



CAPITAL PROGRAM SERVICES
5750 ALMADEN EXPRESSWAY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 630-3004
FACSIMILE (408) 979-5631
www.valleywater.org
scvwdplanroom@valleywater.org

Notification of this Addendum is transmitted via email to all current plan holders.

*This Addendum is posted on the District website at
www.valleywater.org/Programs/Construction.aspx.*

May 17, 2019

**ADDENDUM NO. 1
TO CONTRACT DOCUMENTS FOR
THE BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT
Project No. 26044002 Contract No. C0652**

Notice is hereby given to Prospective Bidders that the Contract Documents are modified as hereinafter set forth.

BID DOCUMENTS

NOTICE TO BIDDERS

REPLACE Paragraph 3. Summary of Work, in its entirety, with:

“A. Project Description. The project scope includes the following:

The Project entails construction of a series of roughened riffles with pools and glides in between. The overall length of the Project is 1,700 feet, with an overall slope of 0.5 percent to overcome 7½ vertical feet. The riffles are 40 feet long and drop 1 foot at approximately 4 percent slope. Downstream of each riffle is a pool and glide that has a length of 52 to 54 feet. The pool bottoms are 2 feet below the next downstream riffle crest. In total, there are ten riffles and ten pools. One riffle and a buried boulder line downstream of the tenth pool are intended to provide additional stability for the channel bed.”

SPECIFICATIONS AND CONTRACT DOCUMENTS

TABLE OF CONTENTS

ADD new Article title into the Table of Contents following Article 24.09. Constructed Riffle
–Bid Item No. 9, as follows:

“24.10. Low Flow Channel Between Riffles – Bid Item No. 7”

TECHNICAL PROVISIONS

REPLACE the title of Article 24.09.DI Measurement, with:

“24.09.E. Measurement”

REPLACE the title of Article 24.09.DII Payment, with:

“24.09.F. Payment”

ADD new Article 24.10 Low Flow Channel Between Riffles – Bid Item No. 7, as follows:

“24.10 Low Flow Channel Between Riffles – Bid Item No. 7”

A. Scope of Work

1. Low flow channel between riffle shall consist of excavating for and placing 2-ton rock line and streambed gravel for the low flow channel, as shown on the Drawings, as specified in these Specifications, and as directed by the Engineer.

B. Materials and Placement

1. Excavation for placement of low flow channel aggregate shall conform to Article 24.01, “Channel Excavation,” of these Specifications.
2. Streambed gravel shall conform to Article 9.12.01, “Source of Materials and Equipment” and Article 24.05, “Streambed Gravel” of these Specifications.
3. 2-ton rock line shall conform to Article 9.12.01, “Source of Materials and Equipment,” and Article 24.09.B.6, “Constructed Riffle - Materials” of these Specifications
4. Placement of 2-ton rock and streambed gravel for the low flow channel between riffles shall be in accordance with Article 24.05, “Streambed Gravel” and Article 24.09, “Constructed Riffle” of these Specifications.

C. Testing and Submittals

1. The Contractor shall submit to the Engineer for review and acceptance, in accordance with Article 7.05, “Submittals to be Furnished by the Contractor,” of these Specifications, an “Imported Materials Information Report” on imported earthfill material to be used on the project. If the materials are to be obtained from more than one source, the report should address each separate source for each material. This report shall address each separate material and source of material. The report shall be submitted at least 30 days prior to delivery of the material to the construction site.
2. The “Imported Materials Information Report” shall contain the following information: intended use of the material, a description of the original (undisturbed native condition) of the material including address and property owner (with telephone number) of the material, uses of the property at the origin, previous owner of the property from which the material originated, quantity of material to be used, previous uses of the material when the material is other than undisturbed native material, results of chemical analysis of the material (if required by the Engineer) including laboratory sheets and completed chain-of-custody documentation, description of sample collection methods, and any additional information which may be necessary to assess the potential of the material being contaminated by regulated materials.

D. Measurement

1. Measurement of low flow channel between riffles shall be by the ton computed from a reasonable unit weight and the neat line dimensions shown on the Drawings.

E. Payment

1. Full compensation for furnishing all labor, materials, tools, and equipment for doing all work, including transportation, installation, compaction, and incidentals required for low flow channel aggregate as shown on the Drawings and as specified in these Specifications shall be included in the unit price bid per ton for LOW FLOW CHANNEL BETWEEN RIFFLES —Bid Item No. 7.”

THIS ADDENDUM NO.1, WHICH CONTAINS 3 PAGES AND IS ATTACHED TO AND IS A PART OF THE SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THIS PROJECT.



Ngoc Nguyen, P.E.
Deputy Operating Officer
Watershed Design and Construction Division

Date: 05/17/2019

Enclosure(s): None



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*This Addendum is posted on the District website at
www.valleywater.org/Construction*

June 6, 2019

**ADDENDUM NO. 2
TO CONTRACT DOCUMENTS FOR THE
BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT
Project No. 26044002; Contract No. C0652**

Notice is hereby given to Prospective Bidders that the Contract Documents are modified as hereinafter set forth.

BID DOCUMENTS

BID FORM NO. 1

REPLACE BID FORM NO. 1 Proposal and Bid Items with:

“BID FORM NO. 1 (REV 1) Proposal and Bid Items” (**ATTACHMENT 1**)

BID FORM NO. 2

REPLACE BID FORM NO. 2 Designation of Subcontractors with:

“BID FORM NO. 2 (REV 1) Designation of Subcontractors” (**ATTACHMENT 4**)

SPECIFICATIONS AND CONTRACT DOCUMENTS

SPECIAL REQUIREMENTS

SECTION 14. SPECIAL REQUIREMENTS

REPLACE Article 14.16. in it's entirety with:

“14.16. Insurance

- A. Without limiting the Contractor's indemnification of, or liability to, the Santa Clara Valley Water District (“District”), the Contractor must provide and maintain at its own expense during the term of this Contract, or as may be further required herein, the following insurance coverages and provisions as listed below.

1. The Contractor must provide its insurance broker(s)/agent(s) with a copy of these requirements and warrants that these requirements have been reviewed by the Contractor's insurance agent(s) and/or broker(s) who have been instructed by the Contractor to procure the insurance coverage required herein.
 2. In addition to certificates, the Contractor must furnish the District with copies of original endorsements affecting coverage required herein. The certificates and endorsements shall be signed by a person authorized by the insurer to bind coverage on its behalf. All endorsements and certificates are to be received and approved by the District before the Contract commences. In the event of a Claim or dispute, the District has the right to require the Contractor's insurer to provide complete, certified copies of all required, and pertinent insurance policies, including endorsements affecting the coverages required herein.
- B. The Contractor must, at its sole cost and expense, procure and maintain during the entire period of this Contract through Acceptance of the Work by the District's Board of Directors the following insurance coverage(s).
 - C. The insurance certificate must contain additional insured names in the first page of the certificate.
 - D. **All identified insurance coverage(s) shall be purchased solely and exclusively specific for this Project on a 'per project' basis, to provide the required coverages.**

14.16.01. Required Coverages

- A. Commercial general/business liability insurance with coverage as indicated.
 1. **\$2,000,000** per occurrence/**\$2,000,000** aggregate limits for bodily injury and property damage.
 2. **\$2,000,000** products/completed operations aggregate to be maintained for at least three (3) years following acceptance of the Work by the District.
 3. General liability insurance must contain the following:
 - a. Coverage at least as broad as found in standard ISO Form CG 00 01.
 - b. Premises and operations.
 - c. Contractual liability expressly including liability assumed under this Contract.
 - d. If the Contractor shall be working within 50 feet of a railroad or light rail operation, any exclusion as to performance of operations within the vicinity of any railroad bridge, trestle, track, roadbed, tunnel, overpass, underpass, or crossway must be deleted or a railroad protective policy in the above amounts provided.
 - e. Owners and Contractors' protective liability.

- f. Severability of interest.
 - g. Explosion, collapse, and underground hazards, (X, C, and U).
 - h. Broad form property damage liability.
 - i. If the standard ISO form wording for "Other Insurance" or other comparable wording is not contained in the Contractor's liability insurance policy, an endorsement must be provided that states the insurance will be the primary insurance and that any insurance or self-insurance maintained by the District, its Directors, officers, employees, agents, or volunteers will be in excess of the Contractor's insurance and will not contribute to it.
 - j. No restrictive exclusions (such as, but not limited to: CG 2153, CG 2144, or CG 2294)
- B. Business auto liability insurance with coverage as indicated.
- 1. **\$2,000,000** combined single limit for bodily injury and property damage per occurrence, covering all owned, non-owned, and hired vehicles.
- C. Builders' risk (course of construction) insurance.
- 1. Covering all risks of loss less policy exclusions for an amount equal to the completed value of the Project with no coinsurance penalty provisions. Builder's Risk policy shall name Santa Clara Valley Water District as the loss payee.
- D. Workers' compensation and employer's liability insurance.
- 1. Statutory California workers' compensation coverage covering all Work to be performed for the District.
 - 2. Employer liability coverage for not less than **\$1,000,000** per occurrence.
- E. Surety bonds
- 1. The Contractor shall provide the following surety bonds:
 - a. A Bid bond as specified in the Notice to Bidders.
 - b. A Performance bond as required by the Instructions to Bidders
 - c. A Payment bond as required by the Instructions to Bidders.
 - 2. Each Surety bond for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on the pertinent bond, except as provided herein, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract of the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on the pertinent bond and notice to Surety is not required for such increased obligation.

- F. Environmental Pollution Liability: In the event that Hazardous, contaminated Material is discovered during the course of the Work and the Contractor or its Subcontractor is required to perform abatement or disposal of such Material, then the Contractor or its Subcontractor who performs abatement of Hazardous or contaminated Material removal shall maintain in force, throughout the term of this Contract, the Contractor's pollution liability insurance with limits not less than \$1,000,000 for each occurrence combined single limit (true occurrence form), including coverages for on-site or off-site third-party claims for bodily injury and property damage.

14.16.02 General Requirements

- A. Additional Insured Endorsement(s): The Contractor must provide an additional insured endorsement for commercial general/business liability and business automobile liability coverage naming the Santa Clara Valley Water District, its Directors, officers, employees, and agents, individually and collectively, as additional insured and must provide coverage for acts, omissions, etc. arising out of the named insureds' activities and Work.
- B. Primacy Clause: The Contractor's insurance must be primary with respect to any other insurance that may be carried by the District, its officer, agents, and employees; the District's coverage must not be called upon to contribute to or share in the loss.
- C. Cancellation Clause Revision: The Certificate of insurance must provide a 30-day notice of cancellation (10-day notice for nonpayment of premium). **NOTE:** The standard wording in the ISO certificate of insurance is not acceptable. The following words must be crossed out or deleted from the standard cancellation clause: ". . . endeavor to . . ." AND ". . . ; failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents, or its representatives."
- D. Acceptability of Insurers: All coverages must be issued by companies admitted to conduct business in the State of California that hold a current policyholder's alphabetic and financial size category rating of not less than A-V according to the current *Best's Key Rating Guide* or to a company of equal financial stability that is approved by the District's risk management administrator.
- E. Self-Insured Retentions or Deductibles: Any deductible or self-insured retention must be declared to and approved by the District. At the option of the District, either (i) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees, and volunteers; or (ii) the Contractor shall provide a financial guarantee satisfactory to the entity guaranteeing payment of losses and related investigations, claim administration, and defense expenses.
- F. Subcontractors: The Contractor must require each of its Subcontractors of any tier to carry the aforementioned coverages, or the Contractor may insure Subcontractors under its own policies.
- G. Amount of Liability Not Limited to Amount of Insurance: The insurance procured by the Contractor for the benefit of the District must not be deemed to release or limit any liability of the Contractor. Damages recoverable by the District for any liability of the Contractor must, in any event, not be limited by the amount of the required insurance coverage.

- H. Coverage to be Occurrence Based: All coverage must be occurrence-based coverage. Claims-made coverage is not allowed.
- I. Waiver of Subrogation: The Contractor agrees to waive subrogation against the District to the extent that any loss suffered by the Contractor is covered by any commercial general liability policy, automobile policy, workers' compensation policy, or builders' risk policy described in "Required Coverages", above. The Contractor agrees to advise its broker/agent/insurer about this provision and obtain any endorsements, if needed, necessary to ensure the insurer agrees.
- J. Noncompliance: The District reserves the right to withhold payments to the Contractor in the event of Material noncompliance with the insurance requirements outlined above.
- K. The Contractor shall mail or deliver all (initial and renewal) certificates of insurance and endorsements to:

Capital Program Planning & Analysis Unit
Unit Manager
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Contract No. C0652

(IMPORTANT: The Contract number (C0652) must be included

See District website (<https://www.valleywater.org/contact-us>) for appropriate address to mail, express mail, or hand carry.

- L. The Project-specific certificate of insurance (COI) must include the name of the Project and contract number.
- M. For any questions, the Contractor's insurance broker is advised to call the District Risk Management Administrator at (408) 630-2213."

TECHNICAL PROVISIONS

SECTION 23. PREPARATORY WORK

Article 23.03.A. Scope of Work

REPLACE Article 23.03.A.1. in its entirety with:

- "1. Concrete removal and site demolition shall consist of the demolition, removal and disposal of concrete rubble and concrete debris which interfere with construction required under this Contract within bank protection sites."

REPLACE Article 23.03.A.4. in its entirety with:

- "4. Concrete removal includes the removal of concrete rubble or concrete blocks on the bottom or sides of the existing creek channel which interfere with the construction contract work required for the Project. Removal of such materials SHALL NOT be included in Article 23.02. CLEARING AND GRUBBING – **Bid Item No. 2** of these specifications."

Article 23.03.E. Submittals

REPLACE Article 23.03.E.1. with:

- “1. Not used.”

SECTION 24. EARTHWORK

Article 24.07.B. Materials

REPLACE Article 24.07.B.1. in its entirety with:

- “1. Rock materials and gradations shall conform to Section 72-2.02, “materials,” of the State Specifications to ¼ -Ton and Backing Class No. 2. Rock slope protection type shall be shown on Plans or as designed by the Engineer.”

DELETE Article 24.07.B4. in its entirety

Article 24.07.C. Placement

REPLACE Articles 24.07.C.3. and C.4. in their entirety with:

- “3. ¼-Ton rock shall be placed by Method A specified in Section 72-2.03B, “Placement Method A,” of the State Specifications.
4. Backing Class No. 1 rock shall be placed by Method B specified in Section 72-2.03C, “Placement Method A,” of the State Specifications.”

Article 24.09.C. Execution

REPLACE Article 24.09.C. in its entirety with:

“C. Execution

1. The Contractor is ultimately responsible for the means and methods of installation of the structures outlined in this specification. All guidance provided is the best recommendation of the Engineer. The Contractor shall institute means and methods as required, to meet the goals and performance criteria specifications outlined herein.
2. Working downstream to upstream, excavate a section of the existing stream channel and associated banks to obtain the necessary sub-grade. Allow room for placement of cobble, boulders, channel backfill, and any associated bank treatments. The downstream boulders shall be placed first, prior to cobble installation. Limit the total length of work to that which can be completed and stabilized in a single work day or dry weather period. Excavation for the installation of the riffle grade control shall conform to the dimensions, grades, and details specified in the Contract Documents. Suitable materials for channel sand and gravel may be placed upstream for reuse within the reach. Unsuitable materials shall be removed from the channel and not reused in backfilling. Unsuitable materials are trash, organic muck, clay and silty soils.

3. For each riffle, the anchor and footer rocks shall consist of primarily 3 ton rocks at the appropriate locations at the upstream and downstream ends and at the top of riffle. Anchor rocks are at the upstream and downstream end of the riffles. At the crest, the long axis of angular 3 ton rocks can be situated in the vertical direction. The base of the anchor and crest shall be a minimum of 2 feet below adjacent grade. Longitudinally between the footer and anchor rocks, along the riffle, shall be primarily 2 ton rocks, with smaller sizes boulders and stream bed gravel filled in the interstices.
4. For each pool (low flow channel between riffles), the 2 ton rock shall be placed along the left and right edge to anchor the edges of the pool. The rest of the bottom shall be built with 2 ton and 1 ton rock, with smaller rock as infill.
5. The drop in elevation from the lowest rock at the crest of one top of riffle to the next shall be confirmed to within 1 foot +/-3 inches, while meeting an average drop of 1 foot.
6. Upon completion of rock placement along the channel bed, fill the existing channel bed surface with channel backfill (stream bed gravel) as needed to meet sub-grade elevation. On the bankfull bench, fill the interstices with embankment fill.
7. The finished riffle grade control shall be backwashed until refusal with additional channel gravel, sand, and cobble to seal the voids in structure prior to the return of flow to the wetted portion of the riffle grade control. Alternatively, finished riffle grade control can be achieved by mechanical means.
8. The Engineer will approve the material placement as shown on the Contract Drawings before work continues.
9. The footer rock shall be placed as per the Contract Drawings. Footer rocks should be placed on stable native material or furnished fill. Footer rocks should be tipped lower on their upstream side. Install footer rocks at or below finished grade using the tolerances shown in the Contract Drawings details. Place boulders upon the footer rocks, varying the orientation of the rocks to create diversity of appearance.
10. After the excavation at the locations for riffles and associated bank repair is approved by the Engineer, boulders, rock and stream bed gravel shall be placed by mechanical or other acceptable methods. The cobble shall be placed to form a neat and uniform surface area. Install random boulders as approved by the Engineer. Random boulders should be flush with the finish grade surface of the structure. No mortar is permitted.
11. Cobble shall be graded from the smallest to the largest pieces as specified by the materials requirements and will be controlled by visual inspection. The minimum thickness of the cobble layer shall be 1.5 times the d50.

12. Boulders shall be placed by mechanical or other acceptable methods with a minimum of voids. The boulders shall be placed to form a neat and uniform surface area. No mortar is permitted.
13. If necessary, boulders can be chiseled or broken to achieve improved contact between rocks.
14. All remaining channel sand and gravel fill areas along the edges and at ends of the placed cobble shall be placed to blend in with contiguous slopes, swales, or existing ground.”

CONSTRUCTION PLAN SHEETS AND REVISED MAP

ADD new “Sheet G-06.” (ATTACHMENT 2)

REPLACE “Sheets G-02, C-01, C-02, C-04, C-05, C-07, XS-02 through XS-12, X-01 through X-10, and L-01” (ATTACHMENT 2)

GENERAL QUESTIONS & RESPONSES

Question 1	Could you please clarify the quantity of Willow cutting required and/or the on-center spacing?
Response 1	The level of effort should be based on 70 cuttings with 6 foot on-center spacing.
Question 2	I am a little concerned/confused with Bid Item No. 3 Concrete Removal and site demolition. This is a lump sum quantity with no quantities. How are we to price a competitive bid for this work when we are essentially given no information or locations of this work? I am concerned because by having this bid item LS you will not receive bids that will be apples to apples. They will more be like apples to oranges. Some might look at this item and bid very little to no square foot/cubic yard/cubic foot that will need concrete removal. Others might look at this and feel the need to bid very high square foot/cubic yard/cubic foot needing concrete removal. How do we determine how much material to dispose of. Is there any way we can change this item to a square foot/cubic foot/cubic yard item like Caltrans does so that it is an even playing field between contractors bidding this project, so that we can all bid the quantity and be compensated for the quantity of work that we actually perform? This really takes the whole competitive bidding process and throws it out the window, because, the way it stands it changes this project from bidding this project per the plans and specs, to bidding this project as who is going to take the biggest risk and do the least amount of work and quantity for this item of work. I really hope you will reconsider changing this bid item
Response 2	Please refer to ATTACHMENT 1, Bid Form No 1 (REV 1) Proposal and Bid Items of this Addendum No. 2, Section A, Base Bid table.
Question 3	Section A in C-05 shows that thickness and width of the Riffle at the flow channel. Is this the same at the left and right banks. If not, please provide cross section at the right and left bank.
Response 3	Please refer to revised drawings (ATTACHMENT 2). Yes, the left and right banks of the top of riffle are in general the same; Section B also provides the boulder layout configuration.

Question 4	Please provide quantity for plant Salix SPP (cuttings)
Response 4	Please refer to Response 1.
Question 5	Please provide sizes of planting materials.
Response 5	Please refer to Response 1.
Question 6	Bid Item #7 Low flow Channel Between Riffles, 9,500 tons. Considering the big areas, widths and thickness of rocks shown in sheets XS-01 to XS-12, our take-off quantity is more than double the bid quantity. Please clarify.
Response 6	Sheets X-01 to X-10 provide additional information for finish grade. The quantity (tonnage) of Bid Item #7 is based on grade information on Sheets XS-01 to XS-12 and X-01 to X-10, the typical Section A on C-05 and effective unit weight of the boulder and streambed gravel mixture.
Question 7	Please provide detail & thickness of rock slope protection and kind of rock to be used.
Response 7	Please refer to revised drawing Sheet C-04 and Specification Section 24.07.
Question 8	Please provide dimensions of Bank protection for both left and right side of the creek including depth of rock beds per detail 1/C-04
Response 8	Please refer to revised drawing Sheet C-04.
Question 9	Please provide bid item number for Bio-engineered slope per detail 1/C-04.
Response 9	Title of detail 1 is revised to "Bank Protection Slope" and shall be considered as Bid Item No. 6, Rock Slope Protection.
Question 10	In detail 1/C-04 please provide thickness of stream bed gravel to fill voids.
Response 10	Please refer to revised Drawing C-04; no additional thickness of stream bed gravel shall be placed above finish grade of channel bed.
Question 11	Please provide layout/drawings of existing concrete structures, sack concrete slope protection, concrete rubble, concrete debris and grouted structures to be demolished, per Section 23, G which states as shown on drawings.
Response 11	Please refer to revised specification Section 23.
Question 12	Please provide Uvas creek bed section between stations 22+60 and 23+75 and 23+75 and 24+92. Only leading edge shown.
Response 12	Please refer to Sheets X-9 and X-10 for finish grade information, and C-05 for section configurations.
Question 13	Please provide Uvas creek bed section from station 14+60 to station 17+60. Only leading edge shown.
Response 13	Please refer to Sheets X-04 to X-07 for finish grade information, and C-05 for section configurations.
Question 14	The drawing is dated Mar. 2018 which implies that they were prepared in the late 2017. Considering the heavy rains in late 2018, the river layout and existing grades may not be the same. Please update the plans as per existing conditions.
Response 14	Plans preparation began in March 2018 and were updated as design progressed. No further updates plan will be made. Paid items will be based on actual measurements.
Question 15	In detail A/C-05 please provide detail of the riffle beyond the left and right banks.
Response 15	Section B on Sheet C-05 provide the layout of riffle boulder along the top of riffle indicating across the channel.

Question 16	Please provide the location, dimension and thickness of the RSP per Section E/XS-03, section N/XS-07, section O/XS-08, sections Q & R/XS-09 and sections S & T/XS-10.
Response 16	Thicknesses of RSP components are shown on revised Sheet C-04. Section C presents station intervals along the channel that require bank protection.
Question 17	C.01 and C.02 do not match cross sections shown on XS-sheets for RIP RAP areas, please clarify.
Response 17	Areas call-out of "Rip Rap" refer to existing rip rap along channel banks. Specified RSP shall be based on station intervals on C-04 and sections on Sheets XS-02 and XS-03.

THIS ADDENDUM NO 2, WHICH CONTAINS 10 PAGES AND 4 ATTACHMENTS, IS ATTACHED TO AND IS A PART OF THE SPECIFICATIONS AND CONTRACT DOCUMENTS FOR THIS PROJECT.

N. Nguyen

Ngoc Nguyen, P.E.
Deputy Operating Officer
Watershed Design and
Construction Division

Date: 06/06/2019

Enclosures:

1. **ATTACHMENT 1:** BID FORM NO. 1 (REV 1) Proposal and Bid Items
2. **ATTACHMENT 2:** REVISED MAP AND CONSTRUCTION PLAN SHEETS
3. **ATTACHMENT 3:** FINAL PERMITS
 - A. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, LAKE AND STREAMBED ALTERATION AGREEMENT
 - B. SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, WATER QUALITY CERTIFICATION
 - C. U.S. ARMY CORPS OF ENGINEERS, CLEAN WATER ACT SECTION 404 NATIONWIDE PERMIT (FINAL)
 - D. NATIONAL MARINE FISHERIES SERVICES, PROGRAMMATIC BIOLOGICAL OPINION (FINAL)
4. **ATTACHMENT 4:** BID FORM 2 (REV 1) DESIGNATION OF SUBCONTRACTORS

THE BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT

**ADDENDUM 2
ATTACHMENT 1**

**BID FORM NO. 1 (REV 1)
Proposal and Bid Items**

**Project No. 26044002
Contract No. C0652**

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BID FORM NO. 1 (REV 1)
Proposal and Bid Items

Page 1 of 3

*This form must be completed in **ink** and changes must be **initialed**.*

Honorable Board of Directors
Santa Clara Valley Water District (District)

Pursuant to, and in compliance with, the Notice to Bidders and the Contract Documents, relating to the **BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT**, the undersigned Bidder having become thoroughly familiar with the terms and conditions of the Contract Documents and with local conditions affecting the performance and costs of the Work and having fully inspected the Work site in all particulars, hereby proposes and agrees to fully perform the Work, including providing any and all labor and materials and performing all Work required to construct and complete said Work within the contract time stated and in accordance with the requirements of the Contract Documents, for the following sum of money.

The undersigned Bidder agrees to complete all the Work within **180** calendar days from the first chargeable day of the Contract, as stated in the Notice to Begin Work. The Bidder agrees to enter into a Contract with the District and provide the required bonds and insurance in accordance with the Instructions to Bidders, Contract Bonds, paragraph #21 and Execution of Contract, paragraph #22. If the Bidder fails to meet these requirements within the time specified in the Instruction to Bidders, Failure to Execute Contract, paragraph #23, the Bidder's security accompanying this Proposal may be forfeited and become the property of the District. No Contract exists until all Contract bonds and insurance documents have been accepted by the District.

TOTAL BID: \$ _____

Bidder acknowledges receipt of the following Addenda to the Bid Documents:
Addenda are posted online at <https://www.valleywater.org/construction>.

☐ **NO** Addenda received

☐ Addenda received as follows:

Addendum No. _____	Date _____	Addendum No. _____	Date _____
Addendum No. _____	Date _____	Addendum No. _____	Date _____

Failure to acknowledge receipt of an Addendum on the Bid Form is not, in itself, cause for withdrawal or rejection of Bid, if it can be established that Bidder did, in fact, receive such Addendum prior to Bid opening.

The undersigned Bidder has read and, understands, and will comply with, each and all of the requirements specified in these Bid Documents. This Proposal must be signed by an authorized representative of the Bidder with the authority to bind the Bidder.

BIDDER'S COMPANY INFORMATION	
NAME:	ADDRESS:
CONTRACTOR'S CALIFORNIA LICENSE NUMBER:	
DATE OF EXPIRATION:	
LICENSE CLASSIFICATION(S):	
PHONE NO.: ()	FAX NO.: ()
EMAIL ADDRESS:	

SIGNATURE BLOCK (Signature Block must be completed in ink and changes must be initialed .)	
Bidder's Signature:	Date:
Bidder's Name and Title (Print):	



*This form must be completed in **ink** and changes must be **initialed**.*

SECTION A — BASE BID

ITEM NO.	DESCRIPTION OF ITEM	APPROXIMATE QUANTITY UNIT	UNIT PRICE	TOTAL
1	MOBILIZATION	<u>Lump Sum</u> Lump Sum		
2	CLEARING AND GRUBBING	<u>1.5</u> ARCE		
3	CONCRETE REMOVAL AND SITE DEMOLITION	Not to Exceed	\$25,000	\$25,000
4	CONTROL OF WATER	<u>Lump Sum</u> Lump Sum		
5	CHANNEL EXCAVATION	<u>3,700</u> Cubic Yard		
6	CHANNEL EMBANKMENT FILL	<u>500</u> Cubic Yard		
7	LOW FLOW CHANNEL BETWEEN RIFFLES	<u>9,500</u> Ton		
8	ROCK SLOPE PROTECTION	<u>2,500</u> Cubic Yard		
9	CONSTRUCTED RIFFLE	<u>11,000</u> Ton		



*This form must be completed in **ink** and changes must be **initialed**.*

SECTION A — BASE BID

ITEM NO.	DESCRIPTION OF ITEM	APPROXIMATE QUANTITY UNIT	UNIT PRICE	TOTAL
10	HYDROSEEDING AND RE-VEGETATION	<u>Lump Sum</u> Lump Sum		
	TOTAL BASE BID			

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THE BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT

**ADDENDUM 2
ATTACHMENT 2**

REVISED MAP AND CONSTRUCTION PLAN SHEETS

New Sheet: G-06

**Revised Sheets: G-02, C-01, C-02, C-04, C-05, C-07, XS-02 through XS-12,
X-01 through X-10, and L-01**

**Project No. 26044002
Contract No. C0652**

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DOCUMENT NUMBER: UVC_UL-G-5018-62599

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C300	301.09'	110.61'	21°02'54"
C301	302.73'	63.98'	12°06'34"
C302	490.03'	86.11'	10°04'07"
C303	1104.23'	79.02'	4°06'00"
C304	360.00'	167.39'	26°38'29"
C305	9859.88'	249.94'	1°27'09"
C306	2049.00'	297.36'	8°18'54"
C307	879.16'	294.96'	19°13'22"
C308	199.95'	62.12'	17°48'01"
C309	40.00'	7.66'	10°58'09"
C310	265.01'	176.85'	38°14'12"
C311	369.54'	228.06'	35°21'38"
C312	236.48'	159.67'	38°41'06"
C313	642.27'	260.91'	23°16'33"



LINE TABLE		
LINE	LENGTH	BEARING
L300	189.23'	S84°24'52"W
L301	60.00'	N31°42'23"W
L302	109.26'	N42°40'32"W
L303	91.39'	N80°43'05"W
L304	103.74'	S63°55'17"W
L305	1.74'	N50°00'36"W

POINT TABLE			
POINT	NORTHING	EASTING	DESCRIPTION
300	1812300.8034	6258699.1697	BP
301	1812282.3851	6258510.8350	BC
302	1812581.8666	6258479.7963	RP
303	1812291.2194	6258401.2036	BC
304	1812583.2609	6258480.9296	RP
305	1812314.4428	6258341.7128	BC
306	1812746.3280	6258573.2410	RP
307	1812361.5713	6258269.7737	PRC
308	1811496.0069	6257584.1178	RP
309	1812408.3795	6258206.1323	BC
310	1812125.3810	6257983.6198	RP
311	1812478.1094	6258055.6105	PRC
312	1822123.4653	6260101.1918	RP
313	1812533.0568	6257811.7904	BC
314	1814508.2818	6258356.6545	RP
315	1812632.6161	6257531.8704	BC
316	1813444.4650	6257869.2393	RP
317	1812788.9577	6257283.3839	BC
318	1812942.7643	6257411.1407	RP
319	1812835.3761	6257242.4811	EC

POINT TABLE			
POINT	NORTHING	EASTING	DESCRIPTION
320	1812886.4243	6257210.9454	BC
321	1812865.4017	6257176.9152	RP
322	1812892.5155	6257206.3234	EC
323	1812972.8415	6257132.2644	BC
324	1812793.5296	6256937.1349	RP
325	1813055.1399	6256979.4234	EC
326	1813069.8804	6256889.2294	BC
327	1812705.1788	6256829.6260	RP
328	1813037.0966	6256667.1749	EC
329	1812991.4909	6256573.9939	BC
330	1813192.1999	6256448.9347	RP
331	1812957.3609	6256421.1038	BC
332	1813587.7265	6256544.1786	RP
333	1813057.2978	6256182.0271	EP

VERTICAL & HORIZONTAL CONTROL POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION (FT)	DESCRIPTION
200	1812683.0200	6257612.4400	175.46	FOUND GRANITE MONUMENT WITH TACK IN MONUMENT WELL
201	1812774.6500	6257415.1100	176.32	FOUND 0.75 FEET IRON PIPE IN MONUMENT WELL
202	1812949.5500	6257251.3900	176.55	FOUND 0.75 FEET IRON PIPE IN MONUMENT WELL
203	1813064.2600	6257127.2300	178.81	FOUND 0.75 FEET IRON PIPE WITH TAG AND TACK, LS# ILLEGIBLE
204	1812524.9400	6258127.7100	175.72	FOUND 0.75 FEET IRON PIPE WITH TAG AND TACK, LS# ILLEGIBLE
205	1812446.7200	6258291.2500	174.39	FOUND 0.75 FEET IRON PIPE IN MONUMENT WELL
207	1812424.3600	6258364.1400	173.71	FOUND 1 FOOT IRON ROB BENT IN MONUMENT WELL
208	1812385.3900	6258829.8200	173.55	FOUND 0.75 FEET IRON PIPE WITH TAG AND TACK, LS# ILLEGIBLE
209	1814178.0800	6257937.2600	165.41	FOUND REBAR AND CAP LS9809 DOWN 0.7 FEET
210	1813132.0500	6256898.3500	179.36	FOUND 0.75 FEET IRON PIPE WITH TAG AND TACK, LS# ILLEGIBLE
21157	1815959.4100	6253277.6500	187.98	SET MAG/TIN @ CENTERLINE OF BOLSA RD 350' N'LY OF CREEK/HWY 101
21158	1817092.1000	6252867.8700	187.83	SET MAG/TIN @ CENTERLINE OF BOLSA RD @ 548 BOLSA RD
21159	1814293.0800	6255652.8100	181.93	SET MAG/TIN @ CENTERLINE OF BOLSA RD 300± S'LY OF 495 BOLSA RD
21160	1814698.6500	6255451.0200	183.77	SET MAG/TIN @ CENTERLINE OF BOLSA RD 300± S'LY OF 495 BOLSA RD
21161	1813120.5700	6257016.3000	181.07	SET MAG/TIN @ N'LY EDGE OF PAVEMENT OF BOLSA RD @ W'LY SIDE OF UPRR X-ING
21162	1812408.6900	6258427.3800	174.55	SET MAG/TIN @ CENTERLINE OF BOLSA RD 1000' S'LY OF UPRR X-ING @ TURNOUT
21163	1811565.5900	6260298.9300	170.78	SET MAG/TIN @ CENTERLINE OF BOLSA RD 1000' S'LY OF UPRR X-ING @ TURNOUT
21164	1810921.4800	6259579.3900	164.38	SET MAG/TIN @ EMPLOYEE/VENDOR ENTRANCE TO CHRISTOPHER RANCH ON BLOOMFIELD AVE 500± S'LY OF BOLSA RD INTERSECTION
21165	1809706.3600	6259245.9100	166.61	FOUND MAG NAIL AND FLIGHT CROSS @ U/S LEFT SHOULDER/EP @ HWY 25/CREEK

VERTICAL & HORIZONTAL CONTROL POINT TABLE - BENCHMARK				
POINT	NORTHING	EASTING	ELEVATION (FT)	DESCRIPTION
BM1068	-	-	179.81	USCGS BRASS DISK "R149 1933"; ON TOP OF CONCRETE ABUTMENT FOR SOUTHERN PACIFIC RAILROAD BRIDGE OVER UVAS-CARNADERO CREEK; NORTHEASTERLY CORNER OF BRIDGE; 40 FEET SOUTHERLY FROM CENTERLINE OF BOLSA ROAD; 7 FEET EAST FROM MOST EASTERLY RAIL; 3000 FEET NORTHWESTERLY FROM INTERSECTION OF BOLSA ROAD AND BLOOMFIELD ROAD; LEVEL WITH ROAD. UNINCORPORATED SANTA CLARA COUNTY. PUBLISHED ELEVATION 8/31/2005.

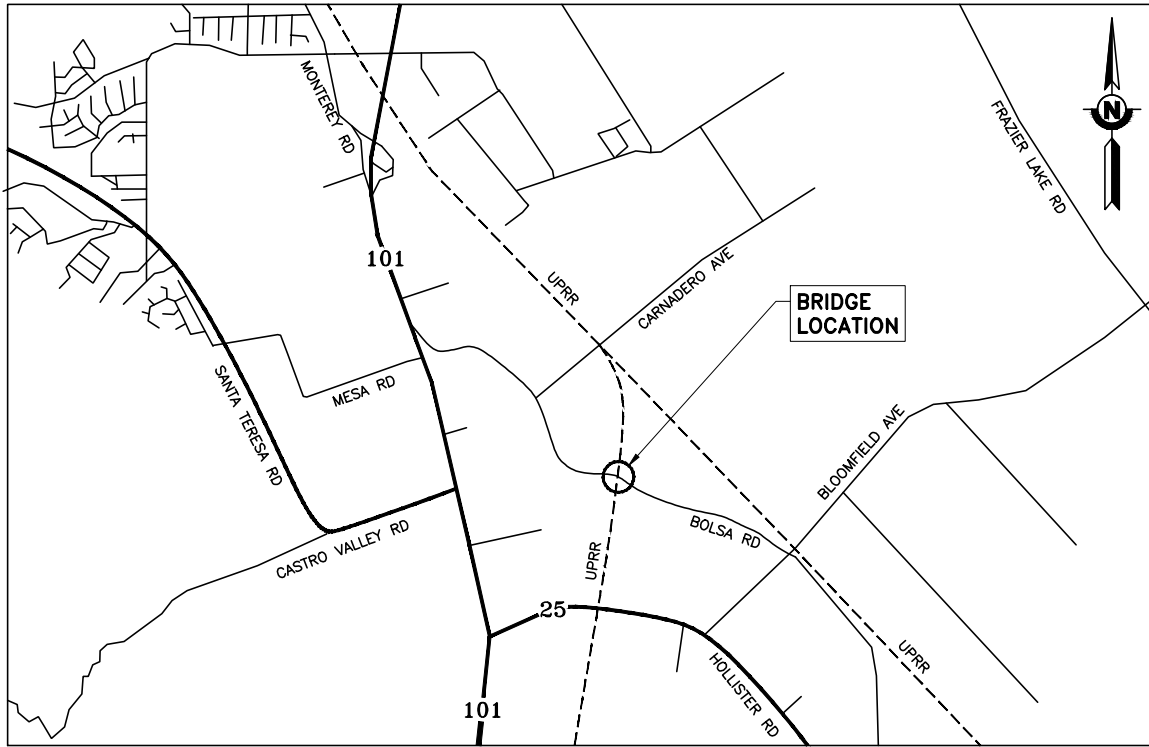
REV	DESCRIPTION	DATE	APPR	REFERENCE INFORMATION AND NOTES 1. REFERENCE BASIS OF BEARING NOTE ON SHEET G-02. 2. ALIGNMENT "C" IS THE CONTROL LINE OF THE PROJECT REFERRED TO ON SHEETS D-01, AND C-01 THRU C-07.	DATE MAR 2018 DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	ENGINEERING CERTIFICATION  PROJECT ENGINEER DATE	SANTA CLARA VALLEY WATER DISTRICT 	PROJECT NAME AND SHEET DESCRIPTION: BOLSA ROAD FISH PASSAGE IMPROVEMENTS SURVEY LAYOUT TABLE	SCALE NO SCALE VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET ADJUST SCALE PROJECT NUMBER 26044002 SHEET CODE: G-06 SHEET NUMBER: 39
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2

DOCUMENT NUMBER: UVC_UL-G-5018-62595

1



SITE MAP
SCALE: NTS

GENERAL NOTES

- EXISTING UTILITIES FROM AS-BUILT DRAWINGS SHOWING APPROXIMATE LOCATIONS AND TO BE VERIFIED BY CONTRACTOR.
- PARCEL INFORMATION FROM SCVWD GIS MAPS AND TO BE VERIFIED BY LAND MAPPING AND RIGHT OF WAY UNIT.
- ALL EXISTING FACILITIES, STRUCTURES, TREES, FENCES, LANDSCAPING, ETC., DESIGNATED "EXIST" OR SHOWN EXISTING (DASHED OR SCREENED LINES) ARE TO REMAIN. EXISTING UTILITIES SHALL BE MAINTAINED OPERATIONAL AT ALL TIMES. ONLY THOSE SPECIFICALLY DESIGNATED FOR REMOVAL AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER SHALL BE REMOVED.
- LOCATIONS AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE BASED ON INFORMATION FROM THE UTILITY AND ARE TO BE CONSIDERED AS APPROXIMATE ONLY.
- PRIOR TO PERFORMING ANY WORK IN THE VICINITY OF EXISTING UNDERGROUND UTILITIES, THE CONTRACTOR SHALL VERIFY THEIR LOCATIONS AND DEPTHS AND TAKE PROPER PRECAUTIONS TO AVOID ANY DAMAGE TO THEM. CALL UNDERGROUND SERVICE ALERT AT (800) 642-2444 FOR LOCATION.
- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- ALL REFERENCES MADE TO RIGHT OR LEFT, AND ALL CROSS SECTIONS SHOWN ON PLAN ARE VIEWED LOOKING UPSTREAM.
- THE CONTRACTOR SHALL INSTALL TEMPORARY FENCES AND OTHER WARNING SIGNS OR DEVICES AS SHOWN ON THE DRAWINGS.
- ALL INCIDENT SOILS REMOVED FROM THE PROJECT SITE ARE TO BE PROPERLY TESTED PRIOR TO DISPOSAL (SEE SPECIFICATIONS). LIMITED TO SAN FRANCISCO BAY WATERSHED. REMOVAL OF SOILS TO BE IN ACCORDANCE WITH ALL STATE AND FEDERAL LAWS.
- THE WORK INCLUDES CONSTRUCTING ROCK SLOPE PROTECTION, CONSTRUCTED RIFFLES, TEMPORARY ACCESS ROADS, PLACING FILL, AS DESCRIBED IN THESE PLANS AND IN THE PROJECT SPECIFICATIONS AND AS NEEDED TO COMPLETE CONSTRUCTION.
- THE WORK SHALL COMPLY WITH ALL PERMIT REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, DEWATERING OF THE WORK AREA, AVOIDANCE OF SENSITIVE HABITAT AREAS, BIOLOGICAL EXCLUSION FENCING AND COORDINATION WITH BIOLOGICAL MONITORING CONSULTANTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES. SPECIAL SAFETY PRECAUTIONS TO BE TAKEN WHEN WORKING IN THE VICINITY OF GAS, OIL AND ELECTRICAL LINES.
- TREES AND BRUSH NOT SHOWN ON THESE PLANS WILL BE ENCOUNTERED DURING CONSTRUCTION. THE ENGINEER OR BIOLOGICAL MONITORS SHALL IDENTIFY AND FLAG ALL TREES TO BE PROTECTED FROM DAMAGE PRIOR TO CONSTRUCTION.
- ALTERATION OR DISTURBANCE OF MATURE TREES SHALL BE MINIMIZED TO THAT NECESSARY TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL KEEP DISTURBED AREAS WITHIN THE CONSTRUCTION LIMITS SHOWN IN THESE PLANS UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCE NOTICE TO THE ENGINEER PRIOR TO ANY REQUIRED INSPECTION.
- CONSTRUCTION MATERIAL AND EQUIPMENT STAGING AREAS SHALL BE LOCATED AS SHOWN IN THESE PLANS. CONSTRUCTION EQUIPMENT SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STORAGE AREAS, UNLESS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL PROTECT ALL CONSTRUCTION MATERIALS FROM DAMAGE AT ALL TIMES.
- TO PREVENT THE INTRODUCTION OF PLANT PATHOGENS, PRIOR TO MOBILIZATION ON-SITE, CONTRACTOR SHALL DECONTAMINATE THEIR EQUIPMENT:
 - VEHICLES, HEAVY MACHINERY, AND LARGE TOOLS (SUCH AS EXCAVATORS, TRENCHERS, GRADERS, INCLUDING TIRES, TRACKS, UNDERCARRIAGE OF ON-SITE VEHICLES, AND THEIR TOOLS AND IMPLEMENTS) SHALL BE CLEANED FREE OF DEBRIS AND SOIL WITH HIGH PRESSURE WASHER AND/OR COMPRESSED AIR FROM ANY PRIOR WORK SITE PRIOR TO ARRIVING AT THE PROJECT SITE.
 - FOOTWEAR AND SMALL TOOLS (SUCH AS HAND TOOLS, SHOVELS, TROWELS, HOES, AND PERSONNEL BOOTS) SHALL BE THOROUGHLY CLEANED OF DEBRIS AND SOIL PRIOR TO USE WITHIN THE PROJECT SITE.
 - EQUIPMENT AND TOOLS MOVED OFF-SITE AND RETURNED FOR LATER USE WILL AGAIN REQUIRE DECONTAMINATION BY THE CONTRACTOR.
- EQUIPMENT SHALL BE CHECKED AT THE BEGINNING AND END OF EACH WORK DAY FOR LEAKS.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, SEDIMENTS, CHEMICALS OR ANY OTHER TOXIC MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE CREEK OR WETLANDS.
- IF AT ANY TIME DURING CONSTRUCTION, FISH ARE OBSERVED IN DISTRESS, A FISH KILL IS OBSERVED OR WATER QUALITY PROBLEMS DEVELOP, OPERATIONS SHALL CEASE AND THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. WORK SHALL NOT RESUME UNTIL FURTHER APPROVAL BY THE ENGINEER.
- EROSION AND SEDIMENT CONTROL METHODS SHALL BE USED TO PREVENT SILT FROM ENTERING THE CREEK DUE TO CONSTRUCTION. ALL ACCESS POINTS TO THE CHANNEL WILL BE RE-CONTOURED BACK TO PRE-PROJECT CONDITIONS AND FINISHED WITH EROSION CONTROL FABRIC AND RIPARIAN PLANTINGS UPON COMPLETION OF THE CONSTRUCTION.
- IN GENERAL THE WORK SHALL BE SEQUENCED AND PERFORMED IN A MANNER THAT MINIMIZES IMPACTS TO THE CREEK, EXISTING VEGETATION, AQUATIC AND RIPARIAN ECOSYSTEM, THE PROJECT SITE, ADJACENT PRIVATE PROPERTY AND INFRASTRUCTURE.
- WORK ON CONSTRUCTED RIFFLES AND LOW FLOW CHANNEL BETWEEN RIFFLES SHALL BE SEQUENCED AND PERFORMED IN A MANNER THAT IS CONSISTENT WITH SUCCESSFUL INSTALLATION OF ROCK WEIRS OR RIFFLES IN A CREEK ACCORDING TO VALLEY WATER DESIGN MANUAL, OPEN CHANNEL HYDRAULICS AND SEDIMENT TRANSPORT, JUNE 2009 (FIGURES 3.5, 3.7, 6.6).

DESIGN NOTES

HORIZONTAL DATUM : CALIFORNIA COORDINATE SYSTEM 83
ZONE III EPOCH 2004.082
(CCS83 (2004.082) ZONE III).

VERTICAL DATUM : NORTH AMERICAN VERTICAL DATUM 88 (NAVD88).
EPOCH AUGUST 31, 2005.

UNITS OF MEASURE : U.S. SURVEY FEET.

BASIS OF BEARING :

THE BEARING OF NORTH 47°16'27" WEST ON THE MONUMENT LINE BETWEEN MONUMENT POINT # 202 AND MONUMENT POINT # 203 ON BOLSA ROAD WILL BE DESIGNATED AS THE BASIS OF BEARINGS.

- COORDINATES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM 83 ZONE III EPOCH 2004.082 (CCS83 (2004.082) ZONE III). ALL COORDINATES AND DISTANCES SHOWN HEREON ARE GRID VALUES. MULTIPLY GRID DISTANCES BY THE FACTOR OF 1.00001474 TO OBTAIN GROUND LEVEL DISTANCES.
2. SEE SHEET G-05 FOR SURVEY CONTROL UNIT.
3. UNIT STRESSES FOR REINFORCED CONCRETE ARE AS FOLLOWS:
A. CONCRETE FC' PSI = 4,000 OR AS OTHERWISE SPECIFIED.
B. STEEL FY PSI = 60,000 OR AS OTHERWISE SPECIFIED.
4. DESIGN DISCHARGE:
Q100 = 5,200 CFS
Q10 = 5,100 CFS
Q2.33 = 900 CFS
Q1.5 = 300 CFS
FLOW RATES BASED ON SCVWD HYDROLOGY (UNOFFICIAL).
5. MANNING'S ROUGHNESS COEFFICIENT N AS FOLLOWS WERE APPLICABLE:
A. EXISTING NATURAL VEGETATION = 0.06
B. CONCRETE CHANNEL = 0.015
C. COMPOSITE NATURAL CHANNEL = 0.035
D. ROUGHENED CHANNEL = VARIES VERTICALLY WITH DEPTH.

