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

ITEM: 11.1
(ID # 11577)
MEETING DATE:
Tuesday, January 7, 2020

FROM: FLOOD CONTROL DISTRICT:

SUBJECT: FLOOD CONTROL DISTRICT: Approval of the Construction Drawings for Romoland MDP Line A-3, Stage 3 Project (Project); Delegation of Authority to General Manager-Chief Engineer to Execute all Necessary Agreements and Documents to Authorize State of California Department of Transportation (Caltrans) to Proceed with the Construction and to Issue Payments to Caltrans for the Construction of Project up to the Not to Exceed Amount of $855,000; Project No. 4-0-00431-03, Nothing Further is Required Under CEQA, District 5. [Not to Exceed $875,307 – District Funds 100%]

RECOMMENDED MOTION: That the Board of Supervisors:

1. Find that nothing further is required under the California Environmental Quality Act (CEQA) for the approvals of the Romoland MDP Line A-3, Stage 3 construction drawings and the cooperative agreement because any potentially significant effects have been adequately analyzed in an earlier Environmental Impact Report (SCH#2003111131) certified by this Board on March 28, 2006 (Agenda Item No. 11-2) and within an Addendum considered by the Board on September 9, 2014 (Agenda Item No. 11-2);
2. Approve the Construction Drawings for the Romoland MDP Line A-3, Stage 3 Project (Project); and

ACTION:Policy

Jason Uhley, GENERAL MGR-CHF FLD CNTRL ENG 12/19/2019

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Jeffries, seconded by Supervisor Spiegel 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:	January 7, 2020
xc:	Flood

Kecia R. Harper
Clerk of the Board
By: _____
Deputy

3. Authorize the General Manager-Chief Engineer to execute all necessary agreements and documents to authorize Caltrans to proceed with the construction and to issue payments to Caltrans for the construction of Project up to the amount of $855,000.

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	$875,307	$0	$875,307	$0
NET COUNTY COST	$0	$0	$0	$0

SOURCE OF FUNDS:
25140-947460-527980 Zone 4 Contracts
25140-947460-523220 Zone 4 License & Permits (MSHCP)

Budget Adjustment: No

For Fiscal Year: 19/20; 20/21

C.E.O. RECOMMENDATION: Approve

BACKGROUND:

Summary

The Riverside County Flood Control and Water Conservation District (District) has budgeted for and is in the process of designing the Romoland MDP Line A-3 (Line A-3) storm drain system in the city of Menifee, which includes a portion that crosses State Route (SR) 74, just east of Palomar Road. District staff learned that Caltrans has recently awarded a construction contract to widen SR 74, including at the planned location of Line A-3.

This item will enable the District to work in partnership with Caltrans to have Caltrans' contractor construct the portion of Line A-3 under SR 74 (Project) with District funding concurrent with Caltrans' SR widening. This partnership will avoid repeated significant construction inconveniences to the travelling public on SR 74, reduce District costs and accelerate the schedule for the delivery of the District's planned Line A-3 storm drain system. The District fast-tracked completion of the plans for this crossing and has budgeted sufficient funds for the construction of the Project.

Caltrans has a Standard Agreement for Miscellaneous Reimbursed Work which is the mechanism Caltrans requires for adding this last minute change to their contract. Execution of the attached form will allow the District to provide Caltrans the funding necessary for Caltrans to construct the storm drain under SR 74. Time is of the essence in processing this agreement and other necessary documents, therefore, Motion 3 requests authority for the General Manager-Chief Engineer to execute the necessary documents as they are received from Caltrans in final form. This authorization will allow the District to contribute up to $855,000 to Caltrans to cover the construction and administration costs for the Project, as well as the to pay the required 3% mitigation costs to the Western Riverside County Resource Conservation Authority.

Environmental Findings

Nothing further is required because any potentially significant effects have been adequately analyzed in an earlier Environment Impact Report (SCH#2003111131) certified by this Board on March, 28 2006 (Agenda No. 11-2) and within an Addendum considered by the Board on September 9, 2014 (Agenda No. 11-2). The underground drainage facility design includes a minor realignment which will not cause a new significant effect on the environment. Any potentially significant effects have been adequately analyzed, and no further CEQA review is required.

Impact on Residents and Businesses

This item enables the Project to be constructed as part of the Caltrans widening project for Highway 74. This partnership will avoid repeated significant construction inconveniences to the travelling public on SR 74 that would be experienced if the District and Caltrans projects are pursued separately. It will also reduce District costs and accelerate the schedule for the delivery of the District's overall Line A-3 storm drain system.

Additional Fiscal Information

Sufficient funding is available in the District's budget.

The $855,000 contribution to Caltrans has been estimated as follows: $677,000 for the estimated construction cost + $110,000 contingency for unforeseen/subterranean conditions + $68,000 administration costs. Final costs for these elements will be determined by the District's General Manager-Chief Engineer and Caltrans subject to a maximum combined amount of $855,000. In addition, pursuant to the Implementing Agreement for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) executed on June 22, 2004, the District is required to make a payment to the Western Riverside County Regional Conservation Authority for up to 3% of the total capital costs as required mitigation for the construction of flood control facilities.

The Financial Data listed is comprised of construction and administration costs of up to $855,000, which will be contributed to Caltrans for the construction of the Project, plus up to $20,307 (3% of the capital costs) for MSHCP mitigation, for a total of $875,307.

Contract History and Price Reasonableness

Caltrans' contractor, Granite Construction Company, was selected by Caltrans through a competitive public works bidding process and is a national contractor experienced in performing similar large scale flood control infrastructure projects for the District. Based on the scope of work involved, District staff experience in the cost of similar large drainage crossings of state highways and in consideration of the opportunity cost savings for having Caltrans as a partner for this project, District staff believe that the estimated costs are not only reasonable but will result in a substantial savings for the District over the alternative of pursing the project independently after the highway widening is completed.

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

ATTACHMENTS:

1. Vicinity Map
2. Drawing 4-1146
3. Caltrans Standard Agreement for Miscellaneous Work
4. Granite Cost Sheet

Jason Farin, Senior Management Analyst 12/30/2019

Gregory P. Priamos, Director County Counsel 12/20/2019

Lock Data on Form

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

STANDARD AGREEMENT FOR MISCELLANEOUS REIMBURSED WORK

FA-2640 (NEW 1/2007)

(Required) Agreement Number

EA

This agreement is entered into this _____ day of _____, 20__ by and between the undersigned parties:

Set forth service / materials, to be furnished, and/or work to be performed and by whom.

This agreement is for:

WHAT:

WHERE:

ESTIMATED TO COST (attach detailed estimate)

Date: Estimated Beginning Estimated Completion

Payment to be made upon billing:

Advanced deposit (Estimate amount) $

Maximum to be billed (Include 10-20% contingency) $

It is agreed that costs for the above services are subject to an assessment for direct and indirect costs (functional and administrative overhead) when applicable.

Work will be done in a timely manner, but at the convenience of Caltrans, and will not take precedence over Caltrans work.

The State reserves the right to cancel this agreement by written notice at any time when it is deemed in the best interest of the State to do so and to refund any unexpected funds collected.

(Caltrans Contract Manager fill in the following upon completion of the work for final accounting of project and forward copy of agreement, along with any purchase orders, to Division of Accounting, Attn: A/R Reimbursements, MS 33).

Work Completed

Work Order #

Contract Manager

Certified as to Funds:

Budget Manager

Name of Agency/Contributor *(If private party, should be name of party on check)*	Name of Agency
Riverside County Flood Control & Water Conservation District	Department of Transportation
Authorized Signature Phone #: 951-955-1200	Authorized Signature
Title General Manager-Chief Engineer	District Director
Billing Address 1995 Market Street Riverside, CA. 92501	Project Manager: Phone #: Mailing Address

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ROMOLAND MDP LINE A-3, STAGE 3
CROSSING SR-74
PROJECT NO. 4-0-00431-03

The Romoland MDP Line A–3 (Line A–3) storm drain system includes a portion that crosses State Route (SR) 74, just east of Palomar Road in the city of Menifee. The Line A–3 crossing consists of an underground reinforced concrete box that will be bulk headed at both ends to restrict flows from entering the system until such time we construct Stage 2 which connects the entire system to the existing outlet at Mathews and Paloma Roads.

To avoid the District's project trenching through SR 74 shortly after Caltrans completes their current widening project of SR 74, the District coordinated with Caltrans and obtained their commitment to include construction of such Line A–3 crossing under SR 74, as part of Caltrans widening project. District will provide funding to construct the Line A–3 crossing of SR 74. Once constructed by Caltrans contractor, it will allow the District to proceed with the construction of Line A–3, Stage 2 and the remainder portion of Line A–3, Stage 3, while avoiding repeated significant construction inconveniences to the travelling public on SR 74.

