicable)	N/A
		E. TOTAL FEE*	\$8,376.00

* Check, money order, and Visa or MasterCard payments are accepted. When payment is made by credit card, CDFW shall assess a separate credit card processing fee of 1.6% to the Total Fee. Credit card payment must be submitted with a completed Credit Card Payment Authorization Form (DFW 1443b (Rev. 8/15)) available online at: <https://www.wildlife.ca.gov/Conservation/LSA/Forms> or at a Department regional office.



7. PRIOR NOTIFICATION AND ORDERS

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

Yes (Provide the information below) No

Applicant	Notification Number	Date

B. Is this notification being submitted in response to a court or administrative order or notice, or a notice of violation (NOV) issued by the Department?

No Yes (Enclose a copy of the order, notice, or NOV. If the applicant was directed to notify the Department verbally rather than in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.)

Continued on additional page(s)

8. PROJECT LOCATION

A. Address or description of project location.
 (Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway)

South of Fifth Street, north of Fourth Street, east of the Interstate (I) 15 Freeway and the North Norco Channel, and west of the intersection of Half Circle Road and Gallop Lane in the city of Norco, Riverside County.

Refer to Application Package.

Continued on additional page(s)

B. River, stream, or lake affected by the project. Unnamed tributary;manmade upland channel

C. What water body is the river, stream, or lake tributary to? North Norco Channel

D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts? Yes No Unknown

E. County Riverside

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Corona North	3S	6W	7	n/a

Continued on additional page(s)

K. Meridian (check one) Humboldt Mt. Diablo San Bernardino

L. Assessor's Parcel Number(s)

Refer to Project Location Section of cover letter

Continued on additional page(s)



M. Coordinates (If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes)			
Latitude/Longitude	Latitude: 33.926689 N		Longitude: -117.554209 W
	<input type="checkbox"/> Degrees/Minutes/Seconds	<input checked="" type="checkbox"/> Decimal Degrees	<input type="checkbox"/> Decimal Minutes
UTM	Easting:	Northing:	<input type="checkbox"/> Zone 10 <input type="checkbox"/> Zone 11
Datum used for Latitude/Longitude or UTM		<input type="checkbox"/> NAD 27	<input checked="" type="checkbox"/> NAD 83 or WGS 84

9. PROJECT CATEGORY

WORK TYPE	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR-MAINTAIN-OPERATE EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bank stabilization – rip-rap/retaining wall/gabion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat dock/pier	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Boat ramp	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Channel clearing/vegetation management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Culvert	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Debris basin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filling of wetland, river, stream, or lake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Geotechnical survey	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat enhancement – revegetation/mitigation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Levee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Low water crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Road/trail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment removal: pond, stream, or marina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
flood control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm drain outfall structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary stream crossing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utility crossing: horizontal directional drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
jack/bore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
open trench	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water diversion without facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water diversion with facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (<i>specify</i>): line earthen ch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



10. PROJECT DESCRIPTION

A. Describe the project in detail. Include photographs of the project location and immediate surrounding area.

- Written description of all project activities with detailed step-by-step description of project implementation.
- Include any structures (e.g., rip-rap, culverts) that will be placed or modified in or near the stream, river, or lake, and any channel clearing.
- Specify volume, and dimensions of all materials and features (e.g., rip rap fields) that will be used or installed.
- If water will be diverted or drafted, specify the purpose or use.
- Enclose diagrams, drawings, plans, and maps that provide all of the following: site specific construction details; dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, stockpile areas, areas of temporary disturbance, and where the equipment/machinery will access the project area.

Refer to cover letter and enclosures

Continued on additional page(s)

B. Specify the equipment and machinery that will be used to complete the project.

Refer to Project Construction Section of cover letter

Continued on additional page(s)

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).

Yes No (Skip to box 11)

D. Will the proposed project require work in the wetted portion of the channel?

Yes (Enclose a plan to divert water around work site)
 No



11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

Refer to Project Impacts Section of cover letter

Continued on additional page(s)

B. Will the project affect any vegetation?

Yes (Complete the tables below) No (Include aerial photo with date supporting this determination)

Vegetation Type	Temporary Impact	Permanent Impact
None	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____
	Linear feet: _____ Total area: _____	Linear feet: _____ Total area: _____

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)
None	None	

Continued on additional page(s)

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

Yes (List each species and/or describe the habitat below) No Unknown

Continued on additional page(s)

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

General Biological Assessment Report (see enclosed CD)

Continued on additional page(s)

E. Has a biological study been completed for the project site?

Yes (Enclose the biological study) No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.



F. Has a hydrological study been completed for the project or project site?

Yes (Enclose the hydrological study) No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

G. Have fish or wildlife resources or waters of the state been mapped or delineated on the project site?

Yes (Enclose the mapped results) No

Note: Check "yes" if fish and wildlife resources or waters of the state on the project site have been mapped or delineated. "Wildlife" means and includes all wild animals, birds, plants, fish, amphibians, reptiles and related ecological communities, including the habitat upon which the wildlife depends." (Fish & G. Code, § 89.5.) If "yes" is checked, submit the mapping or delineation. If the mapping or delineation is in digital format (e.g., GIS shape files or KMZ), you must submit the information in this format for the Department to deem your notification complete. If "no" is checked, or the resolution of the mapping or delineation is insufficient, the Department may request mapping or delineation (in digital or non-digital format), or higher resolution mapping or delineation for the Department to deem the notification complete.

12. MEASURES TO PROTECT FISH, WILDLIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

Refer to Avoidance and Minimization section of cover letter

Continued on additional page(s)

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

Refer to Avoidance and Minimization section of cover letter

Continued on additional page(s)

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

Refer to Compensatory Mitigation Section of cover letter

Continued on additional page(s)



13. PERMITS

List any local, State, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A.	Waste Discharge Report - RWQCB	<input checked="" type="checkbox"/> Applied	<input type="checkbox"/> Issued
B.	_____	<input type="checkbox"/> Applied	<input type="checkbox"/> Issued
C.	_____	<input type="checkbox"/> Applied	<input type="checkbox"/> Issued
D. Unknown whether <input type="checkbox"/> local, <input type="checkbox"/> State, or <input type="checkbox"/> federal permit is needed for the project. (Check each box that applies)			

Continued on additional page(s)

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA) and/or National Environmental Protection Act (NEPA)?

Yes (Check the box for each CEQA or NEPA document that has been prepared and enclose a copy of each.)
 No (Check the box for each CEQA or NEPA document listed below that will be or is being prepared.)

<input type="checkbox"/> Notice of Exemption	<input checked="" type="checkbox"/> Mitigated Negative Declaration	<input type="checkbox"/> NEPA document (type): _____
<input checked="" type="checkbox"/> Initial Study	<input type="checkbox"/> Environmental Impact Report	
<input type="checkbox"/> Negative Declaration	<input type="checkbox"/> Notice of Determination (Enclose)	
<input type="checkbox"/> THP/ NTMP	<input checked="" type="checkbox"/> Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number (if applicable) 2017041077

C. Has a CEQA lead agency been determined? Yes (Complete boxes D, E, and F) No (Skip to box 14.G)

D. CEQA Lead Agency	Riverside County Flood Control & Water Cons. District		
E. Contact Person	Randy Sheppard	F. Telephone Number	951-955-1306

G. If the project described in this notification is not the "whole project" or action pursuant to CEQA, briefly describe the entire project (Cal. Code Regs., tit. 14, § 15378).

n/a

Continued on additional page(s)

H. Has a CEQA filing fee been paid pursuant to Fish and Game Code section 711.4?

Yes (Enclose proof of payment) No (Briefly explain below the reason a CEQA filing fee has not been paid)

The filing fee will be paid within five days of project approval by the District's Board of Supervisors, which occurred on December 05, 2017.

Note: If a CEQA filing fee is required, the Lake or Streambed Alteration Agreement may not be finalized until paid.



15. SITE INSPECTION

Check one box only.

In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

I request the Department to first contact (*insert name*) _____ at (*insert telephone number*) _____ to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

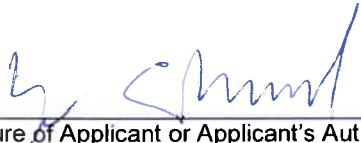
Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

Yes (Please enclose the information via digital media with the completed notification form)

No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

 December 20, 2017
Signature of Applicant or Applicant's Authorized Representative Date

Randy Sheppeard

Print Name



Applicant Name: Riverside County Flood Control and Water Conservation District

Project Name: North Norco Channel Line ND Stage 3

ATTACHMENT D

Routine Maintenance

Complete this attachment only when notifying for routine maintenance activities that will be recurring over the term of the agreement, such as maintaining a number of existing private or public facilities, including but not limited to canals, channels, culverts, and ditches. Submit this form with the completed notification form (DFW 2023).

I. REGULARLY RE-OCCURRING MAINTENANCE ACTIVITIES (Check all that apply)

- Sediment removal (concrete-lined lake or stream or earthen lake or stream):
- In and around bridges, culverts, storm drain outlets, and/or water diversion structure
 - Stream channel bed
 - Stream channel bank(s)
 - Pond or lake
 - Marina basin
 - Detention basin
 - Boat launch channel
 - Other: _____

Method (heavy equipment, suction dredge, etc.) – specify: _____

Estimated total cumulative sediment volume removed annually: unknown

Estimated total cumulative area impacted by sediment removal annually: 1.09 acres maximum

Estimated recurrence frequency for sediment removal: two times annually

- Vegetation management:
- Limbing and/or trimming of branches and tree limbs
 - Removal under high power lines
 - Removing fallen trees
 - Removing dead (not dormant) trees and shrubs
 - Stump left intact
 - Stump removal – specify: _____



- Removing vegetation (e.g., bulrush and cattails) from stream channel bed with:
 - Non-motorized hand tools
 - Mechanical vegetation cutters, shredders, string trimmers (a.k.a. weed-whacker, weed-whip), chainsaws
 - Mowing
 - Heavy equipment (soil disturbance)
 - Herbicide – specify chemicals and attach application plan: _____
 - Other: _____

- Removing vegetation from bank with:
 - Non-motorized hand tools
 - Mechanical vegetation cutters, shredders, string trimmers (a.k.a. weed-whacker, weed-whip), chainsaws
 - Mowing
 - Heavy equipment (soil disturbance)
 - Herbicide – specify chemicals and attach application plan: _____
 - Other: _____

- Removing only non-native vegetation with:
 - Non-motorized hand tools
 - Mechanical vegetation cutters, shredders, string trimmers (a.k.a. weed-whacker, weed-whip), chainsaws
 - Mowing
 - Heavy equipment (soil disturbance)
 - Herbicide – specify chemicals and attach application plan: _____
 - Other: _____

- Vegetation and brush pile burning – specify burn location: _____
- Other vegetation management: along earthen access roads

Estimated total linear feet of vegetation removed annually: _____

Estimated total cumulative area impacted by vegetation management annually: _____

Estimated recurrence frequency for vegetation management: _____

Intentionally Left Blank



Existing facilities:

Erosion within existing facilities and easements

New erosion repair

Repair at existing erosion control sites

Other: _____

Road maintenance (e.g. repair or re-grade) of existing rights of way

Minor bridge work – work from bank or work in-channel (describe on a separate page if the work requires dewatering):

Reinforcing pilings

Reinforcing aprons

Painting (access and falsework)

Paint removal – specify method: _____

Other: _____

Specify materials and equipment: _____

Minor culvert repair:

Repairing wingwalls within existing footprint

Repairing scour protection within existing footprint – provide detail:

Other: _____

Maintenance of stormwater outfalls and drop-inlet culverts

Erosion repair

Flow dissipaters

Servicing of water quality monitoring stations, stream gages, etc.

Boat launch repair

Graffiti removal and abatement from bridges, culverts, and other instream structures

Removal of trash and debris from:

Within channels

Head gates, screens, racks, pilings and piers

Other: _____



State of California – Department of Fish and Wildlife
NOTIFICATION OF LAKE OR STREAMBED ALTERATION
ROUTINE MAINTENANCE – ATTACHMENT D
DFW 2023D (REV. 12/20/16) Page 4

Location where trash and debris will be placed or discarded: landfill

Pesticide application:

Rodenticides – specify chemicals and attach application plan: _____

Insecticides – specify chemicals and attach application plan: _____

Name of Licensed Agricultural Pest Control Advisor: _____

Estimated recurrence frequency for pesticide application: _____

Other type of routine maintenance activity (provide details below):

II. MAP OR MAPBOOK

Attach a map of sufficient detail to assist in locating maintenance sites, minimally including the following:

- A. The applicant's jurisdictional boundaries within the project area.
- B. All watercourses within the jurisdictional boundaries where maintenance will occur.
- C. A key to identify each watercourse (e.g. earthen or concrete lined) and the maintenance activities (e.g. vegetation removal, sediment removal, etc.) and location (e.g., bridges, water control diversions, and large scale maintenance) of those activities that are likely to occur.

III. SPECIAL STATUS SPECIES LOCATIONS

A drawing, diagram, and/or map that shows the applicant's jurisdictional boundaries and the locations within that area where special status species are known to exist.

APPENDIX "E"

WASTE DISCHARGE REQUIREMENTS PERMIT



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

October 23, 2018

Randy Sheppeard
rsheppeard@rivco.org
1995 Market Street
Riverside, CA 92501

ADOPTION OF WASTE DISCHARGE REQUIREMENTS FOR RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT, NORTH NORCO CHANNEL LINE NORTH BOUND, STAGE 3, CITY OF NORCO, RIVERSIDE COUNTY - ORDER NO. R8-2018-0090

Dear Mr. Sheppeard:

The above, mentioned Order was adopted by the Regional Board at its regular Board meeting on October 19, 2018.

Any questions regarding this, you may contact Claudia Tenorio at 951-782-4963 or by email: claudia.tenorio@waterboards.ca.gov, or Dave Woelfel at 951-782-7960 or by email: dave.woelfel@waterboards.ca.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Felipa Montes Carrillo".

Felipa Montes (formerly Carrillo)
Executive Assistant

Encl.: Signed Board Order No. R8-2018-0090



EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

State of California
California Regional Water Quality Control Board
Santa Ana Region

Order No. R8-2018-0090

Waste Discharge Requirements
for
Riverside County Flood Control and Water Conservation District
North Norco Channel Line North Bound (NB), Stage 3
City of Norco, Riverside County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Santa Ana Water Board), finds that:

1. This Order is for Waste Discharge Requirements for the construction and maintenance of the Riverside County Flood Control and Water Conservation District North Norco Channel Line NB, Stage 3 project in the City of Norco, California (Project).

Waste Discharge Requirements (WDRs) are necessary to address impacts of dredge/fill on the beneficial uses of waters of the State. On December 8, 2017, the Riverside County Flood Control and Water Conservation District (District or discharger) submitted a Report of Waste Discharge (ROWD). The application described the proposed discharges of fill to the waters of the State. This Order regulates the discharge of fill material to waters of the State.

The U.S. Army Corps of Engineers (USACE) determined on July 21, 1997 that the North Norco Channel is not subject to USACE jurisdiction and declined to take jurisdiction on January 7, 2016. This Order will regulate the discharges of fill to waters of the State (WOS) even if a Clean Water Act (CWA) Section 404 permit and CWA Section 401 certification are later determined to be necessary.

2. The discharger proposes to replace the previously constructed earthen channel with a lined channel that would convey the 100-year flow rate and protect the existing development within the City of Norco. The construction will permanently impact 0.58 acre and 1,800 linear feet of waters of the State.

WILLIAM RUH, CHAIR | HOPE A. SMYTHE, EXECUTIVE OFFICER

3737 Main St., Suite 500, Riverside, CA 92501 | www.waterboards.ca.gov/santaana

♻️ RECYCLED PAPER

3. The North Norco Channel Line NB, Stage 3 Project (Project) consists of lining 1,555 linear feet of earthen channel with concrete and 245 linear feet with pervious invert. The Project is located in the City of Norco, in Riverside County. The Project is generally bounded on the north by Fifth Street, on the south by Fourth Street, on the east by Valley View Avenue, and on the west by Interstate 15 and the main North Norco Channel. The proposed Project area can be found within Township 3 South, Range 6 West, and Section 7 of the United State Geological Survey Corona North 7.5 Quadrangle map.
4. The main component of the Project design involves construction of a concrete-lined trapezoidal and rectangular channel. An Armorflex invert will be used for infiltration and water quality purposes at the western end of the channel and just upstream of the North Norco Channel. The Project also includes reconstructing existing concrete culverts across Valley View Avenue and Sierra Avenue. Side drain connector lines, inlets, and catch basin would be constructed or reconstructed on Sierra Avenue, Fortuna Road, Valley View Avenue, and Gallop Lane. Approximately 2,850 cubic yards (CY) of soil material will be excavated and hauled away off-site.
5. The Project will create concrete slope stabilization along an earthen channel. The concrete slope stabilization is expected to reduce the amount of erosion and the amount of sediment transported downstream from the Project site. The Project may result in a lower volume of dissolved solids in flows compared to the existing conditions. Conversely, replacing an earthen channel with a concrete-lined channel eliminates the ability of groundwater recharge. The pervious channel invert section will allow for some groundwater recharge. In addition, habitat values will be impacted by the concrete lining of the earthen channels. Typical construction activities from the Project that may result in direct temporary impacts to WOS include: concrete work, grading/earthwork, and vehicle and equipment used within the channel.
6. Routine maintenance of North Norco Channel Line NB, Stage 3 will be performed post-construction on an as-needed basis, not to exceed two times per year under normal (non-emergency) conditions. Typical discharger maintenance activities include vegetation management, sediment and debris removal.
7. The waters of the State onsite consist of the North Norco Channel Line NB Stage tributary to the North Norco Channel which is tributary to the Prado Basin Management Zone. The Prado Basin Management Zone has designated beneficial uses (existing or potential) that include:
 - i. Water Contact Recreation (REC1);
 - ii. Non-Contact Water Recreation (REC2);
 - iii. Warm Freshwater Habitat (WARM);
 - iv. Wildlife Habitat (WILD); and,
 - v. Rare, Threatened or Endangered Species (RARE).
8. The discharger will mitigate for impacts to 0.58 acres and 1,800 linear feet of WOS by performing one of two possible mitigation options: (1) the discharger will purchase 0.54 acre of enhancement credits from the Riverside-Corona Resource Conservation District (RC-RCD) in-lieu-fee program, or alternatively, (2) the discharger has proposed the clean-up of a five-acre property (Assessor Parcel Number (APN) 394-040-006) that has

been used as an illegal dump site for the last several years and is littered with unauthorized debris. The debris at APN 394-040-006 lies in the floodplain of Temescal Creek and encroaches near the low flow creek channel. Portions of the site have been contaminated with petroleum hydrocarbons resulting in local point source impacts related to various 55-gallon drums being stored onsite. Much of the property is sparsely vegetated with non-native *Eucalyptus globulus* (eucalyptus trees), fan palms and remnant ornamental species. However, there are some scattered native oaks and pines found on the property as well. Vegetation within Temescal Wash in this area, consist of mixed native riparian species and invasive plants.

Clean-up efforts would remove an estimated 1,500 to 5,000 tons of drywall and debris except for the concrete on site. Types of debris that will be removed and hauled away from the site include drywall, tires, trash (e.g., used wood, household trash, and electronic waste), and structures. Debris and trash will be removed using forklifts, loaders, and dump trucks. Clean-up efforts will prevent the debris or leachate from debris from entering the Temescal Wash. Clean up efforts up to \$ 150,000 will satisfy the compensatory mitigation for Project construction impacts. Although the District may remove contaminated soil, mitigation option 2 does not require soil remediation.

9. The District has submitted a Supplemental Environmental Project (SEP) application and is requesting SEP funding for the clean-up effort. The requested SEP funding is part of an unrelated settlement for an enforcement action with the Western Riverside County Regional Wastewater Authority. If the Santa Ana Water Board approves the SEP proposal, the clean-up activities will be conducted in coordination with this Order's compensatory mitigation requirements.
10. The Santa Ana Water Board has the authority to regulate the discharge of dredged and fill materials through the issuance of Waste Discharge Requirements (WDRs) pursuant to California Water Code section 13263. The Santa Ana Water Board has determined that WDRs are necessary to adequately address the Project's potential impacts on the beneficial uses of WOS.
11. California Water Code section 13263 authorizes the Santa Ana Water Board, after any necessary hearing, to prescribe requirements as to the nature of any proposed discharge with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements must implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of California Water Code section 13241. In accordance with subdivision (g) of section 13263, all discharges of waste into the waters of the State are privileges, not rights, and the WDRs in this Order shall not create a vested right to continue to discharge and are subject to rescission or modification.
12. Pursuant to California Water Code section 13267, the Santa Ana Water Board, in establishing or reviewing any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement authorized by Division 7 of the California Water Code, may investigate the quality of any waters of the state within its region. In conducting such an investigation, the Santa Ana Water Board

may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, shall furnish, under penalty of perjury, technical or monitoring program reports which the regional water board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. The WDRs contained in this Order incorporate requirements for water quality monitoring, and project reporting, which are necessary to ensure that the discharge of dredged and fill material complies with WDRs and is protective of the environment.

13. The WDRs in this Order are adopted pursuant to California Water Code sections 13263 and 13267. The WDRs set forth the requirements, prohibitions, and other conditions to implement the Basin Plan, and the Discharger's responsibilities for monitoring and reporting. The Discharger is responsible for ensuring compliance with the WDRs. In addition, this Order also regulates the discharge of fill material to WOS and Waters of the United States.
14. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring that discharges not exceed maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
15. Pursuant to CEQA, the District approved a Mitigated Negative Declaration (MND) for North Norco Channel Line, NB Stage 3 on June 7, 2017. The District's MND identified potentially significant impacts to biological resources as a result of lining the channel and determined that the potential impacts could be mitigated to less than significant. The MND provided that the mitigation measures for the potential impact on the biological resources was to be negotiated with the Santa Ana Water Board and the California Department of Fish and Wildlife. The mitigation measures must ensure that compensation for permanent impacts on jurisdictional resources is equivalent or superior to the biological functions and values impacted by the Project.
16. As a Responsible Agency under CEQA, the Santa Ana Water Board is required to consider the Lead Agency's environmental documents, adopt mitigation measures, and make findings on the significant impacts within its jurisdiction to approve. (Public Resources Code, section 21002.1, subdivision. (d); California Code of Regulations, title 14, section 15096, subdivisions. (f), (g), (h).)

To address the potential impacts identified in the MND, the discharger must perform one of the mitigation options in General Provision C.1. of this Order: (1) the purchase of 0.54-acre of enhancement credits from the Riverside-Corona Resource Conservation District in-lieu-fee program, or (2) the clean-up of APN 394-040-006 littered with construction and other unauthorized debris. This Order also requires the discharger to report on the implementation of mitigation to ensure that the mitigation occurs as required by this Order. (California Code of Regulations, title 14, section 15097)

The Santa Ana Water Board finds that the required mitigation will reduce the potentially significant effects of the discharge of fill to waters of the State to less-than-significant levels.

17. The Santa Ana Water Board has considered antidegradation pursuant to State Board Resolution No. 68-16 and 40 C.F.R. § 131.12, and finds that the discharge permitted under this Order is consistent with those provisions. State Water Board Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Minimal water quality degradation may be allowed under only if any change in water quality is consistent with the maximum benefit to the people of the State; the degradation will not unreasonably affect present and anticipated beneficial uses; and the degradation will not result in violation of any applicable Water Quality Control Plan. Discharges must meet requirements that will result in the best practicable treatment or control to avoid pollution or a condition of nuisance. Consistent with the antidegradation policy, any degradation resulting from the discharges authorized by this Order provides the maximum benefit to the people of the State. Flood protection is critical to the safety of the public. Moreover, this Order contains waste discharge requirements to ensure present and future beneficial uses are maintained or enhanced through compensatory mitigation and monitoring requirements for authorized impacts to waters of the State. The waste discharge requirements ensure that the highest level of water quality is maintained consistent with the maximum benefit to the people of the State by prohibiting certain discharges, requiring the implementation of best management practices, and requiring the discharger to submit an annual report.
18. The Santa Ana Water Board has notified the discharger and other interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for public hearing and opportunity to submit their written views and recommendations.
19. The Santa Ana Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. DISCHARGE SPECIFICATIONS:

1. No activities associated with the Project shall cause or threaten to cause a nuisance or pollution as defined in Section 13050 of the California Water Code.
2. The discharge of any substance in concentrations toxic to animal or plant life is prohibited.
3. The discharger shall implement appropriate Best Management Practices (BMPs) to reduce construction-related impacts to waters of the State per the requirements of Santa Ana Water Board Order No. R8-2010-0033 (NPDES Permit No. CAS618033), commonly known as the Riverside County Municipal Storm Water Permit, and subsequent iterations thereof. Order No. R8-2010-0033 requires that the discharger substantially comply with the requirements of State Water Resources Control Board General NPDES

Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order Number 2012-0006-DWQ.

4. The discharge of fill materials shall be limited to the placement of native fill and inert materials, as defined in Section 20230, Division 2, Title 27 of the California Code of Regulations. The discharge of fill material other than native soil is prohibited, unless authorized by the Santa Ana Water Board.

B. DISCHARGE PROHIBITIONS:

1. The direct discharge of wastes, including rubbish, refuse, bark, sawdust, or other solid or liquid wastes into channels, surface waters, or any place where they would contact or be eventually transported to surface waters, including flood plains, is prohibited.
2. The discharge of oil or other floating materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters is prohibited.
3. The discharge of silt, sand, clay, or other earthen materials from any activity in quantities sufficient to cause deleterious bottom deposits, turbidity, or discoloration in surface waters is prohibited.
4. Discharges to surface waters of wastes or pollutants that are not otherwise regulated by a separate National Pollutant Elimination System (NPDES) permit, is prohibited.
5. During the grading and filling operation, there shall be no onsite fueling, lubrication, changing of oil or other equipment fluids and their filters, or any other maintenance or storage of construction equipment within, or next to, drainage areas or other surface runoff conveyances.

C. PROVISIONS:

1. Prior to the start of Project activities, the discharger shall inform Santa Ana Water Board staff which mitigation option they will implement. One of the following two options shall be implemented:
 - a. The discharger will purchase 0.54-acre enhancement mitigation credits from the Riverside-Corona Resource Conservation District in-lieu-fee program. The credit shall be used for enhancement of waters of the State. The Santa Ana Water Board shall be provided with a copy of the receipt of the transfer of funds for the purchase of the mitigation credits prior to the start of construction activities and of the discharge of fill to waters of the State of California; or
 - b. The discharger shall remove trash and debris as described in finding Number 8 from the property, APN 394-040-006 (Mitigation Property). In the annual report to be submitted to Santa Ana Water Board (described below), the discharger shall also include a description (including photographs) of the mitigation performed and quantify the debris pre- and post-project cleanup.

2. If the mitigation option b. is used, the following shall apply:
 - a. The discharger shall implement legal and feasible means to cause the property line of the Mitigation Property near Temescal Road to be barricaded to prevent illegal entry and dumping.
 - b. The discharger shall post a notification on the Mitigation Property stating that entry is prohibited and no dumping is allowed.
 - c. The discharger shall work with the RC-RCD or a Santa Ana Water Board approve conservation entity, to put the Mitigation Property under a conservation easement, or otherwise prevent development of the site. The discharger may reserve the right to use the site for a future regional trail of similar use.
 - d. The discharger shall work with the County Code Enforcement and the property manager (GS Strategies, Inc.) to identify a long-term solution to prevent future dumping on the Mitigation Property.
 - e. The discharger shall cause a nesting bird survey to be conducted on the Mitigation Property if clean-up activities occur during the nesting season.
 - f. The discharger shall submit a mitigation plan for the cleanup of the Mitigation Property to the Santa Ana Water Board staff for review and approval.
 - g. The discharger shall use BMPs to ensure water quality is not degraded as a result of the clean-up and debris removal activities. Impacts to waters of the State are not authorized and shall not occur, unless and until discharger selects a mitigation option, and, if option b is selected, the discharger's mitigation plan is approved.
 - h. Removal of debris and trash within waters of the State shall be done by hand, where ever possible, or if not possible, by using long reach excavation equipment positioned outside waters of the State. Discharger shall transport all debris and waste to the appropriate landfill.
 - i. The discharger shall remove from the construction site any waste or fill material found to contain substances that may have a deleterious effect on water quality, and dispose of unacceptable wastes in accordance with state, federal and local laws.
3. The discharger shall maintain a copy of this Order at the Project site so that it is available to site operating personnel at all times. Key operating personnel shall be familiar with the Order's content.
4. The discharger shall comply with all of the requirements of this Order. Any violation of this Order constitutes a violation of the California Water Code (CWC) and may constitute a violation of the CWA and its regulations, and is grounds for enforcement action,

- termination of this Order, revocation and re-issuance of this Order, denial of an application for re-issuance of this Order, or a combination thereof.
5. The discharger shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.
 6. The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order shall not be affected thereby.
 7. The filing of a request by the discharger for modification, revocation and re-issuance, or termination of this Order or a notification of planned changes or anticipated noncompliance does not stay any requirements of this Order.
 8. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, State, or local laws, nor guarantee the discharger a capacity right in the receiving waters.
 9. This Order does not convey any property rights of any sort, or any exclusive privilege.
 10. This Order is not transferable to any person except after notice to, and approval by, the Executive Officer. The Santa Ana Water Board may require modification or revocation and re-issuance of this Order to change the name of the discharger.
 11. In the event of any change in control or ownership of land or waste discharge facility presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Santa Ana Water Board.
 12. The discharger shall submit an Annual Report each year on the anniversary of this Order. Annual reporting shall continue until a Notice of Project Complete Letter is issued to the discharger. The contents of the Annual Report shall include:
 - a. Construction Summary: Project process and schedule, including ground disturbance, site clearing and grubbing, site construction, and implementation status of BMPs during the Active Discharge Period. If the Project has not started, provide estimated start date and reasons for delay.
 - b. Compensatory Mitigation for Permanent Impacts: With the Annual Report during both the Active Period and Post-Discharge Monitoring Period.
 - i. Permittee Responsible:
 1. Planned date of initiation of compensatory mitigation site installation (i.e., site cleanup);
 2. If installation (i.e., site cleanup) is in progress, a map of what has been completed to date; and,

3. If compensatory mitigation site has been installed (i.e., site cleanup completed), provide a final map and information concerning attainment of performance standards.

ii. Mitigation Bank or In-Lie Fee (ILF):

1. Status or proof of purchase of credit types and quantities.
2. Include the name of bank/ILF Program and contact information.
3. If ILF, location of project and type if known.

13. The discharger shall submit a Commencement of Construction Report at least seven (7) days prior to start of initial ground disturbance.
14. The discharger shall submit a Request for Notice of Project Complete Letter to Santa Ana Water Board staff within thirty (30) days following completion of all Project activities. Upon approval of the request, the Santa Ana Water Board staff shall issue a Notice of Project Complete Letter to the Permittee which will end the post discharge monitoring period and associated annual fees.
15. The discharger shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. Records may be maintained electronically. This period may be extended during the course of any unresolved enforcement action or litigation regarding this discharge or when requested by the Santa Ana Water Board
16. The Santa Ana Water Board and other authorized representatives shall be allowed:
 - a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the requirements of this Order;
 - b. Access to copy any records that are kept under the requirements of this Order;
 - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
 - d. To photograph, sample and monitor for the purpose of assuring compliance with this Order.
17. This Order becomes effective on the date of adoption by the Santa Ana Water Board.
18. This Order will remain valid for five years from the date of this order.

I, Hope A. Smythe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on October 19, 2018.



Hope A. Smythe
Executive Officer

APPENDIX "F"

CITY OF NORCO
TECHNICAL PROVISIONS

CITY OF NORCO
TECHNICAL PROVISIONS
FOR
WATER LINE RELOCATION IMPROVEMENTS
NORTH NORCO CHANNEL STAGE 3, LINE NB

PROJECT SPECIFIC SCOPE OF WORK

Description of Work

This project includes the construction of a 12" water main relocation in Sierra Avenue within the City of Norco. Specific improvements include:

1. Removal and disposal of the existing waterlines and appurtenances at one location to accommodate the North Norco Channel Stage 3, Line NB storm drain facilities.
2. Construction of water main improvements including 12-inch Ductile Iron Pipe Asphaltic coated and Cement Lined, blow-offs, air-valve assemblies, fittings, valves, etc.
3. Removal of installation of new 1" domestic water service.
4. Install steel pipe bollards to protect above ground pipe.

Payment for providing and maintaining temporary access/ramping to adjacent property owners driveways until the waterline improvements are complete shall be considered to be included in and distributed proportionately through all of the contract items of work, and no additional compensation will be allowed. Riverside County Flood Control District and Water Conservation District shall be responsible for equestrian trail and fence reconstruction for the project as shown on the storm drain channel construction plans.

TECHNICAL PROVISIONS

BID ITEM DESCRIPTIONS

All construction shall comply with the applicable sections of the American Water Works Association Standards (AWWA), Standard Specifications for Public Works Construction (Standard Specifications), the State of California Department of Transportation Standard Specifications (Caltrans Standard Specifications), latest editions and these Special Provisions.

Construction methods shall comply with applicable sections of Part 3 "Construction Methods" of the Standard Specifications and these Special Provisions.

Unless otherwise specified, all excess excavation or removed material shall become the property of the Contractor, and shall be disposed of by him away from the site of Work.

COOPERATION AND COLLATERAL WORK

Cooperation shall be in accordance with Subsection 5-6, "Cooperation," and Subsection 7-7, "Cooperation and Collateral Work," of the Standard Specifications and these Special Provisions.

The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others and coordinating with the work by others. The City, other contractors and utilities shall have the right to operate within or adjacent to the work site during the performance of such work.

The construction of the RCFCD & WCD storm drain facilities and associated utility relocations, which includes gas line and electrical, telecommunication facility relocations that may be ongoing at the same time as this project.

Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to those limits, the Contractor shall cooperate with all the other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces.

Should the Contractor be delayed by the City, and such delay could not have been reasonably foreseen or prevented by the Contractor, the Engineer will determine the extent of the delay, the effect on the project, and any extension of time. Should any agency or utility company's work result in delays to the Contractor's work schedule, the Contractor shall be entitled only to an equivalent extension of time for the completion of the contract, and shall not be entitled to damages due to downtime and idled equipment or additional payments over and above the agreed upon unit prices.

Full compensation for compliance with the preceding requirements shall be considered as being included in the various Contract items in the bid schedule and no additional compensation will be allowed therefore.

TECHNICAL PROVISIONS

CLEAN UP

Throughout all phases of construction, including suspension of work and until the final acceptance, the Contractor shall keep the site clean and free from rubbish and debris.

The Contractor shall remove and dispose of all loose material and debris caused by construction operations from the construction site on a daily basis.

Materials and equipment shall be removed from the site as soon as they are no longer necessary. Before the final inspection, the site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All clean up costs shall be included in the Contractor's Bid.

Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately and the area cleaned.

Excess material from trench excavations shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications or Engineer.

Failure of the Contractor to comply with the Engineer's clean up orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

Before final inspection of the work, the Contractor shall clean the right-of-way, private property, material sites, and all ground occupied by the Contractor in connection with the work of all rubbish, excess materials, falsework, temporary structures, and equipment. All parts of the work shall be left in a neat and presentable condition.

The full compensation for collecting and disposing of loose material and debris from the job site shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefore.

DUST CONTROL

Dust control shall be performed in accordance with Subsection 7-8.1, "Clean up and Dust Control," of the Standard Specifications, South Coast Air Quality Management District (SCAQMD) Rule 403, the general Provisions and the following Provision.

Dust resulting from the Contractor's performance of the work, either inside or outside, the right-of-way shall be controlled by the Contractor. Dust control 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

TECHNICAL PROVISIONS

Contractor shall control dust 24 hours a day, seven days a week. 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. The Rule 403 Implementation Handbook published by the SCAQMD, contains a detailed listing of reasonably available dust control measures.

Dust or dirt accumulations generated by the Contractor's operations shall be cleaned and removed by the Contractor from all areas as designated by the Engineer. Areas to be cleaned shall include, but not be limited to swimming pools, interiors of any structures including residences and places of business, exteriors of any structures including roofs, patios, driveways, and any other areas as required. The Contractor shall retain a professional cleaning service for the cleaning of swimming pools, and the interior and exterior of structures. The cost for cleaning and removal of dust or dirt shall be at the Contractor's expense and no additional compensation will be made therefore.

Water for use in dust control shall, at the option of the City, be potable or non-potable. Non-potable water shall consist of reclaimed waste water or non-potable water developed from other sources.

If the Contractor uses reclaimed waste water in the work, the sources and discharge of reclaimed waste water shall meet the California Department of Health Services Water Reclamation Criteria and the Regional Water Quality Control Board requirements. The Contractor shall obtain either a waste water discharge permit or a waiver from the Regional Water Quality Control Board. Copies of permits or waivers from the Regional Water Quality Control Board shall be delivered to the engineer before using reclaimed waste water in the work.

Water shall be applied in the amounts, at the locations, and for the purposes designated in the Special Provision and these Specifications, and as order by the Engineer.

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

All equipment used for the application of water shall be equipped with a positive means of shut-off.

Unless otherwise permitted by the City Engineer or unless all the water is applied by means of pipe lines, at least one mobile unit with a minimum capacity of 1,000 gallons shall be available for applying water on the project at all times.

Full compensation for all direct and indirect costs incurred for work performed or materials used to control dust resulting from the Contractor's performance of the work and caused by public traffic, either inside or outside the right-of-way shall be considered as included in the Contract prices paid for the various items of work involved, including all deposits and/or rental costs to establish a water supply source, shall be considered included in the Contract prices paid for the various items of work an no additional compensation will be allowed therefore.

TECHNICAL PROVISIONS

PAYMENT

All the requirements stated above shall be included in the lump sum price and no additional compensation shall be allowed therefore. Full compensation for all costs in Bid Items included in Mobilization, Insurance, Permit Fees and Bonds; and Traffic Control, shall be considered as included in the unit price paid and include full compensation for all material, labor, plant, equipment, furnishing all transportation, and hauling in accordance with the Riverside County Flood Control and Water Conservation District's General Conditions, the standard specifications and these special provisions.

ITEM 1 –CLEARING, GRUBBING, GENERAL EARTHWORK, GRADING, MISCELLANEOUS REMOVALS, AND RESTORATION

The work included in this bid item shall consist of all the work described in Subsection 7-9, "Protection and Restoration of Existing Improvements", Subsection 300-2, "Unclassified Excavation," and Subsection 300-1, "Clearing and Grubbing," of the Standard Specifications.

Brush and other organic matter shall be removed from the area of the proposed improvements and from any area where soils of construction materials will be stockpiled. The CONTRACTOR shall make all necessary excavation to construct and work as shown on the Plans and shall remove all pipes, trees, stones, debris, and other obstructions that may be encountered in making the excavation.

The following items of work shall be included in the lump sum bid for Clearing, Grubbing, General Earthwork, Grading, Miscellaneous Removals, and Restoration and no additional compensation will be allowed:

- a) General excavation, earthwork, and grading not included specifically in any other bid items.
- b) All unclassified excavation activities, including the stock piling of usable material for use in the project.
- c) Removal of all sub-grade, base, crushed rock, and AC/PCC surfaces and to the lines and limits shown on the plans and as directed by the Engineer, and shall include excavating, over-excavating, loading, hauling, depositing, spreading, scarifying sub-grade and recompacting sub-grade.
- d) All removed material shall be removed from the project site the same day. Stockpiling of materials within the right-of-way, City parking lots, or other City-improved property shall not be allowed unless written permission is given by the Engineer. The Contractor shall be responsible for obtaining a suitable disposal site for this material and pursuant to Subsection 300-2.6 "Surplus Material," of the Standard Specifications, shall upon request, file with the Engineer the written consent of the owner of the property upon which he intends to dispose of such material.
- e) Abandoned water services, fire hydrants, water mains, where any portion of such structure is within 1 foot of the excavation areas, or within 1 foot of original ground,

TECHNICAL PROVISIONS

or where shown on the plans to be removed, shall be completely removed and disposed of accordingly. Holes resulting from the removal of water mains and fire hydrants shall be backfilled with soil from the surrounding area the same day the water appurtenances are removed and compacted to a minimum relative compaction of ninety percent (90%).

- f) Removal and disposal of existing water lines and any other abandoned utilities and appurtenances that may interfere with the improvements, including air relief assemblies, meter boxes, blow-offs, fittings, valves, pipe, etc;
- g) Relocation and salvaging to City's maintenance yard other usable material, including fire hydrants, horse trail fencing and street signage.
- h) The Contractor shall dispose all materials not being salvaged outside of the right-of-way and shall pay for all costs for disposal.

RESTORATION OF EXISTING IMPROVEMENTS

The restoration of existing improvements shall be in accordance with the applicable provisions of these Special Provisions, the Standard Specifications, Standard Drawings, and the following requirements:

1. In the event a portion of curb, gutter, or monolithic curb and gutter is damaged by the CONTRACTOR'S operations, a minimum of 20 feet of curb, gutter, or curb and gutter shall be removed and replaced regardless of how short a length is damaged. One end of said 10-foot section may be taken at a joint or scoring line and the other end shall be measured the minimum distance of 10 feet there from. If said 10 feet falls within 3 feet of a joint or scoring line, then the removal shall extend to said joint of scoring line.
2. If a concrete driveway is damaged and is a single monolithic structure, it shall be removed in its entirety and replaced.
3. If the stored signs are damaged during construction, they shall be restored or replaced to a condition equal or better than the existing.

Unless otherwise specified, all excess excavation or removed material shall become the property of the CONTRACTOR, and shall be disposed of by the CONTRACTOR away from the site of Work.

All existing bituminous pavement and concrete to be joined shall be cut in a clean straight line along the join line by use of concrete cutting saws. Compensation for this requirement shall be considered as included in the bid price in the proposal form and no additional compensation will be made therefore. If the edge of any existing concrete to be joined with new work is damaged by the Contractor's operations, the existing concrete shall be again saw cut parallel to the original cut and such additional portion replaced at the CONTRACTOR'S expense.

TECHNICAL PROVISIONS

PAYMENT

All the requirements stated above shall be included in the lump sum price and no additional compensation shall be allowed therefore. Full compensation for all costs in Bid Items included in Clearing, Grubbing, General Earthwork, Grading, Miscellaneous Removals, and Restoration, shall be considered as included in the unit price paid and include full compensation for all material, labor, plant, equipment, furnishing all transportation, and hauling in accordance with the standard specifications and these special provisions. No separate payment will be made for grading, disposal of excess materials and all other appurtenant items for which separate payment is not specifically provided in the bid.

ITEM 2 INSTALL DUCTILE IRON PIPE, VALVES, UNIVERSAL AIR VALVE ASSEMBLY, BENDS, PAINT, CHLORINATION & ALL APPURTENANCES

SECTION 1 – GENERAL

1-01 PLANS AND SPECIFICATIONS

Construction of all water system improvements by contract and/or intended to be dedicated to the City of Norco will be governed by plans and specifications approved by the Director of Public Works. All work shall be in accordance with these plans and specifications and shall be inspected by the Public Works Department to insure conformity.

In cases of conflict of information, the following documents will have precedence in the order listed:

1. Special Provisions to the specifications and construction plans of the City of Norco.
2. Water construction plans approved by the City of Norco's Director of Public Works or his/her authorized representative.
3. Permits and licenses from affected agencies.
4. The City of Norco Public Works Department - Water Utility Specifications, herein called Specifications.
5. The applicable requirements of the Standard Specifications for Public Works Construction, "Green Book", as last revised, herein called Standard Specifications.

Conflicts and discrepancies noted by the Contractor shall be brought to the attention of the Director of Public Works or his authorized representative. Instructions will be given by the Engineer to provide a complete and satisfactory

TECHNICAL PROVISIONS

project. Unless otherwise determined by the Engineer, the most stringent/restrictive condition shall apply.

Provisions of reference specifications and publications of any scientific or technical society or other organization noted in these specifications and plans shall have the same effect as if written herein, unless expressly modified by these specifications. Any reference specification or publication in the absence of designation to the contrary, shall be understood to refer to the latest revision of the specification, standard, method, or publication as of the date of the beginning of the work.

1-02 DEFINITIONS

- a. City or Engineer the Director of Public Works of the City of Norco, or his/her authorized representative.
- b. Owner/Developer The person or organization having legal responsibility for construction of water system improvements in conjunction with development of property.
- c. Contractor The individual, partnership, corporation, joint venture, or other legal entity having a contract with the City to perform the construction of water system improvements. In the case of improvements being done under a permit issued by the City, the party that is issued the permit shall be construed to be the Contractor.
- d. Superintendent The field representative of the Contractor, present at the job site at all times during work, which is authorized to receive and fulfill instruction from the City.
- e. Consultant The agent of the Developer or independent engineer who has responsibility for the design and drawing of construction documents.
- f. Or approved equal A product equivalent to that specified in these water utility standard specifications and approved by the Public Works Department before start of construction. No approved equal product is intended, unless so stated in these specifications.
- g. Plans Those drawings accompanying the specifications that show the location, nature, extent and form of the work, together with applicable details.
- h. Water Supplier The City of Norco who owns and operates the City's public water system.

TECHNICAL PROVISIONS

- i. Regulatory Agency State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW).

1-03 ABBREVIATIONS

Whenever the following abbreviations are used in these specifications, the meaning shall be interpreted as follows:

- a. ANSI American National Standards Institute
- b. ASTM American Society for Testing and Materials
- c. AWWA American Water Works Association
- d. CAL/OSHA Division of Industrial Safety of the State of California
- e. DIPRA Ductile Iron Pipe Research Association
- f. FM Factory Mutual research
- g. NSF National Sanitation Foundation
- h. SWRCB State Water Resources Control Board
- i. UL Underwriter's Laboratory
- j. W.A.T.C.H Work Area Traffic Control Handbook

1-04 LICENSES, PERMITS, AND FEES

The Contractor shall have a Class "A" General Engineering Contractor's License valid in the State of California and shall meet all the applicable requirements of the Norco Municipal Code.

The Contractor and/or Developer shall obtain all necessary permits, licenses, or agreements required by any legally constituted agencies, pay all fees, and give all necessary notices required for the construction of the work.

Prior to beginning any work, an encroachment permit from the Public Works Department including any required deposits and bonds, is required for excavation in the public right-of-way within the City of Norco. Pavement repair shall be made by a licensed paving contractor and shall conform to these Specifications and the Standard Specifications. The contractor is responsible for all costs associated with the work performed, including any corrections or repairs. In the event the Contractor fails to complete the work or make any required corrections/repairs, any and all costs incurred by the City will be deducted from the deposit or the surety will be billed for these expenses. Said deposit or bond shall be retained by the City for payment and for material and labor.

TECHNICAL PROVISIONS

Before the Contractor or any sub contractor performs work, it shall be necessary for each company to obtain a business license from the City of Norco Fiscal and Support Services Department.

1.05 INSPECTION

The construction of any water system improvement intended for dedication to the City and used for public water service shall be subject to inspection and approval/acceptance by the City. Such inspection will assure that all phases of the work are in compliance with these Specifications. The City's designated inspector will be the representative selected by the Engineer and shall coordinate the various responsibilities of the Public Works Department throughout the work. Contractor shall schedule pre-construction meeting with the Public Works Department a minimum of 48 hours prior to construction. Inspection costs will be paid by the Developer at the rate or fee prescribed by City Council resolution.

The inspector shall have access to the work area and shall be furnished every reasonable facility for ascertaining full knowledge of the progress, material, and workmanship used to complete the work. The Contractor shall provide at least 24 hours advance notice of major phases of construction for purposes of inspection. All material shall be approved prior to placement and all water system works shall be visually inspected prior to backfilling.

The Engineer shall have the authority to suspend the work wholly, or in part, for such time as it may deem necessary due to failure of the Contractor to perform any provisions of the plans or specifications. The work may only continue when the defective material or construction method is recognized as corrected by the Engineer.

1.06 GUARANTEE

The Contractor shall guarantee the work against defective material or workmanship for a period of one year from the date of completion of the contract and/or acceptance of the work by the City. Damage due to acts of God or from sabotage and/or vandalism is specifically exempted from the guarantee. When defective materials and/or workmanship are discovered which requires repairs to be made under this guarantee, all such works shall be done by the Contractor at his own expense and shall begin within five working days after written notice of such defects has been given to him/her by the City. Should the Contractor fail to repair such defective materials or workmanship within five working days thereafter, the City may cause the necessary repairs to be made and charge the Contractor with the actual cost of all labor and materials required.

In emergencies demanding immediate attention, the City shall have the right to repair the defects and charge the contractor with the actual cost of all labor and materials required. Any repair works performed as herein specified shall be done under the provisions of the original work specifications

TECHNICAL PROVISIONS

2-01 OPEN TRENCH OPERATIONS

Unless specified differently on the plans or as supplemented herein, open trench operations, excavation, bedding, backfill, and resurfacing shall conform to the applicable requirements of Section 306-1 of the Standard Specifications and City of Norco Standard Drawings 401, 402 and 403.

2-01.01 Permits and Licenses

See section 1-04 of these Specifications for permit and license requirements.

2-01.02 Inspection

See section 1-05 of these Specifications for inspection requirements.

2-01.03 Traffic Control

The Contractor shall conduct his operations to cause the least possible obstruction to traffic inconvenience to the public. On arterial highways, lane closures require a traffic control plan completed by a registered civil or traffic engineer subject to approval from the Engineer. Lane closures are restricted to the hours between 8:30 a.m. and 3:30 p.m. At least one lane of traffic must be maintained in each direction between these hours. All traffic lanes shall be open to traffic during all other hours. On minor residential streets, one lane of traffic shall be maintained for each direction at all times. If two travel lanes cannot be maintained, the roadway may be reduced to one 14-foot-wide lane between the hours of 8:00 a.m. and 4:00 p.m. Adequate flagmen, no less than two, whose sole duties shall consist of directing traffic, shall be provided at such times as the street is restricted to one lane of traffic. At least one 14-foot-wide lane controlled by flagmen shall be provided on all intersecting minor streets. A separate permit is required from the Public Works Department for all work in public streets.

The Engineer reserves the right to alter the above traffic conditions as required during construction.

The Contractor shall be required to provide and maintain all barricade delineators, flashers, signs, including temporary "No Parking" signs' and other safety equipment as set forth in the latest edition of Caltrans "California Manual on Uniform Traffic Control Devices" (CA MUTCD) and the Work Area Traffic Control Handbook" (W.A.T.C.H). All necessary traffic control devices shall be in place prior to the start of work.

On all designated or striped Bicycle Routes the Contractor shall install standard warning signs per the WATCH Manual at locations approved by the Engineer.

TECHNICAL PROVISIONS

Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways. Hydrants under pressure, valve pit covers, valve boxes, meter boxes, fire or police call boxes, or other utility controls shall be left unobstructed and accessible during the construction period.

2-01.04 Surveying

The contractor shall provide equipment, methods, and labor to accurately locate all proposed water facilities in accordance with Section 2-9 of the Standard Specifications and as modified herein. The Contractor shall guaranty the accuracy by constructing curb and gutter prior to the beginning of any water improvements in new developments or where the installation of curb and gutter is included as part of the work scope. The Contractor shall also be responsible for the preservation of existing survey monuments.

2-01.05 Potholing

The plans show the position of pipes, conduits, poles and other structures as they are believed to exist. The contractor, before commencing any excavation shall determine from records, potholing, uncovering, or otherwise, the existence, exact position, and ownership of these or other facilities. It is the Contractor's responsibility to protect any pipes, conduits, poles, or any other existing improvements.

Potholing shall be done a minimum of 10 working days in advance of commencing any excavation and sub-structure information forwarded to the Engineer for review.

2-01.06 Sheeting and Shoring

All trench excavations shall be adequately secured to provide safe working conditions, and protection to adjacent facilities and structures. The contractor shall comply with all rules, regulations, and orders of Occupational Safety and Health Administration (OSHA).

Prior to any trench excavation where the depth of trench is greater than five feet, the Contractor shall submit to the Engineer a detailed shoring plan prepared, stamped and signed by a Civil or Structural Engineer registered in the State of California. The shoring plan shall show the design of shoring, bracing, sloping, or other provisions to be made for the workers' protection from the hazard of trench failure. Excavation shall not begin until the Engineer has accepted the plan and received a copy of the OSHA permit.

