

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**



ITEM
3.38
(ID # 2872)

MEETING DATE:

Tuesday, December 6, 2016

FROM : TLMA-TRANSPORTATION:

SUBJECT: TLMA-TRANSPORTATION: Approval of the Engineering Services Agreement between the County of Riverside and T.Y. Lin International for Preliminary Engineering Report and Environmental Clearance to Replace the Hamner Avenue Bridge at Santa Ana River. All Covenants Set Forth in the Agreement Shall be Completed by June 30, 2022. 2nd District; [\$2,222,125 - Total Cost]; Federal Funds 88.53% and Local Funds 11.47%

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve the Engineering Services Agreement between the County of Riverside (County) and T.Y. Lin International for Preliminary Engineering Report and Environmental Clearance to Replace the Hamner Avenue Bridge; and
2. Authorize the Director of Transportation, or designee, to issue the Notice to Proceed (NTP) for Phase IA and Phase IB after receiving the State authorization of Highway Bridge Program (HBP) Funds for each respective phase; and
3. Authorize the Chairman of the Board to execute the same.

ACTION: Policy


FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost
COST	\$ 190,000	\$ 448,610	\$ 2,222,125	\$ 0
NET COUNTY COST	\$ 0	\$ 0	\$ 0	\$ 0
SOURCE OF FUNDS: Federal Highway Bridge Program Funds (88.53%), City of Norco (5.735%), and City of Eastvale funds (5.735%). There are no General Funds used in this project			Budget Adjustment: No	
			For Fiscal Year: 16/17-20/21	

C.E.O. RECOMMENDATION: Approve

MINUTES OF THE BOARD OF SUPERVISORS

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

Ayes: Jeffries, Tavaglione, Washington and Ashley
Nays: None
Absent: Benoit
Date: December 6, 2016
xc: Transp.

Kecia Harper-Ihem
Clerk of the Board
By 
Deputy

3.38

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA**

BACKGROUND:

Summary

The County, in cooperation with the City of Eastvale and the City of Norco (Cities), has determined that there is a need for bridge improvements on the existing Hamner Avenue Bridge over the Santa Ana River. For more than seven decades, the bridge has been a critical link between the City of Norco (Norco) and the unincorporated areas to the north in the County, now the newly formed City of Eastvale (Eastvale). The bridge site is near the border between Norco and Eastvale, approximately 1,300 feet to the west of the Interstate 15 (I-15) Bridges over the Santa Ana River in the City of Norco. The existing structure has two traffic lanes, one in each direction and carries heavy traffic bypassing Interstate-15 when there is congestion, maintenance activities, or an emergency on the freeway.

The existing bridge was constructed in 1939. It was widened to add a cantilevered sidewalk and seismically upgraded in 1978. The bridge is on the Federal Eligible Bridge List (EBL). It qualifies to receive Federal Highway Bridge Program (HBP) funds for rehabilitation and potentially for replacement since it is designated as Structurally Deficient (SD) with a Sufficiency Rating (SR) of 69.3. The SR must be 50.0 or less to qualify for replacement funding per the HBP guidelines, unless supporting documentation is provided to justify the need for replacement. The County and the Cities consider that total replacement of the existing 2-lane bridge with a minimum 4-lane or possibly a 6-lane bridge is the most prudent and cost-effective alternative. The proposed project scope includes the construction of a new 6-lane bridge to accommodate increased traffic demand and a higher bridge to convey the 100 year storm event.

On July 17, 2012 (Agenda Item 3-45), the Board of Supervisors approved a Service Agreement between the County and the cities of Norco and Eastvale for the County to conduct preliminary concept studies. The study was completed and the County was successful in obtaining federal funds of \$458,585 with a local matching amount of \$59,415, for additional preliminary engineering studies and cost estimates to justify and support approval of the proposed project scope to replace the bridge.

The project is entirely within the jurisdictional boundaries of Norco and Norco will be the implementing agency responsible for sponsoring and funding the project. The County has been designated as the agency responsible for performing the preliminary engineering, conducting the environmental studies, and preparing the environmental documentation to secure the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) clearances for the project in a Service Agreement approved by the Board of Supervisors on March 8, 2016 (Agenda Item 3-20). The County will therefore provide the administrative, technical, managerial, and support services necessary during the Project Approval and Environmental Documentation (PA/ED) Phase.

The County advertised a Request for Qualifications (RFQ) for Consulting Engineering firms and received ten qualification packages. After interviewing the four short listed firms, the County selected T.Y. Lin International as the highest ranked firm to provide the necessary environmental and engineering services. The detailed scope and the negotiated fee for performing preliminary engineering and environmental documentation to clear the bridge replacement project are provided in the Appendices "A" and "C" of the subject agreement. These services shall be performed in two sub-phases:

**SUBMITTAL TO THE BOARD OF SUPERVISORS COUNTY OF RIVERSIDE,
STATE OF CALIFORNIA**

- Phase IA: Preliminary engineering tasks to justify the proposed project scope for bridge replacement. The justification will include a detailed traffic analysis to support the construction of a six lane bridge and a hydraulic analysis to support raising the bridge elevation to pass the 100 year storm event
- Phase IB: Performance of the remaining tasks of Phase I to complete the Preliminary Engineering and Environmental Documentation upon authorization from Caltrans to proceed

T.Y. Lin International shall begin work upon a written Notice to Proceed (NTP) by the Director of Transportation, or designee; and each Phase, 1A and 1B, shall have separate NTP's.

This Agreement has been approved as to form by County Counsel.

Impact on Residents and Businesses

Informal public information meetings will be held as necessary during the development of the project to keep the public informed. The project is expected to have minimum impact on the surrounding environment and the community during development and construction. The replacement bridge will be designed in accordance with the latest state of the art bridge design criteria.

SUPPLEMENTAL:

Additional Fiscal Information

The consultant's proposed fee for preliminary engineering and environmental documentations is \$2,222,125. It will be funded using Federal HBP funds \$1,967,247 (88.53%) and \$254,878 (11.47%) matching funds from the City of Norco and the City of Eastvale (City of Norco 5.735% and City of Eastvale 5.735% respectively). The Agreement shall be completed by June 30, 2022. No County funds will be used for this project.

The cost breakdown by fiscal year is:

- | | |
|-------------------|-----------|
| • Current FY16/17 | \$190,000 |
| • FY17/18 | \$448,610 |
| • FY18/19 | \$530,000 |
| • FY19/20 | \$530,000 |
| • FY20/21 | \$523,515 |

Total Budget:	\$2,222,125
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Work Order No.: B7-0754

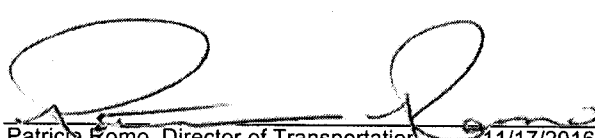
Contract History and Price Reasonableness

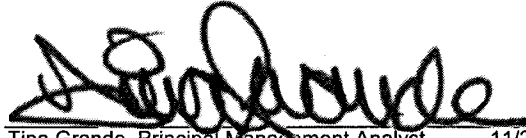
The consultant's original fee proposal of \$2,996,863 has been negotiated down to \$2,222,125, including the additional environmental tasks in the amount of \$121,125 for unforeseen environmental conditions that might arise during the performance of technical studies.

ATTACHMENTS:

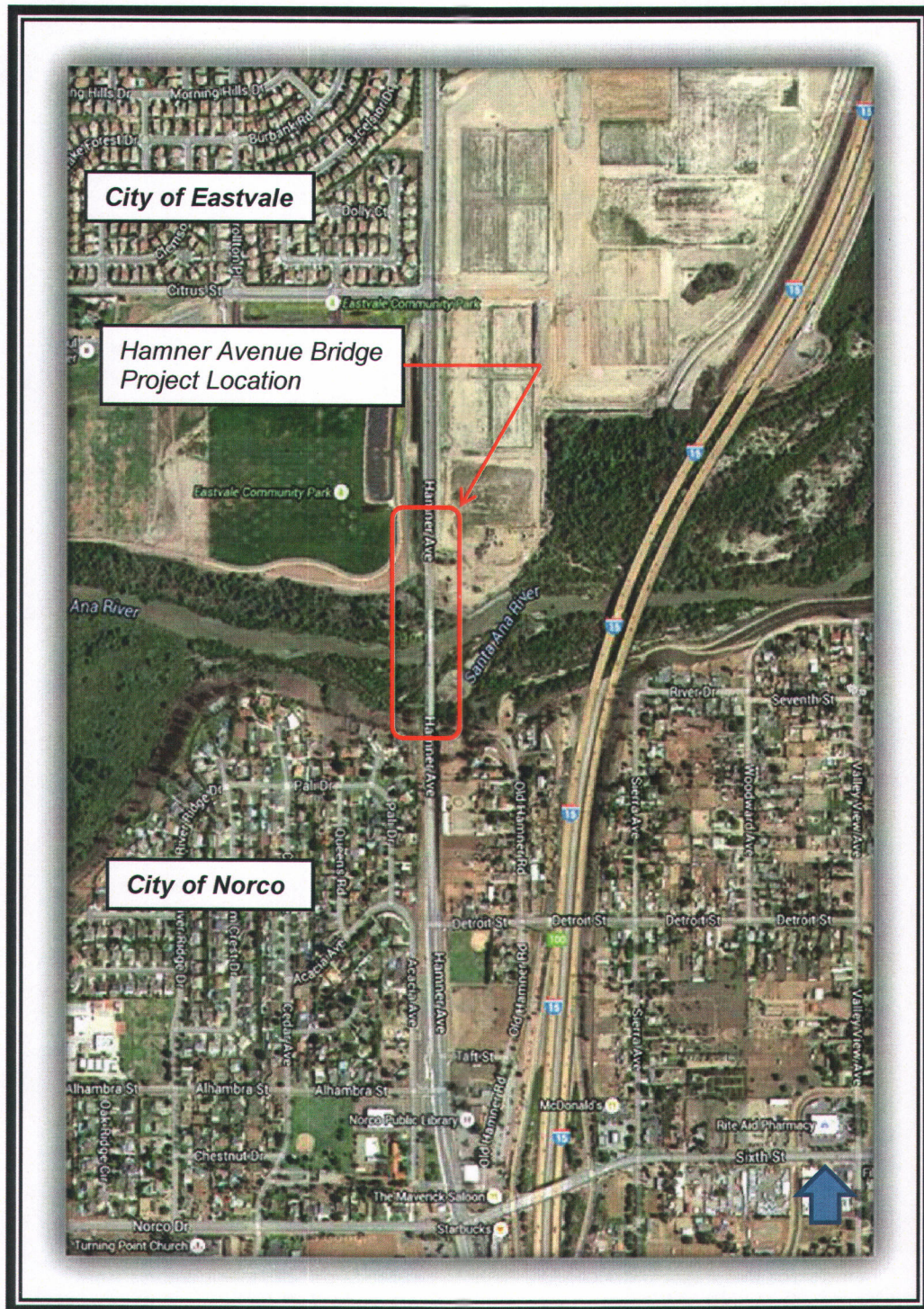
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STATE OF CALIFORNIA

Vicinity Map
Agreement


Patricia Komo, Director of Transportation 11/17/2016


Tina Grande, Principal Management Analyst 11/29/2016

**Hamner Avenue Bridge Replacement
Over Santa Ana River**



VICINITY MAP

CORPORATE AUTHORIZATION


F.R. Clark Fernon, Vice President of T.Y. Lin International (the "Corporation"), a California corporation, is a duly elected and appointed officer of the Corporation and holds full corporate authority to enter into any contracts and execute Bid Forms on behalf of the Corporation.

In witness whereof, I have caused this instrument to be executed and the corporate seal to be hereunto affixed in the City of San Francisco, U.S.A. on the 22nd day of January, 2013.

Corporate
Seal



T.Y. Lin International

By: 
Veronica Fennie
Assistant Secretary

Federal Project No. BRLSZ5956 (230)

Contract No. 110-10-002
Riverside County Transportation

ENGINEERING SERVICES AGREEMENT

for

Preliminary Engineering Report and Environmental Clearance

To Replace Hamner Avenue Bridge at Santa Ana River

(Bridge No. 56C-0446)

between

County of Riverside • Transportation Department

and

T.Y. Lin International



DEC 06 2016 3.38

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ENGINEERING SERVICES AGREEMENT

This Agreement is entered into this _____ day of _____, 2016, by and between COUNTY OF RIVERSIDE, hereinafter referred to as "COUNTY", and T.Y. Lin International (TYLI), hereinafter referred to as "ENGINEER", located at the following addresses:

County of Riverside • Transportation Department
4080 Lemon Street, 8th Floor
Riverside, CA 92502

T.Y. Lin International
404 Camino Del Rio S., Suite 700
San Diego, CA 92108

COUNTY and TYLI do hereby agree as follows:

ARTICLE I • DESIGNATED CONTACTS

Coordination of ENGINEER, and COUNTY activities shall be accomplished through an ENGINEERING PROJECT MANAGER, and a COUNTY PROJECT MANAGER.

The ENGINEERING PROJECT MANAGER for ENGINEER shall be:

Roya Golchoobian

The COUNTY PROJECT MANAGER for COUNTY shall be:

Tayfun Saglam

ARTICLE II • PROJECT DEFINITION

ENGINEER shall furnish all technical and professional services including labor, material, equipment, transportation, supervision, and expertise to fully and adequately perform and complete the covenants set forth in Appendix A, Scope of Services, which is attached hereto and incorporated herein by reference. All services and deliverables associated with the performance and accomplishment of the covenants described in the Scope of Services is hereinafter collectively referred to as the "PROJECT".

ARTICLE III • COOPERATIVE AGENCIES

A. Responsible Agency and Lead Agency

COUNTY is designated as the Responsible Agency on behalf of the Cities of Norco and Eastvale for performing the preliminary engineering, conducting the environmental studies, and preparing the environmental documentation to secure the CEQA and the NEPA clearance for the PROJECT.

In accordance with the California Environmental Quality Act (CEQA), City of Norco shall be the Lead Agency to consider and approve all environmental documents required under CEQA for the PROJECT.

B. Cooperative Agencies

The cooperating agencies are listed below and will hereinafter be collectively referred to as the "AGENCIES".

City of Norco

City of Eastvale

Regulatory Agencies including:

U.S. Army Corps of Engineers (USACE)

U.S. Fish and Wildlife Service (USFWS)

California Department of Fish and Wildlife (CDFW)

Regional Water Quality Control Board (RWQCB)

Riverside County Flood Control & Water Conservation District (RCFC & WCD)

C. COUNTY/AGENCIES Standards

All deliverables shall be prepared in accordance with the current COUNTY and AGENCIES practices, regulations, policies, procedures, manuals and standards where applicable. All deliverables are subject to review and approval by COUNTY.

ARTICLE IV • CONDITIONS

A. Notifications

All notices hereunder and communications regarding interpretation of the terms of this contract and changes thereto shall be effected by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid and addressed to the attention of the ENGINEERING PROJECT MANAGER or the COUNTY PROJECT MANAGER at the respective addresses provided on page one of this contract.

B. Assignment

Without written consent of COUNTY, this contract is not assignable by ENGINEER either in whole or in part.

C. Subcontracts

1. ENGINEER shall perform the services contemplated with resources available within its own organization.

No portion of the services pertinent to this contract shall be subcontracted without written authorization by the COUNTY PROJECT MANAGER, except that which is expressly identified in this contract.

- 1 2. In the event ENGINEER subcontracts any portion of ENGINEER's duties under this contract, ENGINEER
2 shall require its subcontractors to comply with the terms of this contract in the same manner as required
3 of ENGINEER including, but not limited to; indemnification of the COUNTY, requiring the same insurance
4 of Subcontractors as required of ENGINEER, and having Subcontractor's insurance name the COUNTY
5 as Additional Insured for each type of insurance where this Agreement requires ENGINEER's insurance
6 to name COUNTY as Additional Insured.
- 7 3. Any substitution of subconsultant(s) must be approved in writing by COUNTY's Contract Manager prior to
8 the start of work by the subconsultant(s).
- 9 4. ENGINEER shall pay its subconsultants within ten (10) calendar days from receipt of each payment made
10 to ENGINEER by COUNTY.
- 11 5. Nothing contained in this contract or otherwise, shall create any contractual relation between COUNTY
12 and any subconsultant(s), and no subcontract shall relieve ENGINEER of its responsibilities and
13 obligations hereunder. ENGINEER agrees to be as fully responsible to COUNTY for the acts and
14 omissions of its subconsultant(s) and of persons either directly or indirectly employed by any of them as it
15 is for the acts and omissions of persons directly employed by ENGINEER. ENGINEER's obligation to pay
16 its subconsultant(s) is an independent obligation from COUNTY'S obligation to make payments to the
17 ENGINEER.

18 **D. Modifications**

- 19 1. This contract may be amended or modified only by mutual written agreement of the parties. No alteration
20 or variation of the terms of this contract will be valid unless made in writing and signed by the parties
21 hereto and no oral understanding or agreement not incorporated herein, will be binding on any of the
22 parties hereto.
- 23 2. Minor modifications are changes that do not substantially affect the Scope of Service. Minor
24 modifications may be: a shift of funds between tasks within a budget category; the shifting of work
25 and/or funding from one phase to another; use of contingency pursuant to Article VI.B.1. All requests for
26 minor modifications must be approved in writing by the Director of Transportation, or his designee, prior to
27 implementing the change.
- 28 3. There shall be no change in the ENGINEERING PROJECT MANAGER or key members of the PROJECT
29 team without prior written approval by the COUNTY PROJECT MANAGER.

- 1 4. All modifications that do not fit within the definition of a minor modification to the contract shall be
2 considered a major change and must be approved in writing by the ENGINEER and COUNTY Board of
3 Supervisors prior to implementing the major change.

4 **E. COUNTY Directives**

5 ENGINEER shall receive contract directions and interpretations from the COUNTY PROJECT
6 MANAGER.

7 **F. Liability**

- 8 1. ENGINEER has total responsibility for the accuracy and completeness of all data, reports, plans,
9 specifications and estimates prepared for this PROJECT and shall check all such material accordingly.
10 COUNTY will review all work product deliverables. The responsibility for accuracy and completeness of
11 such items remains solely that of ENGINEER. Neither COUNTY'S review or approval shall give rise to
12 any liability or responsibility on the part of COUNTY, or waive any of COUNTY'S rights, or relieve
13 ENGINEER of its professional responsibilities or obligations under this contract.
- 14 2. The plans, designs, estimates, calculations, reports and other documents furnished in accordance with
15 the Scope of Services shall meet the criteria for acceptance and be a product of neat appearance, well
16 organized, technically and grammatically correct, checked and having the preparer and checker
17 identified. The minimum standard of appearance, organization and contents shall be of similar types
18 produced by COUNTY and AGENCIES. If any work product submitted is not complete and ready for use
19 by COUNTY, it shall be marked "Draft" or similar designation to indicate it is not ready for use by
20 COUNTY. COUNTY expects that all work product not so designated is ready for and can be used on
21 PROJECT.
- 22 3. The page identifying preparers of engineering reports, the title sheet for specifications and each sheet of
23 plans, shall bear the professional seal, certificate number, registration classification, expiration date of the
24 certificate, and signature of the professional engineer(s) responsible for their preparation.
- 25 4. COUNTY and ENGINEER agree that plans, drawings or other work products prepared by ENGINEER are
26 for the exclusive use of COUNTY and will be used by COUNTY for the project for which they were
27 specifically designed. ENGINEER shall not be responsible for use of such plans, drawings or other work
28 products if used on a different project without the written authorization or approval by ENGINEER.
- 29 5. ENGINEER acknowledges that the plans, drawings and/or other work products may be used by COUNTY

1 for the PROJECT regardless of any disputes that may develop between ENGINEER and COUNTY. All
2 plans, drawings, or other work product shall be deemed the sole and exclusive property of COUNTY and
3 ownership thereof is irrevocably vested in COUNTY whether the PROJECT is executed or not.

- 4 6. ENGINEER, and the agents and employees of ENGINEER, in the performance of this contract, shall act
5 in an independent capacity and not as officers, employees or agents of COUNTY.

6 **G. Indemnification and Defense**

- 7 1. The ENGINEER agrees to and shall indemnify and hold harmless the County of Riverside, its Agencies,
8 Districts, Departments and Special Districts, their respective directors, officers, Board of Supervisors,
9 elected and appointed officials, employees, agents and representatives (hereinafter individually and
10 collectively referred to as "Indemnitees") from all liability, including, but not limited to loss, suits, claims,
11 demands, actions, or proceedings caused by any alleged or actual negligence, recklessness, willful
12 misconduct, errors or omissions of ENGINEER, its directors, officers, partners, employees, agents or
13 representatives or any person or organization for whom ENGINEER is responsible, arising out of or from
14 the performance of services under this Agreement. To the extent a loss, suit, claim, demand, action, or
15 proceeding is based on actual or alleged acts or omissions of ENGINEER which are not design
16 professional services, ENGINEER shall indemnify Indemnitees whether or not ENGINEER is negligent.
- 17 2. The duty to indemnify does not include loss, suits, claims, demands, actions, or proceedings caused by
18 actual negligence of Indemnitees; however, any actual negligence of Indemnitees will only affect the duty
19 to indemnify for the specific act found to be negligence, and will not preclude a duty to indemnify for any
20 act or omission of ENGINEER.
- 21 3. ENGINEER shall defend and pay, at its sole expense, all costs and fees, including but not limited to
22 attorney fees, cost of investigation, and defense, in any loss, suits, claims, demands, actions, or
23 proceedings based or alleged to be based on any act or omission of ENGINEER arising out of or from the
24 performance of services under this contract. The duty to defend applies to any alleged or actual
25 negligence, recklessness, willful misconduct, error or omission of ENGINEER. The duty to defend shall
26 apply whether or not ENGINEER is a party to the lawsuit, and shall apply whether or not ENGINEER is
27 directly liable to the plaintiffs in the lawsuit. The duty to defend applies even if Indemnitees are alleged or
28 found to be actively negligent, unless the act or omission at issue was caused by the sole active
29 negligence of Indemnitees.

