City of Sacramento
City Council

915 I Street, Sacramento, CA, 95814
www.CityofSacramento.org

Meeting Date: **2/26/2013** **Report Type:** Consent

Title: Supplemental Agreement: Cosumnes River Boulevard/I-5 Interchange and Extension Project (T15018000)

Report ID: 2013-00127

Location: Interstate 5, one mile south of Pocket Road/Meadowview Road, from Franklin Boulevard west to Freeport Boulevard, Districts 7 and 8

Recommendation: Pass a Motion: 1) authorizing the City Manager or his designee to execute Supplemental Agreement No. 14 to City Agreement No. 2007-0406 with Mark Thomas & Company, Inc. in an amount not to exceed $166,697 to provide design of the Freeport Regional Water Agency's (FRWA) back-up radio system and towers that are required per City Agreement No. 2012-0727 between FRWA and City; and 2) resetting the City Manager's authority to issue supplemental agreements for City Agreement No. 2007-0406.

Contact: Nader Kamal, Special Projects Engineer, (916) 808-7035; Nicholas Theocharides, Engineering Services Manager, (916) 808-5065, Public Works Department

Presenter: None

Department: Public Works Department
Division: Civil & Electrical Design
Dept ID: 15001131

Attachments:

1-Description/Analysis

2 - Background

3- Exhibit A - Location Map

4- Supplemental Agreement No. 14

City Attorney Review
Approved as to Form
Gerald Hicks
2/19/2013 5:07:26 PM

City Treasurer Review
Reviewed for Impact on Cash and Debt
Russell Fehr
2/12/2013 10:23:47 AM

Approvals/Acknowledgements

Department Director or Designee: Jerry Way - 2/19/2013 9:31:13 AM

Back to Report Table of Contents

Description/Analysis

Issue: The Cosumnes River Boulevard/I-5 Interchange and Extension Project (T15018000) was awarded on January 8, 2013, to Teichert Construction. Approval of Supplemental Agreement No. 14 with Mark Thomas & Company, Inc. is necessary to provide design of the Freeport Regional Water Agency's (FRWA) back-up radio system and towers that are required per City Agreement No. 2012-0727 between FRWA and City.

Policy Considerations: None.

Environmental Considerations:

California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA): The Project's mitigation and design are consistent with the Project's final approved Environmental Impact Statement/Final Environmental Impact Report (EIS/EIR). The Project's final Environmental Impact Report was approved by City Council on May 15, 2007. The Environmental Impact Statement (EIS) conforming to the National Environmental Policy Act (NEPA) was approved by the Federal Highway Administration (FHWA) on October 5, 2007.

Sustainability Considerations: The project will improve access, provide route continuity, and reduce overall vehicle miles traveled in the south area of Sacramento. The project will construct new sidewalks and bike lanes which will increase the use of alternate modes of commuting. The project will also increase the City's urban forest canopy and create an environment more conducive to pedestrian and bicycle trips, thereby encouraging the use of alternate modes of transportation. All of these considerations and improvements are consistent with City's sustainability goals.

Other: None.

Commission/Committee Action: None.

Rationale for Recommendation: Approval of Supplemental Agreement No. 14 with Mark Thomas & Company, Inc. will enable the City to provide design of the Freeport Regional Water Agency's (FRWA) back-up radio system and towers that are required per City Agreement No. 2012-0727 between FRWA and the City. Design and construction of the radio back-up system is required before construction of the City's project can begin.

Financial Considerations: The Cosumnes River Boulevard/ I-5 Interchange and Extension Project (T15018000) has an approved budget of $82,567,675, consisting of state, federal, developer contributions, and local transportation funds. As of January 28, 2013, the unobligated balance is $47,910,792, which is sufficient to execute the Supplemental Agreement No. 14 in the amount of $166,697 with Mark Thomas & Company, Inc.

Resolutions 2012-342 dated October 2, 2012, and 2013-0009 dated January 8, 2013, appropriated $21,924,448 ($7,691,000 Fund 3704-SLPP, $10,500,000 Fund 3704-STIP, $3,733,448 Fund 3703-Federal). When the executed state and federal paperwork is received, the necessary budget adjustment will be completed to bring the current budget to $82,567,675.

There are no general funds planned or allocated for this project.

Emerging Small Business Development (ESBD): The agreement and supplemental agreements with Mark Thomas and Company, Inc. will be funded mainly through federal funds. Federal funding rules require voluntary Disadvantaged Business Enterprise (DBE) participation and will be applied to the project. ESBE rules are held in abeyance. Mark Thomas and Company, Inc. attained 9.28% DBE participation.

Back to Report Table of Contents

Background

The Cosumnes River Boulevard/I-5 Interchange and Extension Project (T15018000) extends Cosumnes River Boulevard from its westerly terminus at Franklin Boulevard to an at-grade intersection with Freeport Boulevard, and includes the construction of a new interchange at I-5 and a new bridge crossing over Morrison Creek and Union Pacific Railroad (UPRR).

It will include 3.5 miles of new roadway consisting of 4 to 6 lanes of traffic, on-street bike lanes, 8-foot-wide bifurcated sidewalks, street lights, and landscaping.

On April 15, 2008, the City Council approved a Professional Services Agreement with Mark Thomas & Company, Inc. in the amount of $2,930,117 to provide preliminary engineering, environmental services, and final design services for the Cosumnes River Boulevard/I-5 Interchange and Extension Project (T15018000).