Sheeting and shoring shall not place any undue strains on existing utilities or structures, nor on completed sections of construction. Sheeting and shoring may be removed during backfilling, provided adequate protection is provided at all times. The Contractor shall be

TECHNICAL PROVISIONS

responsible for any damages to existing utilities or structures due to placement, removal or failure of any sheeting and/or shoring system. The Contractor shall repair or have repaired any damages as soon as practical.

2-01.07 Secured Trenches

Pipe trenches or other large excavations shall be backfilled or securely covered at the close of each working day, to the satisfaction of the Engineer. The Contractor shall fence any trench excavations that are necessary to be left open at night. Any trench that is left open shall be permitted only upon review and approval by the Engineer.

Covering of trenches with steel traffic plates shall be done in accordance with City of Norco Specifications and as directed by the Engineer. All steel plate covers shall be skid resistant (X-plates only) and shall be installed flush with adjacent pavement in accordance with City of Norco Standard Drawing 403. For equestrian trails, all trenches must be secured with X-plates and covered in 3" of decomposed granite.

No backfill material or construction equipment may be stored on any City street without prior approval from the Engineer.

2-01.08 Tie-Ins

All tie-ins shall be excavated one working day in advance and covered with traffic plates or as required by the Engineer.

2-01.09 Interruption of Water Service

No valve or other control on the existing water system shall be operated for any purposes by the Contractor without approval of the Engineer. All consumers affected by such operation shall be given a notice letter at least two working days before the operation advising of water service outage and the probable time when service will be restored. All such service interruption notices shall be prepared and distributed by the City to ensure proper notification is completed.

2-02 TRENCH EXCAVATION

Unless specified differently on the plans or as supplemented herein, trench excavation shall be in accordance with the details shown in the City of Norco Standard Drawings 401 and 402 and in accordance with Section 306-3.1 of the Standard Specifications.

The maximum length of open trench shall be the distance of pipe installed in one day. Shorter lengths of open trench may be necessary and may be ordered by the Engineer to meet traffic, weather, and other safety requirements.

In areas of new development, water main installation will not be permitted until the sub grade is established and the storm drain and sewer installation has been

TECHNICAL PROVISIONS

completed. Pipe shall be placed to the grade and depth specified on the plans. When not specified, pipe shall have a 42 to 48 inch cover from finished grade.

2-02.01 Removal of Surface Improvements

Unless specified differently on the plans or supplemented herein, bituminous pavement, concrete pavement, curbs, sidewalks, or driveways removed in connection with construction shall be removed in accordance with City of Norco Standard Drawings 401 and 402 and Section 300-1.3 of the Standard Specifications.

If the width of the remaining pavement between the final saw cut edge of the trench and the edge of the gutter is less than 36 inches, removal and new pavement shall extend to the edge of gutter.

Concrete sidewalk removal done in connection with water system work shall be saw cut to the nearest score marks. Concrete curbs, gutters and cross gutters shall be tunneled whenever possible. With prior approval of the Engineer, the concrete may be saw cut in such a manner in which there shall not be less than six feet to the nearest cold joint or expansion joint.

2-02.02 Abandoning Structures (non-potable water related)

Whenever existing pipes, culverts, or conduits are cut and abandoned, their open ends shall be securely closed by a redwood plug, a solid mechanical cap, a wall of concrete no less than six inches thick, or as directed by the Engineer.

2-02.03 Protecting and Replacing Existing Structures

Insofar as practicable during the progress of the work, the property of any owner of a public utility or pole line, pipeline, sewer, culvert, cable, conduit, or storm drain, in-line structures, or lateral and services, or any other structures, or improvements, and all fences shall not be disturbed but shall be maintained in good operating condition at the expense of the Contractor. These requirements shall apply to all structures and improvements both inside and outside the right-of-way provided by the City. Wherever in the judgment of the Contractor, the economical performance of the work requires a temporary or permanent removal of any of the property named above in this section, the Contractor shall make arrangements with the owner of the same for its temporary or permanent removal, or for other changes that may be necessary in order to perform the work more readily. All expense of maintenance, removal reconstruction, and repair of said property shall be borne by the Contractor.

TECHNICAL PROVISIONS

Whenever the Contractor makes agreements with owners for the removal and restoration of said property, the materials furnished and the methods of making such removal and restoration shall be satisfactory to the owner and the Engineer. In the event the Contractor disturbs, disconnects, or damages any of said property prior to making the necessary arrangements with the owners thereof, the Contractor shall immediately give notice to the property owner and the Contractor shall assume all responsibilities connected therewith. All property removed shall be reconstructed or restored promptly as is reasonably possible in approximately its original location and in condition as good as when removed and subject to the inspection of the owners or governing body having jurisdiction over same.

2-02.04 Excess Excavating Material

All excavated materials in excess of that required in the finished work shall immediately be hauled away and disposed of at a legally permitted site. The Contractor shall be responsible for all damages and claims that may arise from the disposal of the excess material. The contractor shall provide a signed release from the property owner.

2-03 TRENCH BEDDING

Unless specified differently on the plans or as supplemented herein, trench bedding shall be placed in accordance with the requirement shown in City of Norco Standard Drawings 401 and 402 and in accordance with Section 306-3 of the Standard Specifications.

For water main installations, the pipe zone referenced in City of Norco Standard Drawings 401 and 402, Bedding B material shall be substituted for Bedding A material. Jetting of trench bedding may be permitted, subject to the approval of the Engineer.

2-04 TRENCH BACKFILL

Unless specified differently on the plans or as supplemented herein, trench backfill shall be placed in accordance with the requirements shown in City of Norco Standard Drawings 401 and 402 and in accordance with Section 306-6 of the Standard Specifications.

The Contractor shall compact the trench backfill material to the bottom of the structural section within one day after installation of the pipe. No flooding or jetting of the backfill will be allowed to achieve compaction without prior approval by the Engineer.

If the Engineer determines that the Contractor is not able to obtain the required compaction in areas under curbs, cross gutters or other structures, trench backfill underneath these structures shall be 1-sack cement sand slurry or as specified by the Engineer.

TECHNICAL PROVISIONS

2-05 COMPACTION TEST

Unless determined otherwise, compaction tests will be taken along the pipelines, in the pipe zone, above the pipe zone, and at ground surface or subgrade at 100 foot intervals or less, or as directed by Engineer, and along all large service and fire hydrant laterals. The Engineer must be present when compaction tests are taken.

2-06 TEMPORARY RESURFACING

Unless permanent resurfacing is to be placed immediately, temporary bituminous resurfacing, a minimum of two inches thick or as otherwise specified, shall be placed and properly maintained by the Contractor as determined by the Engineer.

Temporary resurfacing shall be placed in accordance with Section 306-13.1 of the Standard Specifications and shall be placed as soon as trench backfill is complete and shall remain in place until permanent resurfacing is placed. Prior to permanent resurfacing, temporary resurfacing shall be removed and discarded at a legal disposal site at Contractor's expense. Temporary asphalt paving as specified above shall be a minimum two inches thick or as specified by the Engineer.

At the end of each day, temporary striping shall be placed complying with the plans, as specified or as directed by the Engineer. Temporary striping shall conform to Section 214 of the Standard Specifications.

2-07 TRENCH RESURFACING

Unless specified differently on the plans or supplemented herein, trench resurfacing shall be placed in accordance with the requirements shown in the City of Norco Standard Drawings 401 and 402 and in accordance with Section 306-13.2 of the Standard Specifications.

Contractor shall place structural section other than surface course within five days of completion of backfill.

Concrete sidewalks, curbs and gutters, driveways and other structures shall be replaced in accordance with the applicable requirements

2-08 GENERAL

All materials and equipment installed in City of Norco's water system shall meet all state and federal standards, as well as standards developed by nationally recognized organizations such as AWWA, ANSI and NSF. In order to protect human health, all materials, chemicals, lubricants, and products in contact with drinking water shall be tested and certified as meeting NSF/ANSI Standard 60 (Drinking Water Treatment Chemicals-Health Effects) and NSF/ANSI Standard 61 (Drinking Water System Components-Health Effects).

In addition, all materials coming in contact with potable water shall be lead-free per California Health & Safety Code Section 116875. All materials are required to be certified as lead-free by NSF or other ANSI accredited certifier per SB 1334.

TECHNICAL PROVISIONS

2-08.01 Protection of Metal Surfaces

All buried metal surfaces on valves, flanges, bolts, nuts, tie rods, turn buckles, restraint devices, couplings, and other appurtenances in contact with the earth and backfill materials shall be coated with a minimum 30 mils of JS160H Mastic manufactured by Protecto Wrap Co., 30 mils of Bituminous Mastic 50-HT by Utility Coating Company, or approved equal. In addition to this coating, all metal surfaces as previously described, shall be encased in 8 mils polyethylene protective wrapping and tape wrapped to the pipe barrel in accordance with AWWA C-105 and Sections 4-02.03 and 5-03.04 of these Specifications.

2-09 DUCTILE IRON PIPE

Ductile iron pipe shall conform to the requirements of AWWA Standard C151. Unless otherwise specified, size 4 inch through 12 inch shall be Pressure Class 350. Pipes greater than 12 inch and up to 24 inch in diameter shall be Thickness Class 52. Pipes larger than 24 inches in diameter and all above ground pipes shall be Thickness Class 53. Special order pipe sizes, such as 10 inch and 14 inch, are not allowed unless otherwise authorized by the Public Works Department.

2-09.01 Pipe Joints

Ductile iron pipe shall be furnished in 18 foot nominal laying lengths and shall be bell and spigot type having a push-on joint employing a single rubber gasket, made of EPDM, to effect the joint seal, in accordance with AWWA Standard C111, as manufactured by "TYTON®" from U.S Pipe, "FASTITE®" from AMERICAN Pipe or approved equal.

All joints shall be restrained in accordance with the requirements of Section 2-09.04 and Section 2-09-05 of these Specifications.

2-09.02 Lining and Coating

All ductile iron pipes and fittings shall be factory cement mortar lined with seal coat in accordance with AWWA Standard C104, "Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water", and coated with bituminous material as specified in AWWA C151. Mortar lining of pipe or fittings in the field is not permitted.

2-09.03 Polyethylene Protective Wrapping

All buried ductile iron and gray iron pipes and fittings shall be polyethylene wrapped. Polyethylene protective wrapping ("Polywrap") shall conform to the requirements of ANSI/AWWA Standard C105/A21.5, "Polyethylene Encasement for Ductile-Iron Pipe Systems", and be 8 mils thick (minimum) tubing of virgin polyethylene, as manufactured by Dupont Alathon, U.S. 1. Petrothene resin, or approved equal.

Tubing shall be taped and secured with general purpose polyethylene tape, 2 inches wide and 10 mils thick as manufactured by Scotchrap No.

TECHNICAL PROVISIONS

50, Plicoflex No. 340, Protecto Wrap No. 200, Polyken No. 900, or approved equal.

2-09.04 THRUST RESTRAINING MATERIALS

All mechanical thrust restraining devices shall be ductile iron except as noted for FIELD LOK gaskets. All devices shall withstand a working pressure of at least 250 psi with minimum safety factor of 2.

2-09.05 Mechanical Joints

Restraining devices for mechanical joint fittings shall be incorporated with the design of a follower gland and grip ring restraining mechanism that utilizes contact with entire circumference of pipe for restraint. The ring shall flex to accommodate deflection allowed in a mechanical joint after burial. If the mechanism is not available in the specified O.D., a similar wedge action restraint utilizing partial contact with circumference of pipe shall be used. Glands shall be manufactured of ductile iron conforming to ASTM A536.

Approved Mechanical Joint Restraining System Manufactures For 4"-12"

Romac Industries, Inc.	GripRing™ (PVC or DIP)
Ford Meter Box Co., Inc.	Uni-Flange Block Buster™ 1300 (PVC or DIP)

Approved Mechanical Joint Restraining System Manufactures For 14"-48"

Romac Industries, Inc.	Romagrip™ (PVC or DIP)
EBAA IRON, Inc.	Megalug Series 1100(DIP), 2000 (PVC)
Smith-Blair	Cam-Lock™ (PVC or DIP)
Ford Meter Box Co., Inc.	Uni-Flange Block Buster™ 1300 (PVC or DIP)

2-09.06 Flanged Adapters

Flange adapters shall be fully restrained wedge activated type with a minimum working pressure of 250 psi and a safety factor of 2. Outside and inside surfaces of flange adapters shall be epoxy coated.

Flange Adapters shall be manufactured from ductile iron per ASTM A536 and shall have bolt circles and bolt holes to meet ANSI B16.1 – Class 125 or Class 250 if required and shown on the plans.

Approved Flange Adapter Manufacturers

EBAA IRON, Inc.	Megaflange™ Series 2100(PVC or DIP)
Romac Industries, Inc.	Field Flange™ (DIP)
Ford Meter Box Co., Inc.	Uni-Flange 900 - Adapter Flange (PVC) Uni-Flange 400 - Adapter Flange (DIP)
Smith-Blair	Flange-Lock™ (PVC or DIP)

TECHNICAL PROVISIONS

2-09.07 Push-On Pipe Joints

Where restrained joints are indicated on the plans, push-on TYTON® joints shall be restrained with "Field-Lok" gaskets as manufactured by U.S Pipe, and FASTITE® joints shall be restrained with "Fast-Grip" gaskets from AMERICAN Pipe or approved equal.

Restrained joint pipe is an acceptable option for restraint of push-on joint pipe. Restrained push-on joint pipe and fittings shall be capable of being deflected after assembly.

Approved Restrained Pipe Manufacturers

U.S Pipe	'TR-Flex"
American Pipe	"Flex-Ring"
Pacific States Cast Iron Pipe Co.	Thrust-Lock™

TECHNICAL PROVISIONS

2-09.08 Concrete

Concrete thrust blocks shall be Class 520-C-2500 concrete. If thrust block is to be disturbed or backfill is to be placed prior to developing its required strength, additional thrust restraining methods approved by the Engineer shall be installed. Concrete chemical accelerating admixtures, such as calcium chloride, are not allowed unless approved by the Engineer.

2-10 MAIN LINE COUPLINGS

Sleeve-type couplings shall provide a flexible, watertight connection between two plain ends of pipe as shown on the construction plans or as directed by Engineer. For ductile iron and gray iron pipe, all couplings shall be ductile iron solid sleeve type conforming to AWWA C110, with mechanical joint ends and long body no less than 12 inches.

For steel, all couplings shall be standard steel couplings, with body no less than seven inches long. Bolts for exposed steel couplings shall be hot-dip galvanized. Bolts for buried steel couplings shall be Type 316 stainless steel. The Contractor shall strictly follow the torque limitations and shall use N-5000 Loctite® anti-seize/rust preventer lubricant manufactured by the Henkel Company, or approved equal. All sleeve type steel couplings shall be fusion bonded epoxy lined and coated with Scotchkote 6233, as manufactured by 3M/Corrosion Protection Products, or approved equal.

Buried metal surfaces shall receive additional protective coating and wrapping after they are assembled as per Section 4-01.01.

Approved Sleeve-Type Couplings for Ductile Iron, Cast Iron and PVC Pipe

Clow®	MJ Solid Long Sleeves
Tyler Corporation	5-144L Long Solid Sleeves
Romac Industries, Inc.	RFCA or PVS-RFCA
Krausz Industries	Hymax
Smith Blair	Top Bolt 421

Approved Flexible Couplings for Steel Pipe

Smith Blair, Inc.	411 Steel Couplings
Smith Blair, Inc.	421
Smith Blair, Inc.	Quantum® Coupling Wide-Range
Romac Industries, Inc.	Model XR501
Krausz Industries	Hymax

Approved Flexible Couplings for Transition to Belgian Cast Iron Pipe

Smith Blair, Inc.	OMNI 441 Ductile Iron Couplings
Smith Blair, Inc.	421
Smith Blair, Inc.	Quantum® Coupling Wide-Range
Romac Industries, Inc.	Macro HP
Krausz Industries	Hymax

TECHNICAL PROVISIONS

2-11 SLEEVES AND CLAMPS

2-11.01 Tapping Sleeves

Tapping sleeves shall have a stainless steel body with removable bolts. The outlet, body, flange, bolts and nuts shall be 18-8 type 304 stainless steel. All welds shall be fully passivated to restore stainless characteristics. Flange shall conform to AWWA Standard C207, "Steel Pipe Flanges for Waterworks Service-Sizes 4 Inch through 144 Inch", Class D ANSI 150 lb. with drilling recessed to accept standard tapping valves per MSS-SP 60. Bolt holes shall straddle pipe centerline. Shell gasket shall seal the full circumference of the pipe.

Approved Stainless Steel Tapping Sleeve Manufactures

Ford Meter Box Company, Inc.	FTSS
JCM	Model 432
Power Seal	Model 3480
Romac Industries, Inc.	SST III
Smith Blair	Model 238

2-11.02 Repair Clamps

Repair clamps shall have a full circle (one-section) band with removable drop-in bolts. The band shall be 18-8 type 304 stainless steel. Bolts, washers and nuts shall be high strength, low alloy steel per ASTM A242 and AWWA C111. Clamp shall have a lap type EPDM gasket with molded tapered ends to provide equalized sealing at the lap joint on any pipe within the clamps' range. The clamps shall have a built-in outside diameter (O.D.) range that fits several pipe-outside diameters within the clamp's nominal pipe size range.

Approved Stainless Steel Repair Clamp Manufactures

Ford Meter Box Company, Inc.	F1
Romac Industries, Inc.	CL1
Smith Blair, Inc.	226
Krausz Industries	Hymax

2-12 MAIN LINE PIPE FITTINGS

Main line pipe fittings shall be supplied in accordance with AWWA Standard C110, "Ductile-Iron and Gray-Iron Fittings, 3 inch through 48 inch for Water and Other Liquids". Short body type fittings conforming to AWWA Standard C153 "Ductile-Iron Compact Fittings 3 inch through 24 inch for Water Service" may be used. All fittings shall have mechanical joints unless otherwise specified. All fittings shall be made of ductile iron. Fittings up to 24 inch size shall be 350 psi pressure ratings and over 24 inch size shall be 150 psi pressure rating. Fittings shall be cement mortar lined in accordance with AWWA Standard C104, "Cement Mortar Lining for Ductile – Iron Pipe and Fittings for Water." Fittings shall be coated with a bituminous material as specified in AWWA Standard C151.

TECHNICAL PROVISIONS

2-12.01 Mechanical Joints

Mechanical Joints shall conform to the requirements of AWWA Standard C111, "Rubber-Gasket Joints for Ductile Iron Pressure Pipe and Fittings."

2-12.02 Flanged Joints

Flanged fittings shall conform to the requirements of AWWA C110 or C153. Flanges shall be drilled to ANSI B16.1, 125lb. standard bolt template. The 250 lb. Flanges, when required, shall be drilled to ANSI B16.1, 250 lb. standard bolt template.

2-12.03 Gaskets

Gaskets for flanged joints shall be made of EPDM rubber, either ring or full-faced, and $\frac{1}{8}$ inch thick, bolt holes pre-punched, conforming to the requirements of AWWA C111 and ANSI B16.32. Whenever blind flanges are shown, the gasket shall consist of $\frac{1}{8}$ inch thick synthetic rubber that shall cover the entire inside surface of the blind flange and shall be cemented to the surface of the blind flange.

2-14.04 Bolts and Nuts for Mechanical Joints and Flanged Fittings

Tee-head bolts and hexagonal nuts for all mechanical joints shall be high strength, low alloy steel, meeting the current provisions of ANSI/AWWA 0111/A21.11 Standard "Rubber-Gasket Joints for Ductile Iron Pressure Pipe and Fittings," and must be Cor-Ten as manufactured by NSS Industries, or approved equal.

Hexagonal bolts, nuts and washers for flanged fittings shall be zinc plated, high strength, low-carbon steel conforming to the chemical and mechanical requirements of ASTM A307, Standard Specifications for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength, Grade A.

Stainless steel nuts and bolts are required for above ground installations, steel pipe installations and stainless steel tapping sleeves. For all stainless steel nuts and bolts, the Contractor shall strictly follow the torque limitations and shall use N-500 Loctite® anti-seize/rust preventer lubricant manufactured by Henkel Company or approved equal.

All buried nuts and bolts shall be coated after assembly as per Section 4-00.01.

2-13 MAIN LINE VALVES

For water mains, resilient seated gate valves shall be used for 4 to 12 inches and butterfly valves for 14 inches and larger lines, unless shown differently

TECHNICAL PROVISIONS

on the plans or directed by the Engineer. All ferrous components of valves shall be ductile iron and coated with fusion bonded epoxy.

All valves shall open by turning the wrench nut left (counter-clockwise).

Prior to factory valve assembly, all internal and external ferrous metal surfaces shall be coated with a fusion bonded epoxy with a minimum dry film thickness of 10 mils. Coating shall conform to AWWA Standard C550, "Protective Epoxy Interior Coating for Valves."

2-13.01 General

Valves should be ductile iron body, fusion bonded epoxy lines, non-rising stem butterfly or fully encapsulated resilient wedge disk type gate valve and shall not have more than two internal moving parts. All valves shall open by turning the wrench nut counter-clockwise. Operating nut for butterfly valves shall be placed at the north or east side of the water line.

When required, above ground installations shall be resilient seat/wedge disk type valves with outside screw and yoke.

All bronze parts shall contain no more than 7% zinc, nor more than 2% aluminum. Stems shall be low zinc bronze, and equipped with a 2 inch operating nut conforming to AWWA C515. The valve manufacturer shall employ a positive physical means of indicating the specified stem material to insure ready recognition during inspection. The bolts and nuts on the bonnet shall be stainless steel type 304 or 316 with an anti-seize lubricant.

The ductile iron interior and exterior of all valves shall be protected with 10 mils (nominal) fusion bonded epoxy. Coating shall conform to AWWA Standard C213 and C550 and shall be certified to NSF 61. Field repair of epoxy lining is not permitted.

For above ground or vault installation, exterior coating to valves shall be as per Section 5-10.

Resilient wedge type gate valves with a flanged end may be used as "tapping valves."

All valves shall be provided with an epoxy coat stem extension if depth of valve nut exceeds five feet. All valve extensions shall be centered in the valve well by use of a guide and shall be operated freely without binding after installation.

TECHNICAL PROVISIONS

2-13.02 Gate Valves

Gate valves twelve inch and below shall conform to the requirements of AWWA Standard C509 Resilient-Seated Gate Valves and shall be "full wall ductile iron."

All gate valves shall be ductile-iron body equipped with double O-ring stem seals, EPDM O-rings, and stainless steel bolts.

Approved Gate Valve Manufactures

Clow	C515
US Pipe	Model # A-USP2
Mueller	A-2362

2-13.03 Butterfly Valves

Butterfly valves shall conform to the requirements of AWWA Standard C504. Valves shall have a minimum working differential pressure across the valve disc of 150 psi for class 150B valves and 250 psi for class 250B valves. Valves shall be flanged short-body or restrained mechanical joint as indicated per the Construction Drawings. Flanges for both Valve Class 150B and 250B shall be drilled per ANSI B16.1, 125-pound standard bolt pattern. Valves shall be designed for buried installation.

<u>Component</u>	<u>Material</u>	<u>Specifications</u>
Body 45-12	Ductile Iron	ASTM A-536, Grade 65-
Valve Shaft	Stainless Steel	Type 304 and Type 316
Exposed body, cap,	screws, bolts and nuts including squeeze-pins	Stainless Steel
Disc 45-12	Ductile Iron	ASTM A-276, Type 316 ASTM A-536, Grade 65-
Valve Seat	EPDM Rubber	ASTM D-412
O-Rings	Synthetic Rubber	ASTM D-2000

Valve seat material shall be peroxide cured EPDM rubber seat and shall be fastened integrally with the valve body. The valve disc shall be furnished with a stainless steel seating edge to mate with the rubber seat in the valve body. Valves with the seat located on the disc shall not be accepted.

The ductile iron interior and exterior shall be factory coated with NSF 61 approved 16 mils DFT high solids 2 part epoxy of no less than 65% conforming to AWWA standard C550, as manufactured by Amerlock® 400, Tnemic 141, or approved equal.

TECHNICAL PROVISIONS

Valve operators shall be the manual type. Valve actuator shall be supplied and installed on the valve by the valve manufacturer. Gear actuators shall be for buried service applications and shall come furnished with a standard 2" AWWA operating nut. The operators shall be of travelling nut type with adjustable stops for valves smaller than 24 inches in size. The operator for valves 24 inches and larger shall be worm gear type.

Approved Butterfly Valve Manufactures

Mueller	B-3211, Lineseal XP2
Pratt	Groundhog, HP 250
DeZurik	BAW
Clow	4500 Series

2-13.04 End Connections and Gasket Materials

Gaskets shall conform to the requirements of Section 4-07.03 of these Specifications.

Valves shall have mechanical joints or flanged ends, or a combination of both. Unless otherwise shown on plans, all buried gate valves installed at fittings shall be flanged by mechanical joints, with the flange abutting the fitting.

2-13.05 Combination Air Release Valves

Unless otherwise specified, combination air release valves shall be of a single housing that combines the operating features of both an air/vacuum and an air release valve. They shall permit automatic escape of large quantities of air from pipelines when it is being filled, permit large quantities of air to enter pipeline when it is being emptied, and allow accumulating air to escape while pipeline is in operation under pressure. Combination air release valves shall be manufactured to meet or exceed the requirements of AWWA Standard C512, "Air-release, Air/Vacuum, and Combination Air valves for Waterworks Service."

Prior to factory valve assembly, all internal and external ferrous metal surfaces shall be coated with a fusion bonded epoxy with a minimum dry film thickness of 10 mils. Coating shall conform to AWWA C550 and shall be ANSI/NSF Standard 61 certified. Field repair of epoxy lining is not permitted.

There shall be a downward facing screen vent on the valve outlet that meets OSHA requirements.

TECHNICAL PROVISIONS

Approved Air Release Valve Assembly Manufacturers

	<u>1"</u>	<u>2"</u>
ARI	D040	D040
Pratt	WVC10-564-300	WVC20-332-300

2-15.06 Valve Can Assembly

Valve can assembly materials and approved manufactures/models are shown on City of Norco Standard Drawing 470.

2-14 SERVICE LATERAL INSTALLATION

All valves and fittings for use in one inch and two inches service laterals from the main to the meter shall conform to the requirements of AWWA Standard C800, "Underground Service Line Valves and Fittings," and meet the California Health and Safety Code Section 116875. Materials in contact with potable water shall be lead free per SB1334. All corporation stops and angle meter valves used for copper installations shall have compression connection for copper tubing. Approved manufactures are Jones, Ford, McDonald, and Mueller, as shown on City of Norco Standard Drawings 410 and 412.

2-14.01 Corporation Stops

All corporation stops shall have inlet iron pipe (IP) threads as specified by AWWA C800 with outlet being a compression connection for copper tubing.

2-14.02 Angle Meter Valves

All angle meter valves shall be full port "ball" type, have a locking wing on the key operator, and with full 360 degrees rotation of tee head (less stop). All valves for $\frac{5}{8}$ x $\frac{3}{4}$ inch and 1 inch meters shall have a compression inlet and a meter swivel nut outlet. All 2 inch valves shall have a compression connection inlet for two 2 inch copper tubing and a meter flange outlet slotted to accommodate $1\frac{1}{2}$ inch and 2 inch meters. Slots should not extend to the outside edge of flange – open slots are not accepted.

2-14.03 Copper Tubing

Copper tubing for service laterals shall be one inch or two inches seamless, annealed, Type "K" meeting the requirements of ASTM B-88, "Specifications for Seamless Copper Water Tube."

Copper tubing shall be furnished in coils or straight lengths as follows:

TECHNICAL PROVISIONS

<u>Size</u>	<u>Form</u>	<u>Length</u>
1" & 2"	Coils	60' to 100'
2"	Straight Lengths (rigid)	20'

Coils shall be wound in a single layer flat with a minimum 24 inch inside diameter.

2-14.04 Red Brass Pipe

Brass pipe shall conform to the requirements of the "Specifications for Seamless Red Brass Pipe, Standard Sizes" ASTM Specification B-43, and referenced in the appendix to AWWA Standard C800.

2-14.05 Service Saddles

For 1 inch and 2 inch service taps, service saddles are required for all types of pipe. Service saddle outlets shall be tapped as specified by AWWA C800. Outlet threads for 1 inch and 2 inch service saddles shall be iron pipe threads (IP). All service saddles for cast or ductile iron pipe shall be bronze conforming to ASTM B-62 with double strap. All service saddles for PVC pipe, AWWA Standard C900, shall be bronze conforming to ASTM B-62, incorporating stainless steel bands in place of the standard bronze straps. Approved manufactures and catalog numbers are shown on City of Norco Standard Drawings 410 and 412.

Service tapping to concrete cylinder pipes shall only be made under special approval by the Public Works Department.

2-14.06 Meter Boxes and Vaults

Meter boxes and vaults shall be constructed of straight wall polymer concrete. Where required, meter boxes shall have traffic loaded rating covers. All Covers that are exposed to foot traffic have a slip resistant surface that meet the American with Disabilities Act slip resistance requirements. Contractor is responsible for selecting a meter box or vault that is sized appropriately to accommodate all required water materials specified in Standard Drawings. The meter lid must include a properly sized cut-out to fit a Sensus Model 520M radio transceiver. Contractor is required to submit said meter box or vault to the City for review and approval prior to installation.

Approved Manufacturer

Armorcast Products Company

2-15 LARGE SERVICE INSTALLATION

2-15.01 Meter Assembly

All large service installations, except fire lines, shall include a meter, backflow device, and provisions for a temporary bypass line and test tee. For three-inch and larger service laterals, meter size, type and

TECHNICAL PROVISIONS

manufacturer, bypass, test tee, and backflow device are shown on City of Norco Standard Drawings 415.

Meter Manifolds - For projects that require the installation of multiple meters the City may elect to require a manifold of meters to be installed off of one service lateral that can meet all flow demands. All manifolds shall be designed and approved by the Engineer.

2-15.02 Tapping Tees

See Section 4-06.01 of these Specifications for tapping requirements.

2-15.03 Backflow Prevention Assemblies and Fire Lines

See Section 3 of these Specifications for backflow prevention assembly and fire line requirements.

2-15.04 Guard Posts

Where required by the plans or by the Engineer if field conditions so dictate, guard posts shall be installed. The number, size and specific location of such posts will be determined by the Engineer if not shown on the plans. Guard posts shall be per City of Norco Standard Drawing 431.

2-16 METERS

The Public Works Department will provide the required water meter for each new service. All fees for new services and meters must be paid prior to the new meter being provided.

2-16.01 Positive Displacement Types

The use of positive displacement meters requires prior approval by the Public Works Department and will be authorized only on a case by case basis. All meters shall consist of a bronze main case with serial numbers stamped on the main case. All meters shall be read in cubic feet.

2-16.02 Turbine Types

The use of turbine meters requires prior approval by the Public Works Department and will be authorized only on a case by case basis. When authorized, all turbine meter installations shall include a strainer and shall conform to AWWA C701. All meters shall consist of a bronze main case with serial numbers stamped on the main case. All meters shall be read in cubic feet.

TECHNICAL PROVISIONS

2-16.03 Compound Types

The use of compound meters requires prior approval by the Public Works Department and will be authorized only on a case by case basis. When authorized, all compound meter installations shall include a strainer and shall conform to AWWA C702. All meters shall consist of a bronze main case with serial numbers stamped on the main case. All meters shall be read in cubic feet.

2-16.04 Multi-Jet Types

The use of multi-jet meters requires prior approval by the Public Works Department and will be authorized only on a case by case basis. When authorized, all multi-jet meter installations shall conform to AWWA C708. All meters shall consist of a bronze main case with serial numbers stamped on the main case. All meters shall be read in cubic feet.

2-17 DEVIATION FROM SPECIFICATIONS

Any deviation from these specifications shall be submitted in writing by the Contractor to the Engineer. Said submittals shall be delivered to the Engineer to allow sufficient time for review. The Engineer's determination will be provided in writing and must be available to the Contractor two (2) working days prior to construction schedule.

2-18 MATERIAL CERTIFICATIONS

All water system materials furnished for installation by Contractor shall be provided with clear manufacturer's markings and labeling indicating that the material furnished meets the standards and requirements of these Specifications. All materials shall be new, not previously used, and of current manufacture. In addition, the engineer may request that a written manufacturer's statement be provided indicating that a material conforms to the standards and requirements of these Specifications.

All materials shall be subject to inspection. No materials shall be installed until accepted by the Engineer.

A copy of invoices of all materials furnished by the Contractor shall be furnished to the Engineer as proof of compliance with these specifications upon request.

All like materials shall be of one manufacture for any particular project.

2-19 GENERAL

Unless specified differently on the plans or as supplemented herein, installation of ductile iron pipe, valves, fittings, fire hydrants, and appurtenances shall conform to the applicable requirements of AWWA C600, "Installation of Ductile-Iron Water Mains and Their Appurtenances," and the applicable provisions of the Ductile Iron

TECHNICAL PROVISIONS

Pipe Research Association (DIPRA) "Guide for the Installation of Ductile Iron Pipe." Installation of Polyvinyl Chloride (PVC) Pressure pipe shall conform to the requirements of AWWA Standard C605, "Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water."

The Contractor shall furnish all labor, equipment and materials required to construct, install, and complete the ductile iron pipelines, connections, valves, fittings, fire hydrants, thrust restraints, and all other appurtenances as shown on the plans and specified herein.

The interior of all pipes, valves, fittings, and fire hydrants shall be kept free from dirt and foreign materials at all times during the progress of the work and left clean at the completion of installation.

2-20 CONSTRUCTION MATERIALS

The Contractor shall furnish only approved materials per Section 4, "Materials" and Section 8, "Referenced City of Norco Standard Drawings," of these Specifications. All materials shall be new and of the best quality for their intended use. All like materials shall be of one manufacturer for any particular project.

2-21 INSTALLING WATER MAIN PIPE

The pipe and fittings shall be inspected for defects prior to lowering in trench. All lumps, blisters, excess coating, and other foreign materials shall be removed from the bell and spigot ends of each pipe. The outside of the spigot and the inside of the bell shall be wiped clean and dry and shall be free from oil and grease before the pipe is laid.

Pipe shall be lowered into the trench with fabric or other approved slings. Under no circumstances shall pipe be dropped, pushed off the bank, or allowed to fall into the trench. Every precaution shall be taken to prevent foreign materials from entering the pipe while it is being placed in the trench. If the pipe-laying crew cannot put the pipe into the trench and in place without getting soil into it, the Public Works Department may require that before lowering the pipe into the trench, a temporary plug be placed over each end and left there until the connection is to be made to the adjacent pipe. During laying operations, no debris, tools, clothing or other materials shall be left in the pipe.

At times when pipe laying is not in progress, the open ends of pipe shall be closed by watertight plug or other means approved by the Public Works Department. This provision shall apply during lunch-hour breaks as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

2-21.01 Laying Ductile Iron Pipe, Bends, and Fittings

Installation of pipes, bends and fittings shall be in accordance with AWWA Standard C600, "Installation of Ductile-Iron Water Mains and Their Appurtenances". Whenever it is necessary to deflect pipe from a straight line either in the vertical or horizontal plane to avoid obstructions

TECHNICAL PROVISIONS

or where long radius curves are required, the amount of deflection allowed shall not exceed that required by DIPRA for a satisfactory joint and shall be approved by the Engineer. Short lengths of pipe may only be used at locations where fittings are to be installed or in situations where adequate total horizontal and/or vertical joint deflection may not be obtained by using a standard length of pipe.

Except where necessary in making connections with other water pipelines, or where otherwise authorized by the Engineer, pipe shall be laid with the bells facing in the direction of installation. For lines on appreciable slopes, bells shall face upgrade unless directed otherwise by the Engineer.

During laying operations, no debris, tools or other foreign materials shall be placed in the pipe. When pipe lay operation is not in progress, the open ends of pipe shall be kept tightly closed by watertight expandable plugs or other means approved by the Engineer.

No pipe or appurtenances shall be laid in water or when, in the opinion of the Engineer, trench or weather conditions are unsuitable for such work.

After pipe has been set in trench, exterior of spigot and interior of bell shall be thoroughly cleaned. A water-soluble, NSF 61 approved and nontoxic lubricant as approved by pipe manufacturer shall be applied to rubber gasket. Pipe ends shall be aligned, and spigot shall be pulled into bell with come-along devices, or hoists with chains and slings, unless permitted otherwise by the Engineer. If a pry bar is used, a timber header shall be placed between the pipe and the pry bar before the spigot is pushed into bell. A feeler gage shall be used to determine if each joint has been properly assembled.

2-21.02 Polyethylene Protective Wrapping

Unless otherwise shown on the plans, polyethylene protective wrapping (Polywrap) for ductile iron pipe shall be furnished and installed on all buried water lines, except where water lines are within steel casing pipe, in accordance with the requirements of AWWA Standard C105, "Polyethylene Encasement for Ductile Iron Pipe Systems," Section 4 of these Specifications, and as supplemented herein. Polywrap shall be installed so as to prevent any sections of the pipe, fittings, valves, services, or appurtenances from contacting the soil. The polywrap shall be taped to provide a snug fit along the pipe.

Any punctures, tears or other damages shall be patched with polyethylene wrap and tape. Openings for service taps, blow offs or similar appurtenances shall be cut in the polywrap during backfilling of

TECHNICAL PROVISIONS

the trench. Rock or other materials that could damage the wrapping shall not be allowed in the backfill.

2-21.03 Protection of Metal Surfaces

All exposed metal surfaces of the valves, flanges, bolts, nuts, tie-rods, turn buckles, etc., in contact with the earth and backfill materials shall be coated with a minimum of 30 mils of bitumastic coating prior to backfilling. In addition to this coating, the main and fittings shall be encased in polyethylene wrapping as described in Section 5-03.04.

2-21.04 Thrust Restraints

Unless shown differently on the plans or as directed by the Engineer, thrust restraints shall be required at all bends, tees, pipe ends, and fire hydrant bury. Thrust restraints through other mechanical means as specified in Section 4-04 of these Specifications shall also be incorporated.

2-21.05 Flushing

After the pipeline has been completely installed, flushing of the pipeline shall be done per the requirements of Section 6 of these Specifications.

2-22 VALVE BOX ASSEMBLY

Unless specified differently on the plans or as supplemented herein, installation of a valve box assembly shall conform to the requirements of City of Norco Standard Drawings 470. All buried gate and butterfly valves shall be boxed with the valve cover flush with the finish street pavement grade. The valve box riser shall rest on the bonnet of the gate valve and shall be cut to the required length to assure a level and/or flush fit to finish grade. The valve box shall be installed so as not to transmit shock loads or stress to the valve. All valve boxing shall be installed straight and plumb and centered over the valve operating nut. All active valves shall be accessible at all times during construction operations.

A valve stem extension is required when the depth from finished grade to the operating nut is greater than 60 inches. The valve stem extension shall be per City of Norco Standard Drawing 471.

Excavation and backfill for a valve box assembly shall be per Section 2 of these Specifications.

2-23 LARGE SERVICE LATERALS, BACKFLOW ASSEMBLIES, AND FIRE LINES

Unless specified differently on the plans or as supplemented herein, installation of large service laterals (3-inch and larger) shall conform to City of Norco Standard Drawings 415 and 416.

The Owner/Developer or Contractor shall be responsible for preparation of the necessary design plan showing the proposed large service installation together with meter and appurtenances, backflow assemblies and fire lines. The plan shall be submitted to the Engineer for review and must be approved prior to the

TECHNICAL PROVISIONS

beginning of construction. All licenses and permits, and other requirements shall be in accordance with the requirements of Section 1 of these Specifications.

The horizontal runs of all above ground large services, backflow assemblies, and fire lines shall be installed in a level position.

No sewers and water laterals shall be laid in the same trench.

Contractor shall field paint all aboveground, bare, or exposed piping and appurtenances of large services, backflow assemblies, and fire lines in accordance with the applicable field painting requirements addressed later in this Section.

2-23.01 Meters

All large service installations shall include a meter and provisions for a temporary bypass line. Meters shall conform to size, type and manufacturer as shown on the plan or per City of Norco Standard Drawing 415. The Engineer reserves the right to specify the type of meter if, in the Engineer's sole opinion, a specific type of meter is best suited for the proposed application. Meters shall read in cubic feet.

Meter Manifolds - For projects that require the installation of multiple meters the City may elect to require a manifold of meters to be installed off of one service lateral that can meet all flow demands. All manifolds shall be designed and approved by the Engineer.

2-23.02 Backflow Assemblies

Unless specified differently on the plans, all larger service installations shall include backflow assemblies per Section 3 of these Specifications.

2-23.03 Fire Lines

Unless specified differently on the plans or as supplemented herein, installation of fire lines shall conform to City of Norco Standard Drawings 416 and 451.

2-24 SMALL SERVICE LATERALS

All materials for one inch and two inch diameter service laterals shall be supplied and installed by the Contractor per Section 4 and City of Norco Standard Drawings 410 and 412, respectively. The service lateral shall consist of a double strap service saddle, corporation stop, copper tubing, angle meter stop, meter, customer valve, meter box assembly and materials necessary to reconnect existing (customer) house pipe. Reconnection of house pipe shall be with like material. Reconnected copper pipe shall have soldered connections. Reconnected galvanized pipe shall include dielectric union at the brass nipple connection, downstream of meter box.

Meter Manifolds - For projects that require the installation of multiple meters the City may elect to require a manifold of meters to be installed off of one service

TECHNICAL PROVISIONS

lateral that can meet all flow demands. All manifolds shall be designed and approved by the Engineer.

Service laterals shall be installed perpendicular to the centerline of the street with a four inch "W" letter chiseled into the curb face opposite the location of the corporation stop.

Meter boxes shall be brought to grade upon construction of concrete sidewalks and grading of parkway. Meter boxes for 1 inch service laterals located in areas subject to traffic loading, or located behind rolled curbs shall be installed with traffic bearing covers. Regardless of location, all meter boxes for 1½ inch and 2 inch meters shall be installed with traffic bearing covers.

No sewers and water laterals shall be laid in the same trench.

All new services shall be installed before new mains are pressure tested and chlorinated.

2-24.01 Backfill Compaction

Backfill and compaction requirements in the area adjacent to the copper tubing service later shall conform to Section 2 of these Specifications. Compaction of backfill materials by mechanical means directly over the exposed service tubing shall not be allowed unless approved by the Engineer.

2-24.02 Backflow Assemblies

Unless specified differently on the plans or as supplemented herein, installation of backflow assemblies for small installations shall conform to City of Norco Standard Drawing 412, 415, 450, 451 and Section 3 of these Specifications.

TECHNICAL PROVISIONS

2-25 CONNECTION TO THE EXISTING DISTRIBUTION SYSTEM

The Contractor shall make the connection to the existing distribution system as shown on plans or as directed by the Engineer. All connections must be made in the presence of the Engineer. Proper hydrostatic testing, disinfecting and flushing of new facilities must take place per Section 6 of these Specifications prior to permanent connections.

2-25.01 Pressure Tapping

The Contractor may tap cast iron and ductile iron distribution mains under pressure as approved by the Engineer (no-size on size tapping). The exterior surface of the pipe shall be cleaned to provide a smooth surface for the tapping sleeve. The tapping sleeve shall be secured to the pipe to prevent movement during the tapping process. The Engineer may require the Contractor to install a flanged tee to accommodate the new service lateral.

Pressure tapping of concrete cylinder pipe requires prior written approval by the Engineer.

2-25.02 Shutdown of Main

All work necessary to shut down an existing distribution main for the benefit of the Contractor shall be operated by the Public Works Department. Under no circumstances shall the Contractor operate valves, hydrants, and other appurtenant equipment on the existing distribution system.

It shall be the Contractor's responsibility to coordinate the necessary shutdown schedules through the Engineer assigned to the project. Scheduled shutdowns shall require sufficient time to allow operation personnel to review, approve, and develop an appropriate program.

The City will make a concerted effort to isolate the system as planned with the Contractor. If a water-tight shut down cannot be achieved, the Contractor shall be prepared to employ necessary pumping equipment to remove the water from the trench. City shall not be responsible for any delays due to system shutdown and isolation.

All emergency situations shall be reported immediately to the City at (951) 270-5602 (7 am to 6 pm) and after-hours at (951) 371-1143 (6 pm to 7 am). When an extensive and/or lengthy main shutdown is required, the Engineer will determine what temporary service connections may be required. The Contractor shall furnish all necessary hoses, piping, valves, tank trucks and associated labor required to provide such temporary service at no cost to the City. All piping, hoses, and associated equipment used in temporary service connections shall be

TECHNICAL PROVISIONS

flushed and disinfected in accordance with Section 6 of these Specifications.

In making connections to existing mains, the Contractor shall perform the work in the shortest time possible and shall do the work in such a manner and as such time that will cause the least inconvenience to water users because of shutoff water services. No valves or other controls on the existing distribution system shall be operated for any purpose by the Contractor without the approval of the Engineer. All consumers affected by such operation shall be given a notice letter at least two working days before the operation advising of water service outage and the probable time when service will be restored. All such service interruption notices shall be prepared and distributed by the City to ensure proper notification is completed.

All tie-in locations shall be excavated a minimum of one working day in advance of final connection to expose the affected portions of existing pipelines and to allow time for the necessary measurements, assembly of materials and equipment, and assuring that all pre-assembled piping and fittings will be compatible with the existing main.

The Engineer may postpone or reschedule any shutdown operations if for any reasons he feels that the Contractor is improperly prepared with competent personnel, equipment, or materials to proceed with connection work. If it appears the connection to the existing distribution main cannot be made in the time specified, the City shall order necessary corrective measures at the Contractors expense.

2-25.03 Transfer of Jurisdiction of Completed Work

The Contractor shall be aware that once a physical connection is made to the City's system, the valves and appurtenances are under the City's jurisdiction and shall only be operated by authorized City personnel on a prearranged program schedule. The transfer of jurisdiction does not relieve the Contractor of any responsibilities for the quality of work or materials.

2-26 REMOVAL OF EXISTING WATER MAINS, VALVES, AND APPURTENANCES

Existing water mains, valves and appurtenances shall be removed at the locations as shown on the plans. Existing water mains, valves and appurtenances denoted to be removed shall have the interfering portions of existing facilities completely removed and legally disposed of by the Contractor in accordance with local, state and federal laws.

TECHNICAL PROVISIONS

2-27 FIELD PAINTING

The Contractor shall field paint all above ground, bare, or exposed piping and appurtenances in accordance with the applicable specifications and plans. Unless specified differently on the plans or as supplemented herein, painting of water system installations as identified below shall conform to the applicable requirements of Section 310 of the Standard Specifications and in accordance with manufacturer's recommendations. Contractor shall not spray paint during windy conditions.

2-27.01 Surface Preparation

Remove all dirt, grease and oil from surfaces to be painted by washing the surface with cleaner/degreaser, commercial detergent or other approved cleaning methods. Loose rust, scale and deteriorated coatings shall be removed by sandblasting, scraping and wire brushing, or power tool cleaning. Galvanized and non-ferrous surfaces shall be solvent cleaned.

Care should be taken to protect outside screw and yoke (OS&Y) gate valve stems, meter registry, glass, brass test cocks, I.D. tags and other surfaces identified by the Engineer during surface preparation. These items should be masked off and not receive any primer finished coat.

2-27.02 Primer Finished Coat

All installation surfaces shall be primed with Gray Primer aerosol spray coating (2 mils). The first finished coat may be applied after primer has dried.

The following installations shall have two finished coats (2 mils each) aerosol spray coating. The second finish coat shall be applied within 1 hour or after 48 hours. Listed below are installations and associated colors and manufacturer's paint catalog numbers:

<u>Dark Green</u>	<u>Black</u>	<u>Safety Red</u>
Fireline Assemblies	Steel Plate Meter Box Covers	Private Fire Hydrants
Large Meter Assemblies		Valve Stem Extensions
Backflow Assemblies		Fire Dept. Connections

The following installations shall have two finished coats (2 mils each) aerosol spray coating. The second finished coat shall be applied after 24 hours. Listed below are installations and associated colors and manufacturer's paint catalog numbers:

TECHNICAL PROVISIONS

Safety Yellow
Public Fire Hydrants
Air Release Assembly Covers (metal)
Guard Posts

FILLING, TESTING, AND CHLORINATION

Upon completion of laying, joining, and backfilling, and after pipe lengths comprising the line are not less than 7 days old, and prior to resurfacing, pipeline shall be hydrostatically tested. CONTRACTOR shall provide all necessary thrust restraint required for the hydrostatic testing. Where any section of the piping contains concrete thrust blocks or encasement, do not make the pressure test until at least 10 days after the concrete has been placed. When testing mortar-lined or PVC piping, fill the pipe to be tested with water and allow it to soak for at least 48 hours to absorb water before conducting the pressure test.

The Contractor shall furnish all equipment, labor and material, including water, for testing and disinfecting the pipelines. All tests of the piping shall be made in the presence of the City. All pipelines and appurtenances shall be thoroughly flushed out with water prior to testing. Prior to performing the test, the section of pipeline to be tested shall be filled with water and placed under a slight pressure for at least 48 hours. Prior to pipeline loading video inspection of water pipelines shall be performed in the presence of the Inspector. Prior to inspection, the equipment to be used shall be disinfected and lines shall be drained. Complete videotapes and a detailed report of the inspection shall be furnished to the City.

The Contractor shall pressure test the pipeline in conformance with AWWA C605. Testing shall occur at the rated pressure of the pipe as measured at the lowest point in the tested section. Required test pressure shall then be applied and maintained for a 4-hour period. Water required to maintain test pressure shall be measured by meter or other means acceptable to City.

Disinfection shall be accomplished by chlorination after the line has been tested for leakage. Prior to chlorination, the pipeline shall be thoroughly flushed. A chlorine-water mixture shall be applied by means of a solution-feed chlorinating device. The chlorine solution shall be applied at one end of the pipeline through a tap, in such a manner that as the pipeline is filled with water the dosage applied to the water entering the pipe shall be about 50 ppm or enough to meet the requirements herein. Care shall be taken to prevent the strong chlorine solution in the pipeline being disinfected from flowing back into the pipeline supplying the water.

As an alternate to that indicated above the Tablet Method as specified in AWWA Standard C651, Section 5.1 may be approved by the City when the pipeline is less than 500 feet long, less than 12 inch diameter, and constructed as specified in AWWA Standard C651, Section 5.1. Tablet application shall be in accordance with Table of AWWA Standard C651, Section 5.1.

TECHNICAL PROVISIONS

Chlorinating water shall be retained in the pipeline long enough to destroy all non-spore forming bacteria. This period shall be at least 24 hours. After the chlorine treated water has been retained for the required time, the chlorine residual at the pipe extremities and at other representative points shall be at least 25 ppm. This procedure shall be repeated, if necessary, until samples of water, as determined by the City, show the pipeline to be in a sterile condition. During the process of chlorinating the pipeline, all valves or other appurtenances shall be operated while the pipeline is filled with the heavily chlorinated water. Care shall be exercised such that no valve shall be opened that allows the heavily chlorinated water to enter portions of the pipelines, which are already in service.

Following chlorination, all treated water shall be thoroughly flushed from the newly laid pipe at its extremity until the replacement water throughout its lengths shows upon test, a chlorine residual of less than one (1) mg/l. In the event chlorine is normally used in the source of supply, the chlorine test shall indicate chlorine residual less than or equal to that carried in the system.

The Contractor shall provide all equipment and supplies for performance work and shall flush water at locations or by procedures approved by the City. Permission and permits from regulatory agencies for discharging water shall be obtained by the Contractor. The Contractor shall (at his expense) apply a reducing agent to the solution to neutralize residual chlorine or chloramines remaining in the water. Flow of water shall be controlled to prevent erosion, damage to vegetation, and altering ecological conditions. After final flushing, and before the water pipeline is placed in service, water samples shall be taken and tested for bacteriological quality. If the initial disinfection fails to produce satisfactory samples, the disinfection process shall be repeated until satisfactory samples have been obtained. Once samples are satisfactory and the City has given approval, the pipeline may be placed in service. After passing an initial bacteriological test with a negative Coliform Test but having a high plate count, the Contractor may, with the approval of the City, be allowed to flush using a 6" or greater connection to the City's domestic system.

