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

530A

FROM: TLMA - Transportation Department

SUBMITTAL DATE: April 14, 2011

SUBJECT: Amendment No. 1 to the Preliminary Engineering and Environmental Services Agreement with Kimley-Horn and Associates, Inc. to provide final engineering services for a proposed new grade separation at the intersection of Sunset Avenue and the Union Pacific Railroad.

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve the attached Amendment No. 1 to add final engineering services to the engineering and environmental services agreement between the County of Riverside and Kimley-Horn and Associates, Inc.; and

2. Authorize the Chairman of the Board to execute the same.

Juan C. Perez
Director of Transportation

(Continued On Attached Page)

FINANCIAL DATA				
	Current F.Y. Total Cost:	$ 2,095,404	In Current Year Budget:	Yes
	Current F.Y. Net County Cost:	$ 0	Budget Adjustment:	No
	Annual Net County Cost:	$ 0	For Fiscal Year:	2010/11

SOURCE OF FUNDS: City of Banning (TUMF) (100%)
Project No. C0-0529

Positions To Be Deleted Per A-30 ☐

Requires 4/5 Vote ☐

C.E.O. RECOMMENDATION:

APPROVE

BY: Tina Grande

County Executive Office Signature

Departmental Concurrence

FORM APPROVED COUNTY COUNSEL
BY: MARSHA L. VICTOR DATE 4/28/11

☒ Policy ☐ Consent Dep't Recomm.:

☒ Policy ☐ Consent Per Exec. Ofc.:

MINUTES OF THE BOARD OF SUPERVISORS

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

Ayes: Buster, Tavaglione, Stone, Benoit and Ashley
Nays: None
Absent: None
Date: May 10, 2011
xc: Transp.

Kecia Harper-Ihem
Clerk of the Board
By: Deputy

Prev. Agn. Ref. 6/8/2010 3.69, 6/8/2010 3.63 | **District:** 5 | **Agenda Number:** 3.31

ATTACHMENTS FILED
WITH THE CLERK OF THE BOARD

Form 11 (Rev 07/2007)

BACKGROUND: The Sunset Avenue railroad crossing is currently at street level and causes significant traffic delays. A grade separation project has been proposed to enhance traffic flows along Sunset Avenue and would provide a route for emergency services to access residents south of the railroad tracks, while improving overall safety in the area.

On June 8, 2010, the Board authorized and executed a Cooperative Funding Agreement with the City of Banning that designates the County as the lead agency for the development and delivery of the project and provides the funding needed for these services.

On June 8, 2010, the Board also authorized and executed an Engineering Services Agreement with Kimley-Horn and Associates, Inc. to provided preliminary engineering and environmental services for the project.

The preliminary engineering and environmental work effort is now complete and the project has attained environmental clearance.

Construction funding for the project is being provided in part from Trade Corridor Improvement Funds (TCIF). TCIF funding requirements include a stipulation that construction activities for the project must commence on or before December 31, 2013.

The firm of Kimley-Horn and Associate, inc. has performed very well and the Transportation Department along with the staff at the City of Banning; desire to continue the services provided by Kimley-Horn and Associates, inc. into the final design phase of the project.

The Transportation Department has negotiated a budget of $2,095,404 to perform the final design services. This budget includes a $250,000 contingency and cost savings of $240,000 from the preliminary engineering and environmental phase.

The final design services will be funded 100% through the Western Riverside Transportation Uniform Mitigation Fee (TUMF) program.

530

AMENDMENT NO. 1 Contract No. 10-04-008A1
Riverside Co. Transportation

AMENDMENT TO AGREEMENT BETWEEN

THE COUNTY OF RIVERSIDE AND KIMLEY-HORN AND ASSOCIATES, INC

THIS AMENDMENT (hereinafter the "Amendment") to an agreement is made and entered into as of this 10th day of May, 2011, by and between the County of Riverside, a political subdivision of the State of California (hereinafter the "COUNTY"), and Kimley-Horn and Associates, Inc. (hereinafter "ENGINEER").

RECITALS

A. COUNTY and ENGINEER have entered in an agreement entitled "Engineering Services Agreement for Sunset Avenue Railroad Grade Separation Project between County of Riverside • Transportation Department and Kimley-Horn and Associates, Inc." that is dated June 8, 2010 (hereinafter the "Agreement"). The Agreement provides the terms and conditions, scope of work, schedule and budget for the performance of professional and technical services necessary to prepare preliminary engineering plans, environmental technical studies and an environmental document.

B. The above noted services are complete and the project has successfully obtained environmental clearance. The COUNTY is now prepared to proceed with the preparation of Plans, Specifications and Estimates (PS&E) that are needed in order to construct the proposed improvements.

C. The parties desire to amend the Agreement to include the scope of work and budget needed to perform the PS&E and Construction Support services for the project.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants hereinafter contained, the parties agree as follows:

1. Appendix A is amended to include the additional services as described in the attached Scope of Services entitled "AMENDMENT NO. 1 - PS&E AND CONSTRUCTION SUPPORT SCOPE OF SERVICES"
2. Appendix C • Article CV is amended by increasing the contract budget by $2,060,405.00 as provided below and in accordance with the attached Fee Proposal.

Original Contract (Phase I) Fund Balance

Prelim Engineering and Environmental Budget	$813,477
Spent to date	($426,477)
Projected Additional Expenses	($147,000)
Remaining Budget	$240,000

MAY 10 2011 3.3)

Phase II, III & IV Proposed Budget

Phase II - PS&E	$1,984,971
Phase III - Bidding Support	$16,097
Phase IV - Construction Support	$84,336
Phase II - IV Summary	$2,085,404

Amendment 1

Phase II, III & IV Proposed Budget	$2,085,404
Original Contract (Phase I) Fund Balance	($240,000)
Contingency *	$250,000
Amendment 1 Summary	**$2,095,404**

* Contingency funds are subject to the original contract requirements as defined in Article VI • Compensation.

Also note that overhead rates have been updated per this amendment.

3. Except to the extent specifically modified or amended hereunder, all of the terms, covenants and conditions of the Agreement shall remain in full force and effect between the parties hereto.

IN WITNESS HEREOF, the parties hereto have caused this Amendment to the Agreement to be duly executed this day and year first written above.

ARTICLE VIII • APPROVALS

COUNTY Approvals

RECOMMENDED FOR APPROVAL:

Dated: 4/12/11

JUAN C. PEREZ

Director of Transportation

APPROVED AS TO FORM:

PAMELA J. WALLS, COUNTY COUNSEL

Dated: 4/28/11

By Deputy

APPROVAL BY THE BOARD OF SUPERVISORS

Dated: MAY 10 2011

BOB BUSTER

PRINTED NAME

Chairman, Riverside County Board of Supervisors

ATTEST:

Deputy Dated: MAY 10 2011

KECIA HARPER-IHEM

Clerk of the Board (SEAL)

ENGINEER Approvals

ENGINEER:

Dated: 3/24/2011

Dennis Landau

PRINTED NAME

Vice President

TITLE

ENGINEER:

Dated: 3/24/2011

JASON VALENCIA

PRINTED NAME

ASSISTANT SECRETARY

TITLE

Consulting Services Contract • Amendment Budget Summary

PROJECT: **Sunset Avenue Grade Seperation** PROJECT NO.: **C0-0529**

CONSULTANT: **Kimley-Horn and Associates, Inc.** CONTRACT NO.: **10-04-008**

	PHASE 1 PA/ED	PHASE 2 PS&E	PHASE 3 Bidding	PHASE 4 Con Support	PHASE 5	CONTINGENCY	TOTAL
Contract Budgets	**663,477**					**150,000**	**813,477**
Prior Amendments							
Prior Administrative Changes							
Current Approved Budget	**663,477**					**150,000**	**813,477**
Proposed Contract Changes (Amend. No. 1)	**(90,000)**	**1,984,971**	**16,097**	**84,336**		**100,000**	**2,095,405**
Savings from Phase 1	**(90,000)**					**(150,000)**	**(240,000)**
PS&E & Construction Support Services		**1,984,971**	**16,097**	**84,336**		**250,000**	**2,335,405**
Proposed Budget	**573,477**	**1,984,971**	**16,097**	**84,336**		**250,000**	**2,908,882**

AMENDMENT NO. 1 - PS&E AND CONSTRUCTION SUPPORT SCOPE OF SERVICES

ADDITIONS TO APPENDIX A • ARTICLE AI • Introduction

A. PROJECT DESCRIPTION

This PROJECT will provide a railroad grade separation at Sunset Avenue and the I-10 Freeway in the City of Banning (CITY). The proposed improvements will improve safety, reduce local street congestion, and accommodate projected growth in the area. The PROJECT consists of lowering Sunset Avenue between Ramsey Street and Lincoln Street to create an underpass with the Union Pacific Railroad (UPRR) lines. The existing eastbound and westbound ramps for the interchange with the I-10 Freeway will be lowered to match the new grade of Sunset Avenue, and the existing undercrossing structure will require tie-back walls.

The ENGINEER shall perform professional and technical services to provide support to the COUNTY required to prepare the Plans, Specifications and Estimates (PS&E) through the Caltrans Permit Engineering Evaluation Report (PEER) process. It is assumed that this project is administered though Caltrans Streamlined Oversight Project Submittal.

B. LOCATION

This PROJECT is located in the City of Banning on Sunset Avenue between Ramsey Street and Lincoln Street where it crosses the I-10 Freeway and the Union Pacific Railroad (UPRR).

C. COORDINATION

ENGINEER shall coordinate with other involved agencies for compatible design and phasing of construction with existing conditions. Coordination may include, but will not necessarily be limited to the following:

- Union Pacific Railroad
- Federal Highway Administration
- U.S. Fish & Wildlife
- City of Banning
- CALTRANS
- California Dept. of Fish and Game
- Regional Water Quality Control Board
- Utility Companies

UPRR and CALTRANS will exercise review and approval function through the COUNTY PROJECT MANAGER at key points in the development process. All contacts with UPRR and CALTRANS will be directed through COUNTY. Milestone PROJECT design 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.

UPRR Coordination

ENGINEER shall provide coordination with the Union Pacific Railroad (UPRR) during the design phase of the project, (approximately 14 months). ENGINEER shall coordinate feedback from the UPRR to the design team to verify that the design of the railroad structure and shoo-fly design will meet the requirements of the UPRR. The coordination efforts shall include a series of meetings including;

1) Kick-off meeting to discuss the project and identify the design criteria.
    a) Key elements to discuss with UPRR are
        i) Shoo-fly design speed, track centers & horizontal curvature,
        ii) Clearances to active tracks during construction,
        iii) Final vertical grades,
        iv) Access roadways,
        v) UPRR construction (track & signal) versus Contractor construction,
        vi) Right-of-Entry requirements for both design and construction,
        vii) Submittal review process including submittal delivery, review milestones and time frames.
2) Design Review Meetings.
    a) After each submittal, ENGINEER will conduct a submittal review meeting to discuss the UPRR comments.
    b) Comments and responses will be logged and tracked in spreadsheet format.
3) Roadway Worker Protection and Safety Training (RWP) – Coordination. All consultant team members who will visit the UPRR right-of-way will need to take and pass the online RWP training certification. ENGINEER will coordinate with site investigation team members to convey that the RWP training has to be completed.
4) Right of Entry Permits – Coordination. An estimated four firms are anticipated to have employees visit the UPRR right of way in order to conduct site surveys and investigations required for design. ENGINEER will coordinate the execution of UPRR Right-of-entry agreement to allow site investigation team members to enter the UPRR Right-of-way and to perform site investigation work as approved by UPRR.

5) Site Diagnostic Meetings. ENGINEER will schedule and participate in up to two CPUC Site Diagnostic meetings with representatives from UPRR, CPUC, the COUNTY and the design team. The site diagnostic process is required to gain concurrence between the parties for CPUC approval of the Formal Application and Scoping Memo for the proposed improvements.

6) UPRR Design Review – Coordination. ENGINEER will coordinate with UPRR in order to obtain current editions of the UPRR Design Criteria Manual, UPRR Engineering Standard Plans, and the current reference criteria for UPRR design requirements for roadway underpass structures. ENGINEER will also coordinate with UPRR in order to obtain current requirements for temporary construction including shoring and falsework requirements. ENGINEER will also obtain information on current railroad operations in order to determine acceptable site access and work windows.

7) UPRR may require an initial deposit from the COUNTY to perform design review, assemble and/or review agreements, and provide railroad flagging services. The COUNTY will directly incur these expenses. Funding not expended from the initial deposit will be reimbursed to the COUNTY; or if requested by the COUNTY, credited towards railroad inspection and flagging services during the construction phase of the project. ENGINEER will coordinate with UPRR and the COUNTY to get the initial deposit in place. ENGINEER will coordinate review of progress submittal packages by UPRR in order to facilitate timely review of submittals.