Approval of Supplemental Agreement No. 14 with Mark Thomas & Company, Inc. in the amount of $166,697 will enable the City to provide design of a Freeport Regional Water Agency's (FRWA) back-up radio system and towers that are required per City Agreement No. 2012-0727 between FRWA and City. Currently, FRWA has an underground fiber system providing communication between FRWA's main operations center located in southeast Sacramento and their water intake structure on the Sacramento River. In the event of damage to the fiber system during construction of the Cosumnes River Boulevard/I-5 Interchange and Extension Project, FRWA will rely on the back-up radio system to provide communication.

On August 27, 2012, the City of Sacramento approved an Easement Use Agreement with Freeport Regional Water Authority (FRWA) that allows the City to build a roadway in a portion of the FRWA Joint Pipeline easement.

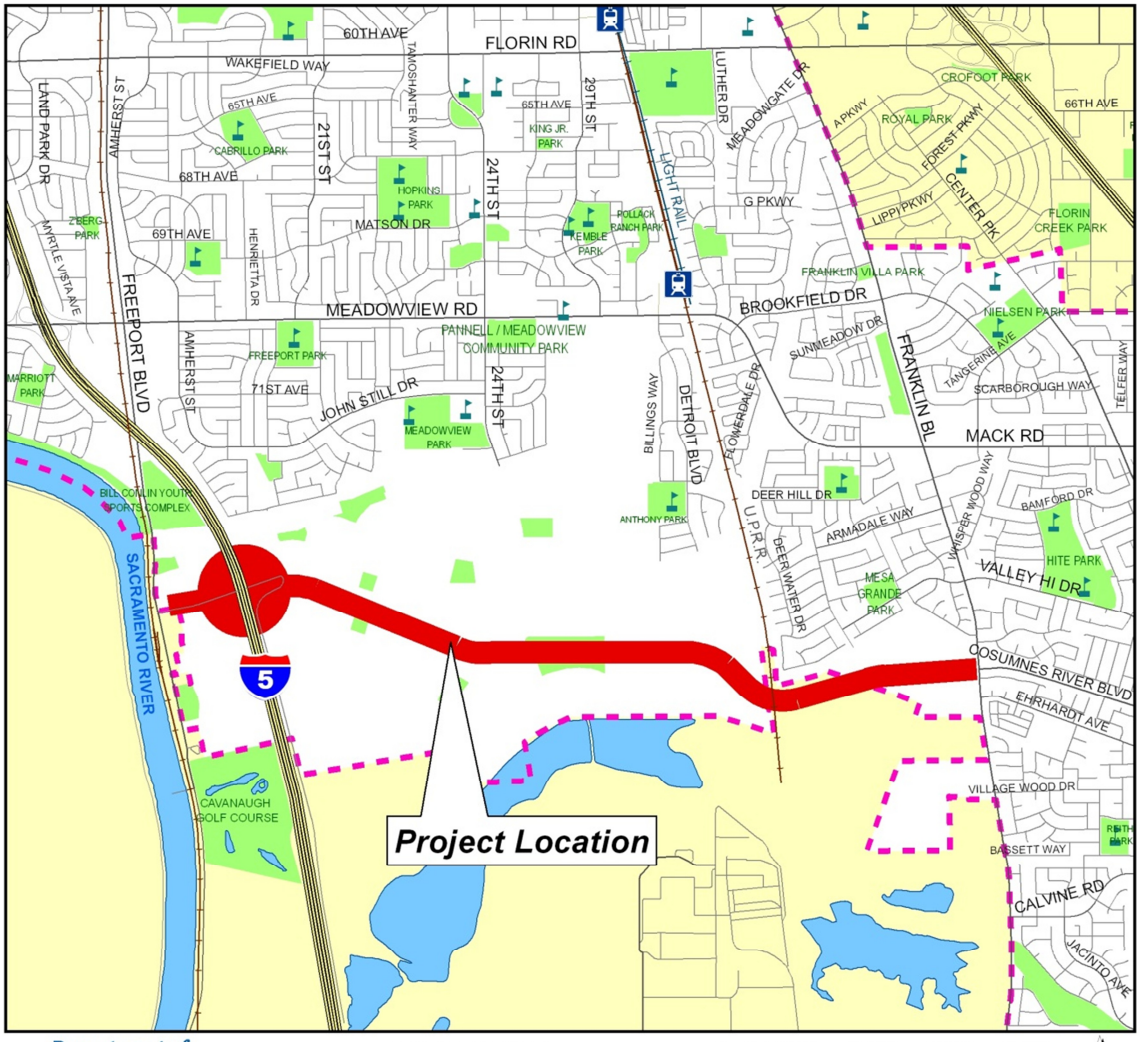
As part of the road construction, the City has agreed to relocate the fiber optic communications system and provide a back-up radio telemetry system equivalent in function to the fiber optic system. The back-up radio system will consist of two separate packages of radio equipment, one package will transmit the security communications and one package will transmit the full scope of Security Communications and Data Acquisition (SCADA) communications.

Back to Report Table of Contents

EXHIBIT A

Location Map for

I-5/COSUMNES RIVER BOULEVARD EXTENSION AND INTERCHANGE PROJECT (PN: T15018000)



Back to Report Table of Contents

City of Sacramento

SUPPLEMENTAL AGREEMENT

Contract #: **2007-0406-14**

Purchase Order #: **0000001795** **Supplemental Agreement #: 14**

Job#: **T15018000** Project Title: **I-5/Cosumnes Boulvard Extension and Interchange Project**

The City of Sacramento ("City") and **Mark Thomas & Company**, **("Contractor")**, as parties to that certain Professional Services Agreement designated as Agreement Number **2007-0406** including any and all prior supplemental agreements modifying said agreement (said agreement and supplemental agreements are hereby collectively referred to as the "Agreement"), hereby supplement and modify the Agreement as follows:

1. The Scope of Services specified in Exhibit A of the Agreement is amended as follows:

   See Exhibit A

2. In consideration of the additional and/or revised services described in section 1, above, the maximum not-to-exceed amount that is specified in Exhibit B of the Agreement of Payment of Contractor's fees and expenses, is increased by $166,697.00 and said maximum not-to-exceed amount is amended as follows:

The original not-to-exceed amount:	$2,930,117.00
The net change by previous Supplemental Agreements:	$1,334,562.00
The not-to-exceed amount prior to this Supplemental Agreements:	$4,264,679.00
The contract sum will be increased by this Supplemental Agreement:	$166,697.00
The new not-to-exceed amount including all Supplemental Agreements:	$4,431,376.00

3. Contractor agrees that the amount of increase or decrease in the not-to-exceed amount specified in section 2, above, shall constitute full compensation for additional and/or revised services specified in section 1, above, and shall fully compensate Contractor for any and all direct and indirect costs that may be incurred by Contractor in connection with such additional and/or revised services, including costs associated with any changes in work schedules or in the performance of other services or work by Contractor. The time for the performance of the agreement is increased by 0 Working Days by reason of the performance of the work required by this Supplemental Agreement.

4. Contractor warrants and frepresents that the person or persons executing this supplemental agreement on behalf of Contractor has or have been duly authorized by Contractor to sign this supplemental agreement and bind Contractor to the terms hereof.

5. Except as specifically revised herein, all terms and conditions of the Agreement shall remain in full force and effect, and Contractor shall perform all the services, duties, obligations and conditions required under the Agreement, as supplemented and modified by this supplemental agreement.

Approval Recommended By:

Project Manager

Approved as to Form By:

City Attorney

Approved By:

Contractor

Approved By:

City of Sacramento

2-13-13

Date

Attested to By:

City Clerk

(Rev. 07/16/08)

Exhibit A

I-5/Cosumnes Boulvard Extension and Interchange Project

2007-0406

01/25/13

Description	*Amount*
Supplemental Agreement #14	
PCO # 21.0 Client Initiated Changes	$166,697.00
01/25/13 See attachment A for additional design services to provide design of a Freeport Regional Water Agency's (FRWA) back-up radio system and towers that are required per City Agreement No. 2012-0727 between FRWA and City.	
1 Items Total for Change Order # 14	**$166,697.00**

1 Items	**Total for Contract # 2007-0406**	**$166,697.00**
Totals By Reason	**Changed/Unforeseen Conditions**	**$0.00**
	Changes to Bid Documents	**$0.00**
	Client Initiated Changes	**$166,697.00**

Attachment A

MARK THOMAS & COMPANY
Providing Engineering, Surveying & Planning Services

January 25, 2013 File No. 58-0129B

OFFICES
Cupertino
Fresno
Irvine
Pleasanton
Sacramento
Salinas
San Carlos
San Jose
Walnut Creek

Mr. Nader Kamal
City of Sacramento
Department of Transportation
915 I Street, Room 2000
Sacramento, CA 95814-2604

RE: I-5/COSUMNES RIVER BLVD INTERCHANGE & ROAD EXTENSION
PN: TV76, T15018000 (PO #SACTO-0000001795 & PO #SACTO-0000012649)

Dear Mr. Kamal:

We have prepared Supplemental Agreement Request 14 to document the additional work required in order to satisfy FRWA's requirement for the radio backup system, as well as to address the last round of comments received from City Department of Utilities staff. A detailed scope of work and the associated fees are included with this letter.

Finally, we would like to request that the modifications and additions to the current 10H forms for MTCo staff, as well as Orsee Design, ICF, and Fehr & Peers staff, as outlined in the attached letter. Should you have any questions, please do not hesitate to call.

Sincerely,

MARK THOMAS & COMPANY, INC.

Robert A. Himes
Principal/Vice President

PROPOSAL FOR EXTRA WORK NO. 14 FOR COSUMNES RIVER BLVD PS&E

As we have discussed, there are a number of additional tasks that for the Cosumnes River Boulevard Interchange Project that were not included within our original contract. These items came about during the final approvals for the project. The specific tasks for the current amendment are as follows:

Task 1.0 FRWA Radio Backup System Design

MTCo has been working with the City and directly with FRWA over the last several months to finalize plans for fiber optic facilities, review options for a radio backup system, identify easements for relocated facilities, and to complete the Caltrans Utility Agreement and Operations and Maintenance Agreement between the City and FRWA. This has included attendance at a number of meetings, exhibit preparation, cost estimates, and plan changes.

As part of the road construction, the City has agreed to relocate the fiber optic communications system and provide a backup radio telemetry system equivalent in function to the fiber optic system. The backup radio system will consist of two separate packages of radio equipment, one package will transmit the security communications and one package will transmit the full scope of SCADA communications.

Based on their previous involvement with the design and construction of the original fiber optic communications system, the City and FRWA agreed to use the services of CH2M HILL to prepare the construction documents for the radio backup system and provide engineering services during the construction of the backup radio telemetry system.

Additional Fee:

MTCo	$15,000
CH2M HILL	$71,340

Task 2.0 City Department of Utilities Plan Changes

During the final plan approval and bidding period, the design team addressed a significant number of plan comments and design revisions at the request of City staff. Following the submittal of final Plans, Specifications, and Estimates, the City Department of Utilities and Maintenance requested additional changes to the water distribution system and landscape irrigation designs in order to comply with the future proposed private development along Cosumnes River Boulevard. The requested changes will require modifications to approximately 70 plan sheets.

In addition, the requested changes will also require modifications to the electrical plans in order to identify service points for additional irrigation controllers and booster pumps based on information to be provided by Orsee Design and add service connections to the design plans.