4. The specified insurance provisions and limits required in this contract shall in no way limit or circumscribe ENGINEER'S obligations to indemnify and hold harmless Indemnitees from third party claims.
5. In the event there is conflict between the indemnity and defense provisions and California Civil Code Sections 2782 and 2782.8, the indemnity and defense provisions shall be interpreted to comply with Civil Code sections 2782 and 2782.8.

H. Quality Control

ENGINEER shall implement and maintain the following quality control procedures during the preparation of the plans and documents relating to PROJECT. ENGINEER shall have a quality control plan in effect during the entire time services are being performed under this contract. The plan shall establish a process whereby calculations are independently checked, plans checked, corrected and back-checked, and all job related correspondence and memoranda routed and received by affected persons and then bound in appropriate job files. Where several drawings show different work in the same area, means shall be provided to avoid conflicts and misalignment in both new and existing improvements. Evidence that the quality control plan is functional may be requested by the COUNTY PROJECT MANAGER. All plans, calculations documents and other items submitted to the COUNTY PROJECT MANAGER for review shall be marked clearly as being fully checked and that the preparation of the material followed the quality control plan established for the work.

I. Value Engineering

1. Elements of PROJECT may be considered for Value Engineering Studies. To this end, the COUNTY PROJECT MANAGER may direct the ENGINEER to examine the various elements of a design segment and submit an informal written statement or memorandum addressing those elements where it appears significant savings and other advantages can be realized. The statement shall be sufficiently informative to enable COUNTY to determine whether to direct a detailed Value Engineering Study or possibly direct immediate design changes where the value of the change is apparent without the need of detailed study and analysis.
2. ENGINEER or its subcontractors shall not incorporate in the design materials or equipment of single or sole source origin without written approval of COUNTY. Proprietary names of material or equipment shall not be used in the plans and specifications.

J. Extra Work

1. ENGINEER shall not perform Extra Work until receiving written authorization from the COUNTY PROJECT MANAGER.
2. In the event that COUNTY directs ENGINEER to provide services constituting Extra Work, COUNTY shall provide extra compensation to the ENGINEER. Allowable compensation for approved extra work will be based on the provisions of Appendix C, Budget, which is attached hereto and incorporated herein by reference.
3. An amendment to this contract providing for such compensation for Extra Work shall be issued by COUNTY to ENGINEER. Such Amendment shall not be effective until executed by both parties.

K. Disputes

1. In the event ENGINEER considers any work demanded of him to be outside the requirements of the contract, or if he considers any order, instruction, or decision of COUNTY to be unfair, he shall promptly upon receipt of such order, instruction or decision, ask for a written confirmation of the same whereupon he shall proceed without delay to perform the work or to conform to the order, instruction, or decision; but unless ENGINEER finds such order, instruction, or decision satisfactory, he shall within 20 days after receipt of same, file a written protest with COUNTY stating clearly and in detail his objections and reasons therefore. Except for such protests or objections as are made of record in the manner specified and within the time stated herein, and except for such instances where the basis of a protest could not reasonably have been foreseen by ENGINEER within the time limit specified for protest, ENGINEER hereby waives all grounds for protests or objections to the orders, instruction, or decisions of COUNTY and hereby agrees that, as to all matters not included in such protests, the orders, instructions and decisions of COUNTY will be limited to matters properly falling within COUNTY's authority.
2. Any controversy or claim arising out of or relating to this contract which cannot be resolved by mutual agreement may be settled by arbitration in accordance with the rules of the American Arbitration Association, provided that the parties mutually agree to submit to arbitration.
3. Neither the pendency of a dispute nor its consideration by arbitration will excuse ENGINEER from full and timely performance in accordance with the terms of the contract.

L. Termination Without Cause

1. COUNTY reserves the right to terminate this contract at COUNTY's discretion and without cause, upon thirty (30) calendar days written notice to ENGINEER.

2. In the event of termination of the Agreement, upon demand, ENGINEER shall deliver to COUNTY all field notes, surveys, studies, reports, plans, drawings, specifications, and all other materials and documents prepared by or provided to ENGINEER in the performance of this contract. All such documents and materials shall be property of COUNTY.
3. In the event that this contract is terminated, ENGINEER is entitled to full payment for all services performed up to the time written notice of contract cancellation is received by ENGINEER. Payment shall be made for services performed to date based upon the percentage ratio that the basic services performed bear to the services contracted for, less payments made to date; plus any amount for authorized, but unpaid, extra work performed and costs incurred.

M. Termination for Lack of Performance

COUNTY may terminate this contract and be relieved of the payment of any consideration to ENGINEER should ENGINEER fail to perform the covenants herein contained at the time and in the manner herein provided. In the event of such termination, COUNTY may proceed with the work in any manner deemed proper by COUNTY. In such event, ENGINEER shall be paid only for work completed and delivered to COUNTY in a timely and successful manner.

N. Insurance

Without limiting or diminishing the ENGINEER'S obligation to indemnify or hold the COUNTY harmless, ENGINEER shall procure and maintain or cause to be maintained, at its sole cost and expense, the following insurance coverage's during the term of this Agreement. As respects to the insurance section only, the COUNTY herein refers to the County of Riverside, its Agencies, Districts, Special Districts, and Departments, their respective directors, officers, Board of Supervisors, employees, elected or appointed officials, agents or representatives as Additional Insureds.

1. Workers' Compensation:

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

2. Commercial General Liability:

Commercial General Liability insurance coverage, including but not limited to, premises liability, unmodified contractual liability, products and completed operations liability, personal and advertising injury, and cross liability coverage, covering claims which may arise from or out of ENGINEER'S performance of its obligations hereunder. Policy shall name the COUNTY as Additional Insured. Policy's limit of liability shall not be less than \$1,000,000 per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit.

3. Vehicle Liability:

If vehicles or mobile equipment are used in the performance of the obligations under this Agreement, then ENGINEER shall maintain liability insurance for all owned, non-owned or hired vehicles so used in an amount not less than \$1,000,000 per occurrence combined single limit. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit. Policy shall name the COUNTY as Additional Insureds.

4. Professional Liability

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

5. General Insurance Provisions - All lines:

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

b. The ENGINEER must declare its insurance self-insured retention for each coverage required herein.

1 If any such self-insured retention exceed \$500,000 per occurrence each such retention shall have the
2 prior written consent of the County Risk Manager before the commencement of operations under this
3 Agreement. Upon notification of self-insured retention unacceptable to the COUNTY, and at the
4 election of the County's Risk Manager, ENGINEER'S carriers shall either; 1) reduce or eliminate
5 such self-insured retention as respects this Agreement with the COUNTY, or 2) procure a bond which
6 guarantees payment of losses and related investigations, claims administration, and defense costs
7 and expenses.

8 c. ENGINEER shall cause ENGINEER'S insurance carrier(s) to furnish the County of Riverside with
9 either 1) a properly executed original Certificate(s) of Insurance and certified original copies of
10 Endorsements effecting coverage as required herein, and 2) if requested to do so orally or in writing
11 by the County Risk Manager, provide original Certified copies of policies including all Endorsements
12 and all attachments thereto, showing such insurance is in full force and effect. Further, said
13 Certificate(s) and policies of insurance shall contain the covenant of the insurance carrier(s) that thirty
14 (30) days written notice shall be given to the County of Riverside prior to any material modification,
15 cancellation, expiration or reduction in coverage of such insurance. In the event of a material
16 modification, cancellation, expiration, or reduction in coverage, this Agreement shall terminate
17 forthwith, unless the County of Riverside receives, prior to such effective date, another properly
18 executed original Certificate of Insurance and original copies of endorsements or certified original
19 policies, including all endorsements and attachments thereto evidencing coverage's set forth herein
20 and the insurance required herein is in full force and effect. ENGINEER shall not commence
21 operations until the COUNTY has been furnished original Certificate (s) of Insurance and certified
22 original copies of endorsements and if requested, certified original policies of insurance including all
23 endorsements and any and all other attachments as required in this Section. An individual authorized
24 by the insurance carrier to do so on its behalf shall sign the original endorsements for each policy and
25 the Certificate of Insurance.

26 d. It is understood and agreed to by the parties hereto that the ENGINEER'S insurance shall be
27 construed as primary insurance, and the COUNTY'S insurance and/or deductibles and/or self-insured
28 retention's or self-insured programs shall not be construed as contributory.

29 e. If, during the term of this Agreement or any extension thereof, there is a material change in the scope

of services; or, there is a material change in the equipment to be used in the performance of the scope of work; or, the term of this Agreement, including any extensions thereof, exceeds five (5) years; the COUNTY reserves the right to adjust the types of insurance and the monetary limits of liability required under this Agreement, if in the County Risk Manager's reasonable judgment, the amount or type of insurance carried by the ENGINEER has become inadequate.

f. ENGINEER shall pass down the insurance obligations contained herein to all tiers of subconsultants working under this Agreement.

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

h. ENGINEER agrees to notify COUNTY of any claim by a third party or any incident or event that may give rise to a claim arising from the performance of this Agreement.

O. Conflict of Interest

1. ENGINEER warrants, by execution of this contract, that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by ENGINEER for the purpose of securing business. For breach or violation of this warranty, COUNTY has the right to annul this contract without liability, pay only for the value of the work actually performed, or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee. ENGINEER may be requested to complete a Conflict of Interest Statement prior to, during, or after execution of this contract. ENGINEER understands that as a condition of this contract ENGINEER agrees to complete the Conflict of Interest Statement when requested to do so by COUNTY.

2. ENGINEER shall disclose any financial, business, or other relationship with COUNTY that may have an impact upon the outcome of this contract, or any ensuing COUNTY construction project. ENGINEER shall also list current clients who may have a financial interest in the outcome of this contract, or any ensuing COUNTY construction project, which will follow.

3. ENGINEER hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of services under this contract.

4. ENGINEER hereby certifies that neither ENGINEER, nor any firm affiliated with ENGINEER will bid on

any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract. An affiliated firm is one, which is subject to the control of the same persons through joint-ownership, or otherwise.

5. Except for subconsultants whose services are limited to providing surveying or materials testing information, no subconsultant who has provided design services in connection with this contract shall be eligible to bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract.

6. All subcontracts entered into by ENGINEER as a result of this contract shall contain paragraphs 2 through 5 of this Section O.

P. Legal Compliance

ENGINEER shall comply with all Federal, State and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals currently in effect and in any manner affecting the performance of this contract, including, without limitation, workers' compensation laws and licensing and regulations.

Q. Nondiscrimination

1. ENGINEER's signature affixed herein, and dated, shall constitute a certification under penalty of perjury under the laws of the State of California that ENGINEER has, unless exempt, complied with, the nondiscrimination program requirements of Government Code Section 12990 and Title 2, California Administrative Code, Section 8103.

2. During the performance of this contract, ENGINEER and its Subcontractors shall not act unlawfully against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age or sex. ENGINEER and Subcontractor shall comply with the provisions of the Fair Employment and Housing Act (Government Code, Section 12900 et seq.) and applicable regulations promulgated thereunder (California Administrative Code, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900, set forth in Chapter 5 of Division 4 of Title 2 of the California Administrative Code are incorporated into this contract by reference and made a part hereof as if set forth in full. ENGINEER and its Subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or

other agreement.

3. ENGINEER will provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by COUNTY or AGENCIES to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of ENGINEER is in the exclusive possession of another who fails or refuses to furnish this information, ENGINEER shall so certify to COUNTY, or the Federal Highway Administration as appropriate and shall set forth what efforts he has made to obtain the information.
4. In the event of ENGINEER's noncompliance with the nondiscrimination provisions of this contract, COUNTY shall impose such contract sanctions as it determines to be appropriate, including, but not limited to:
 - Withholding of payments to ENGINEER under the contract until ENGINEER complies;
 - Cancellation, termination, or suspension of the contract in whole or in part.
5. ENGINEER shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under this contract.
6. ENGINEER shall comply with Title VI of the Civil Rights Act of 1964, as amended. Accordingly, 49 CFR 21 through Appendix H and 23 CFR 710.405(b) are applicable to this contract by reference. Title VI provides that the recipients of federal assistance will implement and maintain a policy of nondiscrimination in which no person in the state of California shall, on the basis of race, color, national origin, religion, sex, age, disability, be excluded from participation in, denied the benefits of or subject to discrimination under any program or activity by the recipients of federal assistance or their assignees and successors in interest.
7. The ENGINEER, with regard to the work performed by it during the Agreement shall act in accordance with Title VI. Specifically, the ENGINEER shall not discriminate on the basis of race, color, national origin, religion, sex, age, or disability in the selection and retention of Subconsultants, including procurement of materials and leases of equipment. The ENGINEER shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the U.S. DOT's Regulations, including employment practices when the Agreement covers a program whose goal is employment

R. Labor Code and Prevailing Wages

1. Certain Classifications of Labor under this contract may be subject to prevailing wage requirements.
2. Reference is made to Chapter 1, Part 7, Division 2 of the California Labor Code (commencing with Section 1720). By this reference said Chapter 1 is incorporated herein with like effect as if it were here set forth in full. The parties recognize that said Chapter 1 deals, among other things with discrimination, penalties and forfeitures, their disposition and enforcement, wages, working hours, and securing worker's compensation insurance and directly affect the method of prosecution of the work by ENGINEER and subject it under certain conditions to penalties and forfeitures. Execution of the contract by the parties constitutes their agreement to abide by said Chapter 1, their stipulation as to all matters which they are required to stipulate as to by the provisions of said Chapter 1, constitutes ENGINEER's certification that he is aware of the provisions of said Chapter 1 and will comply with them and further constitutes ENGINEER's certification as follows: "I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract."
3. Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates, including the per diem wages applicable to the work, and for holiday and overtime work, including employer payments for health and welfare, pension, vacation, and similar purposes, in the county in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are available from the California Department of Industrial Relations' Internet website at <http://www.dir.ca.gov>.
4. Should a portion of the project contain Federal funding, Federal minimum wages shall be used. The Federal minimum wage rates for this project as determined by the United States Secretary of Labor are available from the U.S Department of Labor, Employment Standards Administration, Wage and Hour Division's Internet website at <http://www.access.gpo.gov/davisbacon>. If there is a difference between the minimum wage rates determined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the ENGINEER and subcontractors shall pay not less than the higher wage rate. The Department will not accept lower State wage rates determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination

otherwise available for use by the ENGINEER and subcontractors, the ENGINEER and subcontractors shall pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

S. Review and Inspection

ENGINEER and any Subcontractors shall permit COUNTY and/or AGENCIES to review and inspect PROJECT activities including review and inspection on a daily basis.

T. Record Retention / Audits

1. ENGINEER, Subcontractors, and COUNTY shall maintain all books, documents, papers, accounting records, and other evidence pertaining to the performance of the contract, but not limited to, the costs of administering the contract. All parties shall make such materials available at their respective offices at all reasonable times during the contract period and for ten years from the date of final payment under the contract or ten years from project closeout, whichever is later.
2. COUNTY, Caltrans, the State Auditor General, FHWA or any duly authorized representative of the Federal Government shall have access to any books, records, and documents of ENGINEER that are pertinent to the contract for audits, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

U. Audit Review Procedures

1. Any dispute concerning a question of fact arising under an interim or post audit of this contract that is not disposed of by agreement, shall be reviewed by COUNTY'S Chief Financial Officer.
2. Not later than 30 days after issuance of the final audit report, ENGINEER may request a review by COUNTY'S Chief Financial Officer of unresolved audit issues. The request for review will be submitted in writing.
3. ENGINEER Cost Proposal is subject to a CPA ICR Audit Work Paper Review by Caltrans' Audit and Investigation (Caltrans). Caltrans, at its sole discretion, may review and/or audit and approve the CPA ICR documentation. The Cost Proposal shall be adjusted by the ENGINEER and approved by the COUNTY Contract Manager to conform to the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report. Refusal by the ENGINEER to incorporate the Work Paper Review recommendations included in the management letter or audit recommendations included in the audit report will be considered a breach of the contract terms and

cause for termination of the contract and disallowance of prior reimbursed costs.

- a. During a Caltrans' review of the ICR audit work papers created by the ENGINEER's independent CPA, Caltrans will work with the CPA and/or ENGINEER toward a resolution of issues that arise during the review. ENGINEER agrees to use its best efforts to resolve any audit disputes in a timely manner. If Caltrans identifies significant issues during the review and is unable to issue a cognizant approval letter, COUNTY will reimburse the ENGINEER at a provisional ICR until a FAR compliant ICR (e.g. 48 CFR, part 31; GAGAS (Generally Accepted Auditing Standards); CAS (Cost Accounting Standards), if applicable; in accordance with procedures and guidelines of the American Association of State Highways and Transportation Officials Audit Guide; and other applicable procedures and guidelines) is received and approved by A&I. Provisional rates will be as follows:
 - aa. If the proposed rate is less than 150% - the provisional rate reimbursed will be 90% of the proposed rate.
 - bb. If the proposed rate is between 150% and 200% - the provisional rate will be 85% of the proposed rate.
 - cc. If the proposed rate is greater than 200% - the provisional rate will be 75% of the proposed rate.
- b. If Caltrans is unable to issue a cognizant letter per paragraph 3.a. above, Caltrans may require ENGINEER to submit a revised independent CPA-audited ICR and audit report within three (3) months of the effective date of the management letter. Caltrans will then have up to six (60 days) to review the ENGINEER's and/or the independent CPA's revisions.
- c. If the ENGINEER fails to comply with the provisions of this Section 3, or if Caltrans is still unable to issue a cognizant approval letter after the revised independent CPA-audited ICR is submitted, overhead cost reimbursement will be limited to the provisional ICR that was established upon initial rejection of the ICR and set forth in paragraph 1.a. above for all rendered services. In this event, this provisional ICR will become the actual and final ICR for reimbursement purposes under this contract.
- d. ENGINEER may submit to COUNTY final invoice only when all of the following items have occurred: (1) Caltrans approves or rejects the original or revised independent CPA-audited ICR;

(2) all work under this contract has been completed to the satisfaction of COUNTY; and, (3) Caltrans has issued its final ICR review letter. The ENGINEER MUST SUBMIT ITS FINAL INVOICE TO COUNTY no later than 60 days after occurrence of the last of these items.

The provisional ICR will apply to this contract and all other contracts executed between COUNTY and the ENGINEER, either as a prime or subconsultant, with the same fiscal period ICR.

V. Rebates, Kickbacks, or Other Unlawful Consideration

ENGINEER warrants that this contract was not obtained or secured through rebates kickbacks or other unlawful consideration, either promised or paid to any COUNTY employee. For breach or violation of this warranty, COUNTY shall have the right in its discretion; to terminate the contract without liability; to pay only for the value of the work actually performed; or to deduct from the contract price; or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.

W. Debarment and Suspension Certification

1. ENGINEER's signature affixed herein, shall constitute a certification under penalty of perjury under the laws of the State of California, that ENGINEER has complied with Title 2 CFR, Part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (nonprocurement)", which certifies that he/she or any person associated therewith in the capacity of owner, partner, director, officer, or manager, is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years. Any exceptions to this certification must be disclosed to COUNTY.
2. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining ENGINEER responsibility. Disclosures must indicate to whom exceptions apply, initiating agency, and dates of action.
3. Exceptions to the Federal Government Excluded Parties List System maintained by the General Services Administration are to be determined by the Federal highway Administration.

X. Prohibition of Expending COUNTY, State, or Federal Funds for Lobbying

1. ENGINEER certifies to the best of his or her knowledge and belief that:

1 a. No state, federal or COUNTY appropriated funds have been paid, or will be paid by-or-on behalf
2 of ENGINEER to any person for influencing or attempting to influence an officer or employee of
3 any state or federal agency; a Member of the State Legislature or United States Congress; an
4 officer or employee of the Legislature or Congress; or any employee of a Member of the
5 Legislature or Congress, in connection with the awarding of any state or federal contract; the
6 making of any state or federal grant; the making of any state or federal loan; the entering into of
7 any cooperative agreement, and the extension, continuation, renewal, amendment, or
8 modification of any state or federal contract, grant, loan, or cooperative agreement.

9 b. If any funds other than federal appropriated funds have been paid, or will be paid to any person
10 for influencing or attempting to influence an officer or employee of any federal agency; a Member
11 of Congress; an officer or employee of Congress, or an employee of a Member of Congress; in
12 connection with this federal contract, grant, loan, or cooperative agreement; ENGINEER shall
13 complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance
14 with its instructions.

15 2. This certification is a material representation of fact upon which reliance was placed when this transaction
16 was made or entered into. Submission of this certification is a prerequisite for making or entering into this
17 transaction imposed by Section 1352, Title 31, US. Code. Any person who fails to file the required
18 certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for
19 each such failure.

20 3. ENGINEER also agrees by signing this document that he or she shall require that the language of this
21 certification be included in all lower-tier subcontracts, which exceed \$100,000, and that all such sub
22 recipients shall certify and disclose accordingly.

23 **Y. Ownership of Data**

24 Ownership and title to all reports, documents, plans, specifications, and estimates produced as part of this
25 contract will automatically be vested in COUNTY and no further agreement will be necessary to transfer
26 ownership to COUNTY.

27 **Z. Confidentiality of Data**

28 1. All financial, statistical, personal, technical or other data and information which is designated confidential
29 by COUNTY or AGENCIES, and made available to ENGINEER in order to carry out this contract, shall be

protected by ENGINEER from unauthorized use and disclosure.