An acceptable test shall be a negative Total Coliform 24 hour Presence/Absence Test and a standard plate count (Heterotrophic Plate Count or HPC) of less than 100 colony-forming units (cfu) per milliliter.

Alternately a plate count of no more than 50% greater than the City's incoming supply water to the project area will be considered passing.

All disinfection testing shall be at the Contractor's expense and shall be inspected/monitored by the City. Bacteriologic samples will be taken by City personnel and tested at a City approved laboratory.

CONTROL OF WATER

The CONTRACTOR shall provide and maintain at all times during construction, ample means and devices with which to promptly remove and dispose of all water entering the excavations or other parts of the work. Ground water shall not be allowed to rise around pipe installations until jointing compound in the joints has set.

TECHNICAL PROVISIONS

The CONTRACTOR shall dispose of the water from the work in a suitable manner without damage to adjacent property. No water shall be drained into work built or under construction. Water shall be disposed of in such a manner as not to be a menace to the public health.

Dewatering for structures and pipe lines shall commence when ground water is first encountered, and shall be continuous until such times as water may be allowed to rise in accordance with the provisions of this Section.

MEASUREMENT

The measurement for Ductile Iron Pipe per Linear Foot shall be made along the centerline of the pipe and shall exclude the length measured through all bends, crosses, tees, reducers, and valves.

PAYMENT

The payment for Ductile Iron Pipe, Valves, Universal Air Valve Assembly, Sand Blow Off Assembly, Bends, Fittings, Tees, Reducers, and 1" water services complete in place, will be made at the contract unit price, shall include the cost of potholing, hauling, disposal, furnishing and placing blocking under pipe, furnishing and installing pipe, bends, crosses, tees, reducers, couplings, fittings, specials, furnishing and installing all tubing, meter boxes, valve cans including extensions, joint restraints, thrust blocks and restrained joints (where approved by the City Engineer or shown in plans), connecting to existing pipelines, temporary bulkheads, trench and backfilling including temporary pavement resurfacing, dewatering, flushing and disinfecting, bac-T tests, hydrostatic test, maintaining continuous water service including all costs of high-lining services (if necessary), corporation stops, meter valves, service saddles, connecting to all existing services on the City side of the meter, reconnecting water services on private side of the meter, abandoning existing services, disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of waterline improvements, complete in place.

The payment for Sand Blow off Assembly includes all items shown on City of Norco Std. Dwg. No. 441, including, but not limited to the mainline tee, valve, pipe spools, bend, valve, trenching, restraints, valve can and appurtenances, cap and fittings. Should any additional bends and thrust blocks be needed, they will be paid for separately. Any additional length of 4" pipe required will not be paid for separately, but is included in the unit price for Sand Blow Off Assembly.

Thrust blocks will not be paid for separately, but will be included in the unit price for the corresponding Bends, Tees, or Blind Flanges.

TECHNICAL PROVISIONS

ITEM NO. 3 REMOVE INTERFERRING PORTIONS OF EXISTING WATERLINES

MEASUREMENT

The measurement for removal of interfering portions of existing water lines per Linear Foot shall be made along the centerline of the pipe.

PAYMENT

The payment for removal of interfering portions of existing water lines per linear foot will be made at the contract unit price, shall include the cost of potholing, hauling, disposal, removal of pipeline appurtenances, blind flanges, thrust blocks, disposing of all excess excavated or removed material, and all other labor, equipment and material incidental to the installation of waterline improvements, complete in place.

STANDARD PLANS

APPENDIX "G"

SCHEDULE OF VALUES

FORM 1

**SCHEDULE OF VALUES FOR
CITY OF NORCO WATERLINE RELOCATIONS
(RCFC BID ITEM NO. 50)**

ITEM	QUANTITY	UNIT	ITEM OF WORK	UNIT PRICE	TOTAL
1	1	LS	Clearing, Grubbing, General Earthwork, Grading, Miscellaneous Removals, and Restoration		
2	145	LF	Construct 12" DIP Class 350 Waterline in trench bedding per C.O.N. Std. 401		
3	6	EA	Construct 90-Degree 12" DIP Fitting w/ Restrained Joints		
5	1	EA	Construct 2" Combined Air Release Valve Assembly Per C.O.N. Std. 492 (Modified with Direct Connection to top of 12" Pipe)		
6	2	EA	Construct a Flanged Adapter (E-Z Flange) Series 1000 EBBA Iron (Ductile Iron to Existing 12" Steel Flanged/Valve)		
7	1	LS	Remove Interfering Portion of Existing Waterline (Size Per Plan/Profile)-12" CML&W		
8	3	EA	Construct Guard Post Per City of Corona Std. 405		
9	1	EA	Remove Existing 1" Water Service and Install New 1" Water Service Per C.O.N. Std. 410		

TOTAL FOR CITY OF NORCO WATERLINE
RELOCATIONS (RCFC BID ITEM NO. 50)

APPENDIX "H"

RCFC VIDEO PROCEDURES

RCFC VIDEO PROCEDURES

GENERAL:

1. The Contractor shall provide all required traffic control, including warning lights and traffic cones, as needed or required in accordance with the Watch Manual, as well as any City-required traffic plans.
2. The Contractor shall obtain all permits required by the local jurisdiction.

STORM DRAIN CLEANING:

1. Storm drains shall be cleaned by removing dirt, debris and any construction debris.
2. If debris is found, the closed circuit television (CCTV) shall be rescheduled.

EQUIPMENT:

1. Contractor's staff shall have confined space training.
2. Air logs shall be kept onsite and shall be submitted with the final report.
3. The Contractor's CCTV equipment shall include video cameras, a video monitor cable, power sources, and all equipment necessary to perform a CCTV inspection as outlined in the Detailed Specifications.
4. The Contractor shall make a continuous color digital recording in MPEG 4 format for each storm drain segment inspected.
5. The cameras shall have pan and tilt capabilities, a minimum of 360 x 260 degree rotation, illumination sensitivity shall be three lux or less, and provide a minimum of 460 lines of resolution. The focal distance shall be adjustable through a range from 25mm (1 inch) to infinity.
6. During CCTV inspection, lighting intensity shall be adjusted to minimize glare. Lighting and picture quality shall be adjusted to provide a clear, in-focus picture of the entire periphery of the storm drain for all conditions encountered.
7. All camera systems shall be able to navigate around minor objects, roots, and debris. The system used to move the camera through the pipe shall not obstruct the camera's view or interfere with proper documentation of storm drain conditions.
8. The camera cable shall be retracted to remove slack and to ensure an accurate footage reading.

9. The distance shall be measured between beginning and ending structures.
10. The cable footage-counter shall be accurate to plus or minus 2 feet per 1,000 feet.
11. The camera lens shall be kept clear of condensation and debris during the CCTV inspection.

VIDEO:

1. All storm drain with a height or diameter of 60 inches or less shall be video recorded.
2. If the storm drain has multiple cells, each cell shall be video recorded.
3. Each storm drain segment will be a separate video file.
4. A storm drain segment will be defined as follows:
 - a. Outlet structure to manhole
 - b. Manhole to manhole
 - c. Manhole to inlet structure
5. Each storm drain segment shall be identified with an initial text screen that contains the following:
 - a. Surveyed by
 - b. Storm drain title (i.e., mainline title, lateral title)
 - c. Beginning structure station
 - d. Ending structure station
 - e. Pipe diameter or box dimensions
 - f. Inspection date and time
 - g. Stopwatch time initiated at beginning of video
6. After the initial text screen, the following shall be shown for the remainder of video:
 - a. Beginning structure station
 - b. Ending structure station
 - c. Distance from beginning structure
 - d. Stopwatch time initiated at beginning of video

OBSERVATIONS:

1. The following visual observations shall be recorded in the final report:
 - a. Poor/no grouting between storm drain links
 - b. Poor/no grouting at storm drain lift holes
 - c. Exposed steel or spalling

- d. Large cracks
- e. Sags
- f. Any unusual roughness or unevenness
- g. Any connections not shown on plans
- h. Structural defects of structures (i.e., junction structures, manholes, etc.)
- i. Debris

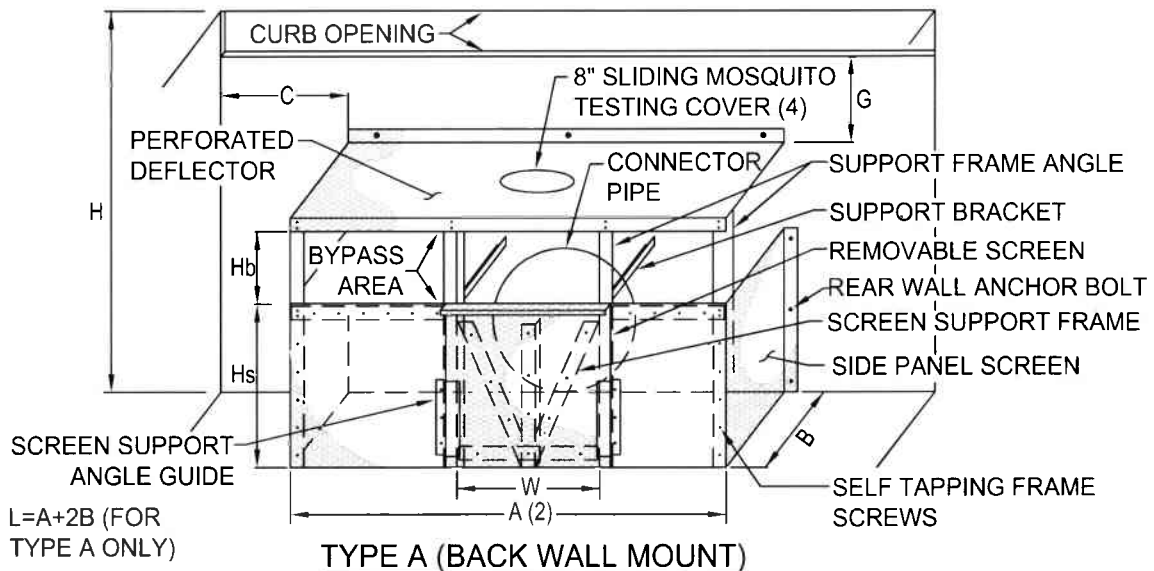
REPORT:

1. The report shall contain a spreadsheet of observations of concern with the following:
 - a. Description of concern
 - b. Video file name
 - c. Photo file name
 - d. Stop watch time
 - e. Distance from beginning structure
2. A digital picture of each concern in JPEG format shall be included within the report and the file name shall be included in spreadsheet.
3. The database header information contained within the final report will match the initial video screen

Q\Specsentr
01/15/19

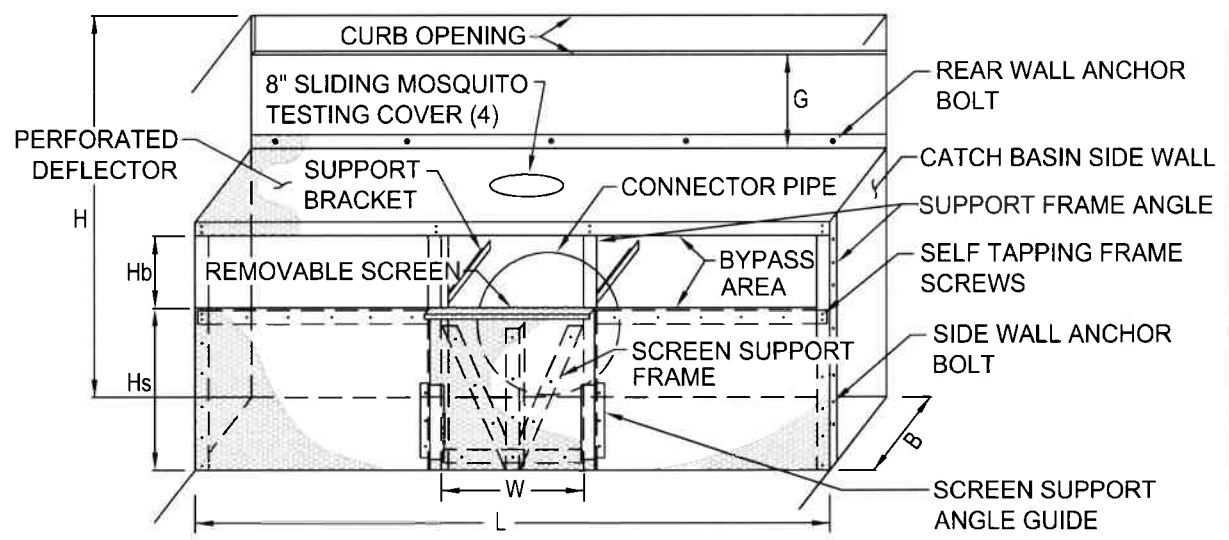
APPENDIX "I"

TLMA DRAFT STANDARD PLAN NO. 313



L=A+2B (FOR TYPE A ONLY)

TYPE A (BACK WALL MOUNT)



TYPE B (SIDE WALL MOUNT)

DIMENSIONS:

- SCREEN LENGTH (1) L
- REMOVABLE SCREEN WIDTH (2) W (24" TO 36")
- SCREEN HEIGHT (1) Hs
- SCREEN BYPASS HEIGHT (1) Hb
- MINIMUM WALL CLEARANCE (2) C=12"
- MINIMUM INTERIOR SPACE (2) B=10"
- DISTANCE BELOW GUTTER FL (1) G
- CATCH BASIN HEIGHT (5) H

NOTES:

- (1) SEE TABLES ON PAGES 10-13 FOR VALUES
- (2) SEE FTCD GENERAL NOTES ON STD 313-3
- (3) SEE FTCD SCREEN TYPE AND LOCATIONS WITHIN CATCH BASINS ON STD 313-4 TO -8
- (4) MOSQUITO TESTING COVER REQUIRED ONLY FOR STD NOS. 301 AND 302 APPLICATIONS
- (5) CB HEIGHT IS VERTICAL DISTANCE FROM TOP OF CURB TO OUTLET PIPE FLOW LINE

APPROVED BY:

 DIRECTOR OF TRANSPORTATION DATE
 PATRICIA ROMO, RCE 56064




COUNTY OF RIVERSIDE

**FULL TRASH CAPTURE
 DEVICE (FTCD) - CONNECTOR
 PIPE SCREEN (CPS)**

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

FCTD SPECIFICATIONS

1. FULL TRASH CAPTURE DEVICE (FTCD) SHALL BE A UNITED STORM WATER, INC. CONNECTOR PIPE SCREEN (CPS) OR EQUIVALENT. EQUIVALENT SYSTEMS OR ALTERNATIVE DESIGNS SHALL BE ON THE STATE OF CALIFORNIA APPROVED TRASH CAPTURE DEVICE LIST AND REQUIRE APPROVAL OF THE TRANSPORTATION DEPARTMENT.
2. FTCD SHALL HAVE STRUCTURAL FRAME FOR STIFFNESS AND TO ENABLE BOLTING TO CATCH BASIN FLOOR AND WALL. FRAME MEMBERS SHALL BE FABRICATED FROM PERFORATED 14 GAUGE GRADE 304 STAINLESS STEEL HAVING 5 MM DIAMETER HOLES.
3. FTCD SCREENS SHALL BE FABRICATED FROM PERFORATED 14 GAUGE GRADE 304 STAINLESS STEEL HAVING 5 mm DIAMETER HOLES.
4. FTCD SHALL HAVE A PERFORATED DEFLECTOR SCREEN COVERING THE TOP OF THE FTCD TO PROHIBIT DEBRIS FROM FALLING BEHIND THE FRONT AND SIDE SCREENS. THE DEFLECTOR SHALL BE ABLE TO WITHSTAND A VERTICAL LOAD OF 10 LBS PER SQUARE FOOT
5. FTCD FRAME AND SCREEN SHALL HAVE SUFFICIENT STRUCTURAL INTEGRITY TO WITHSTAND THE FORCE OF STANDING WATER IN THE CATCH BASIN ASSUMING THE SCREEN IS 100% CLOGGED.
6. FCTD SHALL BE FASTENED TO THE CATCH BASIN WALLS AND FLOOR WITH ANCHOR BOLTS. ANCHOR BOLTS SHALL BE SS-304, 3/8" DIAMETER AND 3" LENGTH, AND SHALL BE EPOXY SET INTO CATCH BASIN CONCRETE. IF REINFORCEMENT STEEL IS ENCOUNTERED DURING INSTALLATION, RELOCATE THE ANCHOR HOLE AND FILL VACANT HOLE WITH EPOXY. EPOXY SHALL BE ON THE CURRENT APPROVED LIST OF CHEMICAL ADHESIVES FOR USE IN CALTRANS CONTRACTS. ANCHOR BOLT SPACING TO BE 12" O.C. EXCEPT WHERE FRAME LENGTH WOULD RESULT IN LESS THAN 3 BOLTS PER FRAME MEMBER. IN THIS CASE FASTEN FRAME TO CATCH BASIN WALL USING 3 ANCHOR BOLTS.
7. THE SCREEN SHALL BE SECURED TO THE SUPPORT FRAME, BRACKETS AND SIDE PANEL USING #12 X 0.5" SELF TAPPING SS-304 TECH SCREWS .
8. THE FTCD SHALL BE FABRICATED ON SITE TO BE FLUSH WITH THE INTERIOR SURFACES OF THE CATCH BASIN. THE MAXIMUM ALLOWABLE GAP BETWEEN THE FTCD AND THE CATCH BASIN SURFACES IS 5MM (0.197 INCHES).
9. FOR SCREEN SPANS (DIMENSION "A" FOR TYPE A OR DIMENSION "L" FOR TYPE B PER STD. 313-1) GREATER THAN 36" PROVIDE ADDITIONAL SUPPORT BRACKETS AND SUPPORT FRAME ANGLES AT 36" ON CENTER OR LESS. SEE STD. 313-1 TYPE B FOR TYPICAL SUPPORT BRACKET AND SUPPORT FRAME ANGLE CONFIGURATION.

APPROVED BY: _____ DIRECTOR OF TRANSPORTATION DATE PATRICIA ROMO, RCE 56064						COUNTY OF RIVERSIDE FTCD - CPS SPECIFICATIONS		
REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			
STANDARD NO. 313 (2 of 14)								

FTCD GENERAL NOTES (NEW CONSTRUCTION)

1. FTCD SHALL CONFORM TO THE CONFIGURATIONS SHOWN IN STD. 313-4 THROUGH 313-8 AND SHALL BE SIZED ACCORDING TO THE SIZING TABLES SHOWN IN STD. 313-10 THROUGH 313-13.
2. THE REMOVABLE SCREEN WIDTH (W) SHALL EQUAL THE CONNECTOR PIPE DIAMETER OR 24", WHICHEVER IS GREATER, BUT SHALL NOT EXCEED 36". WHERE DIMENSION "A" PER STD. 313-1 TYPE A (BACK WALL MOUNT) IS LESS THAN OR EQUAL TO 36", THE REMOVABLE SCREEN MAY EXTEND THE FULL WIDTH OF THE FTCD (W = A). IN THIS CASE SUPPORT BRACKETS AND THE ASSOCIATED SUPPORT FRAME ANGLES WILL BE OMITTED.
3. IF THE FTCD CANNOT PROVIDE A SIDE WALL CLEARANCE (C) OF 12", PROVIDE A SIDE WALL MOUNT. AN L-SHAPED FTCD WILL HAVE ONE SIDE WALL AND ONE BACK WALL MOUNT.
4. THE INTERIOR SPACE DIMENSION "B" PER DRAWING 313-1 TYPE A, SHALL BE AT LEAST 10" UNLESS OTHERWISE AUTHORIZED BY THE TRANSPORTATION DEPARTMENT.
5. POSITIVE DRAINAGE TO THE OUTLET PIPE IS REQUIRED FOR THE ENTIRE CATCH BASIN FLOOR.
6. THE CATCH BASIN SHALL INCLUDE MAINTENANCE GAUGE STENCILING ON THE INTERIOR WALL OPPOSITE THE FTCD THAT IDENTIFIES THE ACCUMULATED DEBRIS ELEVATION AT 40% AND 100% OF THE FTCD HEIGHT. SEE STD. 313-9 FOR STENCILING REQUIREMENTS.
7. TRANSPORTATION DEPT. APPROVAL REQUIRED WHERE CONNECTOR PIPE SIZE > 42" DIA.
8. CATCH BASINS (NEW OR EXISTING) WITH FOSSIL FILTERS (PER STANDARD 300A OR EQUIVALENT) SHALL REQUIRE SPECIAL CONSIDERATION FOR INCORPORATION OF THE FTCD. A MODIFIED FTCD DESIGN SHALL BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
9. ENGINEER MAY PREPARE SITE SPECIFIC CPS DESIGN UTILIZING THE CPS FLOW CHART PER STD. 313-14 IN LIEU OF SIZING PER STD. 313-10 THROUGH 313-13.

FTCD RETROFIT NOTES

10. WHERE MANHOLE CONFIGURATIONS IN THE EXISTING CATCH BASIN DO NOT CONFORM WITH FTCD LOCATIONS SHOWN IN STD. 313-4 THROUGH 313-8, NEW MANHOLES OPENINGS SHALL BE INSTALLED TO CONFORM WITH THESE REQUIREMENTS. RETROFIT DESIGN DRAWINGS MUST BE APPROVED BY THE TRANSPORTATION DEPARTMENT.
11. IF ADEQUATE SPACE IS NOT AVAILABLE FOR RETROFIT OF EXISTING CATCH BASIN WITH FTCD, A MODIFIED FTCD DESIGN SHALL BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
12. CATCH BASINS THAT DO NOT DRAIN TOWARD THE CONNECTOR PIPE SHALL BE MODIFIED TO DRAIN PROPERLY UTILIZING A POLYESTER POLYMER CONCRETE OVERLAY PRODUCT APPROVED BY THE TRANSPORTATION DEPT. PRIOR TO INSTALLATION OF THE FTCD. THE BASIN FLOOR SHALL BE ROUGHENED TO THE SATISFACTION OF THE TRANSPORTATION DEPT. PRIOR TO APPLICATION OF THE OVERLAY. SURFACE PREPARATION MUST PROVIDE FOR MINIMUM OVERLAY THICKNESS PER OVERLAY PRODUCT MANUFACTURER'S SPECIFICATIONS. PROPER DRAINAGE OF BASIN FLOOR SHALL BE ACHIEVED TO THE SATISFACTION OF THE TRANSPORTATION DEPT.

APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
 PATRICIA ROMO, RCE 56064

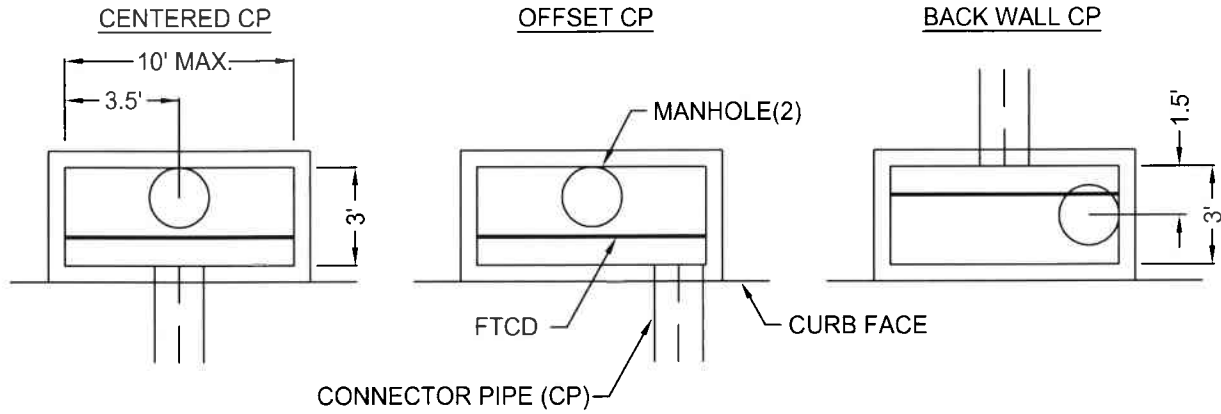


COUNTY OF RIVERSIDE

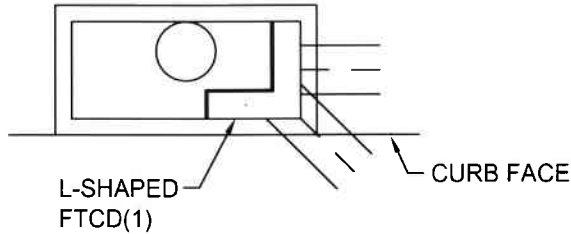
**FTCD - CPS
 GENERAL NOTES AND
 RETROFIT NOTES**

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (3 of 14)



SIDE OR CORNER CP(1)(3)



NOTES

- (1) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (2) DETAIL VALID FOR CATCH BASIN WIDTHS LESS THAN OR EQUAL TO 10 FEET. MULTIPLE MANHOLES REQUIRED FOR CATCH BASIN WIDTHS GREATER THAN 10 FEET. SEE STANDARD NO. 313-5 AND 313-6.
- (3) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
 PATRICIA ROMO, RCE 56064

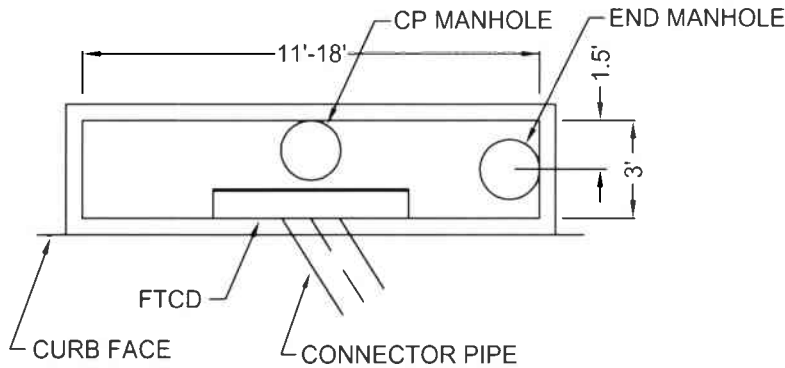


COUNTY OF RIVERSIDE
 FTCD - CPS SCREEN /
 MANHOLE LOCATIONS FOR
 10' MAX. WIDTH STD. NO. 300
 CURB INLET CATCH BASINS

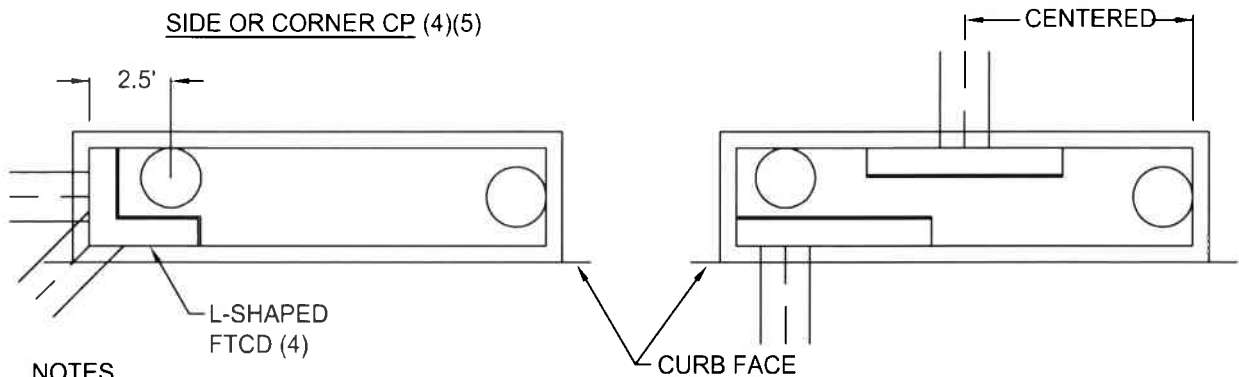
REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (4 OF 14)

CENTERED CONNECTOR PIPE (CP) (1)(2)



OFFSET OR BACK WALL CP (1)(3)



NOTES

- (1) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE, LOCATE CONNECTOR PIPE (CP) MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE END MANHOLE AT EITHER END WHEN CP IS CENTERED IN CATCH BASIN, OR ON OPPOSITE SIDE OF CP WHEN CP IS ON EITHER SIDE OF CATCH BASIN CENTERLINE.
- (2) SHALLOW CATCH BASINS WITH A HEIGHT (H) LESS THAN 3.5' SHALL INCLUDE A THIRD MANHOLE ON THE OPPOSITE SIDE OF THE CONNECTOR PIPE FROM THAT SHOWN PLACED AGAINST THE END WALL.
- (3) CONNECTOR PIPE EXITING THROUGH BACK WALL OF CATCH BASIN MUST BE CENTERED IN CATCH BASIN UNLESS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- (4) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS, THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (5) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED, SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

APPROVED BY:

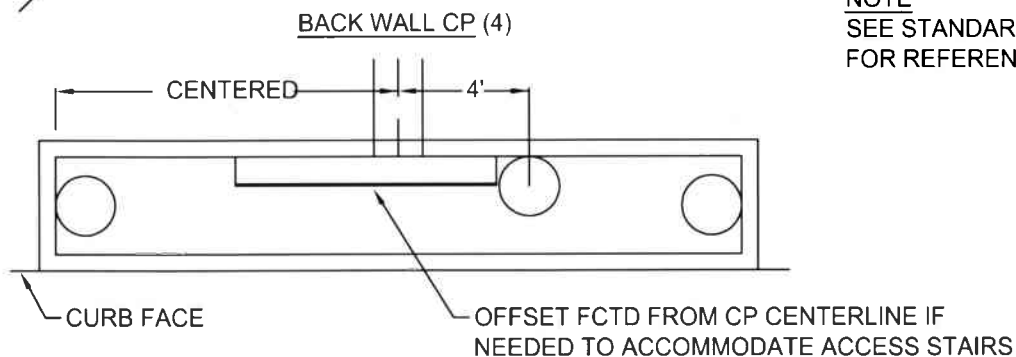
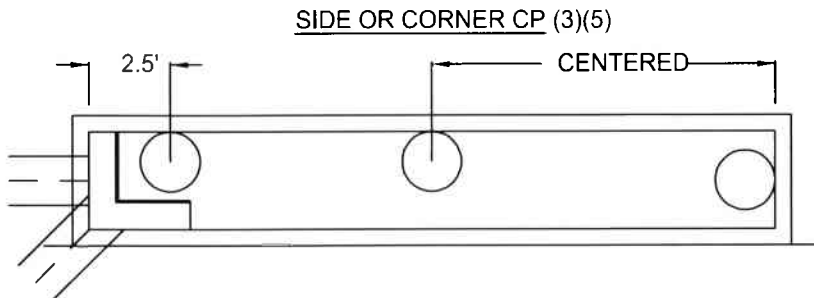
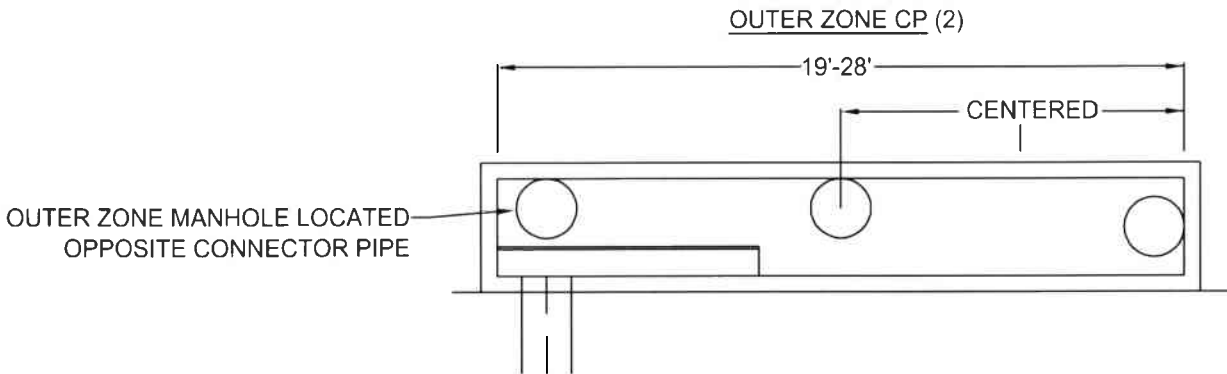
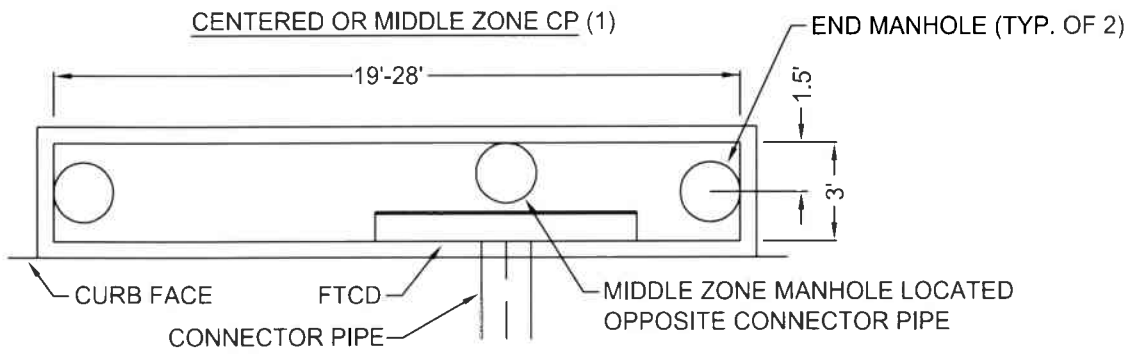
DIRECTOR OF TRANSPORTATION DATE
 PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE
 FTCD - CPS SCREEN /
 MANHOLE LOCATIONS FOR
 11'-18' STD. NO. 300 CURB
 INLET CATCH BASINS

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (5 of 14)



NOTE
SEE STANDARD NO. 313-7
FOR REFERENCED NOTES.

APPROVED BY:

DIRECTOR OF TRANSPORTATION
PATRICIA ROMO, RCE 56064

DATE



COUNTY OF RIVERSIDE
FTCD - CPS SCREEN /
MANHOLE LOCATIONS FOR
19'-28' STD. NO. 300 CURB
INLET CATCH BASINS

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (6 of 14)

NOTES (FOR STD. 313-6)

- (1) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE IN MIDDLE ZONE, LOCATE CONNECTOR PIPE (CP) MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE END MANHOLES AT EITHER END OF CATCH BASIN AS SHOWN.
- (2) FOR CONNECTOR PIPE EXITING TOWARD STREET CENTERLINE IN OUTER ZONE, LOCATE OUTER ZONE MANHOLE ALONG BACK WALL OPPOSITE OF CP CENTERLINE. LOCATE ONE END MANHOLE ON THE OPPOSITE SIDE OF THE CB CENTERLINE FROM THE CP, AND ONE CENTERED MANHOLE ALONG THE CATCH BASIN BACK WALL.
- (3) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING. A SUPPORT FRAME ANGLE SHALL BE PROVIDED IN THE CPS CORNER.
- (4) CONNECTOR PIPE EXITING THROUGH BACK WALL OF CATCH BASIN MUST BE CENTERED IN CATCH BASIN UNLESS APPROVED BY THE TRANSPORTATION DEPARTMENT.
- (5) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.

APPROVED BY:

DIRECTOR OF TRANSPORTATION _____ DATE _____
 PATRICIA ROMO, RCE 56064



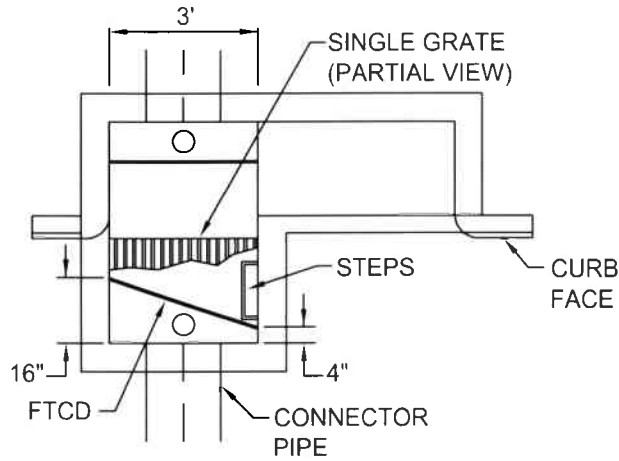
COUNTY OF RIVERSIDE
 FTCD - CPS SCREEN /
 MANHOLE LOCATION NOTES
 FOR 19'-28' STD. NO. 300 CURB
 INLET CATCH BASINS

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

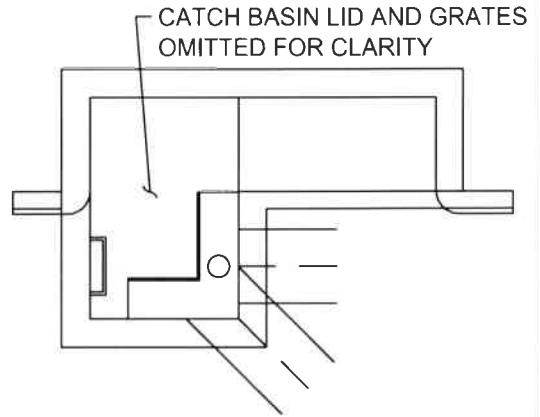
STANDARD NO. 313 (7 of 14)

CATCH BASIN 301

CENTERED OR BACK WALL CP (1)(5)

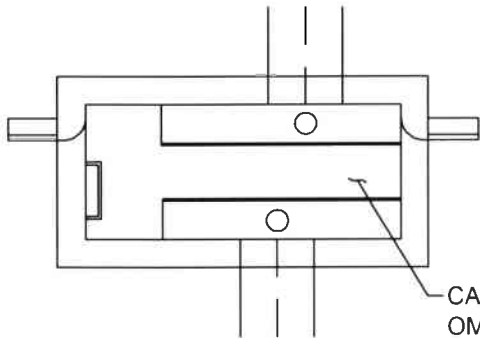


SIDE OR CORNER CP (2)(4)

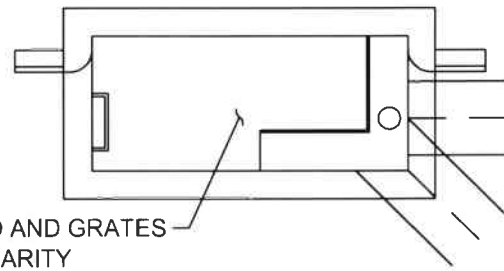


CATCH BASIN 302

CENTERED OR BACK WALL CP (3)(5)



SIDE OR CORNER CP (2)(3)(4)



NOTES

- (1) WHEN STEPS OBSTRUCT THE STANDARD FTCD INSTALLATION, ANGLE THE SCREEN IN FRONT OF THE CONNECTOR PIPE TO AVOID THE STEPS AS SHOWN.
- (2) FOR CORNER AND SIDE CONNECTOR PIPE (CP) LOCATIONS, THE FTCD SHALL BE L-SHAPED TO FULLY COVER THE PIPE OPENING.
- (3) MULTIPLE GRATE CATCH BASIN WIDTH SHOWN. FOR SINGLE GRATE APPLICATIONS PLACE FTCD PER CATCH BASIN 301 DETAILS ABOVE.
- (4) FOR SIDE OR CORNER CP LOCATIONS WHERE REQUIRED SCREEN LENGTH (L) CANNOT BE ACHIEVED, SPECIAL DESIGN MUST BE SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW AND APPROVAL.
- (5) INSTALL FTCD, TYPE B (SIDE WALL MOUNT), TO AVOID STEPS AS NECESSARY.

APPROVED BY:

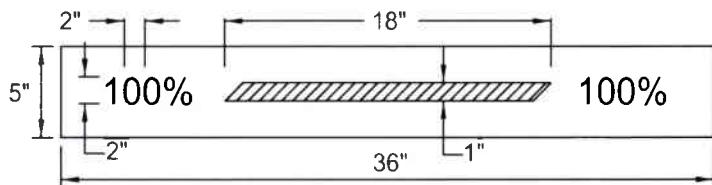
DIRECTOR OF TRANSPORTATION DATE
 PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE
 FTCD - CSP SCREEN
 LOCATIONS FOR STD. NO.
 CB301 AND CB302 COMB.
 INLET CATCH BASINS

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

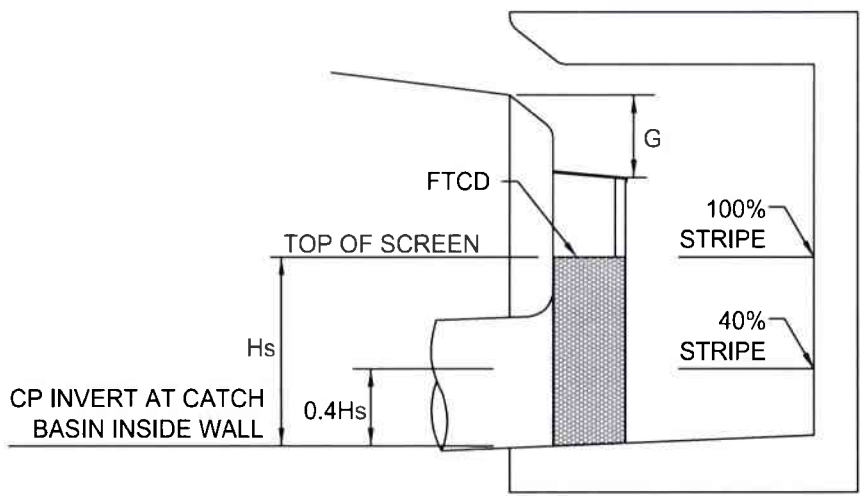
STANDARD NO. 313 (8 of 14)



100% STRIPE
(RED STRIPES AND NUMBERS ON WHITE BACKGROUND)



40% STRIPE
(RED STRIPES AND NUMBERS ON WHITE BACKGROUND)



NOTES

- (1) PAINT SHALL BE RED STRIPES AND NUMBERS ON WHITE BACKGROUND ON THE BACK WALL OF THE CATCH BASIN, LABELING 40% AND 100% SCREEN HEIGHT AS SHOWN ABOVE. PAINT SHALL BE WATERBORNE ACRYLIC AND REFLECTIVE.
- (2) SURFACES SHALL BE CLEAN, DRY AND FREE FROM ALL CONTAMINANTS PRIOR TO PAINTING.
- (3) STENCILING SHALL BE VISIBLE FROM THE STREET THROUGH CATCH BASIN OPENING.

APPROVED BY:



COUNTY OF RIVERSIDE

DIRECTOR OF TRANSPORTATION DATE
PATRICIA ROMO, RCE 56064

FTCD - CPS
MAINTENANCE GAUGE

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (9 of 14)

**FTCD SIZING TABLE FOR STANDARD NO. 300 CURB INLET CATCH BASIN
ON GRADE CONDITION**

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT H _b (IN)	SCREEN HEIGHT H _s (IN)	SCREEN LENGTH L (FT)	G (IN)
300	2.5 (30 inches)	7.0	-	8.0	8.0	7.0	4.0
		10.0				7.0	
		14.0				10.0	
	2.67 (32 inches)	7.0	-	8.0	10.0	7.0	4.0
		10.0				7.0	
		14.0				10.0	
	2.83 (34 inches)	7.0	-	8.0	12.0	7.0	4.0
		10.0				7.0	
		14.0				10.0	
		21.0				11.0	
	3.0	7.0	-	8.0	12.0	4.0	6.0
		10.0				6.0	
		14.0		8.0	14.0	10.0	4.0
		21.0				14.0	
		28.0				18.0	
	3.5	7.0	-	8.0	18.0	4.0	6.0
		10.0				6.0	
		14.0		10.0	16.0	6.0	
		21.0				7.0	
		28.0				9.0	
	4.0	7.0	-	12.0	20.0	4.0	6.0
		10.0				6.0	
		14.0				6.0	
		21.0				7.0	
28.0		8.0					
4.5 OR GREATER	7.0	-	12.0	24.0	4.0	8.0	
	10.0				6.0		
	14.0				6.0		
	21.0				7.0		
	28.0				8.0		

NOTES

- (1) FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE
- (2) WHERE THE SCREEN LENGTH (L) IS EQUAL TO THE CATCH BASIN WIDTH, THE CPS SHALL BE THE FULL WIDTH OF THE CATCH BASIN AND UTILIZE A SIDE WALL MOUNT.

APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE

FTCD - CPS SIZING TABLE
FOR STD. NO. 300 CURB
INLET CATCH BASIN
ON GRADE CONDITION

STANDARD NO. 313 (10 of 14)

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

**FTCD SIZING TABLE FOR STANDARD NO. 301 AND 302 COMBINATION INLET CATCH BASIN
ON GRADE CONDITION**

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT H _b (IN)	SCREEN HEIGHT H _s (IN)	SCREEN LENGTH L (FT)	G (IN)
301	3.0	7.0	1	8.0	10.0	4.0	10.0
		10.0	2			7.0	
		14.0	1			8.0	
		14.0	2			8.0	
	3.5	7.0	1	10.0	12.0	6.0	12.0
		10.0	2			5.0	
		14.0	1			5.0	
		14.0	2			6.0	
	4.0	7.0	1	12.0	15.0	4.0	13.0
		10.0	2			5.0	
		14.0	1			4.0	
		14.0	2			5.0	
	4.5 OR GREATER	7.0	1	12.0	18.0	4.0	16.0
		10.0	2			5.0	
		14.0	1			4.0	
		14.0	2			5.0	
302	3.0	-	1	9.0	9.0	3.0	10.0
		-	2			5.0	
		-	3			6.0	
	3.5	-	1	10.0	12.0	2.5	12.0
		-	2			4.0	
		-	3			5.0	
	4.0 OR GREATER	-	1	10.0	18.0	2.5	12.0
		-	2			4.0	
		-	3			5.0	

NOTES

(1) FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE

APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE

**FTCD - CPS SIZING TABLE FOR
STD. NO. 301 AND 302 COMB.
INLET CATCH BASIN
ON GRADE CONDITION**

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (11 of 14)

**FTCD SIZING TABLE FOR STANDARD NO. 300 CURB INLET CATCH BASIN
SUMP CONDITION**

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT H _b (IN)	SCREEN HEIGHT H _s (IN)	SCREEN LENGTH L (FT)	G (IN)
300	3.5	7.0	-	12.0	16.0	7.0	4.0
		10.0		14.0		6.0	
		14.0				7.0	
	4.0	7.0	-	16.0	18.0	7.0	4.0
		10.0				6.0	
		14.0				6.0	
		21.0		18.0	7.0		
		28.0			8.0		
	4.5	7.0	-	16.0	18.0	7.0	10.0
		10.0				6.0	
		14.0				6.0	
		21.0		18.0	7.0		
		28.0			8.0		
	5.0 OR GREATER	7.0	-	16.0	24.0	7.0	10.0
		10.0				6.0	
		14.0				6.0	
21.0		18.0		7.0			
28.0				8.0	12.0		

NOTES

- (1) FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE

APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE

**FTCD - CPS SIZING TABLE
FOR STD. NO. 300 CURB
INLET CATCH BASIN
SUMP CONDITION**

STANDARD NO. 313 (12 of 14)


REVISIONS		REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
		1				4			
		2				5			
		3				6			

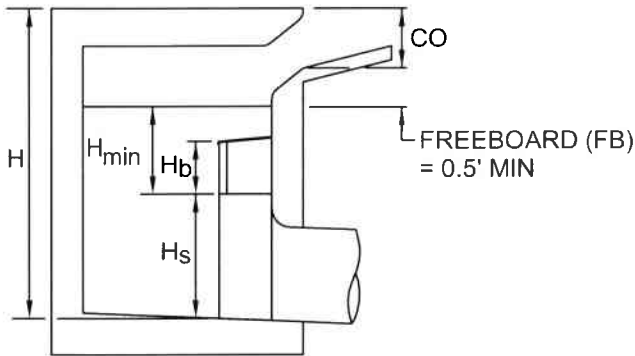
**FTCD SIZING TABLE FOR STANDARD NO. 301 AND 302 COMBINATION INLET CATCH BASIN
SUMP CONDITION**

CATCH BASIN TYPE	H (FT)	CATCH BASIN WIDTH (FT) (1)	NUMBER OF GRATES	BYPASS HEIGHT H _b (IN)	SCREEN HEIGHT H _s (IN)	SCREEN LENGTH L (FT)	G (IN)
301	3.5	7.0	1	14.0	9.0	7.0	11.0
		7.0	1			5.0	
	4.0	10.0	2	16.0	11.0	6.0	13.0
		7.0	1			5.0	
	4.5	10.0	2	18.0	15.0	6.0	13.0
		14.0	1			5.0	
		14.0	2			6.0	
		7.0	1			4.0	
	5.0 OR GREATER	10.0	2	18.0	18.0	6.0	16.0
		14.0	1			5.0	
		14.0	2			6.0	
		7.0	1			4.0	
302	4.0	-	2	14.0	8.0	2.5	18.0
		-	3			6.0	
	4.5	-	1	16.0	8.0	2.5	22.0
		-	2			5.0	
		-	3			7.0	
		-	1			2.5	
	5.0 OR GREATER	-	2	16.0	12.0	5.0	24.0
		-	3			7.0	
		-	1			2.5	
		-	2			5.0	
	-	3	7.0				

NOTES

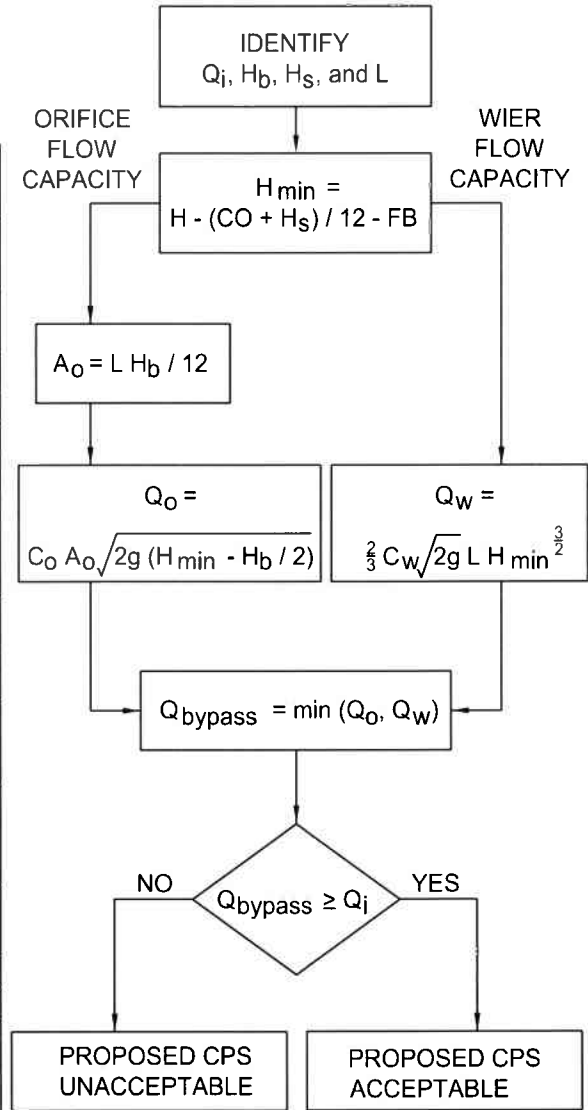
(1) FOR CATCH BASIN WIDTHS NOT SHOWN USE NEXT HIGHER VALUE

APPROVED BY:								COUNTY OF RIVERSIDE	
DIRECTOR OF TRANSPORTATION PATRICIA ROMO, RCE 56064								DATE	
REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE	STANDARD NO. 313 (13 of 14)
	1				4				
	2				5				
	3				6				



NOTE:
THE BELOW ANALYSIS ASSUMES THAT THE CONNECTOR PIPE SCREEN IS COMPLETELY CLOGGED AND ALL FLOW IS CONVEYED THROUGH THE BYPASS

VALUE	UNITS	DESCRIPTION
H	FT	HEIGHT OF CATCH BASIN, AS DEFINED IN STANDARDS NO. 300, 301 AND 302
H _{min}	FT	DEPTH FROM TOP OF SCREEN TO FREEBOARD
H _b	IN	BYPASS OPENING HEIGHT
H _s	IN	SCREEN HEIGHT
L	FT	BYPASS OPENING LENGTH
FREE-BOARD (FB)	FT	MINIMUM ALLOWABLE FREEBOARD (FB) IS 0.5' TO ENSURE THAT WATER LEVELS INSIDE THE CATCH BASIN DO NOT IMPAIR THE CATCH BASIN STREET INTERCEPTION CAPACITY
CO	IN	CURB OPENING HEIGHT (CO) IS DEFINED HERE AS THE HEIGHT FROM THE TOP OF CURB TO THE FLOW LINE OF THE INLET AT THE LOCAL DEPRESSION
Q _i	CFS	FLOW RATE INTERCEPTED BY THE INLET AS DETERMINED BY THE ENGINEER FOR SITE-SPECIFIC CONDITIONS
Q _o	CFS	BYPASS FLOW RATE UNDER ORIFICE FLOW CONDITION, ASSUMES THAT ENTIRE BYPASS OPENING FUNCTIONS AS A RECTANGULAR ORIFICE
Q _w	CFS	BYPASS FLOW RATE UNDER WEIR FLOW CONDITION
C _o	-	ORIFICE FLOW COEFFICIENT = 0.61
C _w	-	WEIR FLOW COEFFICIENT = 0.61
A _o	FT ²	BYPASS OPENING AREA FOR ORIFICE FLOW, ASSUMES THAT THE ENTIRE BYPASS OPENING FUNCTIONS AS A RECTANGULAR ORIFICE



APPROVED BY:

DIRECTOR OF TRANSPORTATION DATE
PATRICIA ROMO, RCE 56064



COUNTY OF RIVERSIDE

FTCD - CPS
BYPASS CHECK
FLOW CHART

REVISIONS	REV.	BY:	APR'D	DATE	REV.	BY:	APR'D	DATE
	1				4			
	2				5			
	3				6			

STANDARD NO. 313 (14 of 14)

APPENDIX "J"

U.S. ARMY CORPS OF ENGINEERS

SECTION 404

NATIONWIDE PERMIT (NWP) 31

From: Mace, James E SPL [mailto:James.E.Mace@usace.army.mil]
Sent: Thursday, January 07, 2016 12:23 PM
To: Flanigan, Kris <KFLANIGA@rcflood.org>
Subject: RE: Norco Channels (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Kris,

I have reviewed the jurisdictional determinations made by Corps Regulatory (Eric Stein) in the July 21, 1997 letter and analyzed these determinations for current consistency with geographic jurisdictional determinations. The original jurisdictional determinations were made by a review of aerial photographs from 1939 to 1959, and the as-built drawings of the subject facilities from 1960 to 1970. I have re-reviewed the referenced aerial photographs, including additional aerial photographs of the area through the 1970s. For this area, I have determined the original 1997 jurisdictional determinations are still accurate and applicable. Specifically, and under current guidance, the following findings have been determined to still accurately characterize the jurisdictional status of the drainage features:

- (1) North Norco Channel downstream of Interstate 15, and South Norco Channel downstream of Valley View Avenue, continue to be jurisdictional waters of the United States.
- (2) North Norco Channel upstream of Interstate 15, North Norco Channel Line N-7, North Norco Channel Line NB, North Norco Channel Line NA, North Norco Channel Line NA-S, South Norco Channel upstream of Valley View Avenue, and South Norco Channel Line SA are non-tidal drainage ditches excavated on dry land and are not considered waters of the United States.