8) CPUC Application and Scoping Memo – Application Preparation and Processing. ENGINEER will prepare CPUC applications for the Sunset Avenue bridge. Submittal of the applications must be made by the roadway owner. ENGINEER will coordinate with the CPUC as required during processing.

9) Railroad Coordination Meetings. ENGINEER will attend up to six additional meetings in Southern California with the Project Development Team, the COUNTY, UPRR, CPUC or other parties in order to provide railroad technical design and/or railroad coordination input.

Assumptions

- Union Pacific Railroad shall have the final review and approval of the plans and specifications for all temporary and permanent facilities to be constructed on Union Pacific Railroad property.

- Review times and personnel for the Union Pacific Railroad shall be coordinated through the UPRR representative for this project.
- The CMA will include the UPRR costs associated with the Railroad work.

D. PHASES

The services performed by ENGINEER will be accomplished in the following Phases:

Phase II Plans, Specifications and Estimates

Phase III Construction Bid Support

Phase IV Construction Support

Each Phase will be authorized by written notice to proceed from COUNTY. Work shall not proceed without written notice to proceed.

E. STANDARDS

The Plans, specifications, and estimates shall be prepared in accordance with UPRR and CALTRANS' regulations, policies, procedures, manuals and standards including compliance with Federal Highway Administration (FHWA) requirements. Improvements of local roads may be prepared in accordance with COUNTY and CITY standards in effect at the time of contract,in lieu of CALTRANS standards. All Documents shall be prepared using imperial standards and dimensions.

1. Survey

   COUNTY shall perform all field surveys, ground control, photogrammetric mapping and digital terrain modeling (DTM). All work will conform to CALTRANS and UPRR standards and requirements.

2. Design

   Roadway design shall be in accordance with the current CALTRANS Highway Design Manual and its revisions, as well as, the current standards of the City of Banning.

3. PS&E

   Plans and specifications shall be prepared in conformance with the current editions of the CALTRANS Guide for Submittal of Plans, Specifications and Estimates, Standard Plans, Standard Specifications and Standard Special Provisions. As part of the work involved in the preparation of the plans, specifications and estimates, the ENGINEER shall prepare and furnish to CALTRANS special provisions for items of work included in the plans which are not covered in the Standard Specifications and CALTRANS-approved standard special provisions.

Structures design within CALTRANS right-of-way shall be prepared in accordance with the Bridge Design Details Manual, Bridge Design Aids Manual and Bridge Memos to Designers, Bridge Design Specifications, California Department of Transportation, Division of Structures current editions.

Bridge design for the new UPRR underpass shall be prepared in accordance with The American Railway Engineering and Maintenance-of-Way Association (AREMA) standards.

Roadway plans shall be prepared electronically in conformance with the CALTRANS "Drafting and Plans Manual" and the CALTRANS "CADD Users Manual of Instructions". Roadway plans shall be prepared on MicroStation. Roadway plans shall be on single sheet files. Graphic files shall be two-dimensional and shall conform to the CALTRANS Data Format as defined in Section 7 of the CADD Users Manual of Instruction. One set of roadway plans on magnetic media and vellum shall be provided with PS&E submittal.

Special Provisions shall be prepared using Microsoft Word conforming to CALTRANS format and content.

4. Project Files

Project Files shall be indexed in accordance with CALTRANS' Project Development Uniform File System.

Items 1 through 6 are not all-inclusive but are intended only to illustrate types of sources.

F. KEY PERSONNEL

The ENGINEER has represented to the COUNTY that certain key personnel will perform the services and 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:

Principal	Mike Schiller
Project Manager	Dennis Landaal
Roadway Senior Engineer	Jason Valencia
QC Senior Engineer	Darren Adrian
Structures Senior Engineer	Andy Sanford
Environmental Team Leader	Ryan Birdseye

ARTICLE AII • PROJECT ADMINISTRATION

A. PROJECT MANAGEMENT

This task includes the day-to-day management of the PROJECT. Project Development Team (PDT) meetings with the COUNTY PROJECT MANAGER, the California Department of Transportation (CALTRANS) staff and other representatives from affected agencies will be held once a month. The subconsultants will attend PDT meetings as appropriate. The ENGINEER shall coordinate PDT meetings, prepare meeting notes for each meeting and have these available for review at least one week prior to each succeeding meeting. Action items are to be tracked and reviewed at PDT meetings.

The ENGINEER's Project Management Plan will include a communication plan. The communication plan will consist of a roster of staff involved in the PROJECT and multiple forms of contact for each team member (address, telephone number, e-mail, etc.). The communication plan will also identify lines of communication with levels of responsibility/authority for development of the PROJECT.

A risk management plan is to be developed and maintained in order to address the major project risks to scope, cost and schedule.

Assumptions:

- Effort and deliverables associated with the PDT meetings will be part of Article AIII Task B Project Development Team Meeting of this Agreement.
- First draft of the Communication Plan and Risk Management Plan will be delivered within 30 days of NTP and updated as necessary.
- PS&E preparation (Phase II) is assumed to be 14 months.

  Affected agencies include: City of Banning, Union Pacific Railroad (UPRR), COUNTY and CALTRANS.

B. BUDGETING

The ENGINEER will prepare budgets for each task and milestone for the PROJECT. Such budgets will be entered in to the ENGINEER's Management Information System along with actual costs incurred and used as a basis for cost monitoring and control.

Assumptions:

- The ENGINEER will set up and monitor the project on a schedule, task and overall budget basis.

C. COST ACCOUNTING

The ENGINEER will prepare monthly reports of expenditures for the PROJECT by task and milestone.

Expenditures include direct labor costs, other direct costs and subconsultant costs. These reports will be prepared per COUNTY's guidelines and will be included as supporting data for invoices presented to the COUNTY every month.

Assumptions:

- Prior to sending out monthly reports, ENGINEER's Project Accounting staff will meet with the COUNTY once to review COUNTY guidelines. ENGINEER to obtain example of an acceptable invoice format from COUNTY website. ENGINEER to follow COUNTY accounting processes documented on COUNTY website.

D. SCHEDULING

Within one month from the Notice to Proceed (NTP), the ENGINEER will provide a detailed project schedule, which indicates milestones, major activities and deliverables, to the COUNTY for review and comments. This schedule will reflect assumed review times necessary by the agencies involved. Review of the schedule will occur at subsequent meetings. Adjustments will be made, if necessary, due to changing circumstances.

Assumptions:

- The schedule will be prepared using Microsoft Project.
- The schedule will be updated as necessary.
- PS&E preparation (Phase II) duration is assumed to be 14 months. PS&E completion is therefore anticipated no later than June 30, 2012 assuming ENGINEER is provided with NTP prior to the end of April 2011.

E. PROGRESS REPORTING

Progress reports shall be prepared in accordance with COUNTY guidelines. Reports will be required monthly and shall be accompanied by an invoice.

Assumptions:

- ENGINEER to obtain example of an acceptable Progress Report from COUNTY website. ENGINEER to follow COUNTY accounting processes documented on COUNTY website.

F. CONTRACT ADMINISTRATION

The ENGINEERING PROJECT MANAGER shall maintain ongoing liaison with the COUNTY PROJECT MANAGER, CALTRANS Project Manager, AGENCY contacts and utility companies to promote effective coordination during the course of project development.

Progress meetings with ENGINEER's staff, subconsultants and the COUNTY PROJECT MANAGER shall be held regularly. Engineer is to provide project scope, schedule, budget, photos, and various project details to the COUNTY web master for posting on the COUNTY website.

Assumptions:

- Phone calls and unscheduled meetings are to be part of project management activities.
- Meetings will be held with each utility agency/company. Up to five agencies/companies are assumed for water, sewer, electric, gas, oil and communication lines.
- PS&E close out will be part of this task. Activities associated with the close out include verification that contract requirements have been completed, identify lesson learned (memorandum), update and archive project hardcopy and electronic files and close the project.

ARTICLE AIII • PLANNING AND PROJECT DEVELOPMENT

A. RESEARCH AND DATA GATHERING

Existing topographic mapping, photos, bridge reports, maintenance reports, right of way maps, "as-built" plans, record maps and surveys, study reports, assessor maps, contract documents, utility index maps, local street improvement/development plans and other pertinent data were obtained from the City, County and Caltrans and reviewed by the ENGINEER as part of previous project phase. No additional effort is assumed.

B. PROJECT DEVELOPMENT TEAM

A Project Development Team (PDT) including representatives from the COUNTY, CALTRANS, CALTRANS Division of Structures (DOS), UPRR and other relevant agencies/stakeholders shall be established within fifteen days after NTP. PDT meetings shall be held on average bi-monthly to resolve issues and to apprise the affected agencies/stakeholders of the progress of the PROJECT. A kick off meeting with the PDT shall be held within 30 days after the NTP.

Assumptions:

- Up to 9 PDT meetings (bimonthly) are assumed.
- ENGINEER to provide agendas, and if necessary discussion materials for each meeting. After each meeting the ENGINEER will provide a meeting summary memorandum that will include an action item matrix and documentation for project decisions. The meeting summaries will be distributed to meeting attendees for review and comment.

C. PERMITS

Following the receipt of the NTP, the ENGINEER shall submit an Encroachment Permit application to the COUNTY to be forwarded to CALTRANS on behalf of the COUNTY and the ENGINEER to allow field staff to conduct geotechnical investigations and field surveys within the freeway right of way. Concurrently, the ENGINEER shall identify additional locations outside the State right of way where it will be necessary to obtain specific rights of entry from affected property owners. A listing of candidate right of entry locations shall be furnished by the ENGINEER. The COUNTY with the assistance from the ENGINEER will obtain rights of entry for properties outside the State right of way.

Assumptions:

- Permit fees are not anticipated or included within our budget.

D. DESIGN SURVEYS

COUNTY shall perform all field surveys, ground control, photogrammetric mapping and digital terrain modeling (DTM). All work will conform to CALTRANS and UPRR standards and requirements. Deliverables to ENGINEER will be electronic files compatible with Microstation and InRoads software (survey shots and DTM), hardcopy plots and electronic image file of rectified aerial photograph. ENGINEER will rely on this information without independent review or confirmation. The design surveys were provided by the County during the previous project phase. A budget is included in the fee to incorporate one additional survey into the PS&E.

E. DESIGN DRAINAGE REPORT

A Drainage Report will be prepared to document hydrologic and hydraulic calculations necessary to identify drainage improvement related to the grade separation project. Prior to developing hydrology calculations, a field reconnaissance will be conducted. The ENGINEER shall obtain readily available documents pertinent to this Drainage Report from the CITY, COUNTY and CALTRANS for review. The ENGINEER's analysis will be coordinated with the affected agencies, including the Riverside County Flood Control & Water Conservation District (RCFC&WCD). The Drainage Report will quantify the magnitude and frequency of design flows from adjacent areas to the PROJECT area, as well as the volumes attributable to the proposed improvements.

Assumptions:

- Meetings – up to 2 combined meetings with the following:
    - CALTRANS District 8 Hydraulic Staff

- City of Banning
- Riverside COUNTY Flood Control and Water Conservation District (RCFCWCD)

❖ Field Reconnaissance

- Up to two site visits to assist in the preparation of the drainage plans.
- The purpose will be to document the current site conditions and determine if any drainage assumptions (direction of flow, new work along interstate) need to be updated.
- Prominent visible drainage features will be documented.
- Constraints will be noted for the proposed improvements.

❖ Drainage Report

- The Design Drainage Report will be prepared in general accordance with the CALTRANS Design Requirements, District 8 Project Development Policies, and the current CALTRANS Standard Plans in effect at the time of contract.
- Hydrologic modeling will be based on the latest CALTRANS District 8 standards.
- Detention basin analysis for reducing peak runoff to pre-project levels will be prepared. It is assumed that up to two storms will be analyzed for detention routing.
- Off-site flows that enter the project area will be determined as part of the drainage study but it is assumed that no off-site storm drain improvements north of Ramsey Street will be required.
- No flood inundation mapping is assumed to be needed for the existing and proposed condition.

❖ The analysis will include necessary calculations to be submitted with the Drainage Report that entails the following:

- Hydraulic calculations to verify proposed interchange drainage system culvert sizes
- Hydraulic calculations for inlets including spread calculations
- Headwater analysis at headwalls to determine ponded depth.
- Hydraulic calculations for downstream channel at the proposed storm drain outlet

❖ The Design Drainage Report calculations will be prepared in conjunction with preparing drainage improvement plans for the project.