2. Permission to disclose information on one occasion for a public hearing held by COUNTY or AGENCIES relating to the contract shall not authorize ENGINEER to further disclose such information or disseminate the same on any other occasion.
3. ENGINEER shall not comment publicly to the press or any other media regarding the contract, including COUNTY or Agencies actions regarding this contract. Communication shall be limited to COUNTY, Agency or ENGINEER's staff that are involved with the project, unless ENGINEER shall be requested by COUNTY to attend a public hearing or respond to questions from a Legislative committee.
4. Each subcontract shall contain provisions similar to the foregoing related to the confidentiality of data and nondisclosure of the same.
5. ENGINEER shall not issue any news release or public relations item of any nature whatsoever regarding work performed or to be performed under this contract without prior review of the contents thereof by COUNTY and receipt of COUNTY's written permission.

AA. Funding Requirements

1. All obligations of COUNTY are subject to appropriation of resources by various Federal, State and local agencies.
2. This contract is valid and enforceable only if sufficient funds are made available to COUNTY for the purpose of this PROJECT. In addition, this contract is subject to any additional restrictions, limitations, conditions or any statute enacted by Congress, State Legislature or COUNTY that may affect the provisions, terms or funding of this contract in any manner.
3. It is mutually agreed that if sufficient funds for the program are not appropriated, this contract will be amended or terminated to reflect any reduction in funds.

ARTICLE V • PERFORMANCE

A. Performance Period

1. This contract shall begin upon notification to proceed by the COUNTY PROJECT MANAGER.
2. ENGINEER is advised that any recommendation for contract award is not binding on COUNTY until the proposed contract is fully executed and approved by COUNTY.
3. ENGINEER shall perform PROJECT services in accordance with the provisions set forth in Appendix B, Schedule of Services, which is attached hereto and incorporated herein by reference.

4. Where ENGINEER is required to prepare and submit studies, reports, plans, etc., to COUNTY, these shall be submitted in draft as scheduled, and the opportunity provided for COUNTY to offer comments prior to final submission.
5. When COUNTY determines that ENGINEER has satisfactorily completed the PROJECT services, COUNTY may give ENGINEER a written Notice of Final Acceptance. ENGINEER shall not incur any further costs hereunder unless so specified in the Notice of Final Acceptance. ENGINEER may request a Notice of Final Acceptance determination when, in its opinion, it has satisfactorily completed all covenants as stipulated in this contract.
6. Time is of the essence in this contract.

B. Time Extensions

1. Any delay in providing PROJECT services required by this contract occasioned by causes beyond the control and not due to the fault or negligence of ENGINEER, shall be the reason for granting an extension of time for the completion of the aforesaid work. When such delay occurs, ENGINEER shall promptly notify COUNTY in writing of the cause and of the extent of the delay whereupon COUNTY shall ascertain the facts and the extent of the delay and grant an extension of time for the completion of the work when, in COUNTY's judgment, their findings of fact justify such an extension of time.
2. COUNTY's findings of fact shall be final and conclusive to the parties hereto. However, this is not intended to deny ENGINEER its civil legal remedies in the event of a dispute.

C. Reporting Progress

1. As part of the monthly invoice ENGINEER shall submit a progress report in accordance with COUNTY Engineering Services Progress Reporting Guidelines. Progress Reports shall indicate the progress achieved during the previous month in relation to the Schedule of Services. Submission of such progress report by ENGINEER shall be a condition precedent to receipt of payment from COUNTY for each monthly invoice submitted.
2. To ensure understanding and performance of the contract objectives, meetings between COUNTY, AGENCIES, and ENGINEER shall be held as often as deemed necessary. All work objectives, ENGINEER's work schedule, the terms of the contract and any other related issues will be discussed and/or resolved. ENGINEER shall keep minutes of meetings and distribute copies of minutes as appropriate.

D. Evaluation of ENGINEER

ENGINEER's performance will be evaluated by COUNTY for future reference.

ARTICLE VI • COMPENSATION

A. Work Authorization

ENGINEER shall not commence performance of any work or project services until so directed by the County Project Manager. No payment will be made prior to approval of this contract.

B. Basis of Compensation

1. PROJECT services as provided under this contract and as described in the Scope of Services, shall be compensated for as defined in Appendix C, Budget, which is attached hereto and incorporated herein by reference. The total amount of the contract is not to exceed \$2,222,125 and reimbursement is to be made at actual cost plus fixed fee for the following contractors:

Prime	\$1,135,599
ICF International	\$881,693
Chang Consultants	\$39,038
Diaz Yourman & Associates	\$38,697
Earth Mechanics Inc.	\$47,476
RGI Consulting	\$30,000
Advantec	\$49,622

If a contingency budget is provided, COUNTY shall hold such contingency in reserve for unforeseen Extra Work that may arise during the performance of this agreement. Contingency budget shall only be used at the discretion of the COUNTY PROJECT MANAGER, and with prior written authorization by the COUNTY PROJECT MANAGER.

No additional compensation for Extra Work will be paid except upon the issuance of an Extra Work Order by COUNTY.

2. Prior authorization in writing by the COUNTY PROJECT MANAGER will be required before ENGINEER enters into any non-budgeted purchase order or subcontract exceeding \$500 for supplies, equipment or consultant services. ENGINEER shall provide an evaluation of the necessity or desirability of incurring such costs.
3. For purchase of any item, service or consulting work not covered in ENGINEER's proposal and

exceeding \$500, with prior authorization by the COUNTY PROJECT MANAGER, three competitive quotations shall be submitted with the request, or the absence of bidding shall be adequately justified.

4. Any equipment purchased as a result of this contract is subjected to the following: ENGINEER shall maintain an inventory of all nonexpendable property. Nonexpendable property is defined as having a useful life of at least two years and an acquisition cost of \$500 or more. If the purchased equipment needs replacement and is sold or traded in, COUNTY shall receive a proper refund or credit. At the conclusion of the contract or if the contract is terminated, ENGINEER may either keep the equipment and credit COUNTY in an amount equal to its fair market value or sell such equipment at the best price obtainable at a public or private sale in accordance with established COUNTY procedures and credit COUNTY in an amount equal to the sales price. If ENGINEER elects to keep the equipment, fair market value shall be determined, at ENGINEER's expense, on the basis of a competent independent appraisal of such equipment. Appraisals shall be obtained from an appraiser mutually agreeable by COUNTY, and ENGINEER. If it is determined to sell the equipment, the terms and conditions of such sale must be approved in advance by COUNTY and AGENCIES.

5. The consideration to be paid ENGINEER, as provided herein, shall be in compensation for all of ENGINEER's expenses incurred in the performance hereof, including travel and per diem, unless otherwise expressly so provided.

6. ENGINEER agrees that the Contract Cost Principles and Procedures, CFR 48, Federal Acquisition Regulations Systems, Chapter 1, Part 31, shall be used to determine the allowability of individual items of cost.

7. ENGINEER also agrees to comply with Federal procedures in accordance the Code of Federal Regulations Section 49, Part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

8. Any costs for which payment has been made to ENGINEER that are determined by subsequent audit to be unallowable under 49 CFR, Part 18 and 48 CFR, Federal Acquisition Regulations System, Chapter 1, Part 31.000 et seq., are subject to repayment by ENGINEER to COUNTY.

9. In the event of errors or omissions in the plans for PROJECT, ENGINEER shall perform the necessary engineering services required to correct such errors and omissions without additional charge to COUNTY.

C. Progress Payments

Replacement of Hamner Avenue Bridge at Santa Ana River

1. ENGINEER shall submit monthly invoices for PROJECT Services in accordance with Appendix C, Budget, and in accordance with COUNTY Engineering Services Invoicing Procedures.
2. ENGINEER shall submit an invoice each month for PROJECT services performed during the preceding month. Invoices shall be submitted to the COUNTY PROJECT MANAGER and shall be included with a Progress Report covering the same period as the submitted invoice.
3. Progress payments will be based on PROJECT services provided and actual costs incurred. Payments made prior to the completion of each phase will not exceed the amount allowed in ENGINEER's cost proposal for the completion of that phase and prior phases, unless approved in writing by the COUNTY PROJECT MANAGER.
4. Progress payments will be made as promptly as fiscal procedures will permit upon receipt by the COUNTY PROJECT MANAGER of itemized invoices.
5. Invoices shall follow the format stipulated for the approved Cost Proposal and shall reference this contract number and project title. Final invoice must contain the final cost and all credits due COUNTY including any equipment purchased under the provisions of Article VI Compensation of this contract. The final invoice should be submitted within 60 calendar days after completion of ENGINEER's work.
6. COUNTY will withhold the last 10 percent of the budget for preparation of PS&E documents. The 10 percent retainage is to be held after 90% of the PS&E phase has been billed and is not to be deducted from each invoice. The amount retained will be paid to ENGINEER after COUNTY has approved ENGINEER's plans, specifications and estimate.

ARTICLE VII • GIS INFORMATION

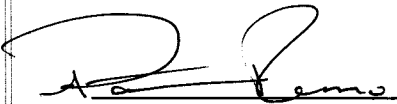
- A. "GIS Information" shall include GIS digital files (including the information or data contained therein) and any other information, data, or documentation from County GIS (regardless of medium or format) that is provided pursuant to this contract.
- B. ENGINEER acknowledges that the unauthorized use, transfer, assignment, sublicensing, or disclosure of the GIS information, documentation, or copies thereof will substantially diminish their value to COUNTY. ENGINEER acknowledges and agrees that COUNTY GIS information is a valuable proprietary product, embodying substantial creative efforts, trade secrets, and confidential information and ideas. COUNTY GIS information is and shall remain the sole property of COUNTY; and there is no intention of COUNTY to transfer ownership of COUNTY GIS information.

- 1 C. COUNTY GIS information is made available to ENGINEER solely for use in the normal course of
2 ENGINEER's business to produce reports, analysis, maps and other deliverables only for this PROJECT and
3 as described within the Scope of Services.
- 4 D. ENGINEER agrees to indemnify and hold harmless COUNTY, its officers, employees and agents from any
5 and all liabilities, claims, actions, losses or damages relating to or arising from ENGINEER's use of COUNTY
6 GIS information.
- 7 E. GIS information cannot be used for all purposes; and GIS information may not be complete for all purposes.
8 Additional investigation or research by ENGINEER into other sources will be required. GIS information is
9 intended only as an information base and is not intended to replace any legal records. COUNTY has used
10 and will continue to use its best efforts to correctly input into COUNTY GIS the information contained in
11 various legal and other records; but COUNTY accepts no responsibility for any conflict with actual legal
12 records or for information not transferred from legal records to COUNTY GIS. COUNTY has attempted to
13 update GIS information as often as is practically feasible. However, ENGINEER should be aware that GIS
14 information may not be current and changes or additions to the information contained in COUNTY GIS may
15 not yet be reflected in COUNTY GIS.
- 16 F. COUNTY accepts no responsibility for the use of GIS information; and COUNTY provides no warranty for the
17 use of COUNTY GIS or COUNTY GIS information by ENGINEER. THE WARRANTIES SPECIFICALLY SET
18 FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED,
19 INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE;
20 AND SUCH OTHER WARRANTIES ARE HEREBY EXCLUDED.
- 21 G. Final plans, drawings or PROJECT work products will be provided in an electronic format suitable for
22 inclusion within the COUNTY GIS or CADD Systems by ENGINEER and will contain the appropriate meta
23 data and will be geographically registered using a appropriate coordinate system such as the California State
24 Plane Coordinate System NAD 83.
- 25
26
27
28
29

ARTICLE VIII • APPROVALS

COUNTY Approvals

RECOMMENDED FOR APPROVAL:

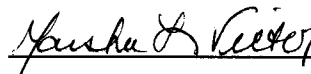
 Dated: 11-9-16

PATRICIA ROMO

Director of Transportation

APPROVED AS TO FORM:

GREGORY P. PRIAMOS, COUNTY COUNSEL

 Dated: 11/22/16

By Deputy

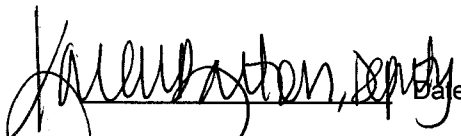
APPROVAL BY THE BOARD OF SUPERVISORS

 Dated: DEC 06 2016

JOHN J. BENOIT
PRINTED NAME

Chairman, Riverside County Board of Supervisors

ATTEST:

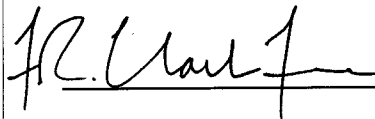
 Dated: DEC 06 2016

KECIA HARPER-IHEM

Clerk of the Board (SEAL)

ENGINEER Approvals

ENGINEER:

 Dated: 10/27/16

F.R. CLARK FERNON
PRINTED NAME

VICE PRESIDENT
TITLE

ENGINEER:

_____ Dated: _____

PRINTED NAME

TITLE

Appendix A

SCOPE OF SERVICES FOR

**Replacement of Hamner Avenue Bridge at Santa Ana River
Riverside, California**

Phase – 1

Preliminary Engineering Report and Environmental Clearance

*T.Y. Lin International
June, 2016*

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A. PROJECT DESCRIPTION

The County of Riverside in cooperation with the Cities of Eastvale and Norco has determined that there is a significant need for bridge improvements on the existing Hamner Avenue Bridge over the Santa Ana River. The Hamner Avenue Bridge is located near the border between the City of Norco and the City of Eastvale approximately 1300 feet west of the Interstate 15 Bridges over the Santa Ana River in Riverside County, California. The bridge is listed in the Federal Eligible Bridge List (EBL) with a status flag of "Structurally Deficient" (SD) and a Sufficiency Rating (SR) of 69.3, according to the Bridge Inspection Report prepared by Caltrans Structure Maintenance and Investigations (SM&I). Since the bridge is rated SD with a SR lower than 80, the bridge is eligible for major rehabilitation in accordance with the federal guidelines.

Although the SR of the bridge exceeds the threshold of 50 for a total replacement, the local agencies believe that the most cost effective rehabilitation alternative is to replace the existing 75 year-old, structurally and hydraulically deficient structure. The recommendation for total bridge replacement is based on the results of technical assessments and planning studies which were performed in support of the request for federal funding.

The existing Hamner Avenue Bridge is 36'-4" wide. It carries two traffic lanes, one in each direction, with no shoulders. There is a sidewalk along the east side, separated by a concrete barrier from the vehicular traffic. In accordance with the traffic counts collected in 2009, the Average Daily Traffic (ADT) volume is approximately 17,000 vehicles per day on Hamner Avenue. The ADT is projected to exceed 40,000 vehicles per day by the year 2035. Based on the ongoing and planned developments in the project area, it has been determined that the existing bridge is too narrow to accommodate any further growth in traffic volume. The stretch of Hamner Avenue in the project area between Norco Drive/Sixth Street in the south to "A" Street in the north has undergone major roadway improvements. On both approaches of the existing bridge, ongoing and completed municipal projects have been enacted in an effort to widen Hamner Avenue. The roadway work at the bridge approaches widened the road from 2 to 4 lanes. These new approaches have sufficient curb to curb width to be restriped and/or reconfigured for an ultimate condition of 6-lanes. Since completion of the approach roadway improvements, the existing narrow 2-lane bridge has become a geometric bottleneck, restricting the flow of traffic on Hamner Avenue.

Therefore, the Local Agencies consider the replacement of existing 2-lane bridge with a minimum of 4-lane or potentially 6-lane bridge as the most cost effective rehabilitation alternative. This determination is based on the age of the structure, the extent of the structural deterioration, hydraulic deficiencies, geometric restrictions, and the need for efficient traffic flow. The proposed bridge improvements are consistent with the 2012-2035 Regional Transportation Plan (RTP) published by the Southern California Association of Governments (SCAG). Widening of Hamner Avenue from 2 to 6 traffic lanes, including the bridge over the Santa Ana River, has been listed in the SCAG's 2012-2035 Regional Transportation Plan (RTP).

The project proposes to replace the existing 2-lane Hamner Avenue Bridge (BR. No. 56C-0446) over Santa Ana River in Riverside County with a new bridge and reconstruct the connecting approach roadways. Professional and technical services will include preparation of a Final Strategy Report including a Bridge Life-Cycle-Cost Analysis comparing a Seismic Retrofit Alternative to an in-kind bridge replacement to justify the total replacement of the Hamner Avenue Bridge. After the approval of the Final Strategy by the State, Alternative concepts, Environmental Documents and Preliminary Engineering (35%) Plans will be prepared to clear the project and secure the permits for construction of the new bridge. A technical report will be prepared documenting all preliminary engineering performed in support of environmental document. Since the project is funded by Federal Highway Bridge Program, all documents will be prepared in conformance with the process and procedures of the Caltrans Office of Local Programs.

B. LOCATION

The project site is located near the border between the City of Norco and the City of Eastvale, approximately 1300 feet west of the Interstate 15 Bridges over the Santa Ana River in the City of Norco, in Riverside County, California.

C. COORDINATION

All engineering work will be coordinated with other involved agencies for compatible design and phasing of construction with existing conditions. Coordination may include, but not limited to the following:

- Federal Highway Administration (FHWA)
- Caltrans
- Riverside County Departments
- City of Eastvale
- City of Norco
- Utility Companies
- Regulatory Agencies, including:
 - U.S. Army Corps of Engineers (USACE)
 - U.S. Fish and Wildlife Services (USFWS)
 - California Department of Fish and Wildlife (CDFW)
 - Regional Water Quality Control Board (RWQCB)
 - Riverside County Flood Control & Water Conservation District (RCFC & WCD)

Caltrans may exercise review and approval function through the County Project Manager at key points in the development process. All contacts with Caltrans will be directed through the County. Milestone project submittal reviews will be performed for the specific products and deliverables listed herein. The County Project Manager will conduct these reviews, in addition to the monthly project status reports and meetings. All meetings with other outside agencies will be scheduled by Engineer with approval of County.

March, 2016

Replacement of Hamner Avenue Bridge at Santa Ana River

D. PHASES

The services performed will include the following phases:

Phase - I: Preliminary Engineering/ Environmental Clearance/ Technical Reports (covered in this agreement)

Phase - II: Plans, Specifications and Estimates (PS&E), (future agreement)

Phase - III: Construction Bidding and Award Support, (future agreement)

Phase - IV: Design Support during Construction (future agreement)

This scope of work covers only Phase-I services and fee, which will be performed in two sub-phases as described below. Each sub-phase will require a separate written notice to proceed by County Project Manager to commence. The subsequent phases after the completion of entire Phase I will be covered under a future agreement and will not proceed until authorized in writing by County.

The Phase I services covered under this agreement shall have the following two sub-phases:

- Phase IA includes initial preliminary engineering tasks to refine and justify the project scope as detailed in the Highway Bridge Program (HBP) funding application. The goal is to obtain State concurrence of the project scope, and the authorization of the HBP funds to continue with the Phase IB.
- Phase IB includes the remaining tasks of Phase I to complete the Preliminary Engineering and Environmental Documentation (PA/ED) to clear the project.

The County was successful to program the Hamner Avenue Bridge Replacement over Santa Ana River to receive HBP funds. The project has been authorized for preliminary engineering funding to replace the existing 2-lane Hamner Avenue Bridge over the Santa Ana River with a 6-lane bridge using Map-21 Regional Surface Transportation Program (RSTP) funds programmed in Amendment 10 approved on June 25, 2013 to SCAG 2013 FTIP. However, the State has capped the federal funds at \$458,585 with a local matching amount of \$59,415 and requested additional preliminary engineering studies and cost estimates on three project components to finalize and approve the proposed project scope and to authorize the remainder of the PA/ED funds:

1. State considers the approval of 4 lanes on the new bridge is acceptable. Approval of 6 lanes will require detailed traffic analysis and justification.
2. State considers that the length of the approach roadwork, which is typically limited to 200 feet at either end of bridges in urban areas, exceeds the guidelines. Detailed bridge hydraulic analysis and pertinent geometric design will be required to demonstrate the need for raising the bridge profile in order to convey 100 year flood without overtopping the bridge and its approaches.
3. State requires a seismic retrofit strategy developed for the existing bridge based on vulnerability analysis including a detailed general plan cost estimate. The results will be compared with the cost of total bridge replacement in kind, which will include a bridge life cycle cost analysis to justify the total replacement scope.

The complete scope of services for the entire Phase I including all required preliminary engineering and environmental tasks to clear the project is provided in this Appendix A. The pertinent fee proposal is provided in Appendix C. The required tasks and the respective fee estimate to accomplish the objectives of Phase IA, which are included in detail in Appendices A and C, are summarized separately in Appendix D for ease of reference, which is attached hereto and incorporated herein by reference.

Based on the negotiated scope and fee for the Phase IA tasks summarized in Appendix D, the County of Riverside determined that it is necessary to augment the initially authorized amount of HBP funds to perform and complete the Phase IA tasks. The County is processing a Request for Authorization (RFA) with the State to augment the funds for Phase IA. The Phase IA shall commence upon a written Notice to Proceed (NTP) by the County Project Manager following the approval of this Engineering Services Agreement by the County Board of Supervisors and the authorization of the requested additional HBP funds by the State. Upon completion of Phase IA tasks, Engineer shall summarize the results in a Preliminary Technical Report for submittal to State providing justification for the number of traffic lanes, the bridge profile, and the total bridge replacement. Engineer will assist the County in responding to comments, from the State and in preparation of a RFA to release the remainder of HBP funds to continue with the Phase IB, for environmental documentation and approval of the project. Phase IB shall start upon a written Notice to Proceed (NTP) by the County Project Manager following the authorization of the remaining Phase I funds by the State

E. STANDARDS

The seismic Retrofit Strategy Report, preliminary plans / technical reports, and environmental document will be prepared in accordance with the current Caltrans regulations, policies, procedures, manuals and standards including compliance with Federal Highway Administration (FHWA) requirements and/or County Road Standards as appropriate. Caltrans guidelines for the technical studies and the environmental document will follow the guidance available as of contact date. The technical report prepared to support the environmental document will follow the format for Caltrans Project Reports. Improvements of local roads may be prepared in accordance with County standards in lieu of Caltrans as directed by the County Project Manager. Fact sheets will be prepared for County approval, documenting the exceptions to mandatory and advisory design standards. All documents will be prepared using English standard units and dimensions.