The Romoland MDP Line A–3 system also consists of additional stages that is planned and will be constructed as part of our 5–year Capital Improvement Plan. Once completed in its entirety, Romoland MDP Line A–3 will be the main backbone drainage system in the area which will also intercept flows sheet flowing in a southwesterly direction north of Varela east of Palomar. In addition, Line A–3 will allow the City of Menifee and/or private developments an outlet for additional smaller storm drain lines to be constructed and safely outlet into line A–3 to convey flows safely to the constructed Line A facility.

GRANITE™

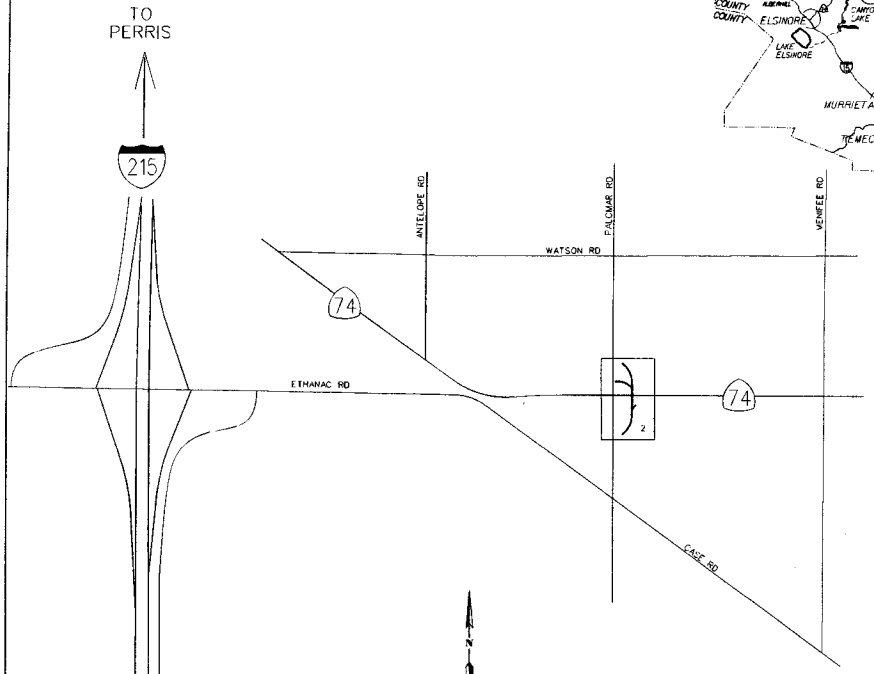
ROMOLAND LINE A-3 STAGE 2
HWY 74 CROSSING
30% PLAN BUDGET

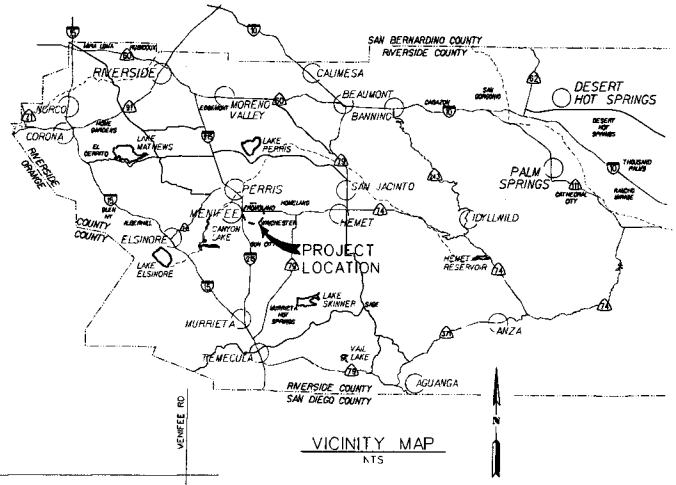
Biditem	Description	Bid Quantity	Unit	Bid Price	Bid Total
1.0	TRAFFIC CONTROL	1.000	LS	29,100.00	29,100.00
2.0	KRAIL	240.000	LF	31.00	7,440.00
3.0	POTHOLE	1.000	LS	4,500.00	4,500.00
4.0	EXCAVATE PRECAST BOX	1.000	LS	19,000.00	19,000.00
5.0	SHORE PRECAST BOX	1.000	LS	4,300.00	4,300.00
6.0	SAWCUT REMOVE AC	1.000	LS	4,100.00	4,100.00
7.0	BACKFILL PRECAST BOX	1.000	LS	13,000.00	13,000.00
8.0	PRECAST BOX 12 X 6.5	76.000	LF	2,750.00	209,000.00
9.0	BULKHEAD (PIPE /BOX)	5.000	EA	2,200.00	11,000.00
10.0	PAVEMENT PATCH	1.000	LS	93,000.00	93,000.00
	SUB TOTAL IN HWY 74				**394,440.00**
11.0	CIP EXCAVATION	1.000	LS	5,000.00	5,000.00
12.0	CIP BOX 12 X 6.5	42.000	LF	2,200.00	92,400.00
13.0	CIP BOX TRANSITION	20.000	LF	2,700.00	54,000.00
14.0	CIP BOX DBL 10X4	14.000	LF	2,950.00	41,300.00
15.0	REBAR BOX	1.000	LS	59,000.00	59,000.00
16.0	CIP BACKFILL	1.000	LS	8,000.00	8,000.00
17.0	JS #3	2.000	EA	8,900.00	17,800.00
17.0	RCP 24"	4.000	LF	440.00	1,760.00
19.0	RCP 48"	8.000	LF	400.00	3,200.00
	SUB TOTAL CAST IN PLACE				**282,460.00**
	TOTAL				**676,900.00**

CLARIFICATIONS

1.0 Our cost does not include survey, or soil testing
2.0 No SWPPP Plan is included
3.0 Our cost does not include signed traffic plan.
4.0 Our Cost does not include cut off walls.
5.0 No bond is included
6.0 Our traffic control includes putting the light on red flash and flag the traffic through in high volume time.
7.0 Our pavement patch is 1.45' HMA on 0.5' of Class 2 base recycled.

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT





VICINITY MAP
NTS

INDEX

RCFC STD DRAWINGS

M815	EXCAVATION AND BACKFILL
M816	CONCRETE BULKHEAD
JS226	JUNCTION STRUCTURE NO. 1
JS228	JUNCTION STRUCTURE NO. 3
TS304	TRANSITION STRUCTURE NO. 4
CH326	TRAPEZOIDAL CHANNEL DETAILS

CALTRANS STD DRAWINGS

D80	CAST IN PLACE REINFORCED CONCRETE SINGLE BOX CULVERT
D81	CAST IN PLACE REINFORCED CONCRETE DOUBLE BOX CULVERT
D82	CAST IN PLACE REINFORCED BOX CULVERT MISCELLANEOUS DETAILS
D83A	PRECAST REINFORCED CONCRETE BOX CULVERT
D93A	PIPE RISER CONNECTIONS
D93C	DEBRIS RACK CAGE

GENERAL NOTES

1. EXCAVATION AND BACKFILL PAY LINES ARE SHOWN ON SHEET 6 OF THESE PLANS.
2. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION.
3. ALL CHANNEL/STORM DRAIN REFERENCES AND CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
4. TOPOGRAPHY BY DIGITAL PHOTOGRAMMETRIC METHODS. AERIAL PHOTOGRAPHS TAKEN AT AN ALTITUDE NOT TO EXCEED A FLYING HEIGHT TO CONTOUR INTERVAL RATIO OF 1800. PHOTOGRAPHY DATED 01/01/2019.
5. THE VERTICAL DATUM IS DERIVED FROM NGVD 29. THE HORIZONTAL DATUM IS DERIVED FROM NAD83(2007) EPOCH 2011.0, AND CALIFORNIA STATE PLANE, ZONE 6.
6. STANDARD DRAWINGS CALLED FOR ON THE PLAN & PROFILE SHALL CONFORM TO RCFC & WCD STD DRAWINGS AND CALTRANS STANDARD PLANS.
7. ELEVATIONS AND LOCATIONS OF UTILITIES WERE OBTAINED FROM AVAILABLE INFORMATION AND ARE SHOWN APPROXIMATELY ON THESE PLANS. 48 HOURS BEFORE EXCAVATION CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600. ALL UTILITIES SHALL BE PROTECTED IN PLACE EXCEPT AS NOTED ON PLANS AND SPECIFICATIONS.
8. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY AGENCIES REGARDING TEMPORARY SUPPORT AND SHORING REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
9. ALL OPENINGS RESULTING FROM CUTTING OR PARTIAL REMOVAL OF EXIST. CULVERTS, PIPES, OR SIMILAR STRUCTURES TO BE ABANDONED, SHALL BE SEALED AT BOTH ENDS WITH 6" MINIMUM CLASS "B" CONCRETE.
10. ALL RECONSTRUCTION, RESURFACING AND PAVEMENT DELINEATION, CURBS, SIDEWALKS AND OTHER IMPROVEMENTS ARE TO BE RECONSTRUCTED IN KIND AT THE SAME LOCATIONS AND ELEVATIONS AS THE EXISTING IMPROVEMENTS, UNLESS OTHERWISE NOTED.
11. ⊕ INDICATES APPROX. SOIL BORING LOCATION PER SOILS REPORT DATED 10/06/2014 CHJ CONSULTANTS.
12. ● PH# INDICATES APPROX. POTHOLING LOCATION PER REPORT DATED 10/14/2019 BY USI.