❖ Document Retrieval and Review

- Readily available drainage documents for the area will be obtained and reviewed to confirm general conformance to the overall planning level drainage improvements for the area.

- These documents will consist of the following:

  COUNTY/CALTRANS drainage studies

F. STORM WATER DATA REPORT (SWDR)

ENGINEER shall prepare a STORM WATER DATA REPORT per CALTRANS standards.

Assumptions:

❖ Assumes that only new impervious area will be required to be treated and that 100% treatment for the increased impervious area could be a combination of treatment of existing and proposed pavement to achieve 100% equivalent treatment for the project.

G. GEOTECHNICAL DESIGN REPORTS

ENGINEER shall develop a drilling program to explore existing subsurface conditions at the project site. Near surface soils will be evaluated to determine if supports for the proposed bridge structures can be provided by spread footings. If spread footings are determined to be inadequate, various types of deep foundations will be evaluated. Design and construction recommendations for shallow or deep foundations will be provided. Construction of embankments for the bridge approaches and entrance ramps and exit ramps will result in the creation of new slopes. Stability analysis of the new slopes will be conducted to address the gross and surficial stability. Embankment construction will also induce compression of the underlying soils which is manifested by ground surface settlement. The magnitude and time rate of settlement of underlying soils due to the weight of the proposed embankments will be determined.

Alternatives for flexible and rigid pavement structural sections shall be provided. Pavement sections will be designed in accordance with the procedures outlined in the September 2006 CALTRANS Highway Design Manual (Sixth Edition).

The following geotechnical tasks shall be performed by ENGINEER:

- Prepare a Geotechnical Design Report
- Prepare a Final Foundation Report
- Review of Foundation Plan for PS&E
- Prepare Log of Test Borings (LOTB) sheets for PS&E
- Pavement Life Cycle Cost Analysis

Geotechnical Design Report

A Geotechnical Design Report providing design and construction recommendations for embankments,

pavement structural sections and tie-back walls, if required, will be prepared in accordance with California Test Method 130. The field investigation for the Geotechnical Design Report will consist of drilling exploratory borings to depths of approximately 50 feet each for retaining walls. One boring at each end of the potential retaining walls has been assumed. For pavement designs, borings will be drilled to depths of approximately 10 feet below the proposed pavement elevations at intervals of approximately 1000 feet, or as necessary. Subsurface soil samples will be collected during the field investigation for laboratory testing.

Prior to the field investigation, ENGINEER shall prepare a plan showing the proposed boring locations. This plan will be submitted to COUNTY/CALTRANS for approval and the ENGINEER shall obtain the necessary encroachment permit to perform the borings. ENGINEER is to coordinate with COUNTY/CALTRANS and the various property owners in obtaining right of entry permits for gaining access to private property to investigate field conditions including the borings. Traffic control will be necessary when drilling some of these borings. ENGINEER shall follow CALTRANS and COUNTY traffic control guidelines.

Assumptions:

- Prepare a report of the findings in conformance with the current edition of the CALTRANS Transportation Laboratory, California Test Method 130 and Highway Design manual.
- Log of Test Borings (LOTB) sheets in CALTRANS format will also be provided.

Effort associated with the Foundation Report is contained in Article AIV – Structures Section B Geotechnical Coordination and Foundation Report of this Agreement.

H. RIGHT OF WAY MAPPING AND ACQUISITION

ENGINEER shall prepare the Right of Way Requirement map based on the approved geometric approval drawings. All other right-of way mappings and acquisition documents are assumed to performed by the COUNTY. Title investigation search, appraisals, preparation of plats and legals are assumed to be performed by the COUNTY.

I. AGREEMENTS

The ENGINEER will provide technical support to the COUNTY/CALTRANS as required for obtaining cooperative agreements, freeway agreements, development agreements, and escrow agreements, etc.

Assumptions:

- COUNTY will be the lead on all of the agreements.

J. UTILITY COORDINATION

The intent of the COUNTY is that the services of the ENGINEER shall be complete and "turn-key" with respects to utility coordination matters for Project Report level coordination, except for those procedures that must be performed by COUNTY.

ENGINEER shall coordinate with utility owners and COUNTY and State of California Department of Transportation (CALTRANS) utility coordination staff with respect to utility related matters, including but not limited to:

a. Requests for readily available utility as-built plans and inventory maps.

b. Request for property rights information.

c. Design coordination meetings and communications.

d. Notices to owner to initiate design.

e. Notices to owner and agreements to pothole including submissions to CALTRANS for encroachment permits.

f. Inclusion of utility information, including sub-surface engineering data, on improvement plans.

g. Notices to owner to relocate conflicting utilities.

h. Coordination and communication with respect to utility facilities that are to be installed within planned bridge structures including preparation of agreements as required.

i. Coordination and communication with respect to utility facilities that are to be installed prior to or concurrent with COUNTY's construction project, including preparation of agreements as required.

j. No conflict letters.

k. Other procedures and communications as required.

ENGINEER shall provide copies of correspondence with utility companies and other utility related information to the COUNTY and CALTRANS as required.

ENGINEER shall act as extension of staff to implement utility coordination and relocation in accordance with CALTRANS Right of Way Manual, Chapter 13 and necessary COUNTY procedures, including but not limited to:

a. Preparation of letters to owners of utilities

Many letters will require signature by COUNTY's utility coordination or project management staff. ENGINEER shall prepare letters for COUNTY signature as required. ENGINEER shall prepare and

send correspondence under ENGINEER's signature when feasible and appropriate.

b. Phone, email and office communication

ENGINEER shall communicate as needed to achieve necessary and required utility coordination and relocations via communication methods.

c. Meetings

ENGINEER shall set up utility coordination meetings as needed.

d. Agreements

ENGINEER shall prepare Agreements utilizing CALTRANS format and language, modified as necessary for execution by the COUNTY of Riverside.

e. Submittals

ENGINEER shall submit letters, notices to owner, and other documents to COUNTY and CALTRANS for reviews and approvals.

f. CALTRANS procedures, general

ENGINEER shall comply with CALTRANS utility coordination procedures, as outlined in Chapter 13 of the CALTRANS Right of Way manual. ENGINEER shall be knowledgeable in the required procedures, and shall coordinate with COUNTY and CALTRANS as required. ENGINEER shall maintain files in accordance with CALTRANS filing requirements, and shall provide CALTRANS with duplicate files and shall provide COUNTY with original files upon completion of construction.

Other and related duties of ENGINEER are as follows:

ENGINEER shall obtain readily available record copies of utility maps from each utility owner within the project limits for known existing and/or proposed utility facilities. ENGINEER shall include mapping and/or exhibits that define the project limits as part of the requests for utility information. ENGINEER shall identify utility companies affected by the project and delineate utilities within the project's sphere of influence on the plans. ENGINEER shall prepare preliminary plans, which shall include known existing utilities (above ground and below ground) identified by location, size, type, and owner, as appropriate. ENGINEER shall check horizontal and vertical clearances for utilities and coordinate design with the various utility companies to address conflicts. In addition to information provided by the owning utility companies and through research of other record maps, field surveys shall be used to locate utility features such as manholes, valves, fire hydrants, poles, risers, etc., which shall be reflected on the plans.

If it is necessary to pothole existing utilities at critical locations, ENGINEER shall coordinate with COUNTY and CALTRANS staff to arrange with the respective utility owner to pothole its facility. ENGINEER shall coordinate the use field survey crews to locate potholed utilities by coordinates and elevations based on the project's survey controls.

Known utility conflicts shall be shown on the plans with construction notes indicating action to be taken and by whom. Inventory numbers of poles, vaults and other surface facilities shall be shown on the plans for those facilities that have such numbers attached to the facility and as provided on the owner's inventory maps.

ENGINEER shall send preliminary design plans to owning utility companies within the project limits with request for review and comments on the plans relevant to their respective facilities, and other project specific information.

ENGINEER shall monitor responses of utility notices received and make recommendations for mitigating conflicts. ENGINEER shall provide written responses to utility companies with regard to stated concerns and conduct design coordination meetings with utility companies as needed. Unresolved issues shall be brought to the attention of the COUNTY PROJECT MANAGER as early as practical. Utility conflict issues shall be resolved prior to the completion of the final design plans as follows:

- ENGINEER, through COUNTY staff, shall request and obtain a written acknowledgement of any conflicts from the respective utility owners.
- Reasonable efforts shall be taken to accommodate utility company requests for minor design changes to accommodate their facilities. ENGINEER understands that the utility companies are generally operating within the COUNTY or CALTRANS right-of-way, but may have prior rights to that of the COUNTY / CALTRANS or may have rights prescribed by Master Utility Agreements between CALTRANS and utility companies.
- ENGINEER shall coordinate inclusion of special provisions in COUNTY's bid documents for adjustments and relocations of utility facilities as alternate bid items, if requested by the owning utility. Said work may require that cooperative agreements be prepared between the COUNTY of Riverside and the owning utility companies. Engineer shall assist in preparation of agreements and shall provide information and exhibits as required to support the preparation of cooperative agreements, if needed.

ENGINEER shall conduct utility coordination meetings, as needed, regarding adjustments and relocations, to resolve conflict issues, and with respect to performing work for utility companies by COUNTY contractors. For utility conflicts that require relocating, ENGINEER shall prepare notices to owner relocate conflicting facilities. However, it is expected that COUNTY staff will sign the orders.

ENGINEER shall make recommendations for special provision language with regard to utility issues, recommendations for construction windows of time for utility relocation activities, recommendations for inclusion of utility bid items, etc.

ENGINEER shall coordinate with COUNTY survey and utility companies as required with respect to prior rights claims and determinations.

If new electrical service will be needed, ENGINEER shall provide support as directed by COUNTY. Such support includes, but is not limited to, the following responsibilities:

- Obtain approved electrical service point from the serving electric company for each service equipment enclosure to be installed, and identify requirements that the serving electric company has for the provision of service. Fulfill serving electric company requirements as appropriate, including preparation of applications for service and other required documents, some of which may require COUNTY or CALTRANS signatures.
- Serving electric company shall be notified that Electrical Safety Orders clearance requirements must be met (10' radial clearance between 12kv overhead electrical facilities and signal poles and mast arms, and greater clearance for higher voltage electrical facilities). Show such clearance conflicts on the plans with construction notes.
- Submit plans indicating proposed service connection locations to serving electric company for approval (service equipment enclosure, conduit runs, riser quadrant, pole number, and connections to vaults as appropriate).
- Provide detailed load calculations to serving electric company, with a copy to the COUNTY, which provides calculations of the normal and maximum expected loads.

ENGINEER shall assist with the resolution of utility related issues that may arise during the bidding process and during construction, including design modifications as needed and as approved by the COUNTY PROJECT MANAGER.

Specific issues, CALTRANS requirements and utility company requirements may result in deviation from

the procedures outlined herein.

Assumptions:

- Up to 30 potholes are anticipated to locate utilities and existing footings.
- Pothole surveys to be performed by the COUNTY.
- Utility Easement Acquisition to be performed by the COUNTY with "Turn Key" support provided by the ENGINEER.
- High/Low risk assessment per CALTRANS requirements will be performed as part of this task.

K. MISCELLANEOUS DESIGN SUPPORT

Supplemental Design Exceptions

If additional design exceptions beyond what were submitted in the previous project phase, are deemed necessary, the ENGINEER will coordinate with CALTRANS to receive approval.

Assumptions:

- Mandatory and Advisory design exception Fact Sheets will be prepared for up to eight additional non-standard features and processed through CALTRANS. Up to one meeting with the CALTRANS geometrician is assumed.

Updated Transportation Management Plan

The ENGINEER shall prepare and submit an updated Transportation Management Plan for COUNTY and CALTRANS review and approval.

- Full closure of the freeway interchange at Sunset Avenue is assumed.
- Transportation Management Plan shall comply with CALTRANS requirements.

Noise Abatement Decision Report

The ENGINEER shall prepare and submit a Noise Abatement Decision Report (NADR) for COUNTY and CALTRANS review and approval.

- Assumes impacts are limited to a new sound wall adjacent to three properties along the westbound entrance ramp.

Multi-Modal Study

Not anticipated to be necessary and not included within this scope of work.

Modified Access Report

Not anticipated to be necessary and not included within this scope of work.

ARTICLE AIV • STRUCTURES

A. STRUCTURE TYPE SELECTION AND SEISMIC ANALYSIS REPORT

It is assumed that a Caltrans Structure Type Selection is not required for the undercrossing structure over Sunset Avenue.