1. Environmental

The procedures to be followed and the content of the environmental surveys, environmental technical reports and environmental documents are set forth in Caltrans Project Procedures Manual (PDPM), Caltrans Environmental Handbook, Caltrans Transportation Laboratory technical manuals for environmental studies, FHWA's Technical Advisory T6640.8A and on Caltrans Standard Environmental Reference (SER) at the Caltrans website.

Federal and State requirements for environmental analysis and impact assessment, as set forth in the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA) and other applicable Federal and State regulations, must be satisfied.

2. Preliminary Survey/Aerial Topographic mapping

All preliminary surveys and aerial mapping shall be performed by County.

3. Design

Roadway design shall be in accordance with the current Caltrans Highway Design manual and its revisions and /or County Road Standards as appropriate. Traffic design shall be in accordance with the Manual of Uniform Traffic Control Device (MUTCD) and the California Supplement. Microstation (compatible with current County version) software will be used as the design software.

4. Project Files

Project files shall be indexed in accordance with Caltrans Project Development Uniform File System.

F. KEY PERSONNEL

The Engineer has presented to the County that certain key personnel will perform the services. If one or more of such personnel should become unavailable, Engineer may substitute other personnel of at least equal competence only after prior written approval by the County Project Manager has been secured.

The key personnel for performance of this project are:

<u>Assignment:</u>	<u>Key Personnel</u>
Principal-in-Charge	Mark Ashley
Project Manager	Roya Golchoobian
Structures Engineer	Robert Barton
Environmental Team Leader	Brian Calvert
QA/QC Engineer	James Rucker

G. COUNTY'S RESPONSIBILITIES

The following includes tasks to be completed by the County:

- Prepare topographic mapping in Caltrans format
- Obtain orthorectified aerial photograph in digital format
- Prepare existing right-of-way and parcel mapping in County format
- Perform field design surveys as requested by the consultant
- Coordinate Permits for Right-of-Entry with property owners (Engineer to contact property owners in advance of field work as required by entry permit)

- County's letterhead for contacting utility agencies
- Participants from County in 3-Day Value Analysis
- Mailing list of property owners to be contacted for public information meetings
- Meeting locations for the public information meetings
- Any existing/available hydraulic model or report for the river

H. DELIVERABLES

Deliverables to the County are identified and listed under each task on following pages. All deliverables will be provided in hard copy format and in electronic format (pdf) as identified in this scope of work.

PHASE I – PRELIMINARY DESIGN AND ENVIRONMENTAL CLEARANCE

1.1 PROJECT MANAGEMENT

1.1.1 Coordination and Communications

- a. Establish and implement a project document/correspondence management and distribution system to assure that information flows between all parties of the Project as intended.
- b. Communicate regularly with the County and project development team by telephone, email, written correspondence, and face-to-face meetings on monthly basis throughout the term of the contract.
- c. Maintain a project contact list with names and contact information for all project development team members.
- d. Prepare, maintain, and update an Action Item Log for review during monthly PDT meetings.
- e. Prepare a project chronology listing all key decisions made over the life of the project and update for review during monthly PDT meetings.
- f. Prepare a Submittal/Deliverable Log and update for review during PDT meetings.

1.1.2 Meetings

Organize, schedule, and chair meetings and conference calls as necessary to provide progress updates, coordinate between technical disciplines, and facilitate overall project communication. Prepare meeting agendas and minutes for all meetings.

- a. Kickoff Meeting (1 Meeting)
- b. PDT Meetings: Monthly face-to-face meetings at the County Annex Office, (36 Meetings)
- c. Additional meetings with Caltrans, as needed (2 Meetings)
- d. Public Information Meetings for NEPA and CEQA compliance (2 Meetings)

Deliverable(s): Meeting notices, agendas, special exhibits and minutes

1.1.3 Schedule

Prepare a detailed project baseline schedule using a work breakdown structure (WBS) consistent with this Scope of Work. Update and distribute one week in advance of each PDT Meeting. The schedule will include the following information:

- a. Task dependencies as predecessors and successors
- b. Anticipated task durations with beginning and end dates
- c. Critical path with milestones

Deliverable(s): Project Schedule – Baseline and Updates

1.1.4 Budget

Monitor the budget for design services using a work breakdown structure consistent with this Scope of Work. Perform Earned Value Analysis on monthly basis.

1.1.5 Project Administration

- a. Set up project accounting system consistent with the County's invoicing and tracking requirements.
- b. Prepare subconsultant agreements.
- c. Monitor subconsultant progress and review/approve invoices.
- d. Prepare monthly progress reports and invoices in accordance with County guidelines. Monthly reports providing actual physical progress will be provided with every invoice.

Deliverable(s): Monthly Progress Reports and Invoice Packages

1.1.6 Quality Control and Quality Assurance (QC/QA)

Establish and implement a quality control process to ensure that all deliverables are complete and accurate, including but not limited to, ensuring that design calculations are independently checked and that exhibits and plans are checked, corrected, and back-checked for accuracy and completeness. Subconsultant report submittals will be reviewed to ensure that appropriate background information, study methodology, interpretation of data, and format and content are completed in accordance with current standards. The QA/QC Plan will be submitted for County review and approval at the kickoff Meeting.

1.2 PRELIMINARY BASE MAPPING

1.2.1 Surveying

All preliminary surveying and aerial mapping will be performed by County as requested by the Consultant.

- a. Additional surveying and topographic services will be provided at the County's request. Any additional cost for surveying, if required, will be discussed with the County for approval prior to proceeding with the work.

1.3 PRELIMINARY UTILITY MAPPING

1.3.1 Field Review

Conduct a field visit and research and review available public and franchise as-built utility information for the area.

1.3.2 Utility Data Base and Contact List

Prepare a data base of utility records indicating the type of utilities, owners, drawing numbers, contact information, prior rights, and other vital information.

1.3.3 Utility "A" Package

The Utility "A" Package will be transmitted to all identified utility interests and will consist of the following materials:

- A vicinity map capturing the boundaries of all potential construction work.
- The project base map.
- A letter on County's letterhead requesting that each utility owner:
 - Mark their facilities on the base map.
 - Provide the name for the utility representative and contact information.
 - Provide as-built or record information of the location, size and depth of each utility company facility within the project limits.
 - Information regarding prior rights and planned utility construction that might affect the project.

1.3.4 Utility Potholing

- b. Coordinate with the County and other agencies to arrange with the respective utility owners to pothole their facility, if required.
- c. At the direction of the County's Project Manager, prepare potholing exhibits to adequately locate known underground utilities for planning purposes and provide the potholing services, if utility companies are unable to complete the potholing services.

1.3.5 Preliminary Utility Base Map

Prepare a utility base map delineating all identified utility lines.

1.3.6 Utility Information Sheet

Determine all utility relocation requirements and prepare a Utility Information Sheet, including the name of all utilities, owners, point of contacts, description of location and conflicts, and plans for relocation. **Deliverable(s):** *Utility Data Base*

Utility A Package

Preliminary Utility Base Map

Utility Information Sheet

1.4 HYDRAULICS AND HYDROLOGY REPORTS

1.4.1 Hydraulic Analysis

- a. Coordinate with Riverside County Flood Control (RCFC), Water Conservation District (WCD), and U.S. Army Corps of Engineers (ACOE) to obtain the current Santa Ana River Design Flow.
- b. Obtain the current FEMA model for the river and make the necessary modifications to model the existing bridge.
- c. Run the model to obtain the water surface profile and velocities under the existing condition. The hydraulic analysis will be based on the FEMA flow rates without the necessity for any additional hydrology analyses.
- d. Prepare a model for the proposed condition including the proposed bridge.
- e. Run the model to obtain the water surface profile and velocities under the proposed condition for different bridge alternatives.
- f. Perform bridge scour analyses to determine the scour potential for the preferred bridge alternative per the methodology specified in the Federal Highway Administration's HEC-18 and HEC-23 manuals. Make recommendations on the need for scour countermeasures for the proposed bridge per the HEC-23 and California Bank and Shore Protection Manual.
- g. Perform sedimentation transport analysis for the preferred alternative using the FLUVIAL-12 model.

1.4.2 Bridge Design Hydraulic Report

Prepare a Bridge Design Hydraulic Report summarizing the results of the hydraulic and bridge scour and sedimentation analyses and recommendations for countermeasures. The report will include all of the detailed hydraulic model outputs.

1.4.3 Location Hydraulic Study Report

Perform a floodplain risk assessment and recommend mitigation measure for the proposed improvement, including evaluation and discussions of practicability of alternatives significance of the risks or environmental impacts for all bridge replacement alternatives and seismic retrofit-widening option.

1.4.4 Flood Plain Evaluation Report

Prepare a technical report evaluating effects of the floodplain encroachment concerning the 6 key items identified in 23 CFR 650.111(b)(c)(d) verified by results of the Location Hydraulic Study (same as Figure 804.7A Technical Information for Location Hydraulic Study located in chapter 804 of the Highway Design Manual), but in greater detail. This report is required in situations where it is uncertain or clear that a project may involve a significant encroachment. This report will be used as a backup for the environmental assessment/Finding of No Significant Impact (EA/FONSI). The risks, impacts and mitigation measures will be summarized in the NEPA document.

Deliverable(s): Bridge Location Hydraulics Report (Draft and Final)

Bridge Design Hydraulics Report (Draft and Final)

Flood Plain Evaluation Report (Draft and Final)

1.4.5 Preliminary Hydrology / Drainage Report

Research existing improvement plans and drainage maps to obtain pertinent drainage information and plot said information on a tributary map. Determine the limits and characteristics of watersheds, existing and future drainage facilities, and existing developments affecting the project limits. The information will be included in the hydrology study and considered in the preliminary design of drainage facilities. Analyze existing drainage systems for their ability to accommodate future design flows and proposed drainage modifications / improvements for the project.

Deliverable(s): Preliminary Hydrology / Drainage Report

1.4.6 Preliminary Storm Water Analysis:

Utilize the Santa Ana Region MS4 Permit Program Transportation Project Guidance (TPG) and Transportation Project BMP Template to identify potential storm water quality impacts and develop options to avoid, reduce, or minimize the potential for storm water quality impacts. Identify project-specific permanent and temporary Best Management Practices (BMPs) utilizing LID principles to mitigate impacts. The project will be divided up by Drainage Management Areas (DMA) before starting the BMP "vetting" process per Template guidelines. Each drainage area will be analyzed for each BMP called out in the Template.

Deliverable(s): Transportation Project BMP Template

1.5 PRELIMINARY GEOTECHNICAL STUDIES**1.5.1 Research Available Geotechnical Data**

Collect and review geologic maps, relevant geotechnical reports, and as-built records for the existing bridge and the I-15 Bridge near the site.

1.5.2 Preliminary Geotechnical Design Recommendations

An initial geologic reconnaissance of the alignment will be made. The collected geologic and geotechnical data will be used to develop the following:

- Design soil profiles and groundwater information
- Soil strength parameters
- ARS Curve Based on Caltrans SDC
- Peak Ground Acceleration
- Liquefaction Potential
- Liquefaction – induced soil settlement
- Soil Corrosivity
- Subgrade Resistance (R-Value)

1.5.3 Assessment of Existing Foundation Capacity

To determine the need for a foundation retrofit, capacity of existing foundation will be estimated based on the available subsurface information, including:

- Axial load capacity of exiting piles
- Lateral load capacity of piles, using LPILE program
- Foundation stiffness coefficients

1.5.4 Foundation Retrofit Options and Strategy

- Work with bridge engineers to develop foundation retrofit strategy alternatives
- Perform analysis of recommended foundation retrofit strategy
- Provide input into foundation retrofit cost estimate

1.5.5 Preliminary Soil Gradation for Scour Analysis

- Obtain surficial grab soil specimens at 3 locations; at bridge site and at about ½ mile upstream and ½ mile downstream of the bridge.
- Perform laboratory grain-size analysis on all three specimens.
- Provide results of grain-size analysis to hydraulic engineer for scour analysis.

1.5.6 Preliminary Geotechnical Report

The findings of preliminary geotechnical recommendations, assessment of existing foundation capacity and foundation retrofit options and strategy will be included in a Preliminary Geotechnical Report for inclusion in the Preliminary Engineering Report.

1.5.7 Bridge Foundation Type Selection Report for Replacement Option

1.5.7.1 Foundation Type

Work with the design team to determine the feasible foundation type.

1.5.7.2 Foundation Capacity

Determine preliminary pile length using pile demands provided by the bridge designers.

1.5.7.3 Foundation Modeling

Provide lateral soil springs for seismic analysis of the superstructure.

1.5.7.4 Preliminary Foundation Report (PFR)

Prepare a Preliminary Foundation Report in accordance with the Caltrans Guidelines for Structures Foundation Reports dated December 2009.

Deliverable: *Preliminary Geotechnical Report*
Preliminary Foundation Report

1.6 TRAFFIC STUDIES

The project study limits will encompass Hamner Avenue from Sixth Street to Limonite Avenue including the following "major" intersections:

- Hamner Avenue/Limonite Avenue
- Hamner Avenue/Schleisman Road

- Hamner Avenue/Citrus Street
- Hamner Avenue/Detroit Street
- Hamner Avenue/Norco Drive/Sixth Street

Traffic Impact Analysis will be prepared in accordance with the Riverside County Transportation Department Traffic Impact Analysis Preparation Guide, April 2008 edition.

The level of service will be calculated using Highway Capacity Manual (HCM) methodologies. Year 2038 volumes will be developed for up to three alternatives.

1.6.1 Traffic Analyses

- a. Contact the local jurisdictions to obtain existing and forecast traffic volumes in project limits. Post process traffic volumes between the agency data bases. Identify project opening day and future years with jurisdictions.
- b. Supplement the existing data with weeklong Average Daily Traffic (ADT) 24-hour machine count, including directional volumes collected in 15 minutes increments.
- c. Identify AM/PM Peak Hours. Obtain agency concurrences on peak hours
- d. Conduct AM/PM Peak Hour intersection turning movement counts including vehicle classifications, pedestrians and bicycles.
- e. Review proposed construction staging alternatives to ensure sufficient roadway capacity during construction.
- f. Perform intersection and mid-block Level of Service (LOS) analyses for existing, project opening year and future year, with and without project.
- g. Develop future traffic conditions using the Southern California Association of Governments (SCAG) Comprehensive Transportation Plan (CTP) traffic model and reconcile with the RivTAM Model.

1.6.2 Traffic Report

- a. Prepare a traffic impact analysis report in coordination with the County to identify the required future level of service and intersection and mid-block lane geometries to maintain the minimum level of service standards.
- b. Prepare summary of the potential impacts, if any, and recommend mitigation measures.
- c. Prepare a Draft Traffic Report and submit to County for review.
- d. Prepare a Final Traffic Report in response to County's review comments.

Deliverable(s): Draft Traffic Report

Final Traffic Report

1.7 SEISMIC RETROFIT STRATEGY REPORT

1.7.1 Seismic Analysis

Perform a seismic analysis of existing bridge to determine the vulnerabilities of existing structure based on the available as-built information.

1.7.2 Seismic Retrofit Details

Propose and develop seismic retrofit measures and details addressing the deficiencies identified in the seismic analysis.

1.7.3 In-kind Replacement Alternative

Develop a conceptual in-kind replacement option.

1.7.4 Widening plus Retrofit Alternative

Develop a conceptual widening plus retrofit option.

1.7.5 Conceptual Replacement Alternative

Develop a conceptual replacement option consistent with assumptions made for the conceptual widening plus retrofit option, for purpose of cost comparison.

1.7.6 Life-Cycle- Cost Analysis

Perform Life-Cycle-Cost Analyses for: maintain existing bridge, retrofit existing bridge, in-kind replacement, retrofit plus widening, and full replacement option.

1.7.7 Seismic Retrofit Strategy Report

Prepare a Seismic Retrofit Strategy Report documenting the finding of seismic analysis, proposed details for seismic retrofit, and results of life-cycle-cost analysis.

Deliverable(s): Draft Seismic Retrofit Strategy Report

Final Seismic Retrofit Strategy Report

1.8 ALIGNMENT STUDY**1.8.1 Alignment and Profile Alternatives**

- a. Prepare strip exhibits including typical sections and horizontal layouts and profiles for three alignment alternatives, including:
 - Maintain the existing roadway centerline
 - Shift the centerline to east
 - Shift the centerline to west
- b. Identify approximate retaining wall heights and lengths, approximate temporary and permanent right of way impacts, and prepare a preliminary construction cost estimate for each alternative.
- c. In coordination with PDT, develop screening criteria for analyzing the alternatives.
- d. Select a preferred alignment in coordination with the County.
- e. Prepare up to two roadway profile alternatives for the preferred alignment.

1.8.2 Conceptual Approval Drawings

Prepare conceptual approval drawings for each alternative, including:

- Plan
- Profile

- Typical Cross Sections

1.8.3 Conceptual Stage Construction Plans

Develop conceptual stage construction exhibits to assist in determining constructability, staging sequence, potential detours, construction schedule duration, costs, temporary construction impacts, and selection of preferred alternative.

1.8.4 Preliminary Right-of-Way Requirements Maps

Prepare a map showing anticipated right of way requirements for each alternative alignment to support the decision making process in selecting the preferred alignment.

1.8.5 Preliminary Construction Cost Estimate

Perform preliminary quantity take-offs and cost estimates for significant roadway items for each alignment alternative.

Deliverable(s): Alignment Study Strip Exhibits and Profiles

Conceptual Stage Construction Exhibits

Preliminary Right-of-Way Requirement Maps

Preliminary Cost Estimates

Retaining Wall Advance Planning Studies (APS)

1.9 RETAINING WALLS ADVANCED PLANNING STUDIES (APS)

1.9.1 Retaining Walls Plan and Profile Drawings

Prepare a General Plan for each retaining wall type considered showing plan, elevation, profile, typical section, and wall type.

1.9.2 Retaining Wall APS Cost Estimates

Prepare an APS cost estimate for each wall type using available cost data per square footage for the type of wall considered.

Deliverable(s): Retaining Walls APS Plan and profile Drawings

Walls APS Cost Estimates

1.10 BRIDGE ADVANCE PLANNING STUDIES (APS)

1.10.1 Bridge General Plans

Prepare Bridge APS General Plan drawings showing plan, elevation, profile, typical section and structure type for bridge structures alternatives, including:

- Cast-in-Place Prestressed Concrete Box Girder
 - On Columns and CIDH Piles
 - On Pier Walls and Driven Piles
- Precast Prestressed Concrete Girders
 - On Columns and CIDH Piles
 - On Pier Walls and Driven Piles

1.10.2 General Plan Cost Estimates

Prepare APS level cost estimates for all bridge types considered.

Deliverable(s): Bridge Advance Planning Studies General Plans
APS Cost Estimate

1.11 VALUE ANALYSIS

Conduct a Value Analysis (VA) based on the guidance in Chapter 19 of the PDPM and as detailed in the Caltrans VA Team Guide and Report Guide. Provide VA study documentation in accordance with the Caltrans VA Report Guide, encompassing three major periods of activities:

- Pre-Study
- Value Study
- Post Study

1.11.1 Pre-Study

The primary goals of pre-study activities are to gather an abundance of credible information, and to obtain clear definition of the project goals and expected outcomes of the VA study. Preparation tasks involve the following principal areas:

- Defining the purpose and needs
- Gathering a complete data file of the project
- Determining preliminary evaluation factors
- Defining specific scope of the study
- Building appropriate models (cost, time, function)
- Determining team composition

1.11.2 Value Study

Based on guidance in Chapter 19 of the PDPM, and details in the Caltrans VA Team Guide and Report Guide, Engineer shall conduct a VA Study. The VA Study shall be conducted over the course of a 5-day period. Tasks shall include: providing a qualified, independent Certified Value Specialist (CVS) team leader to lead the VA Study in accordance with Caltrans Value Methodology; providing VA Study documentation in accordance with the Caltrans VA Report Guide; ensuring that applicable data and correspondence and any other relevant information necessary for the VA study is collected, developed, and distributed; facilitating VA team meetings.

The value study is where the primary Value Methodology is applied. The effort is composed of six phases, called the VA Job Plan:

- Information – Complete value study data package and kickoff meeting.
- Function Analysis – Develop most beneficial areas of continuing study.
- Creativity – Develop ideas for performing each function selected for study.
- Evaluation – Gather and analyze data generated in the Creative phase, and select one or more feasible ideas for development into specific value improvement alternatives.

- Development – Document the details of ideas selected during the Evaluation phase as having the most potential to improve value.
- Presentation – Put forward the results of the VA study, with initial oral presentation followed by a complete written report.

1.11.3 Post Study

The implementation phase includes a meeting in which decisions are made and documented to accept or reject each VA Alternative developed during the VA study. Assignments are made to complete the tasks associated with the approved implementation plan.

Deliverable(s): Value Analysis Report

1.12 GEOMETRIC DESIGN DRAWINGS (GAD)

1.12.1 Roadway Geometrics

Develop project base geometric design and cross sections for the preferred alignment to satisfy standards for design criteria and traffic demand requirements, including:

- Lane Width
- Shoulder Width
- Horizontal and Vertical Design Speeds
- Sight Distance
- Clearance over 100-Year Flood WSE under Bridge Soffit

1.12.2 Fact Sheets

Prepare necessary fact sheets for all exceptions to advisory and mandatory design standards for the preferred alignment alternative.