DRAWING INDEX

SHEET CODE

DESCRIPTION

SHEET NO

GENERAL

1	G-01	LOCATION MAP AND TITLE SHEET	1 OF 39
	G-02	SITE MAP, DRAWING INDEX, GENERAL NOTES AND DESIGN NOTES	2 OF 39
	G-03	GENERAL NOTES, ABBREVIATIONS AND LEGEND	3 OF 39
	G-04	RIGHT-OF-WAY, AND CONSTRUCTION ACCESS	4 OF 39
	G-05	SURVEY LAYOUT	5 OF 39
	G-06	SURVEY LAYOUT TABLE	6 OF 39

DEMOLITION

D-01	TREE DEMOLITION PLAN	7 OF 39
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CIVIL

1	C-01	PLAN AND PROFILE C-LINE, STA 7+40 TO 19+00	8 OF 39
	C-02	PLAN AND PROFILE C-LINE, STA 19+00 TO 29+50	9 OF 39
	C-03	PLAN AND PROFILE B-LINE, STA 29+50 TO 35+00	10 OF 39
	C-04	TYPICAL SECTIONS	11 OF 39
	C-05	TYPICAL PLAN & SECTION OF THALWEG, STA 9+00 TO STA 24+92	12 OF 39
	C-06	RIFFLE PLAN VIEW, TOP OF RIFFLE	13 OF 39
	C-07	END OF PROJECT/BRIDGE ABUTMENT PLAN, PROFILE, AND SECTION	14 OF 39

TYPICAL CROSS SECTIONS

1	XS-01	C-LINE CROSS SECTIONS	15 OF 39
	XS-02	C-LINE CROSS SECTIONS	16 OF 39
	XS-03	C-LINE CROSS SECTIONS	17 OF 39
	XS-04	C-LINE CROSS SECTIONS	18 OF 39
	XS-05	C-LINE CROSS SECTIONS	19 OF 39
	XS-06	C-LINE CROSS SECTIONS	20 OF 39
	XS-07	C-LINE CROSS SECTIONS	21 OF 39
	XS-08	C-LINE CROSS SECTIONS	22 OF 39
	XS-09	C-LINE CROSS SECTIONS	23 OF 39
	XS-10	C-LINE CROSS SECTIONS	24 OF 39
	XS-11	C-LINE CROSS SECTIONS	25 OF 39
	XS-12	C-LINE CROSS SECTIONS	26 OF 39
	XS-13	C-LINE CROSS SECTIONS	27 OF 39
	XS-14	C-LINE CROSS SECTIONS	28 OF 39

TAKEOFF CROSS SECTIONS

1	X-01	C-LINE TAKEOFF CROSS SECTIONS	29 OF 39
	X-02	C-LINE TAKEOFF CROSS SECTIONS	30 OF 39
	X-03	C-LINE TAKEOFF CROSS SECTIONS	31 OF 39
	X-04	C-LINE TAKEOFF CROSS SECTIONS	32 OF 39
	X-05	C-LINE TAKEOFF CROSS SECTIONS	33 OF 39
	X-06	C-LINE TAKEOFF CROSS SECTIONS	34 OF 39
	X-07	C-LINE TAKEOFF CROSS SECTIONS	35 OF 39
	X-08	C-LINE TAKEOFF CROSS SECTIONS	36 OF 39
	X-09	C-LINE TAKEOFF CROSS SECTIONS	37 OF 39
	X-10	C-LINE TAKEOFF CROSS SECTIONS	38 OF 39

LANDSCAPE

1	L-01	PLANTING PLAN	39 OF 39
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DATE
MAR 2018
DESIGN
S. HUANG
DRAWN
J. CORDOVA
CHECKED
S. HOSSEINI
PROJECT ENGINEER
DATE
5/14/2019

ENGINEERING CERTIFICATION
SEE "ORIGINAL AS-BID"
DOCUMENTS FOR
SIGNATURE AND DATE
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER
DATE

SANTA CLARA VALLEY WATER DISTRICT

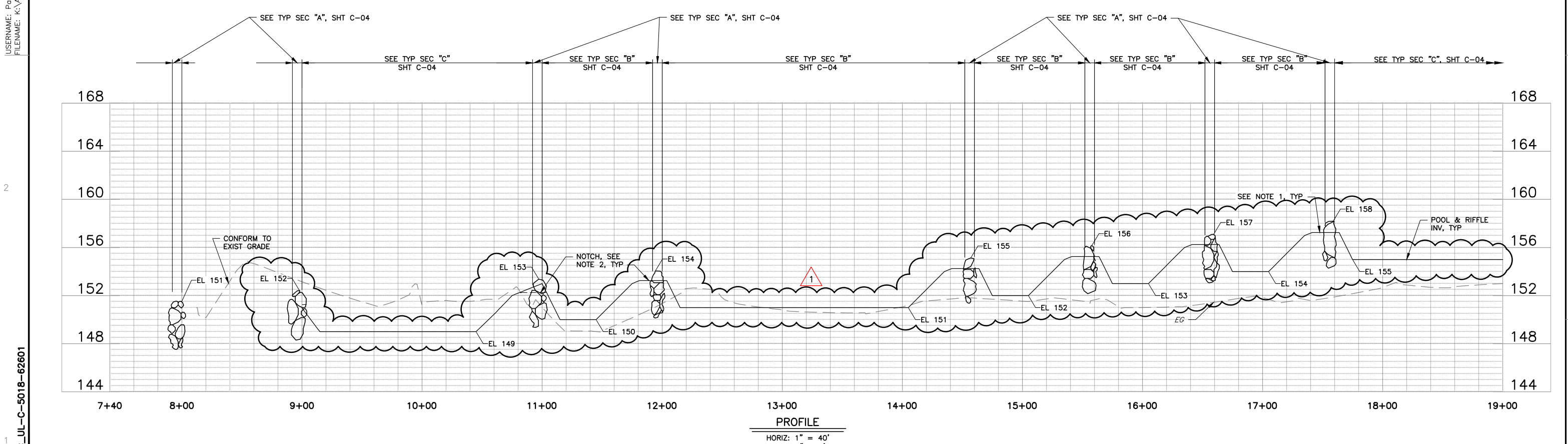
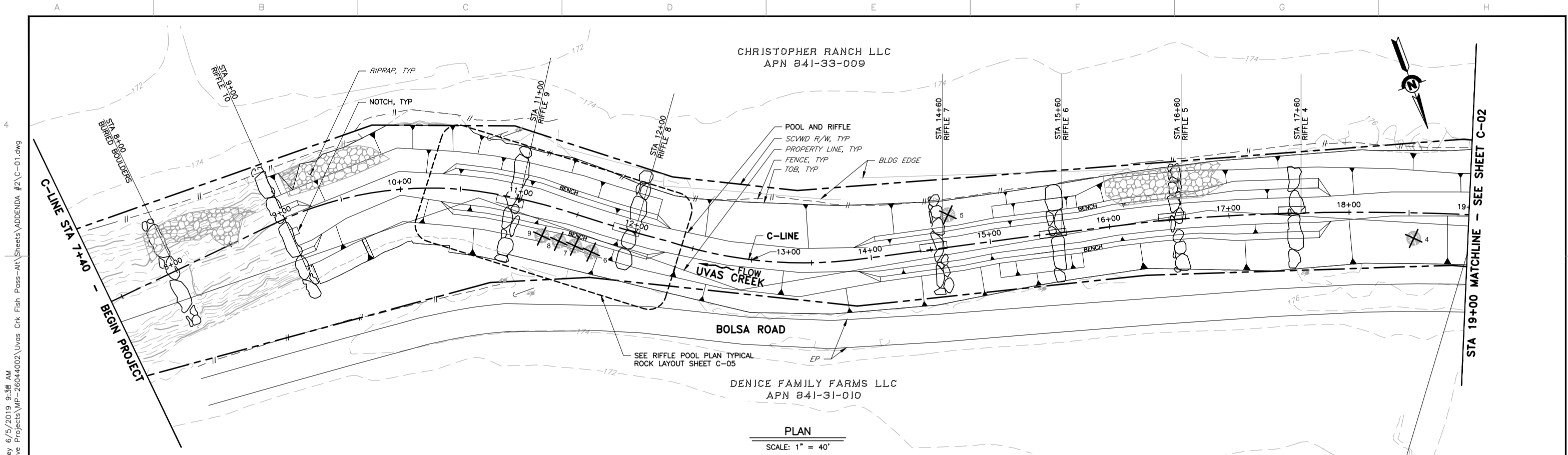


PROJECT NAME AND SHEET DESCRIPTION:

**BOLSA ROAD
FISH PASSAGE IMPROVEMENTS**

SITE MAP, DRAWING INDEX,
GENERAL NOTES AND DESIGN NOTES

SCALE
AS SHOWN
VERIFY SCALES
0 1"
BAR IS ONE INCH ON
ORIGINAL DRAWING
IF APPLICABLE, REFER TO
SCALES ACCORDINGLY
PROJECT NUMBER
26044002
SHEET CODE: 1
G-02
NUMBER:
2 OF 39



REV 1	DESCRIPTION ADDENDUM #2 06-04-2019	DATE MAR 2018	APPR S. HUANG	REFERENCE INFORMATION AND NOTES 1. FOR ROCK SIZES, ROCK ARRANGEMENT, AND INVERT SLOPES, SEE TYPICAL PLANS AND SECTIONS ON SHEETS C-05 AND C-06. 2. NOTCH ELEVATION IS 9-INCHES BELOW THE RIFFLE CREST ELEVATION.	ENGINEERING CERTIFICATION S. HUANG DESIGN J. CORDOVA DRAWN S. HOSSEINI CHECKED PROJECT ENGINEER	DATE 5/14/2019	ENGINEERING CERTIFICATION STEPHEN J. HOSSEINI REGISTERED PROFESSIONAL CIVIL ENGINEER STATE OF CALIFORNIA	SANTA CLARA VALLEY WATER DISTRICT 	PROJECT NAME AND SHEET DESCRIPTION: BOLSA ROAD FISH PASSAGE IMPROVEMENTS PLAN AND PROFILE C-LINE, STA 7+40 TO STA 19+00	SCALE AS SHOWN 0 1" 1/8" = 1' ON ORIGINAL DRAWING 1/4" = 1' ON SCALES ACCORDINGLY	PROJECT NUMBER 26044002
										SHEET CODE: C-01	SHEET NUMBER: 8 OF 39

DOCUMENT NUMBER: UVC_UL-C-5018-62601

Page 25 of 148

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DOCUMENT NUMBER: UVC_UL-C-5018-62602

STA 19+00 MATCHLINE - SEE SHEET C-01

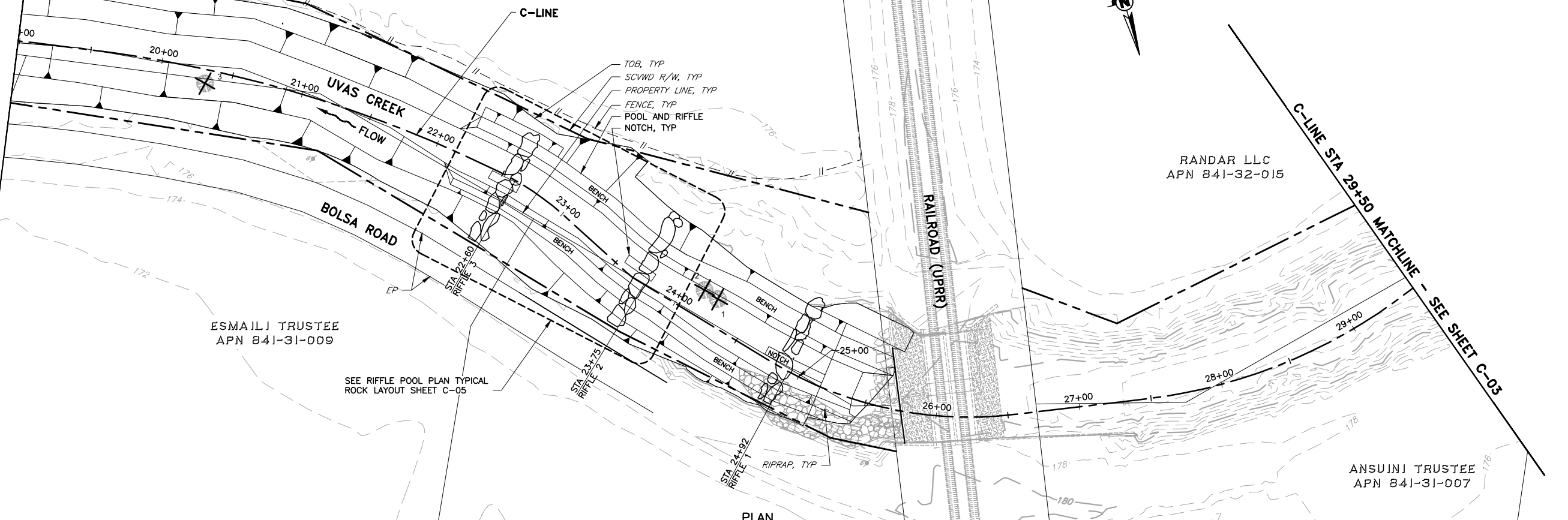
C-LINE STA 29+50 MATCHLINE - SEE SHEET C-03

CHRISTOPHER RANCH LLC
APN 841-33-009

RANDAR LLC
APN 841-32-015

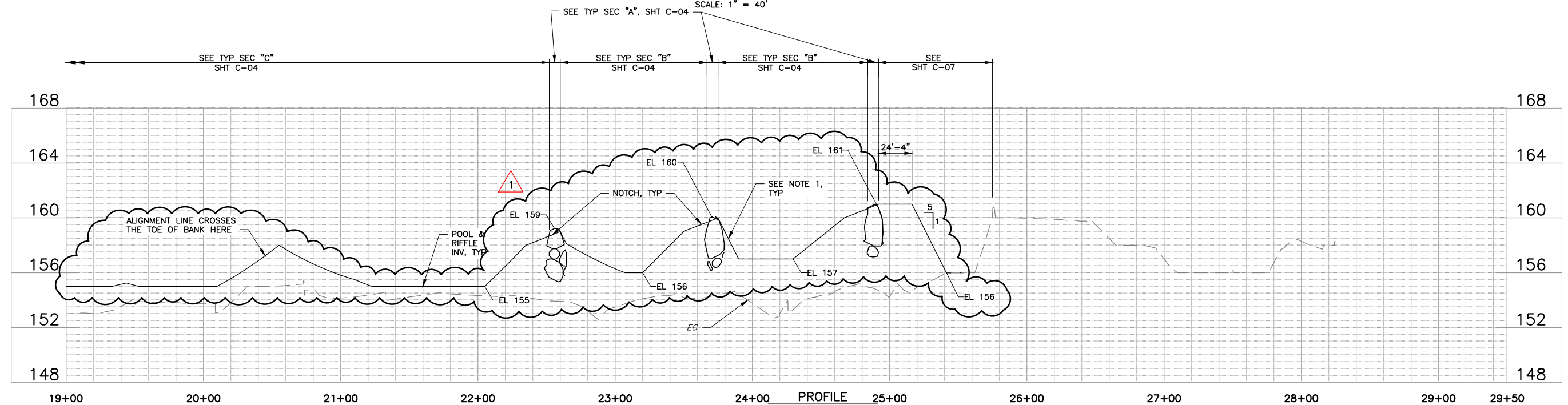
ESMAILI TRUSTEE
APN 841-31-009

ANSUJINI TRUSTEE
APN 841-31-007



PLAN

SCALE: 1" = 40'



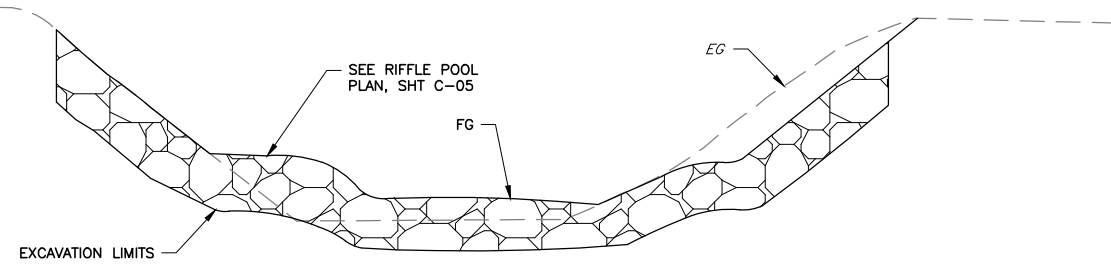
PROFILE

HORIZ: 1" = 40'
VERT: 1" = 4'

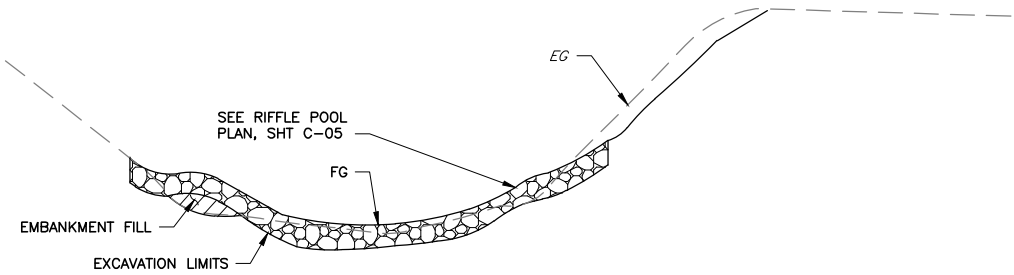
REV	DESCRIPTION	DATE	APPR	REFERENCE INFORMATION AND NOTES	DATE	ENGINEERING CERTIFICATION	SANTA CLARA VALLEY WATER DISTRICT	PROJECT NAME AND SHEET DESCRIPTION:	SCALE	PROJECT NUMBER
1	ADDENDUM #2 06-04-2019			1. FOR ROCK SIZES, ROCK ARRANGEMENT, AND INVERT SLOPES, SEE TYPICAL PLANS AND SECTIONS ON SHEETS C-05 AND C-06.	MAR 2018			BOLSA ROAD FISH PASSAGE IMPROVEMENTS PLAN AND PROFILE C-LINE, STA 19+00 TO STA 29+50	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PRINTED ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: C-02 NUMBER: 9 OF 39

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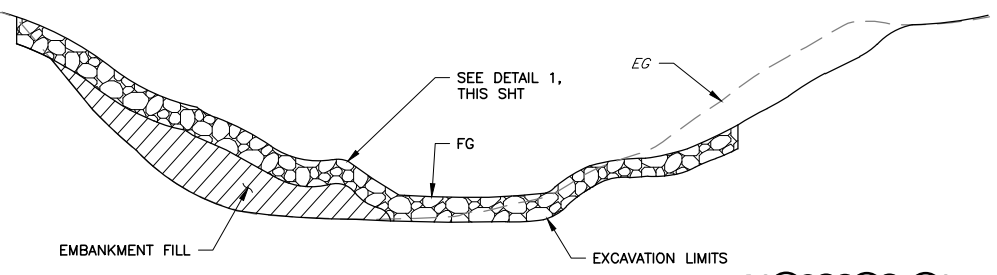
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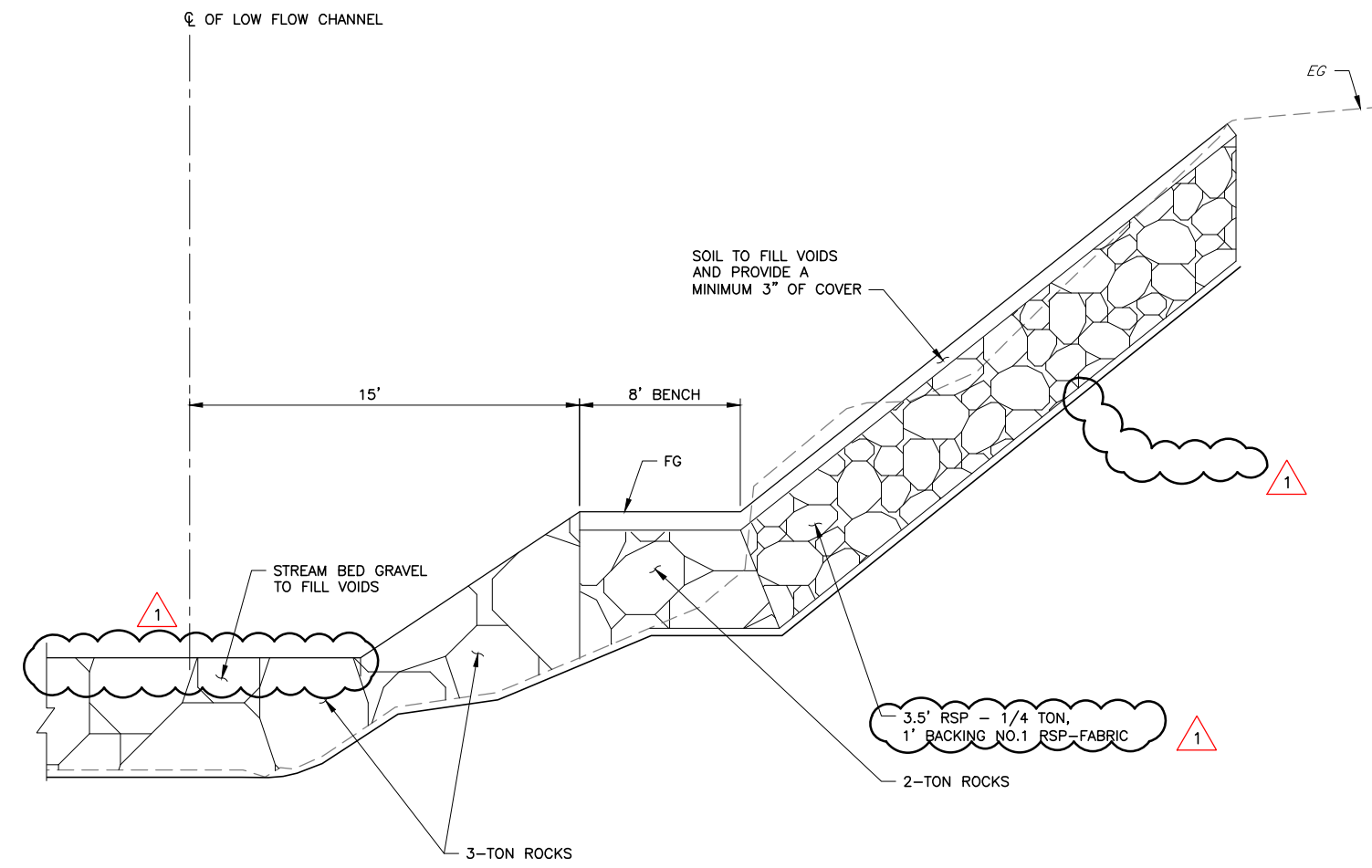
TYPICAL SECTION A TOP OF RIFFLES	
C-01	STA 7+96 TO 8+00
C-02	STA 8+96 TO 9+00
	STA 10+96 TO 11+00
	STA 11+96 TO 12+00
	STA 14+56 TO 14+60
	STA 15+56 TO 15+60
	STA 16+56 TO 16+60
	STA 17+56 TO 17+60
	STA 22+56 TO 22+60
	STA 23+71 TO 23+75
	STA 24+86 TO 25+75
SCALE: NTS	



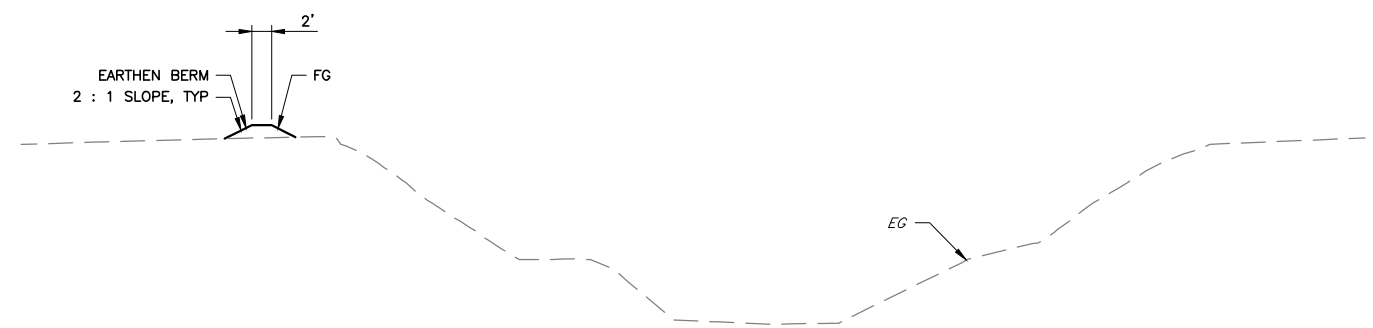
TYPICAL SECTION B BETWEEN TOP OF RIFFLES	
C-01	STA 8+00 TO 8+96
C-02	STA 11+00 TO 11+96
	STA 12+00 TO 14+56
	STA 14+60 TO 15+56
	STA 15+60 TO 16+56
	STA 16+60 TO 17+56
	STA 22+60 TO 23+71
	STA 23+75 TO 24+88



TYPICAL SECTION C BANK PROTECTION SITES (SEE NOTE 2)	
C-02	STA 9+00 TO 10+96
	STA 11+80 TO 12+30
	STA 14+60 TO 16+30
SCALE: NTS	



DETAIL 1 BANK PROTECTION
C-04 SCALE: NTS

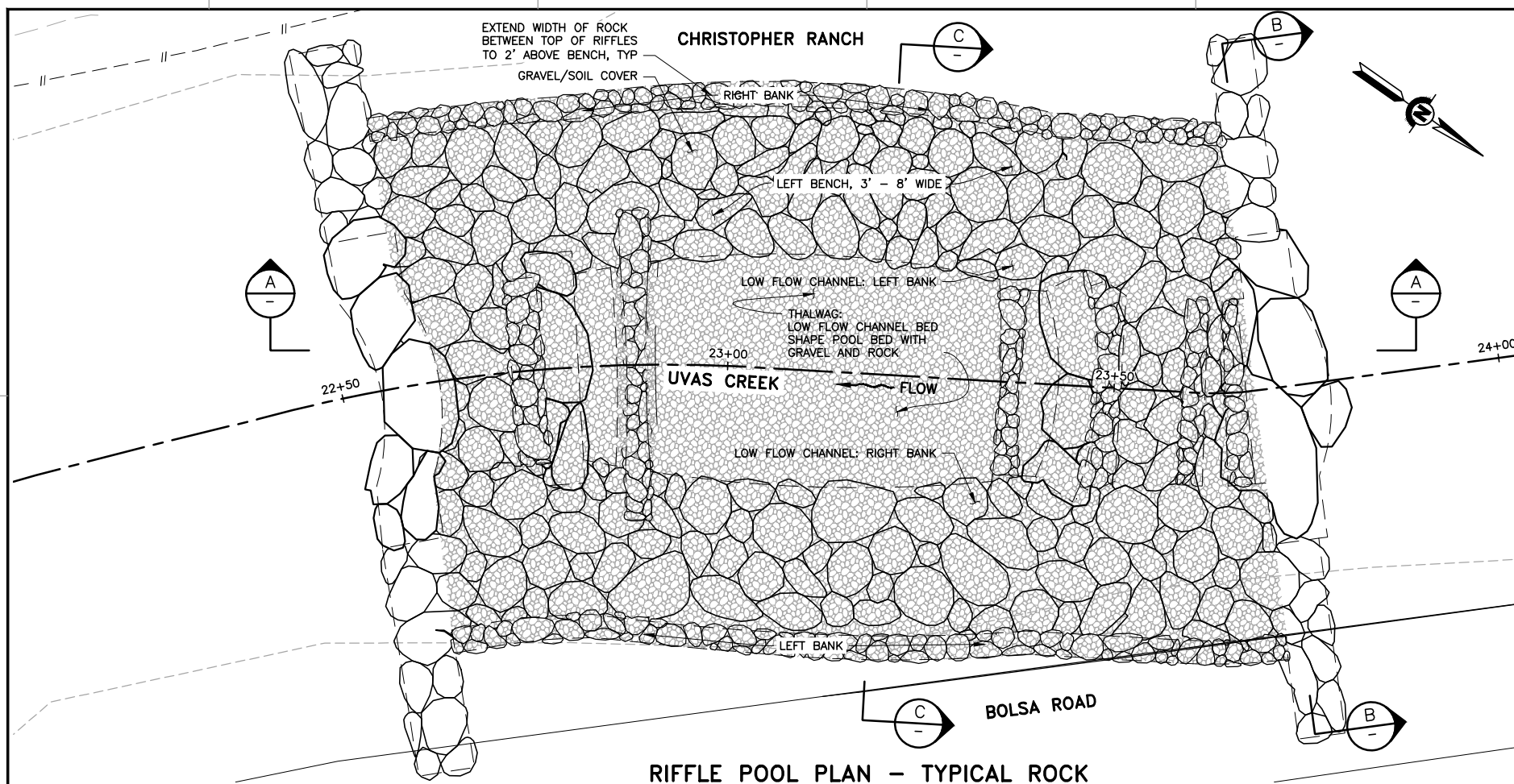


TYPICAL SECTION E EARTHEN BERM
C-03 STA 31+30 TO 32+60
SCALE: NTS

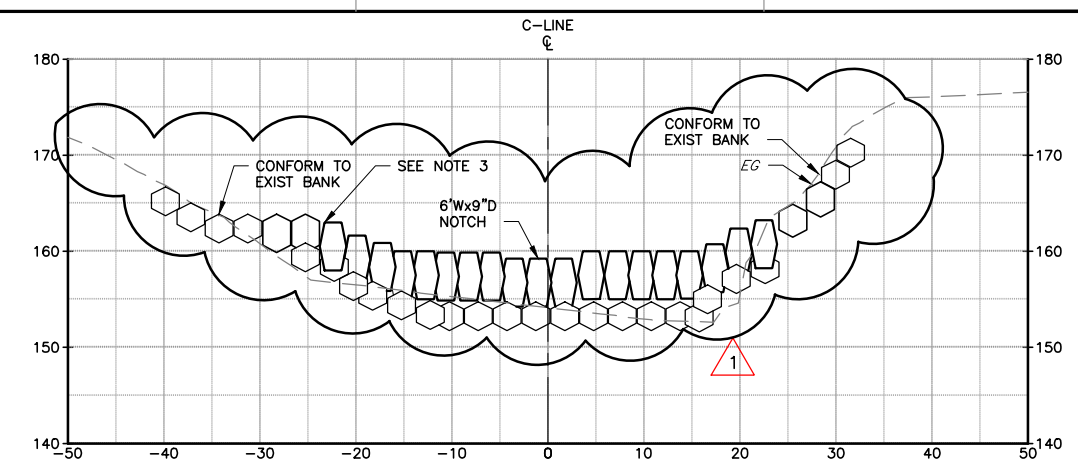
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM. 2. REMOVE EXISTING RIP-RAP.	MAR 2018	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE		BOLSA ROAD FISH PASSAGE IMPROVEMENTS	0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF FRACTION ONE INCH ON SCALES ACCORDINGLY	26044002
					S. HUANG DESIGN			TYPICAL SECTIONS		SHEET CODE: C-04 NUMBER: 11 OF 39
					S. KAROGLU DRAWN					
					CHECKED					
					S. HOSSEINI PROJECT ENGINEER					

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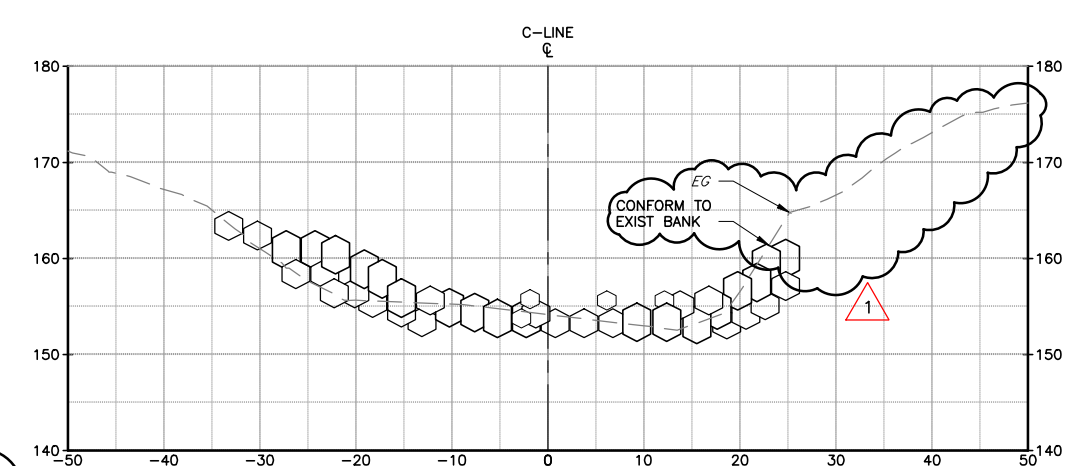
DOCUMENT NUMBER: UVC_UL-C-5018-62605



RIFFLE POOL PLAN – TYPICAL ROCK LAYOUT BETWEEN TOP OF RIFFLES
SCALE: 1" = 10'

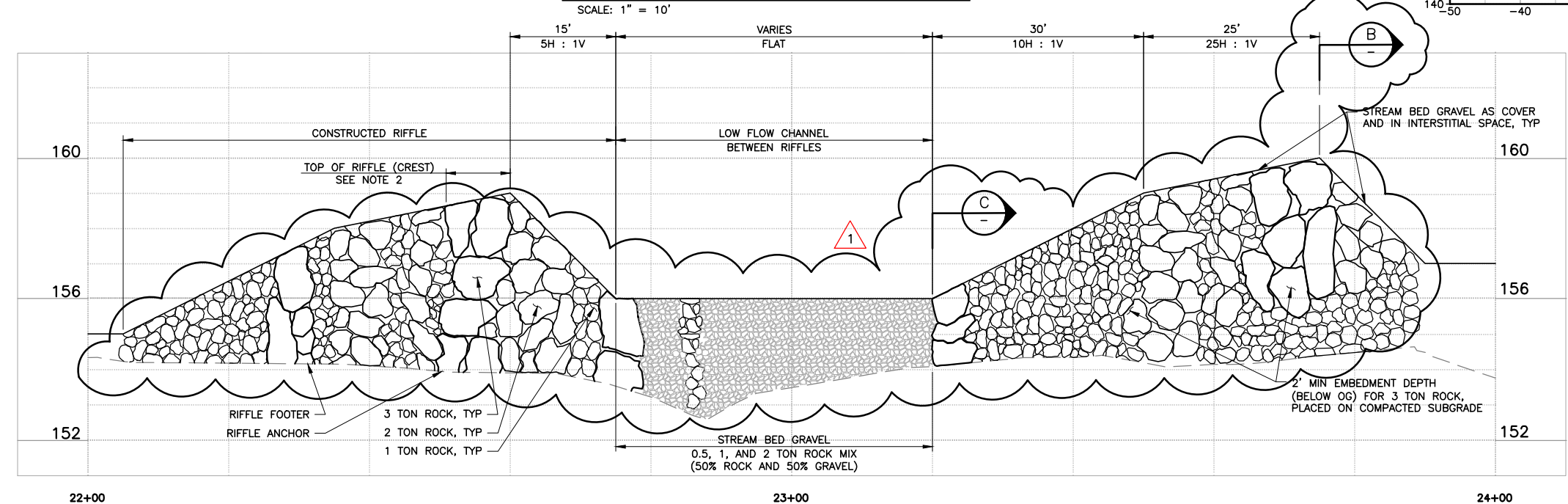


SECTION B – TYPICAL ROCK LAYOUT ACROSS TOPS OF RIFFLE
SCALE: 1" = 10'



SECTION C – TYPICAL ROCK LAYOUT BETWEEN TOPS OF RIFFLE
SCALE: 1" = 10'

- LEGEND:**
- 3-TON ROCK (3.5' TO 5.0')
 - 2-TON ROCK (3.0' TO 4.0')
 - 1-TON ROCK (2.5' TO 3.0')
 - 0.5-TON ROCK (2.0' TO 2.5')

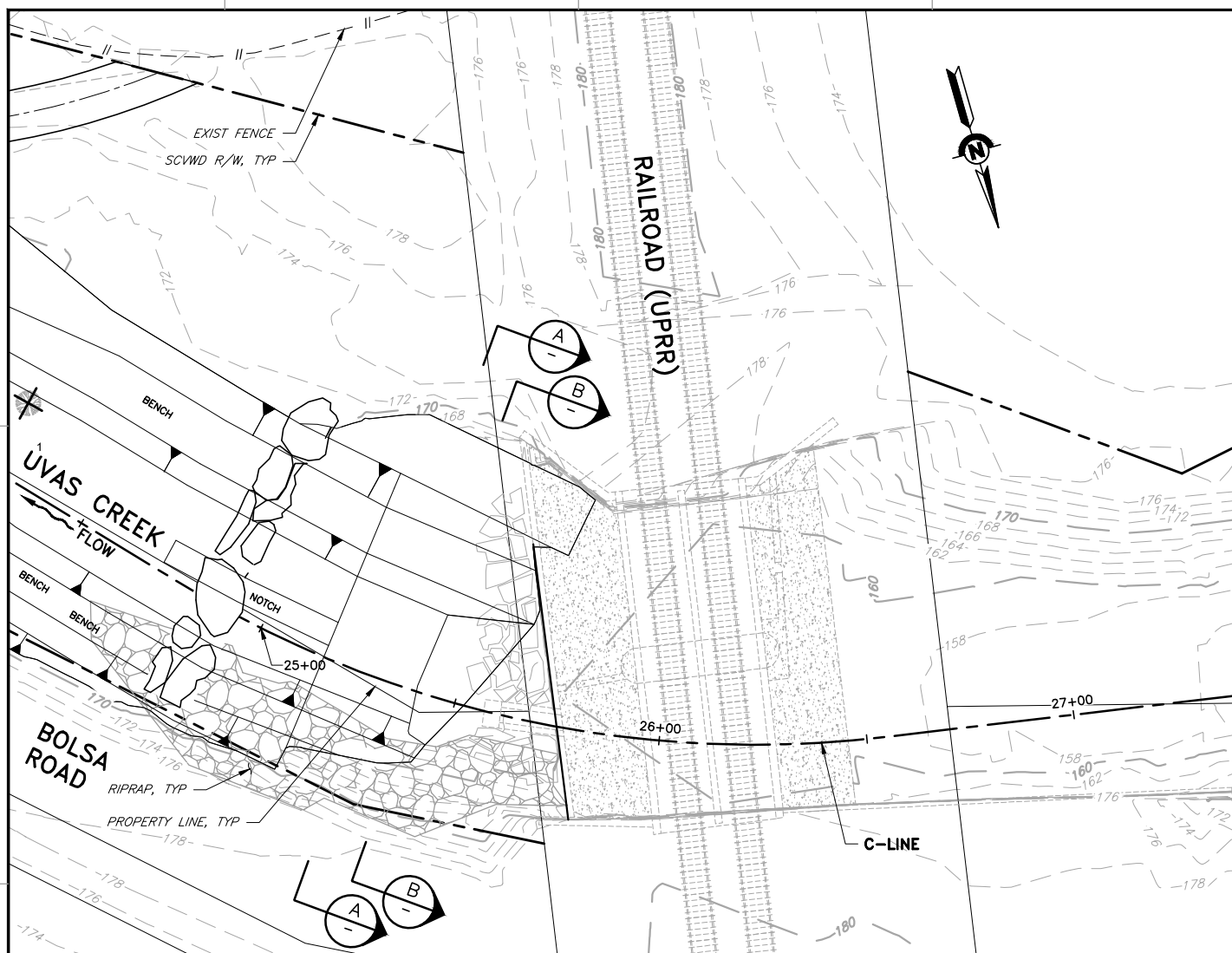


SECTION A – TYP ROCK LAYOUT FROM TOP OF RIFFLE TO RIFFLE
SCALE: HORIZ 1" = 10' VERT 1" = 2'

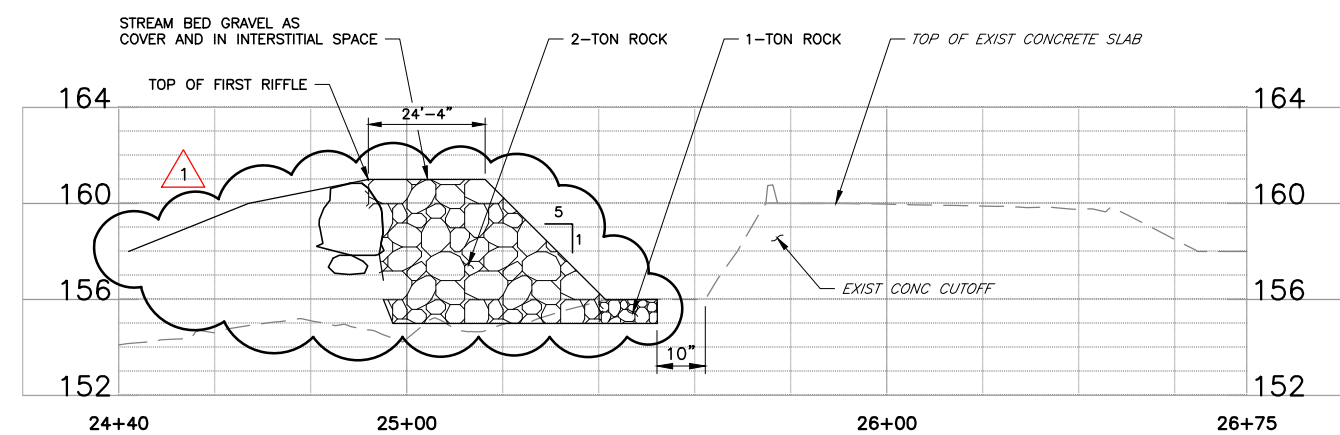
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1	ADDENDUM #2 06-04-2019			1. EXCAVATED STREAM BED GRAVEL TO BE RE USE TO FILL INTERSTITIAL SPACE IN CONSTRUCTED RIFFLE. 2. RIFFLE TO RIFFLE DROP (1± FOOT) SHALL BE MEASURED BASED ON THE LOWEST BOULDER IN EACH TOP OF RIFFLE. RIFFLE TO POOL DEPTH SHALL BE MEASURED BASED ON THE AVERAGE ELEVATION OF THE MIDDLE 20 FEET OF THE TOP OF RIFFLE. 3. BANKFULL CHANNEL ELEVATION (+/- 3 INCHES) SHALL BE AS PER DRAWINGS (XS SHEETS) AT LEADING EDGE OF TOP OF RIFFLE.	MAR 2018			BOLSA ROAD FISH PASSAGE IMPROVEMENTS TYPICAL PLAN & SECTIONS ALONG THALWEG STA 8+00 TO STA 24+92	0 1" = 12' OF 39	26044002
										C-05 Attachment 1

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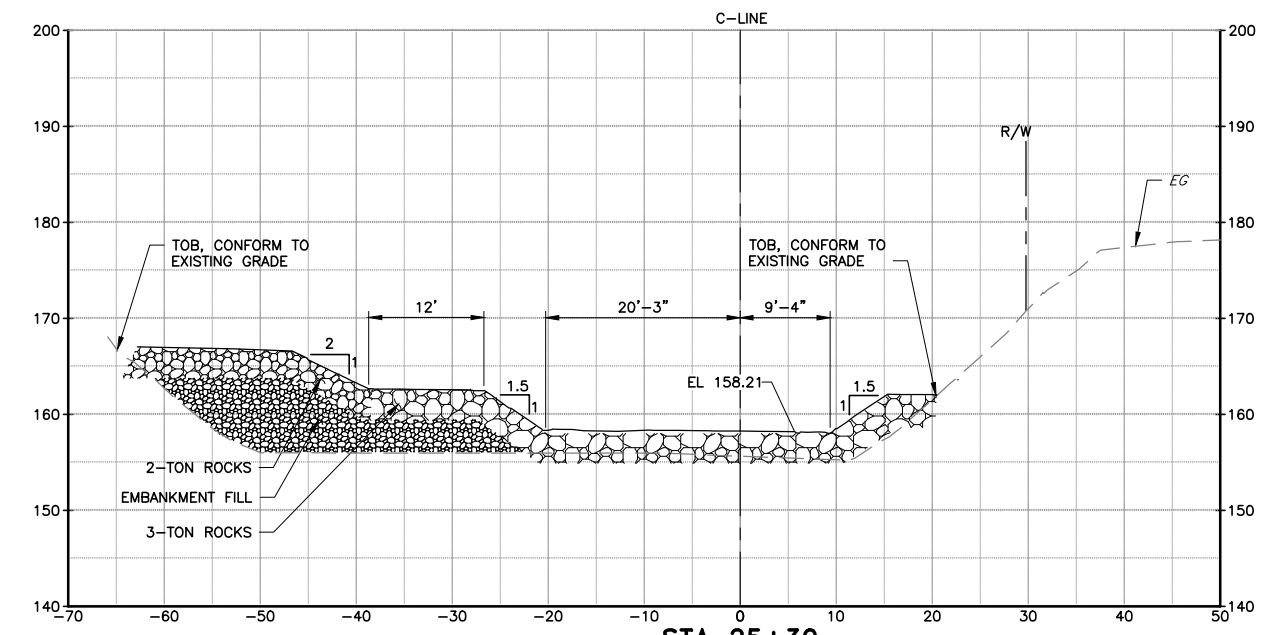
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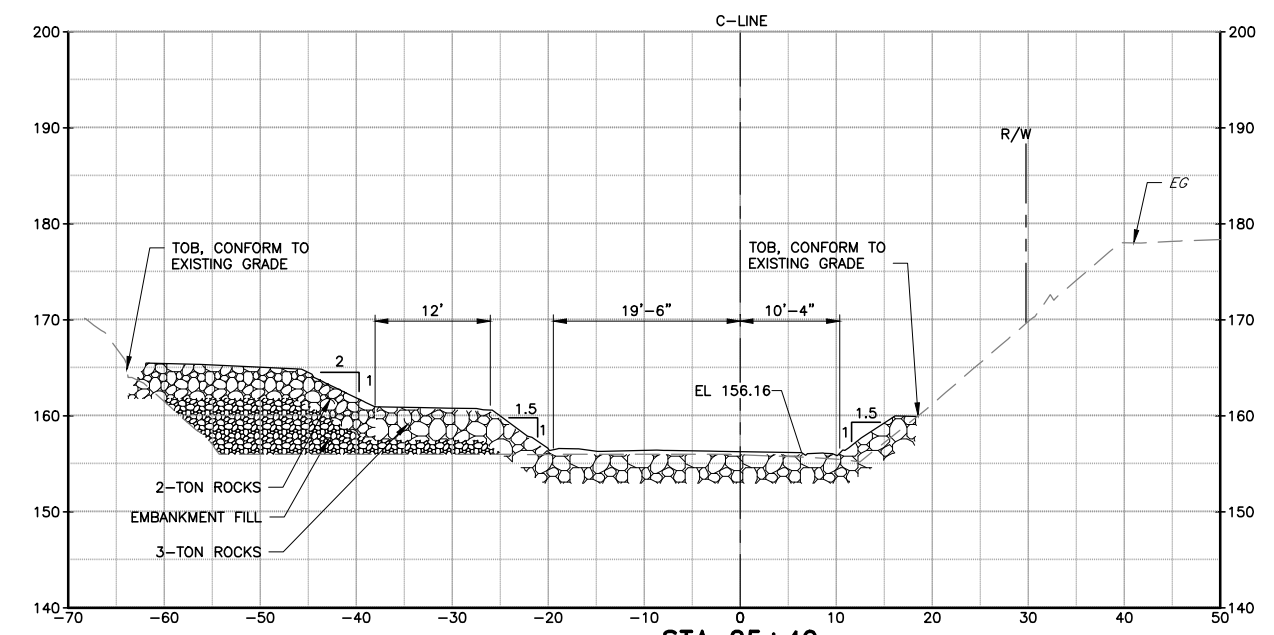
PLAN
SCALE: 1" = 20'



PROFILE
HORIZ: 1" = 20'
VERT: 1" = 4'



SECTION A
UVAS CREEK CREEK BED
SCALE: 1" = 10'



SECTION B
UVAS CREEK CREEK BED
SCALE: 1" = 10'

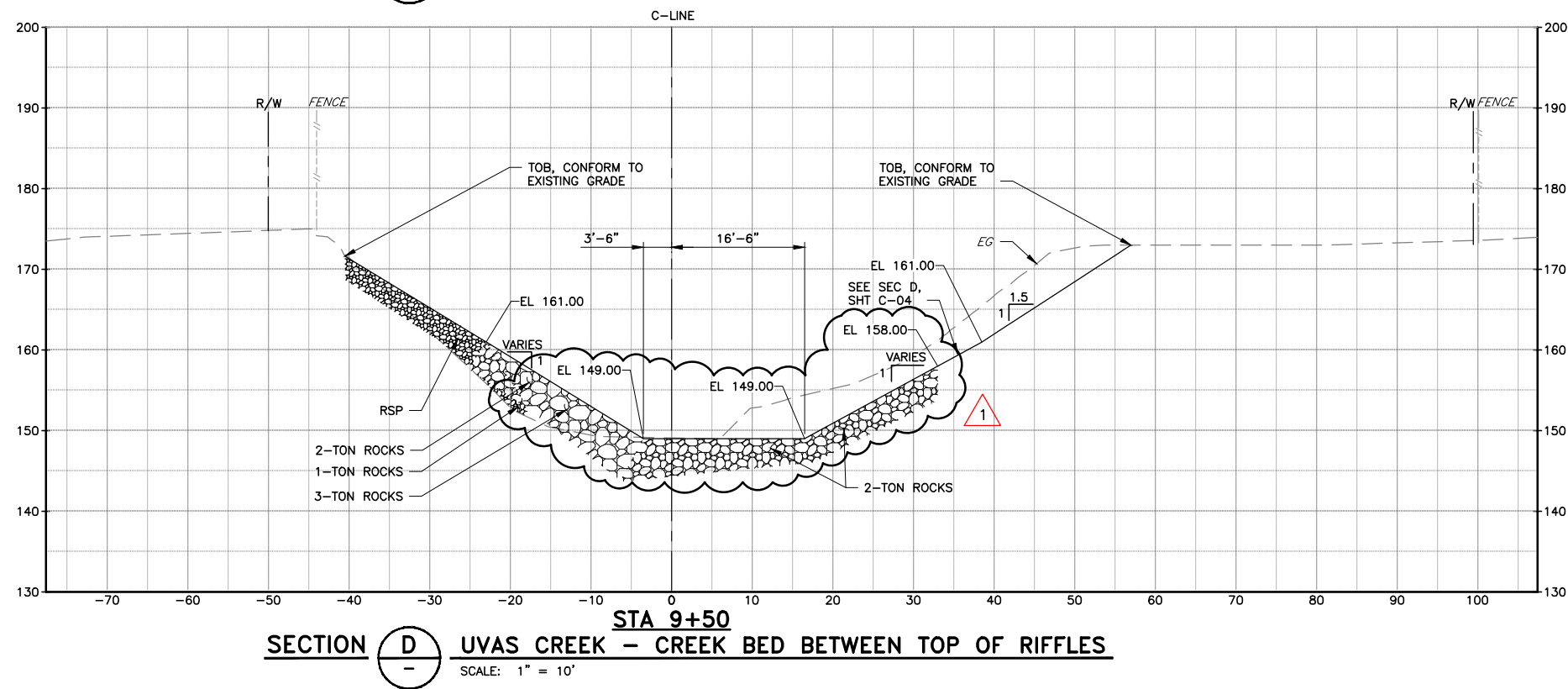
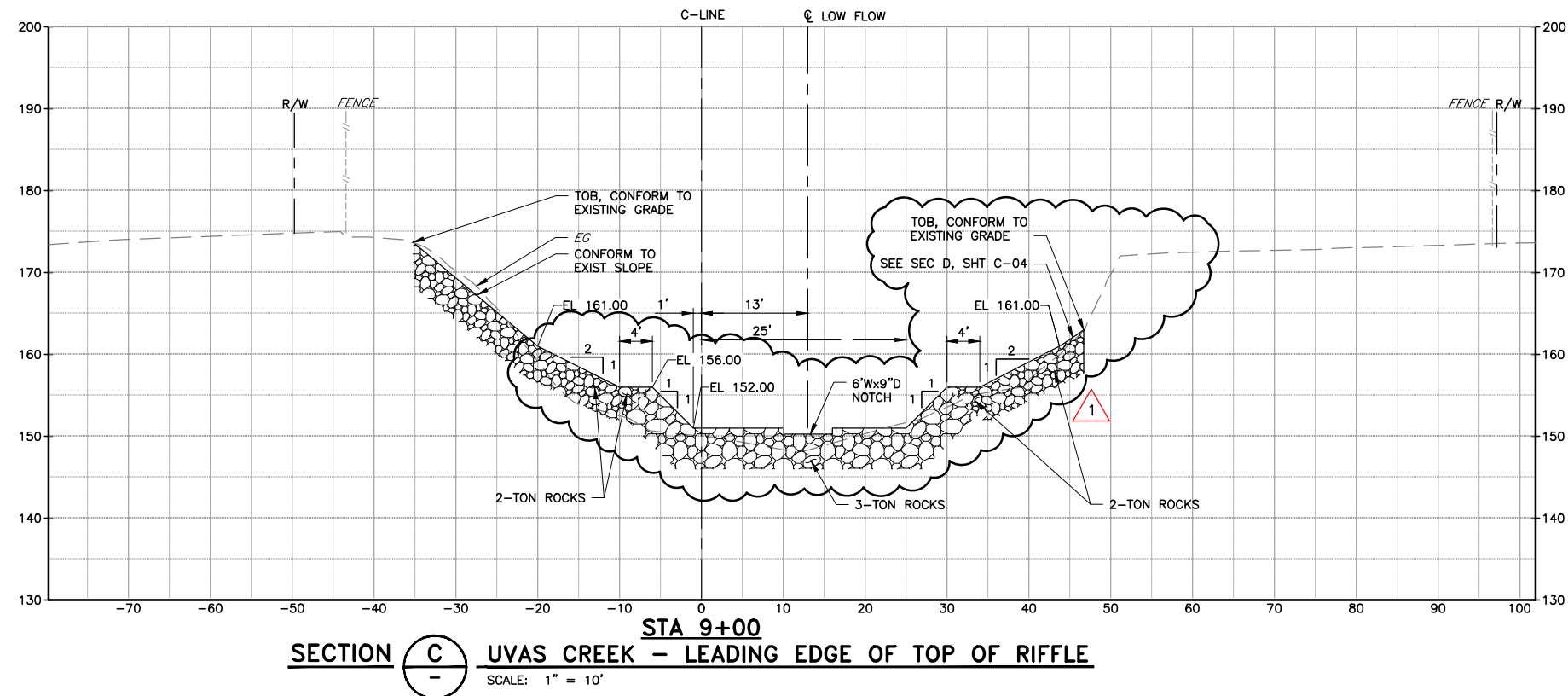
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1	ADDENDUM #2 06-04-2019				MAR 2018	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE		BOLSA ROAD FISH PASSAGE IMPROVEMENTS	0 1" = 10'	26044002
					DESIGN S. HUANG			END OF PROJECT/BRIDGE ABUTMENT PLAN, PROFILE, AND SECTION	VERIFIED SCALES 0 1" = 10'	SHEET CODE: C-07
					DRAWN J. FORD				BAR IS ONE INCH ON ORIGINAL DRAWING	NUMBER: 14 OF 39
					CHECKED S. HOSSEINI	5/14/2019			SCALES ACCORDINGLY	

USERNAME: Patkey 6/5/2019 9:39 AM
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DOCUMENT NUMBER: UVC_UL-XS-5018-62609

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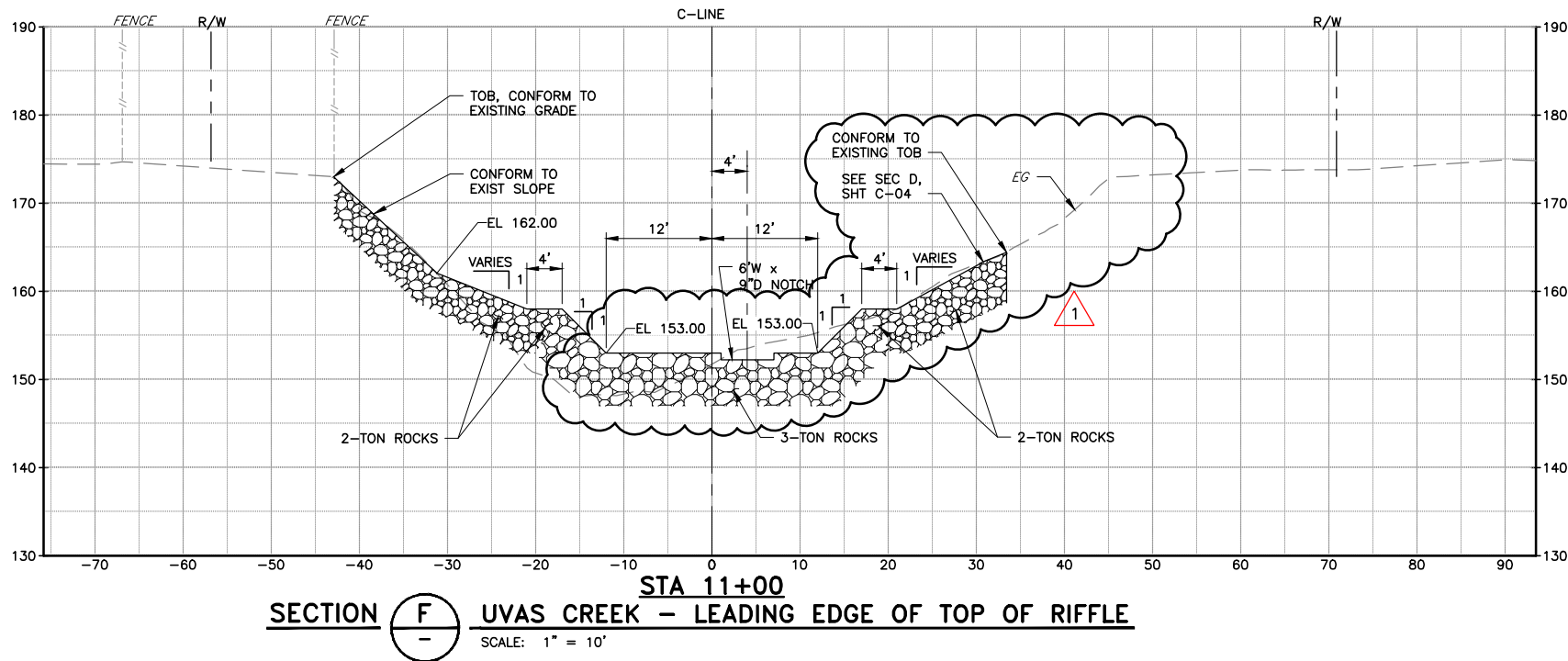
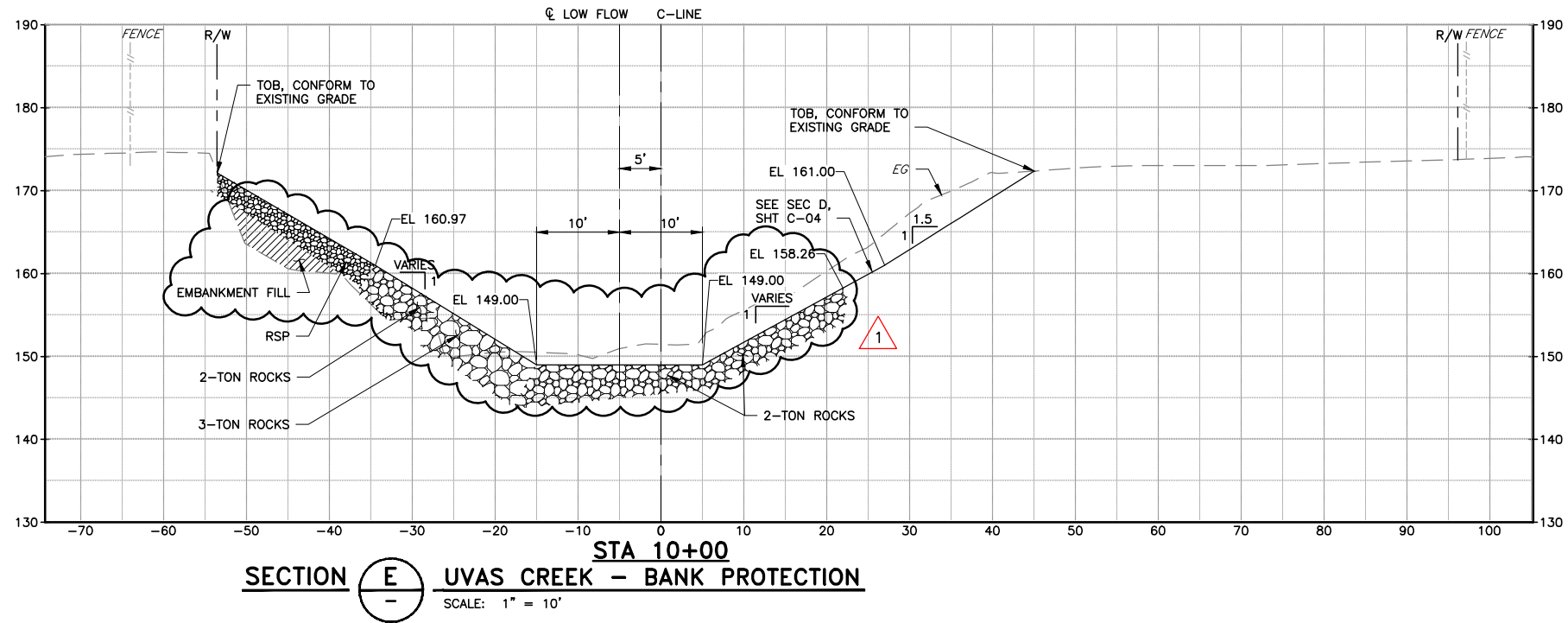


