

**FOURTH AMENDMENT TO  
PROFESSIONAL SERVICES AGREEMENT**

**BETWEEN THE CITY OF CORONA  
AND  
JACOBS ENGINEERING GROUP, INC.  
ENGINEERING AND RIGHT OF WAY DESIGN SERVICES – CAJALCO/I-15  
INTERCHANGE IMPROVEMENT, PROJECT NO. 56-1203**

**1. PARTIES AND DATE.**

This Fourth Amendment to the Professional Services Agreement (“Fourth Amendment”) is made and entered into this 5th day of January, 2022 by and between the City of Corona (“City”) and **Jacobs Engineering Group, Inc.** (“Consultant”). City and Consultant are sometimes individually referred to as “Party” and collectively as “Parties” in this Fourth Amendment.

**2. RECITALS.**

2.1 Agreement. City and Consultant entered into that certain Professional Services Agreement dated on or about May 16, 2012 (“Agreement”), whereby Consultant agreed to provide **Engineering and Right of Way Design** consulting services.

2.2 Prior Amendments. City and Consultant entered into that certain First Amendment to the Professional Services Agreement dated on or about March 1, 2017 (“First Amendment”). City and Consultant entered into that certain Second Amendment to the Professional Services Agreement dated on or about February 3, 2020, (“Second Amendment”). City and Consultant entered into that certain Third Amendment to the Professional Services Agreement dated on or about November 10, 2020, (“Third Amendment”).

2.3 Amendment. City and Consultant desire to amend the Agreement for the fourth time to (1) amend the Scope of Services for Consultant to provide Right-of-Way Closeout Services; (2) amend the Consultant’s compensation for the added services; (3) replace Exhibit “A-2” (Scope of Services) with Exhibit “A-3” (Scope of Services); and (4) replace Exhibit “C-2” (Compensation) with Exhibit “C-3” (Compensation).

**3. TERMS.**

3.1 General Scope of Services. Section 3.1.1 (General Scope of Services) of the Agreement is hereby deleted in its entirety and replaced with the following:

"3.1.1 General Scope of Services. Consultant promises and agrees to furnish to the City all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately supply the professional **Engineering and Right of Way Design** consulting services necessary for the Project (“Services”). The Services are more particularly described in Exhibit “A-3”

attached hereto and incorporated herein by reference. All Services shall be subject to, and performed in accordance with, this Agreement, the exhibits attached hereto and incorporated herein by reference, and all applicable local, state and federal laws, rules, and regulations.”

3.2 Compensation. Section 3.4.3 (Compensation) and Exhibit “C” (Consultants Cost Proposal) of the Agreement as amended by the Second Amendment are hereby deleted in their entirety and replaced with the following:

“3.4.3 Compensation. The basis of payment for the services provided under this Agreement shall be cost-plus-a-fixed fee.

3.4.3.1. The City shall reimburse the Consultant for actual costs (including labor costs, employee benefits, overhead and other direct costs) incurred by the Consultant in performance of the work, in an amount not to exceed **Five Million Two Hundred Forty Thousand Five Hundred Eighty Dollars and Ninety-six Cents (\$5,240,580.96)** exclusive of any fixed fee. Actual costs shall not exceed the estimated wage rates and other costs set forth in the Consultant’s cost proposal attached hereto as Exhibit “C-3” and incorporated herein by this reference. In the event of conflict between the Consultant’s cost proposal and any term of condition of this Agreement, this Agreement shall prevail.

3.4.3.2. In addition to the costs referred to in Section 3.4.3.1, the City shall pay the Consultant a fixed fee of **One Hundred Eighty-five Thousand Eight Hundred Fifty-two Dollars and Thirty Cents (\$185,852.30)**. Said fixed fee shall not be altered, unless there is a significant alteration in the scope, complexity, or character of the work to be performed which is documented as an amendment.

3.4.3.3. Consultant shall not be reimbursed for any expenses unless authorized in writing by City.

3.4.3.4. Total expenditures made under this Agreement, including the fixed fee shall not exceed the sum of **Five Million Four Hundred Twenty-six Thousand Four Hundred Thirty-three Dollars and Twenty-six Cents (\$5,426,433.26).**”

3.3 Exhibit “A-3”. Exhibit “A-2” (Scope of Services) of the Agreement as amended by the Second Amendment is hereby deleted in its entirety and replaced with Exhibit “A-3” (Scope of Services) attached hereto and incorporated herein by reference.

3.4 Continuing Effect of Agreement. Except as amended by this Fourth Amendment, all provisions of the Agreement shall remain unchanged and in full force and effect. From and after the date of this Fourth Amendment, whenever the term “Agreement” appears in the Agreement, it shall mean the Agreement as amended by this Fourth Amendment.

3.5 Adequate Consideration. The Parties hereto irrevocably stipulate and agree that they have each received adequate and independent consideration for the performance of the obligations they have undertaken pursuant to this Fourth Amendment.

3.6 Counterparts. This Fourth Amendment may be executed in duplicate originals, each of which is deemed to be an original, but when taken together shall constitute but one and the same instrument.

**[SIGNATURES ON FOLLOWING PAGE]**

**CITY'S SIGNATURE PAGE FOR  
FOURTH AMENDMENT TO  
PROFESSIONAL SERVICES AGREEMENT**

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AND  
JACOBS ENGINEERING GROUP, INC.  
ENGINEERING AND RIGHT OF WAY DESIGN SERVICES – CAJALCO/I-15  
INTERCHANGE IMPROVEMENT, PROJECT NO. 56-1203**

IN WITNESS WHEREOF, the Parties have entered into this Fourth Amendment to Professional Services Agreement as of the date first written above.

**CITY OF CORONA**

By:

\_\_\_\_\_  
Savat Khamphou, P.E., P.L.S.  
Public Works Director/City Engineer

Reviewed By:

\_\_\_\_\_  
Peter Ramey  
Engineering Consultant

Reviewed By:

\_\_\_\_\_  
Scott Briggs  
Purchasing Specialist V

Attest:

\_\_\_\_\_  
Sylvia Edwards, City Clerk  
City of Corona, California

**CONSULTANT'S SIGNATURE PAGE FOR  
FOURTH AMENDMENT TO  
PROFESSIONAL SERVICES AGREEMENT**

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JACOBS ENGINEERING GROUP, INC.  
ENGINEERING AND RIGHT OF WAY DESIGN SERVICES – CAJALCO/I-15  
INTERCHANGE IMPROVEMENT, PROJECT NO. 56-1203**

IN WITNESS WHEREOF, the Parties have entered into this Fourth Amendment to the Professional Services Agreement as of the date first written above.

**JACOBS ENGINEERING GROUP, INC.**  
a Delaware corporation

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title (President, Vice President, or CEO)

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title (Secretary, Treasurer or CFO)

## **EXHIBIT "A-2"**

### **SCOPE OF SERVICES**

#### **A. OVERVIEW**

The PROJECT will provide for the reconstruction of the interchange located on Interstate 15 at Cajalco Road in the City of Corona. The proposed improvements will increase the capacity of the bridge and ramps in order to reduce congestion and accommodate projected growth in the area. The CONSULTANT shall perform professional and technical services to provide support to the CITY for the preparation of plans, specifications, and estimate (PS&E) necessary to complete the construction. The work shall include the following, but not limited to:

- (1) Geotechnical Engineering,
- (2) Structural Engineering,
- (3) Roadway Engineering,
- (4) Aerial and Ground Survey,
- (5) Hydraulic and Drainage Engineering,
- (6) Storm Water Pollution Plan Preparation (SWPPP),
- (7) Right-of-Way Drawings, Legal and Plats,
- (8) Right-of-Way Acquisition
- (9) Utility Coordination,
- (10) Landscape and Irrigation Plans
- (11) Processing all forms, maps and documents for required permits,
- (12) Development of the PS&E, and
- (13) Typical schedule of activities.

The objective of this work is to complete the design and secure approval of all plans, specifications, estimates, and permits from all applicable agencies for the PROJECT in order to advertise, bid, and award a construction contract.

#### **1. Background**

The I-15/Cajalco Road interchange was originally constructed in 1965 as a trumpet interchange providing access only to the east side of I-15 via northbound on- and off-ramps and a southbound off-ramp. Access was limited to the east side of I-15 because Cajalco Road did not extend west of I-15 at that time. In 1987, the interchange was reconfigured to a full service trumpet interchange with a southbound on-ramp and the original one-lane overcrossing bridge replaced with a bi-directional two-lane overcrossing. In the following years, significant development occurred in the area and Eagle Glen Parkway, a four-lane arterial extension of Cajalco Road, was constructed just west of I-15 providing access to the new housing developments. In 1999, the interchange was reconfigured once again. The southbound ramps were modified to a cloverleaf configuration and the northbound ramps were modified to a spread diamond

configuration in order to provide additional access to I-15. In 2000, Cajalco Road was widened east of the I-15 between Grand Oaks and Temescal Canyon Road from one lane in each direction to accommodate three lanes in each direction. Cajalco Road remains a two-lane facility at I-15 between the ramp intersections on the original narrow overcrossing.