B. GEOTECHNICAL COORDINATION AND FOUNDATION REPORT

Foundation Reports

Foundation Reports will be prepared for each of the structures based upon the geotechnical investigation described below. The Foundation Reports will be prepared and signed by an Engineering Geologist, Soils Engineer or Civil Engineer with deep foundation experience, registered in the State of California. A Preliminary Foundation Report (PFR) was completed previously and can be used for the final report . These reports shall recommend structure foundation types and footing elevations. They shall also specify pile tip elevations for pile foundations and shall provide information on groundwater conditions, allowable bearing capacities and other information needed to evaluate the chosen foundations. The reports shall also address anticipated fill settlement periods to prevent excessive differential settlement between the structure and adjacent roadway approaches.

The Foundation Reports will also include:

- Nature of materials found on the site.
- Liquefaction potential.
- Geological hazards that may exist and recommended mitigation measures.
- Seismic design data in accordance with CALTRANS seismic design criteria.

The Foundation Reports will be developed in accordance with the guidelines for foundation studies and reports as referenced in EFPB Information and Procedures Guide and the Bridge Design Aids Manual. It will be assured that the design parameters and potential construction difficulties are identified and addressed, together with the proper mitigation measures in the Foundation Reports. For the bridge structures, alternative types of foundations will be evaluated to assure the selection of the most suitable types of foundation. Log of Test Borings sheets shall be prepared and included as part of the Foundation Reports and as part of the structure plans. This Foundation Reports and Log of Test Borings sheets will be prepared in accordance with CALTRANS standard procedures and will be approved by CALTRANS.

Geotechnical Investigations

- Drilling and Sampling – ENGINEER shall conduct field investigations consisting of borings to approximately 100 feet deep. The precise locations will be selected to minimize impacts on traffic. Subsurface investigations shall conform to the requirements in Section 4.3.5 of the Bridge Design Specifications and for pile foundations shall provide for the utilization of Standard Class 45 piles (design load of 45 tons) as a minimum, if appropriate.
- Laboratory Testing - Bulk and undisturbed samples will be selected for laboratory testing. Tests will be conducted in accordance with CALTRANS Test Methods or ASTM Standards.
- Engineering Analyses - Results obtained from the field and laboratory investigation program will be used to establish idealized soil profiles and design soil parameters for bridge foundation design. A foundation type and related capacity will be recommended. Seismic parameters such as peak bedrock acceleration and depth to bedrock-like materials will be provided. Other seismic hazards, if encountered, will be addressed and recommendations will be given to mitigate these hazards.
- Report Preparation - The results obtained from the geotechnical investigation will be documented in draft Foundation Reports (one for each bridge), which will include LOTB sheets. The draft Foundation Report will be submitted to the COUNTY and CALTRANS for review. ENGINEER shall finalize the report upon receipt of review comments.

C. STRUCTURAL DESIGN AND CALCULATIONS

Structural design calculations will be prepared in conformance with CALTRANS and UPRR design specifications and procedures as appropriate.

Plans and calculations shall conform to CALTRANS' and UPRR requirements as appropriate and shall be made available for review upon request.

The Bridge Design Specifications, California Department of Transportation, DOS current editions shall be used as design criteria.

Bridge Plans shall be prepared in accordance with the Bridge Design Details Manual, Bridge Design Aids Manual and Bridge Memos to Designers, California Department of Transportation, DOS current editions.

The scope of this work shall include but not be limited to:

- Construction details for each design shall be prepared on DOS format plan sheets. Blank reproducible sample plan sheets will be provided. DOS will supply the COUNTY with the needed standard drawings as shown in Section 20 of the Bridge Design Details Manual and the current Standard Plans. These

standard drawings and Standard Plans shall be incorporated into the Contract Plans where applicable.

- Each plan sheet shall be signed and stamped by the responsible design engineer who is registered in the State of California. Each design shall be independently checked by a Professional Engineer registered in the State of California.

Assumptions:

- Respond to comments and resubmit report.
- Prepare final bridge design for Sunset Ave Undercrossing based on AASHTO LRFD Bridge Design Specifications, Fourth Edition, with CALTRANS interims.
- Prepare final bridge strength and seismic design for Sunset Ave Underpass based on the AREMA Manual for Railway Engineering (Load Factor Design).
- Prepare seismic analysis and designs in accordance with CALTRANS Seismic Design Criteria Version 1.4 (ARS curves for the underpass will be determined by AREMA specifications).
- Prepare quantities, final engineer's estimate of probable cost, and bid item list.
- Perform an independent check of the bridge designs.
- Provide technical special provisions based on the 2010 CALTRANS Standard Specifications and the 2010 Standard Special Provisions (if available, otherwise 2006 standards will be used).
- Complete a senior level quality control review of the PS&E package.
- Submit PS&E package for processing and approval. In accordance with CALTRANS procedures, we will provide submittals at the 65%, 95% and 100% levels.
- Respond to comments, make necessary revisions, and resubmit as necessary.
- Prepare RE pending file (structural portions) and bridge 4-scale contour plots.

D. INDEPENDENT CHECK REVIEW AND QUALITY CONTROL

An Independent Check review shall be conducted at the 90% Structures PS&E stage. Checking shall include the preparation of an independent set of structural design check calculations and review of the plans and details. The checker and the designer will resolve disagreements and concur with revisions to the contract plans.

E. STRUCTURE SPECIFICATIONS & ESTIMATES

CALTRANS Standard Special Provisions (SSPs) shall be utilized to prepare a set of Structure Special Provisions specific to the PROJECT which will be incorporated in the final PS&E. These Structure Special Provisions shall be prepared, signed and stamped by a Professional Engineer registered in the State of California.

The ENGINEER shall prepare quantity calculations for bid items and prepare the bridge cost estimate. All contract items used shall be substantiated by calculations. Quantity calculations shall be neat and orderly and shall show sketches, diagrams and dimensions necessary to allow them to be independently used by field inspectors. All quantity calculations shall be independently checked and substantiated with calculations. The Construction Cost Estimate will be prepared using the latest available CALTRANS cost data, COUNTY cost data and actual recent construction costs in the PROJECT area.

F. INITIAL STRUCTURE PS&E (65% UNCHECKED PLANS)

The (65%) structure PS&E will be compiled and submitted for review to the COUNTY, CALTRANS DOS and UPRR.

G. INTERMEDIATE STRUCTURE PS&E (90% CHECKED PLANS)

The (90%) structure PS&E will be compiled and submitted for review to the COUNTY, CALTRANS DOS and UPRR.

H. DRAFT FINAL STRUCTURE PS&E (95%)

The draft (95%) structure PS&E shall be compiled and submitted for review to the COUNTY, CALTRANS DOS and UPRR. This will include for each bridge:

One set of reproducible and seven sets of "blueline" plans, two copies of design calculations and design check calculations, three sets of quantity calculations and Marginal Estimates and three sets of edited Structure Special Provisions. (One copy of each will be returned with comments). The package will be accompanied by a Structures PS&E checklist.

I. FINAL STRUCTURE PS&E

The final structure PS&E will incorporate review comments from the COUNTY, CALTRANS DOS, UPRR and other affected agencies. The ENGINEER will provide necessary documents in a bid-ready form. It is assumed that the COUNTY will advertise, award and administer the construction contract for this PROJECT.

The ENGINEER shall deliver the following documents to COUNTY, CALTRANS and UPRR:

1 set of original tracings of final design plans

1 set of vellums of final design plans

1 set of "blue-lines" of final design plans

1 set of final Structure Special Provisions

1 copy of final quantity calculations and estimate

1 copy of final design calculations

1 copy of design check calculations (upon request)

1 vellum and 2 "blue-lines" of bridge full-scale plans in accordance with Memo to Designers 2-2.

2 Resident Engineer's Files (structures information)

2 copies of Environmental Constraint Areas (if required by Environmental Studies)

ARTICLE AV • ROADWAY

The title sheet for specifications and reports, and each sheet of plans, shall bear the professional seal, certificate number, registration classification, expiration date of the certificate and signature of the Professional Engineer responsible for their preparation. All roadway plans shall also use single sheet files.

The following is a description of activities and drawing types that shall be prepared as part of the roadway PS&E:

A. BASIC ROADWAY PLANS

- Title Sheet
- Typical Cross Sections
- Key Map and Line Index
- Layouts
- Profile and Superelevation Diagrams
- Construction and Intersection Details
- Erosion Control Plan
- Erosion Control Details and Quantities

Assumptions:

❖ The roadway design plans shall be based upon the preliminary Geometric Approval Drawings

B. CALCULATIONS

The following calculations will be provided:

- Grid Grades

- Slope Staking Notes
- Earthwork Quantities
- Other Quantities

Assumptions:

- Cross sections and slope stake notes will be every 50 feet and will include key stations in between. The cross-sections and slope stake notes will be prepared per CALTRANS standards.
- Roadway cross sections, grid grades and slope staking notes will be submitted only at the 100% complete submittal stage.

C. RAILROAD SHOO-FLY PLANS

ENGINEER shall provide shoo-fly alignment design for the UPRR tracks in order to construct the new railroad bridge. The shoo-fly design shall include the relocation of the UPRR main and siding tracks, as well as the house track. Design drawings shall include the division of work between UPRR forces and the COUNTY contractor. Impacts to the UPRR signal system will be identified; however the UPRR will be responsible for design and construction of any and all modifications to the wayside and crossing signal systems.

ENGINEER will also provide horizontal and vertical designs for the final UPRR alignments over the new railroad bridge, No modifications to existing track horizontal and vertical alignments are assumed.

ENGINEER will provide cross sections, earthwork quantities, grid grades, and trackwork quantities.

Assumptions

- Union Pacific Railroad approved the temporary and final alignments during the previous project phase.
- Bridge type, size and location were approved by UPRR during the previous phase. Therefore, no type selection report is required for PS&E.
- All required railroad design criteria will be presented at the Kick-off meeting.
- COUNTY will provide top of rail survey, a surveyed railroad centerline and locations of existing railroad features; such as railroad signal equipment, bridge abutments, points of switch, hot-box and/or dragging equipment detectors, culverts, utility poles, etc.
- Railroad evaluation maps are available from the UPRR.

- Existing drainage patterns will not change.

D. DRAINAGE PLANS

ENGINEER shall perform hydrology and hydraulic studies to obtain and provide design solutions, which will remove surface runoff from the area of the improvements. Cross culverts that convey runoff flows across the freeway and through the interchange will be extended to the extent necessary required by the proposed improvements. Studies and designs shall be performed in accordance with Chapter 800 of the current Highway Design Manual, District 8 Project Development Policy Memos and the current CALTRANS Standard Plans.

The following drawings are included:

- Contour Grading
- Drainage Layouts
- Drainage Profiles
- Drainage Details
- Drainage Quantities

- *Assumptions:*

❖ The following drainage facilities are assumed:

- Replacing the existing culvert under I-10 and the railroad with a new culvert that drains the sump under the new railroad bridge. This storm drain will extend approximately 1,500 feet south of the railroad to daylight in the existing concrete channel.
- New storm drain inlets will be constructed in sumps and on ramps as appropriate per the design standards.
- Assume no off-site storm drain improvements north of Ramsey Street will be required.
- Assume approximately 3,000 feet of bio swales
- Assume no downstream channel improvements will be required.
- Assume a single storm drain stub will be provided to easterly parcel.
- Assume approximately 1,000 feet of storm drain in Ramsey Street.

❖ Contour Grading will be performed using InRoads XM Software.

❖ Drainage details

- Special details for non-standard facilities that may be needed such as headwall modifications, inlet modifications, etc.
- Connection details for proposed pipes that connect to existing pipes
- Construction notes for these details

❖ Drainage Plan and Profiles

- Profiles for each storm drain pipe will be prepared showing flowline elevations, size, slope, length, material, cover and flow.
- Each storm drain and drainage element will be shown on the drainage sheets of the plans identifying:
  - Station location
  - Size
  - Pipe ID for reference to the profile

❖ Drainage Quantities

- Linear footage of storm drain pipe
- Linear footage of channels
- Number and type of inlets, headwalls, overside drains, etc.
- Number of special drainage structures that will be needed.

E. TRAFFIC PLANS

❖ Design plans shall reflect the Transportation Management Plan (TMP) developed during the PS&E phase.