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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF FRAMED ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-02 NUMBER: 16 OF 39

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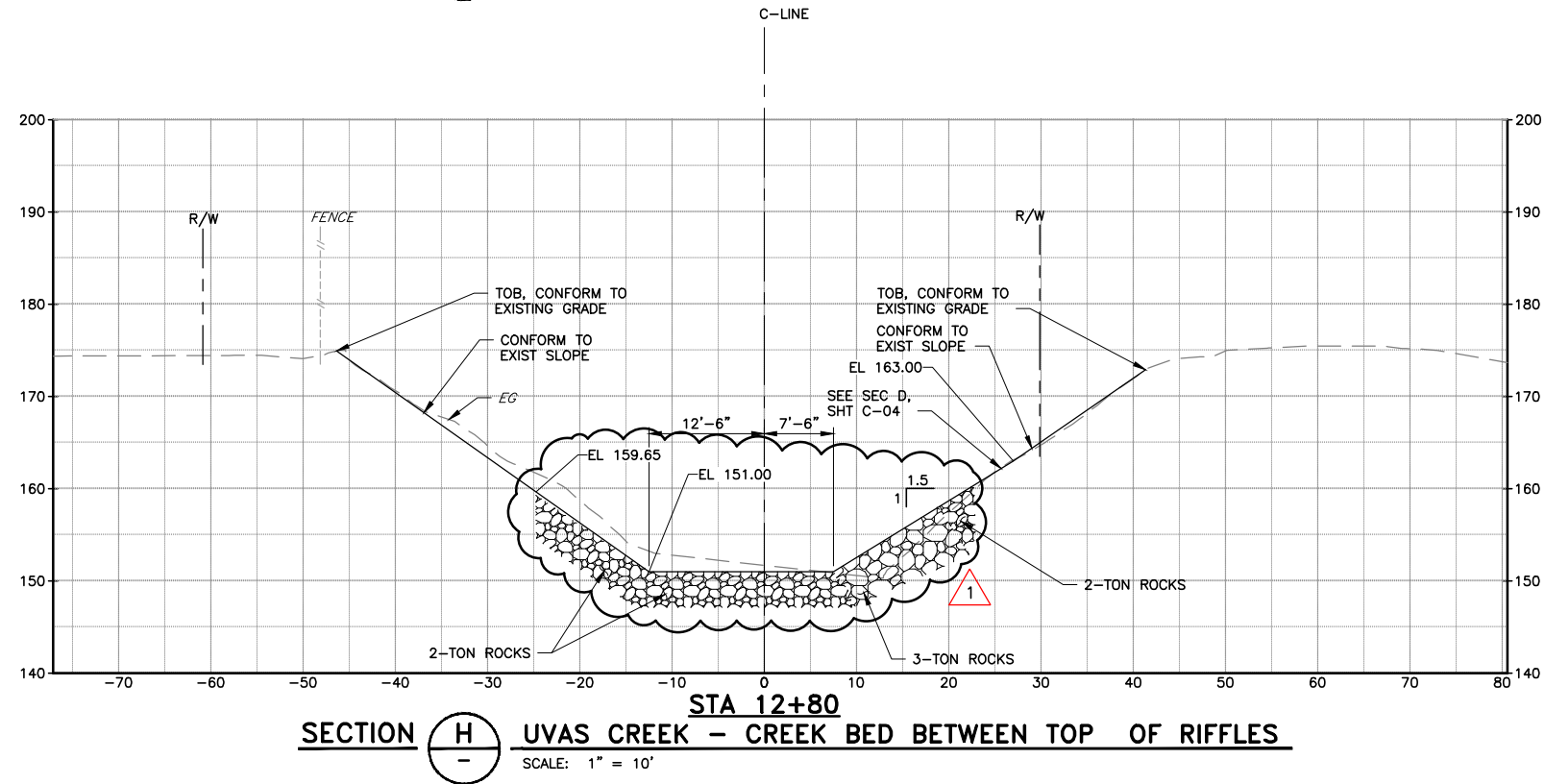
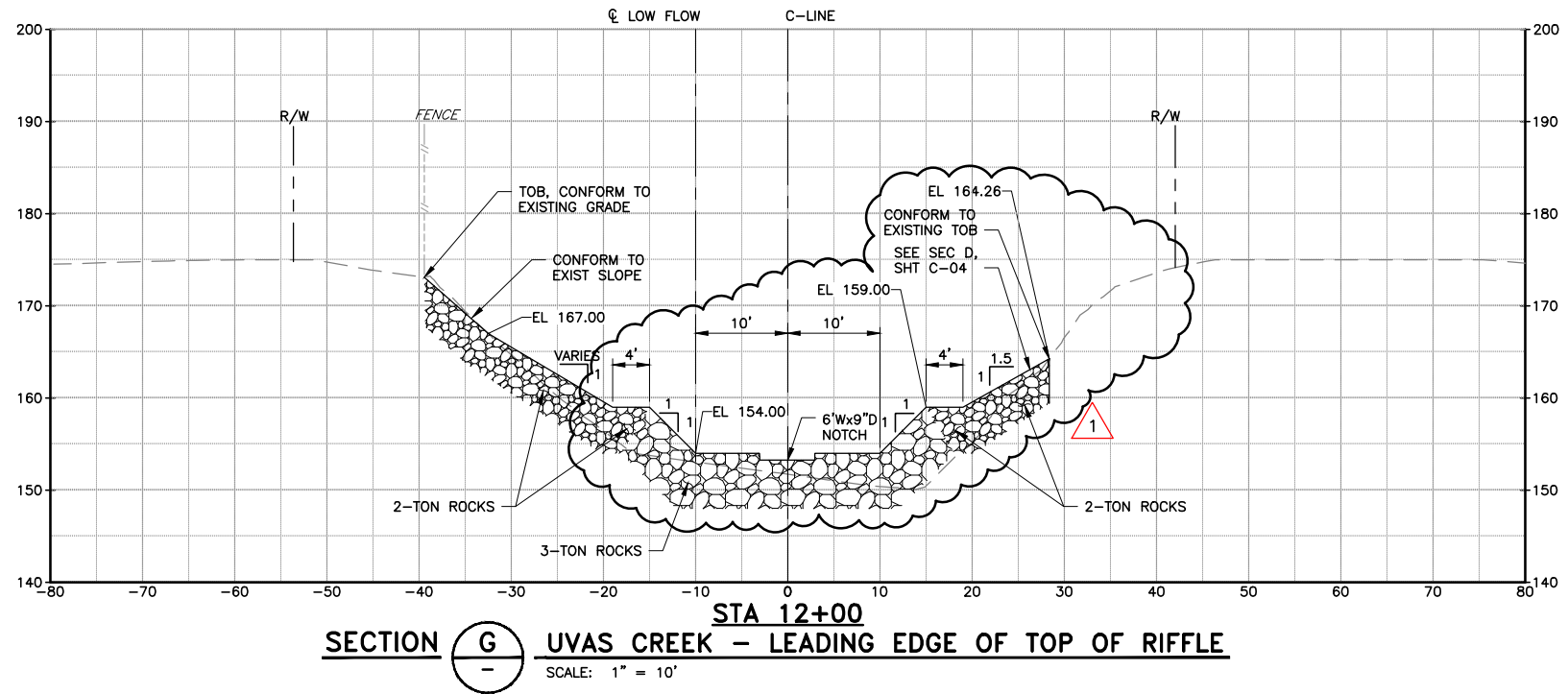




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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018			BOLSA ROAD FISH PASSAGE IMPROVEMENTS	AS SHOWN	26044002
					DESIGN S. HUANG	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE			VERIFY SCALES	SHEET CODE: XS-03
					DRAWN J. CORDOVA				0 1" SCALE BAR	NUMBER: 17 OF 39
					CHECKED S. HOSSEINI	5/14/2019 PROJECT ENGINEER		C-LINE CROSS SECTIONS	BAR IS ONE INCH ON ORIGINAL DRAWING / FRACTION ONE INCH ON SCALES ACCORDINGLY	

4
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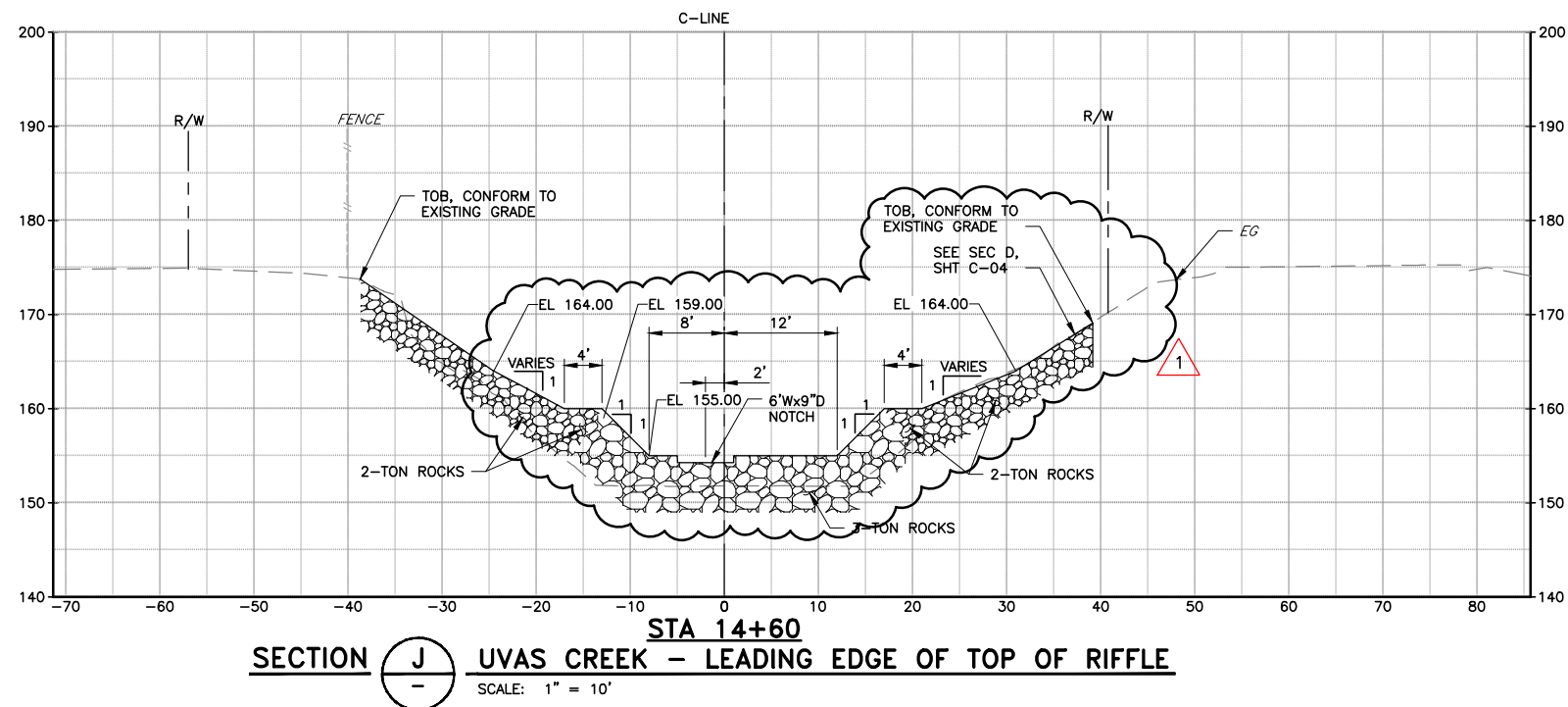
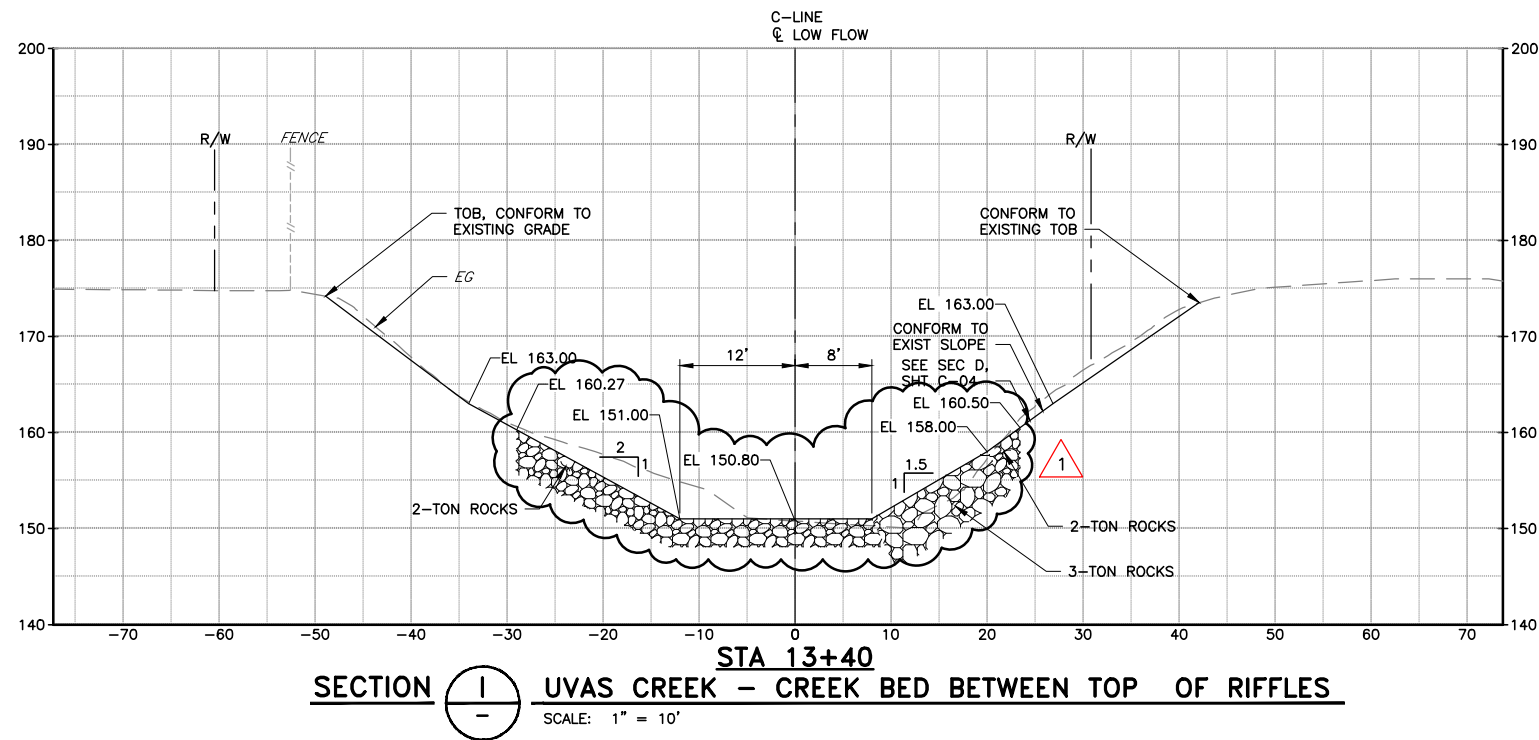


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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018			BOLSA ROAD FISH PASSAGE IMPROVEMENTS	AS SHOWN	26044002
								C-LINE CROSS SECTIONS	VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF FRACTIONAL INCH ON SCALES ACCORDINGLY	SHEET CODE: XS-04 NUMBER: 18 OF 39

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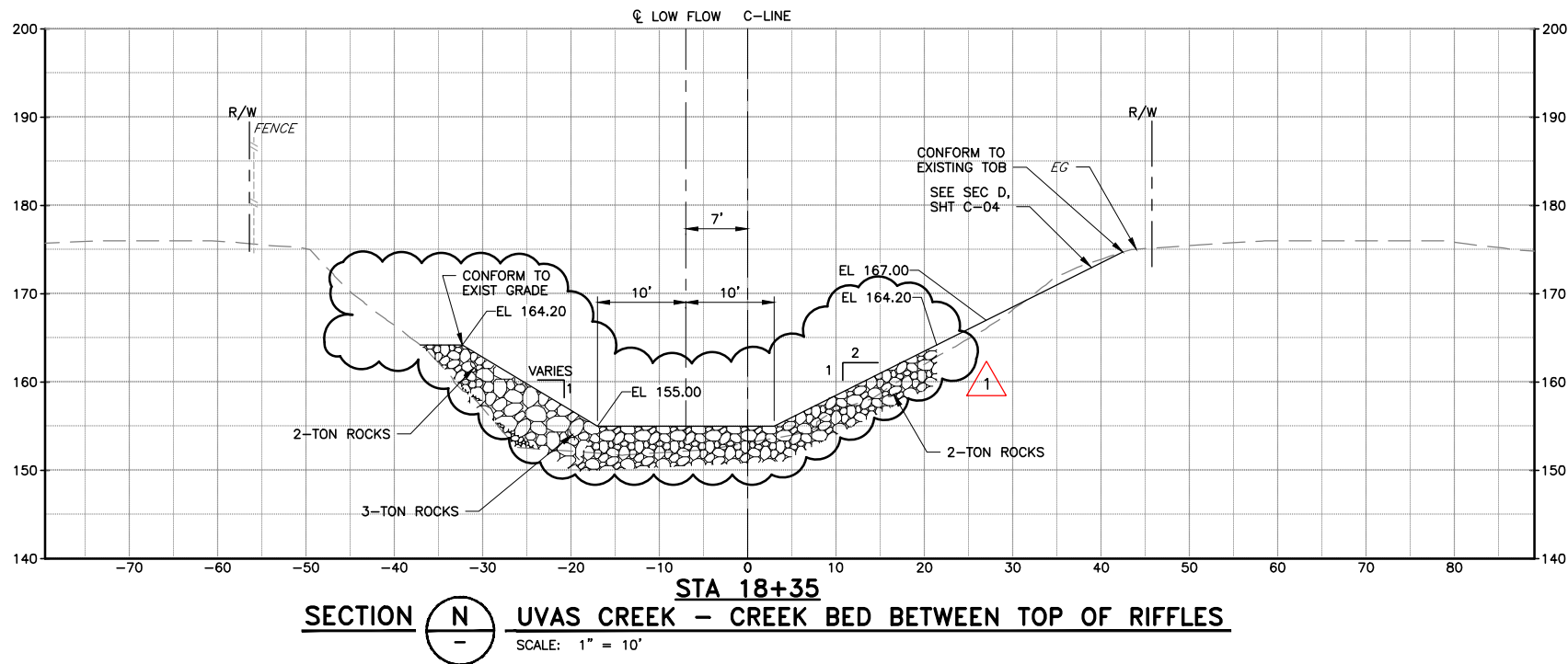
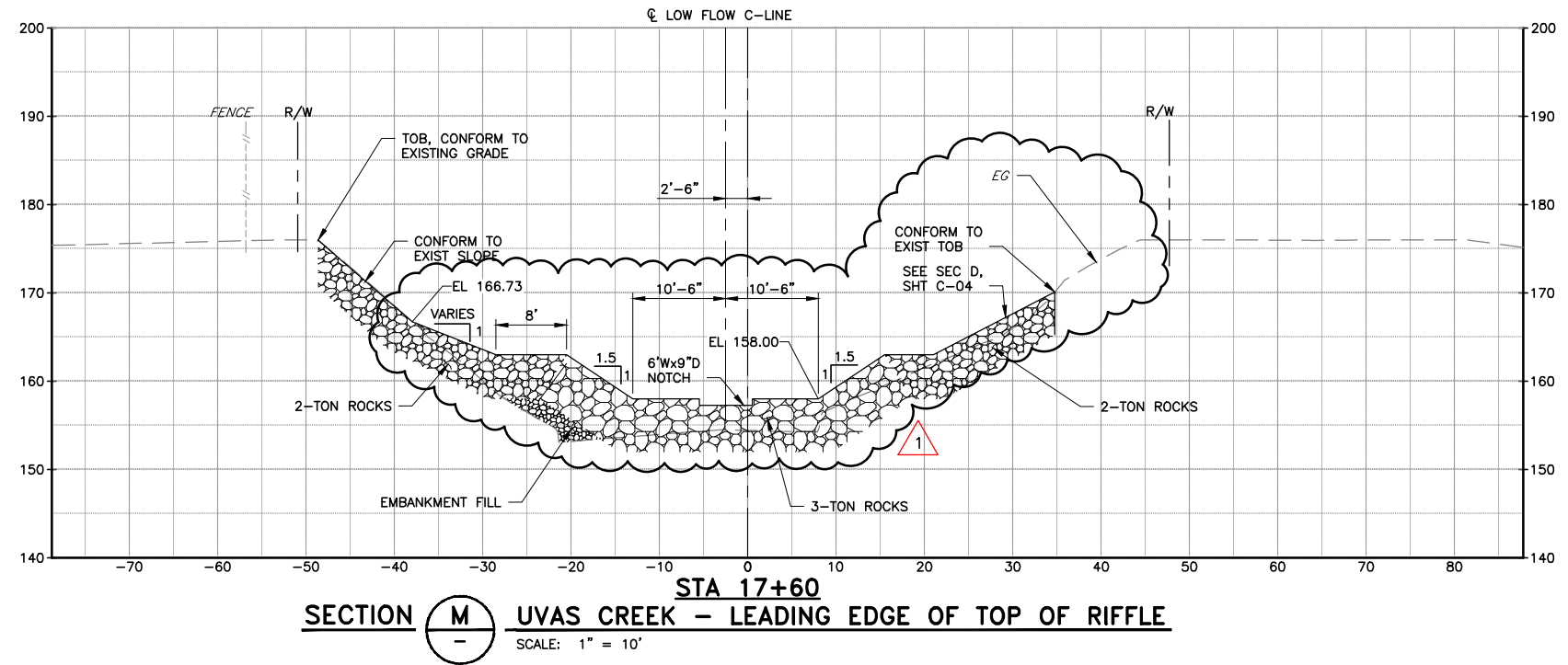
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER DATE	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PAPER ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-05 NUMBER: 19 OF 39

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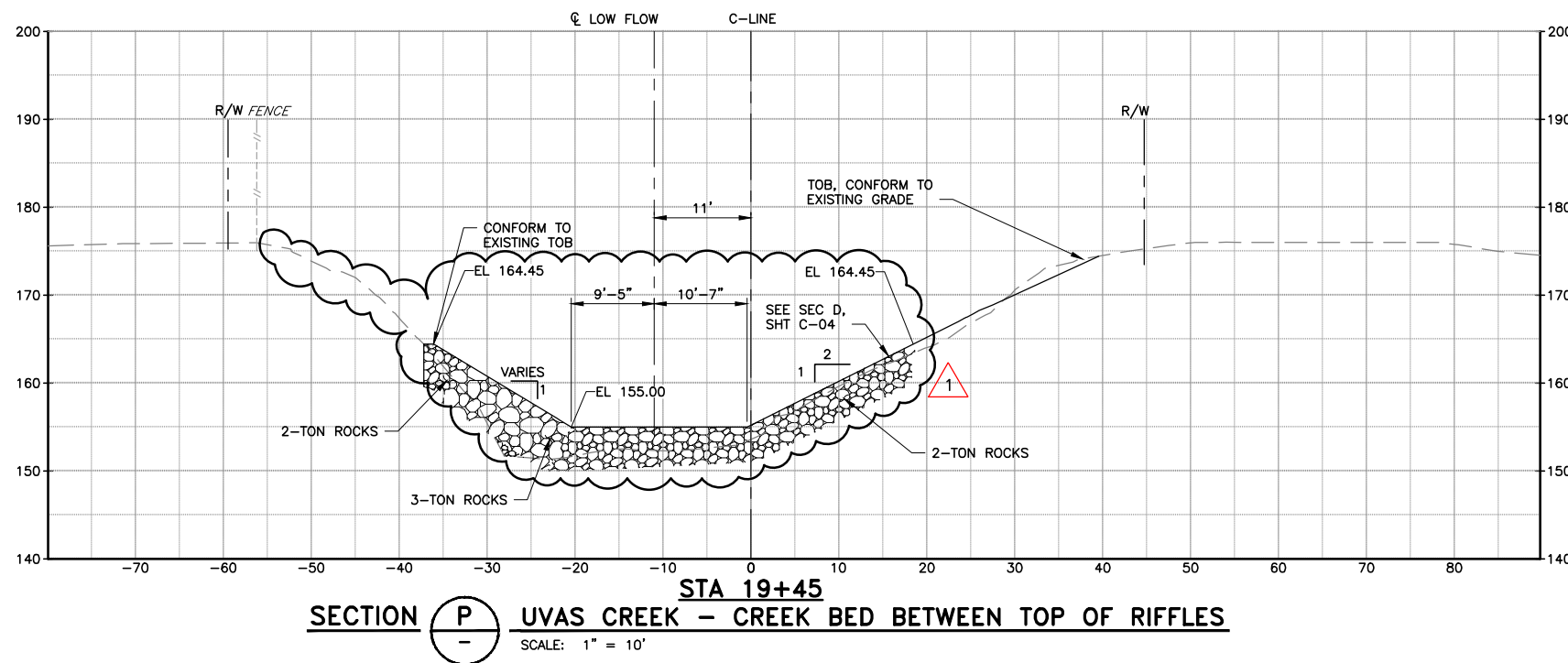
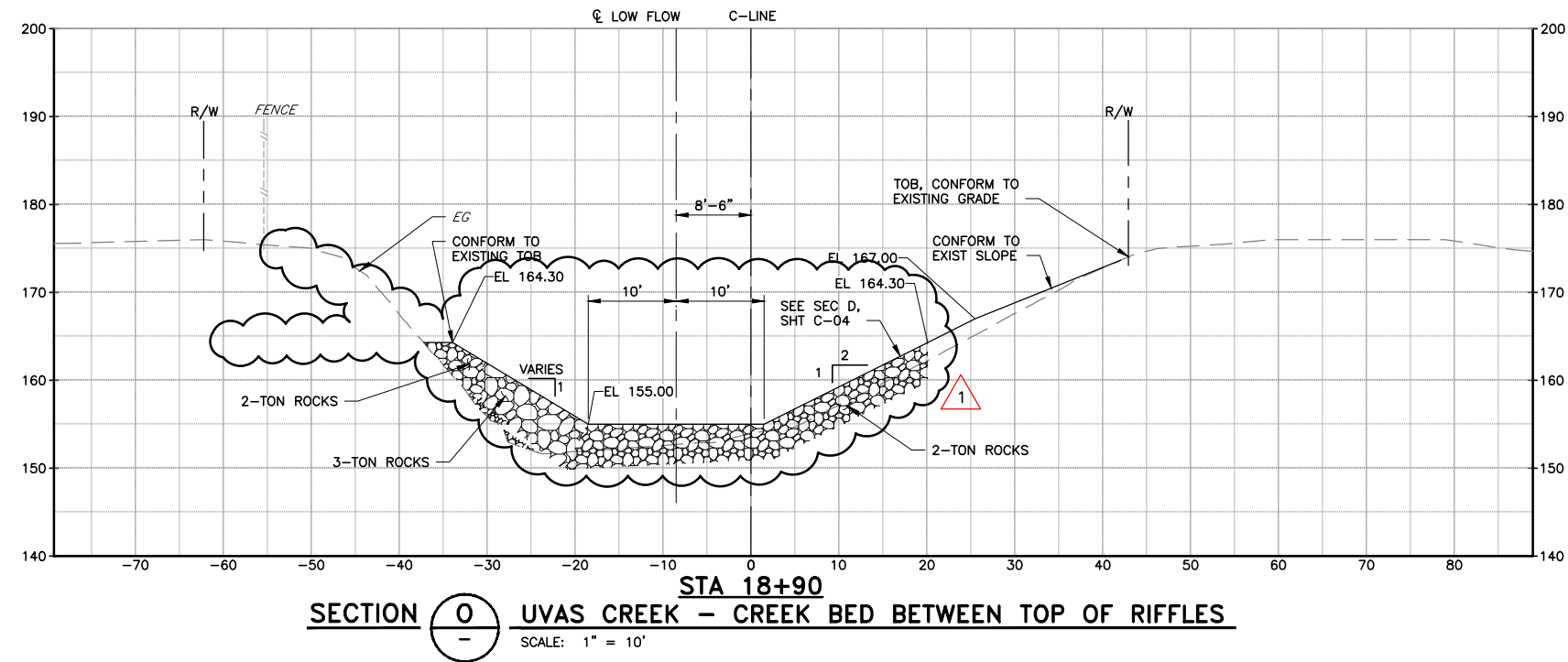


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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING 1/8" = 1' ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-07 NUMBER: 21 OF 39

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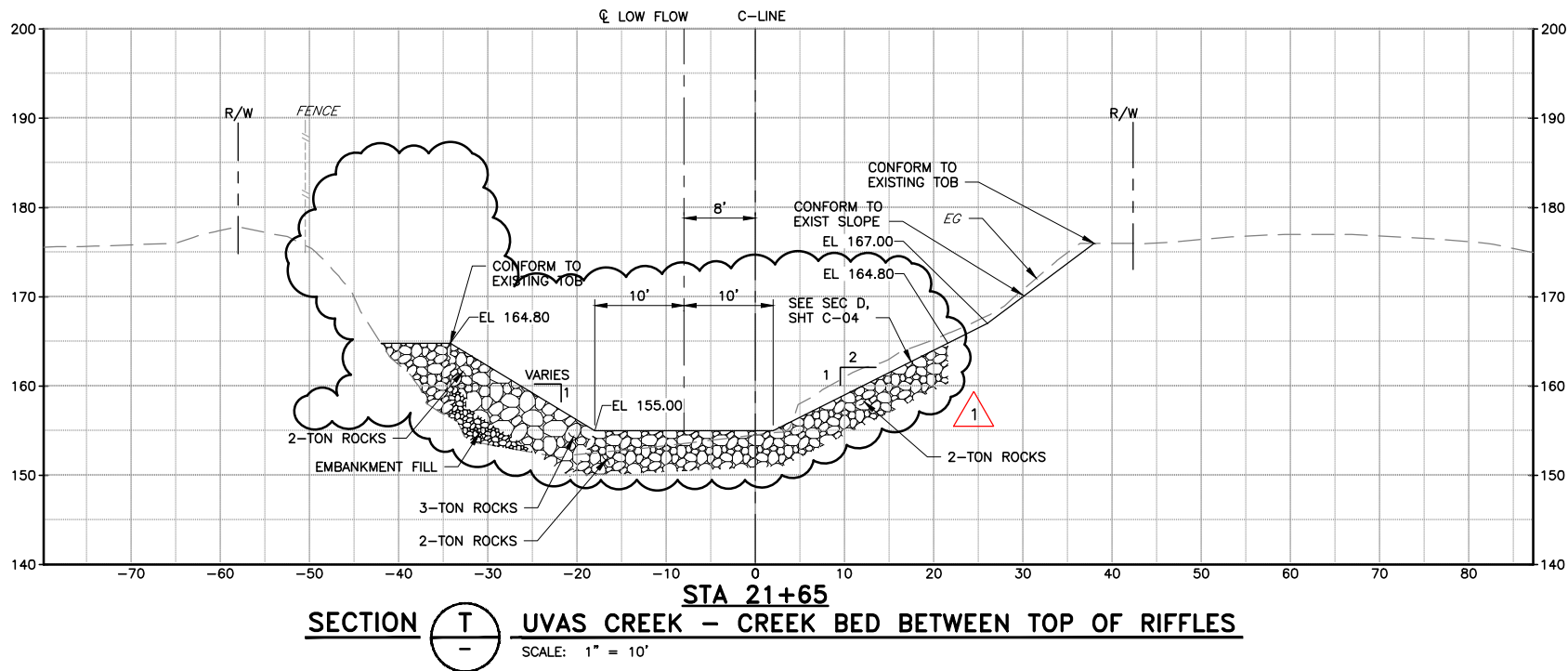
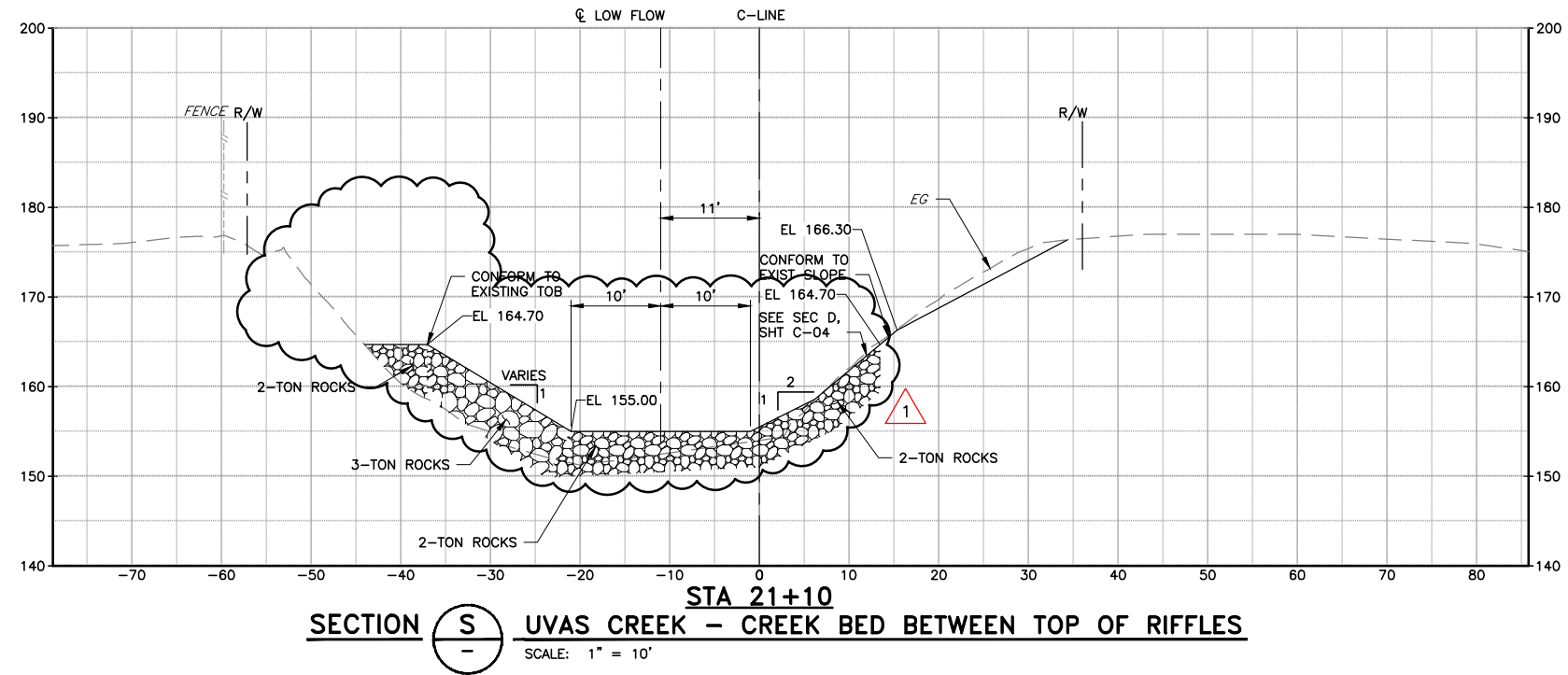
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Page 36 of 148

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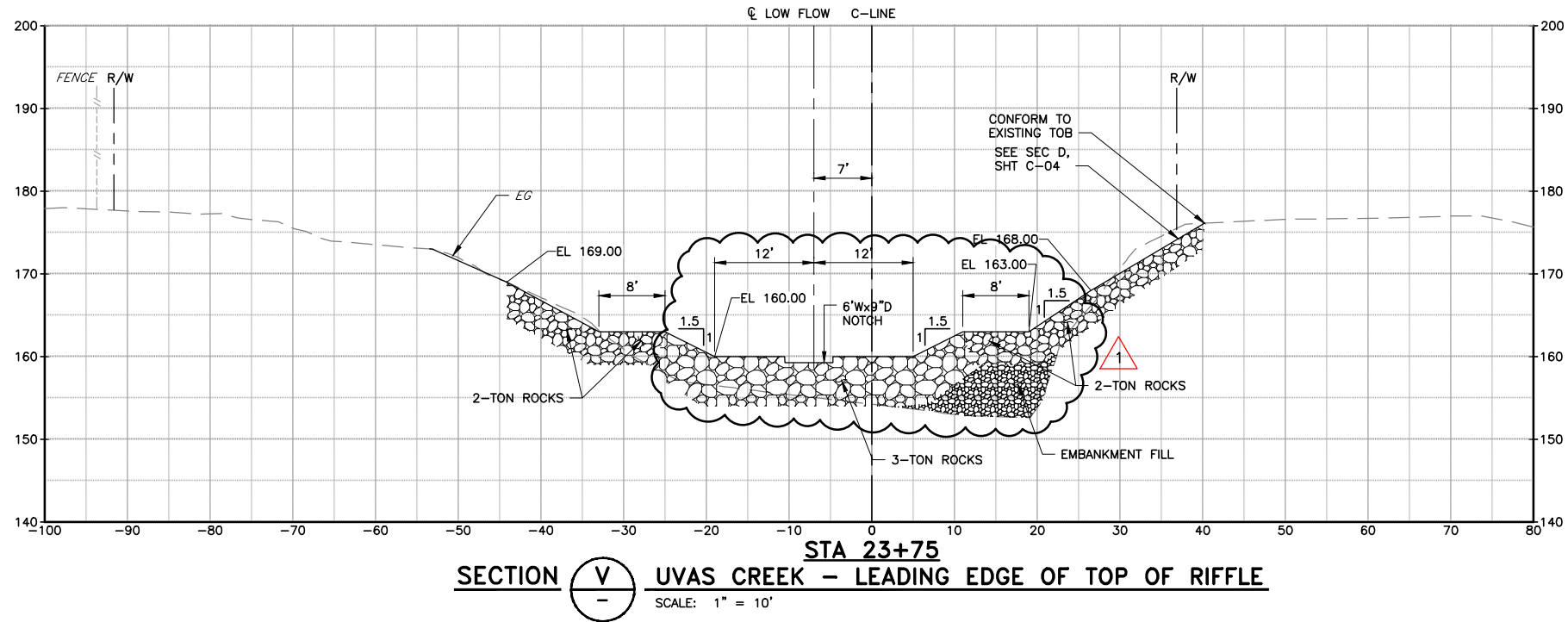
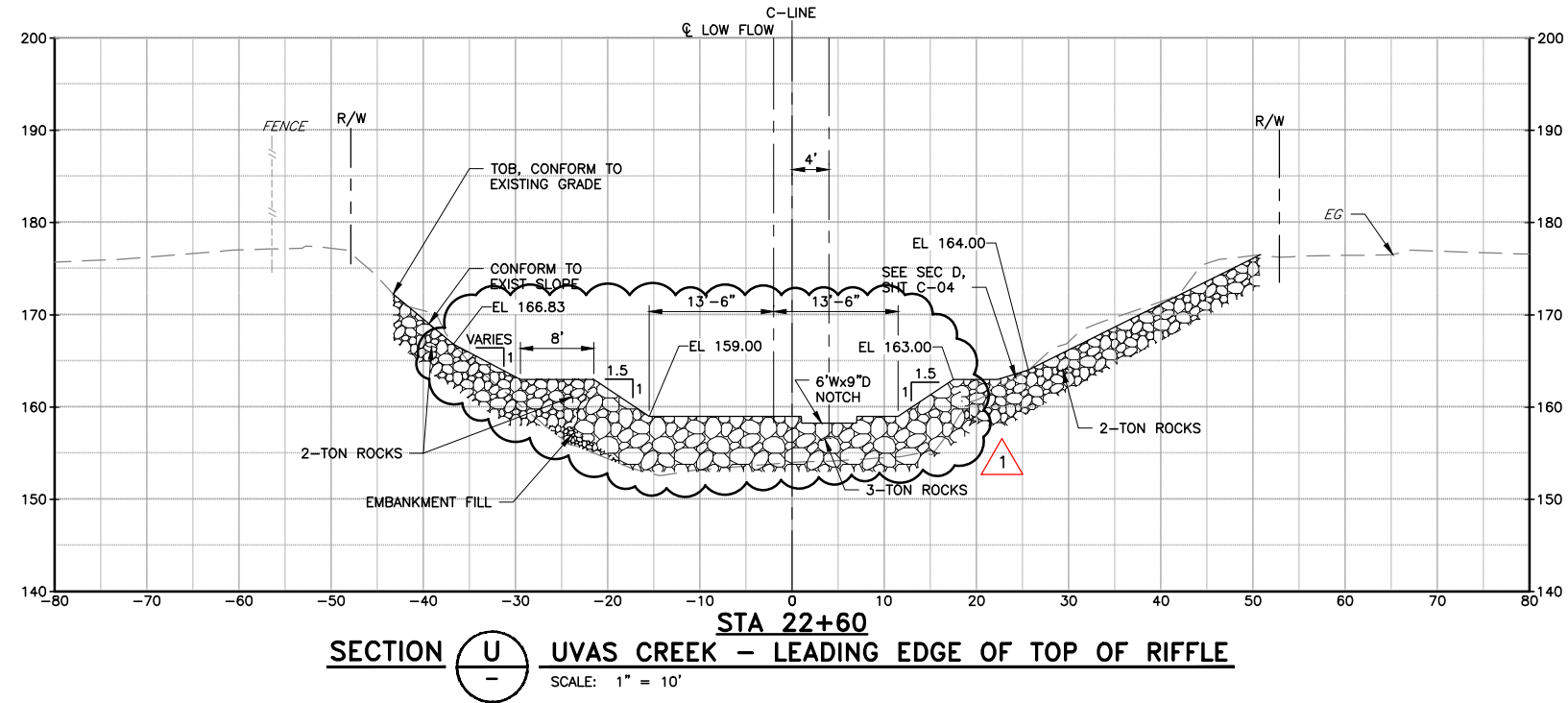
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE "ORIGINAL AS-BID" DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PAPER ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-10 NUMBER: 24 OF 39

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Page 38 of 148

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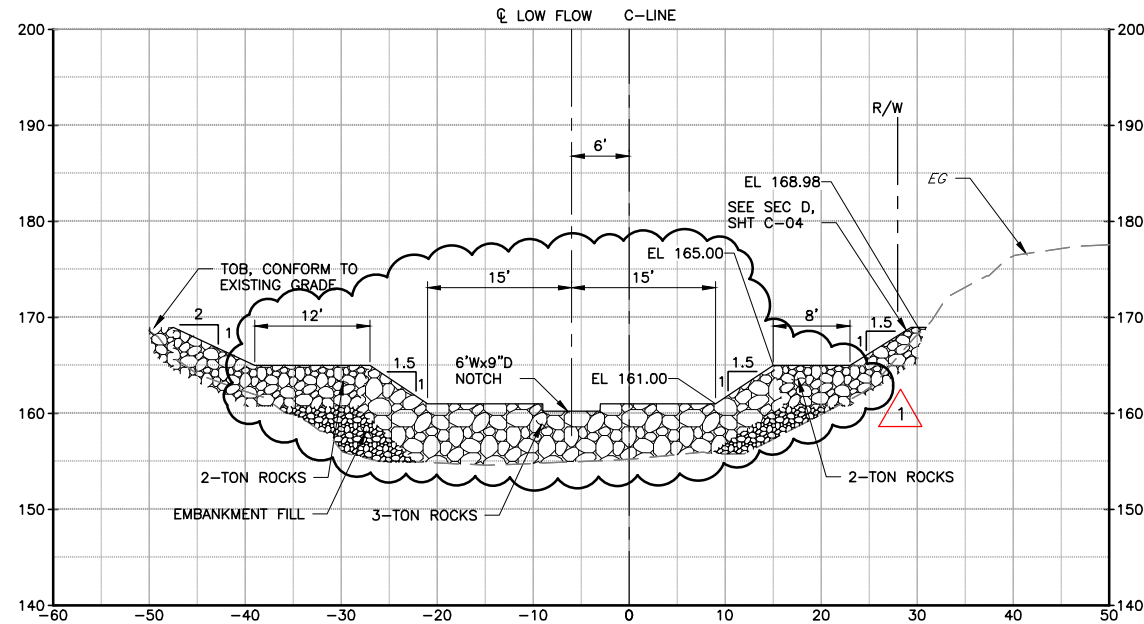


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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF FRACTIONAL INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-11 NUMBER: 25 OF 39

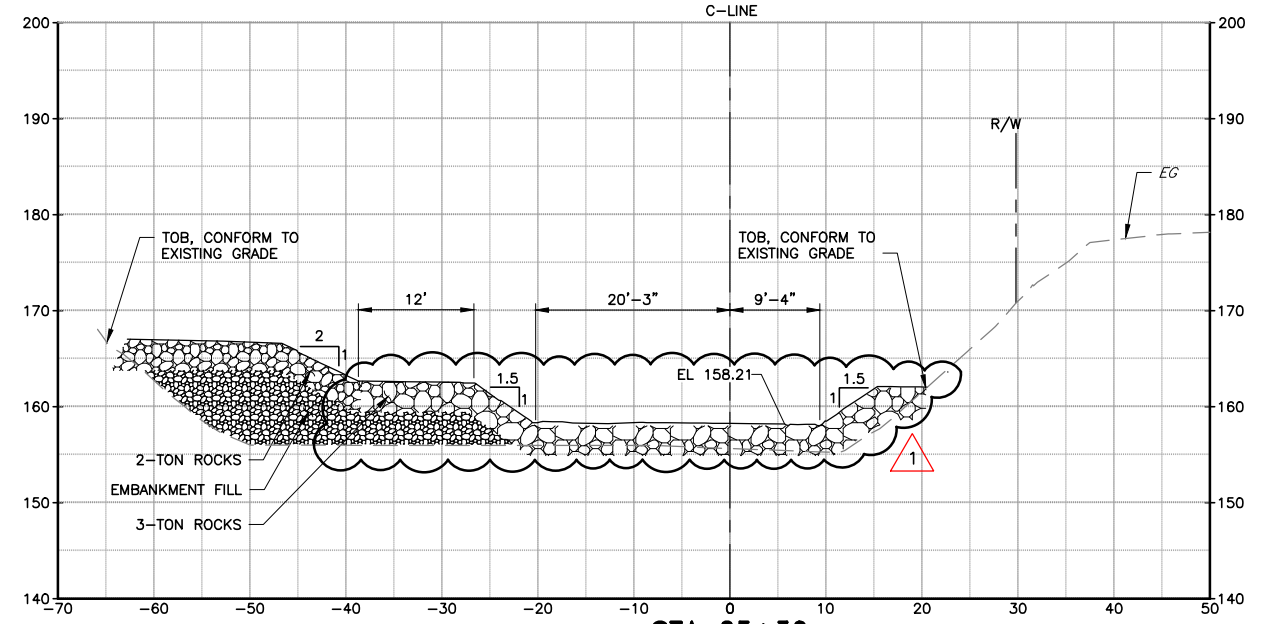
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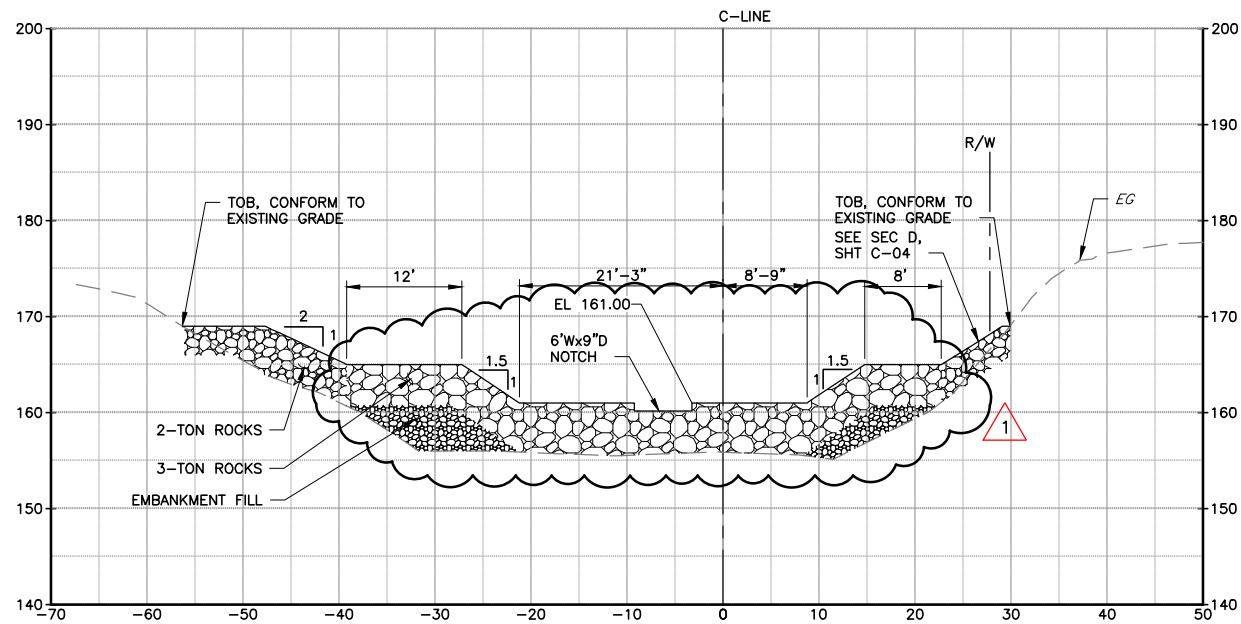
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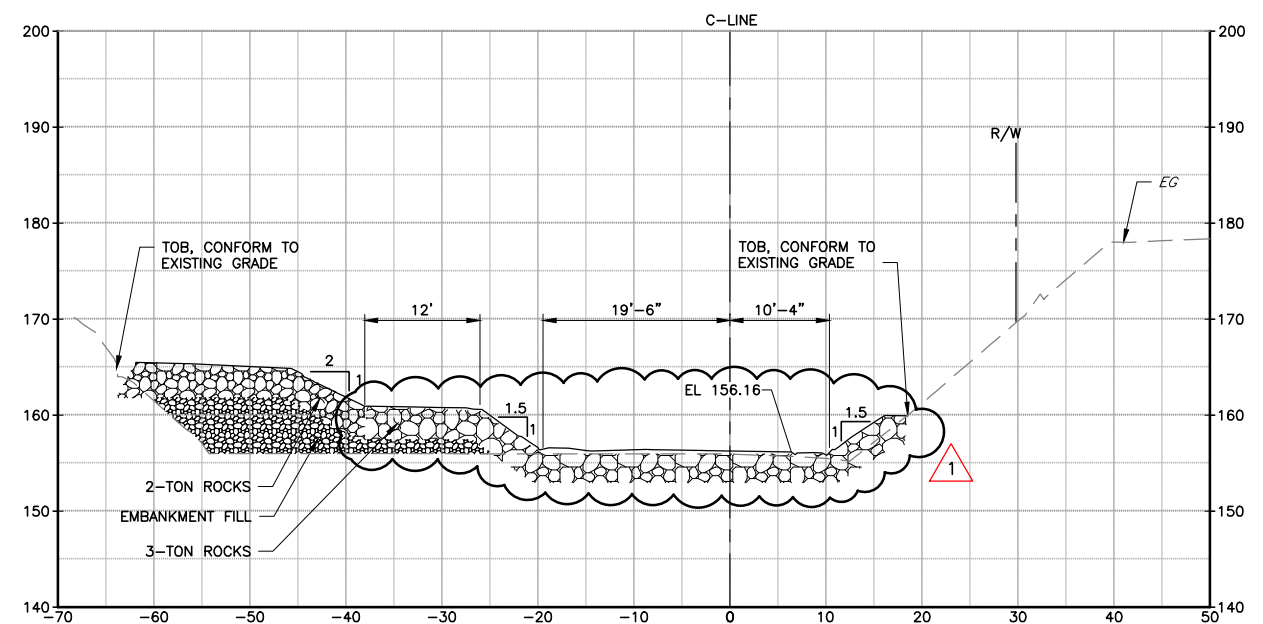
SECTION **W** **UVAS CREEK - LEADING EDGE OF TOP OF RIFFLE**
SCALE: 1" = 10'



SECTION **A** **UVAS CREEK CREEK BED**
SCALE: 1" = 10'



SECTION **X** **UVAS CREEK CREEK BED**
SCALE: 1" = 10'