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL FLORES — No. 70355 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — JASON E. URLEY — No. 59795 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't distrust what services. 2 WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-17223
SET 3/4" IP W/RCFC WCD PLUG
DN 0.50'
E 6,284,389.35
N 2,215,939.12
27' W'LY OF TRAFFIC VAULT & 26' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	REVISIONS	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
PS NUMBER: P8/228249

RECOMMENDED FOR APPROVAL BY: CHIEF, DESIGN & CONSTRUCTION — DATE: 11-25-19

APPROVED BY: GENERAL MANAGER-CHIEF ENGINEER — DATE: 11-25-19

ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING

TITLE SHEET

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 1 OF 9

SPECIFICATIONS

REFERENCED SPECIFICATIONS

REFERENCES MADE IN THE FOLLOWING SPECIFICATIONS TO STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, 2018 EDITION.

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING SECTIONS BY FOLLOWING THE CALTRANS REQUIREMENTS FOR PLANS AND SPECIFICATIONS AND SPECIAL PROVISIONS FOR CONTRACT No. 08-0N6704, UNLESS OTHERWISE NOTED:

① NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
② WATER CONTROL
③ DUST ABATEMENT
④ EXCAVATION
⑤ BACKFILL/STRUCTURAL BACKFILL
⑥ PRECAST REINFORCED CONCRETE BOX CULVERT
⑦ NEW ROAD STRUCTURAL SECTION LAYERS AND GRIND AND OVERLAY OF EXISITNG ROAD STRUCTURAL SECTION LAYERS

PROTECTION OF EXISTING FACILITIES AND STRUCTURES

ALL EXISTING FACILITIES AND STRUCTURES SHALL BE PROTECTED IN PLACE AT ALL TIMES, EXCEPT AS NOTED OTHERWISE ON THE PLANS. ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

SURPLUS EXCAVATED MATERIAL

ANY STOCKPILING, GRADING OR DISPOSAL OF MATERIAL OUTSIDE OF THE PROJECT LIMITS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REGULATORYPERMITS THAT MAY BE REQUIRED INCLUDE, BUT ARE NOT LIMITED TO, FEDERAL CLEAN WATER ACTSECTIONS 401 AND 404), CALIFORNIA FISH AND GAME CODE (SECTION 1602) AND FEDERAL/STATEENDANGERED SPECIES ACTS. ALL COSTS TO OBTAIN THESE REGULATORY PERMITS SHALL BE BORNE BY THE CONTRACTOR.

CLEARING AND MISCELLANEOUS WORK

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL VEGETATION, TREES, ROOTS, STUMPS, FENCES, PIPES, ALL ABANDONED FACILITIES, CULVERTS, ROCKS, STRUCTURES, CONCRETE, AND ANY DEBRIS LOCATED WITHIN THE PROJECT AREA, AS DIRECTED BY THE CALTRANS ENGINEER.

LIABILITY INSURANCE

THE CONTRACTOR SHALL HOLD THE RIVERSIDE COUNTY AND RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, TOGETHER WITH THE OFFICERS, AGENTS, AND EMPLOYEES OF EACH, FREE AND HARMLESS FROM ANY LIABILITY WHATSOEVER, INCLUDING WRONGFUL DEATH, BASED OR ASSERTED UPON ANY ACT OR OMISSION OF CONTRACTOR, ITS OFFICERS, AGENTS, EMPLOYEES OR SUBCONTRACTORS, RELATING TO OR IN ANY WAY CONNECTED WITH OR ARISING FROM THE ACCOMPLISHMENT OF THE WORK, WHETHER OR NOT IN FURTHERANCE OF THE WORK; AND CONTRACTOR AGREES TO PROTECT AND DEFEND, INCLUDING ALL ATTORNEY FEES AND OTHER EXPENSES, EACH OF THE FOREGOING BODIES AND PERSONS IN ANY LEGAL ACTION BASED OR ASSERTED UPON ANY SUCH ACTS OR OMISSIONS.

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

CONTROLLED LOW STRENGTH MATERIAL (CLSM)PLACEMENT FOR BACKFILL SHALL BE USED WHEN SPECIFIED ON THE TRENCH DETAILS SHOWN ON SHEET 5 OF THIS DRAWING SET OR AS APPROVED BY THE ENGINEER. CLSM SHALL CONFORM TO SECTION 201-6 OF THE GREENBOOK SPECIFICATIONS. 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.

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.

FILTER MATERIAL

FILTER MATERIAL SHALL BE PLACED BELOW THE REINFORCED CONCRETE PIPE, BOX AND VARIOUS OTHER STRUCTURES AS SHOWN ON SHEET 6 OF THIS DRAWING SET. THE CONTRACTOR SHOULD NOTE THAT THE PLACING OF FILTER MATERIAL 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) OFTHE CALTRANS SPECIFICATIONS. GRADING SHALL MEET THE REQUIREMENTS FOR ¾" X NO.4 COARSE AGGREGATE AS PER SECTION 90-1.02C(4)(B) OF THE CALTRANS SPECIFICATIONS. THE FILTER MATERIAL SHALL BE CONSOLIDATED AND THE SURFACE TRIMMED TO FINAL GRADE AS DIRECTED BY THE ENGINEER.

PRECAST REINFORCED CONCRETE BOX

THE CONTRACTOR SHALL PROVIDE PRECAST RCB MEETING THE DESIGN REQUIREMENTS OF CALTRANS STANDARD PLAN D83A AND 2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (BDS).

THE CONTRACTOR SHALL FOLLOW SECTION 51-4 OF THE CALTRANS SPECIFICATIONS EXCEPT AS NOTED HEREIN.

PRECAST RCB SHALL BE FREE OF LONGITUDINAL CONSTRUCTION JOINTS, WITH TRANSVERSE CONSTRUCTION JOINTS PER CALTRANS STANDARD PLAN D83A. PROVIDE RESILIENT TYPE JOINT MATERIAL PER RCB MANUFACTURESR'S RECOMMENDATIONS.

WATERTIGHT JOINTS SHALL BE PROVIDED AND DESIGNED TO SUSTAIN INTERNAL HYDROSTATIC PRESSURE (SEE HGL PROFILE ON SHEET 3)

THE CONTRACTOR SHALL INSTALL EXTERNAL SEALING BANDS PER CALTRANS STD. PLAN A62G, METHOD 2.

CONCRETE CLASS "A"

CONCRETE CLASS "A" SHALL HAVE A COMPRESSIVE STRENGTH OF NO LESS THAN 4,000 PSI AT THE AGE OF 28 DAYS. 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: INVERTS OF JUNCTION STRUCTURES, TRANSITION STRUCTURES AND CAST IN PLACE BOXES –SHALL HAVE COMBINED AGGREGATE GRADING OF 1-1/2" MAXIMUM. ALL OTHER MISCELLANEOUS CONCRETE CLASS "A" NOT OTHERWISE SPECIFIED SHALL HAVE COMBINED AGGREGATE GRADING OF 1" MAXIMUM.

FLY ASH, CLASS F MAY BE SUBSTITUTED FOR CEMENT, UP TO A MAXIMUM OF 15 PERCENT BY WEIGHT FOR ALL CONCRETE. FLY ASH SHALL MEET THE STANDARDS OF ASTM DESIGNATION: C-618. WATER REDUCING AGENTS MEETING ASTM DESIGNATION: C-494 WILL BE PERMITTED IN AMOUNTS RECOMMENDED BY THE SUPPLIER AND APPROVED BY THE ENGINEER IN WRITING.

NO OTHER ADMIXTURE SHALL BE USED IN ANY CLASS OF CONCRETE WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.

SUPPLEMENTING SECTION 90-1.01 OF THE 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 90-1.02C(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.

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. 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.

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.

CAST IN PLACE REINFORCED CONCRETE BOX:

REINFORCED CONCRETE BOX WALLS SHALL BE CONSTRUCTED BY PLACING THE CONCRETE DIRECTLY AGAINST TIMBER OR STEEL SHEETING USED AS THE OUTSIDE FORM AND SHORING. SHEETING SHALL BE CLOSELY FITTED AND EXTEND A MINIMUM OF 12 INCHES ABOVE THE GROUND SURFACE, UNLESS OTHERWISE DIRECTED, ALL SHEETING SHALL BE REMOVED AND THE VOID CREATED SHALL BE IMMEDIATELY BACKFILLED WITH A WELL GRADED SAND AND THOROUGHLY JETTED TO THE RELATIVE DENSITIES SPECIFIED IN BACKFILL.