Deliverable(s): Geometric Approval Drawings (GAD) for Alignment and profile
Fact Sheets

1.13 PRELIMINARY ROADWAY PLANS

Prepare Preliminary Roadway Plans as cut sheets from GAD for the preferred alternative for inclusion in the Preliminary Engineering Report, including:

- Typical Cross Section
- Plan & Profile Sheets
- Conceptual Stage Construction Plan

Deliverable(s): Preliminary Roadway Plans

1.14 PRELIMINARY BRIDGE TYPE SELECTION MEMO

1.14.1 General Plan - Preferred Alternative

Prepare a General Plan drawing for the preferred bridge alternative showing Plan, profile, and typical section of the bridge.

1.14.2 Conceptual Stage Construction Plans

Prepare conceptual stage construction drawings for the construction of bridge structure.

1.14.3 Preliminary Seismic Analysis – Preferred Alternative

Perform a preliminary seismic analysis for the preferred replacement alternative and calculate and document displacement ductility demands and capacities for the proposed substructure type for inclusion in the Type Selection Report.

1.14.4 Bridge Rendering

Prepare rendering drawings showing the proposed aesthetic treatments for the preferred bridge type.

Deliverable(s): Bridge Type Selection Memo

1.15 GENERAL PLAN COST ESTIMATES - PREFERRED ALTERNATIVE

- Update the roadway, bridge, and retaining walls cost estimates for the preferred alternatives.
- Prepare an overall preliminary project Cost Estimate based on the Caltrans 6-page estimate format.

Deliverable(s): Detailed General Plan Cost Estimate – Preferred Alternative

1.16 PRELIMINARY ENGINEERING REPORT (PER)

1.16.1 Draft PER

Prepare a Draft Preliminary Engineering Report with the following contents:

- Executive Summary
- Background
- Purpose and Need
- Traffic
- Hydraulics
- Geotechnical
- Right of Way
- Alignment Alternatives
- Bridge Type Selection Memo
- Environmental Determination/Document
- Funding
- Schedule
- Conclusions and Recommendations
- Appendices

- Alignment Alternatives Strip Maps
- Bridge Advance Planning Studies Drawings
- Preliminary Cost Estimates
- Preliminary Geotechnical and Foundation Report
- Bridge Hydraulic Design Report
- Traffic Report

Deliverable(s): Draft PER

1.16.2 Final PER

Prepare a final Preliminary Engineering Report in response to the County and Caltrans review comments.

Deliverable(s): Final PER

1.17 ENVIRONMENTAL CLEARANCE

All environmental research and analysis necessary for the project will be performed pursuant to the CEQA and the NEPA requirements, as well as the policies and procedures contained in Caltrans Environmental Handbook and Local Program Manual. Key issues will be discussed in the environmental studies, including biology, wetlands, water quality, visual, hazardous waste, noise, community impacts, trail, 4(f) resources and cultural resources.

Environmental Project manager will attend up to thirty two (32) project-related meetings.

1.17.1 Initial Public Information Meeting

Coordinate an initial public information meeting to inform local area residents and businesses about the project. It is assumed that this meeting will be an open house format:

- a) Prepare and Circulate Notices - Mailing list of property owners will be provided by the County.
- b) Conduct Team Meetings – To prepare for the public meeting and making presentation at the meeting. It is assumed up to two (2) preparation meetings. Meeting location will be provided by the County.
- c) Prepare Large Scale Exhibits – Prepare exhibits for the project area for use in the meeting.

1.17.2 Preliminary Environmental Study (PES)

- a) Review available environmental resource information and proposed design and layout of project, including the project footprint. Figures will include a vicinity map, a location map, and the project layout.
- b) Review regional literature, maps and resource inventories. Attachments will consist of the ISA checklist, Flood Insurance Rate map, and Visual Assessment Guide checklist.
- c) Verify research findings in the field (site visit).
- d) Prepare Administrative Draft PES using Exhibit 6A of the LAPM for County's review and comment.

- e) Prepare Draft PES in response to County's comments for Caltrans review and for use at the Field Review meeting.
- f) Prepare final PES in response to Caltrans comments and for Caltrans sign-off.
- g) It is assumed that the PES will address two build alternatives, based on the conclusions of the alternative analysis at the outset of the project.

Deliverable(s): *Administrative Draft PES (Electronic copy to County for review)*

Draft PES (Electronic copy to County and six hard copies to Caltrans)

Final PES (Electronic copy and two signed hard copies to County plus six hard copies to Caltrans)

1.17.3 Field Review Meeting

- Conduct a field review meeting with all members of the team, including Caltrans Local Assistance, Caltrans Environmental, FHWA, and the County, to obtain information on current conditions, constraints, and potential solutions.
- Complete the Field Review form and submit for Caltrans approval.

1.17.4 Technical Studies

All analyses, reports, studies, and evaluations will be carried out in accordance with all local, state, and federal environmental guidelines, including the Caltrans Standard Environmental Reference, the Local Assistance Procedures Manual (LAPM), NEPA, and CEQA, as well as local requirements. Based on the review of the project site, the following technical studies will be required:

a. Natural Environment Study (NES)

The project is within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP).

- Conduct a general biological reconnaissance survey to determine potential suitability for listed and non-listed special status species, including bats, and the presence of constituent elements of the critical habitat present.
- Determine the Biological Survey Area (BSA) in coordination with the Caltrans biologist. It is assumed that the BSA would consist of the Limits of Disturbance (LOD) and a 300 – foot buffer for listed and non-listed special status species.
- Determine the Jurisdictional Survey Area (JSA) consisting of the LOD plus a 100-foot buffer for jurisdictional resources.

Conduct the following focused biological surveys:

- Southwestern Willow Flycatcher and least Bell's Vireo
- Burrowing owl
- Federal Endangered and CNPS listed San Diego ambrosia
- Federal Candidate and CNSP listed Brand's Phacelia
- CNPS listed San Miguel savory

- Special – status plants not covered under the WRC MSHCP that could pose a constraint to the project if present
- Bat Daytime Habitat Assessment
- Bat Night Emergency Study
- Santa Ana Sucker Habitat Suitability Assessment
- Prepare information required for an MSHCP Consistency Finding for the Fish and Wildlife Services (Federal and State), including a Joint Project Review (JPR) checklist for inclusion in the NES.
- Coordinate with the RCA and USFWS/CDFW and the County to ensure compliance with the WRC MSHCP. Assumed up to four (4) meetings.
- Prepare a Determination of Biologically Equivalent or Superior Preservation (DBESP) Report to demonstrate consistency with the Riparian/Riverine Guidelines and with the Additional Survey Needs and Procedures of the MSHCP. Prepare a conceptual restoration plan as part of the DBESP Report.
- Prepare a WRC MSHCP Equivalent Mitigation Lands report if conserved lands are permanently impacted. It is assumed that this would include office and field review of up to two (2) properties. It is anticipated that any impacts to conserved lands would be mitigated through acquisition of additional conserved lands.
 - Focused protocol surveys for any species are not anticipated nor included in the scope of NES. If additional focused surveys are identified during the biological field reconnaissance, then a scope and fee for that effort will be provided to the County for approval prior to moving forward with the additional work.
- b. Wetland Delineation
 - Complete a focused wetlands delineation and a jurisdictional" waters of the U.S." according to the 2008 Corps of Engineers Wetland Delineation Manual Arid West Supplement, in support of a Preliminary Jurisdictional Determination. The extent of any streambed and associated riparian areas will be determined subject to review under Section 1602 of the California Department of Fish and Wildlife.
 - Attend up to three (3) field meetings with regulatory agencies for verifying the delineation and for making adjustments to the delineation as directed by the Corps of Engineers.
 - Prepare the Wetlands Delineation and Assessment of Jurisdictional Waters Report to document the results of the delineation. The report will be included as an Appendix in the NES, and the report results will be included in the NES. The report will be suitable for submittal to the involved agencies for purposes of future permit application and for inclusion as a technical appendix in the environmental document.

Accordingly, the report will identify and quantify jurisdictional areas and features by alternative, including a breakdown of wetlands and non-wetland waters of the U.S., as well as an estimate of permanent and temporary impacts resulting from the discharge of fill material into jurisdictional waters of the U.S. It is assumed that the report will be prepared in support of a Preliminary Jurisdictional Delineation.

- The recommended time for conducting the jurisdictional delineation is between January and March. However, the delineation may need to be conducted at a different time due to project schedule constraints. An approval will be obtained from the County, if a different timeline outside of the January to March timeframe is proposed. The results of the draft jurisdictional delineation/determination will require review by Caltrans and verification and approval by the Corps and CDFW.

c. Cultural Resources

Prepare documentation in accordance with Section 106 of the National Historic Preservation Act (NHPA) to record archaeological and historical resources identified within the study area.

- Area of Potential Effects (APE) Map

In consultation with Caltrans, develop an APE map on an accurate base map to identify the entire survey area for archaeology and architecture. APE map will be submitted with the HSPR and is not assumed to be a separate submittal.

- Records Search

Conduct an archaeological and historical records review and literature search through the Eastern Information Center (EIC), located at the University of California, Riverside.

- Review all pertinent references within a 1-mile radius of the APE.
- Determine the extent of previously recorded sites, surveys, and excavations within and immediately adjacent to the APE.

- Fields Surveys

Complete archaeological and architectural field surveys of the APE.

- Document respective resources that are previously unrecorded.
- Update existing State of California Department of Parks and Recreation (DPR) Series 523 forms for previously recorded resources.

It is assumed that up to one (1) DPR form will need to be prepared. If a HRER is prepared, then this would increase to three (3).

- Native American Consultation

- Contact the Native American Heritage Commission for (1) a search of its Sacred Lands File, and (2) a list of parties with cultural ties to the APE.

- Prepare and distribute a letter via certified mail to all parties describing the project and inviting comments on cultural resource concerns. This will be done following confirmation by Caltrans of which Tribes/parties are to receive the letter. If Pechanga or Soboba are included, then it is assumed that Caltrans will send the letters to these Tribes and will conduct all follow ups required.
- After 28 days, follow up on each unanswered letter with a telephone call.
- Document all efforts to consult with each tribe.
- With regard to SB52, the consultant will identify potential Tribes, write the coordination letters for the County to send to the Tribes, and conduct one round of follow up, if requested by the County. At the outset of the project, will coordinate with Caltrans to ensure that the Section 106 and SB52 efforts are coordinated.
- Historic Property Survey Report/Archaeological Survey Report (HPSR/ASR)

The HPSR/ASR will document the Section 106 cultural resources of the project APE in accordance with Caltrans and State Historic Preservation Officer (SHPO) requirements. If an archaeological deposit is encountered within the APE, the following actions will be taken:

 - Conduct a preliminary assessment of site boundaries using surface inspection and auger borings.
 - Any archaeological material recovered will be recorded and re-deposited and a map will be prepared depicting site boundaries in relation to the APE. The site will be recorded on a standard archaeological site record (DPR 523 form). At most one archaeological deposit requiring recordation, if any, would be anticipated for this project location.
 - It is assumed that no resources eligible for listing on the National Register of Historic Place (NRHP) or California Register of Historical Resources (CRHR) will be identified and no archaeological testing and evaluation will be necessary. If project conditions changed and testing is required, a separate scope and fee for that effort will be provided to the County for approval prior to moving forward with the additional work.
- Historic Resources Evaluation Report (HRER) - (STEP 2)
 - It is assumed that up to two properties will require evaluation and preparation of State of California Department of Parks and Recreation (DPR) Series 523 forms.

- It is assumed that no resources eligible for listing on the NRHP or CRHR – eligible resources will be identified and no additional effort or reporting beyond the HRER is assumed.

d. Air Quality Impact Assessment

Prepare an air quality impact assessment for the project's operation and construction in accordance with the Caltrans Transportation Project Level Carbon Monoxide Protocol, the EPA's fugitive dust conformity rule, FHWA/EPA Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas, FHWA Interim Guidance on Air Toxic Analysis in NEPA Documents, and Caltrans' policy on greenhouse gas emissions and the Air Quality Management District's (AQMD) CEQA regulations for the South Coast Air Basin (SCAB).

- Analyze and discuss the presence/absence of asbestos-containing structures/roadway and construction-related impacts.
- Address the short-term construction and long-term operational impact on global warming and climate change.
- Document whether the proposed project is included in the latest Regional Transportation Plan (RTP), Federal Transportation Improvement Program (FTIP), and Federal Statewide Transportation Improvement Program (FSTIP) for preliminary engineering/environmental documentation.
- Make a final determination whether the build alternative will conform to applicable state and federal air quality plans.
- Work with Caltrans and the AQMD to identify feasible mitigation measures that will be developed as indicated in the impact analysis.
- Coordinate with the EPA, Caltrans, and FHWA through Southern California Association of Governments' (SCAG) Transportation Conformity Working Group (TCWG) to ensure that the project would not violate/exacerbate air quality nonconformity in the SCAB.
- Prepare the "Conformity Analysis Documentation for Project-Level Conformity Determinations in Metropolitan Nonattainment/Maintenance Areas" required for NEPA delegation.

e. Noise Study Report (NSR)

- Prepare the NSR consistent with the Caltrans Noise Analysis Protocol (May 2011) and Technical Noise Supplement (TeNS, September 2013) to address traffic noise impacts for land uses associated with Activity Categories A through E and report noise levels for land uses associated with Activity Categories F and G.
- Review applicable state (Caltrans), the City of Norco, and the City of Eastvale noise and land use compatibility criteria. It is assumed that all modeling will be done using

TNM and that CNEL will not be addressed in the NSR. The primary focus will be on utilizing the NAC to determine whether impacts would occur. It is assumed that up to six (6) short term and one (1) long term will be taken and a secure location can be identified.

- Discuss noise standards regulating noise impacts, including FHWA Noise Abatement Criteria (NAC), and Standard included in the City Municipal Code or General Plan.
- Identify areas with potential future noise impacts using existing roadway traffic as the baseline condition and results of traffic study for the proposed project.

f. Noise Abatement Decision Report (NADR)

- Prepare a Noise Abatement Decision Report (NADR), if the future with-project noise levels are estimated to approach or exceed the Noise Abatement Criteria, as defined in the Caltrans Noise Analysis Protocol (May 2011).
- It is assumed that up to four (4) noise barriers will be addressed in the NADR.
- Evaluate the reasonableness and feasibility of constructing the noise abatement, based on constructability of the barrier, cost of building the barriers, and allotment of abatement cost per resident. The final decision will be coordinated with the public if a sound wall is the feasible option.

g. Hazardous Waste –

- Initial Site Assessment (ISA)

Prepare an Initial Site Assessment to check for historical evidence of potential site contamination that may impact construction of the proposed project in compliance with the hazardous waste section of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). ISA will be performed in general accordance with ASTM Designation E 1527, Standard Practice for Environmental Project Site Assessment: Phase 1 Environmental Assessment Process and Caltrans Project Development Procedure Manual. The ISA will consist of the following:

- Prepare the ISA checklist as an attachment to PES
- Conduct a review of available existing local, state, and federally maintained databases for hazardous waste sites and underground storage tank records within one-half mile of the project area.
- Review available historical aerial photographs and Sanborn Fire Insurance maps (may be substituted or augmented with historical topographic maps) to help identify prior land use.
- Perform a field survey to help assess current conditions.
- Conduct a limited review of selected agency files.
- Identify sites of recognized environmental conditions (RECs) and rank them based on potential risks.

- Recommend further exploration, if revealed by the assessment, or avoidance alternatives as applicable.

- Aerially Deposited Lead (ADL)

Based on the results of the ISA, and ADL report may be required. The ADL survey will be performed in accordance with Caltrans guidelines. Prior to the survey, a Health and Safety Plan (HSP) and a work plan will be prepared. The HSP will be endorsed by a Certified Industrialized Hygienist (CIH). The work plan will summarize the ADL exploration and will include the HSP. The HSP will be submitted to Caltrans for review and approval. The number of estimated and assumed soil samples to be collected are 12-hand-auger borings 3 to 5 feet deep from unpaved areas adjacent to shoulder. Traffic control will be provided during the field exploration based on the Manual of Uniform Traffic Control Devices (MUTCD). Laboratory tests is assumed to consist of performing 48 total threshold limit concentration (TTLC). 12 soluble threshold limit (STLC) if the TTLC is greater than 500 ppm, 5 toxicity characterization leaching procedure (TCLP) tests for lead, and 5 pH tests. A statistical analysis of the laboratory test results will be performed in accordance with Caltrans guidelines and included in the report.

Assumptions:

- Encroachment permit will be provided by the County.
- Preliminary Utility Base Map prepared in Task 1.3.5 will be used for boring locations.
- Proposed ADL survey locations will be marked in the field and underground service alert (USA) will be notified a minimum of 48-hours prior to sampling activities.
- The MUTCD will be used for traffic control.
- Field exploration activities will be completed during regular work hours.
- Soil sampling for ADL survey will be limited to dirt areas adjacent to travelled way and to 5 feet below surface. If additional sampling and testing are requested by Caltrans at location of the proposed retaining wall, and to deeper depths, they can be provided as additional service.
- This scope of work covers the preparation of Phase-1 ISA for the project corridor only. Additional Phase-II Site Investigation may be required on results of Phase I-ISA.
- Asbestos Testing
 - Accessible areas of the structure will be examined for visual identification of suspect asbestos containing materials ACMs.
 - Sites will be selected for sampling of suspect ACMs in accordance with industry guidelines for sample collection.
 - Up to fifteen (15) bulk samples (representing 5 homogenous materials) of suspect ACMs will be collected. The samples will be collected by a State of

California Certified Asbestos Consultant or a California Certified Site-Surveillance Technician.

- AES's bulk sampling protocol is for Triplicate sampling of each homogenous (suspect material) identified. Additional samples will be collected if additional suspect materials are encountered at the site; and the suspect asbestos bulk samples will be submitted via chain of custody to AIH Laboratory (AIH) in Cerritos, California 90703, an accredited laboratory for analysis (based on a turn-around-time of 24 hours) to determine if asbestos is present.

- Lead Paint Testing

- Conduct an examination for the presence of lead-based paint (LBP) utilizing an X-Ray Fluorescence analyzer (XRF) which provides on-site readings of the concentrations of lead. The examination will be completed by a State of California Certified Lead Inspector/Assessor or a Certified Lead Sampling Technician and shall be in compliance with Local, Federal, and State guidelines and regulations;
- Up to three (3) bulk lead/paint samples will be collected for laboratory analysis; and the bulk lead/paint samples will be submitted via chain of custody to L.A. Testing Laboratory in Garden Grove, California 92841, an accredited laboratory for analysis (based on a turn-around-time of 24 hours) to determine if lead is present.
- Prepare an Asbestos and Lead Survey Report interpreting laboratory analysis, indicating location and condition of material, and provide management/abatement recommendations. Material analysis, accessibility, use of building, future plans for building, and other pertinent data will be taken into consideration.

h. Water Quality Assessment Report

- In compliance with Section 401 of the Clean Water Act, also research the following: 1) the current County guidelines (Santa Ana Region MS4 Permit Program, 2) field surveys, 3) conditions of the watershed, existing drainage, and hydrology, 4) land use, geography and topography of the area, 5) beneficial uses for all potentially affected waters, 6) water quality objectives for all potentially affected waters, 7) any monitoring data from other agencies and 8) potential sources of pollutants.
- Identify Best Management Practices (BMPs) to reduce adverse effects to water quality.
- Document the preliminary water quality assessment and BMPs in the Water Quality Assessment Report.
- Identify specific mitigation measures that ensure no significant water quality impacts.

i. Section 4f Evaluation

There are Section 4(f) resources present in the project vicinity; however, it has been agreed by all parties that the precise boundaries for these resources need further research and the project may or may not impact Section 4(f) resources. Under this task ICF will assist the County in determining which Section 4(f) resources are present and the boundaries of these resources. This scope of work assumes up to two Section 4(f) resources will be impacted and that they will both qualify for a de minimis Section 4(f). The scope of work includes obtaining letters from the agencies that administer these facilities confirming their concurrence with the de minimis Section 4(f) finding. No further analysis or documentation related to Section 4(f) resources is assumed.

- (STEP 2) If 4(f) resources that are impacted do not qualify for a de minimis 4(f), evaluation for that resource would potentially be required. Under that condition, ICF will prepare a Section 4(f) Evaluation to discuss minimization and avoidance measures and document any impacts to 4(f) resources. This scope assumes up to two 4(f) resources would require evaluation and for each resource a Programmatic Section 4(f) evaluation would be appropriate. It is assumed that the Programmatic Section 4(f) evaluation will be included as an Appendix in the Environmental Document.

j. Paleontological Report – (STEP 2)

Prepare a Caltrans format Paleontological Identification Report / Paleontological Evaluation Report (PIR /PER) and a paleontological Mitigation Plan (PMP) to evaluate the potential to encounter paleontological resources during ground – disturbing activities and to provide a mitigation plan if necessary.

k. Visual Impact Assessment - Moderate

Complete the Visual Impact Assessment under the direction of a certified landscape architect following FHWA's Visual Impact Assessment for Highway Crossings.

- Take location-specific photos of the existing crossing and current site conditions taking note of view-shed boundaries and visual features including potentially sensitive views and viewers.
- Research and collect relevant data including designated scenic resources, City policies, planned projects in the area and specific site information.
- Address applicable guidelines, policies, and objectives pertaining to highway facilities and visual resources.
- Perform a visual impact analysis using methods and protocol developed by the FHWA and adopted by Caltrans.