Please note that the findings in (1) and (2) above are the same as the findings in the referenced 1997 jurisdictional determination letter. I have provided this affirmation via email in the interest of expediting a finding for you, but if you would also like to have this determination on Corps letterhead, just let me know and I can provide one.

Thank you, and Happy New Year to you as well!

Jim

James E. Mace
Senior Project Manager
Regulatory Division
U.S. Army Corps of Engineers
Los Angeles District

Please be aware that out-of-office email alerts for external contacts have been disabled and will no longer notify you when I am out of the office.

Mailing Address:

U.S. Army Corps of Engineers
Riverside Regulatory Field Office
1451 Research Park Drive, Suite 100
Riverside, CA 92507-2154

Phone (951) 276-6624 x263, Fax (951) 276-6641
email: james.e.mace@usace.army.mil
website: www.spl.usace.army.mil/regulatory

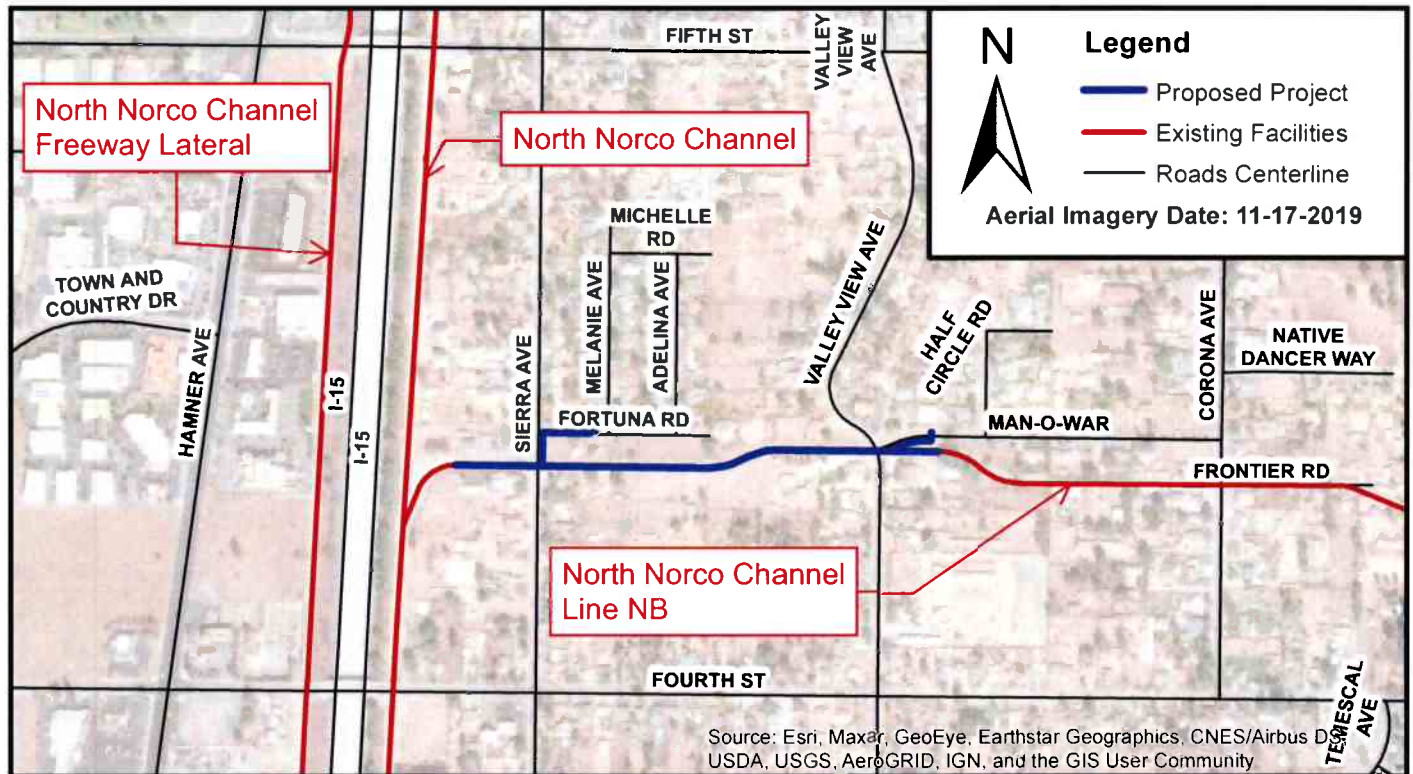
Assist us in better serving you!

You are invited to complete our customer survey located at the following link:
<http://per2.nwp.usace.army.mil/survey.html>

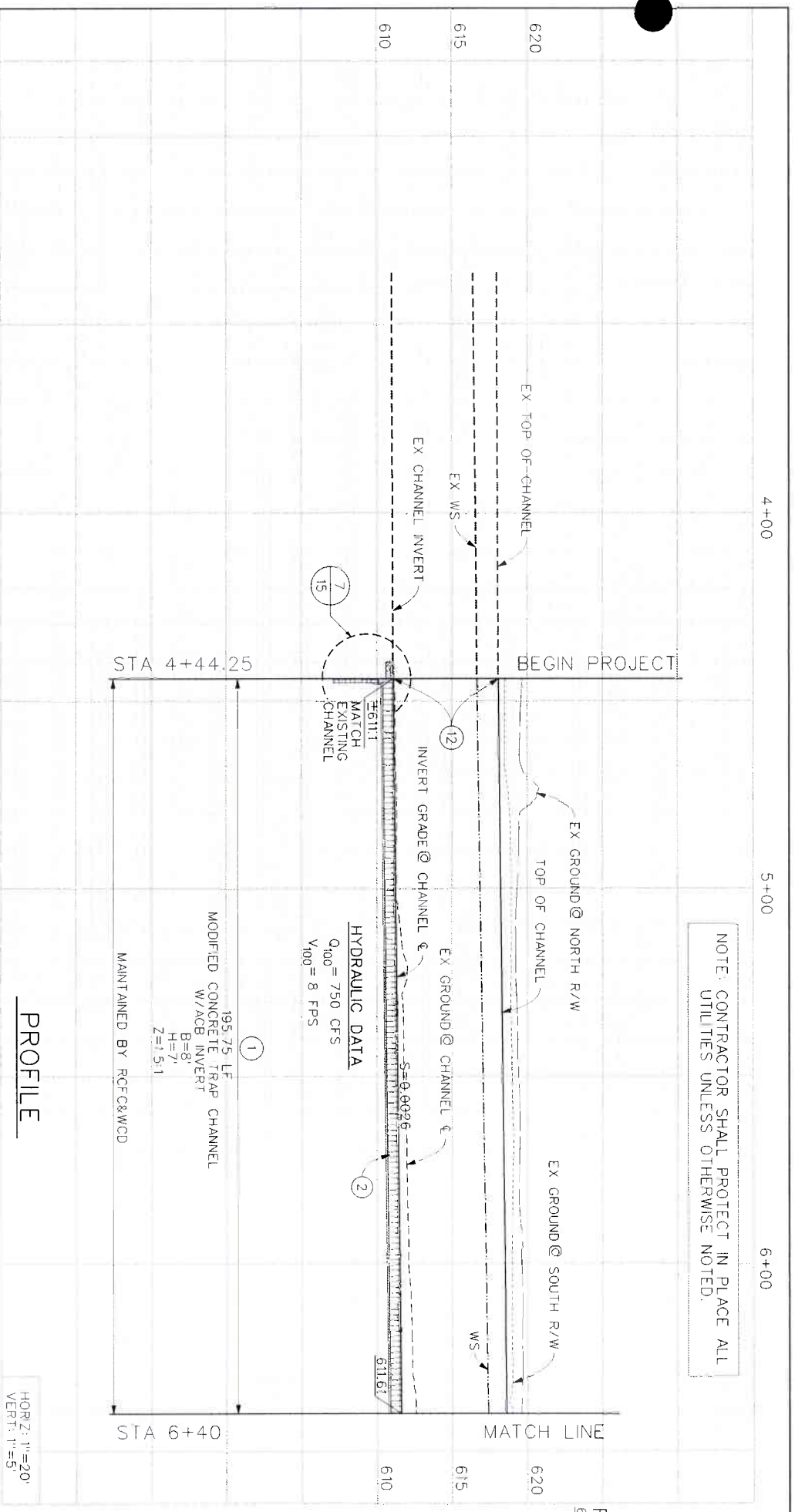
RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

North Norco Channel Line NB, Stage 3

Project Number 2-0-00145-03



This is a District led project to replace approximately 1,800 lineal feet of existing earthen channel with an open concrete trapezoidal and rectangular channel with base width and height ranging from 6'-11' and 5'-7', respectively. The primary objective is to provide 100-year flood protection to the community near the channel between Valley View Avenue and Sierra Avenue by collecting 100-year flows from the existing improved portion of Line NB upstream of Valley View Avenue and conveying them westerly in an upgraded channel until they are discharged into the existing North Norco Channel just east of Interstate 15. The project includes installation of a permeable paver lined invert at the downstream end of the project to promote infiltration of low flows.

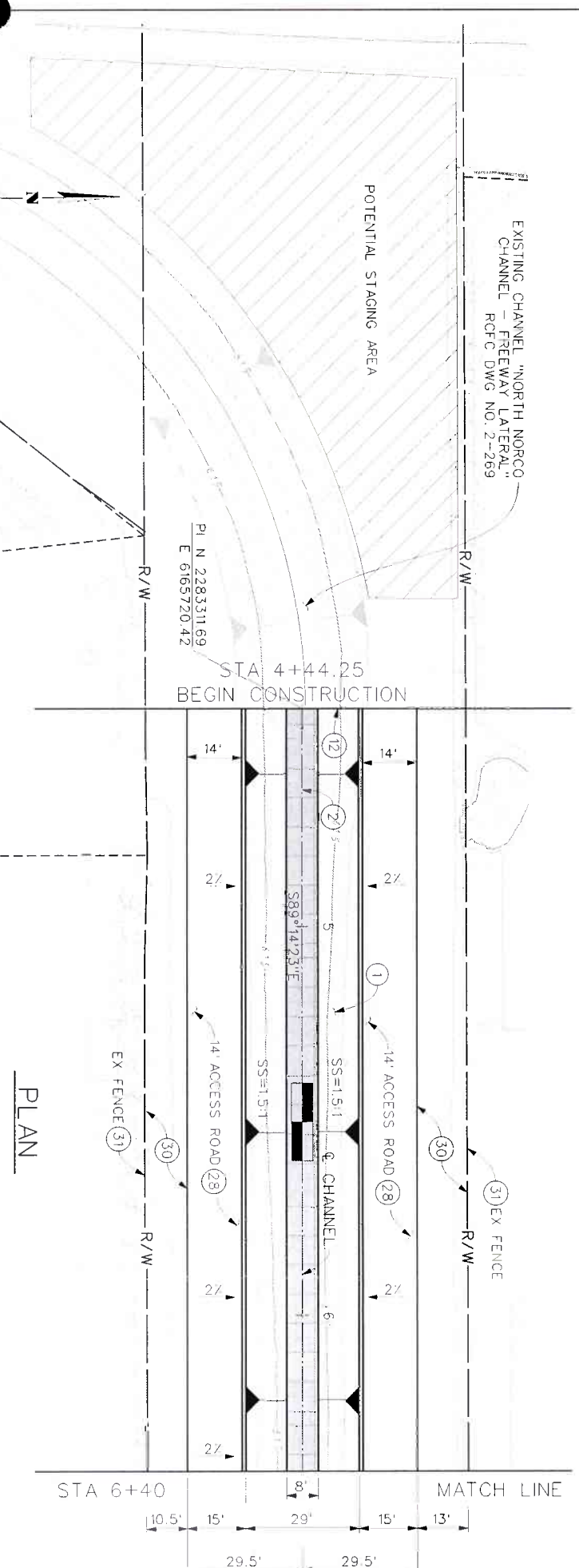
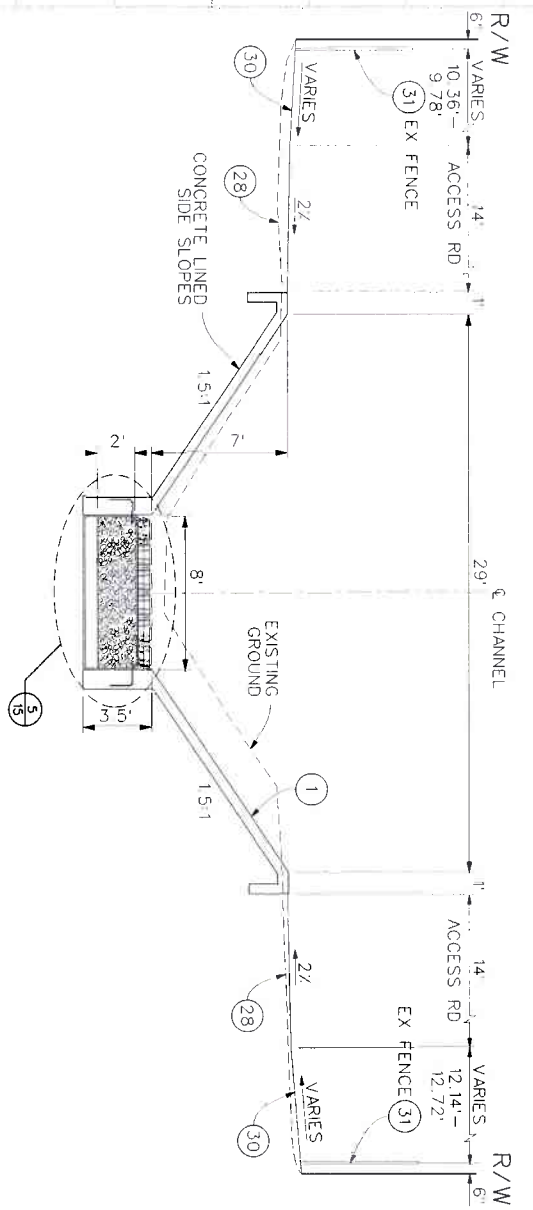
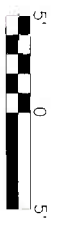


NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.

PROFILE

HORIZ: 1"=20'
VERT: 1"=5'

SECTION AT STA 5+50
TYPICAL FROM STA 4+44.25 TO 6+89.54



PLAN

NOTES

- 1) CONSTRUCT MODIFIED CONCRETE TRAPEZOIDAL CHANNEL SIDE SLOPES PER RCF&WCD STD CH326 AND DETAIL 5 ON SHEET 15.
- 2) INSTALL ARTICULATED CONCRETE BLOCK, CLASS 70L ARMORFLEX CONCRETE BLOCK OR APPROVED EQUIVALENT, PER DETAILS ON SHEET 15.
- 12) JOIN EXISTING CHANNEL AS SHOWN IN DETAIL 10 ON SHEET 15.
- 28) PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD.
- 30) SLOPE TO MEET EXISTING GRADE AT FENCE.
- 31) PROTECT IN PLACE.



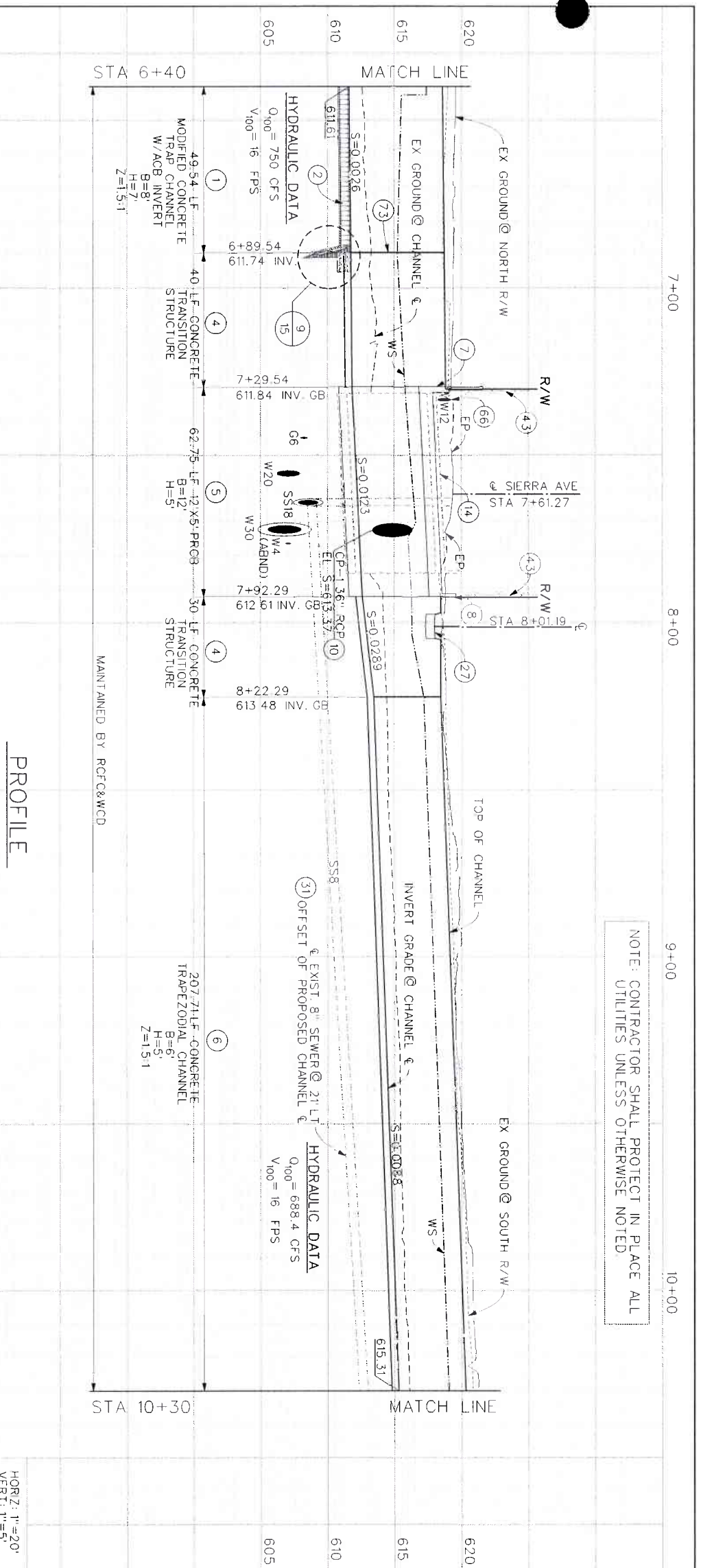
CITY OF NORCO
APPROVED BY: [Signature]
Don't Dig... Until You Call U.S.A. TollFree 1-800-227-2600

REVISIONS
DATE: 5/11/2022

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMITS	5-11-2022
2	FOR CONSTRUCTION	5-11-2022

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
APPROVED BY: [Signature]

NORTH NORCO CHANNEL
LINE NB, STAGE 3
STA 4+44.25 TO STA 6+40
PROJECT NO: 2-0-00145
SHEET NO: 21

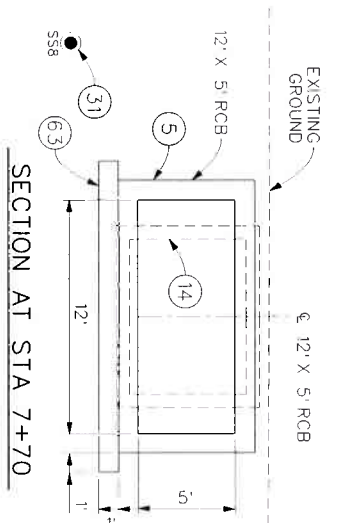


NOTE: CONTRACTOR SHALL PROJECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED

MANHOLE / JUNCTION STRUCTURE DATA

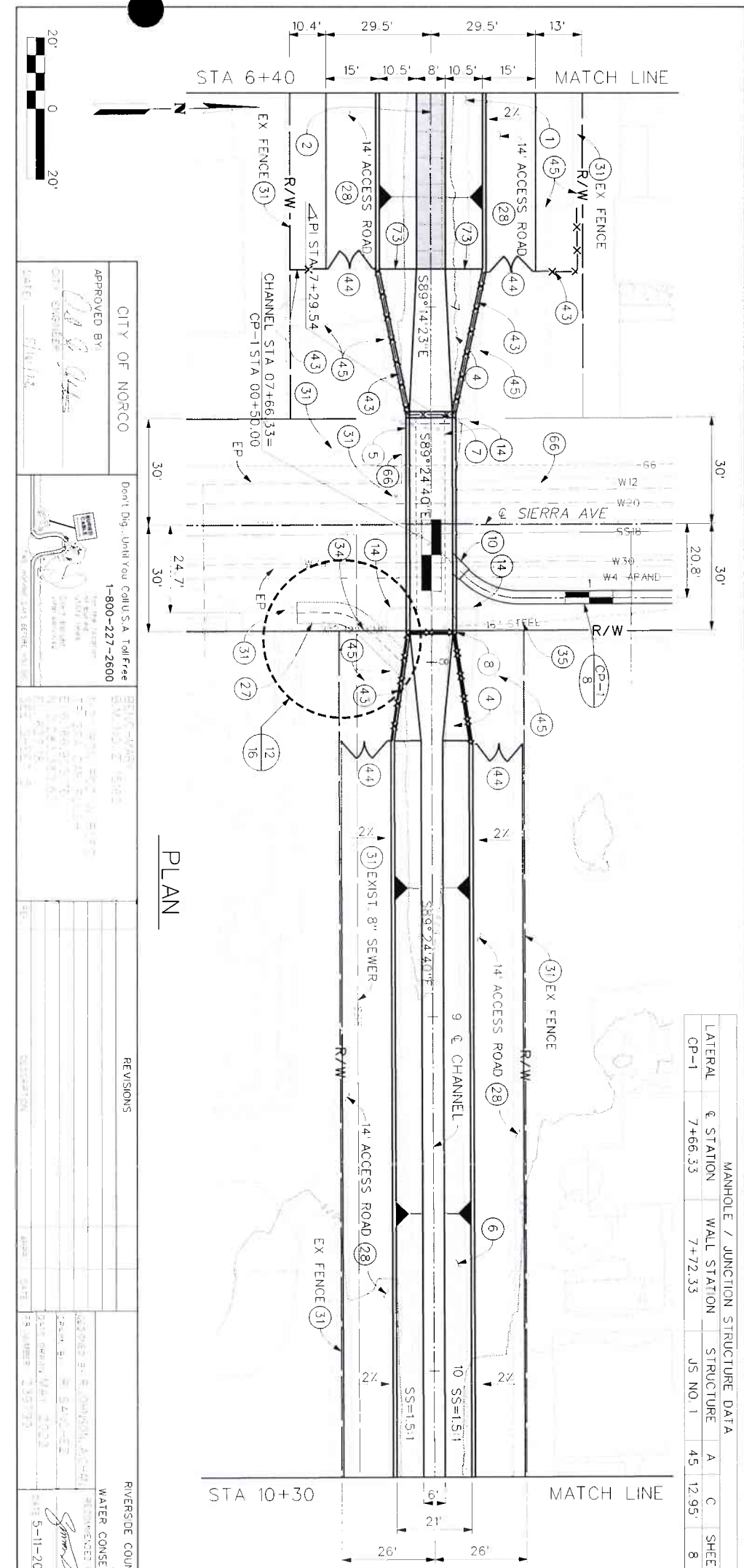
LATERAL	STATION	WALL STATION	STRUCTURE	A	C	SHEET
CP-1	7+66.33	7+72.33	JS NO. 1	45	12.95	8

HORIZ: 1"=20'
VERT: 1"=5'

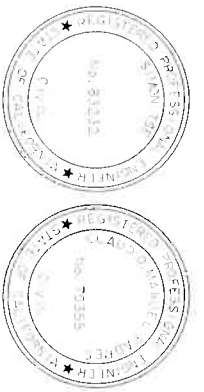


NOTES

- 1) CONSTRUCT MODIFIED CONCRETE TRAPEZOIDAL CHANNEL SIDE SLOPES PER RCFC STD CH326 AND DETAIL 5 ON SHEET 15.
- 2) INSTALL ARTICULATED CONCRETE BLOCK, CLASS 70L, ARMORFLEX CONCRETE BLOCK OR APPROVED EQUIVALENT, PER DETAILS ON SHEET 15.
- 3) CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCFC STD CH329 AND APPLICABLE DETAILS ON SHEET 12 AND SHEET 13.
- 4) CONSTRUCT PRECAST REINFORCED CONCRETE BOX PER APWA STD 399-1, USE EARTH COVER LESS THAN 24" OPTION. SEE TERMINATED DETAILS ON SHEET 19.
- 5) CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER RCFC STD CH326.
- 6) CONSTRUCT BARRIER PARAPET WALL PER DETAILS ON SHEET 19.
- 7) CONSTRUCT STANDARD HEIGHT PARAPET WALL PER DETAILS ON SHEET 19.
- 8) CONSTRUCT JS NO. 1 PER RCFC STD JS226.
- 9) CONSTRUCT SWALE PER DETAILS SHOWN ON SHEET 16.
- 10) PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD.
- 11) PROTECT IN PLACE.
- 12) SAWCUT, REMOVE, AND DISPOSE OF INTERFERING PORTIONS OF EXISTING CMP AND PLUG WITH CLASS "B" CONCRETE, AS DIRECTED BY ENGINEER.
- 13) REMOVE AND DISPOSE OF ALL EXISTING STEEL PIPE AND ASSOCIATED APPURTENANCES.
- 14) INSTALL 6" CHAN LINK FENCE PER RCFC STD M801.
- 15) INSTALL 14" DOUBLE DRIVE GATE PER RCFC STD M801.
- 16) REMOVE AND DISPOSE INTERFERING PORTIONS OF EXISTING CHAN LINK FENCE, GATE, AND ASSOCIATED APPURTENANCES.
- 17) CONSTRUCT SUBDRAN PER RCFC STD CH332.
- 18) OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION BELOW BOTTOM OF INVERT.
- 19) RELOCATE 12 INCH WATER PER UTILITY RELOCATION PLANS SHEETS U1 AND U2.
- 20) CONSTRUCT DOWEL JOINT ALONG SIDE SLOPES PER SHEET 13 DETAIL 2.
- 21) INSTALL TRASH CAPTURE DEVICE PER T1MA DRAFT STD 313.



PLAN



CITY OF NORCO
APPROVED BY: [Signature]
DATE: 5/10/2022

Port'l Eng. Unit You Call U.S.A. Toll Free
1-800-227-2600

REVISIONS

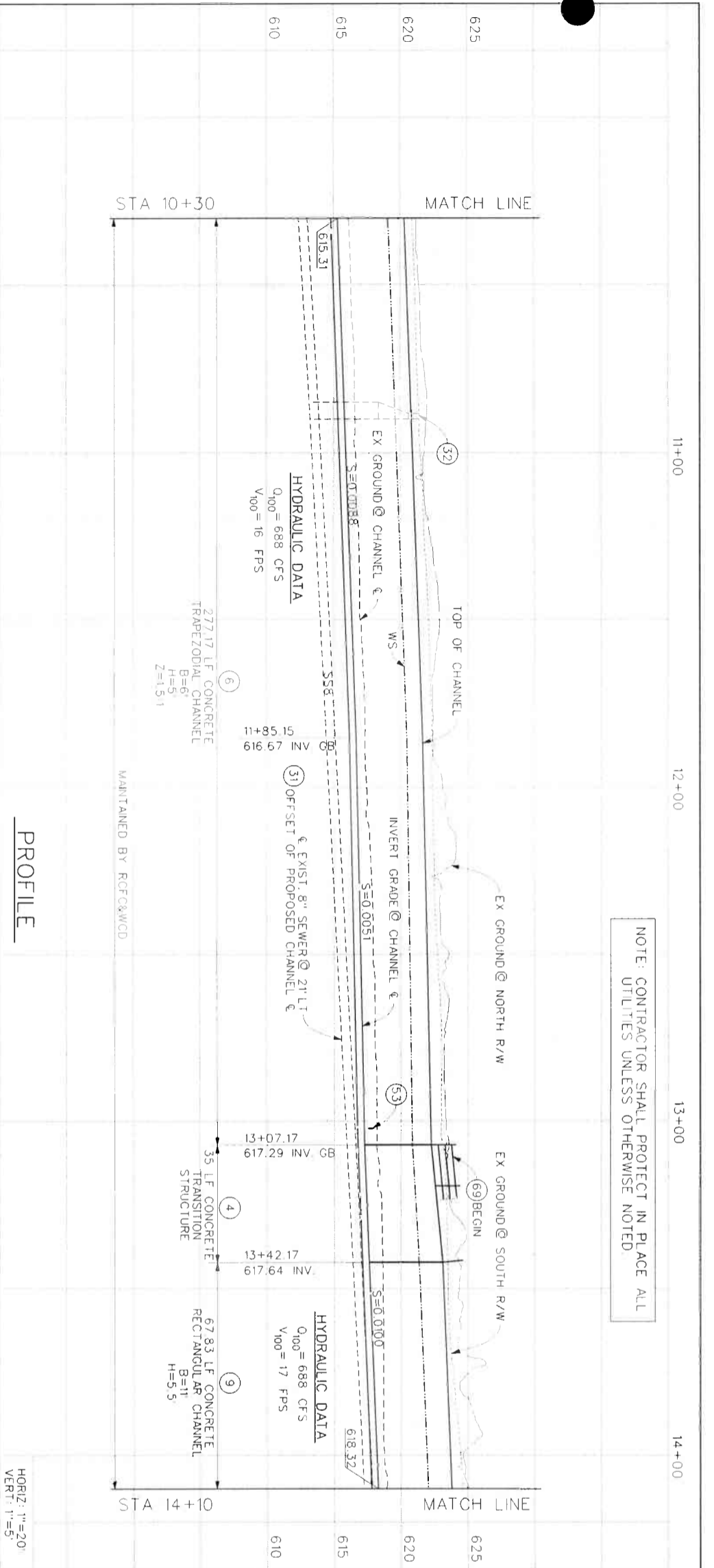
NO.	DATE	DESCRIPTION
1	5/10/2022	ISSUED FOR PERMITS

RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

NORTH NORCO CHANNEL
LINE NB, STAGE 3
STA 6+40 TO STA 10+30

2-0-00145
2-0471
3 21

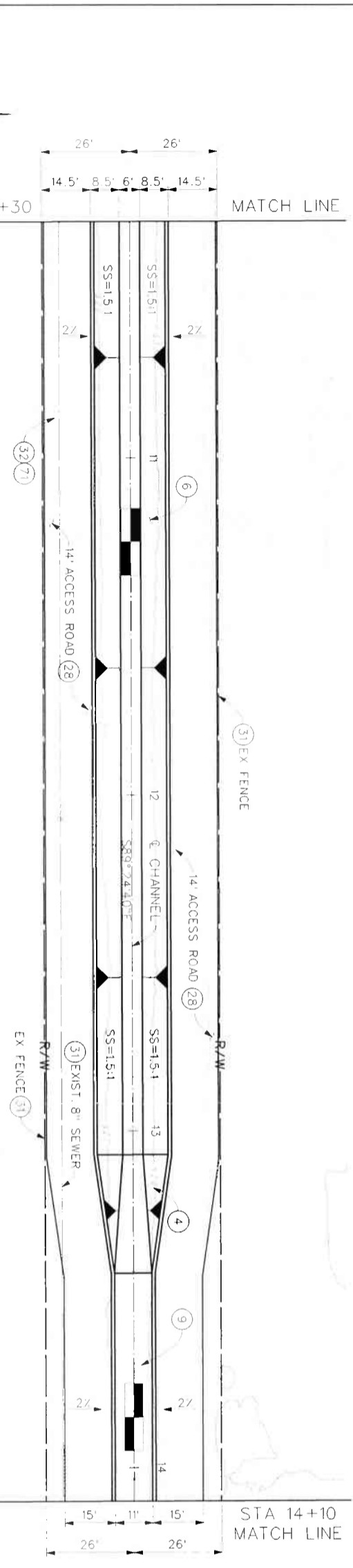




NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED

PROFILE

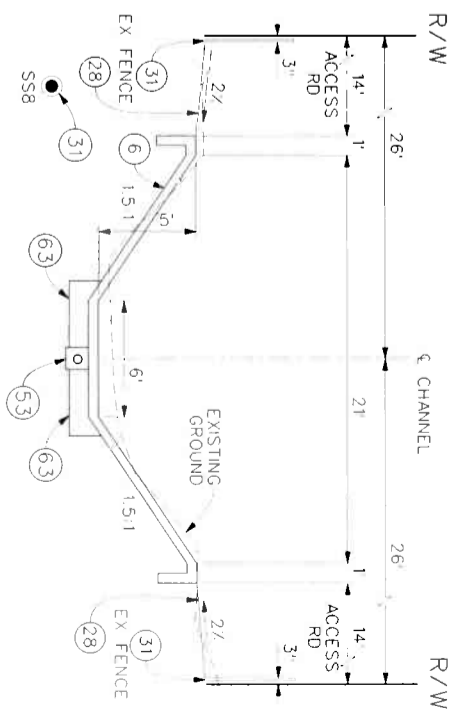
HORIZ: 1"=20'
VERT: 1"=5'



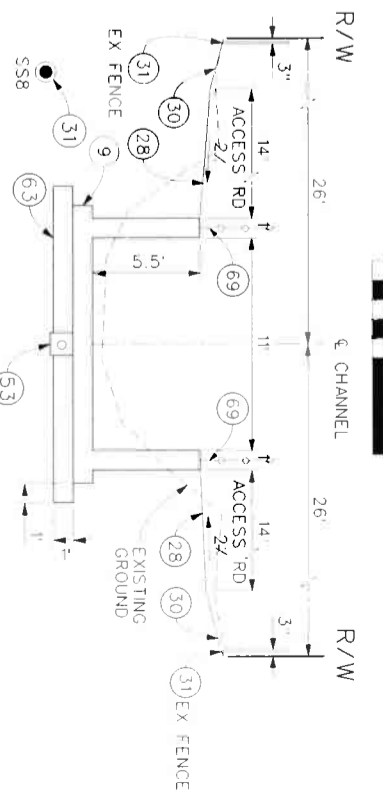
PLAN

NOTES

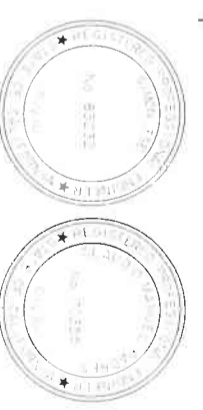
- 4 CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCF&C STD CH329 AND APPLICABLE DETAILS ON SHEET 12 AND SHEET 13.
- 6 CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER RCF&C STD CH326.
- 9 CONSTRUCT CONCRETE RECTANGULAR CHANNEL PER RCF&C STD CH327 AND DETAIL ON SHEET 14.
- 28 PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD
- 31 PROTECT IN PLACE.
- 32 ADJUST MANHOLE TO GRADE.
- 53 CONSTRUCT SUBURBAN PER RCF&C STD CH332
- 63 OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION 1' BELOW BOTTOM OF INVERT.
- 69 INSTALL CABLE RAILING PER CALTRANS STD BI1-47.
- 71 CONSTRUCT 6" DIAMETER X 6" THICK CONCRETE PAD WITH #4 @ 18" O.C. EACH WAY



SECTION AT STA 11+25
TYPICAL FROM STA 8+22.29 TO 13+07.17

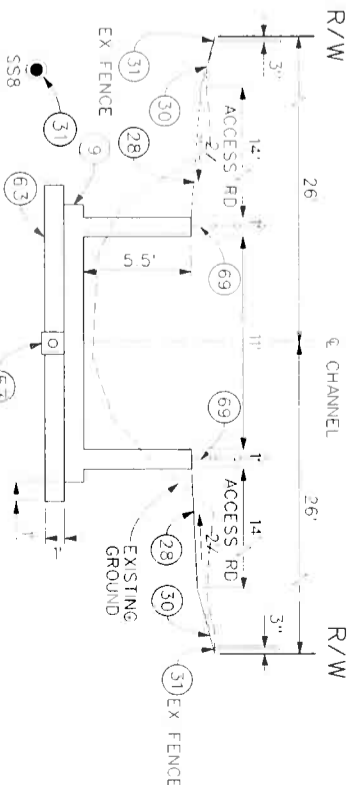
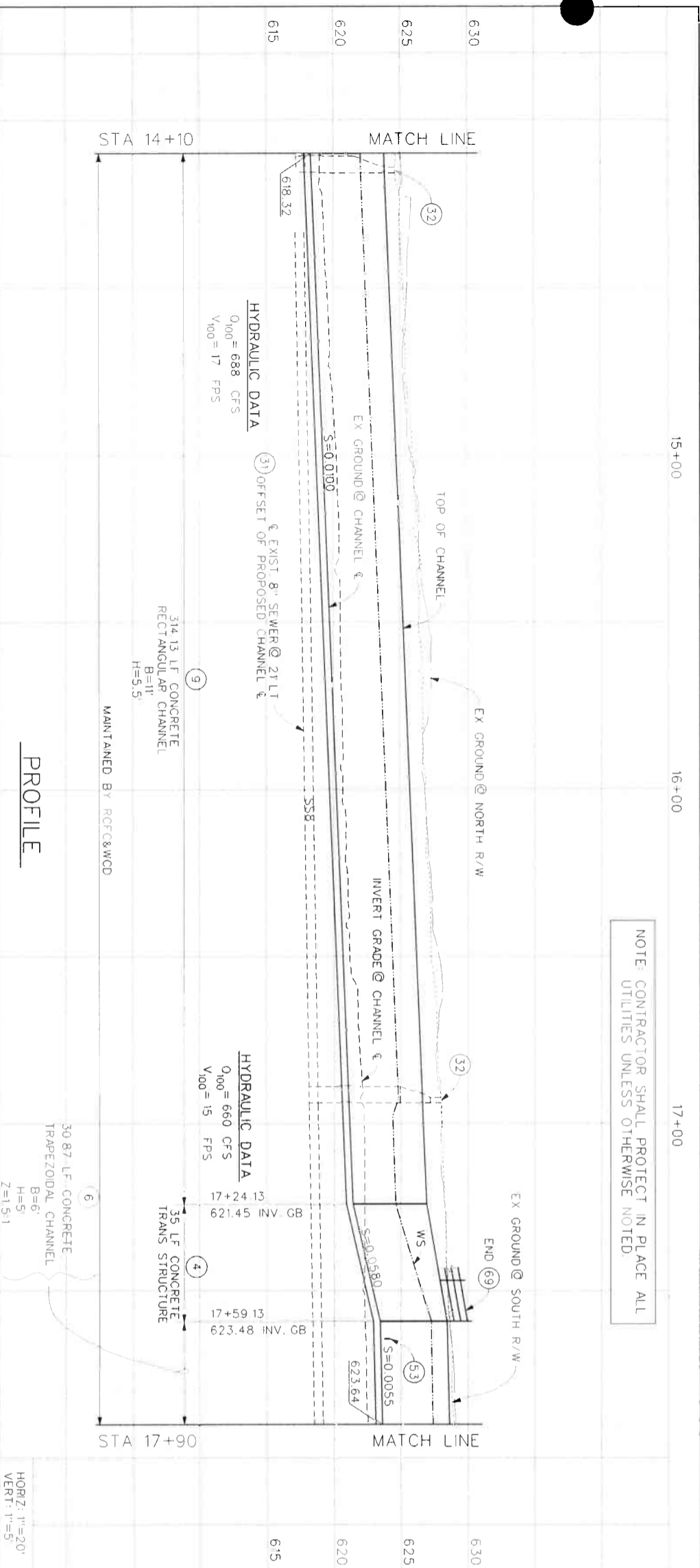


SECTION AT STA 13+85
TYPICAL FROM STA 13+07.17 TO 14+10

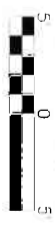


CITY OF NORCO APPROVED BY: <i>[Signature]</i> DATE: 5/16/22	Dept. Dig. Until You Call U.S.A. Toll Free 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145 2-0471
				STA 10+30 TO STA 14+10	4 21

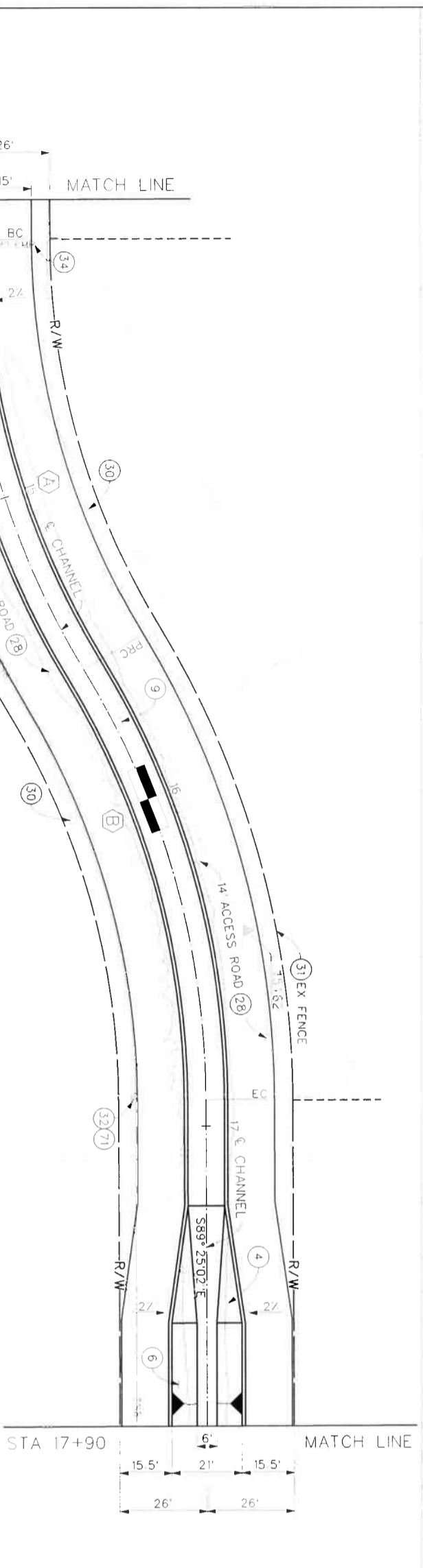
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED



SECTION AT STA 16+00
TYPICAL FROM STA 13+42.17 TO 17+24.13



- NOTES**
- 4 CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCFG STD CH329 AND APPLICABLE DETAILS ON SHEET 12 AND SHEET 13
 - 6 CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER RCFG STD CH326
 - 9 CONSTRUCT CONCRETE RECTANGULAR CHANNEL PER RCFG STD CH327 AND DETAIL ON SHEET 14
 - 28 PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD
 - 30 SLOPE TO MEET EXISTING GRADE AT FENCE
 - 31 PROTECT IN PLACE
 - 32 ADJUST MANHOLE TO GRADE
 - 34 SAWCUT, REMOVE, AND DISPOSE OF INTERFERING PORTIONS OF EXISTING CMP AND PLUG WITH CLASS "B" CONCRETE, AS DIRECTED BY ENGINEER.
 - 53 CONSTRUCT SUBDRAIN PER RCFG STD CH332.
 - 63 OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION BELOW BOTTOM OF INVERT
 - 69 INSTALL CABLE RAILING PER CALTRANS STD BH-47
 - 71 CONSTRUCT 6" DIAMETER X 6" THICK CONCRETE PAD WITH #4 @ 18" O.C. EACH WAY.

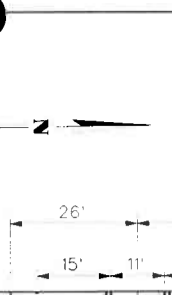


Ⓐ ☉ CURVE DATA

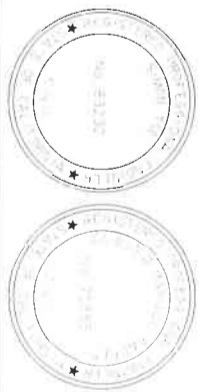
$\Delta = 31^{\circ}01'06.97''$
 $R = 250'$
 $L = 135.34'$
 $T = 69.37'$
 $BC = STA 14+21.67$
 $EC = STA 15+57.01$
 $PI N = 2283300.08$
 $E = 6186767.15$

Ⓑ ☉ CURVE DATA

$\Delta = 31^{\circ}00'45.03''$
 $R = 250'$
 $L = 135.32'$
 $T = 69.36'$
 $BC = STA 15+57.01$
 $EC = STA 16+92.33$
 $PI N = 2283370.35$
 $E = 6166886.77$



PLAN



CITY OF NORCO
 APPROVED BY: *[Signature]*
 DATE: 5/16/22

DEPT. Dir. Util./W. Calli S.A. Tol. Free
 1-800-227-2600

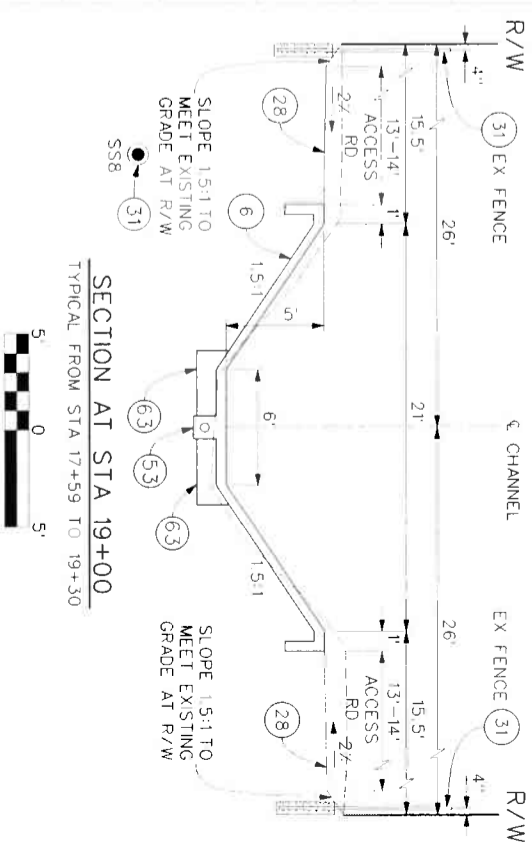
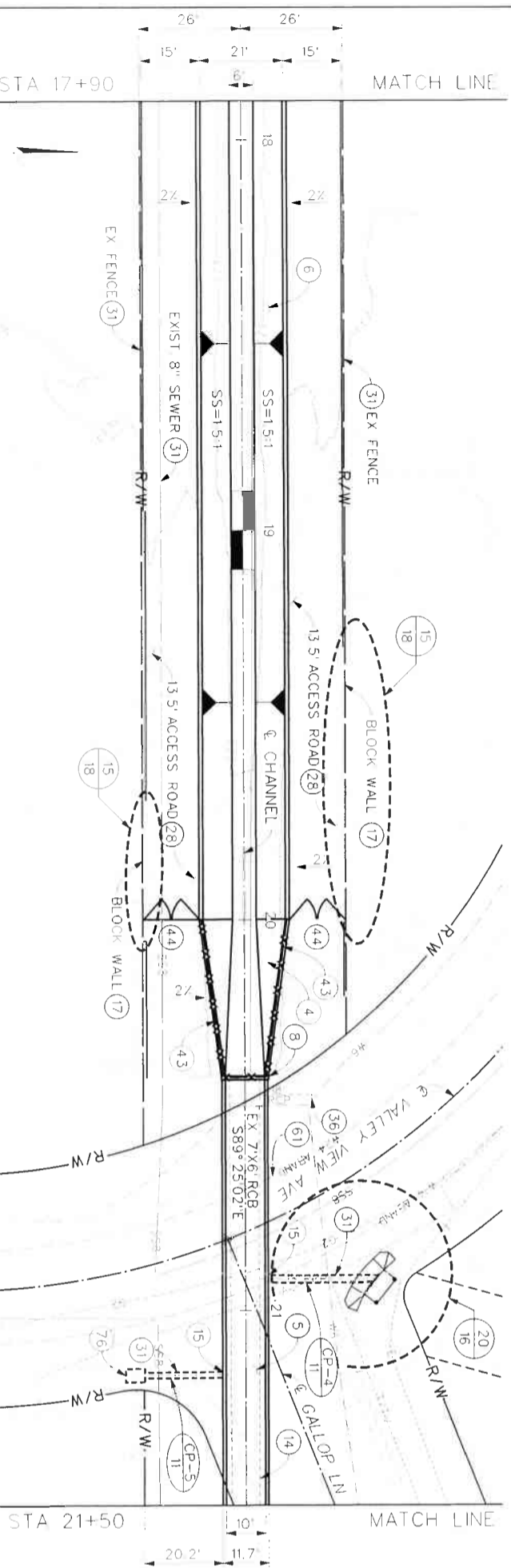
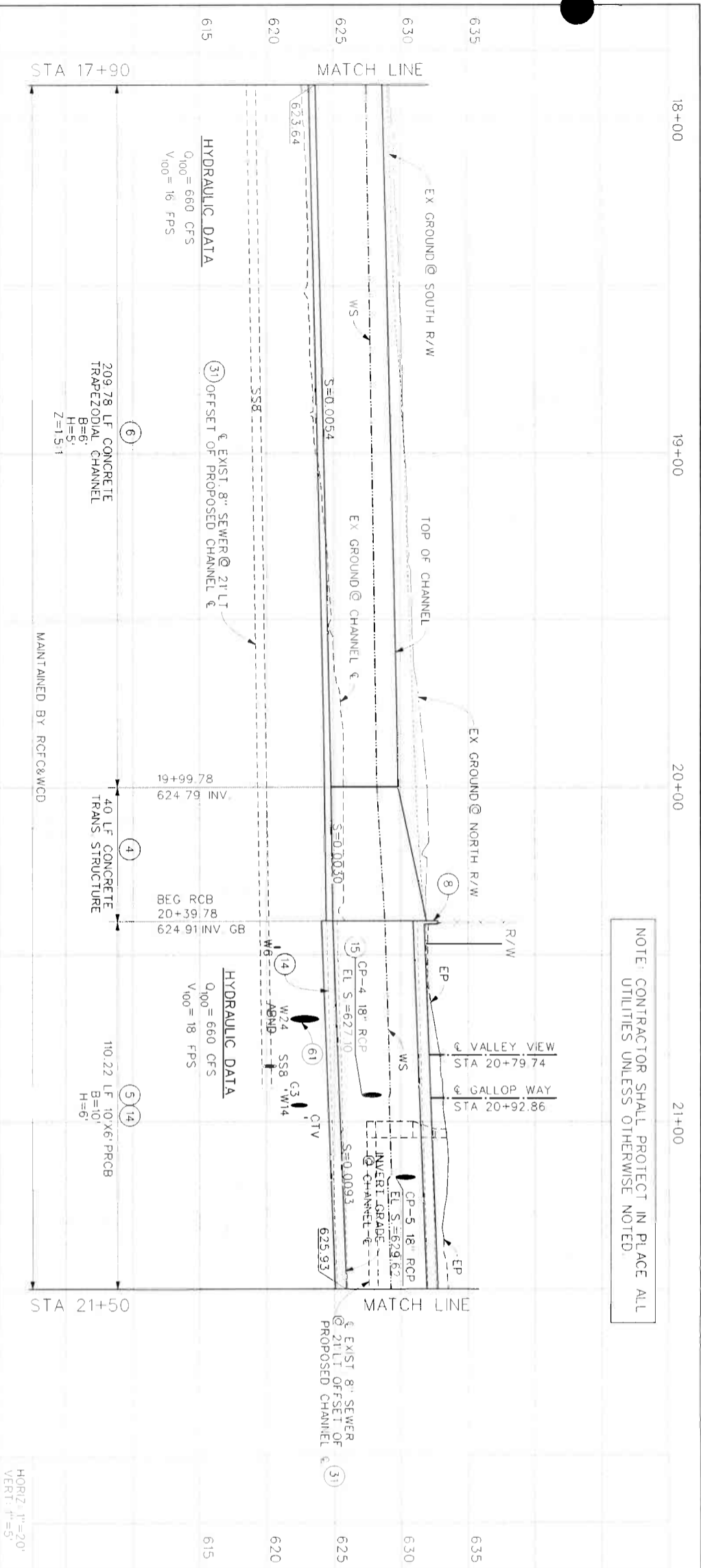
REVISIONS

RIVERSIDE COUNTY FLOOD CONTROL
 WATER CONSERVATION DISTRICT
 DATE: 5-11-2022

NORTH NORCO CHANNEL
 LINE NB, STAGE 3

2-0-00145
 2-0471
 5 21

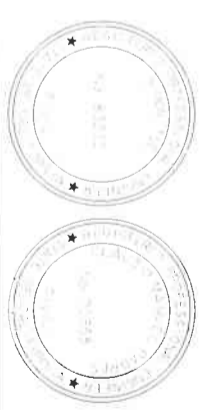
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.