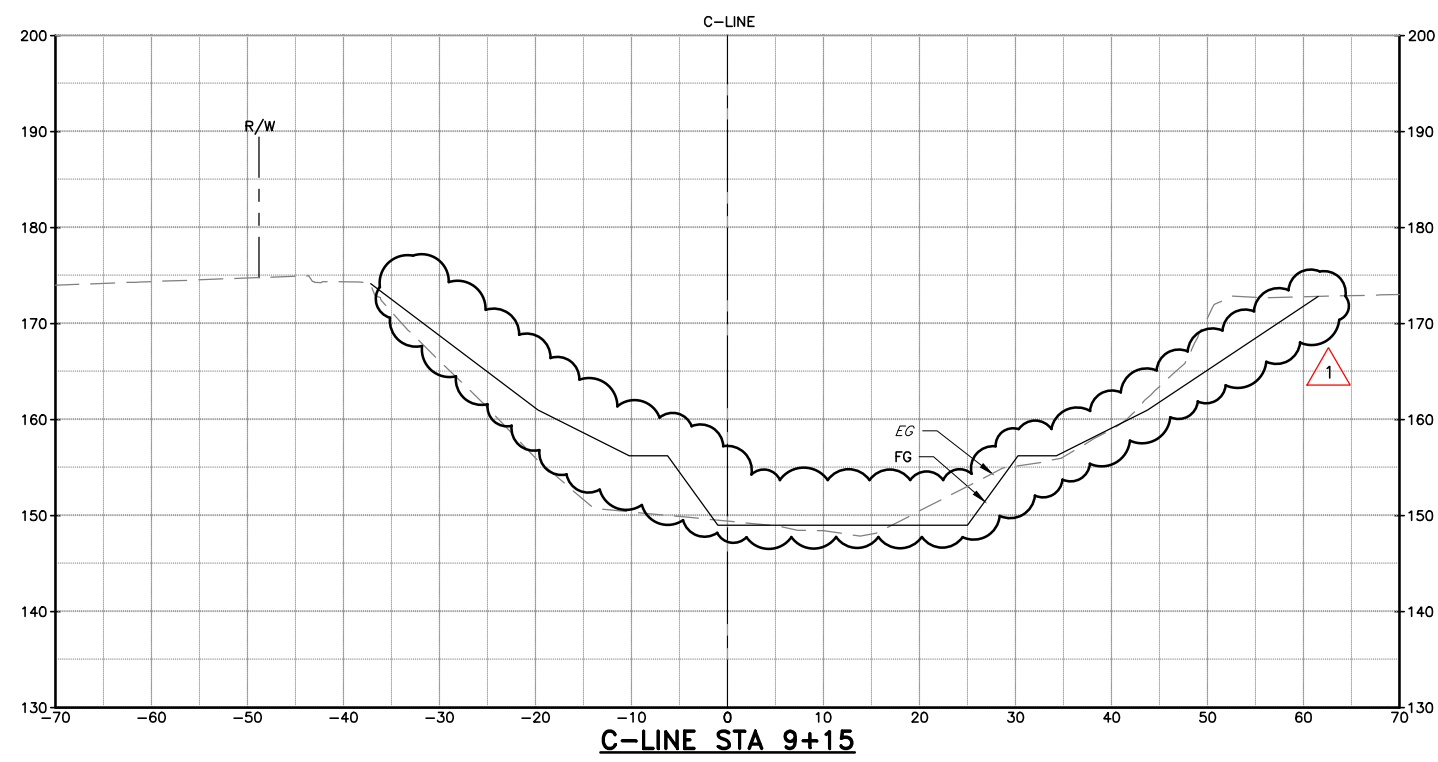
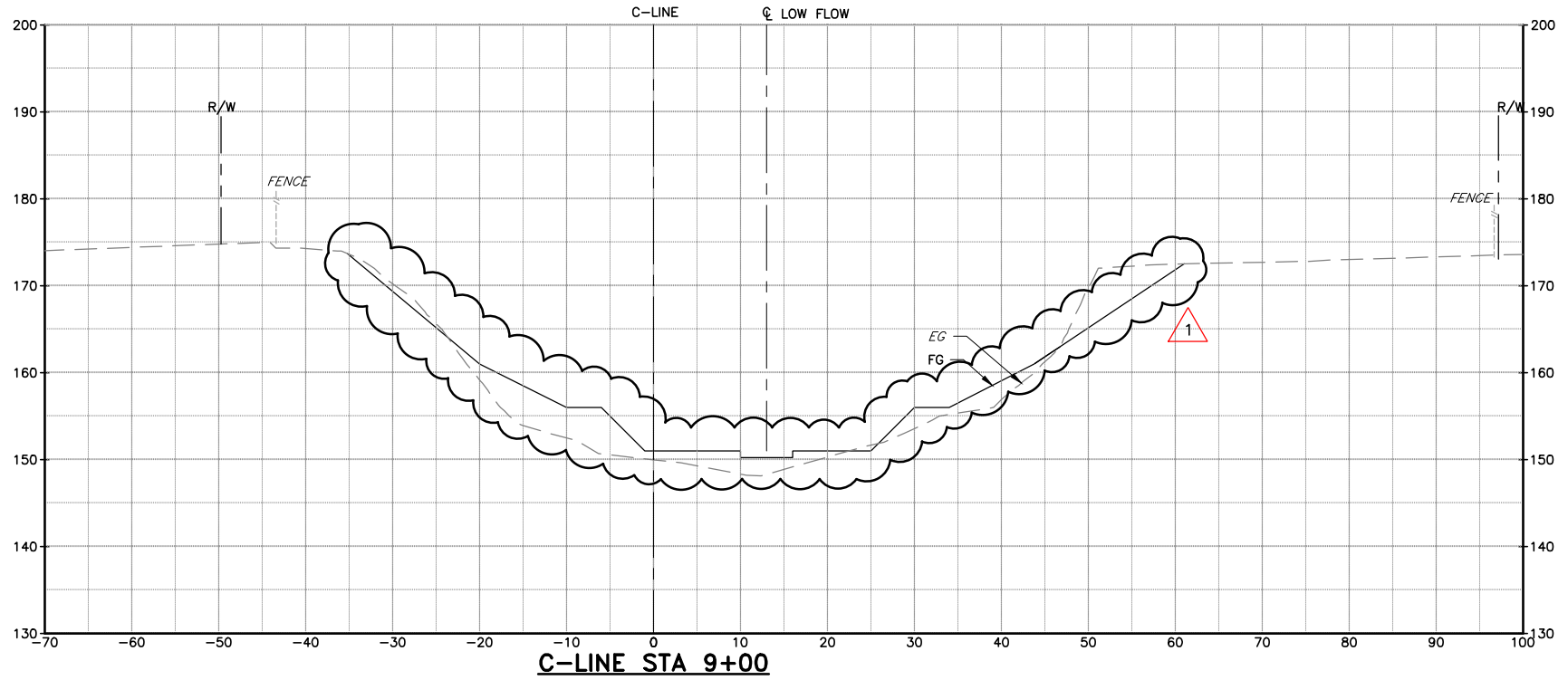
SECTION **B** **UVAS CREEK CREEK BED**
SCALE: 1" = 10'

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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	 SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE 5/14/2019 PROJECT ENGINEER DATE	 BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF ANY ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: XS-12 NUMBER: 26 OF 39

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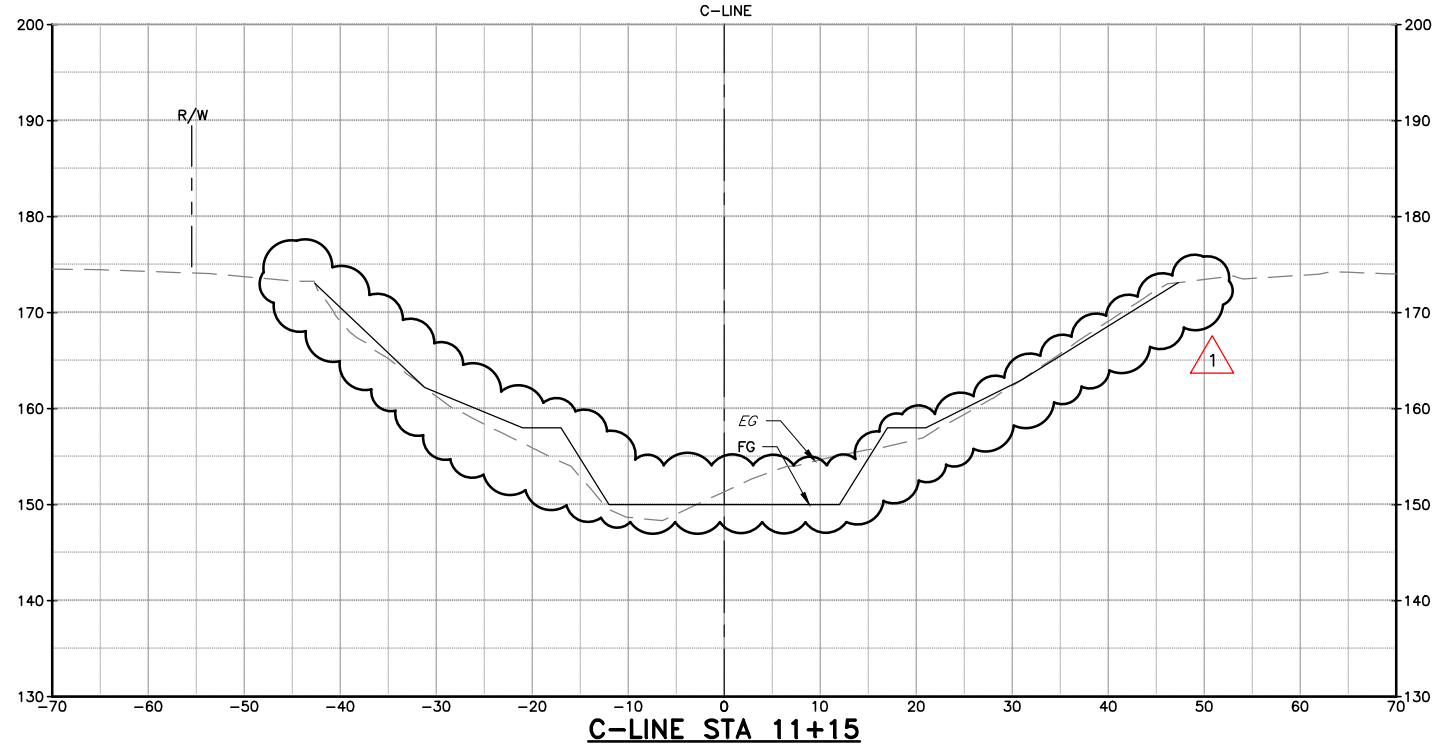
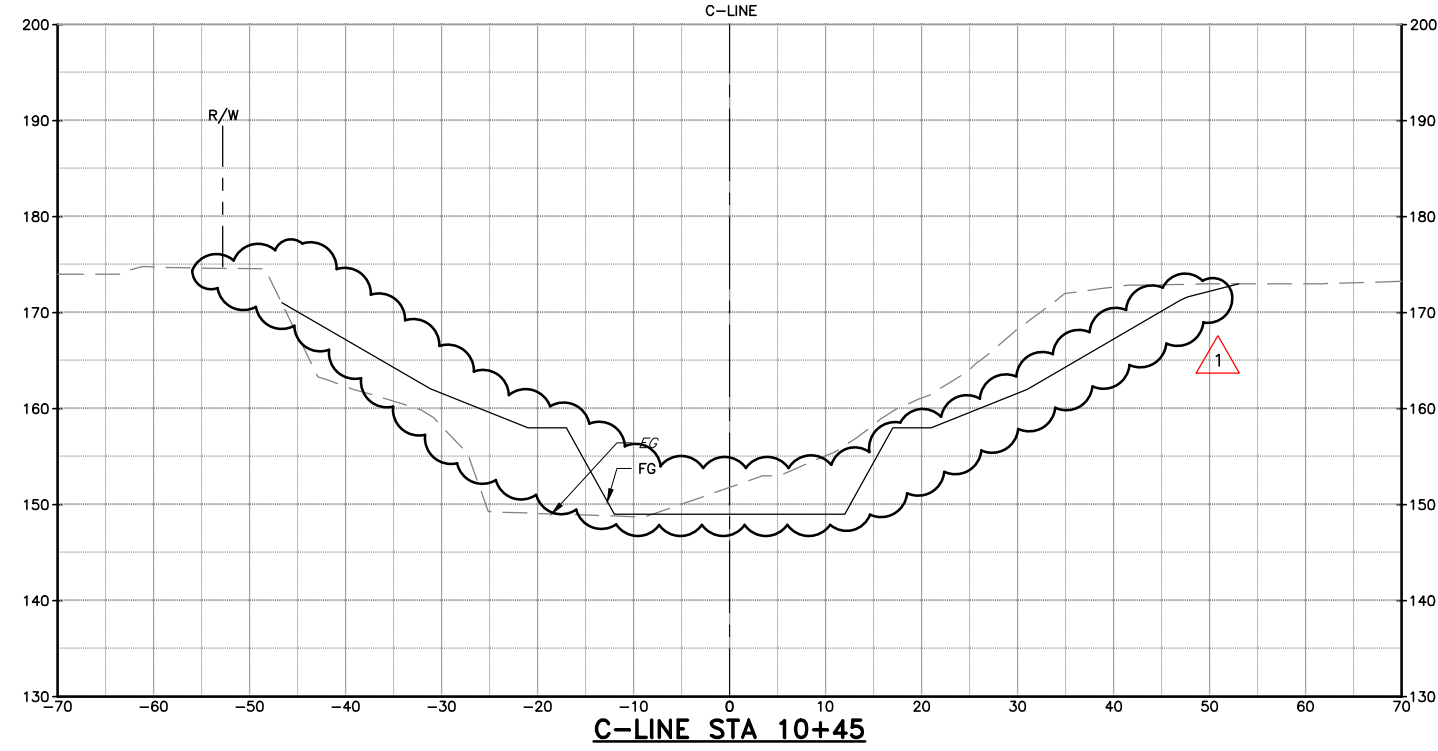
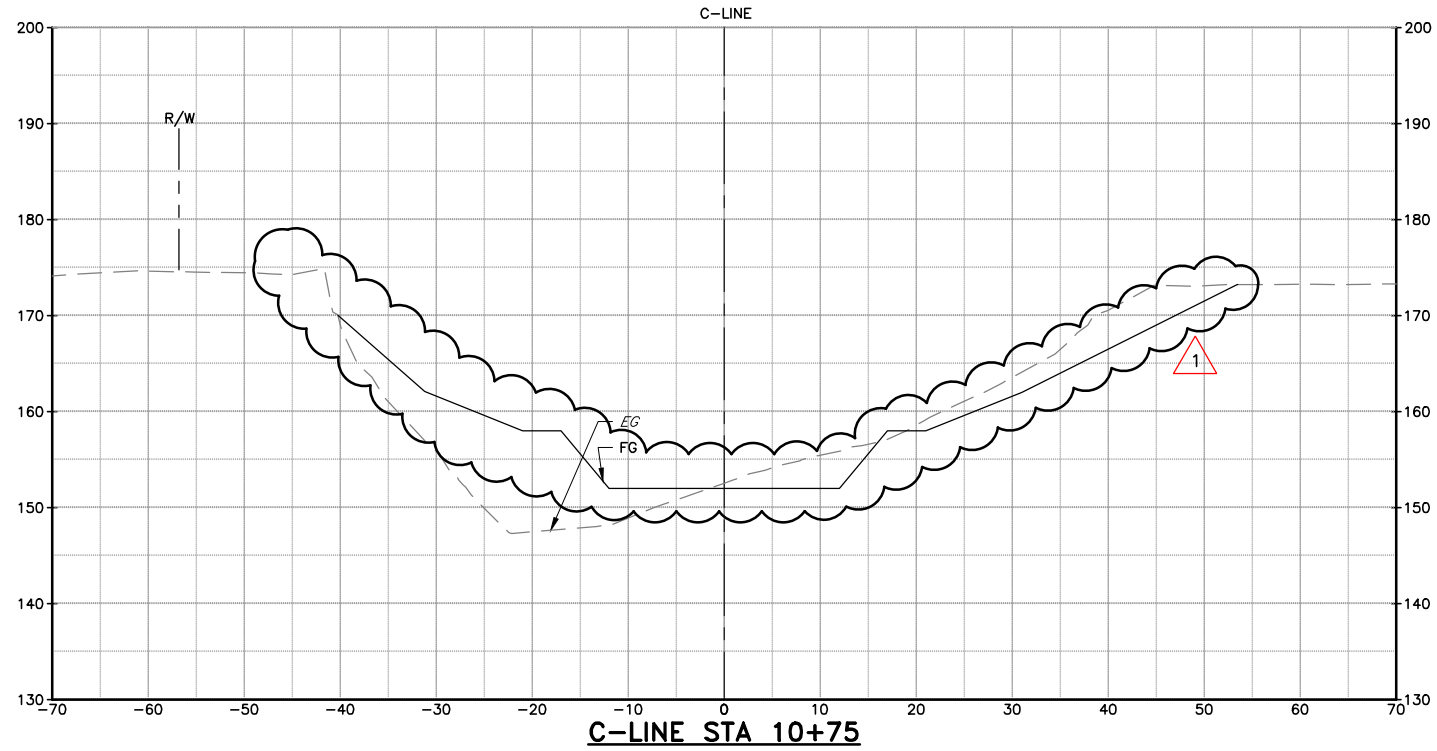
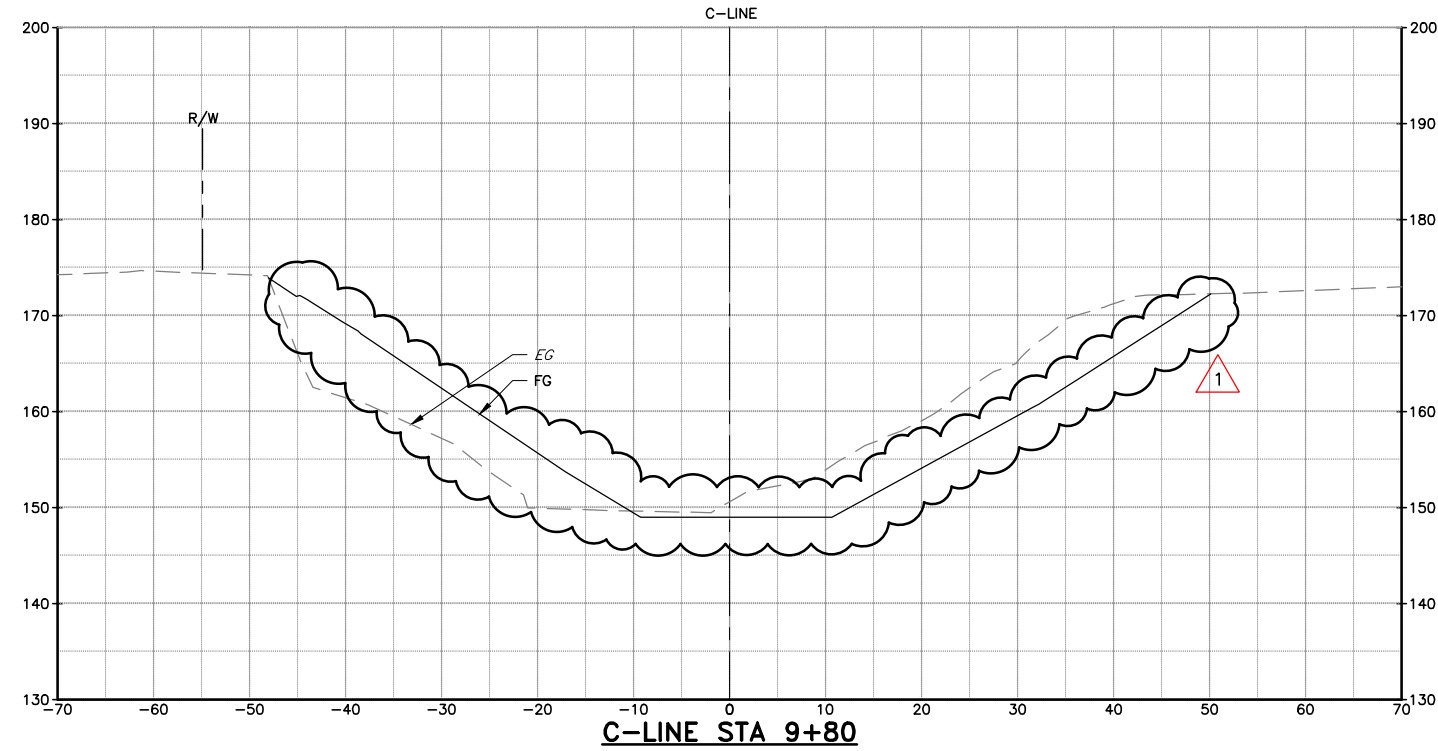
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE CIVIL STATE OF CALIFORNIA 5/14/2019 PROJECT ENGINEER DATE	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE TAKEOFF CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PAPER ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: X-01 NUMBER: 29 OF 39

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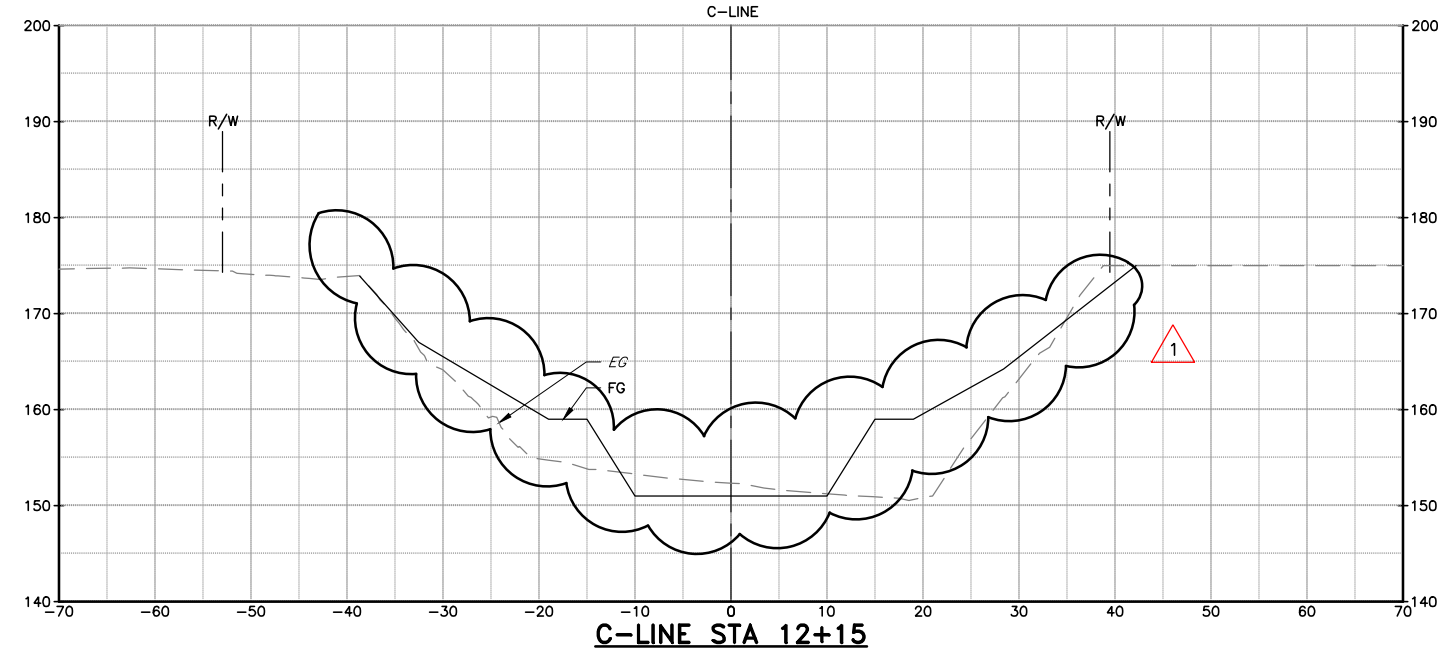
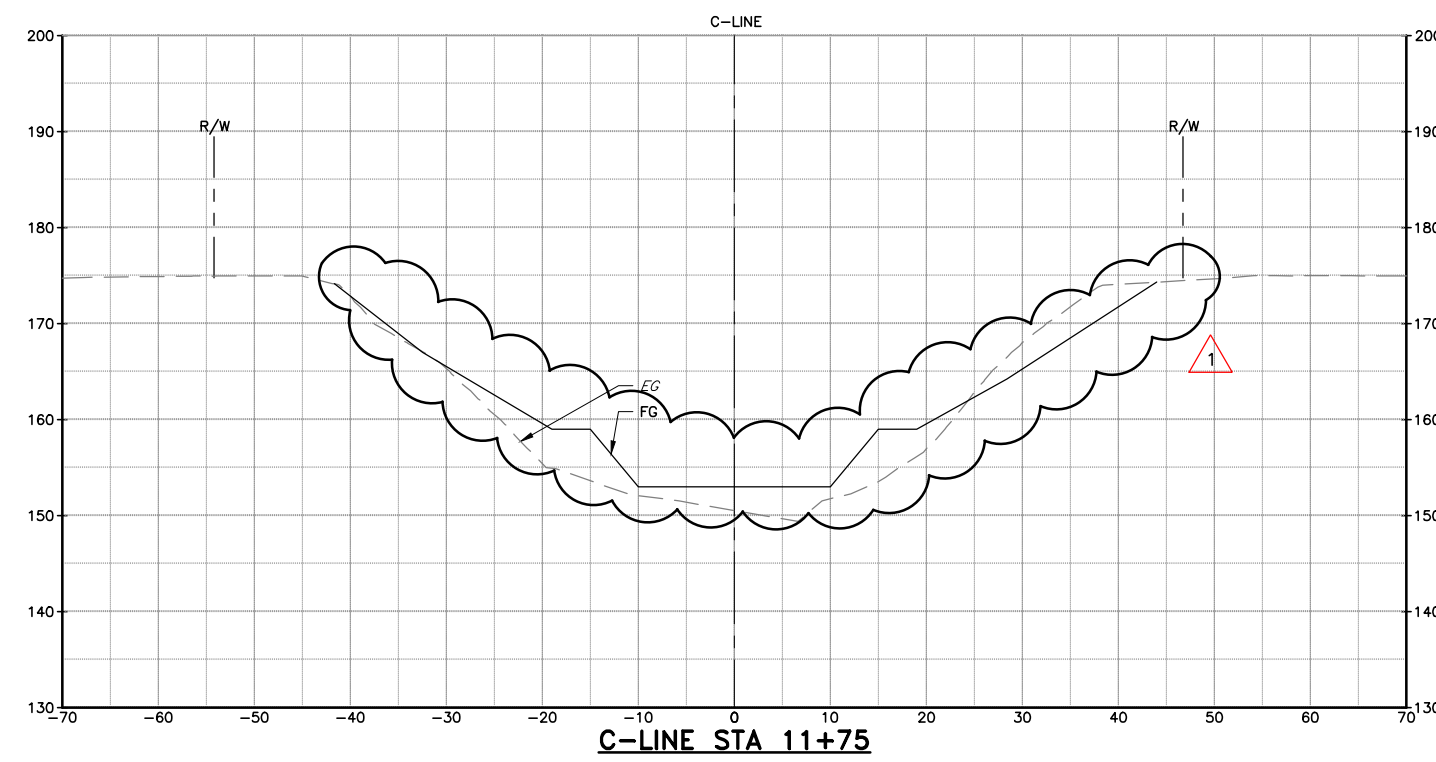
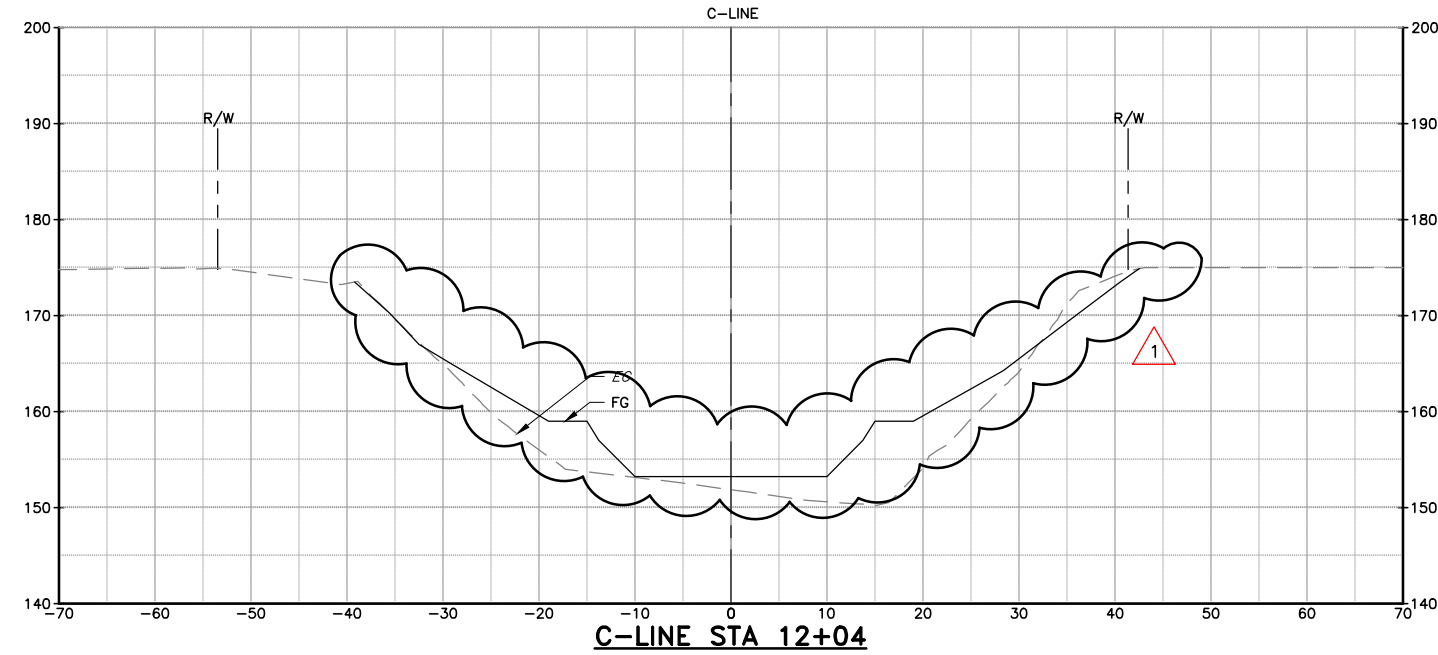
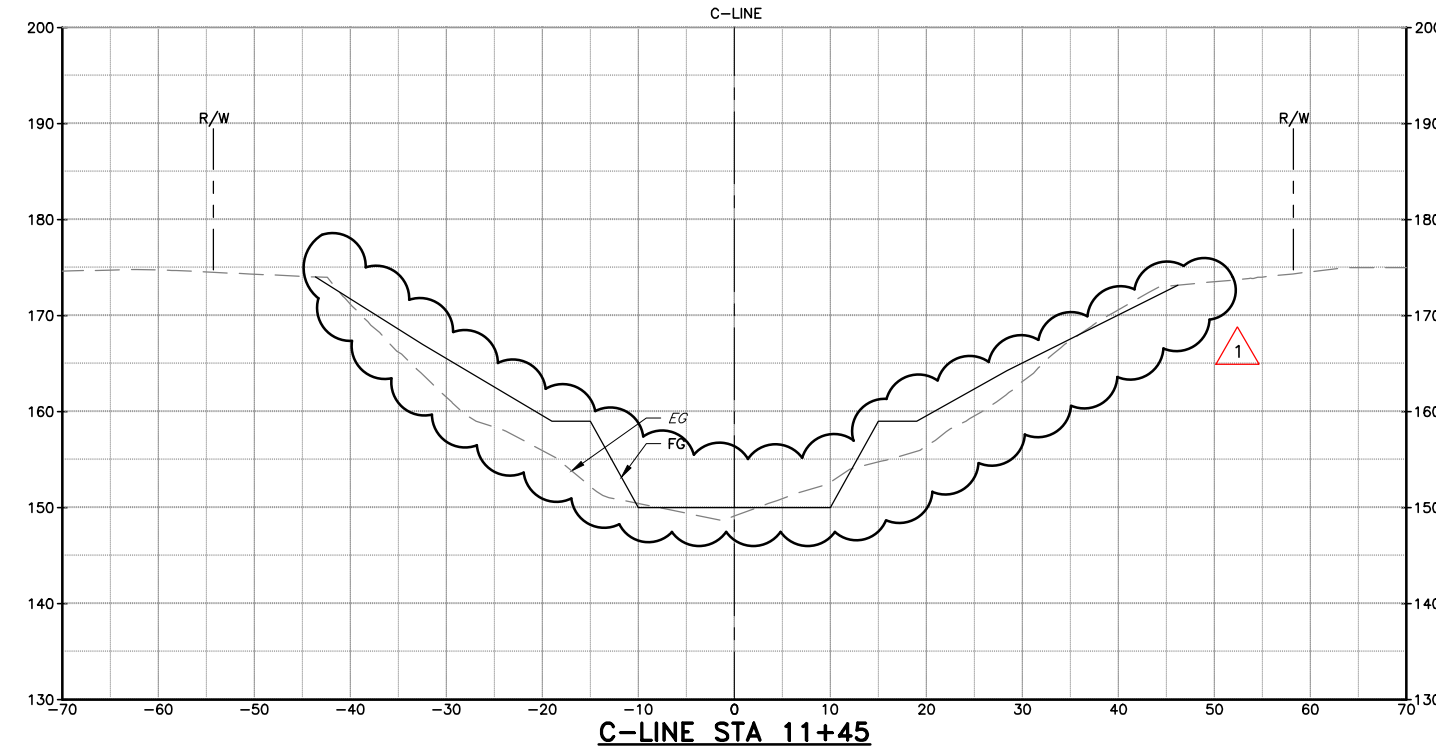
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	 PROJECT ENGINEER DATE	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE TAKEOFF CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PAPER ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: X-02 NUMBER: 30 OF 39

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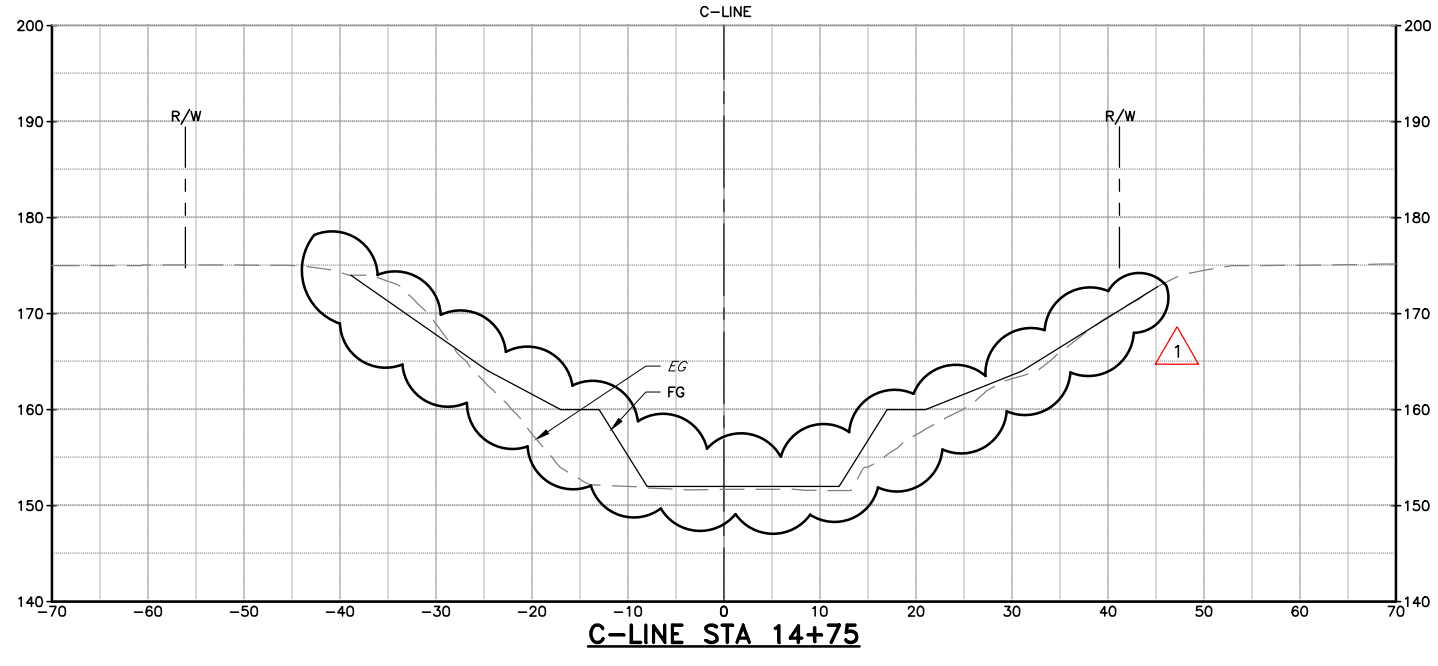
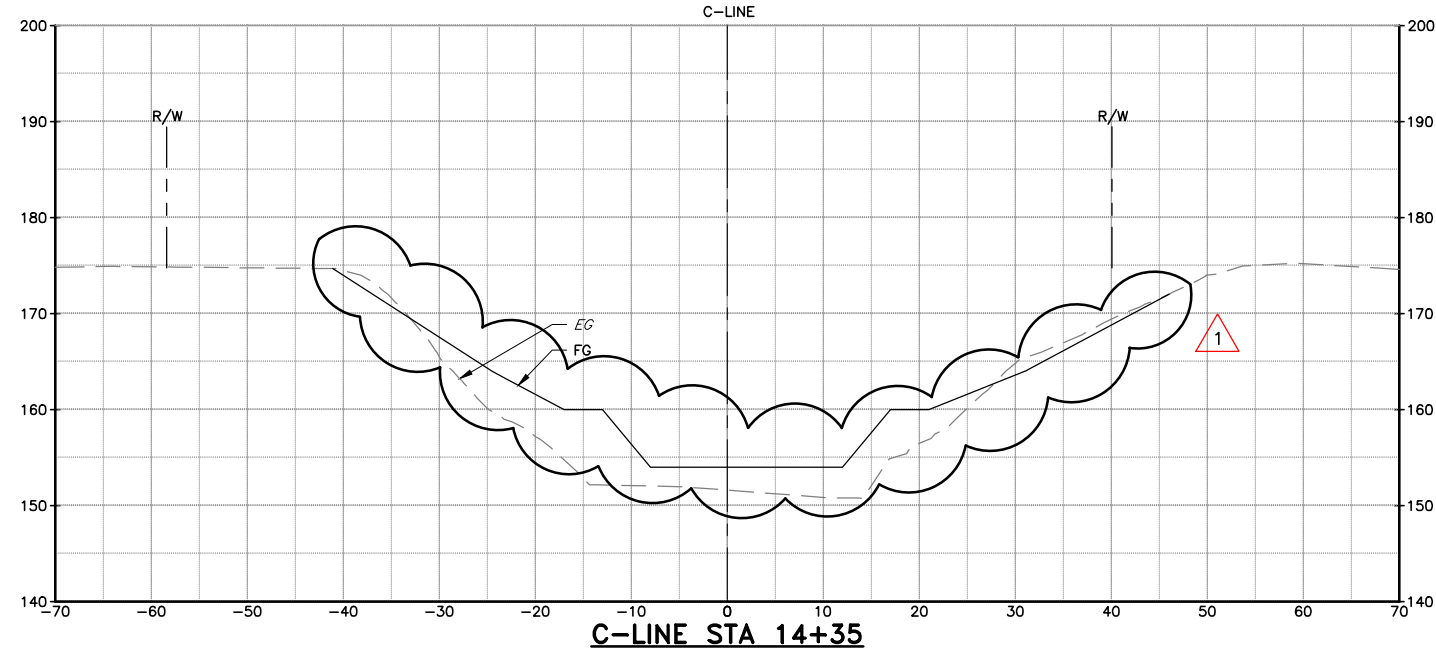
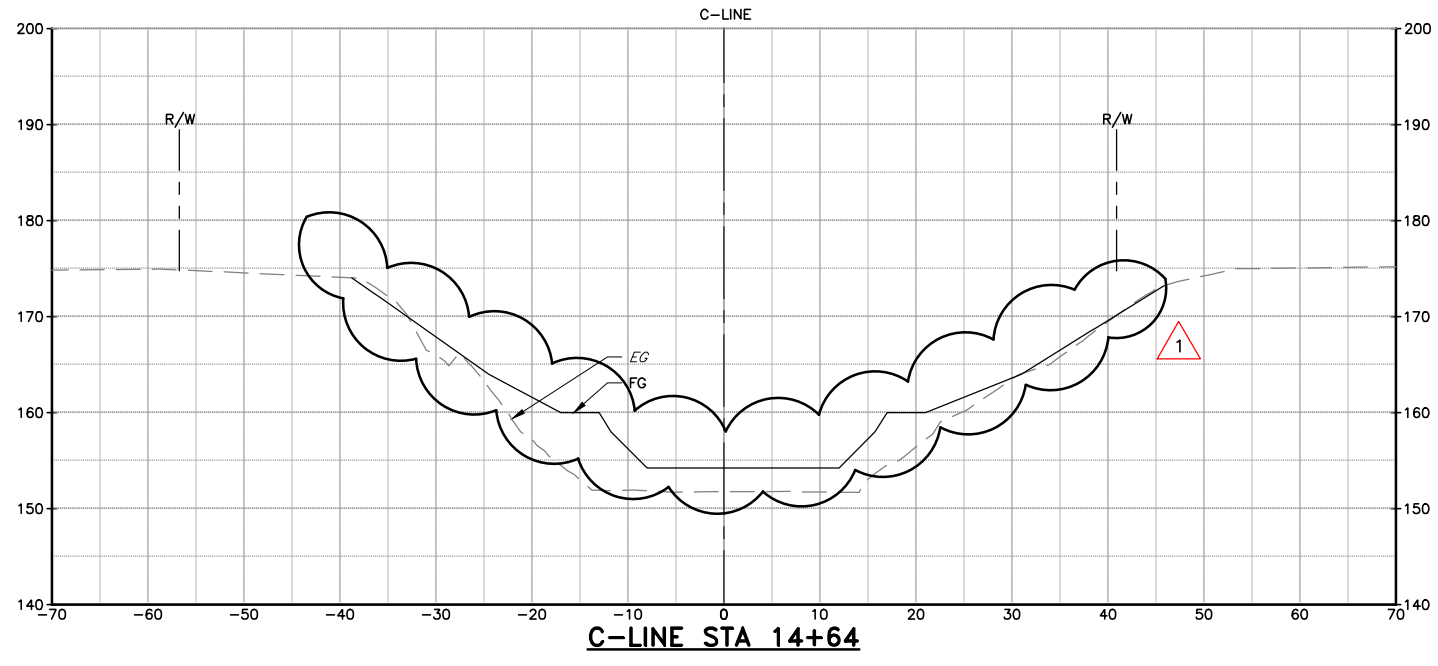
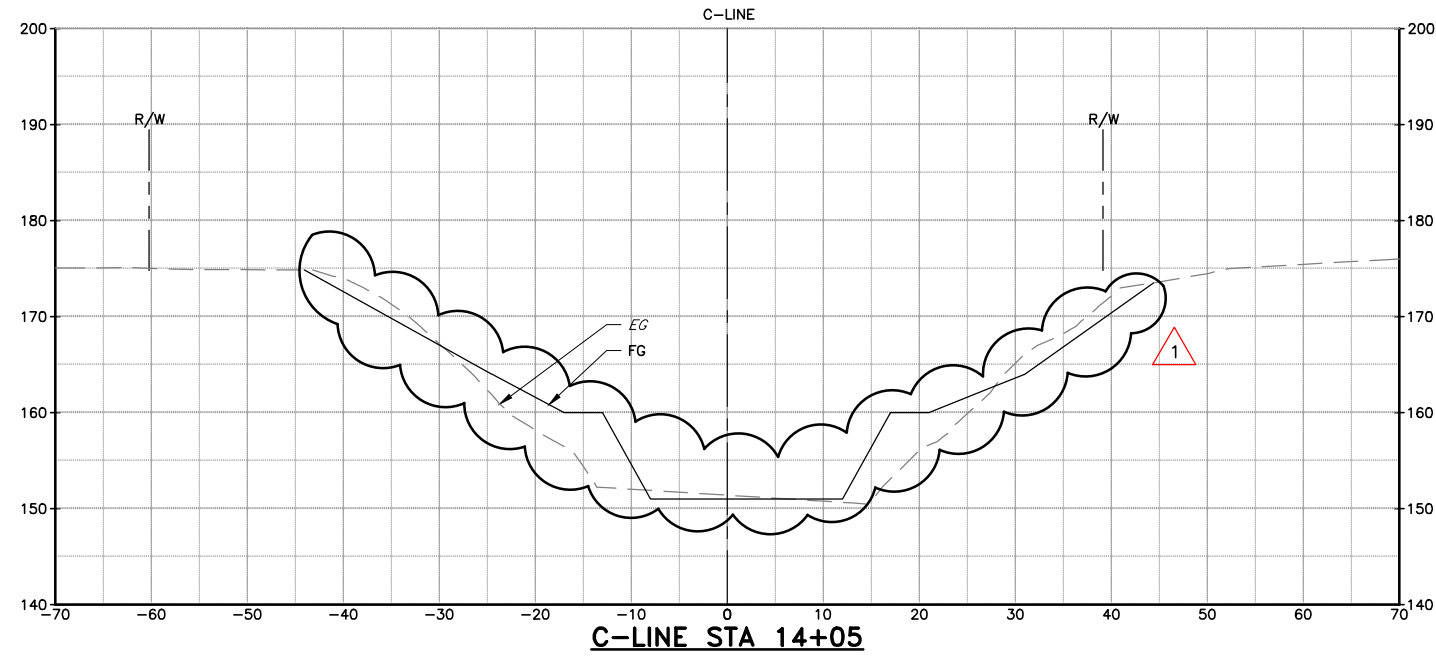
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1	ADDENDUM #2 06-04-2019			1. ALL SECTIONS LOOKING UPSTREAM.	MAR 2018	DESIGN S. HUANG DRAWN J. CORDOVA CHECKED S. HOSSEINI	SEE ORIGINAL AS-BID DOCUMENTS FOR SIGNATURE AND DATE CIVIL STATE OF CALIFORNIA 5/14/2019 PROJECT ENGINEER DATE	BOLSA ROAD FISH PASSAGE IMPROVEMENTS C-LINE TAKEOFF CROSS SECTIONS	AS SHOWN VERIFY SCALES 0 1" BAR IS ONE INCH ON ORIGINAL DRAWING IF PAPER ONE INCH ON SCALES ACCORDINGLY	26044002 SHEET CODE: X-03 NUMBER: 31 OF 39