- Prepare a matrix to compare visual resources within defined landscape units and include visual quality and character, the viewers and viewpoints, changes in vividness, intactness, and unity.
- Prepare a minimum of four (4) photographic simulations for the County, agencies, and interested public to compare existing and proposed conditions of the project area.
- It is assumed that Moderate VIA will be identified as the appropriate level of documentation and concurred with by Caltrans. If a higher level document is required, then a separate scope and fee for this work will be provided for County's approval prior to completing the work.

l. Community Impact Assessment Memorandum

- Prepare a community impact assessment report including an assessment of Environmental Justice. It is assumed that a Community Impact Assessment Memorandum will be appropriate for the project. If a higher level document is required, then a separate scope and fee for this work will be provided for County's approval prior to completing the work.

m. Relocation Impact Memorandum – (STEP 2)

If relocations are identified for the project, it is assumed that less than ten (10) relocations would be required. A Relocation Impact Memorandum (DRIM) will be prepared pursuant to FHWA guidelines and policies to comply with the Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended, the California Relocation Act, and as described in Chapter 10 of the Caltrans Right-of-Way Manual. It is further assumed that relocation impacts within the project area are non-complex and adequate relocation resources are available for displacements.

Deliverable(s): *Screencheck technical studies (electronic copy to County)*
 Draft technical studies (electronic copy to County and 3 hard copies to Caltrans)
 Revised Draft technical studies (electronic copy to County and 3 hard copies to Caltrans)
 Final technical studies for concurrence (electronic copy to County and Caltrans and 3 hard copies to Caltrans)
 Final approved technical studies for County and Caltrans files (2 hard copies to County and 3 hard copies to Caltrans)
 Natural Environment Study (NES)
 Wetland Delineation and assessment of Jurisdictional Waters Report
 APE Map

Historic Property Survey Report (HPSR)
Archaeological Survey Report (ASR)
Air Quality Report
Noise Study Report (NSR)
Noise Abatement Decision Report (NADR)
Hazardous Waste – Initial Site Assessment Report (ISA)
Water Quality Assessment Report
Section 4f Evaluation
Visual Impact Assessment Report (Moderate)
Community Impact Assessment Memorandum

1.17.5 CEQA/NEPA Documentation

a. Administrative Draft IS/EA

Concurrent with preparation of the technical studies, prepare a comprehensive Administrative Draft IS/EA for County and Caltrans Review. Each submittal, except the initial submittal, will include a Comment/Response spreadsheet, External QC Certification, and ED Review Checklist. The document will be prepared in conformance with the IS/EA Annotated Outline that is in place when the environmental document preparation is initiated.

b. Draft IS/EA for Public Review

- Revise the Administrative Draft IS/EA based on the comments received and submit the Draft IS/EA to the County and then to Caltrans for approval to circulate. The following submittals are anticipated following the Administrative Draft IS/EA:
 - Draft IS/EA (1) for generalist review
 - Draft IS/EA (2) for generalist review and then NEPA Delegation QA/QC review
 - Draft IS/EA (3) for NEPA Delegation QA/QC concurrence
 - Final Draft IS/EA for concurrence to circulate
- Once approved, circulate the Draft IS/EA to a distribution list approved by the County and Caltrans. It is assumed that the County will provide the names and addresses of all owners and occupants within a 1000-foot radius of the project location.
- Draft a public notice regarding the availability of the Draft IS/EA for public review. It is assumed that the notice will include the announcement of the public meeting prepared in the English language and the County will then prepare the Spanish translated version.
- Prepare and publish the final notice. It is assumed that the notice will be published once in an English language, and in a maximum of two newspapers in English and Spanish.

- File Notice of Completion with the State Clearinghouse to begin the required public review period.
- Hard copies of the IS/EA and notice will be provided to the availability locations (Caltrans, County, libraries), a CD containing the Draft IS/EA and a hard copy of the notice will be provided to other agencies and officials included on the distribution list and anyone else who specifically requests a copy of the document. A copy of the notice only will be provided to property owners and residences within the same radius as referenced above using the list provided by the County.
- c. Second Public Information Meeting
 - Update materials developed for initial public meeting as necessary.
 - Coordinate a second public information meeting during the public review period. This meeting could be a separate meeting or could be scheduled as part of a regular Board of Supervisors meeting to give a brief presentation on the environmental document and receive any verbal public comments on the project.
- d. Draft MND/FONSI
 - Confer with County and Caltrans to review written comments and comments from public meetings to develop a framework and strategy for preparing responses.
 - Prepare written responses to comments received on the Draft IS/EA and prepare the Draft Mitigated Negative Declaration / Finding of No Significant Impact (MND/FONSI).
 - Submit copies of the comments received and draft responses with Draft MND/FONSI.
- e. Final MND/FONSI
 - Incorporate the final comments and responses into the MND/FONSI and submit one master document for approval of MND by the County, and the FONSI by Caltrans. The following submittals are assumed:
 - Draft Final MND/FONSI (1) to County
 - Draft Final MND/FONSI (2) to Caltrans for generalist review
 - Draft Final MND/FONSI (3) to Caltrans for generalist concurrence and NEPA Delegation QA/QC review
 - Final MND/FONSI to Caltrans for NEPA Delegation QA/QC concurrence and adoption
 - Prepare Environmental Commitments Records (ECR), consistent with the final measures identified in the MND/FONSI. The ECR will be included in the Draft and Final environmental document.
 - Following approval of the MND/FONSI submit copies of the approved document for distribution to the agencies that commented on the Draft IS/EA.

- Prepare a Notice of Determination to be submitted to the State Clearinghouse following the approval of MND. It is anticipated that Caltrans will approve the FONSI following the approval of MND.

Deliverable(s): Administrative Draft IS/EA (electronically to County and then 8 hard copies to Caltrans)

Draft IS/EA-1 (electronically to County and 8 copies to Caltrans)

Draft IS/EA-2 (electronically to County and 8 hard copies to Caltrans)

Draft IS/EA-3 (electronically to County and 8 hard copies to Caltrans)

Draft IS/EA-4 (electronically to County and 8 hard copies to Caltrans)

Draft IS/EA for Public Review (30 hard copies and one electronic, pdf, final

Draft EA for availability, including 15 copies for submittal to the State Clearinghouse)

Draft IS/EA CDs (80 copies)

Draft IS/EA Distribution (assume distribution of up to 75 CDs with notices)

Distribution of up to 150 notices

Publication of notice in two newspapers, as identified by the project team

Draft MND/FONSI-1 (electronically to County)

Draft MND/FONSI-2 (electronically to County and 8 copies to Caltrans)

Draft MND/FONSI-3 (electronically to County and 8 copies to Caltrans)

Final MND/FONSI (electronically to County and 8 copies to Caltrans and 4 hard copies each to County and Caltrans of the final signed FED)

Draft and Final NOD (electronically for review)

Satisfactory performance and completion of the Services under this Agreement shall be compensated based upon actual costs plus a fixed fee. COUNTY will reimburse ENGINEER for actual costs (including labor costs, overhead, and other direct costs) incurred by ENGINEER in performance of the work, exclusive of any fixed fee. A prorate portion of ENGINEER's fixed fee shall be included in the progress payments. Actual costs shall not exceed the estimated costs without prior written agreement between COUNTY and ENGINEER.

APPENDIX C • ARTICLE CI • ELEMENTS OF COMPENSATION

Compensation for the Services will be comprised of the following elements: DIRECT LABOR COSTS, FEES, OTHER DIRECT COSTS and OUTSIDE SERVICES.

A. DIRECT LABOR COSTS

Direct Labor costs shall be paid in an amount equal to the Direct Salary Costs plus the product of the Direct Salary Costs and the Multiplier which are defined as follows:

1. Direct Salary Costs

Direct Salary Costs are the base salaries and wages actually paid to the ENGINEER's personnel directly engaged in performance of the Services under the Agreement. Salary rates for specific employees shall be provided on the Fee Proposal Worksheets included in ARTICLE CV • COST PROPOSAL. All Salary rates shall be in effect for three years following the effective date of the Agreement. Thereafter, ENGINEER may request adjustments to individual rates on an annual basis. ENGINEER shall notify COUNTY in writing requesting a change in the rates included herein. All adjustments to rates shall be subject to approval by the County Director of Transportation, or his designee.

2. Multiplier

The Multiplier to be applied to the Direct Salary Costs to determine the Direct Labor Costs is the sum of the following components:

PAYROLL ADDITIVES

The decimal ratio of Payroll Additives to Direct Salary Costs. Payroll Additives include all employee benefits, allowances for vacation, sick leave, and holidays, and company portion of employee insurance and social and retirement benefits, all federal and state payroll taxes, premiums for insurance which are measured by payroll costs, and other contributions and benefits imposed by applicable laws and regulations.

OVERHEAD COSTS

The decimal ratio of allowable Overhead Costs to ENGINEER firm's total direct salary costs. Allowable Overhead Costs include general, administrative and overhead costs of maintaining and operating established offices, and consistent with established firm policies, and as defined in the Federal Acquisitions Regulations, Part 31.2.

TOTAL MULTIPLIER 157.196%

(Sum of Payroll Additives and Overhead Costs)

B. FIXED FEE

1. The Total Fixed Fee payable to the ENGINEER is \$93,410 (PRIME CONSULTANT Profit)
2. A pro-rata share of the Fixed Fee shall be applied to the total Direct Labor Costs expended for services each month, and shall be included on each monthly invoice.

C. OTHER DIRECT EXPENSES

Additional Direct Costs, directly identifiable to the performance of the services of this Agreement, shall be reimbursed at the rates below, or at actual invoiced cost.

Rates for identified Additional Direct Costs are as follows:

Item	Rate	Unit
Travel-Mileage	\$9,000.00	42
Production	\$8000.00	850
Shipping	\$1375.00	10
Add'l Surveying	\$30,000.00	LS
Potholing	\$30,000.00	LS
VA	\$27,736.00	EA
Lab Test – Haz Mat	\$1,977.00	EA

Travel by air and travel in excess of 100 miles from ENGINEER's office nearest to COUNTY's office must have COUNTY's prior written approval to be reimbursed under this Agreement.

D. OUTSIDE SERVICES

Outside services shall be paid in accordance with the cost proposals submitted by each Subconsultant. Billings for Outside Services shall be submitted along with the Prime Consultant's monthly Progress Report/Billing submittals and shall be in conformance with the COUNTY Engineering Services Invoicing

Procedures.

ARTICLE CII • DIRECT SALARY RATES

Direct Salary Rates, which are the range of hourly rates to be used in determining Direct Salary Costs, are given below and are subject to the following:

A. PREMIUM OVERTIME

Direct Salary Rates shall be applicable to both straight time and overtime work, unless payment of a premium for overtime work is required by law, regulation or craft agreement, or is otherwise specified in this Agreement. In such event, the premium portion of Direct Salary Costs will not be subject to the Multiplier.

B. SALARY RATES

All Salary rates shall be in effect for three years following the effective date of the Agreement. Thereafter, ENGINEER may request adjustments to individual rates on an annual basis. ENGINEER shall notify COUNTY in writing requesting a change in the rates included herein. All adjustments to rates shall be subject to approval by the County Director of Transportation, or his designee.

POSITION OR CLASSIFICATION MAXIMUM HOURLY RATES

Classification/Title	Name	Actual Hourly Rate
<u>(Project Manager)</u>	Roya Golchoobian	\$ 83.63
<u>(Project Engineer)</u>	Robert Barton	\$ 60.38
<u>(Env. Oversight)</u>	Alicia Lemke	\$ 61.81
<u>(Bridge Engineer)</u>	Robert Sokolowski	\$ 36.09
<u>(Sr. Const. Eng.)</u>	Wade Durant	\$ 78.83
<u>(Br. CAD Tech.)</u>	Yihong Wang	\$ 42.64
<u>(Br. Architect)</u>	Hunter Ruthrauff	\$ 36.05
<u>(QC Manager)</u>	James Rucker	\$ 99.83
<u>(Lead Civil Eng.)</u>	Karen Chapman	\$ 97.34
<u>(Sr. Civil Eng.)</u>	Eric Johnson	\$ 66.95
<u>(Civil Eng.-1)</u>	Ryan Lau	\$ 49.61
<u>(Civil Eng.-2)</u>	Stephanie Cristales	\$ 36.38

Replacement of Hamner Avenue Bridge at Santa Ana River

<u>(Civil CAD Tech.)</u>	Ivan Martin	\$ 35.75
<u>(Sr. Dra. Eng.)</u>	Stephen Smith	\$ 99.34
<u>(Drainage Eng.-1)</u>	Phillip Brand	\$ 50.09
<u>(Drainage Eng.-2)</u>	Shannon Johnson	\$ 32.40
<u>(Sr. Br. Eng. VA)</u>	David Griffith	\$ 79.38
<u>(SR. Civ. Eng. VA)</u>	James Faber	\$ 102.00
<u>(Const. Eng. VA)</u>	John Buckley	\$ 79.17
<u>(Admin-1 Civil)</u>		\$ 20.00
<u>(Admin-2 Acct.)</u>		\$ 41.49

The above rates are for ENGINEER only. All rates for subconsultants to ENGINEER will be in accordance with the subconsultants cost proposal.

ARTICLE CIII • INVOICING

ENGINEER shall submit invoices in accordance with the Engineering Services Agreement ARTICLE VI • COMPENSATION and with the following requirements.

1. Charges shall be billed in accordance with the terms and rates included herein, unless otherwise agreed in writing by the County Contract Administrator.
2. Base Work and Extra Work shall be charged separately, and the charges for each Phase listed in Appendix B, Schedule of Services, shall be listed separately. The charges for each individual assigned under this Agreement shall be listed separately.
3. Charges of \$500.00 or more for any one item of Additional Direct Costs shall be accompanied by substantiating documentation such as invoices, telephone logs, etc.
4. Each invoice shall indicate payments to DBE subconsultants or supplies by dollar amount and as a percentage of the total invoice and shall state the DBE goals as a percentage of Total Agreement Value.
5. Each invoice shall bear a certification signed by the Engineering Contract Manager or an officer of the firm which reads as follows:

I hereby certify that the hours and salary rates charged in this invoice are the actual hours and rates worked and paid to the employees listed.

ARTICLE CIV • PAYMENT

Progress payments shall be made in accordance with the Engineering Services, Agreement ARTICLE VI • COMPENSATIONS.

ARTICLE CV • COST PROPOSAL

The following cost proposal reflects the negotiated targeted contract amount. The cost proposal will serve as a guideline and reference document during the execution of this contract. ENGINEER shall be compensated in accordance with the rates provided. The total amount of the contract is not to exceed \$ 2,222,125.00 including a \$0 contingency. Reimbursement is to be made at actual cost plus fixed fee, however, billing shall not exceed the rates provided in Section B above or the rates provided in the attached Fee Proposal Worksheets below. Written approval from the COUNTY PROJECT MANAGER is required to expend any contingency funds.

FEE PROPOSAL SUMMAERY						
	PHASE I	PHASE II	PHASE III	PHASE IV	PHASE V	TOTALS
T.Y. LIN INTERNATIONAL	\$1,135,599					
ICF INTERNATIONAL	\$760,568					
ICF INTERNATIONAL - STEP 2 TASKS	\$121,125					
EARTH MECHANICS	\$47,476					
CHANG CONSULTANT	\$39,038					
DIAZ-YOURMAN	\$38,697					
RGI CONSULTING	\$30,000					
ADVANTEC	\$49,622					
TOTALS	\$2,222,125					

Phase I: \$2,222,125

Phase II:

Phase III:

Phase IV:

Phase V:

Cost Proposal Worksheet

COMPANY:	SCOPE OF WORK:	DATE:
T.Y. Lin International	Preliminary Design and Environmental Clearance	Jul-16
PROJECT:	MILESTONE/PHASE/PROJECT SUMMARY:	
Hamner Ave Bridge Project	Phase I	

DIRECT LABOR

PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT
Roya Golchoobian	PM	1,312.0	\$ 83.63	\$ 109,722.56
Robert Barton	PE	1,216.0	\$ 60.38	\$ 73,422.08
Alicia Lemke	Environ Oversight	72.0	\$ 61.81	\$ 4,450.32
Robert Sokolowski	Bridge Engineer	304.0	\$ 36.09	\$ 10,971.36
Wade Durant	Const Engineer	51.0	\$ 78.83	\$ 4,020.33
Yihong Wang	CAD Bridge	366.0	\$ 42.64	\$ 15,606.24
Hunter Ruthrauff	Bridge Architect	40.0	\$ 36.05	\$ 1,442.00
Jim Rucker	QC Manager	16.0	\$ 99.83	\$ 1,597.28
Karen Chapman	Lead Civil Engineer	436.0	\$ 97.34	\$ 42,440.24
Eric Johnson	Sr. Civil Engineer	420.0	\$ 66.95	\$ 28,119
Ryan Lau	Civil Engineer-1	326.0	\$ 49.61	\$ 16,173
Stephanie Cristales	Civil Engineer-2	368.0	\$ 36.38	\$ 13,388
Ivan Martin	CAD Civil	472.0	\$ 35.75	\$ 16,874
Steve Smith	Sr Drainage Engineer	16.0	\$ 99.34	\$ 1,589
Phil Brand	Drainage Engineer -1	128.0	\$ 50.09	\$ 6,412
Shannon Johnson	Drainage Engineer -2	120.0	\$ 32.40	\$ 3,888
David Griffith	Sr Br Enginner VA	40.0	\$ 79.38	\$ 3,175
James Faber	Sr Civil Engineer VA	40.0	\$ 102.00	\$ 4,080
John Buckley	Sr Const Engineer VA	40.0	\$ 79.17	\$ 3,167
	Admin Civil	8.0	\$ 20.00	\$ 160
	Admin Accounting	60.0	\$ 41.49	\$ 2,489
-				\$ -
TOTAL HOURS		5,851.0	TOTAL DIRECT LABOR \$ 363,186.47	

MULTIPLIERS

Fringe Benefit	56.20% (of Total Direct Labor)	\$ 204,125
Audited Overhead Rate	100.99% (of Total Direct Labor)	\$ 366,789
TOTAL MULTIPLIERS		\$ 570,915

OTHER DIRECT EXPENSES

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
Reports	Ea	40	\$ 150.00	\$ 6,000.00
Exhibits	Ea	10	\$ 40.00	\$ 400.00
Plans	Ea	800	\$ 2.00	\$ 1,600.00
Shipping	Ea	10	\$ 137.50	\$ 1,375.00
Car Rental - Meetings	Ea	40	\$ 205.00	\$ 8,200.00
Air Fare (Sacramento), 2 people	Ea	2	\$ 400.00	\$ 800.00
Add'l Survey not Covered by County	LS	1	\$ 30,000.00	\$ 30,000.00
Potholing	LS	1	\$ 30,000.00	\$ 30,000.00
Lead Survey	Ea	1	\$ 1,412.00	\$ 1,412.00
Lead Report	Ea	1	\$ 565.00	\$ 565.00
VA/VE	LS	1	\$ 27,736.00	\$ 27,736.00
			\$ -	\$ -
TOTAL OTHER DIRECT EXPENSES				\$ 108,088.00

OUTSIDE SERVICES

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
ICF International	\$ 257,300	\$ 436,124	\$ 69,342	\$ 118,926	\$ 881,693
Earth Mechanics	\$ 15,390	\$ 27,347	\$ 4,274	\$ 465	\$ 47,476
Chang Consultant	\$ 13,832	\$ 20,748	\$ 3,458	\$ 1,000	\$ 39,038
Diaz- Yourman	\$ 10,192	\$ 16,946	\$ 2,714	\$ 8,846	\$ 38,697
RGI Utilities	\$ 10,873	\$ 16,309	\$ 2,718	\$ 99	\$ 30,000
Advantec	\$ 13,559	\$ 24,942	\$ 3,850	\$ 7,270	\$ 49,622
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES					\$ 1,086,525.80