Traffic design plans encompass:

- Construction Area Signs
- Stage Construction and Traffic Handling
- Detours
- Pavement Delineation
- Roadside Sign Plan
- Highway Lighting and Sign Illumination
- Signal and Lighting

Assumptions:

- Detour Plans - These are provided to address the freeway interchange closure at Sunset Avenue. This entails an area-wide detour map that provides detours to other interchanges during construction. It is assumed that no freeway mainline detours or shifts will be required during construction.
- Sign Plans- An inventory of existing signs will be performed and shown on the sign plans along with the proposed new signs. Additionally, it is assumed that no new overhead sign structures will be required.
- Signal - There are two new traffic signals proposed for the interchange. Modification of the existing traffic signal at Sunset Avenue and Ramsey Street is also required.
- Staged Construction Plans – Stage construction plans will be consistent with the concept developed during the preliminary engineering studies. It is assumed a maximum of three stages will be required as a result of assumed closure of the Sunset Avenue interchange during construction.
- Traffic Handling- Traffic Handling sheets will be prepared for each stage of construction.
- Pavement delineation- Final pavement delineation sheets will be prepared for each layout sheet.
- Highway Lighting and Sign Illumination- It is assumed that no lighting will be provided along Sunset Avenue within the project limits, and that safety lighting will be provided at the two interchange ramp intersections.
- Quantities Plan Sheets - The following sheets will also be prepared for the following sets of plans:
    - Construction Area Sign Quantities
    - Detour Quantities
    - Sign Plan Quantities
    - Traffic Handling Quantities
    - Pavement Delineation Quantities
- Irrigation Electrical- A total of one irrigation electrical sheet is assumed for this project.

F. MISCELLANEOUS PLANS

ENGINEER shall also be responsible to prepare PS&E for aesthetic treatments proposed for the structures.

- Utility Plans
    - Composite plan view sheets
    - Water line plan for proposed extension of 24-inch line from Ramsey Street to Westward Avenue.
    - Reclaimed water line plan for proposed extension of 24-inch line from Lincoln Street (join design by others) to Ramsey Street.

- Sewer plan and profile for proposed 15-inch line from Lincoln Street to Ramsey Street.

- Summary of Quantities
- Caltrans Standard Type 1 Retaining Wall Plan and Elevation
- Retaining Wall Details and Quantities
- Landscaping/Irrigation

Assumptions:

❖ Utility plan sheets identifying existing, abandoned, relocated, etc utilities will be prepared from information gathered as a result of utility coordination performed as part of project development.

❖ All of the proposed retaining walls are assumed to be CALTRANS standard walls – Type 1. Each sheet will have a layout, elevation showing footing and top of wall elevations, and typical section.

❖ ENGINEER will prepare construction documents and cost projections for the highway planting and irrigation identified for the project. The construction documents will follow CALTRANS Highway Planting Policy and will include plans for 3 years of plant establishment. Effort for this task assumes a basic concept for erosion control that entails uniform groundcover or hydroseeding with accent hardscape such as grouted river rock. Trees with temporary irrigation will be included along the south side ramps.

G. INTERMEDIATE REVIEWS

Roadway, drainage, traffic and miscellaneous plans shall be submitted for review to the COUNTY, CALTRANS, UPRR and other affected agencies/stakeholders at the 65%, 95% and 100% complete stages. A pre-65% submittal will be prepared and submitted that consists of "skeletal" layouts at approximately 30% completion to confirm appropriate direction of the designs and plan set. The ENGINEER will submit up to 40 sets of plans reduced to 11" x 17" size and 4 full size sets of all plans as required. Roadway cross sections, grid grades and slope staking notes will be submitted only at the 100% complete submittal stage. Electronic samples of plan sheet groups will be provided to CALTRANS at intermediate reviews, as necessary.

Assumptions:

❖ The "skeletal" layouts will be based on the Geometric Approval Drawings.

❖ The 65% Submittal will include the following plan sheets:

- Title Sheet
- Key Map & Line Index
- Typical Cross-Sections

- Layouts
- Profiles & Superelevation
- Construction Details
- Temporary Water Pollution Control Plans, Details, and Quantities
- Erosion Control
- Contour Grading
- Drainage Plans
- Drainage Profiles
- Drainage Details
- Drainage Quantity
- Utility Plans
- Construction Area Signs
- Stage Construction Plans
- Detour Plans
- Traffic Handling Plans
- Traffic Handling Quantities
- Pavement Delineation Plans
- Pavement Delineation Quantities
- Summary of Roadway Quantities
- Signing Plans
- Sign Quantity
- Retaining Wall Plans
- Landscape & Irrigation Plans
- Traffic Signal Plans
- Sunset Avenue Undercrossing Foundation Plan
- Sunset Avenue Underpass General Plan & Foundation Plan
- Railroad Shoofly Plans

❖ The submittals will follow CALTRANS District 8 Oversight Guidelines dated January 2008.

- Includes one review process. Focused meetings with specific functional units will be held to discuss review comments, as required.
- Comments to 65% submittal to be incorporated in the 95 % submittal.

H. SPECIFICATIONS AND ESTIMATE

Specifications and Special Provisions will be prepared for items not covered by the CALTRANS Standard Specifications or Standard Special Provisions.

The Roadway Construction Cost Estimate will be prepared using the latest available CALTRANS cost data, COUNTY cost data and readily available recent construction costs in the PROJECT area. Cost estimates are to be provided with the appropriate submittals and updated on a quarterly basis.

Assumptions:

- It is assumed that the construction contract will be administered by the COUNTY. As such, the front end "boilerplate" will be per COUNTY standards and will be provided by the COUNTY.
- Technical specifications will be prepared per CALTRANS' standards and format.
- CALTRANS requires that the latest version of their SSPs be utilized. As such, technical specifications will be updated as necessary, prior to the 95% and 100% submittals.

I. QUALITY CONTROL

The Plans, Specifications and Estimate (PS&E) will be subject to quality control reviews before submittal. These reviews will be in conformance with CALTRANS and COUNTY standards and criteria as well as minimize typographical omissions.

J. DRAFT PS&E (95% COMPLETE)

The roadway plans, revised to incorporate Quality Control and 65% review comments, will be submitted to the COUNTY, CALTRANS and other affected agencies/stakeholders for review and comments. These will include:

- Roadway Plans
- Special Provisions
- Design Calculations
- Roadway Quantities and Cost Estimate

One safety/constructability review meeting will be held at the 95% PS&E stage.

Assumptions:

- Includes one review process. Focused meetings with specific functional units will be held to discuss review comments, as required.
- Comments to 95% submittal to be incorporated to the 100 % submittal.

K. FINAL PS&E (100% COMPLETE)

The final PS&E will incorporate applicable comments from the draft PS&E received from the COUNTY, CALTRANS and other affected agencies/stakeholders. The ENGINEER will provide the necessary final PS&E documents in a bid-ready form. PROJECT files and the Project Engineer's/Resident Engineer's file will also be submitted with the final PS&E. The entire PROJECT, which will be prepared in MicroStation format, will be submitted upon final approval of the PS&E.

Assumptions:

- Up to 2 review cycles. Focused meetings with specific functional units will be held to discuss review comments, as required.
- It is assumed that the COUNTY will be the lead agency to Advertising, Awarding, and Administering the contract.
- Below is the assumed plan sheet count:

Title Sheet	1
Typical Sections	5
Key Map	1
Layouts	5
Profiles & Super	7
Constr Details	15
TWPC Layouts	5
TWPC Details	2
TWPC Qtys	1
EC Layouts	5
EC Details	2
EC Qtys	1
Contour Grading	5
Drainage Plans	5
Drainage Profiles	5
Drainage Details	3
Drainage Qtys	4
Composite Utility Plans	5
Water Line Plan & Details	4

Reclaimed Water Line Plan & Details	3
Sewer Line Plan & Details	3
Constr Area Signs	3
Constr Area Sign Qtys	1
SC & Traffic Handling	25
SC & Traffic Hand Qty	2
Pvmt Delineation	5
Pvmt Delin Qty	2
Signs	5
Sign Qty	1
Summary Of Qtys	4
Retaining Wall Layout	8
Planting & Irrigation	10
Signal Electrical	3
Structures	25
RR Shoofly	10
Total	**198**

ARTICLE AVI • CONSTRUCTION BIDDING PHASE

Bidding procedures will be the responsibility of the COUNTY. Although, the project will be administered by the COUNTY, electronic plan submittals meeting CALTRANS electronic bid requirements will be required for CALTRANS records. While the PROJECT is being advertised for bids, all questions concerning the intent shall be referred to COUNTY for resolution. In the event that the items requiring interpretation in the drawings or specifications are discovered during the bidding period, said items shall be analyzed by the ENGINEER for decision by COUNTY as to the proper procedure required. Corrective action taken will either be in the form of a memo prepared by the ENGINEER and issued by COUNTY or by covering change order after the award of the construction contract.

ARTICLE AVII • CONSTRUCTION SUPPORT PHASE

A. ENGINEER shall attend the pre-construction meeting with the successful construction contractor upon notification by the COUNTY.

B. Upon award of the construction contract, ENGINEER will proceed with the Construction Support Phase services required by this contract.

C During construction, the ENGINEER shall furnish necessary additional drawings for correcting and change orders required by errors and omissions of ENGINEER. Such drawings will be requested in writing from the ENGINEER by COUNTY and shall be at no additional cost to the COUNTY. The original tracing(s) of the drawings and contract wording for change orders shall be submitted to the COUNTY for duplication and

distribution.

D. ENGINEER shall review shop drawings and RFIs submitted by the construction contractor (falsework review is not included) as requested by the COUNTY as determined necessary by the ENGINEER. ENGINEER shall complete shop plan reviews within two weeks of receipt. Contract change order and RFI reviews shall be completed within two working weeks of receipt.

E. Drawings and change orders required due to actions of the COUNTY, CALTRANS, or Contractor which are beyond the scope of the ENGINEER's responsibilities, shall be considered extra services.

F. ENGINEER shall be available to visit to the jobsite for on-site review of construction and other visits to the jobsite as requested by the COUNTY or CALTRANS to resolve any discrepancies in the contract documents. ENGINEER shall bring to the attention of the COUNTY/CALTRANS Resident Engineer defects or deficiencies in the work by the construction contractor, which the ENGINEER may observe. ENGINEER shall have no authority to issue instructions on behalf of the COUNTY or to deputize another to do so. All agreements shall be between the COUNTY and its construction contractor. These provisions shall not be construed as making the ENGINEER responsible for failure of the construction contractor to carry out the work in accordance with the contract documents nor the construction means or methods or techniques, sequences, procedures or safety programs in connection with the work.

G. ENGINEER shall prepare and deliver to the COUNTY and CALTRANS the "As-Built" plans within two months of completion of construction.

ARTICLE AVIII • COMPUTER FACILITIES

A. CALCULATIONS

All roadway calculations will be performed using COGO PC and InRoads or Road Calc. The structural analyses and design will be performed by using STAADIII, GTSTRUDL, SEISAB, PCBRIDGE, PCYIELD, PCFOOT, PCBENT and PCABUT programs. The data files and the results will be submitted electronically on compact discs along with a hard copy.

B. COMPUTER AIDED DRAFTING AND DESIGN (CADD)

All plans will be prepared using MicroStation format in conformance with the latest CALTRANS CADD Users Manual and the CALTRANS Drafting Manual to assure complete compatibility.

ARTICLE AIX • QUALITY CONTROL PLAN

A Quality Control Plan will be established for this PROJECT in accordance with the provisions of Article IV, Section H of the Agreement. It will be provided to the COUNTY within two (2) weeks after NTP for review and approval.