LATERAL	STATION	WALL STATION	STRUCTURE	A	C	SHEET
CP-4	20+91±	JS NO. 3	90	NA	11	
CP-5	21+16±	JS NO. 3	90	NA	11	

NOTES

1. CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCFC STD CH329 AND APPLICABLE DETAILS ON SHEET 12 AND SHEET 13.
2. INSTALL PRECAST REINFORCED CONCRETE BOX PER APWA STD 350-1, USE EARTH COVER LESS THAN 24" OPTION, SEE TERMINATED DETAILS ON SHEET 19.
3. CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER RCFC STD CH326.
4. CONSTRUCT STANDARD HEIGHT PARAPET WALL PER DETAILS ON SHEET 19.
5. DEMOLISH, REMOVE AND DISPOSE OF EXISTING RCB, HEADWALLS, AND ALL ASSOCIATED APPURTENANCES.
6. CONSTRUCT JS NO. 3 PER RCFC STD JS228.
7. CONSTRUCT BLOCK WALL PER DETAIL 16 ON SHEET 18.
8. PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD.
9. PROTECT IN PLACE.
10. REMOVE AND DISPOSE OF EXISTING RCP AND ASSOCIATED APPURTENANCES.
11. INSTALL 14" DOUBLE DRIVE GATE PER RCFC STD M801.
12. CONSTRUCT SUBDRAN PER RCFC STD CH332.
13. SAWCUT, PLUG, REMOVE, AND DISPOSE INTERFERING PORTIONS OF 24" ABANDONED WATER LINE.
14. OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION BELOW BOTTOM OF INVERT.
15. INSTALL TRASH CAPTURE DEVICE PER TLMA DRAFT STD 313.



CITY OF NORCO
APPROVED BY: *[Signature]*
5/16/22

Drafting: *[Signature]*
1-800-227-2600

REVISIONS

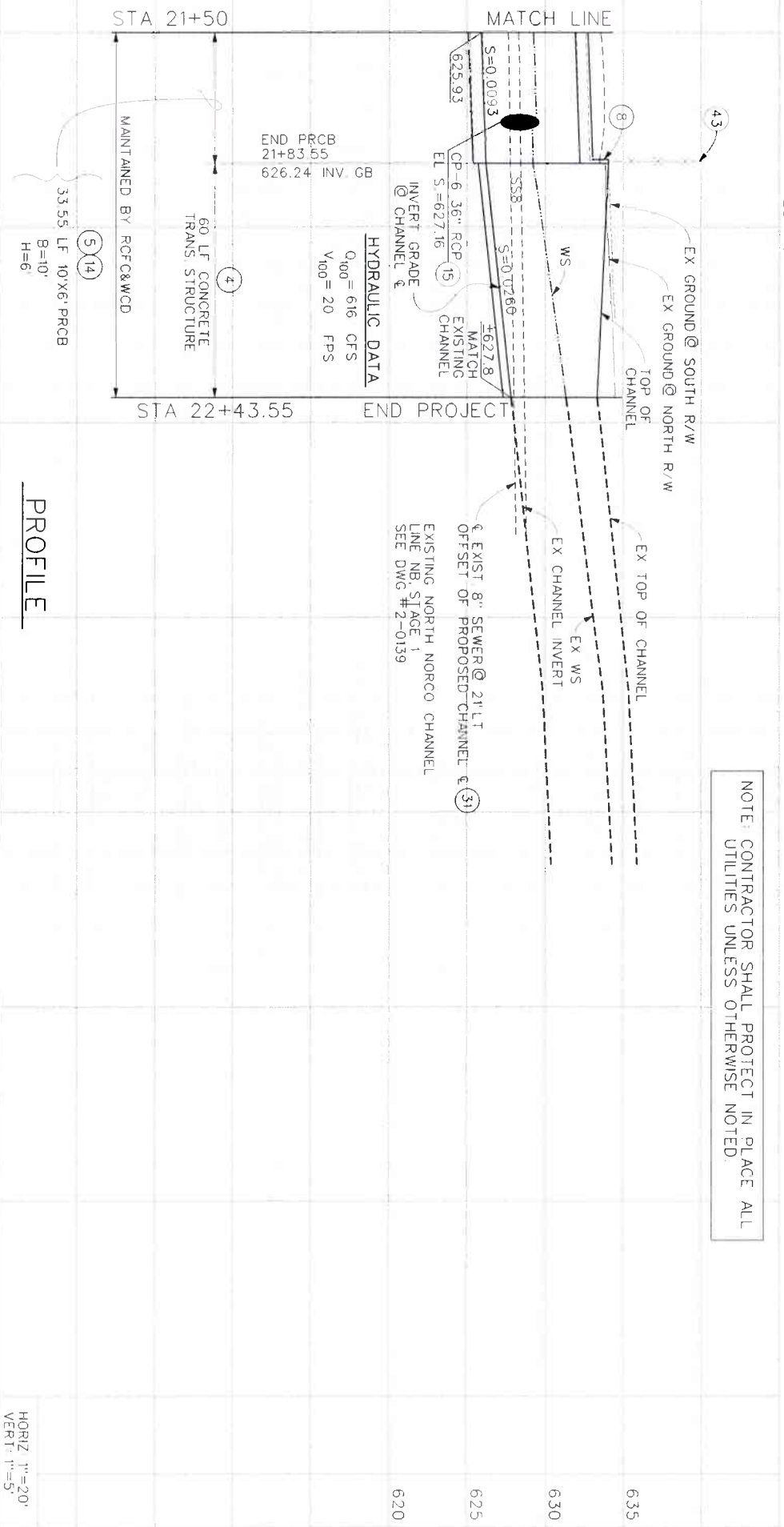
NO.	DATE	DESCRIPTION
1	5/16/22	ISSUED FOR PERMITS

REVERSIDE COUNTY FLOOD CONTROL
WATER CONSERVATION DISTRICT
5-1-2022

[Signature]

NORTH NORCO CHANNEL
LINE NB, STAGE 3
2-0-00145
2-0471

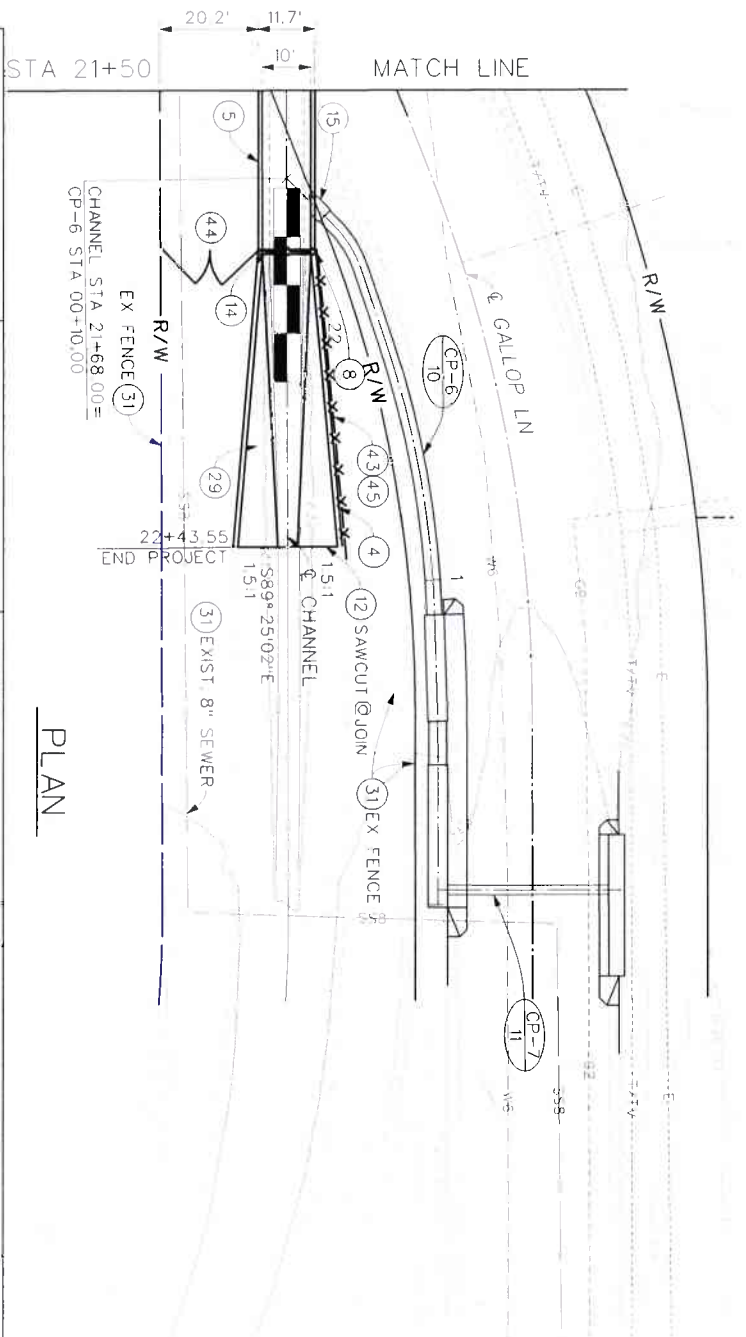
22+00



NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.

PROFILE

HORIZ. 1"=20'
VERT. 1"=5'



PLAN

20' 0 20'



CITY OF NORCO
APPROVED BY: *[Signature]*
DATE: 5/16/22

Don't Dig, Utility Call, CA's A Toll-Free 1-800-227-2800

BEYOND THE BOUNDARIES OF THE CITY OF NORCO

REVISIONS

NO. DATE BY DESCRIPTION

REVISIONS

RIVERSIDE COUNTY FLOOD CONTROL
WATER CONSERVATION DISTRICT

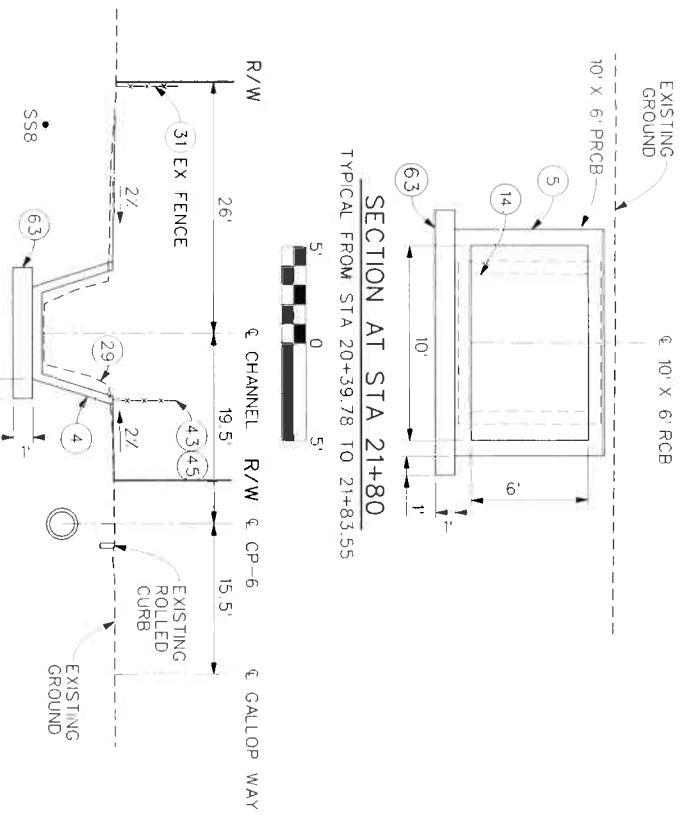
APPROVED BY: *[Signature]*
DATE: 5-11-2022

NORTH NORCO CHANNEL
LINE NB, STAGE 3
STA 21+50 TO STA 22+43.55



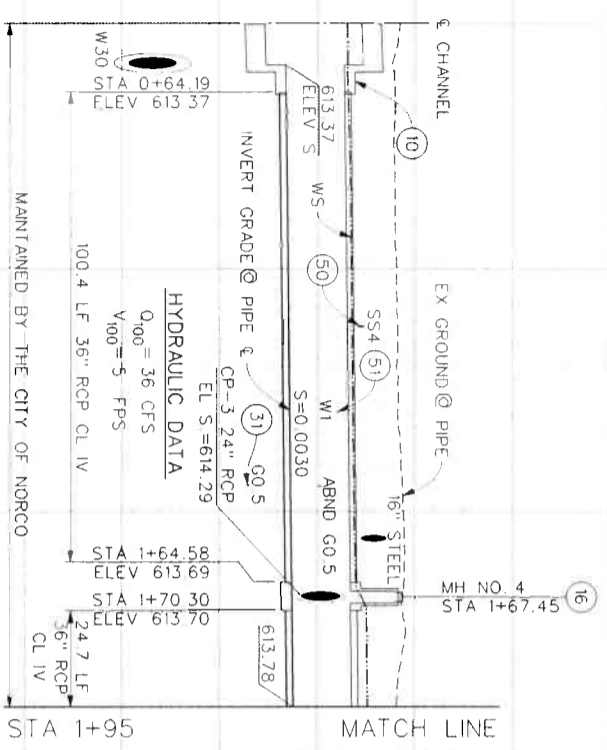
MANHOLE/JUNCTION STRUCTURE DATA				
LATERAL	STATION	WALL STATION	STRUCTURE	CONNECTION
CP-6	21+68.00	21+73	JS NO. 3	45 NA
CP-7	1+63.66	1+16.55	SPECIAL CONNECTION	90 NA

- NOTES**
- CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCFC STD CH329 AND APPLICABLE DETAILS ON SHEET 12 AND SHEET 13.
 - INSTALL PRECAST REINFORCED CONCRETE BOX PER AP/WA STD 390-1. USE EARTH COVER LESS THAN 24" OPTION. SEE TERMINATED DETAILS ON SHEET 19.
 - CONSTRUCT STANDARD HEIGHT PARAPET WALL PER DETAILS ON SHEET 19.
 - JOIN EXISTING CHANNEL AS SHOWN IN DETAIL 10 ON SHEET 15.
 - DEMOLISH, REMOVE AND DISPOSE OF EXISTING PCB HEADWALLS, AND ALL ASSOCIATED APURTENANCES.
 - CONSTRUCT JS NO. 3 PER RCFC STD JS228.
 - SAWCUT, REMOVE, AND DISPOSE OF EXISTING TRANSITION STRUCTURE FROM CHANNEL STA 21+83.55 - STA. 22+43.55.
 - PROTECT IN PLACE.
 - INSTALL 6" CHAIN LINK FENCE PER RCFC STD M801.
 - INSTALL 14" DOUBLE DRIVE GATE PER RCFC STD M801.
 - REMOVE AND DISPOSE INTERFERING PORTIONS OF EXISTING CHAIN LINK FENCE, GATE, AND ASSOCIATED APURTENANCES.
 - OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION 1' BELOW BOTTOM OF INVERT.



2-0-00145
2-0471
7 21

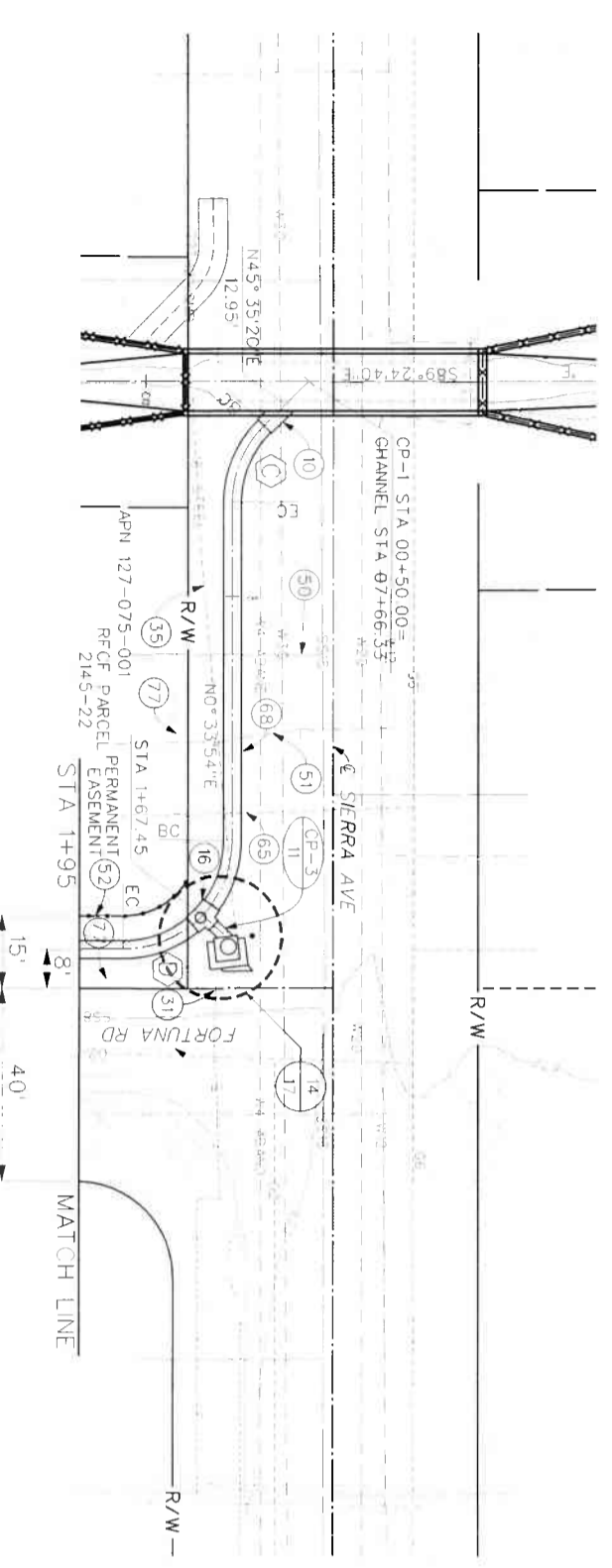
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.



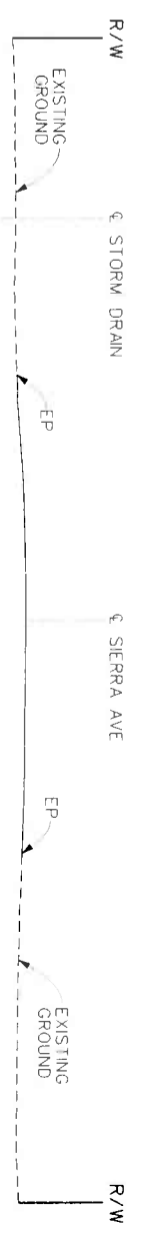
PROFILE CP-1

HORIZ. 1"=20'
VERT. 1"=5'

PLAN CP-1



PLAN CP-1



SECTION AT STA 1+00
TYPICAL FOR SIERRA AVE

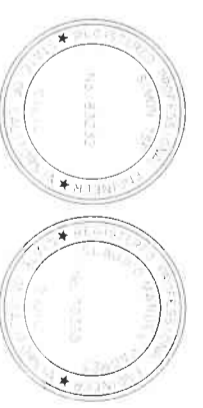


NOTES

- 1) CONTRACTOR SHALL PROVIDE MINIMUM 30 DAY NOTICE PRIOR TO CONSTRUCTION ACTIVITIES WITHIN EASEMENTS. THE CONTRACTOR SHALL COMPLETE ALL WORK AND RESTORE THE EASEMENT LIMITS TO PRECONSTRUCTION CONDITIONS WITHIN 4 WEEKS OF NOTICE REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 10) CONSTRUCT JS NO. 1 PER RCFC STD JS226.
- 16) CONSTRUCT MANHOLE NO. 4 PER RCFC STD MH254.
- 31) PROTECT IN PLACE.
- 35) REMOVE AND DISPOSE OF ALL EXISTING STEEL PIPE AND ASSOCIATED APPURTENANCES.
- 50) REMODEL INTERFERING PORTION OF 4-INCH VITRIFIED CLAY PIPE HOUSE CONNECTION PER RCFC STD M808 OTHERWISE PROTECT IN PLACE.
- 51) RELOCATE 1" WATER LINE PER UTILITY RELOCATION PLANS ON SHEET U1 AND U2.
- 52) INSTALL TEMPORARY FENCING WITH PRIVACY SCREEN ALONG EASEMENT AS SHOWN HEREON TO SECURE PRIVATE PROPERTY, AS DIRECTED BY ENGINEER.
- 68) SALVAGE AND REINSTALL EXISTING MAILBOXES. COORDINATE WITH USPS PRIOR TO ANY DELIVERY INTERRUPTIONS.
- 77) REMOVE AND LEGALLY DISPOSE EXISTING PRIVATE CHAIN LINK FENCING AS NEEDED TO CONDUCT WORK. EXISTING FENCE SHALL NOT BE REMOVED UNTIL CONTRACTOR INSTALLS TEMPORARY FENCING CONSISTENT WITH NOTE 52.

MANHOLE/JUNCTION STRUCTURE DATA					
LATERAL	STATION	WALL STATION	STRUCTURE	A	C
CP-1	7+66.33	7+72.33	JS NO. 1	45	12.95
CP-3	1+67.45	1+67.45	MH NO. 4	90	3.04

<p>⊙ CURVE DATA</p> <p>$\Delta = 44^{\circ}51'43''$ $R = 22.50'$ $L = 17.62'$ $T = 9.29'$ $BC = STA 0+62.95$ $EC = STA 0+80.56$ $PI N = 2283323.11$ $E = 6166058.34$</p>	<p>⊙ CURVE DATA</p> <p>$\Delta = 90^{\circ}04'22''$ $R = 22.50'$ $L = 35.37'$ $T = 22.53'$ $BC = STA 1+50.47$ $EC = STA 1+85.85$ $PI N = 2283424.83$ $E = 6166059.34$</p>
--	---



CITY OF NORCO
APPROVED BY
[Signature]
5/16/22

Don't Dig. Until You Call. It's A Toll-Free
1-800-227-2800

REVISIONS

RIVERSIDE COUNTY FLOOD CONTROL
WATER CONSERVATION DISTRICT

DATE: 5-11-2022

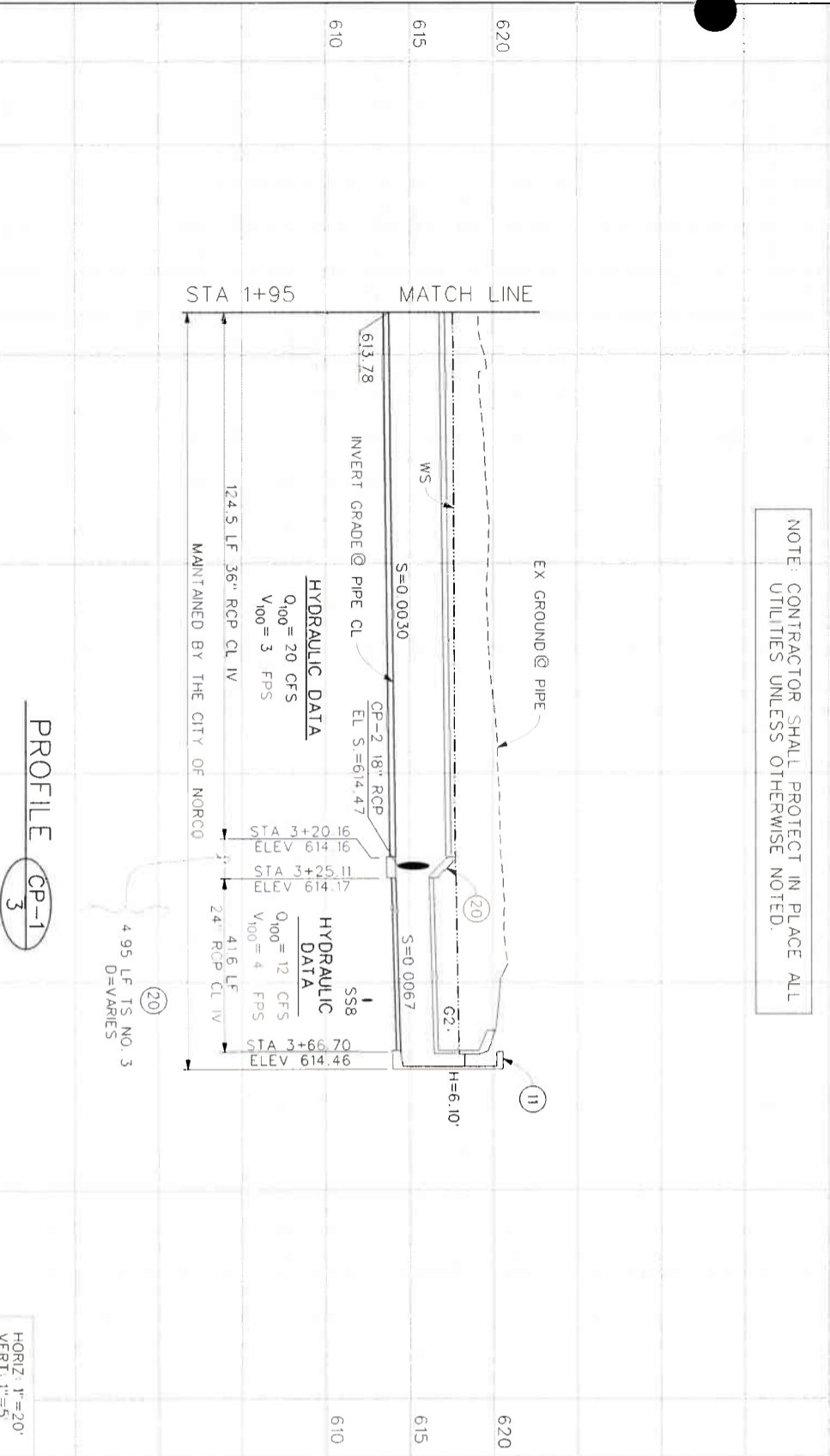
[Signature]
5/16/2022

NORTH NORCO CHANNEL
LINE NB, STAGE 3
LATERAL CP-1
STA 0+50 TO STA 1+95

2-0-00145
2-0471
8 21

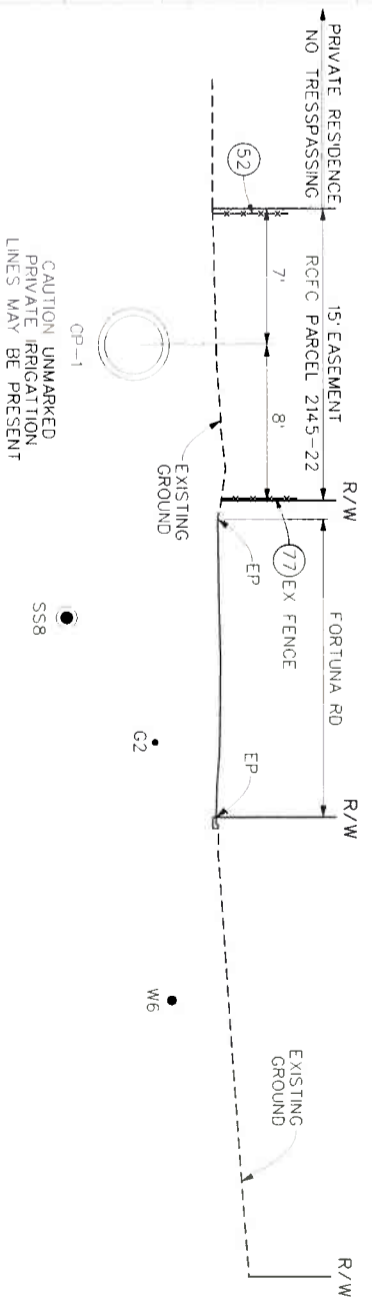
2+00 3+00

NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.

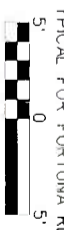


PROFILE CP-1 3

HORIZ. 1"=20'
VERT. 1"=5'



SECTION AT STA 2+25
TYPICAL FOR FORTUNA RD



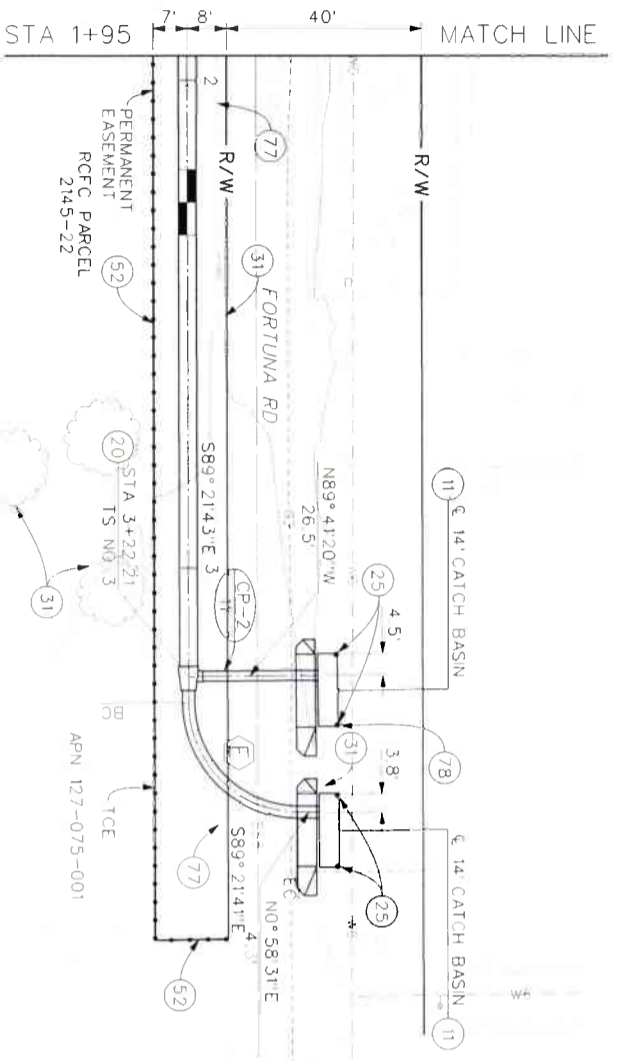
LATERAL	STATION	WALL STATION	STRUCTURE	A	C
CP-2	3+22.2	3+22.2	TS NO. 3	90	290

NOTES

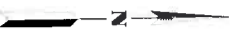
- CONTRACTOR SHALL PROVIDE MINIMUM 30 DAY NOTICE PRIOR TO CONSTRUCTION ACTIVITIES WITHIN EASEMENTS. THE CONTRACTOR SHALL COMPLETE ALL WORK AND RESTORE THE EASEMENT LIMITS TO PRECONSTRUCTION CONDITIONS WITHIN 4 WEEKS OF NOTICE. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- CONSTRUCT CATCH BASIN PER TLMA STD. NO. 300 WITH TRASH CAPTURE DEVICE PER DRAFT TLMA STD. NO. 313.
- CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFC STD. TS303.
- INSTALL SAFETY BOLLARD PER DETAILS ON SHEET 18.
- PROTECT IN PLACE.
- INSTALL TEMPORARY FENCING WITH PRIVACY SCREEN ALONG EASEMENT AS SHOWN HEREON TO SECURE PRIVATE PROPERTY, AS DIRECTED BY ENGINEER.
- REMOVE AND LEGALLY DISPOSE EXISTING PRIVATE CHAIN LINK FENCING AS NEEDED TO CONDUCT WORK. EXISTING FENCE SHALL NOT BE REMOVED UNTIL CONTRACTOR INSTALLS TEMPORARY FENCING CONSISTENT WITH NOTE 52.
- REMOVE SALVAGE AND DELIVER INTERFERING PORTIONS OF EXISTING PAVERS TO PROPERTY OWNERS.

Q CURVE DATA

Δ = 89° 39' 45"
R = 22.50'
L = 35.21'
T = 22.37'
BC = STA 3+27.53
EC = STA 3+62.74
PI N = 2283422.75
E = 6166245.91



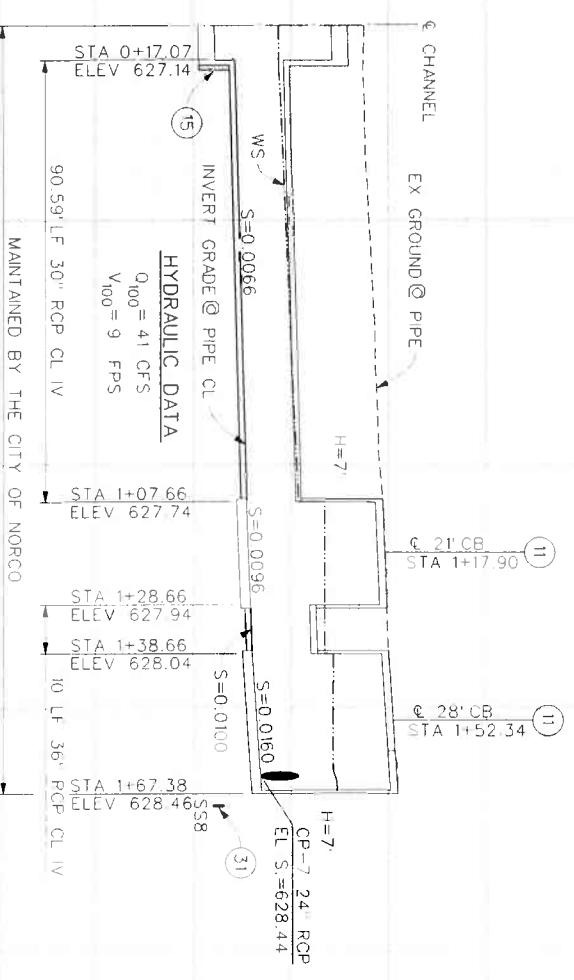
PLAN CP-1 3



CITY OF NORCO	Don't Dig Until You Call U.S.A. TollFree 1-800-227-2600	REVISIONS	PIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145
APPROVED BY: <i>[Signature]</i> 5/16/22				LATERAL CP-1 STA 1+95 TO STA 3+66.70	2-0471
					9 21

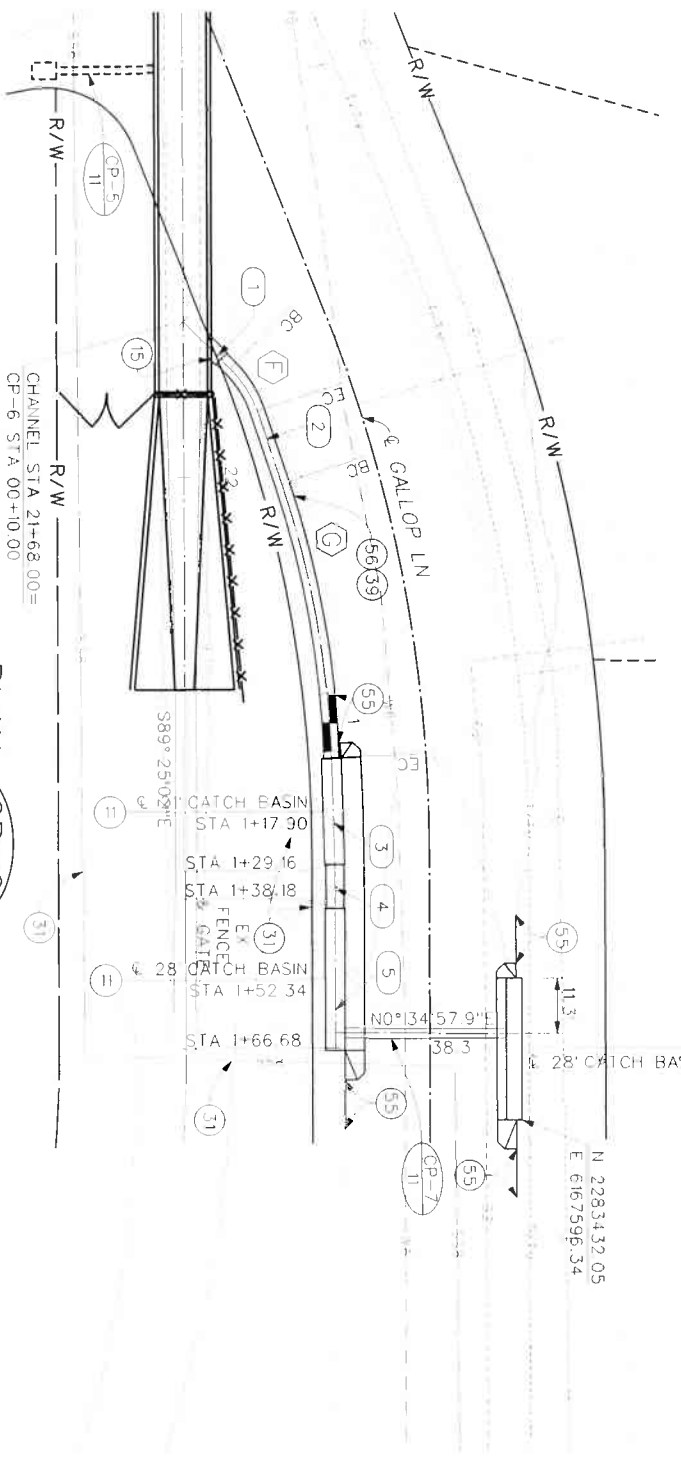


NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.

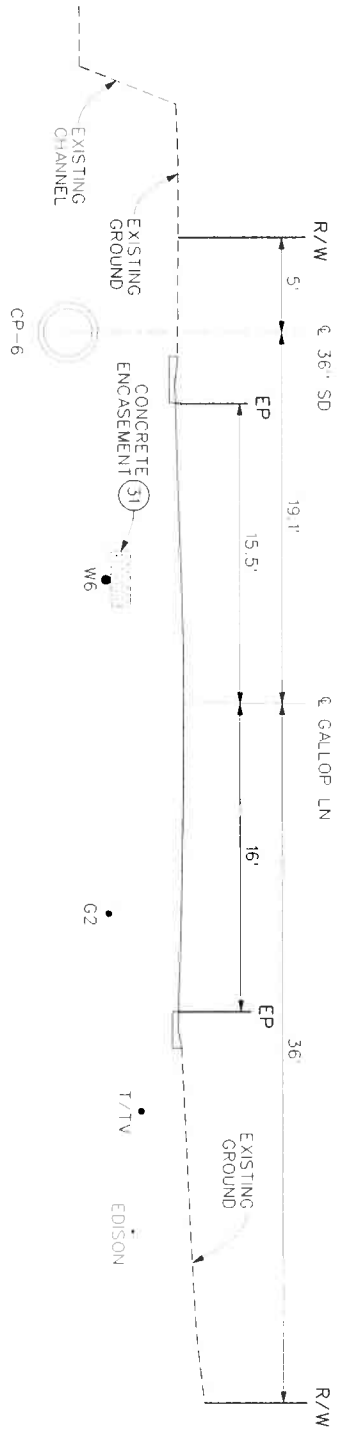


PROFILE CP-6

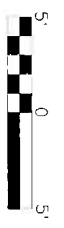
HORIZ: 1"=20'
VERT: 1"=5'



PLAN CP-6

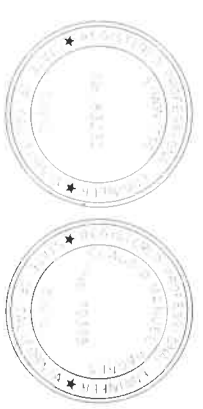


SECTION AT STA 1+00
TYPICAL FOR GALLOP LN



MANHOLE/JUNCTION STRUCTURE DATA			
LATERAL	STATION	WALL STATION	STRUCTURE
CP-6	21+68.00	21+73	JS NO. 3
CP-7	1+63.66	1+63.66	SPECIAL CONNECTION

- NOTES**
- (11) CONSTRUCT CATCH BASIN PER TMLA STD NO. 300 WITH TRASH CAPTURE DEVICE PER DRAFT TMLA STD NO. 315
 - (15) CONSTRUCT JS NO. 3 PER RCFD STD JS228.
 - (31) PROTECT IN PLACE
 - (39) CONSTRUCT STANDARD ROLLED CURB PER CITY OF NORCO STD 205.
 - (55) CONSTRUCT 10' CURB TRANSITION PER CITY OF NORCO STD DWG NO. 215, TRANSITION FROM STD ROLLED CURB TO TYPE "C" CURB & GUTTER.
 - (56) SAWCUT, REMOVE, AND DISPOSE OF INTERFERING PORTIONS OF ROLLED CURB, AS DIRECTED BY THE ENGINEER
 - (67) CONSTRUCT GRATED CATCH BASIN PER TMLA STD NO. 302 WITH TRASH CAPTURE DEVICE PER DRAFT TMLA STD NO. 315
- Curve Data F**
- $\Delta = 26^\circ 36' 58''$
 $R = 22.50'$
 $L = 10.45'$
 $T = 5.32'$
 $BC = STA 0+23.75$
 $EC = STA 0+34.20$
 $PI N = 2283378.15$
 $E = 6167445.40$
- Curve Data G**
- $\Delta = 16^\circ 44' 35''$
 $R = 195.00'$
 $L = 56.98'$
 $T = 28.70'$
 $BC = STA 0+49.98$
 $EC = STA 1+06.97$
 $PI N = 2283393.38$
 $E = 6167492.82$
- | CP-6 ALIGNMENT GEOMETRY | | | |
|-------------------------|----------------------|----------|-----|
| PI STA | BEARING | DISTANCE | |
| 0+10.00 | N45° 34' 58" E | 13.75' | (1) |
| | EC | | (2) |
| | N72° 11' 56" E | 15.78' | (2) |
| | BC | | (3) |
| | SEE CURVE DATA BELOW | | (3) |
| | EC | | (4) |
| | N88° 56' 31" E | 21.70' | (4) |
| | 1+28.67 | | (4) |
| | S89° 33' 54" E | 10.02' | (5) |
| | 1+38.69 | | (5) |
| | S89° 18' 44" E | 28.00' | (5) |



CITY OF NORCO
 APPROVED BY: *[Signature]*
 Date: 5/11/2022

Dept. Eng. Unit: You Call Us A Tailor
 1-800-227-2600

REVISIONS

NO.	DATE	DESCRIPTION
1	5/11/2022	ISSUED FOR PERMIT

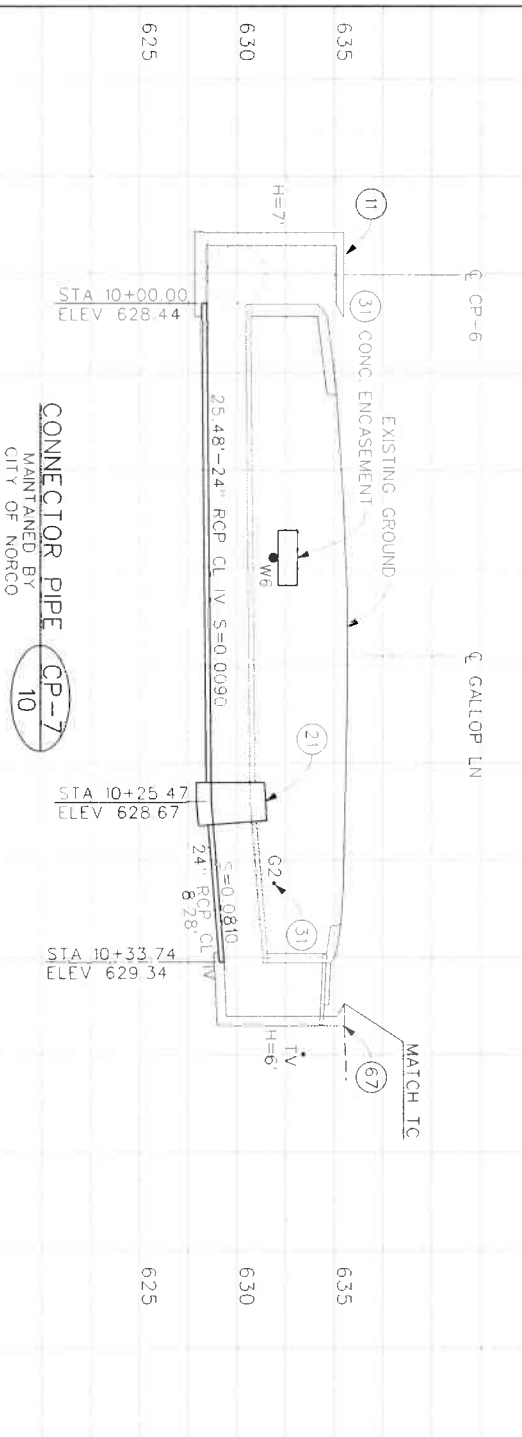
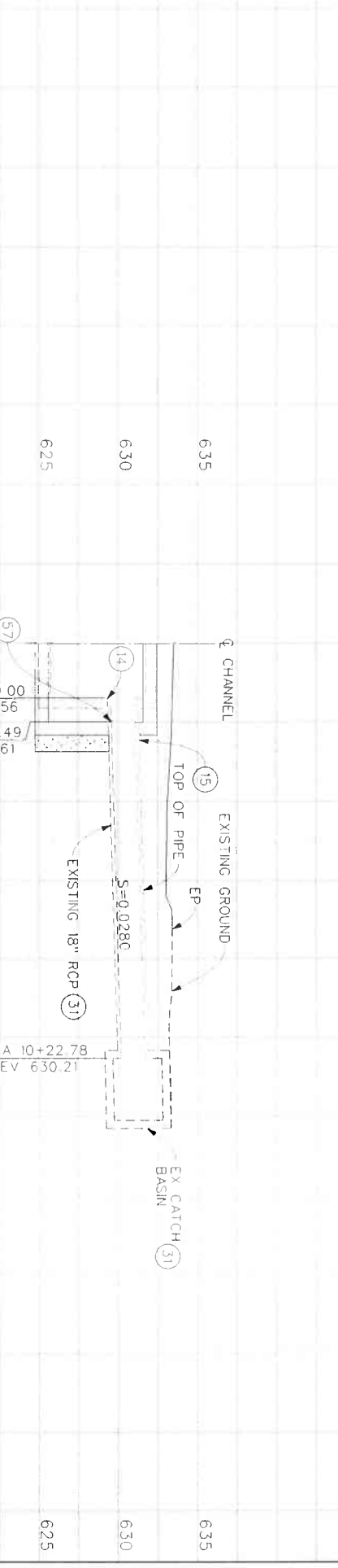
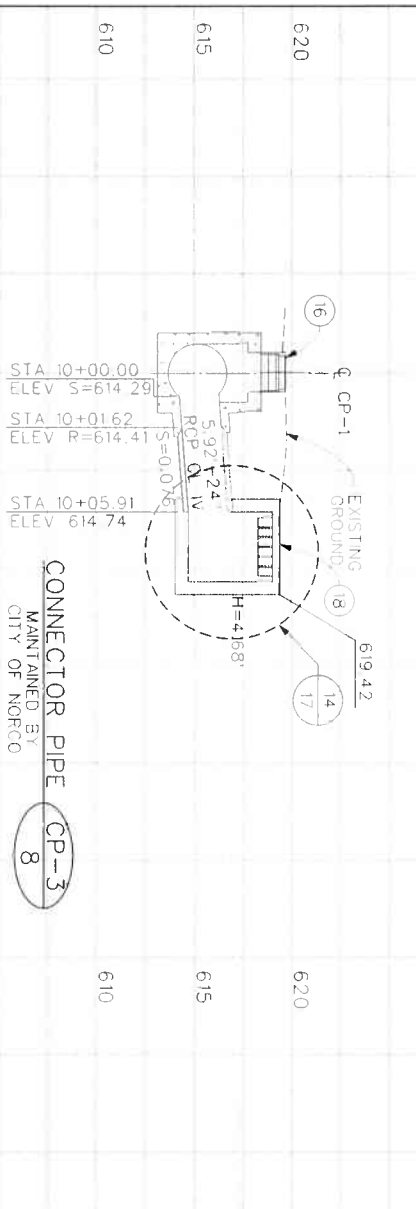
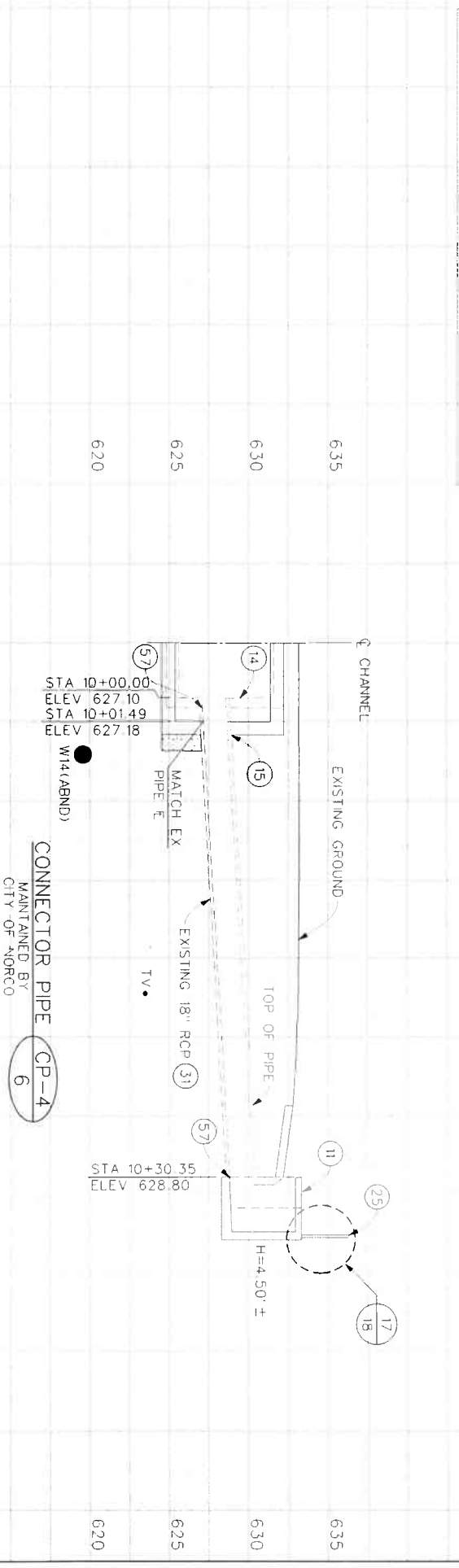
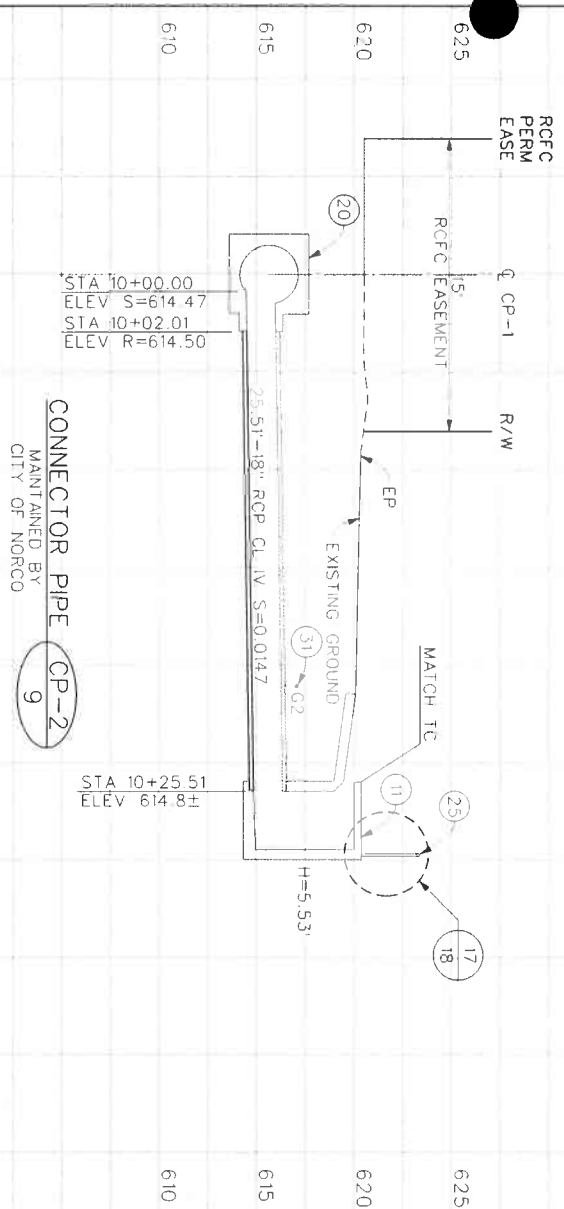
REVERSE COUNTY FLOOD CONTROL
 WATER CONSERVATION DISTRICT
 AND
 5/11/2022

5/11/2022

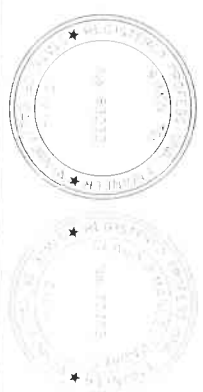
NORTH NORCO CHANNEL
 LINE NB, STAGE 3
 LATERAL CP-6
 2-0-00145
 2-0471
 10 21



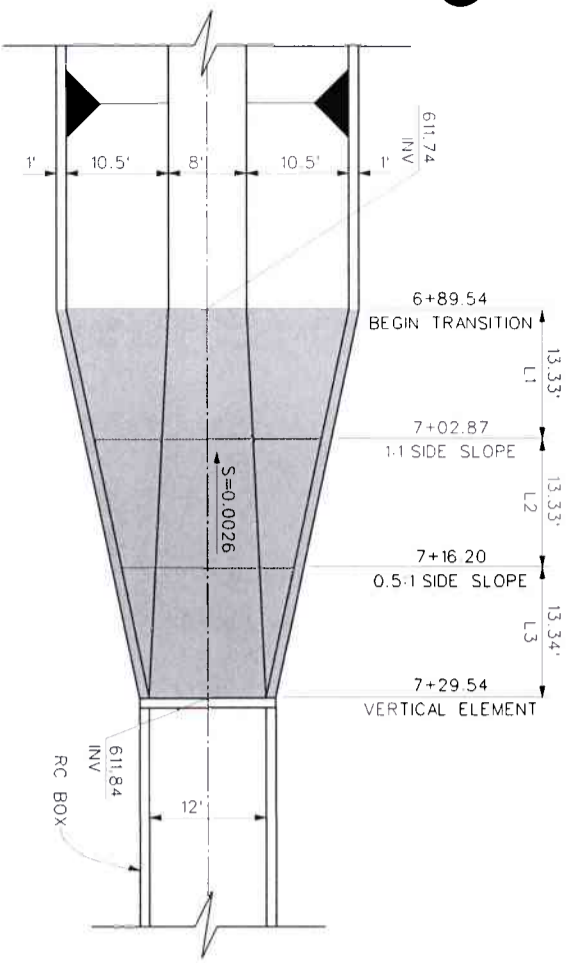
NOTE: CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES UNLESS OTHERWISE NOTED.