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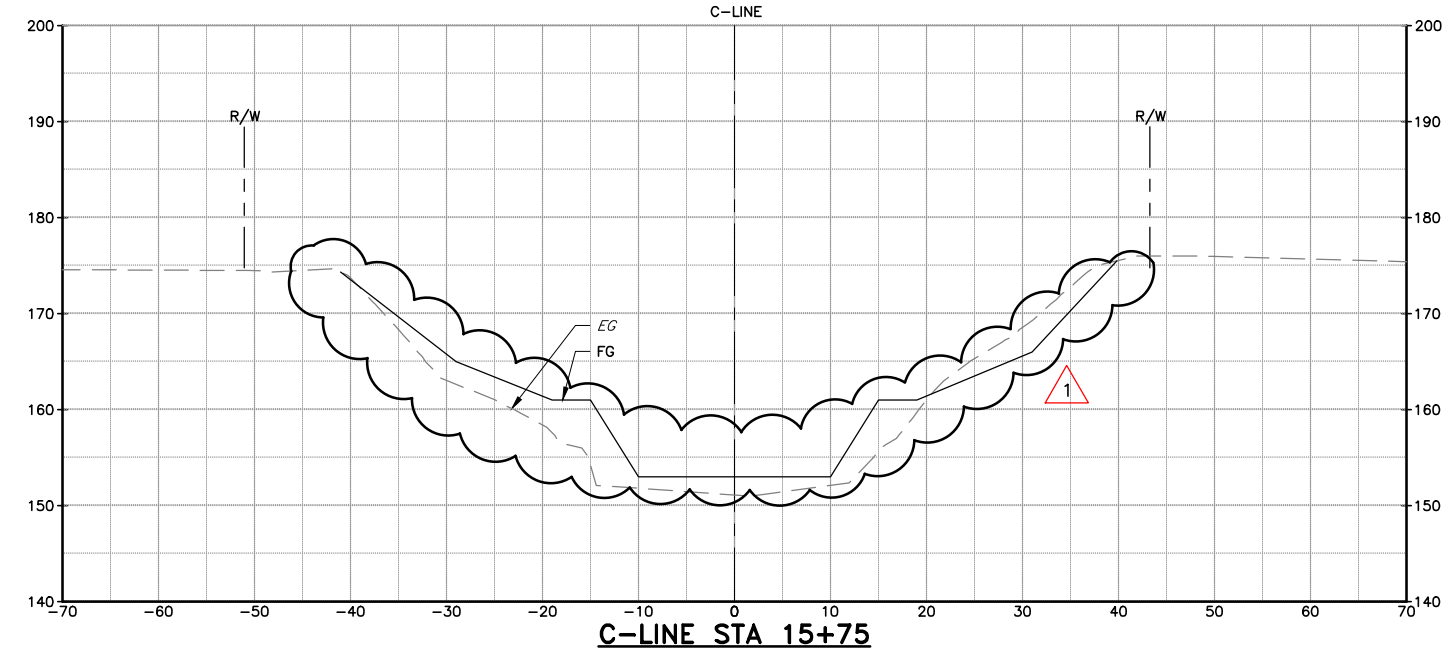
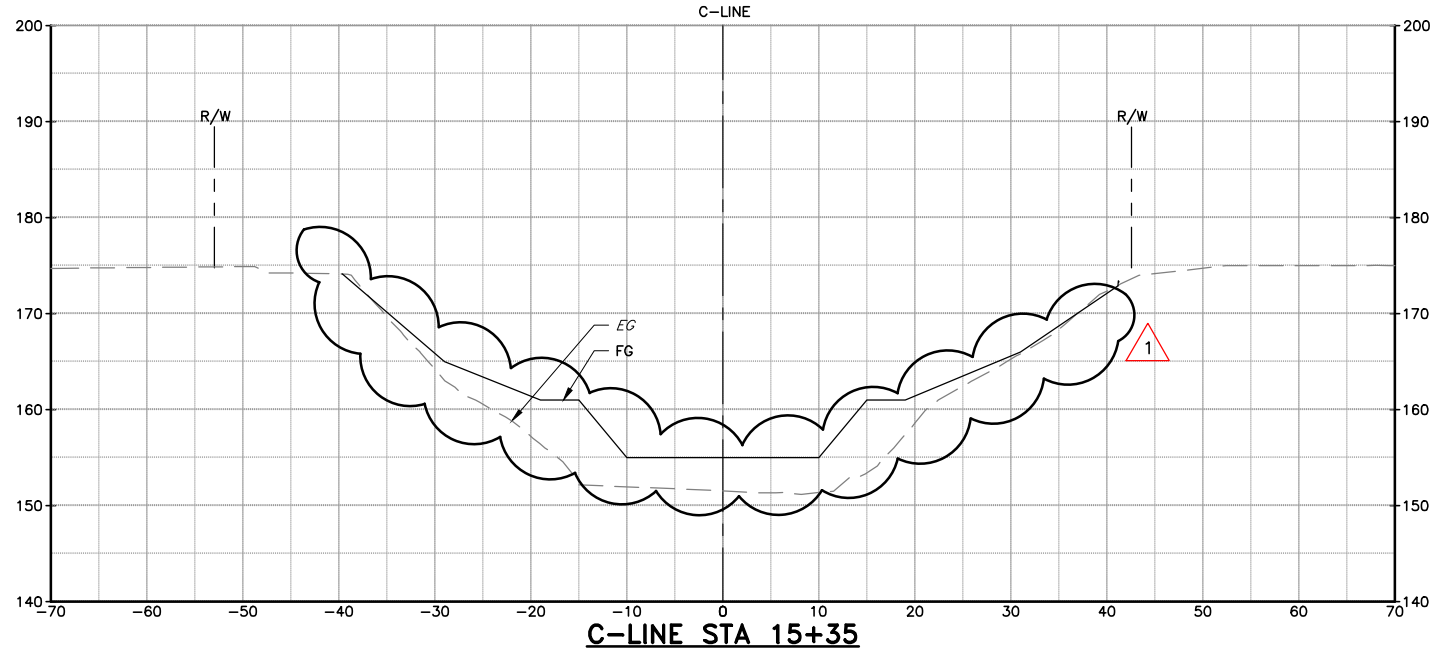
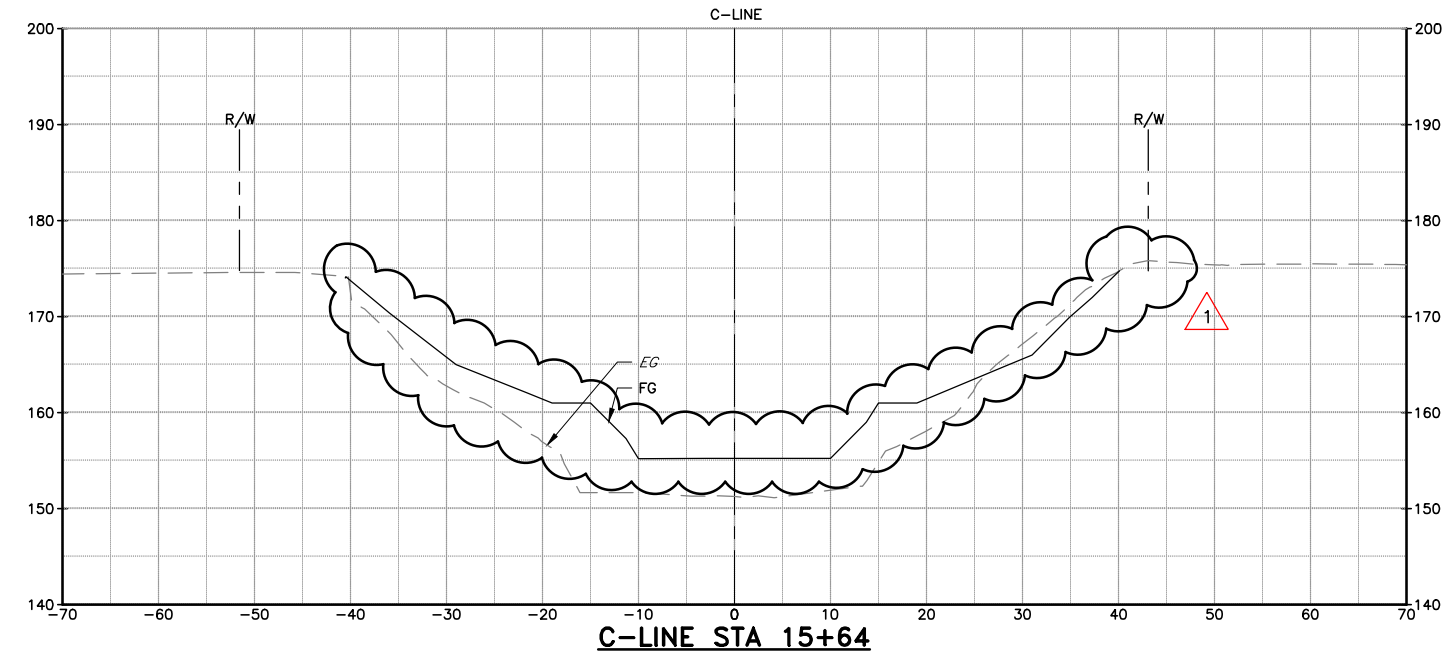
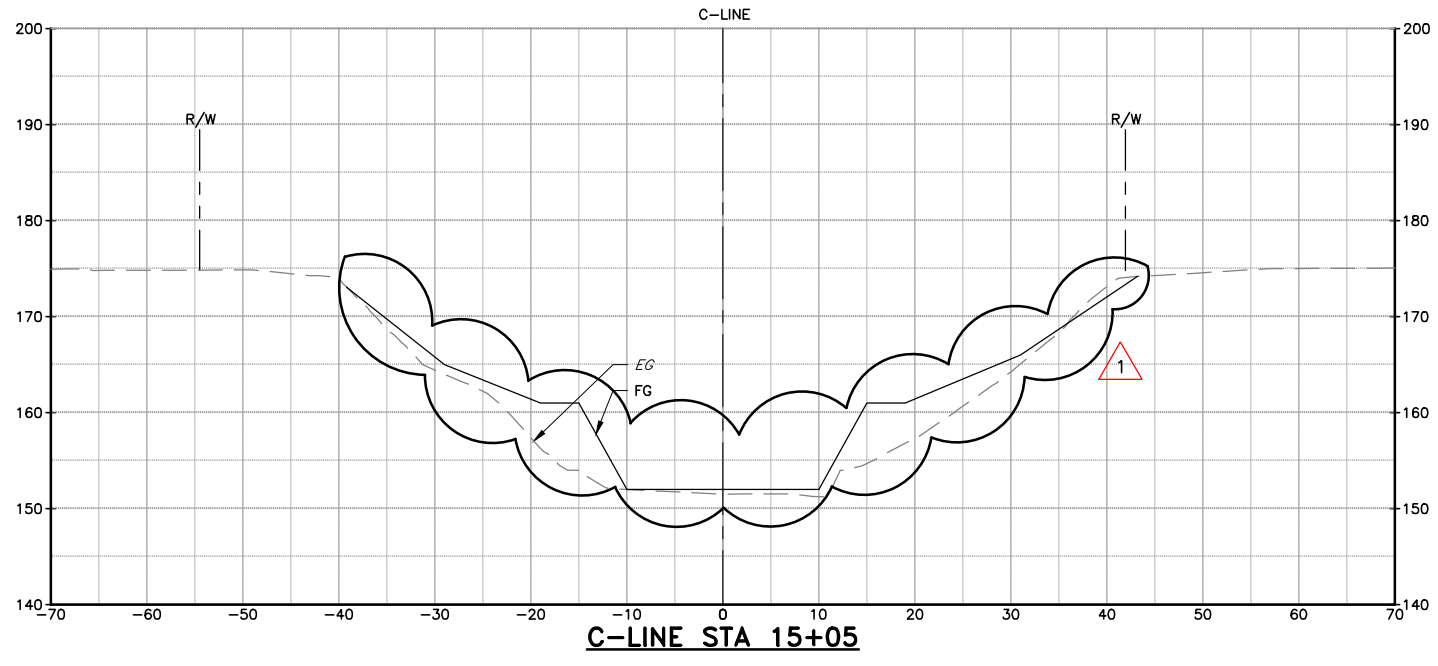
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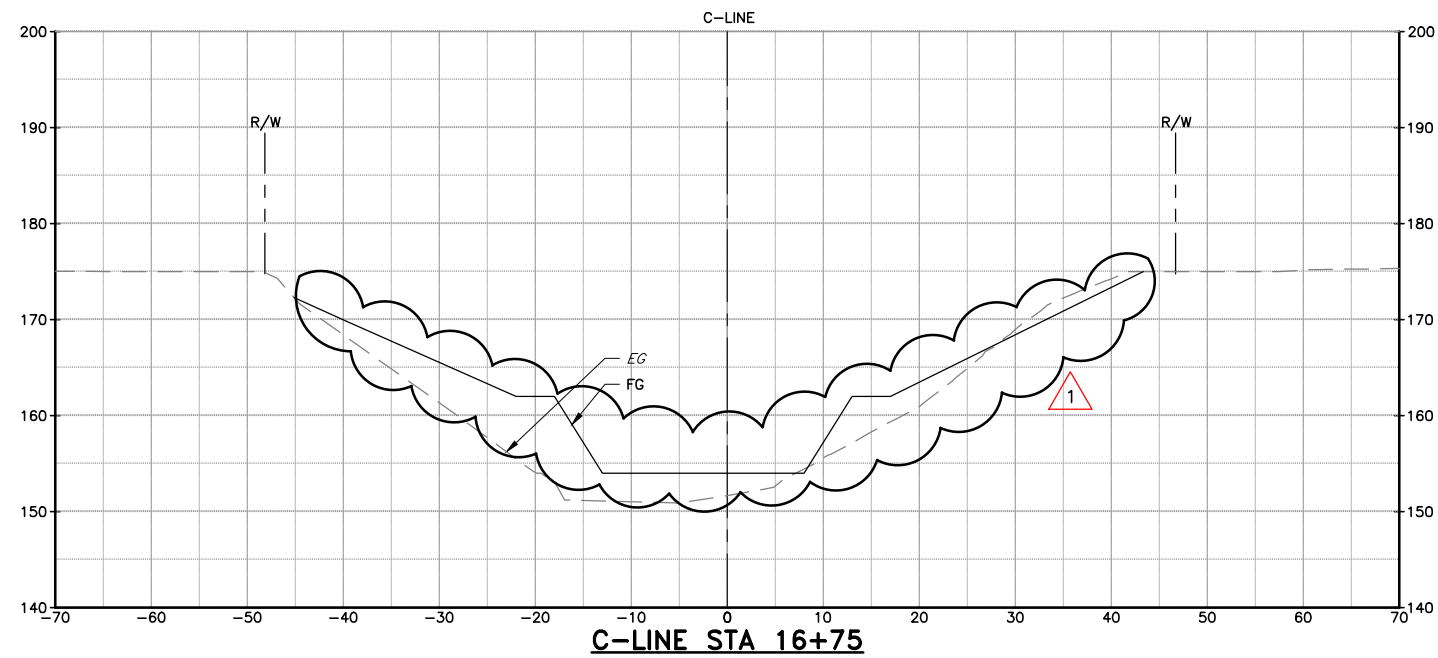
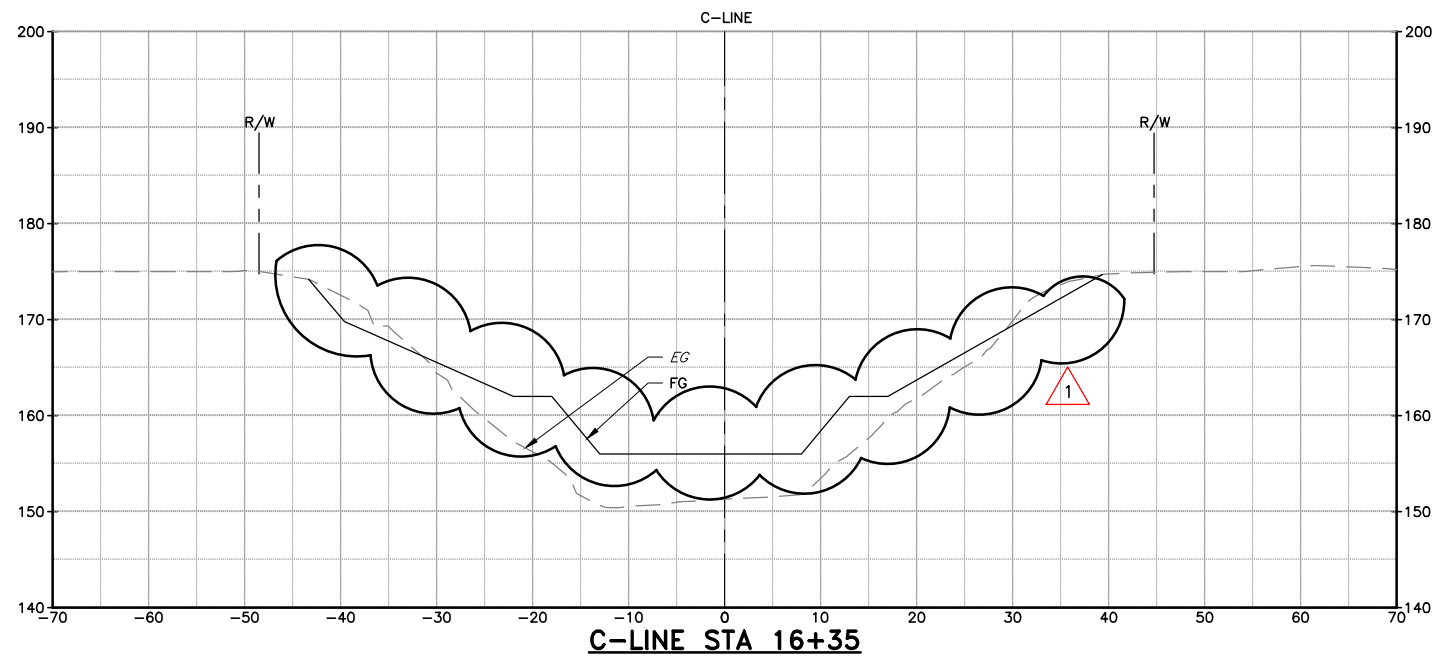
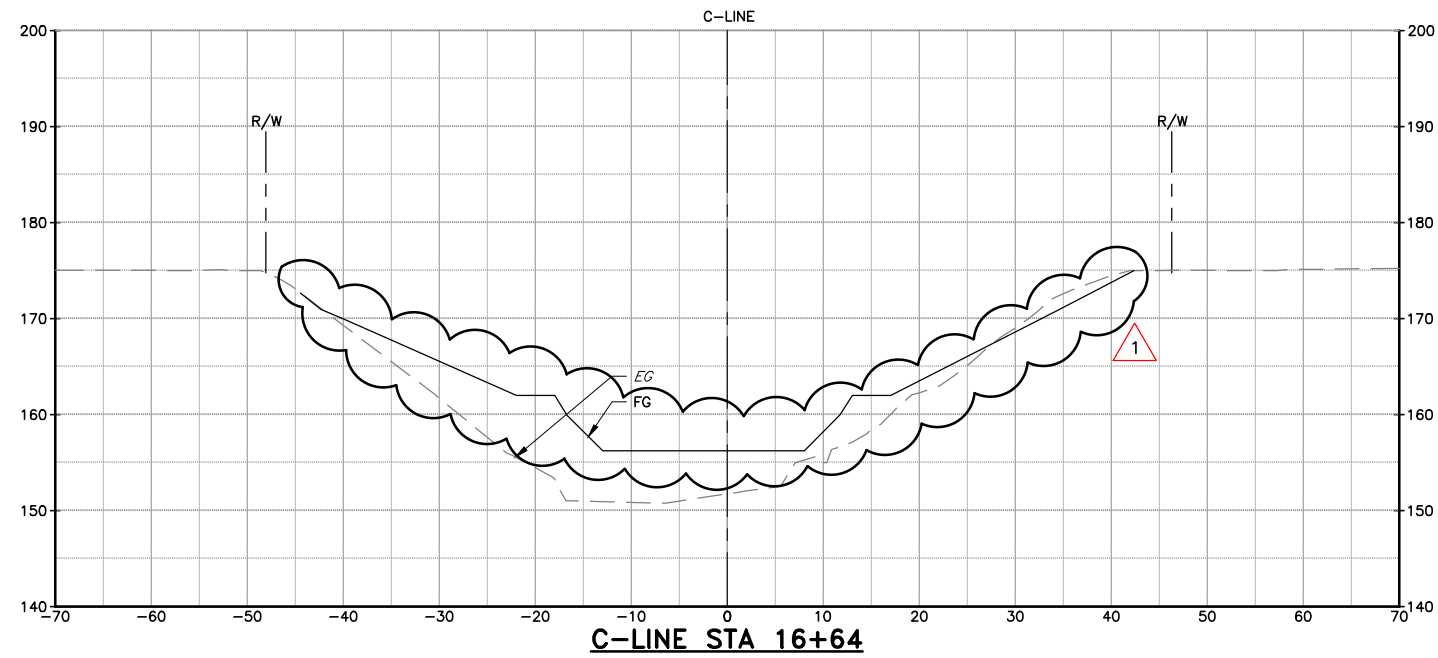
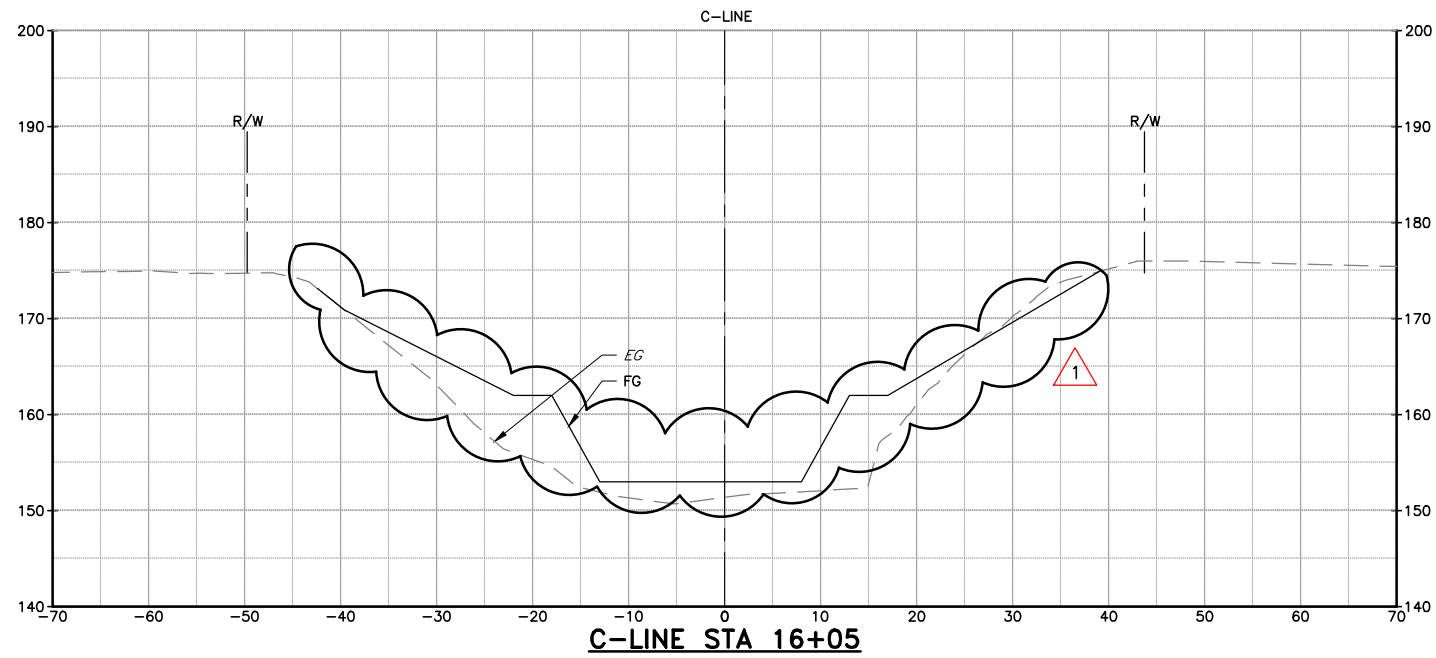


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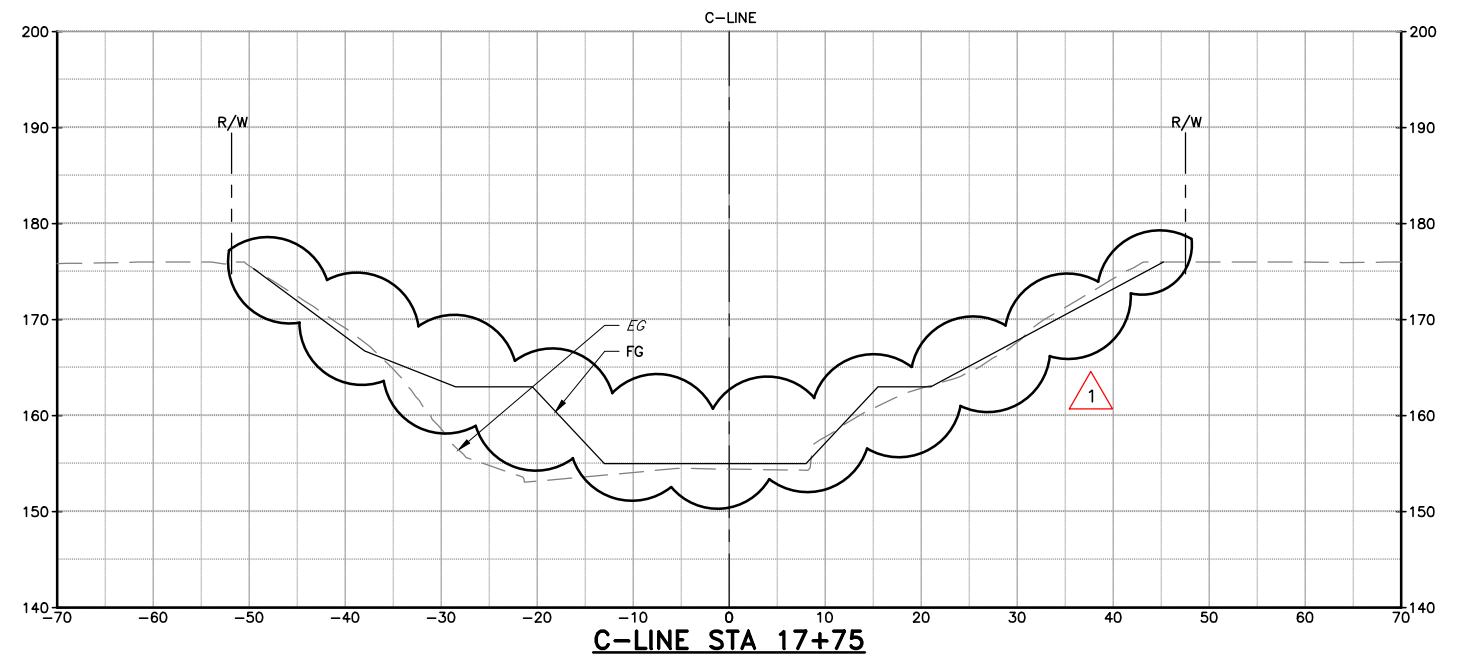
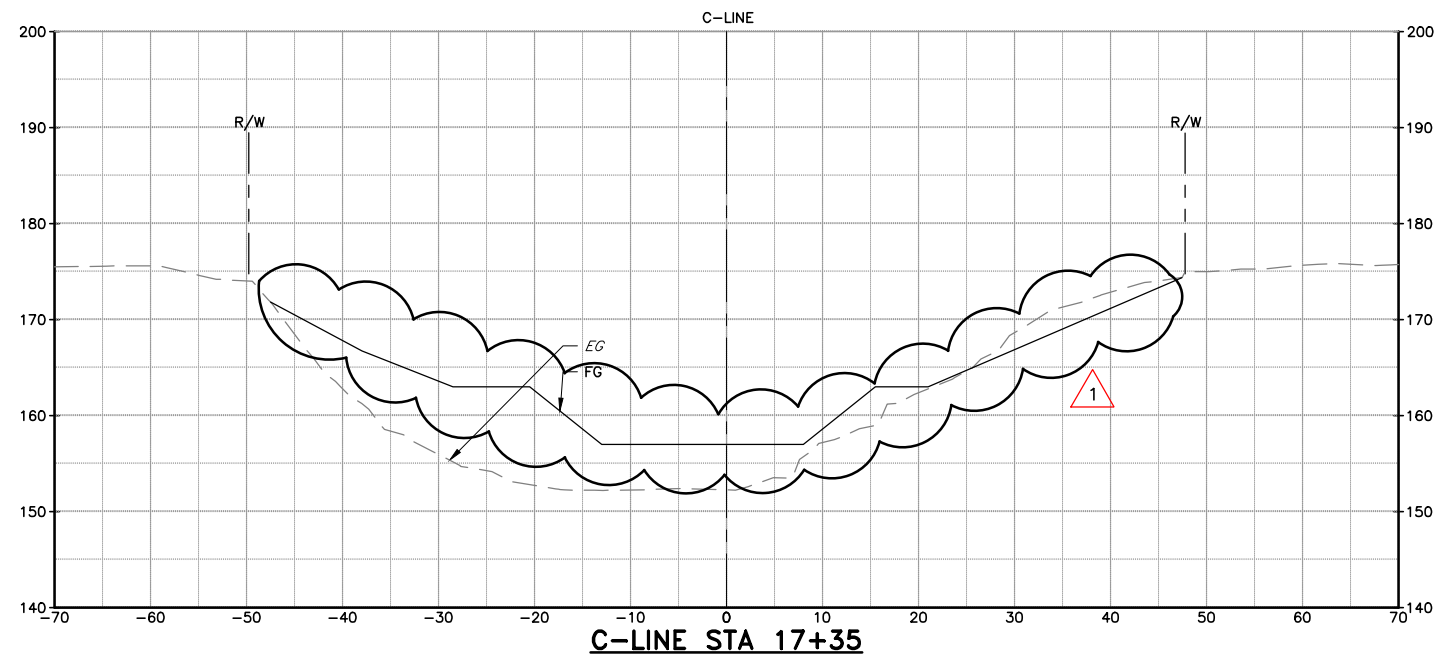
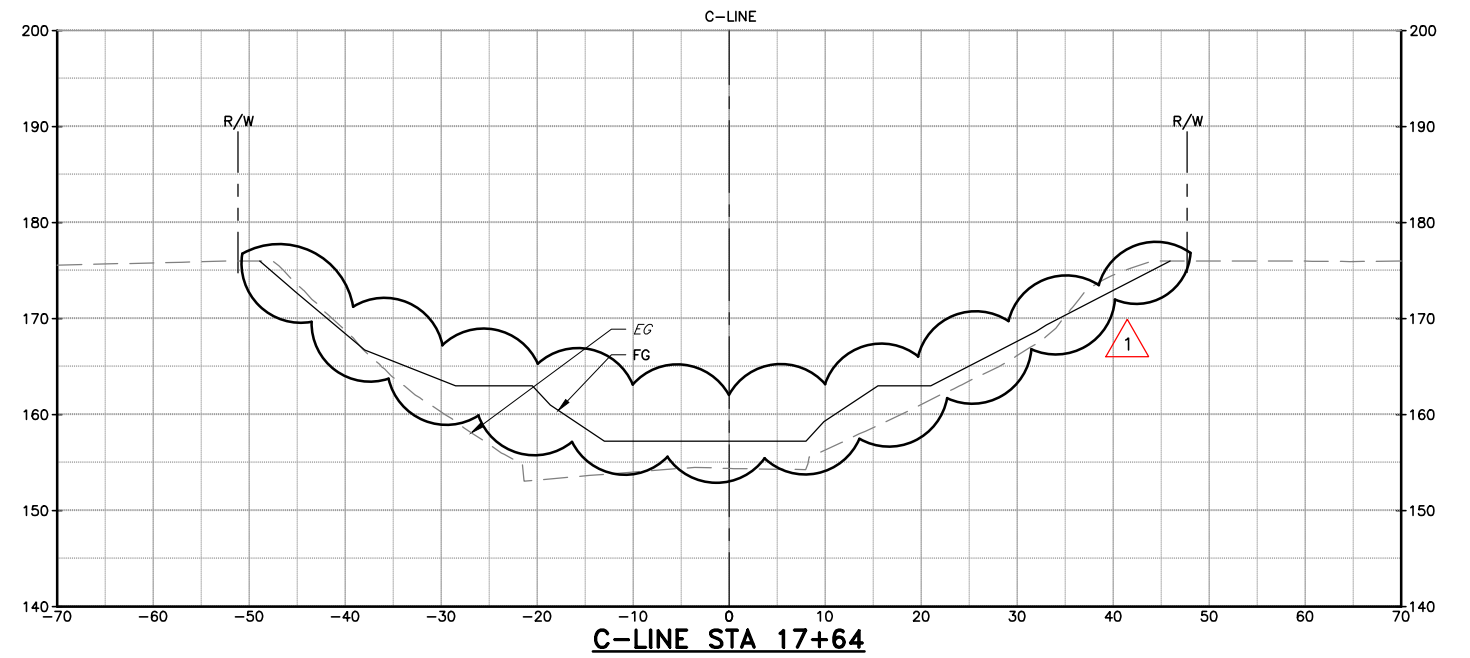
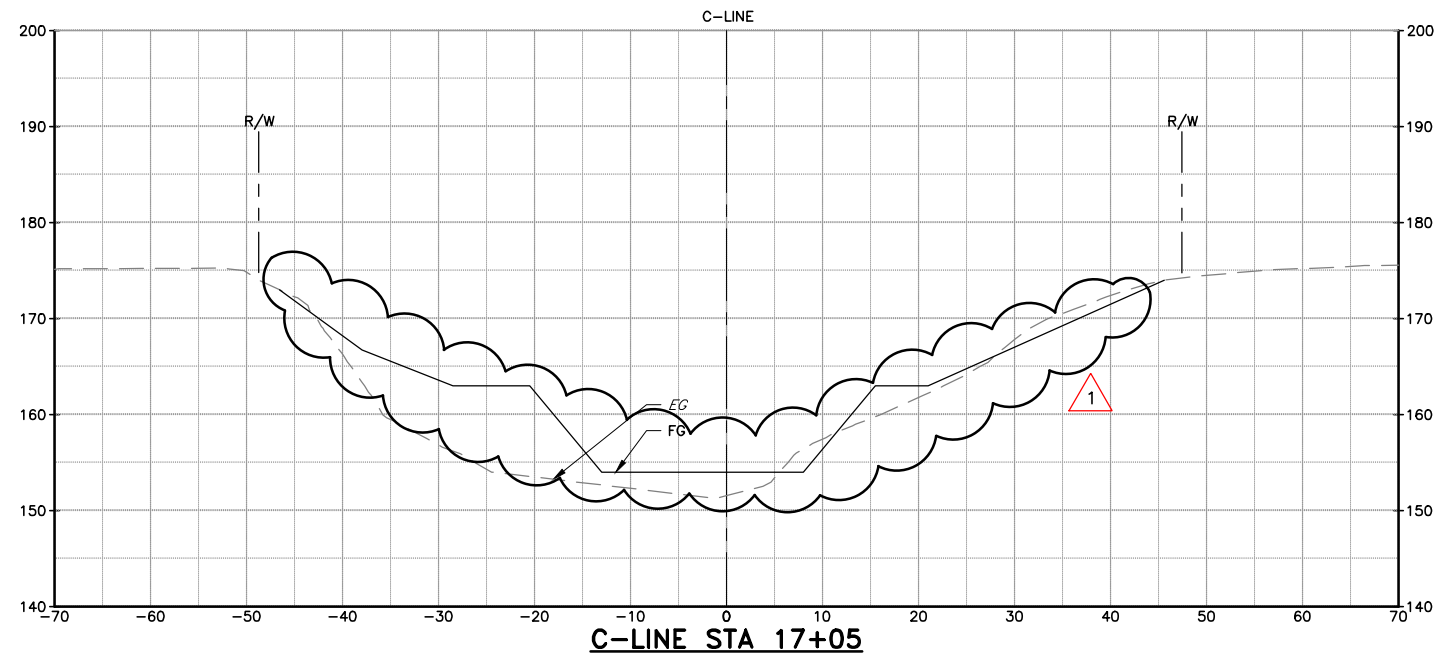


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					DRAWN J. CORDOVA					SHEET NUMBER: 34 OF 39
					CHECKED S. HOSSEINI	5/14/2019				Attachment 1 Page 46 of 148
					PROJECT ENGINEER	DATE				

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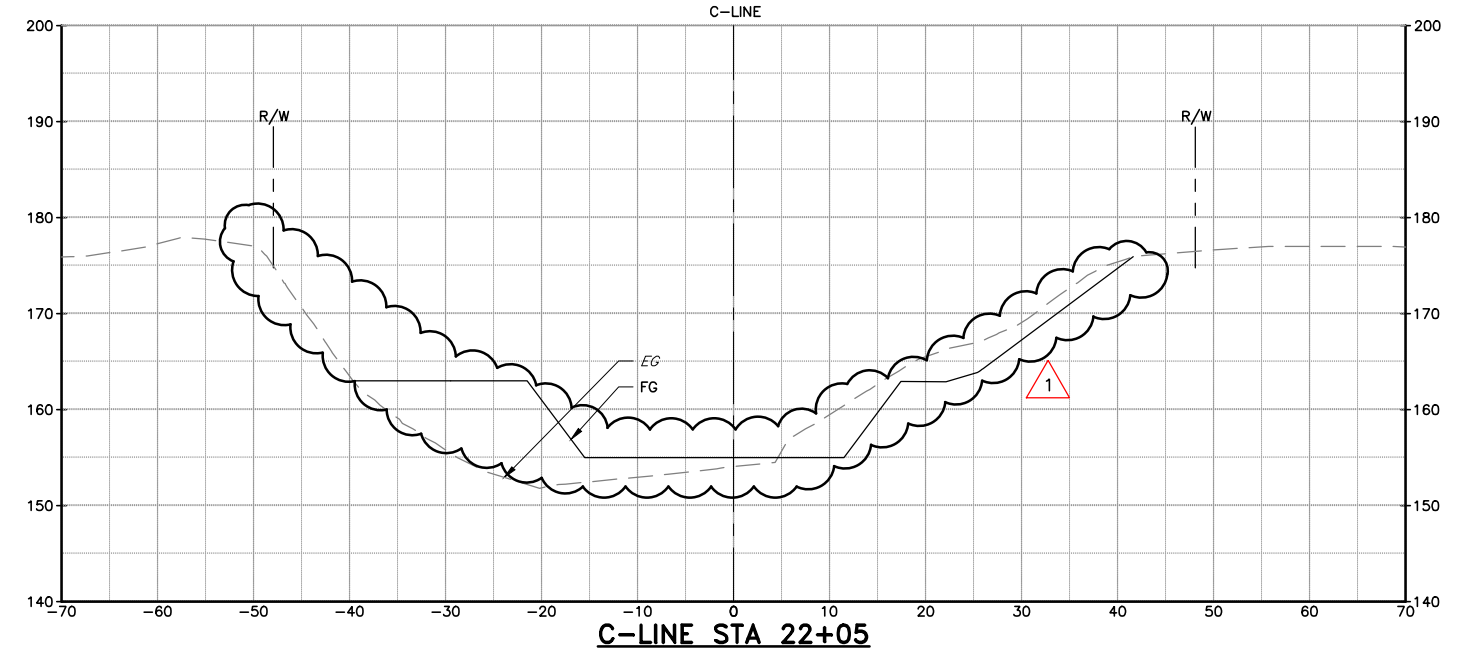
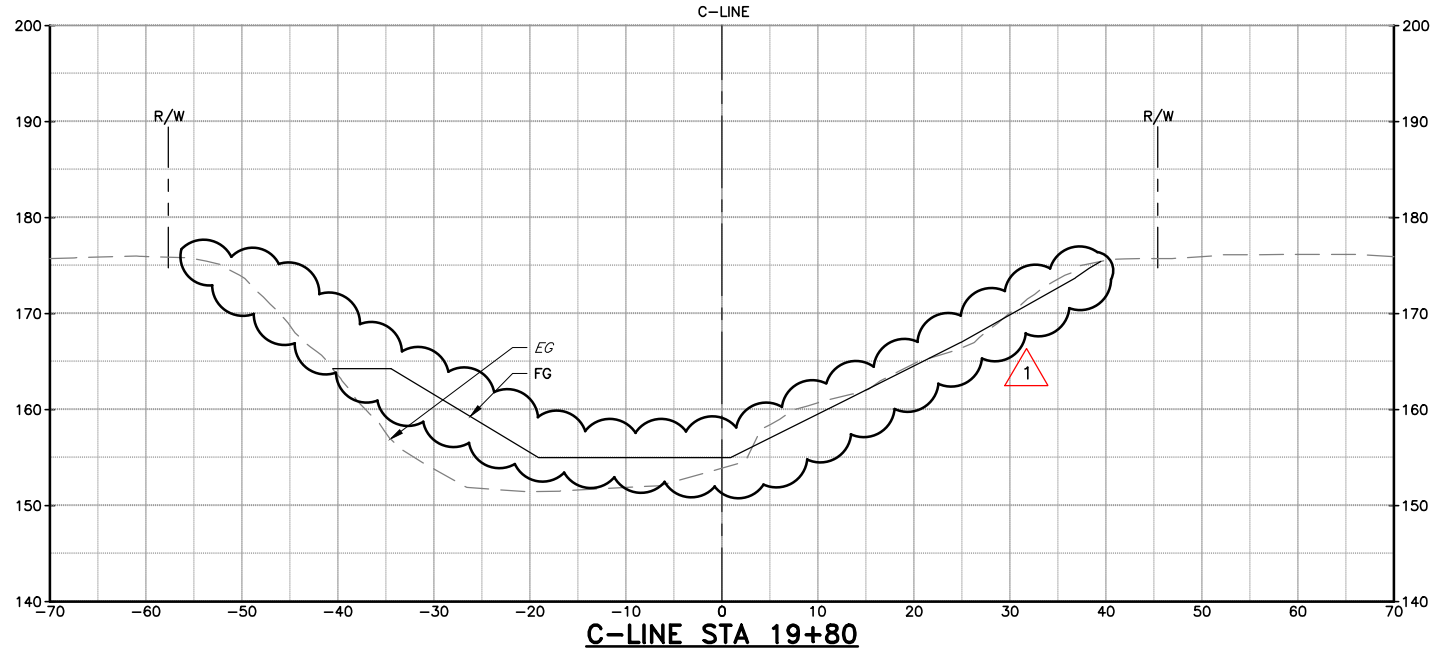
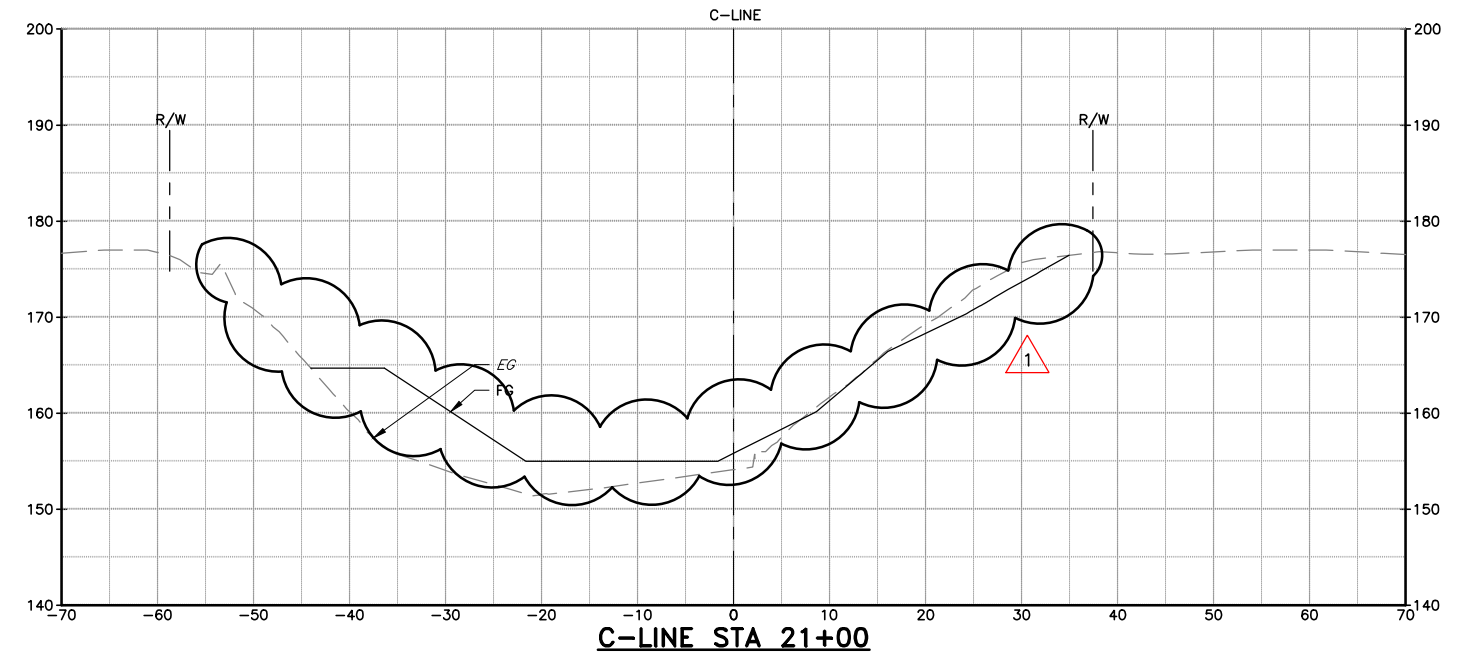
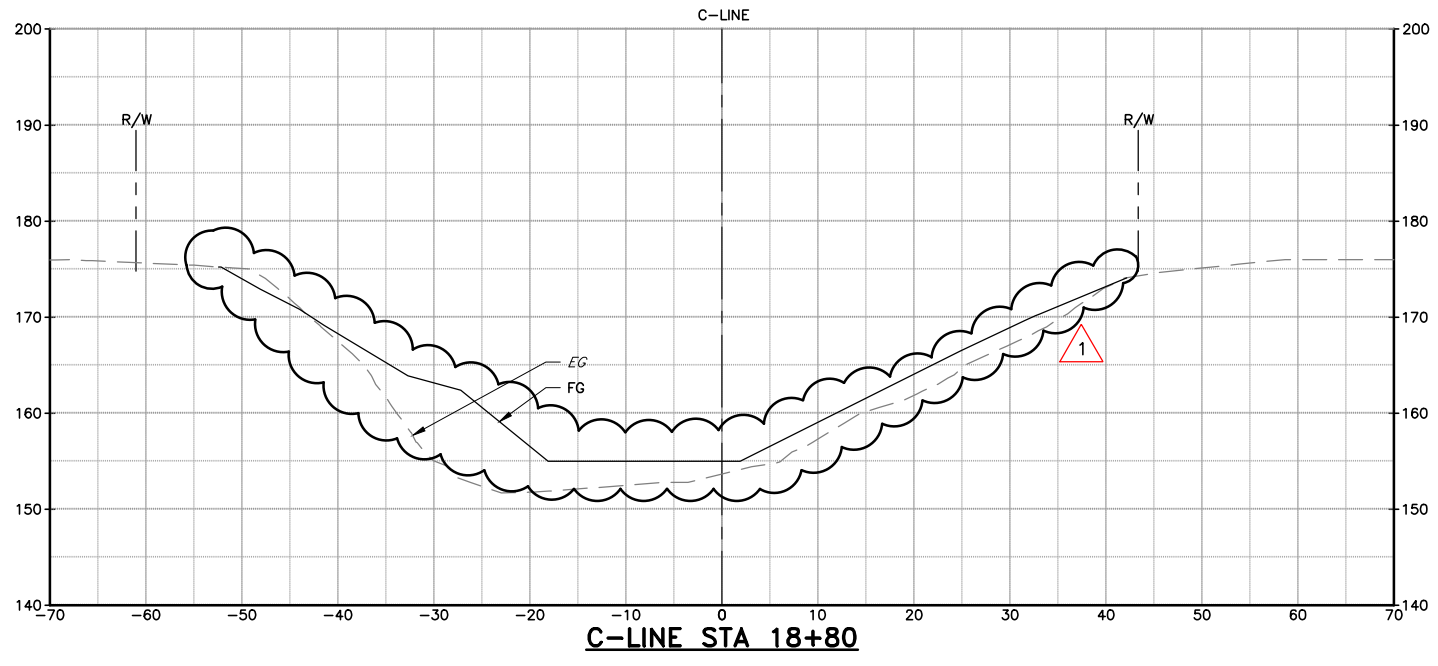


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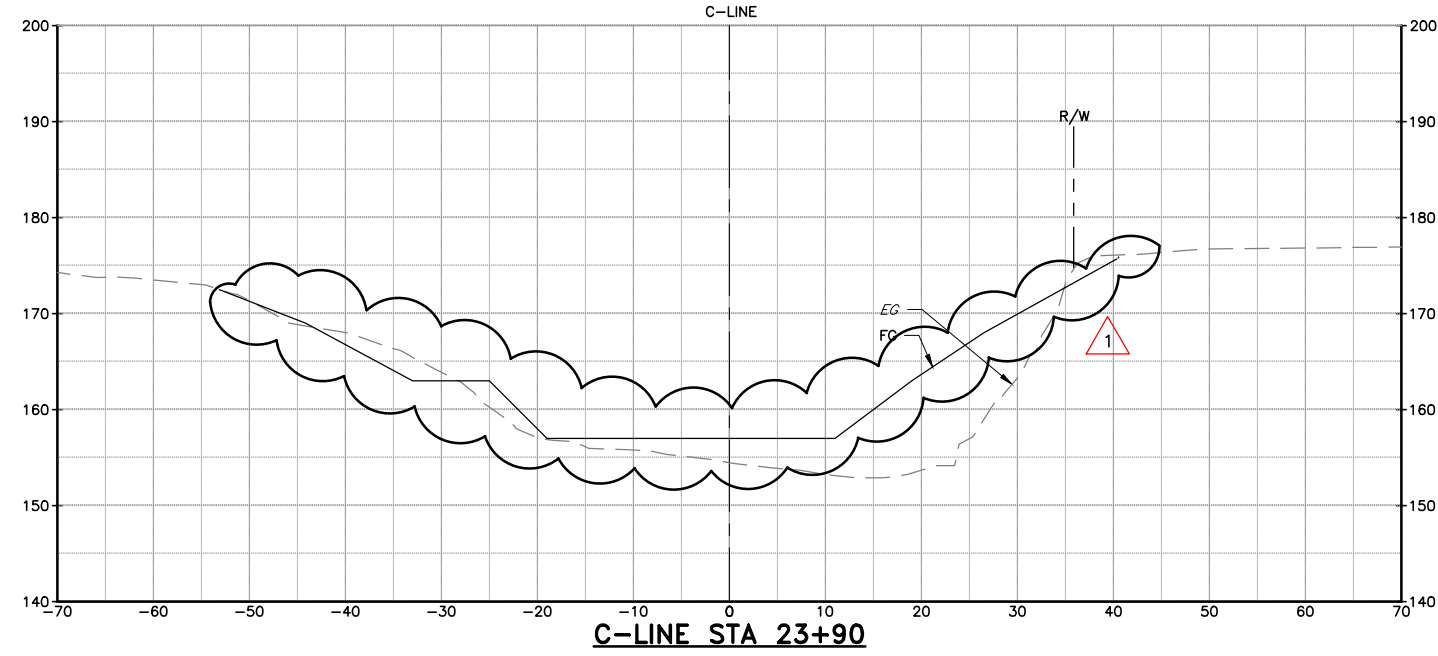
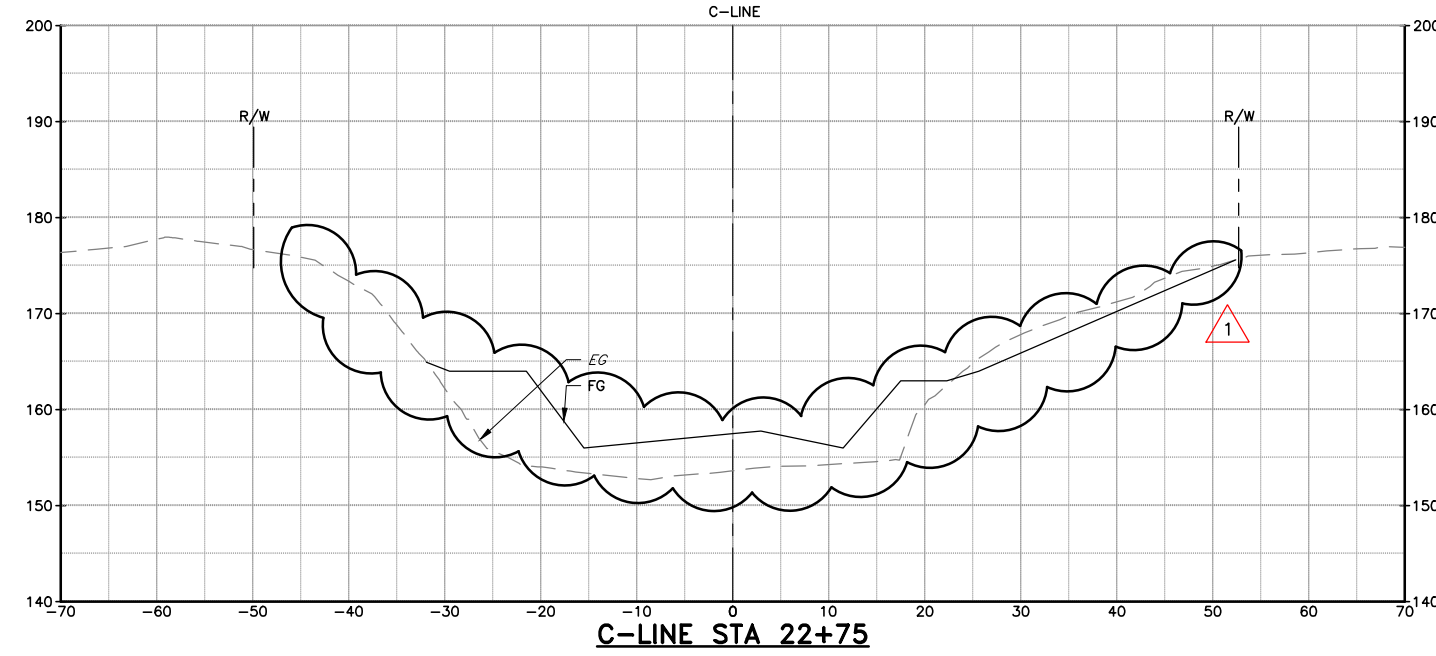
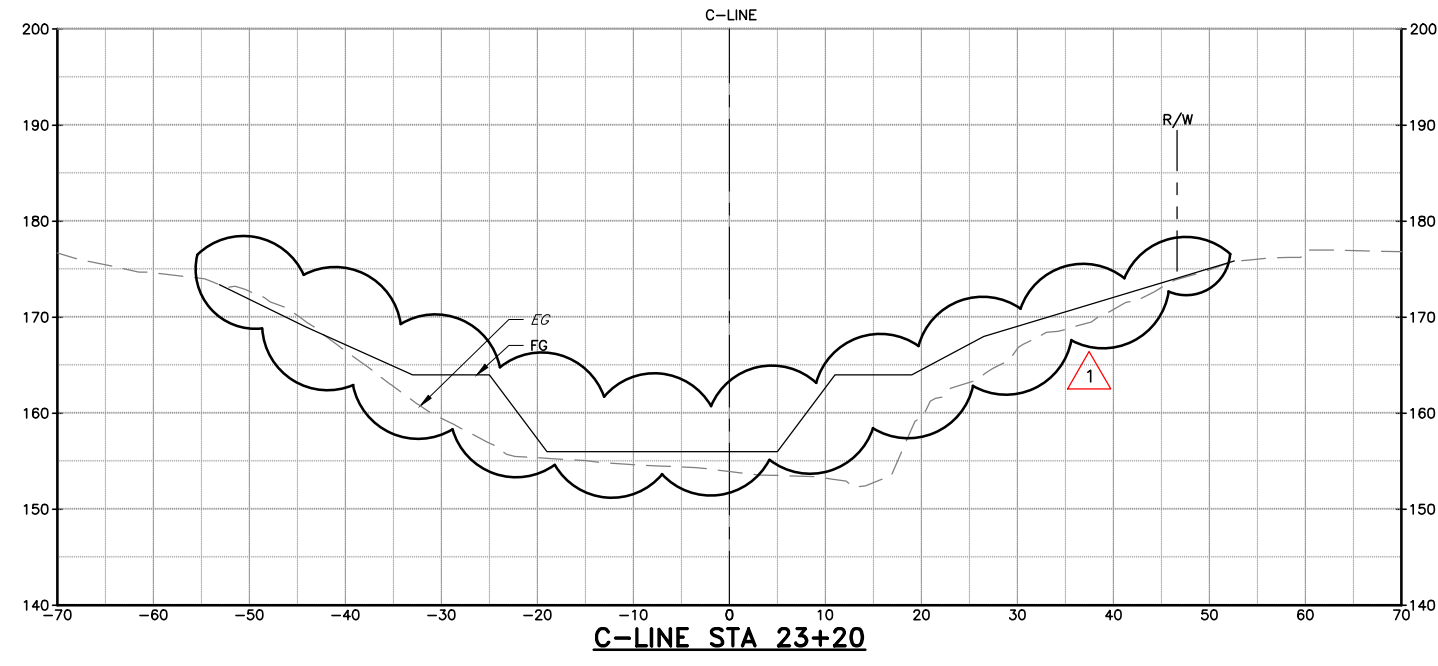
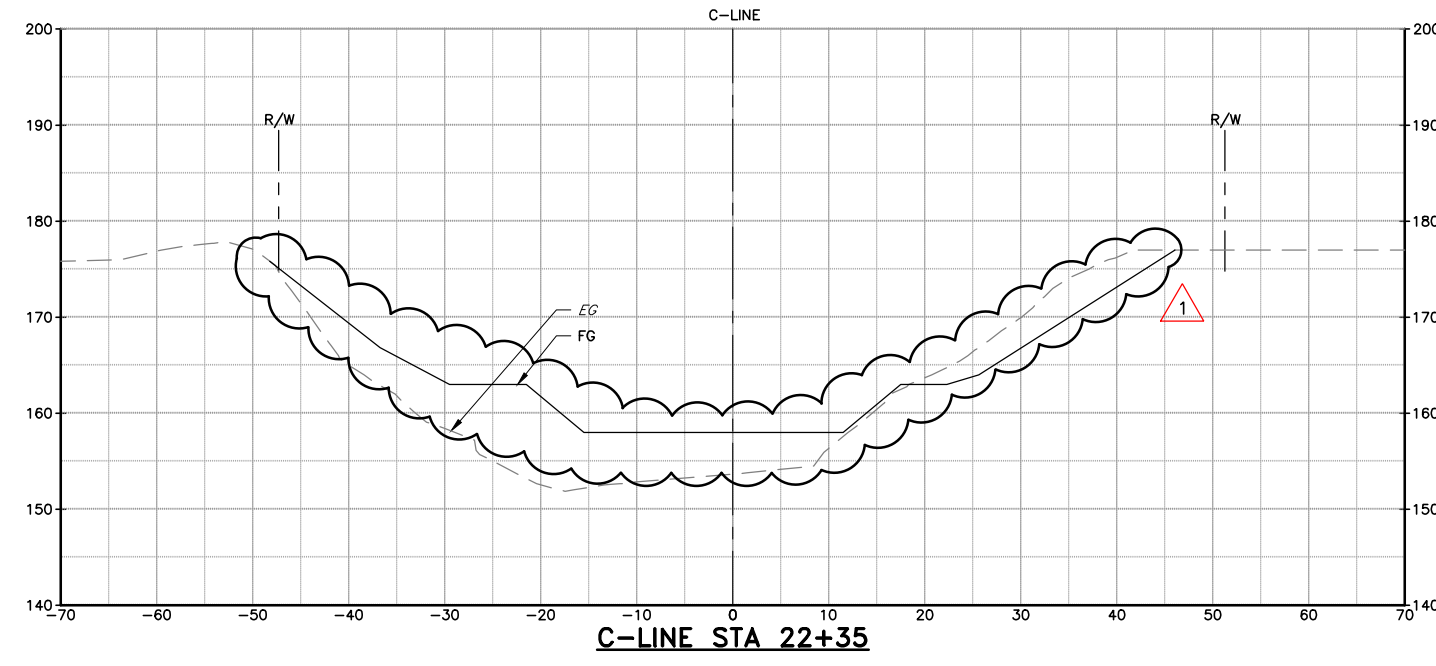