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Sunset Avenue/UP Grade Separation Fee Proposal Summary

March 7, 2011

COMPANIES	PHASE I	PHASE II	PHASE III	PHASE IV	TOTAL
Kimley-Horn and Associates, Inc. Prime		$ 1,632,901.17	$ 11,303.38	$ 65,160.99	**$ 1,709,365.54**
Geocon Consultants, Inc. Geotechnical		$ 114,172.91			**$ 114,172.91**
Simon Wong Engineering Structures (DBE)		$ 221,197.25	$ 4,793.80	$ 19,175.20	**$ 245,166.24**
Tait & Assoc. Caltrans Coordination		$ 16,700.00			**$ 16,700.00**
TOTAL		**$ 1,984,971.33**	**$ 16,097.18**	**$ 84,336.18**	**$ 2,085,404.70**

Phase I **Preliminary Engineering & Environmental**
Phase II **Plans, Specs & Estimates**
Phase III **Bid Support**
Phase IV **Construction Support**

FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	**Project Summary**	**All Phases**
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		**March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Dennis Landaal, PE	Project Manager	527	@	$80.29	$42,312.83
Jason Valencia, PE	Senior Engineer	1,069	@	$49.28	$52,680.32
Darren Adrian	QC/Senior Engineer	242	@	$61.78	$14,950.76
Sam McWhorter, PE	Senior Drainage Engineer	255	@	$47.21	$12,038.55
Jon Collins, PE	Senior Traffic Engineer	406	@	$49.52	$20,105.12
	Project Engineer	2,250	@	$45.20	$101,700.00
	Engineer	1,719	@	$36.00	$61,884.00
	Assistant Engineer	1,425	@	$32.00	$45,600.00
	CADD Designer	3,159	@	$38.00	$120,042.00
	Admin Support	708	@	$23.00	$16,284.00
Pat Hart	Sr LA	66	@	$57.70	$3,808.20
Michael Madsen	LA	170	@	$34.86	$5,926.20
Jeff Fuller	Sr. Noise Specialist	8	@	$59.62	$476.96
	TOTAL HOURS	**12,004**		TOTAL DIRECT LABOR	**$497,808.94**

MULTIPLIERS

ESCALATION @		(Rates Vary by Phase)	
OVERHEAD @	197.26%	(of Direct Labor + Escalation)	$981,977.92
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$147,978.69
		TOTAL MULTIPLIERS	**$1,129,956.60**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Potholing	1	LS	@	$30,000.00	$30,000.00
Reproduction					
Drainage Report (2 submittals plus Final)	15	Report	@	$100.00	$1,500.00
TMP	15	Report	@	$50.00	$750.00
SWDR	15	Report	@	$50.00	$750.00
Specifications (300 pages)	120	SSP	@	$30.00	$3,600.00
PS&E (200 sheets - 11" x 17")	90	Set	@	$50.00	$4,500.00
PS&E (200 sheets - Mylar Full Size)	1	Set	@	$1,500.00	$1,500.00
Misc	1	LS	@	$7,000.00	$7,000.00
Deliveries	1	LS	@	$4,000.00	$4,000.00
Office Expense	1	LS	@	$28,000.00	$28,000.00
				TOTAL ODC'S	**$81,600.00**

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
Geocon Consultants, Inc.	$18,394.50	$39,018.41	$56,760.00	$114,172.91
Simon Wong Engineering	$94,913.20	$146,653.04	$3,600.00	$245,166.24
Tait & Assoc.	$11,900.00		$4,800.00	$16,700.00
			TOTAL SUBCONSULTANT SERVICES	**$376,039.16**

TOTAL **$2,085,404.70**

FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	**Plans, Specs & Estimates**	**Phase II**
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		**March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Dennis Landaal, PE	Project Manager	515	@	$80.29	$41,349.35
Jason Valencia, PE	Senior Engineer	965	@	$49.28	$47,555.20
Darren Adrian	QC/Senior Engineer	242	@	$61.78	$14,950.76
Sam McWhorter, PE	Senior Drainage Engineer	255	@	$47.21	$12,038.55
Jon Collins, PE	Senior Traffic Engineer	406	@	$49.52	$20,105.12
	Project Engineer	2,050	@	$45.20	$92,660.00
	Engineer	1,679	@	$36.00	$60,444.00
	Assistant Engineer	1,425	@	$32.00	$45,600.00
	CADD Designer	2,999	@	$38.00	$113,962.00
	Admin Support	676	@	$23.00	$15,548.00
Pat Hart	Sr LA	66	@	$57.70	$3,808.20
Michael Madsen	LA	170	@	$34.86	$5,926.20
Jeff Fuller	Sr. Noise Specialist	8	@	$59.62	$476.96
	TOTAL HOURS	**11,456**		TOTAL DIRECT LABOR	**$474,424.34**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	197.26%	(of Direct Labor + Escalation)	$935,849.45
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$141,027.38
		TOTAL MULTIPLIERS	**$1,076,876.83**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Potholing	1	LS	@	$30,000.00	$30,000.00
Reproduction					
Drainage Report (2 submittals plus Final)	15	Report	@	$100.00	$1,500.00
TMP	15	Report	@	$50.00	$750.00
SWDR	15	Report	@	$50.00	$750.00
Specifications (300 pages)	120	SSP	@	$30.00	$3,600.00
PS&E (200 sheets - 11" x 17")	90	Set	@	$50.00	$4,500.00
PS&E (200 sheets - Mylar Full Size)	1	Set	@	$1,500.00	$1,500.00
Misc	1	LS	@	$7,000.00	$7,000.00
Deliveries	1	LS	@	$4,000.00	$4,000.00
Office Expense	1	LS	@	$28,000.00	$28,000.00
				TOTAL ODC'S	**$81,600.00**

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
Geocon Consultants, Inc.	$18,394.50	$39,018.41	$56,760.00	$114,172.91
Simon Wong Engineering	$85,495.60	$132,101.65	$3,600.00	$221,197.25
Tait & Assoc.	$11,900.00		$4,800.00	$16,700.00
			TOTAL SUBCONSULTANT SERVICES	**$352,070.16**

TOTAL **$1,984,971.33**

FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	**Bid Support**	**Phase III**
PROJECT: **Sunset Avenue/UP Grade Separation**		DATE: **March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Dennis Landaal, PE	Project Manager	4	@	$80.29	$321.16
Jason Valencia, PE	Senior Engineer	16	@	$49.28	$788.48
Darren Adrian	QC/Senior Engineer			$61.78	
Sam McWhorter, PE	Senior Drainage Engineer			$47.21	
Jon Collins, PE	Senior Traffic Engineer			$49.52	
	Project Engineer	16	@	$45.20	$723.20
	Engineer	40	@	$36.00	$1,440.00
	Assistant Engineer			$32.00	
	CADD Designer			$38.00	
	Admin Support	8	@	$23.00	$184.00
Pat Hart	Sr LA			$57.70	
Michael Madsen	LA			$34.86	
Jeff Fuller	Sr. Noise Specialist			$59.62	
	TOTAL HOURS	**84**		TOTAL DIRECT LABOR	**$3,456.84**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	197.26%	(of Direct Labor + Escalation)	$6,818.96
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$1,027.58
		TOTAL MULTIPLIERS	**$7,846.54**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Potholing		LS	$30,000.00	
Reproduction				
Drainage Report (2 submittals plus Final)		Report	$100.00	
TMP		Report	$50.00	
SWDR		Report	$50.00	
Specifications (300 pages)		SSP	$30.00	
PS&E (200 sheets - 11" x 17")		Set	$50.00	
PS&E (200 sheets - Mylar Full Size)		Set	$1,500.00	
Misc		LS	$7,000.00	
Deliveries		LS	$4,000.00	
Office Expense		LS	$28,000.00	
			TOTAL ODC'S	

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC'S	TOTAL
Geocon Consultants, Inc.				
Simon Wong Engineering	$1,883.52	$2,910.28		$4,793.80
Tait & Assoc.				
			TOTAL SUBCONSULTANT SERVICES	**$4,793.80**

TOTAL **$16,097.18**

FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	**Construction Support**	**Phase IV**
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		**March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Dennis Landaal, PE	Project Manager	8	@	$80.29	$642.32
Jason Valencia, PE	Senior Engineer	88	@	$49.28	$4,336.64
Darren Adrian	QC/Senior Engineer			$61.78	
Sam McWhorter, PE	Senior Drainage Engineer			$47.21	
Jon Collins, PE	Senior Traffic Engineer			$49.52	
	Project Engineer	184	@	$45.20	$8,316.80
	Engineer			$36.00	
	Assistant Engineer			$32.00	
	CADD Designer	160	@	$38.00	$6,080.00
	Admin Support	24	@	$23.00	$552.00
Pat Hart	Sr LA			$57.70	
Michael Madsen	LA			$34.86	
Jeff Fuller	Sr. Noise Specialist			$59.62	
	TOTAL HOURS	**464**		TOTAL DIRECT LABOR	**$19,927.76**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	197.26%	(of Direct Labor + Escalation)	$39,309.50
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	10.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$5,923.73
		TOTAL MULTIPLIERS	**$45,233.23**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Potholing		LS	$30,000.00	
Reproduction				
Drainage Report (2 submittals plus Final)		Report	$100.00	
TMP		Report	$50.00	
SWDR		Report	$50.00	
Specifications (300 pages)		SSP	$30.00	
PS&E (200 sheets - 11" x 17")		Set	$50.00	
PS&E (200 sheets - Mylar Full Size)		Set	$1,500.00	
Misc		LS	$7,000.00	
Deliveries		LS	$4,000.00	
Office Expense		LS	$28,000.00	
			TOTAL ODC'S	

SUB CONSULTANT SERVICES

COMPANY	LABOR	MULTIPLIERS	ODC's	TOTAL
Geocon Consultants, Inc.				
Simon Wong Engineering	$7,534.08	$11,641.12		$19,175.20
Tait & Assoc.				
			TOTAL SUBCONSULTANT SERVICES	**$19,175.20**

TOTAL **$84,336.18**

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Manhour Summary	All Phases
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST	HOURS	(Top & Bottom) HOURS
	$262.54	$161.14	$202.01	$154.37	$161.92	$147.80	$117.71	$104.64	$124.25	$75.21	$188.67	$113.99	$194.95		
PHASE TOTALS	**527**	**1,069**	**242**	**255**	**406**	**2,250**	**1,719**	**1,425**	**3,159**	**708**	**66**	**170**	**8**	**12,004**	**12,004**
PHASE I															
PHASE II	515	965	242	255	406	2,050	1,679	1,425	2,999	676	66	170	8	11,456	11,456
PHASE III	4	16				16	40			8				84	84
PHASE IV	8	88				184			160	24				464	464

TASK	HOURS
PHASE TOTALS	
PHASE I	
PHASE II	
PHASE III	
PHASE IV	

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
	$262.54	$161.14	$202.01	$154.37	$161.92	$147.80	$117.71	$104.64	$124.25	$75.21	$188.67	$113.99	$194.95			
Total Manhours	515	965	242	255	406	2,050	1,679	1,425	2,999	676	66	170	8		11,456	
ARTICLE AII - PROJECT ADMINISTRATION																
A. Project Management	40	80				80				40					240	$ 38,225
B. Budgeting	20	24				20				36					100	$ 14,781
C. Cost Accounting	18	54								90					162	$ 20,196
D. Scheduling	10	10				40				20					80	$ 11,653
E. Progress Reporting	18	18				36				36					108	$ 15,654
F. Contract Administration																
Admin Services/ Progress Meetings	20	60				80				40					200	$ 29,751
PS&E Component Close Out	10	20				20	20								70	$ 11,158
ARTICLE AIII - PLANNING & PROJ DEV																
A. Research and Data Gathering							110			20					130	$ 14,453
B. Project Development Team	27	60					16								103	$ 18,640
C. Permits		4					10								14	$ 1,822
D. Design Surveys		5		60			90			20					175	$ 22,166
E. Design Drainage Report		8		10			40			20					78	$ 9,046
F. Storm Water Data Report (SWDR)		8													8	$ 1,289
G. Geotechnical Design Reports		4													4	$ 645
H. Right of Way Mapping and Acquisition																
I. Maintenance agreements	20	60				20	20			12					132	$ 21,132
J. Utility Coordination	20	40				80	120			16					276	$ 38,849
K. Miscellaneous Design Support	4	16			8	20	40			6					94	$ 13,040
Noise Abatement Decision Report	5					30			8	6			8		57	$ 8,751
ARTICLE AIV - STRUCTURES																
A. Structures and Bridge General Plans		20				40									60	$ 9,135
B. Geotechnical Coord & Foundation Report		20				40									60	$ 9,135
C. Structural Design and Calculations																
D. Structures Specifications & Estimate																
E. Independent Check and Quality Control																
F. Draft PS&E																

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
G. Final PS&E																
ARTICLE AV - ROADWAY																
Draft Final PS&E (~65% Complete)																
A. Basic Roadway Plans																
Title Sheet	1					1	2		15						19	$ 2,510
Index of Sheets																
Typical Cross Sections	2	2				15	20	20	40						99	$ 12,482
Key Map & Line Index						1			9						10	$ 1,266
Layout	5	5				15	20	30	40						115	$ 14,799
Profile and Superelevation Diagram	5	5				15	15	30	30						100	$ 12,968
Construction Details	5					20	20	40	40						125	$ 15,779
Temp Water Pollution Control Plan	1	1		8		15		30	60						115	$ 14,470
Temp Water Pollution Control Details				1		5		10	40						56	$ 6,910
Temp Water Pollution Control Quantities				1		5		20	20						46	$ 5,471
B. Calculations																
Grid Grade Calculations	5					8		5	15						33	$ 4,882
Earthwork Calculations						8		5	15						28	$ 3,569
Slope Stake Notes						8			20						28	$ 3,667
Other Quantities	5					8		5	20						38	$ 5,503
C. Drainage Plans																
Countour Grading				8			10		80						98	$ 12,352
Drainage Plan				10			60								70	$ 8,607
Drainage Profiles				10			60								70	$ 8,607
Drainage Details				5			40								45	$ 5,480
Drainage Quantities							20								20	$ 2,354
D. Traffic Plans																
Transportation Management Plan	4				20		40			10					74	$ 9,749
Stage Construction and Traffic Handling Plan	10				20	16		40	60						146	$ 19,869
Pavement Delineation Plan	2				16			40	8						66	$ 8,295
Pavement Delineation Quantities	4				4		8								16	$ 2,640
Sign Plans	4				5	20		40	60						129	$ 16,456
Sign Details	4				2	10			40						56	$ 7,822
Sign Quantities	4					6		16							26	$ 3,611