THE CONTRACTOR HAS AN OPTION OF FORMING BOTH SIDES OF THE REINFORCED CONCRETE BOX WALLS, HOWEVER, DUE TO ADDITIONAL LOADS ON THE BOX STRUCTURE RESULTING FROM THIS TRENCH CONDITION, THE CONTRACTOR WILL BE REQUIRED TO SUBMIT AN ALTERNATE BOX DESIGN PREPARED BY A CIVIL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. ALL ALTERNATE BOX DESIGNS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER AND NO ADDITIONAL PAYMENT WILL BE MADE FOR THE ALTERNATE BOX IF APPROVED.

IF THE BOX IS CONSTRUCTED FROM STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD PLANS, EITHER METHOD OF FORMING NOTED IN THE ABOVE PARAGRAPHS MAY BE USED WITHOUT AN ALTERNATE BOX DESIGN BEING SUBMITTED.

LOADING AND VEHICULAR USE OF BOX DECK SLAB SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 51-1.03B OF THE CALTRANS SPECIFICATIONS (ALSO APPLY TO BRIDGE DECK SLAB).

GENERAL REINFORCING STEEL REQUIREMENTS

REINFORCED CONCRETE BOX WALLS SHALL BE CONSTRUCTED BY PLACING THE CONCRETE DIRECTLY AGAINST TIMBER OR STEEL SHEETING USED AS THE OUTSIDE FORM AND SHORING. SHEETING SHALL BE CLOSELY FITTED AND EXTEND A MINIMUM OF 12 INCHES ABOVE THE GROUND SURFACE, UNLESS OTHERWISE DIRECTED, ALL SHEETING SHALL BE REMOVED AND THE VOID CREATED SHALL BE IMMEDIATELY BACKFILLED WITH A WELL GRADED SAND AND THOROUGHLY JETTED TO THE RELATIVE DENSITIES SPECIFIED IN BACKFILL.

THE CONTRACTOR HAS AN OPTION OF FORMING BOTH SIDES OF THE REINFORCED CONCRETE BOX WALLS, HOWEVER, DUE TO ADDITIONAL LOADS ON THE BOX STRUCTURE RESULTING FROM THIS TRENCH CONDITION, THE CONTRACTOR WILL BE REQUIRED TO SUBMIT AN ALTERNATE BOX DESIGN PREPARED BY A CIVIL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. ALL ALTERNATE BOX DESIGNS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER AND NO ADDITIONAL PAYMENT WILL BE MADE FOR THE ALTERNATE BOX IF APPROVED.

IF THE BOX IS CONSTRUCTED FROM STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION STANDARD PLANS, EITHER METHOD OF FORMING NOTED IN THE ABOVE PARAGRAPHS MAY BE USED WITHOUT AN ALTERNATE BOX DESIGN BEING SUBMITTED.

LOADING AND VEHICULAR USE OF BOX DECK SLAB SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 51-1.03B OF THE CALTRANS SPECIFICATIONS (ALSO APPLY TO BRIDGE DECK SLAB).

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.
FOR CAST IN PLACE BOXES AND TRANSITION STRUCTURES – 1600 PSI.
FOR ALL OTHER 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. 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.

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 1-D, CASS 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.

JOINTS

JOINTS SHALL BE MADE AT THE LOCATIONS SHOWN ON THE 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.

ALL CONSTRUCTION JOINTS HAVING A KEYED, STEPPED, OR ROUGHENED SURFACE SHALL BE CLEANED BY SANDBLASTING PRIOR TO PLACEMENT OF THE ADJACENT CONCRETE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE SANDBLASTING OPERATIONS SHALL BE CONTINUED UNTIL ALL UNSATISFACTORY CONCRETE, LAITANCE, COATINGS, STAINS, DEBRIS, AND OTHER FOREIGN MATERIALS ARE REMOVED. THE SURFACE OF THE CONCRETE SHALL BE WASHED THOROUGHLY TO REMOVE ALL LOOSE MATERIAL.

CONSTRUCTION JOINTS, WHEN REQUIRED, SHALL BE LOCATED BETWEEN THE TRANSVERSE JOINTS AND, UNLESS OTHERWISE SPECIFIED ON THE PLANS, SHALL UTILIZE 1/2 INCH DIAMETER DEFORMED BARS 30 INCHES LONG, SPACED AT 18-INCH CENTERS AS TIE BARS. THE CONSTRUCTION JOINTS SHALL BE STRAIGHT AND FINISHED IN A WORKMANLIKE MANNER.

SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED AS SET FORTH IN SECTION 51-1.03D(4) OF THE CALTRANS SPECIFICATIONS.

FOR REINFORCED CONCRETE BOXES, KEYED TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED NOT MORE THAN 50 FEET OR BE LESS THAN 10 FEET. TRANSVERSE JOINTS IN THE INVERT, WALLS AND DECK SHALL BE IN THE SAME PLANE. TRANSVERSE CONSTRUCTION JOINTS SHALL BE CONSTRUCTED PER DETAILS ON THE STANDARD DRAWINGS.COMPLETE CURTAIN OF TRANSVERSE STEEL SHALL BE PLACED 3 INCHES FROM THE FACE OF THE JOINTS AND LONGITUDINAL STEEL WILL NOT BE CONTINUOUS THROUGH THE JOINTS.

REGISTERED PROFESSIONAL ENGINEER — IMAD MOHAMED OUTMOUS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
2-17223
SET 3/4" IP W/RCFC WCD PLUG
DN 0.50'
E 6,284,389.35
N 2,215,239.12
±7' W'LY OF TRAFFIC VAULT & 36' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	DESCRIPTION	APPR.	DATE
	REVISIONS		

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

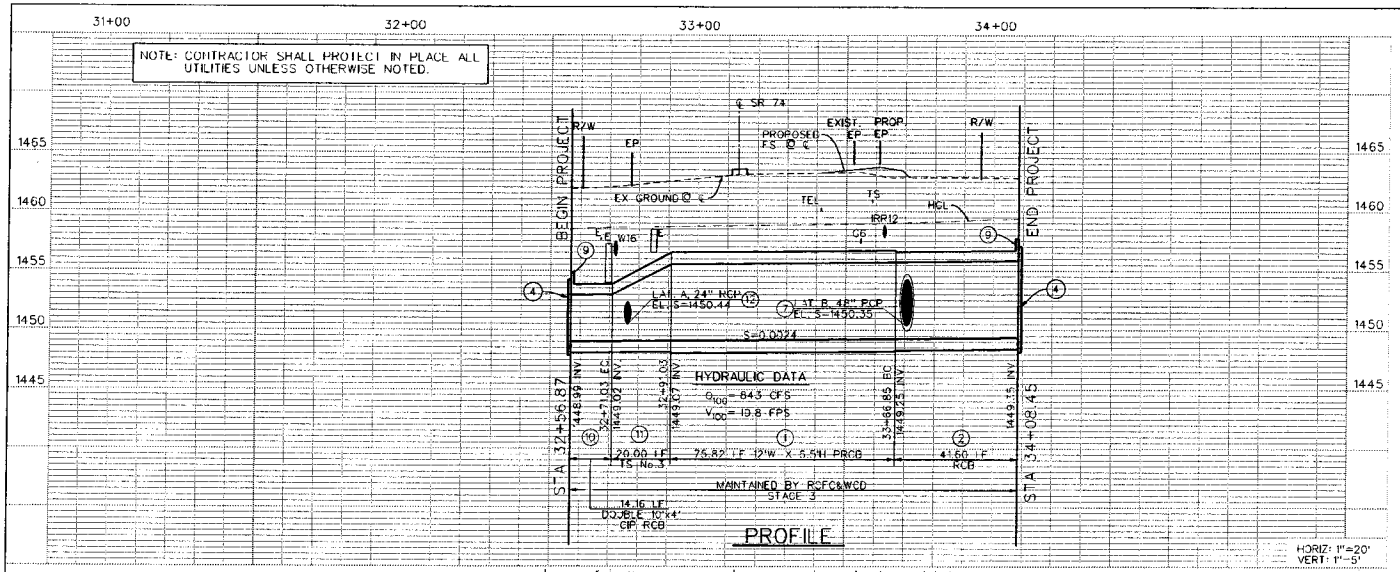
DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
PS NUMBER: P8/228249

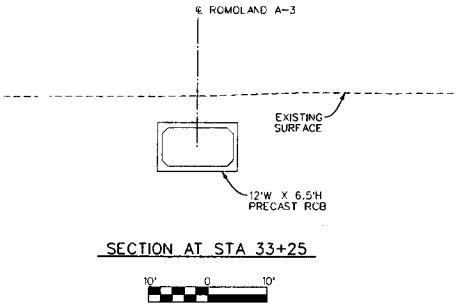
RECOMMENDED FOR APPROVAL BY: [signature] DATE: 11-25-19