In 2005, Congress approved SAFETEA-LU, which earmarked \$8.0 million for the construction of the PROJECT. In an effort to expedite the PROJECT, RCTC and the PROJECT team initiated preliminary engineering and environmental studies in support of the PA/ED phase in October 2006. A PROJECT Study Report/PROJECT Development Support (PSR/PDS) was completed and approved for this PROJECT by CALTRANS in April 2008. The PSR/PDS included a no-build alternative and three build alternatives. Two of the alternatives originated from the Value Analysis held in October 2006 and the third alternative originated from the Mid County Parkway (MCP) Project, a 32-mile planned east-west freeway facility connecting SR 79, I-215 and I-15. All of the PSR/PDS alternatives were carried forward into the PA/ED phase, which began in June 2007. In October 2007, an Alternative Evaluation Report was prepared and concluded that only one of the build alternatives would be viable.

The planning phase of the PROJECT has been completed, including the Categorical Exclusion/Categorical Exemption Determination, Project Report, GAD, Value Analysis, Modified Access Report and the CALTRANS Co-Op for Design and Right of Way. These documents are available for review at:

<http://discovercorona.com/City-Departments/Public-Works/Construction-Projects/Project-Documents.aspx>.

## **2. PROJECT Description**

The PROJECT includes the construction of a six-lane overcrossing bridge on a new alignment north of the existing bridge. In addition, the existing northbound and southbound ramp intersections would be reconfigured and all existing ramps would be realigned. The existing northbound on-ramp would be modified to serve the westbound Cajalco Road traffic and a northbound loop on-ramp would be constructed to serve the eastbound Cajalco Road traffic. The new bridge will consist of six 12' lanes, a 12' striped median, 8' outside shoulders, and a 5' sidewalk on the south side. The PROJECT includes all associated noise mitigation and utility relocation.

This alternative is considered the ultimate build-out because it is compatible with the MCP and the future I-15 HOV/HOT projects. Reconstruction of the Cajalco Road interchange must accommodate the potential construction of a future freeway-to-freeway interchange at the junction of I-15 and the proposed Mid-County Parkway (MCP). The alternative recommended in the Project Report accommodates the preliminary design of the future MCP.

**The following presents the scope of work for the PS&E Phase based upon the selected preferred alternative identified in the PR/ED Phase.** The selected CONSULTANT is expected to prepare all reports, studies and plans to meet the requirements of all oversight agencies including, but not limited to, CALTRANS and the FHWA. CITY staff will provide overall PROJECT coordination, and will handle

administrative and policy matters. CALTRANS and FHWA, the County of Riverside, and the affected Cities will provide oversight, guidance and interpretation on matters relating to State, Federal, County, and CITY policies and regulations. The County of Riverside and RCTC will provide input on the proposed land use requirements, local circulation policies and coordination in regards to future planned projects.

## **B. DATA COLLECTION**

The PROJECT will involve the review and assimilation of a large amount of existing data and the generation of new data. The selected CONSULTANT will be expected to determine what data sources are necessary to gather and by what date, and to prioritize the gathering of that data.

CONSULTANT shall research and review all previous work performed to date in the PROJECT vicinity that impacts the design of the improvements, including but not limited to:

- Existing improvement plans/engineering reports of record
- Right-of-way mapping, ownership records
- Preliminary engineering and reports for this PROJECT
- Environmental clearance and mitigation measures
- CITY/other agency engineering design standards, codes, and plan processing procedures

The CITY expects that the selected team will make the best use of existing data to minimize waste and duplication of work efforts.

## **C. COORDINATION**

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

- CALTRANS
- Federal Highway Administration
- Nationwide permit through the ACOE, pursuant to Section 404 of the Clean Water Act.
- Riverside County Flood Control and Water Conservation District
- A Section 1600 Streambed Alteration Agreement with the California Dept. of Fish and Game.
- A Section 401 Certification or waiver from the Region 4 of the Regional Water Quality Control Board.
- Utility Companies
- County of Riverside



- Riverside County Transportation Commission

CALTRANS will exercise review and approval function through the CITY PROJECT MANAGER at key points in the development process. All contacts with CALTRANS will be directed through the CITY PROJECT MANAGER. Milestone PROJECT design reviews will be performed for the specific products and deliverables listed herein. The CITY 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 CONSULTANT with approval of CITY.

CONSULTANT shall supply to other agencies and utility companies the minimum number of sets required by them for their review along with any other required data, including permit applications. Process plans and technical specifications to obtain permits/approval from other agencies as required for construction of the improvements. Permit application fees will be reimbursed, and/or paid for, by the CITY for the amount stipulated on the permit or receipt.

#### **D. MEETINGS/PUBLIC INVOLVEMENT**

The selected CONSULTANT should schedule at least two (2) public workshops/public information meetings to inform the public about the PROJECT. CONSULTANT shall provide written and electronic handouts, presentations, 3-D simulations, displays, mailers, and other materials necessary to support the public meetings.

The selected CONSULTANT is expected to make presentations at City Council Meetings and/or Committees at least four (4) workshops to inform City Council about the PROJECT, PROJECT progress, proposed architectural treatments, proposed landscape, etc. CONSULTANT shall provide written and electronic handouts, presentations, displays, mailers, and other materials necessary to support the public meetings.

CONSULTANT shall conduct trend meetings with the CITY's PROJECT MANAGER and other interested parties, as requested by the CITY, on a bi-weekly basis or as may be mutually scheduled by the Parties at a standard day and time. These trend meetings will encompass focused and informal discussions concerning scope, schedule, and current progress of services, and future PROJECT objectives. CONSULTANT shall be responsible for the preparation and distribution of meeting agendas to be received by the CITY and other attendees no later than 3 working days prior to the meeting.

#### **E. PHASES OF WORK**

The services performed by CONSULTANT will be accomplished in three Phases:

- Phase I –Plans, Specifications, and Estimate
- Phase II - Construction Bid Support (optional)
- Phase III - Construction Support (optional)

#### **F. STANDARDS**

The PROJECT plans, specifications, and estimates shall be prepared in accordance with current 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 CITY standards in lieu of CALTRANS standards as directed by CITY. All Documents shall be prepared using US standards and dimensions.

**1. Survey**

All surveys shall be performed by CONSULTANT in accordance with the current CALTRANS "Survey Manual" and its revisions. Work not covered by the manual shall be performed in accordance with accepted professional surveying standards. The CONSULTANT shall be responsible to verify datum with Caltrans and the CITY.

The minimum standard of survey quality shall be that of similar surveys performed by CALTRANS. CALTRANS may designate the existing horizontal and vertical control monuments that are to be the basis of all performed surveys. CALTRANS may provide the California Coordinate System values and/or elevation values for these monuments. The CONSULTANT shall adjust all CONSULTANT-performed survey to the designated control monuments and their values. The CONSULTANT shall provide cross-sections at a scale and frequency approved by the CALTRANS within the limits described. Topography shall include, but not be limited to, all features within the right-of-way. Topography shall extend between Temescal Road and Bedford Canyon Road, and future curb returns at all intersections and include driveways, existing sewer manhole inverts, top of cone, and rim elevations.

Private right-of-way acquisitions and temporary construction easements will be required. Additional survey may be required in order to develop exhibits necessary to secure right-of-way acquisition and construction easement agreements. Survey data should be of sufficient scope and area for CITY to acquire necessary right-of-way.

**2. Design**

Roadway, Bridge, Landscape and Irrigation design shall be in accordance with the current CALTRANS Design Manuals and revisions. Basic design shall be in accordance with the approved Project Report and final environmental document with supplements and updates.

**3. PS&E**

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

Bridge plans shall be prepared in accordance with the CALTRANS Bridge Design Details Manual, Bridge Design Aids Manual, and Bridge Memos to Designers, Division of Structures current edition.

Roadway plans shall be prepared in conformance with the current CALTRANS standards and requirements. All Roadway plans shall be on single sheet files. Graphic files shall conform to the CALTRANS current standards and requirements for Data Format.

Landscape and Irrigation plans shall be prepared in conformance with CITY'S Specific Plan, CITY'S Water Conservation Ordinance and CALTRANS standards and requirements. Irrigation Plans shall be prepared based on use of CITY's Reclaimed Water, and in conformance with standards of the Department of Health Services.

Special Provisions shall be prepared using Microsoft Word conforming to CALTRANS format and content. Bridge Specifications shall be prepared in conformance with the CALTRANS Bridge Design Specifications, Division of Structures current edition.

All plans for roadways or related facilities within CITY jurisdiction shall conform to the CITY's Standard Plans and design standards.

The responsible CONSULTANT/Engineer shall sign all Plans, Specifications, and Estimates (PS&E) and engineering data furnished by him/her, and where appropriate, indicate his/her California registration number.

**4. Geotechnical Design Report**

The Geotechnical Design Report shall be prepared in conformance with current CALTRANS standards and requirements.

**5. PROJECT Files**

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

**6. Calculations**

All roadway calculations and structural analyses and design will be performed using CALTRANS current standards and requirements. Data files and results will be submitted in a Digital Media format and hard copies.

**7. Computer Aided Drafting and Design (CADD)**

All plans will be prepared in conformance with the latest Caltrans CADD User's Manual and the Caltrans Drafting Manual to assure complete compatibility.