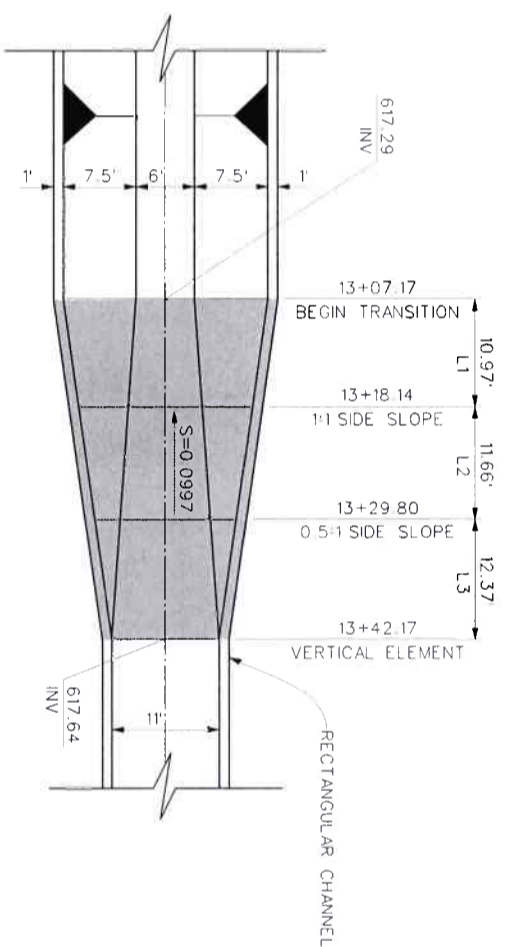
- NOTES**
- 11) CONSTRUCT CATCH BASIN PER TMA STD NO. 300.
 - 14) DEMOLISH, REMOVE AND DISPOSE OF EXISTING RCB, HEADWALLS, AND ALL ASSOCIATED APPURTENANCES.
 - 15) CONSTRUCT JS NO. 3 PER RCFE STD JS228.
 - 16) CONSTRUCT MANHOLE NO. 4 PER RCFE STD MH254.
 - 18) CONSTRUCT CONCRETE DROP INLET PER RCFE STD DB110.
 - 20) CONSTRUCT TRANSITION STRUCTURE NO. 3 PER RCFE STD TS303.
 - 21) CONSTRUCT CONCRETE COLLAR PER RCFE STD M803.
 - 25) INSTALL SAFETY BOLLARD PER DETAILS ON SHEET 18.
 - 31) PROTECT IN PLACE
 - 33) REMOVE AND DISPOSE OF EXISTING CATCH BASIN.
 - 57) SAWCUT, REMOVE, AND DISPOSE INTERFERING PORTIONS OF EXISTING RCP AS NEEDED.
 - 67) CONSTRUCT GRATED CATCH BASIN PER TMA STD NO. 302.



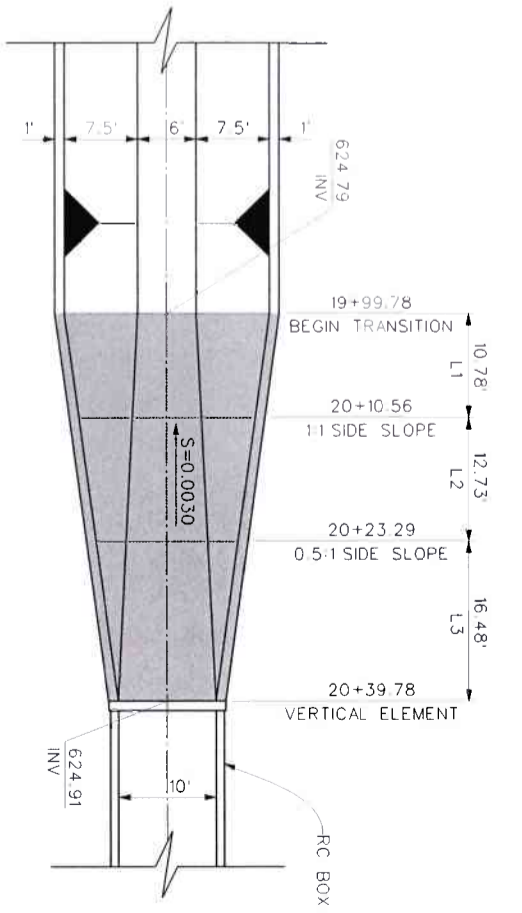
CITY OF NORCO		Dept. Eng. Unit for Callus A. Tol Free 1-800-227-2600		REVISIONS		RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		NORTH NORCO CHANNEL LINE NB, STAGE 3		PROJECT NO. 2-0-00145	
APPROVED BY		[Signature]		[Table with 2 columns: No., Description]		[Signature]		CONNECTOR PIPE PROFILES		DATE 2-04-71	
[Signature]		[Signature]		[Signature]		[Signature]		[Signature]		11 21	



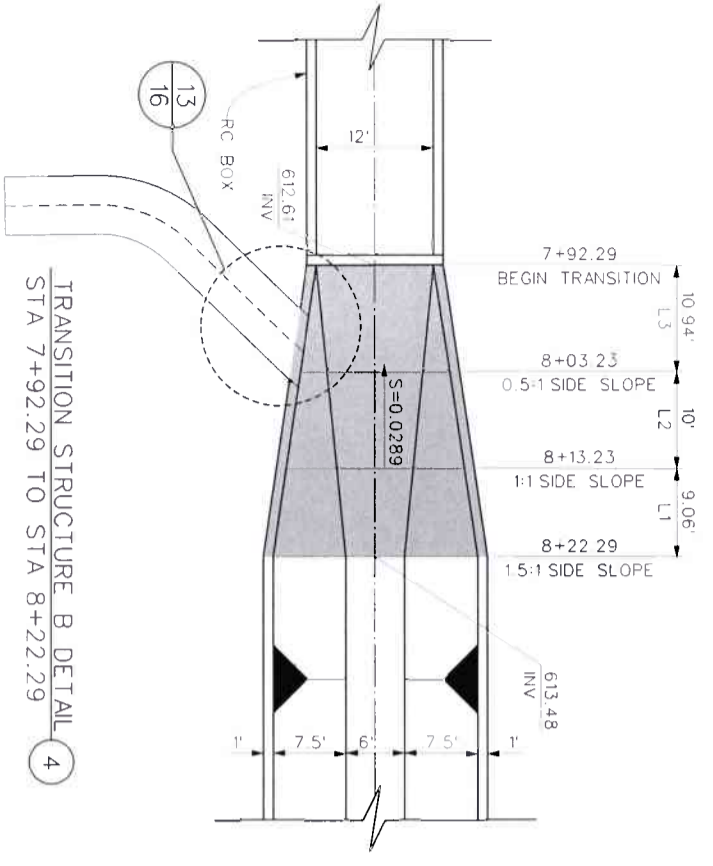
TRANSITION STRUCTURE A DETAIL 4
STA 6+89.54 TO STA 7+29.54



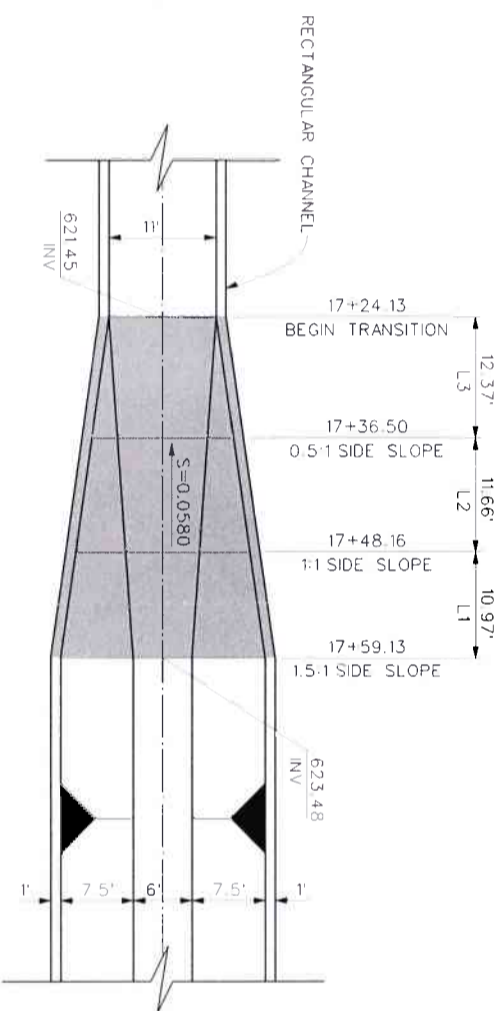
TRANSITION STRUCTURE C DETAIL 4
STA 13+07.17 TO STA 13+42.17



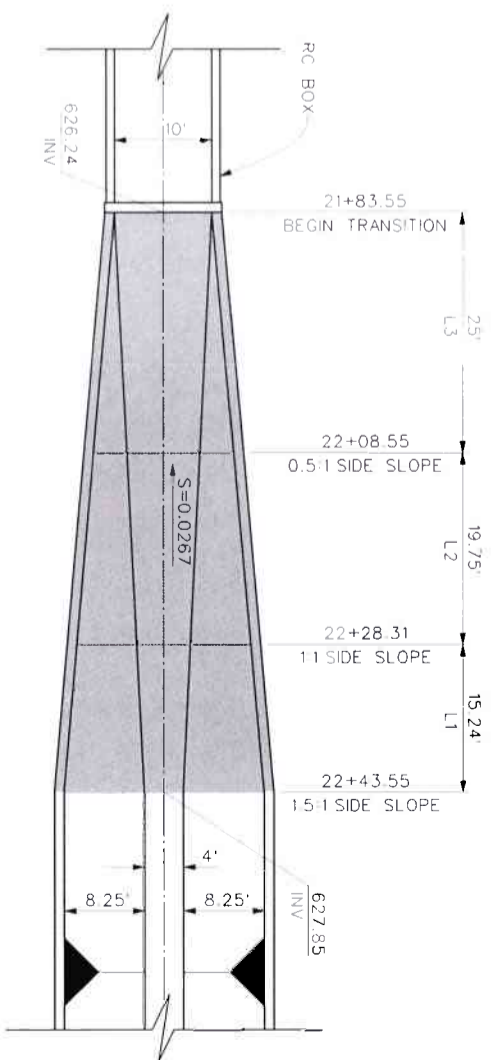
TRANSITION STRUCTURE E DETAIL 4
STA 19+99.78 TO STA 20+39.78



TRANSITION STRUCTURE B DETAIL 4
STA 7+92.29 TO STA 8+22.29



TRANSITION STRUCTURE D DETAIL 4
STA 17+24.13 TO STA 17+59.13



TRANSITION STRUCTURE F DETAIL 4
STA 21+83.55 TO STA 22+43.55

NOTES

- 4 CONSTRUCT CONCRETE TRANSITION STRUCTURE PER RCFC STD CH329 AND APPLICABLE DETAILS HEREON AND SHEET 13



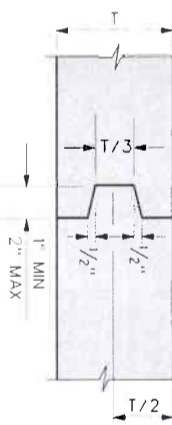
CITY OF NORCO		Don't Dig. Until You Call U.S.A. Toll Free 1-800-227-2600		REVISIONS		RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		NORTH NORCO CHANNEL LINE NB, STAGE 3		PROJECT NO. 2-0-00145	
APPROVED BY: <i>[Signature]</i>		DATE: <i>5/16/22</i>		DATE: <i>5/16/22</i>		DATE: <i>5/16/2022</i>		TRANSITION STRUCTURE DETAILS		DRAWING NO. 2-0471	
CITY OF NORCO		DATE: <i>5/16/22</i>		DATE: <i>5/16/22</i>		DATE: <i>5/16/22</i>		TRANSITION STRUCTURE DETAILS		SHEET 12 OF 21	

	Transition A			Transition B			Transition C			Transition D			Transition E			Transition F		
STA TO STA																		
X	7+02.87 - 7+16.20	7+16.20 - 7+29.54	7+29.29 - 8+03.23	8+03.23 - 8+13.23	13+18.14 - 13+29.80	13+29.80 - 13+42.17	17+24.13 - 17+36.50	17+36.50 - 17+48.16	20+10.56 - 20+23.29	20+23.29 - 20+39.78	21+83.55 - 22+08.51	22+08.51 - 22+28.31						
Y	4.67'	5.33'	6.00'	4.91'	3.78'	4.62'	4.62'	3.78'	3.54'	4.18'	4.38'	5.00'	5.00'	3.75'	3.75'	2.76'		
HEIGHT	11.67'	8.84'	6.00'	7.65'	9.14'	8.94'	7.27'	7.27'	9.02'	7.27'	5.00'	7.19'	8.92'					
WALLS T1	7.00'	7.00'	7.00'	6.00'	5.64'	5.32'	5.50'	5.50'	5.32'	5.17'	6.18'	7.00'	7.83'	6.86'	6.96'	6.09'		
BOTTOM SLAB T2	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"	10"		
A BARS	#4 @ 6"	#4 @ 6"	#4 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"		
HORIZ LENGTH	5'-10"	7'-9"	7'-9"	8'-0"	8'-0"	8'-0"	7'-6"	7'-6"	5'-6"	5'-1"	7'-0"	8'-3"	8'-3"	8'-3"	4'-6"			
B BARS	10'-6"	8'-5"	8'-5"	6'-7"	6'-10"	6'-10"	7'-6"	7'-6"	7'-10"	8'-4"	7'-6"	8'-5"	8'-3"	9'-3"				
HORIZ LENGTH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
SLOPE LENGTH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
C BARS	#4 @ 6"	#4 @ 6"	#4 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"		
SLOPE LENGTH	10'-6"	8'-5"	8'-5"	6'-7"	6'-10"	6'-10"	7'-6"	7'-6"	7'-10"	8'-4"	7'-6"	8'-5"	8'-3"	9'-3"				
D BARS	#4 @ 6"	#4 @ 6"	#4 @ 6"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"	#6 @ 12"		
HORIZ LENGTH	10'-7"	13'-4"	13'-4"	13'-4"	13'-4"	13'-4"	12'-4"	12'-4"	12'-4"	9'-0"	8'-6"	11'-4"	11'-4"	13'-4"	13'-4"	6'-11"		
E BARS	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"		

BAR	LENGTH	SEC.	REMARKS
4	25'		
5	31'		
6	37'		
7	55'		

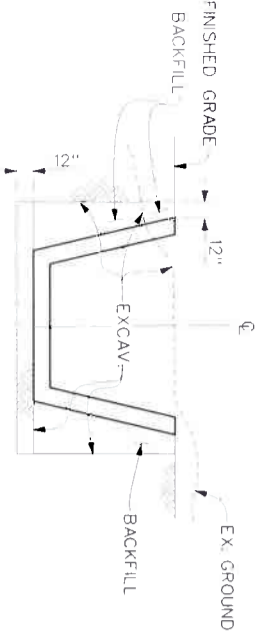
DESIGN DATA

LOADING:
 LIVE LOAD: 300 PSF
 LATERAL EARTH PRESSURE: 65 PCF
 EOE: 54 PCF (INVERTED TRIANGLE)
 LOADING COMBINATIONS: ACI 318-11 CHAPTER 9 SECTION 2
 ALLOWABLE STRESSES:
 f'c = 4,000 PSI
 fy = 60,000 PSI

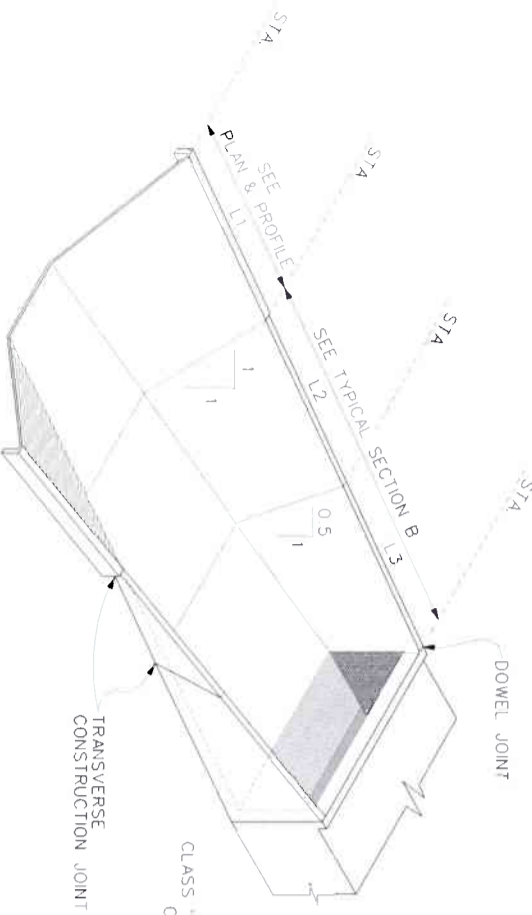


TRANSVERSE CONSTRUCTION JOINT 1 NTS

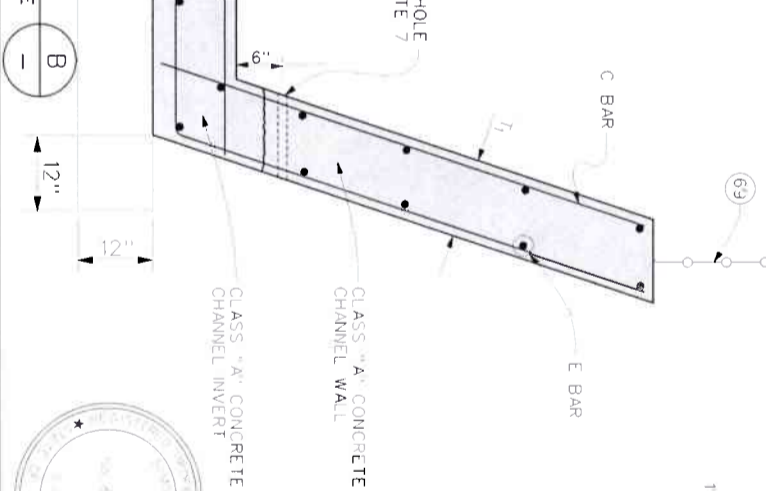
- NOTES**
- ALL CONCRETE FOR THE STRUCTURES SHALL BE CLASS "A". TRANSITION.
 - ALL LONGITUDINAL BARS SHALL BE PER SCHEDULE. PLACE BARS IN BOTTOM SLAB SYMMETRICALLY ABOUT CENTERLINE. PLACE BARS IN WALLS STARTING AT TOP WITH 2 INCHES CLEAR COVER.
 - CLEAR COVER FOR STEEL SHALL BE 2 INCHES EACH FACE FOR WALLS AND 3 INCHES EACH FACE FOR BOTTOM SLAB.
 - STEEL IS DIMENSIONED TO BACK OF BAR BEND.
 - FOR CONSTRUCTION ON CURVES, STRAIGHT TRANSVERSE BARS IN AT WALLS FOR L-BARS IN WALLS. SPACING SHALL BE MEASURED BETWEEN VERTICAL LEGS OF BARS.
 - ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE IN A VERTICAL PLANE NORMAL TO THE CENTERLINE. CONTINUOUS KEYS SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 1. A COMPLETE CURTAIN OF TRANSVERSE STEEL SHALL BE PLACED 3 INCHES FROM EACH FACE OF THE JOINTS AND LONGITUDINAL STEEL SHALL NOT BE CONTINUED THROUGH THE JOINTS. A DOWEL JOINT SHALL BE CONSTRUCTED BETWEEN THE REINFORCED CONCRETE. TRANSITION AND REINFORCED CONCRETE PARAPET WALL OR RECTANGULAR CHANNEL SECTION AS SHOWN DETAIL 2. DOWELS SHALL BE PLACED AT 18 INCH SPACING CENTERED IN THE MIDDLE OF THE BOTTOM SLAB AND THE TOP THIRD OF SIDE WALLS. A MINIMUM OF 3 DOWELS PER SLAB AND WALLS SHALL BE PLACED.
 - WEEPHOLES SHALL BE FORMED IN BOTH WALLS PER STD CH326 AT A SPACING OF 10 FEET.
 - ALL SPLICES ARE SUBJECT TO APPROVAL BY THE ENGINEER.
 - SECTION L1 AND L2 PAY LIMIT PER STANDARD CH326.
 - THE LENGTH OF SECTION L1, L2 AND L3 ARE NOT NECESSARILY EQUAL. THE TOP OF TRANSITION SHALL BE STRAIGHT ALONG ITS ENTIRE LENGTH.
 - OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION BELOW BOTTOM OF INVERT.
 - INSTALL CABLE RAILING PER CALTRANS STD B11-47.



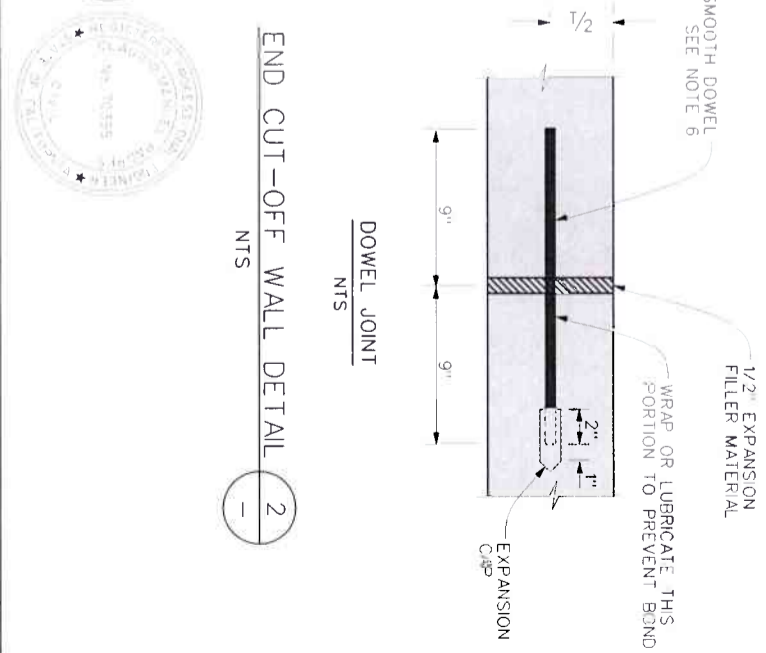
L2 & L3 PAYLINE DETAIL 3 NTS



TYPICAL SECTION NTS



END CUT-OFF WALL DETAIL 2 NTS



DOWEL JOINT NTS

* RCB SHOWN BUT DETAIL ALSO APPLICABLE FOR RECTANGULAR CHANNEL SECTION

Drawn By: Unit You Got U.S.A. Toll Free 1-800-227-2600

REVISIONS

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

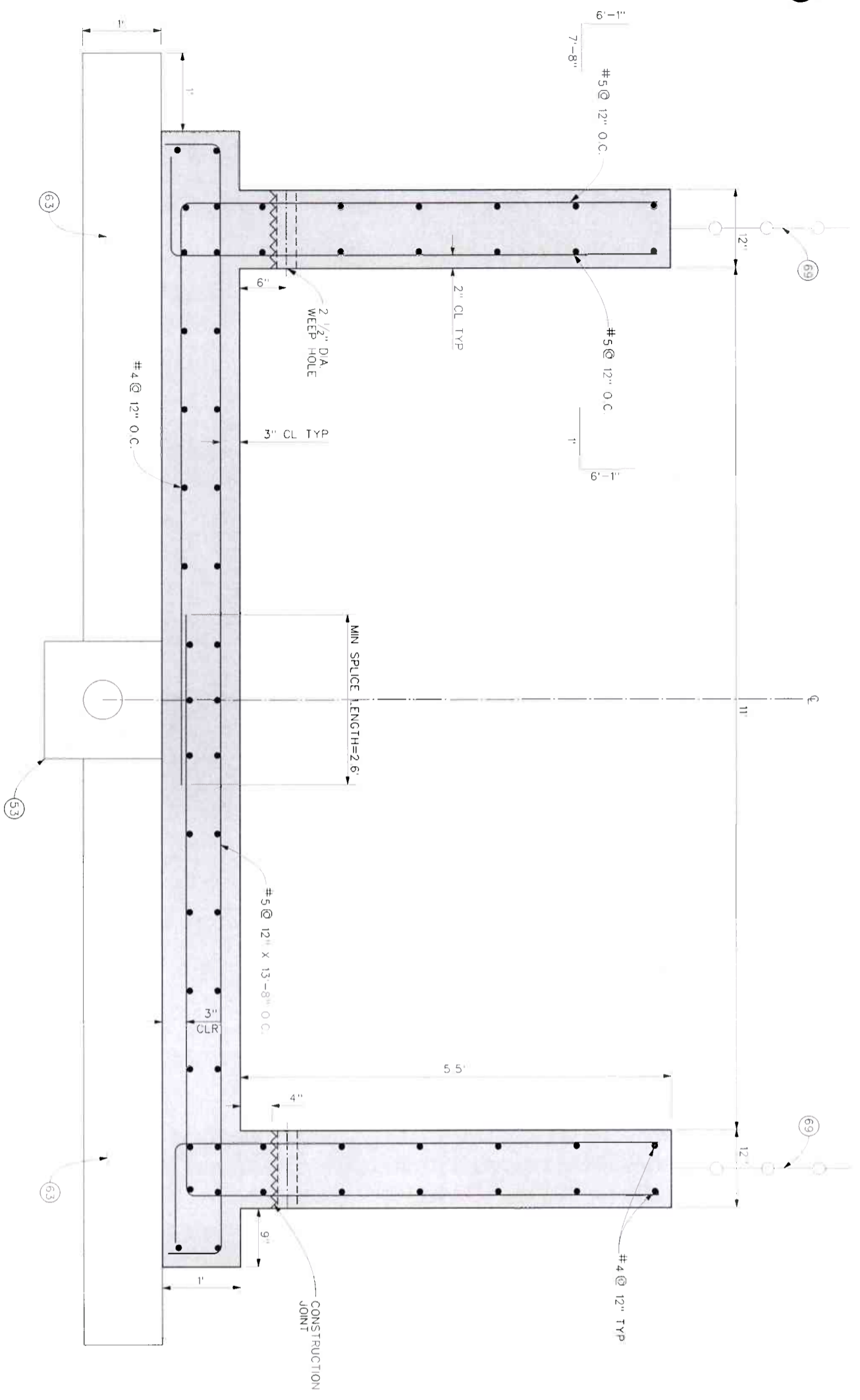
NORTH NORCO CHANNEL LINE NB, STAGE 3

DETAILS

2-0-00145

2-0471

13 OF 21



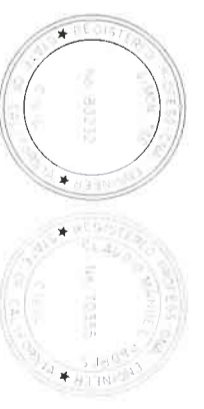
TYPICAL SECTION
 STA 13+42.17 TO STA 19+99.98
 NTS

NOTES

1. ALL CONCRETE FOR THE STRUCTURE IS CLASS "A" CONCRETE. RECTANGULAR CHANNEL.
2. INSTALL 2 1/2" DIAMETER WEEPHOLE WITH FILTER MATERIAL PER STD CH326. WEEPHOLES SHALL BE SPACED 10 FT. ON CENTER.
3. TRANSVERSE CONSTRUCTION JOINTS ARE REQUIRED IN WALLS AND INVERT AT A SPACING OF 50'. TRANSVERSE JOINTS IN WALL FOOTINGS AND WALLS SHALL BE KEYS.
4. STEEL IS DIMENSIONED TO BACK OF BAR BEND.
5. FOR CONSTRUCTION ON CURVES, STRAIGHT TRANSVERSE BARS SHALL BE ALIGNED RADIALLY WITH SPACING MEASURED AT FACE OF WALL FOR L-BARS IN WALLS. SPACING SHALL BE MEASURED AT FACE BETWEEN THE VERTICAL LEGS OF BARS.
6. ALL TRANSVERSE CONSTRUCTION JOINTS SHALL BE IN A VERTICAL PLANE NORMAL TO THE CENTERLINE AND THE SPACING THEREOF SHALL NOT EXCEED 50' OR BE LESS THAN 10 FEET. CONTINUOUS KEYWAYS SHALL BE CONSTRUCTED AS SHOWN IN DETAIL 1 ON SHEET 13. A COMPLETE CURTAIN OF TRANSVERSE STEEL SHALL BE PLACED 3 INCHES FROM EACH FACE OF THE JOINTS AND LONGITUDINAL STEEL WILL NOT BE CONTINUOUS THROUGH THE JOINTS. IN ADDITION, DOWEL JOINTS SHALL BE CONSTRUCTED BETWEEN REINFORCED CONCRETE CHANNEL AND TRANSITION STRUCTURES AS SHOWN IN DETAIL 2 ON SHEET 13. DOWELS SHALL BE PLACED AT 12 INCHES SPACING CENTERED IN THE MIDDLE THIRD OF THE BOTTOM SLAB AND THE TOP THIRD OF SIDE WALLS. A MINIMUM OF 3 DOWELS PER SLAB AND WALLS SHALL BE PLACED.
7. ALL SPLICES SHOWN ARE SUBJECT TO APPROVAL BY THE ENGINEER.
 - 53 CONSTRUCT SUBDRAN PER RCFE STD. CH332.
 - 63 OVEREXCAVATE AND RECOMPACT TO 90% RELATIVE COMPACTION 1' BELOW BOTTOM OF INVERT.
 - 69 INSTALL CABLE RAILING PER CALTRANS STD BH-47.

DESIGN DATA

LOADING:
 LIVE LOAD 300 PSF
 LATERAL EARTH PRESSURE 65 PCF
 EOEI 54 PCF (INVERTED TRIANGLE)
 LOADING COMBINATIONS: ACI 318-11 CHAPTER 9 SECTION 2
 ALLOWABLE STRESSES:
 $f_c = 4,000$ PSI
 $f_y = 60,000$ PSI



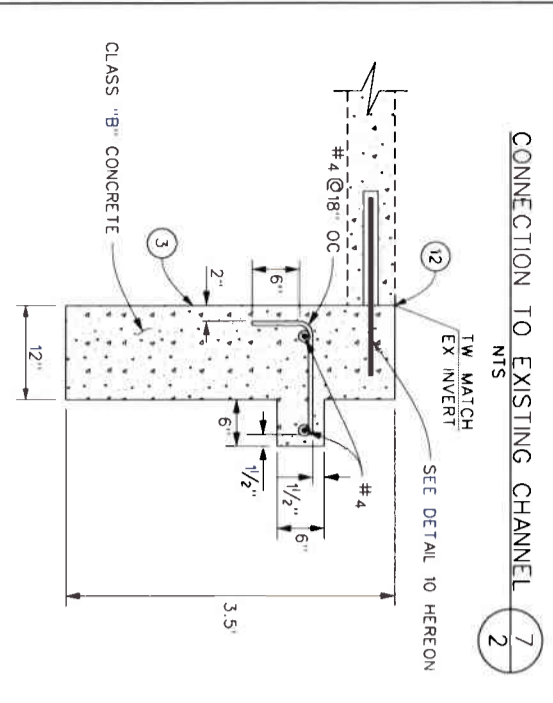
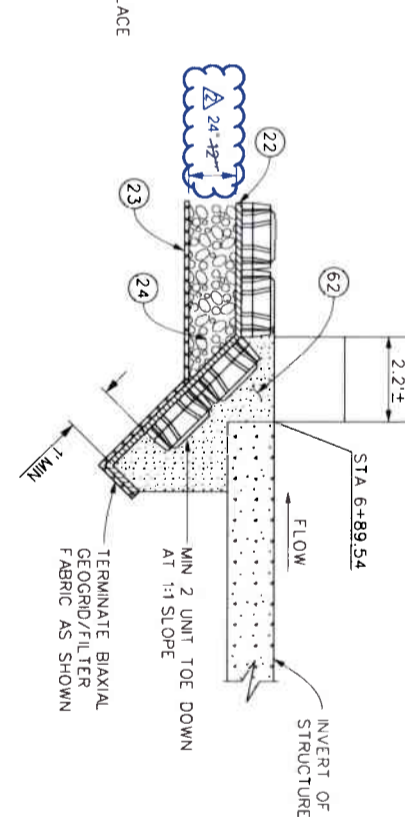
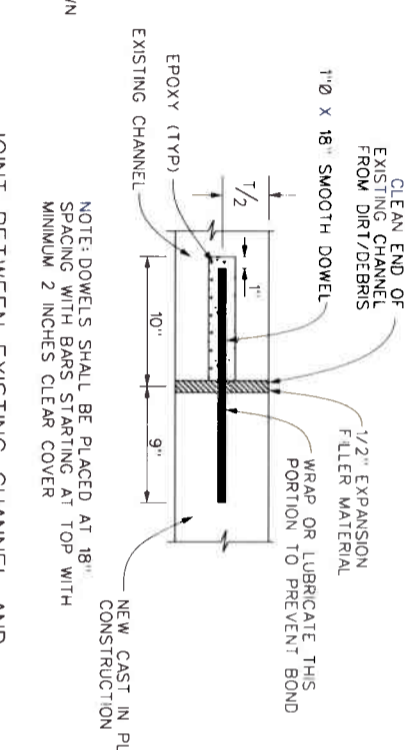
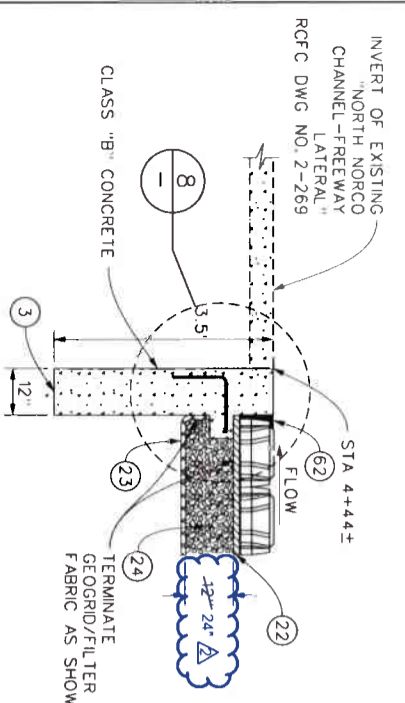
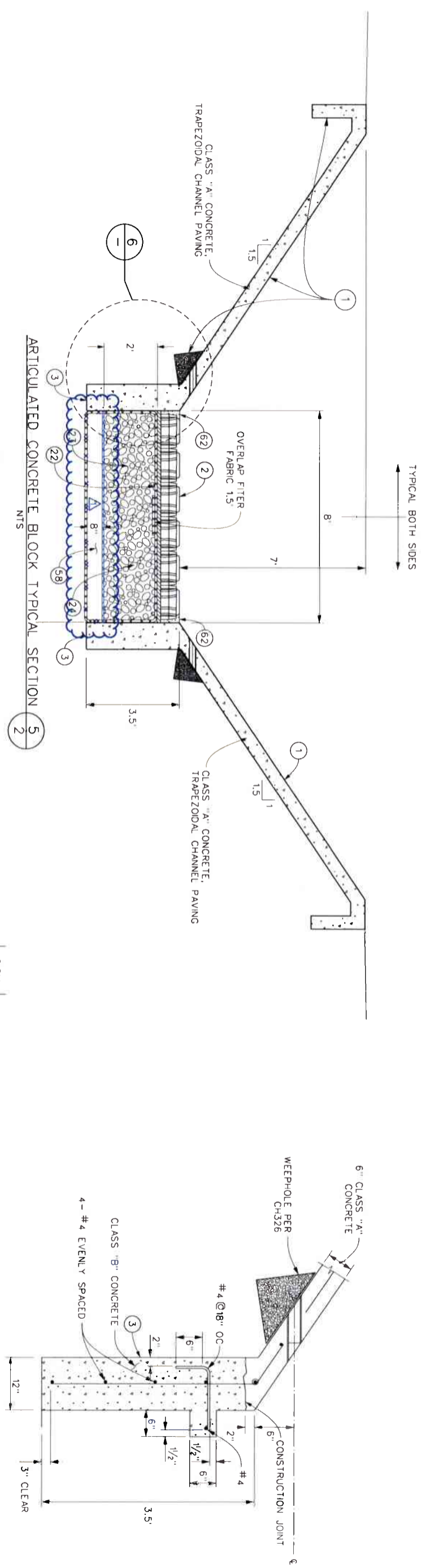
Don't Dig... Until You Call U.S.A. Toll Free
 1-800-227-2600
 THE STATE BOARD OF PROFESSIONAL ENGINEERS
 1601 CALIFORNIA STREET, SACRAMENTO, CA 95833
 (916) 433-3300
 WWW.PEER.CA.GOV

NO.	REVISIONS	DATE

RIVERSIDE COUNTY FLOOD CONTROL
 AND
 WATER CONSERVATION DISTRICT
 PROJECT NO. 2007-001
 DATE: 05/11/2007
 5/10/2007

NORTH NORCO CHANNEL
 LINE NB, STAGE 3
 DETAILS
 2-0-00145
 2-0471
 14 OF 21





- NOTES
1. CONSTRUCT MODIFIED CONCRETE TRAPEZOIDAL CHANNEL SIDE SLOPES PER RCFC STD CH326 AND DETAIL 5 HEREON.
 2. INSTALL ARTICULATED CONCRETE BLOCK, CLASS 70L ARMORFLEX CONCRETE BLOCK OR APPROVED EQUIVALENT, PER DETAILS HEREON.
 3. CONSTRUCT 3' CUTOFF WALL.
 12. JOIN EXISTING CHANNEL AS SHOWN IN DETAIL 10 ON SHEET 15.
 22. INSTALL BIAXIAL GEOGRID, TENSAR BX1200 OR APPROVED EQUIVALENT, PER MANUFACTURERS DIRECTION.
 23. INSTALL FABRIC FILTER, GEOTEX 601 OR APPROVED EQUIVALENT.
 24. PLACE 2 LAYER OF ASTM #2 STONE.
 58. PREPARE UPPER 8" OF SUBGRADE BY SCARIFYING AND RECOMPACTING TO 80%-85% MAXIMUM RELATIVE COMPACTION.
 62. FILL WITH NON-SHRINK GROUT AS SHOWN HEREON AND AS DIRECTED BY THE ENGINEER.

SPLICES

BAR	LENGTH	SEC.	REMARKS
4	25"		



Don't Dig...Until You Call U.S.A. Tollfree 1-800-277-2600 for the location of buried utilities. Call before you dig. THE WORKING DAYS BEFORE YOU DIG.

REVISIONS	DATE	DESCRIPTION
DETAIL 5 GRAPHICS REVISION	7/6/22	
DETAIL 7 & 9 DIMENSION REVISIONS	7/6/22	

DESIGNED BY: R. JOHNSON, A. CHAN
 DRAWN BY: R. SANCHEZ
 DATE DRAWN: MAY 2022
 PR NUMBER: 239799

APPROVED BY: [Signature]
 DATE: 5/12/2022

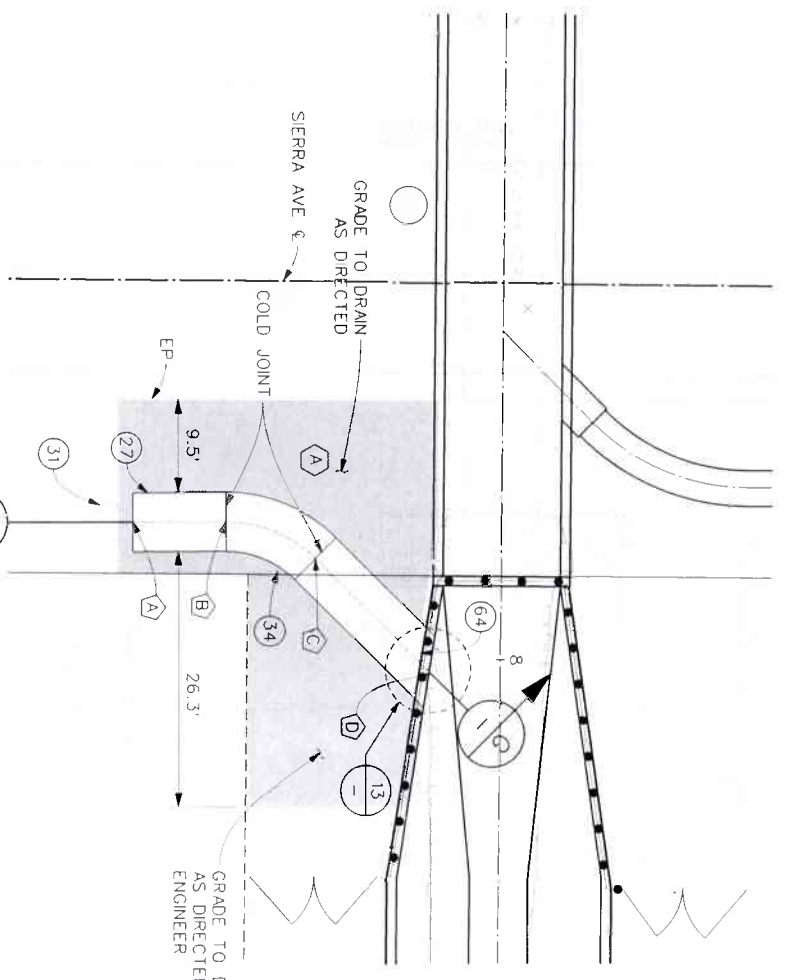
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
 RECOMMENDED FOR APPROVAL BY:

PROJECT NO. 2-0-00145
 DRAWING NO. 2-0471
 SHEET NO. 15 OF 21

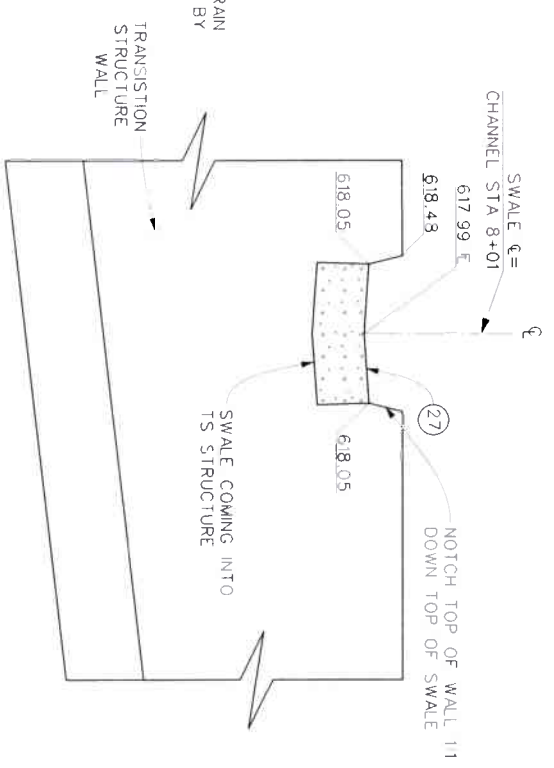
NORTH NORCO CHANNEL LINE NB, STAGE 3
 DETAILS

CONSTRUCTION DRAWING SET DATED MAY 10, 2022

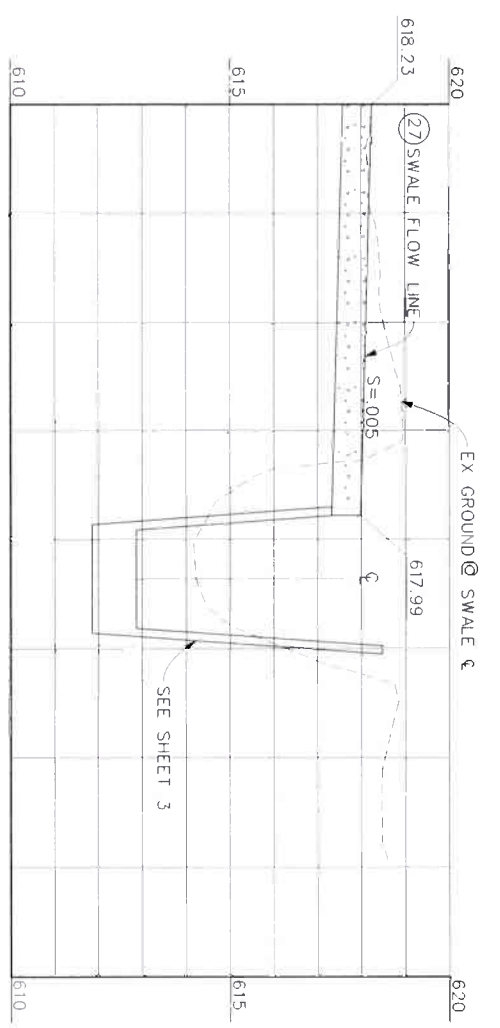
SWALE CURVE DATA		SWALE ALIGNMENT DATA	
$\Delta = 45^{\circ}00'00''$	$R = 12.88'$	$N = 2282403.70$	$E = 6165573.16$
$L = 9.33'$	$T = 5.33'$	$N = 2282413.26$	$E = 6165573.16$
$BC = \text{POINT B}$	$FC = \text{POINT C}$	$N = 2282422.37$	$E = 6165576.93$
$PI N = 2282418.59$	$E = 6165573.16$	$N = 2283300.00$	$E = 6166077.43$



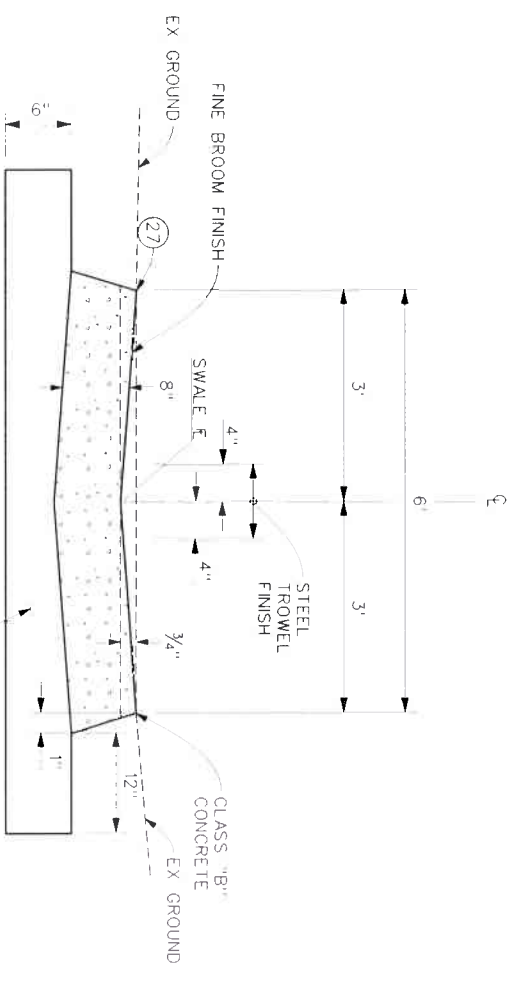
PLAN VIEW DETAIL 12
NTS 3



SIDE DRAINAGE THROUGH TRANSITION STRUCTURE WALL 13
NTS

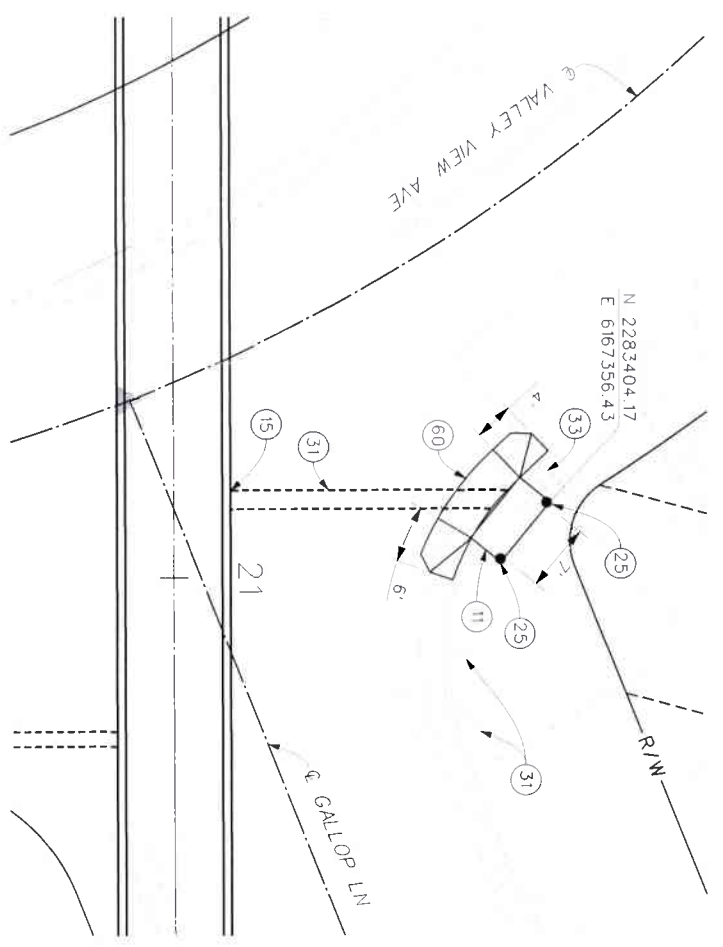


SECTION AT SWALE 6
NTS



SWALE TYPICAL SECTION
(MODIFIED FROM CITY OF NORCO STD. DWG. NO. 225)
NTS

- NOTES**
- (11) CONSTRUCT CATCH BASIN PER TLMA STD. NO. 300 WITH TRASH CAPTURE DEVICE PER DRAFT TLMA STD. NO. 313.
 - (15) CONSTRUCT JS. NO. 3 PER RCFC STD. JS228.
 - (27) CONSTRUCT SWALE PER DETAILS SHOWN HEREON.
 - (31) PROTECT IN PLACE.
 - (33) REMOVE AND DISPOSE OF EXISTING CATCH BASIN.
 - (34) SAWCUT REMOVE AND DISPOSE OF INTERFERING PORTIONS OF EXISTING CMP AND PLUG WITH CLASS "B" CONCRETE, AS DIRECTED BY ENGINEER.
 - (60) CONSTRUCT LOCAL DEPRESSION PER TLMA STD. NO. 311 CASE C AND DIMENSIONS SHOWN ON PLANS.
 - (64) MODIFY CHAIN LINK FENCE POSTS AS REQUIRED TO FIT AROUND SWALE.