APPROVED BY: [signature] DATE: 11-25-19

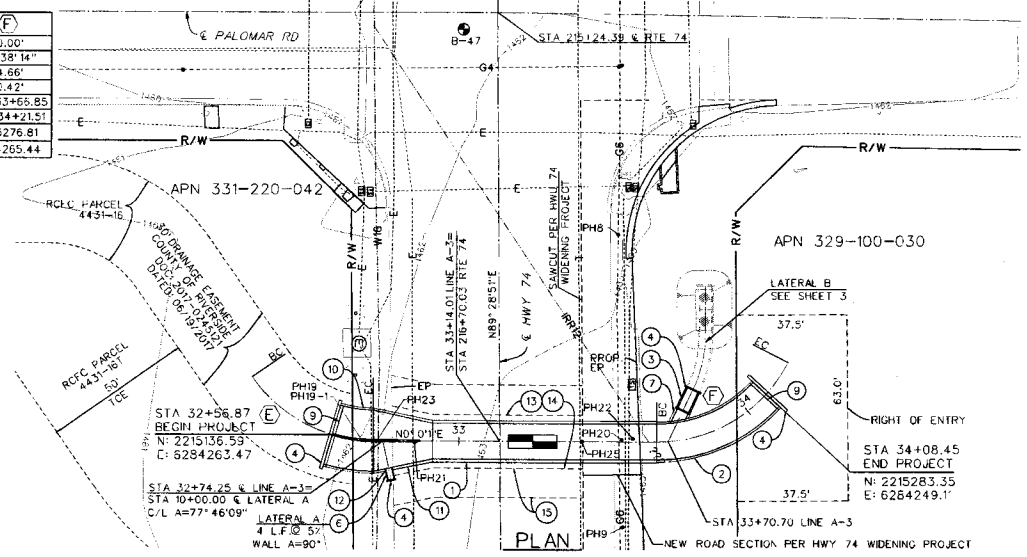
ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
SPECIFICATIONS

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 2 OF 9





CURVE DATA		E	F
R		50.00'	50.00'
Δ		55°07'12"	62°38'14"
L		48.10'	54.66'
T		26.0'	30.42'
B.C.		STA 32+22.93	STA 33+66.85
E.C.		STA 32+71.03	STA 34+21.51
P.I.	NORTHING	2215124.46	2215276.81
	EASTING	6284265.47	6284265.44



NOTES

1. CONSTRUCT 12'W X 6.5'H PRECAST RCB PER CALTRANS STD D83A. INSTALL EXTERNAL SEALING BANDS PER CALTRANS STD. PLAN A62G, METHOD 2.
2. CONSTRUCT 12'W X 6.5'H CAST IN PLACE RCB PER CALTRANS STD D80.
3. INSTALL 48" RCP(D-1600).
4. INSTALL CONCRETE BULKHEAD PER RCFC&WCD STD DWG W816. SEE SHEET 6.
6. INSTALL 4 LF 24" RCP(CLASS IV) STUB-OUT.
7. CONSTRUCT JUNCTION STRUCTURE NO. 1 PER RCFC&WCD STD DWG JS226. A=60°09'32", B=48", C=12.31'. SEE SHEET 6.
9. CONSTRUCT RCB PARAPET PER DETAILS IN CALTRANS STD DWG D82.
10. CONSTRUCT DOUBLE 10'W X 4'H CAST IN PLACE RCB PER CALTRANS STD D81.
11. CONSTRUCT SINGLE BOX TO DOUBLE BOX TRANSITION STRUCTURE #4 PER RCFC&WCD STD DWG TS304. SEE SHEET 8.
12. CONSTRUCT JUNCTION STRUCTURE NO. 3 PER RCFC&WCD STD DWG JS228. SEE SHEET 8.
13. SAWCUT AND REMOVE EXISTING ROAD STRUCTURAL SECTION. SEE PAVING DETAIL ON SHEET 7 FOR LIMITS.
14. CONSTRUCT NEW ROAD STRUCTURAL SECTION PER CALTRANS PLANS AND SPECIFICATIONS; CONTRANCT No. 08-0N5704. SEE PAVING DETAIL ON SHEET 7 FOR LIMITS.
15. GRIND AND OVERLAY PER CALTRANS PLANS AND SPECIFICATIONS: CONTRACT No. 08-0N6704. SEE PAVING DETAIL ON SHEET 7 FOR LIMITS.

UTILITY POSITIVE LOCATION INFORMATION

PH #	UTILITY	OWNER	NORTHING	EASTING	SURFACE ELEV.	DEPTH TOP/BOT	TOP ELEV.	BOT. ELEV.
8	6" HPL GAS	SCG	2215233.24	6284195.23	–	–	1457.40	1456.90
9	6" HPL GAS	SCG	2215234.97	6284294.36	–	–	1457.90	1457.40
19	E.EC.3"PVC	SCE	2215146.50	6284265.17	1461.96	4.20'/4.46	1457.76	1457.50
19-1	ELEC. ENCASEMENT	SCE	2215147.83	6284265.38	1462.03	4.76'/8.05	1457.27	1453.98
20	6" HPL GAS	SCG	2215234.53	6284264.76	1463.25	5.45'/5.96	1457.80	1457.29
21	ELEC. ENCASEMENT	SCE	2215164.54	6284265.86	1462.59	4.10'/6.04	1458.49	1456.55
22	TS 2" STL	CALTRANS	2215238.35	6284264.36	1463.09	2.17'/2.36	1460.92	1460.73
23	16" WAT	EMWD	2215151.56	6284265.70	1462.07	4.52'/5.95	1457.55	1456.12
25	4" TEL.	FRONTIER	22152221.14	6284265.59	1463.42	2.96'/3.37	1460.46	1460.05
25-1	2" TEL.	FRONTIER	2215220.83	6284263.47	1463.41	3.28'/3.47	1460.13	1459.94

REGISTERED PROFESSIONAL ENGINEER HANS HERMITEL QUIROZ No. 50169 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER CLAUDIO MANUEL PADRES No. 70355 CIVIL STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

20' 0 20'

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. TWO WORKING DAYS BEFORE YOU DIG

BENCH MARK
Z-17223
SET 3/4" IP W/RCFC WCD PLUG IN TOP
ON 0.50'
N: 6,284,389.35
E: 2,215,239.12
2.7' W'LY OF TRAFFIC VAULT & 26' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	DESCRIPTION	APPR.	DATE
	REVISIONS		

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

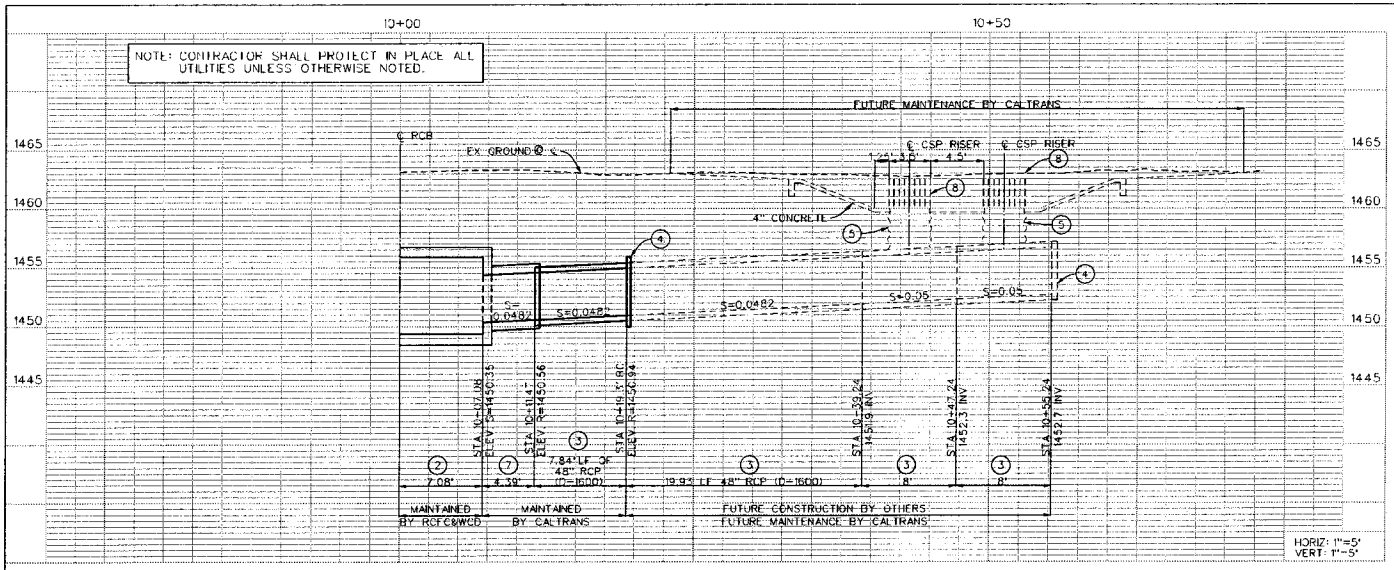
DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
PB NUMBER: PB 228249