**G. PROJECT ADMINISTRATION**

**1. PROJECT Management**

PROJECT Development Team (PDT) meetings with the CITY PROJECT MANAGER, CALTRANS PROJECT MANAGER, and other representatives from affected agencies and private developers will be held at least once a month, and may

be held on a bi-weekly basis. The CONSULTANT shall prepare meeting agendas and minutes for each meeting. The minutes shall be distributed within 5 days after the meeting to all attendees. The minutes shall include, but not be limited to, a list of attendees with phone numbers and email, a synopsis of discussion items, any pertinent information, action items, and all follow-ups to the action items.

The CONSULTANT shall monitor quality on all deliverables, calculations, and other work products. The CONSULTANT shall prepare a Quality Control Plan for use on this phase of the PROJECT, and submit a copy to the City within thirty (30) calendar days of Notice-to-Proceed. This is not a separate task, but shall be included as part of PROJECT management. The CONSULTANT shall attend meetings as required to complete the PROJECT, including CALTRANS Safety Review meetings, Design Review meetings, Pavement Peer Review meetings, Constructability Review meetings, Quality meetings, and informational meetings with stakeholders.

**2. Budgeting**

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

**3. Cost Accounting**

The CONSULTANT will prepare monthly reports of expenditures for the PROJECT by task and milestone. Expenditures include direct labor costs, other direct costs, and sub-consultant costs. These reports will be included as supporting data for invoices presented to the CITY every month.

**4. Scheduling**

Within 1 month from the Notice to Proceed (NTP), the CONSULTANT will provide a detailed PROJECT schedule which indicates milestones, major activities, and deliverables to the CITY for review and comments. This schedule will reflect assumed review times necessary by all of the agencies involved. Review of the schedule will occur at subsequent trend meetings. Adjustments will be made, if necessary, due to changing circumstances. For proposal preparation purposes, allow 4 weeks for the CITY's review of the first plan check and 3 weeks for the subsequent checks. Plans submitted to the CITY that are incomplete shall be returned to the CONSULTANT unchecked and the CONSULTANT will be expected to maintain the PROJECT delivery schedule at no additional cost to the CITY. CONSULTANT shall be familiar with CALTRANS' plan check submittal procedures and timelines and shall schedule plan check submittals in order to maintain the PROJECT schedule.

**5. Quality Control Plan**

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

**6. Progress Reporting**

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

**7. Contract Administration**

The CONSULTING PROJECT MANAGER will maintain ongoing liaison with the CITY PROJECT MANAGER, agencies, and utility companies to promote effective coordination during the course of PROJECT development. Progress meetings with CONSULTANT's staff, sub-consultants, and the CITY PROJECT MANAGER will be held regularly.

**H. SURVEY AND MAPPING**

**1. Review and Verify Survey Control and Base Data**

The design survey prepared during a previous phase shall be reviewed and verified prior to commencing preparation of the Plans defined in this scope of work. At a minimum, the CONSULTANT shall:

- obtain the Caltrans survey control;
- recover, tie, and verify existing survey control to the adjacent segment control;
- provide additional secondary horizontal and vertical control, as needed;
- Prepare Construction Staking Survey Control Map (CSS);
- Spot Check previously prepared TOPO mapping with design surveys.
- The centerline of Interstate 15 will be developed or provided by Caltrans. CONSULTANT shall prepare the Record of Survey. The CITY will file the Record of Survey.

**2. Drainage Surveys**

At minimum the CONSULTANT shall locate existing drainage structures within the PROJECT limits — tie and dip all related inlets and manholes.

**3. Wall Surveys**

At minimum the CONSULTANT shall:

- Recover control
- Stake wall alignment
- Profile wall centerline alignment and 3 meters RT and LT on 15 meter intervals
- Locate and tie any features that would affect the wall design or construction

**4. Geotech Boring Location Ties**

At minimum the CONSULTANT shall tie position of boring locations, with elevation.

**5. Utility Surveys and Mapping**

This task involves the collection, assembly, and mapping of existing overhead and underground utility lines within the PROJECT limits. At minimum the CONSULTANT shall:

- Research
- Prepare Notification letters
- Compile Utility Map of Records
- Utility Surveys
- Utility Potholes
- Utility Pothole Surveys
- Prepare to Relocate Notice/Final Utility Notice Form
- Notice to Relocate

The CONSULTANT shall determine the ownership rights (utilities in their own easement or utilities in by CITY franchise agreement) of utilities affected by PROJECT construction and shall coordinate and notify the CITY if any costs are to be paid by the CITY for utility relocations early in the design process. The CONSULTANT shall track the progress/schedule of the utility company relocation plan preparation in order to have the utility facility relocated prior to construction (preferred) or to ensure final approved utility relocation plans are attached to the CITY construction plans including the number of working days required by the Utility to construct their facilities clearly identified in the Special Provisions. A utility matrix shall be prepared listing the facility type, construction material, location/depth and disposition of utilities within the PROJECT limits.

## **I. RIGHT-OF-WAY ENGINEERING**

Licensed land surveyors will perform right-of-way engineering, mapping, and field surveys required for this task. This PROJECT will require the acquisition of additional right-of-way. The acquisition process shall be conducted in accordance with CALTRANS Standards, California Civil Code, and the California Relocation Assistance law. CALTRANS will review and approve all right-of-way-related work and deliverables. The right-of-way acquisition process shall include, but not be limited to the following:

### **1. Right-of-Way Requirements**

The CONSULTANT shall determine right-of-way needs and prepare maps for submittal to CALTRANS Right-of-Way. The CONSULTANT shall identify the need for new right-of-way, new access control, permanent easements, and temporary construction easements. The CONSULTANT shall coordinate with affected agencies to determine right-of-way impacts (including utility right-of-way needs). CALTRANS shall approve right-of-way requirements prior to initiating preparation of right-of-way maps.

### **2. Right-of-Way Maps**

- a. The CONSULTANT shall prepare right-of-way base maps in accordance with CALTRANS requirements. Base maps shall show existing features consisting of lots along Eagle Glen Parkway with all right-of-way and easement areas, assessor's parcel numbers, addresses, types of businesses, property lines, footprints of buildings, setback distances from right-of-way to buildings, vegetation, and improvements in the take areas and existing driveways.
- b. The CONSULTANT shall identify all utilities, including those that have prior rights.
- c. The CONSULTANT shall prepare right-of-way maps at a scale approved by CALTRANS reflecting all right-of-way for the PROJECT, including acquisitions and easements required for maintenance access, drainage, material sites, utilities, and construction work areas, as necessary. The CONSULTANT shall also show access control. Dimensions are to be shown in English units.

**3. Appraisal Maps, Plats, and Descriptions**

- a. The CONSULTANT shall prepare legal descriptions, plats, deeds, and maps for each parcel acceptable to CALTRANS and the CITY for conveyance of marketable title interests and for accurate representation of right-of-way necessary for construction of the PROJECT.
- b. The CONSULTANT shall prepare legal descriptions, plats, and maps acceptable to utility companies (as required) and the CITY for conveyance of marketable title interests and accurate representation of easements necessary for construction of the PROJECT.
- c. The CONSULTANT shall prepare a right-of-way map acceptable to CALTRANS.
- d. A licensed Appraiser hired by the CONSULTANT will be responsible preparation of appraisals as required by CALTRANS.
- e. An experienced acquisition CONSULTANT hired by the CONSULTANT shall be responsible for right of way negotiations and coordination with CITY representatives.
- f. The CONSULTANT shall prepare necessary CALTRANS Local Assistance Paperwork associated with utility relocations and ROW acquisitions.

**4. Title Reports will be provided by the CITY.**

**J. STRUCTURES**

**1. Structure Type Selection and Bridge General Plans**

The culmination of preliminary design work will lead to the submittal and presentation for review and approval of a General Plan for the structure. This process will be considered the "Structure Type Selection" process and no further design work shall be performed until written approval of the structure type is received from CALTRANS Division of Structures. A Type Selection Review Meeting will be held with the CITY and CALTRANS DOS in Sacramento, in which the CONSULTANT shall be prepared to discuss and provide information on foundation requirements, hydrological

requirements, falsework requirements; seismic and aesthetic considerations; traffic handling, construction cost, and other pertinent information that is needed to determine the proper structure type.

Ten copies of the proposed General Plan, General Plan Estimate, Type Selection Memo, and Vicinity Map shall be submitted for review two weeks prior to the Structure Type Selection Review Meeting. The results of the meeting will be summarized in writing to the CONSULTANT within two weeks following the meeting.

Within 2 weeks after receiving written approval of the proposed General Plan and structure type, the CONSULTANT shall furnish CALTRANS DOS copies of the approved General Plan. These will be distributed for comments, and any comments received will be forwarded to the CONSULTANT.

## **2. Geotechnical Coordination and Foundation Report**

A Foundation Report will be prepared for the structures based upon the geotechnical investigation described below. The foundation report will be prepared and signed by an Engineering Geologist or Soils Engineer, with deep foundation experience, registered in the State of California. This report shall recommend structure foundation types and footing elevations. It shall also specify pile tip elevations for pile foundations and shall provide information on ground water conditions, allowable bearing capacities, and other information needed to evaluate the chosen foundation. The report shall also address anticipated fill settlement periods to prevent excessive differential settlement between the structure and adjacent roadway approaches.