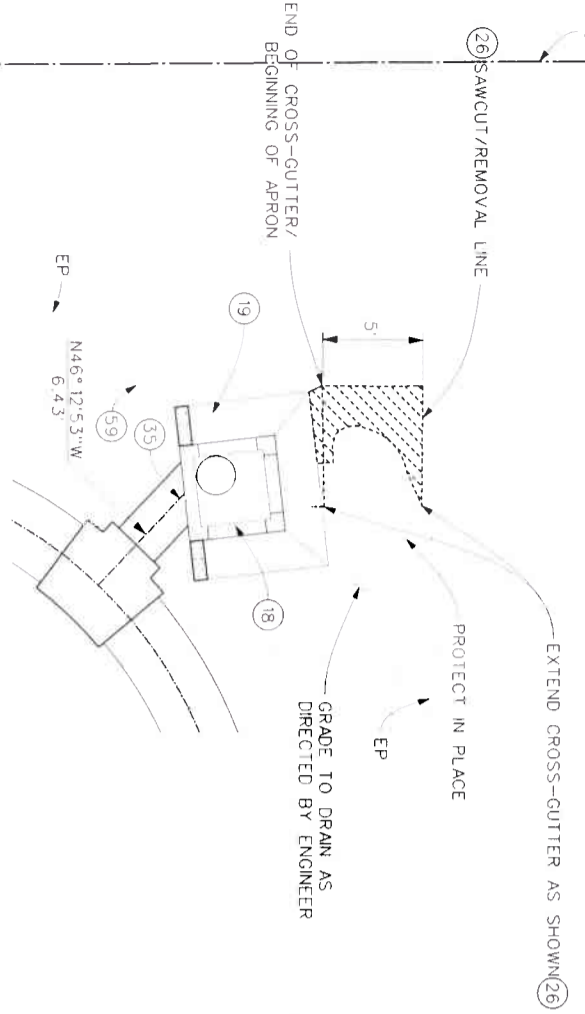
GALLOP LN DETAIL 20
NTS 6



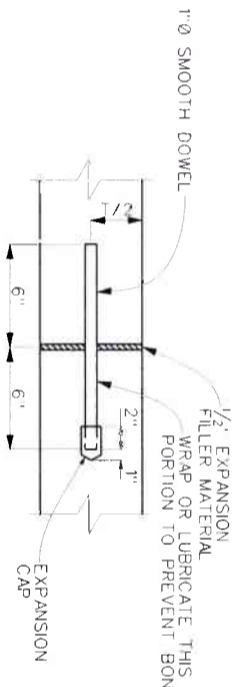
CITY OF NORCO	Don't Dig, Until You Call U.S.A. Tollfree 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145
APPROVED BY: <i>[Signature]</i>	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	2-0471
PROJECT NO. 2-0471	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	16 OF 21

SIERRA AVE

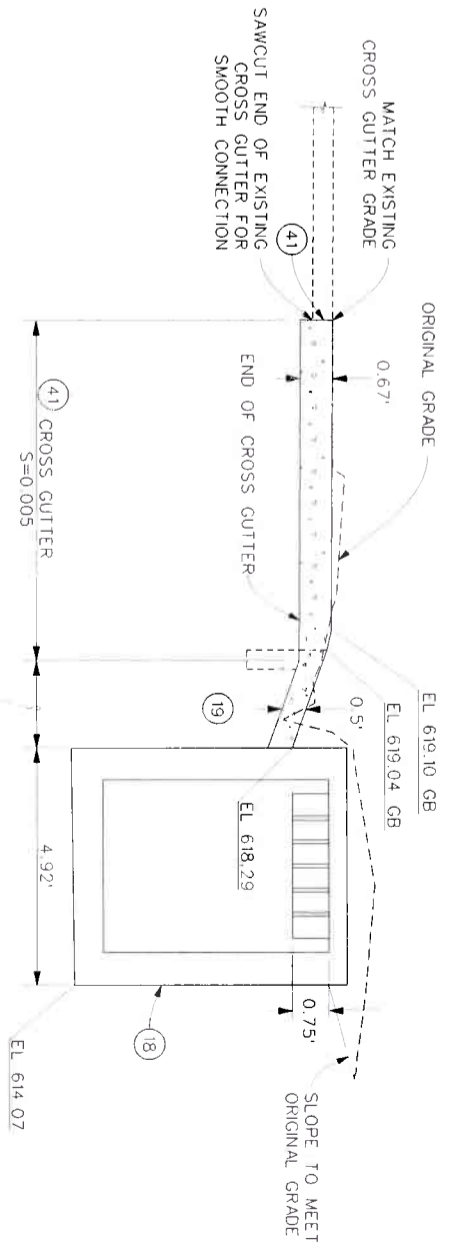
FORTUNA RD



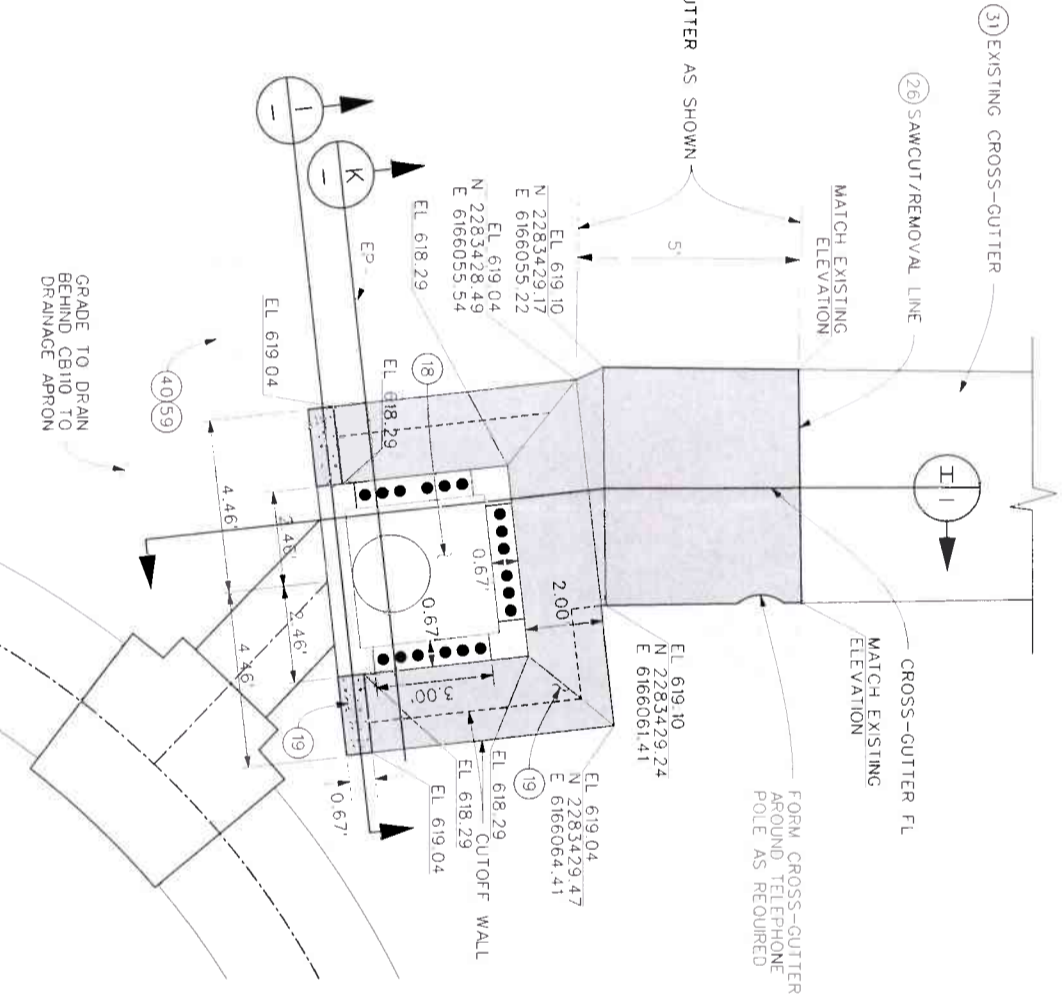
CB110 AND CONCRETE APRON DETAIL 14 8.11 NTS



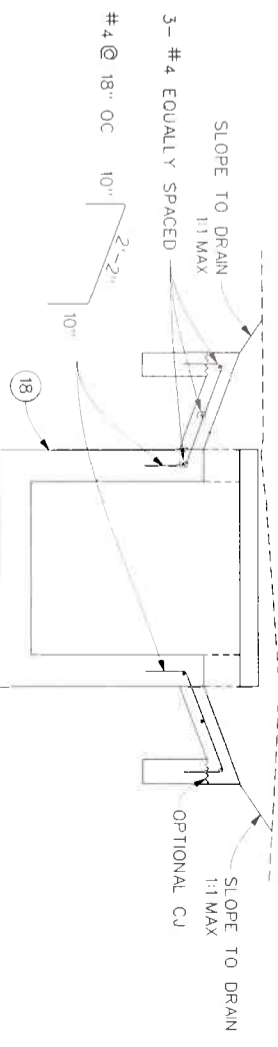
DOWEL JOINT SECTION J NTS



SECTION H NTS



CONCRETE APRON DETAIL 15 NTS



SECTION I NTS



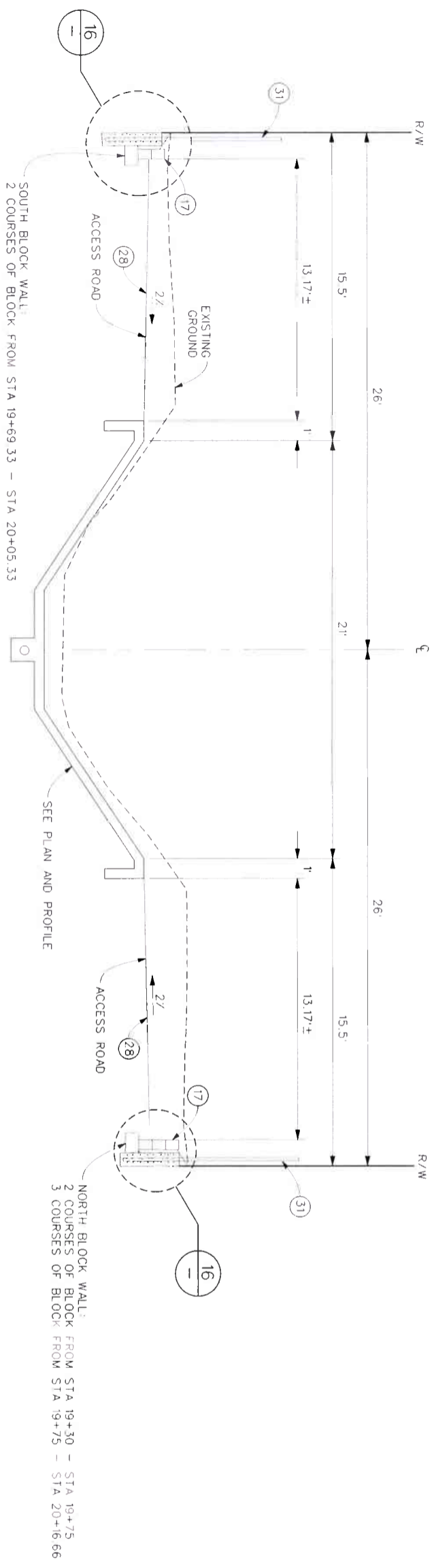
- NOTES**
- 18) CONSTRUCT CONCRETE DROP INLET PER RCFC STD CB110 WITH TRASH CAPTURE DEVICE PER DRAFT TLMA STD NO 313
 - 19) CONSTRUCT CONCRETE APRON PER DETAILS SHOWN HEREON
 - 26) SAWCUT AT EXISTING JOINT. REMOVE AND DISPOSE OF EXISTING CROSS GUTTER PER LIMITS SHOWN HEREON AND AS DIRECTED BY THE ENGINEER.
 - 31) PROTECT IN PLACE
 - 35) REMOVE AND DISPOSE OF ALL EXISTING STEEL PIPE AND ASSOCIATED APPURTENANCES
 - 40) INSTALL CLASS 2 METAL POST DELINEATOR PER CALTRANS STD A73C WITH RETROREFLECTIVE SHEETING TYPE G
 - 41) CONSTRUCT CROSS GUTTER PER CITY OF NORCO STD 225 AND LIMITS SHOWN ON PLANS
 - 54) CONSTRUCT MODIFIED 3' CUTOFF WALL PER DETAILS HEREON
 - 59) REMOVE AND DISPOSE EXISTING METAL POST AND ASSOCIATED APPURTENANCES
 - 70) CONSTRUCT DOWEL JOINT PER DETAIL J HEREON 2' WALL IS 2" HIGH AS DIRECTED BY ENGINEER
 - 72) CONSTRUCT 2' CUTOFF WALL PER RCFC STD NO CH326.

CITY OF NORCO		Don't Dig Until You Call U.S.A. Toll Free 1-800-227-2600		REVISIONS		RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		NORTH NORCO CHANNEL LINE NB, STAGE 3	
APPROVED BY:	<i>[Signature]</i>	DATE:	5/16/22	NO.:		DATE:	5/16/2022	NO.:	17
2-0-00145		2-0471		17		21		CONSTRUCTION DRAWING SET DATED MAY 10, 2022	



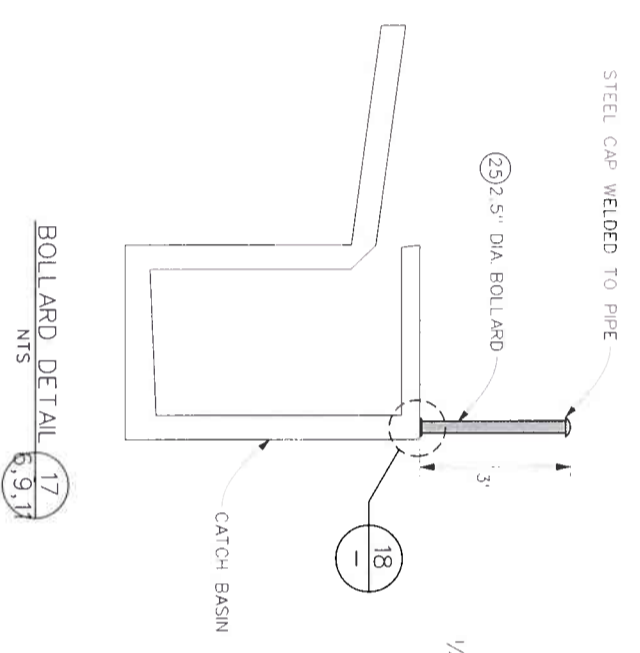
1



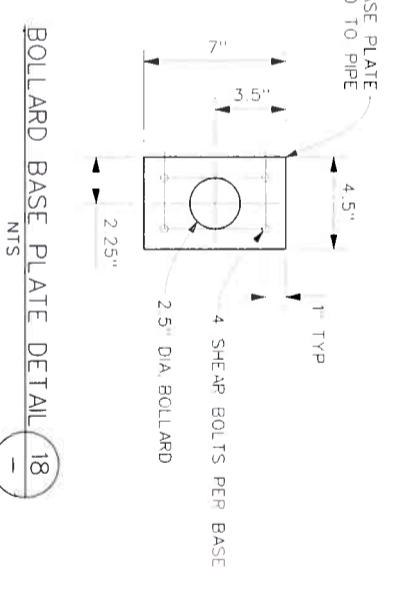


TYPICAL SECTION AT RETAINING WALL DETAIL 15
NTS

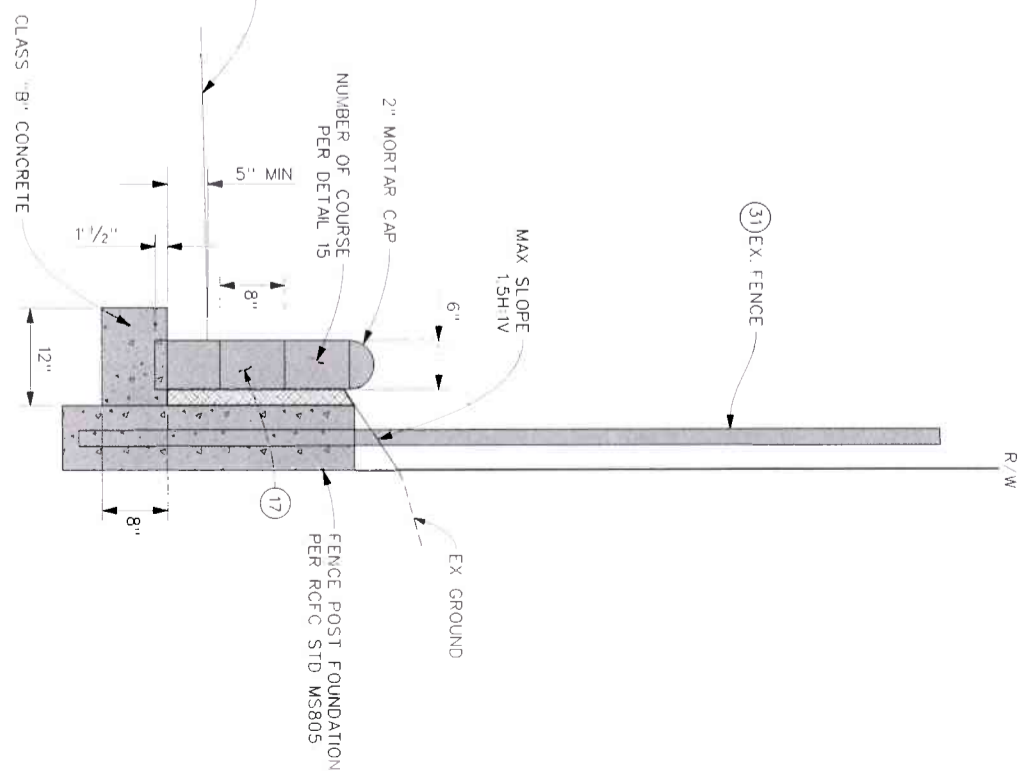
- NOTES**
- 6) CONSTRUCT CONCRETE TRAPEZOIDAL CHANNEL PER RCFC STD CH326.
 - 11) CONSTRUCT CATCH BASIN PER TLMA STD NO. 300.
 - 17) CONSTRUCT BLOCK WALL PER DETAIL 16 HEREON.
 - 25) INSTALL SAFETY BOLLARD PER DETAILS HEREON.
 - 28) PLACE 3" LAYER OF FILTER MATERIAL ON ACCESS ROAD
 - 31) PROTECT IN PLACE



BOLLARD DETAIL 17
NTS



BOLLARD BASE PLATE DETAIL 18
NTS



BLOCK WALL DETAIL 16
(MODIFIED FROM APWA
STD DRAWING 622-4)
NTS



CITY OF NORCO	Don't Dig - Unit #00, Call U.S.A. Toll Free 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	PROJECT NO. 2-0-00145
APPROVED BY <i>[Signature]</i> 5/16/22			DESIGNED BY <i>[Signature]</i>	DETAILS	SHEET NO. 2-0471
			CHECKED BY <i>[Signature]</i>		18 OF 21
			DATE 5/16/2022		

DESIGN NOTES:

SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION WITH CALIFORNIA AMENDMENTS.

EARTH LOAD

EARTH PRESSURES FOR TWO CONDITIONS:
 140 PCF VERT, 42 PCF HORIZ
 140 PCF VERT, 140 PCF HORIZ

UNIT STRESSES:

$f_c = 5,000$ PSI
 $f_y = 65.0$ KSI FOR WELD WIRE FABRIC

SHEAR:

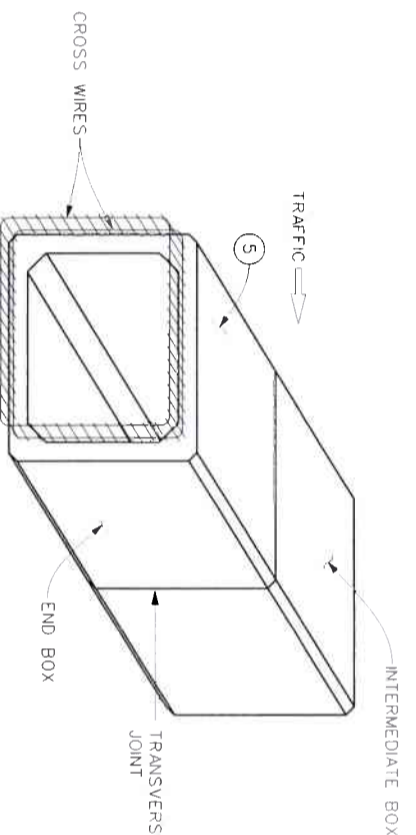
BASED ON

$$V_e \leq 2.14\sqrt{f_c} \cdot A_s \cdot V_e d_e \cdot b \cdot d_e \leq 4.0\sqrt{f_c} \cdot b \cdot d_e \quad (\text{POUNDS})$$

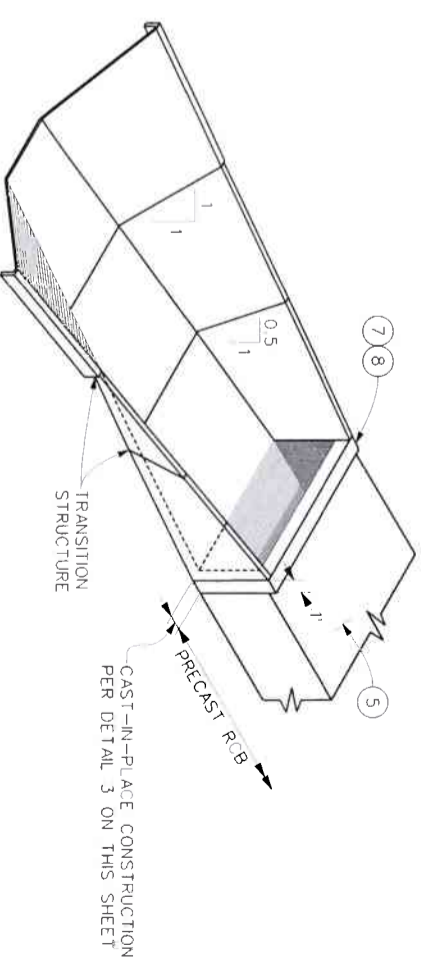
V_e SHALL NOT BE LESS THAN $3.00\sqrt{f_c} \cdot b \cdot d_e$ FOR FRAME MEMBERS AND $2.5\sqrt{f_c} \cdot b \cdot d_e$ FOR SIMPLY SUPPORTED MEMBERS.

EXCLUSION:

AXIAL LOADING ON THE MEMBERS HAS NOT BEEN CONSIDERED



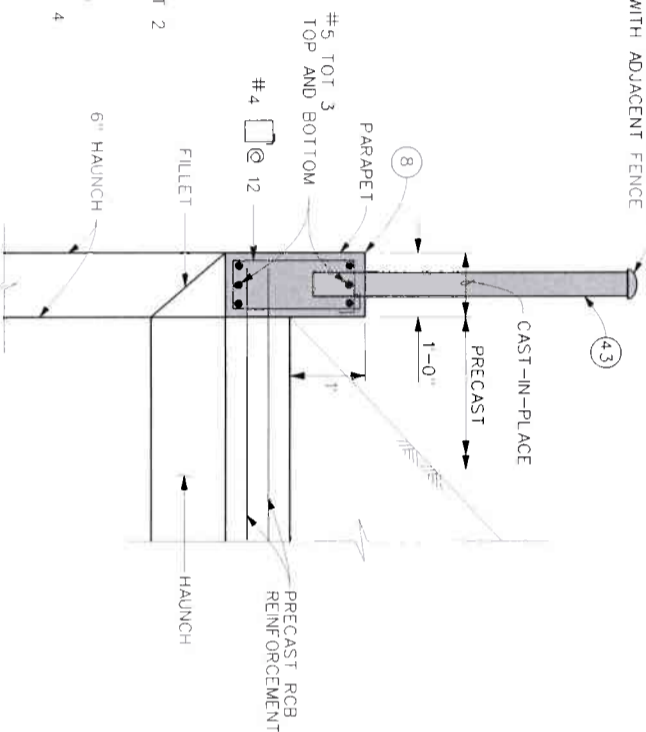
INNER AND OUTER REINFORCEMENT TO BE EXPOSED AS REQUIRED TO TIE TO CAST-IN-PLACE CONSTRUCTION. A MINIMUM OF TWO CROSS WIRES SHALL BE EXPOSED ON ALL SIDES.



ISOMETRIC VIEW
 (ADAPTED FROM RCFC STD DWG. NO CH329)

PRECAST RCB TERMINATION
 (ADAPTED FROM CALTRANS STANDARD D838B)

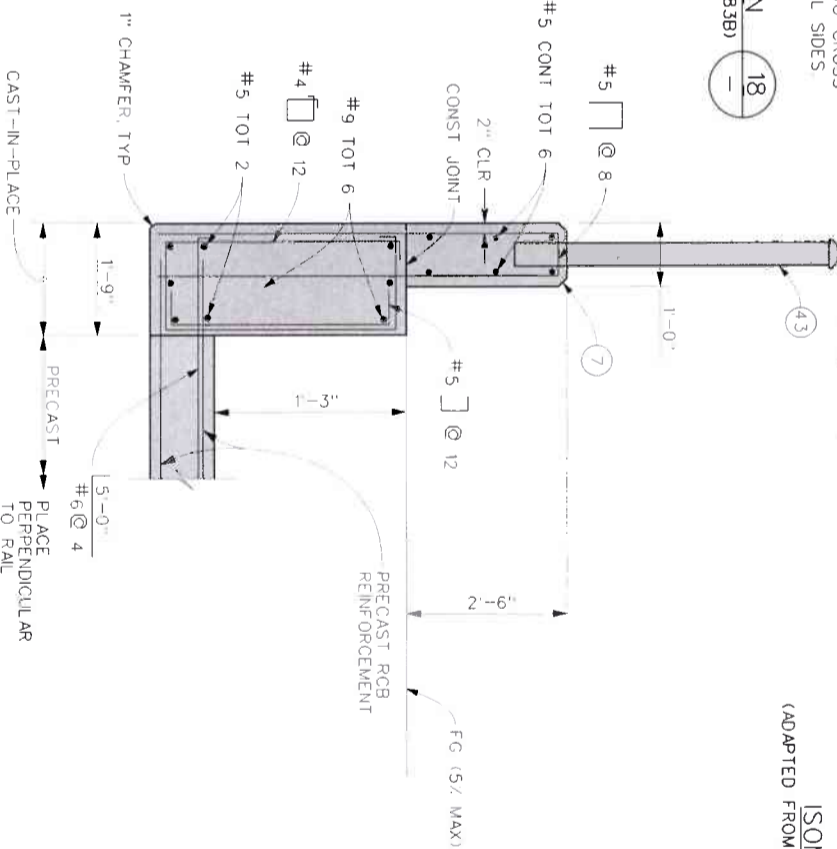
TOP OF FENCE TO BE IN LINE WITH ADJACENT FENCE



STANDARD HEIGHT PARAPET DETAIL
 (ADAPTED FROM CALTRANS STANDARD D838B)

STA 21+83.55
 STA 20+39.78
 STA 7+92.29

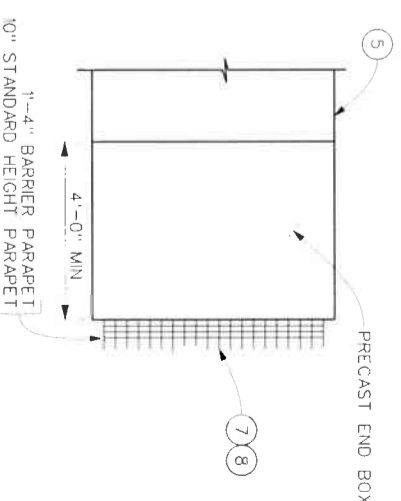
TOP OF FENCE TO BE IN LINE WITH ADJACENT FENCE



BARRIER PARAPET DETAIL
 (ADAPTED FROM CALTRANS STANDARD D838B)

STA 7+29.54

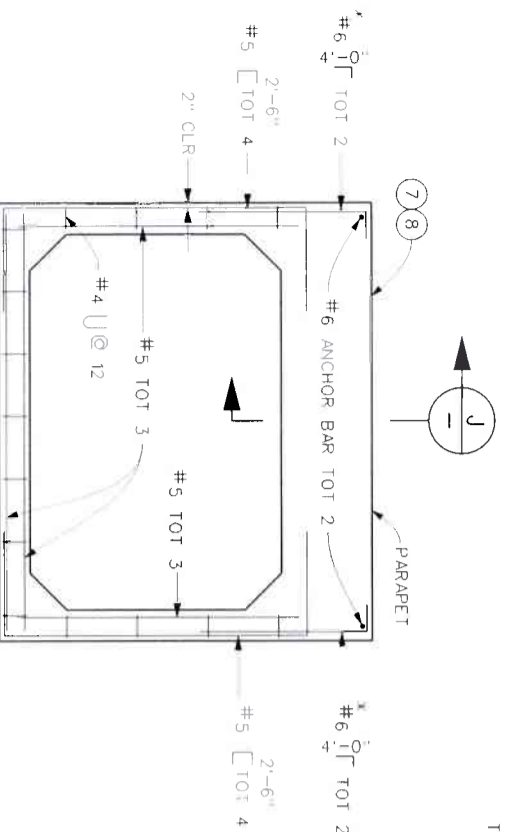
PARTIAL PLAN VIEW TERMINATION
 (ADAPTED FROM CALTRANS STANDARD D838B)



NOTES

- 5 INSTALL PRECAST REINFORCED CONCRETE BOX PER APWA STD 390-1, USE EARTH COVER LESS THAN 24" OPTION. SEE TERMINATED DETAILS HERON.
- 7 CONSTRUCT BARRIER PARAPET WALL PER DETAILS HEREON.
- 8 CONSTRUCT STANDARD HEIGHT PARAPET WALL PER HEREON.
- 43 INSTALL 6' CHAIN LINK FENCE PER RCFC STD M801.

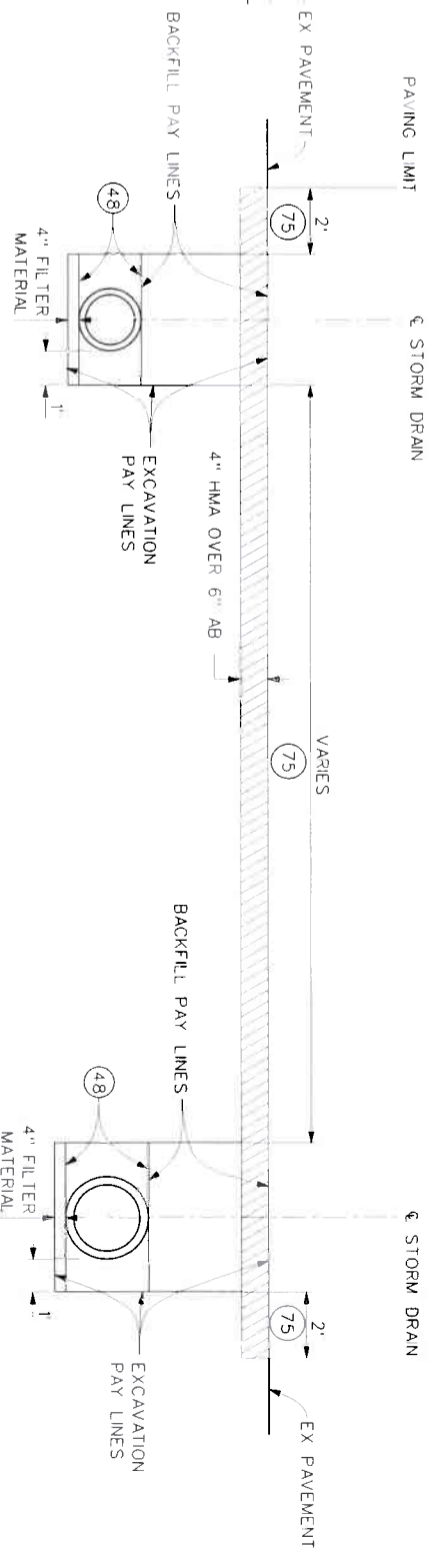
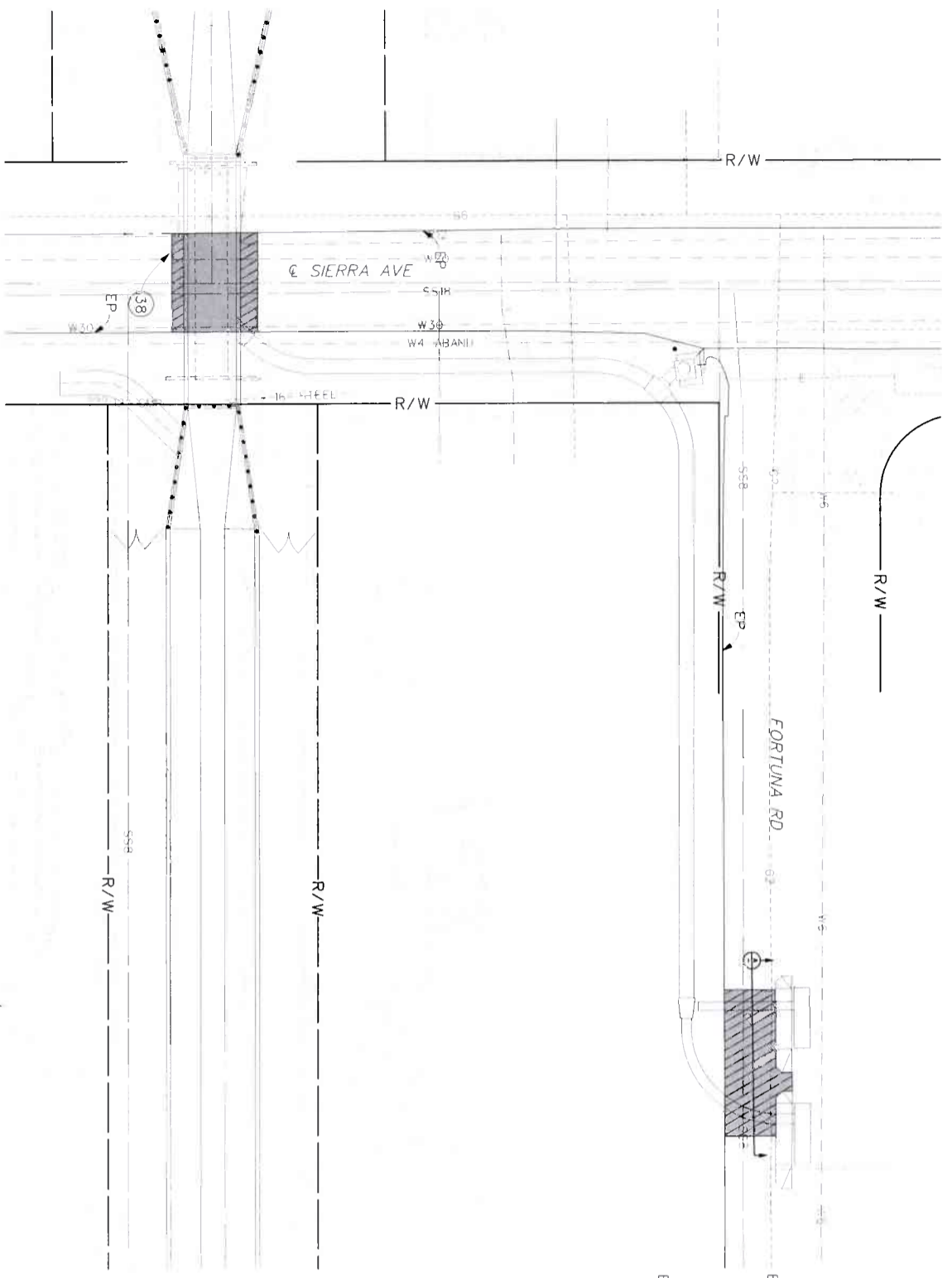
CAST IN PLACE END ELEVATION
 (ADAPTED FROM CALTRANS STANDARD D838B)



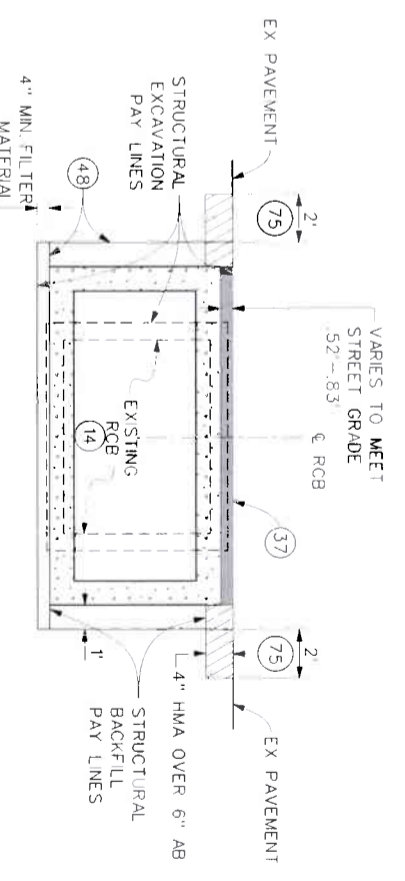
* REINFORCING REQUIRED FOR BARRIER PARAPET APPLICATION ONLY.



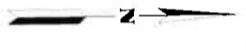
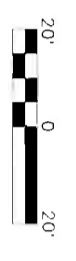
Don't Dig... Until You Get U.S.A. Toll Free 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145 2-0471
DATE: 5/10/2022	DRAWING NO.	SHEET NO.	DETAILS	19 OF 21



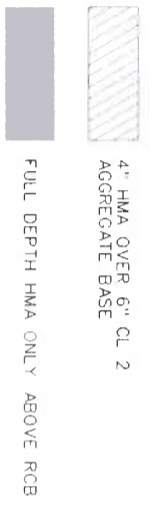
(A) TYPICAL PAVING SECTION AND PAYLINE DETAIL
 FORTUNA CP-1 AND CP-2
 CP-1 STA 3+47 TO 3+67
 CP-2 STA 10+07 TO 10+26
 NTS



TYPICAL PAVING SECTION AND PAYLINE DETAIL
 SIERRA AVE RCB
 NTS



SIERRA AVE & FORTUNA AVE PAVING



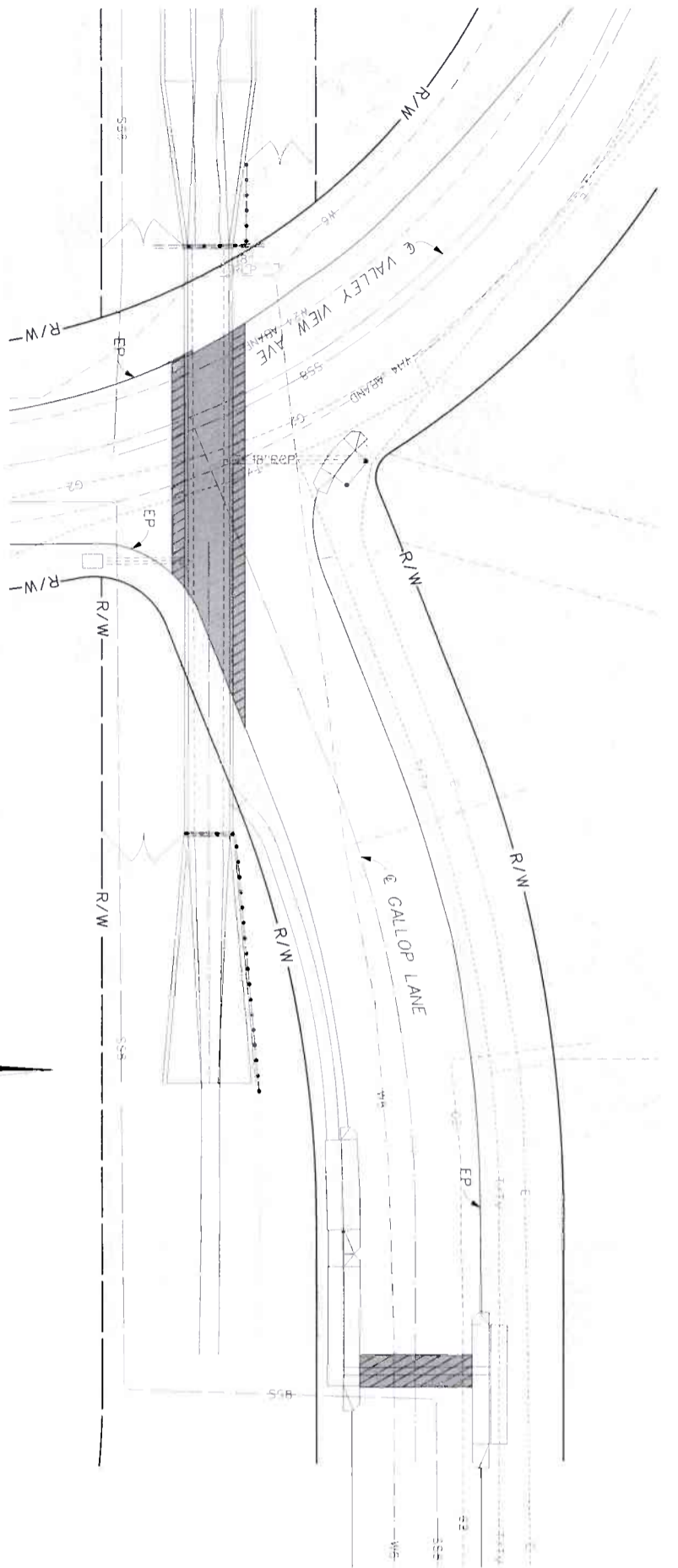
- PAVING NOTES**
1. PROTECT IN PLACE ALL MANHOLES, VALVES ADJUST TO GRADE AS REQUIRED.
 2. INSTALL/REPLACE ALL DISTURBED STRIPING, YELLOW CENTERLINE, WHITE EDGE LINES AND REFLECTIVE PAVEMENT. DISTURBED MARKINGS SHALL BE REPLACED WITH 2 COATS PAINT FOR STRIPING, AND THERMOPLASTIC FOR ALL BARS, LEGENDS, AND CROSSWALKS.
 3. ALL SIGNING, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH SECTION 84 OF THE CALTRANS STANDARD SPECIFICATIONS (LATEST EDITION) AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.

- NOTES**
- (14) DEMOLISH, REMOVE AND DISPOSE OF EXISTING RCB, HEADWALLS, AND ALL ASSOCIATED APPURTENANCES.
 - (37) PAVE WITH TYPE A HOT MIX ASPHALT.
 - (38) PROTECT IN PLACE ALL MANHOLES/VALVES, ADJUST TO GRADE AS REQUIRED.
 - (48) PLACE CLSM TO TOP OF CONDUIT AS SHOWN.
 - (75) ASPHALT CONCRETE GRINDING TO DEPTHS AND LIMITS SHOWN HEREON.

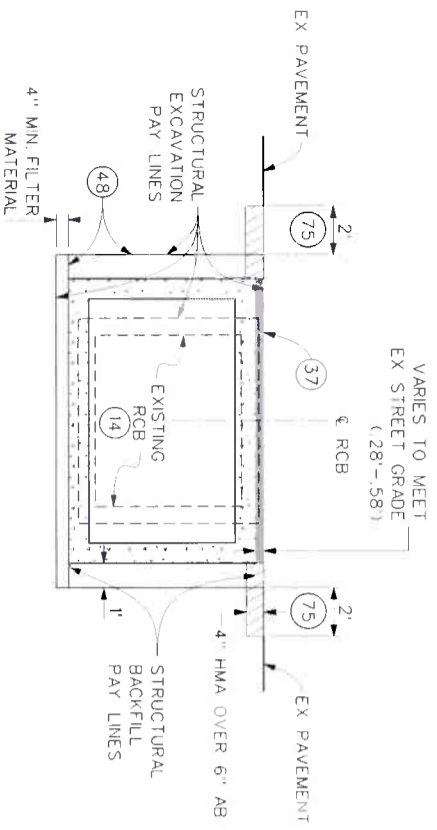


CITY OF NORCO APPROVED BY: <i>[Signature]</i> DATE: 5/16/22	Don't Dig...until You Call U.S.A. Toll Free 1-800-227-2600	REVISIONS <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	DESCRIPTION				RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT APPROVED BY: <i>[Signature]</i> DATE: 5/19/22	NORTH NORCO CHANNEL LINE NB, STAGE 3 PAVING PLAN	SHEET NO. 2-0471 OF 20 OF 21
NO.	DATE	DESCRIPTION									

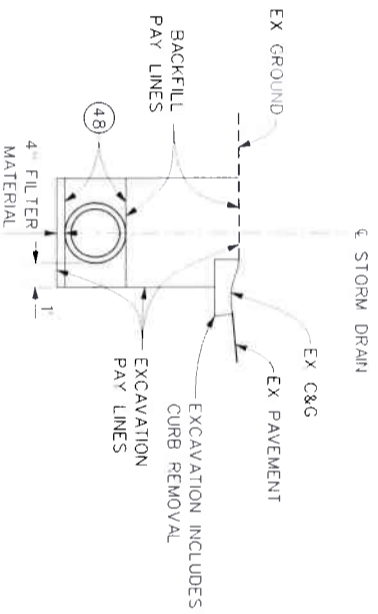




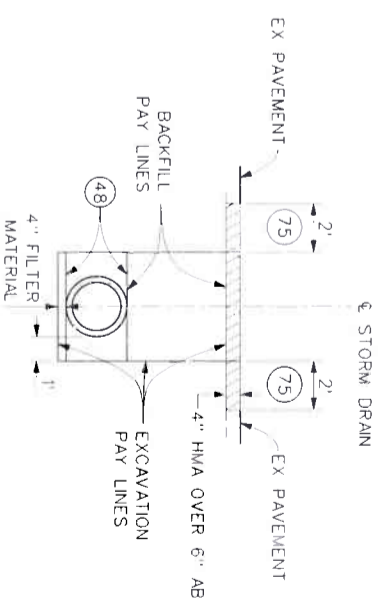
VALLEY VIEW AVE & GALLOP WAY PAVING



TYPICAL PAVING SECTION AND PAYLINE DETAIL
VALLEY VIEW AVENUE PCB
NTS



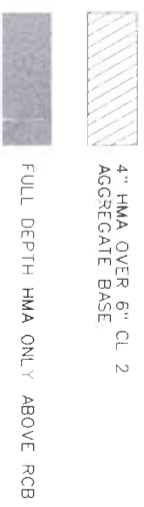
TYPICAL SECTION AND PAYLINE DETAIL
GALLOP LANE CP-6
NTS



TYPICAL PAVING SECTION AND PAYLINE DETAIL
GALLOP LANE CP-7
NTS

PAVING NOTES

1. PROTECT IN PLACE ALL MANHOLES/VALVES. ADJUST TO GRADE AS REQUIRED.
2. INSTALL/REPLACE ALL DISTURBED STRIPING. YELLOW, CENTERLINE, WHITE EDGE LINES AND REFLECTIVE PAVEMENT. DISTURBED MARKINGS SHALL BE REPLACED WITH 2 COATS PAINT FOR STRIPING, AND THERMOPLASTIC FOR ALL BARS, LEGENDS, AND CROSSWALKS.
3. ALL SIGNING, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH SECTION 84 OF THE CALTRANS STANDARD SPECIFICATIONS (LATEST EDITION) AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.