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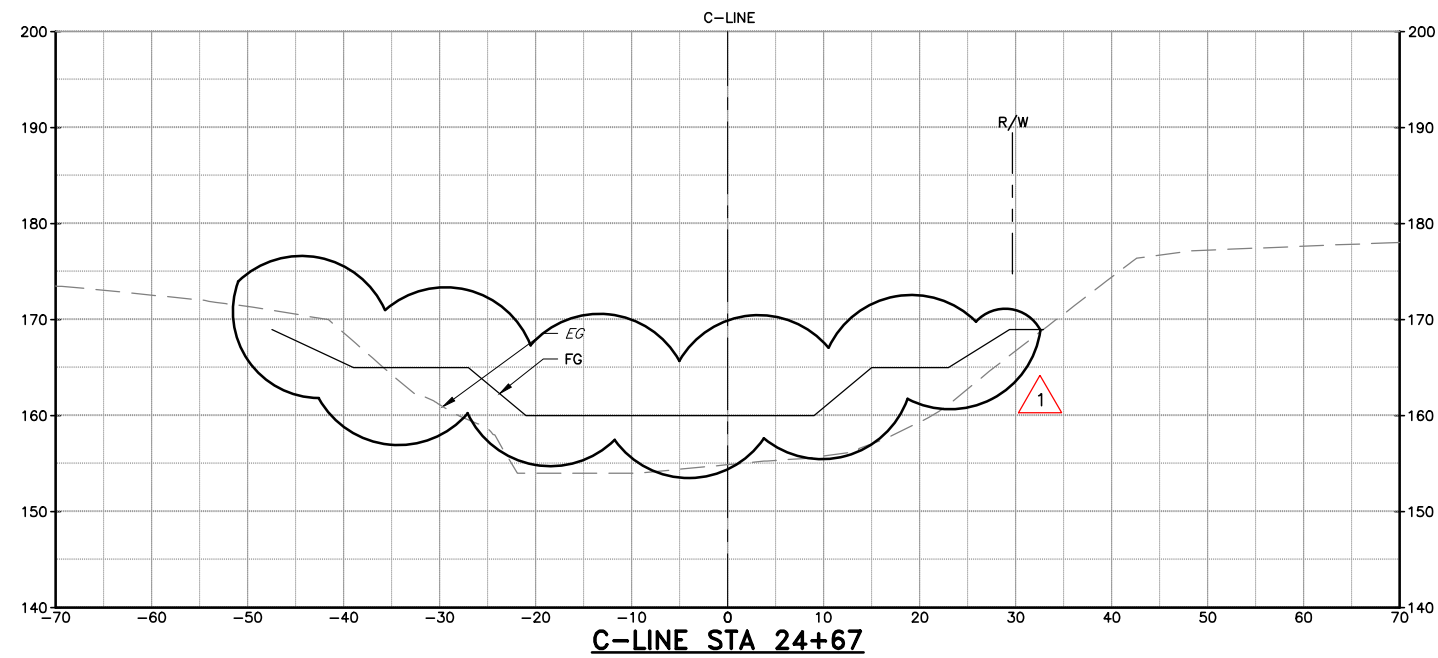
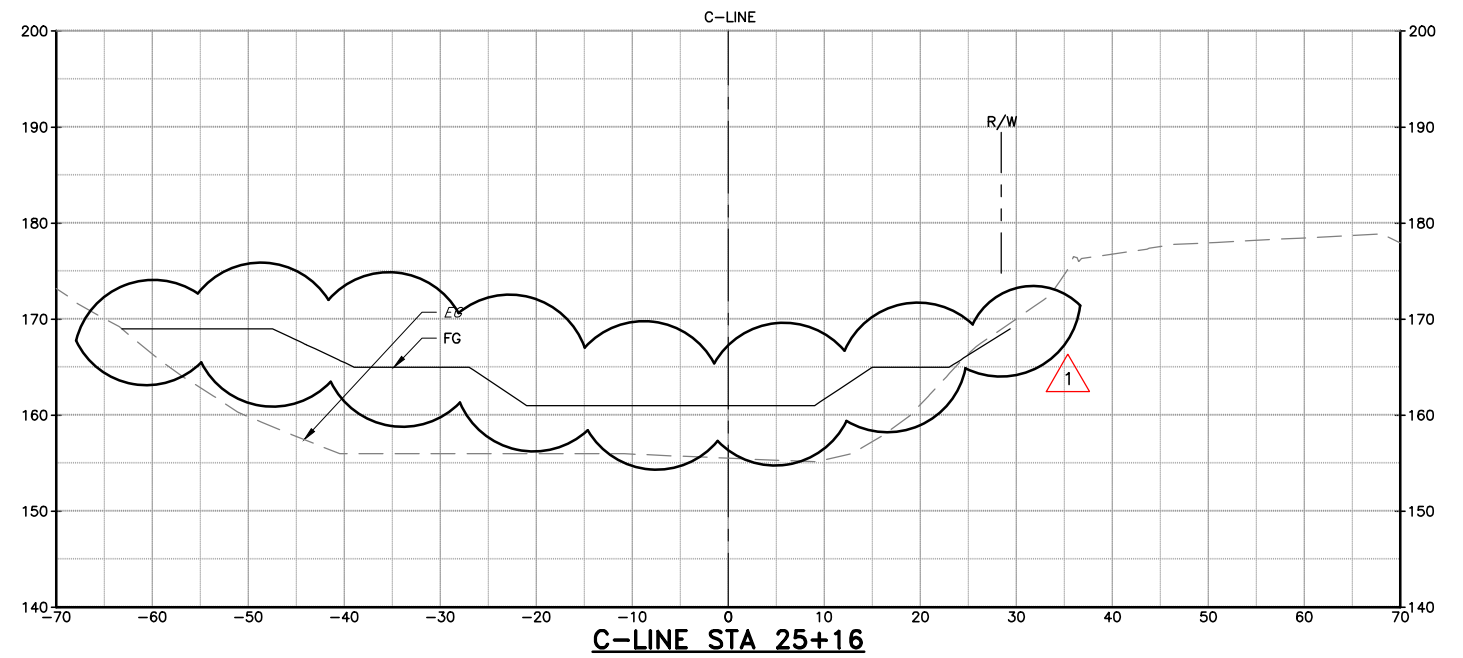
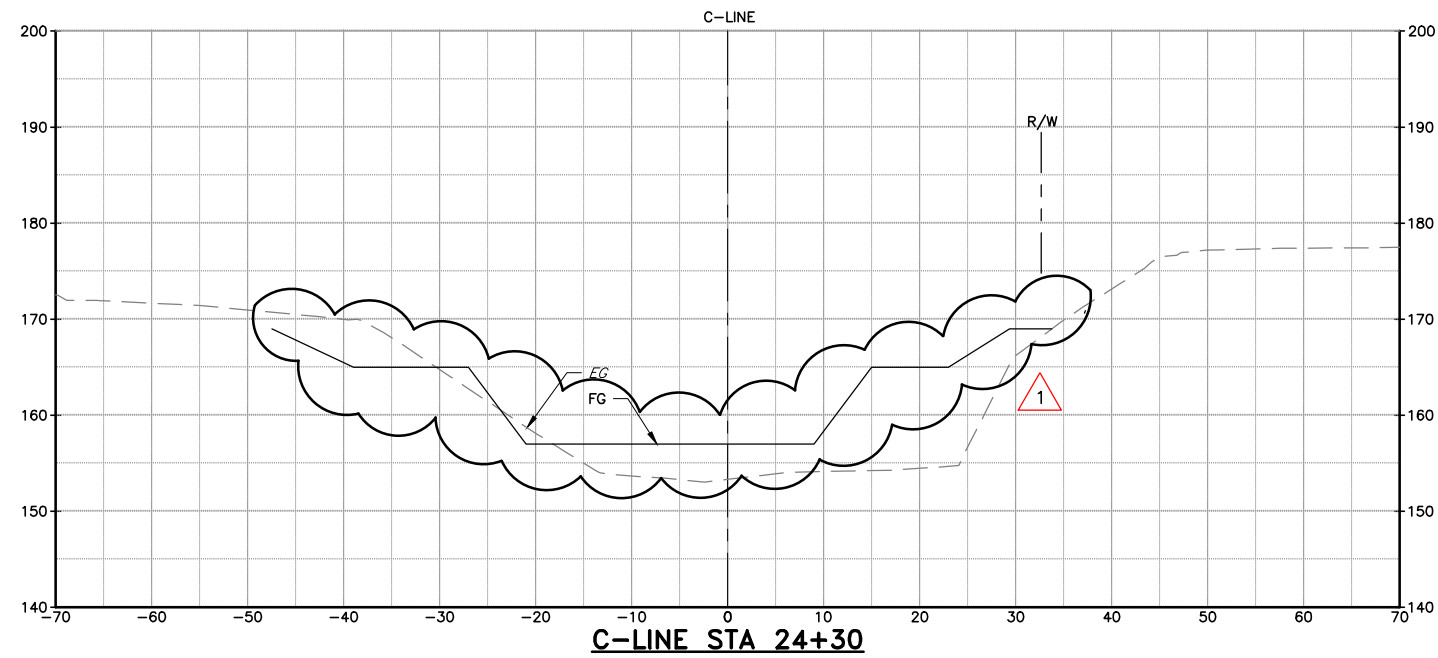
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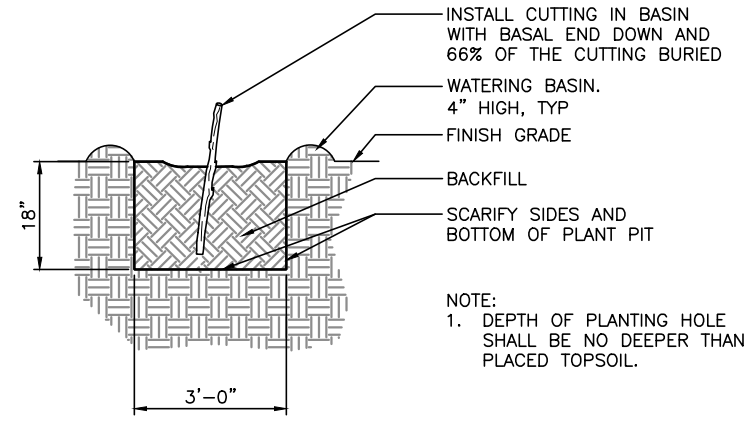
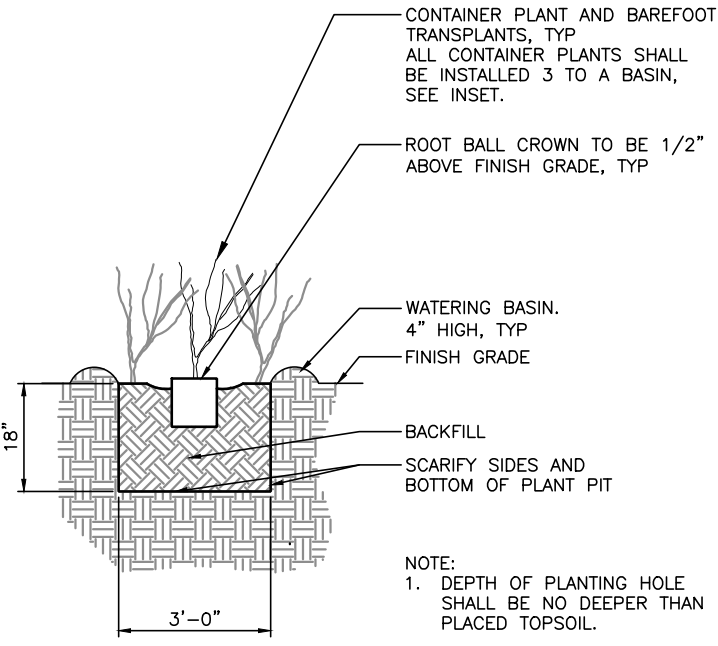
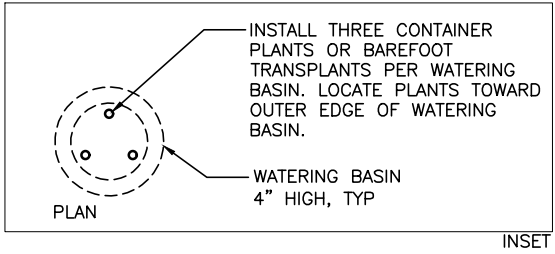
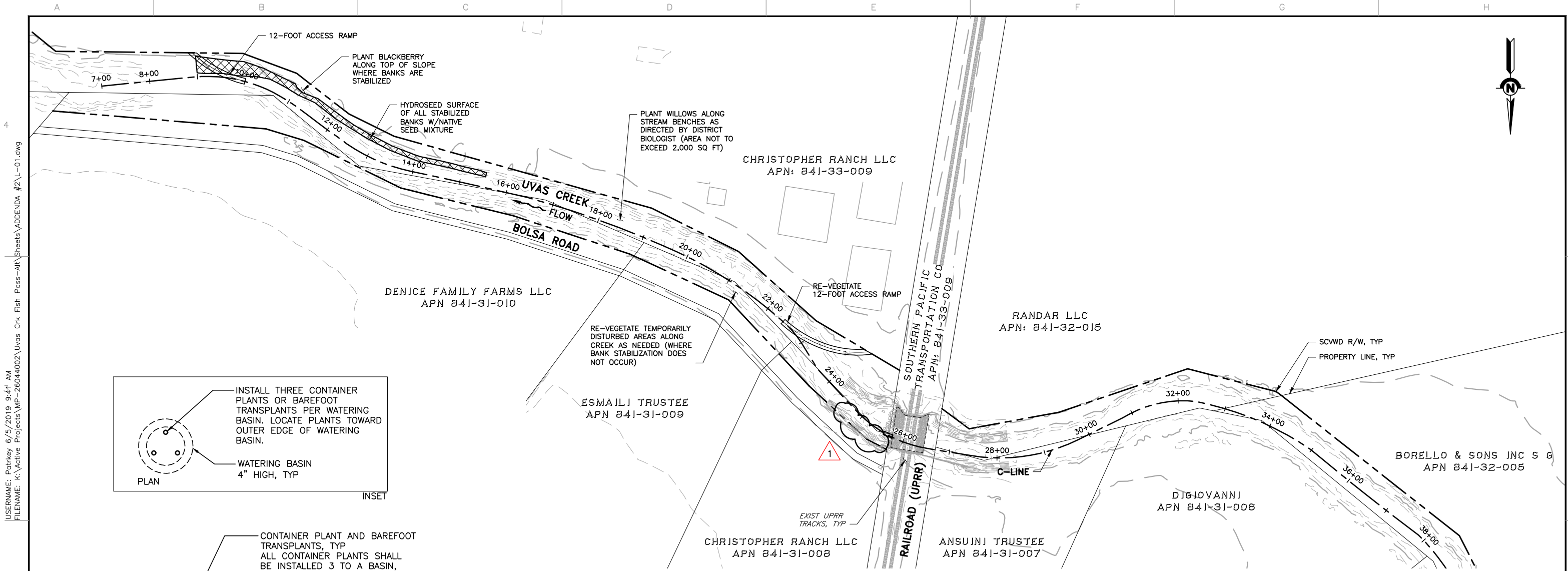
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PLAN
SCALE: 1" = 100'

PLANTING PLAN		
SPECIES	QUANTITY	LOCATION
ARTEMISIA DOUGLASIANA	21	UPSTREAM ACCESS RAMP
ROSA CALIFORNICA	15	UPSTREAM ACCESS RAMP
SYMPHORIC ALBUS	21	UPSTREAM ACCESS RAMP
RUBUS URSINUS	280	TOP OF RECONSTRUCTED BANK SLOPES
SALIX SPP	TBD (CUTTINGS)	STREAM BENCHES
NOTE: 1. ALL PLANTS AND CUTTINGS TO BE PROVIDED BY THE DISTRICT.		

LEGEND
BIO-ENGINEERED BANK

DOCUMENT NUMBER: UVC_UL-L-5018-62632

REV 1	DESCRIPTION ADDENDUM #2 06-04-2019	DATE MAR 2018	APPR S. HUANG	REFERENCE INFORMATION AND NOTES	DATE MAR 2018	ENGINEERING CERTIFICATION S. HUANG DRAWN R. STILL CHECKED S. HOSSEINI	SANTA CLARA VALLEY WATER DISTRICT 	PROJECT NAME AND SHEET DESCRIPTION: BOLSA ROAD FISH PASSAGE IMPROVEMENTS PLANTING PLAN	SCALE AS SHOWN 0 1" VERIFIED SCALES BAR IS ONE INCH ON ORIGINAL DRAWING IF PRINTED ONE INCH ON SCALES ACCORDINGLY	PROJECT NUMBER 26044002 SHEET CODE: L-01 NUMBER: 39 OF 39
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THE BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT

**ADDENDUM 2
ATTACHMENT 3**

- A. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, LAKE AND STREAMBED ALTERATION AGREEMENT**
- B. SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD, WATER QUALITY CERTIFICATION**
- C. U.S. ARMY CORPS OF ENGINEERS, CLEAN WATER ACT SECTION 404 NATIONWIDE PERMIT (FINAL)**
- D. NATIONAL MARINE FISHERIES SERVICES, PROGRAMMATIC BIOLOGICAL OPINION (FINAL)**

**Project No. 26044002
Contract No. C0652**

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**A. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, LAKE AND
STREAMBED ALTERATION AGREEMENT**

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CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
BAY DELTA REGION
2825 CORDELIA ROAD, SUITE 100
FAIRFIELD, CA 94534
(707) 428-2002



STREAMBED ALTERATION AGREEMENT
NOTIFICATION No. 1600-2019-0011-R3
UVAS-CARNADERO CREEK

MR. VINCENT GIN, DEPUTY OPERATING OFFICER
BOLSA ROAD FISH PASSAGE IMPROVEMENTS PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (CDFW) and the Santa Clara Valley Water District (Valley Water) (Permittee) as represented by Vincent Gin.

RECITALS

WHEREAS, pursuant to Fish and Game Code section 1602, Permittee notified CDFW on January 11, 2019 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to Fish and Game Code section 1603, CDFW has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The Bolsa Road Fish Passage Improvements Project (Project) is located in the Pajaro River Watershed along Uvas-Carnadero Creek, which runs parallel to the southside of Bolsa Road in unincorporated Santa Clara County, State of California; Accessor Parcel Numbers (APNs) 841-32-006, 841-32-007, 841-33-002, 841-31-008, 841-21-010, and 841-33-005; Latitude: 36.969371, Longitude: -121.542772 (Exhibit A).

PROJECT DESCRIPTION

Background

A railroad crossing, located over Uvas-Carnadero Creek within the Project area, was originally constructed with one set of tracks by Southern Pacific Railroad in the early 1900s. As-built drawings from 1918 depict the crossing with two spans and a natural channel bottom. Today, the two-span bridge remains and is owned by Union Pacific Railroad (UPRR); however, the channel bottom at the crossing includes a concrete slab that appears to connect the middle pier with both abutments. The concrete slab extends 80 feet between each abutment, encompasses the center pier, and continues for 17 ft upstream and 20 ft downstream from the pier. The upstream edge of the slab is approximately 4 ft above the creek's thalweg elevation and includes a cutoff wall of unknown thickness and depth. A similar cutoff wall faces the downstream edge of the slab, which is approximately 7 feet above the downstream thalweg elevation. The downstream cutoff wall face is lined with large rip rap (approximately 3 feet in diameter), which extends across the channel. When coupled with reduced sediment loading and channel incisions following the installation of the Uvas Dam in 1957, the concrete slab became a fish barrier.

The Uvas-Carnadero Creek supports a self-sustaining population of steelhead (*Oncorhynchus mykiss*) that is part of the South-Central California Coast distinct population segment. In 1982, a Denil fish ladder was installed at the downstream edge of the slab between the center pier and north abutment. In 2006, a system of 1-foot tall concrete curbs on top of the slab were installed to direct low stream flows toward the fish ladder. Since 2006, the Denil fish ladder has been compromised by frequent debris blockages and no longer functions as it was designed.

Setting

The Uvas-Carnadero Creek is an intermittent stream and typically runs dry in the summer to early fall within the Project area, though water may remain in pools later into the summer. The creek banks exhibit substantial erosion in locations, with exposed tree roots in the channel. Small, isolated willow benches on gravel and cobble substrates occur in a few locations in the channel (immediately up- and downstream of the UPRR bridge footing). Other plant species in the channel include narrowleaf willow (*Salix exigua*), red willow (*Salix laevigata*), slender willow herb (*Epilobium ciliatum*), tall flatsedge (*Cyperus eragrostis*), curly dock (*Rumex crispus*), pennyroyal (*Mentha pulegium*), and tumble weed (*Amaranthus albus*).

Mixed riparian woodland occurs in a narrow corridor along both banks of the creek. The riparian corridor is restricted by Bolsa Road to the north and agricultural development to the south. The erosion has adversely affected the riparian habitat resulting in some tree loss. The mixed riparian woodland forms relatively dense canopy and includes coast live oak (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), black walnut (*Juglans nigra*), and to a lesser degree willows. The understory varies from dense to sparse and is dominated by blackberry (*Rubus* spp.), poison oak (*Toxicodendron diversilobum*), and herbaceous ground cover.

There is one small patch of coast live oak woodland totaling 0.11 acre in the Project area. The coast live oak woodland is located in a flat area above the top of bank on the south side of the creek just downstream of the UPRR bridge. The habitat is dominated by a moderately dense canopy of coast live oak with an herbaceous understory.

Project Activities

Riffle-Pool Complex

The purpose of the Project is to restore steelhead passage at the lower and upper reaches of the creek and includes the following objectives:

1. Establish fish upstream passage at the UPRR crossing, providing access to spawning grounds by modifying the channel design approximately 1,700 linear feet downstream of the crossing.
2. Restore and maintain natural hydrologic functions, to the fullest extent possible, to the channel and banks of the Uvas-Carnadero Creek.

The Project will include a gradually-sloped stream riffle-pool complex eight feet downstream of the concrete slab. The modified channel design will extend approximately 1,700 linear feet and the work will include an additional 100 feet on each end to allow for adequate space for channel installation. Construction of the riffle-pool complex will require minor earth moving and excavation as the modified channel will predominantly be at higher elevation than the existing creek grade. The thalweg of the creek (low flow channel) will shift laterally in some locations, from 2 feet up to 9 feet and the overall slope of the channel will be approximately 0.5 percent.

The modified channel will include 9 riffle and pool structures (10 riffle keys anchoring the upstream and downstream of 9 pools) with an additional pool located just below the existing concrete slab. The top and bottom portions of the riffle will be constructed out of two-ton rock to hold the riffle in place during high flows. The pools and middle sections of the riffles will be constructed with one-ton and half-ton rock, except for the most upstream pool closest to the concrete slab, which will not include installation of rock. Although rock will not be added to the most upstream pool, it is anticipated that the pool will fill in over the next 2 to 10 years. No work will be conducted within the UPRR right-of-way which extends 8 feet downstream of the concrete slab. The pool closest to the concrete slab will be larger than the other pools and will be approximately 5 to 6 feet deep and 20 feet long. The design will ensure that the elevation of the top of the upstream riffle is at the same level of the edge of the concrete slab. This will allow water to flow over the upstream riffle and allow fish passage from the upstream pool to the channel upstream of the concrete slab. The pools and riffles will be overlaid with a thin layer of clean gravel to fill the interstitial spaces in the larger rock. To anchor the riffle at each of the nine locations, a minimum depth of two feet into the bank will be excavated and two- to three-ton rock will be placed and backfilled with soil. Riffle locations will be positioned to minimize impacts to mature riparian vegetation. The depth of rock and

gravel forming the riffles and pools will be approximately two feet and underlaid with clean fill material (the depth of fill will depend on how high the creek invert must be raised at a given location and will vary from approximately 0 to 4 feet).

Along the Project area, creek benches (generally three to eight feet wide) will be created to construct the top of riffle key. To reduce the sub-surface flow, the new streambed will be compacted with tamping, and pressurized water (jetting) will be used to help fine sediment settle into the interstitial spaces. Water that will be used for jetting will be captured and recycled to prevent downstream sedimentation. In total, the Project will have approximately 6,200 cubic yards (CY) of fill in the form of gravel, river, rocks, and boulders that will be placed in the channel for the riffle-pool complex.

Bank Stabilization

The creek banks will be reshaped in order to stabilize them for the installation of the riffle-pool complex. Bank stabilization will occur on the north bank just downstream of the concrete slab (approximately 140 linear feet) and on the south bank at the downstream end of the riffle-pool complex (approximately 800 linear feet). Depending on the location, bank stabilization may involve recontouring or setting bank eroded banks to achieve a stable 1.5:1 slope. Banks will be rebuilt with half-ton to one-ton rock, generally about three to eight feet below the top of bank, and designed for a maximum flow of 7,000 cubic feet per second (cfs). In areas where rock will be placed to support the banks, the rock will be placed around existing trees and root systems (where feasible), and the rock will be buried in a layer of soil. Bank contouring will match pre-Project conditions to the fullest extent possible. Approximately 3,500 CY of fill in the form of rock and native soil will be used to reconstruct the banks.

Berm Construction

To ensure that the Uvas-Carnadero Creek safely contains 1 percent flood events, a 130-foot long, 6-foot wide, and 1-foot tall earthen berm will be installed approximately 500 feet upstream of the UPRR bridge. The berm will be located on the south side of the creek at the edge of the riparian corridor that is currently lined with cacti along an agricultural access road and orchard. The berm will be set back 0 to 12 feet from the top of bank.

Vegetation Removal

Prior to the installation of the riffle-pool complex, the site will require clearing and grubbing of existing surface vegetation in the channel and along portions of the banks where stabilization is needed. Nine trees will be removed ranging in diameter at breast height (DBH) from 4 inches to 33 inches along the banks for installation of bio-engineered bank protection or minor shifts in channel location. The nine trees that will be removed include two California sycamores, one Eucalyptus sp., two willow spp. (*Salix* spp.), and four Oregon ash (*Fraxinus latifolia*) (Exhibit B).

Riparian Habitat Restoration and Enhancement

To further enhance the riparian and aquatic habitat, willow shrubs will be planted on the three to eight-foot-wide creek benches. These plantings will also help further stabilize the channel and introduce future sources of in-stream habitat complexity. The plantings will be installed from stem cuttings from narrowleaf willow (*Salix exigua*) and red willows (*Salix laevigata*) that are collected from the Project area or immediately upstream. Cuttings will be planted with approximately 3-foot spacing and will occur in the late fall to early winter, following construction of the riffle-pool complex.

The Project will also include planting and seeding to facilitate understory establishment. California blackberry (*Rubus ursinus*) will be planted in the transition area between the top of the reconstructed bank and undisturbed native soil higher on the bank. On the reconstructed bank, the soil will either be hydroseeded with a sterile seed mixture or hand seeded and covered with straw, mulch, or other appropriate material. In temporarily disturbed areas along the channel (outside of bank reconstruction areas), native herbaceous understory species will be planted. Species that are proposed for planting include California wild rose (*Rosa californica*), common snowberry (*Symphoricarpos albus*), and California mugwort (*Artemisia douglasiana*).

The Project will also include removal of trash, debris, and other inorganic material. The Project area currently contains a few cars on the south bank at the downstream end, large blocks of concrete on the banks and in the channel, a brick chimney just downstream of the concrete slab, several car tires, and smaller scattered trash and debris.

Dewatering

Construction of the riffle-pool complex and associated activities will occur during the dry season when the creek is anticipated to be dry. However, if water is present, Uvas-Carnadero Creek will be dewatered within the Project area. Water may be pumped around the Project site using either an electric submersible pump powered by a generator, or a diesel or gasoline powered trash pump system. For the cofferdams, the Permittee may use a temporary gravel-filled bag dam lined with Visqueen at the upstream edge of the concrete slab as well as a second one at the downstream end of the Project site. The pump intake will be screened to prevent harm to aquatic life. Temporary rip rap may be installed downstream of the downstream cofferdam to dissipate flow and prevent scour of the creek bed. Instream construction work is expected to take one dry season.

Staging, Access, and Equipment

Rocks and gravel that will be used for construction of the riffle-pool complex and banks will be staged at a vacant lot near the southern end of the Project along Bolsa Road (0.3

acres) or on a disturbed portion of the Christopher Ranch Property (0.3 acres). Access to the creek will occur from the Christopher Ranch property on the south side of the creek. Approximately two 12-foot wide temporary access ramps will be constructed. One access ramp will be constructed down to the channel at the downstream end of the Project in a location where the bank has failed and will be reconstructed. A second access ramp will be constructed just downstream of the UPRR bridge. Equipment that will be used for the Project includes excavators, backhoes, knuckleboom loaders, dump trucks, water trucks, compactors, generators, and pickup trucks.

PROJECT IMPACTS

Existing fish or wildlife resources the Project could substantially adversely affect include, but are not limited to: the Federally Threatened (FT) South-Central California Coast steelhead distinct population segment (*Oncorhynchus mykiss*); the Species of Special Concern (SSC) Monterey roach (*Lavinia symmetricus subditus*), Pacific lamprey (*Entosphenus tridentatus*), Western pond turtle (WPT) (*Emys marmorata*), Loggerhead shrike (*Lanius ludovicianus*), yellow warbler (*Setophaga petechia*), American badger (*Taxidea taxus*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*); the FT and SSC California red-legged frog (CRLF) (*Rana draytonii*) and California tiger salamander (CTS) (*Ambystoma californiense*); the Fully Protected white-tailed kite (*Elanus leucurus*); the rare plant designated by the California Native Plant Society (CNPS) as Rank 1B.1 Loma Prieta Hoita (*Hoita strobilina*); other native fish species; terrestrial and semi-aquatic species; and roosting bats and nesting birds.

The adverse effects the Project could have on the fish or wildlife resources identified above, without implementation of the Measures to Protect Fish and Wildlife Resources, specified below, include: short-term release of petroleum products such as oil or fuel; increased bank erosion; increased turbidity; disturbance or mortality of aquatic or semi-aquatic species of fish and wildlife; disturbance or mortality of terrestrial species; loss of aquatic and terrestrial habitat; and disturbance to nesting birds.

The Project will involve various ground disturbing activities due to excavation, dewatering, staging of equipment and materials, and removal of vegetation. Approximately 2.7 acres (2,286 linear feet, overlapping) of temporary impacts will result to the creek channel (1.57 acres; 2,286 linear feet) and banks (1.13 acres; 1,899 linear feet). Approximately 1,500 CY of soil will be excavated within the channel and approximately 2,300 CY of soil will be excavated from the banks. The channel will have approximately 6,200 CY of fill and the banks will have approximately 3,500 CY of fill (Exhibit B).

The Project is covered under the Santa Clara Valley Habitat Plan (VHP). CRLF, CTS, WPT, and Loma Prieta are covered species under the VHP. Permittee will implement all applicable conservation measures required under the VHP for these species, and pay all appropriate land cover fees as described in the VHP. The Project is expected to serve as a stream restoration project under the VHP outside of the reserve system, and will help meet the VHP goal of restoring 10 miles of streams for the benefit of covered

species.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the Project site at all times and shall be presented to CDFW personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the Project at the Project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify CDFW if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the Project by another local, state, or federal agency. In that event, CDFW shall contact Permittee to resolve any conflict.
- 1.4 Project Site Entry. Permittee agrees that CDFW personnel may enter the Project site at any time to verify compliance with the Agreement.
- 1.5 Notification of Commencement and Completion of Work. Permittee shall notify CDFW within five working days of beginning work and within five working days of completion of work within the stream channel for each construction season covered in this Agreement. Notification shall be made to Mayra Molina, Environmental Scientist, by email (mayra.molina@wildlife.ca.gov) or by phone (707) 428-2067.
- 1.6 Final Plans and Specifications. The Permittee submitted final construction plans on May 21, 2019, to CDFW. Permittee shall notify CDFW of any modifications to the Project Description or design plans as stated above. At the discretion of CDFW, Project modifications may require an amendment or a new application.
- 1.7 Final Dewatering Plan. The Permittee submitted a draft dewatering plan with the Notification that was provided on January 11, 2019. If dewatering is required, the Permittee shall provide a final dewatering plan to CDFW for review and approval at least 14 days prior to the start of Project activities.

- 1.8 Weekly Construction Schedule. Permittee shall provide a weekly construction schedule to CDFW prior to and during construction for each work season, until the Project is complete. Station numbers where activities will occur should also be included.
- 1.9 Unauthorized Take. This Agreement does not authorize the take, including incidental take, of any State or federally listed threatened or endangered species, or of species that are otherwise protected under FGC. Permittee may be required, as prescribed in the California and U.S. Endangered Species Acts, to obtain take coverage for State and federally listed species prior to commencement of the Project. Any unauthorized take of listed species may result in prosecution and nullification of this Agreement.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

- 2.1 Best Management Practices and VHP Conditions. All Best Management Practices (BMPs) and VHP conditions as described in Box 12, Table 5 and Table 6 of the Notification shall be implemented as part of this Project, unless otherwise conditioned herein.

Work Period Construction

- 2.2 Work Period. Project activities shall be confined to the period of June 15 to October 15 under dry weather conditions (refer to Measure 2.3). Revegetation work using hand tools is not confined to this time period.
- 2.3 Precipitation Forecasts. Precipitation forecasts shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of substantial precipitation defined as 0.5 inch or more within a 24-hour period. Construction activities that are halted due to precipitation may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 20% or less chance of precipitation. Weather forecasts shall be documented upon request by CDFW.
- 2.4 Work Period Modification. If Permittee needs more time to complete Project activities, work may be authorized outside of the work period specified in Measure 2.2 and modified on a day-to-day or week-by-week basis by contacting CDFW Representative, Mayra Molina, Environmental Scientist, by email (mayra.molina@wildlife.ca.gov) or by phone (707) 428-2067, or Brenda Blinn, Environmental Scientist (Supervisory) by email (brenda.blinn@wildlife.ca.gov) or by phone (707) 944-5541.

If Permittee requests a work period modification, Permittee shall submit such a request in writing to CDFW. The request shall: 1) describe the extent of work already completed; 2) detail the activities that remain to be completed; 3) detail the time required to complete each of the remaining activities; 4) provide photographs of both the current work completed and the proposed site for continued work, and 5) provide a weather forecast for the week that activities are proposed. The work period variance shall be issued at the discretion of CDFW. CDFW reserves the right to require additional measures to protect biological resources as a condition for granting the variance. CDFW shall have 7 calendar days to review the proposed work period variance.

Staging, and Equipment, and Dewatering

- 2.5 Staging of Materials. Staging and storage areas for vehicles, equipment, and any other materials shall be located outside of the stream channels. Stationary equipment such as motors, pumps, generators, compressors, and welders, located within or adjacent to the stream channels shall be positioned over drip-pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream channels shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life. Vehicles shall be moved a minimum of 150 feet away from any stream channels prior to refueling and lubrication.
- 2.6 No Equipment in Wetted Areas. Equipment shall not be operated in wetted areas, including but not limited to ponded, flowing, or wetland areas, or within the live stream channel below the level of top-of-bank.
- 2.7 No Heavy Equipment in Channel. Permittee shall not operate heavy equipment in wetted areas of a stream (including flowing or ponded water) or wetland at any time except as may be necessary to construct cofferdams to divert stream flow and isolate the work site (see Measure 2.8).
- 2.8 Dewatering Methods. Work shall be performed in isolation from the flowing stream. The entire stream flow shall be diverted around the Project work area using gravel-filled bags or similar, as described in the draft dewatering plan provided in the supplemental information under Box 10 Project Description of the Notification. If instream construction is not completed within one season, the water diversion system shall be removed by October 15 and the site shall be winterized. Upon removal of the water diversion system, flows shall be gradually restored to the channel in a manner that avoids an erosive surge of water.
- 2.9 Flow Diversion. Cofferdams and the stream diversion system shall remain in place and functional throughout the construction period. If the cofferdams or stream diversion fail, they shall be repaired immediately. Flow diversions shall be done in

a manner that prevents pollution and/or siltation and that provides flows to downstream reaches. Flows to downstream reaches shall mimic natural flow patterns. Said flows shall be of sufficient quality and quantity and appropriate temperature to support fish and other aquatic life both above and below the diversion structure. The water diversion shall be constructed with the least amount of disruption to the channel.

- 2.10 Water Surface Elevation. During dewatering of the channel, the decrease in water surface elevation (WSE) shall be controlled such that WSE does not change at a rate that increases turbidity to the creek that could be deleterious to aquatic life and the likelihood of stranding aquatic life up- and downstream of the creek.
- 2.11 Turbidity Monitoring. Permittee shall monitor turbidity levels upstream and downstream of the Project site before and during Project activities. The Permittee shall keep a log of the data. The following standards shall be met:
- a. Permittee shall monitor turbidity levels upstream and downstream of the Project site before dewatering activities begin and then every two hours during dewatering and re-watering activities.
 - b. If the turbidity reading downstream of the Project site is greater than 30 nephelometric turbidity units (NTUs) above turbidity at the upstream site, Permittee shall modify BMPs or activities (e.g., fix siltation devices and continue to monitor every two hours).
 - c. If turbidity continues to exceed the background for four (4) hours. Permittee shall stop work, modify BMPs, and wait to resume work until background turbidity levels are achieved.
 - d. If turbidity levels are greater than 50 NTUs above upstream turbidity site, Permittee shall stop work immediately, modify BMPs, and wait to resume work until background turbidity levels are achieved. CDFW may take enforcement action if appropriate turbidity and siltation control measures are not deployed.

Hazardous Material, Debris, Waste, and Spills

- 2.12 Hazardous Materials. Debris, soil, silt, bark, rubbish, slash, sawdust, creosote – treated wood, raw cement/concrete or washing thereof, asphalt, paint, or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from Project related activities, shall be prevented from contaminating the soil and/or entering the waters of the State. Any of these materials, places within or where they may enter a stream or lake, by Permittee, shall be removed immediately. All chemicals stored in staging areas shall be stored in secondary containment with no less than 110% capacity. Proper

storage and security shall be implemented to ensure that chemicals are not spilled or vandalized.

- 2.13 No Dumping of Litter or Debris. There shall be no dumping of litter or construction debris within the stream or riparian zone. All litter, debris, and waste shall be picked up daily and properly disposed of at an appropriate site.
- 2.14 Spill Kits. Prior to entering the work site, all field personnel shall know the location of spill kits and trained in their appropriate use.

Erosion and Sediment Control

- 2.15 Erosion Control. Erosion control measures shall be utilized throughout the Project where sediment runoff from exposed slopes threatens to enter the stream channel. At no time shall silt laden runoff be allowed to enter the stream channel. To protect exposed soils from erosion during discharges, erosion control blankets, mats, or geotextiles shall be placed over the erodible surfaces. Any erosion control materials used within the stream channels during discharges shall be removed immediately upon completion of water discharges. No erosion control materials shall contain any plastic or monofilament netting.
- 2.16 Prohibition Against Use of Plastic Netting in Erosion Control Measures. Permittee shall not use temporary or permanent erosion control devices containing plastic monofilament netting, including photo- or bio-degradable plastic netting. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

Wildlife and Habitat Protection and Prevention

- 2.17 CDFW-Approved Qualified Biologist(s) and Monitor(s). Before initiating ground- or vegetation-disturbing Project activities, Permittee shall submit to CDFW for written approval, the names and resumes of all qualified biologists and biological monitors involved in conducting surveys and/or monitoring work at least 10 days before initiating ground-or vegetation-disturbing activities.

Resumes shall include educational background, experience with focal species and description of experience with each focal species (e.g., tagging, handling, observational surveys, electrofishing, relocation, auditory surveys, etc.), including number of hours/years of experience per species, trainings/workshops, and certificates or related credentials. Please include experience with different life stages of a species when applicable.

A qualified biologist is an individual who shall have a minimum of five years of academic training and professional experience in biological sciences and related

resource management activities with a minimum of two years conducting surveys for each species that may be present within the Project area.

A biological monitor is an individual who shall have academic and professional experience in biological sciences and related resource management activities as it pertains to this Project, experience with construction-level biological monitoring, be able to recognize species that may be present within the Project area, and be familiar with the habits and behavior of those species.

- 2.18 Pipes, Hoses, and Similar Structures. All pipes, hoses, or similar structures less than 12 inches in diameter shall be closed or covered to prevent animal entry. All construction pipes or similar structures greater than 2 inches in diameter stored at the Project site overnight shall be inspected thoroughly for wildlife by a qualified biologist before the pipe or similar structure is buried, capped, used, or moved.
- 2.19 Steep-Walled Holes, Pits, or Trenches. All steep-walled holes, pits, or trenches exceeding 6 inches deep shall be secured against animal entry at the close of each day or any time the opening will be left unattended for more than one hour. Plywood or similar material with no gaps, shall be used to cover trenches (if possible), holes, and pits. In the absence of covers, escape ramps shall be provided, constructed of earth or untreated wood, sloped no steeper than 2:1, and located no further than 15 feet apart.
- 2.20 Special Status Wildlife Surveys. Within 48 hours prior to the start of Project-related activities, a qualified biologist shall conduct pre-construction surveys for special status species. The biologist is not authorized to handle listed species unless approved and/or permitted by the appropriate agencies. If any special status species are found that are not covered under the VHP, the biologist shall contact Mayra Molina within 24 to 48 hours of the detection at (707) 428-2067. CDFW reserves the right provide additional provisions to this Agreement designed to protect special status species.
- 2.21 Special Status Species Encountered During Work. If Permittee encounters special status species not covered under the VHP during the conduct of Project activities, the CDFW representative shall be notified within 24 to 48 hours, and conservation measures may be developed in agreement with CDFW prior to re-initiating the activity.
- 2.22 Nesting Bird Surveys. If construction, grading, or other Project related improvements are scheduled during the nesting season of protected raptors and migratory birds (January 15 to September 1), a focused survey for active nests of such birds shall be conducted by a qualified biologist within 7 days prior to the beginning of Project related activities. The results of the survey shall be sent to Mayra Molina, Environmental Scientist, by email (mayra.molina@wildlife.ca.gov) prior to the start of Project activities. Refer to Notification Number 1600-2019-0011-

R3 when submitting the survey to CDFW. If an active nest is found, Permittee shall consult with the United States Fish and Wildlife Service (USFWS) and CDFW regarding appropriate action to comply with the Migratory Bird Treaty Act (MBTA) of 1918 and the FGC of California. If a lapse in Project related work of 7 days or longer occurs, another focused survey and if required, consultation with CDFW and USFWS, shall be required before Project work can be reinitiated.

- 2.23 Buffers. Active nests shall be designated as "Ecologically Sensitive Areas" and protected (while occupied) during Project activities with the establishment of a fence barrier or flagging surrounding the nest site. If an active nest is found, the qualified biologist shall establish an appropriate buffer to be in compliance with the MBTA and Fish and Game Code 3503. The qualified biologist shall monitor the nesting birds and shall increase the buffer if the qualified biologist determines the birds are showing signs of unusual or stressed behavior by Project activities. Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed towards Project personnel, standing up from a brooding position, and flying away from the nest. The qualified biologist shall have authority to order the cessation of all nearby Project activities if the nesting birds' exhibit abnormal behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. Typical minimum distances of protective buffers surrounding each identified nest site is a 50-foot radius except for raptors, herons, and egrets; and a 300-foot radius around active nests for hawks, owls, herons, and egrets. All protective buffer zones shall be maintained, and no entrance shall be allowed into protective buffer zones, until the nest becomes inactive. If monitoring shows that disturbance of actively nesting birds is occurring, buffer widths shall be increased until monitoring shows that disturbance is no longer occurring. If this is not possible, work shall cease in the area until young have fledged and the nest is no longer active.
- 2.24 Relocation of Fish/Amphibians. Only a qualified biologist, with all necessary State and Federal permits, may relocate all fish/amphibians within the work site prior to dewatering. Captured fish/amphibians shall be moved to the nearest appropriate site on the stream. This condition does not allow for the take or disturbance of any state or federally listed species, or state listed species of special concern not covered under the VHP. A record shall be maintained of all fish/amphibians captured and moved, and the record shall be provided to Mayra Molina, Environmental Scientist, by email mayra.molina@wildlife.ca.gov.
- 2.25 Stranded Aquatic Life. Permittee shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made by a CDFW-approved biologist to capture and move all stranded native aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured native aquatic life shall be released immediately in the closest body of water adjacent to the work site. Captured non-

native aquatic life shall be dispatched if all necessary and applicable permits have been obtained such as a permit to destroy nuisance fish (FG 793). This measure does not allow for the take of any State or federally listed species. For any species listed under the California Endangered Species Act or Federal Endangered Species Act, only a qualified biologist with the necessary permits issued by CDFW and/or National Marine Fisheries Service can supervise the relocation of listed species. Handling of said listed species shall be restricted solely to a qualified biologist with the necessary permits issued by CDFW and/or National Marine Fisheries Service. The Permittee shall contact CDFW no less than 24 hours and no greater than 72 hours of relocation activities.

- 2.26 Bat Habitat Assessment and Avoidance. A qualified biologist shall conduct a habitat assessment for bats within the Project area where trees will be removed or disturbed during work. The habitat assessment shall include a visual inspection of features within 50 feet of the work site for potential roosting features (bats need not be present) no more than 48 hours prior to disturbance of such features. Habitat features found during the survey shall be flagged or marked.
- 2.27 San Francisco dusky-footed woodrat. No movement of dusky-footed woodrats or their nesting materials are authorized under this Agreement. Prior to and within 48 hours of the planned start of Project activities, a focused survey for San Francisco dusky-footed woodrat shall be conducted by a qualified biologist to determine if they are present in the area. If dusky-footed woodrat individuals are found, CDFW shall be notified immediately to determine the correct course of action and Project activities shall not begin until approved by CDFW. CDFW may submit additional minimization measures if dusky-footed woodrats are found within the Project area. Those measures shall be considered part of this Agreement. Notification shall be made to Mayra Molina, Environmental Scientist, by email (mayra.molina@wildlife.ca.gov) or by phone (707) 428-2067.
- 2.28 Vegetation Removal. Disturbance or removal of vegetation shall be kept to the minimum necessary to complete Project related activities. No native trees with a trunk (DBH) in excess of four (4) inches shall be removed or damaged without prior consultation and approval of CDFW representative, other than the nine trees described in the Project Description. Vegetation marked for protection may only be trimmed with hand tools to the extent necessary to gain access to the work sites.
- 2.29 Root Mass and Stump Retention. In order to provide future stream habitat, Permittee shall leave the root mass and stump four (4) to six (6) feet above the ground surface, if feasible, for any trees approved for removal from the stream bank.
- 2.30 No Grubbing of Root Zone. No vegetation shall be removed by excavation, grubbing, or cutting of stems below the ground level.

- 2.31 Herbicide Use. Any use of herbicide to prevent sprouting shall be limited to application of topically-applied spot treatment only, in accordance with the California Department of Pesticide Regulation's requirements. No aerial spraying shall be authorized under this Agreement.

Phytophthora

- 2.32 Phytophthora Guidelines. Permittee shall implement all appropriate measures to minimize the potential spread of *Phytophthora* plant pathogens to the maximum extent practicable. For guidance on appropriate measures, the Permittee shall rely upon internal subject matter experts in coordination with evolving guidelines and expertise of the Working Group for Phytophthoras in Native Habitats (www.calphytos.org)

2.32.1 For general guidelines on site sanitation, the exterior and interior of all vehicles, construction equipment, and tools shall be clean and free of debris, soil and mud (including mud on tires, treads, wheel wells and undercarriage); work shoes shall be kept clean by inspecting shoe soles and removing mud, debris, and soil off treads before moving to a new job site. Vehicles shall stay on established roads whenever possible.

- 2.33 Phytophthora and Nursery Stock. Permittee shall ensure that the following sanitation, planting and nursery guidelines are implemented to minimize the potential for spreading *Phytophthora* spp. pathogens, to the maximum extent practicable.

2.33.1 Any container plants used for revegetation efforts, shall be acquired from nursery stock grown pursuant to the Guidelines to Minimize Phytophthora Pathogens in Restoration Nurseries (Nursery Guidelines)¹ prepared by the Working Group for Phytophthoras in Native Habitats.

2.33.2 Restoration guidelines- Appropriate holding facility and planting guidelines shall be followed to ensure that clean nursery stock is installed into the site (see Guidelines to Minimize *Phytophthora* Contamination in Restoration Projects)².

3. Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

- 3.1 Certificate of Approval or Compliance. The Permittee shall provide the SCVHP application and Certificate of Compliance to CDFW no less than 14 days prior to beginning ground or vegetation disturbing activities. The application shall include

identification and quantification of all habitat impacts, temporary and permanent, and associated fees paid.

- 3.2 Revegetation and Channel Monitoring Plan. The Permittee provided a draft monitoring plan on March 28, 2019. The Permittee shall provide an updated Revegetation and Channel Monitoring Plan (Plan) at least 30 days prior to the start of revegetation activities. The updated Plan shall include detailed descriptions of the methods that will be used to assess fish passage and geomorphic conditions as well as revegetation. Monitoring shall occur for a minimum of 10 years. The Plan shall reflect the current project description, including an updated assessment of temporary, semi-permanent, and permanent impacts as described in this Agreement. In addition, the updated Plan shall include revegetation details, including but not limited to, species composition; planting locations; plant palettes; hydroseeding methods; irrigation requirements; contingency measures; plant establishment periods; revegetation monitoring; and performance standards and success criteria for percent cover, survivorship, health and vigor ratings, and non-native vegetation cover and control.
- 3.3 Temporary, Semi-Permanent, and Permanent Impacts. CDFW defines temporary impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within one year of impact. CDFW defines semi-permanent impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within two years of impact. CDFW defines permanent impacts as those impacts where habitat at the impact site either cannot be restored, due to permanent removal of habitat, or where habitat at the impact site will require greater than two years to be restored to pre-project conditions, values, and functions relative to time of impact.

4. Reporting Measures

- 4.1 Monitoring Report. Permittee shall submit a monitoring report (Report) by January 31st. The Report shall be submitted in years 1, 3, 5, and 10, and/or at the request of CDFW. Monitoring shall occur for a minimum of 10 years. The Report shall include: dates and times when surveys were conducted, description of any blockages/barriers occurring and if they were addressed, amount of debris removed, photos, and results of the surveys (e.g., longitudinal and cross-sectional profiles, Critical Riffle Analysis) with figures showing where surveys were conducted. The Report shall be provided to Mayra Molina, Environmental Scientist, by email (mayra.molina@wildlife.ca.gov).
- 4.2 California Natural Diversity Database. If any sensitive species are observed during Project surveys or at any time during Project implementation or mitigation and monitoring work, Permittee shall submit California Natural Diversity Database (CNDDDB) forms to the CNDDDB within five (5) working days of the sightings, and

provide CDFW Region 3 with copies of the CNDDDB forms and survey maps. Refer to <http://www.dfg.ca.gov/biogeodata/cnddb/> for additional information on CNDDDB

¹ http://www.suddenoakdeath.org/wpcontent/uploads/2016/04/Restoration.Nsy_.Guidelines.final_.092216.pdf

² http://www.suddenoakdeath.org/wp-content/uploads/2016/04/Restoration_guidance_FINAL-111716.pdf

CONTACT INFORMATION

Any communication that Permittee or CDFW submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or CDFW specifies by written notice to the other.

To Permittee:

Vincent Gin
(Contact Alex Hunt)
Santa Clara Valley Water District (Valley Water)
5750 Almaden Expressway
San Jose, CA 95118
Phone (408) 630-2632
vgin@valleywater.org
ahunt@valleywater.org

To CDFW:

Department of Fish and Wildlife
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
Attn: Lake and Streambed Alteration Program – Mayra Molina
Notification #1600-2019-0011-R3
Fax (707) 428-2036
mayra.molina@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers,

employees, representatives, agents or contractors and subcontractors, to complete the Project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute CDFW's endorsement of, or require Permittee to proceed with the Project. The decision to proceed with the Project is Permittee's alone.

SUSPENSION AND REVOCATION

CDFW may suspend or revoke in its entirety the Agreement if it determines that Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before CDFW suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before CDFW suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused CDFW to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes CDFW from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects CDFW's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the Project or an activity related to it. For example, if the Project causes take of a species listed as threatened or endangered under the Endangered Species Act (ESA), such take will be unlawful under the ESA absent a permit or other form of authorization from the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the Fish and Game Code including, but not limited to, Fish and Game Code sections 2050 *et seq.* (threatened and endangered species), section 3503 (bird nests and eggs), section

3503.5 (birds of prey), section 5650 (water pollution), section 5652 (refuse disposal into water), section 5901 (fish passage), section 5937 (sufficient water for fish), and section 5948 (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

CDFW may amend the Agreement at any time during its term if CDFW determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by CDFW and Permittee. To request an amendment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter CDFW approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to CDFW a completed CDFW "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with Fish and Game Code section 1605, subdivision (b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to CDFW a completed CDFW "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in CDFW's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). CDFW shall process the extension request in accordance with Fish and Game Code section 1605, subdivisions (b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the Project the Agreement covers (Fish & G. Code § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of CDFW's signature, which shall be: 1) after Permittee's signature; 2) after CDFW complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable Fish and Game Code section 711.4 filing fee listed at <https://www.wildlife.ca.gov/Conservation/CEQA/Fees>.

TERM

This Agreement shall expire on December 31, 2023, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as Fish and Game Code section 1605, subdivision (a)(2) requires.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

- A. Exhibit A. Figure 2: Project Location
- B. Exhibit B. Table 2. Impacts on CDFW Jurisdiction, Table 3. Riparian Tree Impacts and Figures 4a and 4b Project Impacts

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the Project described herein. If Permittee begins or completes a project different from the Project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify CDFW in accordance with Fish and Game Code section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

**FOR SANTA CLARA VALLEY WATER DISTRICT
(VALLEY WATER)**

Vincent Gin
Deputy Operating Officer

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

Craig J. Weightman
Environmental Program Manager

Date

Prepared by: Mayra Molina
Environmental Scientist

Date Submitted: June 5, 2019

Exhibit A

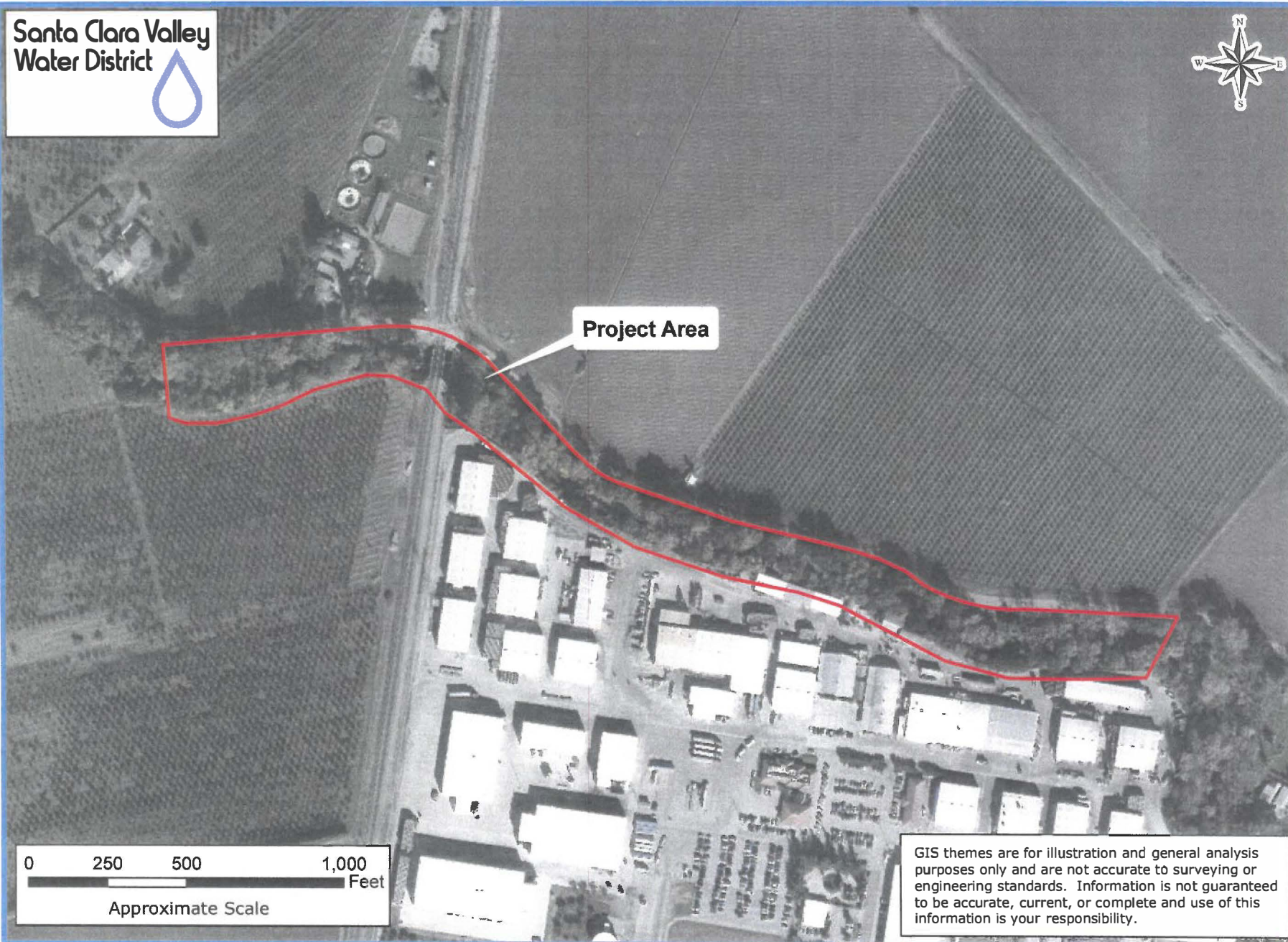
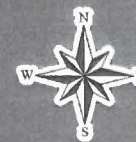


Figure 2
Project Location
Attachment 1
Page 78 of 148

Exhibit B

Despite these long-term benefits, the project would result in temporary impacts to areas under CDFW jurisdiction. **Table 2** summarizes the project's temporary impacts on Uvas-Carnadero Creek and riparian habitat and **Table 3** summarizes riparian tree removal details. **Attachment A, Figure 4** depicts the project elements and summarizes impacts.