Additional Fee:
MTCo $20,500
Fehr & Peers $3,500
Orsee $25,857

Task 3.0 Construction Support Services

MTCo will provide construction support services that include preparing slope stake listings for the extension and interchange improvements. In addition, the design team will provide construction support to the City and Hanna Group throughout construction. This will include answering RFIs, questions from the RE and Contractor, and associated plan changes or revisions.

Additional Fee:
MTCo $30,500

A summary of the additional fees for Tasks 1, 2, and 3 is included as follows:

Company	Fee
MTCo	$66,000
CH2M HILL	$71,340
F&P	$3,500
Orsee	$25,857
Total	**$166,697**

The total budget amount being requested for Supplemental Agreement Number 14 is **$166,697**.

MEMORANDUM **CH2MHILL**

Engineering Services for FRWP Backup Radio Telemetry System

TO: Mark Thomas and Associates

FROM: CH2M HILL

DATE: January 22, 2013

Introduction

As requested, CH2M HILL (Consultant) has prepared a scope of work, schedule, and budget/fee estimate for providing design coordination, final design, and construction support for the Freeport Regional Water Project (FRWP) Backup Radio Telemetry System for communication between the Intake Facility and the Vineyard Surface Water Treatment Plant (VSWTP).

The FRWP Systemwide Communications System was designed and constructed with a fiber optic primary communications system that transmits security communications as well as supervisory control and data acquisition (SCADA) communications between the Intake Facility and the VSWTP. If the fiber optic system is not functional, a radio telemetry system is used as the backup for the SCADA communications system. The existing radio system is not designed to provide backup security communications or some of the more advanced SCADA communications between the Intake Facility and the VSWTP.

The FRWA fiber optic communications system, which consists of fiber optic cable, conduit, and pull boxes, is installed in the same easement as the FRWA Joint Pipeline and the SCWA Extension Pipeline. The City of Sacramento (City) and FRWA have entered into an agreement that allows the City to build a roadway in a portion of the FRWA Joint Pipeline easement. As part of the road construction, the City has agreed to relocate the fiber optic communications system and provide a backup radio telemetry system equivalent in function to the fiber optic system. The backup radio system will consist of two separate packages of radio equipment, one package will transmit the security communications and one package will transmit the full scope of SCADA communications.

As part of the agreement, the City is responsible for the design and construction of the road and relocated fiber optic system. The City is also responsible for the construction of the new backup radio telemetry system, but FRWA is involved with the design and configuration of this new backup radio system. Conceptual design of the backup radio telemetry system as conducted by vendors working with the City has included a path study which recommended the use of a radio telemetry system operating in a Federal Communications Commission (FCC) licensed frequency band plus a new tower at the Intake Facility. CH2M HILL has not confirmed the validity of this path study. With this definition of the new backup radio telemetry system, the City and FRWA have elected to use the services of CH2M HILL to prepare construction documents implementing the path study recommendations, and to provide engineering services during the construction of the new backup radio telemetry system.

The physical elements designed by CH2M HILL under this subcontract will be:

1. A new tower at the Intake Facility.
2. Radio/antenna installations on the new tower at the Intake Facility and on the existing tower at VSWTP.
3. Power connections at both locations.

Contractor responsibilities will include:

1. Conducting radio field tests to verify the radio path study.
2. Constructing a complete, tested, and operable system.
3. Coordination with FRWA and VSWTP for access to respective facilities, for construction times, power requirements, FCC licensing, and any additional permit requirements.
4. Demonstrating a working system through testing before final payment.

The scope of work and schedule are presented below and a fee estimate is presented in Exhibit A - Budget and Level of Effort Summary (attached).

The following scope of work and fee estimate, once authorized, will be executed as a new contract with Mark Thomas and Associates, the consultant responsible for design of the new roadway in the FRWA Joint Pipeline easement.

Scope of Work

Engineering Services for Backup Radio Telemetry System Design

Introduction

The following scope of services provides for design coordination, design, and construction support of the FRWP backup radio telemetry system between the Intake Facility and VSWTP. The work includes the following four main tasks.

- Task1—Design Coordination
- Task 2—Change Order Document Preparation
- Task 3—Engineering Services During Construction
- Task 4—Optional Services

Task 1 –Design Coordination

Consultant will provide coordination services for developing the design, and construction of the backup radio telemetry system between the Intake Facility and VSWTP.

Task1.1 Project Coordination Meetings

In support of this scope of services, Consultant will participate in scheduled backup radio telemetry system coordination meetings with Mark Thomas and Associates. A Kickoff Meeting to establish the format and coordination approach for preparation of the design

document will be conducted at the beginning of the work. A total of two (2) meetings are included in the budgetary amount established for this task.

Task 1.2 Site Visits and Coordination

Consultant will confirm existing conditions at both the Intake Facility and VSWTP. Consultant will review previous contract documents for the Intake Facility and VSWTP, perform a site visit, and meet with appropriate SCWA and FRWA personnel to investigate the following:

- The available space and structural capacity for two antennas on the existing VSWTP radio tower as determined by the tower owner. For the purpose of this scope of work, it is assumed that adequate space and structural capacity is available on the existing tower to install the new antennas and no new towers are required.
- The compatibility of two new radios per site with the existing equipment at both sites.
- The locations for a new radio tower at the Intake Facility.
- The availability of installed spare conduit at both sites.
- The availability of installed uninterruptible power at both sites.

The budgetary amount for site visits includes two people for 1 day.