The Foundation Report will also include:

- Nature of materials found on the site.
- Liquefaction potential.
- Any geological hazards that may exist and recommend mitigation measures.
- Seismic design data in accordance with CALTRANS seismic design criteria.
- Soil parameters and load requirements to design shoring system for the possible construction of a box culvert under Galena Street.

The report will be developed in accordance with the guidelines for foundation studies and report 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 Report. For the bridge structure, alternative types of foundations will be evaluated to insure the selection of the most suitable type of foundation. A log of Test Borings sheet shall be prepared and included as part of the report and as part of the structure plans. This Foundation Report and Log Test Borings sheet will be prepared in accordance with CALTRANS Standard Procedures and will be approved by CALTRANS.

## **3. Geotechnical Investigations**



A qualified geotechnical engineer shall prepare a draft Geotechnical Design Report (GDR). All reports shall be in accordance with CALTRANS procedures, regulations, manuals, standards, policies, and format. The pavement structural sections shall be determined by a qualified Geotechnical Engineer in accordance with CALTRANS policies and procedures.

Drilling and Sampling – CONSULTANT shall conduct field investigation consisting of three (one at each abutment and one at the bent) soil borings from 50 to 80 feet deep. The precise locations will be selected to minimize impacts on freeway 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.

Laboratory Testing – Bulk and undisturbed samples will be selected for laboratory testing. All 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. The CONSULTANT shall propose a Traffic Index (TI) for the auxiliary lanes and the ramps, and obtain CALTRANS concurrence.

Report Preparation - The results obtained from the geotechnical investigation will be documented in a Draft Foundation Report, which will include a Log of Test Borings (LOTB) sheet. The draft report will be submitted to the CITY and CALTRANS for review. CONSULTANT shall finalized the report upon receipt of review comments

#### **4. Structural Design and Calculations**

- a. The CONSULTANT shall prepare Structure Type Selection documents and Bridge General Plans to comply with the most current CALTRANS's guidelines, including Bridge Design Details, Bridge Design Aids, and Memos to Designers. The CONSULTANT will also submit a Preliminary Foundation Report to support the Type Selection process. The CONSULTANT will prepare for and attend the Bridge Type Selection Meeting, including advance submittal of required materials. Upon completion of the Type Selection, the CONSULTANT will submit and distribute meeting summary and required copies of General Plan and General Plan Estimate. Following the approval of the General Plan and Foundation Report, structural design calculations will be prepared using standard CALTRANS Software and procedures.
- b. The CONSULTANT shall prepare the Plans in accordance with CALTRANS submittal requirements.
- c. The CONSULTANT shall compile structure specifications using the applicable CALTRANS Standard Special Provisions (SSP's).

- d. The CONSULTANT shall also prepare and submit required marginal estimates and design calculations, along with check calculations. The CONSULTANT will also prepare and submit workday schedule.
- e. The CONSULTANT shall prepare and submit bridge four-scale plans.
- f. The CONSULTANT shall prepare all bridge design and PS&E deliverables in accordance with the Office of Specially Funded Projects (OSFP) Information and Procedures Guide Manual, which can be found at <http://www.dot.ca.gov/hq/esc/project-development/information-and-procedures-guide/guide.htm>.

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. These standard drawings and standard plans shall be incorporated into the PROJECT Plans where applicable. Each plan sheet shall be signed and stamped by the responsible design engineer who is registered in the State of California. CONSULTANT shall have each design be independently checked by a Professional Engineer registered in the State of California, Environmental Constraint Areas (if required in Environmental Document), and shall submit documentation to the CITY for review.

#### **5. Structural Specification & Estimates**

Special Provisions will be prepared for items not covered by the CALTRANS Standard Specifications or Standard Special Provisions (SSP's).

The CONSULTANT shall edit the SSP's and prepare Structure Special Provisions specific to this PROJECT which will be incorporated into 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 CONSULTANT shall prepare quantity calculations for items which are applicable to this PROJECT 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 all 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, CITY cost data, and actual recent construction costs in the PROJECT area.

#### **6. Independent Check Review and Quality Control**

An independent Check review will be conducted as soon as the initial design is completed for the bridge. Checking will include the preparation of an independent set of structural design check-calculations and review of the plans, specifications, and estimate (PS&E).

#### **7. Draft PS&E**

The checked Structure Plans will be submitted to the CITY and CALTRANS DOS for review and comments per CALTRANS current standards and requirements. CALTRANS DOS and the CITY will approve the checked details and draft PS&E.

**8. Final PS&E**

The final PS&E will incorporate all review comments from the CITY, CALTRANS DOS, and other affected agencies. The CONSULTANT will provide all the necessary documents in a “bid-ready” form.

The CONSULTANT shall at minimum deliver the following documents to CITY and CALTRANS:

- 1 set of Mylar final design plans
- 5 sets of full size final design plans, including landscaping 5 sets of half size final design plans, including landscaping
- Digital copy of final plans, including landscaping
- 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 1 Mylar and 2 full size plans of the Bridge
- 2 Resident Engineer's Files (Structures information)
- 2 copies of environmental constraints (if required by Environmental Document)

The responsible CONSULTANT/Engineer shall sign all Plans, Specifications, and Estimates (PS&E) and engineering data furnished by him/her, and where appropriate, indicate his/her California registration number.

**K. 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 summary listing of drawing types and calculations that will be prepared as part of the roadway PS&E:

**1. Basic Roadway Plans**

- Tide sheet and location map
- Typical sections
- Stand plans list
- Key map and line index
- Layouts
- Profiles with super-elevation diagrams

- Construction details and construction notes
- Summary of quantities
- Contour grading
- Gridded Intersection Plans with elevation for intersections throughout the PROJECT limits in order to facilitate grading/paving.

## **2. Calculations**

The following calculations will be provided:

- Geometric traverse and right-of-way (ROW)
- Template notes and slope staking notes
- Profile
- Grid grades
- Earthwork quantities
- Other quantities

## **3. Drainage Plans**

CONSULTANT shall perform hydrology and hydraulic studies to obtain and provide design solutions which will remove surface runoff from the upstream side of the highway to downstream side. Studies and design shall be performed in accordance with current CALTRANS Standards and requirements.

The following list of drawing types shall be included, but not limited to:

- Drainage layouts
- Drainage profiles
- Drainage details
- Drainage summary

## **4. Traffic Plans**

The following list of drawing types shall be included, but not limited to:

- Signing
- Detour layout plans
- Pavement delineation plans
- Stage construction and traffic handling plan
- Electrical
- Construction area sign details
- Signal and signal details

- Traffic summary

## **5. Miscellaneous Plans**

- Fencing
- Miscellaneous
- Safety barriers
- Sound wall and/or retaining wall
- NPDES erosion control plans
- Utility relocation
- Landscaping and Irrigation plans
- Structure plans
- Right of way requirements
- Construction Phasing and Detour
- Temporary Water Pollution Control Plan(if requested)

## **6. Intermediate Reviews**

Roadway, drainage, traffic, and miscellaneous plans shall be submitted for review to the CITY and CALTRANS at the 35%, 65%, 95% and 100% complete stage. Also, the CONSULTANT shall submit the plans to CALTRANS in accordance with CALTRANS policy.

## **7. Specifications and Estimate**

Specifications and special provisions will be prepared for items not covered by the CALTRANS Standard Specifications or Standard Special Provisions, and shall be in conformance with CALTRANS current standards and requirements

The Roadway Construction Cost Estimate will be prepared using the latest available CALTRANS cost data, CITY cost data, and actual recent construction costs in the PROJECT area.

## **8. Quality Control**

The Plans, Specifications, and Estimate (PS&E) will be subject to quality control reviews before submittal. These reviews will assure conformance to CALTRANS and CITY standards and criteria as well as minimize typographical omissions. CONSULTANT shall submit documentation of the completed QA/QC review.

## **9. Draft PS&E**

The roadway plans, revised to incorporate Quality Control review comments, will be submitted to the CITY and CALTRANS for review and comments. These will include but not limited to:

- All roadway plans
- Special provisions

- Design calculations
- Roadway quantities and estimate
- Specifications
- Roadway cross-sections

#### **10. Final PS&E**

The Final PS&E will incorporate all applicable comments from the draft PS&E received from the CITY, RCTC, CALTRANS, and other affected agencies. The CONSULTANT will provide all the necessary Final PS&E documents in a bid-ready form. PROJECT files and the PROJECT Engineer's file will also be submitted with the Final PS&E. The entire PROJECT will be submitted in digital format upon final approval of the PS&E.

The responsible CONSULTANT/Engineer shall sign all Plans, Specifications, and Estimates (PS&E) and engineering data furnished by him/her, and where appropriate, indicate his/her California registration number.

#### **L. INDEPENDENT CONSTRUCTABILITY REVIEW**

The CONSULTANT shall retain an independent CONSULTANT for constructability review of the full 95% PS&E package to ensure that the design can be constructed by a reasonable contractor. The reviewer shall comment on the following, but not be limited to these items of concern: Ingress/egress to work area, construction phasing, coordination between the plans and specifications, cost estimate items (to reflect current costs and required work), field review (to ensure existing conditions are addressed in design documents). Review comments shall be simultaneously distributed to the CITY and the CONSULTANT. A matrix of all comments and responses to those comments shall be prepared for CITY review and approval.