FEES

FIXED FEE	10.00%	\$ 93,410
TOTAL FEES		\$ 93,410
TOTAL COST		\$ 2,222,125

Manhour Worksheet

COMPANY:			SCOPE OF WORK:																				DATE:		
T.Y. Lin International			Preliminary Design and Environmental Clearance																						
PROJECT:			MILESTONE/PHASE/PROJECT SUMMARY																						
Hammer Ave Bridge Project			Phase I																						
Task No.	DESCRIPTION	Personnel:	PM	PE	Environ Oversight	Bridge Engineer	Const Engineer	CAD Bridge	Bridge Architect	QC Manager	Lead Civil Engineer	Sr. Civil Engineer	Civil Engineer-1	Civil Engineer-2	CAD Civil	Sr Drainage Engineer	Drainage Engineer-1	Drainage Engineer-2	Sr Br Engineer VA	Sr Civil Engineer VA	Sr Const Engineer VA	Admin Civil	Admin Accounting	Total Hours	Amount
		Raw Labor Rate:	\$83.63	\$60.38	\$61.81	\$36.09	\$78.83	\$42.64	\$36.05	99.83	\$97.34	\$66.95													
1.1	Project Management																								
1.1.1	Communication and Coordination (36M)		720								120	120												960	\$ 79,928
1.1.2	PDT Meetings (36)		216	216							144													576	\$ 45,123
1.1.2	Meetings with Caltrans (2)		12								8													20	\$ 1,782
1.1.3	Schedule		8								8													16	\$ 1,448
1.1.4	Budget		8								8													16	\$ 1,448
1.1.5	Project Admin		4								4												60	68	\$ 3,213
1.2	Preliminary Base Mapping		4	8							8	8	16											44	\$ 2,926
1.3	Preliminary Utility Mapping																							-	\$ -
1.3.1	Field Review																							-	\$ -
1.3.2	Utility Data Base & Contact List																					2		2	\$ 40
1.3.3	Utility A Package		2	4								8										4		18	\$ 1,024
1.3.4	Utility Potholing											8												8	\$ 536
1.3.5	Preliminary Utility Base Map		2	4							2	8												16	\$ 1,139
1.3.6	Utility Information Sheet											8												8	\$ 536
1.4	Hydraulic & Hydrology Reports																							-	\$ -
1.4.1	Hydraulic Analysis		4	8																				12	\$ 818
1.4.2	Bridge Design Hydraulic Report		4	8																				12	\$ 818
1.4.3	Location Hydraulic Study Report		4	8																				12	\$ 818
1.4.4	Flood Plain Evaluation Report		4	8																				12	\$ 818
1.4.5	Preliminary Hydrology / Drainage Report		4								2	4				8	60	60						138	\$ 6,541
1.4.6	Preliminary WQMP		4								2	4				8	68	60						146	\$ 6,942
1.5	Preliminary Geotechnical Studies																							-	\$ -
1.5.1	Research Available Data																							-	\$ -
1.5.2	Preliminary Geotechnical Recommendations		4	4																				8	\$ 576
1.5.3	Assessment of Existing Foundation Capacity		4	8																				12	\$ 818
1.5.4	Foundation Retrofit Options and Strategy		4	8																				12	\$ 818
1.5.5	Preliminary Soil Gradation for Scour Analysis																							-	\$ -
1.5.6	Preliminary Geotechnical Report		2	2							2	4												10	\$ 751
1.5.7	Preliminary Foundation Report - Type Selection		4	8																				12	\$ 818
1.6	Traffic Studies																							-	\$ -
1.6.1	Traffic Analyses		4	4							2	4												14	\$ 1,039
1.6.2	Traffic Report		4	4							2	4												14	\$ 1,039
1.7	Seismic Retrofit Strategy Report																							-	\$ -
1.7.1	Seismic Analysis		8	80																				88	\$ 5,499
1.7.2	Seismic Retrofit Details		8	40																				88	\$ 4,790
1.7.3	In-kind Replacement Alternative		8	8																				80	\$ 3,658
1.7.4	Widening plus Retrofit Alternative		8	8																				86	\$ 3,875
1.7.5	Conceptual Replacement Alternative		8	8																				86	\$ 3,875

Manhour Worksheet

COMPANY:			SCOPE OF WORK:													DATE:									
T. Y. Lin International			Preliminary Design and Environmental Clearance													Jul-16									
PROJECT:			MILESTONE/PHASE/PROJECT SUMMARY																						
Hammer Ave Bridge Project			Phase I																						
Task No.	DESCRIPTION	Personnel:	PM	PE	Environ Oversight	Bridge Engineer	Const Engineer	CAD Bridge	Bridge Architect	QC Manager	Lead Civil Engineer	Sr. Civil Engineer	Civil Engineer-1	Civil Engineer-2	CAD Civil	Sr Drainage Engineer	Drainage Engineer -1	Drainage Engineer -2	Sr. Br Engineer VA	Sr Civil Engineer VA	Sr Const Engineer VA	Admin Civil	Admin Accounting	Total Hours	Amount
		Raw Labor Rate:																							
1.7.6	Life - Cycle Cost Analysis		8	60																				68	\$ 4,292
1.7.7	Retrofit Strategy Report		8	80																				88	\$ 5,499
	QA/QC		2	4						4														10	\$ 808
1.8	Alignment Study																							-	\$ -
1.8	Coordination		4	8																				12	\$ 818
1.8.1	Alignment and Profile Alternatives		2	4							24	40	60	80	80									290	\$ 14,170
1.8.2	Conceptual Approval Drawings		2	4							2	24	24	80	80									216	\$ 9,171
1.8.3	Conceptual Stage Construction Plans		2	2							8	16	24	40	24									116	\$ 5,642
1.8.4	Preliminary ROW Requirements Map		2	4							2	24	24	16	24									96	\$ 4,841
1.8.5	Engineer's Cost Estimate		2	4							2	4	4	16										28	\$ 1,453
	QA/QC		2	.						4	4	4												14	\$ 1,224
1.9	Retaining Wall APS																							-	\$ -
1.9.1	Plan and Profile Drawings		2	8		40		40				2	16	24										132	\$ 5,600
1.9.2	APS Cost Estimate		2	8		16	4																	30	\$ 1,543
1.10	Bridge APS																							-	\$ -
1.10.1	Bridge General Plans		4	24		54	8	60																150	\$ 6,922
1.10.2	General Plan Cost Estimate		4	24		40	8																	76	\$ 3,858
	QA/QC		4	4						4														12	\$ 975
1.11	Value Analysis																							-	\$ -
1.11.1	Pre Study			5				8					2		8					8	8			47	\$ 3,113
1.11.2	Value Study meeting		16	24			24				16	12							24	24	24			164	\$ 13,293
1.11.3	Post Study			5							2	4							8	8	8			35	\$ 2,849
1.12	Geometric Design Drawings (GAD)																							-	\$ -
1.12.1	Roadway Geometrics		2	4							16	24	24	60	24									154	\$ 7,804
1.12.2	Fact Sheets		2	4							8	16		40	16									86	\$ 4,286
	QA/QC									4	2	2												8	\$ 728
1.13	Preliminary Roadway Plans		8	16							4		8		32							2		70	\$ 3,605
1.14	Bridge Type Selection Report		8	80																				88	\$ 5,499
1.14.1	General Plan for preferred Alternative		8	16			4	36																64	\$ 3,485
1.14.2	Conceptual Stage Construction Plans		8	16				36																60	\$ 3,170
1.14.3	Bridge Preliminary Seismic Analysis		8	200																				208	\$ 12,745
1.14.4	Bridge Rendering		8	16					40															64	\$ 3,077
1.15	6-Page Engineer's Estimate		6	32		16	3				1	2	24	8										92	\$ 4,961
1.16	Preliminary Engineering Report (PER)																							-	\$ -
1.16.1	Draft PER		16	48							4	16	60		32									176	\$ 9,817
1.16.2	Final PER		16	48							4	8	40		16									132	\$ 7,718
1.16.3	QA/QC		2	2							2	2												8	\$ 617
1.17	Environmental Clearance																							-	\$ -

Manhour Worksheet

COMPANY:		SCOPE OF WORK:																				DATE:			
T.Y. Lin International		Preliminary Design and Environmental Clearance																				Jul-16			
PROJECT:		MILESTONE/PHASE/PROJECT SUMMARY																							
Hammer Ave Bridge Project		Phase I																							
Task No.	DESCRIPTION	Personnel:	PM	PE	Environ Oversight	Bridge Engineer	Const Engineer	CAD Bridge	Bridge Architect	QC Manager	Lead Civil Engineer	Sr. Civil Engineer	Civil Engineer-1	Civil Engineer-2	CAD Civil	Sr Drainage Engineer	Drainage Engineer -1	Drainage Engineer -2	Sr. Br Engineer VA	Sr Civil Engineer VA	Sr Const Engineer VA	Admin Civil	Admin Accounting	Total Hours	Amount
		Raw Labor Rate:	\$83.63	\$60.38	\$61.81	\$36.09	\$78.83	\$42.64	\$36.05	99.83	\$97.34	\$66.95	\$49.61	\$36.38	\$35.75	\$99.34	\$50.09	\$32.40	\$79.38	\$102.00	\$79.17	\$20.00	\$41.49		
1.17.1	Initial Public Information Meeting		8			8		24			5	8			24									77	\$ 4,067
1.17.2	Preliminary Environmental Study (PES)		16								2	4			8									30	\$ 2,087
1.17.3	Field Review Meeting and Form		8	8							7	4	4	4										35	\$ 2,445
1.17.4	Technical Studies		24		24						2	8			40									98	\$ 5,651
1.17.5	Second Public Meeting and Materials		8	8	8	24		32			5	8			24									117	\$ 5,758
1.17.6	NEPA/CEQA Documentation		24		32						2	8			40									106	\$ 6,145
																								-	\$ -
																								-	\$ -

Cost Proposal Worksheet

COMPANY:	SCOPE OF WORK:	DATE:
ICF	Hamner Ave Bridge Project	Jul-16

PROJECT:	MILESTONE/PHASE/PROJECT SUMMARY:
Hamner Ave Bridge Project	Phase I

DIRECT LABOR

PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT
Brian Calvert	Environ. Project Manager	411.0	\$ 80.73	\$ 33,180.03
Keturah Anderson	NEPA/CEQA Lead	1,040.0	\$ 49.90	\$ 51,896.00
Tanya Jones	Generalist	244.0	\$ 33.81	\$ 8,249.64
Jill Shook	Admin	14.0	\$ 26.95	\$ 377.30
Soraya Swiontek	GIS	343.0	\$ 31.70	\$ 10,873.10
Denise Souliotes	Admin	185.5	\$ 17.65	\$ 3,274.08
Jonathan Higginson	Noise	410.0	\$ 46.77	\$ 19,175.70
Keith Cooper	Air Quality	84.0	\$ 60.44	\$ 5,076.96
Karen Crawford	Cultural Resources	60.0	\$ 54.18	\$ 3,250.80
Jennifer Stock	Visual	152.0	\$ 42.08	\$ 6,396
Zack West	Regulatory	406.0	\$ 46.01	\$ 18,680
Marisa Flores	Biology and Regulatory	352.0	\$ 33.66	\$ 11,848
Megan Jameson	Regulatory	10.0	\$ 46.25	\$ 463
Elizabeth Irvin	Editor	328.0	\$ 37.53	\$ 12,310
Mathew McFalls	Air Quality	80.0	\$ 37.16	\$ 2,973
Dave Buehler	Noise	30.0	\$ 76.30	\$ 2,289
Tim Messick	Visual Simulations	120.0	\$ 42.98	\$ 5,158
Shilpa Trisal	Community Impacts	66.0	\$ 51.46	\$ 3,396
Peter Feldman	Community Impacts	96.0	\$ 32.44	\$ 3,114
Karolina Chmiel	Cultrual Resources	176.0	\$ 30.49	\$ 5,366
Tim Yates	Cultural Resources	28.0	\$ 36.56	\$ 1,024
Alexa La Plante	Water Quality	96.0	\$ 51.69	\$ 4,962
Phil Richards	Biological Resources	168.0	\$ 44.44	\$ 7,466
Amanda Parra	Biological Resources	0.0	\$ 27.24	\$ -
Paul Schwartz	Biological Resources	60.0	\$ 38.95	\$ 2,337
Lisa Franklin	Biological Resources	108.0	\$ 27.20	\$ 2,938
Kolby Olson	Biological Resources	32.0	\$ 29.24	\$ 936
			\$	-
TOTAL HOURS		5,099.5	TOTAL DIRECT LABOR \$ 227,008.85	

MULTIPLIERS

Fringe Benefit	35.73% (of Total Direct Labor)	\$ 81,110
Audited Overhead Rate	133.77% (of Total Direct Labor)	\$ 303,670
TOTAL MULTIPLIERS		\$ 384,780

OTHER DIRECT EXPENSES

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
Reproduction - Technical Studies	EA	146	\$ 100.00	\$ 14,600.00
Reproduction - Environmental Documents	EA	109	\$ 345.00	\$ 37,605.00
Reproduction - Misc	EA	280	\$ 0.25	\$ 70.00
Travel, Mileage and Rental Car	MILE	16,760	\$ 0.54	\$ 9,050.40
FedEX	EA	74	\$ 45.00	\$ 3,330.00
DED Distribution	EA	25	\$ 50.00	\$ 1,250.00
Notices Distribution	EA	150	\$ 4.00	\$ 600.00
CD Distribution	EA	75	\$ 15.00	\$ 1,125.00
Courier	EA	8	\$ 100.00	\$ 800.00
Supplies (Compact Discs)	EA	200	\$ 0.30	\$ 60.00
Record Search (Cultural)	EA	1	\$ 1,500.00	\$ 1,500.00
CEQA filing fee	EA	1	\$ 2,400.00	\$ 2,400.00
Newspaper Ad	EA	5	\$ 2,000.00	\$ 10,000.00
TOTAL OTHER DIRECT EXPENSES				\$ 82,390.40

OUTSIDE SERVICES

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
RCRCD	\$ 3,710	\$ -	\$ -	\$ 1,500	\$ 5,210
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES					\$ 5,210.00

FEES

FIXED FEE	10.00%	\$ 61,179
TOTAL FEES		\$ 61,179
TOTAL COST		\$ 760,568.12

Manhour Worksheet

COMPANY

ICF

PROJECT
Hamner Ave Bridge Project

SCOPE OF WORK

Preliminary Design and Environmental Clearance

PROJECT
MILESTONE PHASE PROJECT SUMMARY

DATE

Jul-16

Task No.	DESCRIPTION	Personnel:	Raw Labor Rate	Environ																								Total Hours	Amount			
				Project Manager	NEPA/CEQA Lead	Generalist	Admin	GIS	Admin	Noise	Air Quality	Cultural Resources	Visual	Regulatory	Regulatory	Regulatory	Editor	Air Quality	Noise	Visual Simulations	Community Impacts	Community Impacts	Cultural Resources	Cultural Resources	Water Quality	Biological Resources	Biological Resources			Biological Resources		
1.1	Management and Meetings																															
1.1.1	Project mangement & Coordination Meetings			28	140		14																									
1.1.2	POT and Agency Meetings			204																												
1.11	Value Analysis																															
1.11.2.5	Day Meeting (assumes half day on first day and last day)			10																												
1.17	Environmental Clearance																															
1.17.1	1.17.1 Initial Public Information Meeting			10	36	10		12	4				6																			
1.17.2	1.17.2 Preliminary Environmental Study (PES)			10	68	10		16	4	2	2		2	2																		
1.17.3	1.17.3 Field Review Meeting and Form			1	2																											
1.17.4	1.17.4 Technical Studies																															
	a) NES																															
	Field Reconnaissance and Vegetation Mapping							10																								
	Least Bell's Vireo and Southwestern Willow Flycatcher Surveys and Report							5																								
	Burrowing Owls Surveys																															
	Rare Plants Surveys							4																								
	Bat Surveys																															
	MSHCP Consistency Review and JPR																															
	DBESP					2		16	16																							
	MSHCP Equivalency Mitigations Lands Report							12	8																							
	Natural Environment Study				5	16		80	24																							
	b) Wetland Delineation				6	14		20	4																							
	c) Cultural Resources																															
	Record Search																															
	Native American Consultation																															
	APE Map							24																								
	Field Survey																															
	Historic Property Survey Report and Archaeological Survey Report				5	16																										
	d) Air Quality Imoact Assessment				4	14		4	4		50																					
	e) Noise Study Reports (NSR)				6	16		48	6	260																						
	f) Noise Abatement Decision Report (NADR)				4	12		16	3	116																						
	h) Water Quality Assessment Report				4	12		8	4	4																						
	i) Section 4f Evaluation				8	24			4																							
	k) Visual Impact Assessment				5	16		32																								
	l) Community Impact Assessment				5	36			16	6																						
1.17.5	1.17.5 CEQA/NEPA Documentation																															
	a) Admin Draft IS/EA				16	112		30		16	5	12	8	2	6	20																
	b) Draft IS/EA																															
	Draft IS/EA (1)				6	48		16			8	4	2	2	2	6																
	Draft IS/EA (2)				12	78		28			8	4	4	4	8	14																
	Draft IS/EA (3)				12	88		20			8	6	6	6	8	14																
	Final Draft IS/EA				8	28		16			40																					
	c) Second Public Information Meeting				10	36		8		12	4	6			6																	
	d) Draft MND/FONSI																															
	Response to Public Comments				12	62		18					6	2		14																
	e) Final MND/FONSI																															
	Draft Final MND/FONSI (1)				6	44		8		16	6		2	2		4																
	Draft Final MND/FONSI (2)				6	44		12		4	6		2	2		4																
	Draft Final MND/FONSI (3)				4	32		8			6				2																	
	Final MND/FONSI				4	44		12		4	12		2	2		4																
TOTALS				411	1,040	244	14	343	186	410	84	60	152	406	352	10	328	80	30	120	66	96	176	28	96	168	-	60	108	32	5,100	227,009

Cost Proposal Worksheet

COMPANY:	SCOPE OF WORK:	DATE:
ICF	Preliminary Design and Environmental Clearance - Step 2 Tasks	Jul-16

PROJECT:	MILESTONE/PHASE/PROJECT SUMMARY:
Hamner Ave Bridge Project	Phase I

DIRECT LABOR

PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT	
Brian Calvert	Environ. Project Manager	45.0	\$ 80.73	\$ 3,632.85	
Keutrah Anderson	NEPA/CEQA Lead	235.0	\$ 49.90	\$ 11,726.50	
Daniel Paul	Cultural Resources	136.0	\$ 42.86	\$ 5,828.96	
Andrew Bursan	Cultural Resources	56.0	\$ 29.58	\$ 1,656.48	
Richard Starzak	Cultural Resources	8.0	\$ 92.11	\$ 736.88	
Soraya Swiontek	GIS	61.0	\$ 31.70	\$ 1,933.70	
Denise Souliotes	Admin	10.0	\$ 17.65	\$ 176.50	
Karen Crawford	Cultural Resources	8.0	\$ 54.18	\$ 433.44	
Tanya Jones	Visual	62.0	\$ 33.81	\$ 2,096.22	
Elizabeth Irvin	Editor	37.0	\$ 37.53	\$ 1,389	
Peter Feldman	Community Impacts	21.0	\$ 32.44	\$ 681	
				\$ -	
TOTAL HOURS		679.0	TOTAL DIRECT LABOR		\$ 30,291.38

MULTIPLIERS

Fringe Benefit	35.73% (of Total Direct Labor)	\$ 10,823
Audited Overhead Rate	133.77% (of Total Direct Labor)	\$ 40,521
TOTAL MULTIPLIERS		\$ 51,344

OTHER DIRECT EXPENSES

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
Reproduction:				\$ -
Technical Studies	EA	8	\$ 100.00	\$ 800.00
Travel (Mileage, Rental Car)	EA	1,400	\$ 0.54	\$ 756.00
Mailing:				\$ -
FedEx	EA	6	\$ 45.00	\$ 270.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL OTHER DIRECT EXPENSES				\$ 1,826.00

OUTSIDE SERVICES

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
San Diego Natural Hi story Museum	\$ 27,930	\$ -	\$ -	\$ 1,570	\$ 29,500
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES					\$ 29,500.00

FEES

FIXED FEE	10.00%	\$ 8,164
TOTAL FEES		\$ 8,164
TOTAL COST		\$ 121,124.80

Manhour Worksheet

COMPANY: ICF			SCOPE OF WORK: Preliminary Design and Environmental								DATE: Jul-16		
PROJECT: Hamner Ave Bridge Project			MILESTONE/PHASE/PROJECT SUMMARY: Phase I										
Task No.	DESCRIPTION	Personnel:	Environ. Project Manager	NEPA/CEQA Lead	Cultural Resources	R						Total Hours	Amount
		Raw Labor Rate:	\$80.73	\$49.90	\$42.86	\$							
	Optional Tasks												
	c. Historic Resources Evaluation Report		18	25	136							287	\$ 12,333
	i. Section 4(F)		18	184								310	\$ 14,276
	j. Palontological Report		6	16								34	\$ 1,787
	m. Relocation Impact Memorandum		3	10								48	\$ 1,896
												-	\$ -
												-	\$ -
TOTALS			45	235	136	-	-	-	-	-	-	679	30,291

Cost Proposal Worksheet

COMPANY: EMI		SCOPE OF WORK: Preliminary Design and Environmental Clearance			DATE: Jul-16	
PROJECT: Hamner Ave Bridge Project		MILESTONE/PHASE/PROJECT SUMMARY: Phase I				
DIRECT LABOR						
PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT		
Lino Cheang	Principal	92.0	\$ 80.00	\$ 7,360.00		
Kandiah Arulmoli	Principal	10.0	\$ 80.00	\$ 800.00		
Eric Brown	Principal Engineer	16.0	\$ 63.00	\$ 1,008.00		
S. (Raja) Pirathiviraj	Project Engineer	126.0	\$ 41.00	\$ 5,166.00		
Michael Hoshiyama	Project Geologist	18.0	\$ 35.55	\$ 639.90		
Kiat Kaekul	Technician	12.0	\$ 34.65	\$ 415.80		
				\$ -		
TOTAL HOURS		274.0	TOTAL DIRECT LABOR		\$ 15,389.70	
MULTIPLIERS						
Fringe Benefit	48.36% (of Total Direct Labor)			\$ 7,442		
Audited Overhead Rate	129.34% (of Total Direct Labor)			\$ 19,905		
				TOTAL MULTIPLIERS \$ 27,347		
OTHER DIRECT EXPENSES						
ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT		
				\$ -		
Overnight Mail/Courier	EACH	5	\$30	\$ 150.00		
Laboratory Grain Size Analysis	EACH	3	\$ 105.00	\$ 315.00		
				\$ -		
				\$ -		
				\$ -		
				\$ -		
				\$ -		
TOTAL OTHER DIRECT EXPENSES				\$ 465.00		
OUTSIDE SERVICES						
COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -	
TOTAL OUTSIDE SERVICES				\$ -		
FEES						
FIXED FEE	10.00%			\$ 4,274		
				TOTAL FEES \$ 4,274		
				TOTAL COST \$ 47,475.92		

COMPANY:	SCOPE OF WORK:	DATE:
Chang Consultants	Preliminary Design and Environmental Clearance	Jul-16

PROJECT: Hamner Ave Bridge Project	MILESTONE/PHASE/PROJECT SUMMARY: Phase I
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PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT
Wayne W. Chang	Principal	266.0	\$ 52.00	\$ 13,832.00
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
			\$ -	\$ -