RECOMMENDED FOR APPROVAL BY: [signature] DATE: 11-25-19

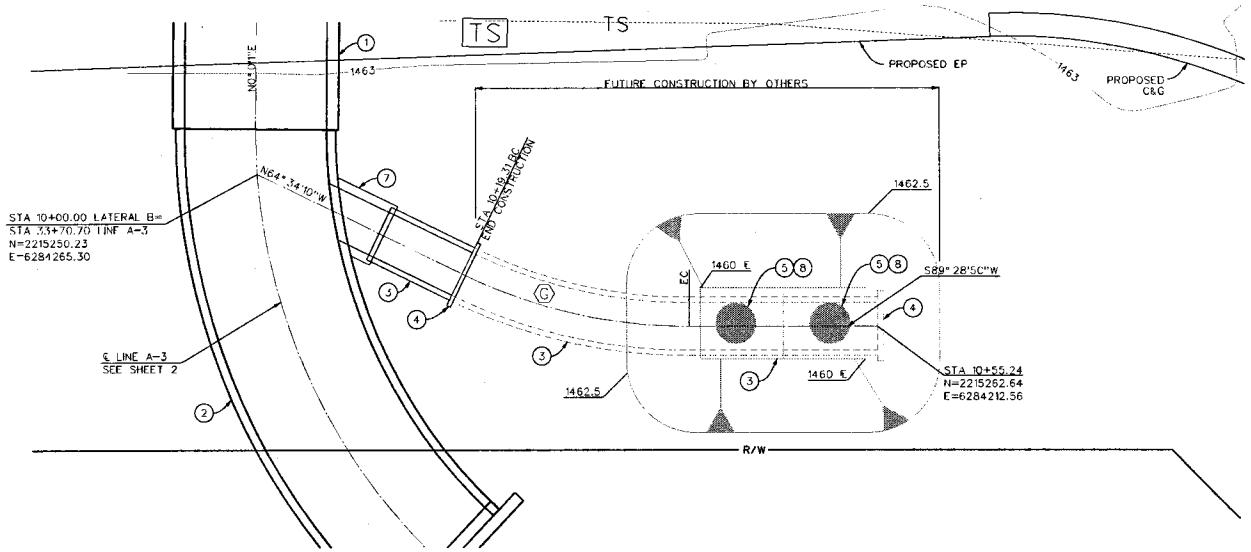
APPROVED BY: [signature] DATE: 11-25-19

ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
PLAN AND PROFILE
STA 33+56.87 TO STA 34+09.45

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 3 OF 9



CURVE DATA		℄
R		44.00'
Δ		25° 57' 00"
L		19.93'
T		10.14'
B.C.		STA 10+19.31
E.C.		STA 10+39.24
P.I.	NORTHING	2215262.87
	EASTING	6284258.70



NOTES

1. CONSTRUCT 12'W X 6.5'H PRECAST RCB PER CALTRANS STD D83A.
2. CONSTRUCT 12'W X 6.5'H CAST IN PLACE RCB PER CALTRANS STD D8C.
3. INSTALL 48" RCP(D=1600).
4. INSTALL CONCRETE BULKHEAD PER RCFC&WCD STD DWG M816. SEE SHEET 6.
7. INSTALL JUNCTION STRUCTURE NO. 1 PER RCFC&WCD STD DWG JS226. A=60° 09' 32", B=48", C=12.31'. SEE SHEET 6.

FUTURE CONSTRUCTION NOTES

3. INSTALL 48" RCP(D=1600).
4. INSTALL CONCRETE BULKHEAD PER RCFC&WCD STD DWG M816. SEE SHEET 6.
5. CONSTRUCT 42" CSP RISER CONNECTION PER CALTRANS STD DWG D93A.
8. INSTALL 42" DEBRIS RACK CAGE PER CALTRANS STD DWG D93C.

REGISTERED PROFESSIONAL ENGINEER — IMAD NEMATTEL QUTROUS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PORTES — No. 70355 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

N

5' 0 5'

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BENCH MARK
Z-17223
SET 3/4" IP W/RCFC WCD PLUG
DN 0.50'
E 6,284,389.35
N 2,215,230.12
±7' W'LY OF TRAFFIC VAULT & ±6' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	REVISIONS	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
P8 NUMBER: P8/228249

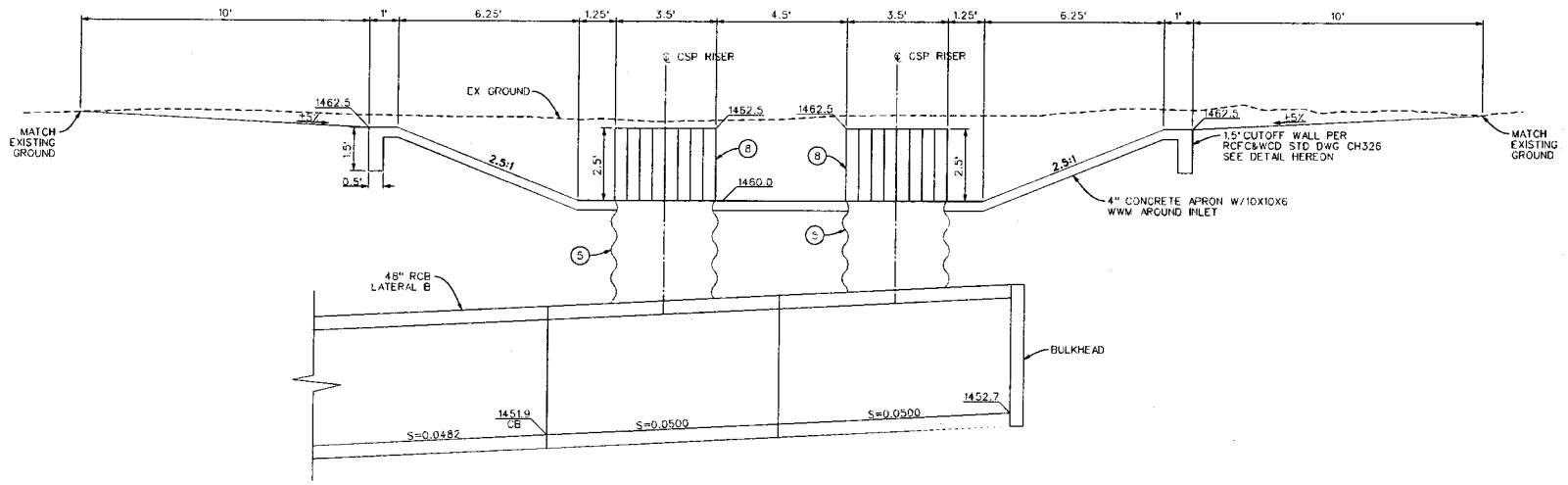
RECOMMENDED FOR APPROVAL BY: DATE: 11-25-19
APPROVED BY: DATE: 11-25-19

ROMOLAND LINE A-3 STAGE 3 HWY 74 CROSSING

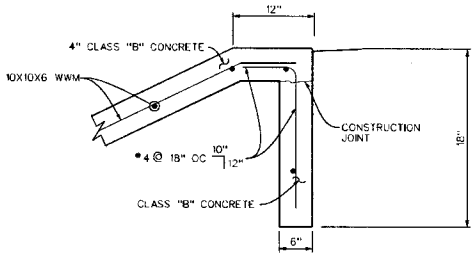
DETAIL LATERAL B

PROJECT NO.	4-0-00431-03
DRAWING NO.	4-1146
SHEET NO.	4 OF 9

FUTURE CONSTRUCTION BY OTHERS



DETAIL 2
1"=2'



1.5' CUTOFF WALL
NTS

NOTES

(5) CONSTRUCT 42" CSP RISER CONNECTION PER CALTRANS STD DWG D93A.

(8) INSTALL 42" DEBRIS RACK CAGE PER CALTRANS STD DWG D93C.