Task 2 – Change Order Document Preparation

Consultant will provide design services and prepare change order documents for the backup radio telemetry system between the Intake Facility and VSWTP. For this work the scope of services assumes the following:

- Construction of the backup radio telemetry system will be conducted as a change order to the existing roadway construction contract and will not require a stand-alone bid package.
- The change order document will reference the existing roadway construction project front end specifications, including all legal and procedural documents, Division 0 – General and Supplemental Conditions, and Division 1-General Requirements. Mark Thomas and Associates will review the change order document for conformance with the front end specifications.
- The change order document will require the contractor to conduct radio field tests that verify the findings from the path study prepared by Cambium Networks and dated September 18, 2012. The path study recommends antenna height elevations, radio frequency band, radio bandwidth, and a FCC-licensed radio system. The contractor shall also confirm the compatibility of two new radios per site with the existing equipment at both sites.
- Design of the relocation of the fiber optic conduit and associated pull box system is not included in this scope of services.

- No new mapping is required to be provided by Consultant. It is assumed that existing mapping in Consultant's possession or provided by others will be suitable for all cable and conduit routing including site plans for the radio antenna tower areas required for the work. Since the specific characteristics of the new tower will not be known until a supplier is identified as part of the bid and award process, it is assumed that the new radio tower, and associated structural base at the intake site will be designed by the tower supplier in accordance with design and performance criteria provided by Consultant in the change order document.
- The construction contractor will obtain the FCC license on FRWA's behalf during construction for the new radio system.
- No additional permitting support is included. It is assumed that Mark Thomas and Associates, FRWA, City, or the construction contractor will obtain all permits.

This task will be completed on a schedule developed with Mark Thomas and Associates. It is intended that the schedule will allow for the backup radio system to be constructed, tested and fully functional before relocation of the fiber optic communications system begins. The following specific tasks are included.

Task 2.1 Preparation of Change Order Documents

Consultant will provide a complete change order package for construction of the backup radio telemetry system between the Intake Facility and VSWTP. The documents will provide for the furnishing and installation of the backup radio telemetry system, consisting of two separate packages of radio equipment, as follows: 1) the first package will provide the security system communications and, 2) the second package will provide SCADA system communications. The change order document will be prepared based on the findings from the path study prepared by Cambium Networks dated September 18, 2012. Applicable testing requirements and related work will be included in the change order documents. Unless otherwise stated herein, no system components for communications outside of the limits of FRWP security and SCADA systems are included.

The work will include a draft and a final version of the change order document submitted to Mark Thomas and Associates. Consultant will incorporate written review comments received from Mark Thomas and Associates, and provide written responses to the review comments. Review comment responses will be provided with the final version of the change order document. Information in the change order documents will include the following:

- Civil/Electrical drawings will schematically show the routing of cabling/conduits and the location of pullboxes and the new tower, based on drawings prepared in previously designed FRWA design projects. The drawings may be based on CAD files in Consultant's possession or those provided by FRWA (for VSWTP).
- Telemetry block diagram will show the interface of the new radio telemetry backup system with the existing systemwide communications network.
  - It is assumed that radio telemetry design will consist of the installation of radios and antennae at the Intake Facility and VSWTP.
  - It is assumed that construction of new radio vaults will not be required at the Intake Facility or VSWTP.

- Technical specifications listing radio path test requirements to be undertaken before construction begins, and minimum technical requirements for equipment, installation, and testing.

Task 2.2 Cost Estimate

Consultant will prepare a Class 1 cost estimate for the work based on the draft change order submittal. Estimate will be prepared to the level of accuracy based on the information available, within normal industry standards. Estimates will be formatted in accordance with the Construction Specifications Institute. Where sufficient detailed information is lacking to obtain reasonably accurate quantities of materials, judgmental allowances will be used to provide an opinion of the estimated construction costs.

Task 3 – Engineering Services During Construction

Consultant will provide Engineering Services during Construction (ESDC) as defined below. Consultant will not be the Construction Manager for the work. Further, Consultant will not administer the contract for construction, monitor the performance of the construction Contractor, verify that the Contractor's work is in substantial compliance with the contract documents, and will not coordinate the response to events that occur during the construction. The ESDC included in this scope of work are intended to assist Mark Thomas and Associates during the implementation of the work by the City. These ESDC are based upon the understanding that FRWA or City will provide a third party Construction Manager, contracted directly with FRWA or the City, and will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the construction. The ESDC included in this scope of work are also based upon FRWA or the City executing a contract for construction with the Contractor that is consistent with the Consultant's Agreement and with these ESDC, and which provides the requisite authority for Consultant to fulfill its ESDC responsibilities.

Consultant will not be responsible for the means, methods, techniques, sequences or procedures of the Contractor, nor shall Consultant be responsible for the Contractor's failure to perform in accordance with the contract documents.

Task 3.1 Shop Drawing Review

Consultant will review Contractor's shop drawings, testing plans, samples, and other submittals received from the Construction Manager, and return same to the Construction Manager.

Consultant's review of all shop drawings, testing plans, samples and submittals shall be for general conformance with the design concept and general compliance with the requirements of the contract for construction. Such review shall not relieve the Contractor from its responsibility for performance in accordance with the contract for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies, or omissions.

Consultant's scope of submittal review shall be based upon the scope of work in the change order document and shall include a maximum of two submissions by the Contractor for each shop drawing, sample or submission. Should there be additional reviews required; Consultant shall be entitled to additional compensation for the extra work. This includes

shop drawings, testing plans, O&M submittals and samples. Fee for submittal review is based on a total of 56 hours for review and 12 hours for processing time.

Submittals related to general construction activities, such as critical path construction schedules, construction safety plans, construction quality control plans and coordination of inspection and testing, plus submittals unrelated to the backup radio telemetry system, are the responsibility of the Construction Manager and will not be reviewed by Consultant.