#### **M. CONSTRUCTION SCHEDULE**

Provide a minimally detailed construction Critical Path Method (CPM) schedule to support the calculation of the number of Working Days for the PROJECT construction.

#### **N. ENVIRONMENTAL AND WATER QUALITY COMPLIANCE**

The CONSULTANT shall review the approved environmental documents and become familiar with their requirements. The CONSULTANT shall observe all laws, rules, and regulations concerning environmental permitting.

**The CONSULTANT shall provide a signed check-off list certifying that all mitigation measures have been incorporated into the PS&E prior to PROJECT completion.**

Compliance with National Pollutant Discharge Elimination System (NPDES) MS4 Permit and Caltrans' NPDES Permit with the State - The CONSULTANT shall comply and implement the latest requirements of the NPDES MS4 permit including, but not limited to,

incorporating in the PROJECT design the USEPA guidance, "Managing Wet Weather with Green Infrastructure; Green Streets," in a manner consistent with the maximum extent practicable standard, and preparing a PROJECT Water Quality Management Plan (WQMP). A WQMP template will be provided by the CITY. The construction documents shall require the construction Contractor engage a licensed engineer to prepare a Storm Water Pollution Prevention Plan (SWPPP) for this PROJECT that covers all items within the scope of work. CONSULTANT shall provide base PROJECT data for SWPPP preparation (areas, slopes, etc.). This work includes documentation and incorporation of environmental requirements and mitigation measures, NPDES, temporary and permanent BMPs, air/water quality, nesting birds/endangered species, erosion/sediment control) into the PROJECT construction documents.

**O. CONSTRUCTION BIDDING SUPPORT (Optional)**

Bidding procedures will be the responsibility of CITY. While the PROJECT is being advertised for bids, all questions concerning the intent shall be referred to CITY 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 CONSULTANT for decision by CITY as to the proper procedure required. Corrective action taken will either be in the form of an addendum prepared by the CONSULTANT and issued by CITY or by covering change order after the award of the construction contract.

**P. CONSTRUCTION SUPPORT (Optional)**

CONSULTANT shall attend the pre-construction meeting with the successful construction contractor upon notification by the CITY. Upon award of the construction contract, CONSULTANT will proceed with the Construction Support Phase services required by this contract.

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

CONSULTANT shall review shop drawings submitted by the construction contractor (Falswork review are not included). CONSULTANT shall complete shop plan reviews within two weeks of receipt. Contract change order reviews shall be completed within 2 working days of receipt.

CONSULTANT shall be available to visit to the jobsite for on-site review of construction and other visits to the jobsite as requested by the CITY or CALTRANS to resolve any discrepancies in the contract documents. CONSULTANT shall bring to the attention of the CALTRANS Resident Engineer any defects or deficiencies in the work by the construction contractor which the CONSULTANT may observe. CONSULTANT shall have no authority to issue instructions on behalf of the CITY or to deputize another to do

so. All agreements shall be between the CITY and its construction contractor. These provisions shall not be construed as making the CONSULTANT 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.

CONSULTANT shall prepare and deliver to the CITY and CALTRANS the "As-Built" plans within two months of completion of structure construction.

**[ADD SERVICE SCOPE ON FOLLOWING PAGES]**



**ADD SERVICE 1:**

Item S-1 - Design changes associated with the Arantine Hills Development southbound slip ramp

Discipline	Firm	Total
Roadway	Jacobs	\$ 72,244.55
Structures	Jacobs	\$ -
Landscape	DEA	\$ 14,610.00
Survey/ROW Engineering	DEA	\$ 23,608.00
ROW Appraisal/Acquisition	Overland, Pacific & Cutler, Inc.	
Environmental	LSA	\$ 4,300.00
Geotechnical	EMI (UDBE)	\$ -
Traffic	LIN (UDBE)	\$ 12,600.00
Drainage	Civil Works (UDBE)	\$ 19,526.00
Constructability Review	Falcon Engineering (UDBE)	
Public Outreach	Arellano Associates (UDBE)	

Project Total Labor \$ 146,888.55

Project Total ODCs \$ -

Escalation at 2.5% \$ -

Project Total \$ 146,888.55

	Roadway							Drainage				Traffic		Structures							
	Project Manager	Project Admin	Roadway Design Lead	Senior Highway Engineer	Highway Engineer	Project Controls	Construction Planning Lead	Project Manager	Drainage Engineer	Cadd Technician	Project Admin	Task Manager	Project Engineer	Structure Lead	QA/QC	Senior Engineer	Project Engineer	Assistant Engineer	CAD	Project Control	Total Labor Hours
<b>HOURLY RATES =&gt;</b>	\$ 259.23	\$ 90.19	\$ 140.78	\$ 155.58	\$ 94.10	\$ 133.54	\$ 187.66	\$ 186.19	\$ 126.50	\$ 86.49	\$ 61.96	\$ 176.90	\$ 110.16	\$ 233.79	\$ 190.01	\$ 165.56	\$ 153.23	\$ 95.93	\$ 122.31	\$ 133.54	
<b>TASK 1A - PROJECT MANAGEMENT</b>																					
Project Management	24																				24
Administration & Coordination						12															12
Meetings (PDT, City Council & Public Mtgs)	8		8																		16
Quality Assurance/Quality Control Plan	24																				24
<b>TASK 2A- SURVEY AND MAPPING</b>																					
Encroachment Permits																					0
Review and Verify Data																					0
Design Surveys																					0
<b>TASK 3A - RIGHT-OF-WAY</b>																					
R/W Requirements (PD26, Maps & Survey File)																					0
R/W Appraisals and Acquisitions																					0
R/W Certification																					0
<b>TASK 4A - 35% PS&amp;E SUBMITTAL</b>																					
GAD Resubmittal			40	40	80																160
35% Plans (Layouts, Typical, Profile & Super)																					0
Hazardous Waste (Investigation & Report)																					0
Bridge Aesthetics																					0
Landscape Concept Plan																					0
Geotechnical Exploration Plan																					0
Preliminary Foundation Report																					0
Bridge Type Selection (Prep, Mtg & Approval)																					0
<b>TASK 5A - 65% PS&amp;E SUBMITTAL</b>																					
65% Roadway Plans			40	40	120																200
Drainage Reports																					0
Drainage Plans																					0
Traffic Management Plan (TMP)				20																	20
Special Provisions and Cost Estimate			20		40																60
Storm Water Data Report (SWDR)																					0
Geotechnical and Foundation Reports																					0
Bridge Plans (Unchecked Details)																					0
<b>TASK 6A - 95% PS&amp;E SUBMITTAL</b>																					
95% PS&E (Plans, Specs & Estimate)																					0
Utility and R/W Update																					0
Environmental Commitment Record Review																					0
Finalize Reports (TMP)																					0
Finalize Reports (SWDR & Drainage)																					0
Bridge Independent Check																					0
Bridge Plans (Checked Details)																					0
Independent Constructability Review																					0
<b>TASK 7 - 100% SUBMITTAL - FINAL PS&amp;E</b>																					
100% PS&E (Plans, Specs & Estimate)																					0
Environmental Certification																					0
Resident Engineer File																					0
Materials Handouts																					0
RTL Certification																					0
<b>TASK 8 - OPTIONAL TASK</b>																					
Retaining Wall LRFD Design																					0
<b>TOTAL HOURS</b>	56	0	104	100	240	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	516
<b>TOTAL LABOR COST</b>	\$14,517	\$0	\$15,205	\$15,558	\$22,584	\$1,602	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 69,465.92

## **ADD SERVICE 2:**

Item S-2 – Revisions required after 60% design submittal review by Caltrans to accommodate proposed Arantine Hills development along Cajalco Road resulting in four months' delay and impact to project budget.

Addition of special fixtures, furniture and equipment appraiser to prepare appraisals for cell tower owner and tenants located on Riverside County Transportation Commission property leased to Crown Castle due to lease renewal not disclosed to City resulting in additional design effort from Consultant's design team and subconsultants.

Landscape design revisions required due to new drought watering restrictions imposed by State of California requiring change in landscape pallet to meet City's water restrictions.

## **ADD SERVICE 3:**

As detailed below, modify project limits and various design elements to accommodate improvements proposed by the Arantine Hills Development Project and provide bid phase and construction phase support. Caltrans Environmental oversight required Project environmental approvals to be amended via preparation and processing of an Environmental Revalidation ("ER") Document requiring supplemental technical studies in each environmental discipline pursuant to CEQA and NEPA regulations. Perform additional right-of-way acquisition services necessary to complete negotiations with various property owners. Additional services required to obtain Caltrans certification of the construction documents.

### **Environmental Revalidation:**

Prepare supplemental technical documents signed by the applicable specialists to support the ER document for each discipline to the previously approved technical report as required by new Caltrans environmental oversight staff. Caltrans unwilling to accept a single memorandum stating the project changes were not significant and did not change the conclusion in the approved Categorical Exemption/Categorical Exclusion Determination with regards to impacts or required avoidance, minimization and mitigation measures. Requires additional services by Consultant's subconsultant and Consultant's project staff involving Inside Noise Abatement Report, Visual Impact Assessment Report and the Traffic Study Report

### **Right of Way Support**

Extended negotiations with property owners and additional services required to obtain right of way clearances not included in original scope of work to draft purchase and sale agreements with Mountain Vistas, Castle & Cooke, cell tower owner Crown Castle and cellular carriers AT&T and Sprint.