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

REGISTERED PROFESSIONAL ENGINEERS — IMAD NEMATEL OUNOUS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

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BENCH MARK
Z-17223
SET 3/4" IP W/RCFC WCD PLUG
DN 0.50'
E= 6,284,389.35
N 2,215,230.92
37' W'LY OF TRAFFIC VAULT & 26' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	REVISIONS	APPR.	DATE

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

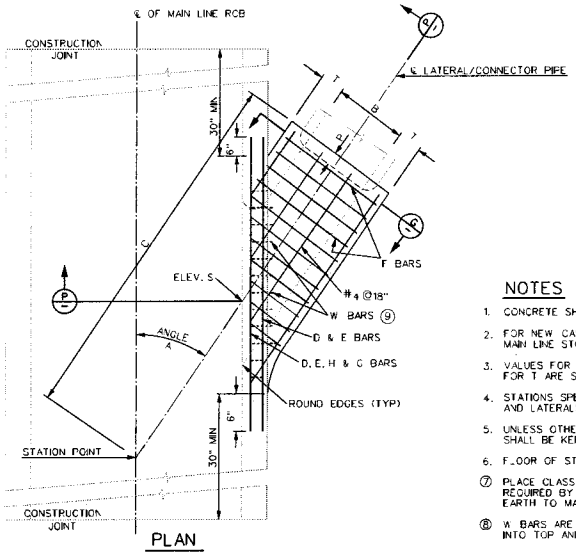
DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
P8 NUMBER: P8/228249

RECOMMENDED FOR APPROVAL BY: [signature] DATE: 11-25-19

APPROVED BY: [signature] DATE: 11-25-19

ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
DETAIL
LATERAL B

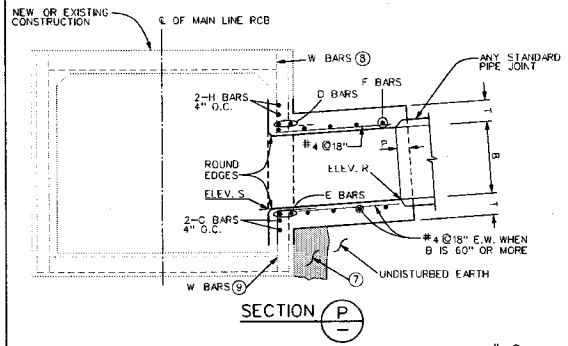
PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 5 OF 9

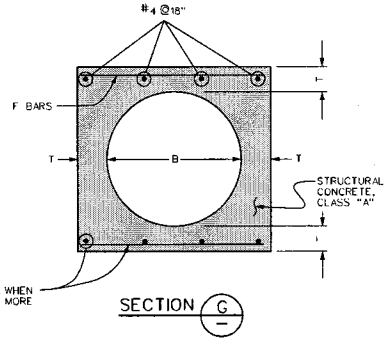


B (INCHES)	T (INCHES)	P (INCHES)
48	8	5
#6		D,E,H AND G BARS
#5@6"		F BARS

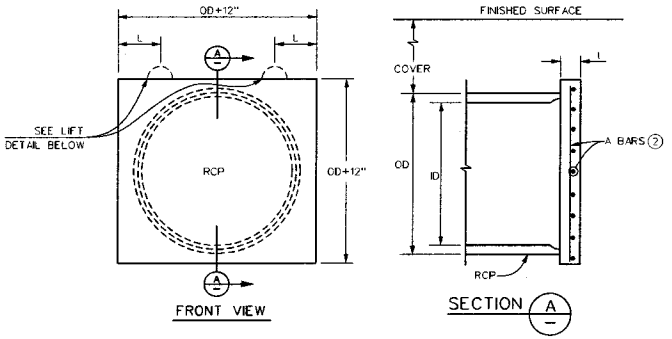
NOTES

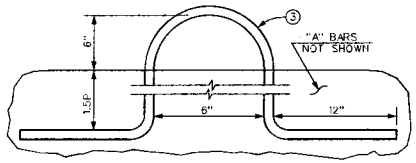
1. CONCRETE SHALL BE CLASS "A".
2. FOR NEW CAST-IN-PLACE CONSTRUCTION, JUNCTION STRUCTURE SHALL BE POURED MONOLITHICALLY WITH MAIN LINE STORM DRAIN, MANHOLE, OR TRANSITION.
3. VALUES FOR A, B, C, ELEV. R, AND ELEV. S SHALL BE SPECIFIED ON PROJECT DRAWINGS. VALUES FOR T ARE SHOWN IN TABLES HEREIN.
4. STATIONS SPECIFIED ON DRAWINGS APPLY AT THE INTERSECTION OF CENTER LINES OF MAIN LINE AND LATERALS, UNLESS OTHERWISE NOTED.
5. UNLESS OTHERWISE SHOWN, ALL REINFORCING STEEL SHALL BE NEW STRAIGHT, DEFORMED STEEL BARS AND SHALL BE KEPT 1½" CLEAR FROM INSIDE FACE OF CONCRETE.
6. FLOOR OF STRUCTURE SHALL BE STEEL-TROWELED TO THE SPRING LINE.
7. PLACE CLASS A CONCRETE, OR COMPACT SOIL UNDER STRUCTURE TO RELATIVE DENSITY REQUIRED BY SPECIFICATIONS. FILL MAY BE OMITTED IF STRUCTURE IS LAID ON UNDISTURBED EARTH TO MAIN LINE WALL.
8. W BARS ARE MAIN LINE WALL STEEL (INTERIOR CURTAIN), AND SHALL BE CUT IN CENTER OF OPENING AND BENT INTO TOP AND BOTTOM OF JUNCTION STRUCTURE.



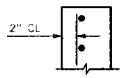


JUNCTION STRUCTURE NO. 1





LIFT DETAIL



DETAIL

NOTES

1. CONCRETE SHALL BE CLASS "A"
2. ALL REINFORCING STEEL SHALL BE CENTERED IN BULKHEAD EXCEPT FOR PIPE DIAMETER FREATER THAN 96" VERTICAL "A" BARS SHALL BE PLACED AT 2" CLEAR FROM THE INSIDE FACE OF THE BULKHEAD. HORIZONTAL "A" BARS SHALL BE PLACED TOWARDS OUTSIDE FACE OF BULKHEAD PER DETAIL.
3. LIFTS SHALL BE WOVEN STEEL CABLE WITH SAME MINIMUM DIAMETER (d) AS "A" BARS. WEAVE CABLE THROUGH HORIZONAL "A" BARS. COAT EXPOSED PORTION OF CABLE LIFTS WITH AN APPROVED BITUMINOUS PAINT PRIOR TO BACKFILLING TRENCH.

ID (IN)	MAX COVER (FT)	t (IN)	A BARS	L, P
48	5	4	4@9	1'-6"
	10	4	4@6	
	15	5	4@6	

CONCRETE BULKHEAD

REGISTERED PROFESSIONAL ENGINEER — IHAB MOHAMED GUIRGUIS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

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±7' W'LY OF TRAFFIC VAULT & ±6' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	REVISIONS	APPR.	DATE

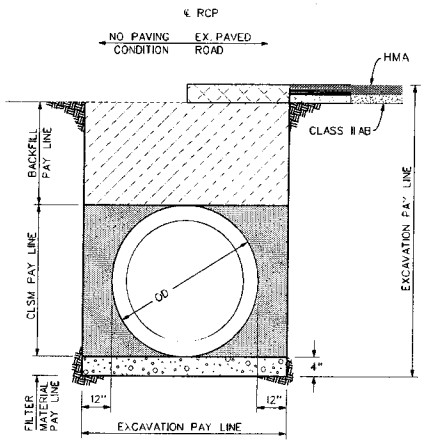
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
P8 NUMBER: P8/228249

RECOMMENDED FOR APPROVAL BY: DATE: 11-25-19
APPROVED BY: DATE: 11-25-19

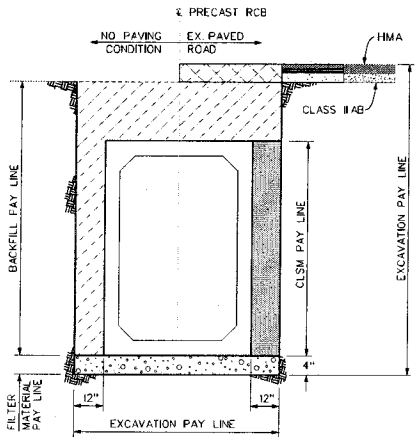
ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
DETAIL
RCFC&WCD STANDARDS

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 6 OF 9



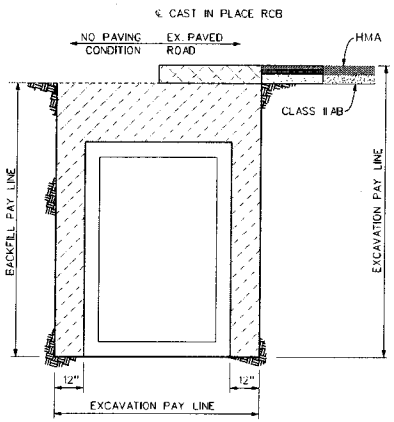
RCP PAY LINES

NORMAL CONDITION



PRECAST RCB PAY LINES

NORMAL CONDITION



CAST IN PLACE RCB PAY LINES

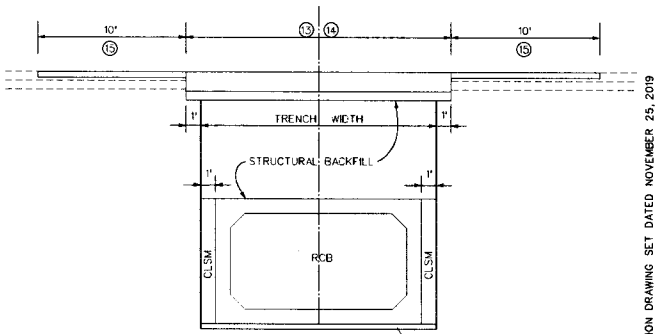
NORMAL CONDITION

PAVING DETAIL NOTES:

(13) SAWCUT AND REMOVE EXISTING ROAD STRUCTURAL SECTION.