Task 3.2 Requests For Information

Consultant will review the Contractor's requests for information or clarification of the change order document. Consultant will coordinate such review with Construction Manager as appropriate. Consultant will provide technical written responses to the Contractor's request for interpretation or clarification of the change order document as coordinated by the Construction Manager. Fee for Requests For Information are based on a total of 16 hours for review and 2 hours for processing time.

Task 3.3 Specialty Site Visits

Consultant will coordinate visits by design team members to review progress and quality of the work as related to the backup radio system. The visits shall observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the design team members by the Contractor, Construction Manager or the Owner. These visits will not replace any ICBO specialty inspection requirements. ICBO specialty inspections will be performed by others and coordinated by the Construction Manager. Fee is based on the 3 specialty inspection trips of 1 day each.

Task 4 Optional Tasks

Consultant will provide as-needed support to Mark Thomas and Associates for the optional subtask described below. Work on this task will only be conducted on an as needed basis as authorized in writing by Mark Thomas and Associates. Due to the uncertainly of the scope of work for these efforts, the scope and budget for these tasks as presented herein are considered preliminary. Consultant will review the scope and budget for these tasks with Mark Thomas and Associates prior to authorization. A written authorization from Mark Thomas and Associates is required to confirm the final scope and budget for optional tasks. Since the scope of the efforts for the work on this task cannot be firmly defined at this time, fees for the work are established as allowances to be used only at the direction of Mark Thomas and Associates.

Task 4.1 Software and Hardware Purchases

As directed by Mark Thomas and Associates, Consultant will purchase hardware and/or software required to make the final Backup Radio Telemetry System functional. Although most hardware and software required for the system is expected to be provided by the City's contractors, some additional software or hardware needs may be determined to be necessary during the course of the configuration work. In the interest of maintaining the project schedule and consistency of systems, FRWA or the City may request through Mark Thomas and Associates that the Consultant purchase these items. Consultant's budget assumes the use of minor purchasing labor and a hardware and software allowance fund for purchase of these items. All items will be licensed to FRWA, as applicable. Items will be directly incorporated into the FRWP and/or delivered to FRWA either new or after they are used by Consultant in the course of the work.

Since the exact scope of the software and hardware requirements are not defined for the work, Consultant has included a software and hardware purchase allowance in the budget for this task. The exact quantity of software and hardware provided by Consultant under this task will be limited to the quantity that can be purchased using the budget allowance.

Schedule

The schedule associated with this Scope of Work will be completed once a signed contract for this Scope of Work has been received by Consultant with authorization to proceed. Submittals will be delivered based on the following work durations:

- 3 weeks after the Kickoff Meeting as described in Task 1 occurs, Consultant will submit a draft change order document to Mark Thomas and Associates as described in Task 2.
- 1 week after the draft change order document has been submitted, Consultant will submit a cost estimate to Mark Thomas and Associates as described in Task 2.2.
- 2 weeks after all written review comments regarding the draft change order document have been received, Consultant will submit a final change order document to Mark Thomas and Associates as described in Task 2.

Consultant will be as responsive as reasonably possible regarding the services related to construction support described in Task 3.

Exhibit A-1: Budget and Level of Effort Summary

Freeport Regional Water Project

Backup Radio Telemetry System Design

TASK DESCRIPTIONS	Time Period Distribution		Principal-in-Charge	Principal Professional	Sr. Professional	Project Professional	Staff Professional	Sr. Technican	Technician	Tech 5	Tech 2	Tech 1	Office/ Clerical	Total Labor	Labor Cost	Travel	Other Exp	Total
			$224.96	$213.16	$131.64	$92.26	$67.19	$97.63	$70.04	$161.34	$99.55	$75.52	$67.26					
	2013	2014																
Backup Radio Telemetry System Design																		
Task 1 Design Coordination and Project Management																		
1.1 Project Coordination Meetings	100%	0%		16	20									36	$6,043	300	200	6,543
1.2 Site Visits and Coordination	100%	0%		8	12									20	$3,285	150	200	3,635
1.3 Project Management	100%	0%			12								8	20	$2,118	150	200	2,468
Task 2 Change Order Document Preparation																		
2.1 Preparation of Change Order Dc	100%	0%		40	128			48	8				16	240	$31,699		1,000	32,699
2.2 Cost Estimate	100%	0%		4		32								36	$3,805		50	3,855
Task 3 Engineering Services During Construction																		
3.1 Shop Drawing Review	100%	0%		4	52								12	68	$8,505		100	8,605
3.2 Request For Information	100%	0%		4	12								2	18	$2,567		50	2,617
3.3 Specialty Site Visits	100%	0%			20			10						30	$3,609	375	100	4,084
Task 4 Optional Services																		
4.1 Software and Hardware Purchas	100%	0%			8			8						16	$1,834		5,000	6,834
Subtotal Hours			0	76	264	32	0	66	8	0	0	0	38	484	63,465	975	6,900	$71,340
			0	16,200	34,753	2,952	0	6,444	560	0	0	0	2,556	63,465	$63,465	$975	$6,900	$71,340
																		$71,340

Exhibit 10-H Sample Cost Proposal

	Fringe Benefit%		Overhead%		G&A %		Combined %
NORMAL	incl. in OH	+	114.16%	+	incl. in OH	=	114.16%
OVERTIME	incl. in OH	+	114.16%	+	incl. in OH	=	114.16%
			FEE %	=	15.00%		