Fringe Benefit	33.40% (of Total Direct Labor)	\$	4,620
Audited Overhead Rate	116.60% (of Total Direct Labor)	\$	16,128

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
				\$ -
Reproduction	EA	1,000	\$ 0.50	\$ 500.00
Shipment	EA	5	\$ 100.00	\$ 500.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -

FIXED FEE	10.00%	\$	3.458
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	TOTAL FEES	\$ 3,458
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TOTAL COST		\$	39,038.00
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Cost Proposal Worksheet

COMPANY: Diaz-Yourman	SCOPE OF WORK: Preliminary Design and Environmental Clearance	DATE: Jul-16
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PROJECT: Hamner Ave Bridge Project	MILESTONE/PHASE/PROJECT SUMMARY: Phase I
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DIRECT LABOR

PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT
Gary Gilbert	Project Manager/Associate Engineer II	43.0	\$ 58.63	\$ 2,521.09
V.R. Nadeswaran	Principal Engineer	18.0	\$ 75.12	\$ 1,352.16
Clint Isa	Associate Engineer I	54.0	\$ 48.08	\$ 2,596.32
Charles Chen	Project Engineer I	0.0	\$ 31.38	\$ -
Esteban Villanueva	Staff Engineer II	105.0	\$ 28.35	\$ 2,976.75
Kelly Shaw	Staff I	1.0	\$ 24.04	\$ 24.04
Ashley Helma	CADD	9.0	\$ 22.63	\$ 203.67
Deanna Rose	Word Processor/Technical Editor	15.0	\$ 34.51	\$ 517.65
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
	0	0.0	\$ -	\$ -
			\$ -	\$ -
TOTAL HOURS		245.0	TOTAL DIRECT LABOR \$ 10,191.68	

MULTIPLIERS

Fringe Benefit	40.57% (of Total Direct Labor)	\$ 4,135
Audited Overhead Rate	125.70% (of Total Direct Labor)	\$ 12,811
TOTAL MULTIPLIERS		\$ 16,946

OTHER DIRECT EXPENSES

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
				\$ -
Travel	Mile	137	\$ 0.54	\$ 73.98
Field Truck	Hours	16	\$ 17.00	\$ 272.00
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL OTHER DIRECT EXPENSES				\$ 345.98

OUTSIDE SERVICES

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
Records Database Order	\$ -	\$ -	\$ 700	\$ -	\$ 700
Consulting Geologist	\$ -	\$ -	\$ 900	\$ -	\$ 900
CIH	\$ -	\$ -	\$ 1,500	\$ -	\$ 1,500
Traffic Control (2 days)	\$ -	\$ -	\$ 3,100	\$ -	\$ 3,100
Laboratory Testing	\$ -	\$ -	\$ 2,300	\$ -	\$ 2,300
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES					\$ 8,500.00

FEES

FIXED FEE	10.00%	\$ 2,714
TOTAL FEES		\$ 2,714
TOTAL COST		\$ 38,697.10

COMPANY: Diaz-Yourman	SCOPE OF WORK: Preliminary Design and Environmental Clearance	DATE: Jul-16
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PROJECT:

Phase I

Task No.	DESCRIPTION	Personnel:	Raw Labor Rate:								Total Hours	Amount
			Project Manager/Associate Engineer II	Principal Engineer	Associate Engineer I	Project Engineer I	Staff Engineer II	Staff I	CADD	Processor/Technical Editor		
	ISA										-	\$ -
	Field Review /Site Reconnaissance		3		8		1	1			13	\$ 613
	Record search, review, draft report		12	4	20				2	4	42	\$ 2,149
	Final Report		4	2	6					2	14	\$ 742
	PDT Meeting		4								4	\$ 235
	Field review meeting		2	2							4	\$ 268
	ADL Survey										-	\$ -
	Work Plan/Health and Safety Plan/ Underground Service Alert Notification		5	1			17		1	1	25	\$ 907
	Field Sampling		1				36				37	\$ 1,079
	Laboratory testing						4				4	\$ 113
	Reporting		12	9	20		47		6	8	102	\$ 4,086
											-	\$ -
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Cost Proposal Worksheet

COMPANY: RGI	SCOPE OF WORK: Preliminary Design and Environmental Clearance	DATE: Jul-16
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PROJECT: Hamner Ave Bridge Project	MILESTONE/PHASE/PROJECT SUMMARY: Phase I
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DIRECT LABOR

PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT
Robert Gregory	Principal	102.0	\$ 41.35	\$ 4,217.70
Marty Read	Proj. Mgr.	81.0	\$ 32.69	\$ 2,647.89
Wayne Hironimus	Designer	48.0	\$ 27.88	\$ 1,338.24
Matt Cooper	CAD	114.0	\$ 20.19	\$ 2,301.66
Robin Babbitt	Admin	21.0	\$ 17.50	\$ 367.50
	0	0.0	\$ -	\$ -
				\$ -
TOTAL HOURS		366.0	TOTAL DIRECT LABOR \$ 10,872.99	

MULTIPLIERS

Fringe Benefit	40.82% (of Total Direct Labor)	\$ 4,438
Audited Overhead Rate	109.18% (of Total Direct Labor)	\$ 11,871
TOTAL MULTIPLIERS		\$ 16,309

OTHER DIRECT EXPENSES

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
				\$ -
Shipping - Mailing	1	1	\$ 99.28	\$ 99.28
				\$ -
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL OTHER DIRECT EXPENSES				\$ 99.28

OUTSIDE SERVICES

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES					\$ -

FEES

FIXED FEE	10.00%	\$ 2,718
TOTAL FEES		\$ 2,718
TOTAL COST		\$ 30,000.00

COMPANY:	SCOPE OF WORK:	DATE:
Advantec	Preliminary Design and Environmental Clearance	Jul-16

PROJECT: Hamner Ave Bridge Project	MILESTONE/PHASE/PROJECT SUMMARY: Phase I
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[illegible]

Fringe Benefit	43.40% (of Total Direct Labor)	\$ 5,885
Audited Overhead Rate	140.55% (of Total Direct Labor)	\$ 19,058
TOTAL MULTIPLIERS		\$ 24,942

ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT
				\$ -
Printing	EA	500	\$ 1.00	\$ 500.00
FedEx	EA	10	\$ 50.00	\$ 500.00
Mileage	MI	500	\$ 0.54	\$ 270.00
				\$ -
				\$ -
				\$ -
				\$ -
TOTAL OTHER DIRECT EXPENSES				\$ 1,270.00

COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
				\$	-
Counts Unlimited, Traffic Data			\$ 6,000	\$	6,000
				\$	-
				\$	-
				\$	-
	\$ -	\$ -	\$ -	\$ -	-
	\$ -	\$ -	\$ -	\$ -	-
TOTAL OUTSIDE SERVICES					\$ 6,000.00

FIXED FEE	10.00%	\$	3,850	
			TOTAL FEES	\$ 3,850
			TOTAL COST	\$ 49,621.86

COMPANY: Advantec	SCOPE OF WORK: Preliminary Design and Environmental Clearance	DATE: Jul-16
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COMPANY: Advantec	SCOPE OF WORK: Preliminary Design and Environmental Clearance	DATE: Jul-16
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PROJECT:	
PROJECT:	
MILESTONE/PHASE/PROJECT SUMMARY:	

Hamner Ave Bridge Project

[illegible][illegible]

APPENDIX D • ARTICLE DI • PHASE IA TASKS AND FEE TO FINALIZE PROJECT SCOPE

Phase IA includes tasks for detailed preliminary engineering studies and cost estimates on three project components listed below to finalize and approve the proposed project scope and to authorize the remainder of the PA/ED funds. The goal is to obtain State concurrence of the project scope, and the authorization of the HBP funds to continue with the remainder of the Phase I Tasks, i.e., Phase IB.

1. Perform detailed traffic analysis and provide justification for 4 traffic lanes versus 6 traffic lanes on the new bridge.
2. Perform bridge hydraulic analysis, prepare the Bridge Hydraulics Report, and develop the pertinent geometric design to demonstrate the need for raising the bridge profile in order to convey 100 year flood without overtopping the bridge and its approaches.
3. Develop a seismic retrofit strategy for the existing bridge based on vulnerability analysis including a detailed general plan cost estimate. Compare the results with the cost of total bridge replacement in kind, which will include a bridge life cycle cost analysis to support the total replacement scope.

The Phase IA Tasks are:

Task 1.1 Project Management

Task 1.2 Preliminary Base Mapping

Task 1.4 Hydraulic and Hydrology Reports

Task 1.4.1 Hydraulic Analysis

Task 1.4.2 Bridge Design Hydraulic Report

Task 1.5 Preliminary Geotechnical Studies

Task 1.6 Traffic Studies

Task 1.7 Seismic Retrofit Strategy Report

Task 1.8 Alignment Study

Task 1.9 Retaining Wall Advanced Planning Studies (APS)

Task 1.10 Bridge Advanced Planning Studies (APS)

The detailed scope descriptions for these tasks are already provided in Appendix A, Scope of Services, and shall not be repeated here. The fee proposal provided in Appendix C includes the detailed breakdown for all Phase I tasks, i.e., the Phase IA and Phase IB tasks combined. The fee for only Phase IA tasks is repeated here in this appendix separately to clearly define and monitor the Phase IA budget.

FEE PROPOSAL SUMMAERY						
	PHASE IA	PHASE IB	PHASE II	PHASE III	PHASE IV	TOTALS
T.Y. LIN INTERNATIONAL	\$513,914	\$621,685				\$1,135,599
ICF INTERNATIONAL		\$760,568				\$760,568
ICF INTERNATIONAL - STEP 2 TASKS		\$121,125				\$121,125
EARTH MECHANICS	\$47,476					\$47,476
CHANG CONSULTANT	\$27,598	\$11,440				\$39,038
DIAZ-YOURMAN		\$38,697				\$38,697
RGI CONSULTING		\$30,000				\$30,000
ADVANTEC	\$49,622					\$49,622
TOTALS	\$638,609	\$1,583,515				\$2,222,125

Phase IA: \$638,609
 Phase IB: \$1,583,515
 Phase II:
 Phase III:
 Phase IV:

Cost Proposal Worksheet

COMPANY:		SCOPE OF WORK:		DATE:	
T.Y. Lin International		Preliminary Design and Environmental Clearance		Jul-16	
PROJECT:		MILESTONE/PHASE/PROJECT SUMMARY:			
Hamner Ave Bridge Project		Phase IA			
DIRECT LABOR					
PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT	
Roya Golchoobian	PM	628.0	\$ 83.63	\$ 52,519.64	
Robert Barton	PE	552.0	\$ 60.38	\$ 33,329.76	
Alicia Lemke	Environ Oversight	0.0	\$ 61.81	\$ -	
Robert Sokolowski	Bridge Engineer	264.0	\$ 36.09	\$ 9,527.76	
Wade Durant	Const Engineer	20.0	\$ 78.83	\$ 1,576.60	
Yihong Wang	CAD Bridge	230.0	\$ 42.64	\$ 9,807.20	
Hunter Ruthrauff	Bridge Architect	0.0	\$ 36.05	\$ -	
Jim Rucker	QC Manager	12.0	\$ 99.83	\$ 1,197.96	
Karen Chapman	Lead Civil Engineer	216.0	\$ 97.34	\$ 21,025.44	
Eric Johnson	Sr. Civil Engineer	194.0	\$ 66.95	\$ 12,988	
Ryan Lau	Civil Engineer-1	164.0	\$ 49.61	\$ 8,136	
Stephanie Cristales	Civil Engineer-2	256.0	\$ 36.38	\$ 9,313	
Ivan Martin	CAD Civil	208.0	\$ 35.75	\$ 7,436	
Steve Smith	Sr Drainage Engineer	0.0	\$ 99.34	\$ -	
Phil Brand	Drainage Engineer -1	0.0	\$ 50.09	\$ -	
Shannon Johnson	Drainage Engineer -2	0.0	\$ 32.40	\$ -	
David Griffith	Sr Br Enginner VA	0.0	\$ 79.38	\$ -	
James Faber	Sr Civil Engineer VA	0.0	\$ 102.00	\$ -	
John Buckley	Sr Const Engineer VA	0.0	\$ 79.17	\$ -	
	Admin Civil	0.0	\$ 20.00	\$ -	
	Admin Accounting	30.0	\$ 41.49	\$ 1,245	
				\$ -	
TOTAL HOURS		2,774.0	TOTAL DIRECT LABOR		\$ 168,102.68
MULTIPLIERS					
Fringe Benefit	56.20% (of Total Direct Labor)				\$ 94,480
Audited Overhead Rate	100.99% (of Total Direct Labor)				\$ 169,770
				TOTAL MULTIPLIERS	\$ 264,251
OTHER DIRECT EXPENSES					
ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT	
				\$ -	
Reports	Ea	10	\$ 150.00	\$ 1,500.00	
Exhibits	Ea	4	\$ 40.00	\$ 160.00	
Plans	Ea	400	\$ 2.00	\$ 800.00	
Shipping	Ea	10	\$ 137.50	\$ 1,375.00	
Car Rental - Meetings	Ea	18	\$ 205.00	\$ 3,690.00	
Air Fare (Sacramento), 2 people	Ea	2	\$ 400.00	\$ 800.00	
Add'l Survey not Covered by County	LS	1	\$ 30,000.00	\$ 30,000.00	
Potholing	LS	0	\$ 30,000.00	\$ -	
Lead Survey	Ea	0	\$ 1,412.00	\$ -	
Lead Report	Ea	0	\$ 565.00	\$ -	
Pre-Study Workshop	Ea	0	\$ 5,456.00	\$ -	
Value-Study Workshop	Ea	0	\$ 11,367.00	\$ -	
Post-Study Workshop	Ea	0	\$ 10,913.00	\$ -	
TOTAL OTHER DIRECT EXPENSES				\$ 38,325.00	
OUTSIDE SERVICES					
COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
					\$ -
Earth Mechanics	\$ 15,390	\$ 27,347	\$ 4,274	\$ 465	\$ 47,476
Chang Consultant	\$ 9,672	\$ 14,508	\$ 2,418	\$ 1,000	\$ 27,598
					\$ -
					\$ -
Advantec	\$ 13,559	\$ 24,942	\$ 3,850	\$ 7,270	\$ 49,622
	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL OUTSIDE SERVICES				\$ 124,695.77	
FEES					
FIXED FEE	10.00%				\$ 43,235
				TOTAL FEES	\$ 43,235
				TOTAL COST	\$ 638,609

Manhour Worksheet

Company:		Scope of Work:														Date:								
T. Y. Lin International		Preliminary Design and Environmental Clearance														Jul-16								
Project:		Milestone/Phase/Project Summary:																						
Hammer Ave Bridge Project		Phase 1A																						
Task No.	Description	PM	PE	Environ Oversight	Bridge Engineer	Const Engineer	CAD Bridge	Bridge Architect	QC Manager	Lead Civil Engineer	Sr. Civil Engineer	Civil Engineer 1	Civil Engineer 2	CAD Civil	Sr. Drainage Engineer	Drainage Engineer - 1	Drainage Engineer - 2	Sr. Br Engineer VA	Sr. Civil Engineer VA	Sr Const Engineer VA	Admin Civil	Admin Accounting	Total Hours	Amount
1.1	Project Management																							
1.1.1	Communication and Coordination (18M)	360								60	60												480	\$ 39,964
1.1.2	PDT Meetings (18)	108	108							72													288	\$ 22,562
1.1.2	Meetings with Caltrans (2)	12								8													20	\$ 1,782
1.1.3	Schedule	8								8													16	\$ 1,448
1.1.4	Budget	8								8													16	\$ 1,448
1.1.5	Project Admin	4								4												30	38	\$ 1,969
1.2	Preliminary Base Mapping	4	8							8	8	16											44	\$ 2,926
1.3	Preliminary Utility Mapping																						-	\$ -
1.3.1	Field Review																						-	\$ -
1.3.2	Utility Data Base & Contact List																						-	\$ -
1.3.3	Utility A Package																						-	\$ -
1.3.4	Utility Potholing																						-	\$ -
1.3.5	Preliminary Utility Base Map																						-	\$ -
1.3.6	Utility Information Sheet																						-	\$ -
1.4	Hydraulic & Hydrology Reports																						-	\$ -
1.4.1	Hydraulic Analysis	4	8																				12	\$ 818
1.4.2	Bridge Design Hydraulic Report	4	8																				12	\$ 818
1.4.3	Location Hydraulic Study Report																						-	\$ -
1.4.4	Flood Plain Evaluation Report																						-	\$ -
1.4.5	Preliminary Hydrology / Drainage Report																						-	\$ -
1.4.6	Preliminary WQMP																						-	\$ -
1.5	Preliminary Geotechnical Studies																						-	\$ -
1.5.1	Research Available Data																						-	\$ -
1.5.2	Preliminary Geotechnical Recommendations	4	4																				8	\$ 576
1.5.3	Assessment of Existing Foundation Capacity	4	8																				12	\$ 818
1.5.4	Foundation Retrofit Options and Strategy	4	8																				12	\$ 818
1.5.5	Preliminary Soil Gradation for Scour Analysis																						-	\$ -
1.5.6	Preliminary Geotechnical Report	2	2							2	4												10	\$ 751
1.5.7	Preliminary Foundation Report - Type Selection	4	8																				12	\$ 818
1.6	Traffic Studies																						-	\$ -
1.6.1	Traffic Analyses	4	4							2	4												14	\$ 1,039
1.6.2	Traffic Report	4	4							2	4												14	\$ 1,039
1.7	Seismic Retrofit Strategy Report																						-	\$ -
1.7.1	Seismic Analysis	8	80																				88	\$ 5,499
1.7.2	Seismic Retrofit Details	8	40																				88	\$ 4,790
1.7.3	In-kind Replacement Alternative	8	8																				80	\$ 3,658
1.7.4	Widening plus Retrofit Alternative	8	8																				86	\$ 3,875
1.7.5	Conceptual Replacement Alternative	8	8																				86	\$ 3,875

Manhour Worksheet

COMPANY:			SCOPE OF WORK:																				DATE:			
T.Y. Lin International			Preliminary Design and Environmental Clearance																				Jul-16			
PROJECT:			MILESTONE/PHASE/PROJECT SUMMARY:																							
Hammer Ave Bridge Project			Phase 1A																							
Task No.	DESCRIPTION	Personnel: Raw Labor Rate:	PM	PE	Environ Oversight	Bridge Engineer	Const Engineer	CAD Bridge	Bridge Architect	QC Manager	Lead Civil Engineer	Sr. Civil Engineer	Civil Engineer 1	Civil Engineer 2	CAD Civil	Sr Drainage Engineer	Drainage Engineer -1	Drainage Engineer -2	Sr Br Engineer VA	Sr Civil Engineer VA	Sr Const Engineer VA	Admin Civil	Admin Accounting	Total Hours	Amount	
1.17.1	Initial Public Information Meeting																								-	\$ -
1.17.2	Preliminary Environmental Study (PES)																								-	\$ -
1.17.3	Field Review Meeting and Form																								-	\$ -
1.17.4	Technical Studies																								-	\$ -
1.17.5	Second Public Meeting and Materials																								-	\$ -
1.17.6	NEPA/CEQA Documentation																								-	\$ -
																									-	\$ -
TOTALS			628	552	-	264	20	230	-	12	216	194	164	256	208	-	-	-	-	-	-	-	30	2,774	168,103	

Cost Proposal Worksheet

COMPANY:		SCOPE OF WORK:		DATE:	
EMI		Preliminary Design and Environmental Clearance		Jul-16	
PROJECT:		MILESTONE/PHASE/PROJECT SUMMARY:			
Hamner Ave Bridge Project		Phase IA			
DIRECT LABOR					
PERSONNEL	FUNCTION	HOURS	RATE	AMOUNT	
Lino Cheang	Principal	92.0	\$ 80.00	\$ 7,360.00	
Kandiah Arulmoli	Principal	10.0	\$ 80.00	\$ 800.00	
Eric Brown	Principal Engineer	16.0	\$ 63.00	\$ 1,008.00	
S. (Raja) Pirathiviraj	Project Engineer	126.0	\$ 41.00	\$ 5,166.00	
Michael Hoshiyama	Project Geologist	18.0	\$ 35.55	\$ 639.90	
Kiat Kaekul	Technician	12.0	\$ 34.65	\$ 415.80	
				\$ -	
TOTAL HOURS		274.0	TOTAL DIRECT LABOR		\$ 15,389.70
MULTIPLIERS					
Fringe Benefit	48.36% (of Total Direct Labor)			\$	7,442
Audited Overhead Rate	129.34% (of Total Direct Labor)			\$	19,905
				TOTAL MULTIPLIERS	\$ 27,347
OTHER DIRECT EXPENSES					
ITEM	UNIT	QUANTITY	UNIT COST	AMOUNT	
				\$ -	
Overnight Mail/Courier	EACH	5	\$30	\$ 150.00	
Laboratory Grain Size Analysis	EACH	3	\$ 105.00	\$ 315.00	
				\$ -	
				\$ -	
				\$ -	
				\$ -	
				\$ -	
				TOTAL OTHER DIRECT EXPENSES	\$ 465.00
OUTSIDE SERVICES					
COMPANY	LABOR	MULTIPLIERS	FEE	EXPENSES	TOTAL
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -
				TOTAL OUTSIDE SERVICES	\$ -
FEES					
FIXED FEE	10.00%			\$	4,274
				TOTAL FEES	\$ 4,274
				TOTAL COST	\$ 47,475.92

COMPANY:

SCOPE OF WORK:

Preliminary Design and Environmental Clearance

DATE: _____

Jul-16

MILESTONE/PHASE/PROJECT SUMMARY:

Hamner Ave Bridge Project

[illegible]

TOTALS	92	10	16	126	18	12	-	-	-	274	15,390
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