## Bid Phase and Construction Phase Support Services:

### Task 9 - Bid Phase Support

- 9.1 Conduct coordination meetings with City and pre-proposal bid meeting with potential bidders.
- 9.2 Respond to a maximum of 50 questions from potential bidders a
- 9.3 Prepare up to two (2) addenda related to modifications to the plans or special provisions. Addenda generally consist of not more than 15 different items. Printing and distribution of the addenda to be conducted by City.

### Task 10 - Construction Phase Support

- 10.1 Meetings and Field Visits
- 10.2 Submittal Reviews
- 10.3 Structure Shop Drawing Revisions
- 10.4 Respond to RFIs
- 10.5 Post Tension Reviews
- 10.6 As-built Preparations
- 10.7 ECR Monitoring

## Add Service 3 Appendix A – Construction Support Labor Matrix

	Roadway (Jacobs)						Drainage (CW)				Traffic (LIN)		Structures (Jacobs)						Landscape Design (DEA)		ECR (LSA)	Geotech (EM)		Total Labor Hours			
	Project Manager	Project Admin	Roadway Design Lead	Senior Highway Engineer	Highway Engineer	Construction Planning Lead	Project Manager	Drainage Engineer	Field Technician	Project Admin	Task Manager	Project Engineer	Structure Lead	QA/QC	Senior Engineer	Project Engineer	Assistant Engineer	CAO	Project Control	Sr. Landscape Architect	Landscape Architect	ECR Monitoring	Geotechnical General Manager		Senior Geotechnical Engineer		
LABOR CLASSIFICATION HOURLY RATES =>	\$ 280.00	\$ 98.02	\$ 223.91	\$ 159.78	\$ 121.08	\$ -	\$ 194.65	\$ 144.39	\$ 67.58	\$ 71.52	\$ 176.63	\$ 74.45	\$ 273.08	\$ -	\$ 204.10	\$ -	\$ -	\$ 195.34	\$ -	\$ 167.18	\$ 132.40	\$ 175.00	\$ 229.14	\$ 128.47			
TASK 9 - BID PHASE SUPPORT																											
9.1 Meetings (2)	8		8				4				4		4							6					42		
9.2 Respond to Bidders Questions	20		40	40	40		8	20			8	20	40												236		
9.3 Addendum/Plan Revisions	20		40	80	40								16					24							220		
TASK 10 - CONSTRUCTION PHASE SUPPORT																											
10.1 Meetings and Field Visits (See note 2)	120		80				8	16			8		40							40			10	4	358		
10.2 Submittal Reviews (See note 3)	30		120	80	80		8	20			16	30										60	40	484			
10.3 Structure Shop Drawing Reviews (See note 4)			80										120		0						80			280			
10.4 Respond to RFIs (See note 5)	30		110	80	80		10	40			10	30	40		80				10	80				600			
10.5 Post Tension Reviews (See note 6)													100		44									144			
10.6 As-built preparations (See note 7)	20	40	120	160	160		8	40	80		10	80	120		40			120		20	80			1098			
10.7 ECR Monitoring																								725			
TOTAL HOURS	248	40	598	440	400	0	46	136	80	0	56	160	480	0	164	0	0	144	0	76	240		70	44			
TOTAL LABOR COST	\$72,091	\$3,841	\$133,897	\$70,304	\$48,423	\$0	\$8,954	\$19,638	\$5,405	\$0	\$9,891	\$11,912	\$131,076	\$0	\$33,472	\$0	\$0	\$28,129	\$0	\$14,984	\$31,776	\$133,875	\$16,040	\$5,565	\$779,271		
Markup on Subs (5%)																											\$12,901.97
Jacobs ODCs																											\$7,818
TOTAL COST																											\$799,992

### Assumptions:

- Construction duration is 24 months
- Construction meetings and field visits (1/week/9 months, 2/month/9 months, 1/month/6 months) 60 meetings and field visits
- Submittal reviews (25 estimated)
- Shop drawings reviews (30 estimated)
- Respond to RFIs (75 estimated)
- Post tension reviews (6 estimated)
- As built plans not expecting to have to create new sheets. The contractor will provide one single set of plans with clear markups. The original set has 454 sheets.

#### **ADD SERVICE 4:**

##### **Task 1 – Period of Performance Extension - \$35,339 (Subtotal)**

*The current contract agreement expires on December 30, 2019. The project has an anticipated construction completion date of January 28<sup>th</sup>, 2020. Jacobs is requesting the contract agreement to be extended to June 30<sup>th</sup>, 2020 to allow for this additional duration for design services in support of construction. In addition, the contract extension will allow for As-Builts to be developed and accepted by Caltrans in addition to other project close out tasks required by Caltrans. On average, the per month invoice is approximately \$17,500, this request would fully fund the month of January and the additional months required to gain Caltrans Acceptance (February through June 2020).*

##### **Task 2 – Schedule Sensitive Out of Scope Efforts (Work Completed) - \$72,146 (Subtotal)**

*The following tasks were identified as critical items that required immediate attention and were billed using the Amendment 1 (construction support) budget. Compensation for these out of scope efforts is being requested to restore the Amendment 1 budget to complete original scope of work (As-Builts). The following items were previously completed by direction.*

##### **Task 2a. Sewer Line Casings Through Cajalco Rd Bridge – \$12,996**

Jacobs developed bridge plans to include sewer line casings and support blocks, quantities and estimate as requested by the City during the construction phase. These additions include two sewer casings through the Cajalco Rd bridge (approach slab to approach slab) to allow the City the ability to pull fused sewer pipe in the future if necessary. This additional design required coordination, submittals and updates based on comments, and approval from Caltrans Headquarters (Structures Department).

##### **Task 2b. Rock Blanket Modifications - \$15,408**

DEA developed Plans and Quantities for the updated rock blanket design. Jacobs provided project management and coordination for this task. The design update was requested by the City due to the labor intensive construction of rock blanket. The redesign helped in accelerating the construction schedule and reduced the cost of construction by reducing the amount of rock blanket and replacing it with exposed aggregate concrete. This additional design (both hardscape layout and materials) required coordination, submittals and updates based on comments from Caltrans.

##### **Task 2c. Cajalco Rd Bridge Visual Renderings - \$7,538**

DEA was requested to develop visual renderings of possible architectural treatments for the new Cajalco Rd Bridge. This request provided several focal points detailing the architectural treatments on the bridge, columns, abutments and pilasters. The draft renderings were distributed to the City and Caltrans for review and comments. This item was critical in developing a cost estimate for the City to decide on how to move forward with possible architecture treatments.

##### **Task 2d. Local and Regional Traffic Detour Plans - \$11,524**

Jacobs developed local (Northbound & Southbound I-15 Detours and EB & WB Cajalco Road Detours) and regional traffic (Advance guidance to commuters to use regional routes such as SR-60, SR-91 and I-215) detour plans per Caltrans request for the new Cajalco Rd overcrossing falsework removal and for the demolition of the old Cajalco Rd overcrossing. The original planset, as approved by Caltrans, included detour information for the existing structure removal (see sheets 167-169), however Caltrans requested additional sheets for local and regional detours. This effort required preparing Traffic Handling Detour Sheets and Traffic Handling Detail sheets per the Transportation Management Plan. Caltrans requested Traffic analysis be performed using current I-15 traffic volumes to provide recommendations of the when (time of day) the I-15 mainline can be shut down completely with minimal impacts to commuters. Jacobs met with



Caltrans, the City and the Contractor four times to secure a 12 hour closure, allowing for adequate time for the contractor to have a successful and safe bridge demolition.

**Task 2e. Cajalco Rd Bridge and Retaining Wall Barrier Update - \$11,400**

During the construction of the Cajalco Rd Overcrossing soffit Caltrans requested that the previously approved barrier identified on the final design plans for the Cajalco Rd Overcrossing and Retaining Wall 4 be updated to the new standard barrier (Type 732SW (Mod)). Jacobs developed calculations, revised design plans and details. Coordination and submittals to the Caltrans Headquarters structural team for approval were expedited to limit delay in the construction schedule.

**Task 2f. Grid Grades at Various Locations - \$13,280**

Jacobs has prepared updates to the grid grades (staking information) to reflect current field conditions at the project site. The design and field conditions have changed since the survey and original grid grades were prepared due to changes in the field, outdated topography and recent design changes. This information was provided to the contractor and ensures that the proper elevations of pavement, drainage features and grading are constructed for the project.

**Task 3 – Requested Additional Design Scope (Work not yet performed) - \$22,555 (Subtotal)**

*The following out of scope tasks have been requested by the City and will require additional funding to complete. Work on these tasks has not yet been initiated.*

**Task 3a. Eagle Glen Pkwy (Cajalco Rd) & Bedford Canyon Intersection Updates - \$5,441**

The Jacobs Design Team (Jacobs, LIN and DEA) will coordinate with the City, the contractor and New Home Group to develop updates to the Cajalco Rd Interchange Plans which will As-built field conditions on the southside of the Eagle Glen Pkwy (Cajalco Rd)/Bedford Canyon Intersection which were constructed without a design provided by the Jacobs Design Team. Currently the Jacobs design team has attended three coordination meetings and is anticipating that no further meetings will be necessary. Jacobs will update the Layouts (pavement and curb and gutter), Signs (removing conflicting signs and prepare guide signs) and Utility Sheets (New reclaimed water connection). DEA will prepare updates to the Irrigation sheets (Irrigation, sleeve, communication, meters and controller cabinets) and Planting sheets (Landscaping) within the area along the south-east side of the Eagle Glen Pkwy/Bedford Canyon intersection. LIN Consulting will prepare updates to the Pavement Delineation sheets (removing EB left turn to The Village at Eagle Glen, provide a WB Bike lane and provided a EB Through/right turn lane).