(14) CONSTRUCT NEW ROAD STRUCTURAL SECTION PER CALTRANS PLANS AND SPECIFICATIONS; CONTRANCT No. 08-0N6704.

(15) GRIND AND OVERLAY PER CALTRANS PLANS AND SPECIFICATIONS; CONTRACT No. 08-0N6704.



PAVING DETAIL

LEGEND

CLSM

FILTER MATERIAL

BACKFILL

STRUCTURAL ROAD SECTION

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

REGISTERED PROFESSIONAL ENGINEER — HMD MOSHTEL OUTROUS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. Two working days before you dig.

BENCH MARK

Z-17223

SET 3/4" IP W/RCFC WCD PLUG

DN 0.50'

E: 6,284,389.35

N: 2,215,232.12

27' W'LY OF TRAFFIC VAULT & 26' N'LY OF EP

EL. 1463.14 (NGVD 29)

REF.	DESCRIPTION	APPR.	DATE
	REVISIONS		

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

DESIGNED BY: E. ANGUELOV

DRAWN BY: R. SANCHEZ

DATE DRAWN: NOVEMBER 2019

P8 NUMBER: P8/228249

RECOMMENDED FOR APPROVAL BY: [signature] DATE: 11-25-19

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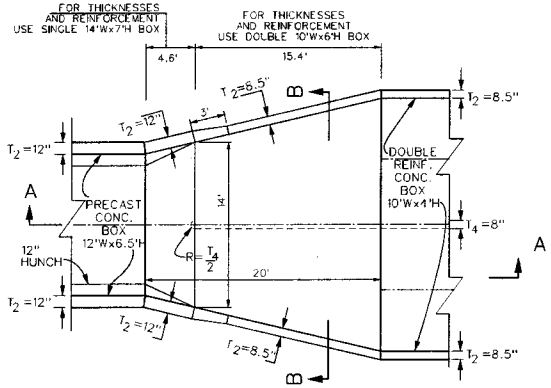
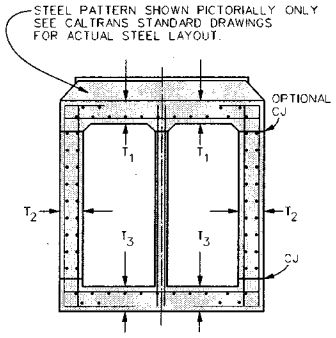
ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
DETAIL
RCFC&WCD STANDARDS

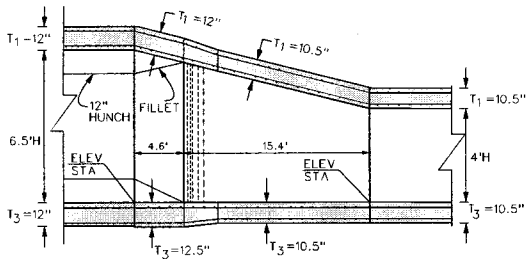
PROJECT NO.	4-0-00431-03
DRAWING NO.	4-1146
SHEET NO.	7 OF 9



PLAN



SECTION B-B



SECTION A-A

NOTES

1. THE REINFORCING STEEL BAR SIZES, SPACING AND OUTSIDE COVER SHALL BE THAT OF DOUBLE BOX SECTION. FOR CURVED TRANSITIONS, SPACE BAR ON CENTER LINE & PLACE TRANSVERSE STEEL RADIALLY. THE BAR LENGTHS & DIMENSIONS SHALL VARY UNIFORMLY THROUGH OUT TRANSITION. LONGITUDINAL BARS SHALL BE CONTINUED THROUGH THE JOINTS WITH THE TRANSITION STRUCTURE.
2. THE CONCRETE THICKNESS SHALL BE THAT OF THE DOUBLE BOX SECTION.
3. STRUCTURAL CONCRETE SHALL BE CLASS "A".

REGISTERED PROFESSIONAL ENGINEER — HUGO MORALES GUTIROUS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PEDRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600 for the location of buried utility lines. Don't disrupt vital services. Two working days before you dig.

BENCH MARK
Z-17223
SET 3/4" IP W/RCFC WCD PLUG
DN 0.50'
E 6,284,389.35
N 2,215,239.92
±7' W'LY OF TRAFFIC VAULT & ±6' N'LY OF EP
EL. 1463.14 (NGVD 29)

REF.	DESCRIPTION	APPR.	DATE
	REVISIONS		

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

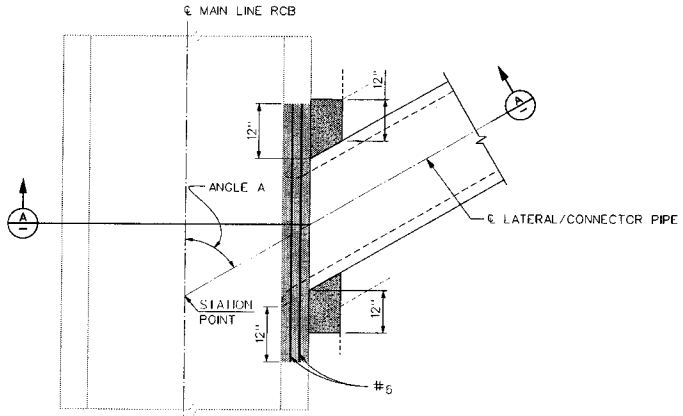
DESIGNED BY: E. ANGUELOV
DRAWN BY: R. SANCHEZ
DATE DRAWN: NOVEMBER 2019
PB NUMBER: PB/228249

RECOMMENDED FOR APPROVAL BY: [signature] DATE: 11-25-19

APPROVED BY: [signature] DATE: 11-25-19

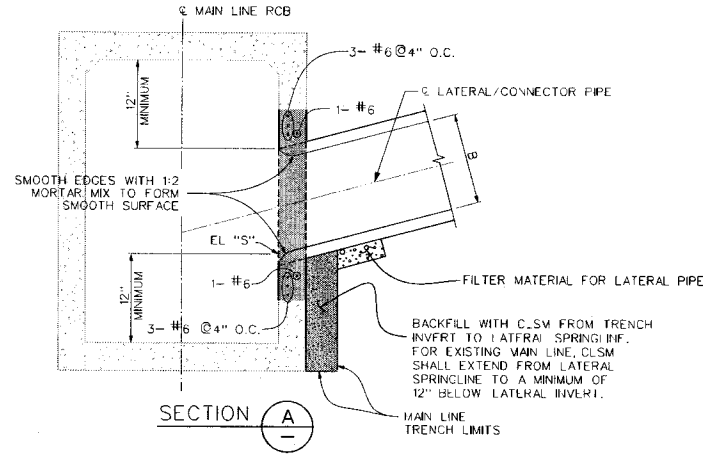
ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
DETAIL OF RCFC&WCD TRANSITION STRUCTURE No.4 AND SPECIFICATIONS

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 8 OF 9



PLAN

BOX WALL ENTRANCE COLUMN SUPPORT



SECTION A

BOX WALL ENTRANCE COLUMN SUPPORT

NOTES

1. LATERAL SIZE:"B"=30" OR LESS (USE JS NO.1 FOR B>30").
2. APPLICABLE FOR NEW OR EXISTING CAST-IN-PLACE RCB MAIN LINE CONSTRUCTION. SPECIAL DESIGN REQUIRED FOR ALL CONNECTIONS INTO PRCB.
3. ANGLE A SHALL BE BETWEEN 45° AND 90°.
4. ELEV. S SHALL BE SPECIFIED ON PROJECT DRAWINGS.
5. NO MORE THAN ONE OPENING SHALL BE MADE IN ANY 10-FOOT LENGTH OF MAIN LINE RCB WITHOUT A SPECIAL STRUCTURAL DESIGN.
6. MAIN LINE REINFORCING STEEL SHALL BE CUT TO 2" CLEAR OF PIPE OPENING.
7. LATERAL OPENING SHALL NOT BE MADE WITHIN 24" OF A MAIN LINE JOINT.

CONSTRUCTION DRAWING SET DATED NOVEMBER 25, 2019

REGISTERED PROFESSIONAL ENGINEER — IMAD MERMATEL GUIRGUIS — No. 50169 — CIVIL — STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — CLAUDIO MANUEL PADRES — No. 70355 — CIVIL — STATE OF CALIFORNIA

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RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

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ROMOLAND LINE A-3
STAGE 3
HWY 74 CROSSING
DETAIL OF
RCFC&WCD JUNCTION STRUCTURE No.3 AND SPECIFICATIONS

PROJECT NO. 4-0-00431-03
DRAWING NO. 4-1146
SHEET NO. 9 OF 9