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR. LA	LA	SR. NOISE SPECIALIST		HOURS	COST
Overhead Sign Details (NIC)																
Overhead Sign Quantities (NIC)																
Signal and Lighting	4	8			31		100		160						303	$ 39,011
Ramp Metering System (NIC)																
Communication Conduit	4				8		8		18						38	$ 5,524
Electrical Service (Irrigation)	4				8		8		18						38	$ 5,524
Electrical Details	4				4		8		12						28	$ 4,131
E. Miscellaneous Plans																
Plant List	4										16	30			50	$ 7,489
Planting Plans	2					4			10		10	20			46	$ 6,525
Irrigation Plan	2					10			30		10	20			72	$ 9,897
Sprinkler Schedule and Details	2					10			30						42	$ 5,731
Irrigation Quantities	2					5						40			47	$ 5,824
Utility Plans (Composite)	5		10			15			70						100	$ 14,248
Water Line Plan	4		8			12			40						64	$ 9,410
Reclaimed Water Line Plan	4		8			10			40						62	$ 9,114
Sewer Plan & Profile	4		8			10			40						62	$ 9,114
Retaining Wall Plans	5	15				40			80						140	$ 19,582
Summary of Quantities	2	5			5	10	10	20							52	$ 6,888
Railroad Design/Coordination	12	60	20			80	80		160						412	$ 57,981
F. Intermediate Reviews																
See Sections for 30%, 65%, and 95% submittals																
G. Specifications and Estimate																
Prepare 65% Complete Specifications	4	40	40	30	40	80		60		50					344	$ 48,546
Prepare 65% Complete Cost Estimate	4	15		10	40		60	40	40						209	$ 27,706
H. Quality Control																
Quality Control Plan		4	4			5				5					18	$ 2,568
QC Review Planning & Proj Develop Deliverables		10	10			10				10					40	$ 5,862
QC Review 30% Plans		10	10	6		80				10					116	$ 17,134
QC Review 65% PS&E Documents		15	30	10		80				20					155	$ 23,349
QC Review 95% PS&E Documents		15	30	10		80				20					155	$ 23,349
QC Review Final PS&E Documents		20	30	10		80				20					160	$ 24,155
I. Draft PS&E (95% Complete)																
Respond to Agency Review Comments	5	5			5	20	15	10		10					70	$ 9,448

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT: Sunset Avenue/UP Grade Separation		DATE: March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	DC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
Title Sheet						1			9						10	$ 1,266
Index of Sheets																
Typical Cross Sections						15			30						45	$ 5,945
Key Map & Line Index							1		9						10	$ 1,236
Layout	2	2				10	20	30	40						104	$ 12,789
Profile and Superelevation Diagram	2	2				10		35	40						89	$ 10,958
Construction Details	5	10			5	20		50	60						150	$ 19,377
Temp Water Pollution Control Plan	1	1		5		10		30	40						87	$ 10,783
Temp Water Pollution Control Details				2		3	5	10	20						40	$ 4,872
Temp Water Pollution Control Quantities						2	4	5	12						23	$ 2,781
Countour Grading				5			10		40						55	$ 6,919
Drainage Plan				5			40								45	$ 5,480
Drainage Profiles				5			40								45	$ 5,480
Drainage Details				10			20		20						50	$ 6,383
Drainage Quantities				5			10								15	$ 1,949
Utility Plans (Composite)	2	4	4			12	16	40	40						118	$ 14,790
Water Line Plan	2	4	4			16		20	30						76	$ 10,163
Reclaimed Water Line Plan	2	4	4			12		16	20						58	$ 7,911
Sewer Plan & Profile	2	4	4			12		16	20						58	$ 7,911
Transportation Management Plan	2				20		20	20		10					72	$ 8,963
Stage Construction and Traffic Handling Plan	5				8		30	30	40						113	$ 14,249
Construction Area Signs	3				8	15		10	20						56	$ 7,831
Pavement Delineation Plan	2				2	4	4	4	8						24	$ 3,324
Pavement Delineation Quantities	2				2		6								10	$ 1,555
Summary of Quantities	2					2		15							19	$ 2,390
Sign Plans	2				5	5	5	5	30						52	$ 6,913
Sign Details	2				2	4			10						18	$ 2,683
Sign Quantities	2					2		6							10	$ 1,448
Retaining Wall Plans	5	15					30	40	80						170	$ 21,387
Retaining Wall Details		5				10		25	40						80	$ 9,870
Retaining Wall Quantites						5		20	5						30	$ 3,453
Plant List											5				5	$ 943
Planting Plans	2					3			10		5	10			30	$ 4,294
Irrigation Plan	2					3			10		5	10			30	$ 4,294

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
Sprinkler Schedule and Details	2								20						22	$ 3,010
Irrigation Quantities	2					3						10			15	$ 2,108
Signal and Lighting	2	12			40	40		50	80						224	$ 30,020
Communication Conduit	2				2	6			8						18	$ 2,730
Electrical Service (Irrigation)	2				2	6			8						18	$ 2,730
Electrical Details	2				2	2			4						10	$ 1,642
Railroad Design/Coordination	10	40	5			60	40		80						235	$ 33,598
Updated Technical Reports	2	2				10	15	40	10	10					89	$ 10,271
Updated Specifications	5	10				20	20			20					75	$ 9,738
Updated Construction Cost	5	10				25		40	25						105	$ 13,911
Constructability Review / Coordination	15	15				25			5	5					65	$ 11,047
Drafting Standard and CADD Compliance						5			20						25	$ 3,224
J. Final PS&E (100% Complete)																
Respond to Agency Review Comments	5	5		5	5	20	15	10		10					75	$ 10,220
Title Sheet							1		5						6	$ 739
Index of Sheets																
Typical Cross Sections	2					5	5	10	20						42	$ 5,384
Key Map & Line Index							1		5						6	$ 739
Layout	2	2				12	15	20	30						81	$ 10,207
Profile and Superelevation Diagram	1	1				12	18	30	30						92	$ 11,183
Construction Details	2	4		2	2	16		40	40						106	$ 13,323
Temp Water Pollution Control Plan	2	3				9	9	22	30						75	$ 9,428
Temp Water Pollution Control Details						2	2	5	20						29	$ 3,539
Temp Water Pollution Control Quantities						2	5	5	3						15	$ 1,780
Countour Grading				2			5		40						47	$ 5,868
Drainage Plan				5			20								25	$ 3,126
Drainage Profiles				5			20								25	$ 3,126
Drainage Details				5			10								15	$ 1,949
Drainage Quantities				5			10								15	$ 1,949
Utility Plans (Composite)		2	2			4	8	16	16						48	$ 5,921
Water Line Plan	1	2	2			4	6	14	18						47	$ 5,988
Reclaimed Water Line Plan	1	2	2			4	6	12	16						43	$ 5,530
Sewer Plan & Profile	1	2	2			4	6	12	16						43	$ 5,530
Transportation Management Plan	2				5	10		10		5					32	$ 4,235

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Plans, Specs & Estimates	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 9, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
Stage Construction and Traffic Handling Plan	5				40	20			40						105	$ 15,716
Construction Area Signs	2				4	4	4	4	12						30	$ 4,144
Pavement Delineation Plan	2				2	4	4	4	8						24	$ 3,324
Pavement Delineation Quantities	2				1		4								7	$ 1,158
Summary of Quantities	2	4				8	12	12	8						46	$ 6,014
Sign Plans	2				2	2	2	2	10						20	$ 2,832
Sign Details	2				2	2			5						11	$ 1,766
Sign Quantities	2					2		4							8	$ 1,239
Retaining Wall Plans	2					10	10	14	30						66	$ 8,373
Retaining Wall Details						3	3	5	20						31	$ 3,805
Retaining Wall Quantites						2	2	6	3						13	$ 1,532
Plant List											5				5	$ 943
Planting Plans	2					3			10		5	10			30	$ 4,294
Irrigation Plan	2					3			10		5	10			30	$ 4,294
Sprinkler Schedule and Details									10						10	$ 1,243
Irrigation Quantities	2					3						10			15	$ 2,108
Signal and Lighting	2				20	16		30	40						108	$ 14,238
Communication Conduit	2				2	2			4						10	$ 1,642
Electrical Service (Irrigation)	2				2	2			4						10	$ 1,642
Electrical Details	2				1	1			2						6	$ 1,083
Railroad Design/Coordination	8	30	5			60			80						183	$ 26,753
Updated Specifications		2			4	10				24					40	$ 4,253
Updated Construction Cost						10	20	40	8						78	$ 9,012
Construction Staking Package		5				8	40		40	10					103	$ 12,419
Resident Engineer's Pending File		5				30		15	15	20					85	$ 10,177
SWPPP		10				30		40		40					120	$ 13,239
Contract Documents Ready to Advertise	5					10	10	25	40	5					95	$ 11,930

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Bid Support	Phase III
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST		HOURS	COST
	$262.54	$161.14	$202.01	$154.37	$161.92	$147.80	$117.71	$104.64	$124.25	$75.21	$188.67	$113.99	$194.95			
Total Manhours	4	16				16	40			8					84	
ARTICLE AVI - CONSTRUCTION BIDDING																
RFIs & Clarification	4	16				16	40			8					84	$ 11,303
Addendums																

MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Kimley-Horn and Associates, Inc.	Construction Support	Phase IV
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PROJECT MANAGER	SENIOR ENGINEER	QC/SENIOR ENGINEER	SENIOR DRAINAGE ENGINEER	SENIOR TRAFFIC ENGINEER	PROJECT ENGINEER	ENGINEER	ASSISTANT ENGINEER	CADD DESIGNER	ADMIN SUPPORT	SR LA	LA	SR. NOISE SPECIALIST	HOURS	COST
	$262.54	$161.14	$202.01	$154.37	$161.92	$147.80	$117.71	$104.64	$124.25	$75.21	$188.67	$113.99	$194.95		
Total Manhours	8	88				184			160	24				464	
ARTICLE AVII - CONSTRUCTION SUPPORT															
Change Order Reviews	4	8				40				8				60	$ 8,853
RFI Responses	4	24				40			80	8				156	$ 21,371
Shop Drawing/Submittal Reviews		24				80				4				108	$ 15,992
Field Visits/Meetings		24				24								48	$ 7,414
Record Drawings		8							80	4				92	$ 11,530

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Geocon Consultants, Inc.	Geotechnical	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Joe Vettel	Principal Engineer	44	@	$53.00	$2,332.00
Yong Wang	Senior Engineer	263	@	$34.00	$8,942.00
Paul Theriault	Senior Geologist	100	@	$33.50	$3,350.00
Ken Cox	Senior Engineer	32	@	$30.75	$984.00
Elizabeth Hartung	Staff Geologist	26	@	$25.25	$656.50
Rueben Aguilar	Draftsman	70	@	$24.00	$1,680.00
Dalene McConnel-Cram	Word Processor	20	@	$22.50	$450.00
	TOTAL HOURS	**555**		TOTAL DIRECT LABOR	**$18,394.50**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	189.00%	(of Direct Labor + Escalation)	$34,765.61
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	8.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$4,252.81
		TOTAL MULTIPLIERS	**$39,018.41**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
GDR-lab testing	1	LS	@	$7,350.00	$7,350.00
FR-lab testing	1	LS	@	$5,870.00	$5,870.00
ATL-lab testing - ADL (Environmental)	1	LS	@	$3,360.00	$3,360.00
ATL-lab testing - Railroad (Environmental)	1	LS	@	$11,800.00	$11,800.00
ATL-lab testing - 3230 Ramsey (Environmental)	1	LS	@	$4,380.00	$4,380.00
GDR-driller	1	LS	@	$11,000.00	$11,000.00
FR-driller	1	LS	@	$11,000.00	$11,000.00
GDR-traffic control	1	LS	@	$1,000.00	$1,000.00
FR-traffic control	1	LS	@	$1,000.00	$1,000.00
				TOTAL ODC'S	**$56,760.00**