BILLING INFORMATION CALCULATION INFORMATION

Name/Classification	Hourly Billing Rate			Effective date of hourly rate		Actual/ average hourly rate	% or $ Increase	Hourly Range for Class
	Normal	OT (1.5 X)	OT (2 X)	From	To			
Phil Ryan - Principal in Charge (**)	224.96	N/A	N/A	2/1/2013	3/31/2014	91.34		N/A
Bill Misslin - Principal Professional (**)	213.16	N/A	N/A	2/1/2013	3/31/2014	86.55		N/A
Principal Professional*	192.22	N/A	N/A	2/1/2013	3/31/2014	78.05		$51.19 - $101.04
Sr. Professional*	131.64	N/A	N/A	2/1/2013	3/31/2014	53.45		$38.32 - $72.74
Project Professional*	92.26	N/A	N/A	2/1/2013	3/31/2014	37.46		$27.95 - $51.57
Staff Professional*	67.19	N/A	N/A	2/1/2013	3/31/2014	27.28		$23.11 - $51.06
Sr. Technician	97.63	N/A	N/A	2/1/2013	3/31/2014	39.64		$27.46 - $50.14
Technician	70.04	N/A	N/A	2/1/2013	3/31/2014	28.44		$22.44 - $31.96
Office/Clerical	67.26	N/A	N/A	2/1/2013	3/31/2014	27.31		$15.75 - $34.46

1. Names and classifications of prime and subconsultant team members (Key Personnel).
2. For named Key Personnel employees enter the actual hourly rate. For non-Key Personnel prime and subconsultant classifications, list the average hourly rate for that classification unless names are provided, then enter their actual hourly rate.

* includes engineering, consulting, planner and scientist disciplines

(**) Denotes staff members of affiliate company "CH2M HILL Engineers, Inc.", (CHE) a non-Federal entity. CHE does not establish indirect cost rates in accordance with requirements of the Federal Acquisition Regulation (FAR) Part 31, nor have the indirect cost rates or business systems of CHE been audited by a U.S. government or state agency. For the purpose of establishing a fair and reasonable rate for billing purposes under the requirements of this agreement, CH2M HILL will bill all CHE employees identified specifically or that may that provide services hereunder at negotiated fixed hourly rates determined by using their raw hourly rate multiplied times the identified FAR compliant overhead rate (114.16%) and fee. These negotiated rates are not auditable or re-determinable through audit of CHE except for confirmation that rate was properly calculated and invoiced per the requirements of this agreement.

Form 10H
CONSULTANT COST PROPOSAL

COST PROPOSAL

CONTRACT No. I-5 IC & Cosumnes River Blvd, Job No. T150 Date 25-Jan-13
CONSULTANT Mark Thomas & Company

DIRECT LABOR

Classification	Name	Range	Hours	Hourly Rate	Total
Engineering Manager	Matt Brogan	72.00-100.00	40.0	76.00	$ 3,040.00
Senior Project Engineer	Zachary Siviglia	43.00-57.22	160.0	46.00	$ 7,360.00
Senior Project Engineer	Todd Lewis	43.00-57.22	160.0	45.85	$ 7,336.00
Eng/Survey/Cadd Technician	Ruel Opada	20.00-38.75	160.0	32.18	$ 5,148.80
Sr. Design Engineer	Bill Shunk	33.71-41.75	40.0	38.52	$ 1,540.80

Subtotal Direct Labor Costs	$ 24,425.60	
Anticipated Salary Increases (0% for one year)	$ -	
Total Direct Labor Costs		$ 24,425.60

FRINGE BENEFITS	**Rate**	**Total**	
Fringe Benefits	39.00%	$ 9,525.98	
Total Fringe Benefits		-	$ 9,525.98

INDIRECT COSTS			
Overhead/General and Administrative	102.00%	$ 24,914.11	
Total Indirect Costs		0.00	$ 24,914.11

FEE @ 10% $ 5,886.57

OTHER COSTS		
Mileage	$	
Reproductions Costs (out of office blue lines, xerox, binding)	$ 1,247.73	
Structure/Quantity Calculations	$	
Potholing	$	
Overnight Mail/Mail	$	
Misc. Survey	$	
Safety Plan	$	
Record of Survey	$	
Total Other Costs		$ 1,247.73

Mark Thomas & Company Total Costs **$ 66,000.00**

SUBCONSULTANT 10-H TOTAL COSTS	
Fehr & Peers	$ 3,500.00
Orsee Design Associates, Inc.	$ 25,857.00
CH2M Hill	$ 71,340.00
Subconsultants Total Costs	$ 100,697.00

TOTAL COSTS **$ 166,697.00**

Form 10H
CONSULTANT COST PROPOSAL

COST PROPOSAL

CONTRACT No. I-5 IC & Cosumnes River Blvd, Job No. T150 Date 2/26/2013
CONSULTANT Fehr & Peers

DIRECT LABOR

Classification	Name	Range	Hours	Initial Hourly Rate	Total
Senior Associate I	Kristin Calia		4.0	54.33	$ 217.32
Senior Eng-Tech IV	Mike Johnstone			42.31	$ -
Senior Eng-Tech III	James Sellards		24.0	37.98	$ 911.52
Engr/Planner III	Joe Anderson			30.29	$ -
Tecnician II	Beverly Willett			22.60	$ -
Technician II	James Moser			22.60	$ -
Technician III	Raynon Catris			26.50	$ -
Admin. Asst. IV	Lindsey Soza			18.99	$ -
Admin Asst. II	Victoria Rose			18.99	$ -

Subtotal Direct Labor Costs	$	1,128.84
Anticipated Salary Increases (0% for one year)	$	-
Total Direct Labor Costs		$ 1,128.84

FRINGE BENEFITS	**Rate**	**Total**	
Fringe Benefits	52.00%	$ 587.00	
Total Fringe Benefits		-	$ 587.00

INDIRECT COSTS			
Overhead/General and Administrative	124.00%	$ 1,399.76	
Total Indirect Costs			$ 1,399.76

FEE @ 10% $ 311.56

OTHER COSTS		
Mileage	$	
Reproductions Costs (out of office blue lines, xerox, binding)	$	72.84
Structure/Quantity Calculations	$	
Potholing	$	
Overnight Mail/Mail	$	
Misc. Survey	$	
Safety Plan	$	
Record of Survey	$	
Total Other Costs		$ 72.84

TOTAL COSTS **$ 3,500.00**

Form 10H
CONSULTANT COST PROPOSAL

COST PROPOSAL

CONTRACT No. I-5 IC & Cosumnes River Blvd, Job No. T150 Date 2/26/2013
CONSULTANT Orsee Design Associates, Inc.