Temporary impacts on the Uvas-Carnadero Creek Channel are the result of 1) temporary dewatering for construction, 2) installation of the riffle-pool complex above the existing grade of the eroding channel, and 3) minor shifting in the location of the channel. Temporary impacts on riparian habitat are the result of 1) installation of stable bioengineered banks, 2) installation of the top of riffle keys, and 3) minor shifts to the location of the channel.

In general, the project is a net fill project, as the intent is to raise the streambed elevation with a riffle-pool complex and to reconstruct and stabilize eroding banks (some of which are now vertical). As such, excavation is primarily associated with establishing stable creek banks and the top of riffle key. All excavated areas would be backfilled.

Table 2. Impacts on CDFW Jurisdiction

Impact Area	Temporary Impacts ¹		Temporary Excavation		Permanent Fill	
	Acres	Linear Feet	Volume (cubic yards)	Type	Volume (cubic yards)	Type
Uvas-Carnadero Creek (below OHWM)	1.57	2,286	1,500	Creek substrate	6,500 6,200	River rock
Banks / Riparian Habitat (entirely below top of bank)	1.13	1,899	2,300	Native Material	3,500	Rock and native soil
Total	2.7 acre	2,286 linear feet (overlapping)	3,800 cubic yards	--	10,000 9,700 cubic yards	--

¹ Stream and riparian impacts are considered temporary due to the fact that the habitat area will remain unchanged and be restored to pre-project functions and services within one year, although at slightly higher elevation due to raising of the channel invert and reconstruction of failed banks.

Table 3. Riparian Tree Impacts

Tree ID	Species	DBH (inches)	Notes
1	California sycamore	7.5"	Multi-stemmed (4", 4", 2", 1")
2	California sycamore	8"	Multi-stemmed (5", 3", 1", 1", 1")
3	Eucalyptus	12"	--
4	Willow sp.	33"	Fallen, but alive. Multi-stemmed (18", 12", 10", 8")
5	Willow sp.	16"	On side.
6	Oregon ash	7"	Multi-stemmed (6", 2")
7	Oregon ash	4"	--
8	Oregon ash	5"	--
9	Oregon ash	11.5"	Multi-stemmed (6", 4.5", 3.5", 3")

Note: the DBH for multi-stemmed trees was calculated by adding the DBH of the largest trunk with half the DBH of each additional trunk.

Box 11C/D. Special-Status Species

Potential for Special-Status Species

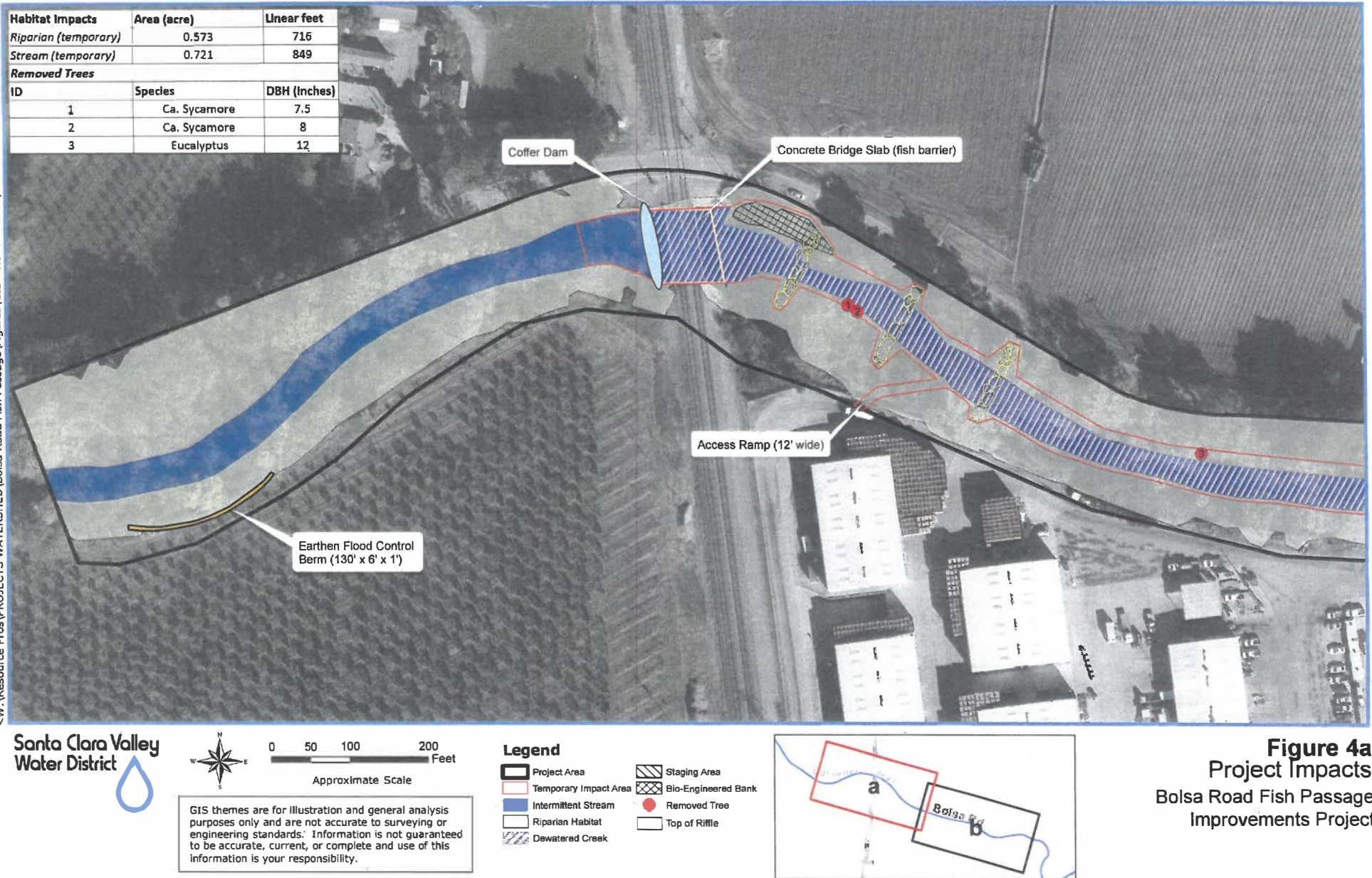
District Biologists prepared a Biological Site Assessment (**Attachment E**) based on field surveys of the project area and review of local literature and historical occurrences. A Biological Assessment to support ESA Section 7 consultation for steelhead was also prepared (**Attachment F**). Based on these assessments, 14 special-status¹ species were determined to have the potential to occur in the project area (**Table 4**).

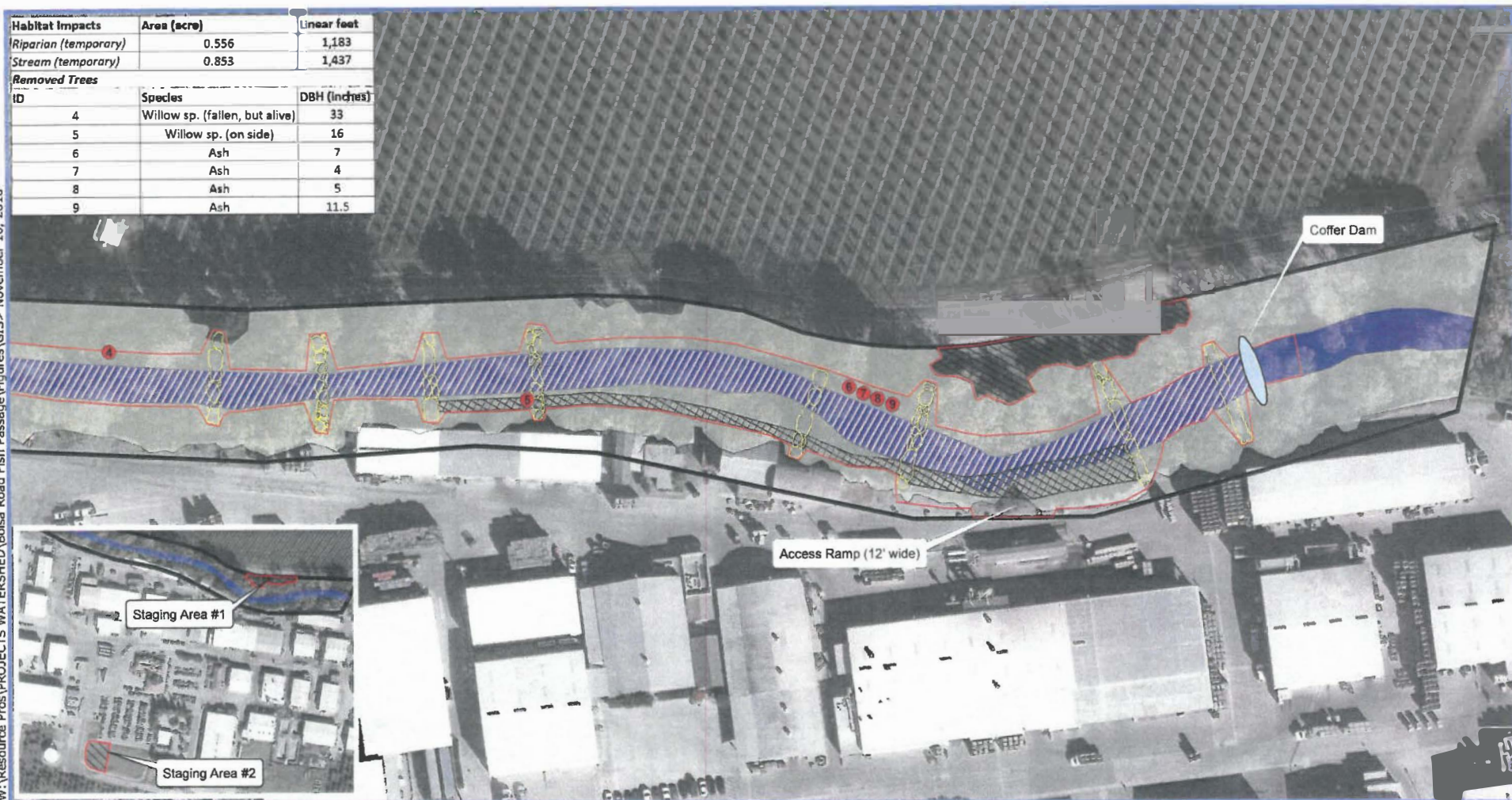
Table 4. Special-Status Species Potentially Present in Project Area

Species	Status	Habitat Requirements	Potential Occurrence in Project Area
Fish			
Monterey hitch <i>Lavinia exilicauda harengus</i>	SSC	Lowland areas with perennial streams and large pools or in small reservoirs.	Low. Uncommon in surveys done well upstream of project and site lacks perennial flow.
Monterey roach <i>Lavinia symmetricus subditus</i>	SSC	Small streams with perennial or intermittent flow. Often found in isolated pools. Can tolerate high temperatures and low dissolved	High. Common in surveys upstream of the project, habitat is present, tolerant of typical flow conditions.

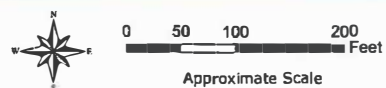
¹ Special-status species include: species listed as threatened or endangered under the ESA and/or California Endangered Species Act (CESA); species listed as fully protected or as a species of special concern by CDFW; and plants listed as California Rare Plant Rank 1B or 2.

<W:\Resource Pros\PROJECTS WATERSHED\Bolsa Road Fish Passage\Figures\GIS> November 16, 2018





Santa Clara Valley
Water District



GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current, or complete and use of this information is your responsibility.

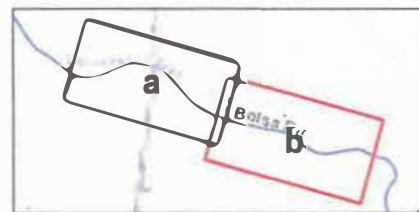


Figure 4b
Project Impacts
Bolsa Road Fish Passage
Improvements Project

**B. SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL
BOARD, WATER QUALITY CERTIFICATION**

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Central Coast Regional Water Quality Control Board

April 26, 2019

Vincent Gin
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Email: vgin@valleywater.org

VIA ELECTRONIC MAIL

Dear Mr. Gin:

WATER QUALITY CERTIFICATION NO. 34319WQ01 FOR BOLSA ROAD FISH PASSAGE IMPROVEMENTS PROJECT, SANTA CLARA COUNTY

Thank you for the opportunity to review your January 11, 2019 application for water quality certification of the Bolsa Road Fish Passage Improvement Project (Project). The application was completed on January 25, 2019. All supplemental information requested was received on April 16, 2019. The project, if implemented as described in your application and with the additional mitigation and other conditions required by this Clean Water Act Section 401 Water Quality Certification (Certification), appears to be protective of beneficial uses of State waters. We are issuing the enclosed Certification. Should new information come to our attention that indicates a water quality problem, we may require additional monitoring and reporting, issue Waste Discharge Requirements, or take other action.

Your Certification application and submitted documents indicate that project activities have the potential to affect beneficial uses and water quality. The Central Coast Regional Water Quality Control Board (Central Coast Water Board) issues this Certification to protect water quality and associated beneficial uses from project activities. We need reports to determine compliance with this Certification. All technical and monitoring reports requested in this Certification, or any time after, are required per Section 13267 of the California Water Code.

Failure to submit reports required by this Certification, or failure to submit a report of technical quality acceptable to the Executive Officer, may subject you to enforcement action per Section 13268 of the California Water Code. The Central Coast Water Board will base enforcement actions on the date of certification. Any person affected by this Central Coast Water Board action may petition the State Water Resources Control Board (State Water Board) to review this action in accordance with California Water Code Section 13320; and Title 23, California Code of Regulations, Sections 2050 and 3867-3869. The State Water Board, Office of Chief Counsel, PO Box 100, Sacramento, CA 95812, must receive the petition within 30 days of the date of this Certification. We will provide upon request copies of the law and regulations applicable to filing petitions.

D. J. ANDERSON, CHAIR | JAMES M. ROBERTSON, EXECUTIVE OFFICER

895 Aerovista Place, Suite 101, San Luis Obispo, CA 93401 | www.waterboards.ca.gov/centralcoast



April 26, 2019

If you have questions please contact **Mark Cassady** at (805) 549-3689 or via email at Mark.Cassady@waterboards.ca.gov, or Phil Hammer at (805) 549-3882. Please mention the above certification number in all future correspondence pertaining to this project.

Sincerely,



Phillip Hammer
2019.04.26 11:17:29 -07'00'

for
John M. Robertson
Executive Officer

Enclosure: Action on Request for CWA Section 401 Water Quality Certification

cc: With enclosures

Alex Hunt
Santa Clara Valley Water District
E-mail: ahunt@valleywater.org

Katerina Galacatos
U.S. Army Corps of Engineers
E-mail: Katerina.galacatos@usace.army.mil

Kristin Garrison
California Department of Fish and Wildlife
E-mail: Kristin.Garrison@wildlife.ca.gov

Brenda Blinn
California Department of Fish and Wildlife
E-mail: Brenda.blinn@wildlife.ca.gov

Mayra Molina
California Department of Fish and Wildlife
E-mail: Mayra.Molina@wildlife.ca.gov

Jennifer Siu
U.S. Environmental Protection Agency
Region 9
E-mail: siu.jennifer@epa.gov

CWA Section 401 WQC Program
Division of Water Quality
State Water Resources Control Board
E-mail: Stateboard401@waterboards.ca.gov

Ashley Green
Central Coast Water Board
E-mail: Ashley.Green@waterboards.ca.gov

Mark Cassady
Central Coast Water Board
Email: Mark.Cassady@waterboards.ca.gov

Action on Request for
Clean Water Act Section 401 Water Quality Certification
for Discharge of Dredged and/or Fill Materials

PROJECT: Bolsa Road Fish Passage Improvements

APPLICANT: Vincent Gin
 Santa Clara Valley Water District
 5750 Almaden Expressway
 San Jose, CA 95118

ACTION:

1. ☐ Order for Standard Certification
2. ☒ Order for Technically-Conditioned Certification
3. ☐ Order for Denial of Certification

STANDARD CONDITIONS:

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment per section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This Certification action is not intended to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed per 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license was being sought.
3. The validity of any non-denial Certification action (Actions 1 and 2) is conditioned upon total payment of the fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

ADMINISTRATIVE CONDITIONS:

1. This Certification is subject to the acquisition of all local, regional, state, and federal permits and approvals as required by law. Failure to meet any conditions contained herein or any conditions contained in any other permit or approval issued by the State of California or any subdivision thereof may result in the revocation of this Certification and civil or criminal liability.
2. In the event of a violation or threatened violation of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of Section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.

3. In response to a suspected violation of any condition of this Certification, the Central Coast Water Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Coast Water Board deems appropriate, provided that the burden, including costs, of the reports shall have a reasonable relationship to the need for the reports and the benefits obtained from the reports.
4. In response to any violation of the conditions of this Certification, the Central Coast Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.
5. The Central Coast Water Board reserves the right to suspend, cancel, or modify and reissue this Certification, after providing notice to the applicant, if the Central Coast Water Board determines that the Project fails to comply with any of the terms or conditions of this Certification.
6. A copy of this Certification, the application, and supporting documentation must be available at the Project site during construction for review by site personnel and agencies. A copy of this Certification must also be provided to the contractor and all subcontractors who will work at the Project site. All personnel performing work on the proposed Project shall be familiar with the content of this Certification and its posted location on the Project site.
7. The Applicant shall grant Central Coast Water Board staff, or an authorized representative, upon presentation of credentials and other documents as may be required by law, permission to enter the Project site at reasonable times, to ensure compliance with the terms and conditions of this Certification and/or to determine the impacts the Project may have on waters of the State.
8. The Applicant must, at all times, fully comply with the application, engineering plans, specifications, and technical reports submitted to support this Certification; all subsequent submittals required as part of this Certification; and the attached Project Information and Conditions. The conditions within this Certification and attachment(s) supersede conflicting provisions within applicant submittals.
9. The Applicant shall notify the Central Coast Water Board within 24 hours of any unauthorized discharge to waters of the U.S. and/or State; measures that were implemented to stop and contain the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional BMPs or other measures that will be implemented to prevent future discharges.
10. This Certification is not transferable to any person except after notice to the Executive Officer of the Central Coast Water Board. The Applicant shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new responsible party containing a specific date for the transfer of this Certification's responsibility and coverage between the current responsible party and the new responsible party. This agreement shall include an acknowledgement that the existing responsible party is liable for compliance and violations up to the transfer date and that the new responsible party is liable from the transfer date on.

11. This Certification expires if Project construction does not begin within five years from the date of this Certification. If this Certification does not expire as described above, it remains in effect until the Applicant complies with all Certification requirements and conditions.
12. The total application fee for this project is \$437. The remaining application fee payable to the Central Coast Water Board is \$0. Annual fees may apply.

CENTRAL COAST WATER BOARD CONTACT PERSON:

Mark Cassady
(805) 549-3689
Mark.Cassady@waterboards.ca.gov

Please refer to the above certification number when corresponding with the Central Coast Water Board concerning this project.

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that as long as all the conditions listed in this Certification are met, any discharge from the Bolsa Road Fish Passage Improvements Project shall comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated pursuant to State Water Board Water Quality Order No. 2003-0017-DWQ, which requires compliance with all conditions of this Certification.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information and Conditions, and (b) compliance with all applicable requirements of the Central Coast Water Board's policies and Water Quality Control Plan (Basin Plan).



Phillip Hammer
2019.04.26 11:17:54 -07'00'

for _____
John M. Robertson
Executive Officer
Central Coast Water Board

April 26, 2019
Date

PROJECT INFORMATION AND CONDITIONS

Application Date	Received: January 11, 2019 Completed: January 25, 2019
Applicant	Vincent Gin Santa Clara Valley Water District 5750 Almaden Expressway San Jose, CA 95118 vgin@valleywater.org 408-630-2623
Applicant Representatives	Alex Hunt Santa Clara Valley Water District 5750 Almaden Expressway San Jose, CA 95118 ahunt@valleywater.org 408-630-3007
Project Name	Bolsa Road Fish Passage Improvements
Application Number	34319WQ01
Type of Project	Ecological Aquatic/Stream/Habitat Restoration
Project Location	Santa Clara County, 0.25-mile south of Gilroy Latitude: 36.969371N Longitude: -121.542772W
County	Santa Clara
Receiving Water(s)	Carnadero Creek 305.30 Pajaro River Hydrologic Unit
Water Body Type	Streambed
Designated Beneficial Uses	Municipal and Domestic Supply (MUN) Ground Water Recharge (GWR) Water Contact Recreation (REC-1) Non-Contact Recreation (REC-2) Wildlife Habitat (WILD) Cold Fresh Water Habitat (COLD) Warm Fresh Water Habitat (WARM) Migration of Aquatic Organisms (MIGR) Rare, Threatened or Endangered Species (RARE) Commercial and Sport Fishing (COMM)
Project Description (purpose/goal)	<p>The purpose of this project is to restore steelhead passage at the Union Pacific Railroad (UPRR) crossing to allow steelhead and other aquatic organisms to move freely between the lower and upper reaches of the creek. Specific objectives include:</p> <ol style="list-style-type: none"> 1. Restore upstream steelhead passage at the UPRR crossing, providing access to spawning grounds in the upper reaches of the watershed. 2. Restore and maintain natural hydrologic functions, to the extent possible, to the channel and banks of Uvas-Carnadero Creek. <p>Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff understands that the project includes the following activities:</p> <ol style="list-style-type: none"> 1. Installation of a gradually-sloped, stream riffle-pool complex for

	<p>approximately 1,700 feet up to the existing UPRR bridge abutment slab.</p> <ol style="list-style-type: none"> 2. Clearing and grubbing of existing surface vegetation in the channel and along portions of the banks where stabilization is required, including removal of nine trees. 3. Reshaping of the creek banks, including placement of half-ton to one-ton boulders covered with soil in some areas, to stabilize approximately 140 feet of the north bank downstream of the UPRR bridge and 800 feet of the south bank at the downstream end of the riffle-pool complex. 4. Installation of a 130-foot long, 1-foot high earthen berm along the south side of the creek at the edge of the riparian corridor along an agricultural road upstream of the UPRR bridge. 5. Removal of trash and debris from the project area, including cars, tires, broken concrete, and other debris. Concrete within the UPRR right of way eight feet downstream of the bridge slab would not be removed. 6. Restoration of disturbed areas with willow and blackberry planting and seeding with native herbaceous species.
U.S. Army Corps of Engineers Permit No.	Nationwide Permit 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities
Federal Public Notice	NA
Dept. of Fish and Wildlife Streambed Alteration Agreement	Streambed Alteration Agreement is pending. Final, signed copy shall be forwarded immediately upon execution.
Status of CEQA Compliance	Categorical Exemption, Section 15333; Class 33, "Small Habitat Restoration Projects" Lead Agency: Santa Clara Valley Water District
Total Certification Application Fee	\$437
Area of Disturbance	Approximately 2.70 acres / 2,286 linear feet total Streambed: 1.57 acres / 2,286 linear feet temporary Riparian Area: 1.13 acres / 1,899 linear feet temporary
Dredge Volume	NA
Excavation Volume	Approximately 3,800 total cubic yards Streambed: 1,500 cubic yards temporary Riparian Area: 2,300 cubic yards temporary
Fill Volume	Approximately 9,700 total cubic yards Streambed: 6,200 cubic yards permanent Riparian Area: 3,500 cubic yards permanent
Compensatory Mitigation Requirements	Compensatory mitigation is not required because the project is an environmental restoration and enhancement project that will result in a net increase in aquatic functions and services and will not result in a net loss of waters of the State.
Project Requirements	<p><u>Project practices that are required to comply with 401 Water Quality Certification are as follows:</u></p> <ol style="list-style-type: none"> 1. All personnel who engage in construction activities or their oversight at the project site (superintendent, construction manager, foreman,

	<p>crew, contractor, biological monitor, etc.) must attend trainings on the conditions of this Certification and how to perform their duties in compliance with those conditions. Every person shall attend an initial training within five working days of their start date at the project site. Trainings shall be conducted by a qualified individual with expertise in 401 Water Quality Certification conditions and compliance.</p> <ol style="list-style-type: none"> 2. All work performed within waters of the State shall be completed in a manner that minimizes impacts to beneficial uses and habitat. Measures shall be employed to minimize land disturbances that will adversely impact the water quality of waters of the State. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete Project implementation. 3. Portions of the project that occur below top of creek banks or in other waters of the State shall be stabilized for the winter prior to October 15 of each year, either by completing construction of those portions of the project (including installation of permanent erosion control measures) or by implementing winterization stabilization measures capable of effectively stabilizing the area and preventing erosion under winter rain and flow conditions generated by the 10-year 24-hour storm event. No construction activities shall be conducted below top of creek banks or in other waters of the State during the winter period (October 15 – May 30), unless prior written approval has been obtained from Central Coast Water Board staff. Requests to conduct construction activities below top of creek banks or in other waters of the State during the winter period shall be submitted to Central Coast Water Board staff at least 21 days prior to the planned winter period work date. If approval is obtained, the Applicant shall implement the approved winter work as specified in the Central Coast Water Board staff approval and as described in any documentation submitted by the Applicant while seeking the approval. 4. Erosion and sediment control measures shall be on site prior to the start of construction and kept on site at all times so they are immediately available for installation in anticipation of rain events. 5. The Applicant shall implement and maintain an effective combination of erosion and sediment control measures (e.g., revegetation, fiber rolls, erosion control blankets, hydromulching, compost, straw with tackifiers, temporary basins) to prevent erosion and capture sediment. The Applicant shall implement and maintain washout, trackout, dust control, and any other applicable source control BMPs. 6. Erosion and sediment control measures and other construction BMPs shall be implemented and maintained in accordance with all specifications governing their proper design, installation, operation, and maintenance. 7. At any time of year, the Applicant shall not conduct construction activities below top of creek banks or in other waters of the State during rain events or on any day for which the National Weather Service has predicted a 25% or more chance of at least 0.1 inch rain in 24 hours (Predicted Rain Event). The Applicant shall install
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	<p>effective erosion control, sediment control, and other protective measures no later than the day prior to the Predicted Rain Event, and prior to the start of any rainfall. Construction activities below top of creek banks or in other waters of the State may resume after the rain has ceased, the National Weather Service predicts clear weather for at least 24 hours, and site conditions are dry enough to continue work without discharge of sediment or other pollutants from the project site.</p> <ol style="list-style-type: none"> 8. Any material stockpiled that is not actively being used during construction shall be covered and surrounded with a linear sediment barrier. 9. The Applicant shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite in case spills occur. 10. The Applicant shall confine all trash and debris in appropriate enclosed bins and dispose of the trash and debris at an approved site at least weekly. 11. All construction vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials. 12. All vehicle fueling and maintenance activity shall occur at least 100 feet away from waterways and in designated staging areas, unless a requested exception on a case-by case basis granted by prior written approval has been obtained from Central Coast Water Board staff. If equipment fueling must be performed within 100 feet of a waterway, secondary containment adequate to contain any spill must be provided. 13. In-water work, dewatering, and/or stream diversion shall be implemented in compliance with the submitted Section 401 Water Quality Certification Application dated January 8, 2019. All in-water work, dewatering, and/or diversion structures and equipment shall be removed immediately upon completion of the in-water work, dewatering, and/or diversion, and areas impacted by the structures and equipment restored as soon as possible. 14. All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the project. 15. Central Coast Water Board staff shall be notified if mitigations as described in the 401 Water Quality Certification application for this project are altered by the imposition of subsequent permit conditions by any local, state or federal regulatory authority. The Applicant shall inform Central Coast Water Board staff of any modifications that interfere with compliance with this Certification.
Monitoring and Reporting Requirements	<p>The Applicant shall conduct the following monitoring:</p> <ol style="list-style-type: none"> 1. Visually inspect the project site and areas of waters of the State adjacent to project impact areas following completion of project construction and for three subsequent rainy seasons to ensure that the project is not causing excessive erosion, stream instability, or other water quality problems. Evaluate channel geomorphology and fish passage, including an assessment of the stability of the channel banks, an assessment of any scour visible on the creek banks, an

assessment of the channel thalweg for any signs of head cuts or nick points, and an assessment of any accumulation of sediment. If the project reach and areas of water of the State adjacent to project impact areas are not geomorphically stable at the end of year three, the Applicant shall work with the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Central Coast Water Board to prepare an analysis of the cause of the instability. If deemed necessary by the regulatory agencies, remedial actions shall be implemented by the Applicant. If the project does cause water quality problems, contact the Central Coast Water Board staff member overseeing the project. You will be responsible for obtaining any additional permits necessary for implementing plans for restoration to prevent further water quality problems.

2. The Applicant shall submit the final Bolsa Road Fish Passage Improvements Project Monitoring Plan for Central Coast Water Board staff review and approval prior to commencement of construction. The Applicant shall monitor the compensatory mitigation site for five years as specified in the approved plan. If success criteria are not achieved within that time, continue annual monitoring and maintenance until success criteria are achieved. Compensatory mitigation monitoring shall include assessment of percent cover, general health and vigor, signs of natural recruitment, and any other measures identified in the Draft Bolsa Road Fish Passage Improvements Project Monitoring Plan dated March 2019.

The Applicant shall provide the following reporting to RB3_401Reporting@waterboards.ca.gov [Note: Annual fees are based on submittal of reporting items 4-5 below]:

1. Streambed Alteration Agreement - Submit a signed copy of the Department of Fish and Wildlife's streambed alteration agreement to the Central Coast Water Board immediately upon execution and prior to any discharge to waters of the State.
2. Construction Commencement Notification - At least seven days in advance of any ground disturbing or grubbing activities, submit notification to the Central Coast Water Board of the date when project construction will begin.
3. Discharge, Construction, and Restoration Completion Notification - Within seven days of completing all project discharge, construction, and restoration installation activities, submit notification to the Central Coast Water Board of project discharge, construction, and restoration installation completion.
4. Restoration and Monitoring Completion Notification - Within seven days of Applicant verification of achievement of all restoration success criteria and completion of all monitoring, submit notification to the Central Coast Water Board demonstrating restoration success criteria achievement and monitoring completion. Include identification of the date when the final Annual Project Status Report will be submitted. [Note: Submittal of Compensatory Mitigation and Monitoring Completion Notification does not terminate this Certification or its requirements.]
5. Annual Project Status Report - The Applicant shall submit to the

	<p>Central Coast Water Board an Annual Project Status Report by May 31 of each year following the issuance of this Certification, regardless of whether project construction has started or not. The Applicant shall submit Annual Project Status Reports until the Applicant has conducted all required monitoring and restoration has achieved all success criteria. The final Annual Project Status Report is due on or before the May 31 following the achievement of all mitigation success criteria. Each Annual Project Status Report shall include at a minimum:</p> <ul style="list-style-type: none">a. The status of the project: construction not started, construction started, or construction complete.b. The date of construction initiation, if applicable.c. The date of construction completion, if applicable.d. If project construction is complete:<ul style="list-style-type: none">i. A summary of daily activities, monitoring and inspection observations, and problems incurred and actions taken;ii. Identification of when site personnel trainings occurred, description of the topics covered during trainings, and confirmation that every person that engaged in construction activities or their oversight at the project site was trained.iii. A description of the results of the annual visual inspection of the project site and areas of waters of the State adjacent to project impact areas, including:<ul style="list-style-type: none">1. Erosion conditions including stability and any scour visible on the channel banks;2. Stream stability conditions, including an assessment of the thalweg for any signs of head cuts, nick points, or sediment accumulation;3. Water quality and beneficial use conditions;4. Clearly identified photo-documentation of all areas of permanent and temporary impact, prior to and after project construction; and5. Clearly identified representative photo-documentation of other project areas, prior to and after project construction.6. If the visual inspection monitoring period is over, but water quality problems persist, the Annual Report shall identify likely causes of instability and potential corrective measures to be undertaken, including extension of the monitoring period until the project is no longer causing excessive erosion, stream instability, or other water quality problems.e. Restoration reporting, if restoration installation has started, including the following information:<ul style="list-style-type: none">i. Date of initiation of restoration installation and date restoration installation was completed;ii. If restoration installation was completed, confirmation restoration was installed according to the requirements of this Certification and as described in the application, the Bolsa Road Fish Passage Improvements Project Monitoring Plan, and any other associated submittals;
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	<ul style="list-style-type: none"> iii. Analysis of monitoring data collected in the field; iv. Quantification of percent cover, general health and vigor, signs of recruitment, and documentation of progress toward achieving all restoration performance criteria; v. Qualitative and quantitative comparisons of current restoration conditions with preconstruction conditions and previous restoration monitoring results; vi. Any remedial or maintenance actions taken or needed; vii. Any additional information specified in the Bolsa Road Fish Passage Improvements Project Monitoring Plan; and viii. Annual photo-documentation representative of all restoration areas, taken from vantage points from which Central Coast Water Board staff can identify changes in size and cover of plants. Compare photos of installed restoration with photos of the restoration areas prior to installation. <p>f. A description of restoration completion status that identifies the amount of restoration monitoring and maintenance remaining, or certifies that restoration is complete and all required restoration monitoring and maintenance has been conducted and all success criteria achieved. If the monitoring period is over, but all success criteria have not been achieved, the Annual Report shall identify corrective measures to be undertaken, including extension of the monitoring period until the criteria are met.</p>
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**C. U.S. ARMY CORPS OF ENGINEERS, CLEAN WATER
ACT SECTION 404 NATIONWIDE PERMIT (FINAL)**

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DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

June 6, 2019

Regulatory Division

Subject: File Number 2019-00061S

Mr. Alex Hunt
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, California, 95118

Dear Mr. Hunt:

This correspondence is in reference to your submittal of January 25, 2019, on behalf of the Santa Clara Valley Water District, concerning Department of the Army (DA) authorization for the Bolsa Road Fish Passage Improvement Project located along approximately 1,700 linear feet of Uvas-Carnadero Creek tributary to the Pajaro River and the Pacific Ocean. This project is located approximately 0.25 mile south of Gilroy on Uvas-Carnadero Creek, 4 miles upstream of its confluence with the Pajaro River in Santa Clara County, California (lat: 36° 58'05"N, long: -121° 32' 28.61"W).

Work within U.S. Army Corps of Engineers' (Corps) jurisdiction will include the construction of a gradually-sloped instream riffle-pool complex to alleviate the current migration barrier to anadromous fish. The resulting habitat complexity would provide pools, runs and riffles with suitable depths and velocity conditions for South-Central California coast steelhead (*Onchorynchus mykiss*). Work will require placement of 4,174 cubic yards of fill within 1.31 acres of Uvas-Carnadero Creek. All work shall be completed in accordance with the plans and drawings titled "Map and Construction Plan for Bolsa Road Fish Passage Improvements, May 14, 2019, Figure 1 to 39," provided as enclosure 1.

Section 404 of the Clean Water Act (CWA) generally regulates the discharge of dredged or fill material below the plane of ordinary high water in non-tidal waters of the United States, below the high tide line in tidal waters of the United States, and within the lateral extent of wetlands adjacent to these waters. Section 10 of the Rivers and Harbors Act (RHA) generally regulates construction of structures and work, including excavation, dredging, and discharges of dredged or fill material occurring below the plane of mean high water in tidal waters of the United States; in former diked baylands currently below mean high water; outside the limits of mean high water but affecting the navigable capacity of tidal waters; or below the plane of ordinary high water in non-tidal waters designated as navigable waters of the United States. Navigable waters of the United States generally include all waters subject to the ebb and flow of the tide; and/or all waters presently used, or have been used in the past, or may be susceptible for future use to transport interstate or foreign commerce.

Based on a review of the information in your submittal and the current condition of the site, as verified during a field investigation on March 14, 2019, the project qualifies for authorization under Department of the Army Nationwide Permit (NWP) 27 for Aquatic Habitat Restoration, Enhancement, and Establishment Activities (82 Fed. Reg. 1860, January 6, 2017), pursuant to Section 404 of the CWA of 1972, as amended (33 U.S.C. § 1344 *et seq.*). The project must be in compliance with the terms of the NWP cited on our website (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_27pdf), the general conditions of the Nationwide Permit Program (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_GC.pdf), and the San Francisco District regional conditions (www.spn.usace.army.mil/Portals/68/docs/regulatory/NWP/NWP17_RC.pdf). You must also be in compliance with any special conditions specified in this letter for the NWP authorization to remain valid. Non-compliance with any term or condition could result in the revocation of the NWP authorization for your project, thereby requiring you to obtain an Individual Permit from the Corps. This NWP authorization does not obviate the need to obtain other State or local approvals required by law.

This verification will remain valid until March 18, 2022, unless the NWP authorization is modified, suspended, or revoked. Activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon a NWP will remain authorized provided the activity is completed within 12 months of the date of a NWP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 C.F.R. § 330.4(e) and 33 C.F.R. § 330.5(c) or (d). This verification will remain valid if, during the time period between now and March 18, 2022, the activity complies with any subsequent modification of the NWP authorization. The Chief of Engineers will periodically review NWPs and their conditions and will decide to modify, reissue, or revoke the permits. If a NWP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. It is incumbent upon you to remain informed of any changes to the NWPs. Changes to the NWPs would be announced by Public Notice posted on our website (www.spn.usace.army.mil/Missions/Regulatory/Public-Notices.aspx). Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, enclosure 2, verifying that you have complied with the terms and conditions of the permit.

This authorization will not be effective until you have obtained a Section 401 water quality certification from the, Central Coast Regional Water Quality Control Board (RWQCB). If the RWQCB fails to act on a valid request for certification within 60 days after receipt of a complete application, the Corps will presume a waiver of water quality certification has been obtained. You shall submit a copy of the certification to the Corps prior to the commencement of work.

General Condition 18 stipulates that project authorization under a NWP does not allow for the incidental take of any federally-listed species in the absence of a biological opinion (BO) with incidental take provisions. As the principal federal lead agency for this project, the Corps initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to listed species, pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended, 16 U.S.C. § 1531 *et seq.* As the principal federal lead agency for this project, the Corps initiated consultation with the National Marine Fisheries Service (NMFS) to address project related impacts to listed salmonid species and its critical habitat. Via email correspondence on February 22, 2016, the NMFS determined that the project was covered by the June 14, 2016, National Marine Fisheries Service Restoration Center Program BO, (NMFS NO:WCR-2015-3755) with incidental take statements for Central California Coast Steelhead (*O. mykiss*) and its critical habitat (enclosure 3).

In order to ensure compliance with this NWP authorization, the following special conditions shall be implemented:

1. To remain exempt from the prohibitions of Section 9 of the Endangered Species Act, the non-discretionary Terms and Conditions for incidental take of federally-listed Central California Coast Steelhead (*O. mykiss*) and its critical habitat shall be fully implemented as stipulated in the Biological Opinion titled "Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Program for restoration projects within the NOAA Restoration Center's Central Coastal California Office jurisdictional area in California" (pages 1- 108), dated June 14, 2016 (enclosure 3). Project authorization under the NWP is conditional upon compliance with the mandatory terms and conditions associated with incidental take. Failure to comply with the terms and conditions for incidental take, where a take of a federally-listed species occurs, would constitute an unauthorized take and non-compliance with the NWP authorization for your project. The NMFS is, however, the authoritative federal agency for determining compliance with the incidental take statement and for initiating appropriate enforcement actions or penalties under the Endangered Species Act.
2. Incidents where any individuals of Central California Coast Steelhead (*O. mykiss*) listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this NWP shall be reported to NOAA Fisheries, Office of Protected Resources, at (301) 713-1401 and the Regulatory Office of the San Francisco District of the U.S. Army Corps of Engineers at (415) 503-6795. The finder should leave the plant or animal alone, make note of any circumstances likely causing the death or injury, note

the location and number of individuals involved, and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

3. All standard Best Management Practices shall be implemented to prevent the movement of sediment downstream. No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products, or other organic or earthen material shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into the waterways.
4. A post construction report shall be submitted 45 days after the conclusion of construction activities. The report shall document construction activities and contain as-built drawings (if different from drawings submitted with application) and include before and after photos.

You may refer any questions on this matter to Keith Hess of my Regulatory staff by telephone at 707-443-0855 or by e-mail at keith.d.hess@usace.army.mil. All correspondence should be addressed to the Regulatory Division, North Branch, referencing the file number at the head of this letter.

The San Francisco District is committed to improving service to our customers. My Regulatory staff seeks to achieve the goals of the Regulatory Program in an efficient and cooperative manner while preserving and protecting our nation's aquatic resources. If you would like to provide comments on our Regulatory Program, please complete the Customer Service Survey Form available on our website: <http://www.spn.usace.army.mil/Missions/Regulatory.aspx>

Sincerely,

GALACATOS.KATERINA.1257532654 Digitally signed by GALACATOS.KATERINA.1257532654
Date: 2019.06.06 08:17:36 -07'00'

Katerina Galacatos, Ph.D.
South Branch Chief, Regulatory Division

- 5 -

Enclosures

Copy Furnished (w/ encls):

Mr. Alex Hunt

Copy Furnished (w/ encl 1 only):

CA RWQCB, San Luis Obispo, CA

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**E. NATIONAL MARINE FISHERIES SERVICES,
PROGRAMMATIC BIOLOGICAL OPINION (FINAL)**

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

JUN 14 2016

Refer to NMFS No: WCR-2015-3755

Patrick Rutten
NOAA Restoration Center Supervisor
National Marine Fisheries Service
777 Sonoma Avenue, Room 219A
Santa Rosa, California 95404

Aaron O. Allen, Ph.D.
Acting Regulatory Branch Chief
U.S. Department of the Army
San Francisco District, Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

**Re: Endangered Species Act Section 7(a)(2) Biological Opinion, and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response for the
Program for restoration projects within the NOAA Restoration Center's Central Coastal
California Office jurisdictional area in California**

Dear Mr. Rutten and Dr. Allen:

Thank you for your letter of November 3, 2015, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531 *et seq.*) for the NOAA Restoration Center and the U.S. Army Corps of Engineers (Corps) review and permit restoration projects (Program) within NMFS' Santa Rosa Office jurisdictional area in California.

This document transmits NMFS biological opinion (BO) and Essential Fish Habitat (EFH) consultation, based on our review of the NOAA Restoration Center (RC) proposal to review fisheries restoration projects and the Corps' proposal to permit these projects pursuant to section 404 of the Clean Water Act (33 U.S.C. 1344) and section 10 (§10) of the Rivers and Harbors Act of 1899. The biological opinion analyzes the effects of the proposed action on endangered Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*), and threatened Northern California (NC) steelhead (*O. mykiss*), threatened CCC steelhead, threatened South-Central California Coast (S-CCC) steelhead, California Coastal (CC) Chinook (*O. tshawytscha*), and their designated critical habitats in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*).



NMFS concludes the RC and Corps' proposed action is not likely to jeopardize the continued existence of threatened CCC steelhead, S-CCC steelhead, NC steelhead, CC Chinook and endangered CCC coho salmon, or adversely modify or destroy designated critical habitats for listed salmonids and, therefore, an incidental take statement is included with this BO. The incidental take statement includes reasonable and prudent measures necessary and appropriate to minimize incidental take of these species. In addition, this letter transmits our concurrence that the proposed action is not likely to adversely affect certain ESA listed species.

NMFS also concludes the proposed actions will have minimal adverse effects to Chinook salmon and coho salmon, Pacific groundfish, and Coastal pelagic EFH. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), authorizes NMFS to provide EFH Conservation Recommendations to minimize adverse effects of an activity to EFH. Because adverse effects to EFH will be minimal and multiple habitat conservation measures are included in the project description and appendices, EFH Conservation Recommendations are not necessary. However, if the proposed action is modified in a manner that may adversely affect EFH, the RC and Corps will need to reinitiate EFH consultation with NMFS.

Please contact Tom Daugherty at (707) 469-4057, Tom.Daugherty@noaa.gov if you have any questions concerning this section 7 consultation, or if you require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'W. Stelle, Jr.', followed by a small 'for' written in the same ink.

William W. Stelle, Jr.
Regional Administrator

Enclosure

cc: Joe Pecharich, NOAA Restoration Center
Holly Costa, Army Corps of Engineers
Katerina Galacatos, Army Corps of Engineers
NMFS File No: 151422WCR2016SR00226
Copy to Chron File

**Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion and
Magnuson-Stevens Fishery Conservation and Management Act
Essential Fish Habitat Consultation**

Program to fund, and/or permit restoration projects within the NOAA Restoration Center's
Central Coastal California Office jurisdictional area in California

NMFS Consultation Number: WCR-2015-3755

Action Agencies: National Oceanic and Atmospheric Administration's
Restoration Center (RC) and United States Army Corps of
Engineers, San Francisco District

Affected Species and NMFS' Determinations:

ESA-Listed Species	Status	Is Action Likely to Adversely Affect Species or Critical Habitat?*	Is Action Likely To Jeopardize the Species?	Is Action Likely To Destroy or Adversely Modify Critical Habitat?
CCC coho salmon (<i>Oncorhynchus kisutch</i>)	Endangered	Yes	No	No
California coastal Chinook (<i>O. tshawytscha</i>)	Threatened	Yes	No	No
NC steelhead (<i>O. mykiss</i>)	Threatened	Yes	No	No
CCC steelhead (<i>O. mykiss</i>)	Threatened	Yes	No	No
S-CCC steelhead (<i>O. mykiss</i>)	Threatened	Yes	No	No
Green Sturgeon (<i>Acipenser medirostris</i>)	Threatened	*No		

*Please refer to section 2.11 for the analysis of species or critical habitat that are not likely to be adversely affected.

Fishery Management Plan That Describes EFH in the Project Area	Does Action Have an Adverse Effect on EFH?	Are EFH Conservation Recommendations Provided?
Pacific Coast Salmon	Yes	No
Pacific Coastal Groundfish	Yes	No
Coastal Pelagic	Yes	No

Consultation Conducted By: National Marine Fisheries Service, West Coast Region

Issued By:



William W. Stelle, Jr.
Regional Administrator

Date:

JUN 14 2016

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Pay special attention to the applicable Protection Measures under Section 1.3.7 of the Biological Opinion (pages 14 - 25)

1. INTRODUCTION

This Introduction section provides information relevant to the other sections of this document and is incorporated by reference into Sections 2 and 3 below.

1.1 Background

NOAA's National Marine Fisheries Service (NMFS) prepared the biological opinion (opinion) and incidental take statement portions of this document in accordance with section 7(b) of the Endangered Species Act (ESA) of 1973 (16 USC 1531 *et seq.*), and implementing regulations at 50 CFR 402.

We also completed an essential fish habitat (EFH) consultation on the proposed action, in accordance with section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 U.S.C. 1801 *et seq.*) and implementing regulations at 50 CFR 600.

We completed pre-dissemination review of this document using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). The document will be available through NMFS' Public Consultation Tracking System [<https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts>]. A complete record of this consultation is on file at NMFS office in Santa Rosa, California.

1.2 Consultation History

On November 3, 2015, NOAA's National Marine Fisheries Service (NMFS) received a letter from the NOAA Restoration Center (RC) requesting formal consultation pursuant to section 7(a)(2) of the Endangered Species Act (ESA), as amended (16 U.S.C. § 1531 *et seq.*), and its implementing regulations (50 CFR § 402). The request for consultation was in regards to NOAA Restoration Center's Central Coastal California Office Restoration Program (Program) implemented by the NOAA Restoration Center (RC) and the Army Corps of Engineers (Corps) that will fund and permit restoration actions within the NOAA Restoration Center's Santa Rosa Office jurisdictional area. Included in the consultation package was a Biological Assessment (BA) for the proposed action titled "*Biological Assessment for Fisheries Habitat Restoration Projects in the Jurisdiction of the NMFS Santa Rosa Office*", dated November 2, 2015. This consultation also included one meeting NMFS and the RC staff on December 11, 2016, when the package was deemed complete. This consultation meeting resulted in some changes to the original proposed action analyzed in the BA, including the increase in project size for dewatering projects.

The consultation concerns the effects of the proposed program and associated restoration activities on endangered Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*), threatened Northern California (NC), CCC, and South-Central California Coast (S-CCC) steelhead (*Oncorhynchus mykiss*), and threatened California Coastal (CC) Chinook salmon (*Oncorhynchus tshawytscha*). Designated critical habitat for CCC coho salmon, CCC and S-CCC steelhead, NC steelhead, and CC Chinook may be affected by the proposed projects

included in the Program.

1.3 Proposed Action

“Action” means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies (50 CFR 402.02).

The RC proposes to fund restoration projects in Humboldt (CCC Coho ESU only), Mendocino (excluding the Eel and Mattole River watersheds), Sonoma, Marin, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Francisco, San Mateo, Santa Cruz, San Benito, Monterey and San Luis Obispo counties (Figure 1). The Corps proposes to issue permits for the proposed projects under section 10 of the Rivers and Harbors Act of 1899, and section 404 of the Federal Water Pollution Control Act, as amended (Clean Water Act (CWA)), as necessary. The restoration projects will be within the NMFS’s Santa Rosa Office jurisdictional area (Figure 1) and include projects permitted from 2016 forward into the future. Proposed restoration projects are categorized as follows: instream habitat improvements, instream barrier modification for fish passage improvement, streambank and riparian habitat restoration, upslope watershed restoration, removal of small dams (permanent, flashboard and other seasonal), creation of off-channel/side-channel habitat features and water conservation projects (developing alternative off-stream water supply, water storage tanks, , and water measuring devices). Projects that will not be authorized under this program include water diversion or required bypass flow requirements, flow operations from dams, large construction projects, or other projects requiring take authorization that are not specific to RC restoration proposed actions described below.

RC staff in Santa Rosa, California will administer and oversee the program to facilitate implementation of the restoration projects occurring in the jurisdiction of the Santa Rosa Office of NOAA’s National Marine Fisheries Service (Program). This biological opinion analyzes projects that meet the restoration project requirements set forth by the RC, and require a Corps permit. All restoration projects included in the Program and analyzed by this biological opinion will be subject to the administration process described in Section 1.5, *Oversight and Administration*. Restoration projects may be submitted to the Program by either the Corps or the RC. The RC will take the lead for the Program and participate in the screening of individual projects under consideration for inclusion in the Program, and will track implementation of individual projects. Such tracking will include documentation and reporting to the NMFS Santa Rosa Office of the number, type and location of projects and any incidental take that result from individual projects under this Program.

“Interrelated actions” are those that are part of a larger action and depend on the larger action for their justification. “Interdependent actions” are those that have no independent utility apart from the action under consideration (50 CFR 402.02). There are no interdependent or interrelated activities associated with the proposed action.

Habitat restoration projects authorized by the Program will be designed and implemented following the techniques and minimization measures presented in CDFW’s *California Salmonid Stream Habitat Restoration Manual, Fourth Edition, Volume II, Part IX: Fish Passage Evaluation at Stream Crossings; Part X: Upslope Assessment and Restoration Practices; Part XI: Riparian Habitat Restoration; and Part XII: Fish Passage Design and*

Implementation (Flosi *et al.* 2010, hereafter referred to as “CDFW Manual”) in order to maximize the benefits of each project while minimizing potential short-term, adverse impacts to salmonids, other aquatic and terrestrial species, and stream and riparian habitat. Additionally, Program restoration project activities that are not described in the current CDFW Manual will also be part of the proposed Program and are listed below starting at 1.3.5.

Additional avoidance and minimization measures will be necessary for all projects in order to reduce the potential for ancillary impacts to both salmonids and other riparian and aquatic species and their habitats. These measures are described under “*Section 1.3.7 Protection Measures.*”

1.3.1 Program Activities Described in the CDFW Manual

1.3.1.1 Instream Habitat Improvements

Instream habitat structures and improvements are intended to provide predator escape and resting cover, increase spawning habitat, improve upstream and downstream migration corridors, improve pool to riffle ratios, and add habitat complexity and diversity. Specific techniques for instream habitat improvements may include: placement of cover structures (divide logs; engineered logjams; complex wood jams; digger logs; spider logs; and log, root wad, and boulder combinations, *etc.*), boulder structures (boulder weirs, vortex boulder weirs, boulder clusters, and single and opposing log wing-deflectors, *etc.*), log structures (log weirs, upsurge weirs, single and opposing log wing-deflectors, engineered log jams, and Hewitt ramps, *etc.*), and placement of imported spawning gravel. Implementation of these types of projects may require the use of heavy equipment (*i.e.*, self-propelled logging yarders, mechanical excavators, backhoes, helicopters, *etc.*), however, hand labor will be used when possible. Large woody debris (LWD) may also be used to enhance pool formation and improve stream reaches. Projects may include both anchored and unanchored logs, depending on site conditions and wood availability. Depending upon complexity of the project after it is reviewed by an RC technical monitor, a NMFS or CDFW engineer will be given the chance to review and comment on select projects’ designs if needed and decide the level of review required.