TOTAL **$114,172.91**

SUBCONSULTANT MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Geocon Consultants, Inc.	Geotechnical	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PRINCIPAL ENGINEER	SENIOR ENGINEER	SENIOR GEOLOGIST	SENIOR ENGINEER	STAFF GEOLOGIST	DRAFTSMAN	WORD PROCESSOR								HOURS	COST
	$165.42	$106.12	$104.56	$95.98	$78.81	$74.91	$70.23									
Total Manhours	**44**	**263**	**100**	**32**	**26**	**70**	**20**								**555**	
ARTICLE AII - PROJECT ADMINISTRATION	**4**	**16**													**20**	**$ 2,360**
A. Project Management	**1**	**4**													**5**	**$ 590**
D. Scheduling	**3**	**12**													**15**	**$ 1,770**
E. Progress Reporting	**2**	**18**													**20**	**$ 2,241**
F. Contract Administration																
ARTICLE AIII - PLANNING & PROJ DEV	**2**	**28**													**30**	**$ 3,302**
A. Research and Data Gathering	**2**	**28**	**10**												**40**	**$ 4,348**
C. Permits	**4**	**40**	**20**			**8**	**2**								**74**	**$ 7,737**
G. Preliminary Geotechnical Report	**18**	**24**		**22**	**26**	**10**	**10**								**110**	**$ 11,136**
I. Environmental	**3**	**50**	**40**	**5**		**24**	**2**								**124**	**$ 12,403**
L. Geotechnical Design Reports																
ARTICLE AIV - STRUCTURES	**3**	**30**	**30**	**5**		**24**	**3**								**95**	**$ 9,305**
B. Geotechnical Coordination and Foundation Rpt	**1**	**9**				**2**	**2**								**14**	**$ 1,411**
G. Final PS&E	**1**	**4**				**2**	**1**								**8**	**$ 810**
Respond to Agency Review Comments																

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	**Structures (DBE)**	**All Phases**
PROJECT: **Sunset Avenue/UP Grade Separation**		DATE: **March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Mark Creveling	Principal Engineer	16	@	$90.16	$1,442.56
Craig Shannon	Sr Bridge / VE Eng			$50.65	
Andrew Sanford	Project Manager	390	@	$58.86	$22,955.40
Keith Gazaway	Sr Bridge Engineer	616	@	$49.27	$30,350.32
Steve Hall	Sr Bridge Engineer	156	@	$42.84	$6,683.04
Lise Muco	Asst Engineer	460	@	$30.58	$14,066.80
Colby Cushing	Asst Engineer	80	@	$30.80	$2,464.00
Ty Brittan	Sr Technician	282	@	$52.94	$14,929.08
Kristina Donovan	CADD Technician	60	@	$33.70	$2,022.00
Robin McLinden	Admin Support			$29.39	
	TOTAL HOURS	**2,060**		TOTAL DIRECT LABOR	**$94,913.20**

MULTIPLIERS

ESCALATION @		(Rates Vary by Phase)	
OVERHEAD @	135.66%	(of Direct Labor + Escalation)	$128,759.25
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	8.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$17,893.80
		TOTAL MULTIPLIERS	**$146,653.04**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Reproduction & Delivery Costs	1	LS	@	$3,000.00	$3,000.00
Mileage Costs	1200	Miles	@	$0.50	$600.00
				TOTAL ODC'S	**$3,600.00**

TOTAL **$245,166.24**

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	**Structures (DBE)**	**Phase II**
PROJECT: **Sunset Avenue/UP Grade Separation**		DATE: **March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Mark Creveling	Principal Engineer	16	@	$90.16	$1,442.56
Craig Shannon	Sr Bridge / VE Eng			$50.65	
Andrew Sanford	Project Manager	230	@	$58.86	$13,537.80
Keith Gazaway	Sr Bridge Engineer	616	@	$49.27	$30,350.32
Steve Hall	Sr Bridge Engineer	156	@	$42.84	$6,683.04
Lise Muco	Asst Engineer	460	@	$30.58	$14,066.80
Colby Cushing	Asst Engineer	80	@	$30.80	$2,464.00
Ty Brittan	Sr Technician	282	@	$52.94	$14,929.08
Kristina Donovan	CADD Technician	60	@	$33.70	$2,022.00
Robin McLinden	Admin Support			$29.39	
	TOTAL HOURS	**1,900**		TOTAL DIRECT LABOR	**$85,495.60**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	135.66%	(of Direct Labor + Escalation)	$115,983.33
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	8.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$16,118.31
		TOTAL MULTIPLIERS	**$132,101.65**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Reproduction & Delivery Costs	1	LS	@	$3,000.00	$3,000.00
Mileage Costs	1200	Miles	@	$0.50	$600.00
				TOTAL ODC'S	**$3,600.00**

TOTAL **$221,197.25**

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	**Structures (DBE)**	**Phase III**
PROJECT: **Sunset Avenue/UP Grade Separation**		DATE: **March 7, 2011**

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Mark Creveling	Principal Engineer			$90.16	
Craig Shannon	Sr Bridge / VE Eng			$50.65	
Andrew Sanford	Project Manager	32	@	$58.86	$1,883.52
Keith Gazaway	Sr Bridge Engineer			$49.27	
Steve Hall	Sr Bridge Engineer			$42.84	
Lise Muco	Asst Engineer			$30.58	
Colby Cushing	Asst Engineer			$30.80	
Ty Brittan	Sr Technician			$52.94	
Kristina Donovan	CADD Technician			$33.70	
Robin McLinden	Admin Support			$29.39	
	TOTAL HOURS	**32**		TOTAL DIRECT LABOR	**$1,883.52**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	135.66%	(of Direct Labor + Escalation)	$2,555.18
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	8.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$355.10
		TOTAL MULTIPLIERS	**$2,910.28**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Reproduction & Delivery Costs		LS	$3,000.00	
Mileage Costs		Miles	$0.50	

TOTAL ODC'S

TOTAL **$4,793.80**

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	Structures (DBE)	Phase IV
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
Mark Creveling	Principal Engineer			$90.16	
Craig Shannon	Sr Bridge / VE Eng			$50.65	
Andrew Sanford	Project Manager	128	@	$58.86	$7,534.08
Keith Gazaway	Sr Bridge Engineer			$49.27	
Steve Hall	Sr Bridge Engineer			$42.84	
Lise Muco	Asst Engineer			$30.58	
Colby Cushing	Asst Engineer			$30.80	
Ty Brittan	Sr Technician			$52.94	
Kristina Donovan	CADD Technician			$33.70	
Robin McLinden	Admin Support			$29.39	
	TOTAL HOURS	**128**		TOTAL DIRECT LABOR	**$7,534.08**

MULTIPLIERS

ESCALATION @		(of Direct Labor)	
OVERHEAD @	135.66%	(of Direct Labor + Escalation)	$10,220.73
PAYROLL ADDITIVES @		(of Direct Labor + Escalation)	
PROFIT (FIXED FEE) @	8.0%	(of Direct Labor + Escalation + Overhead + Payroll Additives)	$1,420.39
		TOTAL MULTIPLIERS	**$11,641.12**

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Reproduction & Delivery Costs		LS	$3,000.00	
Mileage Costs		Miles	$0.50	

TOTAL ODC'S

TOTAL **$19,175.20**

SUBCONSULTANT MANHOUR WORKSHEET SUMMARY

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	Structures (DBE)	All Phases
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PRINCIPAL ENGINEER	SR BRIDGE / VE ENG	PROJECT MANAGER	SR BRIDGE ENGINEER	SR BRIDGE ENGINEER	ASST ENGINEER	ASST ENGINEER	SR TECHNICIAN	CADD TECHNICIAN	ADMIN SUPPORT	HOURS
	$229.47	$128.91	$149.81	$125.40	$109.03	$77.83	$78.39	$134.74	$85.77	$74.80	
PHASE TOTALS	**16**		**390**	**616**	**156**	**460**	**80**	**282**	**60**		**2,060**
PHASE I											
PHASE II	16		230	616	156	460	80	282	60		1,900
PHASE III			32								32
PHASE IV			128								128

SUBCONSULTANT MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	Structures (DBE)	Phase II
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PRINCIPAL ENGINEER	SR BRIDGE / VE ENG	PROJECT MANAGER	SR BRIDGE ENGINEER	SR BRIDGE ENGINEER	ASST ENGINEER	ASST ENGINEER	SR TECHNICIAN	CADD TECHNICIAN	ADMIN SUPPORT					HOURS	COST
	$229.47	$128.91	$149.81	$125.40	$109.03	$77.83	$78.39	$134.74	$85.77	$74.80						
Total Manhours	16		230	616	156	460	80	282	60						1,900	
ARTICLE AIII - PLANNING & PROJ DEV																
B. Project Development Team			40												40	$ 5,992
ARTICLE AIV - STRUCTURES																
C. Structural Design and Calculations																
Sunset Ave UC [abutment walls]			20	40		120									180	$ 17,352
Sunset Ave UP [RR grade sep]			40	360			80								480	$ 57,407
D. Structures Specifications & Estimate																
Specs, Qtys, & Estimate			24	40		40									104	$ 11,724
E. Independent Check and Quality Control																
Sunset Ave UC [abutment walls]			4	8	80										92	$ 10,325
Sunset Ave UP [RR grade sep]			8	16	16	240									280	$ 23,629
F. Draft PS&E																
Initial 65% PS&E (Unchecked Details)								200	40						240	$ 30,379
Intermediate 90% PS&E (Checked Details)	8		42	60	60	40		40	20						270	$ 32,412
G. Final PS&E																
Final 95% PS&E	8		30	60		20		30							148	$ 19,453
Expedite 100% PS&E			22	32				12							66	$ 8,925

SUBCONSULTANT MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	Structures (DBE)	Phase III
PROJECT:		DATE:
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PRINCIPAL ENGINEER	SR BRIDGE / VE ENG	PROJECT MANAGER	SR BRIDGE ENGINEER	SR BRIDGE ENGINEER	ASST ENGINEER	ASST ENGINEER	SR TECHNICIAN	CADD TECHNICIAN	ADMIN SUPPORT	HOURS	COST
	$229.47	$128.91	$149.81	$125.40	$109.03	$77.83	$78.39	$134.74	$85.77	$74.80		
Total Manhours			32								32	
ARTICLE AVI - CONSTRUCTION BIDDING												
RFIs & Clarification			16								16	$ 2,397
Addendums			16								16	$ 2,397

SUBCONSULTANT MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Simon Wong Engineering	Structures (DBE)	Phase IV
PROJECT:		**DATE:**
Sunset Avenue/UP Grade Separation		March 7, 2011

TASK	PRINCIPAL ENGINEER	SR BRIDGE / VE ENG	PROJECT MANAGER	SR BRIDGE ENGINEER	SR BRIDGE ENGINEER	ASST ENGINEER	ASST ENGINEER	SR TECHNICIAN	CADD TECHNICIAN	ADMIN SUPPORT	HOURS	COST
	$229.47	$128.91	$149.81	$125.40	$109.03	$77.83	$78.39	$134.74	$85.77	$74.80		
Total Manhours			128								128	
ARTICLE AVII - CONSTRUCTION SUPPORT												
Change Order Reviews			16								16	$ 2,397
RFI Responses			16								16	$ 2,397
Shop Drawing/Submittal Reviews			40								40	$ 5,992
Field Visits/Meetings			16								16	$ 2,397
Record Drawings			40								40	$ 5,992

SUBCONSULTANT FEE PROPOSAL WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Tait & Assoc.	Caltrans Coordination	Phase II
PROJECT: Sunset Avenue/UP Grade Separation		DATE: March 7, 2011

DIRECT LABOR

PERSONNEL	POSITION	HOURS		RATE	AMOUNT
David Tait	Project Manager	50	@	$238.00	$11,900.00

TOTAL HOURS **50** TOTAL DIRECT LABOR **$11,900.00**

MULTIPLIERS

ESCALATION @	(of Direct Labor)
OVERHEAD @	(of Direct Labor + Escalation)
PAYROLL ADDITIVES @	(of Direct Labor + Escalation)
PROFIT (FIXED FEE) @	(of Direct Labor + Escalation + Overhead + Payroll Additives)

TOTAL MULTIPLIERS

OTHER DIRECT COSTS

••• Billed at Actual Cost •••

ITEM	QUANTITY	UNIT		UNIT COST	AMOUNT
Travel	12	EA	@	$400.00	$4,800.00

TOTAL ODC'S **$4,800.00**

TOTAL **$16,700.00**

SUBCONSULTANT MANHOUR WORKSHEET

COMPANY:	SCOPE OF WORK:	PHASE:
Tait & Assoc.	Caltrans Coordination	Phase II
PROJECT: Sunset Avenue/UP Grade Separation		DATE: March 7, 2011

TASK	PROJECT MANAGER														HOURS	COST
	$238.00															
Total Manhours	**50**														**50**	
Project Advocate Services	**50**														**50**	**$ 11,900**