DIRECT LABOR

Classification	Name	Range	Hours	Initial Hourly Rate	Total
Project Manager (Landscape)	Timothy Hiraoka		90.0	45.00	$ 4,050.00
Project Manager (Technical-Q/	Harry Nakagawara			45.00	$ -
Landscape Architect				31.00	$ -
Senior Tehcnician				28.00	$ -
Lead Designer	Daniel Tillson Rodriguez			28.50	$ -
Technician I			128.0	28.50	$ 3,648.00
Technician II				22.00	$ -
Admin Assist	Kiki Nakagawara		10.0	19.00	$ 190.00
Student Intern				16.00	$ -

Subtotal Direct Labor Costs $ 7,888.00
Anticipated Salary Increases (0% for one year) $ -

Total Direct Labor Costs $ 7,888.00

FRINGE BENEFITS	Rate	Total	
Fringe Benefits	33.00%	$ 2,603.04	
Total Fringe Benefits		-	$ 2,603.04

INDIRECT COSTS

Overhead/General and Administrative	165.00%	$ 13,015.20	
Total Indirect Costs			$ 13,015.20

FEE @ 10% $ 2,350.62

OTHER COSTS

Soil Testing (0@$100)	$	
Miscellaneous Graphics Costs	$	
Plotting Drawings	$	
Printing (not included)	$	
Mileage ($0.555/mile*1000)	$	0.14
Plotting (Mylar-Full Size)	$	
Total Other Costs		$ 0.14

TOTAL COSTS **$ 25,857.00**

Form 10H
CONSULTANT COST PROPOSAL

COST PROPOSAL

CONTRACT No. I-5 IC & Cosumnes River Blvd, Job No. T150 Date 2/26/2013
CONSULTANT CH2M Hill

DIRECT LABOR Classification	Name	Range	Hours	Initial Hourly Rate	Total
Principal in Charge	Phil Ryan	N/A	0.0	91.34	$ -
Principal Professional	Bill Misslin	N/A	76.0	86.55	$ 6,577.80
Principal Professional		51.19-101.04	0.0	78.05	$ -
Sr. Professional		38.32-72.74	264.0	53.45	$ 14,110.80
Project Professional		27.95-51.57	32.0	37.46	$ 1,198.72
Staff Professional		23.11-51.06	0.0	27.28	$ -
Sr. Technician		27.46-50.14	66.0	39.64	$ 2,616.24
Technician		22.44-31.96	8.0	28.44	$ 227.52
Office/Clerical		15.75-34.46	38.0	27.31	$ 1,037.78

Subtotal Direct Labor Costs	$	25,768.86
Anticipated Salary Increases (0% for one year)	$	-
Total Direct Labor Costs		$ 25,768.86

FRINGE BENEFITS	Rate	Total	
Fringe Benefits (Included in OH)	0.00%	$ -	
Total Fringe Benefits		-	$ -
INDIRECT COSTS			
Overhead/General and Administrative	114.16%	$ 29,417.73	
Total Indirect Costs			$ 29,417.73
FEE @ 15%			$ 8,277.99
OTHER COSTS			
Travel		$ 975.00	
Other Expenses		$ 6,900.42	
Total Other Costs			$ 7,875.42
TOTAL COSTS			**$ 71,340.00**

Form 10H
CONSULTANT COST PROPOSAL

COST PROPOSAL

CONTRACT No. 58-0129 Date 12-Oct-12
CONSULTANT ICF-Jones & Stokes

DIRECT LABOR Classification	Name	Range	Hours		Initial Hourly Rate		Total
Technical Director	Joel Butterworth			@ $	47.84	$	-
Assistant Consultant	Carol Ortega			@ $	24.58	$	-
Sr. Consultant I	Long Hoang			@ $	24.74	$	-
Admin Tech	Robert Rivasplata			@ $	16.50	$	-
Admin Tch	Dana Rumburg			@ $	15.00	$	-
Graphic Artist	Senh Saelee			@ $	29.24	$	-
Associate Consultant I	Andrew Humphrey			@ $	16.50	$	-
Sr. Consultant III	Shannon Hatcher			@ $	45.30	$	-
Sr. Consultant I	Mike Avina			@ $	24.87	$	-
Assoc. Consultant I	Brenda Chang			@ $	21.33	$	-
Sr. Consultant III	Harry Oakes			@ $	49.36	$	-
							-
						$	-
				@ $		$	-
				@ $		$	-
				@ $			-

Subtotal Direct Labor Costs	$	-
Anticipated Salary Increases (5% for one year)	$	-

Total Direct Labor Costs				$ -
FRINGE BENEFITS		**Rate**	**Total**	
Fringe Benefits		50.71%	$ -	
Total Fringe Benefits				$ -
INDIRECT COSTS				
Overhead/General and Administrative		146.15%	$ -	
Total Indirect Costs				$ -
FEE @ 10%				$ -
OTHER COSTS				
Mileage			$	
Reproductions Costs (out of office blue lines, xerox, binding)			$	
Photographic Film & Processing			$	
Mail & Delivery Services (California Overnight and Postage)			$	
Total Other Costs				$ -
TOTAL COSTS				$ -