**Task 3b. Drainage Modifications along NB I-15 - \$7,221**

The Jacobs Design Team (Jacobs and Civil Works Engineering) will develop design modifications to capture and convey the concentrated storm water flow along NB I-15 to a proper outlet eliminating the erosion of decomposed granite. This task will require analysis of the existing drainage patterns on NB I-15 to identify existing low points for the most efficient location of a overside drain. The existing NB I-15 asphalt concrete dikes are damaged and need to be replaced to provide adequate drainage. Jacobs will develop updates to the Layout sheets to add asphalt concrete dikes and verify that any modifications are compatible with the existing or proposed safety features (Midwest guardrail system (previously known as metal beam guardrail) and concrete bridge barrier). Civil Works Engineering will update the Drainage Sheets to provided overside drains or other appropriate drainage solutions from the NB I-15 outside edge of shoulder to a proper outlet.

**Task 3c. Rock Slope Protection Modifications - \$7,645**

Jacobs Design Team (Jacobs and Civil Works Engineering) will develop updates to the Drainage Detail Plans to provide additional rock slope protection at the drainage outlet within the Bedford Wash between the NB I-15 and the NB Cajalco Rd off-ramp. The update was requested by the City to mitigate erosion within the Bedford Wash from recent and future storms. During the final design phase this area was identified as an environmentally sensitive area, so improvements will be limited to minimize impact and to not require revalidation of the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), Army Corp of Engineers permit. This request is needed to make sure that existing rock blanket and decomposed granite is protected from erosion due to recent rainfall.

**Task 3d and 3e. Planting and Irrigation at Various Locations - \$2,248**

DEA will develop Planting and Irrigation plans based on as-built conditions for the area east of Bedford Canyon and north of Cajalco Rd. These plan revisions/updates are necessary due to disturbance from the construction of retaining wall no. 1 along WB Cajalco Rd. Additionally, DEA will revise the planting and irrigation plans near CA1 (Northbound on-ramp) and CA2 (SB off-ramp) for the proposed tree re-locations where signage visibility conflicts with existing and proposed signage for The Crossings at Corona shopping center. Caltrans has agreed to an exhibit showing the tree relocations in addition to providing smaller trees instead of the originally planned taller trees at a rate of 2 smaller trees to 1 taller tree.

**ADD SERVICE 5:**

Provide Right-of-Way Close Out Services.

**Task 1a. Property Ties**

Caltrans ROW engineering has requested additional survey monuments/property ties at all anglepoints and begin/end coordinates along State ROW. Consultant's Design Team will set up to 22 survey monuments. Property fences and walls will also be validated as pertains to the ROW shown on the ROW Appraisal Maps. When no monuments can be set at the exact property/right of way corner, an offset monument will be set. The monuments will be marked with a tag stamped "LS 7300".

*Deliverables: Monuments Placed & PDF plot of monuments set in the field.*

**Task 1b. Post-Construction Record of Survey**

Consultant's Design Team will prepare a Record of Survey Map including the new monuments/property ties set along the right of way lines. This map, when completed, will be submitted to the County of Riverside Surveyor's Office for review and final recordation of the map. At the time of this proposal, the County has a 4-6 week turnaround on map reviews. Once the map has been accepted by the County, a mylar version of the map will be submitted for recordation with the County Recorder. Plan check/Recording fees are included in the cost estimate as an ODC.

At the time of first submittal of the map to the county for review, a map will also be sent to Caltrans for review. Any requested revisions from Caltrans will be incorporated into the final map to be recorded. A copy of the recorded map will be provided to the client.

*Deliverable: PDF plot Record of Survey map submitted to the County and Ca/trans for review(s) and final recordation.*



**Task 1c. ROW Record Maps**

The City Awarded and Administered (AAA) the construction contract for the project, requiring the title for all needed parcels to be transferred to the City to allow for construction. The final right of way (ROW) recording occurs after construction is completed to facilitate the transfer of parcels to the State. The ROW appraisal maps will be updated prior to the State accepting the transfers of property. Consultant's Design Team will revise the previously prepared ROW appraisal maps with new parcel numbers provided by Caltrans. Final ROW maps will be provided in PDF and DGN formats to Caltrans for review and approval.

*Deliverable: PDF plot of the Right of Way map submitted to Ca/trans for review and approval.*

**Task 1d. Transfer Deeds**

Consultant's Design Team will prepare deed jackets for up to 9 parcels for the conveyance of property from the City to Caltrans. Deed processing and jacket contents will be coordinated with Caltrans ROW engineers, Caltrans attorneys and City attorneys. Preliminary Title Reports (PTR), if needed, for each parcel will be secured, this is included in the cost estimate as an ODC. The City will provide deeds and relevant information for the property acquired from the Castle and Cooke Corona Crossings property development (NE quadrant of project).

*Deliverable: Transfer the 9 parcels from the City of Corona to Ca/trans*

**Task 1e. Right of Way Certificate Update**

A Special Certification No. 3 with a Work-Around (3W) was prepared for the project. A ROW Certification No. 3W does not need to be raised to a Certification No. 1 or 2 but must be updated to capture progress pertaining to the work-around parcels. The ROW Certification update requires the Consultant's Design Team to coordinate with Crown Castle and AT&T to verify completion of relocation work. Consultant's Design Team will update the Right of Way Certificate No. 3W and will submit to Caltrans for review and acceptance.

*Deliverable: Updated Right of Way Certificate updated with a timeline of the progress of the project.*

**Assumptions:**

- ROW requirements have not changed during construction; previous legal descriptions remain valid and can be re-used to transfer the property from the City to Caltrans
- All elements of the project were constructed within the acquired ROW
- The City will provide property transfer information for Parcel 23310 Castle & Cook Corona Crossings II Inc.
- There are no parcel encumbrances that the State believes to be detrimental to its use, result
- ing in a rejection of the parcel transfer by Caltrans.
- All documents requiring Caltrans, County or City review, includes two rounds of comment review/response and document updates.

## EXHIBIT "C-3" COMPENSATION

Total Compensation, including the fixed fee, shall not exceed Five Million Four Hundred Twenty-six Thousand Four Hundred Thirty-three Dollars and Twenty-six Cents (\$5,426,433.26) without written authorization from City's Representative.

Consultant Cost Proposal – Agreement dated May 16, 2012	\$ 3,627,539.96
Additional Design Services approved by City Council, Add Service 1	\$ 146,889.00
Additional Design/Right of Way Services, Add Service 2	\$ 300,000.00
Additional Services approved by City Council, Add Service 3	\$866,783.00
Consultant Fixed Fee pursuant to Section 3.4.3.2	\$ 185,852.30

**ADD SERVICE 4: \$134,206**

### FEE SCHEDULE BY TASK

Task		Total Labor Hours	Total Labor Cost
Task 1	Period of Performance Extension	243	\$ 35,339
Task 2	Schedule Sensitive Out of Scope Efforts (Work Completed)	447	\$ 72,146
2a	Sewer Line Casings through Cajalco Rd Overcrossing	64	\$ 12,996
2b	Rock Blanket Modifications	109	\$ 15,408
2c	Cajalco Bridge Visual Renderings	54	\$ 7,538
2d	Local and Regional Traffic Detour Plans	68	\$ 11,524
2e	Bridge and Retaining wall Barrier updates	52	\$ 11,400
2f	Grid Grades	100	\$ 13,280
Task 3	Requested Additional Design Scope (estimated hours)	161	\$ 22,555
3a	Bedford Canyon Road/Eagle Glen Intersection (New Home)	41	\$ 5,441
3b	Drainage Modifications along NB I-15	50	\$ 7,221
3c	Rock Slope Protection Modifications	54	\$ 7,645
3d	Planting and Irrigation East of Bedford Canyon Northside	9	\$ 1,256
3e	Planting and Irrigation - Tree Relocations	7	\$ 992
Total Hours		851	
Total Labor Cost			\$ 130,040
Markup on Subs (5%)			\$ 2,739
Jacobs ODC's			\$ 1,427
Total Cost			\$ 134,206