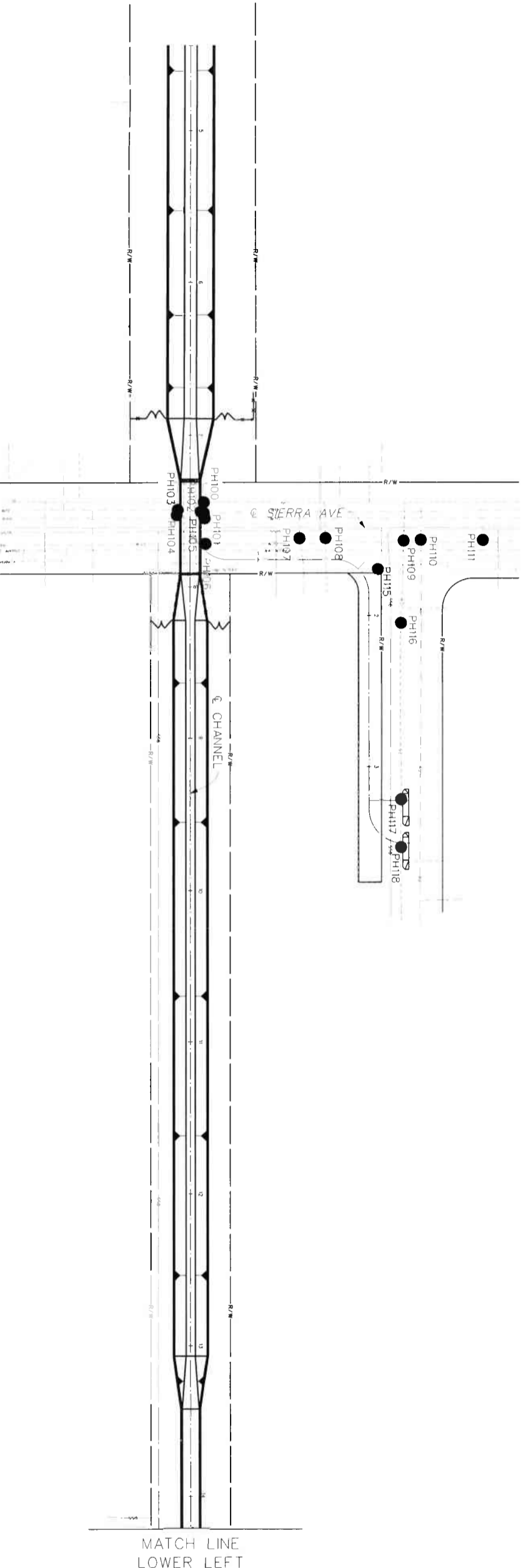


NOTES

- (14) DEMOLISH, REMOVE AND DISPOSE OF EXISTING RCB HEADWALLS, AND ALL ASSOCIATED APPURTENANCES
- (37) PAVE WITH TYPE A HOT MIX ASPHALT.
- (48) PLACE CLSM TO TOP OF CONDUIT AS SHOWN
- (75) ASPHALT CONCRETE GRINDING TO DEPTHS AND LIMITS SHOWN HEREON

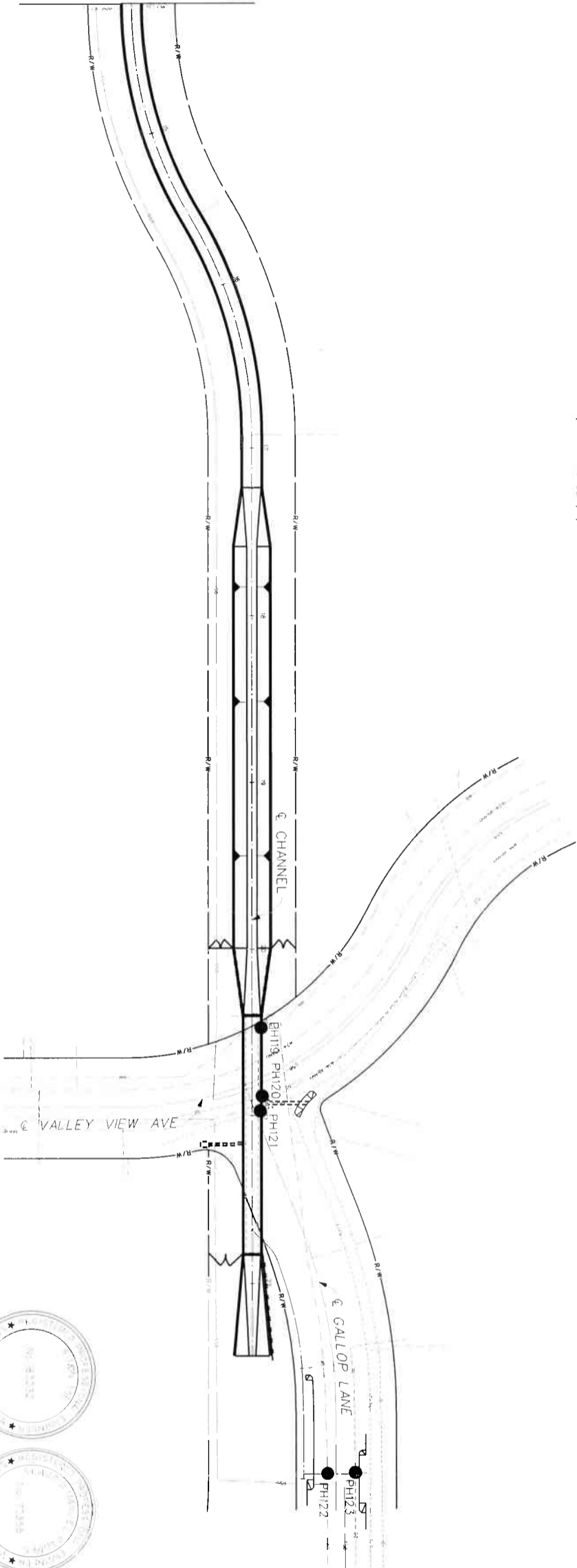


CITY OF NORCO		RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		NORTH NORCO CHANNEL LINE NB, STAGE 3	
APPROVED BY: <i>[Signature]</i>	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22
1-800-227-2600		MATERIALS		PAVING PLAN	
21		21		21	



MATCH LINE LOWER LEFT

MATCH LINE UPPER RIGHT



● LEGEND
POTHOLE LOCATION



Don't Dig Until you Call U.S.A. Toll Free
1-800-227-2600

REVISIONS

NO.	DATE	DESCRIPTION
1	5-11-2022	ISSUED FOR PERMITS

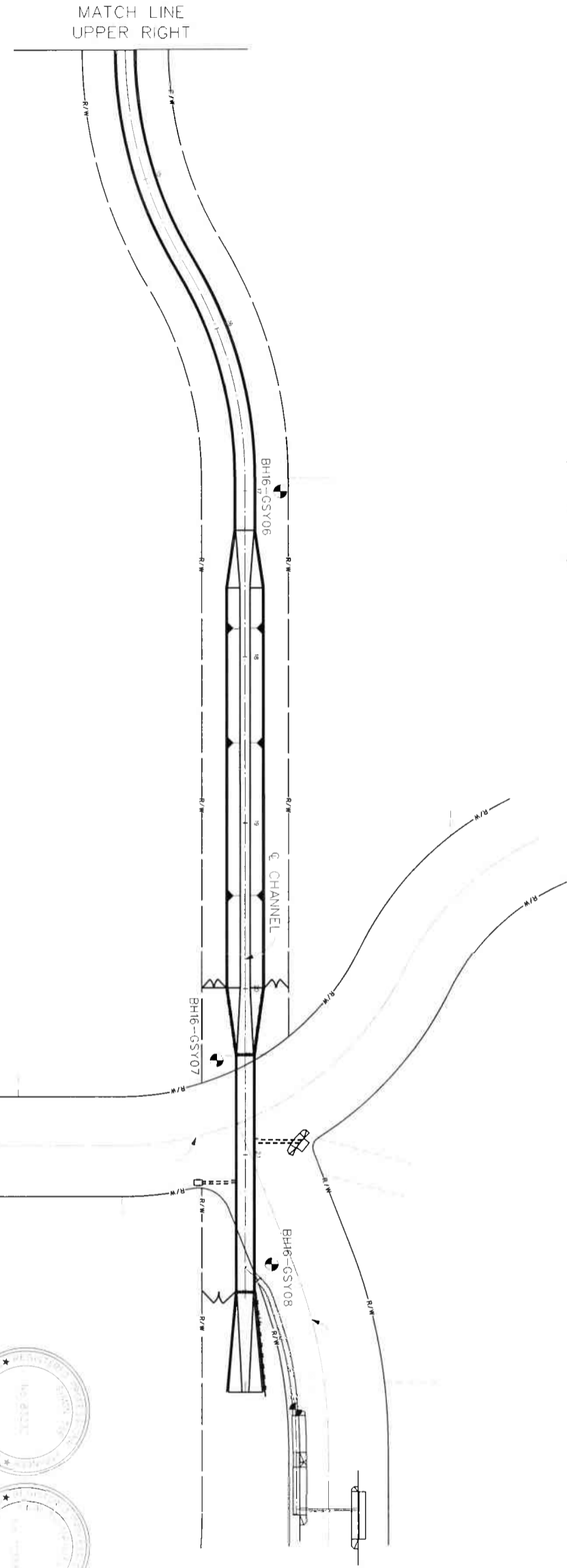
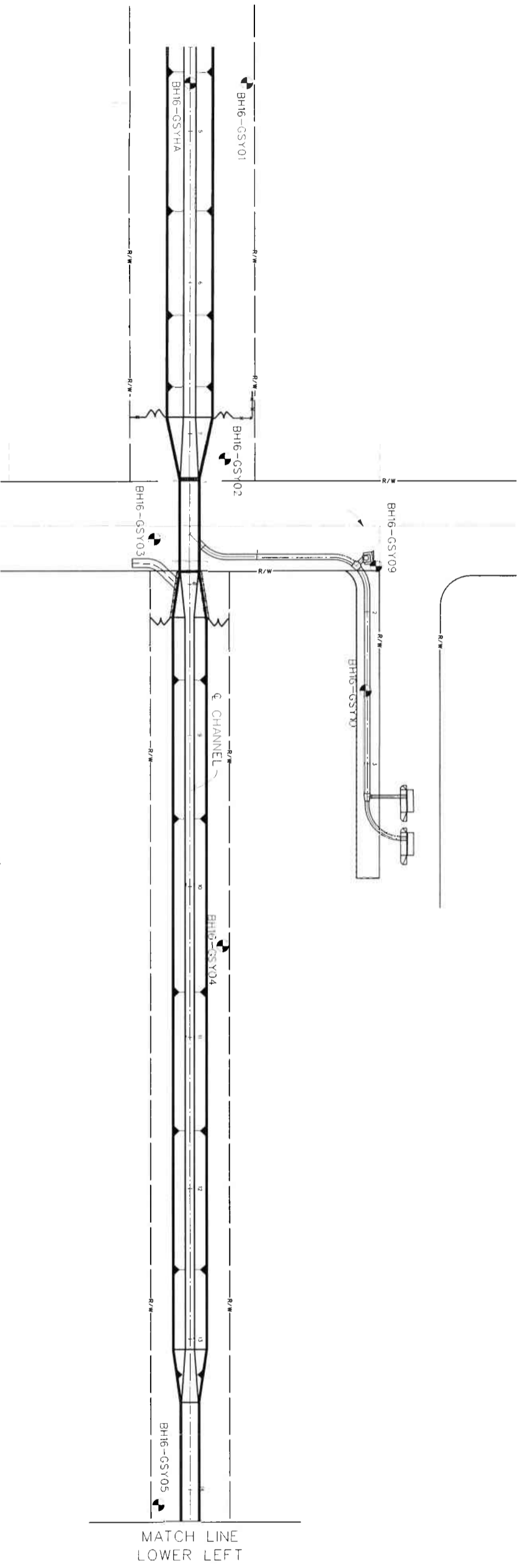
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT

APPROVED BY: *[Signature]*
DATE: 5/11/2022

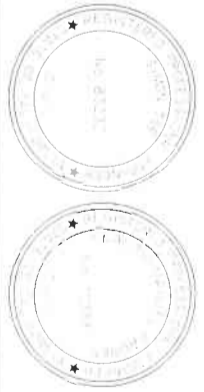
NORTH NORCO CHANNEL
LINE NB, STAGE 3
POTHOLE LOCATIONS

2-0-00145
2-0471
B1 B2



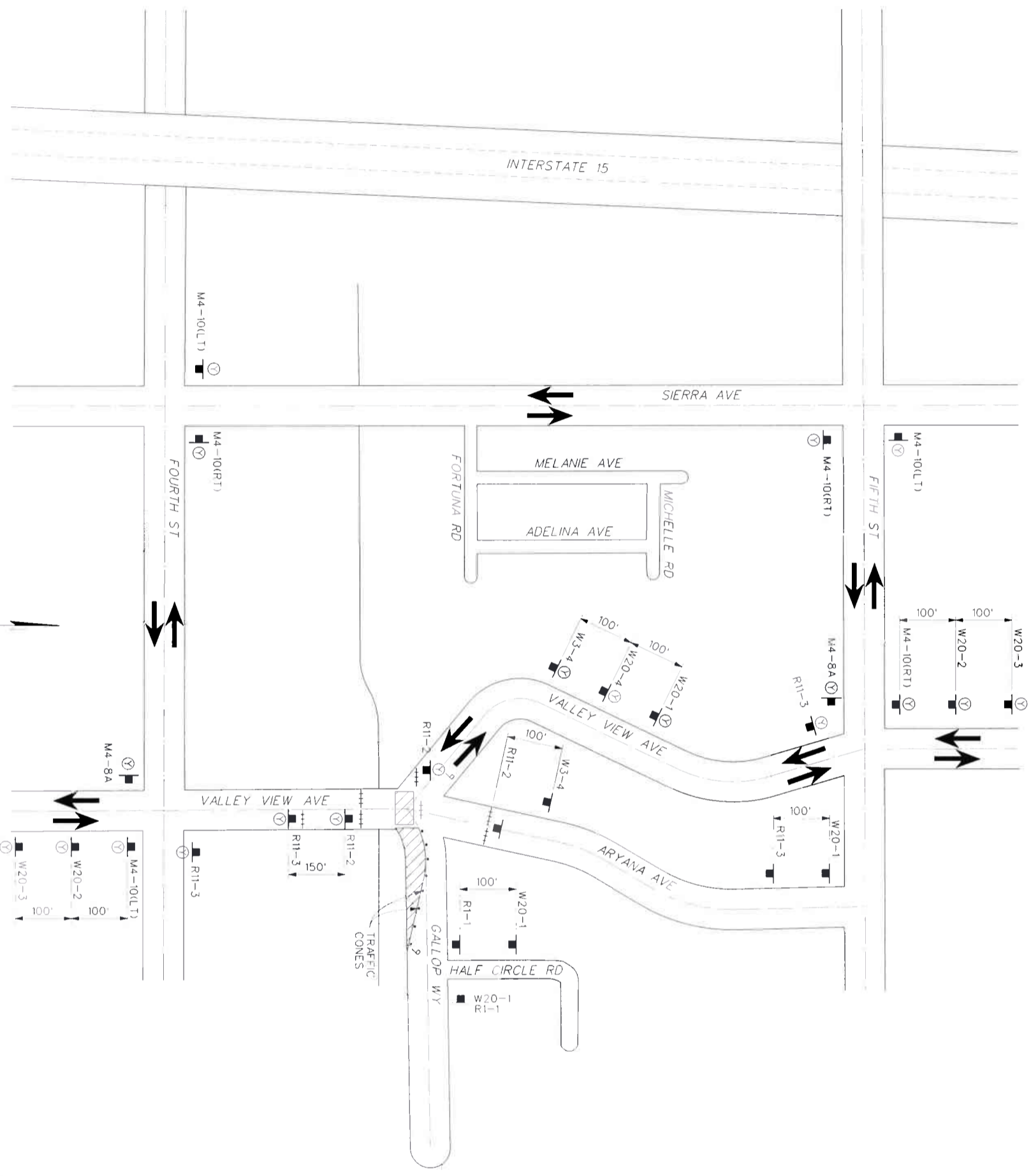


LEGEND
 BORING LOCATION



Dept. Dig. Unit You Call U.S.A. Toll Free 1-800-227-2600		REVISIONS		RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT		NORTH NORCO CHANNEL LINE NB, STAGE 3 BORING LOCATIONS		2-0-00145 2-0471 B2 B2	
		DATE: 5-11-2022 DRAWN BY: [Signature] CHECKED BY: [Signature]		DATE: 5-11-2022 DRAWN BY: [Signature] CHECKED BY: [Signature]		DATE: 5-11-2022 DRAWN BY: [Signature] CHECKED BY: [Signature]		DATE: 5-11-2022 DRAWN BY: [Signature] CHECKED BY: [Signature]	





VALLEY VIEW CLOSURE
NTS



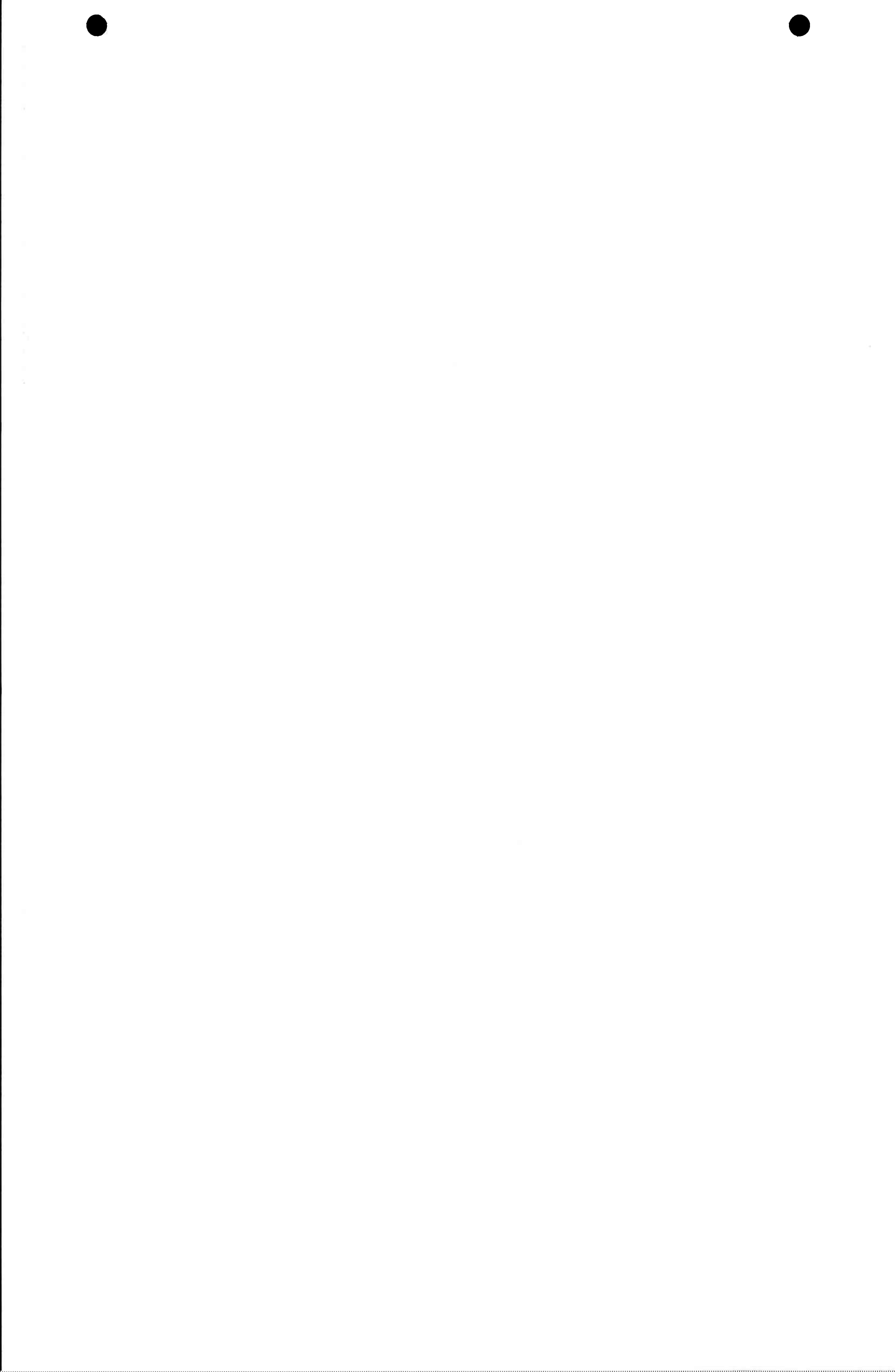
LEGEND

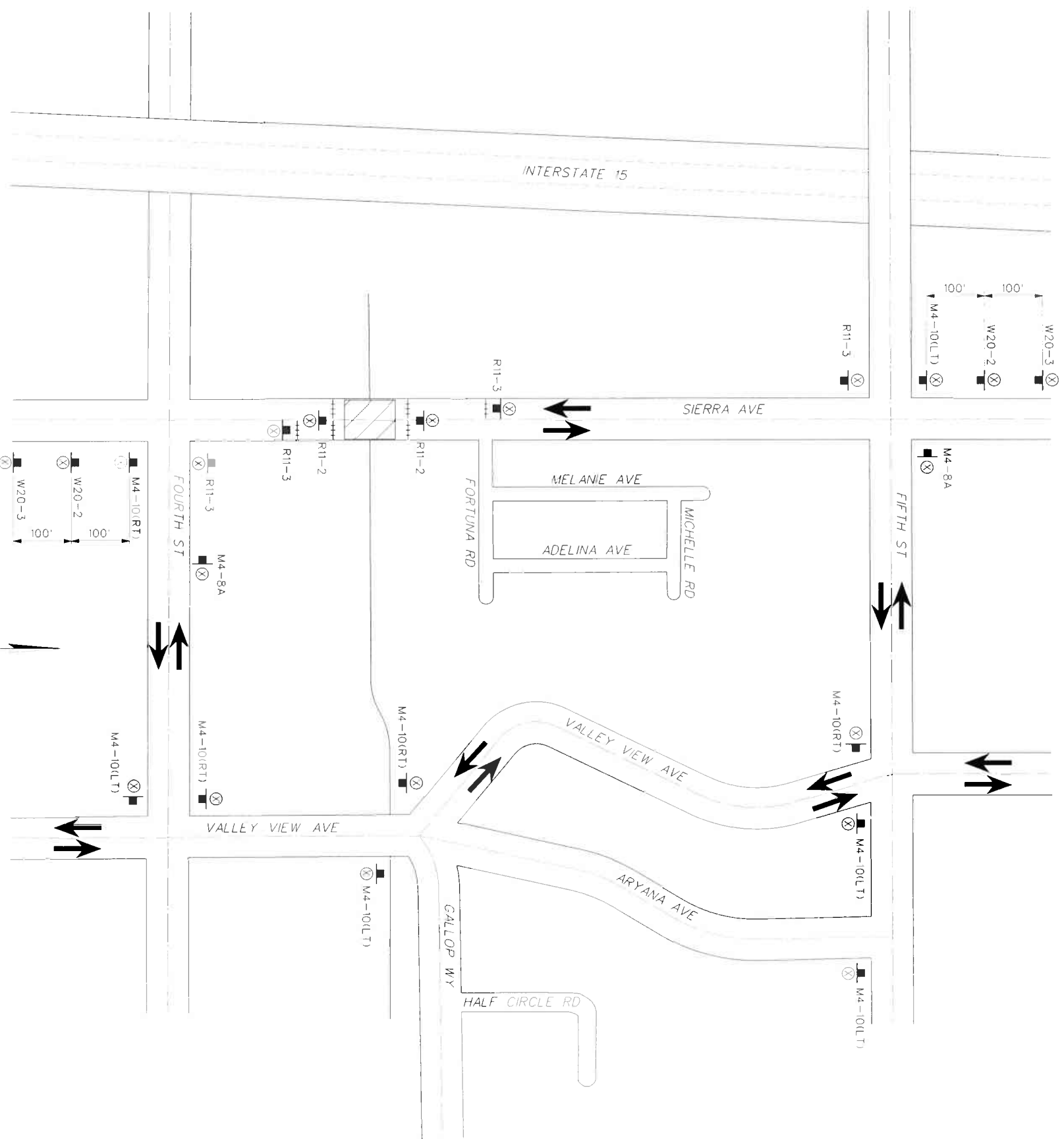
- 9 FLAGGER
- CONE OR DELINEATOR
- CONSTRUCTION SIGNS
- +++ TYPE III BARRICADE
- ➔ DIRECTION OF TRAVEL
- ▨ CONSTRUCTION AREA
- M4-8A END DETOUR
- M4-10(LT) DETOUR LEFT
- M4-10(RT) DETOUR RIGHT
- R11-1 STOP
- R11-2 ROAD CLOSED
- R11-3 ROAD CLOSED TO LOCAL TRAFFIC
- W3-4 BE PREPARED TO STOP
- W20-1 ROAD WORK AHEAD
- W20-2 DETOUR AHEAD
- W20-3 ROAD CLOSED AHEAD
- W20-4 ONE LANE ROAD AHEAD (W/DISTANCE)
- ⓧ VALLEY VIEW AVENUE

- NOTES**
1. THESE ARE THE MINIMUM TRAFFIC CONTROL REQUIREMENTS. ADDITIONAL TRAFFIC CONTROL MAY BE REQUIRED TO FACILITATE PUBLIC SAFETY AND TRAFFIC FLOW IF DETERMINED NECESSARY BY THE ENGINEER OR RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT.
 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
 3. FLASHING YELLOW BEACONS, TYPE B, SHALL ILLUMINATE ALL W20-1 SIGNS AND TYPE III BARRICADES USED AT THE WORK AREA DURING HOURS OF DARKNESS.
 4. ALL TRENCHES SHALL BE BACK FILLED OR PLATED AT THE END OF EACH WORK DAY, OR OTHERWISE PROTECTED FROM PUBLIC ACCESS.
 5. SPECIAL CONSTRUCTION SIGNS SHALL BE POSTED A MINIMUM OF 1 WEEK PRIOR TO CLOSING THE ROADWAY.



CITY OF NORCO	Don't Dig... Until you Call US A Toll Free 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	DATE: 5/16/22	PROJECT NO: 2-0-00145
APPROVED BY: <i>[Signature]</i>	DESIGNED BY: <i>[Signature]</i>	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22	DATE: 5/16/22
NORTH NORCO CHANNEL LINE NB, STAGE 3			TRAFFIC HANDLING PLAN		
DRAWING NO: 2-0471			SHEET NO: T1 OF T3		





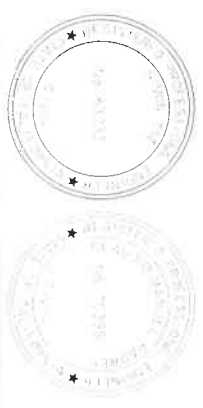
SIERRA AVENUE CLOSURE
NTS



LEGEND

- CONE OR DELINEATOR
- CONSTRUCTION SIGNS
- +++ TYPE III BARRICADE
- ➔ DIRECTION OF TRAVEL
- ▨ CONSTRUCTION AREA
- ⊗ END DETOUR
- ⊗ M4-8A DETOUR LEFT
- ⊗ M4-10(LT) DETOUR LEFT
- ⊗ M4-10(RT) DETOUR RIGHT
- ⊗ R11-2 ROAD CLOSED
- ⊗ R11-3 ROAD CLOSED TO LOCAL TRAFFIC
- ⊗ W20-2 DETOUR AHEAD
- ⊗ W20-3 ROAD CLOSED AHEAD
- ⊗ SIERRA AVENUE

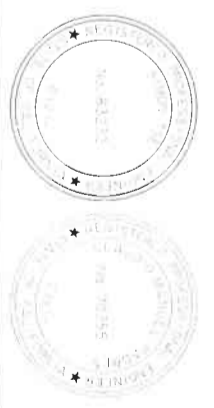
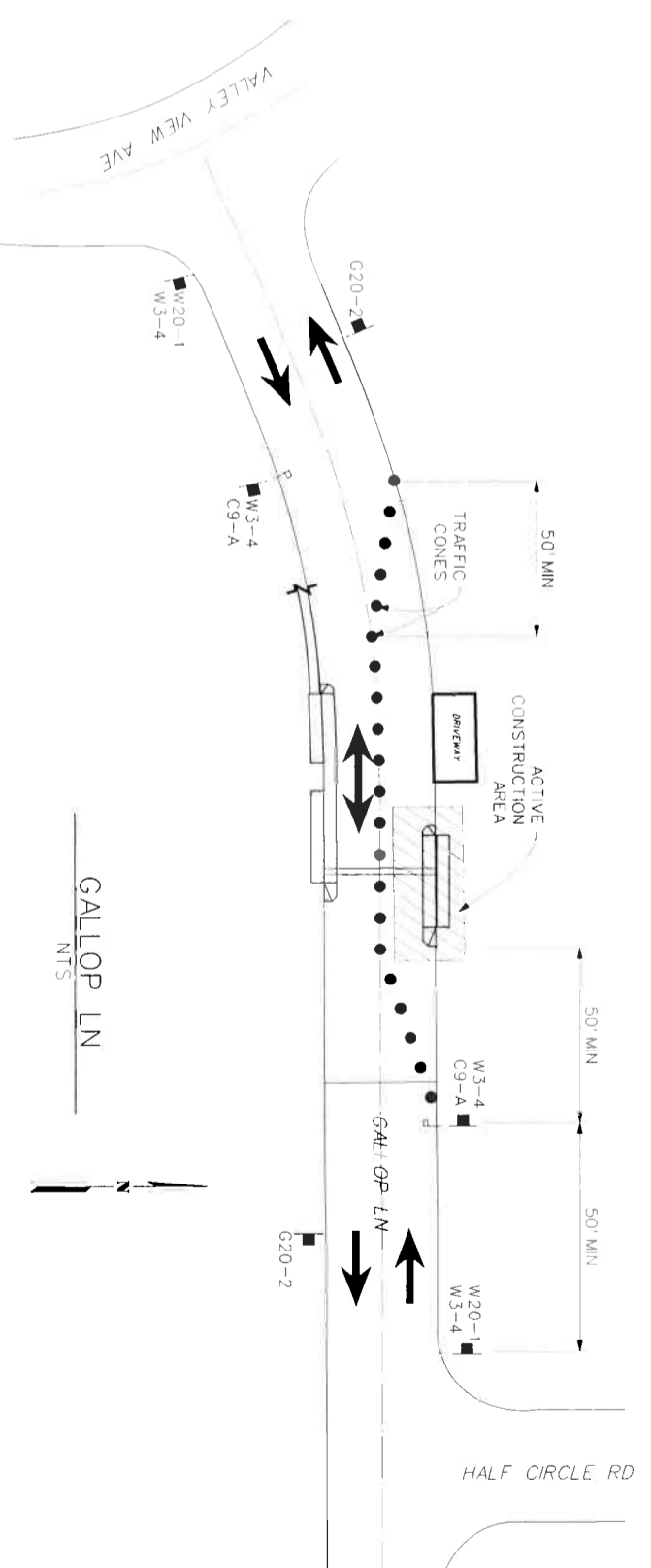
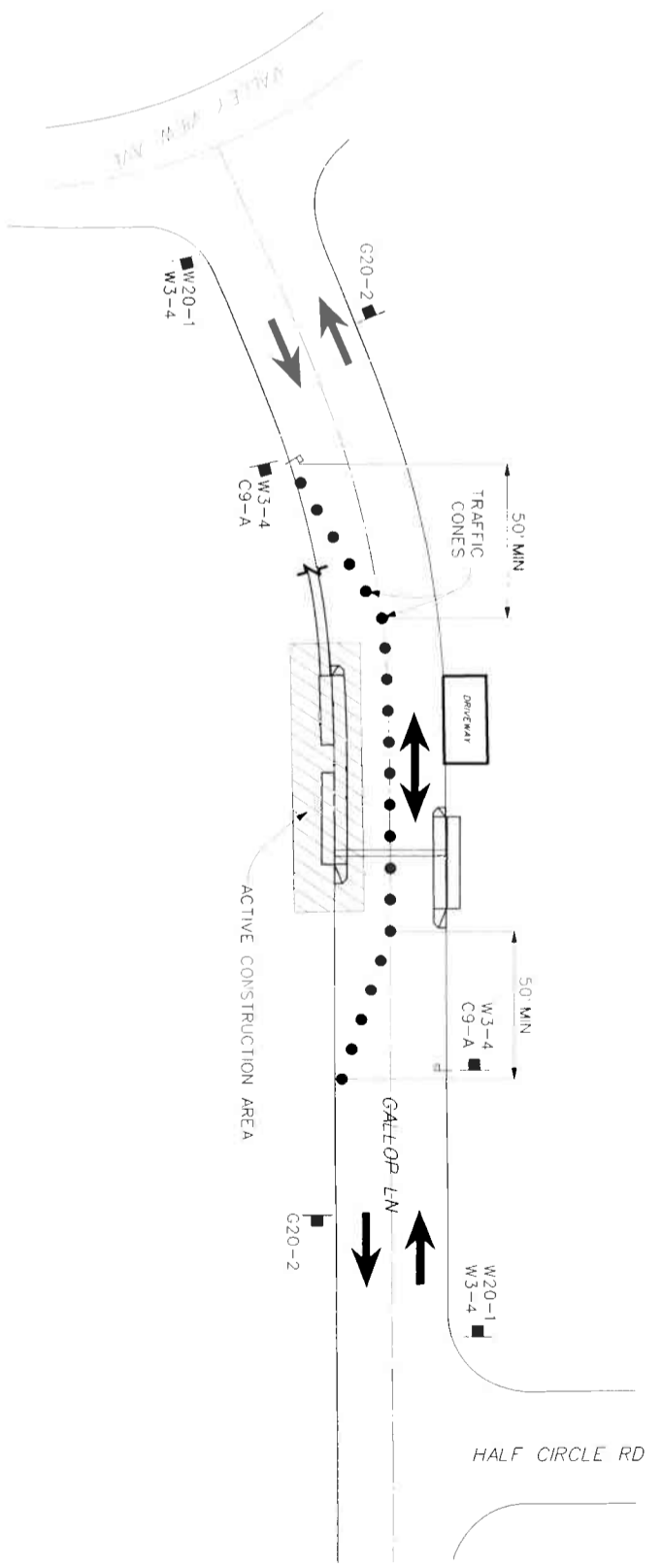
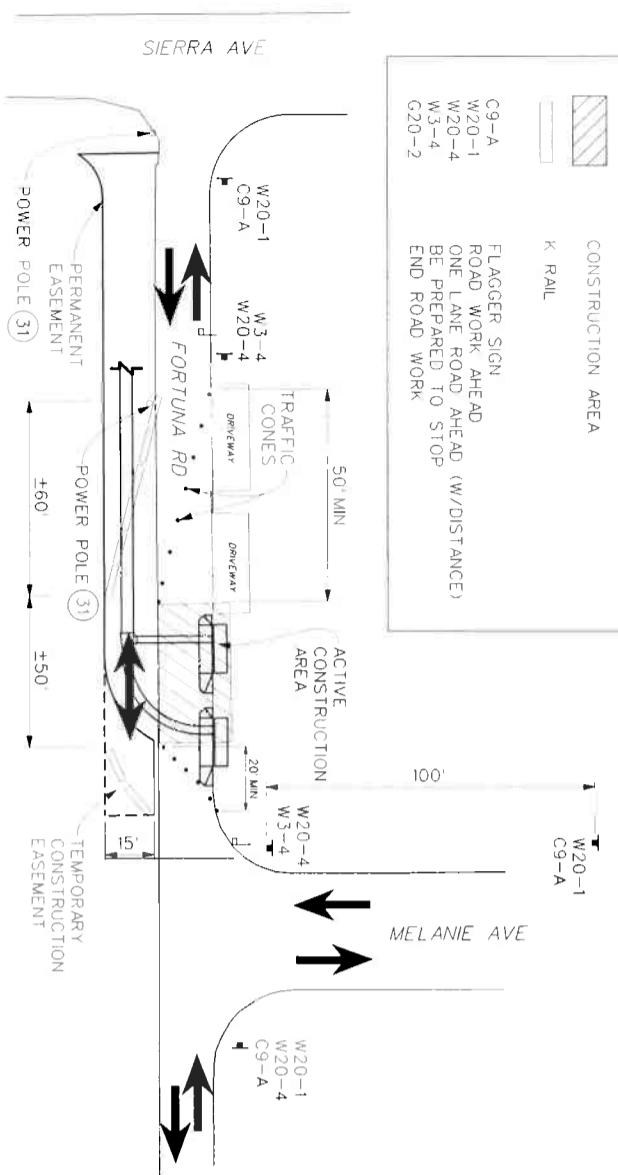
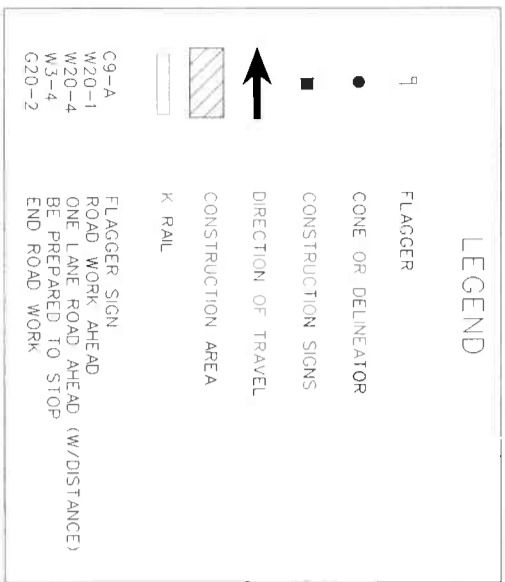
- NOTES**
1. THESE ARE THE MINIMUM TRAFFIC CONTROL REQUIREMENTS. ADDITIONAL TRAFFIC CONTROL MAY BE REQUIRED TO FACILITATE PUBLIC SAFETY AND TRAFFIC FLOW IF DEEMED NECESSARY BY THE ENGINEER OR RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT.
 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
 3. FLASHING YELLOW BEACONS, TYPE B, SHALL ILLUMINATE ALL W20-1 SIGNS AND TYPE III BARRICADES USED AT THE WORK AREA DURING HOURS OF DARKNESS.
 4. ALL TRENCHES SHALL BE BACK FILLED OR PLATED AT THE END OF EACH WORK DAY, OR OTHERWISE PROTECTED FROM PUBLIC ACCESS.
 5. SPECIAL CONSTRUCTION SIGNS SHALL BE POSTED A MINIMUM OF 1 WEEK PRIOR TO CLOSING THE ROADWAY.



CITY OF NORCO APPROVED BY: <i>[Signature]</i> 5/16/22	Don't Dig Until You Call U.S.A. Toll Free 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT <i>[Signature]</i>	5/16/22	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145
			<i>[Signature]</i>		TRAFFIC HANDLING PLAN	2-0471
						T2 T3

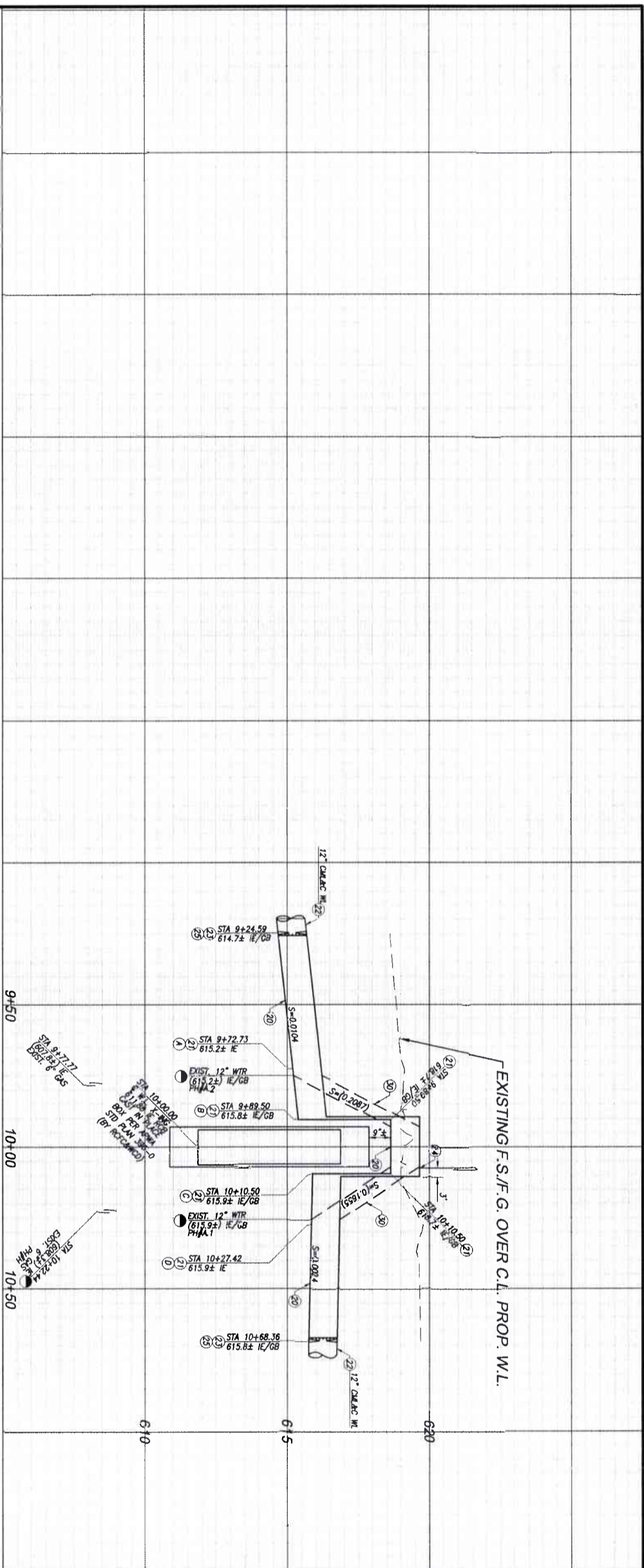
NOTES

1. THESE ARE THE MINIMUM TRAFFIC CONTROL REQUIREMENTS. ADDITIONAL TRAFFIC CONTROL MAY BE REQUIRED TO FACILITATE PUBLIC SAFETY AND TRAFFIC FLOW IF DEEMED NECESSARY BY THE ENGINEER OR RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT.
 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL LAWS.
 3. FLASHING YELLOW BEACONS, TYPE B, SHALL ILLUMINATE ALL W20-1 SIGNS AND TYPE III BARRICADES USED AT THE WORK AREA DURING HOURS OF DARKNESS.
 4. ALL TRENCHES SHALL BE BACK FILLED OR PLATED AT THE END OF EACH WORK DAY, OR OTHERWISE PROTECTED FROM PUBLIC ACCESS.
 5. SPECIAL CONSTRUCTION SIGNS SHALL BE POSTED A MINIMUM OF 1 WEEK PRIOR TO CLOSING THE ROADWAY.
 6. 2" HMA SHALL BE PLACED IN ACCORDANCE WITH CONTRACT ITEM TEMPORARY RESURFACING ON DRIVING SURFACES ABOVE THE TEMPORARY CONSTRUCTION EASEMENT, BUT SHALL BE PAID UNDER CONTRACT ITEM TRAFFIC HANDLING.
 7. TEMPORARY RESURFACING HMA SHALL BE DEMOLISHED AND LEGALLY DISPOSED WITH LINES AND GRADES RETURNED TO PRECONSTRUCTION CONDITIONS.
 8. CONTRACTOR SHALL PROVIDE MINIMUM 30 DAY NOTICE PRIOR TO CONSTRUCTION ACTIVITIES WITHIN EASEMENTS. THE CONTRACTOR SHALL COMPLETE ALL WORK AND RESTORE THE EASEMENT LIMITS TO PRECONSTRUCTION CONDITIONS WITHIN 4 WEEKS OF NOTICE REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- (3) PROTECT IN PLACE



CITY OF NORCO	Don't Dig. Until You Call S.A. Traffic 1-800-227-2600	REVISIONS	RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT	NORTH NORCO CHANNEL LINE NB, STAGE 3	2-0-00145
APPROVED BY: <i>[Signature]</i> 5/16/22			<i>[Signature]</i> 5/16/2022	TRAFFIC HANDLING PLAN	T3

PROFILE SCALE:
1" = 20' HORIZ.
1" = 2' VERT.



EXISTING F.S./F.G. OVER C.L. PROP. W.L.

CONSTRUCTION NOTES - WATER :

- (20) CONSTRUCT 12" O.D.P. CLASS WATERLINE IN TRENCH BEDDING PER C.O.N. STD PLAN 401
- (21) CONSTRUCT 90° 12" O.D.P. FITTING W/ RESTRAINED JOINTS ROLLED AS SHOWN
- (22) PROTECT IN PLACE
- (23) EXISTING GATE VALVE (P.I.P.)
- (24) CONSTRUCT 2" COMBINED AIR RELEASE VALVE ASSEMBLY PER C.O.N. STD PLAN NO. 492 MODIFIED WITH DIRECT CONNECTION ON TOP OF PROPOSED 12" WATER LINE
- (25) CONSTRUCT A FLANGED ADAPTER (E-Z FLANG) SERIES 1000 EBBA FROM (DOUBLE RING TO EXISTING 12" STEEL FLANGED/WALK)
- (26) REMOVE INTERFERING PORTIONS OF EXISTING WATER LINE (PIPE SIZE PER PLAN/PROFILE) (12" O.D.P.)
- (31) CONSTRUCT GUARD POST PER CITY OF NORCO STD PLAN 405
- (32) REMOVE EXISTING WATER SERVICE AND INSTALL NEW 1" DOMESTIC WATER SERVICE PER C.O.N. STD. 410

POT HOLE DATA

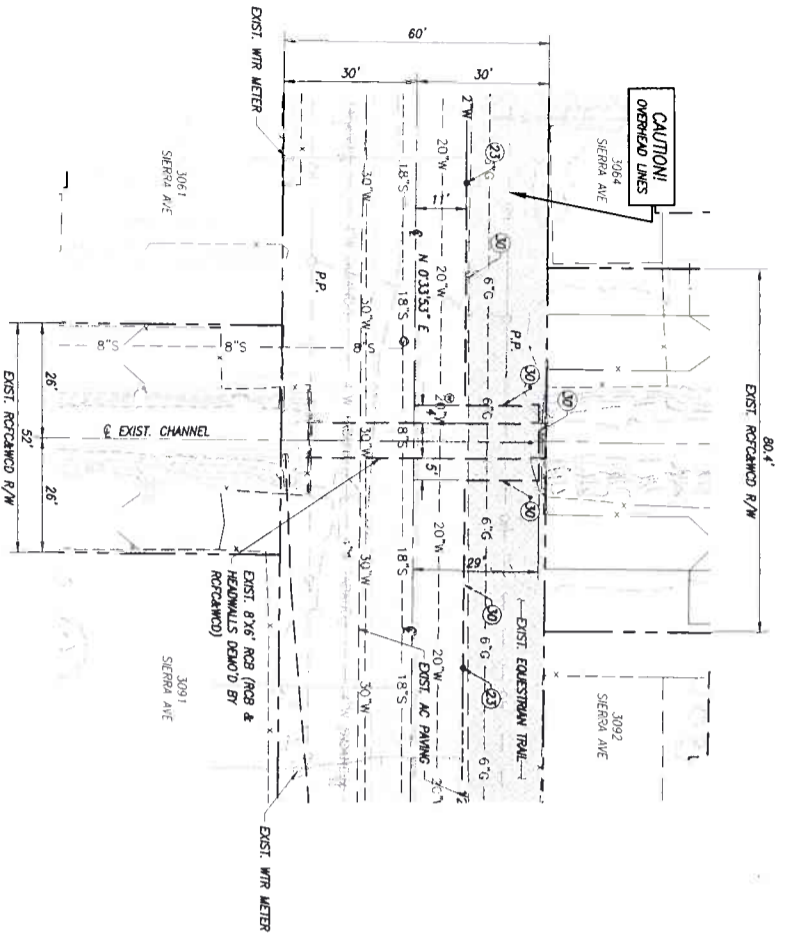
UTILITY	SIZE	DEPTH
12" WTR	618.42'	2.92'
4.3" 12" WTR	618.82'	2.94'
H. 6" GAS	619.52'	10.2'

STATION TABLE

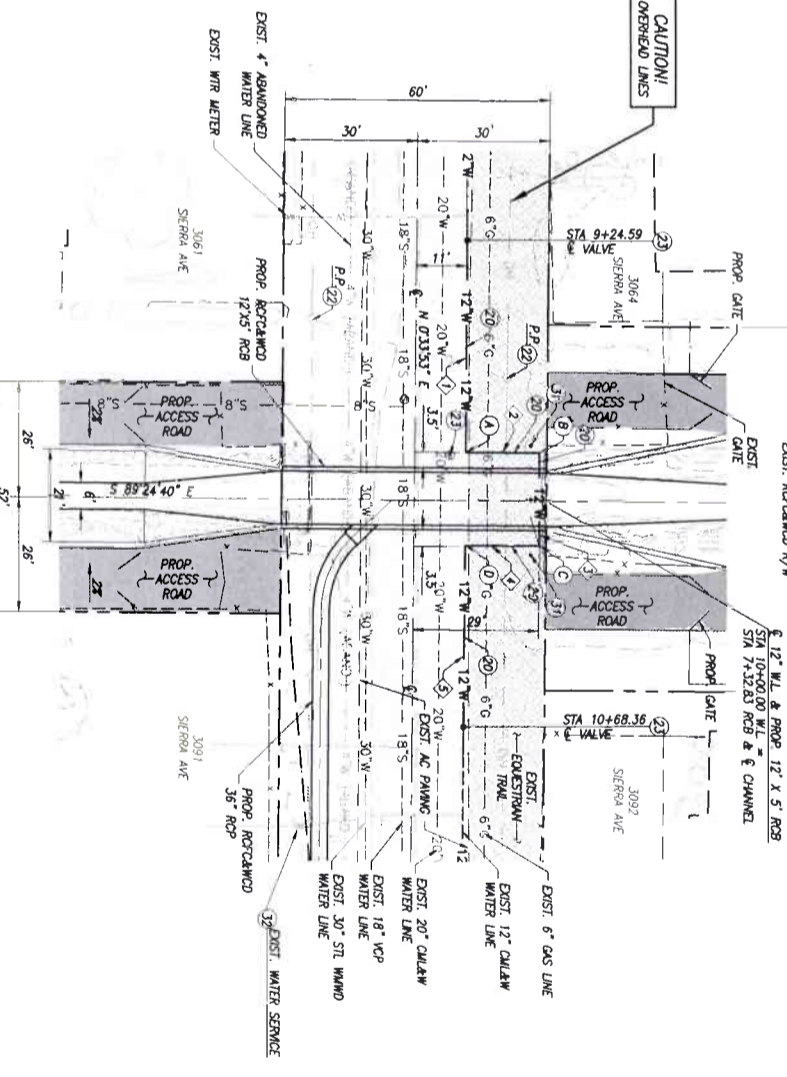
ID	STATION (M.L.)
(A)	9+72.73
(B)	9+89.50
(C)	10+10.50
(D)	10+27.42

WATER LINE DATA

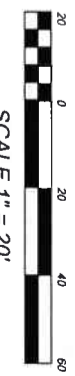
NUMBER	BEARING/A. ANGLE	LENGTH
1	N 00°33'53" E	48.14'
2	N 89°24'39" W	16.77'
3	N 00°33'53" E	21.00'
4	N 89°24'39" W	16.92'
5	N 00°33'53" E	40.94'



SIERRA AVE. DEMOLITION PLAN



SIERRA AVE. RELOCATION PLAN



SCALE 1" = 20'

DATE PLOTTED: MAY 2018

REVISIONS

NO.	DATE	BY	DESCRIPTION

DESIGNED **DATE:** 3/27/18

DRAWN **DATE:** 3/27/18

CHECKED **DATE:** 3/27/18

APPROVED: **CITY ENGINEER**

DATE: 10/20/21

BENCHMARK NO.: Z 15162

1/2" ROD W/ ROTC IM SM CP FLUSH

E: 6181.34532

N: 2283.30282

ELEVATION: 627.18 (NAVD 88)

REGISTERED PROFESSIONAL ENGINEER
M&B ENGINEERING & CONSULTING ENGINEERS
CIVIL ENGINEER
STATE OF CALIFORNIA

CITY OF NORCO
DEPARTMENT OF PUBLIC WORKS

SIERRA WATERLINE
WATERLINE RELOCATION PLANS

SHEET **2** OF **2**

CONTRACT _____

ACCOUNT _____

DWG. NO. _____