1.3.1.2 Instream Barrier Modification for Fish Passage Improvement

Instream barrier modification projects are intended to improve anadromous salmonid passage and increase access to currently inaccessible or difficult-to-access salmonid habitat. Projects may include those designed to improve fish passage at existing culverts, bridges, small dams, flood control structures, and paved and unpaved fords, or Arizona crossings, through replacement, removal, or retrofitting of these existing structures. These projects may include the use of gradient control weirs upstream or downstream of the barriers to control water velocity, water surface elevation, and/or provide sufficient pool habitat to facilitate jumps. Also, interior baffles or weirs may be used to mediate velocity and the effects of shallow sheet flow, or roughened ramps to provide stability and make up grade around other in-stream structures. Weirs and baffles may also be used to improve passage in flood control channels (particularly concrete-lined channels). Implementing these types of projects may require the use of heavy equipment (*i.e.* mechanical excavators, backhoes, cranes, *etc.*).

Part IX of the CDFW Manual, *Fish Passage Evaluation at Stream Crossings*, provides consistent methods for evaluating fish passage through culverts at stream crossings, and will aid in assessing fish passage through other types of stream crossings, such as bridges and paved or hardened fords. The objectives of Part IX are to provide the user with: consistent methods for evaluating salmonid passage through stream crossings; ranking criteria for prioritizing stream crossing sites for treatment; treatment options to provide unimpeded fish passage; a stream crossing remediation project checklist; guidance measures to minimize impacts during stream crossing remediation construction; and methods for monitoring the effectiveness of corrective treatments.

The most recent chapter in the CDFW Manual (Part XII), *Fish Passage Design and Implementation*, provides technical guidance for the design of fish passage projects at stream crossings, small dams and water diversion structures. The objectives of CDFW Part XII are to “guide designers through the general process of selecting a design approach for passage improvement.” It provides “concepts, a design framework, and procedures to design stream crossings and fishways that satisfy ecological objectives, including: efficient and safe passage of all aquatic organisms and life stages, continuity of geomorphic processes such as the movement of debris and sediment, accommodation of behavior and swimming ability of organisms to be passed, diversity of physical and hydraulic conditions leading to high diversity of passage opportunities, projects that are self-sustaining and durable, and passage of terrestrial organisms that move within the riparian corridor (Flosi *et al.* 2010).”

Projects that are authorized under the Program must be designed and implemented consistent with CDFW’s *Culvert Criteria for Fish Passage* (Appendix IX-A, CDFW Manual, Flosi *et al.* 2010). A NMFS or CDFW engineer will be given the chance to review and comment and make recommendations on all fish passage improvement project designs.

1.3.1.3 Stream Bank and Riparian Habitat Restoration

The proposed activities will seek to reduce excess fine sediment from bank erosion by restoring incised or failing stream banks with appropriate site-specific techniques including: laying back stream banks, creating inset floodplains, and installing tree and native plant material revetments, willow wall and rootwad revetments, bank laybacks, brush mattresses, natural fiber rolls, and exclusionary fencing. These projects must improve salmonid habitat through increased stream shading that will lower stream temperatures, increased future LWD recruitment and invertebrate production, and increased instream habitat complexity. Riparian habitat restoration projects will aid in the restoration of riparian habitat by increasing the number of plants and plant groupings, and could include the following types of projects: natural native plant regeneration, bank laybacks, inset floodplains, livestock exclusionary fencing, bioengineering, removal of non-native trees (*e.g.*, eucalyptus trees) and revegetation projects. Reducing excessive fine instream sediment will improve fish habitat and fish survival by increasing fish embryo and alevin survival in spawning gravels, reducing injury to juvenile steelhead from high concentrations of suspended sediment, and minimizing the loss, or reduction in size, of pools from excess sediment deposition. Improved instream habitat complexity will help to ensure that failing stream banks do not result in continued loss of the in-channel habitat complexity needed by salmonids.

Part XI of the CDFW Manual, *Riparian Habitat Restoration*, contains some examples of these techniques. Some guidelines for stream bank restoration techniques are described in Part VII of the CDFW Manual, *Project Implementation*. Implementing these project types may require the use of heavy equipment. Depending upon complexity of the project after it is reviewed by RC technical monitor, a NMFS or CDFW engineer may be given the chance to review and comment on all project designs and decide level of review.

Proposed use of boulders must be limited in scope and quantity to the minimum necessary to stabilize the slope and protect it from expected stream flows during storm events. Boulder structures must be part of a larger restoration design with the primary purpose of providing habitat improvements, and must include a riparian revegetation plan. Bridge abutments and other structural improvements installed in the restoration design of fish passage projects may require additional boulder and rock bank stabilization. This Program is not meant to cover projects that are merely protecting private property bank erosion issues.

1.3.1.4 Upslope Watershed Restoration

Upslope watershed restoration projects will reduce excessive delivery of sediment to salmonid streams. Part X of the CDFW Manual, *Upslope Assessment and Restoration Practices*, describes methods for identifying and assessing erosion problems, evaluating appropriate treatments, and implementing erosion control treatments in salmonid watersheds. Road-related upslope watershed restoration projects will include: road decommissioning, road upgrading, and storm proofing roads. Implementation of these types of projects may require the use of heavy equipment.

1.3.2 Program Activities Not Described in the CDFW Manual

1.3.2.1 Removal of Small Dams (permanent, flashboard and other seasonal-type)

Dam removal is conducted to restore fisheries access to historic habitat for spawning and rearing and to improve long-term habitat quality and proper stream geomorphology. Types of eligible small dams include permanent, flashboard types, earthen and seasonal dams with the characteristics listed below.

Definition of a small dam is defined by the California Division of Dam Safety as any artificial barrier that is either: a) less than 25 feet in height from the natural bed of the stream or watercourse at the downstream toe of the barrier, or from the lowest elevation of the outside limit of the barrier to the maximum possible water storage elevation, or b) designed to have an impounding capacity of less than 50 acre-feet. This Program activity only includes small dam (as defined above) removal projects that will form a channel at natural grade and shape upstream of the dam, either naturally or through excavation, in order to minimize negative effects on downstream habitat. Dam removal projects will: 1) have a small volume of sediment available for release (relevant to the size of the stream channel, that when released by storm flows, will have minimal effects on downstream habitat (verified by qualified engineer and reviewed by either CDFW or NMFS engineers), or 2) be designed to remove sediment trapped by the dam down to the elevation of the target thalweg, including design channel and floodplain dimensions. This can be accomplished by estimating the natural thalweg using an adequate longitudinal profile (see CDFW Manual Part XII Fish Passage

Design and Implementation) and designing a new channel that provides the same hydraulic conditions and habitat for listed fish as the historical, pre-dam channel.

Methods of restoring the channel: Implementing small dam removal projects may require the use of heavy equipment (*e.g.*, self-propelled logging yarders, mechanical excavators, backhoes, *etc.*). Some small dam removals can be accomplished with hand tools, such as jackhammers. One of two methods will be used to restore the channel in a small dam removal project: Natural channel evolution or “stream simulation” design. The conditions under which each of these methods may be used are as follows:

Natural channel evolution: The natural channel evolution approach to restoring a channel bed consists of removing all hardened portions (by hand efforts or heavy equipment) of a dam and allowing the stream’s natural flows to naturally shape the channel through the project reach over time. This method shall only be used in the following situations: 1) risks are minimal to any of the downstream habitats and the aquatic organisms inhabiting them (based upon the amount and size gradation of the material being stored above the dam) if all of the sediment upstream of the dam is released during a single storm event; 2) the project reach has sufficient space and can be allowed to naturally adjust based upon any land constraints with minimal risk to riparian habit; 3) project implementation should follow procedures that have been documented as having been successfully performed elsewhere under similar circumstances; and 4) notching the dam in increments after periodic storm events in order to reduce the amount of sediment being released during any individual storm event shall not be permitted unless project funding is sufficient to allow the dam to be completely removed within the proposed project timeframe.

Stream simulation: Stream simulation design relies upon trying to duplicate the morphological conditions observed within a natural reference reach throughout the project reach. Stream simulation designs should be used in situations where excessive sediment releases pose a threat to downstream habitat and organisms. Specifically, the sediment upstream of the dam will be physically removed and the channel through the excavated reach will be designed using stream simulation. Stream simulation designs shall be conducted in accordance with known stream restoration and fish passage guidance documents. This specifically includes: 1) the identification of a suitable reference reach; 2) quantification of the average cross-sectional shape, bank full width, bed and bank sediment grain size distributions, and the geomorphic features of the channel (*e.g.*, pool-riffle sequences, meander lengths, step pools, *etc.*); and 3) reproducing the geomorphic features found within the reference reach in the project reach.

1.3.2.2 Creation of Off-channel/Side-channel Habitat Features

Floodplain habitats such as wetlands, sloughs, and off-channel features are important habitat areas for salmonids, particularly during winter months, providing velocity refugia during high winter flow events and improving growth and survival of rearing juveniles (Tschaplinski 1988, Aitkin 1998, Martens and Connolly 2014). Although projects to increase off-channel and side-channel habitats are relatively new to California, many such projects have been built in western Washington and Canada. Estuarine restoration projects may include off-channel and side-channel habitat components that can provide rearing habitat for salmonids.

Historically, off-channel habitats were much more prevalent in the estuaries and lower reaches of California streams. Much of this off-channel habitat has been lost due to development such as road construction, urbanization, agriculture and associated fill (especially for Highways 1 and 101), rail line construction and associated fill, and other anthropogenic activities. Habitat complexity and ecological function have either been degraded or lost.

The type of side-channel or off-channel features proposed for inclusion under the proposed approach:

- Reconnection of abandoned side-channel or pond habitats to restore fish access.
- Connection of adjacent ponds, remnants from aggregate excavation.
- Reconnection of oxbow lakes on floodplains that have been isolated from the meandering channel by river management actions, or channel incision.
- New side-channel or off-channel habitat features that create self-sustaining channels that will be maintained through natural processes.
- Increasing the hydrologic connection between floodplains and or wetlands to main channels.

Projects that require the installation of a flashboard dam, head gate or other mechanical structure will not be considered. Off-channel ponds constructed under this programmatic consultation will not be used as a point of water diversion. Use of logs or boulders as stationary water level control structures will be allowed.

Projects that enhance or create off-channel/side-channel areas will provide important rearing areas and velocity refugia for salmonids. These restoration projects may include: removal or breaching of levees and dikes, channel and pond excavation, constructing wood or rock tailwater control structures, beaver dam analogues and construction of large woody material and rock boulder habitat features. Implementation of these types of projects may require the use of heavy equipment and construction of temporary access roads.

Information regarding consideration of water supply (channel flow/overland flow/groundwater), water quality, and water source reliability; risk of channel change; as well as channel and hydraulic grade must be provided by project proponent for a possible NMFS or CDFW engineer to review. Project design and data must include characterizations such as those listed in Section 5.1.2, Side-Channel/Off-Channel Habitat Restoration, in the Washington Department of Fish and Wildlife's 2004 Stream Habitat Restoration Guidelines (Saldi-Caromile *et al.* 2004) and Chapter 6: Beaver Dam Analogues from the US Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Portland State University, US Forest Service 2015 Beaver Restoration Guidebook, (Castro *et al.* 2015).

1.3.2.3 Water Conservation Projects

Water conservation projects are intended to increase local stream flow, and thus available

stream rearing habitat. In addition, increased stream flow may increase spawning and rearing habitat, improve or reconnect upstream and downstream migration corridors, improve access to habitat, decrease water temperatures and increase dissolved oxygen and nutrient transport. Specific techniques for water conservation projects may include: developing an alternative off-stream water supply (installation/modification of wells and ponds); creating tail water collection ponds; improving infrastructure; installing water storage tanks; installing infiltration galleries, piping ditches and/or re-profiling ditches; and installing head gates and water measuring devices. Implementation of these types of projects may require the placement of infrastructure (head gates, pumps and piping) in or adjacent to the stream to provide alternative water intake facilities. Water conservation projects proposed under the Program will not create fish passage barriers. Mechanized equipment may be used to install the water conservation infrastructure, but hand labor will be utilized when possible. Pumping activities will not take more than 10% of the wetted channel at a time and will not strand salmonids. All instream pumps associated with tank projects will be screened in accordance with CDFW/NMFS screening criteria. All water conservation projects will require diverters to verify compliance with California state water rights.

a. Developing Alternative Off-stream Water Supply

Many landowners use off-stream reservoirs or ponds for agricultural uses to store water used for animals (e.g. dairies or pastures for grazing), vineyards or farms. These are often reservoirs that are filled either by wells or by pumping groundwater. The proposed Program will cover ponds and also cover water lines, watering troughs, and other physical components used to provide groundwater to livestock, vineyards, farms and other uses.

b. Water Storage Tanks

Creating off-channel water storage infrastructure will reduce the need for diversions during the low-flow season (late spring, summer and fall). These tanks could either be filled through rainwater catchment or by pumping surface or groundwater flow. Under this programmatic consultation, all water storage tank projects will be required to have a forbearance agreement for at least 15 years, which will provide temporal and quantitative assurances for pumping activities. The exact low-flow threshold for this programmatic consultation will be determined in collaboration with RC and NMFS hydrologists on a site-by-site basis.

c. Installation of water measuring devices

Water measuring devices include stream gauges and staff plates. While installation of stream gauges and staff plates typically only requires hand tools (e.g., shovels to bury inlet pipes, etc.), installation or replacement can require minor site excavation. Heavy equipment from the top-of-bank is typically used for excavation of the site. Any work areas will be hydrologically isolated from fish bearing streams. If the gauge is located within or near flood-prone areas, typically rock or other “armoring” is installed to protect the gauge from scour and debris damage.

1.3.3 Number and Location of Anticipated Projects

The number of restoration projects implemented on a yearly basis will be influenced by the available funding, interest from and capacity of, restoration proponents to submit qualified project applications, project permitting and construction scheduling, and other factors. Potential sources of funding for stream restoration projects in this region that would be included in the Program are numerous across various agencies.

Approximately 35-40 projects are expected to be authorized each year under this programmatic approach (Program). It is possible that once this Program is in place, there will be increased interest among the restoration community to participate in this Program. Therefore, the Corps and RC propose a maximum of 40 projects per year to be authorized under the Program to provide for increased project activity as a result of this effort. There will also be an annual per-watershed limitation of three projects occurring in any one HUC 12 (10 to 40k acres) watershed per year to avoid numerous sediment-producing restoration projects within the same watershed. For projects such as dam removal and road decommissioning or upgrading which can cause more disturbance and sediment delivery, the Program will limit these to one dam removal and one road project per HUC 12 watershed.

1.3.4 Limitations on Size and Footprint of Projects

Adverse impacts that may result from construction activities authorized under this programmatic consultation would occur on a localized scale. In order to further minimize the potential for short-term adverse impacts, the following limitations apply to individual projects and to the total number of projects that can be authorized under the proposed programmatic consultation each year:

a. Limits on Area of Disturbance and Construction Timing for Individual Projects:

Limits on stream crossing projects:

1. Any stream crossing removals in a salmonid bearing stream must be 1500 meters apart.
2. Crossings in a non-fish bearing stream must be 100 feet apart.

Maximum length of stream dewatered per project: 1,000 linear feet

Maximum upslope disturbance (raw dirt, tree removal, canopy cover reduction):

1. The disturbance footprint for a project's staging areas may not exceed a total of 1 acre.
2. Native trees with defects, large snags > 16 in. diameter at breast height (dbh) and 20 ft. high, cavities, leaning toward the stream channel, nests, late seral characteristics, or > 48 in. dbh will be retained. In limited cases removal will be permitted if trees/snags occur in the way of providing fish passage. No removal will occur without a site visit and written approval from the RC.

3. Downed trees (logs) > 24 in. dbh and 10 ft. long will be retained on upslope sites or used for instream habitat improvement projects.

1.3.5 Oversight and Administration

The following section outlines the proposed process for administration of projects under the proposed Program. Corps and RC staff will communicate directly with staff from NMFS to ensure efficient and productive use of the Program. RC staff will provide for the tracking and oversight of all projects that are implemented under Program. In addition, an informal team comprised of staff from the RC and the Corps-San Francisco District, with assistance from staff with the NMFS West Coast Region (as available), will assist in oversight of projects that are authorized each year under the Program. This collaboration will help ensure that the limits and protection measures described in the Program are adhered to, and that databases for tracking projects, as well as any incidental take of listed species that occurs during implementation of projects authorized under the Program, is accurate and available to all three cooperating parties.

The following summarizes the anticipated process for reviewing individual project applications for consideration and authorization under the Program and the process by which projects will be administered:

1.3.5.1 Submittal of Project Applications to be Considered for Authorization under the Program

- a. Many applications for salmonid habitat restoration work consistent with approved project types discussed below and included in the Program, will receive technical assistance and approval from, the RC's Community-based Restoration Program. Projects funded by various other sources must receive section 404 or section 10 permits from the Corps, and must meet all the requirements and limitations described in the Program any other measures such as terms and conditions provided in this consultation.
- b. The RC website will include contact information that enables project proponents to coordinate directly with RC staff. The RC website will also include a link to the Corps-San Francisco District Regulatory Division's website, which provides instructions for the Corps' section 404 application requirements and forms for this Program (Note: The RC will coordinate closely with the Corps to ensure that it has received the project application for the appropriate section 404 permit).

1.3.5.2 Timeline for Submittals/Review

Project applications will be submitted to both the RC and the Corps – San Francisco District throughout the year and distributed to/by RC and Corps staff for review and approval.

1.3.5.3 Submittal Requirements

Project applicants seeking coverage under the Program must submit sufficient information

about their project to allow the Corps and RC to determine whether or not the project qualifies for coverage. The following information will be collected by the project applicants with assistance from qualified consulting biologists and other specialized personnel. Project applicants will submit the following information either to the Corps (as part of their application for a Corps permit) or the RC (for RC-funded projects). Applicants will be responsible for obtaining any other necessary permits or authorizations from appropriate agencies before the start of project, as stated in the Biological Assessment (NOAA RC 2015a). The following information is to be submitted on the attached programmatic application form.

- a. Pre-project photo monitoring data (per CDFW guidelines);
- b. Project description:
 1. Project problem statement;
 2. Project goals and objectives, *etc.*;
 3. Watershed context;
 4. Description of the type of project and restoration techniques utilized (culvert replacement, instream habitat improvements, *etc.*);
 5. Project dimensions;
 6. Description of construction activities anticipated (types of equipment, timing, staging areas or access roads required);
 7. If dewatering of the work site will be necessary, description of temporary dewatering methods, including qualified individual who will be onsite to capture and transport protect salmonids;
 8. Construction start and end dates; start and end dates for salmonid relocation;
 9. Estimated number of creek crossings and type of vehicle;
 10. Materials to be used;
 11. When vegetation will be affected as a result of the project, (including removal and replacement), provide a visual assessment of dominant native shrubs and trees, approximate species diversity, and approximate acreage;
 12. Description of existing site conditions and explanation of how proposed activities improve or maintain these conditions for salmonids within expected natural variability;
 13. Description of key habitat elements (*i.e.*, temperature; type: pool, riffle, flatwater; estimate of instream shelter and shelter components; water depth; dominant substrate type, *etc.*) for salmonids in the project area.
 14. Description of applicable minimization and avoidance measures incorporated into the project (as described in *Section II. Protection Measures in the BA (NOAA RC, 2015a)*).
 15. A proposed monitoring plan for the project describing how the applicant will ensure compliance with the applicable monitoring requirements described in this Program (photo monitoring, revegetation, *etc.*), including the source of funding for implementation of the monitoring plan.
 16. A checklist the applicant must sign, verifying that the applicant agrees to adhere to all project conditions and protection measures during project design and implementation.

1.3.5.4 Initial Project Screen by the Corps and RC

The RC will be the first level of review in screening potential RC-funded projects for authorization under the proposed Program. The RC will first determine whether the project's goals, techniques, location and design are consistent with the Program. Then, the RC will determine whether the project is: a) *No Effect* on ESA listed species and or critical habitat, or b) *May Affect* ESA listed species and/or designated critical habitat, and whether the proposed action comports to the conditions of the Program.

The Corps will be the first level of review in screening potential projects whose proponents are not contacted the RC but who have applied for a Corps permit and authorization under the Program. The Corps will make an affects determination for ESA listed species and critical habitat, and whether the proposed action comports to the conditions of the proposed Program. The appropriate NMFS Santa Rosa branch supervisor will be contacted as described below, prior to project approval, for the following project types: Instream Habitat Improvements (select projects), Instream Barrier Modifications (all projects), Stream Bank and Riparian Habitat Restoration (select projects), Removal of Small dams (all projects), Creation of Off-channel/Side-channel Habitat Features (all projects) and Water Conservation Projects (select projects).

1.3.5.5 Authorization of Projects and Field Checks

RC and Corps staff will utilize a pre-established checklist (called the "Application for Inclusion in the RC Santa Rosa Office Programmatic Approach") in reviewing submitted projects to determine whether the project meets the parameters of the Program. Field visits may be necessary before projects are authorized for inclusion under the Program.

Prior to the Corps or RC's approval/authorization under the Program, the Corps or the RC will contact the appropriate NMFS North-Central Coast Office Branch Chief to confirm that a project should be included in the Program. Contact will typically be by email and will include the information submitted and the response of NMFS and or California Department of Fish and Wildlife (CDFW) fish passage engineers. RC will assume a project qualifies for inclusion if it has not heard from NMFS within 2 weeks as to whether or not the project should be included in the Program. However, if the project is a stream crossing, dam removal, off-channel habitat feature, or any other fish passage project needing engineering review, RC will not move forward with the project until NMFS has finished engineering review or indicated via email that additional review is not needed. The transmittal and response emails will be maintained in each project file by RC and or the Corps.

1.3.5.6 Corps and RC Authorization and Project Construction

With the Corps' and RC's approval (and all other necessary approvals and permits obtained), authorized projects are then implemented by the applicants, incorporating all guidelines, protection measures, and additional required conditions (described in *Section 1.7 Protection Measures*).

1.3.5.7 Post-Construction Implementation Monitoring and Reporting

Qualifying applicants will be required to carry out all post-construction implementation monitoring for projects authorized under the Program. This will include photo-documentation (using standardized guidelines for photo-documentation consistent with the pre-construction monitoring requirements); as-built designs on engineered projects; evidence that required avoidance, minimization, and mitigation measures were implemented; and information about number (and species) of fish captured and relocated, and any fish injury or mortality that resulted from the project. This information will be submitted by each applicant to the RC for data assembly. Applicants will be required to use the *Santa Rosa Office Programmatic Approach Post-Project Monitoring Form*, which will be given to applicants along with approval of the project.

1.3.5.8 Project Tracking and the Annual Report

The RC (lead agency) and Corps will work with NMFS to maintain a database that includes information on all projects implemented under the Program. In order to monitor any impacts to salmonids and critical habitat over the term of the Program, and to track any incidental take of listed salmonids, the RC (lead agency) and Corps will annually prepare and submit to NMFS a report of the previous year's restoration activities. The annual report will contain information about projects implemented during the previous construction season as well as projects that were implemented in prior years under the Program.

1.3.6 Monitoring and Reporting Requirements

All applicants will utilize standard post-construction monitoring protocols developed under the lead of CDFW. These are the same monitoring protocols CDFW follows in implementing its Fisheries Restoration Grant Program. Current instructions used by CDFW are available online at: http://ftp.dfg.ca.gov/Public/FRGP/Qualitative_Monitoring_Forms/. In addition, applicants will utilize NMFS' September 2001 (or most recent update) Guidelines for Salmonid Passage at Stream Crossings for post-construction evaluation and long-term maintenance and assessment protocols. Applicants will also be required to fill out the *Santa Rosa Office Programmatic Approach Post-Project Monitoring Form*, which will be given to applicants by the Corps or the RC when approving their project.

a. Post-construction Monitoring and Reporting Requirements:

Implementation monitoring will be conducted for all projects implemented under the proposed Program. Following construction, project applicants must submit a post-construction implementation report to the RC and the Corps. Implementation reports shall include project as-built plans and photo documentation of project implementation taken before, during, and after construction, utilizing CDFW photo monitoring protocols. For fish relocation activities, the report should include: all fisheries data collected by a qualified fisheries biologist, including the number of any salmonids killed or injured during the proposed action; the number and size (in millimeters) of any salmonids captured and removed; and any unforeseen effects of the proposed action on salmonids.

b. Annual Report

Annually, the RC and Corps will prepare a report summarizing results of projects implemented under this Program during the most recent construction season, and results of post-construction implementation and effectiveness monitoring for that year and previous years. The annual report shall include a summary of the specific type and location of each project and the ESU or DPS affected. The report shall include the following project-specific summaries:

1. Fish relocation activities, including the number and species of fish relocated and the number and species injured or killed.
2. The number and type of instream structures implemented within the stream channel.
3. The size (acres, length, and depth) of off-channel habitat features enhanced or created.
4. The length of streambank (feet) restored or planted with riparian species.
5. The number of culverts replaced or repaired, including the number of miles of restored access to salmonid habitat.
6. The size and number of dams/barriers removed, including the number of miles of restored/improved access to unoccupied salmonid habitat.
7. The distance (feet) of aquatic habitat disturbed at each project site.
8. The distance (feet) of aquatic habitat restored.

1.3.7 Protection Measures

The following protection measures, as they apply to a particular project, shall be incorporated into the project descriptions for individual projects authorized under the proposed Program.

a. General Protection Measures for All Project Types:

1. Work shall not begin until a) the RC and/or Corps has notified the permittee that the requirements of the ESA and Clean Water Act have been satisfied and that the activity is authorized and b) all other necessary permits and authorizations are finalized.
2. The general construction season shall be from June 15 to October 31. Restoration, construction, fish relocation and dewatering activities within any wetted or flowing stream channel shall occur only within this period. If precipitation sufficient to produce runoff is forecast to occur while

construction is underway, work will cease and erosion control measures will be put in place sufficient to prevent significant sediment runoff from occurring. Exceptions regarding the construction season will be considered on a case-by-case basis only if justified and if measurable precipitation sufficient to produce runoff is not forecast to occur during any of the above activities, and if approved by the RC, Corps, and NMFS. Revegetation activities including limited soil preparation outside the active channel may occur beyond October 31 if necessary to better ensure successful plant establishment during the onset of winter precipitation.

3. Prior to construction, the land manager and each contractor shall be provided with the specific protective measures to be followed during implementation of the project by the project proponent or lead biologist. In addition, a qualified biologist shall provide the construction crew with information on all listed species (including state-listed and state fully protected species) in the project area, the protection afforded the species by ESA and CESA, and guidance on those specific protection measures that must be implemented as part of the project.
4. Select herbicides such as Imazipyr may be applied to control established stands of non-native plant species. Herbicides must be applied to those species according to the registered label conditions. Herbicides must be applied directly to plants (painted or sponges) and may not be sprayed or spread upon any water. Herbicide shall be tinted with a biodegradable dye to facilitate visual control of the spray. NMFS will approve any herbicides before use. Additionally, NMFS has recently completed several consultations with the US Environmental Protection Agency (EPA) for certain herbicides. These biological opinions include RPAs that are intended to avoid and minimize adverse impacts to listed species when herbicides are applied. The protective measures identified in the RPAs must be incorporated into future labeling detailing herbicide use, or their registration for use on some crops will be cancelled by the EPA. All application instructions on the labels are requirements under the EPA, and are therefore required to be implemented under federal law when applying these herbicides.
5. Until any RPA required measures are identified on the label, the measures from the appropriate RPA, as well as proven BMPs, will be relied on for the Program in addition to current label requirements.
6. If the thalweg of the stream has been altered due to construction activities, efforts shall be undertaken to reestablish it to its original configuration. (Note: Projects that include activities such as the use of willow baffles that may alter the thalweg are allowed under the proposed Program.)

1.3.7.1 Requirements for Fish Relocation and Dewatering Activities

a. Guidelines for Dewatering:

Project activities authorized under the Program may require fish relocation and/or dewatering activities. Dewatering may not be appropriate for some projects that will result in only minor input of sediment, such as placing logs with hand crews, installing boulder clusters or felling of trees. Dewatering can result in the temporary loss of aquatic habitat, and the stranding, displacement, or crushing of fish and amphibian species. Increased turbidity may occur from disturbance of the channel bed. The following general guidelines will minimize potential impacts for projects that do require dewatering of a stream/creek.

1. In those specific cases where it is deemed necessary to dewater a work site that is located in aquatic habitat, the work area shall be isolated and all the flowing water upstream of the work site shall be temporarily diverted around the work site to maintain downstream flows during construction. Prior to dewatering, determine the best means to bypass flow through the work area to minimize disturbance to the channel and avoid direct mortality of fish and other aquatic vertebrates (as described more fully below under *General Conditions for Fish Capture and Relocation*).
2. Fish will be excluded from reentering the work area by blocking the stream channel above and below the work area with fine-meshed net or screens. Mesh will be no greater than 1/8-inch diameter. The bottom of the seine must be completely secured to the channel bed to prevent fish from reentering the work area. Exclusion screening must be placed in areas of low water velocity to minimize fish impingement. Upstream and downstream screens must be checked daily (prior to, during, and after instream activities) and cleaned of debris to permit free flow of water. Block nets shall be placed and maintained throughout the construction period at the upper and lower extent of the areas where fish will be removed. Block net mesh shall be sized to ensure salmonids upstream or downstream does not enter the areas proposed for dewatering between passes with the electro-fisher or seine.
3. Coordinate project site dewatering with a qualified biologist to perform fish and amphibian relocation activities. The qualified biologist(s) will possess all valid state and federal permits needed for fish relocation and will be familiar with the life history and identification of salmonids, state-listed fish, and listed amphibians within the action area.
4. Prior to dewatering a construction site, qualified individuals will capture and relocate fish and amphibians to avoid direct mortality and minimize take. This is especially important if listed species are present within the project site.
5. Bypass stream flow around the work area, but maintain the stream flow to channel below the construction site.

6. Minimize the length of the dewatered stream channel and duration of dewatering.
7. Any temporary dam or other artificial obstruction constructed shall only be built from materials such as sandbags or clean gravel that will cause little or no siltation. Impenetrable material shall be placed over sandbags used for construction of cofferdams construction to minimize water seepage into the construction areas. The impenetrable material shall be firmly anchored to the streambed to minimize water seepage. Cofferdams and the stream diversion systems shall remain in place and fully functional throughout the construction period.
8. When cofferdams with bypass pipes are installed, debris racks will be placed at the bypass pipe inlet. Bypass pipes will be monitored a minimum of two times per day, seven days a week, during the construction period. The contractor or project applicant shall remove all accumulated debris.
9. Bypass pipe diameter will be sized to accommodate, at a minimum, twice the existing summer baseflow.
10. The work area may need to be periodically pumped dry of seepage. Place pumps in flat areas, well away from the stream channel. Secure pumps by tying off to a tree or stake in place to prevent movement by vibration. Refuel in an area well away from the stream channel and place fuel absorbent mats under pump while refueling. Pump intakes shall be covered with appropriate sized screening material to prevent potential entrainment of fish or amphibians that failed to be removed. Check intake periodically for impingement of fish or amphibians.
11. If pumping is necessary to dewater the work site, procedures for pumped water shall include requiring a temporary siltation basin for treatment of all water prior to entering any waterway and not allowing oil or other greasy substances originating from the contractor or project applicants operations to enter or be placed where they could enter a wetted channel. Projects will adhere to currently approved CDFW and NMFS *Fish Screening Criteria* (NMFS 2011).
12. Discharge wastewater from construction area to an upland location where it will not drain sediment-laden water back to the stream channel.
13. When construction is completed, the flow diversion structure shall be removed as soon as possible in a manner that will allow flow to resume with the least disturbance to the substrate. Cofferdams will be removed so surface elevations of water impounded above the cofferdam will not be reduced at a rate greater than one inch per hour. This will minimize the risk of beaching and stranding of fish as the area upstream becomes dewatered.

b. General Conditions for all Fish Capture and Relocation Activities:

1. Fish relocation and dewatering activities shall only occur between June 15 and October 31 of each year. If precipitation sufficient to produce runoff is forecast to occur while construction is underway, work will cease and erosion control measures will be put in place sufficient to prevent significant sediment runoff from occurring. Exceptions on the fish relocation/dewatering time period will be considered on a case-by-case basis only if justified and if precipitation sufficient to produce runoff is not forecast to occur during any of the above activities, and if approved by the RC, Corps and NMFS. If the channel is expected to be seasonally dry during this period, construction should be scheduled so that fish relocation and dewatering are not necessary.
2. A qualified fisheries biologist shall perform all seining, electrofishing, and fish relocation activities. The qualified fisheries biologist shall capture and relocate salmonids and other native fish prior to construction of the water diversion structures (*e.g.*, cofferdams). The qualified fisheries biologist shall note the number of salmonids observed in the affected area, the number of salmonids relocated, and the date and time of collection and relocation. The qualified fisheries biologist shall have a minimum of three years of field experience in the identification and capture of salmonids, including juvenile salmonids. The qualified biologist will adhere to the following requirements for capture and transport of salmonids:
 - a) Determine the most efficient means for capturing fish. Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping down the pool and then seining or dip netting fish.
 - b) Notify the RC one week prior to capture and relocation of salmonids to provide RC or NMFS staff an opportunity to attend.
 - c) Initial fish relocation efforts will be conducted several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction if there is water in the isolated construction area. In these instances, additional fish could be captured that eluded the previous day's efforts. If water is left in the construction area, dissolved oxygen levels sufficient for salmonid survival must be maintained.
 - d) At project sites with high summer water temperatures, perform relocation activities during morning periods.
 - e) Prior to capturing fish, determine the most appropriate release location(s). Consider the following when selecting release site(s):
 - Similar water temperature as capture location

- Ample habitat for captured fish
 - Low likelihood of fish reentering work site or becoming impinged on exclusion net or screen.
- f) Periodically measure air and water temperatures and monitor captured fish. Temperatures will be measured at the head of riffle tail of pool interface. Cease activities if health of fish is compromised owing to high water temperatures, or if mortality exceeds three percent of captured salmonids.

c. *Electrofishing Guidelines:*

The following methods shall be used if fish are relocated via electrofishing:

1. All electrofishing will be conducted according to NMFS' *Guidelines for Electrofishing Waters Containing Salmonids Listed Under the Endangered Species Act* (NMFS 2000).
2. The backpack electro-fisher shall be set as follows when capturing fish:
Voltage setting on the electro-fisher shall not exceed 300 volts.

	<u>Initial</u>	<u>Maximum</u>
A) Voltage:	100 Volts	300 Volts
B) Duration:	500 μ s (microseconds)	5 ms (milliseconds)
C) Frequency:	30 Hertz	30 Hertz

3. A minimum of three passes with the electro-fisher shall be utilized to ensure maximum capture probability of salmonids within the area proposed for dewatering.
4. Water temperature, dissolved oxygen, and conductivity shall be recorded in an electrofishing log book, along with electrofishing settings.
5. A minimum of one assistant shall aid the fisheries biologist by netting stunned fish and other aquatic vertebrates.

d. *Seining Guidelines:*

The following methods shall be used if fish are removed with seines.

1. A minimum of three passes with the seine shall be utilized to ensure maximum capture probability of all salmonids within the area.
2. All captured fish shall be processed and released prior to each subsequent pass with the seine.

3. The seine mesh shall be adequately sized to ensure fish are not gilled during capture and relocation activities.

e. Guidelines for Relocation of Salmonids:

The following methods shall be used during relocation activities associated with either method of capture (electrofishing or seining):

1. Fish shall not be overcrowded into buckets, allowing no more than 150 0+ fish (approximately six cubic inches per 0+ individuals) per 5 gallon bucket and fewer individuals per bucket for larger/older fish.
2. Every effort shall be made not to mix 0+ salmonids with larger steelhead, or other potential predators, that may consume the smaller salmonids. Have at least two containers and segregate young-of-year (0+) fish from larger age-classes. Place larger amphibians in the container with larger fish.
3. Salmonid predators, including other fishes and amphibians, collected and relocated during electrofishing or seining activities shall not be relocated so as to concentrate them in one area. Particular emphasis shall be placed on avoiding relocation of predators into the salmonid relocation pools. To minimize predation of salmonids, these species shall be distributed throughout the wetted portion of the stream to avoid concentrating them in one area.
4. All captured salmonids shall be relocated, preferably upstream, of the proposed construction project and placed in suitable habitat. Captured fish shall be placed into a pool, preferably with a depth of greater than two feet with available instream cover.
5. All captured salmonids will be processed and released prior to conducting a subsequent electrofishing or seining pass.
6. All native captured fish will be allowed to recover from electrofishing before being returned to the stream.
7. Minimize handling of salmonids. However, when handling is necessary, always wet hands or nets prior to touching fish. Handlers will not wear insect repellants containing the chemical N,N-Diethyl-meta-toluamide (DEET).
8. Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from this container until time of release.
9. Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by CDFW and NMFS, fish shall

be released and rescue operations ceased.

10. In areas where aquatic vertebrates are abundant, periodically cease capture, and release at predetermined locations.
11. Visually identify species and estimate year-classes of fish at time of release. Count and record the number of fish captured. Avoid anesthetizing or measuring fish. Also identify hatchery (clipped adipose fin) and wild fish.
12. If more than 3 percent of the salmonids captured are killed or injured, the project permittee shall contact the RC (currently Joe Pecharich (707) 575-6095 or at joe.pecharich@noaa.gov). The RC will then contact NMFS within 24 hours.
13. The purpose of the contact is to review the activities resulting in take and to determine if additional protective measures are required. All salmonid mortalities must be retained, placed in an appropriately sized, zip-sealed bag, labeled with the date and time of collection, fork length, location of capture, and frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NMFS.

1.3.7.2 Measures to Minimize Disturbance from Instream Construction

Measures to minimize disturbance associated with instream habitat restoration construction activities are presented below. Measures are excerpted from *Measures to Minimize Disturbance from Construction*, on page IX-50 of the CDFW Manual:

- a. Construction will occur between June 15 and October 31. Revegetation activities, including soil preparation, may extend beyond October 31, if necessary, to better ensure successful plant establishment during the onset of winter precipitation. If precipitation greater than one inch is forecast during the June 15 – October 31 work window, the RC must be notified, implementation work must stop, and erosion control BMP's must be implemented. Extensions of this work window will be considered on a case-by-case basis only if justified and if precipitation sufficient to produce runoff is not forecast to occur during any of the above activities, the effects of this action are not outside the effects analyzed in the BA, and if approved by the RC, Corps and NMFS.
- b. Debris, soil, silt, excessive bark, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from projected related activities, shall be prevented from contaminating the soil and/or entering the waters of the State. Any of these materials, placed within or where they may enter a stream or lake, by the applicant or any party working under contract, or with permission of the applicant, shall be removed immediately. During project activities, all trash that may attract potential predators of salmonids will be properly contained, removed from the work site, and disposed of daily.

- c. Where feasible, the construction shall occur from the bank, or on a temporary pad underlain with filter fabric.
- d. No heavy equipment will enter wetted channels.
- e. Use of heavy equipment shall be avoided in a channel bottom with rocky or cobbled substrate. If access to the work site requires crossing a rocky or cobbled substrate, a rubber tire loader/backhoe is the preferred vehicle. Only after this option has been determined infeasible will the use of tracked vehicles be considered. The amount of time this equipment is stationed, working, or traveling within the creek bed shall be minimized. When heavy equipment is used, woody debris and vegetation on banks and in the channel shall not be disturbed if outside of the project's scope.
- f. The use or storage of petroleum-powered equipment shall be accomplished in a manner to prevent the potential release of petroleum materials into waters of the state (Fish and Game Code 5650).
- g. Areas for fuel storage, refueling, and servicing of construction equipment must be located in an upland location.
- h. Prior to use, clean all equipment to remove external oil, grease, dirt, or mud. Wash sites must be located in upland locations so wash water does not flow into the stream channel or adjacent wetlands.
- i. All construction equipment must be in good working condition, showing no signs of fuel or oil leaks. Prior to construction, all mechanical equipment shall be thoroughly inspected and evaluated for the potential of fluid leakage. All questionable motor oil, coolant, transmission fluid, and hydraulic fluid hoses, fitting, and seals shall be replaced. The contractor shall document in writing all hoses, fittings, and seals replaced and shall keep this documentation until the completion of operations. All mechanical equipment shall be inspected on a daily basis to ensure there is no motor oil, transmission fluid, hydraulic fluid, or coolant leaks. All leaks shall be repaired in the equipment staging area or other suitable location prior to resumption of construction activity.
- j. Oil absorbent and spill containment materials shall be located on site when mechanical equipment is in operation with 100 feet of the proposed watercourse crossings. If a spill occurs, no additional work shall commence in-channel until (1) the mechanical equipment is inspected by the contractor, and the leak has been repaired, (2) the spill has been contained, and (3) NMFS and CDFW are contacted and have evaluated the impacts of the spill.

1.3.7.3 Measures to Minimize Degradation of Water Quality

Construction or maintenance activities for the projects proposed under this Program may result in temporary increases in turbidity levels in the stream. In general, these activities must

not result in significant, or long term increases in turbidity levels beyond the naturally occurring, background conditions. The following measures shall be implemented to reduce the potential for impacts to water quality during and post-construction:

a. General Erosion Control during Construction:

1. When appropriate, isolate the construction area from flowing water until project materials are installed and erosion protection is in place.
2. Effective erosion control measures shall be in place at all times during construction. Do not start construction until all temporary control devices (straw bales with sterile, weed free straw, silt fences, *etc.*) are in place downslope or downstream of project site within the riparian area. The devices shall be properly installed at all location where the likelihood of sediment input exists. These devices shall be in place during and after construction activities for the purposes of minimizing fine sediment and sediment/water slurry input to flowing water and of detaining sediment-laden water on site. If continued erosion is likely to occur after construction is completed, then appropriate erosion prevention measures shall be implemented and maintained until erosion has subsided. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain, fish, reptiles or amphibians.
3. Sediment shall be removed from sediment controls once it has reached one-third of the exposed height of the control. Whenever straw bales are used, they shall be staked and dug into the ground to a minimum depth of 12 cm, and only sterile, weed-free straw shall be utilized.
4. Sediment-laden water created by construction activity shall be filtered before it leaves the right-of-way or enters the stream network or an aquatic resource area.
5. The contractor/project applicant is required to inspect and repair/maintain all practices prior to and after any storm event, at 24-hour intervals during extended storm events, and a minimum of every two weeks until all erosion control measures have been completed.

b. Guidelines for Temporary Stockpiling:

1. Minimize temporary stockpiling of material. Stockpile excavated material in areas where it cannot enter the stream channel. Prior to start of construction; determine if such sites are available at or near the project location. If nearby sites are unavailable, determine location where material will be deposited. Establish locations to deposit spoils well away from watercourses with the potential to delivery sediment into the stream network draining into current salmonid habitat, or historically supporting populations of salmonids. Spoils shall be contoured to disperse runoff and stabilized with mulch and (native) vegetation. Use devices such as plastic sheeting held down with rocks or

sandbags over stockpiles, silt fences, or berms of hay bales, to minimize movement of exposed or stockpiled soils.

2. If feasible, conserve topsoil for reuse at project location or use in other areas. End-haul spoils away from watercourses as soon as possible to minimize potential sediment delivery.

c. Minimizing Potential for Scour:

1. When needed, utilize instream boulder grade control structures to control channel scour, sediment routing, and headwall cutting.
2. For relief culverts or structures, if a pipe or structure that empties into a stream is installed, an energy dissipater shall be installed to reduce bed and bank scour. This does not apply to culverts installed in fish-bearing tributaries.
3. The toe of rock slope protection used for streambank stabilization shall be placed below bed scour to ensure stability.

d. Post-Construction Erosion Control:

1. Immediately after project completion and before close of seasonal work window, stabilize all exposed soil with mulch, seeding, and/or placement of erosion control blankets. Remove all artificial erosion control devices after the project area has fully stabilized. All exposed soil present in and around the project site shall be stabilized within 7 days. Erosion control devices such as coir rolls or erosion control blankets will not contain plastic netting of a mesh size that would entrain reptiles and amphibians.
2. All bare and/or disturbed slopes (larger than 10' x 10' of bare mineral soil) will be treated with erosion control methods such as straw mulching, netting, fiber rolls, and hydro-seed as permanent erosion control measures.
3. Where straw, mulch, or slash is used as erosion control on bare mineral soil, the minimum coverage shall be 95% with a minimum depth of two inches.
4. When seeding is used as an erosion control measure, only natives will be used. Sterile (without seeds), weed-free straw, free of exotic weeds, is required when hay bales are used as an erosion control measure.

1.3.7.4 Measures to Minimize Loss or Disturbance of Riparian Vegetation

Measures to minimize loss or disturbance to riparian vegetation are described below. The revegetation and success criteria that will be adhered to for projects implemented under the proposed Program that result in disturbance to riparian vegetation are also described below.

a. Minimizing Disturbance:

1. Retain as many trees and shrubs as feasible, emphasizing shade-producing and bank-stabilizing trees and brush.
2. Prior to construction, determine locations and equipment access points that minimize riparian disturbance. Pre-existing access points shall be used whenever possible. Avoid entering unstable areas, which may increase the risk of channel instability.
3. Minimize soil compaction by using equipment with a greater reach or that exerts less pressure per square inch on the ground, resulting in less overall area disturbed or less compaction of disturbed areas.
4. If riparian vegetation is to be removed with chainsaws, consider using saws currently available that operate with vegetable-based bar oil.

b. Revegetation and Success Criteria:

1. Any stream bank area left barren of vegetation as a result of the implementation or maintenance of the practices shall be restored to a natural state by seeding, replanting, or other agreed upon means with native trees, shrubs, and/or grasses. Barren areas shall typically be planted with a combination of willow stakes, native shrubs and trees and/or erosion control grass mixes.
2. Native plant species shall be used for revegetation of disturbed and compacted areas. The species used shall be specific to the project vicinity or the region where the project is located, and comprise a diverse community structure (plantings shall include both woody and herbaceous species).
3. For projects where re-vegetation is implemented to compensate for riparian vegetation impacted by project construction, a re-vegetation monitoring report will be required after 2 years to document success. Success is defined as 80% survival of plantings or 80% ground cover for broadcast planting of seed after a period of 2 years. If revegetation efforts will be passive (*i.e.*, natural regeneration), success will be defined as total cover of woody and herbaceous material equal to or greater than pre-project conditions. If at the end of 2 years, the vegetation has not successfully been re-established, the applicant will be responsible for replacement planting, additional watering, weeding, invasive exotic eradication, or any other practice, to achieve these requirements. If success is not achieved within the first 2 years, the project applicant will need to prepare a follow-up report in an additional year's time.
4. All plastic exclusion netting placed around plantings will be removed and recycled after 3 years, or earlier if appropriate.

Pages 26 – 79 of the Biological Opinion have been redacted from this copy to streamline contractor review (redacted information not relevant to construction).

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2.8.1 Amount or Extent of Take

In the biological opinion, NMFS determined that incidental take would occur as follows:

NMFS expects the proposed project will result in incidental take of listed CCC coho salmon, CC Chinook salmon, NC steelhead, CCC steelhead and SCCC steelhead on an annual basis. Juvenile coho salmon, steelhead and to a lesser extent stream-type juvenile Chinook salmon will be harmed, injured, or killed from the dewatering and fish relocating activities at the project sites. Specifically, incidental take is expected to be in the form of capture during dewatering and fish relocation activities. NMFS expects no more than 3 percent of the juvenile salmon and steelhead captured will be injured or killed each year. For each of the steelhead DPSs which can have large numbers of young of the year fish present during dewatering and relocation activities we expect up to 4000 juvenile steelhead to be captured and relocated and up to 120 juveniles (most will be young of the year) injured or killed during each year of the program. Much lower numbers of juvenile CCC coho salmon and CC Chinook salmon are expected at restoration sites and based on past dewatering and relocation information we expect 300 CCC coho salmon to be captured and relocated and the loss of 9 CCC coho salmon and the capture and relocation of 100 CC Chinook salmon juveniles, and 3 to be injured or killed during each year of the Program.

2.8.2 Effect of the Take

In the biological opinion, NMFS determined that the amount or extent of anticipated take, coupled with other effects of the proposed action, is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

2.8.3 Reasonable and Prudent Measures

“Reasonable and prudent measures” are nondiscretionary measures that are necessary or appropriate to minimize the impact of the amount or extent of incidental take (50 CFR 402.02).

- a. Measures shall be taken to minimize the amount or extent of incidental take of listed salmonids resulting from fish relocation, dewatering, or instream construction activities.
- b. Measures shall be taken to ensure that individual restoration projects authorized annually through the Program will minimize take of listed salmonids, monitor and report take of listed salmonids, and to obtain specific project information to better assess the effects and benefits of salmonid restoration projects authorized through the Program.
- c. Measures shall be taken to handle or dispose of any individual CCC coho salmon, CC Chinook salmon, NC steelhead, CCC steelhead, or SCCC steelhead actually killed.

2.8.4 Terms and Conditions

The terms and conditions described below are non-discretionary, and the RC and Corps or any applicant must comply with them in order to implement the reasonable and prudent measures (50 CFR 402.14). The RC and Corps or any applicant has a continuing duty to monitor the impacts of incidental take and must report the progress of the action and its impact on the species as specified in this incidental take statement (50 CFR 402.14). If the entity to whom a term and condition is directed does not comply with the following terms and conditions, protective coverage for the proposed action would likely lapse.

- a. The following terms and conditions implement reasonable and prudent measure 1:

Measures shall be taken to minimize the amount or extent of incidental take of listed salmonids resulting from fish relocation, dewatering, or instream construction activities:

1. Fish relocation data must be provided annually as described in Term and Condition 2b (below). Any injuries or mortality from a fish relocation site that exceeds three percent⁹ of a listed species shall be reported to the nearest NMFS office within 48 hours and relocation activities shall cease until a RC biologist is on site to supervise the remainder of relocation activities.

- b. The following terms and conditions implement reasonable and prudent measure 2:

Measures shall be taken to ensure that individual restoration projects authorized annually through the Program will minimize take of listed salmonids, monitor and report take of listed salmonids, and to obtain specific project information to better account for the effects and benefits of salmonid restoration projects authorized through the Program.

1. In order to monitor the impact and to track incidental take of listed salmonids, the RC and/or the Corps must annually submit to NMFS a report of the previous year's restoration activities. The annual report shall include a summary of the specific type and location of each project, stratified by individual project, watershed, affected species and ESU/DPS. The report shall include the following project-specific summaries:

- Summary detailing fish relocation activities, including the number and species of fish relocated and the number and species injured or killed. Any capture, injury, or mortality of adult salmonids will be noted in the monitoring data and report. Any injuries or mortality from a fish relocation site that exceeds three percent of the affected listed species shall have an explanation describing why.
- The number and type of instream structures implemented within the stream channel.

⁹ Only when injury or mortality exceeds 10 individuals of the affected species, to minimize the need to report when only a small number of listed species are injured or killed from a small total capture size.

- The length of streambank (feet) restored or planted with riparian species.
- The number of culverts replaced or repaired, including the number of miles of restored access to unoccupied salmonid habitat.
- The distance (miles) of road decommissioned.
- The distance (feet) of aquatic habitat disturbed at each project site.

This report shall be submitted annually by March 1 to the North-Central Coast NMFS office:

National Marine Fisheries Service
North-Central Coast Office
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

- c. The following terms and conditions implement reasonable and prudent measure 3:

Measures shall be taken to handle or dispose of any individual CCC coho salmon, CC Chinook salmon, NC, CCC, or SCCC steelhead actually taken (mortality).

1. All steelhead, Chinook salmon, and coho salmon mortalities must be retained, placed in an appropriately sized whirl-pak or zip-lock bag, labeled with the date and time of collection, fork length, location of capture, and frozen as soon as possible. Frozen samples must be retained until specific instructions are provided by NMFS.

2.9 Conservation Recommendations

Section 7(a)(1) of the ESA directs Federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Specifically, conservation recommendations are suggestions regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information (50 CFR 402.02).

NMFS has no conservation recommendation for this proposed action.

2.10 Reinitiation of Consultation

This concludes formal consultation for the Program to fund, and/or permit restoration projects within the NMFS Santa Rosa Office jurisdictional area in California.

As 50 CFR 402.16 states, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: (1) the amount or extent of incidental taking specified in the incidental take

Pages 83 – 102 of the Biological Opinion have been redacted from this copy to streamline contractor review (redacted information not relevant to construction).

THE BOLSA ROAD FISH PASSAGE IMPROVEMENT PROJECT

**ADDENDUM 2
ATTACHMENT 4**

**BID FORM NO. 2 (REV 1)
Proposal and Bid Items**

**Project No. 26044002
Contract No. C0652**

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*This form must be completed in **ink** and changes must be **initialed**.*

- A. This Designation of Subcontractors form must be completed in compliance with the State of California Subletting and Subcontracting Fair Practices Act, Public Contract Code **§4100 et seq.**, and any amendment thereof. Bidder must complete the form below for each Subcontract **that exceeds one-half of one percent (½%) of the Bidder's total Bid**. A Subcontractor is one who: (1) performs Work or labor; or (2) provides a service to the Bidder; or (3) specially Fabricates and Installs a portion of the work according to the Contract Documents. Bidders failure to list a Subcontractor for any portion of the work in excess of ½% of Bidder's total Bid signifies Bidder will self perform that portion of the Work with its own forces. (Note: If more than one Subcontractor is designated for the same kind of Work, state the portion that each will perform.) After the opening of the Bids, no changes or substitutions will be allowed except as otherwise provided by law. The listing of more than one subcontractor for each item of work to be performed with the words "and/or" will not be permitted. Failure to comply with this requirement may render the Bid nonresponsive and may cause its rejection.
- B. Failure by a subcontractor to be registered to perform public work as required by the California Labor Code Section 1771.1 (a) shall be grounds under Section 4107 of the Public Contract Code for the Contractor, with the consent of the awarding authority, to substitute a subcontractor who is registered to perform public work pursuant to Section 1725.5 in place of the unregistered subcontractor.

NAME	LICENSE NO.	DIR Registration No.	TYPE OF WORK	% of TOTAL CONTRACT
LOCATION (City & State)	EXPIRATION DATE	EXPIRATION DATE		

SIGNATURE BLOCK (Signature Block must be completed in *ink* and changes must be *initialed*.)

Bidder's Signature:

Date:

Bidder's Name and Title (Print):

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