				Jacobs	CWE	DEA	Lin	LSA		
Task		Beg Date	End Date	Jacobs (Subtotal)	CWE (Subtotal)	DEA (Subtotal)	LIN (Subtotal)	LSA (Subtotal)	Total Labor Hours	Total Labor Cost
Task 1	Period of Performance Extension	8/15/2019	6/30/2020	\$ 14,340	\$ 3,629	\$ 5,946	\$ 2,549	\$ 8,875	243	\$ 35,339
Task 2	Schedule Sensitive Out of Scope Efforts (Work Completed)	8/15/2019	3/1/2020	\$ 50,320	\$ -	\$ 21,826	\$ -	\$ -	447	\$ 72,146
2a	Sewer Line Casings through Cajalco Rd Overcrossing	8/15/2019	3/1/2020	\$ 12,996	\$ -	\$ -	\$ -	\$ -	64	\$ 12,996
2b	Rock Blanket Modifications	8/15/2019	3/1/2020	\$ 1,120	\$ -	\$ 14,288	\$ -	\$ -	109	\$ 15,408
2c	Cajalco Bridge Visual Renderings			\$ -	\$ -	\$ 7,538	\$ -	\$ -	54	\$ 7,538
2d	Local and Regional Traffic Detour Plans	8/15/2019	3/1/2020	\$ 11,524	\$ -	\$ -	\$ -	\$ -	68	\$ 11,524
2e	Bridge and Retaining wall Barrier updates			\$ 11,400	\$ -	\$ -	\$ -	\$ -	52	\$ 11,400
2f	Grid Grades			\$ 13,280	\$ -	\$ -	\$ -	\$ -	100	\$ 13,280
Task 3	Requested Additional Design Scope (estimated hours)	8/15/2019	3/1/2020	\$ 10,620	\$ 7,482	\$ 3,504	\$ 949	\$ -	161	\$ 22,555
3a	Bedford Canyon Road/Eagle Glen Intersection (New Home)			\$ 3,236	\$ -	\$ 1,256	\$ 949	\$ -	41	\$ 5,441
3b	Drainage Modifications along NB I-15	8/15/2019	3/1/2020	\$ 3,692	\$ 3,529	\$ -	\$ -	\$ -	50	\$ 7,221
3c	Rock Slope Protection Modifications	8/15/2019	3/1/2020	\$ 3,692	\$ 3,953	\$ -	\$ -	\$ -	54	\$ 7,645
3d	Planting and Irrigation East of Bedford Canyon Northside	8/15/2019	3/1/2020	\$ -	\$ -	\$ 1,256	\$ -	\$ -	9	\$ 1,256
3e	Planting and Irrigation - Tree Relocations			\$ -	\$ -	\$ 992	\$ -	\$ -	7	\$ 992
Total Hours				429	88	224	36	74	851	
Total Labor Cost				\$ 75,280	\$ 11,111	\$ 31,277	\$ 3,498	\$ 8,875		\$ 130,040
Markup on Subs (5%)										\$ 2,739
Jacobs ODC's										\$ 1,427
Total Cost										\$ 134,206

				Jacobs										CWE			DEA		LIN		LSA		LSA						
				Project Manager	Residency Design Lead	Residency Engineer	Senior Residency Engineer	Traffic Engineer	Utility Engineer	Senior Structural Engineer	Structural Engineer	Structural CAD Designer	Jacobs (Subtotal)	Project Manager	Drainage Engineer	Civil Technician	CWE (Subtotal)	Landscapes Architect	Landscapes Architect	DEA (Subtotal)	Task Manager	Project Engineer	LIN (Subtotal)	Senior Biologist	Biologist	LSA (Subtotal)	Total Labor Hours	Total Labor Cost	
Task 1		Period of Performance Extension	8/15/2019	6/30/2020	4	30	20	20					\$ 14,340	4	16	8	\$ 3,629	8	33	\$ 5,946	6	20	\$ 2,549	21	53	\$ 8,875	243	\$ 35,339	
Task 2		Schedule Sensitive Out of Scope Efforts (Work Completed)	8/15/2019	3/1/2020	8	49		120	12		40	16	44	\$ 50,320				\$ -	14	144	\$ 21,826			\$ -			\$ -	447	\$ 72,146
2a		Sewer Line Casings through Cajalco Rd Overcrossing	8/15/2019	3/1/2020							16	16	20	\$ 12,996				\$ -			\$ -			\$ -			\$ -	64	\$ 12,996
2b		Rock Blanket Modifications	8/15/2019	3/1/2020		5							\$ 1,120				\$ -	8	96	\$ 14,288			\$ -			\$ -	109	\$ 15,408	
2c		Cajalco Bridge Visual Renderings											\$ -				\$ -	6	48	\$ 7,538			\$ -			\$ -	54	\$ 7,538	
2d		Local and Regional Traffic Detour Plans	8/15/2019	3/1/2020	4	12		40	12				\$ 11,524				\$ -			\$ -			\$ -			\$ -	68	\$ 11,524	
2e		Bridge and Retaining wall Barrier updates			4	8					24		16	\$ 11,400				\$ -			\$ -			\$ -			\$ -	52	\$ 11,400
2f		Grid Grades				80							\$ 13,280				\$ -			\$ -			\$ -			\$ -	100	\$ 13,280	
Task 3		Requested Additional Design Scope (estimated hours)	8/15/2019	3/1/2020	6	20		40					\$ 10,620	4	38	18	\$ 7,482	9	22	\$ 3,504	2	8	\$ 949			\$ -	161	\$ 22,555	
3a		Bedford Canyon Road/Eagle Glen Intersection (New Home)	8/15/2019	3/1/2020	2	4		16					\$ 3,236				\$ -	1	8	\$ 1,256	2	8	\$ 949			\$ -	41	\$ 5,441	
3b		Drainage Modifications along NB I-15	8/15/2019	3/1/2020	2	8		12					\$ 3,692	2	18	8	\$ 3,529			\$ -			\$ -			\$ -	50	\$ 7,221	
3c		Rock Slope Protection Modifications	8/15/2019	3/1/2020	2	8		12					\$ 3,692	2	20	10	\$ 3,953			\$ -			\$ -			\$ -	54	\$ 7,645	
3d		Planting and Irrigation East of Bedford Canyon Northside	8/15/2019	3/1/2020									\$ -				\$ -	1	8	\$ 1,256			\$ -			\$ -	9	\$ 1,256	
3e		Planting and Irrigation - Tree Relocations											\$ -				\$ -	1	8	\$ 992			\$ -			\$ -	7	\$ 992	
Total Hours					18	99	20	180	12	0	40	16	44	429	8	94	28	88	29	139	224	8	28	96	21	53	74	851	
Total Labor Cost					\$ 5,220	\$ 22,176	\$ 4,260	\$ 19,800	\$ 3,276	\$ -	\$ 8,880	\$ 3,088	\$ 8,380	\$ 75,280	\$ 1,557	\$ 7,797	\$ 1,797	\$ 11,111	\$ 4,929	\$ 26,348	\$ 31,277	\$ 1,413	\$ 2,063	\$ 8,498	\$ 3,017	\$ 5,630	\$ 8,875		\$ 130,040
Markup on Subs (5%)																													\$ 2,739
Jacobs ODC's																													\$ 1,427
Total Cost																													\$ 134,206

**ADD SERVICE 5: \$165,163**

**RIGHT-OF-WAY CLOSE OUT SERVICES BY TASK**

Project Management and Roadway Design	\$32,731.00
Survey/Right-of-Way Engineering	\$68,080.00
Right-of-Way Services	\$52,242.00
Other Direct Costs	\$12,110.00

Task			Beg Date	End Date	Jacobs				DEA					OPC				Lin	Total Labor Hours	Total Labor Cost	
					Project Manager	Roadway Design Lead	Roadway Engineer	Jacobs (Subtotal)	Survey Task Manager	2-Man Crew	Survey CAD	Project Surveyor	Project Assistant	DEA (Subtotal)	Program Manager	Senior R/W Eng. Analyst	Agent/Analyst	Project Support			OPC (Subtotal)
Task 1	ROW Services	8/23/2021	5/16/2022	\$ 291.00	\$ 224.00	\$ 160.00	\$ 26,714	\$ 240.00	\$ 320.00	\$ 145.00	\$ 190.00	\$ 110.00	\$ 68,080	\$ 262.86	\$ 116.94	\$ 80.48	\$ 73.76	\$ 52,242	920	\$ 147,036	
	1a. Property Ties	8/30/2021	10/22/2021	30	26	76	\$ 2,444	12	28		80	188	20	\$ 17,600	20	382	15	15	\$ -	84	\$ 20,044
	1b. Post-Construction Record of Survey	10/25/2021	12/17/2021	4	8	16	\$ 5,516	6		80	72	8	\$ 27,600					\$ -	194	\$ 33,116	
	1c. Record Maps	1/19/2022	5/10/2022	6	8	24	\$ 7,378	22			88	8	\$ 22,880					\$ -	156	\$ 30,258	
	1d. Transfer Deeds	1/19/2022	4/5/2022	10	8	24	\$ 8,542						\$ -	12	382		10	\$ 48,563	446	\$ 57,105	
	1e. Right of Way Certification Update	8/23/2021	5/16/2022	6	2	4	\$ 2,834						\$ -	8		15	5	\$ 3,679	40	\$ 6,513	
Total Hours				30	26	76	132	40	28	80	188	20	356	20	382	15	15	432	0		
Total Labor Cost				\$ 8,730	\$ 5,824	\$ 12,160	\$ 26,714	\$ 9,600	\$ 8,960	\$ 11,600	\$ 35,720	\$ 2,200	\$ 68,080	\$ 5,257	\$ 44,671	\$ 1,207	\$ 1,106	\$ 52,242		\$ 147,036	
Markup on Subs (5%)																				\$ 6,017	
ODC's																				\$ 12,110	
Total Cost																				\$ 165,163	